



Bill of Materials for the STR-NCV48220-LDO-CP-GEVB Evaluation Board

Designator	Quantity	Description	Value	Tolerance	Footprint	Manufacturer	Manufacturer Part Number	Substitution Allowed	Lead Free
C1	1	Generic 0402 SMD Capacitor	DNI	6.3V	0402			Yes	Yes
C2 C3 C4 C5 C11 C13 C17 C19 C20	9	CAP CER 10UF 50V X7S 1210	10uF	50V	1210	Murata	GCM32EC71H106KA01	Yes	Yes
C6	1	CAP CER 22nF 50V X7R 0402	22nF	50V	0402	Murata	GRM155R71H223KA12D	Yes	Yes
C7	1	CAP CER 0.47UF 50V X5R 0402	0.47u	50V	0402	Murata	GRM155R61H474KE11D	Yes	Yes
C8 C16	2	CAP CER 10UF 50V X8L 1210	10uF	50V	1210	Murata	GCM32EL8EH106KA07L	Yes	Yes
C9 C23	2	Generic 0603 SMD Capacitor	10nF	100V	0603	Murata	GCM188R72A103KA37D	Yes	Yes
C10 C25 C26 C28 C29 C30 C34 C40 C46 C48	10	CAP CER 1UF 16V X5R 0402	1uF	16V	0402	Murata	GRM155R61C105KA12	Yes	Yes
C12 C14	2	CAP CER 10UF 6.3V X7R 0805	10uF	6.3V	0805	Murata	GCM21BR70J106KE22	Yes	Yes
C15	1	Generic 0603-1210 SMD Capacitor	DNI	6.3V	0603-1210			Yes	Yes
C18	1	CAP CER 1UF 10V X7S 0402	1uF	10V	0402	Murata	GCM155C71A105KE38	Yes	Yes
C21	1	Generic 0603-1210 SMD Capacitor	DNI	50V	0603-1210			Yes	Yes
C22	1	CAP CER 4.7nF 100V C0G/NP0 0805	4.7nF	50V	0805	Murata	GRM2165C1H472JA01D	Yes	Yes
C24	1	CAP CER 330PF 50V X7R 0402	330pF	50V	0402	Murata	GCM155R71H331KA37D	Yes	Yes
C27	1	CAP CER 1nF 100V C0G/NP0 0805	1nF	100V	0805	Murata	GRM2165C2A102JA01D	Yes	Yes
C31 C33 C38 C39 C47	5	CAP CER 4.7UF 6.3V X5R 0402	4.7uF	6.3V	0402	Murata	GRM155R60J475ME47	Yes	Yes
C32	1	CAP CER 1UF 25V X7R 0603	1uF	25V	0603	Murata	GCM188R71E105KA64	Yes	Yes
C35 C45	2	CAP CER 0.1UF 50V X7R 0402	0.1uF	50V	0402	Murata	GCM155R71H104ME02	Yes	Yes
C36	1	CAP CER 10UF 25V X5R 0603	10uF	25V	0603	Murata	GRM188R61E106MA73D	Yes	Yes
C37	1	CAP CER 4.7UF 6.3V X5R 0402	4.7uF	6.3V	0402	Murata	GRM155R60J475ME47D	Yes	Yes
C41 C42	2	CAP CER 7.5PF 50V C0G/NP0 0402	7.5pF	50V	0402	Murata	GJM1555C1H7R5CB01D	Yes	Yes
C43 C44	2	CAP CER 12PF 50V C0G/NP0 0402	12pF	50V	0402	Murata	GJM1555C1H120JB01D	Yes	Yes
D1	1	DIODE ZENER 15V 250MW SOD923	NZ9F15V	15V	SOD-923	ON Semiconductor	NZ9F15VT5G	No	Yes
D2 D5 D8	3	Green LED	150060GS75000	5V	0603	Würth Elektronik	150060GS75000	Yes	Yes
D3	1	Diode Schottky 60V 2A Surface Mount SOD-123FL	NRVTS2H60ESF	60V	SOD-123	ON Semiconductor	NRVTS2H60ESFT3G	No	Yes
