AS0143AT Register and Variable Reference

AND9802/D

INTRODUCTION

This reference document describes the AS0143AT registers and variables accessible by the host.

How to Access Registers and Variables

The host can control the AS0143AT in three ways:

- By issuing commands to the embedded microcontroller
- By reading and writing firmware variables, which influence the operation of the embedded microcontroller
- By reading and writing hardware registers

In each case, the physical interface to the AS0143AT is the two−wire serial interface, using 16−bit addresses. The AS0143AT Data Sheet describes the interface protocol of the two−wire serial interface in more detail.

Where possible, the AS0143AT should be controlled though commands and variables since these have been designed to provide correctly−sequenced control of the underlying hardware. In contrast, access to registers is discouraged, since it may cause undesired interaction with microcontroller operations.

Registers

Registers can be accessed by the two−wire serial interface with addresses in the range 0x0000−0x7FFE. All registers are 16−bits in size and register access only supports 16−bit data read and write.

Variables

Variables correspond to locations in the memory space of the embedded microcontroller. Variables can be accessed by the two−wire serial interface with addresses in the range 0x8000−0xFFFF. Variables can be 8, 16 or 32−bit in size and variable access supports access of any 8−bit multiple.

Variables are divided into groups called “Drivers”. Each variable is specified by a driver number (0...31) and an offset. This document uses the notation VAR(driver_number, offset). Given a driver number and offset, the corresponding address is calculated like this:
Direct−Address = 0x8000 | (driver_number << 10) | offset

For example, ae_rule_algo is VAR(0x09, 0x0004). Its direct address is therefore 0x8000 | (9<<10) | 4 = 0xA404.

Host Command Interface

The AS0143AT supports a host command interface. The host issues a 16−bit command to the device by performing a register write to the command register (SYSCTL 0x40). Each command has bit[15] = 1. When the embedded microcontroller has completed execution of the command it writes a response to the command register. Each response has bit[15] = 0. When the host has issued a command, it can poll the command register waiting for bit[15] = 0 to see that the command has completed and to read the command response.

The AS0143AT Host Command Interface Specification describes this interface in more detail.

Reserved

Do not change any of the reserved bits.

REGISTER MAP

The tables in this section show which locations are used within the 16−bit address space. Locations that are not shown in the table are reserved for future use; to maintain compatibility with future designs they should not be read from or written to. Locations that are shown as “Reserved” should not be accessed. The default read values of registers are subject to change.

CAUTION: The effect of writing to reserved registers is undefined and includes the possibility of causing permanent electrical damage to the sensor.

Tables 1 below through 9 list registers and their default values. Tables 10 through 27 list variables and their default values. Register addresses are shown as 16−bit values in both decimal and hexadecimal. Variable addresses are shown in VAR(driver_id, offset) format, and also as 16−bit hexadecimal values using the Direct−Address conversion shown above. Tables 28 through 36 list registers and their descriptions. Tables 37 through 54 list variables and their descriptions.

REGISTER LISTS AND DEFAULT VALUES

TABLE 1. CPIPE RGB PIPE REGISTERS

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Register (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
R0x3332	HILIGHT_COLOR	0000 0000 0000 dddd	2 (0x0002)

TABLE 2. CPIPE YUV PIPE REGISTERS

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Register (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
R0x3400	HUE1_Q1Q2	00dd dddd 00dd dddd	0 (0x0000)
R0x3402	HUE2_Q1Q2	00dd dddd 00dd dddd	0 (0x0000)
R0x3404	HUE3_Q1Q2	00dd dddd 00dd dddd	0 (0x0000)
R0x3406	HUE4_Q1Q2	00dd dddd 00dd dddd	0 (0x0000)
R0x3408	HUE5_Q1Q2	00dd dddd 00dd dddd	0 (0x0000)
R0x340A	HUE6_Q1Q2	00dd dddd 00dd dddd	0 (0x0000)
R0x340C	HUE7_Q1Q2	00dd dddd 00dd dddd	0 (0x0000)
R0x340E	HUE8_Q1Q2	00dd dddd 00dd dddd	0 (0x0000)
R0x3410	HUE9_Q1Q2	00dd dddd 00dd dddd	0 (0x0000)
R0x3412	HUE10_Q3Q4	00dd dddd 00dd dddd	0 (0x0000)
R0x3414	HUE11_Q3Q4	00dd dddd 00dd dddd	0 (0x0000)
R0x3416	HUE12_Q3Q4	00dd dddd 00dd dddd	0 (0x0000)
R0x3418	HUE13_Q3Q4	00dd dddd 00dd dddd	0 (0x0000)

TABLE 2. CPIPE YUV PIPE REGISTERS

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Register (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
R0x341A	HUE14_Q3Q4	00dd dddd 00dd dddd	0 (0x0000)
R0x341C	HUE15_Q3Q4	00dd dddd 00dd dddd	0 (0x0000)
R0x341E	HUE16_Q3Q4	00dd dddd 00dd dddd	0 (0x0000)
R0x3420	HUE17_Q3Q4	00dd dddd 00dd dddd	0 (0x0000)
R0x3422	HUE18_Q3Q4	00dd dddd 00dd dddd	0 (0x0000)
R0x3424	PCR_COLOR_GAIN1_REGION_1	0000 0000 0000 dddd	0 (0x0000)
R0x3426	PCR_COLOR_GAIN1_REGION_10	0000 0000 0000 dddd	0 (0x0000)
R0x3428	PCR_COLOR_GAIN1_REGION_19	0000 0000 0000 dddd	0 (0x0000)
R0x342A	PCR_COLOR_GAIN1_REGION_28	0000 0000 0000 dddd	0 (0x0000)
R0x342C	PCR_COLOR_GAIN2_REGION_2	0000 0000 0000 dddd	0 (0x0000)
R0x342E	PCR_COLOR_GAIN2_REGION_11	0000 0000 0000 dddd	0 (0x0000)
R0x3430	PCR_COLOR_GAIN2_REGION_20	0000 0000 0000 dddd	0 (0x0000)
R0x3432	PCR_COLOR_GAIN2_REGION_29	0000 0000 0000 dddd	0 (0x0000)
R0x3434	PCR_COLOR_GAIN3_REGION_3	0000 0000 0000 dddd	0 (0x0000)
R0x3436	PCR_COLOR_GAIN3_REGION_12	0000 0000 0000 dddd	0 (0x0000)
R0x3438	PCR_COLOR_GAIN3_REGION_21	0000 0000 0000 dddd	0 (0x0000)
R0x343A	PCR_COLOR_GAIN3_REGION_30	0000 0000 0000 dddd	0 (0x0000)
R0x343C	PCR_COLOR_GAIN4_REGION_4	0000 0000 0000 dddd	0 (0x0000)
R0x343E	PCR_COLOR_GAIN4_REGION_13	0000 0000 0000 dddd	0 (0x0000)
R0x3440	PCR_COLOR_GAIN4_REGION_22	0000 0000 0000 dddd	0 (0x0000)
R0x3442	PCR_COLOR_GAIN4_REGION_31	0000 0000 0000 dddd	0 (0x0000)
R0x3444	PCR_COLOR_GAIN5_REGION_5	0000 0000 0000 dddd	0 (0x0000)
R0x3446	PCR_COLOR_GAIN5_REGION_14	0000 0000 0000 dddd	0 (0x0000)
R0x3448	PCR_COLOR_GAIN5_REGION_23	0000 0000 0000 dddd	0 (0x0000)
R0x344A	PCR_COLOR_GAIN5_REGION_32	0000 0000 0000 dddd	0 (0x0000)

TABLE 2. CPIPE YUV PIPE REGISTERS

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Register (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
R0x344C	PCR_COLOR_GAIN6_REGION_6	0000 0000 0000 dddd	0 (0x0000)
R0x344E	PCR_COLOR_GAIN6_REGION_15	0000 0000 0000 dddd	0 (0x0000)
R0x3450	PCR_COLOR_GAIN6_REGION_24	0000 0000 0000 dddd	0 (0x0000)
R0x3452	PCR_COLOR_GAIN6_REGION_33	0000 0000 0000 dddd	0 (0x0000)
R0x3454	PCR_COLOR_GAIN7_REGION_7	0000 0000 0000 dddd	0 (0x0000)
R0x3456	PCR_COLOR_GAIN7_REGION_16	0000 0000 0000 dddd	0 (0x0000)
R0x3458	PCR_COLOR_GAIN7_REGION_25	0000 0000 0000 dddd	0 (0x0000)
R0x345A	PCR_COLOR_GAIN7_REGION_34	0000 0000 0000 dddd	0 (0x0000)
R0x345C	PCR_COLOR_GAIN8_REGION_8	0000 0000 0000 dddd	0 (0x0000)
R0x345E	PCR_COLOR_GAIN8_REGION_17	0000 0000 0000 dddd	0 (0x0000)
R0x3460	PCR_COLOR_GAIN8_REGION_26	0000 0000 0000 dddd	0 (0x0000)
R0x3462	PCR_COLOR_GAIN8_REGION_35	0000 0000 0000 dddd	0 (0x0000)
R0x3464	PCR_COLOR_GAIN9_REGION_9	0000 0000 0000 dddd	0 (0x0000)
R0x3466	PCR_COLOR_GAIN9_REGION_18	0000 0000 0000 dddd	0 (0x0000)
R0x3468	PCR_COLOR_GAIN9_REGION_27	0000 0000 0000 dddd	0 (0x0000)
R0x346A	PCR_COLOR_GAIN9_REGION_36	0000 0000 0000 dddd	0 (0x0000)

TABLE 3. CPIPE RECONSTRUCT REGISTERS

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Register (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
R0x3600	P_G1_P0Q0	dddd dddd dddd dddd	16 (0x0010)
R0x3602	P_G1_P0Q1	dddd dddd dddd dddd	0 (0x0000)
R0x3604	P_G1_P0Q2	dddd dddd dddd dddd	0 (0x0000)
R0x3606	P_G1_P0Q3	dddd dddd dddd dddd	0 (0x0000)
R0x3608	P_G1_P0Q4	dddd dddd dddd dddd	0 (0x0000)
R0x360A	P_R_P0Q0	dddd dddd dddd dddd	16 (0x0010)

TABLE 3. CPIPE RECONSTRUCT REGISTERS

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Register (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
R0x360C	P_R_P0Q1	dddd dddd dddd dddd	0 (0x0000)
R0x360E	P_R_P0Q2	dddd dddd dddd dddd	0 (0x0000)
R0x3610	P_R_P0Q3	dddd dddd dddd dddd	0 (0x0000)
R0x3612	P_R_P0Q4	dddd dddd dddd dddd	0 (0x0000)
R0x3614	P_B_P0Q0	dddd dddd dddd dddd	16 (0x0010)
R0x3616	P_B_P0Q1	dddd dddd dddd dddd	0 (0x0000)
R0x3618	P_B_P0Q2	dddd dddd dddd dddd	0 (0x0000)
R0x361A	P_B_P0Q3	dddd dddd dddd dddd	0 (0x0000)
R0x361C	P_B_P0Q4	dddd dddd dddd dddd	0 (0x0000)
R0x361E	P_G2_P0Q0	dddd dddd dddd dddd	16 (0x0010)
R0x3620	P_G2_P0Q1	dddd dddd dddd dddd	0 (0x0000)
R0x3622	P_G2_P0Q2	dddd dddd dddd dddd	0 (0x0000)
R0x3624	P_G2_P0Q3	dddd dddd dddd dddd	0 (0x0000)
R0x3626	P_G2_P0Q4	dddd dddd dddd dddd	0 (0x0000)
R0x3628	P_G1_P1Q0	dddd dddd dddd dddd	0 (0x0000)
R0x362A	P_G1_P1Q1	dddd dddd dddd dddd	0 (0x0000)
R0x362C	P_G1_P1Q2	dddd dddd dddd dddd	0 (0x0000)
R0x362E	P_G1_P1Q3	dddd dddd dddd dddd	0 (0x0000)
R0x3630	P_G1_P1Q4	dddd dddd dddd dddd	0 (0x0000)
R0x3632	P_R_P1Q0	dddd dddd dddd dddd	0 (0x0000)
R0x3634	P_R_P1Q1	dddd dddd dddd dddd	0 (0x0000)
R0x3636	P_R_P1Q2	dddd dddd dddd dddd	0 (0x0000)
R0x3638	P_R_P1Q3	dddd dddd dddd dddd	0 (0x0000)
R0x363A	P_R_P1Q4	dddd dddd dddd dddd	0 (0x0000)
R0x363C	P_B_P1Q0	dddd dddd dddd dddd	0 (0x0000)

TABLE 3. CPIPE RECONSTRUCT REGISTERS

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Register (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
R0x363E	P_B_P1Q1	dddd dddd dddd dddd	0 (0x0000)
R0x3640	P_B_P1Q2	dddd dddd dddd dddd	0 (0x0000)
R0x3642	P_B_P1Q3	dddd dddd dddd dddd	0 (0x0000)
R0x3644	P_B_P1Q4	dddd dddd dddd dddd	0 (0x0000)
R0x3646	P_G2_P1Q0	dddd dddd dddd dddd	0 (0x0000)
R0x3648	P_G2_P1Q1	dddd dddd dddd dddd	0 (0x0000)
R0x364A	P_G2_P1Q2	dddd dddd dddd dddd	0 (0x0000)
R0x364C	P_G2_P1Q3	dddd dddd dddd dddd	0 (0x0000)
R0x364E	P_G2_P1Q4	dddd dddd dddd dddd	0 (0x0000)
R0x3650	P_G1_P2Q0	dddd dddd dddd dddd	0 (0x0000)
R0x3652	P_G1_P2Q1	dddd dddd dddd dddd	0 (0x0000)
R0x3654	P_G1_P2Q2	dddd dddd dddd dddd	0 (0x0000)
R0x3656	P_G1_P2Q3	dddd dddd dddd dddd	0 (0x0000)
R0x3658	P_G1_P2Q4	dddd dddd dddd dddd	0 (0x0000)
R0x365A	P_R_P2Q0	dddd dddd dddd dddd	0 (0x0000)
R0x365C	P_R_P2Q1	dddd dddd dddd dddd	0 (0x0000)
R0x365E	P_R_P2Q2	dddd dddd dddd dddd	0 (0x0000)
R0x3660	P_R_P2Q3	dddd dddd dddd dddd	0 (0x0000)
R0x3662	P_R_P2Q4	dddd dddd dddd dddd	0 (0x0000)
R0x3664	P_B_P2Q0	dddd dddd dddd dddd	0 (0x0000)
R0x3666	P_B_P2Q1	dddd dddd dddd dddd	0 (0x0000)
R0x3668	P_B_P2Q2	dddd dddd dddd dddd	0 (0x0000)
R0x366A	P_B_P2Q3	dddd dddd dddd dddd	0 (0x0000)
R0x366C	P_B_P2Q4	dddd dddd dddd dddd	0 (0x0000)
R0x366E	P_G2_P2Q0	dddd dddd dddd dddd	0 (0x0000)

TABLE 3. CPIPE RECONSTRUCT REGISTERS

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Register (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
R0x3670	P_G2_P2Q1	dddd dddd dddd dddd	0 (0x0000)
R0x3672	P_G2_P2Q2	dddd dddd dddd dddd	0 (0x0000)
R0x3674	P_G2_P2Q3	dddd dddd dddd dddd	0 (0x0000)
R0x3676	P_G2_P2Q4	dddd dddd dddd dddd	0 (0x0000)
R0x3678	P_G1_P3Q0	dddd dddd dddd dddd	0 (0x0000)
R0x367A	P_G1_P3Q1	dddd dddd dddd dddd	0 (0x0000)
R0x367C	P_G1_P3Q2	dddd dddd dddd dddd	0 (0x0000)
R0x367E	P_G1_P3Q3	dddd dddd dddd dddd	0 (0x0000)
R0x3680	P_G1_P3Q4	dddd dddd dddd dddd	0 (0x0000)
R0x3682	P_R_P3Q0	dddd dddd dddd dddd	0 (0x0000)
R0x3684	P_R_P3Q1	dddd dddd dddd dddd	0 (0x0000)
R0x3686	P_R_P3Q2	dddd dddd dddd dddd	0 (0x0000)
R0x3688	P_R_P3Q3	dddd dddd dddd dddd	0 (0x0000)
R0x368A	P_R_P3Q4	dddd dddd dddd dddd	0 (0x0000)
R0x368C	P_B_P3Q0	dddd dddd dddd dddd	0 (0x0000)
R0x368E	P_B_P3Q1	dddd dddd dddd dddd	0 (0x0000)
R0x3690	P_B_P3Q2	dddd dddd dddd dddd	0 (0x0000)
R0x3692	P_B_P3Q3	dddd dddd dddd dddd	0 (0x0000)
R0x3694	P_B_P3Q4	dddd dddd dddd dddd	0 (0x0000)
R0x3696	P_G2_P3Q0	dddd dddd dddd dddd	0 (0x0000)
R0x3698	P_G2_P3Q1	dddd dddd dddd dddd	0 (0x0000)
R0x369A	P_G2_P3Q2	dddd dddd dddd dddd	0 (0x0000)
R0x369C	P_G2_P3Q3	dddd dddd dddd dddd	0 (0x0000)
R0x369E	P_G2_P3Q4	dddd dddd dddd dddd	0 (0x0000)
R0x36A0	P_G1_P4Q0	dddd dddd dddd dddd	0 (0x0000)

TABLE 3. CPIPE RECONSTRUCT REGISTERS

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Register (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
R0x36A2	P_G1_P4Q1	dddd dddd dddd dddd	0 (0x0000)
R0x36A4	P_G1_P4Q2	dddd dddd dddd dddd	0 (0x0000)
R0x36A6	P_G1_P4Q3	dddd dddd dddd dddd	0 (0x0000)
R0x36A8	P_G1_P4Q4	dddd dddd dddd dddd	0 (0x0000)
R0x36AA	P_R_P4Q0	dddd dddd dddd dddd	0 (0x0000)
R0x36AC	P_R_P4Q1	dddd dddd dddd dddd	0 (0x0000)
R0x36AE	P_R_P4Q2	dddd dddd dddd dddd	0 (0x0000)
R0x36B0	P_R_P4Q3	dddd dddd dddd dddd	0 (0x0000)
R0x36B2	P_R_P4Q4	dddd dddd dddd dddd	0 (0x0000)
R0x36B4	P_B_P4Q0	dddd dddd dddd dddd	0 (0x0000)
R0x36B6	P_B_P4Q1	dddd dddd dddd dddd	0 (0x0000)
R0x36B8	P_B_P4Q2	dddd dddd dddd dddd	0 (0x0000)
R0x36BA	P_B_P4Q3	dddd dddd dddd dddd	0 (0x0000)
R0x36BC	P_B_P4Q4	dddd dddd dddd dddd	0 (0x0000)
R0x36BE	P_G2_P4Q0	dddd dddd dddd dddd	0 (0x0000)
R0x36C0	P_G2_P4Q1	dddd dddd dddd dddd	0 (0x0000)
R0x36C2	P_G2_P4Q2	dddd dddd dddd dddd	0 (0x0000)
R0x36C4	P_G2_P4Q3	dddd dddd dddd dddd	0 (0x0000)
R0x36C6	P_G2_P4Q4	dddd dddd dddd dddd	0 (0x0000)
R0x36C8	CENTER_ROW	0000 0ddd dddd dddd	484 (0x01E4)
R0x36CA	CENTER_COLUMN	0000 dddd dddd dddd	644 (0x0284)

TABLE 4. CPIPE CONTROL REGISTERS

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Register (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
R0x0000	CHIP_VERSION_REG	???? ???? ???? ????	100 (0x0064)
R0x0006	USER_DEFINED_DEVICE_ADDRESS_ID	dddd ddd0 dddd ddd0	47760 (0xBA90)
R0x001A	RESET_AND_MISC_CONTROL	00dd ddd0 0??? 0ddd	15876 (0x3E04)
R0x0020	MCU_BOOT_OPTIONS	dddd dddd dddd dddd	0 (0x0000)
R0x0040	COMMAND_REGISTER	dddd dddd dddd dddd	32768 (0x8000)
R0x0058	CUSTOMER_REV	dddd dddd dddd dddd	0 (0x0000)

TABLE 5. SYSCTL REGISTERS

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Register (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
R0x0000	CHIP_VERSION_REG	???? ???? ???? ????	98 (0x0062)

TABLE 6. CPIPE KERNEL REGISTERS

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Register (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
R0x3220	DM_EDGE_TH	0000 0000 dddd dddd	12 (0x000C)
R0x3222	GRB_POS_THRESHOLDS	dddd dddd dddd dddd	4104 (0x1008)
R0x3224	GRB_NEG_THRESHOLDS	dddd dddd dddd dddd	4104 (0x1008)

TABLE 7. XDMA REGISTERS

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Register (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
R0x0982	ACCESS_CTL_STAT	0000 0ddd dd0? ???d	0 (0x0000)
R0x098A	PHYSICAL_ADDRESS_ACCESS	dddd dddd dddd dddd	0 (0x0000)
R0x098E	LOGICAL_ADDRESS_ACCESS	dddd dddd dddd dddd	0 (0x0000)
R0x0990	MCU_VARIABLE_DATA0	dddd dddd dddd dddd	0 (0x0000)
R0x0992	MCU_VARIABLE_DATA1	dddd dddd dddd dddd	0 (0x0000)
R0x0994	MCU_VARIABLE_DATA2	dddd dddd dddd dddd	0 (0x0000)

TABLE 7. XDMA REGISTERS

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Register (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
R0x0996	MCU_VARIABLE_DATA3	dddd dddd dddd dddd	0 (0x0000)
R0x0998	MCU_VARIABLE_DATA4	dddd dddd dddd dddd	0 (0x0000)
R0x099A	MCU_VARIABLE_DATA5	dddd dddd dddd dddd	0 (0x0000)
R0x099C	MCU_VARIABLE_DATA6	dddd dddd dddd dddd	0 (0x0000)
R0x099E	MCU_VARIABLE_DATA7	dddd dddd dddd dddd	0 (0x0000)

Table 8. TX_SS

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Register (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
R0x3C02	TX_CRC_CONTROL	0000 0000 0000 00dd	0 (0x0000)
R0x3C04	TX_BLACK_CODE_MSW	0000 0000 dddd dddd	0 (0x0000)
R0x3C06	TX_BLACK_CODE_LSW	dddd dddd dddd dddd	0 (0x0000)
R0x3C0C	TX_KS_LINE_LENGTH_PCK	dddd dddd dddd dddd	0 (0x0000)
R0x3C0E	TX_KS_FRAME_LENGTH_LINES	dddd dddd dddd dddd	0 (0x0000)
R0x3C10	TX_KS_LINE_VALID_START_ROW	dddd dddd dddd dddd	0 (0x0000)
R0x3C12	TX_KS_LINE_VALID_START_COL	dddd dddd dddd dddd	0 (0x0000)
R0x3C14	TX_KS_LINE_VALID_STOP_ROW	dddd dddd dddd dddd	0 (0x0000)
R0x3C16	TX_KS_LINE_VALID_STOP_COL	dddd dddd dddd dddd	0 (0x0000)
R0x3C18	TX_KS_FRAME_VALID_START_ROW	dddd dddd dddd dddd	0 (0x0000)
R0x3C1A	TX_KS_FRAME_VALID_START_COL	dddd dddd dddd dddd	0 (0x0000)
R0x3C1C	TX_KS_FRAME_VALID_LAST_ROW	dddd dddd dddd dddd	0 (0x0000)
R0x3C1E	TX_KS_FRAME_VALID_STOP_COL	dddd dddd dddd dddd	0 (0x0000)
R0x3C20	TX_KS_DATA_ENABLE_START_ROW	dddd dddd dddd dddd	0 (0x0000)
R0x3C22	TX_KS_DATA_ENABLE_START_COL	dddd dddd dddd dddd	0 (0x0000)
R0x3C24	TX_KS_DATA_ENABLE_STOP_ROW	dddd dddd dddd dddd	0 (0x0000)
R0x3C26	TX_KS_DATA_ENABLE_STOP_COL	dddd dddd dddd dddd	0 (0x0000)

Table 8. TX_SS

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Register (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
R0x3C28	TX_KS_HSYNC_START_ROW	dddd dddd dddd dddd	0 (0x0000)
R0x3C2A	TX_KS_HSYNC_START_COL	dddd dddd dddd dddd	0 (0x0000)
R0x3C2C	TX_KS_HSYNC_STOP_ROW	dddd dddd dddd dddd	0 (0x0000)
R0x3C2E	TX_KS_HSYNC_STOP_COL	dddd dddd dddd dddd	0 (0x0000)
R0x3C30	TX_KS_VSYNC_START_ROW	dddd dddd dddd dddd	0 (0x0000)
R0x3C32	TX_KS_VSYNC_START_COL	dddd dddd dddd dddd	0 (0x0000)
R0x3C34	TX_KS_VSYNC_LAST_ROW	dddd dddd dddd dddd	0 (0x0000)
R0x3C36	TX_KS_VSYNC_STOP_COL	dddd dddd dddd dddd	0 (0x0000)
R0x3C84	TX_FRONTPORCH_BACKPORCH	dddd dddd dddd dddd	1542 (0x0606)
R0x3C98	TX_FRAME_COUNT_OFFSET_LO	dddd dddd dddd dddd	0 (0x0000)
R0x3C9A	TX_FRAME_COUNT_OFFSET_HI	dddd dddd dddd dddd	0 (0x0000)
R0x3C9C	TX_FRAME_COUNT_LO	???? ???? ???? ????	0 (0x0000)
R0x3C9E	TX_FRAME_COUNT_HI	???? ???? ???? ????	0 (0x0000)
R0x3CA0	TX_LINE_COUNT	???? ???? ???? ????	0 (0x0000)
R0x3CA2	TX_BT656_CONTROL	0000 0000 0000 dddd	2 (0x0002)
R0x3CB2	TX_XBAR_POS_00	000d dddd 000d dddd	0 (0x0000)
R0x3CB4	TX_XBAR_POS_01	000d dddd 000d dddd	257 (0x0101)
R0x3CB6	TX_XBAR_POS_02	000d dddd 000d dddd	514 (0x0202)
R0x3CB8	TX_XBAR_POS_03	000d dddd 000d dddd	771 (0x0303)
R0x3CBA	TX_XBAR_POS_04	000d dddd 000d dddd	1028 (0x0404)
R0x3CBC	TX_XBAR_POS_05	000d dddd 000d dddd	1285 (0x0505)
R0x3CBE	TX_XBAR_POS_06	000d dddd 000d dddd	1542 (0x0606)
R0x3CC0	TX_XBAR_POS_07	000d dddd 000d dddd	1799 (0x0707)
R0x3CC2	TX_XBAR_POS_08	000d dddd 000d dddd	2056 (0x0808)
R0x3CC4	TX_XBAR_POS_09	000d dddd 000d dddd	2313 (0x0909)

Table 8. TX_SS

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Register (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
R0x3CC6	TX_XBAR_POS_10	000d dddd 000d dddd	2570 (0x0A0A)
R0x3CC8	TX_XBAR_POS_11	000d dddd 000d dddd	2827 (0x0B0B)
R0x3CCA	TX_XBAR_POS_12	000d dddd 000d dddd	3084 (0x0C0C)
R0x3CCC	TX_XBAR_POS_13	000d dddd 000d dddd	3341 (0x0D0D)
R0x3CCE	TX_XBAR_POS_14	000d dddd 000d dddd	3598 (0x0E0E)
R0x3CD0	TX_XBAR_POS_15	000d dddd 000d dddd	3855 (0x0F0F)
R0x3CD2	TX_XBAR_POS_16	000d dddd 000d dddd	4112 (0x1010)
R0x3CD4	TX_XBAR_POS_17	000d dddd 000d dddd	4369 (0x1111)
R0x3CD6	TX_XBAR_POS_18	000d dddd 000d dddd	4626 (0x1212)
R0x3CD8	TX_XBAR_POS_19	000d dddd 000d dddd	4883 (0x1313)
R0x3CDA	TX_XBAR_POS_20	000d dddd 000d dddd	5140 (0x1414)
R0x3CDC	TX_XBAR_POS_21	000d dddd 000d dddd	5397 (0x1515)
R0x3CDE	TX_XBAR_POS_22	000d dddd 000d dddd	5654 (0x1616)
R0x3CE0	TX_XBAR_POS_23	000d dddd 000d dddd	5911 (0x1717)
R0x3CE2	TX_XBAR_POS_24	000d dddd 000d dddd	6168 (0x1818)
R0x3CE4	TX_XBAR_POS_25	000d dddd 000d dddd	6425 (0x1919)
R0x3CE6	TX_XBAR_POS_26	000d dddd 000d dddd	6682 (0x1A1A)
R0x3CF0	TX_XBAR_METADATA_REMAP_0_1	000d dddd 000d dddd	3854 (0x0F0E)
R0x3CF2	TX_XBAR_METADATA_REMAP_2_3	000d dddd 000d dddd	4368 (0x1110)
R0x3CF4	TX_XBAR_METADATA_REMAP_4_5	000d dddd 000d dddd	4882 (0x1312)
R0x3CF6	TX_XBAR_METADATA_REMAP_6_7	000d dddd 000d dddd	5396 (0x1514)
R0x3CF8	TX_XBAR_METADATA_REMAP_8_9	000d dddd 000d dddd	5910 (0x1716)

Table 9. OTPM

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Register (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
R0x3800	OTPM_DATA_0	dddd dddd dddd dddd	0 (0x0000)
R0x3802	OTPM_DATA_1	dddd dddd dddd dddd	0 (0x0000)
R0x3804	OTPM_DATA_2	dddd dddd dddd dddd	0 (0x0000)
R0x3806	OTPM_DATA_3	dddd dddd dddd dddd	0 (0x0000)
R0x3808	OTPM_DATA_4	dddd dddd dddd dddd	0 (0x0000)
R0x380A	OTPM_DATA_5	dddd dddd dddd dddd	0 (0x0000)
R0x380C	OTPM_DATA_6	dddd dddd dddd dddd	0 (0x0000)
R0x380E	OTPM_DATA_7	dddd dddd dddd dddd	0 (0x0000)
R0x3900	OTPM_CONTROL	0000 0ddd 0??d 0??d	0 (0x0000)
R0x3902	OTPM_RECORD	dddd dddd dddd dddd	512 (0x0200)

TABLE 10. 0: MONITOR VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0x8000	MON_MAJOR_VERSION	???? ???? ???? ????	2 (0x0002)
0x8002	MON_MINOR_VERSION	???? ???? ???? ????	4 (0x0004)
0x8004	MON_RELEASE_VERSION	???? ???? ???? ????	41219 (0xA103)
0x8006	MON_HEARTBEAT	???? ???? ???? ????	0 (0x0000)
0x8012	MON_SYSTEM_USE_CASE	???? ????	0 (0x00)
0x8014	MON_WATCHDOG_COUNT	???? ???? ???? ????	0 (0x0000)
0x8016	MON_WATCHDOG_STATUS	???? ???d dddd dddd	0 (0x0000)
0x805A	MON_FLASH_CONFIG_VERSION_ID	???? ????	0 (0x00)

TABLE 11. 1: SEQUENCER VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0x8406	SEQ_ERROR_CODE	???? ????	0 (0x00)

TABLE 12. 3: NETWORK CONFIGURATION

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0x8C00	NET_CFG_PHY_FLAGS	dddd dddd dddd dddd	0 (0x0000)
0x8C02	NET_CFG_PHY_TYPE	dddd dddd	0 (0x00)
0x8C03	NET_CFG_PHY_ADDRESS	dddd dddd	0 (0x00)
0x8C04	NET_CFG_PHY_MDIO_FREQ	dddd dddd dddd dddd dddd dddd dddd dddd	2500000 (0x002625A0)
0x8C08	NET_CFG_MAC_FLAGS	dddd dddd	0 (0x00)
0x8C09	NET_CFG_MAC_MODE	dddd dddd	1 (0x01)
0x8C0A	NET_CFG_MAC_DEFAULT_ADDRESS_0	dddd dddd dddd dddd	512 (0x0200)
0x8C0C	NET_CFG_MAC_DEFAULT_ADDRESS_2	dddd dddd dddd dddd	0 (0x0000)
0x8C0E	NET_CFG_MAC_DEFAULT_ADDRESS_4	dddd dddd dddd dddd	1 (0x0001)
0x8C10	NET_CFG_MAC_ERROR_DISABLES	dddd dddd dddd dddd	0 (0x0000)
0x8C14	NET_CFG_NET_FLAGS	dddd dddd dddd dddd	0 (0x0000)
0x8C16	NET_CFG_NET_CLOCK_FREQ	dddd dddd	25 (0x19)
0x8C17	NET_CFG_NET_TX_QUEUE_SIZE	dddd dddd	8 (0x08)
0x8C18	NET_CFG_NET_UDP_CMD_PORT	dddd dddd dddd dddd	50001 (0xC351)
0x8C1C	NET_CFG_IFC0_FEATURES	dddd dddd dddd dddd dddd dddd dddd dddd	73751 (0x00012017)
0x8C28	NET_CFG_IFC0_IPV4_ADDRESS	dddd dddd dddd dddd dddd dddd dddd dddd	3232235781 (0xC0A80105)
0x8C2C	NET_CFG_IFC0_IPV4_NETMASK	dddd dddd dddd dddd dddd dddd dddd dddd	4294967040 (0xFFFFFF00)
0x8C88	NET_CFG_VID_FLAGS	dddd dddd dddd dddd dddd dddd dddd dddd	65536 (0x00010000)
0x8C8C	NET_CFG_VID_DEST_MAC_ADDRESS_0	dddd dddd dddd dddd	0 (0x0000)
0x8C8E	NET_CFG_VID_DEST_MAC_ADDRESS_2	dddd dddd dddd dddd	0 (0x0000)
0x8C90	NET_CFG_VID_DEST_MAC_ADDRESS_4	dddd dddd dddd dddd	0 (0x0000)
0x8C92	NET_CFG_VID_SRC_MAC_ADDRESS_0	dddd dddd dddd dddd	0 (0x0000)
0x8C94	NET_CFG_VID_SRC_MAC_ADDRESS_2	dddd dddd dddd dddd	0 (0x0000)
0x8C96	NET_CFG_VID_SRC_MAC_ADDRESS_4	dddd dddd dddd dddd	0 (0x0000)
0x8C98	NET_CFG_VID_VLAN_ID	dddd dddd dddd dddd	0 (0x0000)

TABLE 12. 3: NETWORK CONFIGURATION

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0x8C9A	NET_CFG_VID_ETHERTYPE	dddd dddd dddd dddd	0 (0x0000)
0x8C9C	NET_CFG_VID_STREAM_ID_0	dddd dddd dddd dddd	291 (0x0123)
0x8C9E	NET_CFG_VID_STREAM_ID_1	dddd dddd dddd dddd	17767 (0x4567)
0x8CA0	NET_CFG_VID_STREAM_ID_2	dddd dddd dddd dddd	35243 (0x89AB)
0x8CA2	NET_CFG_VID_STREAM_ID_3	dddd dddd dddd dddd	52719 (0xCDEF)
0x8CA4	NET_CFG_VID_SOURCE_IP_0	dddd dddd dddd dddd dddd dddd dddd dddd	3232235781 (0xC0A80105)
0x8CA8	NET_CFG_VID_SOURCE_IP_1	dddd dddd dddd dddd dddd dddd dddd dddd	0 (0x00000000)
0x8CAC	NET_CFG_VID_SOURCE_IP_2	dddd dddd dddd dddd dddd dddd dddd dddd	0 (0x00000000)
0x8CB0	NET_CFG_VID_SOURCE_IP_3	dddd dddd dddd dddd dddd dddd dddd dddd	0 (0x00000000)
0x8CB4	NET_CFG_VID_DESTINATION_IP_0	dddd dddd dddd dddd dddd dddd dddd dddd	4294967295 (0xFFFFFFFF)
0x8CB8	NET_CFG_VID_DESTINATION_IP_1	dddd dddd dddd dddd dddd dddd dddd dddd	0 (0x00000000)
0x8CBC	NET_CFG_VID_DESTINATION_IP_2	dddd dddd dddd dddd dddd dddd dddd dddd	0 (0x00000000)
0x8CC0	NET_CFG_VID_DESTINATION_IP_3	dddd dddd dddd dddd dddd dddd dddd dddd	0 (0x00000000)
0x8CC4	NET_CFG_VID_SOURCE_PORT	dddd dddd dddd dddd	5004 (0x138C)
0x8CC6	NET_CFG_VID_DESTINATION_PORT	dddd dddd dddd dddd	5004 (0x138C)
0x8CC8	NET_CFG_VID_PAYLOAD_TYPE	dddd dddd	0 (0x00)

Table 13. 9: AE_RULE VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xA404	AE_RULE_ALGO	dddd dddd dddd dddd	3 (0x0003)
0xA408	AE_RULE_AVG_LOG_Y_FROM_STATS	???? ???? ???? ????	0 (0x0000)
0xA40A	AE_RULE_AE_WEIGHT_TABLE_0_0	dddd dddd	25 (0x19)
0xA40B	AE_RULE_AE_WEIGHT_TABLE_0_1	dddd dddd	25 (0x19)
0xA40C	AE_RULE_AE_WEIGHT_TABLE_0_2	dddd dddd	25 (0x19)
0xA40D	AE_RULE_AE_WEIGHT_TABLE_0_3	dddd dddd	25 (0x19)

Table 13. 9: AE_RULE VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xA40E	AE_RULE_AE_WEIGHT_TABLE_0_4	dddd dddd	25 (0x19)
0xA40F	AE_RULE_AE_WEIGHT_TABLE_1_0	dddd dddd	25 (0x19)
0xA410	AE_RULE_AE_WEIGHT_TABLE_1_1	dddd dddd	75 (0x4B)
0xA411	AE_RULE_AE_WEIGHT_TABLE_1_2	dddd dddd	75 (0x4B)
0xA412	AE_RULE_AE_WEIGHT_TABLE_1_3	dddd dddd	75 (0x4B)
0xA413	AE_RULE_AE_WEIGHT_TABLE_1_4	dddd dddd	25 (0x19)
0xA414	AE_RULE_AE_WEIGHT_TABLE_2_0	dddd dddd	25 (0x19)
0xA415	AE_RULE_AE_WEIGHT_TABLE_2_1	dddd dddd	75 (0x4B)
0xA416	AE_RULE_AE_WEIGHT_TABLE_2_2	dddd dddd	100 (0x64)
0xA417	AE_RULE_AE_WEIGHT_TABLE_2_3	dddd dddd	75 (0x4B)
0xA418	AE_RULE_AE_WEIGHT_TABLE_2_4	dddd dddd	25 (0x19)
0xA419	AE_RULE_AE_WEIGHT_TABLE_3_0	dddd dddd	25 (0x19)
0xA41A	AE_RULE_AE_WEIGHT_TABLE_3_1	dddd dddd	75 (0x4B)
0xA41B	AE_RULE_AE_WEIGHT_TABLE_3_2	dddd dddd	75 (0x4B)
0xA41C	AE_RULE_AE_WEIGHT_TABLE_3_3	dddd dddd	75 (0x4B)
0xA41D	AE_RULE_AE_WEIGHT_TABLE_3_4	dddd dddd	25 (0x19)
0xA41E	AE_RULE_AE_WEIGHT_TABLE_4_0	dddd dddd	25 (0x19)
0xA41F	AE_RULE_AE_WEIGHT_TABLE_4_1	dddd dddd	25 (0x19)
0xA420	AE_RULE_AE_WEIGHT_TABLE_4_2	dddd dddd	25 (0x19)
0xA421	AE_RULE_AE_WEIGHT_TABLE_4_3	dddd dddd	25 (0x19)
0xA422	AE_RULE_AE_WEIGHT_TABLE_4_4	dddd dddd	25 (0x19)

Table 14. 10: AE_Track Variables

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xA800	AE_TRACK_STATUS	???? ???? ???? ????	0 (0x0000)
0xA802	AE_TRACK_MODE	dddd dddd dddd dddd	28 (0x001C)
0xA804	AE_TRACK_ALGO	dddd dddd dddd dddd	63 (0x003F)
0xA806	AE_TRACK_AVG_LOG_Y_TARGET	???? ???? ???? ????	0 (0x0000)
0xA810	AE_TRACK_TRACK_EXP_SPEED	dddd dddd dddd dddd	128 (0x0080)
0xA812	AE_TRACK_ADAPT_THRESH	dddd dddd	4 (0x04)
0xA813	AE_TRACK_DAMP_MAX	dddd dddd	3 (0x03)
0xA814	AE_TRACK_DAMP_SLOPE	dddd dddd	3 (0x03)
0xA815	AE_TRACK_DAMP_MIN	dddd dddd	28 (0x1C)
0xA81C	AE_TRACK_MIN_GAIN_GATE	dddd dddd	134 (0x86)
0xA81D	AE_TRACK_TRACK_MIN_GAIN_SPEED	dddd dddd	8 (0x08)
0xA826	AE_TRACK_HIST_VALLEY_COUNT	???? ???? ???? ????	10 (0x000A)
0xA82C	AE_TRACK_LOG_Y_TARGET_0	dddd dddd dddd dddd	1984 (0x07C0)
0xA82E	AE_TRACK_LOG_Y_TARGET_1	dddd dddd dddd dddd	2079 (0x081F)
0xA830	AE_TRACK_LOG_Y_TARGET_2	dddd dddd dddd dddd	2176 (0x0880)
0xA832	AE_TRACK_LOG_Y_TARGET_3	dddd dddd dddd dddd	2257 (0x08D1)
0xA834	AE_TRACK_LOG_Y_TARGET_4	dddd dddd dddd dddd	2337 (0x0921)
0xA836	AE_TRACK_LOG_Y_TARGET_5	dddd dddd dddd dddd	2478 (0x09AE)
0xA838	AE_TRACK_LOG_Y_TARGET_6	dddd dddd dddd dddd	2478 (0x09AE)
0xA83A	AE_TRACK_LOG_Y_TARGET_7	dddd dddd dddd dddd	2478 (0x09AE)

TABLE 15. 11: AWB VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xAC00	AWB_STATUS	???? ???? ???? ????	0 (0x0000)
0xAC02	AWB_MODE	dddd dddd dddd dddd	456 (0x01C8)

TABLE 15. 11: AWB VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xAC06	AWB_R_RATIO_LOWER	dddd dddd	99 (0x63)
0xAC07	AWB_R_RATIO_UPPER	dddd dddd	101 (0x65)
0xAC08	AWB_B_RATIO_LOWER	dddd dddd	99 (0x63)
0xAC09	AWB_B_RATIO_UPPER	dddd dddd	101 (0x65)
0xAC0A	AWB_R_SCENE_RATIO_LOWER	dddd dddd	0 (0x00)
0xAC0B	AWB_R_SCENE_RATIO_UPPER	dddd dddd	255 (0xFF)
0xAC0C	AWB_B_SCENE_RATIO_LOWER	dddd dddd	0 (0x00)
0xAC0D	AWB_B_SCENE_RATIO_UPPER	dddd dddd	255 (0xFF)
0xAC0E	AWB_R_RATIO_PRE_AWB	???? ????	100 (0x64)
0xAC0F	AWB_B_RATIO_PRE_AWB	???? ????	100 (0x64)
0xAC10	AWB_R_RATIO_POST_AWB	???? ????	100 (0x64)
0xAC11	AWB_B_RATIO_POST_AWB	???? ????	100 (0x64)
0xAC12	AWB_R_GAIN	???? ???? ???? ????	128 (0x0080)
0xAC14	AWB_B_GAIN	???? ???? ???? ????	128 (0x0080)
0xAC16	AWB_PRE_AWB_RATIOS_TRACKING_SPEED	dddd dddd	10 (0x0A)
0xAC24	AWB_IR_CONTROL_BRIGHTNESS_TH	dddd dddd dddd dddd	2304 (0x0900)
0xAC28	AWB_IR_CONTROL_THRESHOLD_1	dddd dddd dddd dddd	205 (0x00CD)
0xAC2A	AWB_IR_CONTROL_THRESHOLD_1_GATE	dddd dddd dddd dddd	4 (0x0004)
0xAC2C	AWB_IR_CONTROL_SLOPE_K1	dddd dddd dddd dddd	65344 (0xFF40)
0xAC2E	AWB_IR_CONTROL_THRESHOLD_2	dddd dddd dddd dddd	13 (0x000D)
0xAC30	AWB_IR_CONTROL_THRESHOLD_2_GATE	dddd dddd dddd dddd	4 (0x0004)
0xAC32	AWB_IR_CONTROL_SLOPE_K2	dddd dddd dddd dddd	164 (0x00A4)
0xAC3A	AWB_DGAIN_SENSOR_MIN	dddd dddd dddd dddd	128 (0x0080)

TABLE 16. 12: BLACKLEVEL VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xB004	BLACKLEVEL_ALGO	dddd dddd dddd dddd	4 (0x0004)
0xB00C	BLACKLEVEL_MAX_BLACK_LEVEL	dddd dddd	0 (0x00)
0xB00D	BLACKLEVEL_BLACK_LEVEL_DAMPING	dddd dddd	6 (0x06)

TABLE 17. 13: CCM VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xB404	CCM_ALGO	dddd dddd dddd dddd	48 (0x0030)
0xB406	CCM_0	???? ???? ???? ????	0 (0x0000)
0xB408	CCM_1	???? ???? ???? ????	0 (0x0000)
0xB40A	CCM_2	???? ???? ???? ????	0 (0x0000)
0xB40C	CCM_3	???? ???? ???? ????	0 (0x0000)
0xB40E	CCM_4	???? ???? ???? ????	0 (0x0000)
0xB410	CCM_5	???? ???? ???? ????	0 (0x0000)
0xB412	CCM_6	???? ???? ???? ????	0 (0x0000)
0xB414	CCM_7	???? ???? ???? ????	0 (0x0000)
0xB416	CCM_8	???? ???? ???? ????	0 (0x0000)

TABLE 18. 14: STAT VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xB804	STAT_AVERAGE_LUMA	???? ???? ???? ???? ???? ???? ???? ????	0 (0x00000000)
0xB808	STAT_LOG_AVERAGE_LUMA	???? ???? ???? ????	0 (0x0000)
0xB80A	STAT_AVERAGE_LOGY	???? ???? ???? ????	0 (0x0000)
0xB80C	STAT_ALTM_L_MIN	???? ???? ???? ???? ???? ???? ???? ????	0 (0x00000000)
0xB810	STAT_ALTM_L_MAX	???? ???? ???? ???? ???? ???? ???? ????	0 (0x00000000)
0xB814	STAT_AWB_PIXELS_IN_STAT	???? ???? ???? ???? ???? ???? ???? ????	0 (0x00000000)

TABLE 18. 14: STAT VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xB818	STAT_AWB_NORM_SUM_WEIGHTED_RED	???? ???? ???? ????	0 (0x0000)
0xB81A	STAT_AWB_NORM_SUM_WEIGHTED_GREEN	???? ???? ???? ????	0 (0x0000)
0xB81C	STAT_AWB_NORM_SUM_WEIGHTED_BLUE	???? ???? ???? ????	0 (0x0000)
0xB820	STAT_CLIP_TOTAL_PIXELS_WIN	???? ???? ???? ???? ???? ???? ???? ????	0 (0x00000000)
0xB824	STAT_CLIP_NUM_LOWLIGHTS	???? ???? ???? ????	0 (0x0000)
0xB858	STAT_AE_ZONE_SIZE_CELLS	???? ???? ???? ????	0 (0x0000)
0xB85A	STAT_AE_HISTOGRAM_SIZE	???? ???? ???? ????	0 (0x0000)
0xB85C	STAT_AE_ZONE_AVGLUMA_0_0	???? ???? ???? ???? ???? ???? ???? ????	0 (0x00000000)
0xB860	STAT_AE_ZONE_AVGLUMA_0_1	???? ???? ???? ???? ???? ???? ???? ????	0 (0x00000000)
0xB864	STAT_AE_ZONE_AVGLUMA_0_2	???? ???? ???? ???? ???? ???? ???? ????	0 (0x00000000)
0xB868	STAT_AE_ZONE_AVGLUMA_0_3	???? ???? ???? ???? ???? ???? ???? ????	0 (0x00000000)
0xB86C	STAT_AE_ZONE_AVGLUMA_0_4	???? ???? ???? ???? ???? ???? ???? ????	0 (0x00000000)
0xB870	STAT_AE_ZONE_AVGLUMA_1_0	???? ???? ???? ???? ???? ???? ???? ????	0 (0x00000000)
0xB874	STAT_AE_ZONE_AVGLUMA_1_1	???? ???? ???? ???? ???? ???? ???? ????	0 (0x00000000)
0xB878	STAT_AE_ZONE_AVGLUMA_1_2	???? ???? ???? ???? ???? ???? ???? ????	0 (0x00000000)
0xB87C	STAT_AE_ZONE_AVGLUMA_1_3	???? ???? ???? ???? ???? ???? ???? ????	0 (0x00000000)
0xB880	STAT_AE_ZONE_AVGLUMA_1_4	???? ???? ???? ???? ???? ???? ???? ????	0 (0x00000000)
0xB884	STAT_AE_ZONE_AVGLUMA_2_0	???? ???? ???? ???? ???? ???? ???? ????	0 (0x00000000)
0xB888	STAT_AE_ZONE_AVGLUMA_2_1	???? ???? ???? ???? ???? ???? ???? ????	0 (0x00000000)
0xB88C	STAT_AE_ZONE_AVGLUMA_2_2	???? ???? ???? ???? ???? ???? ???? ????	0 (0x00000000)
0xB890	STAT_AE_ZONE_AVGLUMA_2_3	???? ???? ???? ???? ???? ???? ???? ????	0 (0x00000000)
0xB894	STAT_AE_ZONE_AVGLUMA_2_4	???? ???? ???? ???? ???? ???? ???? ????	0 (0x00000000)
0xB898	STAT_AE_ZONE_AVGLUMA_3_0	???? ???? ???? ???? ???? ???? ???? ????	0 (0x00000000)
0xB89C	STAT_AE_ZONE_AVGLUMA_3_1	???? ???? ???? ???? ???? ???? ???? ????	0 (0x00000000)
0xB8A0	STAT_AE_ZONE_AVGLUMA_3_2	???? ???? ???? ???? ???? ???? ???? ????	0 (0x00000000)

TABLE 18. 14: STAT VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xB8A4	STAT_AE_ZONE_AVGLUMA_3_3	???? ???? ???? ???? ???? ???? ???? ????	0 (0x00000000)
0xB8A8	STAT_AE_ZONE_AVGLUMA_3_4	???? ???? ???? ???? ???? ???? ???? ????	0 (0x00000000)
0xB8AC	STAT_AE_ZONE_AVGLUMA_4_0	???? ???? ???? ???? ???? ???? ???? ????	0 (0x00000000)
0xB8B0	STAT_AE_ZONE_AVGLUMA_4_1	???? ???? ???? ???? ???? ???? ???? ????	0 (0x00000000)
0xB8B4	STAT_AE_ZONE_AVGLUMA_4_2	???? ???? ???? ???? ???? ???? ???? ????	0 (0x00000000)
0xB8B8	STAT_AE_ZONE_AVGLUMA_4_3	???? ???? ???? ???? ???? ???? ???? ????	0 (0x00000000)
0xB8BC	STAT_AE_ZONE_AVGLUMA_4_4	???? ???? ???? ???? ???? ???? ???? ????	0 (0x00000000)
0xB8C0	STAT_AE_ZONE_AVGLOGY_0_0	???? ???? ???? ????	0 (0x0000)
0xB8C2	STAT_AE_ZONE_AVGLOGY_0_1	???? ???? ???? ????	0 (0x0000)
0xB8C4	STAT_AE_ZONE_AVGLOGY_0_2	???? ???? ???? ????	0 (0x0000)
0xB8C6	STAT_AE_ZONE_AVGLOGY_0_3	???? ???? ???? ????	0 (0x0000)
0xB8C8	STAT_AE_ZONE_AVGLOGY_0_4	???? ???? ???? ????	0 (0x0000)
0xB8CA	STAT_AE_ZONE_AVGLOGY_1_0	???? ???? ???? ????	0 (0x0000)
0xB8CC	STAT_AE_ZONE_AVGLOGY_1_1	???? ???? ???? ????	0 (0x0000)
0xB8CE	STAT_AE_ZONE_AVGLOGY_1_2	???? ???? ???? ????	0 (0x0000)
0xB8D0	STAT_AE_ZONE_AVGLOGY_1_3	???? ???? ???? ????	0 (0x0000)
0xB8D2	STAT_AE_ZONE_AVGLOGY_1_4	???? ???? ???? ????	0 (0x0000)
0xB8D4	STAT_AE_ZONE_AVGLOGY_2_0	???? ???? ???? ????	0 (0x0000)
0xB8D6	STAT_AE_ZONE_AVGLOGY_2_1	???? ???? ???? ????	0 (0x0000)
0xB8D8	STAT_AE_ZONE_AVGLOGY_2_2	???? ???? ???? ????	0 (0x0000)
0xB8DA	STAT_AE_ZONE_AVGLOGY_2_3	???? ???? ???? ????	0 (0x0000)
0xB8DC	STAT_AE_ZONE_AVGLOGY_2_4	???? ???? ???? ????	0 (0x0000)
0xB8DE	STAT_AE_ZONE_AVGLOGY_3_0	???? ???? ???? ????	0 (0x0000)
0xB8E0	STAT_AE_ZONE_AVGLOGY_3_1	???? ???? ???? ????	0 (0x0000)
0xB8E2	STAT_AE_ZONE_AVGLOGY_3_2	???? ???? ???? ????	0 (0x0000)

TABLE 18. 14: STAT VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xB8E4	STAT_AE_ZONE_AVGLOGY_3_3	???? ???? ???? ????	0 (0x0000)
0xB8E6	STAT_AE_ZONE_AVGLOGY_3_4	???? ???? ???? ????	0 (0x0000)
0xB8E8	STAT_AE_ZONE_AVGLOGY_4_0	???? ???? ???? ????	0 (0x0000)
0xB8EA	STAT_AE_ZONE_AVGLOGY_4_1	???? ???? ???? ????	0 (0x0000)
0xB8EC	STAT_AE_ZONE_AVGLOGY_4_2	???? ???? ???? ????	0 (0x0000)
0xB8EE	STAT_AE_ZONE_AVGLOGY_4_3	???? ???? ???? ????	0 (0x0000)
0xB8F0	STAT_AE_ZONE_AVGLOGY_4_4	???? ???? ???? ????	0 (0x0000)
0xB8F2	STAT_AE_ZONE_WEIGHT_0_0	???? ???? ???? ????	0 (0x0000)
0xB8F4	STAT_AE_ZONE_WEIGHT_0_1	???? ???? ???? ????	0 (0x0000)
0xB8F6	STAT_AE_ZONE_WEIGHT_0_2	???? ???? ???? ????	0 (0x0000)
0xB8F8	STAT_AE_ZONE_WEIGHT_0_3	???? ???? ???? ????	0 (0x0000)
0xB8FA	STAT_AE_ZONE_WEIGHT_0_4	???? ???? ???? ????	0 (0x0000)
0xB8FC	STAT_AE_ZONE_WEIGHT_1_0	???? ???? ???? ????	0 (0x0000)
0xB8FE	STAT_AE_ZONE_WEIGHT_1_1	???? ???? ???? ????	0 (0x0000)
0xB900	STAT_AE_ZONE_WEIGHT_1_2	???? ???? ???? ????	0 (0x0000)
0xB902	STAT_AE_ZONE_WEIGHT_1_3	???? ???? ???? ????	0 (0x0000)
0xB904	STAT_AE_ZONE_WEIGHT_1_4	???? ???? ???? ????	0 (0x0000)
0xB906	STAT_AE_ZONE_WEIGHT_2_0	???? ???? ???? ????	0 (0x0000)
0xB908	STAT_AE_ZONE_WEIGHT_2_1	???? ???? ???? ????	0 (0x0000)
0xB90A	STAT_AE_ZONE_WEIGHT_2_2	???? ???? ???? ????	0 (0x0000)
0xB90C	STAT_AE_ZONE_WEIGHT_2_3	???? ???? ???? ????	0 (0x0000)
0xB90E	STAT_AE_ZONE_WEIGHT_2_4	???? ???? ???? ????	0 (0x0000)
0xB910	STAT_AE_ZONE_WEIGHT_3_0	???? ???? ???? ????	0 (0x0000)
0xB912	STAT_AE_ZONE_WEIGHT_3_1	???? ???? ???? ????	0 (0x0000)
0xB914	STAT_AE_ZONE_WEIGHT_3_2	???? ???? ???? ????	0 (0x0000)

TABLE 18. 14: STAT VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xB916	STAT_AE_ZONE_WEIGHT_3_3	???? ???? ???? ????	0 (0x0000)
0xB918	STAT_AE_ZONE_WEIGHT_3_4	???? ???? ???? ????	0 (0x0000)
0xB91A	STAT_AE_ZONE_WEIGHT_4_0	???? ???? ???? ????	0 (0x0000)
0xB91C	STAT_AE_ZONE_WEIGHT_4_1	???? ???? ???? ????	0 (0x0000)
0xB91E	STAT_AE_ZONE_WEIGHT_4_2	???? ???? ???? ????	0 (0x0000)
0xB920	STAT_AE_ZONE_WEIGHT_4_3	???? ???? ???? ????	0 (0x0000)
0xB922	STAT_AE_ZONE_WEIGHT_4_4	???? ???? ???? ????	0 (0x0000)
0xB924	STAT_AE_HISTOGRAM_0	???? ???? ???? ????	0 (0x0000)
0xB926	STAT_AE_HISTOGRAM_1	???? ???? ???? ????	0 (0x0000)
0xB928	STAT_AE_HISTOGRAM_2	???? ???? ???? ????	0 (0x0000)
0xB92A	STAT_AE_HISTOGRAM_3	???? ???? ???? ????	0 (0x0000)
0xB92C	STAT_AE_HISTOGRAM_4	???? ???? ???? ????	0 (0x0000)
0xB92E	STAT_AE_HISTOGRAM_5	???? ???? ???? ????	0 (0x0000)
0xB930	STAT_AE_HISTOGRAM_6	???? ???? ???? ????	0 (0x0000)
0xB932	STAT_AE_HISTOGRAM_7	???? ???? ???? ????	0 (0x0000)
0xB934	STAT_AE_HISTOGRAM_8	???? ???? ???? ????	0 (0x0000)
0xB936	STAT_AE_HISTOGRAM_9	???? ???? ???? ????	0 (0x0000)
0xB938	STAT_AE_HISTOGRAM_10	???? ???? ???? ????	0 (0x0000)
0xB93A	STAT_AE_HISTOGRAM_11	???? ???? ???? ????	0 (0x0000)
0xB93C	STAT_AE_HISTOGRAM_12	???? ???? ???? ????	0 (0x0000)
0xB93E	STAT_AE_HISTOGRAM_13	???? ???? ???? ????	0 (0x0000)
0xB940	STAT_AE_HISTOGRAM_14	???? ???? ???? ????	0 (0x0000)
0xB942	STAT_AE_HISTOGRAM_15	???? ???? ???? ????	0 (0x0000)
0xB944	STAT_AE_HISTOGRAM_16	???? ???? ???? ????	0 (0x0000)
0xB946	STAT_AE_HISTOGRAM_17	???? ???? ???? ????	0 (0x0000)

TABLE 18. 14: STAT VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xB948	STAT_AE_HISTOGRAM_18	???? ???? ???? ????	0 (0x0000)
0xB94A	STAT_AE_HISTOGRAM_19	???? ???? ???? ????	0 (0x0000)
0xB94C	STAT_AE_HISTOGRAM_20	???? ???? ???? ????	0 (0x0000)
0xB94E	STAT_AE_HISTOGRAM_21	???? ???? ???? ????	0 (0x0000)
0xB950	STAT_AE_HISTOGRAM_22	???? ???? ???? ????	0 (0x0000)
0xB952	STAT_AE_HISTOGRAM_23	???? ???? ???? ????	0 (0x0000)
0xB954	STAT_AE_HISTOGRAM_24	???? ???? ???? ????	0 (0x0000)
0xB956	STAT_AE_HISTOGRAM_25	???? ???? ???? ????	0 (0x0000)
0xB958	STAT_AE_HISTOGRAM_26	???? ???? ???? ????	0 (0x0000)
0xB95A	STAT_AE_HISTOGRAM_27	???? ???? ???? ????	0 (0x0000)
0xB95C	STAT_AE_HISTOGRAM_28	???? ???? ???? ????	0 (0x0000)
0xB95E	STAT_AE_HISTOGRAM_29	???? ???? ???? ????	0 (0x0000)
0xB960	STAT_AE_HISTOGRAM_30	???? ???? ???? ????	0 (0x0000)
0xB962	STAT_AE_HISTOGRAM_31	???? ???? ???? ????	0 (0x0000)
0xB964	STAT_AE_HISTOGRAM_32	???? ???? ???? ????	0 (0x0000)
0xB966	STAT_AE_HISTOGRAM_33	???? ???? ???? ????	0 (0x0000)
0xB968	STAT_AE_HISTOGRAM_34	???? ???? ???? ????	0 (0x0000)
0xB96A	STAT_AE_HISTOGRAM_35	???? ???? ???? ????	0 (0x0000)
0xB96C	STAT_AE_HISTOGRAM_36	???? ???? ???? ????	0 (0x0000)
0xB96E	STAT_AE_HISTOGRAM_37	???? ???? ???? ????	0 (0x0000)
0xB970	STAT_AE_HISTOGRAM_38	???? ???? ???? ????	0 (0x0000)
0xB972	STAT_AE_HISTOGRAM_39	???? ???? ???? ????	0 (0x0000)
0xB974	STAT_AE_HISTOGRAM_40	???? ???? ???? ????	0 (0x0000)
0xB976	STAT_AE_HISTOGRAM_41	???? ???? ???? ????	0 (0x0000)
0xB978	STAT_AE_HISTOGRAM_42	???? ???? ???? ????	0 (0x0000)

TABLE 18. 14: STAT VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xB97A	STAT_AE_HISTOGRAM_43	???? ???? ???? ????	0 (0x0000)
0xB97C	STAT_AE_HISTOGRAM_44	???? ???? ???? ????	0 (0x0000)
0xB97E	STAT_AE_HISTOGRAM_45	???? ???? ???? ????	0 (0x0000)
0xB980	STAT_AE_HISTOGRAM_46	???? ???? ???? ????	0 (0x0000)
0xB982	STAT_AE_HISTOGRAM_47	???? ???? ???? ????	0 (0x0000)
0xB984	STAT_AE_HISTOGRAM_48	???? ???? ???? ????	0 (0x0000)
0xB986	STAT_AE_HISTOGRAM_49	???? ???? ???? ????	0 (0x0000)
0xB988	STAT_AE_HISTOGRAM_50	???? ???? ???? ????	0 (0x0000)
0xB98A	STAT_AE_HISTOGRAM_51	???? ???? ???? ????	0 (0x0000)
0xB98C	STAT_AE_HISTOGRAM_52	???? ???? ???? ????	0 (0x0000)
0xB98E	STAT_AE_HISTOGRAM_53	???? ???? ???? ????	0 (0x0000)
0xB990	STAT_AE_HISTOGRAM_54	???? ???? ???? ????	0 (0x0000)
0xB992	STAT_AE_HISTOGRAM_55	???? ???? ???? ????	0 (0x0000)
0xB994	STAT_AE_HISTOGRAM_56	???? ???? ???? ????	0 (0x0000)
0xB996	STAT_AE_HISTOGRAM_57	???? ???? ???? ????	0 (0x0000)
0xB998	STAT_AE_HISTOGRAM_58	???? ???? ???? ????	0 (0x0000)
0xB99A	STAT_AE_HISTOGRAM_59	???? ???? ???? ????	0 (0x0000)
0xB99C	STAT_AE_HISTOGRAM_60	???? ???? ???? ????	0 (0x0000)
0xB99E	STAT_AE_HISTOGRAM_61	???? ???? ???? ????	0 (0x0000)
0xB9A0	STAT_AE_HISTOGRAM_62	???? ???? ???? ????	0 (0x0000)
0xB9A2	STAT_AE_HISTOGRAM_63	???? ???? ???? ????	0 (0x0000)
0xB9A4	STAT_AE_HISTOGRAM_64	???? ???? ???? ????	0 (0x0000)
0xB9A6	STAT_AE_HISTOGRAM_65	???? ???? ???? ????	0 (0x0000)
0xB9A8	STAT_AE_HISTOGRAM_66	???? ???? ???? ????	0 (0x0000)
0xB9AA	STAT_AE_HISTOGRAM_67	???? ???? ???? ????	0 (0x0000)

TABLE 18. 14: STAT VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xB9AC	STAT_AE_HISTOGRAM_68	???? ???? ???? ????	0 (0x0000)
0xB9AE	STAT_AE_HISTOGRAM_69	???? ???? ???? ????	0 (0x0000)
0xB9B0	STAT_AE_HISTOGRAM_70	???? ???? ???? ????	0 (0x0000)
0xB9B2	STAT_AE_HISTOGRAM_71	???? ???? ???? ????	0 (0x0000)
0xB9B4	STAT_AE_HISTOGRAM_72	???? ???? ???? ????	0 (0x0000)
0xB9B6	STAT_AE_HISTOGRAM_73	???? ???? ???? ????	0 (0x0000)
0xB9B8	STAT_AE_HISTOGRAM_74	???? ???? ???? ????	0 (0x0000)
0xB9BA	STAT_AE_HISTOGRAM_75	???? ???? ???? ????	0 (0x0000)
0xB9BC	STAT_AE_HISTOGRAM_76	???? ???? ???? ????	0 (0x0000)
0xB9BE	STAT_AE_HISTOGRAM_77	???? ???? ???? ????	0 (0x0000)
0xB9C0	STAT_AE_HISTOGRAM_78	???? ???? ???? ????	0 (0x0000)
0xB9C2	STAT_AE_HISTOGRAM_79	???? ???? ???? ????	0 (0x0000)
0xB9C4	STAT_AE_HISTOGRAM_80	???? ???? ???? ????	0 (0x0000)
0xB9C6	STAT_AE_HISTOGRAM_81	???? ???? ???? ????	0 (0x0000)
0xB9C8	STAT_AE_HISTOGRAM_82	???? ???? ???? ????	0 (0x0000)
0xB9CA	STAT_AE_HISTOGRAM_83	???? ???? ???? ????	0 (0x0000)
0xB9CC	STAT_AE_HISTOGRAM_84	???? ???? ???? ????	0 (0x0000)
0xB9CE	STAT_AE_HISTOGRAM_85	???? ???? ???? ????	0 (0x0000)
0xB9D0	STAT_AE_HISTOGRAM_86	???? ???? ???? ????	0 (0x0000)
0xB9D2	STAT_AE_HISTOGRAM_87	???? ???? ???? ????	0 (0x0000)
0xB9D4	STAT_AE_HISTOGRAM_88	???? ???? ???? ????	0 (0x0000)
0xB9D6	STAT_AE_HISTOGRAM_89	???? ???? ???? ????	0 (0x0000)
0xB9D8	STAT_AE_HISTOGRAM_90	???? ???? ???? ????	0 (0x0000)
0xB9DA	STAT_AE_HISTOGRAM_91	???? ???? ???? ????	0 (0x0000)
0xB9DC	STAT_AE_HISTOGRAM_92	???? ???? ???? ????	0 (0x0000)

