



ON Semiconductor®

Customer: **ON Semiconductor Customer**
Board Info: **FAN65004B EVB**
Power Rail: **Wide Input: 4.5 V - 65 V, Wide Output: 2 V - 28 V**
Date: **12/9/2020**

Design Name:

Design Summary			
STR-FAN65004B-GEVB			
	Controller/Driver	FAN65004B	
Input Cap:	L:	1 x 22 uH	
	MLCC	8 x 10.0uF	
	Bulk	0 x 0.0uF	
Output Cap:	MLCC	10 x 10.0uF	
	Bulk	2 x 220.0uF	

Design Notes:

Generic Reference Design

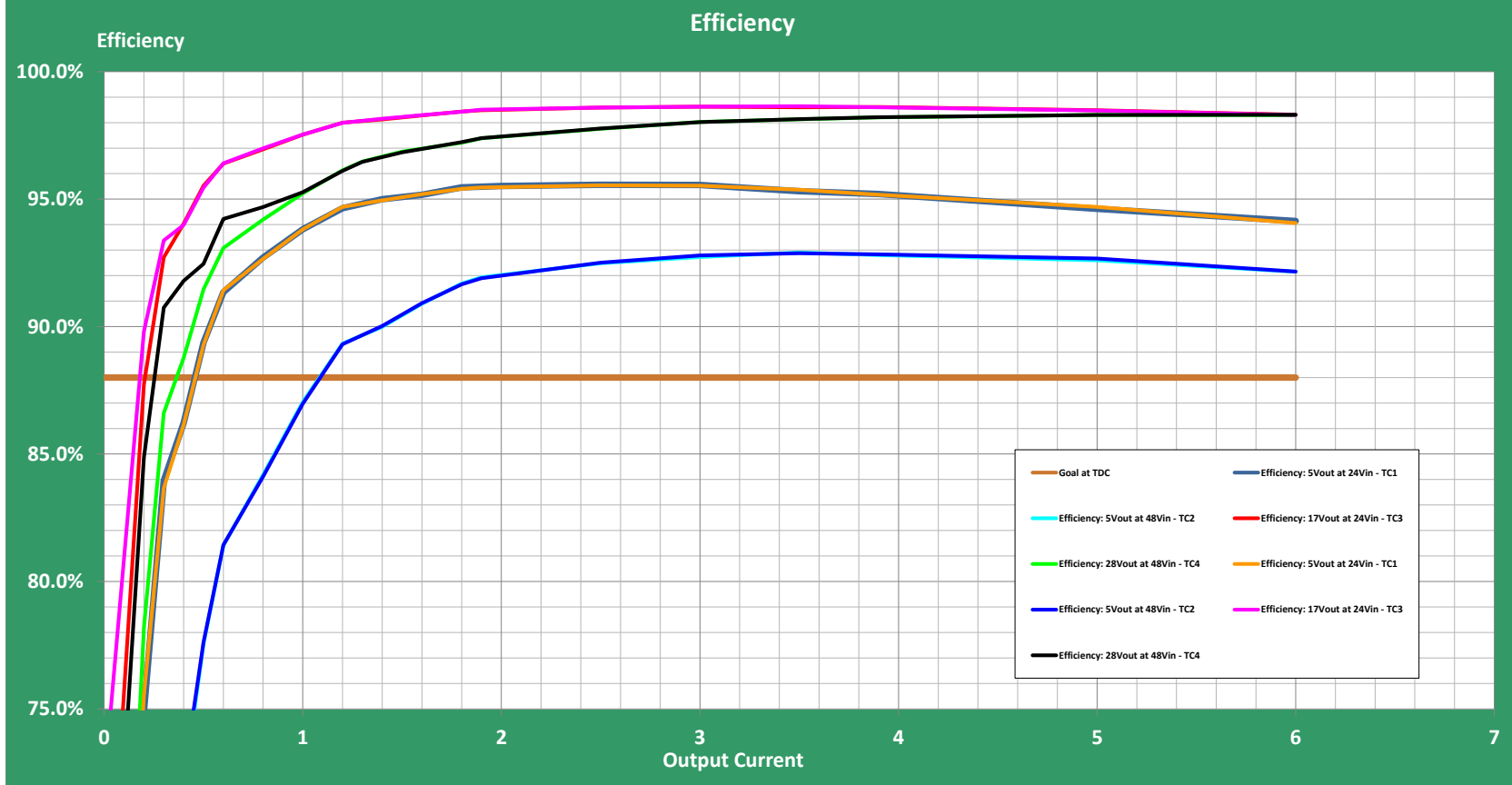
Parametric Input and Test Results Summary