D4	1	30 V Schottky Diode	NSR05F30NX	30V	DSN2 0402	ON Semiconductor	NSR05F30NXT5G	No	Yes
D6	1	Yellow LED	150060YS75000	5V	0603	Würth Elektronik	150060YS75000	Yes	Yes
D7	1	Blue LED	150060BS75000	5V	0603	Würth Elektronik	150060BS75000	Yes	Yes
D9	1	Red LED	150060RS75000	5V	0603	Würth Elektronik	150060RS75000	Yes	Yes
D10	1	ESD Protection Diodes	ESD7L	5.5V	SOT-723	ON Semiconductor	ESD7L5.0DT5G	No	Yes
D11 D12	2	Schottky Barrier Diode, 2.0 A, 20 V	NSR20F20NX	20V	DSN2 0603	ON Semiconductor	NSR20F20NXT5G	No	Yes
FB1	1	Ferrite bead/Impedance type filter	220@100M		0805	Murata	BLM21AG221SN1	Yes	Yes
J1 J2 J3 J8 J10 J15	6	Standard 1x2pin 100mil Pitch Header	613 002 111 21		1x2pin 100mil	Würth Elektronik	613 002 111 21	Yes	Yes

J4 J5 J13 J14	4	PLASTIC HEXAGON NUT M3	709940300		M3 Nut	Würth	709940300	Yes	Yes
J6 J7 J9 J11	4	PC TEST POINT COMPACT	5016		Test Loop	Keystone	5016	Yes	Yes
J12	1	Standard 1x3pin 100mil Pitch Header (I2C Specific)	613 003 111 21		1x3pin 100mil	Würth Elektronik	613 003 111 21	Yes	Yes
J16 J17 J24 J25	4	PLASTIC SPACER STUD METRIC THREAD M3 15MM F-M	971150365		M3 15MM	Würth	971150365	Yes	Yes
J18 J19	2	Red Insulated 4mm socket for banana plugs	571-0500		Red Banana Rec	Deltron	571-0500	Yes	Yes
J20 J21	2	Black Insulated 4mm socket for banana plugs	571-0100		Black Banana Rec	Deltron	571-0100	Yes	Yes
J22	1	Standard Arm Cortex Debug Connector	FTSH-105-01-F-DV-K		2x5pin 50mil Cortex Debug	Samtec	FTSH-105-01-F-DV-K	Yes	Yes
J23	1	Mini USB1/2 Type-B Connector	65100516121		Mini USB1/2 B	Würth Elektronik	65100516121	Yes	Yes
JP1 JP2 JP3	3	Surface Mount High Current Jumper Chip Resistor	DNI		0603	Stackpole Electronics	HCJ0603ZTOR00	Yes	Yes
JP4	1	Surface Mount High Current Jumper Chip Resistor	DNI		0402	Stackpole Electronics	HCJ0402ZTOR00	Yes	Yes
L1	1	WE-PD PERFORMANCE SMT SHIELDED P	68uH		7.4x7.3mm	Würth	7447773680	Yes	Yes
Q1 Q5	2	Small Signal MOSFET 60V 115mA 7.5 Ohm Single N-Channel SOT-23	2N7002L	60V	SOT-23	ON Semiconductor	2N7002L	No	Yes
Q2 Q3	2	Single P-Channel Power MOSFET 60V, -8A, 260mOhm	NVTFS5124PL	60V	u8FL	On Semiconductor	NVTFS5124PLTAG	No	Yes
Q4 Q6 Q7 Q8	4	Small Signal MOSFET 60V 340mA 2.5 Ohm Single N-Channel SOT-323	2N7002W	60V	SOT-323	ON Semiconductor	2N7002W	No	Yes
Q9	1	Single N-Channel Power MOSFET 40V, 110A, 4.2mO, T1G	NTMFS5832NL	40V	SO8-FL DFN-5	On Semiconductor	NTMFS5832NLT1G	No	Yes