TABLE 18. 14: STAT VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xB9DE	STAT_AE_HISTOGRAM_93	???? ???? ???? ????	0 (0x0000)
0xB9E0	STAT_AE_HISTOGRAM_94	???? ???? ???? ????	0 (0x0000)
0xB9E2	STAT_AE_HISTOGRAM_95	???? ???? ???? ????	0 (0x0000)
0xB9E4	STAT_AE_HISTOGRAM_96	???? ???? ???? ????	0 (0x0000)
0xB9E6	STAT_AE_HISTOGRAM_97	???? ???? ???? ????	0 (0x0000)
0xB9E8	STAT_AE_HISTOGRAM_98	???? ???? ???? ????	0 (0x0000)
0xB9EA	STAT_AE_HISTOGRAM_99	???? ???? ???? ????	0 (0x0000)
0xB9EC	STAT_AE_HISTOGRAM_100	???? ???? ???? ????	0 (0x0000)
0xB9EE	STAT_AE_HISTOGRAM_101	???? ???? ???? ????	0 (0x0000)
0xB9F0	STAT_AE_HISTOGRAM_102	???? ???? ???? ????	0 (0x0000)
0xB9F2	STAT_AE_HISTOGRAM_103	???? ???? ???? ????	0 (0x0000)
0xB9F4	STAT_AE_HISTOGRAM_104	???? ???? ???? ????	0 (0x0000)
0xB9F6	STAT_AE_HISTOGRAM_105	???? ???? ???? ????	0 (0x0000)
0xB9F8	STAT_AE_HISTOGRAM_106	???? ???? ???? ????	0 (0x0000)
0xB9FA	STAT_AE_HISTOGRAM_107	???? ???? ???? ????	0 (0x0000)
0xB9FC	STAT_AE_HISTOGRAM_108	???? ???? ???? ????	0 (0x0000)
0xB9FE	STAT_AE_HISTOGRAM_109	???? ???? ???? ????	0 (0x0000)
0xBA00	STAT_AE_HISTOGRAM_110	???? ???? ???? ????	0 (0x0000)
0xBA02	STAT_AE_HISTOGRAM_111	???? ???? ???? ????	0 (0x0000)
0xBA04	STAT_AE_HISTOGRAM_112	???? ???? ???? ????	0 (0x0000)
0xBA06	STAT_AE_HISTOGRAM_113	???? ???? ???? ????	0 (0x0000)
0xBA08	STAT_AE_HISTOGRAM_114	???? ???? ???? ????	0 (0x0000)
0xBA0A	STAT_AE_HISTOGRAM_115	???? ???? ???? ????	0 (0x0000)
0xBA0C	STAT_AE_HISTOGRAM_116	???? ???? ???? ????	0 (0x0000)
0xBA0E	STAT_AE_HISTOGRAM_117	???? ???? ???? ????	0 (0x0000)

TABLE 18. 14: STAT VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xBA10	STAT_AE_HISTOGRAM_118	???? ???? ???? ????	0 (0x0000)
0xBA12	STAT_AE_HISTOGRAM_119	???? ???? ???? ????	0 (0x0000)
0xBA14	STAT_AE_HISTOGRAM_120	???? ???? ???? ????	0 (0x0000)
0xBA16	STAT_AE_HISTOGRAM_121	???? ???? ???? ????	0 (0x0000)
0xBA18	STAT_AE_HISTOGRAM_122	???? ???? ???? ????	0 (0x0000)
0xBA1A	STAT_AE_HISTOGRAM_123	???? ???? ???? ????	0 (0x0000)
0xBA1C	STAT_AE_HISTOGRAM_124	???? ???? ???? ????	0 (0x0000)
0xBA1E	STAT_AE_HISTOGRAM_125	???? ???? ???? ????	0 (0x0000)
0xBA20	STAT_AE_HISTOGRAM_126	???? ???? ???? ????	0 (0x0000)
0xBA22	STAT_AE_HISTOGRAM_127	???? ???? ???? ????	0 (0x0000)
0xBA24	STAT_AE_HISTOGRAM_128	???? ???? ???? ????	0 (0x0000)
0xBA26	STAT_AE_HISTOGRAM_129	???? ???? ???? ????	0 (0x0000)
0xBA28	STAT_AE_HISTOGRAM_130	???? ???? ???? ????	0 (0x0000)
0xBA2A	STAT_AE_HISTOGRAM_131	???? ???? ???? ????	0 (0x0000)
0xBA2C	STAT_AE_HISTOGRAM_132	???? ???? ???? ????	0 (0x0000)
0xBA2E	STAT_AE_HISTOGRAM_133	???? ???? ???? ????	0 (0x0000)
0xBA30	STAT_AE_HISTOGRAM_134	???? ???? ???? ????	0 (0x0000)
0xBA32	STAT_AE_HISTOGRAM_135	???? ???? ???? ????	0 (0x0000)
0xBA34	STAT_AE_HISTOGRAM_136	???? ???? ???? ????	0 (0x0000)
0xBA36	STAT_AE_HISTOGRAM_137	???? ???? ???? ????	0 (0x0000)
0xBA38	STAT_AE_HISTOGRAM_138	???? ???? ???? ????	0 (0x0000)
0xBA3A	STAT_AE_HISTOGRAM_139	???? ???? ???? ????	0 (0x0000)
0xBA3C	STAT_AE_HISTOGRAM_140	???? ???? ???? ????	0 (0x0000)
0xBA3E	STAT_AE_HISTOGRAM_141	???? ???? ???? ????	0 (0x0000)
0xBA40	STAT_AE_HISTOGRAM_142	???? ???? ???? ????	0 (0x0000)

TABLE 18. 14: STAT VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xBA42	STAT_AE_HISTOGRAM_143	???? ???? ???? ????	0 (0x0000)
0xBA44	STAT_AE_HISTOGRAM_144	???? ???? ???? ????	0 (0x0000)
0xBA46	STAT_AE_HISTOGRAM_145	???? ???? ???? ????	0 (0x0000)
0xBA48	STAT_AE_HISTOGRAM_146	???? ???? ???? ????	0 (0x0000)
0xBA4A	STAT_AE_HISTOGRAM_147	???? ???? ???? ????	0 (0x0000)
0xBA4C	STAT_AE_HISTOGRAM_148	???? ???? ???? ????	0 (0x0000)
0xBA4E	STAT_AE_HISTOGRAM_149	???? ???? ???? ????	0 (0x0000)
0xBA50	STAT_AE_HISTOGRAM_150	???? ???? ???? ????	0 (0x0000)
0xBA52	STAT_AE_HISTOGRAM_151	???? ???? ???? ????	0 (0x0000)
0xBA54	STAT_AE_HISTOGRAM_152	???? ???? ???? ????	0 (0x0000)
0xBA56	STAT_AE_HISTOGRAM_153	???? ???? ???? ????	0 (0x0000)
0xBA58	STAT_AE_HISTOGRAM_154	???? ???? ???? ????	0 (0x0000)
0xBA5A	STAT_AE_HISTOGRAM_155	???? ???? ???? ????	0 (0x0000)
0xBA5C	STAT_AE_HISTOGRAM_156	???? ???? ???? ????	0 (0x0000)
0xBA5E	STAT_AE_HISTOGRAM_157	???? ???? ???? ????	0 (0x0000)
0xBA60	STAT_AE_HISTOGRAM_158	???? ???? ???? ????	0 (0x0000)
0xBA62	STAT_AE_HISTOGRAM_159	???? ???? ???? ????	0 (0x0000)
0xBA64	STAT_AE_HISTOGRAM_160	???? ???? ???? ????	0 (0x0000)
0xBA66	STAT_AE_HISTOGRAM_161	???? ???? ???? ????	0 (0x0000)
0xBA68	STAT_AE_HISTOGRAM_162	???? ???? ???? ????	0 (0x0000)
0xBA6A	STAT_AE_HISTOGRAM_163	???? ???? ???? ????	0 (0x0000)
0xBA6C	STAT_AE_HISTOGRAM_164	???? ???? ???? ????	0 (0x0000)
0xBA6E	STAT_AE_HISTOGRAM_165	???? ???? ???? ????	0 (0x0000)
0xBA70	STAT_AE_HISTOGRAM_166	???? ???? ???? ????	0 (0x0000)
0xBA72	STAT_AE_HISTOGRAM_167	???? ???? ???? ????	0 (0x0000)

TABLE 18. 14: STAT VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xBA74	STAT_AE_HISTOGRAM_168	???? ???? ???? ????	0 (0x0000)
0xBA76	STAT_AE_HISTOGRAM_169	???? ???? ???? ????	0 (0x0000)
0xBA78	STAT_AE_HISTOGRAM_170	???? ???? ???? ????	0 (0x0000)
0xBA7A	STAT_AE_HISTOGRAM_171	???? ???? ???? ????	0 (0x0000)
0xBA7C	STAT_AE_HISTOGRAM_172	???? ???? ???? ????	0 (0x0000)
0xBA7E	STAT_AE_HISTOGRAM_173	???? ???? ???? ????	0 (0x0000)
0xBA80	STAT_AE_HISTOGRAM_174	???? ???? ???? ????	0 (0x0000)
0xBA82	STAT_AE_HISTOGRAM_175	???? ???? ???? ????	0 (0x0000)
0xBA84	STAT_AE_HISTOGRAM_176	???? ???? ???? ????	0 (0x0000)
0xBA86	STAT_AE_HISTOGRAM_177	???? ???? ???? ????	0 (0x0000)
0xBA88	STAT_AE_HISTOGRAM_178	???? ???? ???? ????	0 (0x0000)
0xBA8A	STAT_AE_HISTOGRAM_179	???? ???? ???? ????	0 (0x0000)
0xBA8C	STAT_AE_HISTOGRAM_180	???? ???? ???? ????	0 (0x0000)
0xBA8E	STAT_AE_HISTOGRAM_181	???? ???? ???? ????	0 (0x0000)
0xBA90	STAT_AE_HISTOGRAM_182	???? ???? ???? ????	0 (0x0000)
0xBA92	STAT_AE_HISTOGRAM_183	???? ???? ???? ????	0 (0x0000)
0xBA94	STAT_AE_HISTOGRAM_184	???? ???? ???? ????	0 (0x0000)
0xBA96	STAT_AE_HISTOGRAM_185	???? ???? ???? ????	0 (0x0000)
0xBA98	STAT_AE_HISTOGRAM_186	???? ???? ???? ????	0 (0x0000)
0xBA9A	STAT_AE_HISTOGRAM_187	???? ???? ???? ????	0 (0x0000)
0xBA9C	STAT_AE_HISTOGRAM_188	???? ???? ???? ????	0 (0x0000)
0xBA9E	STAT_AE_HISTOGRAM_189	???? ???? ???? ????	0 (0x0000)
0xBAA0	STAT_AE_HISTOGRAM_190	???? ???? ???? ????	0 (0x0000)
0xBAA2	STAT_AE_HISTOGRAM_191	???? ???? ???? ????	0 (0x0000)
0xBAA4	STAT_AE_HISTOGRAM_192	???? ???? ???? ????	0 (0x0000)

TABLE 18. 14: STAT VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xBAA6	STAT_AE_HISTOGRAM_193	???? ???? ???? ????	0 (0x0000)
0xBAA8	STAT_AE_HISTOGRAM_194	???? ???? ???? ????	0 (0x0000)
0xBAAA	STAT_AE_HISTOGRAM_195	???? ???? ???? ????	0 (0x0000)
0xBAAC	STAT_AE_HISTOGRAM_196	???? ???? ???? ????	0 (0x0000)
0xBAAE	STAT_AE_HISTOGRAM_197	???? ???? ???? ????	0 (0x0000)
0xBAB0	STAT_AE_HISTOGRAM_198	???? ???? ???? ????	0 (0x0000)
0xBAB2	STAT_AE_HISTOGRAM_199	???? ???? ???? ????	0 (0x0000)
0xBAB4	STAT_AE_HISTOGRAM_200	???? ???? ???? ????	0 (0x0000)
0xBAB6	STAT_AE_HISTOGRAM_201	???? ???? ???? ????	0 (0x0000)
0xBAB8	STAT_AE_HISTOGRAM_202	???? ???? ???? ????	0 (0x0000)
0xBABA	STAT_AE_HISTOGRAM_203	???? ???? ???? ????	0 (0x0000)
0xBABC	STAT_AE_HISTOGRAM_204	???? ???? ???? ????	0 (0x0000)
0xBABE	STAT_AE_HISTOGRAM_205	???? ???? ???? ????	0 (0x0000)
0xBAC0	STAT_AE_HISTOGRAM_206	???? ???? ???? ????	0 (0x0000)
0xBAC2	STAT_AE_HISTOGRAM_207	???? ???? ???? ????	0 (0x0000)
0xBAC4	STAT_AE_HISTOGRAM_208	???? ???? ???? ????	0 (0x0000)
0xBAC6	STAT_AE_HISTOGRAM_209	???? ???? ???? ????	0 (0x0000)
0xBAC8	STAT_AE_HISTOGRAM_210	???? ???? ???? ????	0 (0x0000)
0xBACA	STAT_AE_HISTOGRAM_211	???? ???? ???? ????	0 (0x0000)
0xBACC	STAT_AE_HISTOGRAM_212	???? ???? ???? ????	0 (0x0000)
0xBACE	STAT_AE_HISTOGRAM_213	???? ???? ???? ????	0 (0x0000)
0xBAD0	STAT_AE_HISTOGRAM_214	???? ???? ???? ????	0 (0x0000)
0xBAD2	STAT_AE_HISTOGRAM_215	???? ???? ???? ????	0 (0x0000)
0xBAD4	STAT_AE_HISTOGRAM_216	???? ???? ???? ????	0 (0x0000)
0xBAD6	STAT_AE_HISTOGRAM_217	???? ???? ???? ????	0 (0x0000)

TABLE 18. 14: STAT VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xBAD8	STAT_AE_HISTOGRAM_218	???? ???? ???? ????	0 (0x0000)
0xBADA	STAT_AE_HISTOGRAM_219	???? ???? ???? ????	0 (0x0000)
0xBADC	STAT_AE_HISTOGRAM_220	???? ???? ???? ????	0 (0x0000)
0xBADE	STAT_AE_HISTOGRAM_221	???? ???? ???? ????	0 (0x0000)
0xBAE0	STAT_AE_HISTOGRAM_222	???? ???? ???? ????	0 (0x0000)
0xBAE2	STAT_AE_HISTOGRAM_223	???? ???? ???? ????	0 (0x0000)
0xBAE4	STAT_AE_HISTOGRAM_224	???? ???? ???? ????	0 (0x0000)
0xBAE6	STAT_AE_HISTOGRAM_225	???? ???? ???? ????	0 (0x0000)
0xBAE8	STAT_AE_HISTOGRAM_226	???? ???? ???? ????	0 (0x0000)
0xBAEA	STAT_AE_HISTOGRAM_227	???? ???? ???? ????	0 (0x0000)
0xBAEC	STAT_AE_HISTOGRAM_228	???? ???? ???? ????	0 (0x0000)
0xBAEE	STAT_AE_HISTOGRAM_229	???? ???? ???? ????	0 (0x0000)
0xBAF0	STAT_AE_HISTOGRAM_230	???? ???? ???? ????	0 (0x0000)
0xBAF2	STAT_AE_HISTOGRAM_231	???? ???? ???? ????	0 (0x0000)
0xBAF4	STAT_AE_HISTOGRAM_232	???? ???? ???? ????	0 (0x0000)
0xBAF6	STAT_AE_HISTOGRAM_233	???? ???? ???? ????	0 (0x0000)
0xBAF8	STAT_AE_HISTOGRAM_234	???? ???? ???? ????	0 (0x0000)
0xBAFA	STAT_AE_HISTOGRAM_235	???? ???? ???? ????	0 (0x0000)
0xBAFC	STAT_AE_HISTOGRAM_236	???? ???? ???? ????	0 (0x0000)
0xBAFE	STAT_AE_HISTOGRAM_237	???? ???? ???? ????	0 (0x0000)
0xBB00	STAT_AE_HISTOGRAM_238	???? ???? ???? ????	0 (0x0000)
0xBB02	STAT_AE_HISTOGRAM_239	???? ???? ???? ????	0 (0x0000)
0xBB04	STAT_AE_HISTOGRAM_240	???? ???? ???? ????	0 (0x0000)
0xBB06	STAT_AE_HISTOGRAM_241	???? ???? ???? ????	0 (0x0000)
0xBB08	STAT_AE_HISTOGRAM_242	???? ???? ???? ????	0 (0x0000)

TABLE 18. 14: STAT VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xBB0A	STAT_AE_HISTOGRAM_243	???? ???? ???? ????	0 (0x0000)
0xBB0C	STAT_EXPOSURE_COARSE_INTEGRATION_TIME	???? ???? ???? ????	0 (0x0000)
0xBB0E	STAT_EXPOSURE_FINE_INTEGRATION_TIME	???? ???? ???? ????	0 (0x0000)
0xBB10	STAT_EXPOSURE_ANALOG_RED_GAIN	???? ???? ???? ????	0 (0x0000)
0xBB12	STAT_EXPOSURE_ANALOG_GREEN1_GAIN	???? ???? ???? ????	0 (0x0000)
0xBB14	STAT_EXPOSURE_ANALOG_GREEN2_GAIN	???? ???? ???? ????	0 (0x0000)
0xBB16	STAT_EXPOSURE_ANALOG_BLUE_GAIN	???? ???? ???? ????	0 (0x0000)
0xBB18	STAT_EXPOSURE_FRAME_LENGTH_LINES	???? ???? ???? ????	0 (0x0000)
0xBB1A	STAT_EXPOSURE_LINE_LENGTH_PCK	???? ???? ???? ????	0 (0x0000)
0xBB1C	STAT_EXPOSURE_COLUMN_GAIN	???? ????	0 (0x00)
0xBB1D	STAT_EXPOSURE_DCG_GAIN	???? ????	0 (0x00)
0xBB1E	STAT_EXPOSURE_DGAIN_RED	???? ???? ???? ????	0 (0x0000)
0xBB20	STAT_EXPOSURE_DGAIN_GREEN1	???? ???? ???? ????	0 (0x0000)
0xBB22	STAT_EXPOSURE_DGAIN_GREEN2	???? ???? ???? ????	0 (0x0000)
0xBB24	STAT_EXPOSURE_DGAIN_BLUE	???? ???? ???? ????	0 (0x0000)
0xBB26	STAT_EXPOSURE_CPIPE_DGAIN_RED	???? ???? ???? ????	0 (0x0000)
0xBB28	STAT_EXPOSURE_CPIPE_DGAIN_GREEN1	???? ???? ???? ????	0 (0x0000)
0xBB2A	STAT_EXPOSURE_CPIPE_DGAIN_GREEN2	???? ???? ???? ????	0 (0x0000)
0xBB2C	STAT_EXPOSURE_CPIPE_DGAIN_BLUE	???? ???? ???? ????	0 (0x0000)
0xBB2E	STAT_EXPOSURE_CPIPE_DGAIN_SECOND	???? ???? ???? ????	0 (0x0000)
0xBB30	STAT_EXPOSURE_RATIO_T1_T2	???? ????	0 (0x00)
0xBB31	STAT_EXPOSURE_RATIO_T2_T3	???? ????	0 (0x00)
0xBB32	STAT_EXPOSURE_HDR_SDR_MODE	???? ????	0 (0x00)

TABLE 19. 15: LOW LIGHT VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xBC02	LL_MODE	dddd dddd dddd dddd	711 (0x02C7)
0xBC07	LL_GAMMA_SELECT	dddd dddd	0 (0x00)
0xBC0A	LL_GAMMA_CONTRAST_CURVE_0	dddd dddd dddd dddd	0 (0x0000)
0xBC0C	LL_GAMMA_CONTRAST_CURVE_1	dddd dddd dddd dddd	0 (0x0000)
0xBC0E	LL_GAMMA_CONTRAST_CURVE_2	dddd dddd dddd dddd	0 (0x0000)
0xBC10	LL_GAMMA_CONTRAST_CURVE_3	dddd dddd dddd dddd	0 (0x0000)
0xBC12	LL_GAMMA_CONTRAST_CURVE_4	dddd dddd dddd dddd	0 (0x0000)
0xBC14	LL_GAMMA_CONTRAST_CURVE_5	dddd dddd dddd dddd	0 (0x0000)
0xBC16	LL_GAMMA_CONTRAST_CURVE_6	dddd dddd dddd dddd	0 (0x0000)
0xBC18	LL_GAMMA_CONTRAST_CURVE_7	dddd dddd dddd dddd	0 (0x0000)
0xBC1A	LL_GAMMA_CONTRAST_CURVE_8	dddd dddd dddd dddd	0 (0x0000)
0xBC1C	LL_GAMMA_CONTRAST_CURVE_9	dddd dddd dddd dddd	0 (0x0000)
0xBC1E	LL_GAMMA_CONTRAST_CURVE_10	dddd dddd dddd dddd	0 (0x0000)
0xBC20	LL_GAMMA_CONTRAST_CURVE_11	dddd dddd dddd dddd	0 (0x0000)
0xBC22	LL_GAMMA_CONTRAST_CURVE_12	dddd dddd dddd dddd	0 (0x0000)
0xBC24	LL_GAMMA_CONTRAST_CURVE_13	dddd dddd dddd dddd	0 (0x0000)
0xBC26	LL_GAMMA_CONTRAST_CURVE_14	dddd dddd dddd dddd	0 (0x0000)
0xBC28	LL_GAMMA_CONTRAST_CURVE_15	dddd dddd dddd dddd	0 (0x0000)
0xBC2A	LL_GAMMA_CONTRAST_CURVE_16	dddd dddd dddd dddd	0 (0x0000)
0xBC2C	LL_GAMMA_CONTRAST_CURVE_17	dddd dddd dddd dddd	0 (0x0000)
0xBC2E	LL_GAMMA_CONTRAST_CURVE_18	dddd dddd dddd dddd	0 (0x0000)
0xBC30	LL_GAMMA_CONTRAST_CURVE_19	dddd dddd dddd dddd	0 (0x0000)
0xBC32	LL_GAMMA_CONTRAST_CURVE_20	dddd dddd dddd dddd	0 (0x0000)
0xBC34	LL_GAMMA_CONTRAST_CURVE_21	dddd dddd dddd dddd	0 (0x0000)
0xBC36	LL_GAMMA_CONTRAST_CURVE_22	dddd dddd dddd dddd	0 (0x0000)

TABLE 19. 15: LOW LIGHT VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xBC38	LL_GAMMA_CONTRAST_CURVE_23	dddd dddd dddd dddd	0 (0x0000)
0xBC3A	LL_GAMMA_CONTRAST_CURVE_24	dddd dddd dddd dddd	0 (0x0000)
0xBC3C	LL_GAMMA_CONTRAST_CURVE_25	dddd dddd dddd dddd	0 (0x0000)
0xBC3E	LL_GAMMA_CONTRAST_CURVE_26	dddd dddd dddd dddd	0 (0x0000)
0xBC40	LL_GAMMA_CONTRAST_CURVE_27	dddd dddd dddd dddd	0 (0x0000)
0xBC42	LL_GAMMA_CONTRAST_CURVE_28	dddd dddd dddd dddd	0 (0x0000)
0xBC44	LL_GAMMA_CONTRAST_CURVE_29	dddd dddd dddd dddd	0 (0x0000)
0xBC46	LL_GAMMA_CONTRAST_CURVE_30	dddd dddd dddd dddd	0 (0x0000)
0xBC48	LL_GAMMA_CONTRAST_CURVE_31	dddd dddd dddd dddd	0 (0x0000)
0xBC4A	LL_GAMMA_CONTRAST_CURVE_32	dddd dddd dddd dddd	0 (0x0000)
0xBC4C	LL_GAMMA_NRCURVE_0	dddd dddd dddd dddd	0 (0x0000)
0xBC4E	LL_GAMMA_NRCURVE_1	dddd dddd dddd dddd	0 (0x0000)
0xBC50	LL_GAMMA_NRCURVE_2	dddd dddd dddd dddd	0 (0x0000)
0xBC52	LL_GAMMA_NRCURVE_3	dddd dddd dddd dddd	0 (0x0000)
0xBC54	LL_GAMMA_NRCURVE_4	dddd dddd dddd dddd	0 (0x0000)
0xBC56	LL_GAMMA_NRCURVE_5	dddd dddd dddd dddd	0 (0x0000)
0xBC58	LL_GAMMA_NRCURVE_6	dddd dddd dddd dddd	0 (0x0000)
0xBC5A	LL_GAMMA_NRCURVE_7	dddd dddd dddd dddd	0 (0x0000)
0xBC5C	LL_GAMMA_NRCURVE_8	dddd dddd dddd dddd	0 (0x0000)
0xBC5E	LL_GAMMA_NRCURVE_9	dddd dddd dddd dddd	0 (0x0000)
0xBC60	LL_GAMMA_NRCURVE_10	dddd dddd dddd dddd	0 (0x0000)
0xBC62	LL_GAMMA_NRCURVE_11	dddd dddd dddd dddd	0 (0x0000)
0xBC64	LL_GAMMA_NRCURVE_12	dddd dddd dddd dddd	0 (0x0000)
0xBC66	LL_GAMMA_NRCURVE_13	dddd dddd dddd dddd	0 (0x0000)
0xBC68	LL_GAMMA_NRCURVE_14	dddd dddd dddd dddd	0 (0x0000)

TABLE 19. 15: LOW LIGHT VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xBC6A	LL_GAMMA_NRCURVE_15	dddd dddd dddd dddd	0 (0x0000)
0xBC6C	LL_GAMMA_NRCURVE_16	dddd dddd dddd dddd	0 (0x0000)
0xBC6E	LL_GAMMA_NRCURVE_17	dddd dddd dddd dddd	0 (0x0000)
0xBC70	LL_GAMMA_NRCURVE_18	dddd dddd dddd dddd	0 (0x0000)
0xBC72	LL_GAMMA_NRCURVE_19	dddd dddd dddd dddd	0 (0x0000)
0xBC74	LL_GAMMA_NRCURVE_20	dddd dddd dddd dddd	0 (0x0000)
0xBC76	LL_GAMMA_NRCURVE_21	dddd dddd dddd dddd	0 (0x0000)
0xBC78	LL_GAMMA_NRCURVE_22	dddd dddd dddd dddd	0 (0x0000)
0xBC7A	LL_GAMMA_NRCURVE_23	dddd dddd dddd dddd	0 (0x0000)
0xBC7C	LL_GAMMA_NRCURVE_24	dddd dddd dddd dddd	0 (0x0000)
0xBC7E	LL_GAMMA_NRCURVE_25	dddd dddd dddd dddd	0 (0x0000)
0xBC80	LL_GAMMA_NRCURVE_26	dddd dddd dddd dddd	0 (0x0000)
0xBC82	LL_GAMMA_NRCURVE_27	dddd dddd dddd dddd	0 (0x0000)
0xBC84	LL_GAMMA_NRCURVE_28	dddd dddd dddd dddd	0 (0x0000)
0xBC86	LL_GAMMA_NRCURVE_29	dddd dddd dddd dddd	0 (0x0000)
0xBC88	LL_GAMMA_NRCURVE_30	dddd dddd dddd dddd	0 (0x0000)
0xBC8A	LL_GAMMA_NRCURVE_31	dddd dddd dddd dddd	0 (0x0000)
0xBC8C	LL_GAMMA_NRCURVE_32	dddd dddd dddd dddd	0 (0x0000)
0xBC8E	LL_AVERAGE_LUMA_FADE_TO_BLACK	???? ???? ???? ????	0 (0x0000)
0xBCB4	LL_ALTM_DAMPING_FAST	dddd dddd dddd dddd	63 (0x003F)
0xBCB6	LL_ALTM_DAMPING_MED	dddd dddd dddd dddd	15 (0x000F)
0xBCB8	LL_ALTM_DAMPING_SLOW	dddd dddd dddd dddd	7 (0x0007)
0xBCC2	LL_ALTM_LMIN_STATS_THRESHOLD	dddd dddd dddd dddd	0 (0x0000)
0xBCC4	LL_ALTM_LMAX_STATS_THRESHOLD	dddd dddd dddd dddd	59 (0x003B)

TABLE 20. 16: FLICKER DETECT VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xC000	FLICKER_DETECT_STATUS	???? ???? ???? ????	0 (0x0000)

TABLE 21. 17: PATCH VARIABLES FOR GENERAL PATCHES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xC400	EXT_SERIALIZER_TYPE	dddd dddd	0 (0x00)
0xC401	EXT_DESERIALIZER_TYPE	dddd dddd	0 (0x00)
0xC402	EXT_SERIALIZER_ADDR	dddd dddd	0 (0x00)
0xC403	EXT_DESERIALIZER_ADDR	dddd dddd	0 (0x00)
0xC404	EXT_HDR_MD_CTRL	dddd dddd dddd dddd	6324 (0x18B4)
0xC406	EXT_HDR_SF	dddd dddd dddd dddd	24832 (0x6100)
0xC408	EXT_LL_NR_LUT_0_SIGMA	dddd dddd dddd dddd	52 (0x0034)
0xC40A	EXT_LL_NR_LUT_0_K0	dddd dddd dddd dddd	147 (0x0093)
0xC40C	EXT_LL_NR_LUT_1_SIGMA	dddd dddd dddd dddd	55 (0x0037)
0xC40E	EXT_LL_NR_LUT_1_K0	dddd dddd dddd dddd	147 (0x0093)
0xC410	EXT_LL_NR_LUT_2_SIGMA	dddd dddd dddd dddd	263 (0x0107)
0xC412	EXT_LL_NR_LUT_2_K0	dddd dddd dddd dddd	147 (0x0093)
0xC414	EXT_LL_NR_LUT_3_SIGMA	dddd dddd dddd dddd	261 (0x0105)
0xC416	EXT_LL_NR_LUT_3_K0	dddd dddd dddd dddd	147 (0x0093)
0xC418	EXT_LL_NOISE_PEDESTAL_TH_BM	dddd dddd dddd dddd	1000 (0x03E8)
0xC41A	EXT_LL_NR_LUT_TH_BM	dddd dddd dddd dddd	1000 (0x03E8)
0xC41C	EXT_LL_NR_LUT_TH_DR	dddd dddd	0 (0x00)
0xC41D	EXT_LL_NOISE_PEDESTAL_GATE_BM	dddd dddd	50 (0x32)
0xC41E	EXT_LL_NR_LUT_GATE_BM	dddd dddd	50 (0x32)
0xC41F	EXT_LL_NR_LUT_GATE_DR	dddd dddd	0 (0x00)

TABLE 22. 18: CAMCONTROL VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xC804	CAM_SENSOR_CFG_Y_ADDR_START	dddd dddd dddd dddd	8 (0x0008)
0xC806	CAM_SENSOR_CFG_X_ADDR_START	dddd dddd dddd dddd	2 (0x0002)
0xC808	CAM_SENSOR_CFG_Y_ADDR_END	dddd dddd dddd dddd	967 (0x03C7)
0xC80A	CAM_SENSOR_CFG_X_ADDR_END	dddd dddd dddd dddd	1281 (0x0501)
0xC80C	CAM_SENSOR_CFG_PIXCLK	dddd dddd dddd dddd dddd dddd dddd dddd	54000000 (0x0337F980)
0xC810	CAM_SENSOR_CFG_FINE_INTEG_TIME_MIN	dddd dddd dddd dddd	700 (0x02BC)
0xC812	CAM_SENSOR_CFG_FINE_INTEG_TIME_MAX	dddd dddd dddd dddd	1676 (0x068C)
0xC814	CAM_SENSOR_CFG_FRAME_LENGTH_LINES	dddd dddd dddd dddd	1074 (0x0432)
0xC816	CAM_SENSOR_CFG_LINE_LENGTH_PCK	dddd dddd dddd dddd	1676 (0x068C)
0xC818	CAM_SENSOR_CFG_EXTRA_DELAY	dddd dddd dddd dddd	0 (0x0000)
0xC834	CAM_SENSOR_CFG_CCI_BASE_ADDR_0	dddd dddd	32 (0x20)
0xC835	CAM_SENSOR_CFG_CCI_BASE_ADDR_1	dddd dddd	144 (0x90)
0xC836	CAM_SENSOR_CFG_DISCOVERY_TIME_M3_ROM_MS	dddd dddd	1 (0x01)
0xC837	CAM_SENSOR_CFG_DISCOVERY_TIME_OTPM_MS	dddd dddd	31 (0x1F)
0xC838	CAM_SENSOR_CONTROL_EXTERNAL_PLL	dddd dddd dddd dddd dddd dddd dddd dddd	67242049 (0x04020841)
0xC83C	CAM_SENSOR_CONTROL_BASE_ADDRESS	???? ????	0 (0x00)
0xC83D	CAM_SENSOR_CONTROL_REVISION_NUMBER	???? ????	0 (0x00)
0xC83E	CAM_SENSOR_CONTROL_MODEL_ID	???? ???? ???? ????	0 (0x0000)
0xC840	CAM_SENSOR_CONTROL_EXTERNAL_OUTPUT_CLK_DIV	dddd dddd dddd dddd	0 (0x0000)
0xC842	CAM_SENSOR_CONTROL_REQUEST	dddd dddd	0 (0x00)
0xC843	CAM_SENSOR_CONTROL_INTERNAL_REQUEST	???? ????	0 (0x00)
0xC844	CAM_SENSOR_CONTROL_OPERATION_MODE	dddd dddd dddd dddd	2498 (0x09C2)
0xC846	CAM_SENSOR_CONTROL_READ_MODE	dddd dd?? dd?? dddd	0 (0x0000)
0xC848	CAM_HDR_MC_CTRL_MODE	dddd dddd dddd dddd	11 (0x000B)
0xC84A	CAM_HDR_MC_CTRL_S1_THRESHOLD	dddd dddd dddd dddd	2976 (0x0BA0)

TABLE 22. 18: CAMCONTROL VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xC84C	CAM_HDR_MC_CTRL_S2_THRESHOLD	dddd dddd dddd dddd	4000 (0x0FA0)
0xC84E	CAM_HDR_MC_CTRL_S12_RANGE	dddd dddd dddd dddd	2048 (0x0800)
0xC850	CAM_HDR_MC_CTRL_DIFF_THRESHOLD	dddd dddd dddd dddd	768 (0x0300)
0xC854	CAM_HDR_DLO_CTRL_MODE	dddd dddd dddd dddd	1 (0x0001)
0xC856	CAM_HDR_DLO_CTRL_T1_BARRIER	dddd dddd dddd dddd	3000 (0x0BB8)
0xC858	CAM_HDR_DLO_CTRL_T2_BARRIER	dddd dddd dddd dddd	3500 (0x0DAC)
0xC85A	CAM_HDR_DLO_CTRL_T3_BARRIER	dddd dddd dddd dddd	4000 (0x0FA0)
0xC85C	CAM_HDR_DLO_CTRL_NOISE_DISABLE_THRESHOLD	dddd dddd dddd dddd	256 (0x0100)
0xC85E	CAM_HDR_DLO_CTRL_NOISE_S2_THRESHOLD	dddd dddd dddd dddd	64 (0x0040)
0xC860	CAM_HDR_DLO_CTRL_NOISE_S12_RANGE	dddd dddd dddd dddd	5 (0x0005)
0xC862	CAM_HDR_DLO_CTRL_T4_BARRIER	dddd dddd dddd dddd	4000 (0x0FA0)
0xC864	CAM_EXP_CTRL_COARSE_INTEGRATION_TIME	dddd dddd dddd dddd	1 (0x0001)
0xC866	CAM_EXP_CTRL_FINE_INTEGRATION_TIME	dddd dddd dddd dddd	0 (0x0000)
0xC868	CAM_EXP_CTRL_ANALOG_RED_GAIN	dddd dddd dddd dddd	32 (0x0020)
0xC86A	CAM_EXP_CTRL_ANALOG_GREEN1_GAIN	dddd dddd dddd dddd	32 (0x0020)
0xC86C	CAM_EXP_CTRL_ANALOG_GREEN2_GAIN	dddd dddd dddd dddd	32 (0x0020)
0xC86E	CAM_EXP_CTRL_ANALOG_BLUE_GAIN	dddd dddd dddd dddd	32 (0x0020)
0xC870	CAM_EXP_CTRL_FRAME_LENGTH_LINES	dddd dddd dddd dddd	0 (0x0000)
0xC872	CAM_EXP_CTRL_LINE_LENGTH_PCK	dddd dddd dddd dddd	0 (0x0000)
0xC874	CAM_EXP_CTRL_COLUMN_GAIN	dddd dddd	0 (0x00)
0xC875	CAM_EXP_CTRL_DCG_GAIN	dddd dddd	0 (0x00)
0xC876	CAM_EXP_CTRL_DGAIN_RED	dddd dddd dddd dddd	128 (0x0080)
0xC878	CAM_EXP_CTRL_DGAIN_GREEN1	dddd dddd dddd dddd	128 (0x0080)
0xC87A	CAM_EXP_CTRL_DGAIN_GREEN2	dddd dddd dddd dddd	128 (0x0080)
0xC87C	CAM_EXP_CTRL_DGAIN_BLUE	dddd dddd dddd dddd	128 (0x0080)

TABLE 22. 18: CAMCONTROL VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xC87E	CAM_EXP_CTRL_CPIPE_DGAIN_RED	dddd dddd dddd dddd	128 (0x0080)
0xC880	CAM_EXP_CTRL_CPIPE_DGAIN_GREEN1	dddd dddd dddd dddd	128 (0x0080)
0xC882	CAM_EXP_CTRL_CPIPE_DGAIN_GREEN2	dddd dddd dddd dddd	128 (0x0080)
0xC884	CAM_EXP_CTRL_CPIPE_DGAIN_BLUE	dddd dddd dddd dddd	128 (0x0080)
0xC886	CAM_EXP_CTRL_CPIPE_DGAIN_SECOND	dddd dddd dddd dddd	128 (0x0080)
0xC888	CAM_EXP_CTRL_RATIO_T1_T2	dddd dddd	2 (0x02)
0xC889	CAM_EXP_CTRL_RATIO_T2_T3	dddd dddd	2 (0x02)
0xC88A	CAM_EXP_CTRL_HDR_SDR_MODE	dddd dddd	0 (0x00)
0xC88C	CAM_CPIPE_CONTROL_FIRST_BLACK_LEVEL	dddd dddd dddd dddd	200 (0x00C8)
0xC88E	CAM_CPIPE_CONTROL_SECOND_BLACK_LEVEL	???? ???? ???? ????	0 (0x0000)
0xC890	CAM_MODE_SELECT	dddd dddd	0 (0x00)
0xC891	CAM_MODE_SYNC_TYPE	dddd dddd	0 (0x00)
0xC892	CAM_MODE_SYNC_TRIGGER_MODE	dddd dddd	0 (0x00)
0xC893	CAM_MODE_TEST_PATTERN_SELECT	dddd dddd	2 (0x02)
0xC894	CAM_MODE_TEST_PATTERN_RED	dddd dddd dddd dddd dddd dddd dddd dddd	1048575 (0x000FFFFF)
0xC898	CAM_MODE_TEST_PATTERN_GREEN	dddd dddd dddd dddd dddd dddd dddd dddd	1048575 (0x000FFFFF)
0xC89C	CAM_MODE_TEST_PATTERN_BLUE	dddd dddd dddd dddd dddd dddd dddd dddd	1048575 (0x000FFFFF)
0xC8A0	CAM_CROP_WINDOW_XOFFSET	dddd dddd dddd dddd	0 (0x0000)
0xC8A2	CAM_CROP_WINDOW_YOFFSET	dddd dddd dddd dddd	0 (0x0000)
0xC8A4	CAM_CROP_WINDOW_WIDTH	dddd dddd dddd dddd	1280 (0x0500)
0xC8A6	CAM_CROP_WINDOW_HEIGHT	dddd dddd dddd dddd	960 (0x03C0)
0xC8A8	CAM_FOV_CALIB_X_OFFSET	dddd dddd	0 (0x00)
0xC8A9	CAM_FOV_CALIB_Y_OFFSET	dddd dddd	0 (0x00)
0xC8BC	CAM_AET_AEMODE	dddd dddd	0 (0x00)
0xC8BE	CAM_AET_BLACK_CLIPPING_TARGET	dddd dddd dddd dddd	30 (0x001E)

TABLE 22. 18: CAMCONTROL VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xC8C0	CAM_AET_EXPOSURE_TIME_MS	dddd dddd dddd dddd	1280 (0x0500)
0xC8C2	CAM_AET_EXPOSURE_GAIN	dddd dddd dddd dddd	128 (0x0080)
0xC8C6	CAM_AET_AE_MIN_VIRT_DGAIN	dddd dddd dddd dddd	128 (0x0080)
0xC8C8	CAM_AET_AE_MAX_VIRT_DGAIN	dddd dddd dddd dddd	640 (0x0280)
0xC8CA	CAM_AET_AE_MIN_VIRT_AGAIN	dddd dddd dddd dddd	32 (0x0020)
0xC8CC	CAM_AET_AE_MAX_VIRT_AGAIN	dddd dddd dddd dddd	32 (0x0020)
0xC8D1	CAM_AET_FLICKER_FREQ_HZ	dddd dddd	60 (0x3C)
0xC8D2	CAM_AET_MAX_FRAME_RATE	???? ???? ???? ????	7680 (0x1E00)
0xC8D4	CAM_AET_FRAME_RATE_0	dddd dddd dddd dddd	0 (0x0000)
0xC8D6	CAM_AET_FRAME_RATE_1	dddd dddd dddd dddd	0 (0x0000)
0xC8D8	CAM_AET_FRAME_RATE_2	dddd dddd dddd dddd	0 (0x0000)
0xC8DA	CAM_AET_TARGET_GAIN	dddd dddd dddd dddd	256 (0x0100)
0xC8DC	CAM_AWB_CCM_L_0	dddd dddd dddd dddd	156 (0x009C)
0xC8DE	CAM_AWB_CCM_L_1	dddd dddd dddd dddd	46 (0x002E)
0xC8E0	CAM_AWB_CCM_L_2	dddd dddd dddd dddd	53 (0x0035)
0xC8E2	CAM_AWB_CCM_L_3	dddd dddd dddd dddd	65448 (0xFFA8)
0xC8E4	CAM_AWB_CCM_L_4	dddd dddd dddd dddd	279 (0x0117)
0xC8E6	CAM_AWB_CCM_L_5	dddd dddd dddd dddd	65 (0x0041)
0xC8E8	CAM_AWB_CCM_L_6	dddd dddd dddd dddd	65442 (0xFFA2)
0xC8EA	CAM_AWB_CCM_L_7	dddd dddd dddd dddd	4 (0x0004)
0xC8EC	CAM_AWB_CCM_L_8	dddd dddd dddd dddd	346 (0x015A)
0xC8EE	CAM_AWB_CCM_M_0	dddd dddd dddd dddd	197 (0x00C5)
0xC8F0	CAM_AWB_CCM_M_1	dddd dddd dddd dddd	1 (0x0001)
0xC8F2	CAM_AWB_CCM_M_2	dddd dddd dddd dddd	58 (0x003A)
0xC8F4	CAM_AWB_CCM_M_3	dddd dddd dddd dddd	65514 (0xFFEA)

TABLE 22. 18: CAMCONTROL VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xC8F6	CAM_AWB_CCM_M_4	dddd dddd dddd dddd	231 (0x00E7)
0xC8F8	CAM_AWB_CCM_M_5	dddd dddd dddd dddd	47 (0x002F)
0xC8FA	CAM_AWB_CCM_M_6	dddd dddd dddd dddd	9 (0x0009)
0xC8FC	CAM_AWB_CCM_M_7	dddd dddd dddd dddd	65527 (0xFFF7)
0xC8FE	CAM_AWB_CCM_M_8	dddd dddd dddd dddd	256 (0x0100)
0xC900	CAM_AWB_CCM_R_0	dddd dddd dddd dddd	164 (0x00A4)
0xC902	CAM_AWB_CCM_R_1	dddd dddd dddd dddd	75 (0x004B)
0xC904	CAM_AWB_CCM_R_2	dddd dddd dddd dddd	17 (0x0011)
0xC906	CAM_AWB_CCM_R_3	dddd dddd dddd dddd	65512 (0xFFE8)
0xC908	CAM_AWB_CCM_R_4	dddd dddd dddd dddd	228 (0x00E4)
0xC90A	CAM_AWB_CCM_R_5	dddd dddd dddd dddd	52 (0x0034)
0xC90C	CAM_AWB_CCM_R_6	dddd dddd dddd dddd	10 (0x000A)
0xC90E	CAM_AWB_CCM_R_7	dddd dddd dddd dddd	31 (0x001F)
0xC910	CAM_AWB_CCM_R_8	dddd dddd dddd dddd	216 (0x00D8)
0xC912	CAM_AWB_CCM_L_RG_GAIN	dddd dddd dddd dddd	90 (0x005A)
0xC914	CAM_AWB_CCM_L_BG_GAIN	dddd dddd dddd dddd	290 (0x0122)
0xC916	CAM_AWB_CCM_M_RG_GAIN	dddd dddd dddd dddd	156 (0x009C)
0xC918	CAM_AWB_CCM_M_BG_GAIN	dddd dddd dddd dddd	261 (0x0105)
0xC91A	CAM_AWB_CCM_R_RG_GAIN	dddd dddd dddd dddd	139 (0x008B)
0xC91C	CAM_AWB_CCM_R_BG_GAIN	dddd dddd dddd dddd	172 (0x00AC)
0xC91E	CAM_AWB_CCM_L_CTEMP	dddd dddd dddd dddd	2500 (0x09C4)
0xC920	CAM_AWB_CCM_M_CTEMP	dddd dddd dddd dddd	3431 (0x0D67)
0xC922	CAM_AWB_CCM_R_CTEMP	dddd dddd dddd dddd	6500 (0x1964)
0xC924	CAM_AWB_COLOR_TEMPERATURE_MIN	dddd dddd dddd dddd	2500 (0x09C4)
0xC926	CAM_AWB_COLOR_TEMPERATURE_MAX	dddd dddd dddd dddd	6500 (0x1964)

TABLE 22. 18: CAMCONTROL VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xC928	CAM_AWB_COLOR_TEMPERATURE	dddd dddd dddd dddd	6500 (0x1964)
0xC92A	CAM_AWB_X_SHIFT	dddd dddd dddd dddd	30 (0x001E)
0xC92C	CAM_AWB_Y_SHIFT	dddd dddd dddd dddd	32 (0x0020)
0xC92E	CAM_AWB_RECIP_X_SCALE	dddd dddd dddd dddd	156 (0x009C)
0xC930	CAM_AWB_RECIP_Y_SCALE	dddd dddd dddd dddd	68 (0x0044)
0xC932	CAM_AWB_ROT_CENTER_X	dddd dddd dddd dddd	7 (0x0007)
0xC934	CAM_AWB_ROT_CENTER_Y	dddd dddd dddd dddd	65503 (0xFFDF)
0xC936	CAM_AWB_ROT_SIN	dddd dddd	63 (0x3F)
0xC937	CAM_AWB_ROT_COS	dddd dddd	10 (0x0A)
0xC938	CAM_AWB_WEIGHT_TABLE_0	dddd dddd dddd dddd	4369 (0x1111)
0xC93A	CAM_AWB_WEIGHT_TABLE_1	dddd dddd dddd dddd	4369 (0x1111)
0xC93C	CAM_AWB_WEIGHT_TABLE_2	dddd dddd dddd dddd	8738 (0x2222)
0xC93E	CAM_AWB_WEIGHT_TABLE_3	dddd dddd dddd dddd	4369 (0x1111)
0xC940	CAM_AWB_WEIGHT_TABLE_4	dddd dddd dddd dddd	4642 (0x1222)
0xC942	CAM_AWB_WEIGHT_TABLE_5	dddd dddd dddd dddd	8739 (0x2223)
0xC944	CAM_AWB_WEIGHT_TABLE_6	dddd dddd dddd dddd	17749 (0x4555)
0xC946	CAM_AWB_WEIGHT_TABLE_7	dddd dddd dddd dddd	8737 (0x2221)
0xC948	CAM_AWB_WEIGHT_TABLE_8	dddd dddd dddd dddd	9318 (0x2466)
0xC94A	CAM_AWB_WEIGHT_TABLE_9	dddd dddd dddd dddd	26196 (0x6654)
0xC94C	CAM_AWB_WEIGHT_TABLE_10	dddd dddd dddd dddd	12852 (0x3234)
0xC94E	CAM_AWB_WEIGHT_TABLE_11	dddd dddd dddd dddd	13394 (0x3452)
0xC950	CAM_AWB_WEIGHT_TABLE_12	dddd dddd dddd dddd	9591 (0x2577)
0xC952	CAM_AWB_WEIGHT_TABLE_13	dddd dddd dddd dddd	26468 (0x6764)
0xC954	CAM_AWB_WEIGHT_TABLE_14	dddd dddd dddd dddd	8722 (0x2212)
0xC956	CAM_AWB_WEIGHT_TABLE_15	dddd dddd dddd dddd	9554 (0x2552)

TABLE 22. 18: CAMCONTROL VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xC958	CAM_AWB_WEIGHT_TABLE_16	dddd dddd dddd dddd	4948 (0x1354)
0xC95A	CAM_AWB_WEIGHT_TABLE_17	dddd dddd dddd dddd	17765 (0x4565)
0xC95C	CAM_AWB_WEIGHT_TABLE_18	dddd dddd dddd dddd	17442 (0x4422)
0xC95E	CAM_AWB_WEIGHT_TABLE_19	dddd dddd dddd dddd	9009 (0x2331)
0xC960	CAM_AWB_WEIGHT_TABLE_20	dddd dddd dddd dddd	4386 (0x1122)
0xC962	CAM_AWB_WEIGHT_TABLE_21	dddd dddd dddd dddd	4660 (0x1234)
0xC964	CAM_AWB_WEIGHT_TABLE_22	dddd dddd dddd dddd	13109 (0x3335)
0xC966	CAM_AWB_WEIGHT_TABLE_23	dddd dddd dddd dddd	26194 (0x6652)
0xC968	CAM_AWB_WEIGHT_TABLE_24	dddd dddd dddd dddd	4369 (0x1111)
0xC96A	CAM_AWB_WEIGHT_TABLE_25	dddd dddd dddd dddd	4370 (0x1112)
0xC96C	CAM_AWB_WEIGHT_TABLE_26	dddd dddd dddd dddd	4644 (0x1224)
0xC96E	CAM_AWB_WEIGHT_TABLE_27	dddd dddd dddd dddd	22098 (0x5652)
0xC970	CAM_AWB_WEIGHT_TABLE_28	dddd dddd dddd dddd	4369 (0x1111)
0xC972	CAM_AWB_WEIGHT_TABLE_29	dddd dddd dddd dddd	4369 (0x1111)
0xC974	CAM_AWB_WEIGHT_TABLE_30	dddd dddd dddd dddd	4370 (0x1112)
0xC976	CAM_AWB_WEIGHT_TABLE_31	dddd dddd dddd dddd	9010 (0x2332)
0xC979	CAM_AWB_LUMA_THRESH_LOW	dddd dddd	16 (0x10)
0xC97A	CAM_AWB_LUMA_THRESH_HIGH	dddd dddd	240 (0xF0)
0xC97B	CAM_AWB_WEIGHT_THRESH_LOW	dddd dddd	1 (0x01)
0xC97D	CAM_AWB_MODE	dddd dddd	0 (0x00)
0xC97E	CAM_AWB_LIGHT_REGION	???? ???? ???? ????	2 (0x0002)
0xC980	CAM_AWB_TINTS_CTEMP_THRESHOLD	dddd dddd dddd dddd	3500 (0x0DAC)
0xC982	CAM_AWB_K_R_L	dddd dddd	128 (0x80)
0xC983	CAM_AWB_K_G_L	dddd dddd	128 (0x80)
0xC984	CAM_AWB_K_B_L	dddd dddd	128 (0x80)

TABLE 22. 18: CAMCONTROL VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xC985	CAM_AWB_K_R_R	dddd dddd	128 (0x80)
0xC986	CAM_AWB_K_G_R	dddd dddd	128 (0x80)
0xC987	CAM_AWB_K_B_R	dddd dddd	128 (0x80)
0xC988	CAM_ALTM_MODE	dddd dddd dddd dddd	23 (0x0017)
0xC98A	CAM_ALTM_KEY_K0	dddd dddd dddd dddd	128 (0x0080)
0xC98C	CAM_ALTM_KEY_K1	???? ???? ???? ???? ???? ???? ???? ????	0 (0x00000000)
0xC990	CAM_ALTM_LO_GAMMA	dddd dddd dddd dddd	18 (0x0012)
0xC992	CAM_ALTM_HI_GAMMA	dddd dddd dddd dddd	32 (0x0020)
0xC994	CAM_ALTM_K1_SLOPE	dddd dddd dddd dddd	175 (0x00AF)
0xC996	CAM_ALTM_K1_MIN	dddd dddd dddd dddd	256 (0x0100)
0xC998	CAM_ALTM_K1_MAX	dddd dddd dddd dddd	65535 (0xFFFF)
0xC99A	CAM_ALTM_DARK_BM	dddd dddd dddd dddd	1536 (0x0600)
0xC99C	CAM_ALTM_BRIGHT_BM	dddd dddd dddd dddd	2048 (0x0800)
0xC99E	CAM_ALTM_K1_DAMPING_SPEED	dddd dddd dddd dddd	2 (0x0002)
0xC9A0	CAM_ALTM_SHARPNESS_DARK_BM	dddd dddd dddd dddd	200 (0x00C8)
0xC9A2	CAM_ALTM_SHARPNESS_BRIGHT_BM	dddd dddd dddd dddd	2900 (0x0B54)
0xC9A4	CAM_ALTM_SHARPNESS_STRENGTH_DARK	dddd dddd dddd dddd	0 (0x0000)
0xC9A6	CAM_ALTM_SHARPNESS_STRENGTH_BRIGHT	dddd dddd dddd dddd	0 (0x0000)
0xC9A8	CAM_ALTM_MIN_IMAGE_DYNAMIC_RANGE	dddd dddd dddd dddd dddd dddd dddd dddd	0 (0x00000000)
0xC9B4	CAM_ALTM_LOG_CONTROL_LA	???? ???? ???? ???? ???? ???? ???? ????	0 (0x00000000)
0xC9BC	CAM_ALTM_DARK_LO_GAMMA	dddd dddd dddd dddd	0 (0x0000)
0xC9BE	CAM_ALTM_BRIGHT_LO_GAMMA	dddd dddd dddd dddd	0 (0x0000)
0xC9C0	CAM_ALTM_DARK_LO_GAMMA_BM	dddd dddd dddd dddd	0 (0x0000)
0xC9C2	CAM_ALTM_BRIGHT_LO_GAMMA_BM	dddd dddd dddd dddd	0 (0x0000)
0xC9C4	CAM_ALTM_DARK_HI_GAMMA	dddd dddd dddd dddd	0 (0x0000)

TABLE 22. 18: CAMCONTROL VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xC9C6	CAM_ALTM_BRIGHT_HI_GAMMA	dddd dddd dddd dddd	0 (0x0000)
0xC9C8	CAM_ALTM_DARK_HI_GAMMA_BM	dddd dddd dddd dddd	0 (0x0000)
0xC9CA	CAM_ALTM_BRIGHT_HI_GAMMA_BM	dddd dddd dddd dddd	0 (0x0000)
0xC9CC	CAM_ALTM_LOWLIGHT_DARK_BM	dddd dddd dddd dddd	64768 (0xFD00)
0xC9CE	CAM_ALTM_LOWLIGHT_BRIGHT_BM	dddd dddd dddd dddd	1280 (0x0500)
0xC9E6	CAM_ALTM_LA_MIN	dddd dddd dddd dddd	4 (0x0004)
0xC9E8	CAM_STAT_MODE	dddd dddd dddd dddd	30 (0x001E)
0xC9EA	CAM_STAT_CONTROL	dddd dddd dddd dddd	0 (0x0000)
0xC9EC	CAM_STAT_EXCLUDE_CONTROL	dddd dddd	0 (0x00)
0xC9F0	CAM_STAT_EXCLUDE_WINDOW_X_OFFSET	dddd dddd dddd dddd	0 (0x0000)
0xC9F2	CAM_STAT_EXCLUDE_WINDOW_Y_OFFSET	dddd dddd dddd dddd	0 (0x0000)
0xC9F4	CAM_STAT_EXCLUDE_WINDOW_WIDTH	dddd dddd dddd dddd	0 (0x0000)
0xC9F6	CAM_STAT_EXCLUDE_WINDOW_HEIGHT	dddd dddd dddd dddd	0 (0x0000)
0xC9F8	CAM_STAT_AE_ALTM_FD_WINDOW_X_OFFSET	dddd dddd dddd dddd	0 (0x0000)
0xC9FA	CAM_STAT_AE_ALTM_FD_WINDOW_Y_OFFSET	dddd dddd dddd dddd	0 (0x0000)
0xC9FC	CAM_STAT_AE_ALTM_FD_WINDOW_WIDTH	dddd dddd dddd dddd	1280 (0x0500)
0xC9FE	CAM_STAT_AE_ALTM_FD_WINDOW_HEIGHT	dddd dddd dddd dddd	960 (0x03C0)
0xCA00	CAM_STAT_AWB_CLIP_WINDOW_X_OFFSET	dddd dddd dddd dddd	0 (0x0000)
0xCA02	CAM_STAT_AWB_CLIP_WINDOW_Y_OFFSET	dddd dddd dddd dddd	0 (0x0000)
0xCA04	CAM_STAT_AWB_CLIP_WINDOW_WIDTH	dddd dddd dddd dddd	1280 (0x0500)
0xCA06	CAM_STAT_AWB_CLIP_WINDOW_HEIGHT	dddd dddd dddd dddd	960 (0x03C0)
0xCA08	CAM_LL_MODE	dddd dddd dddd dddd	3 (0x0003)
0xCA0A	CAM_LL_BRIGHTNESS_METRIC	???? ???? ???? ????	0 (0x0000)
0xCA0C	CAM_LL_BM_OFFSET	dddd dddd dddd dddd	63744 (0xF900)
0xCA0E	CAM_LL_AUTO_SDR_TH_BM	dddd dddd dddd dddd	1000 (0x03E8)

TABLE 22. 18: CAMCONTROL VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xCA10	CAM_LL_AUTO_SDR_GATE_BM	dddd dddd dddd dddd	50 (0x0032)
0xCA12	CAM_LL_SENSOR_RED_GAIN_METRIC	???? ???? ???? ????	0 (0x0000)
0xCA14	CAM_LL_SENSOR_GREEN_GAIN_METRIC	???? ???? ???? ????	0 (0x0000)
0xCA16	CAM_LL_SENSOR_BLUE_GAIN_METRIC	???? ???? ???? ????	0 (0x0000)
0xCA18	CAM_LL_RED_GAIN_METRIC	???? ???? ???? ????	0 (0x0000)
0xCA1A	CAM_LL_GREEN_GAIN_METRIC	???? ???? ???? ????	0 (0x0000)
0xCA1C	CAM_LL_BLUE_GAIN_METRIC	???? ???? ???? ????	0 (0x0000)
0xCA1E	CAM_LL_SNR_METRIC	???? ???? ???? ????	0 (0x0000)
0xCA20	CAM_LL_DARK_BM	dddd dddd dddd dddd	500 (0x01F4)
0xCA22	CAM_LL_BRIGHT_BM	dddd dddd dddd dddd	3000 (0x0BB8)
0xCA24	CAM_LL_HIGH_GM	dddd dddd dddd dddd	3520 (0x0DC0)
0xCA26	CAM_LL_LOW_GM	dddd dddd dddd dddd	32 (0x0020)
0xCA28	CAM_LL_DARK_SATURATION	dddd dddd	128 (0x80)
0xCA29	CAM_LL_BRIGHT_SATURATION	dddd dddd	128 (0x80)
0xCA2A	CAM_LL_DEMOSAIC_HIGH	dddd dddd	77 (0x4D)
0xCA2B	CAM_LL_DEMOSAIC_LOW	dddd dddd	8 (0x08)
0xCA2C	CAM_LL_AP_GAIN_DARK	dddd dddd	1 (0x01)
0xCA2D	CAM_LL_AP_GAIN_BRIGHT	dddd dddd	3 (0x03)
0xCA2E	CAM_LL_AP_THRESH_HIGH	dddd dddd	77 (0x4D)
0xCA2F	CAM_LL_AP_THRESH_LOW	dddd dddd	8 (0x08)
0xCA30	CAM_LL_CONTRAST_BRIGHT_BM	dddd dddd dddd dddd	1280 (0x0500)
0xCA32	CAM_LL_CONTRAST_DARK_BM	dddd dddd dddd dddd	1024 (0x0400)
0xCA34	CAM_LL_GAMMA	dddd dddd dddd dddd	100 (0x0064)
0xCA36	CAM_LL_CONTRAST_GRADIENT_BRIGHT	dddd dddd	39 (0x27)
0xCA37	CAM_LL_CONTRAST_GRADIENT_DARK	dddd dddd	32 (0x20)

TABLE 22. 18: CAMCONTROL VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xCA38	CAM_LL_CONTRAST_INTERCEPT_POINT_BRIGHT	dddd dddd	255 (0xFF)
0xCA39	CAM_LL_CONTRAST_INTERCEPT_POINT_DARK	dddd dddd	40 (0x28)
0xCA3A	CAM_LL_BRIGHT_FADE_TO_BLACK_LUMA	dddd dddd dddd dddd	800 (0x0320)
0xCA3C	CAM_LL_DARK_FADE_TO_BLACK_LUMA	dddd dddd dddd dddd	90 (0x005A)
0xCA3E	CAM_LL_SDC_DP_DARK_BM	dddd dddd dddd dddd	200 (0x00C8)
0xCA40	CAM_LL_SDC_DP_BRIGHT_BM	dddd dddd dddd dddd	2900 (0x0B54)
0xCA42	CAM_LL_SDC_DP_STRENGTH_DARK	dddd dddd	8 (0x08)
0xCA43	CAM_LL_SDC_DP_STRENGTH_BRIGHT	dddd dddd	15 (0x0F)
0xCA44	CAM_LL_SDC_HP_DARK_BM	dddd dddd dddd dddd	200 (0x00C8)
0xCA46	CAM_LL_SDC_HP_BRIGHT_BM	dddd dddd dddd dddd	2900 (0x0B54)
0xCA48	CAM_LL_SDC_HP_STRENGTH_DARK	dddd dddd	8 (0x08)
0xCA49	CAM_LL_SDC_HP_STRENGTH_BRIGHT	dddd dddd	15 (0x0F)
0xCA4A	CAM_LL_SDC_CROSSFACTOR_DARK_BM	dddd dddd dddd dddd	200 (0x00C8)
0xCA4C	CAM_LL_SDC_CROSSFACTOR_BRIGHT_BM	dddd dddd dddd dddd	2900 (0x0B54)
0xCA4E	CAM_LL_SDC_CROSSFACTOR_STRENGTH_DARK	dddd dddd	12 (0x0C)
0xCA4F	CAM_LL_SDC_CROSSFACTOR_STRENGTH_BRIGHT	dddd dddd	4 (0x04)
0xCA50	CAM_LL_SDC_MAXFACTOR_DARK_BM	dddd dddd dddd dddd	200 (0x00C8)
0xCA52	CAM_LL_SDC_MAXFACTOR_BRIGHT_BM	dddd dddd dddd dddd	2900 (0x0B54)
0xCA54	CAM_LL_SDC_MAXFACTOR_STRENGTH_DARK	dddd dddd	1 (0x01)
0xCA55	CAM_LL_SDC_MAXFACTOR_STRENGTH_BRIGHT	dddd dddd	1 (0x01)
0xCA56	CAM_LL_SDC_TH_BM	dddd dddd dddd dddd	4096 (0x1000)
0xCA5A	CAM_LL_CDC_DP_DARK_BM	dddd dddd dddd dddd	200 (0x00C8)
0xCA5C	CAM_LL_CDC_DP_BRIGHT_BM	dddd dddd dddd dddd	2900 (0x0B54)
0xCA5E	CAM_LL_CDC_DP_STRENGTH_DARK	dddd dddd	8 (0x08)
0xCA5F	CAM_LL_CDC_DP_STRENGTH_BRIGHT	dddd dddd	15 (0x0F)

TABLE 22. 18: CAMCONTROL VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xCA60	CAM_LL_CDC_HP_DARK_BM	dddd dddd dddd dddd	200 (0x00C8)
0xCA62	CAM_LL_CDC_HP_BRIGHT_BM	dddd dddd dddd dddd	2900 (0x0B54)
0xCA64	CAM_LL_CDC_HP_STRENGTH_DARK	dddd dddd	8 (0x08)
0xCA65	CAM_LL_CDC_HP_STRENGTH_BRIGHT	dddd dddd	15 (0x0F)
0xCA66	CAM_LL_CDC_CROSSFACTOR_DARK_BM	dddd dddd dddd dddd	200 (0x00C8)
0xCA68	CAM_LL_CDC_CROSSFACTOR_BRIGHT_BM	dddd dddd dddd dddd	2900 (0x0B54)
0xCA6A	CAM_LL_CDC_CROSSFACTOR_STRENGTH_DARK	dddd dddd	12 (0x0C)
0xCA6B	CAM_LL_CDC_CROSSFACTOR_STRENGTH_BRIGHT	dddd dddd	4 (0x04)
0xCA6C	CAM_LL_CDC_TH_BM	dddd dddd dddd dddd	4096 (0x1000)
0xCA70	CAM_LL_ADACD_GR_WEIGHTS_STRENGTH_LOW	dddd dddd dddd dddd	6 (0x0006)
0xCA72	CAM_LL_ADACD_GR_WEIGHTS_STRENGTH_HIGH	dddd dddd dddd dddd	3 (0x0003)
0xCA74	CAM_LL_ADACD_GR_WEIGHTS_LOW_SNR	dddd dddd dddd dddd	1000 (0x03E8)
0xCA76	CAM_LL_ADACD_GR_WEIGHTS_HIGH_SNR	dddd dddd dddd dddd	3328 (0x0D00)
0xCA78	CAM_LL_NR_LUT_0_GAIN	dddd dddd dddd dddd	32 (0x0020)
0xCA7A	CAM_LL_NR_LUT_0_SIGMA	dddd dddd dddd dddd	52 (0x0034)
0xCA7C	CAM_LL_NR_LUT_0_K0	dddd dddd dddd dddd	147 (0x0093)
0xCA80	CAM_LL_NR_LUT_1_GAIN	dddd dddd dddd dddd	88 (0x0058)
0xCA82	CAM_LL_NR_LUT_1_SIGMA	dddd dddd dddd dddd	55 (0x0037)
0xCA84	CAM_LL_NR_LUT_1_K0	dddd dddd dddd dddd	147 (0x0093)
0xCA88	CAM_LL_NR_LUT_2_GAIN	dddd dddd dddd dddd	352 (0x0160)
0xCA8A	CAM_LL_NR_LUT_2_SIGMA	dddd dddd dddd dddd	263 (0x0107)
0xCA8C	CAM_LL_NR_LUT_2_K0	dddd dddd dddd dddd	147 (0x0093)
0xCA90	CAM_LL_NR_LUT_3_GAIN	dddd dddd dddd dddd	704 (0x02C0)
0xCA92	CAM_LL_NR_LUT_3_SIGMA	dddd dddd dddd dddd	261 (0x0105)
0xCA94	CAM_LL_NR_LUT_3_K0	dddd dddd dddd dddd	147 (0x0093)

TABLE 22. 18: CAMCONTROL VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xCA9C	CAM_LL_CK_0_SNR	dddd dddd dddd dddd	2304 (0x0900)
0xCAA4	CAM_LL_CK_0_CHROMA_GAIN_HIGH	dddd dddd dddd dddd	448 (0x01C0)
0xCAA8	CAM_LL_CK_1_SNR	dddd dddd dddd dddd	1997 (0x07CD)
0xCAB0	CAM_LL_CK_1_CHROMA_GAIN_HIGH	dddd dddd dddd dddd	358 (0x0166)
0xCAB4	CAM_LL_CK_2_SNR	dddd dddd dddd dddd	102 (0x0066)
0xCABC	CAM_LL_CK_2_CHROMA_GAIN_HIGH	dddd dddd dddd dddd	0 (0x0000)
0xCAC4	CAM_PGA_PGA_CONTROL	dddd dddd dddd dddd	0 (0x0000)
0xCAC8	CAM_SYSCTL_PLL_CONTROL	dddd dddd	77 (0x4D)
0xCAC9	CAM_SYSCTL_CLOCK_CONTROL	dddd dddd	0 (0x00)
0xCACA	CAM_SYSCTL_PLL_DIVIDER_M_N_1_CLK	dddd dddd dddd dddd	272 (0x0110)
0xCACE	CAM_SYSCTL_PLL_DIVIDER_M_N_NET	dddd dddd dddd dddd	270 (0x010E)
0xCAD0	CAM_SYSCTL_PLL_DIVIDER_P_1_CLK	dddd dddd dddd dddd	51 (0x0033)
0xCAD4	CAM_SYSCTL_PLL_DIVIDER_P_NET	dddd dddd dddd dddd	31 (0x001F)
0xCAD8	CAM_SYSCTL_PLL_FRACTION_1_CLK	dddd dddd dddd dddd dddd dddd dddd dddd	0 (0x00000000)
0xCAE0	CAM_SYSCTL_PLL_FRACTION_NET	dddd dddd dddd dddd dddd dddd dddd dddd	3499602944 (0xD097B400)
0xCAE4	CAM_OUTPUT_WIDTH	dddd dddd dddd dddd	1280 (0x0500)
0xCAE6	CAM_OUTPUT_HEIGHT	dddd dddd dddd dddd	960 (0x03C0)
0xCAE8	CAM_OUTPUT_FORMAT_YUV	dddd dddd dddd dddd	16 (0x0010)
0xCAEA	CAM_OUTPUT_FORMAT	dddd dddd	0 (0x00)
0xCAEB	CAM_OUTPUT_FORMAT_BAYER_PATH	dddd dddd	0 (0x00)
0xCAEC	CAM_OUTPUT_FORMAT_BAYER_WIDTH	???? ????	12 (0x0C)
0xCAED	CAM_OUTPUT_FORMAT_JPEG	dddd dddd	22 (0x16)
0xCAEE	CAM_OUTPUT_JPEG_RESTART_MCU	dddd dddd dddd dddd	0 (0x0000)
0xCAF0	CAM_OUTPUT_JPEG_Q	dddd dddd	50 (0x32)
0xCAF1	CAM_OUTPUT_JPEG_AUTO_Q_MAX	dddd dddd	64 (0x40)