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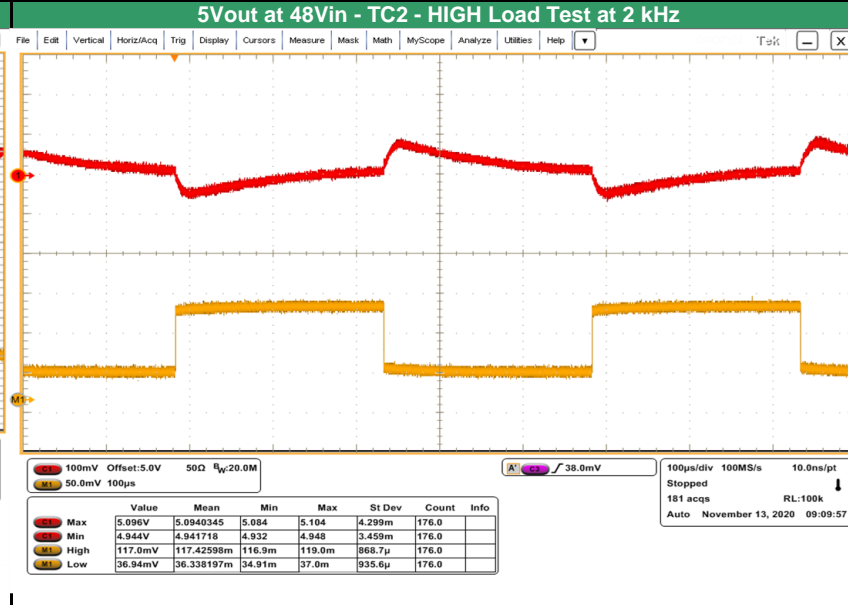
Design Operating Conditions									
Parameter	Spec	Comments							
I _{max}	6.0 A	1st order impact on inductor selection (Isat)							
TDC	6.0 A	1st order impact on inductor & FET selection							
I _{cc} Dynamic	3.0 A	1st order impact on decoupling and transient tolerance							
di/dt	10 A/us	Impacts decoupling and transient tolerance							
DC Tolerance	+/- 1.00 %	Total DC Tolerance including controller reference (does not include output ripple voltage)							
AC Tolerance	+/- 3.50 %								
Output Ripple Tol	+/- 0.50 %								
AC Allowances	0 mV	<= Overshoot	0 mV	<= Droop					
Input Ripple Tol	+/- 2.00 %								
Efficiency	88 %	TDC							
OCP of I _{max}	100 %								
Test Conditions									
Test Condition #1	Vout = 5.000V	Vin = 24.0V	Idyn = 3.0 A	TDC = 6.0 A	I _{max} = 6.0 A	Note: TC1	TC1 Label = 5Vout at 24Vin - TC1		
Test Condition #2	Vout = 5.000V	Vin = 48.0V	Idyn = 3.0 A	TDC = 6.0 A	I _{max} = 6.0 A	Note: TC2	TC2 Label = 5Vout at 48Vin - TC2		
Test Condition #3	Vout = 17.000V	Vin = 24.0V	Idyn = 3.0 A	TDC = 6.0 A	I _{max} = 6.0 A	Note: TC3	TC3 Label = 17Vout at 24Vin - TC3		
Test Condition #4	Vout = 28.000V	Vin = 48.0V	Idyn = 3.0 A	TDC = 6.0 A	I _{max} = 6.0 A	Note: TC4	TC4 Label = 28Vout at 48Vin - TC4		

Specifications & RESULTS									
Test Information		Test Condition #1 = 5Vout at 24Vin - TC1				Test Condition #2 = 5Vout at 48Vin - TC2			
Name	Parameters	Spec	Measured	Result	Comments	Spec	Measurement	Result	Comments
Efficiency	TDC	88 %	94.1 %	PASS		88 %	92.2 %	PASS	
	Max Efficiency	88 %	95.6 %	PASS		88 %	92.9 %	PASS	
Fsw	TDC	300 kHz	310 kHz	PASS		0.00 0	0.00 mOhm		
	Output (Nominal)	50 mV	3.3 mV	PASS		300 kHz	310 kHz	PASS	
Ripple	Output (Max)		3.3 mV		Max between 0A-6A	50 mV	3.5 mV	PASS	Max between 0A-6A
	Input	960 mV	98.6 mV	PASS	At 6A		3.5 mV		At 6A
Transient	Min Droop	3.5 %	1.2 %	PASS		1920 mV	115.4 mV	PASS	
	Max Overshoot	3.5 %	1.4 %	PASS		3.5 %	1.0 %	PASS	
						3.5 %	2.0 %	PASS	
DC Jitter	Max	200 ns	155 ns	PASS					
	Peak	70 V	33.077 V	PASS		200 ns	58 ns	PASS	
SWN Max Ring	Minimum	-10 V	-3.368 V	PASS		70 V	59.442 V	PASS	
	EN to Vout > 90%	5 ms	2.475 ms	PASS		-10 V	-4.21 V	PASS	
Shutdown	EN# to Vout < 10%	1000 ms	822 ms	PASS		5 ms	2.53 ms	PASS	
	DC load	6 A	6 A	PASS		1000 ms	880 ms	PASS	
OCP Setpoint						6 A	0 A	PASS	
Test Information		Test Condition #3 = 17Vout at 24Vin - TC3				Test Condition #4 = 28Vout at 48Vin - TC4			
Name	Parameters	Spec	Measured	Result	Comments	Spec	Measurement	Result	Comments
Efficiency	TDC	88 %	98.3 %	PASS		88 %	98.3 %	PASS	
	Max Efficiency	88 %	98.6 %	PASS		88 %	98.3 %	PASS	
Load Line	Average	0.00 0	0.00 mOhm			0.00 0	0.00 mOhm		
	TDC	300 kHz	310 kHz	PASS		300 kHz	311 kHz	PASS	
Fsw	Output	170 mV	4.3 mV	PASS		280 mV	9.5 mV	PASS	Max between 0A-6A
	Output (Max)		4.3 mV		Max between 0A-6A		9.5 mV		At 6A
Ripple	Input	960 mV	112.7 mV	PASS		1920 mV	251.6 mV	PASS	
	Min Droop	3.5 %	0.4 %	PASS		3.5 %	0.2 %	PASS	
Transient	Max Overshoot	3.5 %	0.5 %	PASS		3.5 %	0.3 %	PASS	
DC Jitter	Max	200 ns	100.8 ns	PASS					
	Peak	70 V	32.696 V	PASS		200 ns	64 ns	PASS	
SWN Max Ring	Minimum	-10 V	-3.875 V	PASS		70 V	56.426 V	PASS	
	EN to Vout > 90%	5 ms	2.55 ms	PASS		-10 V	-4.526 V	PASS	
Shutdown	EN# to Vout < 10%	1000 ms	836 ms	PASS		5 ms	3.2 ms	PASS	
	DC load	6 A	5.84 A	PASS		1000 ms	760 ms	PASS	
OCP Setpoint						6 A	0 A	PASS	