R1 R11 R12 R14 R23 R24 R35 R43 R53	9	RES SMD 10K OHM 1% 1/16W 0402	10K		0402	Vishay	CRCW040210K0FK	Yes	Yes
R2	1	RES SMD 0 OHM JUMPER 1/16W 0402	0		0402	Vishay Dale	CRCW04020000Z0ED	Yes	Yes
R3	1	RES SMD 3.32K OHM 1% 1/4W 1206	3.32K		1206	Vishay	CRCW12063K32FK	Yes	Yes
R4	1	RES SMD 100K OHM 1% 1/16W 0402	100K		0402	Vishay Dale	CRCW0402100KFK	Yes	Yes
R5	1	RES SMD 10K OHM 1% 1/10W 0603	10K		0603	Vishay	CRCW060310K0FK	Yes	Yes
R6 R10 R19 R26	4	RES SMD 4.75 OHM 1% 1/10W 0603	4.75		0603	Vishay	CRCW06034R75FK	Yes	Yes
R7	1	RES SMD 20K OHM 1% 1/16W 0402	20K		0402	Vishay	CRCW040220K0FK	Yes	Yes
R8 R39	2	RES SMD 8.87K OHM 1% 1/10W 0603	8.87K		0603	Vishay Dale	CRCW06038K87FK	Yes	Yes
R9	1	Current Sense Resistors - SMD 1/4watt .065ohms 1% Non Standard	0.065		1206	Vishay	WSL1206R0650FEA	Yes	Yes
R13	1	RES 0.08 OHM 1% 1/4W 1206	0.08		1206	Vishay Dale	WSL1206R0800FEA	Yes	Yes
R15	1	RES SMD 150 OHM 0.1% 1/10W 0603	150		0603	Panasonic	ERA-3AEB151V	Yes	Yes
R16	1	RES SMD 23.2K OHM 1% 1/10W 0603	23.2K		0603	Vishay	CRCW060323K2FK	Yes	Yes
R17	1	220 OHM 0805 SMD Resistor	220	0.4W	0805	Rohm Semiconductor	ESR10EZPJ221	Yes	Yes
R18	1	RES SMD 3.4K OHM 1% 1/16W 0402	3.4K		0402	Vishay	CRCW04023K40FK	Yes	Yes
R20	1	RES SMD 10K OHM 1% 1/16W 0402	10K		0402	Vishay Dale	CRCW040210K0FKED	Yes	Yes
R21	1	RES SMD 1.3K OHM 1% 1/10W 0603	1.3K		0603	Vishay	CRCW06031K30FK	Yes	Yes
R22	1	RES SMD 845 OHM 1% 1/10W 0603	845		0603	Vishay Dale	CRCW0603845R5FK	Yes	Yes
R25	1	Current Sense Resistors - SMD 1/4watt .027ohms 1%	0.027		1206	Vishay	WSL1206R0270FEA	Yes	Yes
R27 R34	2	RES SMD 1K OHM 1% 1/10W 0603	1K		0603	Vishay	CRCW06031K00FK	Yes	Yes
R28 R37 R41	3	RES SMD 37.4KOHM 0.1% 1/16W 0402	37.4K		0402	Panasonic	ERA-2AEB3742X	Yes	Yes
R29 R31 R40	3	RES SMD 3.01KOHM 0.1% 1/16W 0402	3.01K		0402	Panasonic	ERA-2AEB3011X	Yes	Yes
R30	1	RES SMD 13K OHM 0.1% 1/16W 0402	13K		0402	Panasonic	ERA-2AEB133X	Yes	Yes
R32	1	RES SMD 20K OHM 0.1% 1/16W 0402	20K		0402	Panasonic	ERA-2AEB203X	Yes	Yes

R33	1	RES SMD 30.1KOHM 0.1% 1/16W 0402	30.1K		0402	Panasonic	ERA-2AEB3012X		Yes
R36	1	RES SMD 2.87KOHM 0.1% 1/16W 0402	2.87K		0402	Panasonic	ERA-2AEB2871X		Yes
R38	1	RES SMD 100 OHM 1% 1/10W 0603	100		0603	Vishay	CRCW0603100RFX		Yes