TABLE 22. 18: CAMCONTROL VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xCAF2	CAM_OUTPUT_JPEG_MAX_BYTES_ADJUST	dddd dddd	24 (0x18)
0xCAF4	CAM_OUTPUT_COMPRESSED_BIT_RATE_8K	dddd dddd dddd dddd	9375 (0x249F)
0xCAF6	CAM_OUTPUT_H264_SLICE_MBROWS	dddd dddd dddd dddd	0 (0x0000)
0xCAF8	CAM_OUTPUT_H264_CONTROL	dddd dddd	14 (0x0E)
0xCAF9	CAM_OUTPUT_H264_QP_LUMA	dddd dddd	44 (0x2C)
0xCAFA	CAM_OUTPUT_Y_OFFSET	dddd dddd	0 (0x00)
0xCAFC	CAM_PORT_PARALLEL_CONTROL	dddd dddd dddd dddd	16897 (0x4201)
0xCAFE	CAM_PORT_CONST_LINE_LENGTH	dddd dddd dddd dddd	0 (0x0000)
0xCB00	CAM_PORT_MAX_PACKET_PAYLOAD	dddd dddd dddd dddd	664 (0x0298)
0xCB02	CAM_PORT_KEEPSYNC_CONTROL	dddd dddd	0 (0x00)
0xCB03	CAM_PORT_KEEPSYNC_MIN_BLACK_FRAMES	dddd dddd	0 (0x00)
0xCB04	CAM_TEMPMON_TCONTROL	dddd dddd dddd dddd	113 (0x0071)
0xCB06	CAM_TEMPMON_TSTATUS	???? ???? ???? ????	0 (0x0000)
0xCB08	CAM_TEMPMON_DAMPING_FACTOR	dddd dddd	16 (0x10)
0xCB09	CAM_TEMPMON_HIGH_THRESHOLD	dddd dddd	70 (0x46)
0xCB0A	CAM_TEMPMON_LOW_THRESHOLD	dddd dddd	10 (0x0A)
0xCB0B	CAM_TEMPMON_TEMPERATURE	???? ????	0 (0x00)
0xCB0C	CAM_TEMPMON_TEMPERATURE_MIN	???? ????	0 (0x00)
0xCB0D	CAM_TEMPMON_TEMPERATURE_MAX	???? ????	0 (0x00)
0xCB10	CAM_FLICKER_DETECT_FD_MODE	dddd dddd dddd dddd	1 (0x0001)
0xCB14	CAM_ADAPTATION_TA_MODE	dddd dddd dddd dddd	1 (0x0001)
0xCB18	CAM_SENSOR_CONTROL2_HISPI	dddd dddd dddd dddd	2 (0x0002)
0xCB20	CAM_LL2_NR_LUT_T2_0_SIGMA	dddd dddd dddd dddd	52 (0x0034)
0xCB22	CAM_LL2_NR_LUT_T2_0_K0	dddd dddd dddd dddd	147 (0x0093)
0xCB24	CAM_LL2_NR_LUT_T2_1_SIGMA	dddd dddd dddd dddd	55 (0x0037)

TABLE 22. 18: CAMCONTROL VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xCB26	CAM_LL2_NR_LUT_T2_1_K0	dddd dddd dddd dddd	147 (0x0093)
0xCB28	CAM_LL2_NR_LUT_T2_2_SIGMA	dddd dddd dddd dddd	263 (0x0107)
0xCB2A	CAM_LL2_NR_LUT_T2_2_K0	dddd dddd dddd dddd	147 (0x0093)
0xCB2C	CAM_LL2_NR_LUT_T2_3_SIGMA	dddd dddd dddd dddd	261 (0x0105)
0xCB2E	CAM_LL2_NR_LUT_T2_3_K0	dddd dddd dddd dddd	147 (0x0093)
0xCB30	CAM_LL2_NR_LUT_T3_0_SIGMA	dddd dddd dddd dddd	52 (0x0034)
0xCB32	CAM_LL2_NR_LUT_T3_0_K0	dddd dddd dddd dddd	147 (0x0093)
0xCB34	CAM_LL2_NR_LUT_T3_1_SIGMA	dddd dddd dddd dddd	55 (0x0037)
0xCB36	CAM_LL2_NR_LUT_T3_1_K0	dddd dddd dddd dddd	147 (0x0093)
0xCB38	CAM_LL2_NR_LUT_T3_2_SIGMA	dddd dddd dddd dddd	263 (0x0107)
0xCB3A	CAM_LL2_NR_LUT_T3_2_K0	dddd dddd dddd dddd	147 (0x0093)
0xCB3C	CAM_LL2_NR_LUT_T3_3_SIGMA	dddd dddd dddd dddd	261 (0x0105)
0xCB3E	CAM_LL2_NR_LUT_T3_3_K0	dddd dddd dddd dddd	147 (0x0093)
0xCB40	CAM_LL2_NR_TRANS_PT_S1	dddd dddd dddd dddd dddd dddd dddd dddd	3000 (0x00000BB8)
0xCB44	CAM_LL2_NR_TRANS_PT_S2	dddd dddd dddd dddd dddd dddd dddd dddd	3500 (0x00000DAC)
0xCB48	CAM_LL2_NR_TRANS_PT_S3	dddd dddd dddd dddd dddd dddd dddd dddd	50000 (0x0000C350)
0xCB4C	CAM_LL2_NR_TRANS_PT_S4	dddd dddd dddd dddd dddd dddd dddd dddd	63000 (0x0000F618)
0xCB50	CAM_STE_ROTATE_OPTICAL_CENTER_X	dddd dddd dddd dddd	0 (0x0000)
0xCB52	CAM_STE_ROTATE_OPTICAL_CENTER_Y	dddd dddd dddd dddd	0 (0x0000)
0xCB54	CAM_STE_ROTATE_ANGLE	dddd dddd dddd dddd	0 (0x0000)
0xCB56	CAM_STE_ROTATE_ANGLE_MAX	dddd dddd dddd dddd	0 (0x0000)
0xCB58	CAM_CURRENT_CONTEXT	???? ????	0 (0x00)
0xCB59	CAM_MODE_SYNC_SOURCE	dddd dddd	0 (0x00)
0xCB5A	CAM_MODE_SYNC_N_PULSES	dddd dddd	10 (0x0A)
0xCB5B	CAM_FORCED_OUTPUT_ENABLE	dddd dddd	0 (0x00)

TABLE 22. 18: CAMCONTROL VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xCB5C	CAM_FORCED_OUTPUT_WIDTH	dddd dddd dddd dddd	0 (0x0000)
0xCB5E	CAM_FORCED_OUTPUT_HEIGHT	dddd dddd dddd dddd	0 (0x0000)
0xCB60	CAM_LL3_ADACD_WB_BRIGHT_BM	dddd dddd dddd dddd	65024 (0xFE00)
0xCB62	CAM_LL3_ADACD_WB_DARK_BM	dddd dddd dddd dddd	64640 (0xFC80)
0xCB64	CAM_LL3_ADACD_WB_BRIGHT	dddd dddd	0 (0x00)
0xCB65	CAM_LL3_ADACD_WB_DARK	dddd dddd	0 (0x00)

TABLE 23. 19: SENSOR MANAGER

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xCC02	SENSOR_MGR_MODE	dddd dddd dddd dddd	131 (0x0083)
0xCCBA	SENSOR_MGR_MIN_MANUAL_GAIN	???? ???? ???? ????	0 (0x0000)
0xCCBC	SENSOR_MGR_MAX_MANUAL_GAIN	???? ???? ???? ????	0 (0x0000)
0xCCBE	SENSOR_MGR_MIN_MANUAL_IT_MS	???? ???? ???? ????	0 (0x0000)
0xCCC0	SENSOR_MGR_MAX_MANUAL_IT_MS	???? ???? ???? ????	0 (0x0000)

TABLE 24. 23: SYSTEM MGR VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xDC00	SYSMGR_STATUS	???? ???? ???? ????	0 (0x0000)
0xDC02	SYSMGR_MODE	dddd dddd	0 (0x00)
0xDC07	SYSMGR_CONFIG_MODE	dddd dddd	1 (0x01)
0xDC0A	SYSMGR_CMD_STATUS	???? ????	0 (0x00)
0xDC0B	SYSMGR_CMD_COMP_ID	???? ????	0 (0x00)
0xDC0C	SYSMGR_CMD_COMP_FAILURE_ID	???? ???? ???? ????	0 (0x0000)
0xDC1C	SYSMGR_CONFIG_OTPM_STATUS_TABLE_ID	???? ????	0 (0x00)
0xDC1D	SYSMGR_CONFIG_OTPM_STATUS_RES	???? ????	0 (0x00)

TABLE 24. 23: SYSTEM MGR VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xDC1E	SYSMGR_CONFIG_FLASH_STATUS_TABLE_ID	???? ????	0 (0x00)
0xDC1F	SYSMGR_CONFIG_FLASH_STATUS_RES	???? ????	0 (0x00)

TABLE 25. 24: PATCH LOADER VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xE000	PATCHLDR_LOAD_ADDRESS	dddd dddd dddd dddd	0 (0x0000)
0xE002	PATCHLDR_SIZE_BYTES	dddd dddd dddd dddd	0 (0x0000)
0xE004	PATCHLDR_LOADER_ADDRESS	dddd dddd dddd dddd	0 (0x0000)
0xE006	PATCHLDR_PATCH_ID	dddd dddd dddd dddd	0 (0x0000)
0xE008	PATCHLDR_FIRMWARE_ID	dddd dddd dddd dddd dddd dddd dddd dddd	0 (0x00000000)
0xE00C	PATCHLDR_LAST_RES	???? ????	0 (0x00)
0xE00D	PATCHLDR_NUM_PATCHES	???? ????	0 (0x00)
0xE00E	PATCHLDR_PATCH_ID_0	???? ???? ???? ????	0 (0x0000)
0xE010	PATCHLDR_PATCH_ID_1	???? ???? ???? ????	0 (0x0000)
0xE012	PATCHLDR_PATCH_ID_2	???? ???? ???? ????	0 (0x0000)
0xE014	PATCHLDR_PATCH_ID_3	???? ???? ???? ????	0 (0x0000)
0xE016	PATCHLDR_PATCH_ID_4	???? ???? ???? ????	0 (0x0000)
0xE018	PATCHLDR_PATCH_ID_5	???? ???? ???? ????	0 (0x0000)
0xE01A	PATCHLDR_PATCH_ID_6	???? ???? ???? ????	0 (0x0000)
0xE01C	PATCHLDR_PATCH_ID_7	???? ???? ???? ????	0 (0x0000)

TABLE 26. 28: CAMERA ADAPTATION VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xF005	CAM_ADAPT_GPR_0_GPR_CONTROL	dddd dddd	0 (0x00)
0xF006	CAM_ADAPT_GPR_0_ADDRESS	dddd dddd dddd dddd	0 (0x0000)

TABLE 26. 28: CAMERA ADAPTATION VARIABLES

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xF008	CAM_ADAPT_GPR_0_VALUE_ABOVE_TH	dddd dddd dddd dddd	0 (0x0000)
0xF00D	CAM_ADAPT_GPR_1_GPR_CONTROL	dddd dddd	0 (0x00)
0xF00E	CAM_ADAPT_GPR_1_ADDRESS	dddd dddd dddd dddd	0 (0x0000)
0xF010	CAM_ADAPT_GPR_1_VALUE_ABOVE_TH	dddd dddd dddd dddd	0 (0x0000)
0xF015	CAM_ADAPT_GPR_2_GPR_CONTROL	dddd dddd	0 (0x00)
0xF016	CAM_ADAPT_GPR_2_ADDRESS	dddd dddd dddd dddd	0 (0x0000)
0xF018	CAM_ADAPT_GPR_2_VALUE_ABOVE_TH	dddd dddd dddd dddd	0 (0x0000)
0xF048	CAM_ADAPT_DELTA_DK_TARGET	dddd dddd dddd dddd	512 (0x0200)

TABLE 27. 31: COMMAND HANDLER

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xFC00	CMD_HANDLER_PARAMS_POOL_0	dddd dddd dddd dddd	0 (0x0000)
0xFC02	CMD_HANDLER_PARAMS_POOL_1	dddd dddd dddd dddd	0 (0x0000)
0xFC04	CMD_HANDLER_PARAMS_POOL_2	dddd dddd dddd dddd	0 (0x0000)
0xFC06	CMD_HANDLER_PARAMS_POOL_3	dddd dddd dddd dddd	0 (0x0000)
0xFC08	CMD_HANDLER_PARAMS_POOL_4	dddd dddd dddd dddd	0 (0x0000)
0xFC0A	CMD_HANDLER_PARAMS_POOL_5	dddd dddd dddd dddd	0 (0x0000)
0xFC0C	CMD_HANDLER_PARAMS_POOL_6	dddd dddd dddd dddd	0 (0x0000)
0xFC0E	CMD_HANDLER_PARAMS_POOL_7	dddd dddd dddd dddd	0 (0x0000)
0xFC10	CMD_HANDLER_PARAMS_POOL_8	dddd dddd dddd dddd	0 (0x0000)
0xFC12	CMD_HANDLER_PARAMS_POOL_9	dddd dddd dddd dddd	0 (0x0000)
0xFC14	CMD_HANDLER_PARAMS_POOL_10	dddd dddd dddd dddd	0 (0x0000)
0xFC16	CMD_HANDLER_PARAMS_POOL_11	dddd dddd dddd dddd	0 (0x0000)
0xFC18	CMD_HANDLER_PARAMS_POOL_12	dddd dddd dddd dddd	0 (0x0000)
0xFC1A	CMD_HANDLER_PARAMS_POOL_13	dddd dddd dddd dddd	0 (0x0000)

TABLE 27. 31: COMMAND HANDLER

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xFC1C	CMD_HANDLER_PARAMS_POOL_14	dddd dddd dddd dddd	0 (0x0000)
0xFC1E	CMD_HANDLER_PARAMS_POOL_15	dddd dddd dddd dddd	0 (0x0000)
0xFC20	CMD_HANDLER_PARAMS_POOL_16	dddd dddd dddd dddd	0 (0x0000)
0xFC22	CMD_HANDLER_PARAMS_POOL_17	dddd dddd dddd dddd	0 (0x0000)
0xFC24	CMD_HANDLER_PARAMS_POOL_18	dddd dddd dddd dddd	0 (0x0000)
0xFC26	CMD_HANDLER_PARAMS_POOL_19	dddd dddd dddd dddd	0 (0x0000)
0xFC28	CMD_HANDLER_PARAMS_POOL_20	dddd dddd dddd dddd	0 (0x0000)
0xFC2A	CMD_HANDLER_PARAMS_POOL_21	dddd dddd dddd dddd	0 (0x0000)
0xFC2C	CMD_HANDLER_PARAMS_POOL_22	dddd dddd dddd dddd	0 (0x0000)
0xFC2E	CMD_HANDLER_PARAMS_POOL_23	dddd dddd dddd dddd	0 (0x0000)
0xFC30	CMD_HANDLER_PARAMS_POOL_24	dddd dddd dddd dddd	0 (0x0000)
0xFC32	CMD_HANDLER_PARAMS_POOL_25	dddd dddd dddd dddd	0 (0x0000)
0xFC34	CMD_HANDLER_PARAMS_POOL_26	dddd dddd dddd dddd	0 (0x0000)
0xFC36	CMD_HANDLER_PARAMS_POOL_27	dddd dddd dddd dddd	0 (0x0000)
0xFC38	CMD_HANDLER_PARAMS_POOL_28	dddd dddd dddd dddd	0 (0x0000)
0xFC3A	CMD_HANDLER_PARAMS_POOL_29	dddd dddd dddd dddd	0 (0x0000)
0xFC3C	CMD_HANDLER_PARAMS_POOL_30	dddd dddd dddd dddd	0 (0x0000)
0xFC3E	CMD_HANDLER_PARAMS_POOL_31	dddd dddd dddd dddd	0 (0x0000)
0xFC40	CMD_HANDLER_PARAMS_POOL_32	dddd dddd dddd dddd	0 (0x0000)
0xFC42	CMD_HANDLER_PARAMS_POOL_33	dddd dddd dddd dddd	0 (0x0000)
0xFC44	CMD_HANDLER_PARAMS_POOL_34	dddd dddd dddd dddd	0 (0x0000)
0xFC46	CMD_HANDLER_PARAMS_POOL_35	dddd dddd dddd dddd	0 (0x0000)
0xFC48	CMD_HANDLER_PARAMS_POOL_36	dddd dddd dddd dddd	0 (0x0000)
0xFC4A	CMD_HANDLER_PARAMS_POOL_37	dddd dddd dddd dddd	0 (0x0000)
0xFC4C	CMD_HANDLER_PARAMS_POOL_38	dddd dddd dddd dddd	0 (0x0000)

TABLE 27. 31: COMMAND HANDLER

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xFC4E	CMD_HANDLER_PARAMS_POOL_39	dddd dddd dddd dddd	0 (0x0000)
0xFC50	CMD_HANDLER_PARAMS_POOL_40	dddd dddd dddd dddd	0 (0x0000)
0xFC52	CMD_HANDLER_PARAMS_POOL_41	dddd dddd dddd dddd	0 (0x0000)
0xFC54	CMD_HANDLER_PARAMS_POOL_42	dddd dddd dddd dddd	0 (0x0000)
0xFC56	CMD_HANDLER_PARAMS_POOL_43	dddd dddd dddd dddd	0 (0x0000)
0xFC58	CMD_HANDLER_PARAMS_POOL_44	dddd dddd dddd dddd	0 (0x0000)
0xFC5A	CMD_HANDLER_PARAMS_POOL_45	dddd dddd dddd dddd	0 (0x0000)
0xFC5C	CMD_HANDLER_PARAMS_POOL_46	dddd dddd dddd dddd	0 (0x0000)
0xFC5E	CMD_HANDLER_PARAMS_POOL_47	dddd dddd dddd dddd	0 (0x0000)
0xFC60	CMD_HANDLER_PARAMS_POOL_48	dddd dddd dddd dddd	0 (0x0000)
0xFC62	CMD_HANDLER_PARAMS_POOL_49	dddd dddd dddd dddd	0 (0x0000)
0xFC64	CMD_HANDLER_PARAMS_POOL_50	dddd dddd dddd dddd	0 (0x0000)
0xFC66	CMD_HANDLER_PARAMS_POOL_51	dddd dddd dddd dddd	0 (0x0000)
0xFC68	CMD_HANDLER_PARAMS_POOL_52	dddd dddd dddd dddd	0 (0x0000)
0xFC6A	CMD_HANDLER_PARAMS_POOL_53	dddd dddd dddd dddd	0 (0x0000)
0xFC6C	CMD_HANDLER_PARAMS_POOL_54	dddd dddd dddd dddd	0 (0x0000)
0xFC6E	CMD_HANDLER_PARAMS_POOL_55	dddd dddd dddd dddd	0 (0x0000)
0xFC70	CMD_HANDLER_PARAMS_POOL_56	dddd dddd dddd dddd	0 (0x0000)
0xFC72	CMD_HANDLER_PARAMS_POOL_57	dddd dddd dddd dddd	0 (0x0000)
0xFC74	CMD_HANDLER_PARAMS_POOL_58	dddd dddd dddd dddd	0 (0x0000)
0xFC76	CMD_HANDLER_PARAMS_POOL_59	dddd dddd dddd dddd	0 (0x0000)
0xFC78	CMD_HANDLER_PARAMS_POOL_60	dddd dddd dddd dddd	0 (0x0000)
0xFC7A	CMD_HANDLER_PARAMS_POOL_61	dddd dddd dddd dddd	0 (0x0000)
0xFC7C	CMD_HANDLER_PARAMS_POOL_62	dddd dddd dddd dddd	0 (0x0000)
0xFC7E	CMD_HANDLER_PARAMS_POOL_63	dddd dddd dddd dddd	0 (0x0000)

TABLE 27. 31: COMMAND HANDLER

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xFC80	CMD_HANDLER_PARAMS_POOL_64	dddd dddd dddd dddd	0 (0x0000)
0xFC82	CMD_HANDLER_PARAMS_POOL_65	dddd dddd dddd dddd	0 (0x0000)
0xFC84	CMD_HANDLER_PARAMS_POOL_66	dddd dddd dddd dddd	0 (0x0000)
0xFC86	CMD_HANDLER_PARAMS_POOL_67	dddd dddd dddd dddd	0 (0x0000)
0xFC88	CMD_HANDLER_PARAMS_POOL_68	dddd dddd dddd dddd	0 (0x0000)
0xFC8A	CMD_HANDLER_PARAMS_POOL_69	dddd dddd dddd dddd	0 (0x0000)
0xFC8C	CMD_HANDLER_PARAMS_POOL_70	dddd dddd dddd dddd	0 (0x0000)
0xFC8E	CMD_HANDLER_PARAMS_POOL_71	dddd dddd dddd dddd	0 (0x0000)
0xFC90	CMD_HANDLER_PARAMS_POOL_72	dddd dddd dddd dddd	0 (0x0000)
0xFC92	CMD_HANDLER_PARAMS_POOL_73	dddd dddd dddd dddd	0 (0x0000)
0xFC94	CMD_HANDLER_PARAMS_POOL_74	dddd dddd dddd dddd	0 (0x0000)
0xFC96	CMD_HANDLER_PARAMS_POOL_75	dddd dddd dddd dddd	0 (0x0000)
0xFC98	CMD_HANDLER_PARAMS_POOL_76	dddd dddd dddd dddd	0 (0x0000)
0xFC9A	CMD_HANDLER_PARAMS_POOL_77	dddd dddd dddd dddd	0 (0x0000)
0xFC9C	CMD_HANDLER_PARAMS_POOL_78	dddd dddd dddd dddd	0 (0x0000)
0xFC9E	CMD_HANDLER_PARAMS_POOL_79	dddd dddd dddd dddd	0 (0x0000)
0xFCA0	CMD_HANDLER_PARAMS_POOL_80	dddd dddd dddd dddd	0 (0x0000)
0xFCA2	CMD_HANDLER_PARAMS_POOL_81	dddd dddd dddd dddd	0 (0x0000)
0xFCA4	CMD_HANDLER_PARAMS_POOL_82	dddd dddd dddd dddd	0 (0x0000)
0xFCA6	CMD_HANDLER_PARAMS_POOL_83	dddd dddd dddd dddd	0 (0x0000)
0xFCA8	CMD_HANDLER_PARAMS_POOL_84	dddd dddd dddd dddd	0 (0x0000)
0xFCAA	CMD_HANDLER_PARAMS_POOL_85	dddd dddd dddd dddd	0 (0x0000)
0xFCAC	CMD_HANDLER_PARAMS_POOL_86	dddd dddd dddd dddd	0 (0x0000)
0xFCAE	CMD_HANDLER_PARAMS_POOL_87	dddd dddd dddd dddd	0 (0x0000)
0xFCB0	CMD_HANDLER_PARAMS_POOL_88	dddd dddd dddd dddd	0 (0x0000)

TABLE 27. 31: COMMAND HANDLER

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xFCB2	CMD_HANDLER_PARAMS_POOL_89	dddd dddd dddd dddd	0 (0x0000)
0xFCB4	CMD_HANDLER_PARAMS_POOL_90	dddd dddd dddd dddd	0 (0x0000)
0xFCB6	CMD_HANDLER_PARAMS_POOL_91	dddd dddd dddd dddd	0 (0x0000)
0xFCB8	CMD_HANDLER_PARAMS_POOL_92	dddd dddd dddd dddd	0 (0x0000)
0xFCBA	CMD_HANDLER_PARAMS_POOL_93	dddd dddd dddd dddd	0 (0x0000)
0xFCBC	CMD_HANDLER_PARAMS_POOL_94	dddd dddd dddd dddd	0 (0x0000)
0xFCBE	CMD_HANDLER_PARAMS_POOL_95	dddd dddd dddd dddd	0 (0x0000)
0xFCC0	CMD_HANDLER_PARAMS_POOL_96	dddd dddd dddd dddd	0 (0x0000)
0xFCC2	CMD_HANDLER_PARAMS_POOL_97	dddd dddd dddd dddd	0 (0x0000)
0xFCC4	CMD_HANDLER_PARAMS_POOL_98	dddd dddd dddd dddd	0 (0x0000)
0xFCC6	CMD_HANDLER_PARAMS_POOL_99	dddd dddd dddd dddd	0 (0x0000)
0xFCC8	CMD_HANDLER_PARAMS_POOL_100	dddd dddd dddd dddd	0 (0x0000)
0xFCCA	CMD_HANDLER_PARAMS_POOL_101	dddd dddd dddd dddd	0 (0x0000)
0xFCCC	CMD_HANDLER_PARAMS_POOL_102	dddd dddd dddd dddd	0 (0x0000)
0xFCCE	CMD_HANDLER_PARAMS_POOL_103	dddd dddd dddd dddd	0 (0x0000)
0xFCD0	CMD_HANDLER_PARAMS_POOL_104	dddd dddd dddd dddd	0 (0x0000)
0xFCD2	CMD_HANDLER_PARAMS_POOL_105	dddd dddd dddd dddd	0 (0x0000)
0xFCD4	CMD_HANDLER_PARAMS_POOL_106	dddd dddd dddd dddd	0 (0x0000)
0xFCD6	CMD_HANDLER_PARAMS_POOL_107	dddd dddd dddd dddd	0 (0x0000)
0xFCD8	CMD_HANDLER_PARAMS_POOL_108	dddd dddd dddd dddd	0 (0x0000)
0xFCDA	CMD_HANDLER_PARAMS_POOL_109	dddd dddd dddd dddd	0 (0x0000)
0xFCDC	CMD_HANDLER_PARAMS_POOL_110	dddd dddd dddd dddd	0 (0x0000)
0xFCDE	CMD_HANDLER_PARAMS_POOL_111	dddd dddd dddd dddd	0 (0x0000)
0xFCE0	CMD_HANDLER_PARAMS_POOL_112	dddd dddd dddd dddd	0 (0x0000)
0xFCE2	CMD_HANDLER_PARAMS_POOL_113	dddd dddd dddd dddd	0 (0x0000)

TABLE 27. 31: COMMAND HANDLER

1 = read−only, always 1; 0 = read−only, always 0; d = programmable; ? = read−only, dynamic

Variable (Hex)	Name	Data Format (Binary)	Default Value Dec(Hex)
0xFCE4	CMD_HANDLER_PARAMS_POOL_114	dddd dddd dddd dddd	0 (0x0000)
0xFCE6	CMD_HANDLER_PARAMS_POOL_115	dddd dddd dddd dddd	0 (0x0000)
0xFCE8	CMD_HANDLER_PARAMS_POOL_116	dddd dddd dddd dddd	0 (0x0000)
0xFCEA	CMD_HANDLER_PARAMS_POOL_117	dddd dddd dddd dddd	0 (0x0000)
0xFCEC	CMD_HANDLER_PARAMS_POOL_118	dddd dddd dddd dddd	0 (0x0000)
0xFCEE	CMD_HANDLER_PARAMS_POOL_119	dddd dddd dddd dddd	0 (0x0000)
0xFCF0	CMD_HANDLER_PARAMS_POOL_120	dddd dddd dddd dddd	0 (0x0000)
0xFCF2	CMD_HANDLER_PARAMS_POOL_121	dddd dddd dddd dddd	0 (0x0000)
0xFCF4	CMD_HANDLER_PARAMS_POOL_122	dddd dddd dddd dddd	0 (0x0000)
0xFCF6	CMD_HANDLER_PARAMS_POOL_123	dddd dddd dddd dddd	0 (0x0000)
0xFCF8	CMD_HANDLER_PARAMS_POOL_124	dddd dddd dddd dddd	0 (0x0000)
0xFCFA	CMD_HANDLER_PARAMS_POOL_125	dddd dddd dddd dddd	0 (0x0000)
0xFCFC	CMD_HANDLER_PARAMS_POOL_126	dddd dddd dddd dddd	0 (0x0000)
0xFCFE	CMD_HANDLER_PARAMS_POOL_127	dddd dddd dddd dddd	0 (0x0000)

TABLE 28. CPIPE RGB PIPE REGISTERS

R/W (Read or Write) bit; RO (Read Only) bit.

Register (Hex)	Bits	Default	Name
R0x3332	**15:0**	**0x0002**	**HILIGHT_COLOR (R/W)**
	15:4	X	Reserved
	3	0x0000	HILIGHT_COLOR_AWB_EN Highlight color enable AWB. If set, each pixel that Auto−White−Balance used for AWB will be Highlighted. The highlight color is chosen by hilight_color_red, hilight_color_green and/or hilight_color_blue. At least one of these three colors must be set for the highlighting to work.
	2	0x0000	HILIGHT_COLOR_RED Highlight color red. If hilight_color_awb_en and pixel was used for AWB and hilight_color_red = 1, Red component of pixel is set to maximum value. Otherwise Red component is unchanged.
	1	0x0001	HILIGHT_COLOR_GREEN Highlight color green. If hilight_color_awb_en and pixel was used for AWB and hilight_color_green = 1, Green component of pixel is set to maximum value. Otherwise Green component is unchanged.
	0	0x0000	HILIGHT_COLOR_BLUE Highlight color blue. If hilight_color_awb_en and pixel was used for AWB and hilight_color_blue = 1, Blue component of pixel is set to maximum value. Otherwise Blue component is unchanged.
	Highlight_color		

TABLE 29. CPIPE YUV PIPE REGISTERS

R/W (Read or Write) bit; RO (Read Only) bit.

Register (Hex)	Bits	Default	Name
R0x3400	**15:0**	**0x0000**	**HUE1_Q1Q2 (R/W)**
	15:14	X	Reserved
	13:8	0x0000	HUE_ROTATION_10 Hue Rotation angle for Q2,CR/CB=0.02 Two's complement Signed Value Legal values: [−22,22].
	7:6	X	Reserved
	5:0	0x0000	HUE_ROTATION_1 Hue Rotation angle for Q1,CR/CB=0.02 Two's complement Signed Value Legal values: [−22,22].
R0x3402	**15:0**	**0x0000**	**HUE2_Q1Q2 (R/W)**
	15:14	X	Reserved
	13:8	0x0000	HUE_ROTATION_11 Hue Rotation angle for Q2,CR/CB=0.3 Two's complement Signed Value Legal values: [−22,22].
	7:6	X	Reserved
	5:0	0x0000	HUE_ROTATION_2 Hue Rotation angle for Q1,CR/CB=0.3 Two's complement Signed Value Legal values: [−22,22].

TABLE 29. CPIPE YUV PIPE REGISTERS
R/W (Read or Write) bit; RO (Read Only) bit.

Register (Hex)	Bits	Default	Name
R0x3404	**15:0**	**0x0000**	**HUE3_Q1Q2 (R/W)**
	15:14	X	Reserved
	13:8	0x0000	HUE_ROTATION_12 Hue Rotation angle for Q2,CR/CB=0.6 Two's complement Signed Value Legal values: [−22,22].
	7:6	X	Reserved
	5:0	0x0000	HUE_ROTATION_3 Hue Rotation angle for Q1,CR/CB=0.6 Two's complement Signed Value Legal values: [−22,22].
R0x3406	**15:0**	**0x0000**	**HUE4_Q1Q2 (R/W)**
	15:14	X	Reserved
	13:8	0x0000	HUE_ROTATION_13 Hue Rotation angle for Q2,CR/CB=0.84 Two's complement Signed Value Legal values: [−22,22].
	7:6	X	Reserved
	5:0	0x0000	HUE_ROTATION_4 Hue Rotation angle for Q1,CR/CB=0.84 Two's complement Signed Value Legal values: [−22,22].
R0x3408	**15:0**	**0x0000**	**HUE5_Q1Q2 (R/W)**
	15:14	X	Reserved
	13:8	0x0000	HUE_ROTATION_14 Hue Rotation angle for Q2,CR/CB=1.0 Two's complement Signed Value Legal values: [−22,22].
	7:6	X	Reserved
	5:0	0x0000	HUE_ROTATION_5 Hue Rotation angle for Q1,CR/CB=1.0 Two's complement Signed Value Legal values: [−22,22].
R0x340A	**15:0**	**0x0000**	**HUE6_Q1Q2 (R/W)**
	15:14	X	Reserved
	13:8	0x0000	HUE_ROTATION_15 Hue Rotation angle for Q2,CB/CR=0.84 Two's complement Signed Value Legal values: [−22,22].
	7:6	X	Reserved
	5:0	0x0000	HUE_ROTATION_6 Hue Rotation angle for Q1,CB/CR=0.84 Two's complement Signed Value Legal values: [−22,22].

TABLE 29. CPIPE YUV PIPE REGISTERS
R/W (Read or Write) bit; RO (Read Only) bit.

Register (Hex)	Bits	Default	Name
R0x340C	**15:0**	**0x0000**	**HUE7_Q1Q2 (R/W)**
	15:14	X	Reserved
	13:8	0x0000	HUE_ROTATION_16 Hue Rotation angle for Q2,CB/CR=0.6 Two's complement Signed Value Legal values: [−22,22].
	7:6	X	Reserved
	5:0	0x0000	HUE_ROTATION_7 Hue Rotation angle for Q1,CB/CR=0.6 Two's complement Signed Value Legal values: [−22,22].
R0x340E	**15:0**	**0x0000**	**HUE8_Q1Q2 (R/W)**
	15:14	X	Reserved
	13:8	0x0000	HUE_ROTATION_17 Hue Rotation angle for Q2,CB/CR=0.3 Two's complement Signed Value Legal values: [−22,22].
	7:6	X	Reserved
	5:0	0x0000	HUE_ROTATION_8 Hue Rotation angle for Q1,CB/CR=0.3 Two's complement Signed Value Legal values: [−22,22].
R0x3410	**15:0**	**0x0000**	**HUE9_Q1Q2 (R/W)**
	15:14	X	Reserved
	13:8	0x0000	HUE_ROTATION_18 Hue Rotation angle for Q2,CB/CR=0.02 Two's complement Signed Value Legal values: [−22,22].
	7:6	X	Reserved
	5:0	0x0000	HUE_ROTATION_9 Hue Rotation angle for Q1,CB/CR=0.02 Two's complement Signed Value Legal values: [−22,22].
R0x3412	**15:0**	**0x0000**	**HUE10_Q3Q4 (R/W)**
	15:14	X	Reserved
	13:8	0x0000	HUE_ROTATION_28 Hue Rotation angle for Q4 CR/CB=0.02 Two's complement Signed Value Legal values: [−22,22].
	7:6	X	Reserved
	5:0	0x0000	HUE_ROTATION_19 Hue Rotation angle for Q3 CR/CB=0.02 Two's complement Signed Value Legal values: [−22,22].

TABLE 29. CPIPE YUV PIPE REGISTERS
R/W (Read or Write) bit; RO (Read Only) bit.

Register (Hex)	Bits	Default	Name
R0x3414	**15:0**	**0x0000**	**HUE11_Q3Q4 (R/W)**
	15:14	X	Reserved
	13:8	0x0000	HUE_ROTATION_29 Hue Rotation angle for Q4 CR/CB=0.3 Two's complement Signed Value Legal values: [−22,22].
	7:6	X	Reserved
	5:0	0x0000	HUE_ROTATION_20 Hue Rotation angle for Q3 CR/CB=0.3 Two's complement Signed Value Legal values: [−22,22].
R0x3416	**15:0**	**0x0000**	**HUE12_Q3Q4 (R/W)**
	15:14	X	Reserved
	13:8	0x0000	HUE_ROTATION_30 Hue Rotation angle for Q4 CR/CB=0.6 Two's complement Signed Value Legal values: [−22,22].
	7:6	X	Reserved
	5:0	0x0000	HUE_ROTATION_21 Hue Rotation angle for Q3 CR/CB=0.6 Two's complement Signed Value Legal values: [−22,22].
R0x3418	**15:0**	**0x0000**	**HUE13_Q3Q4 (R/W)**
	15:14	X	Reserved
	13:8	0x0000	HUE_ROTATION_31 Hue Rotation angle for Q4 CR/CB=0.84 Two's complement Signed Value Legal values: [−22,22].
	7:6	X	Reserved
	5:0	0x0000	HUE_ROTATION_22 Hue Rotation angle for Q3 CR/CB=0.84 Two's complement Signed Value Legal values: [−22,22].
R0x341A	**15:0**	**0x0000**	**HUE14_Q3Q4 (R/W)**
	15:14	X	Reserved
	13:8	0x0000	HUE_ROTATION_32 Hue Rotation angle for Q4 CR/CB=1.0 Two's complement Signed Value Legal values: [−22,22].
	7:6	X	Reserved
	5:0	0x0000	HUE_ROTATION_23 Hue Rotation angle for Q3 CR/CB=1.0 Two's complement Signed Value Legal values: [−22,22].

TABLE 29. CPIPE YUV PIPE REGISTERS
R/W (Read or Write) bit; RO (Read Only) bit.

Register (Hex)	Bits	Default	Name
R0x341C	**15:0**	**0x0000**	**HUE15_Q3Q4 (R/W)**
	15:14	X	Reserved
	13:8	0x0000	HUE_ROTATION_33 Hue Rotation angle for Q4 CB/CR=0.84 Two's complement Signed Value Legal values: [−22,22].
	7:6	X	Reserved
	5:0	0x0000	HUE_ROTATION_24 Hue Rotation angle for Q3 CB/CR=0.84 Two's complement Signed Value Legal values: [−22,22].
R0x341E	**15:0**	**0x0000**	**HUE16_Q3Q4 (R/W)**
	15:14	X	Reserved
	13:8	0x0000	HUE_ROTATION_34 Hue Rotation angle for Q4 CB/CR=0.6 Two's complement Signed Value Legal values: [−22,22].
	7:6	X	Reserved
	5:0	0x0000	HUE_ROTATION_25 Hue Rotation angle for Q3 CB/CR=0.6 Two's complement Signed Value Legal values: [−22,22].
R0x3420	**15:0**	**0x0000**	**HUE17_Q3Q4 (R/W)**
	15:14	X	Reserved
	13:8	0x0000	HUE_ROTATION_35 Hue Rotation angle for Q4 CB/CR=0.3 Two's complement Signed Value Legal values: [−22,22].
	7:6	X	Reserved
	5:0	0x0000	HUE_ROTATION_26 Hue Rotation angle for Q3 CB/CR=0.3 Two's complement Signed Value Legal values: [−22,22].
R0x3422	**15:0**	**0x0000**	**HUE18_Q3Q4 (R/W)**
	15:14	X	Reserved
	13:8	0x0000	HUE_ROTATION_36 Hue Rotation angle for Q4 CB/CR=0.02 Two's complement Signed Value Legal values: [−22,22].
	7:6	X	Reserved
	5:0	0x0000	HUE_ROTATION_27 Hue Rotation angle for Q3 CB/CR=0.02 Two's complement Signed Value Legal values: [−22,22].
R0x3424	**15:0**	**0x0000**	**PCR_COLOR_GAIN1_REGION_1 (R/W)**
	PCR saturation gain1, region 1 Legal values: [0,15].		
R0x3426	**15:0**	**0x0000**	**PCR_COLOR_GAIN1_REGION_10 (R/W)**
	PCR saturation gain1, region 10 Legal values: [0,15].		

TABLE 29. CPIPE YUV PIPE REGISTERS
R/W (Read or Write) bit; RO (Read Only) bit.

Register (Hex)	Bits	Default	Name
R0x3428	**15:0**	**0x0000**	**PCR_COLOR_GAIN1_REGION_19 (R/W)**
	PCR saturation gain1, region 19 Legal values: [0,15].		
R0x342A	**15:0**	**0x0000**	**PCR_COLOR_GAIN1_REGION_28 (R/W)**
	PCR saturation gain1, region 28 Legal values: [0,15].		
R0x342C	**15:0**	**0x0000**	**PCR_COLOR_GAIN2_REGION_2 (R/W)**
	PCR saturation gain2, region 2 Legal values: [0,15].		
R0x342E	**15:0**	**0x0000**	**PCR_COLOR_GAIN2_REGION_11 (R/W)**
	PCR saturation gain2, region 11 Legal values: [0,15].		
R0x3430	**15:0**	**0x0000**	**PCR_COLOR_GAIN2_REGION_20 (R/W)**
	PCR saturation gain2, region 20 Legal values: [0,15].		
R0x3432	**15:0**	**0x0000**	**PCR_COLOR_GAIN2_REGION_29 (R/W)**
	PCR saturation gain2, region 29 Legal values: [0,15].		
R0x3434	**15:0**	**0x0000**	**PCR_COLOR_GAIN3_REGION_3 (R/W)**
	PCR saturation gain3, region 3 Legal values: [0,15].		
R0x3436	**15:0**	**0x0000**	**PCR_COLOR_GAIN3_REGION_12 (R/W)**
	PCR saturation gain3, region 12 Legal values: [0,15].		
R0x3438	**15:0**	**0x0000**	**PCR_COLOR_GAIN3_REGION_21 (R/W)**
	PCR saturation gain3, region 21 Legal values: [0,15].		
R0x343A	**15:0**	**0x0000**	**PCR_COLOR_GAIN3_REGION_30 (R/W)**
	PCR saturation gain3, region 30 Legal values: [0,15].		
R0x343C	**15:0**	**0x0000**	**PCR_COLOR_GAIN4_REGION_4 (R/W)**
	PCR saturation gain4, region 4 Legal values: [0,15].		
R0x343E	**15:0**	**0x0000**	**PCR_COLOR_GAIN4_REGION_13 (R/W)**
	PCR saturation gain4 region 13 Legal values: [0,15].		
R0x3440	**15:0**	**0x0000**	**PCR_COLOR_GAIN4_REGION_22 (R/W)**
	PCR saturation gain4, region 22 Legal values: [0,15].		
R0x3442	**15:0**	**0x0000**	**PCR_COLOR_GAIN4_REGION_31 (R/W)**
	PCR saturation gain4, region 31 Legal values: [0,15].		
R0x3444	**15:0**	**0x0000**	**PCR_COLOR_GAIN5_REGION_5 (R/W)**
	PCR saturation gain5, region 5 Legal values: [0,15].		
R0x3446	**15:0**	**0x0000**	**PCR_COLOR_GAIN5_REGION_14 (R/W)**
	PCR saturation gain5 region 14 Legal values: [0,15].		
R0x3448	**15:0**	**0x0000**	**PCR_COLOR_GAIN5_REGION_23 (R/W)**
	PCR saturation gain5, region 23 Legal values: [0,15].		
R0x344A	**15:0**	**0x0000**	**PCR_COLOR_GAIN5_REGION_32 (R/W)**
	PCR saturation gain5, region 32 Legal values: [0,15].		

TABLE 29. CPIPE YUV PIPE REGISTERS
R/W (Read or Write) bit; RO (Read Only) bit.

Register (Hex)	Bits	Default	Name
R0x344C	**15:0**	**0x0000**	**PCR_COLOR_GAIN6_REGION_6 (R/W)**
	PCR saturation gain6, region 6 Legal values: [0,15].		
R0x344E	**15:0**	**0x0000**	**PCR_COLOR_GAIN6_REGION_15 (R/W)**
	PCR saturation gain6 region 15 Legal values: [0,15].		
R0x3450	**15:0**	**0x0000**	**PCR_COLOR_GAIN6_REGION_24 (R/W)**
	PCR saturation gain6, region 24 Legal values: [0,15].		
R0x3452	**15:0**	**0x0000**	**PCR_COLOR_GAIN6_REGION_33 (R/W)**
	PCR saturation gain6, region 33 Legal values: [0,15].		
R0x3454	**15:0**	**0x0000**	**PCR_COLOR_GAIN7_REGION_7 (R/W)**
	PCR saturation gain7, region 7 Legal values: [0,15].		
R0x3456	**15:0**	**0x0000**	**PCR_COLOR_GAIN7_REGION_16 (R/W)**
	PCR saturation gain7 region 16 Legal values: [0,15].		
R0x3458	**15:0**	**0x0000**	**PCR_COLOR_GAIN7_REGION_25 (R/W)**
	PCR saturation gain7, region 25 Legal values: [0,15].		
R0x345A	**15:0**	**0x0000**	**PCR_COLOR_GAIN7_REGION_34 (R/W)**
	PCR saturation gain7, region 34 Legal values: [0,15].		
R0x345C	**15:0**	**0x0000**	**PCR_COLOR_GAIN8_REGION_8 (R/W)**
	PCR saturation gain8, region 8 Legal values: [0,15].		
R0x345E	**15:0**	**0x0000**	**PCR_COLOR_GAIN8_REGION_17 (R/W)**
	PCR saturation gain8 region 17 Legal values: [0,15].		
R0x3460	**15:0**	**0x0000**	**PCR_COLOR_GAIN8_REGION_26 (R/W)**
	PCR saturation gain8, region 26 Legal values: [0,15].		
R0x3462	**15:0**	**0x0000**	**PCR_COLOR_GAIN8_REGION_35 (R/W)**
	PCR saturation gain8, region 35 Legal values: [0,15].		
R0x3464	**15:0**	**0x0000**	**PCR_COLOR_GAIN9_REGION_9 (R/W)**
	PCR saturation gain9, region 9 Legal values: [0,15].		
R0x3466	**15:0**	**0x0000**	**PCR_COLOR_GAIN9_REGION_18 (R/W)**
	PCR saturation gain9 region 18 Legal values: [0,15].		
R0x3468	**15:0**	**0x0000**	**PCR_COLOR_GAIN9_REGION_27 (R/W)**
	PCR saturation gain9, region 27 Legal values: [0,15].		
R0x346A	**15:0**	**0x0000**	**PCR_COLOR_GAIN9_REGION_36 (R/W)**
	PCR saturation gain9, region 36 Legal values: [0,15].		

TABLE 30. CPIPE RECONSTRUCT REGISTERS

R/W (Read or Write) bit; RO (Read Only) bit.

Register (Hex)	Bits	Default	Name
R0x3600	**15:0**	**0x0010**	**P_G1_P0Q0 (R/W)**
	P0 coefficients for Green1. Legal values: [0, 65535].		
R0x3602	**15:0**	**0x0000**	**P_G1_P0Q1 (R/W)**
	P0 coefficients for Green1. Legal values: [0, 65535].		
R0x3604	**15:0**	**0x0000**	**P_G1_P0Q2 (R/W)**
	P0 coefficients for Green1. Legal values: [0, 65535].		
R0x3606	**15:0**	**0x0000**	**P_G1_P0Q3 (R/W)**
	P0 coefficients for Green1. Legal values: [0, 65535].		
R0x3608	**15:0**	**0x0000**	**P_G1_P0Q4 (R/W)**
	P0 coefficients for Green1. Legal values: [0, 65535].		
R0x360A	**15:0**	**0x0010**	**P_R_P0Q0 (R/W)**
	P0 coefficients for Red. Legal values: [0, 65535].		
R0x360C	**15:0**	**0x0000**	**P_R_P0Q1 (R/W)**
	P0 coefficients for Red. Legal values: [0, 65535].		
R0x360E	**15:0**	**0x0000**	**P_R_P0Q2 (R/W)**
	P0 coefficients for Red. Legal values: [0, 65535].		
R0x3610	**15:0**	**0x0000**	**P_R_P0Q3 (R/W)**
	P0 coefficients for Red. Legal values: [0, 65535].		
R0x3612	**15:0**	**0x0000**	**P_R_P0Q4 (R/W)**
	P0 coefficients for Red. Legal values: [0, 65535].		
R0x3614	**15:0**	**0x0010**	**P_B_P0Q0 (R/W)**
	P0 coefficients for Blue. Legal values: [0, 65535].		
R0x3616	**15:0**	**0x0000**	**P_B_P0Q1 (R/W)**
	P0 coefficients for Blue. Legal values: [0, 65535].		
R0x3618	**15:0**	**0x0000**	**P_B_P0Q2 (R/W)**
	P0 coefficients for Blue. Legal values: [0, 65535].		
R0x361A	**15:0**	**0x0000**	**P_B_P0Q3 (R/W)**
	P0 coefficients for Blue. Legal values: [0, 65535].		
R0x361C	**15:0**	**0x0000**	**P_B_P0Q4 (R/W)**
	P0 coefficients for Blue. Legal values: [0, 65535].		
R0x361E	**15:0**	**0x0010**	**P_G2_P0Q0 (R/W)**
	P0 coefficients for Green2. Legal values: [0, 65535].		
R0x3620	**15:0**	**0x0000**	**P_G2_P0Q1 (R/W)**
	P0 coefficients for Green2. Legal values: [0, 65535].		
R0x3622	**15:0**	**0x0000**	**P_G2_P0Q2 (R/W)**
	P0 coefficients for Green2. Legal values: [0, 65535].		

TABLE 30. CPIPE RECONSTRUCT REGISTERS
R/W (Read or Write) bit; RO (Read Only) bit.

Register (Hex)	Bits	Default	Name
R0x3624	**15:0**	**0x0000**	**P_G2_P0Q3 (R/W)**
	P0 coefficients for Green2. Legal values: [0, 65535].		
R0x3626	**15:0**	**0x0000**	**P_G2_P0Q4 (R/W)**
	P0 coefficients for Green2. Legal values: [0, 65535].		
R0x3628	**15:0**	**0x0000**	**P_G1_P1Q0 (R/W)**
	P1 coefficients for Green1. Legal values: [0, 65535].		
R0x362A	**15:0**	**0x0000**	**P_G1_P1Q1 (R/W)**
	P1 coefficients for Green1. Legal values: [0, 65535].		
R0x362C	**15:0**	**0x0000**	**P_G1_P1Q2 (R/W)**
	P1 coefficients for Green1. Legal values: [0, 65535].		
R0x362E	**15:0**	**0x0000**	**P_G1_P1Q3 (R/W)**
	P1 coefficients for Green1. Legal values: [0, 65535].		
R0x3630	**15:0**	**0x0000**	**P_G1_P1Q4 (R/W)**
	P1 coefficients for Green1. Legal values: [0, 65535].		
R0x3632	**15:0**	**0x0000**	**P_R_P1Q0 (R/W)**
	P1 coefficients for Red. Legal values: [0, 65535].		
R0x3634	**15:0**	**0x0000**	**P_R_P1Q1 (R/W)**
	P1 coefficients for Red. Legal values: [0, 65535].		
R0x3636	**15:0**	**0x0000**	**P_R_P1Q2 (R/W)**
	P1 coefficients for Red. Legal values: [0, 65535].		
R0x3638	**15:0**	**0x0000**	**P_R_P1Q3 (R/W)**
	P1 coefficients for Red. Legal values: [0, 65535].		
R0x363A	**15:0**	**0x0000**	**P_R_P1Q4 (R/W)**
	P1 coefficients for Red. Legal values: [0, 65535].		
R0x363C	**15:0**	**0x0000**	**P_B_P1Q0 (R/W)**
	P1 coefficients for Blue. Legal values: [0, 65535].		
R0x363E	**15:0**	**0x0000**	**P_B_P1Q1 (R/W)**
	P1 coefficients for Blue. Legal values: [0, 65535].		
R0x3640	**15:0**	**0x0000**	**P_B_P1Q2 (R/W)**
	P1 coefficients for Blue. Legal values: [0, 65535].		
R0x3642	**15:0**	**0x0000**	**P_B_P1Q3 (R/W)**
	P1 coefficients for Blue. Legal values: [0, 65535].		
R0x3644	**15:0**	**0x0000**	**P_B_P1Q4 (R/W)**
	P1 coefficients for Blue. Legal values: [0, 65535].		
R0x3646	**15:0**	**0x0000**	**P_G2_P1Q0 (R/W)**
	P1 coefficients for Green2. Legal values: [0, 65535].		

TABLE 30. CPIPE RECONSTRUCT REGISTERS
R/W (Read or Write) bit; RO (Read Only) bit.

Register (Hex)	Bits	Default	Name
R0x3648	**15:0**	**0x0000**	**P_G2_P1Q1 (R/W)**
	P1 coefficients for Green2. Legal values: [0, 65535].		
R0x364A	**15:0**	**0x0000**	**P_G2_P1Q2 (R/W)**
	P1 coefficients for Green2. Legal values: [0, 65535].		
R0x364C	**15:0**	**0x0000**	**P_G2_P1Q3 (R/W)**
	P1 coefficients for Green2. Legal values: [0, 65535].		
R0x364E	**15:0**	**0x0000**	**P_G2_P1Q4 (R/W)**
	P1 coefficients for Green2. Legal values: [0, 65535].		
R0x3650	**15:0**	**0x0000**	**P_G1_P2Q0 (R/W)**
	P2 coefficients for Green1. Legal values: [0, 65535].		
R0x3652	**15:0**	**0x0000**	**P_G1_P2Q1 (R/W)**
	P2 coefficients for Green1. Legal values: [0, 65535].		
R0x3654	**15:0**	**0x0000**	**P_G1_P2Q2 (R/W)**
	P2 coefficients for Green1. Legal values: [0, 65535].		
R0x3656	**15:0**	**0x0000**	**P_G1_P2Q3 (R/W)**
	P2 coefficients for Green1. Legal values: [0, 65535].		
R0x3658	**15:0**	**0x0000**	**P_G1_P2Q4 (R/W)**
	P2 coefficients for Green1. Legal values: [0, 65535].		
R0x365A	**15:0**	**0x0000**	**P_R_P2Q0 (R/W)**
	P2 coefficients for Red. Legal values: [0, 65535].		
R0x365C	**15:0**	**0x0000**	**P_R_P2Q1 (R/W)**
	P2 coefficients for Red. Legal values: [0, 65535].		
R0x365E	**15:0**	**0x0000**	**P_R_P2Q2 (R/W)**
	P2 coefficients for Red. Legal values: [0, 65535].		
R0x3660	**15:0**	**0x0000**	**P_R_P2Q3 (R/W)**
	P2 coefficients for Red. Legal values: [0, 65535].		
R0x3662	**15:0**	**0x0000**	**P_R_P2Q4 (R/W)**
	P2 coefficients for Red. Legal values: [0, 65535].		
R0x3664	**15:0**	**0x0000**	**P_B_P2Q0 (R/W)**
	P2 coefficients for Blue. Legal values: [0, 65535].		
R0x3666	**15:0**	**0x0000**	**P_B_P2Q1 (R/W)**
	P2 coefficients for Blue. Legal values: [0, 65535].		
R0x3668	**15:0**	**0x0000**	**P_B_P2Q2 (R/W)**
	P2 coefficients for Blue. Legal values: [0, 65535].		
R0x366A	**15:0**	**0x0000**	**P_B_P2Q3 (R/W)**
	P2 coefficients for Blue. Legal values: [0, 65535].		

TABLE 30. CPIPE RECONSTRUCT REGISTERS

R/W (Read or Write) bit; RO (Read Only) bit.

Register (Hex)	Bits	Default	Name
R0x366C	**15:0**	**0x0000**	**P_B_P2Q4 (R/W)**
	P2 coefficients for Blue. Legal values: [0, 65535].		
R0x366E	**15:0**	**0x0000**	**P_G2_P2Q0 (R/W)**
	P2 coefficients for Green2. Legal values: [0, 65535].		
R0x3670	**15:0**	**0x0000**	**P_G2_P2Q1 (R/W)**
	P2 coefficients for Green2. Legal values: [0, 65535].		
R0x3672	**15:0**	**0x0000**	**P_G2_P2Q2 (R/W)**
	P2 coefficients for Green2. Legal values: [0, 65535].		
R0x3674	**15:0**	**0x0000**	**P_G2_P2Q3 (R/W)**
	P2 coefficients for Green2. Legal values: [0, 65535].		
R0x3676	**15:0**	**0x0000**	**P_G2_P2Q4 (R/W)**
	P2 coefficients for Green2. Legal values: [0, 65535].		
R0x3678	**15:0**	**0x0000**	**P_G1_P3Q0 (R/W)**
	P3 coefficients for Green1. Legal values: [0, 65535].		
R0x367A	**15:0**	**0x0000**	**P_G1_P3Q1 (R/W)**
	P3 coefficients for Green1. Legal values: [0, 65535].		
R0x367C	**15:0**	**0x0000**	**P_G1_P3Q2 (R/W)**
	P3 coefficients for Green1. Legal values: [0, 65535].		
R0x367E	**15:0**	**0x0000**	**P_G1_P3Q3 (R/W)**
	P3 coefficients for Green1. Legal values: [0, 65535].		
R0x3680	**15:0**	**0x0000**	**P_G1_P3Q4 (R/W)**
	P3 coefficients for Green1. Legal values: [0, 65535].		
R0x3682	**15:0**	**0x0000**	**P_R_P3Q0 (R/W)**
	P3 coefficients for Red. Legal values: [0, 65535].		
R0x3684	**15:0**	**0x0000**	**P_R_P3Q1 (R/W)**
	P3 coefficients for Red. Legal values: [0, 65535].		
R0x3686	**15:0**	**0x0000**	**P_R_P3Q2 (R/W)**
	P3 coefficients for Red. Legal values: [0, 65535].		
R0x3688	**15:0**	**0x0000**	**P_R_P3Q3 (R/W)**
	P3 coefficients for Red. Legal values: [0, 65535].		
R0x368A	**15:0**	**0x0000**	**P_R_P3Q4 (R/W)**
	P3 coefficients for Red. Legal values: [0, 65535].		
R0x368C	**15:0**	**0x0000**	**P_B_P3Q0 (R/W)**
	P3 coefficients for Blue. Legal values: [0, 65535].		
R0x368E	**15:0**	**0x0000**	**P_B_P3Q1 (R/W)**
	P3 coefficients for Blue. Legal values: [0, 65535].		

TABLE 30. CPIPE RECONSTRUCT REGISTERS

R/W (Read or Write) bit; RO (Read Only) bit.

Register (Hex)	Bits	Default	Name
R0x3690	**15:0**	**0x0000**	**P_B_P3Q2 (R/W)**
	P3 coefficients for Blue. Legal values: [0, 65535].		
R0x3692	**15:0**	**0x0000**	**P_B_P3Q3 (R/W)**
	P3 coefficients for Blue. Legal values: [0, 65535].		
R0x3694	**15:0**	**0x0000**	**P_B_P3Q4 (R/W)**
	P3 coefficients for Blue. Legal values: [0, 65535].		
R0x3696	**15:0**	**0x0000**	**P_G2_P3Q0 (R/W)**
	P3 coefficients for Green2. Legal values: [0, 65535].		
R0x3698	**15:0**	**0x0000**	**P_G2_P3Q1 (R/W)**
	P3 coefficients for Green2. Legal values: [0, 65535].		
R0x369A	**15:0**	**0x0000**	**P_G2_P3Q2 (R/W)**
	P3 coefficients for Green2. Legal values: [0, 65535].		
R0x369C	**15:0**	**0x0000**	**P_G2_P3Q3 (R/W)**
	P3 coefficients for Green2. Legal values: [0, 65535].		
R0x369E	**15:0**	**0x0000**	**P_G2_P3Q4 (R/W)**
	P3 coefficients for Green2. Legal values: [0, 65535].		
R0x36A0	**15:0**	**0x0000**	**P_G1_P4Q0 (R/W)**
	P4 coefficients for Green1. Legal values: [0, 65535].		
R0x36A2	**15:0**	**0x0000**	**P_G1_P4Q1 (R/W)**
	P4 coefficients for Green1. Legal values: [0, 65535].		
R0x36A4	**15:0**	**0x0000**	**P_G1_P4Q2 (R/W)**
	P4 coefficients for Green1. Legal values: [0, 65535].		
R0x36A6	**15:0**	**0x0000**	**P_G1_P4Q3 (R/W)**
	P4 coefficients for Green1. Legal values: [0, 65535].		
R0x36A8	**15:0**	**0x0000**	**P_G1_P4Q4 (R/W)**
	P4 coefficients for Green1. Legal values: [0, 65535].		
R0x36AA	**15:0**	**0x0000**	**P_R_P4Q0 (R/W)**
	P4 coefficients for Red. Legal values: [0, 65535].		
R0x36AC	**15:0**	**0x0000**	**P_R_P4Q1 (R/W)**
	P4 coefficients for Red. Legal values: [0, 65535].		
R0x36AE	**15:0**	**0x0000**	**P_R_P4Q2 (R/W)**
	P4 coefficients for Red. Legal values: [0, 65535].		
R0x36B0	**15:0**	**0x0000**	**P_R_P4Q3 (R/W)**
	P4 coefficients for Red. Legal values: [0, 65535].		
R0x36B2	**15:0**	**0x0000**	**P_R_P4Q4 (R/W)**
	P4 coefficients for Red. Legal values: [0, 65535].		

TABLE 30. CPIPE RECONSTRUCT REGISTERS

R/W (Read or Write) bit; RO (Read Only) bit.

Register (Hex)	Bits	Default	Name
R0x36B4	**15:0**	**0x0000**	**P_B_P4Q0 (R/W)**
	P4 coefficients for Blue. Legal values: [0, 65535].		
R0x36B6	**15:0**	**0x0000**	**P_B_P4Q1 (R/W)**
	P4 coefficients for Blue. Legal values: [0, 65535].		
R0x36B8	**15:0**	**0x0000**	**P_B_P4Q2 (R/W)**
	P4 coefficients for Blue. Legal values: [0, 65535].		
R0x36BA	**15:0**	**0x0000**	**P_B_P4Q3 (R/W)**
	P4 coefficients for Blue. Legal values: [0, 65535].		
R0x36BC	**15:0**	**0x0000**	**P_B_P4Q4 (R/W)**
	P4 coefficients for Blue. Legal values: [0, 65535].		
R0x36BE	**15:0**	**0x0000**	**P_G2_P4Q0 (R/W)**
	P4 coefficients for Green2. Legal values: [0, 65535].		
R0x36C0	**15:0**	**0x0000**	**P_G2_P4Q1 (R/W)**
	P4 coefficients for Green2. Legal values: [0, 65535].		
R0x36C2	**15:0**	**0x0000**	**P_G2_P4Q2 (R/W)**
	P4 coefficients for Green2. Legal values: [0, 65535].		
R0x36C4	**15:0**	**0x0000**	**P_G2_P4Q3 (R/W)**
	P4 coefficients for Green2. Legal values: [0, 65535].		
R0x36C6	**15:0**	**0x0000**	**P_G2_P4Q4 (R/W)**
	P4 coefficients for Green2. Legal values: [0, 65535].		
R0x36C8	**15:0**	**0x01E4**	**CENTER_ROW (R/W)**
	Center Row Legal values: [0, 2047].		
R0x36CA	**15:0**	**0x0284**	**CENTER_COLUMN (R/W)**
	Center Column Legal values: [0, 4095].		

TABLE 31. CPIPE CONTROL REGISTERS

R/W (Read or Write) bit; RO (Read Only) bit.

Register (Hex)	Bits	Default	Name
R0x3210	**15:0**	**0x08B0**	**COLOR_PIPELINE_CONTROL (R/W)**
	15:13	X	Reserved
	12	0x0000	DEMOSAIC_BYPASS Bypass Demosaic Module When set, the kernel output will be the Bayer input for all three color channels.
	11	0x0001	GRB_ENABLE Enable Green Channel Rebalance (GRB).
	10	0x0000	HUE_ENABLE Enable hue adjustment.
	9	0x0000	PCR_ENABLE Enable preferred color reproduction (PCR).
	8	0x0000	Reserved
	7	0x0001	GAMMA_EN Enable gamma correction. See gamma_curve_knee_0_1 for interpolation point information.
	6	X	Reserved
	5	0x0001	EN_CCM Enable color correction. A color correction matrix (CCM) is applied to the RGB data. The equations are: Rout = CCM_CC1 * Rin + CCM_CC2 * Gin + CCM_CC3 * Bin Gout = CCM_CC4 * Rin + CCM_CC5 * Gin + CCM_CC6 * Bin Bout = CCM_CC7 * Rin + CCM_CC8 * Gin + CCM_CC9 * Bin
	4	0x0001	Reserved
	3	0x0000	Reserved
	2:0	X	Reserved

TABLE 32. SYSCTL REGISTERS

R/W (Read or Write) bit; RO (Read Only) bit.

Register (Hex)	Bits	Default	Name
R0x0000	**15:0**	**0x0064**	**CHIP_VERSION_REG (RO)**
	Chip Identification. Read−only.		
R0x0006	**15:0**	**0xBA90**	**USER_DEFINED_DEVICE_ADDRESS_ID (R/W)**
	15:9	0x005D	USER_DEFINED_DEVICE_ADDRESS_ID1 Device used on the two−wire serial interface (CCI) when SADDR = 1.
	8	X	Reserved
	7:1	0x0048	USER_DEFINED_DEVICE_ADDRESS_ID0 Device used on the two−wire serial interface (CCI) when SADDR = 0.
	0	X	Reserved

TABLE 32. SYSCTL REGISTERS
R/W (Read or Write) bit; RO (Read Only) bit.

Register (Hex)	Bits	Default	Name
R0x001A	**15:0**	**0x3E04**	**RESET_AND_MISC_CONTROL (R/W)**
	15:14	X	Reserved
	13	0x0001	Reserved
	12	0x0001	Reserved
	11	0x0001	Reserved
	10	0x0001	Reserved
	9	0x0001	Reserved
	8:7	X	Reserved
	6:4	RO	Reserved
	3	X	Reserved
	2	0x0001	Reserved
	1	0x0000	Reserved
	0	0x0000	RESET_SOFT Soft system reset. 0: Normal operation. 1: Reset.
	Miscellaneous Control bits		
R0x0020	**15:0**	**0x0000**	**MCU_BOOT_OPTIONS (R/W)**
	15:6	0x0000	Reserved
	5	0x0000	SPI_CONFIG_DISABLE Disable firmware loading any configuration data from an SPI device. 0: Normal operation with SPI configuration enabled. 1: Disable configuration from SPI device.
	4	0x0000	MCU_BOOT_PLL_BYPASS Enable PLL to be bypassed and unconfigured on boot−up. 0: Normal PLL operation when using a 27MHz clock. Firmware will configure the PLL for external 27MHz clock input, enable it and wait for lock. 1: PLL bypass operation. Firmware will not configure or enable the PLL, the PLL is bypassed and the system will run from the pin clock.
	3	0x0000	Reserved
	2	0x0000	Reserved
	1	0x0000	Reserved
	0	0x0000	Reserved
	MCU Boot Control		
R0x0040	**15:0**	**0x8000**	**COMMAND_REGISTER (R/W)**
	15	0x0001	DOORBELL Doorbell bit. Set to 1 by the host to indicate that host_command holds a valid command. Set to 0 by firmware to indicate that host_command holds a valid response for the host. Write of 0 by the host is ignored; the host can only set this bit to 1.
	14:0	0x0000	HOST_COMMAND Host command.
	Host Command Register		

TABLE 32. SYSCTL REGISTERS
R/W (Read or Write) bit; RO (Read Only) bit.

Register (Hex)	Bits	Default	Name
R0x0058	**15:0**	**0x0000**	**CUSTOMER_REV (R/W)**
	Silicon Revision.		

TABLE 33. CPIPE KERNEL REGISTERS
R/W (Read or Write) bit; RO (Read Only) bit.