R42	1	RES SMD 665 OHM 1% 1/16W 0402	665		0402	Vishay	CRCW0402665RFX		Yes
R44	1	RES SMD 9.76K OHM 1% 1/16W 0402	9.76K		0402	Vishay	CRCW04029K76FX		Yes
R45	1	RES SMD 8.87K OHM 1% 1/16W 0402	8.87K		0402	Vishay	CRCW04028K87FX		Yes
R46	1	RES SMD 0 OHM 1% 1/16W 0402	0		0402	Vishay	CRCW04020000Z0		Yes
R47	1	RES SMD 1M OHM 1% 1/16W 0402	1M		0402	Vishay	CRCW04021M00FX		Yes
R48 R51	2	RES SMD 100 OHM 1% 1/16W 0402	100		0402	Vishay	CRCW0402100RFX		Yes
R49	1	RES SMD 5.11K OHM 1% 1/16W 0402	5.11K		0402	Vishay	CRCW04025K11FX		Yes
R50	1	RES SMD 2.32K OHM 1% 1/16W 0402	2.32K		0402	Vishay	CRCW04022K32FX		Yes
R52	1	Thick Film Resistors - SMD	4.02		2512	Yageo	RC2512FK-074R02L		Yes
SW1	1	SWITCH TACTILE SPST-NO 0.05A 12V	434153017835	12V	MOM1 SMD	Würth Elektronik	434153017835		Yes
TP1 TP3 TP4 TP6 TP7 TP8 TP9 TP10 TP15 TP17 TP18 TP19 TP20	13	Passive Probe Tip Tektronix P5050 (Tan) Tip	DNI		0.75mm				Yes
TP2	1	63mil Hole 100mil Pad	DNI		63mil				Yes
TP5	1	Passive Probe Tip Tektronix P5050B (Black) Tip	DNI		0.9mm				Yes
TP11 TP12 TP13 TP14 TP16	5	Surface Mount 1mm Circle Test Point	DNI		1mm Circle				Yes
U1 U5	2	Current-Shunt Monitor, Voltage Output, Bi-Directional Zero-Drift, Gain = 100V/V	NCS214R		SC-70-6	ON Semiconductor	NCS214RSQT2G		Yes
U2	1	150mA 5Vout LDO Regulator with Charge Pump Boost	NCV48220		SOIC-8	ON Semiconductor	NCV48220D50R2G		Yes
U3	1	Digital Temperature Sensor with 2- wire Interface	NCT375		DFN8 2x2mm	ON Semiconductor	NCT375MNR2G		Yes
U4	1	Automotive Grade Non-Sync Buck Controller, 30uA Isns Bias	NCV885300		SOIC-8	ON Semiconductor	NCV885300D1R2G		Yes
U6 U8	2	3MHz, 125uA Low Power Op Amp	NCS20061		TSOP-5	ON Semiconductor	NCS20061SN2T1G		Yes
U7	1	IC COMPARATOR 1V LOW PWR 5TSOP, Push Pull	NCS2200		SOT-23-5	ON Semiconductor	NCS2200SN2T1G		Yes
U9	1	EFM32 Giant Gecko 32-bit Microcontroller	EFM32GG380F1024		QFP100 14x14	Silicon Labs	EFM32GG380F1024G-E- QFP100R		Yes
U10	1	USB to BASIC UART IC	FT230X		QFN16 4x4	FTDI	FT230XQ-R		Yes
U11	1	3.3V Voltage Regulator, LDO, Ultra Low Noise, Ultra Low Iq, 500 mA	NCP705		WDFN6	ON Semiconductor	NCP705MT33TCG		Yes
Y1	1	CRYSTAL 48.0000MHZ 8PF SMD	48MHz		5x3.2mm	NDK	NX5032GA-48.000000MHZ-LN- CD-1		Yes
Y2	1	Crystals 32.768 kHz 12.5 pF +/-20 PPM -40/+85C	32.768 kHz		2 pin w/ shell	Micro Crystal	MS3V-T1R-32.768kHz-12.5pF- 20PPM-TA-QC-Au		Yes