Register (Hex)	Bits	Default	Name
R0x3220	**15:0**	**0x000C**	**DM_EDGE_TH (R/W)**
	Demosaic Edge Threshold. This is the value used in demosaic to determine if the current pixel is on an edge. Legal values: [0, 255].		
R0x3222	**15:0**	**0x1008**	**GRB_POS_THRESHOLDS (R/W)**
	15:8	0x0010	GRB_APOS GRB − maximum positive delta_g slope. This is the slope of the line denoting the maximum positive delta_g. This number is multiplied by the median green. In position dependent mode, this is a0pos. Legal values: [0, 255].
	7:0	0x0008	GRB_BPOS GRB − maximum positive delta_g offset. This is the offset of the line denoting the maximum positive delta_g. This number is added to the scaled center green pixel. In position dependent mode, this is b0pos. Legal values: [0, 255].
R0x3224	**15:0**	**0x1008**	**GRB_NEG_THRESHOLDS (R/W)**
	15:8	0x0010	GRB_ANEG GRB − maximum negative delta_g slope. This is the slope of the line denoting the maximum negative delta_g. This number is multiplied by the median green. In position dependent mode, this is a0neg. Legal values: [0, 255].
	7:0	0x0008	GRB_BNEG GRB − maximum negative delta_g offset. This is the offset of the line denoting the maximum negative delta_g. This number is added to the scaled center green pixel. In position dependent mode, this is b0neg. Legal values: [0, 255].

TABLE 34. XDMA REGISTERS

R/W (Read or Write) bit; RO (Read Only) bit.

Register (Hex)	Bits	Default	Name
R0x0982	**15:0**	**0x0000**	**ACCESS_CTL_STAT (R/W)**
	15:11	X	Reserved
	10:9	0x0000	PHYSICAL_UPPER_ADDRESS This becomes bits [17:16] of the physical address. Currently only useful for overlay access.
	8:6	0x0000	PHY_REGION 00: Physical access to Patch RAM 01: UNDEFINED 10: Physical access to SFR address space 11: Physical access to Overlay RAM When physical_access_state=11, this field determines which memory region will be accessed. When physical_access_state=10, the Patch RAM is implicitly selected.
	5	X	Reserved
	4	RO	BYTE_ACCESS_STATE Read−only copy of logical_byte_access (in Logical Access state) or physical_byte_access (in Physical Access state) 1: Byte Access state 0: Word Access state (2 bytes) The value of this field is UNDEFINED after reset. Read−only.
	3:2	RO	PHYSICAL_ACCESS_STATE 11: Physical Access state 10: Logical Access state 0x: Indeterminate (DMA address is invalid). The DMA address is invalid if Logical Access state is established but the tabptr SFR has not been initialized. Read−only.
	1	RO	UPPER_32K_ACCESS_STATE Physical address[15] for current access. In Logical Access state (physical_access_state=10), this bit provides debug information: after at least one data access has been performed, this bit represents the physical address[15] of the variables base for the current driver number. In Physical Access state (physical_access_state=11), this bit is a read−only copy of en_upper_32k_phy_access. The value of this field is UNDEFINED after reset. Read−only.
	0	0x0000	EN_UPPER_32K_PHY_ACCESS This bit provides physical address[15] for physical address accesses. physical address[14:0] are provided by R0x098A
	Controls the access and conveys access status		
R0x098A	**15:0**	**0x0000**	**PHYSICAL_ADDRESS_ACCESS (R/W)**
	15	0x0000	PHYSICAL_BYTE_ACCESS Select byte access for indirect data accesses in Physical Access state. In Physical Access state this bit affects the behavior of Indirect data accesses (reads and writes to the mcu_variable_dataN registers). This bit has no effect on the behavior of Direct data accesses (reads and writes by the host to addresses above 0x7FFF). 1: Byte Access 0: Word Access (2 bytes) The value of this field is UNDEFINED after reset.
	14:0	0x0000	PHYSICAL_ADDRESS physical_address[14:0] for current access. physical_address[15] is set by R0x0982[0]. The programmed 16−bit address specifies an offset from the start of the region specified by phy_region (R0x0982[7:6]). The value of this field is UNDEFINED after reset. Legal values: [0, 32767].
	Address of physical access; Used for Patch RAM uploads. A write to this address establishes the Physical Access state (See R0x0982[2]). When the Logical Access state is established, a read from this register and from R0x0982[1] provides debug information: after at least one data access has been performed, this bit represents the physical address of the variables base for the current driver number.		

TABLE 34. XDMA REGISTERS

R/W (Read or Write) bit; RO (Read Only) bit.

Register (Hex)	Bits	Default	Name
R0x098E	**15:0**	**0x0000**	**LOGICAL_ADDRESS_ACCESS (R/W)**
	15	0x0000	LOGICAL_BYTE_ACCESS Select byte access for indirect data accesses in Logical Access state. In Logical Access state this bit affects the behavior of Indirect data accesses (reads and writes to the mcu_variable_dataN registers). This bit has no effect on the behavior of Direct data accesses (reads and writes by the host to addresses above 0x7FFF). 1: Byte Access 0: Word Access (2 bytes) The value of this field is UNDEFINED after reset.
	14:10	0x0000	LOGICAL_ACCESS_DRV_NUM Address of logical access driver number − logical_address[14:10]. Base address of this driver's variables can be obtained by adding 2*logical_access_drv_num to the value of the tabptr SFR. Physical address of re−directed location can be obtained by adding this offset to the SFR 0x50 return value. The value of this field is UNDEFINED after reset. Legal values: [0, 31].
	9:0	0x0000	LOGICAL_ACCESS_OFFSET Address of logical access offset − logical_address[9:0]. Physical address can be obtained by adding this offset to the base address of the selected driver's variables (the driver is selected by logical_access_drv_num). The value of this field is UNDEFINED after reset. Legal values: [0, 1023].
	Address of logical access; Used for camera control (i.e. register/variable updates) by user. A write to this address establishes the Logical Access state (See R0x0982[2]).		
R0x0990	**15:0**	**0x0000**	**MCU_VARIABLE_DATA0 (R/W)**
	DMA word 0 (Indirect data access) Legal values: [0, 65535].		
R0x0992	**15:0**	**0x0000**	**MCU_VARIABLE_DATA1 (R/W)**
	DMA word 1 (Indirect data access) Legal values: [0, 65535].		
R0x0994	**15:0**	**0x0000**	**MCU_VARIABLE_DATA2 (R/W)**
	DMA word 2 (Indirect data access) Legal values: [0, 65535].		
R0x0996	**15:0**	**0x0000**	**MCU_VARIABLE_DATA3 (R/W)**
	DMA word 3 (Indirect data access) Legal values: [0, 65535].		
R0x0998	**15:0**	**0x0000**	**MCU_VARIABLE_DATA4 (R/W)**
	DMA word 4 (Indirect data access) Legal values: [0, 65535].		
R0x099A	**15:0**	**0x0000**	**MCU_VARIABLE_DATA5 (R/W)**
	DMA word 5 (Indirect data access) Legal values: [0, 65535].		
R0x099C	**15:0**	**0x0000**	**MCU_VARIABLE_DATA6 (R/W)**
	DMA word 6 (Indirect data access) Legal values: [0, 65535].		
R0x099E	**15:0**	**0x0000**	**MCU_VARIABLE_DATA7 (R/W)**
	DMA word 7 (Indirect data access) Legal values: [0, 65535].		

TABLE 35. TX_SS
R/W (Read or Write) bit; RO (Read Only) bit.

Register (Hex)	Bits	Default	Name
R0x3C02	**15:0**	**0x0000**	**TX_CRC_CONTROL (R/W)**
	15:2	X	Reserved
	1	0x0000	TX_CRC_SINGLE_FRAME CRC capture and hold enable. 0: CRC will be determined for each frame. 1: CRC will be determined for next frame and held until this bit is cleared.
	0	0x0000	TX_CRC_SRC_SEL Select input source for crc. 0: CRC data prior to xbar. 1: CRC data at output of xbar.
R0x3C04	**15:0**	**0x0000**	**TX_BLACK_CODE_MSW (R/W)**
	Upper 8−bits of 24−bit value for Black. For RGB ouput this will be the red value of black. Set to 0x0 for black output. For YCbCr output, this is the upper 8 bits of the 10−bit Cb/Cr value for black. Set to 0x80 for black output. Black is sent when sync is lost. Legal values: [0, 255].		
R0x3C06	**15:0**	**0x0000**	**TX_BLACK_CODE_LSW (R/W)**
	Lower 16−bits of 24−bit Black value. For RGB this will be the green value at 15:8 and the blue value at 7:0 of black. Set to 0x0000 for black output For YCbCr output, 15:14 are the two LSBs of Cb/Cr and 13:4 are the 10 bits of Y. Set to 0x0000 for black output. For Bayer, black value is left justified in 24 bit field Legal values: [0, 65535].		
R0x3C0C	**15:0**	**0x0000**	**TX_KS_LINE_LENGTH_PCK (R/W)**
	Number of pixclks per line period on parallel output bus. This register together with tx_ks_frame_length_lines define the timing window for each output frame. The number of pixclks per frame period is tx_ks_frame_length_lines * tx_ks_line_length_pck. Within the timing window, columns are numbered 0 through tx_ks_line_length_pck − 1. Legal values: [0,65520].		
R0x3C0E	**15:0**	**0x0000**	**TX_KS_FRAME_LENGTH_LINES (R/W)**
	Number of line periods per frame period on parallel output bus. Within the timing window, rows are numbered 0 through tx_ks_frame_length_lines − 1. Legal values: [0,65520].		
R0x3C10	**15:0**	**0x0000**	**TX_KS_LINE_VALID_START_ROW (R/W)**
	Row number in timing window in which line_valid will become active and the first line of image data will be output. Row 0 is the first row in the timing window. Line_valid will be active once per line from tx_ks_line_valid_start_row to (tx_ks_line_valid_stop_row − 1), inclusive. The two registers, tx_ks_line_valid_start_row and tx_ks_line_valid_start_col, are used to control when the image data is output within the timing window. If the actual image data is larger than the window defined by the tx_ks_line_valid_* registers, the extra pixels will be truncated. If the actual image is smaller, black pixels will be used to pad the image. Line_valid can also be used for data_enable. The minimum value is 4. When using hsync/vsync, this value is typically programmed to vsync pulse width + vsync back porch. Legal values: [4,65520].		
R0x3C12	**15:0**	**0x0000**	**TX_KS_LINE_VALID_START_COL (R/W)**
	Column number in timing window in which line_valid will become active and the first pixel of each line of image data will be output. Column 0 is the first column in the timing window. On each line of the timing window between tx_ks_line_valid_start_row and (tx_ks_line_valid_stop_row − 1), inclusive, line_valid will be active from tx_ks_line_valid_start_col to (tx_ks_line_valid_stop_col − 1), inclusive. When using Hsync/Vsync, this is typically programmed to Hsync pulse width + Hsync back porch. Legal values: [0,65520].		
R0x3C14	**15:0**	**0x0000**	**TX_KS_LINE_VALID_STOP_ROW (R/W)**
	Row number in timing window in which line_valid will become inactive. When usingn hsync/vsync, this value is typically programmed to vsync pulse width + vsync back porch + image height. Legal values: [0,65520].		
R0x3C16	**15:0**	**0x0000**	**TX_KS_LINE_VALID_STOP_COL (R/W)**
	Column number In timing window in which line_valid will become inactive. When using hsync/vsync, this value is typically programmed to hsync pulse width + hsync back porch + active line time. To stop just after the last column of the timing window, set this register equal to tx_ks_line_length_pck. Legal values: [0,65520].		

TABLE 35. TX_SS
R/W (Read or Write) bit; RO (Read Only) bit.

Register (Hex)	Bits	Default	Name
R0x3C18	**15:0**	**0x0000**	**TX_KS_FRAME_VALID_START_ROW (R/W)**
	Row number in timing window in which frame_valid will become active. Row 0 is the first row in the timing window. Frame_valid will be active only once per frame. The first clock of active frame valid will be on row tx_ks_frame_valid_start_row, column tx_ks_frame_valid_start_col. The last clock of active frame valid will be on row tx_ks_frame_valid_last_row, column (tx_ks_frame_valid_stop_col − 1). Legal values: [0,65520].		
R0x3C1A	**15:0**	**0x0000**	**TX_KS_FRAME_VALID_START_COL (R/W)**
	Column number in timing window in which frame_valid will become active. Column 0 is the first column in the timing window. Legal values: [0,65520].		
R0x3C1C	**15:0**	**0x0000**	**TX_KS_FRAME_VALID_LAST_ROW (R/W)**
	Row number in timing window in which frame_valid will become inactive. Legal values: [0,65520].		
R0x3C1E	**15:0**	**0x0000**	**TX_KS_FRAME_VALID_STOP_COL (R/W)**
	Column number in timing window in which frame_valid will become inactive. To stop just after the last column of the timing window, set this register equal to tx_ks_line_length_pck. Legal values: [0,65520].		
R0x3C20	**15:0**	**0x0000**	**TX_KS_DATA_ENABLE_START_ROW (R/W)**
	Row number in timing window in which data_enable will become active. Row 0 is the first row in the timing window. Data_enable will be active once per line from tx_ks_data_enable_start_row to (tx_ks_data_enable_stop_row − 1), inclusive. If bt656 output is enabled with keepsync, this sets the boundary between inactive lines and active lines and is typically set to the same value as tx_ks_line_valid_start_row. If bt656 codes are enabled, the minimum value is 1. Legal values: [0,65520].		
R0x3C22	**15:0**	**0x0000**	**TX_KS_DATA_ENABLE_START_COL (R/W)**
	Column number in timing window in which data_enable will become active. Column 0 is the first column of the timing window. On each line of the timing window between tx_ks_data_enable_start_row and (tx_ks_data_enable_stop_row − 1), inclusive, data_enable will be active from tx_ks_data_enable_start_col to (tx_ks_data_enable_stop_col − 1), inclusive. If bt656 output is enabled with keepsync, this sets the column of the timing window in which the BT656 SAV code will start being output. It is typically set to (tx_ks_line_valid_start_col − 2*(1+tx_2cyc_pix)) Legal values: [0,65520].		
R0x3C24	**15:0**	**0x0000**	**TX_KS_DATA_ENABLE_STOP_ROW (R/W)**
	Row number in timing window in which data_enable will become inactive. If bt656 output is enabled with keepsync, this sets the boundary between active and inactive lines and is typically set to the same value as tx_ks_line_valid_stop_row. Legal values: [0,65520].		
R0x3C26	**15:0**	**0x0000**	**TX_KS_DATA_ENABLE_STOP_COL (R/W)**
	Column number in timing window in which data_enable will become inactive. To stop just after the last column of the timing window, program to tx_ks_line_length_pck. If bt656 output is enabled with keepsync, this sets the column of the timing window in which the BT656 EAV code will be complete. It is typically set to (tx_ks_line_valid_stop_col + 2*(1+tx_2cyc_pix)). Legal values: [0,65520].		
R0x3C28	**15:0**	**0x0000**	**TX_KS_HSYNC_START_ROW (R/W)**
	Row number in timing window in which Hsync will become active. Row 0 is the first row in the timing window. This register is typically programmed to 0. Hsync will be active once per line from hsync_start_row to (hsync_stop_row − 1), inclusive. Legal values: [0,65520].		
R0x3C2A	**15:0**	**0x0000**	**TX_KS_HSYNC_START_COL (R/W)**
	Column number in timing window in which Hsync will become active. Column 0 is the first column of the timing window. This is typically programmed to 0. On each line of the timing window between tx_ks_hsync_start_row and (tx_ks_hsync_stop_row − 1), inclusive, hsync will be active from tx_ks_hsync_start_col to (tx_ks_hsync_stop_col − 1), inclusive. Legal values: [0,65520].		

TABLE 35. TX_SS
R/W (Read or Write) bit; RO (Read Only) bit.

Register (Hex)	Bits	Default	Name
R0x3C2C	**15:0**	**0x0000**	**TX_KS_HSYNC_STOP_ROW (R/W)**
	Row number in timing window in which Hsync will become inactive. This is typically programed to the same value as tx_ks_frame_length_lines. Legal values: [0,65520].		
R0x3C2E	**15:0**	**0x0000**	**TX_KS_HSYNC_STOP_COL (R/W)**
	Column number In timing window in which Hsync will become inactive. This is typically programmed Hsync pulse width in pixclks. To stop just after the last column of the timing window, program to tx_ks_line_length_pck. Legal values: [0,65520].		
R0x3C30	**15:0**	**0x0000**	**TX_KS_VSYNC_START_ROW (R/W)**
	Row number in timing window in which Vsync will become active. Row 0 is the first row of the timing window. This is typically programmed to 0. Vsync will be active only once per frame. The first clock of active vsync will be on row tx_ks_vsync_start_row, column tx_ks_vsync_start_col. The last clock of active vsync will be on row tx_ks_vsync_last_row, column (tx_ks_vsync_stop_col − 1). Legal values: [0,65520].		
R0x3C32	**15:0**	**0x0000**	**TX_KS_VSYNC_START_COL (R/W)**
	Column number in timing window in which Vsync will become active. Column 0 is the first column of the timing window. This is typically programmed to 0. Legal values: [0,65520].		
R0x3C34	**15:0**	**0x0000**	**TX_KS_VSYNC_LAST_ROW (R/W)**
	Row number in timing window in which Vsync will become inactive. This is typically programed to Vsync pulse width in line times. Legal values: [0,65520].		
R0x3C36	**15:0**	**0x0000**	**TX_KS_VSYNC_STOP_COL (R/W)**
	Column number in timing window in which Vsync will become inactive. This is typically programmed to 0. To stop just after the last column of the timing window, set this register equal to tx_ks_line_length_pck. Legal values: [0,65520].		
R0x3C84	**15:0**	**0x0606**	**TX_FRONTPORCH_BACKPORCH (R/W)**
	15:8	0x0006	TX_BACK_PORCH Back porch of frame valid. For Rev 2+, this field is inactive if keepsync is enabled. Legal values: [1, 255].
	7:0	0x0006	TX_FRONT_PORCH Front porch of frame valid. For Rev 2+, this field is inactive if keepsync is enabled. Legal values: [1, 255].
R0x3C98	**15:0**	**0x0000**	**TX_FRAME_COUNT_OFFSET_LO (R/W)**
	Lower 16 bits of value to add into tx_frame_count. The actual frame counter resets to 0 at every reset or power down of the A3 power domain. The value of this register is added to the actual frame counter to produce tx_frame_count. Legal values: [0, 65535].		
R0x3C9A	**15:0**	**0x0000**	**TX_FRAME_COUNT_OFFSET_HI (R/W)**
	Upper 16 bits of value to add to tx_frame_count. Legal values: [0, 65535].		
R0x3C9C	**15:0**	**0x0000**	**TX_FRAME_COUNT_LO (RO)**
	Lower 16 bits of frame count. This counter increments with each frame output on the parallel bus. This value is used for the metadata_id. The value of tx_frame_count_offset will be added to the actual frame count (which is set to 0 on every reset of the A3 power domain) to produce tx_frame_count. Counter wraps around at 32−bit boundary. Read−only. Legal values: [0, 65535].		
R0x3C9E	**15:0**	**0x0000**	**TX_FRAME_COUNT_HI (RO)**
	Upper 16 bits of frame count. Counter wraps around at 32−bit boundary. Read−only. Legal values: [0, 65535].		

TABLE 35. TX_SS
R/W (Read or Write) bit; RO (Read Only) bit.

Register (Hex)	Bits	Default	Name
R0x3CA0	**15:0**	**0x0000**	**TX_LINE_COUNT (RO)**
	Current line number. For Rev 2+ with keepsync enabled, this is the current line number of the timing window. Otherwise, this is the current image line that is being output. Read−only. Legal values: [0, 4095].		
R0x3CA2	**15:0**	**0x0002**	**TX_BT656_CONTROL (R/W)**
	15:4	X	Reserved
	3	0x0000	Reserved
	2	0x0000	Reserved
	1	0x0001	TX_BT656_FV_LV_EN Enable output of FV/LV in BT656 mode. 0: FV/LV outputs are 0 in BT656 mode 1: FV/LV outputs are enabled in BT656 mode For Rev 2+, this field is inactive if keepsync is enabled. Legal values: [0,1].
	0	0x0000	TX_BT656_EN Enable BT656 code insertion. 0: Disable BT656 mode 1: Enable BT656 mode in YCbCr10, YCbCr8 & rgb565 Legal values: [0,1].
R0x3CB2	**15:0**	**0x0000**	**TX_XBAR_POS_00 (R/W)**
	15:13	X	Reserved
	12:8	0x0000	TX_XBAR_POS_00_ODD Ouput crossbar switch control for DOUT0 odd cycles. Used on odd cycles in tx_2cyc_pix modes. Unused in clock per pixel mode. Legal values: [0,31].
	7:5	X	Reserved
	4:0	0x0000	TX_XBAR_POS_00_EVEN Ouput crossbar switch control for DOUT0 even cycles. Used on even cycles in tx_2cyc_pix modes or on all cycles in clock per pixel mode. In two clock per pixel mode, the first clock of each pixel's clock pair is the even clock, the second clock is the odd clock. The following table is the same for all tx_xbar_pos_* registers/fields. Programmed value : Selected signal N : Xbar_data_in[N] for N=0−23 24 : Xbar_line_valid_in 25 : Xbar_frame_valid_in 26 : Xbar_meta_line_valid_in 27 : Xbar_vsync_in 28 : Xbar_hsync_in 29 : Xbar_data_enable_in 30 : 0 31 : 1 Note that in two cycle per pixel mode, an Odd_nEven signal can be generated on a ouput pin by programming that pin's tx_xbar_pos_XX_even to 30 and tx_xbar_pos_XX_odd to 31. Legal values: [0,31].
R0x3CB4	**15:0**	**0x0101**	**TX_XBAR_POS_01 (R/W)**
	15:13	X	Reserved
	12:8	0x0001	TX_XBAR_POS_01_ODD Ouput crossbar switch control for DOUT1 odd cycles. Legal values: [0,31].
	7:5	X	Reserved
	4:0	0x0001	TX_XBAR_POS_01_EVEN Ouput crossbar switch control for DOUT1 even cycles. Legal values: [0,31].

TABLE 35. TX_SS
R/W (Read or Write) bit; RO (Read Only) bit.

Register (Hex)	Bits	Default	Name
R0x3CB6	**15:0**	**0x0202**	**TX_XBAR_POS_02 (R/W)**
	15:13	X	Reserved
	12:8	0x0002	TX_XBAR_POS_02_ODD Ouput crossbar switch control for DOUT2 odd cycles. Legal values: [0,31].
	7:5	X	Reserved
	4:0	0x0002	TX_XBAR_POS_02_EVEN Ouput crossbar switch control for DOUT2 even cycles. Legal values: [0,31].
R0x3CB8	**15:0**	**0x0303**	**TX_XBAR_POS_03 (R/W)**
	15:13	X	Reserved
	12:8	0x0003	TX_XBAR_POS_03_ODD Ouput crossbar switch control for DOUT3 odd cycles. Legal values: [0,31].
	7:5	X	Reserved
	4:0	0x0003	TX_XBAR_POS_03_EVEN Ouput crossbar switch control for DOUT3 even cycles. Legal values: [0,31].
R0x3CBA	**15:0**	**0x0404**	**TX_XBAR_POS_04 (R/W)**
	15:13	X	Reserved
	12:8	0x0004	TX_XBAR_POS_04_ODD Ouput crossbar switch control for DOUT4 odd cycles. Legal values: [0,31].
	7:5	X	Reserved
	4:0	0x0004	TX_XBAR_POS_04_EVEN Ouput crossbar switch control for DOUT4 even cycles. Legal values: [0,31].
R0x3CBC	**15:0**	**0x0505**	**TX_XBAR_POS_05 (R/W)**
	15:13	X	Reserved
	12:8	0x0005	TX_XBAR_POS_05_ODD Ouput crossbar switch control for DOUT5 odd cycles. Legal values: [0,31].
	7:5	X	Reserved
	4:0	0x0005	TX_XBAR_POS_05_EVEN Ouput crossbar switch control for DOUT5 even cycles. Legal values: [0,31].
R0x3CBE	**15:0**	**0x0606**	**TX_XBAR_POS_06 (R/W)**
	15:13	X	Reserved
	12:8	0x0006	TX_XBAR_POS_06_ODD Ouput crossbar switch control for DOUT6 odd cycles. Legal values: [0,31].
	7:5	X	Reserved
	4:0	0x0006	TX_XBAR_POS_06_EVEN Ouput crossbar switch control for DOUT6 even cycles. Legal values: [0,31].

TABLE 35. TX_SS
R/W (Read or Write) bit; RO (Read Only) bit.

Register (Hex)	Bits	Default	Name
R0x3CC0	**15:0**	**0x0707**	**TX_XBAR_POS_07 (R/W)**
	15:13	X	Reserved
	12:8	0x0007	TX_XBAR_POS_07_ODD Ouput crossbar switch control for DOUT7 odd cycles. Legal values: [0,31].
	7:5	X	Reserved
	4:0	0x0007	TX_XBAR_POS_07_EVEN Ouput crossbar switch control for DOUT7 even cycles. Legal values: [0,31].
R0x3CC2	**15:0**	**0x0808**	**TX_XBAR_POS_08 (R/W)**
	15:13	X	Reserved
	12:8	0x0008	TX_XBAR_POS_08_ODD Ouput crossbar switch control for DOUT8 odd cycles. Legal values: [0,31].
	7:5	X	Reserved
	4:0	0x0008	TX_XBAR_POS_08_EVEN Ouput crossbar switch control for DOUT8 even cycles. Legal values: [0,31].
R0x3CC4	**15:0**	**0x0909**	**TX_XBAR_POS_09 (R/W)**
	15:13	X	Reserved
	12:8	0x0009	TX_XBAR_POS_09_ODD Ouput crossbar switch control for DOUT9 odd cycles. Legal values: [0,31].
	7:5	X	Reserved
	4:0	0x0009	TX_XBAR_POS_09_EVEN Ouput crossbar switch control for DOUT9 even cycles. Legal values: [0,31].
R0x3CC6	**15:0**	**0x0A0A**	**TX_XBAR_POS_10 (R/W)**
	15:13	X	Reserved
	12:8	0x000A	TX_XBAR_POS_10_ODD Ouput crossbar switch control for DOUT10 odd cycles. Legal values: [0,31].
	7:5	X	Reserved
	4:0	0x000A	TX_XBAR_POS_10_EVEN Ouput crossbar switch control for DOUT10 even cycles. Legal values: [0,31].
R0x3CC8	**15:0**	**0x0B0B**	**TX_XBAR_POS_11 (R/W)**
	15:13	X	Reserved
	12:8	0x000B	TX_XBAR_POS_11_ODD Ouput crossbar switch control for DOUT11 odd cycles. Legal values: [0,31].
	7:5	X	Reserved
	4:0	0x000B	TX_XBAR_POS_11_EVEN Ouput crossbar switch control for DOUT11 even cycles. Legal values: [0,31].

TABLE 35. TX_SS
R/W (Read or Write) bit; RO (Read Only) bit.

Register (Hex)	Bits	Default	Name
R0x3CCA	**15:0**	**0x0C0C**	**TX_XBAR_POS_12 (R/W)**
	15:13	X	Reserved
	12:8	0x000C	TX_XBAR_POS_12_ODD Ouput crossbar switch control for DOUT12 odd cycles. Legal values: [0,31].
	7:5	X	Reserved
	4:0	0x000C	TX_XBAR_POS_12_EVEN Ouput crossbar switch control for DOUT12 even cycles. Legal values: [0,31].
R0x3CCC	**15:0**	**0x0D0D**	**TX_XBAR_POS_13 (R/W)**
	15:13	X	Reserved
	12:8	0x000D	TX_XBAR_POS_13_ODD Ouput crossbar switch control for DOUT13 odd cycles. Legal values: [0,31].
	7:5	X	Reserved
	4:0	0x000D	TX_XBAR_POS_13_EVEN Ouput crossbar switch control for DOUT13 even cycles. Legal values: [0,31].
R0x3CCE	**15:0**	**0x0E0E**	**TX_XBAR_POS_14 (R/W)**
	15:13	X	Reserved
	12:8	0x000E	TX_XBAR_POS_14_ODD Ouput crossbar switch control for DOUT14 odd cycles. Legal values: [0,31].
	7:5	X	Reserved
	4:0	0x000E	TX_XBAR_POS_14_EVEN Ouput crossbar switch control for DOUT14 even cycles. Legal values: [0,31].
R0x3CD0	**15:0**	**0x0F0F**	**TX_XBAR_POS_15 (R/W)**
	15:13	X	Reserved
	12:8	0x000F	TX_XBAR_POS_15_ODD Ouput crossbar switch control for DOUT15 odd cycles. Legal values: [0,31].
	7:5	X	Reserved
	4:0	0x000F	TX_XBAR_POS_15_EVEN Ouput crossbar switch control for DOUT15 even cycles. Legal values: [0,31].
R0x3CD2	**15:0**	**0x1010**	**TX_XBAR_POS_16 (R/W)**
	15:13	X	Reserved
	12:8	0x0010	TX_XBAR_POS_16_ODD Ouput crossbar switch control for DOUT16 odd cycles. Legal values: [0,31].
	7:5	X	Reserved
	4:0	0x0010	TX_XBAR_POS_16_EVEN Ouput crossbar switch control for DOUT16 even cycles. Legal values: [0,31].

TABLE 35. TX_SS
R/W (Read or Write) bit; RO (Read Only) bit.

Register (Hex)	Bits	Default	Name
R0x3CD4	**15:0**	**0x1111**	**TX_XBAR_POS_17 (R/W)**
	15:13	X	Reserved
	12:8	0x0011	TX_XBAR_POS_17_ODD Ouput crossbar switch control for DOUT17 odd cycles. Legal values: [0,31].
	7:5	X	Reserved
	4:0	0x0011	TX_XBAR_POS_17_EVEN Ouput crossbar switch control for DOUT17 even cycles. Legal values: [0,31].
R0x3CD6	**15:0**	**0x1212**	**TX_XBAR_POS_18 (R/W)**
	15:13	X	Reserved
	12:8	0x0012	TX_XBAR_POS_18_ODD Ouput crossbar switch control for DOUT18 odd cycles. Legal values: [0,31].
	7:5	X	Reserved
	4:0	0x0012	TX_XBAR_POS_18_EVEN Ouput crossbar switch control for DOUT18 even cycles. Legal values: [0,31].
R0x3CD8	**15:0**	**0x1313**	**TX_XBAR_POS_19 (R/W)**
	15:13	X	Reserved
	12:8	0x0013	TX_XBAR_POS_19_ODD Ouput crossbar switch control for DOUT19 odd cycles. Legal values: [0,31].
	7:5	X	Reserved
	4:0	0x0013	TX_XBAR_POS_19_EVEN Ouput crossbar switch control for DOUT19 even cycles. Legal values: [0,31].
R0x3CDA	**15:0**	**0x1414**	**TX_XBAR_POS_20 (R/W)**
	15:13	X	Reserved
	12:8	0x0014	TX_XBAR_POS_20_ODD Ouput crossbar switch control for DOUT20 odd cycles. Legal values: [0,31].
	7:5	X	Reserved
	4:0	0x0014	TX_XBAR_POS_20_EVEN Ouput crossbar switch control for DOUT20 even cycles. Legal values: [0,31].
R0x3CDC	**15:0**	**0x1515**	**TX_XBAR_POS_21 (R/W)**
	15:13	X	Reserved
	12:8	0x0015	TX_XBAR_POS_21_ODD Ouput crossbar switch control for DOUT21 odd cycles. Legal values: [0,31].
	7:5	X	Reserved
	4:0	0x0015	TX_XBAR_POS_21_EVEN Ouput crossbar switch control for DOUT21 even cycles. Legal values: [0,31].

TABLE 35. TX_SS
R/W (Read or Write) bit; RO (Read Only) bit.

Register (Hex)	Bits	Default	Name
R0x3CDE	**15:0**	**0x1616**	**TX_XBAR_POS_22 (R/W)**
	15:13	X	Reserved
	12:8	0x0016	TX_XBAR_POS_22_ODD Ouput crossbar switch control for DOUT22 odd cycles. Legal values: [0,31].
	7:5	X	Reserved
	4:0	0x0016	TX_XBAR_POS_22_EVEN Ouput crossbar switch control for DOUT22 even cycles. Legal values: [0,31].
R0x3CE0	**15:0**	**0x1717**	**TX_XBAR_POS_23 (R/W)**
	15:13	X	Reserved
	12:8	0x0017	TX_XBAR_POS_23_ODD Ouput crossbar switch control for DOUT23 odd cycles. Legal values: [0,31].
	7:5	X	Reserved
	4:0	0x0017	TX_XBAR_POS_23_EVEN Ouput crossbar switch control for DOUT23 even cycles. Legal values: [0,31].
R0x3CE2	**15:0**	**0x1818**	**TX_XBAR_POS_24 (R/W)**
	15:13	X	Reserved
	12:8	0x0018	TX_XBAR_POS_24_ODD Ouput crossbar switch control for LINE_VALID odd cycles. Legal values: [0,31].
	7:5	X	Reserved
	4:0	0x0018	TX_XBAR_POS_24_EVEN Ouput crossbar switch control for LINE_VALID even cycles. Legal values: [0,31].
R0x3CE4	**15:0**	**0x1919**	**TX_XBAR_POS_25 (R/W)**
	15:13	X	Reserved
	12:8	0x0019	TX_XBAR_POS_25_ODD Ouput crossbar switch control for FRAME_VALID odd cycles. Legal values: [0,31].
	7:5	X	Reserved
	4:0	0x0019	TX_XBAR_POS_25_EVEN Ouput crossbar switch control for FRAME_VALID even cycles. Legal values: [0,31].
R0x3CE6	**15:0**	**0x1A1A**	**TX_XBAR_POS_26 (R/W)**
	15:13	X	Reserved
	12:8	0x001A	TX_XBAR_POS_26_ODD Ouput crossbar switch control for META_LINE_VALID odd cycles. Legal values: [0,31].
	7:5	X	Reserved
	4:0	0x001A	TX_XBAR_POS_26_EVEN Ouput crossbar switch control for META_LINE_VALID even cycles. Legal values: [0,31].

TABLE 35. TX_SS
R/W (Read or Write) bit; RO (Read Only) bit.

Register (Hex)	Bits	Default	Name
R0x3CF0	**15:0**	**0x0F0E**	**TX_XBAR_METADATA_REMAP_0_1 (R/W)**
	15:13	X	Reserved
	12:8	0x000F	TX_XBAR_METADATA_REMAP_1 Remap metadata bit 1 to this input of the xbar switch. Legal values: [0, 23].
	7:5	X	Reserved
	4:0	0x000E	TX_XBAR_METADATA_REMAP_0 Remap metadata bit 0 to this input of the xbar switch. Legal values: [0, 23].
R0x3CF2	**15:0**	**0x1110**	**TX_XBAR_METADATA_REMAP_2_3 (R/W)**
	15:13	X	Reserved
	12:8	0x0011	TX_XBAR_METADATA_REMAP_3 Remap metadata bit 3 to this input of the xbar switch. Legal values: [0, 23].
	7:5	X	Reserved
	4:0	0x0010	TX_XBAR_METADATA_REMAP_2 Remap metadata bit 2 to this input of the xbar switch. Legal values: [0, 23].
R0x3CF4	**15:0**	**0x1312**	**TX_XBAR_METADATA_REMAP_4_5 (R/W)**
	15:13	X	Reserved
	12:8	0x0013	TX_XBAR_METADATA_REMAP_5 Remap metadata bit 5 to this input of the xbar switch. Legal values: [0, 23].
	7:5	X	Reserved
	4:0	0x0012	TX_XBAR_METADATA_REMAP_4 Remap metadata bit 4 to this input of the xbar switch. Legal values: [0, 23].
R0x3CF6	**15:0**	**0x1514**	**TX_XBAR_METADATA_REMAP_6_7 (R/W)**
	15:13	X	Reserved
	12:8	0x0015	TX_XBAR_METADATA_REMAP_7 Remap metadata bit 7 to this input of the xbar switch. Legal values: [0, 23].
	7:5	X	Reserved
	4:0	0x0014	TX_XBAR_METADATA_REMAP_6 Remap metadata bit 6 to this input of the xbar switch. Legal values: [0, 23].
R0x3CF8	**15:0**	**0x1716**	**TX_XBAR_METADATA_REMAP_8_9 (R/W)**
	15:13	X	Reserved
	12:8	0x0017	TX_XBAR_METADATA_REMAP_9 Remap metadata bit 9 to this input of the xbar switch. Legal values: [0, 23].
	7:5	X	Reserved
	4:0	0x0016	TX_XBAR_METADATA_REMAP_8 Remap metadata bit 8 to this input of the xbar switch. Legal values: [0, 23].

TABLE 36. OTPM

R/W (Read or Write) bit; RO (Read Only) bit.

Register (Hex)	Bits	Default	Name
R0x3800	**15:0**	**0x0000**	**OTPM_DATA_0 (R/W)**
	Data for OTPM automatic read and write sequences. After an OTPM automatic read sequence, read data is presented in the OTPM_DATA_* registers. Before performing an OTPM automatic write (programming) sequence, the data to be written is presented in the OTPM_DATA_* registers. These registers cannot be accessed when the system is in soft standby (writes will be ignored and reads will return 0). Internal use only. Register is not reset. Initial value is unknown. Legal values: [0, 65535].		
R0x3802	**15:0**	**0x0000**	**OTPM_DATA_1 (R/W)**
	Internal use only. Register is not reset. Initial value is unknown. Legal values: [0, 65535].		
R0x3804	**15:0**	**0x0000**	**OTPM_DATA_2 (R/W)**
	Internal use only. Register is not reset. Initial value is unknown. Legal values: [0, 65535].		
R0x3806	**15:0**	**0x0000**	**OTPM_DATA_3 (R/W)**
	Internal use only. Register is not reset. Initial value is unknown. Legal values: [0, 65535].		
R0x3808	**15:0**	**0x0000**	**OTPM_DATA_4 (R/W)**
	Internal use only. Register is not reset. Initial value is unknown. Legal values: [0, 65535].		
R0x380A	**15:0**	**0x0000**	**OTPM_DATA_5 (R/W)**
	Internal use only. Register is not reset. Initial value is unknown. Legal values: [0, 65535].		
R0x380C	**15:0**	**0x0000**	**OTPM_DATA_6 (R/W)**
	Internal use only. Register is not reset. Initial value is unknown. Legal values: [0, 65535].		
R0x380E	**15:0**	**0x0000**	**OTPM_DATA_7 (R/W)**
	Internal use only. Register is not reset. Initial value is unknown. Legal values: [0, 65535].		

TABLE 36. OTPM
R/W (Read or Write) bit; RO (Read Only) bit.

Register (Hex)	Bits	Default	Name
R0x3900	**15:0**	**0x0000**	**OTPM_CONTROL (R/W)**
	15:11	X	Reserved
	10	0x0000	OTPM_ENABLE_STANDBY OTPM standby enable. When this bit is 0, the ”standby” signal will never be asserted to the HV switch. When this bit is 1, the ”standby” signal will be controlled automatically to the HV switch: negated when an OTPM read or write operation is being performed, and asserted otherwise. Asserting the ”standby” signal to the HV switch connects the internal vcmn signal to gndio preventing leakage though any programmed anti−fuses. Internal use only.
	9	0x0000	OTPM_SINGLE_RECORD_ONLY OTPM single record only. 1: Automatic read sequence will end after one record has been read from OTPM. 0: Automatic read sequence will end after all records (of specified record type) have been read from OTPM. The total size of the records read must not exceed the space available; the total size of the otpm_data_* registers. Internal use only.
	8	0x0000	OTPM_AUTO_RD_START_NEXT Automatic read start next. When bypass_record (in otpm_expr) = 0, and single_record_only = 1, determine the start address for an automatic read sequence triggered by auto_rd_start: 0: read first record that matches (search from start of OTPM). 1: read next record that matches (search from current location in OTPM). Internal use only.
	7	X	Reserved
	6	RO	OTPM_AUTO_RD_SUCCESS Indicates whether the automatic read sequence was successful. Internal use only. Read−only.
	5	RO	OTPM_AUTO_RD_END Indicates whether the automatic read sequence has finished. Internal use only. Read−only.
	4	0x0000	OTPM_AUTO_RD_START Trigger OTPM automatic read sequence. bypass_record (in otpm_expr) = 0: Search for the next record of a type specified by the otpm_record register. If the record is found, its payload can be read from the otpm_data* registers. When this bit is set and auto_rd_start_next=0, the search starts at the first location in the OTPM. When this bit is set and auto_rd_start_next=1, the search starts at the current location in the OTPM (the location following the record most recently read). bypass_record = 1: Read data from OTPM. The OTPM address at which to start the read is taken from the otpm_manual_addr register. The length of the data to read is taken from the otpm_record register. The data can be read from the otpm_data* registers. Internal use only.
	3	X	Reserved
	2	RO	OTPM_AUTO_WR_SUCCESS Indicates whether the automatic write sequence was successful. Internal use only. Read−only.
	1	RO	OTPM_AUTO_WR_END Indicates whether the automatic write sequence has finished. Internal use only. Read−only.
	0	0x0000	OTPM_AUTO_WR_START Trigger OTPM automatic write sequence. The high voltage must be available on the high voltage pad before the write sequence is triggered. bypass_record (in otpm_expr) = 0: The OTPM address at which to start the write is determined automatically by searching the existing OTPM contents for the next free location. The record type and length is taken from the otpm_record register. The record payload (data to write) is taken from the otpm_data* registers. bypass_record=1: The OTPM address at which to start the write is taken from the otpm_manual_addr register. The length of the data to program is taken from the otpm_record register. The data to write is taken from the otpm_data* registers. Internal use only. Readable. Write one to set. Self clearing upon completion.

TABLE 36. OTPM
R/W (Read or Write) bit; RO (Read Only) bit.

Register (Hex)	Bits	Default	Name
	Internal use only. Legal values: [0, 1911].		
R0x3902	**15:0**	**0x0200**	**OTPM_RECORD (R/W)**
	15:8	0x0002	OTPM_RECORD_TYPE OTPM record type. Currently supported types are x02 − Default registers; x2n − Register sets. When writing a record, defines the type of the record to be written. When searching for a record, defines the type of the record to be searched for. Internal use only. Legal values: [0, 255].
	7:0	0x0000	OTPM_RECORD_LENGTH OTPM record length. Length of record payload in 16−bit words (between 1 and 128). When writing a record, defines the length of the record to be written. Ignored when searching for a record. Internal use only. Legal values: [0, 128].
	Internal use only.		

TABLE 37. 0: MONITOR VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0x8000	**15:0**	**0x0002**	**MON_MAJOR_VERSION (RO)**
	Firmware major version. This value is unsigned. This is a constant value.		
0x8002	**15:0**	**0x0004**	**MON_MINOR_VERSION (RO)**
	Firmware minor version. This value is unsigned. This is a constant value.		
0x8004	**15:0**	**0xA103**	**MON_RELEASE_VERSION (RO)**
	Firmware build version. This value is unsigned. This is a constant value.		
0x8006	**15:0**	**0x0000**	**MON_HEARTBEAT (RO)**
	Frame counter − increments every frame while the device is in the SYS_STATE_STREAMING state. Note: The counter will continuously wrap back to zero and continue counting. This value is unsigned. Updates during Vertical Blanking.		
0x8012	**7:0**	**0x00**	**MON_SYSTEM_USE_CASE (RO)**
	System use case configuration (0=parallel, 1=network). This value is unsigned. This is a constant value.		
0x8014	**15:0**	**0x0000**	**MON_WATCHDOG_COUNT (RO)**
	Watchdog Monitor activity counter. The counter will increment every 200 ms, prior to the Watchdog Monitor's status checks. The host should regularly read the counter value and ensure that it is incrementing. The counter will continuously wrap back to zero and continue counting. The counter is frozen when device is in hard− or soft−standby. This value is unsigned. Updates immediately (unsynchronized).		

TABLE 37. 0: MONITOR VARIABLES

R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0x8016	**15:0**	**0x0000**	**MON_WATCHDOG_STATUS (RO)**
	15:9	X	Reserved
	8	0x0000	Reserved
	7	0x00	Reserved
	6	0x00	Reserved
	5	0x00	Reserved
	4	0x00	Reserved
	3	0x00	Reserved
	2	0x00	Reserved
	1	0x00	Reserved
	0	0x00	Reserved
	Watchdog Monitor status indicator. A zero value indicates that the Watchdog has not detected any failures. A non−zero value indicates a failure has occurred and the host should take corrective action. This value is unsigned. Updates immediately (unsynchronized).		
0x805A	**7:0**	**0x00**	**MON_FLASH_CONFIG_VERSION_ID (RO)**
	This variable is to be used to set flash config version id. This value is unsigned. Updates immediately (unsynchronized).		

TABLE 38. 1: SEQUENCER VARIABLES

R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0x8406	**7:0**	**0x00**	**SEQ_ERROR_CODE (RO)**
	Indicates the status of the last SEQ_REFRESH command. Possible values are: 0: ENOERR: command completed successfully. 9: EBUSY: busy and cannot execute the command at this time. 12: EINVAL: There is an error in the value of one of the variables so the command cannot run. 14: ERANGE: One of the variables is set to out of its allowed range for this configuration so the command cannot run. This value is unsigned. Updates after a Refresh command.		

TABLE 39. 3: NETWORK CONFIGURATION

R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0x8C00	**15:0**	**0x0000**	**NET_CFG_PHY_FLAGS (R/W)**
	15:2	X	Reserved
	1	0x00	NET_CFG_PHY_BCM89810_MASTER Enable master mode (for Broadcom BCM89810 PHY only). This value is unsigned. Changes take effect after a Change−Config command.
	0	0x00	NET_CFG_PHY_MDIO_CONTINUOUS_CLOCK Enable continuous clock signal on MDIO_CLK pin. This value is unsigned. Changes take effect after a Change−Config command.
	PHY option mask. This value is unsigned. Changes take effect after a Change−Config command.		

TABLE 39. 3: NETWORK CONFIGURATION

R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0x8C02	**7:0**	**0x00**	**NET_CFG_PHY_TYPE (R/W)**
	PHY driver selection. 0: Reserved 1: Broadcom BCM89810 100Mbps PHY over MII 2: Micrel KSZ8051MNL 100Mbps PHY over MII 3: Micrel KSZ8081MNL 100Mbps PHY over MII 4: Micrel KSZ9031MNL 100Mbps/1Gbps PHY over GMII 5: National DP83848C 100Mbps PHY over RMII This value is unsigned. Changes take effect after a Change−Config command.		
0x8C03	**7:0**	**0x00**	**NET_CFG_PHY_ADDRESS (R/W)**
	PHY address on MDIO bus (0−31). This value is unsigned. Changes take effect after a Change−Config command.		
0x8C04	**31:0**	**0x002625A0**	**NET_CFG_PHY_MDIO_FREQ (R/W)**
	Frequency of MDIO clock (MDIO spec'd value = 2.5Mhz). This value is unsigned. Changes take effect after a Change−Config command.		
0x8C08	**7:0**	**0x00**	**NET_CFG_MAC_FLAGS (R/W)**
	7	0x00	Reserved
	6:4	X	Reserved
	3	0x00	NET_CFG_MAC_ENABLE_GTXCLK_OUT Enable the GTXCLK output pad (always true in GMII mode). This value is unsigned. Changes take effect after a Change−Config command.
	2	0x00	NET_CFG_MAC_INVERT_RXCLK_IN Invert Network RX clock input pad. This value is unsigned. Changes take effect after a Change−Config command.
	1	0x00	NET_CFG_MAC_INVERT_GTXCLK_OUT Invert Network GTX clock output pad. This value is unsigned. Changes take effect after a Change−Config command.
	0	0x00	NET_CFG_MAC_INVERT_TXCLK_IN Invert Network TX clock input pad. This value is unsigned. Changes take effect after a Change−Config command.
	MAC config mask. This value is unsigned. Changes take effect after a Change−Config command.		
0x8C09	**7:0**	**0x01**	**NET_CFG_MAC_MODE (R/W)**
	MAC mode. 0: RMII 1: MII 2: Reserved 3: GMII This value is unsigned. Changes take effect after a Change−Config command.		
0x8C0A	**15:0**	**0x0200**	**NET_CFG_MAC_DEFAULT_ADDRESS_0 (R/W)**
	Default MAC address, high 16 bits. This value is unsigned. Changes take effect after a Change−Config command.		
0x8C0C	**15:0**	**0x0000**	**NET_CFG_MAC_DEFAULT_ADDRESS_2 (R/W)**
	Default MAC address, middle 16 bits. This value is unsigned. Changes take effect after a Change−Config command.		
0x8C0E	**15:0**	**0x0001**	**NET_CFG_MAC_DEFAULT_ADDRESS_4 (R/W)**
	Default MAC address, low 16 bits. This value is unsigned. Changes take effect after a Change−Config command.		
0x8C10	**15:0**	**0x0000**	**NET_CFG_MAC_ERROR_DISABLES (R/W)**
	MAC Error disable bits (for testing only). This value is unsigned. Changes take effect after a Change−Config command.		

TABLE 39. 3: NETWORK CONFIGURATION

R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0x8C14	**15:0**	**0x0000**	**NET_CFG_NET_FLAGS (R/W)**
	15:1	X	Reserved
	0	0x00	NET_CFG_NET_ENABLE_SERVICE_PROXY Enable Service Proxy feature. This value is unsigned. Changes take effect after a Change−Config command.
	NET global config mask. This value is unsigned. Changes take effect after a Change−Config command.		
0x8C16	**7:0**	**0x19**	**NET_CFG_NET_CLOCK_FREQ (R/W)**
	NET clock frequency in MHz (25, 50, or 125). This value is unsigned. Changes take effect after a Change−Config command.		
0x8C17	**7:0**	**0x08**	**NET_CFG_NET_TX_QUEUE_SIZE (R/W)**
	Maximum number of packets queued for transmit. This value is unsigned. Changes take effect after a Change−Config command.		
0x8C18	**15:0**	**0xC351**	**NET_CFG_NET_UDP_CMD_PORT (R/W)**
	ACCP UDP command port number. This value is unsigned. Changes take effect after a Change−Config command.		

TABLE 39. 3: NETWORK CONFIGURATION
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0x8C1C	**31:0**	**0x00012017**	**NET_CFG_IFC0_FEATURES (R/W)**
	31:29	X	Reserved
	28	0x00000000	Reserved
	27:25	X	Reserved
	24	0x00000000	Reserved
	23:21	X	Reserved
	20	0x00000000	Reserved
	19	X	Reserved
	18	0x00000000	Reserved
	17	0x00000000	Reserved
	16	0x00000001	NET_CFG_IFC0_PROTOCOL_ACCP Enable Aptina Camera Control Protocol. This value is unsigned. Changes take effect after a Change−Config command.
	15	X	Reserved
	14	0x0000	NET_CFG_IFC0_PROTOCOL_PTP Enable IEEE 1588v2 (PTP). This value is unsigned. Changes take effect after a Change−Config command.
	13	0x0001	NET_CFG_IFC0_PROTOCOL_GPTP Enable IEEE 802.1AS (gPTP). This value is unsigned. Changes take effect after a Change−Config command.
	12	0x0000	Reserved
	11:10	X	Reserved
	9	0x0000	Reserved
	8	0x0000	Reserved
	7:5	X	Reserved
	4	0x01	NET_CFG_IFC0_PROTOCOL_IPV6 Enable Internet Protocol Version 6. This value is unsigned. Changes take effect after a Change−Config command.
	3	0x00	NET_CFG_IFC0_PROTOCOL_RARP Enable Reverse Address Resolution Protocol. This value is unsigned. Changes take effect after a Change−Config command.
	2	0x01	NET_CFG_IFC0_PROTOCOL_IGMP Enable Internet Group Management Protocol. This value is unsigned. Changes take effect after a Change−Config command.
	1	0x01	NET_CFG_IFC0_PROTOCOL_ICMP Enable Internet Control Management Protocol. This value is unsigned. Changes take effect after a Change−Config command.
	0	0x01	NET_CFG_IFC0_PROTOCOL_IPV4 Enable Internet Protocol Version 4. This value is unsigned. Changes take effect after a Change−Config command.
	Protocol Feature enable mask. This value is unsigned. Changes take effect after a Change−Config command.		

TABLE 39. 3: NETWORK CONFIGURATION
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0x8C28	**31:0**	**0xC0A80105**	**NET_CFG_IFC0_IPV4_ADDRESS (R/W)**
	IPv4 address (32 bits). This value is unsigned. Changes take effect after a Change−Config command.		
0x8C2C	**31:0**	**0xFFFFFF00**	**NET_CFG_IFC0_IPV4_NETMASK (R/W)**
	IPv4 netmask (32 bits). This value is unsigned. Changes take effect after a Change−Config command.		
0x8C88	**31:0**	**0x00010000**	**NET_CFG_VID_FLAGS (R/W)**
	31:18	X	Reserved
	17:16	0x00000001	NET_CFG_VID_PROTOCOL Select network video protocol (1=AVB, 2=RTP/IPv4, 3=RTP/IPv6). This value is unsigned. Changes take effect after a Change−Config command.
	15:6	X	Reserved
	5:4	0x00	NET_CFG_VID_AVB_ETHERTYPE Use given Ethertype for AVB video: (0=0x22F0 [std], 1=0x88B5, 2=custom). This value is unsigned. Changes take effect after a Change−Config command.
	3:2	X	Reserved
	1	0x00	NET_CFG_VID_USE_CUSTOM_SRC_MAC_ADDR Use custom source MAC address instead of default MAC address. This value is unsigned. Changes take effect after a Change−Config command.
	0	0x00	NET_CFG_VID_USE_CUSTOM_DEST_MAC_ADDR Use custom destination MAC address instead of default MAC address. This value is unsigned. Changes take effect after a Change−Config command.
	Network video configuration mask. This value is unsigned. Changes take effect after a Change−Config command.		
0x8C8C	**15:0**	**0x0000**	**NET_CFG_VID_DEST_MAC_ADDRESS_0 (R/W)**
	Custom network video dest MAC address, high 16 bits. This value is unsigned. Changes take effect after a Change−Config command.		
0x8C8E	**15:0**	**0x0000**	**NET_CFG_VID_DEST_MAC_ADDRESS_2 (R/W)**
	Custom network video dest MAC address, middle 16 bits. This value is unsigned. Changes take effect after a Change−Config command.		
0x8C90	**15:0**	**0x0000**	**NET_CFG_VID_DEST_MAC_ADDRESS_4 (R/W)**
	Custom network video dest MAC address, low 16 bits. This value is unsigned. Changes take effect after a Change−Config command.		
0x8C92	**15:0**	**0x0000**	**NET_CFG_VID_SRC_MAC_ADDRESS_0 (R/W)**
	Custom network video src MAC address, high 16 bits. This value is unsigned. Changes take effect after a Change−Config command.		
0x8C94	**15:0**	**0x0000**	**NET_CFG_VID_SRC_MAC_ADDRESS_2 (R/W)**
	Custom network video src MAC address, middle 16 bits. This value is unsigned. Changes take effect after a Change−Config command.		
0x8C96	**15:0**	**0x0000**	**NET_CFG_VID_SRC_MAC_ADDRESS_4 (R/W)**
	Custom network video src MAC address, low 16 bits. This value is unsigned. Changes take effect after a Change−Config command.		

TABLE 39. 3: NETWORK CONFIGURATION
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0x8C98	**15:0**	**0x0000**	**NET_CFG_VID_VLAN_ID (R/W)**
	Custom network video IEEE 802.1Q VLAN tag. This value is unsigned. Changes take effect after a Change−Config command.		
0x8C9A	**15:0**	**0x0000**	**NET_CFG_VID_ETHERTYPE (R/W)**
	Custom network video Ethertype. This value is unsigned. Changes take effect after a Change−Config command.		
0x8C9C	**15:0**	**0x0123**	**NET_CFG_VID_STREAM_ID_0 (R/W)**
	Network video Stream ID, highest 16 bits. This value is unsigned. Changes take effect after a Change−Config command.		
0x8C9E	**15:0**	**0x4567**	**NET_CFG_VID_STREAM_ID_1 (R/W)**
	Network video Stream ID, high middle 16 bits. This value is unsigned. Changes take effect after a Change−Config command.		
0x8CA0	**15:0**	**0x89AB**	**NET_CFG_VID_STREAM_ID_2 (R/W)**
	Network video Stream ID, low middle 16 bits. This value is unsigned. Changes take effect after a Change−Config command.		
0x8CA2	**15:0**	**0xCDEF**	**NET_CFG_VID_STREAM_ID_3 (R/W)**
	Network video Stream ID, lowest 16 bits. This value is unsigned. Changes take effect after a Change−Config command.		
0x8CA4	**31:0**	**0xC0A80105**	**NET_CFG_VID_SOURCE_IP_0 (R/W)**
	RTP video source IPv4 / IPv6 address. This value is unsigned. Changes take effect after a Change−Config command.		
0x8CA8	**31:0**	**0x00000000**	**NET_CFG_VID_SOURCE_IP_1 (R/W)**
	RTP video source IPv4 / IPv6 address. This value is unsigned. Changes take effect after a Change−Config command.		
0x8CAC	**31:0**	**0x00000000**	**NET_CFG_VID_SOURCE_IP_2 (R/W)**
	RTP video source IPv4 / IPv6 address. This value is unsigned. Changes take effect after a Change−Config command.		
0x8CB0	**31:0**	**0x00000000**	**NET_CFG_VID_SOURCE_IP_3 (R/W)**
	RTP video source IPv4 / IPv6 address. This value is unsigned. Changes take effect after a Change−Config command.		
0x8CB4	**31:0**	**0xFFFFFFFF**	**NET_CFG_VID_DESTINATION_IP_0 (R/W)**
	RTP video destination IPv4 / IPv6 address. This value is unsigned. Changes take effect after a Change−Config command.		
0x8CB8	**31:0**	**0x00000000**	**NET_CFG_VID_DESTINATION_IP_1 (R/W)**
	RTP video destination IPv4 / IPv6 address. This value is unsigned. Changes take effect after a Change−Config command.		
0x8CBC	**31:0**	**0x00000000**	**NET_CFG_VID_DESTINATION_IP_2 (R/W)**
	RTP video destination IPv4 / IPv6 address. This value is unsigned. Changes take effect after a Change−Config command.		
0x8CC0	**31:0**	**0x00000000**	**NET_CFG_VID_DESTINATION_IP_3 (R/W)**
	RTP video destination IPv4 / IPv6 address. This value is unsigned. Changes take effect after a Change−Config command.		
0x8CC4	**15:0**	**0x138C**	**NET_CFG_VID_SOURCE_PORT (R/W)**
	RTP video UDP src port. This value is unsigned. Changes take effect after a Change−Config command.		
0x8CC6	**15:0**	**0x138C**	**NET_CFG_VID_DESTINATION_PORT (R/W)**
	RTP video UDP dest port. This value is unsigned. Changes take effect after a Change−Config command.		
0x8CC8	**7:0**	**0x00**	**NET_CFG_VID_PAYLOAD_TYPE (R/W)**
	RTP video payload type. This value is unsigned. Changes take effect after a Change−Config command.		

TABLE 40. 9: AE_RULE VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xA404	**15:0**	**0x0003**	**AE_RULE_ALGO (R/W)**
	15:3	X	Reserved
	2:0	0x03	AE_RULE_EXEC_RULE_AVGY_ALGO Auto exposure rule algorithm control. 0: Average Brightness 1: Weighted Brightness 2: Average Log Brightness 3: Weighted Log Brightness. Note: Modes 0 and 1 are only intended for usage in SDR mode (for backwards compatibility with previous automotive SOCs). This value is unsigned. Changes take effect during Vertical Blanking.
	AE Rule algorithm control. This value is unsigned. Changes take effect during Vertical Blanking.		
0xA408	**15:0**	**0x0000**	**AE_RULE_AVG_LOG_Y_FROM_STATS (RO)**
	Average of the log of each AE zone luminance statistics This value is unsigned fixed−point with 8 fractional bits. Updates during Vertical Blanking.		
0xA40A	**7:0**	**0x19**	**AE_RULE_AE_WEIGHT_TABLE_0_0 (R/W)**
	Percentage weight for window row 0, column 0. This value is unsigned. Changes take effect during Vertical Blanking.		
0xA40B	**7:0**	**0x19**	**AE_RULE_AE_WEIGHT_TABLE_0_1 (R/W)**
	Percentage weight for window row 0, column 1. This value is unsigned. Changes take effect during Vertical Blanking.		
0xA40C	**7:0**	**0x19**	**AE_RULE_AE_WEIGHT_TABLE_0_2 (R/W)**
	Percentage weight for window row 0, column 2. This value is unsigned. Changes take effect during Vertical Blanking.		
0xA40D	**7:0**	**0x19**	**AE_RULE_AE_WEIGHT_TABLE_0_3 (R/W)**
	Percentage weight for window row 0, column 3. This value is unsigned. Changes take effect during Vertical Blanking.		
0xA40E	**7:0**	**0x19**	**AE_RULE_AE_WEIGHT_TABLE_0_4 (R/W)**
	Percentage weight for window row 0, column 4. This value is unsigned. Changes take effect during Vertical Blanking.		
0xA40F	**7:0**	**0x19**	**AE_RULE_AE_WEIGHT_TABLE_1_0 (R/W)**
	Percentage weight for window row 1, column 0. This value is unsigned. Changes take effect during Vertical Blanking.		
0xA410	**7:0**	**0x4B**	**AE_RULE_AE_WEIGHT_TABLE_1_1 (R/W)**
	Percentage weight for window row 1, column 1. This value is unsigned. Changes take effect during Vertical Blanking.		
0xA411	**7:0**	**0x4B**	**AE_RULE_AE_WEIGHT_TABLE_1_2 (R/W)**
	Percentage weight for window row 1, column 2. This value is unsigned. Changes take effect during Vertical Blanking.		
0xA412	**7:0**	**0x4B**	**AE_RULE_AE_WEIGHT_TABLE_1_3 (R/W)**
	Percentage weight for window row 1, column 3. This value is unsigned. Changes take effect during Vertical Blanking.		
0xA413	**7:0**	**0x19**	**AE_RULE_AE_WEIGHT_TABLE_1_4 (R/W)**
	Percentage weight for window row 1, column 4. This value is unsigned. Changes take effect during Vertical Blanking.		
0xA414	**7:0**	**0x19**	**AE_RULE_AE_WEIGHT_TABLE_2_0 (R/W)**
	Percentage weight for window row 2, column 0. This value is unsigned. Changes take effect during Vertical Blanking.		
0xA415	**7:0**	**0x4B**	**AE_RULE_AE_WEIGHT_TABLE_2_1 (R/W)**
	Percentage weight for window row 2, column 1. This value is unsigned. Changes take effect during Vertical Blanking.		
0xA416	**7:0**	**0x64**	**AE_RULE_AE_WEIGHT_TABLE_2_2 (R/W)**
	Percentage weight for window row 2, column 2. This value is unsigned. Changes take effect during Vertical Blanking.		

TABLE 40. 9: AE_RULE VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xA417	**7:0**	**0x4B**	**AE_RULE_AE_WEIGHT_TABLE_2_3 (R/W)**
	Percentage weight for window row 2, column 3. This value is unsigned. Changes take effect during Vertical Blanking.		
0xA418	**7:0**	**0x19**	**AE_RULE_AE_WEIGHT_TABLE_2_4 (R/W)**
	Percentage weight for window row 2, column 4. This value is unsigned. Changes take effect during Vertical Blanking.		
0xA419	**7:0**	**0x19**	**AE_RULE_AE_WEIGHT_TABLE_3_0 (R/W)**
	Percentage weight for window row 3, column 0. This value is unsigned. Changes take effect during Vertical Blanking.		
0xA41A	**7:0**	**0x4B**	**AE_RULE_AE_WEIGHT_TABLE_3_1 (R/W)**
	Percentage weight for window row 3, column 1. This value is unsigned. Changes take effect during Vertical Blanking.		
0xA41B	**7:0**	**0x4B**	**AE_RULE_AE_WEIGHT_TABLE_3_2 (R/W)**
	Percentage weight for window row 3, column 2. This value is unsigned. Changes take effect during Vertical Blanking.		
0xA41C	**7:0**	**0x4B**	**AE_RULE_AE_WEIGHT_TABLE_3_3 (R/W)**
	Percentage weight for window row 3, column 3. This value is unsigned. Changes take effect during Vertical Blanking.		
0xA41D	**7:0**	**0x19**	**AE_RULE_AE_WEIGHT_TABLE_3_4 (R/W)**
	Percentage weight for window row 3, column 4. This value is unsigned. Changes take effect during Vertical Blanking.		
0xA41E	**7:0**	**0x19**	**AE_RULE_AE_WEIGHT_TABLE_4_0 (R/W)**
	Percentage weight for window row 4, column 0. This value is unsigned. Changes take effect during Vertical Blanking.		
0xA41F	**7:0**	**0x19**	**AE_RULE_AE_WEIGHT_TABLE_4_1 (R/W)**
	Percentage weight for window row 4, column 1. This value is unsigned. Changes take effect during Vertical Blanking.		
0xA420	**7:0**	**0x19**	**AE_RULE_AE_WEIGHT_TABLE_4_2 (R/W)**
	Percentage weight for window row 4, column 2. This value is unsigned. Changes take effect during Vertical Blanking.		
0xA421	**7:0**	**0x19**	**AE_RULE_AE_WEIGHT_TABLE_4_3 (R/W)**
	Percentage weight for window row 4, column 3. This value is unsigned. Changes take effect during Vertical Blanking.		
0xA422	**7:0**	**0x19**	**AE_RULE_AE_WEIGHT_TABLE_4_4 (R/W)**
	Percentage weight for window row 4, column 4. This value is unsigned. Changes take effect during Vertical Blanking.		

TABLE 41. 10: AE_TRACK VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xA800	**15:0**	**0x0000**	**AE_TRACK_STATUS (RO)**
	15:8	X	Reserved
	7	RO	AE_TRACK_AE_STATUS_FLICKER_AVOIDANCE_DISABLED When set, AE will ignore flicker avoidance in low light conditions This value is unsigned.
	6	RO	AE_TRACK_AE_STATUS_SETTLED Status of AE track settling: 0x0: AE not settled 0x1: AE has settled This value is unsigned. Updates during Vertical Blanking.
	5	RO	Reserved
	4	RO	Reserved
	3	RO	AE_TRACK_AE_STATUS_READY When this bit is 1 it indicates that the AE Track algorithm has settled, or exposure and gain limits have been reached. This value is unsigned. Updates during Vertical Blanking.
	2	RO	Reserved
	1	RO	AE_TRACK_AE_STATUS_LIMITHIGH When this bit is 1 it indicates that the AE Track algorithm has reached the high limit (the maximum permitted coarse/fine integration times and virtual gain). This value is unsigned. Updates during Vertical Blanking.
	0	RO	AE_TRACK_AE_STATUS_LIMITLOW When this bit is 1 it indicates that the AE Track algorithm has reached the low limit (the minimum permitted coarse/fine integration times and virtual gain). This value is unsigned. Updates during Vertical Blanking.
	AE Track status flags. This value is unsigned. Updates during Vertical Blanking.		

TABLE 41. 10: AE_TRACK VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xA802	**15:0**	**0x001C**	**AE_TRACK_MODE (R/W)**
	15:7	X	Reserved
	6	0x00	Reserved
	5	X	Reserved
	4	0x01	AE_TRACK_AE_MODE_MIN_DIGITAL_GAIN Enable minimum digital gain calculation. The minimum digital gain feature is used to exchange integration time for digital gain since the noise degradation from exchanging integration time for digital can be smaller compared to the noise improvement by deriving those pixels using the long exposure instead of the short exposure. In order to calculate the amount of exposure reduction in terms of integration time, the histogram valley point is computed. The valley is the lowest point between the 2 peaks of a bimodal histogram. The goal is to move that valley point to within the T1 saturation point. In order to achieve this, the digital gain must be greater than the ratio of the histogram valley point luminance over a programmable target value which should be less than or equal to the T1 saturation point. 0: Disabled 1: Enabled Note this mode is disabled when in SDR. This value is unsigned. Changes take effect during Vertical Blanking.
	3	0x01	AE_TRACK_AE_MODE_CLIPPING 0: Disabled 1: Enabled Enable use of clip stats. This feature is enabled when this bit is enabled as well as the ae_track_ae_mode_percentile bit and the percentile of clipped pixels is greater than 2 * the histogram high end percentile. AE uses the exposure derived from the high end percentile or the exposure derived from high light clipping, depending on which is less. The high end percentile point is calculated from the histogram using a programmable target value. An exposure from highlight clipping is computed from a curve derived from sample data from an image database. This curve is used to calculate how much an exposure has to be reduced to get the number of clipped pixels down to 0. This value is unsigned. Changes take effect during Vertical Blanking.
	2	0x01	AE_TRACK_AE_MODE_PERCENTILE 0: disabled 1: enabled When this bit is enabled, AE ensures that high light clipping is within a set tolerance. AE tries to place a histogram high end percentile point below a target value. The amount of highlight clipping permitted varies with the number of pixels in the histogram low end. The more pixels that are in the histogram low end, the more important the low end pixels are and thus more clipping is allowed. The maximum exposure adjustment by histogram percentile is controlled by ae_track_max_perc_exp_adjust. This value is unsigned. Changes take effect during Vertical Blanking.
	1	0x00	Reserved
	0	X	Reserved
	AE Track mode control. This value is unsigned. Changes take effect during Vertical Blanking.		
0xA804	**15:0**	**0x003F**	**AE_TRACK_ALGO (R/W)**
	15:7	X	Reserved
	6	0x00	Reserved
	5	0x01	Reserved
	4	0x01	Reserved
	3	0x01	AE_TRACK_EXEC_CALC_TARGET_LUMA Execute target luma calculation routine 0: Disabled 1: Enabled This value is unsigned. Changes take effect during Vertical Blanking.
	2	0x01	Reserved
	1	0x01	Reserved
	0	0x01	Reserved
	AE Track algorithm control. This value is unsigned. Changes take effect during Vertical Blanking.		
0xA806	**15:0**	**0x0000**	**AE_TRACK_AVG_LOG_Y_TARGET (RO)**
	Luma target in log2 space. This value is unsigned fixed−point with 8 fractional bits. Updates during Vertical Blanking.		

TABLE 41. 10: AE_TRACK VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xA810	15:0	0x0080	AE_TRACK_TRACK_EXP_SPEED (R/W)
	This controls the speed at which AE exposure will settle. 0: Slow reaction to changes 256: Fast reaction to changes This value is unsigned. Changes take effect during Vertical Blanking.		
0xA812	7:0	0x04	AE_TRACK_ADAPT_THRESH (R/W)
	AE tracking threshold. This is equivalent to a gate around the target within which AE can settle. This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
0xA813	7:0	0x03	AE_TRACK_DAMP_MAX (R/W)
	Maximum AE damping. This value is the damping speed when the exposure is near the target (0 is the slowest adaptation). This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
0xA814	7:0	0x03	AE_TRACK_DAMP_SLOPE (R/W)
	Adaptive AE damping slope. This increases the distance between damp_max and damp_min. The smaller the value the bigger the distance. This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
0xA815	7:0	0x1C	AE_TRACK_DAMP_MIN (R/W)
	Minimum AE damping. This value is the damping speed when the exposure is far from the target (1 is the fastest adaptation). This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
0xA81C	7:0	0x86	AE_TRACK_MIN_GAIN_GATE (R/W)
	Gate around the minimum digital gain. This value is unsigned fixed−point with 7 fractional bits. Changes take effect during Vertical Blanking.		
0xA81D	7:0	0x08	AE_TRACK_TRACK_MIN_GAIN_SPEED (R/W)
	This controls the speed for the minimum gain algorithm. 0: Slow 32: Fast This value is unsigned. Changes take effect immediately (unsynchronized).		
0xA826	15:0	0x000A	AE_TRACK_HIST_VALLEY_COUNT (RO)
	A number representing a percentage of the total number of samples in the histogram. This value is unsigned fixed−point with 10 fractional bits. Updates during Vertical Blanking.		
0xA82C	15:0	0x07C0	AE_TRACK_LOG_Y_TARGET_0 (R/W)
	Target table for exposure. These variables can be tuned to provide, for example, high noise immunity or high flicker avoidance. This value is unsigned fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xA82E	15:0	0x081F	AE_TRACK_LOG_Y_TARGET_1 (R/W)
	Target table for exposure. These variables can be tuned to provide, for example, high noise immunity or high flicker avoidance. This value is unsigned fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xA830	15:0	0x0880	AE_TRACK_LOG_Y_TARGET_2 (R/W)
	Target table for exposure. These variables can be tuned to provide, for example, high noise immunity or high flicker avoidance. This value is unsigned fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xA832	15:0	0x08D1	AE_TRACK_LOG_Y_TARGET_3 (R/W)
	Target table for exposure. These variables can be tuned to provide, for example, high noise immunity or high flicker avoidance. This value is unsigned fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xA834	15:0	0x0921	AE_TRACK_LOG_Y_TARGET_4 (R/W)
	Target table for exposure. These variables can be tuned to provide, for example, high noise immunity or high flicker avoidance. This value is unsigned fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xA836	15:0	0x09AE	AE_TRACK_LOG_Y_TARGET_5 (R/W)
	Target table for exposure. These variables can be tuned to provide, for example, high noise immunity or high flicker avoidance. This value is unsigned fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xA838	15:0	0x09AE	AE_TRACK_LOG_Y_TARGET_6 (R/W)
	Target table for exposure. These variables can be tuned to provide, for example, high noise immunity or high flicker avoidance. This value is unsigned fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		

TABLE 41. 10: AE_TRACK VARIABLES

R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xA83A	**15:0**	**0x09AE**	**AE_TRACK_LOG_Y_TARGET_7 (R/W)**
	Target table for exposure. These variables can be tuned to provide, for example, high noise immunity or high flicker avoidance. This value is unsigned fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		

TABLE 42. 11: AWB VARIABLES

R/W (Read or Write) bit; RO (Read Only) bit.

Variabler (Hex)	Bits	Default	Name
0xAC00	**15:0**	**0x0000**	**AWB_STATUS (RO)**
	15:5	X	Reserved
	4	RO	AWB_LIMITS_REACHED 0x0: AWB has not reached the gain limits. 0x1: AWB has reached the gain limits. This value is unsigned. Updates during Vertical Blanking.
	3	RO	AWB_NO_STATS 0x0: AWB has white balance statistics. 0x1: AWB has no white balance statistics to process. This value is unsigned. Updates during Vertical Blanking.
	2	X	Reserved
	1	RO	AWB_COLOR_TEMPERATURE_LIMITS 0x0: AWB is within valid color temperature limits. 0x1: AWB has reached the color temperature limits. This value is unsigned. Updates during Vertical Blanking.
	0	RO	AWB_STEADY 0x0: AWB is busy. 0x1: AWB has reached a steady state. This value is unsigned. Updates during Vertical Blanking.
	AWB status flags. This value is unsigned. Updates during Vertical Blanking.		
0xAC02	**15:0**	**0x01C8**	**AWB_MODE (R/W)**
	15:9	X	Reserved
	8	0x0001	AWB_3RD_CCM_ENABLE Enables the 'middle' (3rd) CCM: 0: AWB interpolates between the 'left' and 'right' CCMs. 1: AWB interpolates between the 'left' and 'middle' CCMs, and the 'middle' and 'right' CCMs, dependent upon the calculated color temperature. This value is unsigned. Changes take effect during Vertical Blanking.
	7	0x01	Reserved
	6	0x01	Reserved
	5:4	X	Reserved
	3	0x01	Reserved
	2:0	X	Reserved
	AWB mode control. This value is unsigned. Changes take effect during Vertical Blanking.		
0xAC06	**7:0**	**0x63**	**AWB_R_RATIO_LOWER (R/W)**
	Lower value for the awb_r_ratio_post_awb threshold. This threshold is used to stop AWB calculating new ratios when the difference is small. This value is unsigned. Changes take effect during Vertical Blanking.		

TABLE 42. 11: AWB VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variabler (Hex)	Bits	Default	Name
0xAC07	**7:0**	**0x65**	**AWB_R_RATIO_UPPER (R/W)**
	Upper value for the awb_r_ratio_post_awb threshold. This threshold is used to stop AWB calculating new ratios when the difference is small. This value is unsigned. Changes take effect during Vertical Blanking.		
0xAC08	**7:0**	**0x63**	**AWB_B_RATIO_LOWER (R/W)**
	Lower value for the awb_b_ratio_post_awb threshold. This threshold is used to stop AWB calculating new ratios when the difference is small. This value is unsigned. Changes take effect during Vertical Blanking.		
0xAC09	**7:0**	**0x65**	**AWB_B_RATIO_UPPER (R/W)**
	Upper value for the awb_b_ratio_post_awb threshold. This threshold is used to stop AWB calculating new ratios when the difference is small. This value is unsigned. Changes take effect during Vertical Blanking.		
0xAC0A	**7:0**	**0x00**	**AWB_R_SCENE_RATIO_LOWER (R/W)**
	Lower limit value for awb_r_ratio_pre_awb. This value is unsigned. Changes take effect during Vertical Blanking.		
0xAC0B	**7:0**	**0xFF**	**AWB_R_SCENE_RATIO_UPPER (R/W)**
	Upper limit value for awb_r_ratio_pre_awb. This value is unsigned. Changes take effect during Vertical Blanking.		
0xAC0C	**7:0**	**0x00**	**AWB_B_SCENE_RATIO_LOWER (R/W)**
	Lower limit value for awb_b_ratio_pre_awb. This value is unsigned. Changes take effect during Vertical Blanking.		
0xAC0D	**7:0**	**0xFF**	**AWB_B_SCENE_RATIO_UPPER (R/W)**
	Upper limit value for awb_b_ratio_pre_awb. This value is unsigned. Changes take effect during Vertical Blanking.		
0xAC0E	**7:0**	**0x64**	**AWB_R_RATIO_PRE_AWB (RO)**
	R/G ratio from the stats (before AWB gains applied). This value is unsigned. Updates during Vertical Blanking.		
0xAC0F	**7:0**	**0x64**	**AWB_B_RATIO_PRE_AWB (RO)**
	B/G ratio from the stats (before AWB gains applied). This value is unsigned. Updates during Vertical Blanking.		
0xAC10	**7:0**	**0x64**	**AWB_R_RATIO_POST_AWB (RO)**
	Scene R/G color ratio calculated from raw AWB statistics, unity is 100 (read only). This value is unsigned. Updates during Vertical Blanking.		
0xAC11	**7:0**	**0x64**	**AWB_B_RATIO_POST_AWB (RO)**
	Scene B/G color ratio calculated from raw AWB statistics, unity is 100 (read only). This value is unsigned. Updates during Vertical Blanking.		
0xAC12	**15:0**	**0x0080**	**AWB_R_GAIN (RO)**
	Red channel gain in effect for next frame. This value is unsigned fixed−point with 7 fractional bits. Updates during Vertical Blanking.		
0xAC14	**15:0**	**0x0080**	**AWB_B_GAIN (RO)**
	Blue channel gain in effect for next frame. This value is unsigned fixed−point with 7 fractional bits. Updates during Vertical Blanking.		
0xAC16	**7:0**	**0x0A**	**AWB_PRE_AWB_RATIOS_TRACKING_SPEED (R/W)**
	Controls the dampening speed for pre−AWB ratios tracking: 0: Maximum dampening. 32: No dampening. This value is unsigned. Changes take effect during Vertical Blanking.		
0xAC24	**15:0**	**0x0900**	**AWB_IR_CONTROL_BRIGHTNESS_TH (R/W)**
	Threshold for brightness metric log to force Daylight CCM (unity = 256). This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		

TABLE 42. 11: AWB VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variabler (Hex)	Bits	Default	Name
0xAC28	**15:0**	**0x00CD**	**AWB_IR_CONTROL_THRESHOLD_1 (R/W)**
	Threshold parameter for the A−F boundary line. Unity is 128 (7 bit precision). This value is signed 2's complement fixed−point with 7 fractional bits. Changes take effect during Vertical Blanking.		
0xAC2A	**15:0**	**0x0004**	**AWB_IR_CONTROL_THRESHOLD_1_GATE (R/W)**
	Hysteresis gate for awb_ir_control_threshold_1. Unity is 128 (7 bit precision). This value is signed 2's complement fixed−point with 7 fractional bits. Changes take effect during Vertical Blanking.		
0xAC2C	**15:0**	**0xFF40**	**AWB_IR_CONTROL_SLOPE_K1 (R/W)**
	Slope for the A−F boundary line. Unity is 128 (7 bit precision). This value is signed 2's complement fixed−point with 7 fractional bits. Changes take effect during Vertical Blanking.		
0xAC2E	**15:0**	**0x000D**	**AWB_IR_CONTROL_THRESHOLD_2 (R/W)**
	Threshold parameter for the Day−A boundary line. Unity is 128 (7 bit precision). This value is signed 2's complement fixed−point with 7 fractional bits. Changes take effect during Vertical Blanking.		
0xAC30	**15:0**	**0x0004**	**AWB_IR_CONTROL_THRESHOLD_2_GATE (R/W)**
	Hysteresis gate for awb_ir_control_threshold_2. Unity is 128 (7 bit precision). This value is signed 2's complement fixed−point with 7 fractional bits. Changes take effect during Vertical Blanking.		
0xAC32	**15:0**	**0x00A4**	**AWB_IR_CONTROL_SLOPE_K2 (R/W)**
	Slope for the Day−A boundary line. Unity is 128 (7 bit precision). This value is signed 2's complement fixed−point with 7 fractional bits. Changes take effect during Vertical Blanking.		
0xAC3A	**15:0**	**0x0080**	**AWB_DGAIN_SENSOR_MIN (R/W)**
	The minimum sensor digital gain for all channels (unity=128). This value is unsigned fixed−point with 7 fractional bits. Changes take effect during Vertical Blanking.		

TABLE 43. 12: BLACKLEVEL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xB004	**15:0**	**0x0004**	**BLACKLEVEL_ALGO (R/W)**
	15:3	X	Reserved
	2	0x01	BLACKLEVEL_EXEC_CALC_BLACKLEVEL Controls the automatic blacklevel calculation: 0: Disabled: use cam_cpipe_control_second_black_level to enable manual control. 1: Automatic: firmware calculates the second black level subtraction and stretch. This value is unsigned. Changes take effect during Vertical Blanking.
	1:0	X	Reserved
	Blacklevel algorithm control. This value is unsigned. Changes take effect during Vertical Blanking.		
0xB00C	**7:0**	**0x00**	**BLACKLEVEL_MAX_BLACK_LEVEL (R/W)**
	Controls the maximum black level that the firmware can subtract. This value is unsigned. Changes take effect during Vertical Blanking.		
0xB00D	**7:0**	**0x06**	**BLACKLEVEL_BLACK_LEVEL_DAMPING (R/W)**
	Controls the dampening speed for the current blacklevel: 0: Maximum dampening. 32: No dampening. This value is unsigned. Changes take effect during Vertical Blanking.		

TABLE 44. 13: CCM VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xB404	**15:0**	**0x0030**	**CCM_ALGO (R/W)**
	15:6	X	Reserved
	5	0x01	Reserved
	4	0x01	Reserved
	3:0	X	Reserved
	Controls the CCM algorithms: 0x0: Disabled − manual CCM control. 0x30: Automatic CCM control This value is unsigned. Changes take effect during Vertical Blanking.		
0xB406	**15:0**	**0x0000**	**CCM_0 (RO)**
	Color Correction Matrix value for column 0 and row 0. This value is signed 2's complement fixed−point with 8 fractional bits. Updates during Vertical Blanking.		
0xB408	**15:0**	**0x0000**	**CCM_1 (RO)**
	Color Correction Matrix value for column 1 and row 0. This value is signed 2's complement fixed−point with 8 fractional bits. Updates during Vertical Blanking.		
0xB40A	**15:0**	**0x0000**	**CCM_2 (RO)**
	Color Correction Matrix value for column 2 and row 0. This value is signed 2's complement fixed−point with 8 fractional bits. Updates during Vertical Blanking.		
0xB40C	**15:0**	**0x0000**	**CCM_3 (RO)**
	Color Correction Matrix value for column 0 and row 1. This value is signed 2's complement fixed−point with 8 fractional bits. Updates during Vertical Blanking.		
0xB40E	**15:0**	**0x0000**	**CCM_4 (RO)**
	Color Correction Matrix value for column 1 and row 1. This value is signed 2's complement fixed−point with 8 fractional bits. Updates during Vertical Blanking.		
0xB410	**15:0**	**0x0000**	**CCM_5 (RO)**
	Color Correction Matrix value for column 2 and row 1. This value is signed 2's complement fixed−point with 8 fractional bits. Updates during Vertical Blanking.		
0xB412	**15:0**	**0x0000**	**CCM_6 (RO)**
	Color Correction Matrix value for column 0 and row 2. This value is signed 2's complement fixed−point with 8 fractional bits. Updates during Vertical Blanking.		
0xB414	**15:0**	**0x0000**	**CCM_7 (RO)**
	Color Correction Matrix value for column 1 and row 2. This value is signed 2's complement fixed−point with 8 fractional bits. Updates during Vertical Blanking.		
0xB416	**15:0**	**0x0000**	**CCM_8 (RO)**
	Color Correction Matrix value for column 2 and row 2. This value is signed 2's complement fixed−point with 8 fractional bits. Updates during Vertical Blanking.		

TABLE 45. 14: STAT VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xB804	**31:0**	**0x00000000**	**STAT_AVERAGE_LUMA (RO)**
	Weighted average luma of included pixels (zones with excluded pixels have lower weight). Unity=1. This value is unsigned. Updates during Vertical Blanking.		
0xB808	**15:0**	**0x0000**	**STAT_LOG_AVERAGE_LUMA (RO)**
	Log2(average_luma). Unity=256. This value is unsigned fixed−point with 8 fractional bits. Updates during Vertical Blanking.		
0xB80A	**15:0**	**0x0000**	**STAT_AVERAGE_LOGY (RO)**
	Weighted average log2(Y) of included pixels (zones with excluded pixels have lower weight). Unity=2048. This value is unsigned fixed−point with 11 fractional bits. Updates during Vertical Blanking.		
0xB80C	**31:0**	**0x00000000**	**STAT_ALTM_L_MIN (RO)**
	Minimum L value from stats engine, default 2^16*0.01. L is the illuminant component which is estimated from the Shape Adaptive Filter operating on Luma Y. This value is unsigned. Updates during Vertical Blanking.		
0xB810	**31:0**	**0x00000000**	**STAT_ALTM_L_MAX (RO)**
	Maximum L value from stats engine, 2^16*0.99. L is the illuminant component which is estimated from the Shape Adaptive Filter operating on Luma Y. This value is unsigned. Updates during Vertical Blanking.		
0xB814	**31:0**	**0x00000000**	**STAT_AWB_PIXELS_IN_STAT (RO)**
	Total pixels used to generate AWB stats. This value is unsigned. Updates during Vertical Blanking.		
0xB818	**15:0**	**0x0000**	**STAT_AWB_NORM_SUM_WEIGHTED_RED (RO)**
	Normalized sum of weighted red. This value is unsigned. Updates during Vertical Blanking.		
0xB81A	**15:0**	**0x0000**	**STAT_AWB_NORM_SUM_WEIGHTED_GREEN (RO)**
	Normalized sum of weighted green. This value is unsigned. Updates during Vertical Blanking.		
0xB81C	**15:0**	**0x0000**	**STAT_AWB_NORM_SUM_WEIGHTED_BLUE (RO)**
	Normalized sum of weighted blue. This value is unsigned. Updates during Vertical Blanking.		
0xB820	**31:0**	**0x00000000**	**STAT_CLIP_TOTAL_PIXELS_WIN (RO)**
	Total number of pixels in CLIP window. This value is unsigned. Updates during Vertical Blanking.		
0xB824	**15:0**	**0x0000**	**STAT_CLIP_NUM_LOWLIGHTS (RO)**
	Percentage of pixels in the 'dark' region (1024 = 100%). This value is unsigned. Updates during Vertical Blanking.		
0xB858	**15:0**	**0x0000**	**STAT_AE_ZONE_SIZE_CELLS (RO)**
	Number of cells in each AE zone. This value is unsigned. Updates after a Refresh command.		
0xB85A	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_SIZE (RO)**
	Total number of cells in AE luma histogram. This value is unsigned. Updates during Vertical Blanking.		
0xB85C	**31:0**	**0x00000000**	**STAT_AE_ZONE_AVGLUMA_0_0 (RO)**
	Average luminance for AE window zone [0, 0]. This value is unsigned. Updates during Vertical Blanking.		
0xB860	**31:0**	**0x00000000**	**STAT_AE_ZONE_AVGLUMA_0_1 (RO)**
	Average luminance for AE window zone [0, 1]. This value is unsigned. Updates during Vertical Blanking.		
0xB864	**31:0**	**0x00000000**	**STAT_AE_ZONE_AVGLUMA_0_2 (RO)**
	Average luminance for AE window zone [0, 2]. This value is unsigned. Updates during Vertical Blanking.		

TABLE 45. 14: STAT VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xB868	**31:0**	**0x00000000**	**STAT_AE_ZONE_AVGLUMA_0_3 (RO)**
	Average luminance for AE window zone [0, 3]. This value is unsigned. Updates during Vertical Blanking.		
0xB86C	**31:0**	**0x00000000**	**STAT_AE_ZONE_AVGLUMA_0_4 (RO)**
	Average luminance for AE window zone [0, 4]. This value is unsigned. Updates during Vertical Blanking.		
0xB870	**31:0**	**0x00000000**	**STAT_AE_ZONE_AVGLUMA_1_0 (RO)**
	Average luminance for AE window zone [1, 0]. This value is unsigned. Updates during Vertical Blanking.		
0xB874	**31:0**	**0x00000000**	**STAT_AE_ZONE_AVGLUMA_1_1 (RO)**
	Average luminance for AE window zone [1, 1]. This value is unsigned. Updates during Vertical Blanking.		
0xB878	**31:0**	**0x00000000**	**STAT_AE_ZONE_AVGLUMA_1_2 (RO)**
	Average luminance for AE window zone [1, 2]. This value is unsigned. Updates during Vertical Blanking.		
0xB87C	**31:0**	**0x00000000**	**STAT_AE_ZONE_AVGLUMA_1_3 (RO)**
	Average luminance for AE window zone [1, 3]. This value is unsigned. Updates during Vertical Blanking.		
0xB880	**31:0**	**0x00000000**	**STAT_AE_ZONE_AVGLUMA_1_4 (RO)**
	Average luminance for AE window zone [1, 4]. This value is unsigned. Updates during Vertical Blanking.		
0xB884	**31:0**	**0x00000000**	**STAT_AE_ZONE_AVGLUMA_2_0 (RO)**
	Average luminance for AE window zone [2, 0]. This value is unsigned. Updates during Vertical Blanking.		
0xB888	**31:0**	**0x00000000**	**STAT_AE_ZONE_AVGLUMA_2_1 (RO)**
	Average luminance for AE window zone [2, 1]. This value is unsigned. Updates during Vertical Blanking.		
0xB88C	**31:0**	**0x00000000**	**STAT_AE_ZONE_AVGLUMA_2_2 (RO)**
	Average luminance for AE window zone [2, 2]. This value is unsigned. Updates during Vertical Blanking.		
0xB890	**31:0**	**0x00000000**	**STAT_AE_ZONE_AVGLUMA_2_3 (RO)**
	Average luminance for AE window zone [2, 3]. This value is unsigned. Updates during Vertical Blanking.		
0xB894	**31:0**	**0x00000000**	**STAT_AE_ZONE_AVGLUMA_2_4 (RO)**
	Average luminance for AE window zone [2, 4]. This value is unsigned. Updates during Vertical Blanking.		
0xB898	**31:0**	**0x00000000**	**STAT_AE_ZONE_AVGLUMA_3_0 (RO)**
	Average luminance for AE window zone [3, 0]. This value is unsigned. Updates during Vertical Blanking.		
0xB89C	**31:0**	**0x00000000**	**STAT_AE_ZONE_AVGLUMA_3_1 (RO)**
	Average luminance for AE window zone [3, 1]. This value is unsigned. Updates during Vertical Blanking.		
0xB8A0	**31:0**	**0x00000000**	**STAT_AE_ZONE_AVGLUMA_3_2 (RO)**
	Average luminance for AE window zone [3, 2]. This value is unsigned. Updates during Vertical Blanking.		
0xB8A4	**31:0**	**0x00000000**	**STAT_AE_ZONE_AVGLUMA_3_3 (RO)**
	Average luminance for AE window zone [3, 3]. This value is unsigned. Updates during Vertical Blanking.		
0xB8A8	**31:0**	**0x00000000**	**STAT_AE_ZONE_AVGLUMA_3_4 (RO)**
	Average luminance for AE window zone [3, 4]. This value is unsigned. Updates during Vertical Blanking.		
0xB8AC	**31:0**	**0x00000000**	**STAT_AE_ZONE_AVGLUMA_4_0 (RO)**
	Average luminance for AE window zone [4, 0]. This value is unsigned. Updates during Vertical Blanking.		

TABLE 45. 14: STAT VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xB8B0	**31:0**	**0x00000000**	**STAT_AE_ZONE_AVGLUMA_4_1 (RO)**
	Average luminance for AE window zone [4, 1]. This value is unsigned. Updates during Vertical Blanking.		
0xB8B4	**31:0**	**0x00000000**	**STAT_AE_ZONE_AVGLUMA_4_2 (RO)**
	Average luminance for AE window zone [4, 2]. This value is unsigned. Updates during Vertical Blanking.		
0xB8B8	**31:0**	**0x00000000**	**STAT_AE_ZONE_AVGLUMA_4_3 (RO)**
	Average luminance for AE window zone [4, 3]. This value is unsigned. Updates during Vertical Blanking.		
0xB8BC	**31:0**	**0x00000000**	**STAT_AE_ZONE_AVGLUMA_4_4 (RO)**
	Average luminance for AE window zone [4, 4]. This value is unsigned. Updates during Vertical Blanking.		
0xB8C0	**15:0**	**0x0000**	**STAT_AE_ZONE_AVGLOGY_0_0 (RO)**
	Average of the log2 of luminance for AE window zone [0, 0]. This value is unsigned fixed−point with 11 fractional bits. Updates during Vertical Blanking.		
0xB8C2	**15:0**	**0x0000**	**STAT_AE_ZONE_AVGLOGY_0_1 (RO)**
	Average of the log2 of luminance for AE window zone [0, 1]. This value is unsigned fixed−point with 11 fractional bits. Updates during Vertical Blanking.		
0xB8C4	**15:0**	**0x0000**	**STAT_AE_ZONE_AVGLOGY_0_2 (RO)**
	Average of the log2 of luminance for AE window zone [0, 2]. This value is unsigned fixed−point with 11 fractional bits. Updates during Vertical Blanking.		
0xB8C6	**15:0**	**0x0000**	**STAT_AE_ZONE_AVGLOGY_0_3 (RO)**
	Average of the log2 of luminance for AE window zone [0, 3]. This value is unsigned fixed−point with 11 fractional bits. Updates during Vertical Blanking.		
0xB8C8	**15:0**	**0x0000**	**STAT_AE_ZONE_AVGLOGY_0_4 (RO)**
	Average of the log2 of luminance for AE window zone [0, 4]. This value is unsigned fixed−point with 11 fractional bits. Updates during Vertical Blanking.		
0xB8CA	**15:0**	**0x0000**	**STAT_AE_ZONE_AVGLOGY_1_0 (RO)**
	Average of the log2 of luminance for AE window zone [1, 0]. This value is unsigned fixed−point with 11 fractional bits. Updates during Vertical Blanking.		
0xB8CC	**15:0**	**0x0000**	**STAT_AE_ZONE_AVGLOGY_1_1 (RO)**
	Average of the log2 of luminance for AE window zone [1, 1]. This value is unsigned fixed−point with 11 fractional bits. Updates during Vertical Blanking.		
0xB8CE	**15:0**	**0x0000**	**STAT_AE_ZONE_AVGLOGY_1_2 (RO)**
	Average of the log2 of luminance for AE window zone [1, 2]. This value is unsigned fixed−point with 11 fractional bits. Updates during Vertical Blanking.		
0xB8D0	**15:0**	**0x0000**	**STAT_AE_ZONE_AVGLOGY_1_3 (RO)**
	Average of the log2 of luminance for AE window zone [1, 3]. This value is unsigned fixed−point with 11 fractional bits. Updates during Vertical Blanking.		
0xB8D2	**15:0**	**0x0000**	**STAT_AE_ZONE_AVGLOGY_1_4 (RO)**
	Average of the log2 of luminance for AE window zone [1, 4]. This value is unsigned fixed−point with 11 fractional bits. Updates during Vertical Blanking.		

TABLE 45. 14: STAT VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xB8D4	15:0	0x0000	STAT_AE_ZONE_AVGLOGY_2_0 (RO)
	Average of the log2 of luminance for AE window zone [2, 0]. This value is unsigned fixed−point with 11 fractional bits. Updates during Vertical Blanking.		
0xB8D6	15:0	0x0000	STAT_AE_ZONE_AVGLOGY_2_1 (RO)
	Average of the log2 of luminance for AE window zone [2, 1]. This value is unsigned fixed−point with 11 fractional bits. Updates during Vertical Blanking.		
0xB8D8	15:0	0x0000	STAT_AE_ZONE_AVGLOGY_2_2 (RO)
	Average of the log2 of luminance for AE window zone [2, 2]. This value is unsigned fixed−point with 11 fractional bits. Updates during Vertical Blanking.		
0xB8DA	15:0	0x0000	STAT_AE_ZONE_AVGLOGY_2_3 (RO)
	Average of the log2 of luminance for AE window zone [2, 3]. This value is unsigned fixed−point with 11 fractional bits. Updates during Vertical Blanking.		
0xB8DC	15:0	0x0000	STAT_AE_ZONE_AVGLOGY_2_4 (RO)
	Average of the log2 of luminance for AE window zone [2, 4]. This value is unsigned fixed−point with 11 fractional bits. Updates during Vertical Blanking.		
0xB8DE	15:0	0x0000	STAT_AE_ZONE_AVGLOGY_3_0 (RO)
	Average of the log2 of luminance for AE window zone [3, 0]. This value is unsigned fixed−point with 11 fractional bits. Updates during Vertical Blanking.		
0xB8E0	15:0	0x0000	STAT_AE_ZONE_AVGLOGY_3_1 (RO)
	Average of the log2 of luminance for AE window zone [3, 1]. This value is unsigned fixed−point with 11 fractional bits. Updates during Vertical Blanking.		
0xB8E2	15:0	0x0000	STAT_AE_ZONE_AVGLOGY_3_2 (RO)
	Average of the log2 of luminance for AE window zone [3, 2]. This value is unsigned fixed−point with 11 fractional bits. Updates during Vertical Blanking.		
0xB8E4	15:0	0x0000	STAT_AE_ZONE_AVGLOGY_3_3 (RO)
	Average of the log2 of luminance for AE window zone [3, 3]. This value is unsigned fixed−point with 11 fractional bits. Updates during Vertical Blanking.		
0xB8E6	15:0	0x0000	STAT_AE_ZONE_AVGLOGY_3_4 (RO)
	Average of the log2 of luminance for AE window zone [3, 4]. This value is unsigned fixed−point with 11 fractional bits. Updates during Vertical Blanking.		
0xB8E8	15:0	0x0000	STAT_AE_ZONE_AVGLOGY_4_0 (RO)
	Average of the log2 of luminance for AE window zone [4, 0]. This value is unsigned fixed−point with 11 fractional bits. Updates during Vertical Blanking.		
0xB8EA	15:0	0x0000	STAT_AE_ZONE_AVGLOGY_4_1 (RO)
	Average of the log2 of luminance for AE window zone [4, 1]. This value is unsigned fixed−point with 11 fractional bits. Updates during Vertical Blanking.		
0xB8EC	15:0	0x0000	STAT_AE_ZONE_AVGLOGY_4_2 (RO)
	Average of the log2 of luminance for AE window zone [4, 2]. This value is unsigned fixed−point with 11 fractional bits. Updates during Vertical Blanking.		

TABLE 45. 14: STAT VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xB8EE	**15:0**	**0x0000**	**STAT_AE_ZONE_AVGLOGY_4_3 (RO)**
	Average of the log2 of luminance for AE window zone [4, 3]. This value is unsigned fixed−point with 11 fractional bits. Updates during Vertical Blanking.		
0xB8F0	**15:0**	**0x0000**	**STAT_AE_ZONE_AVGLOGY_4_4 (RO)**
	Average of the log2 of luminance for AE window zone [4, 4]. This value is unsigned fixed−point with 11 fractional bits. Updates during Vertical Blanking.		
0xB8F2	**15:0**	**0x0000**	**STAT_AE_ZONE_WEIGHT_0_0 (RO)**
	Weighting applied to AE zone [0, 0] when computing luminance statistics. This value is unsigned. Updates during Vertical Blanking.		
0xB8F4	**15:0**	**0x0000**	**STAT_AE_ZONE_WEIGHT_0_1 (RO)**
	Weighting applied to AE zone [0, 1] when computing luminance statistics. This value is unsigned. Updates during Vertical Blanking.		
0xB8F6	**15:0**	**0x0000**	**STAT_AE_ZONE_WEIGHT_0_2 (RO)**
	Weighting applied to AE zone [0, 2] when computing luminance statistics. This value is unsigned. Updates during Vertical Blanking.		
0xB8F8	**15:0**	**0x0000**	**STAT_AE_ZONE_WEIGHT_0_3 (RO)**
	Weighting applied to AE zone [0, 3] when computing luminance statistics. This value is unsigned. Updates during Vertical Blanking.		
0xB8FA	**15:0**	**0x0000**	**STAT_AE_ZONE_WEIGHT_0_4 (RO)**
	Weighting applied to AE zone [0, 4] when computing luminance statistics. This value is unsigned. Updates during Vertical Blanking.		
0xB8FC	**15:0**	**0x0000**	**STAT_AE_ZONE_WEIGHT_1_0 (RO)**
	Weighting applied to AE zone [1, 0] when computing luminance statistics. This value is unsigned. Updates during Vertical Blanking.		
0xB8FE	**15:0**	**0x0000**	**STAT_AE_ZONE_WEIGHT_1_1 (RO)**
	Weighting applied to AE zone [1, 1] when computing luminance statistics. This value is unsigned. Updates during Vertical Blanking.		
0xB900	**15:0**	**0x0000**	**STAT_AE_ZONE_WEIGHT_1_2 (RO)**
	Weighting applied to AE zone [1, 2] when computing luminance statistics. This value is unsigned. Updates during Vertical Blanking.		
0xB902	**15:0**	**0x0000**	**STAT_AE_ZONE_WEIGHT_1_3 (RO)**
	Weighting applied to AE zone [1, 3] when computing luminance statistics. This value is unsigned. Updates during Vertical Blanking.		
0xB904	**15:0**	**0x0000**	**STAT_AE_ZONE_WEIGHT_1_4 (RO)**
	Weighting applied to AE zone [1, 4] when computing luminance statistics. This value is unsigned. Updates during Vertical Blanking.		
0xB906	**15:0**	**0x0000**	**STAT_AE_ZONE_WEIGHT_2_0 (RO)**
	Weighting applied to AE zone [2, 0] when computing luminance statistics. This value is unsigned. Updates during Vertical Blanking.		

TABLE 45. 14: STAT VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xB908	**15:0**	**0x0000**	**STAT_AE_ZONE_WEIGHT_2_1 (RO)**
	Weighting applied to AE zone [2, 1] when computing luminance statistics. This value is unsigned. Updates during Vertical Blanking.		
0xB90A	**15:0**	**0x0000**	**STAT_AE_ZONE_WEIGHT_2_2 (RO)**
	Weighting applied to AE zone [2, 2] when computing luminance statistics. This value is unsigned. Updates during Vertical Blanking.		
0xB90C	**15:0**	**0x0000**	**STAT_AE_ZONE_WEIGHT_2_3 (RO)**
	Weighting applied to AE zone [2, 3] when computing luminance statistics. This value is unsigned. Updates during Vertical Blanking.		
0xB90E	**15:0**	**0x0000**	**STAT_AE_ZONE_WEIGHT_2_4 (RO)**
	Weighting applied to AE zone [2, 4] when computing luminance statistics. This value is unsigned. Updates during Vertical Blanking.		
0xB910	**15:0**	**0x0000**	**STAT_AE_ZONE_WEIGHT_3_0 (RO)**
	Weighting applied to AE zone [3, 0] when computing luminance statistics. This value is unsigned. Updates during Vertical Blanking.		
0xB912	**15:0**	**0x0000**	**STAT_AE_ZONE_WEIGHT_3_1 (RO)**
	Weighting applied to AE zone [3, 1] when computing luminance statistics. This value is unsigned. Updates during Vertical Blanking.		
0xB914	**15:0**	**0x0000**	**STAT_AE_ZONE_WEIGHT_3_2 (RO)**
	Weighting applied to AE zone [3, 2] when computing luminance statistics. This value is unsigned. Updates during Vertical Blanking.		
0xB916	**15:0**	**0x0000**	**STAT_AE_ZONE_WEIGHT_3_3 (RO)**
	Weighting applied to AE zone [3, 3] when computing luminance statistics. This value is unsigned. Updates during Vertical Blanking.		
0xB918	**15:0**	**0x0000**	**STAT_AE_ZONE_WEIGHT_3_4 (RO)**
	Weighting applied to AE zone [3, 4] when computing luminance statistics. This value is unsigned. Updates during Vertical Blanking.		
0xB91A	**15:0**	**0x0000**	**STAT_AE_ZONE_WEIGHT_4_0 (RO)**
	Weighting applied to AE zone [4, 0] when computing luminance statistics. This value is unsigned. Updates during Vertical Blanking.		
0xB91C	**15:0**	**0x0000**	**STAT_AE_ZONE_WEIGHT_4_1 (RO)**
	Weighting applied to AE zone [4, 1] when computing luminance statistics. This value is unsigned. Updates during Vertical Blanking.		
0xB91E	**15:0**	**0x0000**	**STAT_AE_ZONE_WEIGHT_4_2 (RO)**
	Weighting applied to AE zone [4, 2] when computing luminance statistics. This value is unsigned. Updates during Vertical Blanking.		
0xB920	**15:0**	**0x0000**	**STAT_AE_ZONE_WEIGHT_4_3 (RO)**
	Weighting applied to AE zone [4, 3] when computing luminance statistics. This value is unsigned. Updates during Vertical Blanking.		

TABLE 45. 14: STAT VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xB922	15:0	0x0000	STAT_AE_ZONE_WEIGHT_4_4 (RO)
	Weighting applied to AE zone [4, 4] when computing luminance statistics. This value is unsigned. Updates during Vertical Blanking.		
0xB924	15:0	0x0000	STAT_AE_HISTOGRAM_0 (RO)
	Luminance statistics histogram bin 0. This value is unsigned. Updates during Vertical Blanking.		
0xB926	15:0	0x0000	STAT_AE_HISTOGRAM_1 (RO)
	Luminance statistics histogram bin 1. This value is unsigned. Updates during Vertical Blanking.		
0xB928	15:0	0x0000	STAT_AE_HISTOGRAM_2 (RO)
	Luminance statistics histogram bin 2. This value is unsigned. Updates during Vertical Blanking.		
0xB92A	15:0	0x0000	STAT_AE_HISTOGRAM_3 (RO)
	Luminance statistics histogram bin 3. This value is unsigned. Updates during Vertical Blanking.		
0xB92C	15:0	0x0000	STAT_AE_HISTOGRAM_4 (RO)
	Luminance statistics histogram bin 4. This value is unsigned. Updates during Vertical Blanking.		
0xB92E	15:0	0x0000	STAT_AE_HISTOGRAM_5 (RO)
	Luminance statistics histogram bin 5. This value is unsigned. Updates during Vertical Blanking.		
0xB930	15:0	0x0000	STAT_AE_HISTOGRAM_6 (RO)
	Luminance statistics histogram bin 6. This value is unsigned. Updates during Vertical Blanking.		
0xB932	15:0	0x0000	STAT_AE_HISTOGRAM_7 (RO)
	Luminance statistics histogram bin 7. This value is unsigned. Updates during Vertical Blanking.		
0xB934	15:0	0x0000	STAT_AE_HISTOGRAM_8 (RO)
	Luminance statistics histogram bin 8. This value is unsigned. Updates during Vertical Blanking.		
0xB936	15:0	0x0000	STAT_AE_HISTOGRAM_9 (RO)
	Luminance statistics histogram bin 9. This value is unsigned. Updates during Vertical Blanking.		
0xB938	15:0	0x0000	STAT_AE_HISTOGRAM_10 (RO)
	Luminance statistics histogram bin 10. This value is unsigned. Updates during Vertical Blanking.		
0xB93A	15:0	0x0000	STAT_AE_HISTOGRAM_11 (RO)
	Luminance statistics histogram bin 11. This value is unsigned. Updates during Vertical Blanking.		
0xB93C	15:0	0x0000	STAT_AE_HISTOGRAM_12 (RO)
	Luminance statistics histogram bin 12. This value is unsigned. Updates during Vertical Blanking.		
0xB93E	15:0	0x0000	STAT_AE_HISTOGRAM_13 (RO)
	Luminance statistics histogram bin 13. This value is unsigned. Updates during Vertical Blanking.		
0xB940	15:0	0x0000	STAT_AE_HISTOGRAM_14 (RO)
	Luminance statistics histogram bin 14. This value is unsigned. Updates during Vertical Blanking.		
0xB942	15:0	0x0000	STAT_AE_HISTOGRAM_15 (RO)
	Luminance statistics histogram bin 15. This value is unsigned. Updates during Vertical Blanking.		

TABLE 45. 14: STAT VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xB944	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_16 (RO)**
	Luminance statistics histogram bin 16. This value is unsigned. Updates during Vertical Blanking.		
0xB946	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_17 (RO)**
	Luminance statistics histogram bin 17. This value is unsigned. Updates during Vertical Blanking.		
0xB948	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_18 (RO)**
	Luminance statistics histogram bin 18. This value is unsigned. Updates during Vertical Blanking.		
0xB94A	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_19 (RO)**
	Luminance statistics histogram bin 19. This value is unsigned. Updates during Vertical Blanking.		
0xB94C	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_20 (RO)**
	Luminance statistics histogram bin 20. This value is unsigned. Updates during Vertical Blanking.		
0xB94E	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_21 (RO)**
	Luminance statistics histogram bin 21. This value is unsigned. Updates during Vertical Blanking.		
0xB950	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_22 (RO)**
	Luminance statistics histogram bin 22. This value is unsigned. Updates during Vertical Blanking.		
0xB952	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_23 (RO)**
	Luminance statistics histogram bin 23. This value is unsigned. Updates during Vertical Blanking.		
0xB954	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_24 (RO)**
	Luminance statistics histogram bin 24. This value is unsigned. Updates during Vertical Blanking.		
0xB956	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_25 (RO)**
	Luminance statistics histogram bin 25. This value is unsigned. Updates during Vertical Blanking.		
0xB958	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_26 (RO)**
	Luminance statistics histogram bin 26. This value is unsigned. Updates during Vertical Blanking.		
0xB95A	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_27 (RO)**
	Luminance statistics histogram bin 27. This value is unsigned. Updates during Vertical Blanking.		
0xB95C	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_28 (RO)**
	Luminance statistics histogram bin 28. This value is unsigned. Updates during Vertical Blanking.		
0xB95E	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_29 (RO)**
	Luminance statistics histogram bin 29. This value is unsigned. Updates during Vertical Blanking.		
0xB960	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_30 (RO)**
	Luminance statistics histogram bin 30. This value is unsigned. Updates during Vertical Blanking.		
0xB962	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_31 (RO)**
	Luminance statistics histogram bin 31. This value is unsigned. Updates during Vertical Blanking.		
0xB964	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_32 (RO)**
	Luminance statistics histogram bin 32. This value is unsigned. Updates during Vertical Blanking.		
0xB966	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_33 (RO)**
	Luminance statistics histogram bin 33. This value is unsigned. Updates during Vertical Blanking.		

TABLE 45. 14: STAT VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xB968	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_34 (RO)**
	Luminance statistics histogram bin 34. This value is unsigned. Updates during Vertical Blanking.		
0xB96A	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_35 (RO)**
	Luminance statistics histogram bin 35. This value is unsigned. Updates during Vertical Blanking.		
0xB96C	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_36 (RO)**
	Luminance statistics histogram bin 36. This value is unsigned. Updates during Vertical Blanking.		
0xB96E	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_37 (RO)**
	Luminance statistics histogram bin 37. This value is unsigned. Updates during Vertical Blanking.		
0xB970	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_38 (RO)**
	Luminance statistics histogram bin 38. This value is unsigned. Updates during Vertical Blanking.		
0xB972	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_39 (RO)**
	Luminance statistics histogram bin 39. This value is unsigned. Updates during Vertical Blanking.		
0xB974	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_40 (RO)**
	Luminance statistics histogram bin 40. This value is unsigned. Updates during Vertical Blanking.		
0xB976	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_41 (RO)**
	Luminance statistics histogram bin 41. This value is unsigned. Updates during Vertical Blanking.		
0xB978	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_42 (RO)**
	Luminance statistics histogram bin 42. This value is unsigned. Updates during Vertical Blanking.		
0xB97A	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_43 (RO)**
	Luminance statistics histogram bin 43. This value is unsigned. Updates during Vertical Blanking.		
0xB97C	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_44 (RO)**
	Luminance statistics histogram bin 44. This value is unsigned. Updates during Vertical Blanking.		
0xB97E	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_45 (RO)**
	Luminance statistics histogram bin 45. This value is unsigned. Updates during Vertical Blanking.		
0xB980	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_46 (RO)**
	Luminance statistics histogram bin 46. This value is unsigned. Updates during Vertical Blanking.		
0xB982	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_47 (RO)**
	Luminance statistics histogram bin 47. This value is unsigned. Updates during Vertical Blanking.		
0xB984	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_48 (RO)**
	Luminance statistics histogram bin 48. This value is unsigned. Updates during Vertical Blanking.		
0xB986	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_49 (RO)**
	Luminance statistics histogram bin 49. This value is unsigned. Updates during Vertical Blanking.		
0xB988	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_50 (RO)**
	Luminance statistics histogram bin 50. This value is unsigned. Updates during Vertical Blanking.		
0xB98A	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_51 (RO)**
	Luminance statistics histogram bin 51. This value is unsigned. Updates during Vertical Blanking.		

TABLE 45. 14: STAT VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xB98C	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_52 (RO)**
	Luminance statistics histogram bin 52. This value is unsigned. Updates during Vertical Blanking.		
0xB98E	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_53 (RO)**
	Luminance statistics histogram bin 53. This value is unsigned. Updates during Vertical Blanking.		
0xB990	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_54 (RO)**
	Luminance statistics histogram bin 54. This value is unsigned. Updates during Vertical Blanking.		
0xB992	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_55 (RO)**
	Luminance statistics histogram bin 55. This value is unsigned. Updates during Vertical Blanking.		
0xB994	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_56 (RO)**
	Luminance statistics histogram bin 56. This value is unsigned. Updates during Vertical Blanking.		
0xB996	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_57 (RO)**
	Luminance statistics histogram bin 57. This value is unsigned. Updates during Vertical Blanking.		
0xB998	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_58 (RO)**
	Luminance statistics histogram bin 58. This value is unsigned. Updates during Vertical Blanking.		
0xB99A	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_59 (RO)**
	Luminance statistics histogram bin 59. This value is unsigned. Updates during Vertical Blanking.		
0xB99C	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_60 (RO)**
	Luminance statistics histogram bin 60. This value is unsigned. Updates during Vertical Blanking.		
0xB99E	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_61 (RO)**
	Luminance statistics histogram bin 61. This value is unsigned. Updates during Vertical Blanking.		
0xB9A0	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_62 (RO)**
	Luminance statistics histogram bin 62. This value is unsigned. Updates during Vertical Blanking.		
0xB9A2	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_63 (RO)**
	Luminance statistics histogram bin 63. This value is unsigned. Updates during Vertical Blanking.		
0xB9A4	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_64 (RO)**
	Luminance statistics histogram bin 64. This value is unsigned. Updates during Vertical Blanking.		
0xB9A6	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_65 (RO)**
	Luminance statistics histogram bin 65. This value is unsigned. Updates during Vertical Blanking.		
0xB9A8	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_66 (RO)**
	Luminance statistics histogram bin 66. This value is unsigned. Updates during Vertical Blanking.		
0xB9AA	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_67 (RO)**
	Luminance statistics histogram bin 67. This value is unsigned. Updates during Vertical Blanking.		
0xB9AC	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_68 (RO)**
	Luminance statistics histogram bin 68. This value is unsigned. Updates during Vertical Blanking.		
0xB9AE	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_69 (RO)**
	Luminance statistics histogram bin 69. This value is unsigned. Updates during Vertical Blanking.		

TABLE 45. 14: STAT VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xB9B0	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_70 (RO)**
	Luminance statistics histogram bin 70. This value is unsigned. Updates during Vertical Blanking.		
0xB9B2	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_71 (RO)**
	Luminance statistics histogram bin 71. This value is unsigned. Updates during Vertical Blanking.		
0xB9B4	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_72 (RO)**
	Luminance statistics histogram bin 72. This value is unsigned. Updates during Vertical Blanking.		
0xB9B6	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_73 (RO)**
	Luminance statistics histogram bin 73. This value is unsigned. Updates during Vertical Blanking.		
0xB9B8	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_74 (RO)**
	Luminance statistics histogram bin 74. This value is unsigned. Updates during Vertical Blanking.		
0xB9BA	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_75 (RO)**
	Luminance statistics histogram bin 75. This value is unsigned. Updates during Vertical Blanking.		
0xB9BC	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_76 (RO)**
	Luminance statistics histogram bin 76. This value is unsigned. Updates during Vertical Blanking.		
0xB9BE	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_77 (RO)**
	Luminance statistics histogram bin 77. This value is unsigned. Updates during Vertical Blanking.		
0xB9C0	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_78 (RO)**
	Luminance statistics histogram bin 78. This value is unsigned. Updates during Vertical Blanking.		
0xB9C2	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_79 (RO)**
	Luminance statistics histogram bin 79. This value is unsigned. Updates during Vertical Blanking.		
0xB9C4	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_80 (RO)**
	Luminance statistics histogram bin 80. This value is unsigned. Updates during Vertical Blanking.		
0xB9C6	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_81 (RO)**
	Luminance statistics histogram bin 81. This value is unsigned. Updates during Vertical Blanking.		
0xB9C8	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_82 (RO)**
	Luminance statistics histogram bin 82. This value is unsigned. Updates during Vertical Blanking.		
0xB9CA	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_83 (RO)**
	Luminance statistics histogram bin 83. This value is unsigned. Updates during Vertical Blanking.		
0xB9CC	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_84 (RO)**
	Luminance statistics histogram bin 84. This value is unsigned. Updates during Vertical Blanking.		
0xB9CE	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_85 (RO)**
	Luminance statistics histogram bin 85. This value is unsigned. Updates during Vertical Blanking.		
0xB9D0	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_86 (RO)**
	Luminance statistics histogram bin 86. This value is unsigned. Updates during Vertical Blanking.		
0xB9D2	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_87 (RO)**
	Luminance statistics histogram bin 87. This value is unsigned. Updates during Vertical Blanking.		

TABLE 45. 14: STAT VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xB9D4	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_88 (RO)**
	Luminance statistics histogram bin 88. This value is unsigned. Updates during Vertical Blanking.		
0xB9D6	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_89 (RO)**
	Luminance statistics histogram bin 89. This value is unsigned. Updates during Vertical Blanking.		
0xB9D8	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_90 (RO)**
	Luminance statistics histogram bin 90. This value is unsigned. Updates during Vertical Blanking.		
0xB9DA	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_91 (RO)**
	Luminance statistics histogram bin 91. This value is unsigned. Updates during Vertical Blanking.		
0xB9DC	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_92 (RO)**
	Luminance statistics histogram bin 92. This value is unsigned. Updates during Vertical Blanking.		
0xB9DE	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_93 (RO)**
	Luminance statistics histogram bin 93. This value is unsigned. Updates during Vertical Blanking.		
0xB9E0	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_94 (RO)**
	Luminance statistics histogram bin 94. This value is unsigned. Updates during Vertical Blanking.		
0xB9E2	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_95 (RO)**
	Luminance statistics histogram bin 95. This value is unsigned. Updates during Vertical Blanking.		
0xB9E4	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_96 (RO)**
	Luminance statistics histogram bin 96. This value is unsigned. Updates during Vertical Blanking.		
0xB9E6	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_97 (RO)**
	Luminance statistics histogram bin 97. This value is unsigned. Updates during Vertical Blanking.		
0xB9E8	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_98 (RO)**
	Luminance statistics histogram bin 98. This value is unsigned. Updates during Vertical Blanking.		
0xB9EA	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_99 (RO)**
	Luminance statistics histogram bin 99. This value is unsigned. Updates during Vertical Blanking.		
0xB9EC	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_100 (RO)**
	Luminance statistics histogram bin 100. This value is unsigned. Updates during Vertical Blanking.		
0xB9EE	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_101 (RO)**
	Luminance statistics histogram bin 101. This value is unsigned. Updates during Vertical Blanking.		
0xB9F0	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_102 (RO)**
	Luminance statistics histogram bin 102. This value is unsigned. Updates during Vertical Blanking.		
0xB9F2	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_103 (RO)**
	Luminance statistics histogram bin 103. This value is unsigned. Updates during Vertical Blanking.		
0xB9F4	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_104 (RO)**
	Luminance statistics histogram bin 104. This value is unsigned. Updates during Vertical Blanking.		
0xB9F6	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_105 (RO)**
	Luminance statistics histogram bin 105. This value is unsigned. Updates during Vertical Blanking.		

TABLE 45. 14: STAT VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xB9F8	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_106 (RO)**
	Luminance statistics histogram bin 106. This value is unsigned. Updates during Vertical Blanking.		
0xB9FA	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_107 (RO)**
	Luminance statistics histogram bin 107. This value is unsigned. Updates during Vertical Blanking.		
0xB9FC	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_108 (RO)**
	Luminance statistics histogram bin 108. This value is unsigned. Updates during Vertical Blanking.		
0xB9FE	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_109 (RO)**
	Luminance statistics histogram bin 109. This value is unsigned. Updates during Vertical Blanking.		
0xBA00	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_110 (RO)**
	Luminance statistics histogram bin 110. This value is unsigned. Updates during Vertical Blanking.		
0xBA02	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_111 (RO)**
	Luminance statistics histogram bin 111. This value is unsigned. Updates during Vertical Blanking.		
0xBA04	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_112 (RO)**
	Luminance statistics histogram bin 112. This value is unsigned. Updates during Vertical Blanking.		
0xBA06	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_113 (RO)**
	Luminance statistics histogram bin 113. This value is unsigned. Updates during Vertical Blanking.		
0xBA08	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_114 (RO)**
	Luminance statistics histogram bin 114. This value is unsigned. Updates during Vertical Blanking.		
0xBA0A	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_115 (RO)**
	Luminance statistics histogram bin 115. This value is unsigned. Updates during Vertical Blanking.		
0xBA0C	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_116 (RO)**
	Luminance statistics histogram bin 116. This value is unsigned. Updates during Vertical Blanking.		
0xBA0E	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_117 (RO)**
	Luminance statistics histogram bin 117. This value is unsigned. Updates during Vertical Blanking.		
0xBA10	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_118 (RO)**
	Luminance statistics histogram bin 118. This value is unsigned. Updates during Vertical Blanking.		
0xBA12	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_119 (RO)**
	Luminance statistics histogram bin 119. This value is unsigned. Updates during Vertical Blanking.		
0xBA14	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_120 (RO)**
	Luminance statistics histogram bin 120. This value is unsigned. Updates during Vertical Blanking.		
0xBA16	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_121 (RO)**
	Luminance statistics histogram bin 121. This value is unsigned. Updates during Vertical Blanking.		
0xBA18	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_122 (RO)**
	Luminance statistics histogram bin 122. This value is unsigned. Updates during Vertical Blanking.		
0xBA1A	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_123 (RO)**
	Luminance statistics histogram bin 123. This value is unsigned. Updates during Vertical Blanking.		

TABLE 45. 14: STAT VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xBA1C	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_124 (RO)**
	Luminance statistics histogram bin 124. This value is unsigned. Updates during Vertical Blanking.		
0xBA1E	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_125 (RO)**
	Luminance statistics histogram bin 125. This value is unsigned. Updates during Vertical Blanking.		
0xBA20	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_126 (RO)**
	Luminance statistics histogram bin 126. This value is unsigned. Updates during Vertical Blanking.		
0xBA22	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_127 (RO)**
	Luminance statistics histogram bin 127. This value is unsigned. Updates during Vertical Blanking.		
0xBA24	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_128 (RO)**
	Luminance statistics histogram bin 128. This value is unsigned. Updates during Vertical Blanking.		
0xBA26	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_129 (RO)**
	Luminance statistics histogram bin 129. This value is unsigned. Updates during Vertical Blanking.		
0xBA28	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_130 (RO)**
	Luminance statistics histogram bin 130. This value is unsigned. Updates during Vertical Blanking.		
0xBA2A	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_131 (RO)**
	Luminance statistics histogram bin 131. This value is unsigned. Updates during Vertical Blanking.		
0xBA2C	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_132 (RO)**
	Luminance statistics histogram bin 132. This value is unsigned. Updates during Vertical Blanking.		
0xBA2E	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_133 (RO)**
	Luminance statistics histogram bin 133. This value is unsigned. Updates during Vertical Blanking.		
0xBA30	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_134 (RO)**
	Luminance statistics histogram bin 134. This value is unsigned. Updates during Vertical Blanking.		
0xBA32	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_135 (RO)**
	Luminance statistics histogram bin 135. This value is unsigned. Updates during Vertical Blanking.		
0xBA34	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_136 (RO)**
	Luminance statistics histogram bin 136. This value is unsigned. Updates during Vertical Blanking.		
0xBA36	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_137 (RO)**
	Luminance statistics histogram bin 137. This value is unsigned. Updates during Vertical Blanking.		
0xBA38	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_138 (RO)**
	Luminance statistics histogram bin 138. This value is unsigned. Updates during Vertical Blanking.		
0xBA3A	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_139 (RO)**
	Luminance statistics histogram bin 139. This value is unsigned. Updates during Vertical Blanking.		
0xBA3C	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_140 (RO)**
	Luminance statistics histogram bin 140. This value is unsigned. Updates during Vertical Blanking.		
0xBA3E	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_141 (RO)**
	Luminance statistics histogram bin 141. This value is unsigned. Updates during Vertical Blanking.		

TABLE 45. 14: STAT VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xBA40	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_142 (RO)**
	Luminance statistics histogram bin 142. This value is unsigned. Updates during Vertical Blanking.		
0xBA42	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_143 (RO)**
	Luminance statistics histogram bin 143. This value is unsigned. Updates during Vertical Blanking.		
0xBA44	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_144 (RO)**
	Luminance statistics histogram bin 144. This value is unsigned. Updates during Vertical Blanking.		
0xBA46	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_145 (RO)**
	Luminance statistics histogram bin 145. This value is unsigned. Updates during Vertical Blanking.		
0xBA48	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_146 (RO)**
	Luminance statistics histogram bin 146. This value is unsigned. Updates during Vertical Blanking.		
0xBA4A	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_147 (RO)**
	Luminance statistics histogram bin 147. This value is unsigned. Updates during Vertical Blanking.		
0xBA4C	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_148 (RO)**
	Luminance statistics histogram bin 148. This value is unsigned. Updates during Vertical Blanking.		
0xBA4E	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_149 (RO)**
	Luminance statistics histogram bin 149. This value is unsigned. Updates during Vertical Blanking.		
0xBA50	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_150 (RO)**
	Luminance statistics histogram bin 150. This value is unsigned. Updates during Vertical Blanking.		
0xBA52	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_151 (RO)**
	Luminance statistics histogram bin 151. This value is unsigned. Updates during Vertical Blanking.		
0xBA54	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_152 (RO)**
	Luminance statistics histogram bin 152. This value is unsigned. Updates during Vertical Blanking.		
0xBA56	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_153 (RO)**
	Luminance statistics histogram bin 153. This value is unsigned. Updates during Vertical Blanking.		
0xBA58	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_154 (RO)**
	Luminance statistics histogram bin 154. This value is unsigned. Updates during Vertical Blanking.		
0xBA5A	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_155 (RO)**
	Luminance statistics histogram bin 155. This value is unsigned. Updates during Vertical Blanking.		
0xBA5C	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_156 (RO)**
	Luminance statistics histogram bin 156. This value is unsigned. Updates during Vertical Blanking.		
0xBA5E	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_157 (RO)**
	Luminance statistics histogram bin 157. This value is unsigned. Updates during Vertical Blanking.		
0xBA60	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_158 (RO)**
	Luminance statistics histogram bin 158. This value is unsigned. Updates during Vertical Blanking.		
0xBA62	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_159 (RO)**
	Luminance statistics histogram bin 159. This value is unsigned. Updates during Vertical Blanking.		

TABLE 45. 14: STAT VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xBA64	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_160 (RO)**
	Luminance statistics histogram bin 160. This value is unsigned. Updates during Vertical Blanking.		
0xBA66	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_161 (RO)**
	Luminance statistics histogram bin 161. This value is unsigned. Updates during Vertical Blanking.		
0xBA68	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_162 (RO)**
	Luminance statistics histogram bin 162. This value is unsigned. Updates during Vertical Blanking.		
0xBA6A	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_163 (RO)**
	Luminance statistics histogram bin 163. This value is unsigned. Updates during Vertical Blanking.		
0xBA6C	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_164 (RO)**
	Luminance statistics histogram bin 164. This value is unsigned. Updates during Vertical Blanking.		
0xBA6E	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_165 (RO)**
	Luminance statistics histogram bin 165. This value is unsigned. Updates during Vertical Blanking.		
0xBA70	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_166 (RO)**
	Luminance statistics histogram bin 166. This value is unsigned. Updates during Vertical Blanking.		
0xBA72	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_167 (RO)**
	Luminance statistics histogram bin 167. This value is unsigned. Updates during Vertical Blanking.		
0xBA74	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_168 (RO)**
	Luminance statistics histogram bin 168. This value is unsigned. Updates during Vertical Blanking.		
0xBA76	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_169 (RO)**
	Luminance statistics histogram bin 169. This value is unsigned. Updates during Vertical Blanking.		
0xBA78	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_170 (RO)**
	Luminance statistics histogram bin 170. This value is unsigned. Updates during Vertical Blanking.		
0xBA7A	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_171 (RO)**
	Luminance statistics histogram bin 171. This value is unsigned. Updates during Vertical Blanking.		
0xBA7C	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_172 (RO)**
	Luminance statistics histogram bin 172. This value is unsigned. Updates during Vertical Blanking.		
0xBA7E	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_173 (RO)**
	Luminance statistics histogram bin 173. This value is unsigned. Updates during Vertical Blanking.		
0xBA80	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_174 (RO)**
	Luminance statistics histogram bin 174. This value is unsigned. Updates during Vertical Blanking.		
0xBA82	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_175 (RO)**
	Luminance statistics histogram bin 175. This value is unsigned. Updates during Vertical Blanking.		
0xBA84	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_176 (RO)**
	Luminance statistics histogram bin 176. This value is unsigned. Updates during Vertical Blanking.		
0xBA86	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_177 (RO)**
	Luminance statistics histogram bin 177. This value is unsigned. Updates during Vertical Blanking.		

TABLE 45. 14: STAT VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xBA88	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_178 (RO)**
	Luminance statistics histogram bin 178. This value is unsigned. Updates during Vertical Blanking.		
0xBA8A	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_179 (RO)**
	Luminance statistics histogram bin 179. This value is unsigned. Updates during Vertical Blanking.		
0xBA8C	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_180 (RO)**
	Luminance statistics histogram bin 180. This value is unsigned. Updates during Vertical Blanking.		
0xBA8E	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_181 (RO)**
	Luminance statistics histogram bin 181. This value is unsigned. Updates during Vertical Blanking.		
0xBA90	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_182 (RO)**
	Luminance statistics histogram bin 182. This value is unsigned. Updates during Vertical Blanking.		
0xBA92	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_183 (RO)**
	Luminance statistics histogram bin 183. This value is unsigned. Updates during Vertical Blanking.		
0xBA94	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_184 (RO)**
	Luminance statistics histogram bin 184. This value is unsigned. Updates during Vertical Blanking.		
0xBA96	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_185 (RO)**
	Luminance statistics histogram bin 185. This value is unsigned. Updates during Vertical Blanking.		
0xBA98	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_186 (RO)**
	Luminance statistics histogram bin 186. This value is unsigned. Updates during Vertical Blanking.		
0xBA9A	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_187 (RO)**
	Luminance statistics histogram bin 187. This value is unsigned. Updates during Vertical Blanking.		
0xBA9C	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_188 (RO)**
	Luminance statistics histogram bin 188. This value is unsigned. Updates during Vertical Blanking.		
0xBA9E	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_189 (RO)**
	Luminance statistics histogram bin 189. This value is unsigned. Updates during Vertical Blanking.		
0xBAA0	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_190 (RO)**
	Luminance statistics histogram bin 190. This value is unsigned. Updates during Vertical Blanking.		
0xBAA2	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_191 (RO)**
	Luminance statistics histogram bin 191. This value is unsigned. Updates during Vertical Blanking.		
0xBAA4	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_192 (RO)**
	Luminance statistics histogram bin 192. This value is unsigned. Updates during Vertical Blanking.		
0xBAA6	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_193 (RO)**
	Luminance statistics histogram bin 193. This value is unsigned. Updates during Vertical Blanking.		
0xBAA8	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_194 (RO)**
	Luminance statistics histogram bin 194. This value is unsigned. Updates during Vertical Blanking.		
0xBAAA	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_195 (RO)**
	Luminance statistics histogram bin 195. This value is unsigned. Updates during Vertical Blanking.		

TABLE 45. 14: STAT VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xBAAC	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_196 (RO)**
	Luminance statistics histogram bin 196. This value is unsigned. Updates during Vertical Blanking.		
0xBAAE	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_197 (RO)**
	Luminance statistics histogram bin 197. This value is unsigned. Updates during Vertical Blanking.		
0xBAB0	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_198 (RO)**
	Luminance statistics histogram bin 198. This value is unsigned. Updates during Vertical Blanking.		
0xBAB2	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_199 (RO)**
	Luminance statistics histogram bin 199. This value is unsigned. Updates during Vertical Blanking.		
0xBAB4	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_200 (RO)**
	Luminance statistics histogram bin 200. This value is unsigned. Updates during Vertical Blanking.		
0xBAB6	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_201 (RO)**
	Luminance statistics histogram bin 201. This value is unsigned. Updates during Vertical Blanking.		
0xBAB8	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_202 (RO)**
	Luminance statistics histogram bin 202. This value is unsigned. Updates during Vertical Blanking.		
0xBABA	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_203 (RO)**
	Luminance statistics histogram bin 203. This value is unsigned. Updates during Vertical Blanking.		
0xBABC	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_204 (RO)**
	Luminance statistics histogram bin 204. This value is unsigned. Updates during Vertical Blanking.		
0xBABE	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_205 (RO)**
	Luminance statistics histogram bin 205. This value is unsigned. Updates during Vertical Blanking.		
0xBAC0	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_206 (RO)**
	Luminance statistics histogram bin 206. This value is unsigned. Updates during Vertical Blanking.		
0xBAC2	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_207 (RO)**
	Luminance statistics histogram bin 207. This value is unsigned. Updates during Vertical Blanking.		
0xBAC4	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_208 (RO)**
	Luminance statistics histogram bin 208. This value is unsigned. Updates during Vertical Blanking.		
0xBAC6	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_209 (RO)**
	Luminance statistics histogram bin 209. This value is unsigned. Updates during Vertical Blanking.		
0xBAC8	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_210 (RO)**
	Luminance statistics histogram bin 210. This value is unsigned. Updates during Vertical Blanking.		
0xBACA	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_211 (RO)**
	Luminance statistics histogram bin 211. This value is unsigned. Updates during Vertical Blanking.		
0xBACC	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_212 (RO)**
	Luminance statistics histogram bin 212. This value is unsigned. Updates during Vertical Blanking.		
0xBACE	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_213 (RO)**
	Luminance statistics histogram bin 213. This value is unsigned. Updates during Vertical Blanking.		

TABLE 45. 14: STAT VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xBAD0	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_214 (RO)**
	Luminance statistics histogram bin 214. This value is unsigned. Updates during Vertical Blanking.		
0xBAD2	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_215 (RO)**
	Luminance statistics histogram bin 215. This value is unsigned. Updates during Vertical Blanking.		
0xBAD4	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_216 (RO)**
	Luminance statistics histogram bin 216. This value is unsigned. Updates during Vertical Blanking.		
0xBAD6	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_217 (RO)**
	Luminance statistics histogram bin 217. This value is unsigned. Updates during Vertical Blanking.		
0xBAD8	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_218 (RO)**
	Luminance statistics histogram bin 218. This value is unsigned. Updates during Vertical Blanking.		
0xBADA	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_219 (RO)**
	Luminance statistics histogram bin 219. This value is unsigned. Updates during Vertical Blanking.		
0xBADC	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_220 (RO)**
	Luminance statistics histogram bin 220. This value is unsigned. Updates during Vertical Blanking.		
0xBADE	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_221 (RO)**
	Luminance statistics histogram bin 221. This value is unsigned. Updates during Vertical Blanking.		
0xBAE0	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_222 (RO)**
	Luminance statistics histogram bin 222. This value is unsigned. Updates during Vertical Blanking.		
0xBAE2	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_223 (RO)**
	Luminance statistics histogram bin 223. This value is unsigned. Updates during Vertical Blanking.		
0xBAE4	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_224 (RO)**
	Luminance statistics histogram bin 224. This value is unsigned. Updates during Vertical Blanking.		
0xBAE6	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_225 (RO)**
	Luminance statistics histogram bin 225. This value is unsigned. Updates during Vertical Blanking.		
0xBAE8	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_226 (RO)**
	Luminance statistics histogram bin 226. This value is unsigned. Updates during Vertical Blanking.		
0xBAEA	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_227 (RO)**
	Luminance statistics histogram bin 227. This value is unsigned. Updates during Vertical Blanking.		
0xBAEC	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_228 (RO)**
	Luminance statistics histogram bin 228. This value is unsigned. Updates during Vertical Blanking.		
0xBAEE	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_229 (RO)**
	Luminance statistics histogram bin 229. This value is unsigned. Updates during Vertical Blanking.		
0xBAF0	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_230 (RO)**
	Luminance statistics histogram bin 230. This value is unsigned. Updates during Vertical Blanking.		
0xBAF2	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_231 (RO)**
	Luminance statistics histogram bin 231. This value is unsigned. Updates during Vertical Blanking.		

TABLE 45. 14: STAT VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xBAF4	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_232 (RO)**
	Luminance statistics histogram bin 232. This value is unsigned. Updates during Vertical Blanking.		
0xBAF6	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_233 (RO)**
	Luminance statistics histogram bin 233. This value is unsigned. Updates during Vertical Blanking.		
0xBAF8	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_234 (RO)**
	Luminance statistics histogram bin 234. This value is unsigned. Updates during Vertical Blanking.		
0xBAFA	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_235 (RO)**
	Luminance statistics histogram bin 235. This value is unsigned. Updates during Vertical Blanking.		
0xBAFC	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_236 (RO)**
	Luminance statistics histogram bin 236. This value is unsigned. Updates during Vertical Blanking.		
0xBAFE	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_237 (RO)**
	Luminance statistics histogram bin 237. This value is unsigned. Updates during Vertical Blanking.		
0xBB00	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_238 (RO)**
	Luminance statistics histogram bin 238. This value is unsigned. Updates during Vertical Blanking.		
0xBB02	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_239 (RO)**
	Luminance statistics histogram bin 239. This value is unsigned. Updates during Vertical Blanking.		
0xBB04	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_240 (RO)**
	Luminance statistics histogram bin 240. This value is unsigned. Updates during Vertical Blanking.		
0xBB06	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_241 (RO)**
	Luminance statistics histogram bin 241. This value is unsigned. Updates during Vertical Blanking.		
0xBB08	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_242 (RO)**
	Luminance statistics histogram bin 242. This value is unsigned. Updates during Vertical Blanking.		
0xBB0A	**15:0**	**0x0000**	**STAT_AE_HISTOGRAM_243 (RO)**
	Luminance statistics histogram bin 243. This value is unsigned. Updates during Vertical Blanking.		
0xBB0C	**15:0**	**0x0000**	**STAT_EXPOSURE_COARSE_INTEGRATION_TIME (RO)**
	Coarse integration time during the frame when the statistics were captured. This value is unsigned. Updates during Vertical Blanking.		
0xBB0E	**15:0**	**0x0000**	**STAT_EXPOSURE_FINE_INTEGRATION_TIME (RO)**
	Fine adjustment for the integration time specified in pixel clocks during the frame when the statistics were captured. This value is unsigned. Updates during Vertical Blanking.		
0xBB10	**15:0**	**0x0000**	**STAT_EXPOSURE_ANALOG_RED_GAIN (RO)**
	Analog gain for the red channel during the frame when the statistics were captured. This value is unsigned fixed−point with 5 fractional bits. Updates during Vertical Blanking.		
0xBB12	**15:0**	**0x0000**	**STAT_EXPOSURE_ANALOG_GREEN1_GAIN (RO)**
	Analog gain for the green1 channel during the frame when the statistics were captured. This value is unsigned fixed−point with 5 fractional bits. Updates during Vertical Blanking.		

TABLE 45. 14: STAT VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xBB14	**15:0**	**0x0000**	**STAT_EXPOSURE_ANALOG_GREEN2_GAIN (RO)**
	Analog gain for the green2 channel during the frame when the statistics were captured. This value is unsigned fixed−point with 5 fractional bits. Updates during Vertical Blanking.		
0xBB16	**15:0**	**0x0000**	**STAT_EXPOSURE_ANALOG_BLUE_GAIN (RO)**
	Analog gain for the blue channel during the frame when the statistics were captured. This value is unsigned fixed−point with 5 fractional bits. Updates during Vertical Blanking.		
0xBB18	**15:0**	**0x0000**	**STAT_EXPOSURE_FRAME_LENGTH_LINES (RO)**
	Number of lines within the frame when the statistics were captured. This value is unsigned. Updates during Vertical Blanking.		
0xBB1A	**15:0**	**0x0000**	**STAT_EXPOSURE_LINE_LENGTH_PCK (RO)**
	Number of pixel clocks for each line during the frame when the statistics were captured. This value is unsigned. Updates during Vertical Blanking.		
0xBB1C	**7:0**	**0x00**	**STAT_EXPOSURE_COLUMN_GAIN (RO)**
	Column gain selection for all channels during the frame when the statistics were captured. This value is unsigned. Updates during Vertical Blanking.		
0xBB1D	**7:0**	**0x00**	**STAT_EXPOSURE_DCG_GAIN (RO)**
	Dual conversion gain state for all channels during the frame when the statistics were captured. This value is unsigned. Updates during Vertical Blanking.		
0xBB1E	**15:0**	**0x0000**	**STAT_EXPOSURE_DGAIN_RED (RO)**
	Sensor digital gain for the red channel during the frame when the statistics were captured. This value is unsigned fixed−point with 7 fractional bits. Updates during Vertical Blanking.		
0xBB20	**15:0**	**0x0000**	**STAT_EXPOSURE_DGAIN_GREEN1 (RO)**
	Sensor digital gain for the green1 channel during the frame when the statistics were captured. This value is unsigned fixed−point with 7 fractional bits. Updates during Vertical Blanking.		
0xBB22	**15:0**	**0x0000**	**STAT_EXPOSURE_DGAIN_GREEN2 (RO)**
	Sensor digital gain for the green2 channel during the frame when the statistics were captured. This value is unsigned fixed−point with 7 fractional bits. Updates during Vertical Blanking.		
0xBB24	**15:0**	**0x0000**	**STAT_EXPOSURE_DGAIN_BLUE (RO)**
	Sensor digital gain for the blue channel during the frame when the statistics were captured. This value is unsigned fixed−point with 7 fractional bits. Updates during Vertical Blanking.		
0xBB26	**15:0**	**0x0000**	**STAT_EXPOSURE_CPIPE_DGAIN_RED (RO)**
	Cpipe gain for the red channel during the frame when the statistics were captured. This value is unsigned fixed−point with 7 fractional bits. Updates during Vertical Blanking.		
0xBB28	**15:0**	**0x0000**	**STAT_EXPOSURE_CPIPE_DGAIN_GREEN1 (RO)**
	Cpipe gain for the green1 channel during the frame when the statistics were captured. This value is unsigned fixed−point with 7 fractional bits. Updates during Vertical Blanking.		
0xBB2A	**15:0**	**0x0000**	**STAT_EXPOSURE_CPIPE_DGAIN_GREEN2 (RO)**
	Cpipe gain for the green2 channel during the frame when the statistics were captured. This value is unsigned fixed−point with 7 fractional bits. Updates during Vertical Blanking.		

TABLE 45. 14: STAT VARIABLES

R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xBB2C	**15:0**	**0x0000**	**STAT_EXPOSURE_CPIPE_DGAIN_BLUE (RO)**
	Cpipe gain for the blue channel during the frame when the statistics were captured. This value is unsigned fixed−point with 7 fractional bits. Updates during Vertical Blanking.		
0xBB2E	**15:0**	**0x0000**	**STAT_EXPOSURE_CPIPE_DGAIN_SECOND (RO)**
	Cpipe secondary gain for all channels during the frame when the statistics were captured. This value is unsigned fixed−point with 7 fractional bits. Updates during Vertical Blanking.		
0xBB30	**7:0**	**0x00**	**STAT_EXPOSURE_RATIO_T1_T2 (RO)**
	Sensor T1/T2 exposure ratio during the frame when the statistics were captured. This value is unsigned. Updates during Vertical Blanking.		
0xBB31	**7:0**	**0x00**	**STAT_EXPOSURE_RATIO_T2_T3 (RO)**
	Sensor T2/T3 exposure ratio during the frame when the statistics were captured. This value is unsigned. Updates during Vertical Blanking.		
0xBB32	**7:0**	**0x00**	**STAT_EXPOSURE_HDR_SDR_MODE (RO)**
	Exposure mode. 0: HDR 1: SDR This value is unsigned. Updates during Vertical Blanking.		

TABLE 46. 15: LOW LIGHT VARIABLES

R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xBC02	**15:0**	**0x02C7**	**LL_MODE (R/W)**
	15:10	X	Reserved
	9	0x0001	Reserved
	8	0x0000	Reserved
	7	0x01	Reserved
	6	0x01	Reserved
	5	X	Reserved
	4	0x00	Reserved
	3	0x00	LL_ENABLE_FADE_TO_BLACK Controls the Fade−To−Black mode: 0: Fade−To−Black mode will not be active under lowlight conditions. 1: Fade−To−Black mode will be active under lowlight conditions. This value is unsigned. Changes take effect during Vertical Blanking.
	2	0x01	LL_ADACD_GR_PIXEL_WEIGHTS This mode automatically controls the strength of the noise reduction filter using ADACD Green pixel weights. This value is unsigned. Changes take effect during Vertical Blanking.
	1	0x01	Reserved
	0	0x01	LL_NR_ENABLE Enable automatic control of Noise Reduction (DC and AdaCD). 0: Disabled 1: Enabled This value is unsigned. Changes take effect during Vertical Blanking.
	Lowlight mode control. This value is unsigned. Changes take effect during Vertical Blanking.		

TABLE 46. 15: LOW LIGHT VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xBC07	7:0	0x00	LL_GAMMA_SELECT (R/W)
	Selects between gamma curves. Gamma selection is overridden when the average luma (ll_average_luma_fade_to_black) is less than the fade−to−black threshold (cam_ll_bright_fade_to_black_luma). 0: Interpolate between the contrast gamma curve in bright light and the noise reduction gamma curve in low light. 1: Always use contrast gamma curve. 2: Always use noise reduction gamma curve. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC0A	15:0	0x0000	LL_GAMMA_CONTRAST_CURVE_0 (R/W)
	Gamma curve to preserve contrast in bright images. This is the knee point value for index 0. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC0C	15:0	0x0000	LL_GAMMA_CONTRAST_CURVE_1 (R/W)
	Gamma curve to preserve contrast in bright images. This is the knee point value for index 128. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC0E	15:0	0x0000	LL_GAMMA_CONTRAST_CURVE_2 (R/W)
	Gamma curve to preserve contrast in bright images. This is the knee point value for index 256. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC10	15:0	0x0000	LL_GAMMA_CONTRAST_CURVE_3 (R/W)
	Gamma curve to preserve contrast in bright images. This is the knee point value for index 384. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC12	15:0	0x0000	LL_GAMMA_CONTRAST_CURVE_4 (R/W)
	Gamma curve to preserve contrast in bright images. This is the knee point value for index 512. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC14	15:0	0x0000	LL_GAMMA_CONTRAST_CURVE_5 (R/W)
	Gamma curve to preserve contrast in bright images. This is the knee point value for index 640. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC16	15:0	0x0000	LL_GAMMA_CONTRAST_CURVE_6 (R/W)
	Gamma curve to preserve contrast in bright images. This is the knee point value for index 768. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC18	15:0	0x0000	LL_GAMMA_CONTRAST_CURVE_7 (R/W)
	Gamma curve to preserve contrast in bright images. This is the knee point value for index 896. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC1A	15:0	0x0000	LL_GAMMA_CONTRAST_CURVE_8 (R/W)
	Gamma curve to preserve contrast in bright images. This is the knee point value for index 1024. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC1C	15:0	0x0000	LL_GAMMA_CONTRAST_CURVE_9 (R/W)
	Gamma curve to preserve contrast in bright images. This is the knee point value for index 1152. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC1E	15:0	0x0000	LL_GAMMA_CONTRAST_CURVE_10 (R/W)
	Gamma curve to preserve contrast in bright images. This is the knee point value for index 1280. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC20	15:0	0x0000	LL_GAMMA_CONTRAST_CURVE_11 (R/W)
	Gamma curve to preserve contrast in bright images. This is the knee point value for index 1408. This value is unsigned. Changes take effect during Vertical Blanking.		

TABLE 46. 15: LOW LIGHT VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xBC22	15:0	0x0000	LL_GAMMA_CONTRAST_CURVE_12 (R/W)
	Gamma curve to preserve contrast in bright images. This is the knee point value for index 1536. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC24	15:0	0x0000	LL_GAMMA_CONTRAST_CURVE_13 (R/W)
	Gamma curve to preserve contrast in bright images. This is the knee point value for index 1664. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC26	15:0	0x0000	LL_GAMMA_CONTRAST_CURVE_14 (R/W)
	Gamma curve to preserve contrast in bright images. This is the knee point value for index 1792. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC28	15:0	0x0000	LL_GAMMA_CONTRAST_CURVE_15 (R/W)
	Gamma curve to preserve contrast in bright images. This is the knee point value for index 1920. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC2A	15:0	0x0000	LL_GAMMA_CONTRAST_CURVE_16 (R/W)
	Gamma curve to preserve contrast in bright images. This is the knee point value for index 2048. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC2C	15:0	0x0000	LL_GAMMA_CONTRAST_CURVE_17 (R/W)
	Gamma curve to preserve contrast in bright images. This is the knee point value for index 2176. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC2E	15:0	0x0000	LL_GAMMA_CONTRAST_CURVE_18 (R/W)
	Gamma curve to preserve contrast in bright images. This is the knee point value for index 2304. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC30	15:0	0x0000	LL_GAMMA_CONTRAST_CURVE_19 (R/W)
	Gamma curve to preserve contrast in bright images. This is the knee point value for index 2432. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC32	15:0	0x0000	LL_GAMMA_CONTRAST_CURVE_20 (R/W)
	Gamma curve to preserve contrast in bright images. This is the knee point value for index 2560. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC34	15:0	0x0000	LL_GAMMA_CONTRAST_CURVE_21 (R/W)
	Gamma curve to preserve contrast in bright images. This is the knee point value for index 2688. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC36	15:0	0x0000	LL_GAMMA_CONTRAST_CURVE_22 (R/W)
	Gamma curve to preserve contrast in bright images. This is the knee point value for index 2816. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC38	15:0	0x0000	LL_GAMMA_CONTRAST_CURVE_23 (R/W)
	Gamma curve to preserve contrast in bright images. This is the knee point value for index 2944. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC3A	15:0	0x0000	LL_GAMMA_CONTRAST_CURVE_24 (R/W)
	Gamma curve to preserve contrast in bright images. This is the knee point value for index 3072. This value is unsigned. Changes take effect during Vertical Blanking.		

TABLE 46. 15: LOW LIGHT VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xBC3C	15:0	0x0000	LL_GAMMA_CONTRAST_CURVE_25 (R/W)
	Gamma curve to preserve contrast in bright images. This is the knee point value for index 3200. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC3E	15:0	0x0000	LL_GAMMA_CONTRAST_CURVE_26 (R/W)
	Gamma curve to preserve contrast in bright images. This is the knee point value for index 3328. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC40	15:0	0x0000	LL_GAMMA_CONTRAST_CURVE_27 (R/W)
	Gamma curve to preserve contrast in bright images. This is the knee point value for index 3456. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC42	15:0	0x0000	LL_GAMMA_CONTRAST_CURVE_28 (R/W)
	Gamma curve to preserve contrast in bright images. This is the knee point value for index 3584. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC44	15:0	0x0000	LL_GAMMA_CONTRAST_CURVE_29 (R/W)
	Gamma curve to preserve contrast in bright images. This is the knee point value for index 3712. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC46	15:0	0x0000	LL_GAMMA_CONTRAST_CURVE_30 (R/W)
	Gamma curve to preserve contrast in bright images. This is the knee point value for index 3840. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC48	15:0	0x0000	LL_GAMMA_CONTRAST_CURVE_31 (R/W)
	Gamma curve to preserve contrast in bright images. This is the knee point value for index 3968. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC4A	15:0	0x0000	LL_GAMMA_CONTRAST_CURVE_32 (R/W)
	Gamma curve to preserve contrast in bright images. This is the knee point value for index 4096. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC4C	15:0	0x0000	LL_GAMMA_NRCURVE_0 (R/W)
	The 'Noise−Reduction' gamma curve. This is the knee point value for index 0. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC4E	15:0	0x0000	LL_GAMMA_NRCURVE_1 (R/W)
	The 'Noise−Reduction' gamma curve. This is the knee point value for index 128. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC50	15:0	0x0000	LL_GAMMA_NRCURVE_2 (R/W)
	The 'Noise−Reduction' gamma curve. This is the knee point value for index 256. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC52	15:0	0x0000	LL_GAMMA_NRCURVE_3 (R/W)
	The 'Noise−Reduction' gamma curve. This is the knee point value for index 384. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC54	15:0	0x0000	LL_GAMMA_NRCURVE_4 (R/W)
	The 'Noise−Reduction' gamma curve. This is the knee point value for index 512. This value is unsigned. Changes take effect during Vertical Blanking.		

TABLE 46. 15: LOW LIGHT VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xBC56	**15:0**	**0x0000**	**LL_GAMMA_NRCURVE_5 (R/W)**
	The 'Noise−Reduction' gamma curve. This is the knee point value for index 640. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC58	**15:0**	**0x0000**	**LL_GAMMA_NRCURVE_6 (R/W)**
	The 'Noise−Reduction' gamma curve. This is the knee point value for index 768. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC5A	**15:0**	**0x0000**	**LL_GAMMA_NRCURVE_7 (R/W)**
	The 'Noise−Reduction' gamma curve. This is the knee point value for index 896. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC5C	**15:0**	**0x0000**	**LL_GAMMA_NRCURVE_8 (R/W)**
	The 'Noise−Reduction' gamma curve. This is the knee point value for index 1024. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC5E	**15:0**	**0x0000**	**LL_GAMMA_NRCURVE_9 (R/W)**
	The 'Noise−Reduction' gamma curve. This is the knee point value for index 1152. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC60	**15:0**	**0x0000**	**LL_GAMMA_NRCURVE_10 (R/W)**
	The 'Noise−Reduction' gamma curve. This is the knee point value for index 1280. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC62	**15:0**	**0x0000**	**LL_GAMMA_NRCURVE_11 (R/W)**
	The 'Noise−Reduction' gamma curve. This is the knee point value for index 1408. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC64	**15:0**	**0x0000**	**LL_GAMMA_NRCURVE_12 (R/W)**
	The 'Noise−Reduction' gamma curve. This is the knee point value for index 1536. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC66	**15:0**	**0x0000**	**LL_GAMMA_NRCURVE_13 (R/W)**
	The 'Noise−Reduction' gamma curve. This is the knee point value for index 1664. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC68	**15:0**	**0x0000**	**LL_GAMMA_NRCURVE_14 (R/W)**
	The 'Noise−Reduction' gamma curve. This is the knee point value for index 1792. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC6A	**15:0**	**0x0000**	**LL_GAMMA_NRCURVE_15 (R/W)**
	The 'Noise−Reduction' gamma curve. This is the knee point value for index 1920. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC6C	**15:0**	**0x0000**	**LL_GAMMA_NRCURVE_16 (R/W)**
	The 'Noise−Reduction' gamma curve. This is the knee point value for index 2048. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC6E	**15:0**	**0x0000**	**LL_GAMMA_NRCURVE_17 (R/W)**
	The 'Noise−Reduction' gamma curve. This is the knee point value for index 2176. This value is unsigned. Changes take effect during Vertical Blanking.		

TABLE 46. 15: LOW LIGHT VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xBC70	**15:0**	**0x0000**	**LL_GAMMA_NRCURVE_18 (R/W)**
	The 'Noise−Reduction' gamma curve. This is the knee point value for index 2304. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC72	**15:0**	**0x0000**	**LL_GAMMA_NRCURVE_19 (R/W)**
	The 'Noise−Reduction' gamma curve. This is the knee point value for index 2432. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC74	**15:0**	**0x0000**	**LL_GAMMA_NRCURVE_20 (R/W)**
	The 'Noise−Reduction' gamma curve. This is the knee point value for index 2560. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC76	**15:0**	**0x0000**	**LL_GAMMA_NRCURVE_21 (R/W)**
	The 'Noise−Reduction' gamma curve. This is the knee point value for index 2688. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC78	**15:0**	**0x0000**	**LL_GAMMA_NRCURVE_22 (R/W)**
	The 'Noise−Reduction' gamma curve. This is the knee point value for index 2816. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC7A	**15:0**	**0x0000**	**LL_GAMMA_NRCURVE_23 (R/W)**
	The 'Noise−Reduction' gamma curve. This is the knee point value for index 2944. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC7C	**15:0**	**0x0000**	**LL_GAMMA_NRCURVE_24 (R/W)**
	The 'Noise−Reduction' gamma curve. This is the knee point value for index 3072. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC7E	**15:0**	**0x0000**	**LL_GAMMA_NRCURVE_25 (R/W)**
	The 'Noise−Reduction' gamma curve. This is the knee point value for index 3200. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC80	**15:0**	**0x0000**	**LL_GAMMA_NRCURVE_26 (R/W)**
	The 'Noise−Reduction' gamma curve. This is the knee point value for index 3328. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC82	**15:0**	**0x0000**	**LL_GAMMA_NRCURVE_27 (R/W)**
	The 'Noise−Reduction' gamma curve. This is the knee point value for index 3456. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC84	**15:0**	**0x0000**	**LL_GAMMA_NRCURVE_28 (R/W)**
	The 'Noise−Reduction' gamma curve. This is the knee point value for index 3584. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC86	**15:0**	**0x0000**	**LL_GAMMA_NRCURVE_29 (R/W)**
	The 'Noise−Reduction' gamma curve. This is the knee point value for index 3712. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC88	**15:0**	**0x0000**	**LL_GAMMA_NRCURVE_30 (R/W)**
	The 'Noise−Reduction' gamma curve. This is the knee point value for index 3840. This value is unsigned. Changes take effect during Vertical Blanking.		

TABLE 46. 15: LOW LIGHT VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xBC8A	**15:0**	**0x0000**	**LL_GAMMA_NRCURVE_31 (R/W)**
	The 'Noise−Reduction' gamma curve. This is the knee point value for index 3968. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC8C	**15:0**	**0x0000**	**LL_GAMMA_NRCURVE_32 (R/W)**
	The 'Noise−Reduction' gamma curve. This is the knee point value for index 4096. This value is unsigned. Changes take effect during Vertical Blanking.		
0xBC8E	**15:0**	**0x0000**	**LL_AVERAGE_LUMA_FADE_TO_BLACK (RO)**
	When fade to black is enabled this internal variable contains the maximum average luma from the current statistics AE zones, otherwise it is set to cam_ll_bright_fade_to_black_luma. This value is unsigned. Updates during Vertical Blanking.		
0xBCB4	**15:0**	**0x003F**	**LL_ALTM_DAMPING_FAST (R/W)**
	Damping value for the fast response. This value is unsigned fixed−point with 6 fractional bits. Changes take effect during Vertical Blanking.		
0xBCB6	**15:0**	**0x000F**	**LL_ALTM_DAMPING_MED (R/W)**
	Damping value for the medium response. This value is unsigned fixed−point with 6 fractional bits. Changes take effect during Vertical Blanking.		
0xBCB8	**15:0**	**0x0007**	**LL_ALTM_DAMPING_SLOW (R/W)**
	Damping value for the slow response. Normally also used the as default. This value is unsigned fixed−point with 6 fractional bits. Changes take effect during Vertical Blanking.		
0xBCC2	**15:0**	**0x0000**	**LL_ALTM_LMIN_STATS_THRESHOLD (R/W)**
	Percent of AE histogram cells with luma value below the ALTM lmin. ALTM lmin is determined by counting the AE cells in histogram bins, starting from bin 0, until this count (as a percent of the histogram total count) is reached. ALTM lmin is the luma value corresponding to the bin where this count of AE cells is reached. A value of 0 means the lowest value AE cell luma will be used. The luma of an AE cell in the histogram is an average of the pixel values within that spatial cell. This value is unsigned fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xBCC4	**15:0**	**0x003B**	**LL_ALTM_LMAX_STATS_THRESHOLD (R/W)**
	Percent of AE histogram cells with luma value above the ALTM lmax. ALTM lmax is determined by counting the AE cells in histogram bins, starting from the last bin, until this count (as a percent of the histogram total count) is reached. ALTM lmax is the luma value corresponding to the bin where this count of AE cells is reached. A value of 0 means the highest value AE cell luma will be used. The luma of an AE cell in the histogram is an average of the pixel values within that spatial cell. This value is unsigned fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		

TABLE 47. 16: FLICKER DETECT VARIABLES

R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xC000	**15:0**	**0x0000**	**FLICKER_DETECT_STATUS (RO)**
	15:8	X	Reserved
	7	RO	Reserved
	6	X	Reserved
	5	RO	FLICKER_DETECT_FD_STATUS_RUNNING Flicker Detection status: 0: Flicker Detection is idle. 1: Flicker Detection is active. This value is unsigned. Updates during Vertical Blanking.
	4	RO	FLICKER_DETECT_FD_STATUS_FLICKER_CHANGE_DETECTED Flicker detection status: 0: No flicker has been detected. 1: Flicker detected in the current scene. Note: This flag is automatically cleared after a Change−Config, Refresh, or Standby operation. This value is unsigned. Updates during Vertical Blanking.
	3	RO	FLICKER_DETECT_FD_STATUS_SYNC_FRAME_RATE Synchronized frame rate status: 0: Flicker Detection can run. 1: Flicker Detection cannot run because the current frame rate is in sync (or nearly) with the period of the flicker source to be detected. (For example, 60 frames−per−second and 60 Hz flicker source). This value is unsigned. Updates during Vertical Blanking.
	2:1	X	Reserved
	0	RO	Reserved
	Flicker Detection status. This value is unsigned. Updates during Vertical Blanking.		

TABLE 48. 17: PATCH VARIABLES FOR GENERAL PATCHES

R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xC400	**7:0**	**0x00**	**EXT_SERIALIZER_TYPE (R/W)**
	Type of serializer used between sensor and AP This value is unsigned. Changes take effect immediately (unsynchronized).		
0xC401	**7:0**	**0x00**	**EXT_DESERIALIZER_TYPE (R/W)**
	Type of deserializer used between sensor and AP This value is unsigned. Changes take effect immediately (unsynchronized).		
0xC402	**7:0**	**0x00**	**EXT_SERIALIZER_ADDR (R/W)**
	I2C Address of serializer between sensor and AP This value is unsigned. Changes take effect immediately (unsynchronized).		
0xC403	**7:0**	**0x00**	**EXT_DESERIALIZER_ADDR (R/W)**
	I2C Address of deserializer between sensor and AP This value is unsigned. Changes take effect immediately (unsynchronized).		

TABLE 48. 17: PATCH VARIABLES FOR GENERAL PATCHES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
	15:0	**0x18B4**	**EXT_HDR_MD_CTRL (R/W)**
	15	X	Reserved
	14:8	0x0018	EXT_HDR_MD_CTRL_Q2 Range for the motion detection algorithm. This value is unsigned. Changes take effect after a Change−Config command.
0xC404	7:0	0xB4	EXT_HDR_MD_CTRL_Q1 Lower threshold for the motion detection algorithm. This value is unsigned. Changes take effect after a Change−Config command.
	Contains bitfields for the control of motion detection This value is unsigned. Changes take effect after a Change−Config command.		
	15:0	**0x6100**	**EXT_HDR_SF (R/W)**
	15	X	Reserved
	14:12	0x0006	EXT_HDR_SF_D12_RANGE smoothing filer D12 range This value is unsigned. Changes take effect after a Change−Config command.
0xC406	11:9	X	Reserved
	8:0	0x0100	EXT_HDR_SF_D2 High threshold value for the soft−switching function in the smoothing filter This value is unsigned. Changes take effect after a Change−Config command.
	Contains bitfields for the control of the smoothing filter This value is unsigned. Changes take effect after a Change−Config command.		
	15:0	**0x0034**	**EXT_LL_NR_LUT_0_SIGMA (R/W)**
0xC408	Noise floor corresponding to gain. (unity=32). This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
	15:0	**0x0093**	**EXT_LL_NR_LUT_0_K0 (R/W)**
0xC40A	Value of K noise coefficient (unity=256). This value is unsigned fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
	15:0	**0x0037**	**EXT_LL_NR_LUT_1_SIGMA (R/W)**
0xC40C	Noise floor corresponding to gain. (unity=32). This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
	15:0	**0x0093**	**EXT_LL_NR_LUT_1_K0 (R/W)**
0xC40E	Value of K noise coefficient (unity=256). This value is unsigned fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
	15:0	**0x0107**	**EXT_LL_NR_LUT_2_SIGMA (R/W)**
0xC410	Noise floor corresponding to gain. (unity=32). This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
	15:0	**0x0093**	**EXT_LL_NR_LUT_2_K0 (R/W)**
0xC412	Value of K noise coefficient (unity=256). This value is unsigned fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		

TABLE 48. 17: PATCH VARIABLES FOR GENERAL PATCHES

R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
	15:0	0x0105	EXT_LL_NR_LUT_3_SIGMA (R/W)
0xC414	Noise floor corresponding to gain. (unity=32). This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
	15:0	0x0093	EXT_LL_NR_LUT_3_K0 (R/W)
0xC416	Value of K noise coefficient (unity=256). This value is unsigned fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
	15:0	0x03E8	EXT_LL_NOISE_PEDESTAL_TH_BM (R/W)
0xC418	Brightness metric threshold for noise pedestal. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
	15:0	0x03E8	EXT_LL_NR_LUT_TH_BM (R/W)
0xC41A	Brightness metric threshold for extended Noise floor and K LUT. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
	7:0	0x00	EXT_LL_NR_LUT_TH_DR (R/W)
0xC41C	Dynamic range threshold for extended Noise floor and K LUT. This value is unsigned. Changes take effect during Vertical Blanking.		
	7:0	0x32	EXT_LL_NOISE_PEDESTAL_GATE_BM (R/W)
0xC41D	Brightness metric threshold gate for noise pedestal. This value is unsigned fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
	7:0	0x32	EXT_LL_NR_LUT_GATE_BM (R/W)
0xC41E	Brightness metric threshold gate for extended Noise floor and K LUT. This value is unsigned fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
	7:0	0x00	EXT_LL_NR_LUT_GATE_DR (R/W)
0xC41F	Dynamic range threshold gate for extended Noise floor and K LUT. This value is unsigned. Changes take effect during Vertical Blanking.		

TABLE 49. 18: CAMCONTROL VARIABLES

R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xC804	15:0	0x0008	CAM_SENSOR_CFG_Y_ADDR_START (R/W)
	The first row of visible pixels to be read out (not counting any dark rows that may be read). Must be an even value. This value is unsigned. Changes take effect after a Change−Config command.		
0xC806	15:0	0x0002	CAM_SENSOR_CFG_X_ADDR_START (R/W)
	The first column of visible pixels to be read out (not counting any dark columns that may be read). Must be an even value. This value is unsigned. Changes take effect after a Change−Config command.		
0xC808	15:0	0x03C7	CAM_SENSOR_CFG_Y_ADDR_END (R/W)
	The last row of visible pixels to be read out. Must be an odd value. This value is unsigned. Changes take effect after a Change−Config command.		
0xC80A	15:0	0x0501	CAM_SENSOR_CFG_X_ADDR_END (R/W)
	The last column of visible pixels to be read out. Must be an odd value. This value is unsigned. Changes take effect after a Change−Config command.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xC80C	**31:0**	**0x0337F980**	**CAM_SENSOR_CFG_PIXCLK (R/W)**
	The sensor's pixel clock speed in Hertz. This value is unsigned. Changes take effect after a Change−Config command.		
0xC810	**15:0**	**0x02BC**	**CAM_SENSOR_CFG_FINE_INTEG_TIME_MIN (R/W)**
	Minimum fine integration time. This value is unsigned. Changes take effect after a Change−Config command.		
0xC812	**15:0**	**0x068C**	**CAM_SENSOR_CFG_FINE_INTEG_TIME_MAX (R/W)**
	Maximum fine integration time. This value is unsigned. Changes take effect after a Change−Config command.		
0xC814	**15:0**	**0x0432**	**CAM_SENSOR_CFG_FRAME_LENGTH_LINES (R/W)**
	The number of complete lines (rows) in the output frame. This includes visible lines and vertical blanking lines. This value is unsigned. Changes take effect after a Change−Config command.		
0xC816	**15:0**	**0x068C**	**CAM_SENSOR_CFG_LINE_LENGTH_PCK (R/W)**
	The number of pixel clock periods in one line (row) time. This includes visible pixels and horizontal blanking. This value is unsigned. Changes take effect after a Change−Config command.		
0xC818	**15:0**	**0x0000**	**CAM_SENSOR_CFG_EXTRA_DELAY (R/W)**
	Extra delay time, in sensor pixel clocks, added to the sensor's frame time. This must be zero for sensors that do not support extra delay. This must be less than the cam_sensor_cfg_line_length_pck value. This value is unsigned. Changes take effect after a Change−Config command.		
0xC834	**7:0**	**0x20**	**CAM_SENSOR_CFG_CCI_BASE_ADDR_0 (R/W)**
	CCI device address for the attached sensor. Used for sensor discovery. This value is unsigned. Changes take effect after a Change−Config command.		
0xC835	**7:0**	**0x90**	**CAM_SENSOR_CFG_CCI_BASE_ADDR_1 (R/W)**
	Alternate CCI device address for the attached sensor. Used for sensor discovery. This value is unsigned. Changes take effect after a Change−Config command.		
0xC836	**7:0**	**0x01**	**CAM_SENSOR_CFG_DISCOVERY_TIME_M3_ROM_MS (R/W)**
	Sensor discovery time in milliseconds when reading the M3 ROM. This value is unsigned. Changes take effect after a Change−Config command.		
0xC837	**7:0**	**0x1F**	**CAM_SENSOR_CFG_DISCOVERY_TIME_OTPM_MS (R/W)**
	Sensor discovery time in milliseconds when uploading the OTPM. This value is unsigned. Changes take effect after a Change−Config command.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xC838	**31:0**	**0x04020841**	**CAM_SENSOR_CONTROL_EXTERNAL_PLL (R/W)**
	31:29	X	Reserved
	28:23	0x00000008	CAM_SENSOR_CONTROL_EXTERNAL_PLL_P2 The Sensor PLL VCO P2 output divider. See the data sheet for the attached sensor for the setting of this value. This value should be obtained from Register Wizard. This value is unsigned. Changes take effect after a Change−Config command.
	22:17	0x00000001	CAM_SENSOR_CONTROL_EXTERNAL_PLL_P1 The Sensor PLL VCO P1 output divider. See the data sheet for the attached sensor for the setting of this value. This value should be obtained from Register Wizard. This value is unsigned. Changes take effect after a Change−Config command.
	16:10	0x00000002	CAM_SENSOR_CONTROL_EXTERNAL_PLL_N The Sensor PLL prescale divider. The Sensor PLL VCO divider. See the data sheet for the attached sensor for the setting of this value. This value should be obtained from Register Wizard. This value is unsigned. Changes take effect after a Change−Config command.
	9:1	0x0020	CAM_SENSOR_CONTROL_EXTERNAL_PLL_M The Sensor PLL VCO divider. See the data sheet for the attached sensor for the setting of this value. This value should be obtained from Register Wizard. This value is unsigned. Changes take effect after a Change−Config command.
	0	0x01	CAM_SENSOR_CONTROL_EXTERNAL_PLL_ENABLE Sensor phase lock loop enable. The PLL dividers should only be changed when the PLL is disabled. 0: Disabled (bypassed) 1: Enabled This value is unsigned. Changes take effect after a Change−Config command.
	Sensor PLL control variable. See individual bit descriptions for function. This value is unsigned. Changes take effect after a Change−Config command.		
0xC83C	**7:0**	**0x00**	**CAM_SENSOR_CONTROL_BASE_ADDRESS (RO)**
	This is the actual CCI device address for the attached sensor that was found during sensor discovery. This value is unsigned. Updates after a Change−Config command.		
0xC83D	**7:0**	**0x00**	**CAM_SENSOR_CONTROL_REVISION_NUMBER (RO)**
	Revision number of the attached sensor. This is updated during sensor discovery and is not valid before then. This value is unsigned. Updates after a Change−Config command.		
0xC83E	**15:0**	**0x0000**	**CAM_SENSOR_CONTROL_MODEL_ID (RO)**
	Model ID of the attached sensor. This is updated during sensor discovery and is not valid before then. This value is unsigned. Updates after a Change−Config command.		
0xC840	**15:0**	**0x0000**	**CAM_SENSOR_CONTROL_EXTERNAL_OUTPUT_CLK_DIV (R/W)**
	15:8	0x0000	CAM_SENSOR_CONTROL_EXTERNAL_OUTPUT_SYS_CLK_DIV The sensor output system clock divider. See the data sheet for the attached sensor for the setting of this value. This value should be obtained from Register Wizard. This value is unsigned. Changes take effect after a Change−Config command.
	7:0	0x00	CAM_SENSOR_CONTROL_EXTERNAL_OUTPUT_PIX_CLK_DIV The sensor output pixel clock divider. See the data sheet for the attached sensor for the setting of this value. This value should be obtained from Register Wizard. This value is unsigned. Changes take effect after a Change−Config command.
	Sensor output clock controls. See individual bit descriptions for function. This value is unsigned. Changes take effect after a Change−Config command.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xC842	**7:0**	**0x00**	**CAM_SENSOR_CONTROL_REQUEST (R/W)**
	7:3	X	Reserved
	2	0x00	CAM_SENSOR_CONTROL_HDR_CONFIG_REQUEST When set, requests the Sensor Manager commit a new HDR/SDR and T1/T2/T3 configuration. Auto−cleared when new configuration is applied. This value is unsigned. Changes take effect during Vertical Blanking.
	1	0x00	CAM_SENSOR_CONTROL_WB_REQUEST When set, requests the Sensor Manager commit a new white balance. Auto−cleared when new white balance is applied. This value is unsigned. Changes take effect during Vertical Blanking.
	0	0x00	CAM_SENSOR_CONTROL_EXPOSURE_REQUEST When set, requests the Sensor Manager commit a new exposure. Auto−cleared when new exposure is applied. This value is unsigned. Changes take effect during Vertical Blanking.
	Sensor exposure and white balance request bits from the host. This value is unsigned. Changes take effect during Vertical Blanking.		
0xC843	**7:0**	**0x00**	**CAM_SENSOR_CONTROL_INTERNAL_REQUEST (RO)**
	7:3	X	Reserved
	2	RO	CAM_SENSOR_CONTROL_HDR_CONFIG_INT_REQUEST When set, requests the Sensor Manager commit a new HDR/SDR and T1/T2/T3 configuration. For internal use only. Auto−cleared when new configuration is applied. This value is unsigned. Updates during Vertical Blanking.
	1	RO	CAM_SENSOR_CONTROL_WB_INT_REQUEST When set, requests the Sensor Manager commit a new white balance. For internal use only. Auto−cleared when new white balance is applied. This value is unsigned. Updates during Vertical Blanking.
	0	RO	CAM_SENSOR_CONTROL_EXPOSURE_INT_REQUEST When set, requests the Sensor Manager commit a new exposure. For internal use only. Auto−cleared when new exposure is applied. This value is unsigned. Updates during Vertical Blanking.
	Exposure/WB request bits to the Sensor Manager (set internal). This value is unsigned. Updates during Vertical Blanking.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xC844	**15:0**	**0x09C2**	**CAM_SENSOR_CONTROL_OPERATION_MODE (R/W)**
	15:14	X	Reserved
	13	0x0000	Reserved
	12	0x0000	CAM_SENSOR_CONTROL_EMBEDDED_DATA_ENABLE Enable output of the sensor registers and statistics data embedded in the sensor output video stream. 0: Disabled 1: Enabled This value is unsigned. Changes take effect after a Change−Config command.
	11	0x0001	Reserved
	10:6	0x0007	Reserved
	5:4	0x00	CAM_SENSOR_CONTROL_OUTPUT_DATA Controls the output data format from the sensor to the companion chip. 0: 12 parallel 1: 12 bit HiSpi 2: 14 bit HiSpi This value is unsigned. Changes take effect after a Change−Config command.
	3	X	Reserved
	2:0	0x02	CAM_SENSOR_CONTROL_EXPOSURE_MODE Controls the exposure mode of the sensor. 0: SDR (standard dynamic range) 1: HDR (ME) 2: HDR (DLO) This value is unsigned. Changes take effect after a Change−Config command.
	Mode of operation for the sensor. This value is unsigned. Changes take effect after a Change−Config command.		
0xC846	**15:0**	**0x0000**	**CAM_SENSOR_CONTROL_READ_MODE (R/W)**
	15:10	X	Reserved
	9:8	RO	Reserved
	7:6	X	Reserved
	5:4	RO	Reserved
	3:2	X	Reserved
	1	0x00	CAM_SENSOR_CONTROL_VERT_FLIP_EN 0: Readout is not flipped (mirrored) vertically. 1: Readout is flipped (mirrored) vertically so that the row specified by y_addr_end_ is read out of the sensor first. This value is unsigned. Changes take effect after a Change−Config command.
	0	0x00	CAM_SENSOR_CONTROL_HORZ_MIRROR_EN 0: Readout is not mirrored horizontally. 1: Readout is mirrored horizontally so that the column specified by x_addr_end_ is read out of the sensor first. This value is unsigned. Changes take effect after a Change−Config command.
	Controls the sensor read−mode. This value is unsigned. Changes take effect after a Change−Config command.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xC848	**15:0**	**0x000B**	**CAM_HDR_MC_CTRL_MODE (R/W)**
	15:4	X	Reserved
	3	0x01	CAM_HDR_MC_CTRL_MC_ENABLE_NOISE_FILTER Enable noise filtering for motion compensation algorithm. 0: Disabled 1: Enabled This value is unsigned. Changes take effect after a Change−Config command.
	2	0x00	Reserved
	1	0x01	CAM_HDR_MC_CTRL_MC_ENABLE_MOTION_CORRECTION_2D 2−D motion detection and correction control. 0: 1−D 1: 2−D This value is unsigned. Changes take effect after a Change−Config command.
	0	0x01	CAM_HDR_MC_CTRL_MC_ENABLE_MOTION_CORRECTION Motion detection and correction control. 0: Disabled 1: Enabled This value is unsigned. Changes take effect after a Change−Config command.
	Mode bits for motion compensation algorithm. This value is unsigned. Changes take effect after a Change−Config command.		
0xC84A	**15:0**	**0x0BA0**	**CAM_HDR_MC_CTRL_S1_THRESHOLD (R/W)**
	Separate S1 threshold (start of weighting function for smooth HDR pixel combination) for motion compensation. This value is unsigned. Changes take effect after a Change−Config command.		
0xC84C	**15:0**	**0x0FA0**	**CAM_HDR_MC_CTRL_S2_THRESHOLD (R/W)**
	Threshold level for end point of weighting transfer function. Pixel values above this level are chosen from exposure 2 only. This value is unsigned. Changes take effect after a Change−Config command.		
0xC84E	**15:0**	**0x0800**	**CAM_HDR_MC_CTRL_S12_RANGE (R/W)**
	Range of code values for the weighting transfer function defined by S2−S1. This value is unsigned. Changes take effect after a Change−Config command.		
0xC850	**15:0**	**0x0300**	**CAM_HDR_MC_CTRL_DIFF_THRESHOLD (R/W)**
	Value specifying how much greater than P2−lin, P1 must be for motion to be detected (the nearer this value is to 0 the less robust to noise it will be). This value is unsigned. Changes take effect after a Change−Config command.		
0xC854	**15:0**	**0x0001**	**CAM_HDR_DLO_CTRL_MODE (R/W)**
	15:3	X	Reserved
	2	0x00	CAM_HDR_DLO_CTRL_DLO_NCC_ENABLE Enable noise coring correction for DLO This value is unsigned. Changes take effect after a Change−Config command.
	1	0x00	CAM_HDR_DLO_CTRL_DLO_ENABLE_FILTER_QUAD Enable quadratic weighting for DLO noise filter. 0: Linear weighting 1: Quadratic weighting This value is unsigned. Changes take effect after a Change−Config command.
	0	0x01	CAM_HDR_DLO_CTRL_DLO_ENABLE_NOISE_FILTER Enable noise filtering fin the digital lateral overflow pixel combination. 0: Disabled 1: Enabled This value is unsigned. Changes take effect after a Change−Config command.
	Mode bits for digital lateral overflow algorithm. This value is unsigned. Changes take effect after a Change−Config command.		
0xC856	**15:0**	**0x0BB8**	**CAM_HDR_DLO_CTRL_T1_BARRIER (R/W)**
	Barrier for clipping T1 data in the digital lateral overflow combination method. This value is unsigned. Changes take effect after a Change−Config command.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xC858	**15:0**	**0x0DAC**	**CAM_HDR_DLO_CTRL_T2_BARRIER (R/W)**
	Barrier for clipping T2 data in the digital lateral overflow combination method. This value is unsigned. Changes take effect after a Change−Config command.		
0xC85A	**15:0**	**0x0FA0**	**CAM_HDR_DLO_CTRL_T3_BARRIER (R/W)**
	Barrier for clipping T3 data in the digital lateral overflow combination method. This value is unsigned. Changes take effect after a Change−Config command.		
0xC85C	**15:0**	**0x0100**	**CAM_HDR_DLO_CTRL_NOISE_DISABLE_THRESHOLD (R/W)**
	For the digital lateral overflow method, if either T1 data, T2 data or T3 data is greater than this threshold, noise filtering is turned off. Evaluated on a single pixel. This value is unsigned. Changes take effect after a Change−Config command.		
0xC85E	**15:0**	**0x0040**	**CAM_HDR_DLO_CTRL_NOISE_S2_THRESHOLD (R/W)**
	Threshold level for end point of noise filter weighting transfer function for digital lateral overflow. This value is unsigned. Changes take effect after a Change−Config command.		
0xC860	**15:0**	**0x0005**	**CAM_HDR_DLO_CTRL_NOISE_S12_RANGE (R/W)**
	Range of code values for the noise filter weighting transfer function for digital lateral overflow defined by s2_dlo − s1_dlo. This value is unsigned. Changes take effect after a Change−Config command.		
0xC862	**15:0**	**0x0FA0**	**CAM_HDR_DLO_CTRL_T4_BARRIER (R/W)**
	Barrier for clipping T4 data in the digital lateral overflow combination method. This value is unsigned. Changes take effect after a Change−Config command.		
0xC864	**15:0**	**0x0001**	**CAM_EXP_CTRL_COARSE_INTEGRATION_TIME (R/W)**
	Coarse integration time specified in lines. This value is read−write in host−controlled exposure mode, read−only in all other modes. This value is unsigned. Changes take effect during Vertical Blanking.		
0xC866	**15:0**	**0x0000**	**CAM_EXP_CTRL_FINE_INTEGRATION_TIME (R/W)**
	Fine integration time specified in pixel clocks. This value is read−write in host−controlled exposure mode, read−only in all other modes. This value is unsigned. Changes take effect during Vertical Blanking.		
0xC868	**15:0**	**0x0020**	**CAM_EXP_CTRL_ANALOG_RED_GAIN (R/W)**
	Analog gain for the red channel. This value is read−write in host−controlled exposure mode, read−only in all other modes. This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
0xC86A	**15:0**	**0x0020**	**CAM_EXP_CTRL_ANALOG_GREEN1_GAIN (R/W)**
	Analog gain for the green1 channel. This value is read−write in host−controlled exposure mode, read−only in all other modes. This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
0xC86C	**15:0**	**0x0020**	**CAM_EXP_CTRL_ANALOG_GREEN2_GAIN (R/W)**
	Analog gain for the green2 channel. This value is read−write in host−controlled exposure mode, read−only in all other modes. This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
0xC86E	**15:0**	**0x0020**	**CAM_EXP_CTRL_ANALOG_BLUE_GAIN (R/W)**
	Analog gain for the blue channel. This value is read−write in host−controlled exposure mode, read−only in all other modes. This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
0xC870	**15:0**	**0x0000**	**CAM_EXP_CTRL_FRAME_LENGTH_LINES (R/W)**
	Number of lines within the frame. This value is read−write in host−controlled exposure mode, read−only in all other modes. This value is unsigned. Changes take effect during Vertical Blanking.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xC872	15:0	0x0000	CAM_EXP_CTRL_LINE_LENGTH_PCK (R/W)
	Number of pixel clocks within a line. This value is read−write in host−controlled exposure mode, read−only in all other modes. Changing this value generates a bad frame in the sensor. This value is unsigned. Changes take effect during Vertical Blanking.		
0xC874	7:0	0x00	CAM_EXP_CTRL_COLUMN_GAIN (R/W)
	Column gain selection for all channels. This value is read−write in host−controlled exposure mode, read−only in all other modes. 0: 1x gain. 1: 2x gain. 2: 4x gain. 3: 8x gain. Note: These values are sensor specific. This value is unsigned. Changes take effect during Vertical Blanking.		
0xC875	7:0	0x00	CAM_EXP_CTRL_DCG_GAIN (R/W)
	Dual−conversion gain for all channels. This value is read−write in host−controlled exposure mode, read−only in all other modes. This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
0xC876	15:0	0x0080	CAM_EXP_CTRL_DGAIN_RED (R/W)
	Sensor digital gain for the red channel. This value is read−write in host−controlled exposure mode, read−only in all other modes. This value is unsigned fixed−point with 7 fractional bits. Changes take effect during Vertical Blanking.		
0xC878	15:0	0x0080	CAM_EXP_CTRL_DGAIN_GREEN1 (R/W)
	Sensor digital gain for the green1 channel. This value is read−write in host−controlled exposure mode, read−only in all other modes. This value is unsigned fixed−point with 7 fractional bits. Changes take effect during Vertical Blanking.		
0xC87A	15:0	0x0080	CAM_EXP_CTRL_DGAIN_GREEN2 (R/W)
	Sensor digital gain for the green2 channel. This value is read−write in host−controlled exposure mode, read−only in all other modes. This value is unsigned fixed−point with 7 fractional bits. Changes take effect during Vertical Blanking.		
0xC87C	15:0	0x0080	CAM_EXP_CTRL_DGAIN_BLUE (R/W)
	Sensor digital gain for the blue channel. This value is read−write in host−controlled exposure mode, read−only in all other modes. This value is unsigned fixed−point with 7 fractional bits. Changes take effect during Vertical Blanking.		
0xC87E	15:0	0x0080	CAM_EXP_CTRL_CPIPE_DGAIN_RED (R/W)
	Cpipe gain for the red channel. This value is read−write in host−controlled exposure mode, read−only in all other modes. This value is unsigned fixed−point with 7 fractional bits. Changes take effect during Vertical Blanking.		
0xC880	15:0	0x0080	CAM_EXP_CTRL_CPIPE_DGAIN_GREEN1 (R/W)
	Cpipe gain for the green1 channel. This value is read−write in host−controlled exposure mode, read−only in all other modes. This value is unsigned fixed−point with 7 fractional bits. Changes take effect during Vertical Blanking.		
0xC882	15:0	0x0080	CAM_EXP_CTRL_CPIPE_DGAIN_GREEN2 (R/W)
	Cpipe gain for the green2 channel. This value is read−write in host−controlled exposure mode, read−only in all other modes. This value is unsigned fixed−point with 7 fractional bits. Changes take effect during Vertical Blanking.		
0xC884	15:0	0x0080	CAM_EXP_CTRL_CPIPE_DGAIN_BLUE (R/W)
	Cpipe gain for the blue channel. This value is read−write in host−controlled exposure mode, read−only in all other modes. This value is unsigned fixed−point with 7 fractional bits. Changes take effect during Vertical Blanking.		
0xC886	15:0	0x0080	CAM_EXP_CTRL_CPIPE_DGAIN_SECOND (R/W)
	Cpipe secondary gain for all channels. This value is read−write in host−controlled exposure mode, read−only in all other modes. This value is unsigned fixed−point with 7 fractional bits. Changes take effect during Vertical Blanking.		
0xC888	7:0	0x02	CAM_EXP_CTRL_RATIO_T1_T2 (R/W)
	Sensor T1/T2 exposure ratio. This value is read−write in host−controlled exposure mode, read−only in all other modes. This value is unsigned. Changes take effect during Vertical Blanking.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xC889	7:0	0x02	CAM_EXP_CTRL_RATIO_T2_T3 (R/W)
	Sensor T2/T3 exposure ratio. This value is read−write in host−controlled exposure mode, read−only in all other modes. This value is unsigned. Changes take effect during Vertical Blanking.		
0xC88A	7:0	0x00	CAM_EXP_CTRL_HDR_SDR_MODE (R/W)
	Sensor HDR/SDR exposure mode. This value is read−write in host−controlled exposure mode, read−only in all other modes. This value is unsigned. Changes take effect during Vertical Blanking.		
0xC88C	15:0	0x00C8	CAM_CPIPE_CONTROL_FIRST_BLACK_LEVEL (R/W)
	Applied first blacklevel subtraction, should match sensor data pedestal, host configured. This value is unsigned. Changes take effect after a Change−Config command.		
0xC88E	15:0	0x0000	CAM_CPIPE_CONTROL_SECOND_BLACK_LEVEL (RO)
	Second Black Level control. This value is calculated based on the scene. This value is then subtracted from each pixel value to enhance contrast. This can be read−write if the black level algorithm is disabled. This value is unsigned. Updates during Vertical Blanking.		
0xC890	7:0	0x00	CAM_MODE_SELECT (R/W)
	Selection variable for the camera operation modes 0: Normal mode. 1: Lens Calibration mode. 2: Test Pattern Generator mode. 3: Synchronized mode. 4: Raw Bayer. 5: DCNR Bayer. 7: ALTM Bayer−12 mode. 8: ALTM Bayer−10 mode. 9: Raw Bayer companded from sensor. All other values are reserved. This value is unsigned. Changes take effect after a Change−Config command.		
0xC891	7:0	0x00	CAM_MODE_SYNC_TYPE (R/W)
	Selects type of synchronization: 0: Trigger (Standard) 1: Trigger (Deterministic) 2: Slave(Standard) 3: Slave (Shutter−Sync) All other values are reserved. This value is unsigned. Changes take effect after a Change−Config command.		
0xC892	7:0	0x00	CAM_MODE_SYNC_TRIGGER_MODE (R/W)
	Selects type of trigger when synchronization is set to one of the trigger types. 0: One−Shot 1: Continuous This value is unsigned. Changes take effect after a Change−Config command.		
0xC893	7:0	0x02	CAM_MODE_TEST_PATTERN_SELECT (R/W)
	Select the test pattern (in Test Pattern Generator mode): 1: Solid color. 2: 100% color bars. 5: Pseudo−random. 8: Fade−to−gray color bars. 9: Linear ramp. This value is unsigned. Changes take effect after a Change−Config command.		
0xC894	31:0	0x000FFFFF	CAM_MODE_TEST_PATTERN_RED (R/W)
	Variables cam_mode_test_pattern_red, cam_mode_test_pattern_green, and cam_mode_test_pattern_blue select the color for the solid color test pattern. This is a 20−bit value when the part is in an HDR mode (0−19) and bits 20 and above are masked off before use. In non−HDR mode, this is limited to a 12−bit value and bits 12 and above are masked off before use. This value is unsigned. Changes take effect after a Change−Config command.		
0xC898	31:0	0x000FFFFF	CAM_MODE_TEST_PATTERN_GREEN (R/W)
	Variables cam_mode_test_pattern_red, cam_mode_test_pattern_green, and cam_mode_test_pattern_blue select the color for the solid color test pattern. This is a 20−bit value when the part is in an HDR mode (0−19) and bits 20 and above are masked off before use. In non−HDR mode, this is limited to a 12−bit value and bits 12 and above are masked off before use. This value is unsigned. Changes take effect after a Change−Config command.		
0xC89C	31:0	0x000FFFFF	CAM_MODE_TEST_PATTERN_BLUE (R/W)
	Variables cam_mode_test_pattern_red, cam_mode_test_pattern_green, and cam_mode_test_pattern_blue select the color for the solid color test pattern. This is a 20−bit value when the part is in an HDR mode (0−19) and bits 20 and above are masked off before use. In non−HDR mode, this is limited to a 12−bit value and bits 12 and above are masked off before use. This value is unsigned. Changes take effect after a Change−Config command.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xC8A0	**15:0**	**0x0000**	**CAM_CROP_WINDOW_XOFFSET (R/W)**
	The horizontal offset in pixels of the crop window relative to the left edge of sensor's Field of View (FOV). This can be used to pan the crop window within the FOV window. This value is unsigned. Changes take effect after a Refresh command.		
0xC8A2	**15:0**	**0x0000**	**CAM_CROP_WINDOW_YOFFSET (R/W)**
	The vertical offset in lines of the crop window relative to the top edge of the sensor's Field of View (FOV) window. This can be used to pan the crop window within the FOV window. This value is unsigned. Changes take effect after a Refresh command.		
0xC8A4	**15:0**	**0x0500**	**CAM_CROP_WINDOW_WIDTH (R/W)**
	The horizontal width of the crop window. This selects the number of columns from the sensor that will be used as input into the Scaler. This value is unsigned. Changes take effect after a Refresh command.		
0xC8A6	**15:0**	**0x03C0**	**CAM_CROP_WINDOW_HEIGHT (R/W)**
	The vertical height in lines of the crop window. This selects the number of rows from the sensor that will be used as input into the Scaler. This value is unsigned. Changes take effect after a Refresh command.		
0xC8A8	**7:0**	**0x00**	**CAM_FOV_CALIB_X_OFFSET (R/W)**
	Horizontal calibration offset for the sensor array. This shifts the center of Field of View (FOV) window relative to the center of the sensor. This is used to compensate for manufacturing tolerances when the sensor is mounted in a module, so that the image center is the same for all modules. A value of 0 centers the FOV horizontally on the center of the sensor. The limits for calib_x_offset are (calib_x_offset + CAM_SENSOR_CFG_X_ADDR_START) must be 0 or larger (not negative), and (calib_x_offset + CAM_SENSOR_CFG_X_ADDR_END) must be less than the maximum width of the sensor. When using the flip and mirror feature of the sensor, then the range for calib_x_offset might need to be increased to correct for the sensor's internal starting color adjustment. This value is signed 2's complement. Changes take effect after a Change−Config command.		
0xC8A9	**7:0**	**0x00**	**CAM_FOV_CALIB_Y_OFFSET (R/W)**
	Vertical calibration offset for the sensor array. This shifts the center of Field of View (FOV) window relative to the center of the sensor. This is used to compensate for manufacturing tolerances when the sensor is mounted in a module, so that the image center is the same for all modules. A value of 0 centers the FOV vertically on the center of the sensor. The limits for calib_x_offset are (calib_y_offset + CAM_SENSOR_CFG_Y_ADDR_START) must be 0 or larger (not negative), and (calib_y_offset + CAM_SENSOR_CFG_Y_ADDR_END) must be less than the maximum height of the sensor. When using the flip and mirror feature of the sensor, then the range for calib_y_offset might need to be increased to correct for the sensor's internal starting color adjustment. This value is signed 2's complement. Changes take effect after a Change−Config command.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xC8BC	**7:0**	**0x00**	**CAM_AET_AEMODE (R/W)**
	7	0x00	CAM_AET_MODE_MAX_INT_TIME Enable the 'maximize integration time' mode. The integration time is fixed to the maximum possible for the given frame rate. Note this can be used in HDR to get the faster frame rates as the vblanking can be decreased. This value is unsigned. Changes take effect after a Change−Config command.
	6:4	0x00	CAM_AET_MODE_EXPOSURE Controls the Exposure operation mode 0: Auto Exposure 1: Triggered Auto Exposure 2: Manual Exposure 3: Host−Controlled All other values are reserved. This value is unsigned. Changes take effect after a Refresh command.
	3	X	Reserved
	2	0x00	CAM_AET_DISABLE_FLICKER_AVOIDANCE_AT_TARGET_GAIN If set, AE disables its flicker avoidance rules when the applied analog gain crosses a threshold This value is unsigned.
	1	0x00	CAM_AET_DISCRETE_FRAMERATE Controls variable frame−rate operation. 0: Continuously−variable: the frame rate varies in steps of 1 flicker period. 1: Discrete: the frame rate will vary by discrete steps. The discrete frame rates are determined by the cam_aet_frame_rate_0 through cam_aet_frame_rate_2 variables. Note this bit is only supported in SDR mode. This value is unsigned. Changes take effect after a Change−Config command.
	0	0x00	CAM_AET_MODE_INDOOR Enable 'indoor' mode. 0: Disabled 1: Enabled: limit AE to minimum 1 flicker period of exposure This value is unsigned. Changes take effect after a Change−Config command.
	Execution modes for AE Track. This value is unsigned. Changes take effect after a Change−Config command.		
0xC8BE	**15:0**	**0x001E**	**CAM_AET_BLACK_CLIPPING_TARGET (R/W)**
	Black level control: sets the target percentage of 'dark' pixels within the luma histogram (1024 = 100%). The firmware adjusts the luma histogram by subtracting the calculated black level from each pixel, then equalizing the histogram. The blacklevel algorithm calculates the amount of subtraction (cam_cpipe_control_second_black_level) to be applied so that the 'dark' percentage of the luma histogram matches the target. The maximum amount of black level subtraction that can be applied is limited by blacklevel_max_black_level. This value is unsigned. Changes take effect during Vertical Blanking.		
0xC8C0	**15:0**	**0x0500**	**CAM_AET_EXPOSURE_TIME_MS (R/W)**
	Manual exposure (integration) time in milliseconds. This variable is only processed in response to the 'host' exposure request bit (cam_sensor_control_exposure_request) being set. This value is unsigned fixed−point with 7 fractional bits. Changes take effect during Vertical Blanking.		
0xC8C2	**15:0**	**0x0080**	**CAM_AET_EXPOSURE_GAIN (R/W)**
	Manual exposure (gain). This variable is only processed in response to the 'host' exposure request bit (cam_sensor_control_exposure_request) being set. This value is unsigned fixed−point with 7 fractional bits. Changes take effect during Vertical Blanking.		
0xC8C6	**15:0**	**0x0080**	**CAM_AET_AE_MIN_VIRT_DGAIN (R/W)**
	This is the minimum value for the second digital gain that AE Track is permitted to use. This value is unsigned fixed−point with 7 fractional bits. Changes take effect during Vertical Blanking.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xC8C8	**15:0**	**0x0280**	**CAM_AET_AE_MAX_VIRT_DGAIN (R/W)**
	This the maximum value for the second digital gain that AE Track is permitted to use. The default maximum value is set to allow AE Track to use small amounts of digital gain to supplement system gain values. This value is unsigned fixed−point with 7 fractional bits. Changes take effect during Vertical Blanking.		
0xC8CA	**15:0**	**0x0020**	**CAM_AET_AE_MIN_VIRT_AGAIN (R/W)**
	This is the minimum value for the sensor analog gain that AE Track is permitted to use. This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
0xC8CC	**15:0**	**0x0020**	**CAM_AET_AE_MAX_VIRT_AGAIN (R/W)**
	This the maximum value for the sensor analog gain that AE Track is permitted to use. This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
0xC8D1	**7:0**	**0x3C**	**CAM_AET_FLICKER_FREQ_HZ (R/W)**
	The desired flicker avoidance frequency in Hertz (50Hz or 60Hz). This value is unsigned. Changes take effect after a Change−Config command.		
0xC8D2	**15:0**	**0x1E00**	**CAM_AET_MAX_FRAME_RATE (RO)**
	The maximum configured frame rate in Hertz (unity = 256). Note this is the maximum frame−rate as determined by the current sensor configuration. This value is unsigned fixed−point with 8 fractional bits. Updates after a Change−Config command.		
0xC8D4	**15:0**	**0x0000**	**CAM_AET_FRAME_RATE_0 (R/W)**
	First discrete mode frame rate in Hertz. Must be less than cam_aet_max_frame_rate and greater than cam_aet_frame_rate_1. Variable frame rate is not supported in Interlaced modes and HDR exposure modes. This value is unsigned fixed−point with 8 fractional bits. Changes take effect after a Change−Config command.		
0xC8D6	**15:0**	**0x0000**	**CAM_AET_FRAME_RATE_1 (R/W)**
	Second discrete mode frame rate in Hertz. Must be less than cam_aet_frame_rate_0 and greater than cam_aet_frame_rate 2. Variable frame rate is not supported in Interlaced modes and HDR exposure modes. This value is unsigned fixed−point with 8 fractional bits. Changes take effect after a Change−Config command.		
0xC8D8	**15:0**	**0x0000**	**CAM_AET_FRAME_RATE_2 (R/W)**
	Third discrete mode frame rate in Hertz. Must be less than cam_aet_frame_rate_1. Variable frame rate is not supported in Interlaced modes and HDR exposure modes. This value is unsigned fixed−point with 8 fractional bits. Changes take effect after a Change−Config command.		
0xC8DA	**15:0**	**0x0100**	**CAM_AET_TARGET_GAIN (R/W)**
	Sets the target analog gain. This value is used by AE Track to determine the maximum gain before starting to reduce the frame rate. This is subject to the limitation that the minimum value has to be at least twice the minimum system gain − i.e. 2 x (cam_aet_ae_min_virt_again x cam_aet_ae_min_virt_dgain). This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
0xC8DC	**15:0**	**0x009C**	**CAM_AWB_CCM_L_0 (R/W)**
	Red−rich CCM value for column 0 and row 0. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xC8DE	**15:0**	**0x002E**	**CAM_AWB_CCM_L_1 (R/W)**
	Red−rich CCM value for column 1 and row 0. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xC8E0	**15:0**	**0x0035**	**CAM_AWB_CCM_L_2 (R/W)**
	Red−rich CCM value for column 2 and row 0. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xC8E2	15:0	0xFFA8	CAM_AWB_CCM_L_3 (R/W)
	Red−rich CCM value for column 0 and row 1. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xC8E4	15:0	0x0117	CAM_AWB_CCM_L_4 (R/W)
	Red−rich CCM value for column 1 and row 1. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xC8E6	15:0	0x0041	CAM_AWB_CCM_L_5 (R/W)
	Red−rich CCM value for column 2 and row 1. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xC8E8	15:0	0xFFA2	CAM_AWB_CCM_L_6 (R/W)
	Red−rich CCM value for column 0 and row 2. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xC8EA	15:0	0x0004	CAM_AWB_CCM_L_7 (R/W)
	Red−rich CCM value for column 1 and row 2. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xC8EC	15:0	0x015A	CAM_AWB_CCM_L_8 (R/W)
	Red−rich CCM value for column 2 and row 2. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xC8EE	15:0	0x00C5	CAM_AWB_CCM_M_0 (R/W)
	Intermediate CCM value for column 0 and row 0. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xC8F0	15:0	0x0001	CAM_AWB_CCM_M_1 (R/W)
	Intermediate CCM value for column 1 and row 0. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xC8F2	15:0	0x003A	CAM_AWB_CCM_M_2 (R/W)
	Intermediate CCM value for column 2 and row 0. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xC8F4	15:0	0xFFEA	CAM_AWB_CCM_M_3 (R/W)
	Intermediate CCM value for column 0 and row 1. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xC8F6	15:0	0x00E7	CAM_AWB_CCM_M_4 (R/W)
	Intermediate CCM value for column 1 and row 1. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xC8F8	15:0	0x002F	CAM_AWB_CCM_M_5 (R/W)
	Intermediate CCM value for column 2 and row 1. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xC8FA	15:0	0x0009	CAM_AWB_CCM_M_6 (R/W)
	Intermediate CCM value for column 0 and row 2. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xC8FC	**15:0**	**0xFFF7**	**CAM_AWB_CCM_M_7 (R/W)**
	Intermediate CCM value for column 1 and row 2. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xC8FE	**15:0**	**0x0100**	**CAM_AWB_CCM_M_8 (R/W)**
	Intermediate CCM value for column 2 and row 2. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xC900	**15:0**	**0x00A4**	**CAM_AWB_CCM_R_0 (R/W)**
	Blue−rich CCM value for column 0 and row 0. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xC902	**15:0**	**0x004B**	**CAM_AWB_CCM_R_1 (R/W)**
	Blue−rich CCM value for column 1 and row 0. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xC904	**15:0**	**0x0011**	**CAM_AWB_CCM_R_2 (R/W)**
	Blue−rich CCM value for column 2 and row 0. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xC906	**15:0**	**0xFFE8**	**CAM_AWB_CCM_R_3 (R/W)**
	Blue−rich CCM value for column 0 and row 1. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xC908	**15:0**	**0x00E4**	**CAM_AWB_CCM_R_4 (R/W)**
	Blue−rich CCM value for column 1 and row 1. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xC90A	**15:0**	**0x0034**	**CAM_AWB_CCM_R_5 (R/W)**
	Blue−rich CCM value for column 2 and row 1. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xC90C	**15:0**	**0x000A**	**CAM_AWB_CCM_R_6 (R/W)**
	Blue−rich CCM value for column 0 and row 2. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xC90E	**15:0**	**0x001F**	**CAM_AWB_CCM_R_7 (R/W)**
	Blue−rich CCM value for column 1 and row 2. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xC910	**15:0**	**0x00D8**	**CAM_AWB_CCM_R_8 (R/W)**
	Blue−rich CCM value for column 2 and row 2. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xC912	**15:0**	**0x005A**	**CAM_AWB_CCM_L_RG_GAIN (R/W)**
	Red/Green ratio for Left Matrix. This value is unsigned fixed−point with 7 fractional bits. Changes take effect during Vertical Blanking.		
0xC914	**15:0**	**0x0122**	**CAM_AWB_CCM_L_BG_GAIN (R/W)**
	Blue/Green ratio for Left Matrix. This value is unsigned fixed−point with 7 fractional bits. Changes take effect during Vertical Blanking.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xC916	**15:0**	**0x009C**	**CAM_AWB_CCM_M_RG_GAIN (R/W)**
	Red/Green ratio for Intermediate Matrix. This value is unsigned fixed−point with 7 fractional bits. Changes take effect during Vertical Blanking.		
0xC918	**15:0**	**0x0105**	**CAM_AWB_CCM_M_BG_GAIN (R/W)**
	Blue/Green ratio for Intermediate Matrix. This value is unsigned fixed−point with 7 fractional bits. Changes take effect during Vertical Blanking.		
0xC91A	**15:0**	**0x008B**	**CAM_AWB_CCM_R_RG_GAIN (R/W)**
	Red/Green ratio for Right Matrix. This value is unsigned fixed−point with 7 fractional bits. Changes take effect during Vertical Blanking.		
0xC91C	**15:0**	**0x00AC**	**CAM_AWB_CCM_R_BG_GAIN (R/W)**
	Blue/Green ratio for Right Matrix. This value is unsigned fixed−point with 7 fractional bits. Changes take effect during Vertical Blanking.		
0xC91E	**15:0**	**0x09C4**	**CAM_AWB_CCM_L_CTEMP (R/W)**
	Color temperature for the Left Matrix (in Kelvin). This value is unsigned. Changes take effect during Vertical Blanking.		
0xC920	**15:0**	**0x0D67**	**CAM_AWB_CCM_M_CTEMP (R/W)**
	Color temperature for Intermediate Matrix (in Kelvin). This value is unsigned. Changes take effect during Vertical Blanking.		
0xC922	**15:0**	**0x1964**	**CAM_AWB_CCM_R_CTEMP (R/W)**
	Color temperature for the Right Matrix (in Kelvin). This value is unsigned. Changes take effect during Vertical Blanking.		
0xC924	**15:0**	**0x09C4**	**CAM_AWB_COLOR_TEMPERATURE_MIN (R/W)**
	Minimum color temperature (degrees Kelvin) allowed for AWB. This value should be greater than or equal to cam_awb_ccm_l_ctemp. This constrains the range of AWB solutions. This value is unsigned. Changes take effect during Vertical Blanking.		
0xC926	**15:0**	**0x1964**	**CAM_AWB_COLOR_TEMPERATURE_MAX (R/W)**
	Maximum color temperature (degrees Kelvin) allowed for AWB. This value should be less than or equal to cam_awb_ccm_r_ctemp. This constrains the range of AWB solutions. This value is unsigned. Changes take effect during Vertical Blanking.		
0xC928	**15:0**	**0x1964**	**CAM_AWB_COLOR_TEMPERATURE (R/W)**
	Current matrix color temperature (degrees Kelvin). In manual white−balance mode (cam_awb_mode_control = 2) this sets the color temperature; the gain ratios are then adjusted accordingly. This value is constrained between cam_awb_ccm_l_ctemp and cam_awb_ccm_r_ctemp. This value is unsigned. Changes take effect during Vertical Blanking.		
0xC92A	**15:0**	**0x001E**	**CAM_AWB_X_SHIFT (R/W)**
	Shift parameter in horizontal direction in probability table, applied between rotation and scaling. This value is signed 2's complement. Changes take effect after a Refresh command.		
0xC92C	**15:0**	**0x0020**	**CAM_AWB_Y_SHIFT (R/W)**
	Shift parameter in vertical direction in probability table, applied between rotation and scaling. This value is signed 2's complement. Changes take effect after a Refresh command.		
0xC92E	**15:0**	**0x009C**	**CAM_AWB_RECIP_X_SCALE (R/W)**
	Reciprocal of scale factor times 512 to be applied to x index. This value is unsigned fixed−point with 9 fractional bits. Changes take effect after a Refresh command.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xC930	15:0	0x0044	CAM_AWB_RECIP_Y_SCALE (R/W)
	Reciprocal of scale factor times 512 to be applied to y index. This value is unsigned fixed−point with 9 fractional bits. Changes take effect after a Refresh command.		
0xC932	15:0	0x0007	CAM_AWB_ROT_CENTER_X (R/W)
	Center of rotation of weight map, x. This value is signed 2's complement. Changes take effect after a Refresh command.		
0xC934	15:0	0xFFDF	CAM_AWB_ROT_CENTER_Y (R/W)
	Center of rotation of weight map, y. This value is signed 2's complement. Changes take effect after a Refresh command.		
0xC936	7:0	0x3F	CAM_AWB_ROT_SIN (R/W)
	64*sin(theta), where theta is the weight map rotation angle. This value is signed 2's complement fixed−point with 6 fractional bits. Changes take effect after a Refresh command.		
0xC937	7:0	0x0A	CAM_AWB_ROT_COS (R/W)
	64*cos(theta), where theta is the weight map rotation angle. This value is signed 2's complement fixed−point with 6 fractional bits. Changes take effect after a Refresh command.		
0xC938	15:0	0x1111	CAM_AWB_WEIGHT_TABLE_0 (R/W)
	AWB weight table word 0. This is derived from the output of the Sensor Tune tool. This value is unsigned. Changes take effect after a Refresh command.		
0xC93A	15:0	0x1111	CAM_AWB_WEIGHT_TABLE_1 (R/W)
	AWB weight table word 1. This is derived from the output of the Sensor Tune tool. This value is unsigned. Changes take effect after a Refresh command.		
0xC93C	15:0	0x2222	CAM_AWB_WEIGHT_TABLE_2 (R/W)
	AWB weight table word 2. This is derived from the output of the Sensor Tune tool. This value is unsigned. Changes take effect after a Refresh command.		
0xC93E	15:0	0x1111	CAM_AWB_WEIGHT_TABLE_3 (R/W)
	AWB weight table word 3. This is derived from the output of the Sensor Tune tool. This value is unsigned. Changes take effect after a Refresh command.		
0xC940	15:0	0x1222	CAM_AWB_WEIGHT_TABLE_4 (R/W)
	AWB weight table word 4. This is derived from the output of the Sensor Tune tool. This value is unsigned. Changes take effect after a Refresh command.		
0xC942	15:0	0x2223	CAM_AWB_WEIGHT_TABLE_5 (R/W)
	AWB weight table word 5. This is derived from the output of the Sensor Tune tool. This value is unsigned. Changes take effect after a Refresh command.		
0xC944	15:0	0x4555	CAM_AWB_WEIGHT_TABLE_6 (R/W)
	AWB weight table word 6. This is derived from the output of the Sensor Tune tool. This value is unsigned. Changes take effect after a Refresh command.		
0xC946	15:0	0x2221	CAM_AWB_WEIGHT_TABLE_7 (R/W)
	AWB weight table word 7. This is derived from the output of the Sensor Tune tool. This value is unsigned. Changes take effect after a Refresh command.		
0xC948	15:0	0x2466	CAM_AWB_WEIGHT_TABLE_8 (R/W)
	AWB weight table word 8. This is derived from the output of the Sensor Tune tool. This value is unsigned. Changes take effect after a Refresh command.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xC94A	**15:0**	**0x6654**	**CAM_AWB_WEIGHT_TABLE_9 (R/W)**
	AWB weight table word 9. This is derived from the output of the Sensor Tune tool. This value is unsigned. Changes take effect after a Refresh command.		
0xC94C	**15:0**	**0x3234**	**CAM_AWB_WEIGHT_TABLE_10 (R/W)**
	AWB weight table word 10. This is derived from the output of the Sensor Tune tool. This value is unsigned. Changes take effect after a Refresh command.		
0xC94E	**15:0**	**0x3452**	**CAM_AWB_WEIGHT_TABLE_11 (R/W)**
	AWB weight table word 11. This is derived from the output of the Sensor Tune tool. This value is unsigned. Changes take effect after a Refresh command.		
0xC950	**15:0**	**0x2577**	**CAM_AWB_WEIGHT_TABLE_12 (R/W)**
	AWB weight table word 12. This is derived from the output of the Sensor Tune tool. This value is unsigned. Changes take effect after a Refresh command.		
0xC952	**15:0**	**0x6764**	**CAM_AWB_WEIGHT_TABLE_13 (R/W)**
	AWB weight table word 13. This is derived from the output of the Sensor Tune tool. This value is unsigned. Changes take effect after a Refresh command.		
0xC954	**15:0**	**0x2212**	**CAM_AWB_WEIGHT_TABLE_14 (R/W)**
	AWB weight table word 14. This is derived from the output of the Sensor Tune tool. This value is unsigned. Changes take effect after a Refresh command.		
0xC956	**15:0**	**0x2552**	**CAM_AWB_WEIGHT_TABLE_15 (R/W)**
	AWB weight table word 15. This is derived from the output of the Sensor Tune tool. This value is unsigned. Changes take effect after a Refresh command.		
0xC958	**15:0**	**0x1354**	**CAM_AWB_WEIGHT_TABLE_16 (R/W)**
	AWB weight table word 16. This is derived from the output of the Sensor Tune tool. This value is unsigned. Changes take effect after a Refresh command.		
0xC95A	**15:0**	**0x4565**	**CAM_AWB_WEIGHT_TABLE_17 (R/W)**
	AWB weight table word 17. This is derived from the output of the Sensor Tune tool. This value is unsigned. Changes take effect after a Refresh command.		
0xC95C	**15:0**	**0x4422**	**CAM_AWB_WEIGHT_TABLE_18 (R/W)**
	AWB weight table word 18. This is derived from the output of the Sensor Tune tool. This value is unsigned. Changes take effect after a Refresh command.		
0xC95E	**15:0**	**0x2331**	**CAM_AWB_WEIGHT_TABLE_19 (R/W)**
	AWB weight table word 19. This is derived from the output of the Sensor Tune tool. This value is unsigned. Changes take effect after a Refresh command.		
0xC960	**15:0**	**0x1122**	**CAM_AWB_WEIGHT_TABLE_20 (R/W)**
	AWB weight table word 20. This is derived from the output of the Sensor Tune tool. This value is unsigned. Changes take effect after a Refresh command.		
0xC962	**15:0**	**0x1234**	**CAM_AWB_WEIGHT_TABLE_21 (R/W)**
	AWB weight table word 21. This is derived from the output of the Sensor Tune tool. This value is unsigned. Changes take effect after a Refresh command.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xC964	**15:0**	**0x3335**	**CAM_AWB_WEIGHT_TABLE_22 (R/W)**
	AWB weight table word 22. This is derived from the output of the Sensor Tune tool. This value is unsigned. Changes take effect after a Refresh command.		
0xC966	**15:0**	**0x6652**	**CAM_AWB_WEIGHT_TABLE_23 (R/W)**
	AWB weight table word 23. This is derived from the output of the Sensor Tune tool. This value is unsigned. Changes take effect after a Refresh command.		
0xC968	**15:0**	**0x1111**	**CAM_AWB_WEIGHT_TABLE_24 (R/W)**
	AWB weight table word 24. This is derived from the output of the Sensor Tune tool. This value is unsigned. Changes take effect after a Refresh command.		
0xC96A	**15:0**	**0x1112**	**CAM_AWB_WEIGHT_TABLE_25 (R/W)**
	AWB weight table word 25. This is derived from the output of the Sensor Tune tool. This value is unsigned. Changes take effect after a Refresh command.		
0xC96C	**15:0**	**0x1224**	**CAM_AWB_WEIGHT_TABLE_26 (R/W)**
	AWB weight table word 26. This is derived from the output of the Sensor Tune tool. This value is unsigned. Changes take effect after a Refresh command.		
0xC96E	**15:0**	**0x5652**	**CAM_AWB_WEIGHT_TABLE_27 (R/W)**
	AWB weight table word 27. This is derived from the output of the Sensor Tune tool. This value is unsigned. Changes take effect after a Refresh command.		
0xC970	**15:0**	**0x1111**	**CAM_AWB_WEIGHT_TABLE_28 (R/W)**
	AWB weight table word 28. This is derived from the output of the Sensor Tune tool. This value is unsigned. Changes take effect after a Refresh command.		
0xC972	**15:0**	**0x1111**	**CAM_AWB_WEIGHT_TABLE_29 (R/W)**
	AWB weight table word 29. This is derived from the output of the Sensor Tune tool. This value is unsigned. Changes take effect after a Refresh command.		
0xC974	**15:0**	**0x1112**	**CAM_AWB_WEIGHT_TABLE_30 (R/W)**
	AWB weight table word 30. This is derived from the output of the Sensor Tune tool. This value is unsigned. Changes take effect after a Refresh command.		
0xC976	**15:0**	**0x2332**	**CAM_AWB_WEIGHT_TABLE_31 (R/W)**
	AWB weight table word 31. This is derived from the output of the Sensor Tune tool. This value is unsigned. Changes take effect after a Refresh command.		
0xC979	**7:0**	**0x10**	**CAM_AWB_LUMA_THRESH_LOW (R/W)**
	Lower luma threshold for pixels used in AWB. This value is unsigned. Changes take effect after a Refresh command.		
0xC97A	**7:0**	**0xF0**	**CAM_AWB_LUMA_THRESH_HIGH (R/W)**
	Upper luma threshold for pixels used in AWB. This value is unsigned. Changes take effect after a Refresh command.		
0xC97B	**7:0**	**0x01**	**CAM_AWB_WEIGHT_THRESH_LOW (R/W)**
	Lower pixel weight threshold. This value is unsigned. Changes take effect after a Refresh command.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xC97D	**7:0**	**0x00**	**CAM_AWB_MODE (R/W)**
	7:5	X	Reserved
	4	0x00	Reserved
	3	0x00	CAM_AWB_MODE_IR_FILTER_ENABLE Dual−band infra−red AWB mode control: 0: Disabled. 1: Enabled. Note: This mode is available to allow use of lenses with a dual−band infra−red cut filter. This value is unsigned. Changes take effect during Vertical Blanking.
	2:0	0x00	CAM_AWB_MODE_CONTROL Controls the AWB mode: 0: Auto−white−balance 1: Triggered auto−white−balance 2: Manual white−balance (via cam_awb_color_temperature) 3: Host controlled This value is unsigned. Changes take effect after a Change−Config command.
	Execution modes for AWB. This value is unsigned. Changes take effect during Vertical Blanking.		
0xC97E	**15:0**	**0x0002**	**CAM_AWB_LIGHT_REGION (RO)**
	Current region selected (when operating in dual−band IR AWB mode). 0: A−light. 1: F−light. 2: Daylight. This value is unsigned. Updates during Vertical Blanking.		
0xC980	**15:0**	**0x0DAC**	**CAM_AWB_TINTS_CTEMP_THRESHOLD (R/W)**
	Color temperature threshold in which to use the tint offsets. Color tints can be applied to the current CCM. There are two sets of tints: − cam_awb_k_r_l, cam_awb_k_g_l,cam_awb_k_b_l: red−rich illumination. − cam_awb_k_r_r, cam_awb_k_g_r, cam_awb_k_b_r: blue−rich illumination. Note: The tints applied are interpolated using cam_awb_color_temperature. This interpolation is performed when cam_awb_color_temperature is between cam_awb_ccm_l_ctemp and cam_awb_tints_ctemp_threshold. This value is unsigned. Changes take effect during Vertical Blanking.		
0xC982	**7:0**	**0x80**	**CAM_AWB_K_R_L (R/W)**
	Controls the tint for the red channel (at the color temperature set by cam_awb_ccm_l_ctemp). This value is unsigned fixed−point with 7 fractional bits. Changes take effect during Vertical Blanking.		
0xC983	**7:0**	**0x80**	**CAM_AWB_K_G_L (R/W)**
	Controls the tint for the green channel (at the color temperature set by cam_awb_ccm_l_ctemp). This value is unsigned fixed−point with 7 fractional bits. Changes take effect during Vertical Blanking.		
0xC984	**7:0**	**0x80**	**CAM_AWB_K_B_L (R/W)**
	Controls the tint for the blue channel (at the color temperature set by cam_awb_ccm_l_ctemp). This value is unsigned fixed−point with 7 fractional bits. Changes take effect during Vertical Blanking.		
0xC985	**7:0**	**0x80**	**CAM_AWB_K_R_R (R/W)**
	Controls the tint for the red channel (at the color temperature threshold set by cam_awb_tints_ctemp_threshold). This value is unsigned fixed−point with 7 fractional bits. Changes take effect during Vertical Blanking.		
0xC986	**7:0**	**0x80**	**CAM_AWB_K_G_R (R/W)**
	Controls the tint for the green channel (at the color temperature threshold set by cam_awb_tints_ctemp_threshold). This value is unsigned fixed−point with 7 fractional bits. Changes take effect during Vertical Blanking.		
0xC987	**7:0**	**0x80**	**CAM_AWB_K_B_R (R/W)**
	Controls the tint for the blue channel (at the color temperature threshold set by cam_awb_tints_ctemp_threshold). This value is unsigned fixed−point with 7 fractional bits. Changes take effect during Vertical Blanking.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xC988	**15:0**	**0x0017**	**CAM_ALTM_MODE (R/W)**
	15:12	X	Reserved
	11	0x0000	CAM_ALTM_APF_SIGNED_POWER_GAIN_MASK Enable signed power gain in Adaptive Power Function. 0: Disabled 1: Enabled This value is unsigned. Changes take effect after a Change−Config command.
	10	0x0000	CAM_ALTM_APF_USE_LBAR_MASK Enable use of Lbar as control in Adpative Power Function. 0: Use L(x, y)/Min as control 1: Use Lbar(x, y) as control This value is unsigned. Changes take effect after a Change−Config command.
	9	0x0000	CAM_ALTM_INTERP_GAMMA_ENABLE Enable dynamic interpolation of low and high gamma. This value is unsigned. Changes take effect after a Change−Config command.
	8	0x0000	CAM_ALTM_BRIGHTNESS_CONTROL Enable the Lr brightnes control. 0: Disabled 1: Enabled This value is unsigned. Changes take effect during Vertical Blanking.
	7	0x00	CAM_ALTM_B2YCOEF_DIV16_ENABLE Enable ALTM Bayer to luminance filter divisor divided by 16. 0: Disabled 1: Enabled This value is unsigned. Changes take effect during Vertical Blanking.
	6	0x00	CAM_ALTM_B2Y_BYPASS_ENABLE Enable bypass of the Bayer to luminance filter. 0: Disabled 1: Enabled This value is unsigned. Changes take effect during Vertical Blanking.
	5	0x00	Reserved
	4	0x01	CAM_ALTM_FW_CONTROL_ENABLE Enable firmware control of all frame−based ALTM parameters. 0: Disabled (most controls done in hardware) 1: Enabled This value is unsigned. Changes take effect after a Change−Config command.
	3	X	Reserved
	2	0x01	CAM_ALTM_DYNAMIC_DAMPING_ENABLE Enable dynamic damping for ALTM adaptation. 0: Disabled 1: Enabled This value is unsigned.
	1	0x01	CAM_ALTM_SHARPNESS_ENABLE Enable interpolation of the ALTM reflectance sharpening strength based on the cam_ll_brightness_metric. Reflectance sharpening enhances the texture and edge details during the dynamic range compression. 0: Disabled 1: Enabled This value is unsigned. Changes take effect during Vertical Blanking.
	0	0x01	CAM_ALTM_MODE_ENABLE Enable adaptive ALTM mode. When enabled, the dynamic brightness control cam_altm_key_k1 is coupled to ae_rule_avg_log_y_from_stats. 0: Disabled 1: Enabled This value is unsigned. Changes take effect during Vertical Blanking.
	Controls ALTM mode (controls adaptive ALTM brightness and adaptive reflectance sharpening strength). This value is unsigned. Changes take effect during Vertical Blanking.		
0xC98A	**15:0**	**0x0080**	**CAM_ALTM_KEY_K0 (R/W)**
	Noise floor used to calculate the key that controls the brightness of the tone mapped image. This value is unsigned. Changes take effect during Vertical Blanking.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xC98C	**31:0**	**0x00000000**	**CAM_ALTM_KEY_K1 (RO)**
	This value divided by cam_altm_key_k0 is used to calculate the key that controls the brightness of the tone mapped image. This parameter controls the brightness and is calculated by the firmware. This value is unsigned. Updates during Vertical Blanking.		
0xC990	**15:0**	**0x0012**	**CAM_ALTM_LO_GAMMA (R/W)**
	Contrast control parameter for the dark regions of an image. This value is unsigned. Changes take effect during Vertical Blanking.		
0xC992	**15:0**	**0x0020**	**CAM_ALTM_HI_GAMMA (R/W)**
	Contrast control parameter for bright regions of the image. This value is unsigned. Changes take effect during Vertical Blanking.		
0xC994	**15:0**	**0x00AF**	**CAM_ALTM_K1_SLOPE (R/W)**
	K1_slope controls how the ALTM K1 parameter increases in lowlight. If the cam_altm_k1_slope is increased it will decrease the noise and detail in lowlight conditions. If cam_altm_k1_slope is decreased it will increase the noise and detail in lowlight conditions and increase the apparent brightness. This value is signed 2's complement. Changes take effect during Vertical Blanking.		
0xC996	**15:0**	**0x0100**	**CAM_ALTM_K1_MIN (R/W)**
	The minimum allowable k1 value. This value is unsigned. Changes take effect during Vertical Blanking.		
0xC998	**15:0**	**0xFFFF**	**CAM_ALTM_K1_MAX (R/W)**
	The maximum allowable k1 value. This value is unsigned. Changes take effect during Vertical Blanking.		
0xC99A	**15:0**	**0x0600**	**CAM_ALTM_DARK_BM (R/W)**
	Programmable dark starting brightness value below which weight is 1. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xC99C	**15:0**	**0x0800**	**CAM_ALTM_BRIGHT_BM (R/W)**
	Programmable bright ending brightness value above which weight is 0. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xC99E	**15:0**	**0x0002**	**CAM_ALTM_K1_DAMPING_SPEED (R/W)**
	Programmable damping value for ALTM dynamic adaptation. A lower value means slower adaptation (min = 1), a higher value means faster adaptation (max = 32) (unity=1). This value is unsigned. Changes take effect during Vertical Blanking.		
0xC9A0	**15:0**	**0x00C8**	**CAM_ALTM_SHARPNESS_DARK_BM (R/W)**
	This is the low brightness metric threshold for the ALTM reflectance sharpening strength. If the brightness metric is less than cam_altm_sharpness_dark_bm, the ALTM reflectance sharpening strength is cam_altm_sharpness_strength_dark. If the brightness metric is greater than cam_altm_sharpness_bright_bm, the ALTM reflectance sharpening strength is cam_altm_sharpness_strength_bright. When the brightness metric is between these limits the ALTM reflectance sharpening strength will be interpolated between the bright and dark values. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xC9A2	**15:0**	**0x0B54**	**CAM_ALTM_SHARPNESS_BRIGHT_BM (R/W)**
	This is the high brightness metric threshold for the ALTM reflectance sharpening strength. If the brightness metric is greater than cam_altm_sharpness_bright_bm, the ALTM reflectance sharpening strength is cam_altm_sharpness_strength_bright. If the brightness metric is less than cam_altm_sharpness_dark_bm, the ALTM reflectance sharpening strength is cam_altm_sharpness_strength_dark. When the brightness metric is between these limits the ALTM reflectance sharpening strength will be interpolated between the bright and dark values. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xC9A4	15:0	0x0000	CAM_ALTM_SHARPNESS_STRENGTH_DARK (R/W)
	This is the ALTM reflectance sharpening strength used when the brightness metric is below cam_altm_sharpness_dark_bm. When the brightness metric is between the cam_altm_sharpness_bright_bm threshold and the cam_altm_sharpness_dark_bm threshold the ALTM reflectance sharpening strength will be interpolated between the cam_altm_sharpness_strength_bright and cam_altm_sharpness_strength_dark values. Reflectance sharpening enhances the texture and edge details during the dynamic range compression. This value is unsigned. Changes take effect during Vertical Blanking.		
0xC9A6	15:0	0x0000	CAM_ALTM_SHARPNESS_STRENGTH_BRIGHT (R/W)
	This is the ALTM reflectance sharpening strength used when the brightness metric is greater than cam_altm_sharpness_bright_bm. When the brightness metric is between the cam_altm_sharpness_bright_bm threshold and the cam_altm_sharpness_dark_bm threshold the ALTM reflectance sharpening strength will be interpolated between the cam_altm_sharpness_strength_bright and cam_altm_sharpness_strength_dark values. Reflectance sharpening enhances the texture and edge details during the dynamic range compression. This value is unsigned. Changes take effect during Vertical Blanking.		
0xC9A8	31:0	0x00000000	CAM_ALTM_MIN_IMAGE_DYNAMIC_RANGE (R/W)
	Contrast domain brightness control parameter to make minimum dynamic range >> image noise (to avoid amplifying noise). This value is unsigned. Changes take effect during Vertical Blanking.		
0xC9B4	31:0	0x00000000	CAM_ALTM_LOG_CONTROL_LA (RO)
	Damped value of STAT_AVERAGE_LOGY used for control of lr. This value is unsigned. Updates during Vertical Blanking.		
0xC9BC	15:0	0x0000	CAM_ALTM_DARK_LO_GAMMA (R/W)
	ALTM low gamma control dark brightness control parameter. This value is unsigned. Changes take effect after a Change−Config command.		
0xC9BE	15:0	0x0000	CAM_ALTM_BRIGHT_LO_GAMMA (R/W)
	ALTM low gamma control bright brightness control parameter. This value is unsigned. Changes take effect after a Change−Config command.		
0xC9C0	15:0	0x0000	CAM_ALTM_DARK_LO_GAMMA_BM (R/W)
	ALTM low gamma control dark brightness metric control parameter. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect after a Change−Config command.		
0xC9C2	15:0	0x0000	CAM_ALTM_BRIGHT_LO_GAMMA_BM (R/W)
	ALTM low gamma control bright brightness metric control parameter. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect after a Change−Config command.		
0xC9C4	15:0	0x0000	CAM_ALTM_DARK_HI_GAMMA (R/W)
	ALTM high gamma control dark brightness control parameter. This value is unsigned. Changes take effect after a Change−Config command.		
0xC9C6	15:0	0x0000	CAM_ALTM_BRIGHT_HI_GAMMA (R/W)
	ALTM high gamma control bright brightness control parameter. This value is unsigned. Changes take effect after a Change−Config command.		
0xC9C8	15:0	0x0000	CAM_ALTM_DARK_HI_GAMMA_BM (R/W)
	ALTM high gamma control dark brightness metric control parameter. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect after a Change−Config command.		
0xC9CA	15:0	0x0000	CAM_ALTM_BRIGHT_HI_GAMMA_BM (R/W)
	ALTM high gamma control bright brightness metric control parameter. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect after a Change−Config command.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xC9CC	**15:0**	**0xFD00**	**CAM_ALTM_LOWLIGHT_DARK_BM (R/W)**
	Programmable dark starting brightness value below which weight is 1 (unity=256). This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect after a Change−Config command.		
0xC9CE	**15:0**	**0x0500**	**CAM_ALTM_LOWLIGHT_BRIGHT_BM (R/W)**
	Programmable bright ending brightness value above which weight is 0 (unity=256). This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect after a Change−Config command.		
0xC9E6	**15:0**	**0x0004**	**CAM_ALTM_LA_MIN (R/W)**
	Minimum value to clamp CAM_ALTM_LOG_CONTROL_LA (ALTM's damped version of STAT_AVERAGE_LOGY) value for ALTM This value is unsigned. Changes take effect during Vertical Blanking.		
0xC9E8	**15:0**	**0x001E**	**CAM_STAT_MODE (R/W)**
	15:5	X	Reserved
	4	0x01	CAM_STAT_MODE_AWB_CLIP_OUTPUT_RELATIVE AWB/CLIP window coordinates are specified relative to: 0: Sensor window. 1: Output window. This selects the AWB and CLIP 'parent' window. This value is unsigned. Changes take effect after a Refresh command.
	3	0x01	CAM_STAT_MODE_AWB_CLIP_AUTO Controls AWB/CLIP window. 0: Manual: host sets window co−ordinates 1: Auto: firmware calculates window co−ordinates for full FOV This value is unsigned. Changes take effect after a Refresh command.
	2	0x01	CAM_STAT_MODE_AE_ALTM_FD_OUTPUT_RELATIVE AE/ALTM/FD window coordinates are specified relative to: 0: Sensor window. 1: Output window. This selects the AE, ALTM, and FD 'parent' window. This value is unsigned. Changes take effect after a Refresh command.
	1	0x01	CAM_STAT_MODE_AE_ALTM_FD_AUTO Controls AE/ALTM/FD window. 0: Manual: host sets window co−ordinates 1: Auto: firmware calculates window co−ordinates for full FOV This value is unsigned. Changes take effect after a Refresh command.
	0	0x00	CAM_STAT_MODE_ONE_SHOT Controls acquisition mode. 0: Continuous: statistics are acquired every frame 1: One−shot: statistics are only aqcuired after being triggered This value is unsigned. Changes take effect during Vertical Blanking.
	Statistics mode control flags. This register has mixed update effects. This value is unsigned. Changes take effect during Vertical Blanking.		
0xC9EA	**15:0**	**0x0000**	**CAM_STAT_CONTROL (R/W)**
	15:1	X	Reserved
	0	0x00	CAM_STAT_CONTROL_TRIGGER When set, triggers statistics acquisition in one−shot mode. 0: No trigger 1: Trigger. Auto−clears after acquisition, host should poll this bit. This value is unsigned. Changes take effect during Vertical Blanking.
	Acquisition control flags. This value is unsigned. Changes take effect during Vertical Blanking.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xC9EC	**7:0**	**0x00**	**CAM_STAT_EXCLUDE_CONTROL (R/W)**
	7:3	X	Reserved
	2	0x00	CAM_STAT_EXCLUDE_ALTM Exclusion window control for ALTM statistics. 0: Disabled 1: Enabled This value is unsigned. Changes take effect after a Refresh command.
	1	0x00	CAM_STAT_EXCLUDE_AWB Exclusion window control for AWB statistics. 0: Disabled 1: Enabled This value is unsigned. Changes take effect after a Refresh command.
	0	0x00	CAM_STAT_EXCLUDE_AE Exclusion window control for AE statistics. 0: Disabled 1: Enabled This value is unsigned. Changes take effect after a Refresh command.
	Exclusion window control flags. This value is unsigned. Changes take effect after a Refresh command.		
0xC9F0	**15:0**	**0x0000**	**CAM_STAT_EXCLUDE_WINDOW_X_OFFSET (R/W)**
	The horizontal offset of the first pixel to be excluded, relative to the sensor output window. This value is unsigned. Changes take effect after a Refresh command.		
0xC9F2	**15:0**	**0x0000**	**CAM_STAT_EXCLUDE_WINDOW_Y_OFFSET (R/W)**
	The vertical offset of the first pixel to be excluded, relative to the sensor output window. This value is unsigned. Changes take effect after a Refresh command.		
0xC9F4	**15:0**	**0x0000**	**CAM_STAT_EXCLUDE_WINDOW_WIDTH (R/W)**
	The width of the exclusion window, in pixels. This value is unsigned. Changes take effect after a Refresh command.		
0xC9F6	**15:0**	**0x0000**	**CAM_STAT_EXCLUDE_WINDOW_HEIGHT (R/W)**
	The height of the exclusion window, in rows. This value is unsigned. Changes take effect after a Refresh command.		
0xC9F8	**15:0**	**0x0000**	**CAM_STAT_AE_ALTM_FD_WINDOW_X_OFFSET (R/W)**
	The horizontal offset, in pixels, of the first pixel of the AE/ALTM/Flicker Detection statisticss window, specified relative to the selected parent window. The parent window is determined by cam_stat_mode_ae_altm_fd_output_relative. This value is ignored if cam_stat_mode_ae_altm_fd_auto is 1. This value is unsigned. Changes take effect after a Refresh command.		
0xC9FA	**15:0**	**0x0000**	**CAM_STAT_AE_ALTM_FD_WINDOW_Y_OFFSET (R/W)**
	The vertical offset, in lines, of the first pixel of the AE/ALTM/Flicker Detection statistics window, specified relative to the selected parent window. The parent window is determined by cam_stat_mode_ae_altm_fd_output_relative. This value is ignored if cam_stat_mode_ae_altm_fd_auto is 1. This value is unsigned. Changes take effect after a Refresh command.		
0xC9FC	**15:0**	**0x0500**	**CAM_STAT_AE_ALTM_FD_WINDOW_WIDTH (R/W)**
	The width of the AE/ALTM/Flicker Detection statistics window, in pixels. This value is ignored if cam_stat_mode_ae_altm_fd_auto is 1. This value is unsigned. Changes take effect after a Refresh command.		
0xC9FE	**15:0**	**0x03C0**	**CAM_STAT_AE_ALTM_FD_WINDOW_HEIGHT (R/W)**
	The height of the AE/ALTM/Flicker Detection statistics window, in lines. This value is ignored if cam_stat_mode_ae_altm_fd_auto is 1. This value is unsigned. Changes take effect after a Refresh command.		
0xCA00	**15:0**	**0x0000**	**CAM_STAT_AWB_CLIP_WINDOW_X_OFFSET (R/W)**
	The horizontal offset, in pixels, of the first pixel of the AWB/Clipping statisticss window, specified relative to the selected parent window. The parent window is determined by cam_stat_mode_ae_altm_fd_output_relative. This value is ignored if cam_stat_mode_awb_clip_auto is 1. This value is unsigned. Changes take effect after a Refresh command.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xCA02	**15:0**	**0x0000**	**CAM_STAT_AWB_CLIP_WINDOW_Y_OFFSET (R/W)**
	The vertical offset, in lines, of the first pixel of the AWB/Clipping statisticss window, specified relative to the selected parent window. The parent window is determined by cam_stat_mode_ae_altm_fd_output_relative. This value is ignored if cam_stat_mode_awb_clip_auto is 1. This value is unsigned. Changes take effect after a Refresh command.		
0xCA04	**15:0**	**0x0500**	**CAM_STAT_AWB_CLIP_WINDOW_WIDTH (R/W)**
	The width of the AWB/Clipping statistics window, in pixels. This value is ignored if cam_stat_mode_awb_clip_auto is 1. This value is unsigned. Changes take effect after a Refresh command.		
0xCA06	**15:0**	**0x03C0**	**CAM_STAT_AWB_CLIP_WINDOW_HEIGHT (R/W)**
	The height of the AWB/Clipping statistics window, in lines. This value is ignored if cam_stat_mode_awb_clip_auto is 1. This value is unsigned. Changes take effect after a Refresh command.		
0xCA08	**15:0**	**0x0003**	**CAM_LL_MODE (R/W)**
	15:5	X	Reserved
	4	0x00	CAM_LL_ENABLE_RESET_NOISE_PEDESTAL_ON_LL_BM Enable noise pedestal to be set to 0 when brightness metric falls below brightness metric threshold for noise pedestal. This value is unsigned. Changes take effect during Vertical Blanking.
	3	0x00	CAM_LL_ENABLE_SWITCH_TO_LL_LDR_EXT_NR_LUT Enable switch to extended Noise floor and K LUT under low light and low dynamic range This value is unsigned. Changes take effect during Vertical Blanking.
	2	0x00	CAM_LL_ENABLE_AUTO_HDR_SDR Enable auto switching between HDR and SDR exposure modes based on the cam_ll_brightness_metric value, if the sensor supports it. 0: Disable auto switching 1: Enable auto switching This value is unsigned. Changes take effect during Vertical Blanking.
	1	0x01	CAM_LL_EXEC_CONTRAST_GAMMA_BRIGHT_CURVE Enable firmware calculation of the gamma contrast curves for bright conditions. 0: Disabled 1: Enabled This value is unsigned. Changes take effect after a Change−Config command.
	0	0x01	CAM_LL_EXEC_CONTRAST_GAMMA_DARK_CURVE Controls whether the firmware calculates the dark conditions (noise−reduction) gamma contrast curve: 0: Noise−reduction gamma contrast curve is not calculated. 1: Noise−reduction gamma contrast curve is auto−calculated from cam_ll_gamma, cam_ll_stop_contrast_gradient and cam_ll_stop_contrast_luma_percentage. This value is unsigned. Changes take effect after a Change−Config command.
	Lowlight execution mode control. This value is unsigned. Changes take effect after a Change−Config command.		
0xCA0A	**15:0**	**0x0000**	**CAM_LL_BRIGHTNESS_METRIC (RO)**
	Brightness Metric in log2 space (the greater the value, the brighter the scene). This value is signed 2's complement fixed−point with 8 fractional bits. Updates during Vertical Blanking.		
0xCA0C	**15:0**	**0xF900**	**CAM_LL_BM_OFFSET (R/W)**
	Scene brightness calculation offset for the brightness metric log. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCA0E	**15:0**	**0x03E8**	**CAM_LL_AUTO_SDR_TH_BM (R/W)**
	The cam_ll_brightness_metric value threshold below which the sensor will be switched to SDR. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xCA10	15:0	0x0032	CAM_LL_AUTO_SDR_GATE_BM (R/W)
	The HDR/SDR auto switching gate. When cam_ll_brightness_metric is greater than the cam_ll_auto_sdr_th_bm + gate, the sensor will be switched back to HDR. This value must be positive. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCA12	15:0	0x0000	CAM_LL_SENSOR_RED_GAIN_METRIC (RO)
	Gain metric for the sensor's red pixels. This is the product of all analog and digital gains applied to the red pixels within the external sensor. This value is unsigned fixed−point with 5 fractional bits. Updates during Vertical Blanking.		
0xCA14	15:0	0x0000	CAM_LL_SENSOR_GREEN_GAIN_METRIC (RO)
	Gain metric for the sensor's green pixels. This is the product of all analog and digital gains applied to the green pixels within the external sensor. This value is unsigned fixed−point with 5 fractional bits. Updates during Vertical Blanking.		
0xCA16	15:0	0x0000	CAM_LL_SENSOR_BLUE_GAIN_METRIC (RO)
	Gain metric for the sensor's blue pixels. This is the product of all analog and digital gains applied to the blue pixels within the external sensor. This value is unsigned fixed−point with 5 fractional bits. Updates during Vertical Blanking.		
0xCA18	15:0	0x0000	CAM_LL_RED_GAIN_METRIC (RO)
	This is the red channel total gain metric. It is the product of all analog and digital gains applied to the red pixels. This value is unsigned fixed−point with 5 fractional bits. Updates during Vertical Blanking.		
0xCA1A	15:0	0x0000	CAM_LL_GREEN_GAIN_METRIC (RO)
	This is the green channel total gain metric. It is the product of all analog and digital gains applied to the green pixels. This value is unsigned fixed−point with 5 fractional bits. Updates during Vertical Blanking.		
0xCA1C	15:0	0x0000	CAM_LL_BLUE_GAIN_METRIC (RO)
	This is the blue channel total gain metric. It is the product of all analog and digital gains applied to the blue pixels. This value is unsigned fixed−point with 5 fractional bits. Updates during Vertical Blanking.		
0xCA1E	15:0	0x0000	CAM_LL_SNR_METRIC (RO)
	Signal to noise ratio metric. This is a metric used when interpolating the adaptive noise reduction strength. It is the average of the logarithm of the image luma divided by the gain metric. This value is signed 2's complement fixed−point with 8 fractional bits. Updates during Vertical Blanking.		
0xCA20	15:0	0x01F4	CAM_LL_DARK_BM (R/W)
	The cam_ll_dark_bm threshold is the low limit for interpolation based on the brightness metric (cam_ll_brightness_metric). For brightness metric values below the cam_ll_dark_bm threshold the low value is used and for brightness metric values above the cam_ll_bright_bm threshold the high value is used. For brightness metric values between these two thresholds the value is interpolated from the high and low values. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCA22	15:0	0x0BB8	CAM_LL_BRIGHT_BM (R/W)
	The cam_ll_bright_bm high threshold is the high limit for interpolation based on the brightness metric (cam_ll_brightness_metric). For brightness metric values above the cam_ll_bright_bm threshold the high value is used and for brightness metric values below the cam_ll_dark_bm threshold the low value is used. For brightness metric values between these two thresholds the value is interpolated from the high and low values. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xCA24	15:0	0x0DC0	CAM_LL_HIGH_GM (R/W)
	The internal gain metric is the largest of the three color channel gain metrics: cam_ll_red_gain_metric, cam_ll_green_gain_metric, and cam_ll_blue_gain_metric. The cam_ll_high_gm high threshold is the high limit for interpolation based on the internal gain metric. For gain metric values above the cam_ll_high_gm threshold the high value is used and for gain metric values below the cam_ll_low_gm threshold the low value is used. For gain metric values between these two thresholds the value is interpolated from the high and low values. This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
0xCA26	15:0	0x0020	CAM_LL_LOW_GM (R/W)
	The internal gain metric is the largest of the three color channel gain metrics: cam_ll_red_gain_metric, cam_ll_green_gain_metric, and cam_ll_blue_gain_metric. The cam_ll_high_gm high threshold is the high limit for interpolation based on the internal gain metric. For gain metric values above the cam_ll_high_gm threshold the high value is used and for gain metric values below the cam_ll_low_gm threshold the low value is used. For gain metric values between these two thresholds the value is interpolated from the high and low values. This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
0xCA28	7:0	0x80	CAM_LL_DARK_SATURATION (R/W)
	CCM saturation value when cam_ll_brightness_metric is less than or equal to cam_ll_dark_bm. For cam_ll_brightness_metric values between cam_ll_dark_bm and cam_ll_bright_bm the CCM saturation value is interpolated between cam_ll_dark_saturation and cam_ll_bright_saturation. This value is unsigned. Changes take effect during Vertical Blanking.		
0xCA29	7:0	0x80	CAM_LL_BRIGHT_SATURATION (R/W)
	CCM saturation value when cam_ll_brightness_metric is greater than or equal to cam_ll_bright_bm. For cam_ll_brightness_metric values between cam_ll_dark_bm and cam_ll_bright_bm the CCM saturation value is interpolated between cam_ll_dark_saturation and cam_ll_bright_saturation. This value is unsigned. Changes take effect during Vertical Blanking.		
0xCA2A	7:0	0x4D	CAM_LL_DEMOSAIC_HIGH (R/W)
	The demosaic edge threshold is used to decide if the current pixel is on an edge in the demosaic transform engine. The edge threshold is interpolated from cam page variables based on the internal gain metric. The internal gain metric is the largest of the three color channel gain metrics: cam_ll_red_gain_metric, cam_ll_green_gain_metric, and cam_ll_blue_gain_metric. When the internal gain metric is above the cam_ll_high_gm threshold, the demosaic edge threshold is set to cam_ll_demosaic_high. Between the cam_ll_high_gm threshold and the cam_ll_low_gm, the demosaic edge threshold is interpolated between cam_ll_demosaic_high and cam_ll_demosaic_low. When the internal gain metric is below the cam_ll_low_gm threshold, the the demosaic edge threshold is set to cam_ll_demosaic_low. This value is unsigned. Changes take effect during Vertical Blanking.		
0xCA2B	7:0	0x08	CAM_LL_DEMOSAIC_LOW (R/W)
	The demosaic edge threshold is used to decide if the current pixel is on an edge in the demosaic transform engine. The edge threshold is interpolated from cam page variables based on the internal gain metric. The internal gain metric is the largest of the three color channel gain metrics: cam_ll_red_gain_metric, cam_ll_green_gain_metric, and cam_ll_blue_gain_metric. When the internal gain metric is above the cam_ll_high_gm threshold, the demosaic edge threshold is set to cam_ll_demosaic_high. Between the cam_ll_high_gm threshold and the cam_ll_low_gm, the demosaic edge threshold is interpolated between cam_ll_demosaic_high and cam_ll_demosaic_low. When the internal gain metric is below the cam_ll_low_gm threshold, the the demosaic edge threshold is set to cam_ll_demosaic_low. This value is unsigned. Changes take effect during Vertical Blanking.		
0xCA2C	7:0	0x01	CAM_LL_AP_GAIN_DARK (R/W)
	Aperture gain for dark images below the cam_ll_dark_bm threshold. Between the cam_ll_dark_bm threshold and the cam_ll_bright_bm threshold, the aperture gain is interpolated from cam_ll_ap_gain_dark and cam_ll_ap_gain_bright. This value is unsigned. Changes take effect during Vertical Blanking.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xCA2D	**7:0**	**0x03**	**CAM_LL_AP_GAIN_BRIGHT (R/W)**
	Aperture gain for bright images above the cam_ll_bright_bm threshold. Between the cam_ll_dark_bm threshold and the cam_ll_bright_bm threshold, the aperture gain is interpolated from cam_ll_ap_gain_dark and cam_ll_ap_gain_bright. This value is unsigned. Changes take effect during Vertical Blanking.		
0xCA2E	**7:0**	**0x4D**	**CAM_LL_AP_THRESH_HIGH (R/W)**
	Aperture knee value for images with a gain metric above the cam_ll_high_gm threshold. Between the cam_ll_low_gm threshold and the cam_ll_high_gm threshold, the aperture knee value is interpolated from between cam_ll_ap_thresh_low and cam_ll_ap_thresh_high based on the gain metric. The gain metric is the largest of the three color channel gain metrics; cam_ll_blue_gain_metric, cam_ll_green_gain_metric, and cam_ll_red_gain_metric. This value is unsigned. Changes take effect during Vertical Blanking.		
0xCA2F	**7:0**	**0x08**	**CAM_LL_AP_THRESH_LOW (R/W)**
	Aperture knee value for images with a gain metric below the cam_ll_low_gm threshold. Between the cam_ll_low_gm threshold and the cam_ll_high_gm threshold, the aperture knee value is interpolated from between cam_ll_ap_thresh_low and cam_ll_ap_thresh_high based on the gain metric. The gain metric is the largest of the three color channel gain metrics; cam_ll_blue_gain_metric, cam_ll_green_gain_metric, and cam_ll_red_gain_metric. This value is unsigned. Changes take effect during Vertical Blanking.		
0xCA30	**15:0**	**0x0500**	**CAM_LL_CONTRAST_BRIGHT_BM (R/W)**
	Bright endpoint value of cam_ll_brightness_metric for the brightness−dependent gamma/contrast adaptation. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCA32	**15:0**	**0x0400**	**CAM_LL_CONTRAST_DARK_BM (R/W)**
	Dark endpoint value of cam_ll_brightness_metric for the brightness−dependent gamma/contrast adaptation. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCA34	**15:0**	**0x0064**	**CAM_LL_GAMMA (R/W)**
	This is the exponent of the function mapping display output intensity. For example, sRGB gamma is equal to 2.2 − this would be expressed as 220. This value is unsigned. Changes take effect during Vertical Blanking.		
0xCA36	**7:0**	**0x27**	**CAM_LL_CONTRAST_GRADIENT_BRIGHT (R/W)**
	The value of the contrast slope (at the inflection point) for bright conditions. This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
0xCA37	**7:0**	**0x20**	**CAM_LL_CONTRAST_GRADIENT_DARK (R/W)**
	The value of the contrast slope (at the inflection point) for dark conditions. This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
0xCA38	**7:0**	**0xFF**	**CAM_LL_CONTRAST_INTERCEPT_POINT_BRIGHT (R/W)**
	Pixel value for the inflection point in the contrast curve in bright conditions. This value is unsigned. Changes take effect during Vertical Blanking.		
0xCA39	**7:0**	**0x28**	**CAM_LL_CONTRAST_INTERCEPT_POINT_DARK (R/W)**
	Pixel value for the inflection point in the contrast curve in dark conditions. This value is unsigned. Changes take effect during Vertical Blanking.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xCA3A	15:0	0x0320	CAM_LL_BRIGHT_FADE_TO_BLACK_LUMA (R/W)
	This is the upper threshold luma value for the fade to black feature. This controls when the fade−to−black starts. That is, when ll_average_luma_fade_to_black is above this value, no fade occurs. When ll_average_luma_fade_to_black is between the cam_ll_bright_fade_to_black_luma upper threshold and the cam_ll_dark_fade_to_black_luma lower threshold the gamma curve is interpolated between the normal gamma curve and a curve that forces all pixels to black. When ll_average_luma_fade_to_black is below the cam_ll_dark_fade_to_black_luma lower threshold the black gamma curve is selected and all pixels are forced to black. This value is unsigned. Changes take effect during Vertical Blanking.		
0xCA3C	15:0	0x005A	CAM_LL_DARK_FADE_TO_BLACK_LUMA (R/W)
	This is the lower threshold luma value for the fade to black feature. This controls when the fade−to−black stops. That is, when ll_average_luma_fade_to_black is below this value, the image is fully black. When ll_average_luma_fade_to_black is between the cam_ll_bright_fade_to_black_luma upper threshold and the cam_ll_dark_fade_to_black_luma lower threshold the gamma curve is interpolated between the normal gamma curve and a curve that forces all pixels to black. When ll_average_luma_fade_to_black is above cam_ll_bright_fade_to_black_luma then the normal gamma curve is selected and no fading occurs. This value is unsigned. Changes take effect during Vertical Blanking.		
0xCA3E	15:0	0x00C8	CAM_LL_SDC_DP_DARK_BM (R/W)
	Dark threshold for single dark pixel defect correction. When the brightness metric is below this value, the cam_ll_sdc_dp_strength_dark value is used for the single dark pixel strength parameter. When the brightness metric is between the cam_ll_sdc_dp_dark_bm threshold and the cam_ll_sdc_dp_bright_bm threshold, the single dark pixel strength parameter value is interpolated from between cam_ll_sdc_dp_strength_dark and cam_ll_sdc_dp_strength_bright. Single dark pixel defect correction is only enabled when the brightness metric is less than cam_ll_sdc_th_bm threshold with hysteresis of cam_ll_sdc_gate_bm. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCA40	15:0	0x0B54	CAM_LL_SDC_DP_BRIGHT_BM (R/W)
	Bright threshold for single dark pixel defect correction. When the brightness metric is above this value, the cam_ll_sdc_dp_strength_bright value is used for the single dark pixel strength parameter. When the brightness metric is between the cam_ll_sdc_dp_dark_bm threshold and the cam_ll_sdc_dp_bright_bm threshold, the single dark pixel strength parameter value is interpolated from between cam_ll_sdc_dp_strength_dark and cam_ll_sdc_dp_strength_bright. Single dark pixel defect correction is only enabled when the brightness metric is less than cam_ll_sdc_th_bm threshold with hysteresis of cam_ll_sdc_gate_bm. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCA42	7:0	0x08	CAM_LL_SDC_DP_STRENGTH_DARK (R/W)
	Single dark pixel defect correction strength parameter for dark images. This controls how aggressively the defect correction hardware corrects potential single dark pixel defects. When the brightness metric is below cam_ll_sdc_dp_dark_bm this value is used for the single dark pixel strength parameter. When the brightness metric is between the cam_ll_sdc_dp_dark_bm threshold and the cam_ll_sdc_dp_bright_bm threshold, the single dark pixel strength parameter value is interpolated from between cam_ll_sdc_dp_strength_dark and cam_ll_sdc_dp_strength_bright. The lower the value the more aggressive the single dark pixel detection. Single dark pixel defect correction is only enabled when the brightness metric is less than cam_ll_sdc_th_bm threshold with hysteresis of cam_ll_sdc_gate_bm. This value is unsigned. Changes take effect during Vertical Blanking.		
0xCA43	7:0	0x0F	CAM_LL_SDC_DP_STRENGTH_BRIGHT (R/W)
	Single dark pixel defect correction strength parameter for bright images. This controls how aggressively the defect correction hardware corrects potential single dark pixel defects. When the brightness metric is above cam_ll_sdc_dp_bright_bm this value is used for the single dark pixel strength parameter. When the brightness metric is between the cam_ll_sdc_dp_dark_bm threshold and the cam_ll_sdc_dp_bright_bm threshold, the single dark pixel strength parameter value is interpolated from between cam_ll_sdc_dp_strength_dark and cam_ll_sdc_dp_strength_bright. The lower the value the more aggressive the single dark pixel detection. Single dark pixel defect correction is only enabled when the brightness metric is less than cam_ll_sdc_th_bm threshold with hysteresis of cam_ll_sdc_gate_bm. This value is unsigned. Changes take effect during Vertical Blanking.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xCA44	15:0	0x00C8	CAM_LL_SDC_HP_DARK_BM (R/W)
	Dark threshold for single hot pixel defect correction. When the brightness metric is below this value, the cam_ll_sdc_hp_strength_dark value is used for the single hot pixel strength parameter. When the brightness metric is between the cam_ll_sdc_hp_dark_bm threshold and the cam_ll_sdc_hp_bright_bm threshold, the single hot pixel strength parameter value is interpolated from between cam_ll_sdc_hp_strength_dark and cam_ll_sdc_hp_strength_bright. Single hot pixel defect correction is only enabled when the brightness metric is less than cam_ll_sdc_th_bm threshold with hysteresis of cam_ll_sdc_gate_bm. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCA46	15:0	0x0B54	CAM_LL_SDC_HP_BRIGHT_BM (R/W)
	Bright threshold for single hot pixel defect correction. When the brightness metric is above this value, the cam_ll_sdc_hp_strength_bright value is used for the single hot pixel strength parameter. When the brightness metric is between the cam_ll_sdc_hp_dark_bm threshold and the cam_ll_sdc_hp_bright_bm threshold, the single hot pixel strength parameter value is interpolated from between cam_ll_sdc_hp_strength_dark and cam_ll_sdc_hp_strength_bright. Single hot pixel defect correction is only enabled when the brightness metric is less than cam_ll_sdc_th_bm threshold with hysteresis of cam_ll_sdc_gate_bm. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCA48	7:0	0x08	CAM_LL_SDC_HP_STRENGTH_DARK (R/W)
	Single hot or warm pixel defect correction strength parameter for dark images. This controls how aggressively the defect correction hardware corrects potential single hot pixel defects. When the brightness metric is below cam_ll_sdc_hp_dark_bm this value is used for the single hot pixel strength parameter. When the brightness metric is between the cam_ll_sdc_hp_dark_bm threshold and the cam_ll_sdc_hp_bright_bm threshold, the single hot pixel strength parameter value is interpolated from between cam_ll_sdc_hp_strength_dark and cam_ll_sdc_hp_strength_bright. The lower the value the more aggressive the single hot pixel defect detection. Single hot pixel defect correction is only enabled when the brightness metric is less than cam_ll_sdc_th_bm threshold with hysteresis of cam_ll_sdc_gate_bm. This value is unsigned. Changes take effect during Vertical Blanking.		
0xCA49	7:0	0x0F	CAM_LL_SDC_HP_STRENGTH_BRIGHT (R/W)
	Single hot or warm pixel defect correction strength parameter for bright images. This controls how aggressively the defect correction hardware corrects potential single hot pixel defects. When the brightness metric is above cam_ll_sdc_hp_bright_bm this value is used for the single hot pixel strength parameter. When the brightness metric is between the cam_ll_sdc_hp_dark_bm threshold and the cam_ll_sdc_hp_bright_bm threshold, the single hot pixel strength parameter value is interpolated from between cam_ll_sdc_hp_strength_dark and cam_ll_sdc_hp_strength_bright. The lower the value the more aggressive the single hot pixel defect detection. Single hot pixel defect correction is only enabled when the brightness metric is less than cam_ll_sdc_th_bm threshold with hysteresis of cam_ll_sdc_gate_bm. This value is unsigned. Changes take effect during Vertical Blanking.		
0xCA4A	15:0	0x00C8	CAM_LL_SDC_CROSSFACTOR_DARK_BM (R/W)
	Dark threshold for fine detail single defect correction. When the brightness metric is below this value, the cam_ll_sdc_crossfactor_strength_dark value is used for the fine detail single defect correction threshold. When the brightness metric is between the cam_ll_sdc_crossfactor_dark_bm threshold and the cam_ll_sdc_crossfactor_bright_bm threshold, the fine detail single defect correction threshold value is interpolated from between cam_ll_sdc_crossfactor_strength_dark and cam_ll_sdc_crossfactor_strength_bright. Single defect correction is only enabled when the brightness metric is less than cam_ll_sdc_th_bm threshold with hysteresis of cam_ll_sdc_gate_bm. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xCA4C	15:0	0x0B54	CAM_LL_SDC_CROSSFACTOR_BRIGHT_BM (R/W)
	Bright threshold for fine detail single defect correction. When the brightness metric is above this value, the cam_ll_sdc_crossfactor_strength_bright value is used for the fine detail single defect correction threshold. When the brightness metric is between the cam_ll_sdc_crossfactor_dark_bm threshold and the cam_ll_sdc_crossfactor_bright_bm threshold, the fine detail single defect correction threshold value is interpolated from between cam_ll_sdc_crossfactor_strength_dark and cam_ll_sdc_crossfactor_strength_bright. Single defect correction is only enabled when the brightness metric is less than cam_ll_sdc_th_bm threshold with hysteresis of cam_ll_sdc_gate_bm. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCA4E	7:0	0x0C	CAM_LL_SDC_CROSSFACTOR_STRENGTH_DARK (R/W)
	Fine detail single defect correction threshold for dark images. This controls how aggressively the defect correction hardware corrects potential single dark and hot pixel defects in fine details of the image. When the brightness metric is below cam_ll_sdc_crossfactor_dark_bm this value is used for the fine detail single defect correction threshold. When the brightness metric is between the cam_ll_sdc_crossfactor_dark_bm threshold and the cam_ll_sdc_crossfactor_bright_bm threshold, the fine detail single defect correction threshold value is interpolated from between cam_ll_sdc_crossfactor_strength_dark and cam_ll_sdc_crossfactor_strength_bright. The lower the value the less aggressive the single pixel defect detection is in fine details. Single defect correction is only enabled when the brightness metric is less than cam_ll_sdc_th_bm threshold with hysteresis of cam_ll_sdc_gate_bm. This value is unsigned. Changes take effect during Vertical Blanking.		
0xCA4F	7:0	0x04	CAM_LL_SDC_CROSSFACTOR_STRENGTH_BRIGHT (R/W)
	Fine detail single defect correction threshold for bright images. This controls how aggressively the defect correction hardware corrects potential single dark and hot pixel defects in fine details of the image. When the brightness metric is above cam_ll_sdc_crossfactor_bright_bm, then this value is used for the fine detail single defect correction threshold. When the brightness metric is between the cam_ll_sdc_crossfactor_dark_bm threshold and the cam_ll_sdc_crossfactor_bright_bm threshold, the fine detail single defect correction threshold value is interpolated from between cam_ll_sdc_crossfactor_strength_dark and cam_ll_sdc_crossfactor_strength_bright. The lower the value the less aggressive the single pixel defect detection is in fine details. Single defect correction is only enabled when the brightness metric is less than cam_ll_sdc_th_bm threshold with hysteresis of cam_ll_sdc_gate_bm. This value is unsigned. Changes take effect during Vertical Blanking.		
0xCA50	15:0	0x00C8	CAM_LL_SDC_MAXFACTOR_DARK_BM (R/W)
	Dark threshold for single defect correction limiting. When the brightness metric is below this value, the cam_ll_sdc_maxfactor_strength_dark value is used for the single pixel defect maxfactor limiting. When the brightness metric is between the cam_ll_sdc_maxfactor_dark_bm threshold and the cam_ll_sdc_maxfactor_bright_bm threshold, the single pixel defect maxfactor limiting value is interpolated from between cam_ll_sdc_maxfactor_strength_dark and cam_ll_sdc_maxfactor_strength_bright. Single pixel defect correction is only enabled when the brightness metric is less than cam_ll_sdc_th_bm threshold with hysteresis of cam_ll_sdc_gate_bm. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCA52	15:0	0x0B54	CAM_LL_SDC_MAXFACTOR_BRIGHT_BM (R/W)
	Bright threshold for single defect correction limiting. When the brightness metric is above this value, the cam_ll_sdc_maxfactor_strength_bright value is used for the single pixel defect maxfactor limiting. When the brightness metric is between the cam_ll_sdc_maxfactor_dark_bm threshold and the cam_ll_sdc_maxfactor_bright_bm threshold, the single pixel defect maxfactor limiting value is interpolated from between cam_ll_sdc_maxfactor_strength_dark and cam_ll_sdc_maxfactor_strength_bright. Single pixel defect correction is only enabled when the brightness metric is less than cam_ll_sdc_th_bm threshold with hysteresis of cam_ll_sdc_gate_bm. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xCA54	7:0	0x01	CAM_LL_SDC_MAXFACTOR_STRENGTH_DARK (R/W)
	Single pixel defect correction limiting strength parameter for dark images. The single pixel defect maxfactor limits the fine detail defect correction hold−off. This prevents missing the detection of defects with high luma value excursions within fine detail areas of the image. When the brightness metric is below cam_ll_sdc_maxfactor_dark_bm this value is used for the single pixel defect crossfactor limiting. When the brightness metric is between the cam_ll_sdc_maxfactor_dark_bm threshold and the cam_ll_sdc_maxfactor_bright_bm, the single pixel defect crossfactor limiting value is interpolated from between cam_ll_sdc_maxfactor_strength_dark and cam_ll_sdc_maxfactor_strength_bright. The lower the value the more aggressive the single pixel defect detection is in detection of defects with high luma value excursions. Single pixel defect correction is only enabled when the brightness metric is less than cam_ll_sdc_th_bm threshold with hysteresis of cam_ll_sdc_gate_bm. This value is unsigned. Changes take effect during Vertical Blanking.		
0xCA55	7:0	0x01	CAM_LL_SDC_MAXFACTOR_STRENGTH_BRIGHT (R/W)
	Single pixel defect correction limiting strength parameter for bright images. The single pixel defect maxfactor limits the fine detail defect correction hold−off. This prevents missing the detection of defects with high luma value excursions within fine detail areas of the image. When the brightness metric is above cam_ll_sdc_maxfactor_bright_bm this value is used for the single pixel defect crossfactor limiting. When the brightness metric is between the cam_ll_sdc_maxfactor_dark_bm threshold and the cam_ll_sdc_maxfactor_bright_bm, the single pixel defect crossfactor limiting value is interpolated from between cam_ll_sdc_maxfactor_strength_dark and cam_ll_sdc_maxfactor_strength_bright. The lower the value the more aggressive the single pixel defect detection is in detection of defects with high luma value excursions. Single pixel defect correction is only enabled when the brightness metric is less than cam_ll_sdc_th_bm threshold with hysteresis of cam_ll_sdc_gate_bm. This value is unsigned. Changes take effect during Vertical Blanking.		
0xCA56	15:0	0x1000	CAM_LL_SDC_TH_BM (R/W)
	Brightness metric threshold for enabling single defect correction. Single defect correction is enabled when the brightness metric is less than cam_ll_sdc_th_bm threshold with hysteresis of cam_ll_sdc_gate_bm. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCA5A	15:0	0x00C8	CAM_LL_CDC_DP_DARK_BM (R/W)
	Dark threshold for dark pixel cluster defect correction. When the brightness metric is below this value, the cam_ll_cdc_dp_strength_dark value is used for the dark cluster strength parameter. When the brightness metric is between the cam_ll_cdc_dp_dark_bm threshold and the cam_ll_cdc_dp_bright_bm threshold, the dark cluster strength parameter value is interpolated from between cam_ll_cdc_dp_strength_dark and cam_ll_cdc_dp_strength_bright. Dark cluster defect correction is only enabled when the brightness metric is less than cam_ll_cdc_th_bm threshold with hysteresis of cam_ll_cdc_gate_bm. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCA5C	15:0	0x0B54	CAM_LL_CDC_DP_BRIGHT_BM (R/W)
	Bright threshold for dark pixel cluster defect correction. When the brightness metric is above this value, the cam_ll_cdc_dp_strength_bright value is used for the dark cluster strength parameter. When the brightness metric is between the cam_ll_cdc_dp_dark_bm threshold and the cam_ll_cdc_dp_bright_bm threshold, the dark cluster strength parameter value is interpolated from between cam_ll_cdc_dp_strength_dark and cam_ll_cdc_dp_strength_bright. Dark cluster defect correction is only enabled when the brightness metric is less than cam_ll_cdc_th_bm threshold with hysteresis of cam_ll_cdc_gate_bm. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCA5E	7:0	0x08	CAM_LL_CDC_DP_STRENGTH_DARK (R/W)
	Dark cluster defect correction strength parameter for dark images. This controls how aggressively the defect correction hardware corrects potential dark cluster defects. When the brightness metric is below cam_ll_cdc_dp_dark_bm this value is used for the dark cluster strength parameter. When the brightness metric is between the cam_ll_cdc_dp_dark_bm threshold and the cam_ll_cdc_dp_bright_bm threshold, the dark cluster strength parameter value is interpolated from between cam_ll_cdc_dp_strength_dark and cam_ll_cdc_dp_strength_bright. The lower the value the more aggressive the dark cluster detection. Dark cluster defect correction is only enabled when the brightness metric is less than cam_ll_cdc_th_bm threshold with hysteresis of cam_ll_cdc_gate_bm. This value is unsigned. Changes take effect during Vertical Blanking.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xCA5F	7:0	0x0F	CAM_LL_CDC_DP_STRENGTH_BRIGHT (R/W)
	Dark cluster defect correction strength parameter for bright images. This controls how aggressively the defect correction hardware corrects potential dark cluster defects. When the brightness metric is above cam_ll_cdc_dp_bright_bm this value is used for the dark cluster strength parameter. When the brightness metric is between the cam_ll_cdc_dp_dark_bm threshold and the cam_ll_cdc_dp_bright_bm threshold, the dark cluster strength parameter value is interpolated from between cam_ll_cdc_dp_strength_dark and cam_ll_cdc_dp_strength_bright. The lower the value the more aggressive the dark cluster detection. Dark cluster defect correction is only enabled when the brightness metric is less than cam_ll_cdc_th_bm threshold with hysteresis of cam_ll_cdc_gate_bm. This value is unsigned. Changes take effect during Vertical Blanking.		
0xCA60	15:0	0x00C8	CAM_LL_CDC_HP_DARK_BM (R/W)
	Dark threshold for cluster hot pixel defect correction. When the brightness metric is below this value, the cam_ll_cdc_hp_strength_dark value is used for the cluster hot pixel strength parameter. When the brightness metric is between the cam_ll_cdc_hp_dark_bm threshold and the cam_ll_cdc_hp_bright_bm threshold, the cluster hot pixel strength parameter value is interpolated from between cam_ll_cdc_hp_strength_dark and cam_ll_cdc_hp_strength_bright. Cluster defect correction is only enabled when the brightness metric is less than cam_ll_cdc_th_bm threshold with hysteresis of cam_ll_cdc_gate_bm. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCA62	15:0	0x0B54	CAM_LL_CDC_HP_BRIGHT_BM (R/W)
	Bright threshold for cluster hot pixel defect correction. When the brightness metric is above this value, the cam_ll_cdc_hp_strength_bright value is used for the cluster hot pixel strength parameter. When the brightness metric is between the cam_ll_cdc_hp_dark_bm threshold and the cam_ll_cdc_hp_bright_bm threshold, the cluster hot pixel strength parameter value is interpolated from between cam_ll_cdc_hp_strength_dark and cam_ll_cdc_hp_strength_bright. Cluster defect correction is only enabled when the brightness metric is less than cam_ll_cdc_th_bm threshold with hysteresis of cam_ll_cdc_gate_bm. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCA64	7:0	0x08	CAM_LL_CDC_HP_STRENGTH_DARK (R/W)
	Cluster hot or warm pixel defect correction strength parameter for dark images. This controls how aggressively the defect correction hardware corrects potential cluster hot pixel defects. When the brightness metric is below cam_ll_cdc_hp_dark_bm this value is used for the cluster hot pixel strength parameter. When the brightness metric is between the cam_ll_cdc_hp_dark_bm threshold and the cam_ll_cdc_hp_bright_bm threshold, the cluster hot pixel strength parameter value is interpolated from between cam_ll_cdc_hp_strength_dark and cam_ll_cdc_hp_strength_bright. The lower the value the more aggressive the single hot pixel defect detection. Cluster defect correction is only enabled when the brightness metric is less than cam_ll_cdc_th_bm threshold with hysteresis of cam_ll_cdc_gate_bm. This value is unsigned. Changes take effect during Vertical Blanking.		
0xCA65	7:0	0x0F	CAM_LL_CDC_HP_STRENGTH_BRIGHT (R/W)
	Cluster hot or warm pixel defect correction strength parameter for bright images. This controls how aggressively the defect correction hardware corrects potential cluster hot pixel defects. When the brightness metric is above cam_ll_cdc_hp_bright_bm this value is used for the cluster hot pixel strength parameter. When the brightness metric is between the cam_ll_cdc_hp_dark_bm threshold and the cam_ll_cdc_hp_bright_bm threshold, the cluster hot pixel strength parameter value is interpolated from between cam_ll_cdc_hp_strength_dark and cam_ll_cdc_hp_strength_bright. The lower the value the more aggressive the cluster hot pixel defect detection. Cluster defect correction is only enabled when the brightness metric is less than cam_ll_cdc_th_bm threshold with hysteresis of cam_ll_cdc_gate_bm. This value is unsigned. Changes take effect during Vertical Blanking.		
0xCA66	15:0	0x00C8	CAM_LL_CDC_CROSSFACTOR_DARK_BM (R/W)
	Dark threshold for fine detail cluster defect correction. When the brightness metric is above this value, the cam_ll_cdc_crossfactor_strength_bright value is used for the fine detail cluster defect correction threshold. When the brightness metric is between the cam_ll_cdc_crossfactor_dark_bm threshold and the cam_ll_cdc_crossfactor_bright_bm threshold, the fine detail cluster defect correction threshold value is interpolated from between cam_ll_cdc_crossfactor_strength_dark and cam_ll_cdc_crossfactor_strength_bright. Cluster defect correction is only enabled when the brightness metric is less than cam_ll_cdc_th_bm threshold with hysteresis of cam_ll_cdc_gate_bm. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xCA68	15:0	0x0B54	CAM_LL_CDC_CROSSFACTOR_BRIGHT_BM (R/W)
	Bright threshold for fine detail cluster defect correction. When the brightness metric is above this value, the cam_ll_cdc_crossfactor_strength_bright value is used for the fine detail cluster defect correction threshold. When the brightness metric is between the cam_ll_cdc_crossfactor_dark_bm threshold and the cam_ll_cdc_crossfactor_bright_bm threshold, the fine detail cluster defect correction threshold value is interpolated from between cam_ll_cdc_crossfactor_strength_dark and cam_ll_cdc_crossfactor_strength_bright. Cluster defect correction is only enabled when the brightness metric is less than cam_ll_cdc_th_bm threshold with hysteresis of cam_ll_cdc_gate_bm. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCA6A	7:0	0x0C	CAM_LL_CDC_CROSSFACTOR_STRENGTH_DARK (R/W)
	Fine detail cluster defect correction strength for dark images. This controls how aggressively the defect correction hardware corrects potential cluster defects within fine details of the image. When the brightness metric is below cam_ll_cdc_crossfactor_dark_bm, then this value is used for the fine detail cluster defect correction strength parameter. When the brightness metric is between the cam_ll_cdc_crossfactor_dark_bm threshold and the cam_ll_cdc_crossfactor_bright_bm threshold, the fine detail cluster defect correction strength parameter value is interpolated from between cam_ll_cdc_crossfactor_strength_dark and cam_ll_cdc_crossfactor_strength_bright. The lower the value the less aggressive the defect detection. Cluster defect correction is only enabled when the brightness metric is less than cam_ll_cdc_th_bm threshold with hysteresis of cam_ll_cdc_gate_bm. This value is unsigned. Changes take effect during Vertical Blanking.		
0xCA6B	7:0	0x04	CAM_LL_CDC_CROSSFACTOR_STRENGTH_BRIGHT (R/W)
	Fine detail cluster defect correction strength for bright images. This controls how aggressively the defect correction hardware corrects potential cluster defects within fine details of the image. When the brightness metric is above cam_ll_cdc_crossfactor_bright_bm this value is used for the fine detail cluster defect correction strength parameter. When the brightness metric is between the cam_ll_cdc_crossfactor_dark_bm threshold and the cam_ll_cdc_crossfactor_bright_bm threshold, the fine detail cluster defect correction strength parameter value is interpolated from between cam_ll_cdc_crossfactor_strength_dark and cam_ll_cdc_crossfactor_strength_bright. The lower the value the less aggressive the defect detection. Cluster defect correction is only enabled when the brightness metric is less than cam_ll_cdc_th_bm threshold with hysteresis of cam_ll_cdc_gate_bm. This value is unsigned. Changes take effect during Vertical Blanking.		
0xCA6C	15:0	0x1000	CAM_LL_CDC_TH_BM (R/W)
	Brightness metric threshold for enabling cluster defect correction. Cluster defect correction is enabled when the brightness metric is less than cam_ll_sdc_th_bm threshold with hysteresis of cam_ll_sdc_gate_bm. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCA70	15:0	0x0006	CAM_LL_ADACD_GR_WEIGHTS_STRENGTH_LOW (R/W)
	Lower limit of AdaCD filtering strength. For scenes with a SNR value below cam_ll_adacd_gr_weights_low_snr, this is the filter strength that will be used. For scenes with a SNR value between cam_ll_adacd_gr_weights_low_snr and cam_ll_adacd_gr_weights_high_snr the filter strength will be a linear interpolation between cam_ll_adacd_gr_weights_strength_low and cam_ll_adacd_gr_weights_strength_high based on the value of cam_ll_snr_metric. Higher values will increase the filtering and trade sharpness for more noise reduction. This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
0xCA72	15:0	0x0003	CAM_LL_ADACD_GR_WEIGHTS_STRENGTH_HIGH (R/W)
	Upper limit of AdaCD filtering strength. For scenes with a SNR value above cam_ll_adacd_gr_weights_high_snr, this is the filter strength that will be used. For scenes with a SNR value between cam_ll_adacd_gr_weights_low_snr and cam_ll_adacd_gr_weights_high_snr the filter strength will be a linear interpolation between cam_ll_adacd_gr_weights_strength_low and cam_ll_adacd_gr_weights_strength_high based on the value of cam_ll_snr_metric. Higher values will increase the filtering and trade sharpness for more noise reduction. This value is unsigned fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xCA74	15:0	0x03E8	CAM_LL_ADACD_GR_WEIGHTS_LOW_SNR (R/W)
	Lower SNR threshold for AdaCD filtering strength. For scenes with a SNR value below this threshold the cam_ll_adacd_gr_weights_strength_low filtering strength will be used. For scenes with a SNR value between cam_ll_adacd_gr_weights_low_snr and cam_ll_adacd_gr_weights_high_snr the filter strength will be a linear interpolation between cam_ll_adacd_gr_weights_strength_low and cam_ll_adacd_gr_weights_strength_high based on the value of cam_ll_snr_metric. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCA76	15:0	0x0D00	CAM_LL_ADACD_GR_WEIGHTS_HIGH_SNR (R/W)
	Upper SNR threshold for AdaCD filtering strength. For scenes with a SNR value above this threshold the cam_ll_adacd_gr_weights_strength_high filtering strength will be used. For scenes with a SNR value between cam_ll_adacd_gr_weights_low_snr and cam_ll_adacd_gr_weights_high_snr the filter strength will be a linear interpolation between cam_ll_adacd_gr_weights_strength_low and cam_ll_adacd_gr_weights_strength_high based on the value of cam_ll_snr_metric. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCA78	15:0	0x0020	CAM_LL_NR_LUT_0_GAIN (R/W)
	Sensor analog gain for look up table entry 0. This is a tuning parameter for the noise model used in the AdaCD adaptive noise reduction calculation. This is paired with cam_ll_nr_lut_0_sigma and cam_ll_nr_lut_0_k0. This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
0xCA7A	15:0	0x0034	CAM_LL_NR_LUT_0_SIGMA (R/W)
	AdaCD noise floor parameter for a sensor gain of cam_ll_nr_lut_0_gain. This is a tuning parameter for the noise model used in the AdaCD adaptive noise reduction calculation. This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
0xCA7C	15:0	0x0093	CAM_LL_NR_LUT_0_K0 (R/W)
	AdaCD noise model parameter for a sensor gain of cam_ll_nr_lut_0_gain. This is a tuning parameter for the noise model used in the AdaCD adaptive noise reduction calculation. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCA80	15:0	0x0058	CAM_LL_NR_LUT_1_GAIN (R/W)
	Sensor analog gain for look up table entry 1. This is a tuning parameter for the noise model used in the AdaCD adaptive noise reduction calculation. This is paired with cam_ll_nr_lut_1_sigma and cam_ll_nr_lut_1_k0. This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
0xCA82	15:0	0x0037	CAM_LL_NR_LUT_1_SIGMA (R/W)
	AdaCD noise floor parameter for a sensor gain of cam_ll_nr_lut_1_gain. This is a tuning parameter for the noise model used in the AdaCD adaptive noise reduction calculation. This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
0xCA84	15:0	0x0093	CAM_LL_NR_LUT_1_K0 (R/W)
	AdaCD noise model parameter for a sensor gain of cam_ll_nr_lut_1_gain. This is a tuning parameter for the noise model used in the AdaCD adaptive noise reduction calculation. This value is unsigned fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCA88	15:0	0x0160	CAM_LL_NR_LUT_2_GAIN (R/W)
	Sensor analog gain for look up table entry 2. This is a tuning parameter for the noise model used in the AdaCD adaptive noise reduction calculation. This is paired with cam_ll_nr_lut_2_sigma and cam_ll_nr_lut_2_k0. This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xCA8A	15:0	0x0107	CAM_LL_NR_LUT_2_SIGMA (R/W)
	AdaCD noise floor parameter for a sensor gain of cam_ll_nr_lut_2_gain. This is a tuning parameter for the noise model used in the AdaCD adaptive noise reduction calculation. This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
0xCA8C	15:0	0x0093	CAM_LL_NR_LUT_2_K0 (R/W)
	AdaCD noise model parameter for a sensor gain of cam_ll_nr_lut_2_gain. This is a tuning parameter for the noise model used in the AdaCD adaptive noise reduction calculation. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCA90	15:0	0x02C0	CAM_LL_NR_LUT_3_GAIN (R/W)
	Sensor analog gain for look up table entry 3. This is a tuning parameter for the noise model used in the AdaCD adaptive noise reduction calculation. This is paired with cam_ll_nr_lut_3_sigma and cam_ll_nr_lut_3_k0. This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
0xCA92	15:0	0x0105	CAM_LL_NR_LUT_3_SIGMA (R/W)
	AdaCD noise floor parameter for a sensor gain of cam_ll_nr_lut_3_gain. This is a tuning parameter for the noise model used in the AdaCD adaptive noise reduction calculation. This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
0xCA94	15:0	0x0093	CAM_LL_NR_LUT_3_K0 (R/W)
	AdaCD noise model parameter for a sensor gain of cam_ll_nr_lut_3_gain. This is a tuning parameter for the noise model used in the AdaCD adaptive noise reduction calculation. This value is unsigned fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCA9C	15:0	0x0900	CAM_LL_CK_0_SNR (R/W)
	Low SNR colorkill solution. This is the SNR metric (cam_ll_snr_metric) value used to generate the current colorkill solution (ll_ck_*). The current colorkill solution is interpolated from the table of colorkill solutions (cam_ll_ck_N*) in the CAM page. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCAA4	15:0	0x01C0	CAM_LL_CK_0_CHROMA_GAIN_HIGH (R/W)
	Low SNR colorkill solution. This is the high gain. The chroma gain applied to a pixel is determined from that pixels colorkill metric value. This value is unsigned fixed−point with 9 fractional bits. Changes take effect during Vertical Blanking.		
0xCAA8	15:0	0x07CD	CAM_LL_CK_1_SNR (R/W)
	Mid SNR colorkill solution. This is the SNR metric (cam_ll_snr_metric) value used to generate the current colorkill solution (ll_ck_*). The current colorkill solution is interpolated from the table of colorkill solutions (cam_ll_ck_N*) in the CAM page. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCAB0	15:0	0x0166	CAM_LL_CK_1_CHROMA_GAIN_HIGH (R/W)
	Mid SNR colorkill solution. This is the high gain. This value is unsigned fixed−point with 9 fractional bits. Changes take effect during Vertical Blanking.		
0xCAB4	15:0	0x0066	CAM_LL_CK_2_SNR (R/W)
	High SNR colorkill solution. This is the SNR metric (cam_ll_snr_metric) value used to generate the current colorkill solution (ll_ck_*). The current colorkill solution is interpolated from the table of colorkill solutions (cam_ll_ck_N*) in the CAM page. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCABC	15:0	0x0000	CAM_LL_CK_2_CHROMA_GAIN_HIGH (R/W)
	High SNR colorkill solution. This is the high gain. This value is unsigned fixed−point with 9 fractional bits. Changes take effect during Vertical Blanking.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xCAC4	**15:0**	**0x0000**	**CAM_PGA_PGA_CONTROL (R/W)**
	15:2	X	Reserved
	1	0x00	CAM_PGA_PGA_ADJUST_CENTER 0: Disable center adjustment. 1: Enable center adjustment. The firmware will adjust X/Y offset register settings (during a Change−Config) based on the cam_fov_calib_x_offset and cam_fov_calib_y_offset variable values. This value is unsigned. Changes take effect after a Change−Config command.
	0	0x00	CAM_PGA_PGA_ENABLE 0: Disable PGA. 1: Enable PGA (assume coefficients pre−loaded). This value is unsigned. Changes take effect during Vertical Blanking.
	PGA control. This value is unsigned. Changes take effect after a Change−Config command.		
0xCAC8	**7:0**	**0x4D**	**CAM_SYSCTL_PLL_CONTROL (R/W)**
	7	X	Reserved
	6	0x01	CAM_SYSCTL_PLL_NET_FRACTIONAL_ENABLE When set, the Ethernet PLL will use the fractional mode on the next Change−Config; when clear, it will be in integer mode. This value is unsigned. Changes take effect after a Change−Config command.
	5	X	Reserved
	4	0x00	CAM_SYSCTL_PLL_FRACTIONAL_ENABLE_1_CLK When set, PLL will use the fractional mode on the next Change−Config; when clear, it will be in integer mode. This value is unsigned. Changes take effect after a Change−Config command.
	3	0x01	CAM_SYSCTL_PLL_NET_VALID When set, indicates the Ethernet PLL divider settings are valid. This value is unsigned. Changes take effect after a Change−Config command.
	2	0x01	CAM_SYSCTL_PLL_TWO_CLK_PER_PIX_VALID When set, indicates the post−divider settings are valid for two−clock per pixel mode. This value is unsigned. Changes take effect after a Change−Config command.
	1	X	Reserved
	0	0x01	CAM_SYSCTL_PLL_ENABLE 0: Disable and bypass the PLL 1: PLL will be enabled on next Change−Config. This value is unsigned. Changes take effect after a Change−Config command.
	PLL control. This value is unsigned. Changes take effect after a Change−Config command.		
0xCAC9	**7:0**	**0x00**	**CAM_SYSCTL_CLOCK_CONTROL (R/W)**
	7:2	X	Reserved
	1	0x00	CAM_SYSCTL_EXTCLK_OUT_SOURCE Select EXTCLK_OUT source. 0: EXTCLK, 1: PLL P2 output This value is unsigned. Changes take effect after a Change−Config command.
	0	0x00	CAM_SYSCTL_TX_SOURCE Select TX_SS clock source. 0: PLL P2 output, 1: Net PLL P1 output This value is unsigned. Changes take effect after a Change−Config command.
	Clock source selections for TX_SS and EXTCLK_OUT. This value is unsigned. Changes take effect after a Change−Config command.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xCACA	**15:0**	**0x0110**	**CAM_SYSCTL_PLL_DIVIDER_M_N_1_CLK (R/W)**
	15:14	X	Reserved
	13:8	0x0001	CAM_PLL_DIVIDER_M_N_1_CLK_PLL_N The PLL's prescale N (reference) divider. This value is unsigned. Changes take effect after a Change−Config command.
	7:0	0x10	CAM_PLL_DIVIDER_M_N_1_CLK_PLL_M The PLL's VCO M (feedback) divider. This value is unsigned. Changes take effect after a Change−Config command.
	PLL multiplier/pre−divider settings. This value is unsigned. Changes take effect after a Change−Config command.		
0xCACE	**15:0**	**0x010E**	**CAM_SYSCTL_PLL_DIVIDER_M_N_NET (R/W)**
	15:14	X	Reserved
	13:8	0x0001	CAM_PLL_DIVIDER_M_N_NET_PLL_N The PLL's prescale N (reference) divider. This value is unsigned. Changes take effect after a Change−Config command.
	7:0	0x0E	CAM_PLL_DIVIDER_M_N_NET_PLL_M The PLL's VCO M (feedback) divider. This value is unsigned. Changes take effect after a Change−Config command.
	Ethernet PLL multiplier/pre−divider settings. This value is unsigned. Changes take effect after a Change−Config command.		
0xCAD0	**15:0**	**0x0033**	**CAM_SYSCTL_PLL_DIVIDER_P_1_CLK (R/W)**
	15:8	X	Reserved
	7:4	0x03	CAM_PLL_DIVIDER_P_1_CLK_PLL_P2 The PLL's VCO P2 output divider, minus 1. The pixel clock is divided down from the VCO clock by the P2 divider. This value should be obtained from Register Wizard. Pixel clock frequency = VCO_freq / P2 / 2 in 1 clock per pixel mode. Pixel clock frequency = VCO_freq / P2 in 2 clock per pixel mode. This value is unsigned. Changes take effect after a Change−Config command.
	3:0	0x03	CAM_PLL_DIVIDER_P_1_CLK_PLL_P1 The PLL's VCO P1 output divider, minus 1. The color pipe clock is divided down from the VCO clock by the P1 divider and a fixed /2. This value should be obtained from Register Wizard. Color pipe clock frequency = VCO_freq / P1 / 2. This value is unsigned. Changes take effect after a Change−Config command.
	PLL post−dividers. This value is unsigned. Changes take effect after a Change−Config command.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xCAD4	**15:0**	**0x001F**	**CAM_SYSCTL_PLL_DIVIDER_P_NET (R/W)**
	15:8	X	Reserved
	7:4	0x01	CAM_PLL_DIVIDER_P_NET_PLL_P2 The PLL's VCO P2 output divider, minus 1. The H.264 clock is divided down from the VCO clock by the P2 divider. This value should be obtained from Register Wizard. H.264 clock frequency = VCO_freq / P2. This value is unsigned. Changes take effect after a Change−Config command.
	3:0	0x0F	CAM_PLL_DIVIDER_P_NET_PLL_P1 The Ethernet PLL's VCO P1 output divider, minus 1. The Ethernet clock is divided down from the VCO clock by the P1 divider. This value should be obtained from Register Wizard. Ethernet clock frequency = VCO_freq / P1. This value is unsigned. Changes take effect after a Change−Config command.
	The Ethernet PLL's post−dividers. This value is unsigned. Changes take effect after a Change−Config command.		
0xCAD8	**31:0**	**0x00000000**	**CAM_SYSCTL_PLL_FRACTION_1_CLK (R/W)**
	PLL fractional divider, 24 bits MSB aligned. This value is unsigned. Changes take effect after a Change−Config command.		
0xCAE0	**31:0**	**0xD097B400**	**CAM_SYSCTL_PLL_FRACTION_NET (R/W)**
	PLL fractional divider for the Ethernet PLL, 24 bits MSB aligned. This value is unsigned. Changes take effect after a Change−Config command.		
0xCAE4	**15:0**	**0x0500**	**CAM_OUTPUT_WIDTH (R/W)**
	The horizontal width (pixels) of the output window. This value is unsigned. Changes take effect after a Change−Config command.		
0xCAE6	**15:0**	**0x03C0**	**CAM_OUTPUT_HEIGHT (R/W)**
	The vertical height (lines) of the output window. This value is unsigned. Changes take effect after a Change−Config command.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xCAE8	**15:0**	**0x0010**	**CAM_OUTPUT_FORMAT_YUV (R/W)**
	15:9	X	Reserved
	8	0x0000	CAM_OUTPUT_FORMAT_YUV_MONO_ENABLE Enable monochrome output. This value is unsigned. Changes take effect after a Change−Config command.
	7	0x00	CAM_OUTPUT_FORMAT_YUV_SWAP_RED_BLUE Swap Cr/Cb channels. This value is unsigned. Changes take effect after a Change−Config command.
	6:5	0x00	CAM_OUTPUT_FORMAT_YUV_CLIP 0: No clipping; 1: Clip Y in 16−235, U and V in 16−240; 2: Clip to 1−254; 3: reserved. This value is unsigned. Changes take effect after a Change−Config command.
	4	0x01	CAM_OUTPUT_FORMAT_YUV_AUV_OFFSET Controls the U and V offset: 0: No offset. 1: Add 128 to U and V. This value is unsigned. Changes take effect after a Change−Config command.
	3	0x00	CAM_OUTPUT_FORMAT_YUV_SELECT_601 YUV coefficients control: 0: YUV (BT−709). 1: YCbCr (BT−601). This value is unsigned. Changes take effect after a Change−Config command.
	2	0x00	CAM_OUTPUT_FORMAT_YUV_NORMALISE Controls luma normalization: 0: No normalization. 1: Normalize Y to 16−235, U and V to 16−240. Note: cam_output_y_offset should be set to 16. This value is unsigned. Changes take effect after a Change−Config command.
	1:0	0x00	CAM_OUTPUT_FORMAT_YUV_SAMPLING Select 4:4:4 to 4:2:2 down−sampling mode for Cb and Cr: 0: Co−Sited 1−tap filter 1: Co−Sited 3−tap filter 2: Center−Sited 2−tap filter 3: reserved This value is unsigned. Changes take effect after a Change−Config command.
	Controls the YUV output format. This value is unsigned. Changes take effect after a Change−Config command.		
0xCAEA	**7:0**	**0x00**	**CAM_OUTPUT_FORMAT (R/W)**
	Output format 0: YUV 1: RGB 2: Bayer 3: JPEG 4: H.264 This value is unsigned. Changes take effect after a Change−Config command.		
0xCAEB	**7:0**	**0x00**	**CAM_OUTPUT_FORMAT_BAYER_PATH (R/W)**
	Bayer format data path 0: Raw from sensor RX 1: DCNR output 2: Reconstruct output 3: ALTM output 4: Raw from sensor, no decompanding This value is unsigned. Changes take effect after a Change−Config command.		
0xCAEC	**7:0**	**0x0C**	**CAM_OUTPUT_FORMAT_BAYER_WIDTH (RO)**
	Read−only Bayer output bit width: 10, 12, or 20. This is determined by the camera mode and sensor configuration. This value is unsigned. Updates after a Change−Config command.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xCAED	**7:0**	**0x16**	**CAM_OUTPUT_FORMAT_JPEG (R/W)**
	7	X	Reserved
	6:5	0x00	CAM_OUTPUT_FORMAT_JPEG_EOL_ON_RESTART End of line signalling on encoder restart. 0: No EOL on restart 1: EOL with restart marker 2: SOL with restart marker 3: Reserved This value is unsigned. Changes take effect after a Change−Config command.
	4	0x01	CAM_OUTPUT_FORMAT_JPEG_WORD_ALIGN 16−bit word align restart and EOI markers for 8−bit output bus. This value is unsigned. Changes take effect after a Change−Config command.
	3:2	0x01	CAM_OUTPUT_FORMAT_JPEG_HEADER JPEG header style selection. 0: RFC 2435 1: JFIF 2: No JFIF 3: No JFIF and no DHT This value is unsigned. Changes take effect after a Change−Config command.
	1	0x01	CAM_OUTPUT_FORMAT_JPEG_JPOP_OVERFLOW Enable JPOP overflow prevention. This value is unsigned. Changes take effect after a Change−Config command.
	0	0x00	CAM_OUTPUT_FORMAT_JPEG_JPOP_CR Enable JPOP compression ratio limit. This value is unsigned. Changes take effect after a Change−Config command.
	JPEG format control flags. This value is unsigned. Changes take effect after a Change−Config command.		
0xCAEE	**15:0**	**0x0000**	**CAM_OUTPUT_JPEG_RESTART_MCU (R/W)**
	JPEG restart interval in MCU's, 0=no restart markers This value is unsigned. Changes take effect after a Change−Config command.		
0xCAF0	**7:0**	**0x32**	**CAM_OUTPUT_JPEG_Q (R/W)**
	JPEG quality value in fixed Q mode [1−99]. This value is unsigned. Changes take effect during Vertical Blanking.		
0xCAF1	**7:0**	**0x40**	**CAM_OUTPUT_JPEG_AUTO_Q_MAX (R/W)**
	Maximum JPEG quality value in auto−q mode [1−99]. This value is unsigned. Changes take effect during Vertical Blanking.		
0xCAF2	**7:0**	**0x18**	**CAM_OUTPUT_JPEG_MAX_BYTES_ADJUST (R/W)**
	Increase JPEG jpop max bytes by this percentage [0−100]. This value is unsigned. Changes take effect during Vertical Blanking.		
0xCAF4	**15:0**	**0x249F**	**CAM_OUTPUT_COMPRESSED_BIT_RATE_8K (R/W)**
	Compressed data bit rate, in units of 8000 bits/sec. 0=H.264 CQP−VBR encoding mode or JPEG fixed Q mode. This value is unsigned. Changes take effect after a Change−Config command.		
0xCAF6	**15:0**	**0x0000**	**CAM_OUTPUT_H264_SLICE_MBROWS (R/W)**
	H.264 macro block rows per slice. 0=no slices. [0−256] This value is unsigned. Changes take effect after a Change−Config command.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xCAF8	**7:0**	**0x0E**	**CAM_OUTPUT_H264_CONTROL (R/W)**
	7	X	Reserved
	6	0x00	CAM_OUTPUT_H264_CONTROL_RFC6184_HDR_ENABLE H.264 header style. 0: Annex B 1: RFC 6184 This value is unsigned. Changes take effect after a Change−Config command.
	5	0x00	CAM_OUTPUT_H264_CONTROL_ENCODE_WIDTH Sets the encoder sample bit width for the encoded stream. 0: 8 bits 1: 10 bits This value is unsigned. Changes take effect after a Change−Config command.
	4:0	0x0E	CAM_OUTPUT_H264_CONTROL_LEVEL H.264 level selection [0−16]. see H264_LEVEL register description This value is unsigned. Changes take effect after a Change−Config command.
	H.264 controls for level and encoded sample bit width. This value is unsigned. Changes take effect after a Change−Config command.		
0xCAF9	**7:0**	**0x2C**	**CAM_OUTPUT_H264_QP_LUMA (R/W)**
	The H.264 Luma quantization parameter to use in variable bit rate mode. The maximum is 51 when 8 bit encoding is used, 63 when 10 bit encoding is used (as selected in cam_output_h264_control_encode_width). This value is unsigned. Changes take effect after a Change−Config command.		
0xCAFA	**7:0**	**0x00**	**CAM_OUTPUT_Y_OFFSET (R/W)**
	Y pedestal. This is not intended as a brightness control. This value is unsigned. Changes take effect after a Change−Config command.		
	15:0	**0x4201**	**CAM_PORT_PARALLEL_CONTROL (R/W)**
	15	0x0000	CAM_PORT_PARALLEL_CONST_HBLANK Enable constant HBLANK output mode. This value is unsigned. Changes take effect after a Change−Config command.
	14	0x0001	CAM_PORT_PARALLEL_META_LV_ON_LV Output Meta LV signal on LV as well as META_LV (logical OR of the two signals). This value is unsigned. Changes take effect after a Change−Config command.
	13	0x0000	CAM_PORT_PARALLEL_META_CRC Enable output of image data CRC in meta data. This value is unsigned. Changes take effect after a Change−Config command.
	12	0x0000	CAM_PORT_PARALLEL_META_FRAME_ID Enable output of frame number in meta data. This value is unsigned. Changes take effect after a Change−Config command.
	11	0x0000	CAM_PORT_PARALLEL_RGB_OUT_MODE RGB output mode. 0: RGB565 1: RGB888 This value is unsigned. Changes take effect after a Change−Config command.
	10	0x0000	CAM_PORT_PARALLEL_YUV_OUT_MODE YUV output mode. 0: YUV8 1: YUV10 This value is unsigned. Changes take effect after a Change−Config command.
	9	0x0001	CAM_PORT_PARALLEL_SWAP_BYTES Swap output pixel high byte with low byte. This value is unsigned. Changes take effect after a Change−Config command.

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xCAFC	8	0x0000	CAM_PORT_PARALLEL_MSB_ALIGN Align MSB of output to DOUT23. This value is unsigned. Changes take effect after a Change−Config command.
	7	0x00	CAM_PORT_PARALLEL_FV_INVERT Invert output frame valid signal. This value is unsigned. Changes take effect after a Change−Config command.
	6	0x00	CAM_PORT_PARALLEL_LV_INVERT Invert output line valid signal. This value is unsigned. Changes take effect after a Change−Config command.
	5	0x00	CAM_PORT_PARALLEL_PIXCLK_INVERT Invert output pixel clock. This value is unsigned. Changes take effect after a Change−Config command.
	4	0x00	CAM_PORT_PARALLEL_PIXCLK_GATE_ON Controls the pixel clock gating: 0: The pixel clock output (PIXCLK) is continuous. 1: The pixel clock output (PIXCLK) is only generated when FRAME_VALID and LINE_VALID are asserted. This value is unsigned. Changes take effect after a Change−Config command.
	3	0x00	CAM_PORT_PARALLEL_2CPP Output is 2 clocks per pixel, JPEG and H.264 8 bits per pixel clock. This value is unsigned. Changes take effect after a Change−Config command.
	2:1	0x00	CAM_PORT_PARALLEL_SOURCE Select the parallel output source: 0: CPIPE 1: STE 2: Overlay 3: STE and Overlay This value is unsigned. Changes take effect after a Change−Config command.
	0	0x01	CAM_PORT_PARALLEL_ENABLE Enables the parallel port for data output: 0: Port disabled for data output. 1: Port enabled for data output. This value is unsigned. Changes take effect after a Change−Config command.
	Parallel port control flags. This value is unsigned. Changes take effect after a Change−Config command.		
0xCAFE	**15:0**	**0x0000**	**CAM_PORT_CONST_LINE_LENGTH (R/W)**
	Forced minimum output line length, in pixel clocks when constant hblank mode enabled. This value is unsigned. Changes take effect after a Change−Config command.		
0xCB00	**15:0**	**0x0298**	**CAM_PORT_MAX_PACKET_PAYLOAD (R/W)**
	Number of 16−bit words in a line of JPEG or H.264 data. This value is unsigned. Changes take effect after a Change−Config command.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xCB02	**7:0**	**0x00**	**CAM_PORT_KEEPSYNC_CONTROL (R/W)**
	7	0x00	Reserved
	6	0x00	CAM_PORT_KEEPSYNC_MIN_BLACK_ENABLE Enable fixed (minimum) number of black frames during change−config. This value is unsigned. Changes take effect after a Change−Config command.
	5	0x00	CAM_PORT_KEEPSYNC_DATA_ENABLE_INVERT Invert the output DATA_ENABLE signal. This value is unsigned. Changes take effect after a Change−Config command.
	4	0x00	CAM_PORT_KEEPSYNC_VSYNC_INVERT Invert the output VSYNC signal. This value is unsigned. Changes take effect after a Change−Config command.
	3	0x00	CAM_PORT_KEEPSYNC_HSYNC_INVERT Invert the output HSYNC signal. This value is unsigned. Changes take effect after a Change−Config command.
	2	0x00	CAM_PORT_KEEPSYNC_FRAME_SYNC_INVERT Invert the FRAME_SYNC input pin, 1: reset Keep Sync on falling edge. This value is unsigned. Changes take effect after a Change−Config command.
	1	0x00	CAM_PORT_KEEPSYNC_FRAME_SYNC_ENABLE Enable the FRAME_SYNC input pin to reset Keep Sync frame timing. This value is unsigned. Changes take effect after a Change−Config command.
	0	0x00	CAM_PORT_KEEPSYNC_ENABLE Enable Keep Sync system timing controls. This value is unsigned. Changes take effect after a Change−Config command.
	Keepsync control flags. This value is unsigned. Changes take effect after a Change−Config command.		
0xCB03	**7:0**	**0x00**	**CAM_PORT_KEEPSYNC_MIN_BLACK_FRAMES (R/W)**
	When cam_port_keepsync_min_black_enable is set, keepsync will output at least this many black frames during a config−change. To get a consistent number of black frames, set this value to greater than or equal to observed system minimum, typically 4. This value is unsigned. Changes take effect after a Change−Config command.		
0xCB04	**15:0**	**0x0071**	**CAM_TEMPMON_TCONTROL (R/W)**
	15:7	X	Reserved
	6:4	0x07	Reserved
	3	X	Reserved
	2	0x00	CAM_TEMPMON_TCONTROL_ENABLE_LOW_THRESHOLD Enable low−temperature threshold check: 0: Threshold check disabled. 1: Threshold check enabled. This value is unsigned. Changes take effect after a Change−Config command.
	1	0x00	CAM_TEMPMON_TCONTROL_ENABLE_HIGH_THRESHOLD Enable high−temperature threshold check: 0: Threshold check disabled. 1: Threshold check enabled. This value is unsigned. Changes take effect after a Change−Config command.
	0	0x01	CAM_TEMPMON_TCONTROL_ENABLE Enable Temperature Monitor: 0: Disabled. 1: Enabled. This value is unsigned. Changes take effect after a Change−Config command.
	Temperature Monitor control. This value is unsigned. Changes take effect after a Change−Config command.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xCB06	**15:0**	**0x0000**	**CAM_TEMPMON_TSTATUS (RO)**
	15:11	X	Reserved
	10	RO	CAM_TEMPMON_TSTATUS_NORMAL_TEMP Indicator, normal temperature reached. This value is unsigned. Updates during Vertical Blanking.
	9	RO	CAM_TEMPMON_TSTATUS_LOW_TEMP Low−temperature status: 0: Temperature is above the low threshold (cam_tempmon_low_threshold). 1: Temperature is below the low threshold. Note: There is an internal hysteresis gate; the low−temperature status will be set when the temperature is less than the low threshold minus the gate. The status will be cleared when the temperature is above the low threshold. This value is unsigned. Updates during Vertical Blanking.
	8	RO	CAM_TEMPMON_TSTATUS_HIGH_TEMP High−temperature status: 0: Temperature is below the high threshold (cam_tempmon_high_threshold). 1: Temperature is above the high threshold. Note: There is an internal hysteresis gate; the high−temperature status will be set when the temperature exceeds the high threshold plus the gate. The status will be cleared when the temperature is less than the high threshold. This value is unsigned. Updates during Vertical Blanking.
	7:3	X	Reserved
	2	RO	CAM_TEMPMON_TSTATUS_ENABLE_LOW_THRESHOLD Low−temperature threshold status: 0: Disabled. 1: Enabled. This value is unsigned. Updates during Vertical Blanking.
	1	RO	CAM_TEMPMON_TSTATUS_ENABLE_HIGH_THRESHOLD High−temperature threshold status: 0: Disabled. 1: Enabled. This value is unsigned. Updates during Vertical Blanking.
	0	RO	CAM_TEMPMON_TSTATUS_ENABLE Enable status: 0: Disabled. 1: Enabled. This value is unsigned. Updates during Vertical Blanking.
	Temperature Monitor status: This value is unsigned. Updates during Vertical Blanking.		
0xCB08	**7:0**	**0x10**	**CAM_TEMPMON_DAMPING_FACTOR (R/W)**
	7:6	X	Reserved
	5:0	0x10	CAM_TEMPMON_DAMP_FACTOR Controls the damping applied to the current temperature: 0: Maximum damping. 32: No damping. This value is unsigned. Changes take effect during Vertical Blanking.
	Damping control. This value is unsigned. Changes take effect during Vertical Blanking.		
0xCB09	**7:0**	**0x46**	**CAM_TEMPMON_HIGH_THRESHOLD (R/W)**
	The high temperature threshold, in degrees Celsius. This value is signed 2's complement. Changes take effect during Vertical Blanking.		
0xCB0A	**7:0**	**0x0A**	**CAM_TEMPMON_LOW_THRESHOLD (R/W)**
	The low temperature threshold, in degrees Celsius. This value is signed 2's complement. Changes take effect during Vertical Blanking.		
0xCB0B	**7:0**	**0x00**	**CAM_TEMPMON_TEMPERATURE (RO)**
	The current temperature (damped), in degrees Celsius. This value is signed 2's complement. Updates during Vertical Blanking.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xCB0C	**7:0**	**0x00**	**CAM_TEMPMON_TEMPERATURE_MIN (RO)**
	The minimum temperature recorded (degrees Celsius) since last enable. This value is signed 2's complement. Updates during Vertical Blanking.		
0xCB0D	**7:0**	**0x00**	**CAM_TEMPMON_TEMPERATURE_MAX (RO)**
	The maximum temperature recorded (degrees Celsius) since last enable. This value is signed 2's complement. Updates during Vertical Blanking.		
0xCB10	**15:0**	**0x0001**	**CAM_FLICKER_DETECT_FD_MODE (R/W)**
	15:2	X	Reserved
	1	0x00	CAM_FLICKER_DETECT_FD_AUTO_SWITCH Auto−switch flicker avoidance period control: 0: Automatic switching disabled. 1: Enable automatic switching of the flicker period when a flicker source is detected in the scene. When this option is enabled the following variables cannot be changed: – cam_sensor_cfg_frame_length_lines. – cam_aet_flicker_freq_hz. – cam_sensor_cfg_pixclk. – cam_sensor_cfg_line_length_pck. – cam_aet_frame_rate_0. – cam_aet_frame_rate_1. – cam_aet_frame_rate_2. This value is unsigned. Changes take effect after a Refresh command.
	0	0x01	CAM_FLICKER_DETECT_FD_ENABLE Enable flicker detection: 0: Disabled. 1: Enabled. This value is unsigned. Changes take effect after a Refresh command.
	Flicker detection mode control. This value is unsigned. Changes take effect after a Refresh command.		
0xCB14	**15:0**	**0x0001**	**CAM_ADAPTATION_TA_MODE (R/W)**
	15:2	X	Reserved
	1	0x00	Reserved
	0	0x01	CAM_ADAPTATION_TEMPADAPT_ENABLE If enabled, AE auto adjusts the maximum sensor gain during high temperatures. This value is unsigned. Changes take effect during Vertical Blanking.
	Camera Adaptation mode control flags. This value is unsigned. Changes take effect during Vertical Blanking.		
0xCB18	**15:0**	**0x0002**	**CAM_SENSOR_CONTROL2_HISPI (R/W)**
	15:2	X	Reserved
	1:0	0x02	CAM_SENSOR_CONTROL2_HISPI_TRANSFER_MODE Provides host selection of a HiSPi transfer mode from those that are supported by the sensor. This value is unsigned. Changes take effect after a Change−Config command.
	Sensor HiSPi control word. This value is unsigned. Changes take effect after a Change−Config command.		
0xCB20	**15:0**	**0x0034**	**CAM_LL2_NR_LUT_T2_0_SIGMA (R/W)**
	Noise floor corresponding to gain. (unity=32). This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
0xCB22	**15:0**	**0x0093**	**CAM_LL2_NR_LUT_T2_0_K0 (R/W)**
	Value of K noise coefficient (unity=256). This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCB24	**15:0**	**0x0037**	**CAM_LL2_NR_LUT_T2_1_SIGMA (R/W)**
	Noise floor corresponding to gain. (unity=32). This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xCB26	15:0	0x0093	CAM_LL2_NR_LUT_T2_1_K0 (R/W)
	Value of K noise coefficient (unity=256). This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCB28	15:0	0x0107	CAM_LL2_NR_LUT_T2_2_SIGMA (R/W)
	Noise floor corresponding to gain. (unity=32). This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
0xCB2A	15:0	0x0093	CAM_LL2_NR_LUT_T2_2_K0 (R/W)
	Value of K noise coefficient (unity=256). This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCB2C	15:0	0x0105	CAM_LL2_NR_LUT_T2_3_SIGMA (R/W)
	Noise floor corresponding to gain. (unity=32). This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
0xCB2E	15:0	0x0093	CAM_LL2_NR_LUT_T2_3_K0 (R/W)
	Value of K noise coefficient (unity=256). This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCB30	15:0	0x0034	CAM_LL2_NR_LUT_T3_0_SIGMA (R/W)
	Noise floor corresponding to gain. (unity=32). This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
0xCB32	15:0	0x0093	CAM_LL2_NR_LUT_T3_0_K0 (R/W)
	Value of K noise coefficient (unity=256). This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCB34	15:0	0x0037	CAM_LL2_NR_LUT_T3_1_SIGMA (R/W)
	Noise floor corresponding to gain. (unity=32). This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
0xCB36	15:0	0x0093	CAM_LL2_NR_LUT_T3_1_K0 (R/W)
	Value of K noise coefficient (unity=256). This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCB38	15:0	0x0107	CAM_LL2_NR_LUT_T3_2_SIGMA (R/W)
	Noise floor corresponding to gain. (unity=32). This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
0xCB3A	15:0	0x0093	CAM_LL2_NR_LUT_T3_2_K0 (R/W)
	Value of K noise coefficient (unity=256). This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCB3C	15:0	0x0105	CAM_LL2_NR_LUT_T3_3_SIGMA (R/W)
	Noise floor corresponding to gain. (unity=32). This value is unsigned fixed−point with 5 fractional bits. Changes take effect during Vertical Blanking.		
0xCB3E	15:0	0x0093	CAM_LL2_NR_LUT_T3_3_K0 (R/W)
	Value of K noise coefficient (unity=256). This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		

TABLE 49. 18: CAMCONTROL VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xCB40	**31:0**	**0x00000BB8**	**CAM_LL2_NR_TRANS_PT_S1 (R/W)**
	Lower transition point between T1/T2 override. This value is unsigned. Changes take effect during Vertical Blanking.		
0xCB44	**31:0**	**0x00000DAC**	**CAM_LL2_NR_TRANS_PT_S2 (R/W)**
	Upper transition point between T1/T2 override. This value is unsigned. Changes take effect during Vertical Blanking.		
0xCB48	**31:0**	**0x0000C350**	**CAM_LL2_NR_TRANS_PT_S3 (R/W)**
	Lower transition point between T2/T3 override. This value is unsigned. Changes take effect during Vertical Blanking.		
0xCB4C	**31:0**	**0x0000F618**	**CAM_LL2_NR_TRANS_PT_S4 (R/W)**
	Upper transition point between T2/T3 override. This value is unsigned. Changes take effect during Vertical Blanking.		
0xCB50	**15:0**	**0x0000**	**CAM_STE_ROTATE_OPTICAL_CENTER_X (R/W)**
	Optical center column. This value is unsigned. Changes take effect after a Change−Config command.		
0xCB52	**15:0**	**0x0000**	**CAM_STE_ROTATE_OPTICAL_CENTER_Y (R/W)**
	Optical center row. This value is unsigned. Changes take effect after a Change−Config command.		
0xCB54	**15:0**	**0x0000**	**CAM_STE_ROTATE_ANGLE (R/W)**
	Rotation relative to the optical center about the z axis. Positive rotates clockwise, causing the image to rotate counterclockwise. Specified in binary radians. This value is unsigned. Changes take effect after a Change−Config command.		
0xCB56	**15:0**	**0x0000**	**CAM_STE_ROTATE_ANGLE_MAX (R/W)**
	Maximum rotate angle allowed. The ste_rotate_angle value should always be less than or equal to this value. Specified in binary radians. This value is unsigned. Changes take effect after a Change−Config command.		
0xCB58	**7:0**	**0x00**	**CAM_CURRENT_CONTEXT (RO)**
	Current context if context switching is enabled. This value is unsigned. Updates during Vertical Blanking.		
0xCB59	**7:0**	**0x00**	**CAM_MODE_SYNC_SOURCE (R/W)**
	Selects source of frame sync pulse (0=external pulse pass thru, 1=N pulses generated for each external pulse, 2=internal RTC−generated pulses) This value is unsigned. Changes take effect after a Change−Config command.		
0xCB5A	**7:0**	**0x0A**	**CAM_MODE_SYNC_N_PULSES (R/W)**
	Sets the number of internally generated pulses to create for each external pulse received, when CAM_MODE_SYNC_SOURCE is 1. This value is unsigned. Changes take effect after a Change−Config command.		
0xCB5B	**7:0**	**0x00**	**CAM_FORCED_OUTPUT_ENABLE (R/W)**
	7:2	X	Reserved
	1	0x00	CAM_FORCE_OUTPUT_HEIGHT Use CAM_FORCED_OUTPUT_HEIGHT for output image height This value is unsigned. Changes take effect after a Change−Config command.
	0	0x00	CAM_FORCE_OUTPUT_WIDTH Use CAM_FORCED_OUTPUT_WIDTH for output image width This value is unsigned. Changes take effect after a Change−Config command.
	Enable output size override This value is unsigned. Changes take effect after a Change−Config command.		
0xCB5C	**15:0**	**0x0000**	**CAM_FORCED_OUTPUT_WIDTH (R/W)**
	Override output width and fill with black pixels. This value is unsigned. Changes take effect after a Change−Config command.		

TABLE 49. 18: CAMCONTROL VARIABLES

R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xCB5E	**15:0**	**0x0000**	**CAM_FORCED_OUTPUT_HEIGHT (R/W)**
	Override output height and fill with black pixels. This value is unsigned. Changes take effect after a Change−Config command.		
0xCB60	**15:0**	**0xFE00**	**CAM_LL3_ADACD_WB_BRIGHT_BM (R/W)**
	Bright start value of cam_ll_brightness_metric to control ADACD write−back weights. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCB62	**15:0**	**0xFC80**	**CAM_LL3_ADACD_WB_DARK_BM (R/W)**
	Dark end value of cam_ll_brightness_metric to control ADACD write−back weights. This value is signed 2's complement fixed−point with 8 fractional bits. Changes take effect during Vertical Blanking.		
0xCB64	**7:0**	**0x00**	**CAM_LL3_ADACD_WB_BRIGHT (R/W)**
	Start value of ADACD write−back weights for bright conditions. This value is unsigned. Changes take effect during Vertical Blanking.		
0xCB65	**7:0**	**0x00**	**CAM_LL3_ADACD_WB_DARK (R/W)**
	End value of ADACD write−back weights for dark conditions. This value is unsigned. Changes take effect during Vertical Blanking.		

TABLE 50. 19: SENSOR MANAGER

R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xCC02	**15:0**	**0x0083**	**SENSOR_MGR_MODE (R/W)**
	15:12	X	Reserved
	11	0x0000	Reserved
	10	0x0000	Reserved
	9	0x0000	SENSOR_MGR_SENSOR_AUTO_HDR_ENABLE Enable automatic switch between HDR and SDR, depends on sensor capability This value is unsigned. Changes take effect during Vertical Blanking.
	8	0x0000	SENSOR_MGR_SENSOR_AUTO_ADJUST_HDR_RATIO Enable sensor exposure ratio adjustment, depends on sensor capability This value is unsigned. Changes take effect during Vertical Blanking.
	7	0x01	Reserved
	6	X	Reserved
	5	0x00	Reserved
	4	0x00	SENSOR_MGR_SENSOR_DEFAULT_SEQUENCER_LOAD_INHIBIT Inhibit the loading of the default sensor dynamic sequencer. This value is unsigned. Changes take effect immediately (unsynchronized).
	3:2	X	Reserved
	1	0x01	Reserved
	0	0x01	Reserved
	Sensor Manager mode control flags. This value is unsigned. Changes take effect during Vertical Blanking.		

TABLE 50. 19: SENSOR MANAGER

R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xCCBA	**15:0**	**0x0000**	**SENSOR_MGR_MIN_MANUAL_GAIN (RO)**
	Minimum gain when using manual exposure (unity=128). This value is unsigned fixed−point with 7 fractional bits. Updates after a Change−Config command.		
0xCCBC	**15:0**	**0x0000**	**SENSOR_MGR_MAX_MANUAL_GAIN (RO)**
	Maximum gain when using manual exposure (unity=128). This value is unsigned fixed−point with 7 fractional bits. Updates after a Change−Config command.		
0xCCBE	**15:0**	**0x0000**	**SENSOR_MGR_MIN_MANUAL_IT_MS (RO)**
	Minimum integration time when using manual exposure (unity=128). This value is unsigned fixed−point with 7 fractional bits. Updates after a Change−Config command.		
0xCCC0	**15:0**	**0x0000**	**SENSOR_MGR_MAX_MANUAL_IT_MS (RO)**
	Maximum integration time when using manual exposure (unity=128). This value is unsigned fixed−point with 7 fractional bits. Updates after a Change−Config command.		

TABLE 51. 23: SYSTEM MGR VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xDC00	**15:0**	**0x0000**	**SYSMGR_STATUS (RO)**
	15:13	X	Reserved
	12	RO	SYSMGR_STATUS_SYSTEM_CONFIG_FAILED When set, indicates that the System Configuration phase failed and was aborted. The sysmgr_flash_config_status variable should be used to determine the reason−code. The sysmgr_flash_status_table_id will indicate which table was being processed when the abort occurred. This value is unsigned. Updates immediately (unsynchronized).
	11	RO	SYSMGR_STATUS_CONFIG_CHANGE_ACTIVE When set, indicates that a Change−Configure operation is in−progress. This value is unsigned. Updates after a Change−Config command.
	10	RO	Reserved
	9	RO	SYSMGR_STATUS_HOST_HAS_CCIM_LOCK When set, indicates that the host has obtained the CCIM lock. This value is unsigned. Updates immediately (unsynchronized).
	8:7	X	Reserved
	6	RO	SYSMGR_STATUS_HARD_STANDBY_ENABLED When set, indicates the STANDBY pin can be used to select hard−standby. This value is unsigned. Updates immediately (unsynchronized).
	5	X	Reserved
	4	RO	SYSMGR_STATUS_SYSTEM_CONFIG_COMPLETE When set, indicates that the System Configuration phase has completed. This value is unsigned. Updates immediately (unsynchronized).
	3	X	Reserved
	2	RO	SYSMGR_STATUS_FLASH_CONFIG_ACTIVE When set, indicates that Flash/EEPROM records are being located and processed during the System Configuration phase. This value is unsigned. Updates immediately (unsynchronized).
	1	RO	Reserved
	0	RO	SYSMGR_STATUS_STATE_CHANGE_ACTIVE When set, indicates that a system state change is in progress. This value is unsigned. Updates immediately (unsynchronized).
	System Manager status flags. This value is unsigned. Updates immediately (unsynchronized).		
0xDC02	**7:0**	**0x00**	**SYSMGR_MODE (R/W)**
	7:3	X	Reserved
	2	0x00	SYSMGR_MODE_DISABLE_HARD_STANDBY Enable or disable the STANDBY pin: 0: Hard−standby disabled. 1: Hard−standby enabled. This value is unsigned. Changes take effect immediately (unsynchronized).
	1	X	Reserved
	0	0x00	Reserved
	System Manager mode control. This value is unsigned. Changes take effect immediately (unsynchronized).		

TABLE 51. 23: SYSTEM MGR VARIABLES

R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xDC07	7:0	0x01	SYSMGR_CONFIG_MODE (R/W)
	Controls the operation of the System Configuration phase. The System Configuration phase is recursive, in that the System Manager may use the value of this variable multiple times during the phase. On the completion of each sub−phase, the System Manager tests this variable again to determine the next action. Valid values are: 0: OTPM: the firmware will detect the presence of virtual flash configuration records in OTPM. If found, the firmware will process the records contained within them. 1: FLASH: the firmware will detect the presence of an SPI Flash or EEPROM device. If a device is present, the firmware will locate and process the records contained within it. 2: AUTO: the firmware will set a default configuration that depends on the attached sensor, and perform a Change−Config operation which will start streaming. 3: HOST: the firmware enters a quiescent state, waiting for the Host to configure the device using the two−wire serial interface. 4: CHANGE−CONFIG: the firmware performs a Change−Config operation which will start streaming. 5: CONFIG−COMPLETE: indicates the completion of the System Configuration phase. The firmware enters a quiescent state, waiting for the Host to configure the device using the two−wire serial interface. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xDC0A	7:0	0x00	SYSMGR_CMD_STATUS (RO)
	Result status code for last SYSMGR_SET_STATE command. The permitted codes (per command) are detailed in the Host Command Interface specification. This value is unsigned. Updates immediately (unsynchronized).		
0xDC0B	7:0	0x00	SYSMGR_CMD_COMP_ID (RO)
	Identifies the component that rejected the last state−change. The component identifiers are detailed in the Host Command Interface specification. This value is unsigned. Updates immediately (unsynchronized).		
0xDC0C	15:0	0x0000	SYSMGR_CMD_COMP_FAILURE_ID (RO)
	Component−specific failure reason−code. The component failure reason codes are detailed in the Host Command Interface specification. This value is unsigned. Updates immediately (unsynchronized).		
0xDC1C	7:0	0x00	SYSMGR_CONFIG_OTPM_STATUS_TABLE_ID (RO)
	Indicates which Init Table caused the System Configuration phase to be aborted when processing OTPM records: 0: Init Table. 1: Calib Table. 2: Patch Init Table. 3: STE Init Table. 4: Overlay Init Table. This value is unsigned. Updates immediately (unsynchronized).		
0xDC1D	7:0	0x00	SYSMGR_CONFIG_OTPM_STATUS_RES (RO)
	Indicates the error (or no error) result of virtual flash processing after OTPM configuration. This value is unsigned. Updates immediately (unsynchronized).		
0xDC1E	7:0	0x00	SYSMGR_CONFIG_FLASH_STATUS_TABLE_ID (RO)
	Indicates which Init Table caused the System Configuration phase to be aborted when processing SPI NVM records: 0: Init Table. 1: Calib Table. 2: Patch Init Table. 3: STE Init Table. 4: Overlay Init Table. This value is unsigned. Updates immediately (unsynchronized).		
0xDC1F	7:0	0x00	SYSMGR_CONFIG_FLASH_STATUS_RES (RO)
	Indicates the error (or no error) result of flash or EEPROM processing after flash configuration. This value is unsigned. Updates immediately (unsynchronized).		

TABLE 52. 24: PATCH LOADER VARIABLE

R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xE000	15:0	0x0000	PATCHLDR_LOAD_ADDRESS (R/W)
	Indicates the load address (base address) in patch RAM of the patch to be applied. This value is unsigned. Changes take effect immediately (unsynchronized).		

TABLE 52. 24: PATCH LOADER VARIABLE

R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xE002	**15:0**	**0x0000**	**PATCHLDR_SIZE_BYTES (R/W)**
	Indicates the size of the patch to be applied. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xE004	**15:0**	**0x0000**	**PATCHLDR_LOADER_ADDRESS (R/W)**
	Indicates the address of the loader function (patch entry point) in patch RAM of the patch to be applied. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xE006	**15:0**	**0x0000**	**PATCHLDR_PATCH_ID (R/W)**
	Unique identifier of the patch to be applied. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xE008	**31:0**	**0x00000000**	**PATCHLDR_FIRMWARE_ID (R/W)**
	Identifies the firmware version for which the patch to be applied was built. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xE00C	**7:0**	**0x00**	**PATCHLDR_LAST_RES (RO)**
	Result of last PATCHLDR_APPLY/LOAD command. This value is unsigned. Updates immediately (unsynchronized).		
0xE00D	**7:0**	**0x00**	**PATCHLDR_NUM_PATCHES (RO)**
	Indicates the number of patches that have been successfully loaded and applied using either the PATCHLDR_APPLY_PATCH command, or the PATCHLDR_LOAD_PATCH command (from NVM). This value is unsigned. Updates immediately (unsynchronized).		
0xE00E	**15:0**	**0x0000**	**PATCHLDR_PATCH_ID_0 (RO)**
	Indicates the first patch that has been applied. Note: If more than eight patches have been applied, this variable will indicate the ninth, or seventeenth, and so on. This value is unsigned. Updates immediately (unsynchronized).		
0xE010	**15:0**	**0x0000**	**PATCHLDR_PATCH_ID_1 (RO)**
	Indicates the second patch that has been applied. Note: If more than eight patches have been applied, this variable will indicate the tenth, or eighteenth, and so on. This value is unsigned. Updates immediately (unsynchronized).		
0xE012	**15:0**	**0x0000**	**PATCHLDR_PATCH_ID_2 (RO)**
	Indicates the third patch that has been applied. Note: If more than eight patches have been applied, this variable will indicate the eleventh, or nineteenth, and so on. This value is unsigned. Updates immediately (unsynchronized).		
0xE014	**15:0**	**0x0000**	**PATCHLDR_PATCH_ID_3 (RO)**
	Indicates the fourth patch that has been applied. Note: If more than eight patches have been applied, this variable will indicate the twelfth, or twentieth, and so on. This value is unsigned. Updates immediately (unsynchronized).		
0xE016	**15:0**	**0x0000**	**PATCHLDR_PATCH_ID_4 (RO)**
	Indicates the fifth patch that has been applied. Note: If more than eight patches have been applied, this variable will indicate the thirteenth, or twenty−first, and so on. This value is unsigned. Updates immediately (unsynchronized).		
0xE018	**15:0**	**0x0000**	**PATCHLDR_PATCH_ID_5 (RO)**
	Indicates the sixth patch that has been applied. Note: If more than eight patches have been applied, this variable will indicate the fourteenth, or twenty−second, and so on. This value is unsigned. Updates immediately (unsynchronized).		
0xE01A	**15:0**	**0x0000**	**PATCHLDR_PATCH_ID_6 (RO)**
	Indicates the seventh patch that has been applied. Note: If more than eight patches have been applied, this variable will indicate the fifteenth, or twenty−third, and so on. This value is unsigned. Updates immediately (unsynchronized).		
0xE01C	**15:0**	**0x0000**	**PATCHLDR_PATCH_ID_7 (RO)**
	Indicates the eighth patch that has been applied. Note: If more than eight patches have been applied, this variable will indicate the sixteenth, or twenty−fourth and so on. This value is unsigned. Updates immediately (unsynchronized).		

TABLE 53. 28: CAMERA ADAPTATION VARIABLES
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xF005	**7:0**	**0x00**	**CAM_ADAPT_GPR_0_GPR_CONTROL (R/W)**
	7:4	X	Reserved
	3	0x00	CAM_ADAPT_GPR_0_GPR_DESTINATION Destination for general purpose register (0=Sensor, 1=ICB register). This value is unsigned. Changes take effect during Vertical Blanking.
	2:0	0x00	CAM_ADAPT_GPR_0_GPR_TYPE Type for general purpose register (0=gpr off, 1=gpr change−config, 2=reserved, 3=gpr bm, 4=gpr read, 5=gpr write, 6=gpr read−always, 7=gpr write−always). This value is unsigned. Changes take effect during Vertical Blanking.
	General purpose registers control. This value is unsigned. Changes take effect during Vertical Blanking.		
0xF006	**15:0**	**0x0000**	**CAM_ADAPT_GPR_0_ADDRESS (R/W)**
	Register address. This value is unsigned. Changes take effect during Vertical Blanking.		
0xF008	**15:0**	**0x0000**	**CAM_ADAPT_GPR_0_VALUE_ABOVE_TH (R/W)**
	Register values when the temperature or Brightness Metric are above the thresholds. Used as data value when configured for read, write or Change−Config. This value is unsigned. Changes take effect during Vertical Blanking.		
0xF00D	**7:0**	**0x00**	**CAM_ADAPT_GPR_1_GPR_CONTROL (R/W)**
	7:4	X	Reserved
	3	0x00	CAM_ADAPT_GPR_1_GPR_DESTINATION Destination for general purpose register (0=Sensor, 1=ICB register). This value is unsigned. Changes take effect during Vertical Blanking.
	2:0	0x00	CAM_ADAPT_GPR_1_GPR_TYPE Type for general purpose register (0=gpr off, 1=gpr change−config, 2=reserved, 3=gpr bm, 4=gpr read, 5=gpr write, 6=gpr read−always, 7=gpr write−always). This value is unsigned. Changes take effect during Vertical Blanking.
	General purpose registers control. This value is unsigned. Changes take effect during Vertical Blanking.		
0xF00E	**15:0**	**0x0000**	**CAM_ADAPT_GPR_1_ADDRESS (R/W)**
	Register address. This value is unsigned. Changes take effect during Vertical Blanking.		
0xF010	**15:0**	**0x0000**	**CAM_ADAPT_GPR_1_VALUE_ABOVE_TH (R/W)**
	Register values when the temperature or Brightness Metric are above the thresholds. Used as data value when configured for read, write or Change−Config. This value is unsigned. Changes take effect during Vertical Blanking.		
0xF015	**7:0**	**0x00**	**CAM_ADAPT_GPR_2_GPR_CONTROL (R/W)**
	7:4	X	Reserved
	3	0x00	CAM_ADAPT_GPR_2_GPR_DESTINATION Destination for general purpose register (0=Sensor, 1=ICB register). This value is unsigned. Changes take effect during Vertical Blanking.
	2:0	0x00	CAM_ADAPT_GPR_2_GPR_TYPE Type for general purpose register (0=gpr off, 1=gpr change−config, 2=reserved, 3=gpr bm, 4=gpr read, 5=gpr write, 6=gpr read−always, 7=gpr write−always). This value is unsigned. Changes take effect during Vertical Blanking.
	General purpose registers control. This value is unsigned. Changes take effect during Vertical Blanking.		

TABLE 53. 28: CAMERA ADAPTATION VARIABLES

R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xF016	15:0	0x0000	CAM_ADAPT_GPR_2_ADDRESS (R/W)
	Register address. This value is unsigned. Changes take effect during Vertical Blanking.		
0xF018	15:0	0x0000	CAM_ADAPT_GPR_2_VALUE_ABOVE_TH (R/W)
	Register values when the temperature or Brightness Metric are above the thresholds. Used as data value when configured for read, write or Change−Config. This value is unsigned. Changes take effect during Vertical Blanking.		
0xF048	15:0	0x0200	CAM_ADAPT_DELTA_DK_TARGET (R/W)
	Dark current target This value is unsigned. Changes take effect during Vertical Blanking.		

TABLE 54. 31: COMMAND HANDLER

R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xFC00	15:0	0x0000	CMD_HANDLER_PARAMS_POOL_0 (R/W)
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC02	15:0	0x0000	CMD_HANDLER_PARAMS_POOL_1 (R/W)
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC04	15:0	0x0000	CMD_HANDLER_PARAMS_POOL_2 (R/W)
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC06	15:0	0x0000	CMD_HANDLER_PARAMS_POOL_3 (R/W)
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC08	15:0	0x0000	CMD_HANDLER_PARAMS_POOL_4 (R/W)
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC0A	15:0	0x0000	CMD_HANDLER_PARAMS_POOL_5 (R/W)
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC0C	15:0	0x0000	CMD_HANDLER_PARAMS_POOL_6 (R/W)
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC0E	15:0	0x0000	CMD_HANDLER_PARAMS_POOL_7 (R/W)
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC10	15:0	0x0000	CMD_HANDLER_PARAMS_POOL_8 (R/W)
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC12	15:0	0x0000	CMD_HANDLER_PARAMS_POOL_9 (R/W)
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC14	15:0	0x0000	CMD_HANDLER_PARAMS_POOL_10 (R/W)
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC16	15:0	0x0000	CMD_HANDLER_PARAMS_POOL_11 (R/W)
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		

TABLE 54. 31: COMMAND HANDLER
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xFC18	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_12 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC1A	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_13 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC1C	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_14 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC1E	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_15 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC20	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_16 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC22	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_17 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC24	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_18 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC26	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_19 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC28	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_20 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC2A	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_21 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC2C	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_22 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC2E	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_23 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC30	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_24 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC32	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_25 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC34	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_26 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC36	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_27 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC38	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_28 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC3A	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_29 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		

TABLE 54. 31: COMMAND HANDLER
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xFC3C	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_30 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC3E	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_31 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC40	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_32 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC42	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_33 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC44	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_34 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC46	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_35 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC48	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_36 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC4A	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_37 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC4C	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_38 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC4E	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_39 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC50	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_40 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC52	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_41 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC54	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_42 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC56	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_43 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC58	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_44 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC5A	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_45 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC5C	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_46 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC5E	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_47 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		

TABLE 54. 31: COMMAND HANDLER
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xFC60	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_48 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC62	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_49 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC64	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_50 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC66	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_51 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC68	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_52 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC6A	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_53 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC6C	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_54 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC6E	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_55 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC70	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_56 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC72	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_57 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC74	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_58 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC76	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_59 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC78	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_60 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC7A	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_61 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC7C	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_62 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC7E	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_63 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC80	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_64 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC82	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_65 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		

TABLE 54. 31: COMMAND HANDLER
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xFC84	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_66 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC86	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_67 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC88	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_68 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC8A	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_69 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC8C	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_70 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC8E	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_71 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC90	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_72 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC92	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_73 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC94	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_74 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC96	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_75 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC98	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_76 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC9A	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_77 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC9C	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_78 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFC9E	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_79 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCA0	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_80 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCA2	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_81 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCA4	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_82 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCA6	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_83 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		

TABLE 54. 31: COMMAND HANDLER
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xFCA8	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_84 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCAA	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_85 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCAC	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_86 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCAE	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_87 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCB0	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_88 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCB2	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_89 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCB4	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_90 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCB6	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_91 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCB8	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_92 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCBA	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_93 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCBC	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_94 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCBE	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_95 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCC0	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_96 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCC2	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_97 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCC4	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_98 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCC6	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_99 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCC8	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_100 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCCA	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_101 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		

TABLE 54. 31: COMMAND HANDLER
R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xFCCC	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_102 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCCE	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_103 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCD0	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_104 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCD2	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_105 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCD4	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_106 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCD6	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_107 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCD8	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_108 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCDA	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_109 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCDC	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_110 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCDE	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_111 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCE0	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_112 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCE2	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_113 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCE4	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_114 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCE6	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_115 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCE8	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_116 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCEA	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_117 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCEC	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_118 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCEE	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_119 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		

TABLE 54. 31: COMMAND HANDLER

R/W (Read or Write) bit; RO (Read Only) bit.

Variable (Hex)	Bits	Default	Name
0xFCF0	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_120 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCF2	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_121 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCF4	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_122 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCF6	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_123 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCF8	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_124 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCFA	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_125 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCFC	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_126 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		
0xFCFE	**15:0**	**0x0000**	**CMD_HANDLER_PARAMS_POOL_127 (R/W)**
	Host Command parameters pool. This value is unsigned. Changes take effect immediately (unsynchronized).		

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