Parametric Input and Test Results Summary

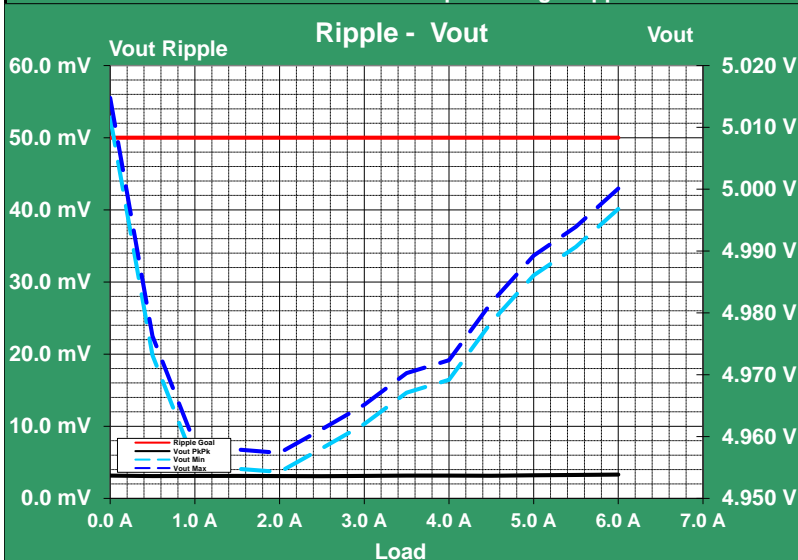


5Vout at 24Vin - TC1 - HIGH Load Test

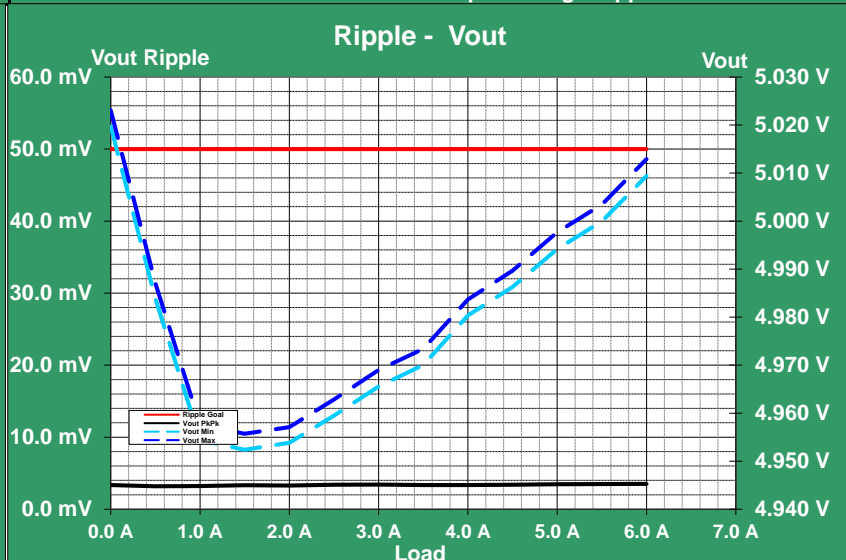


Parametric Input and Test Results Summary

5Vout at 24Vin - TC1 Output Voltage Ripple

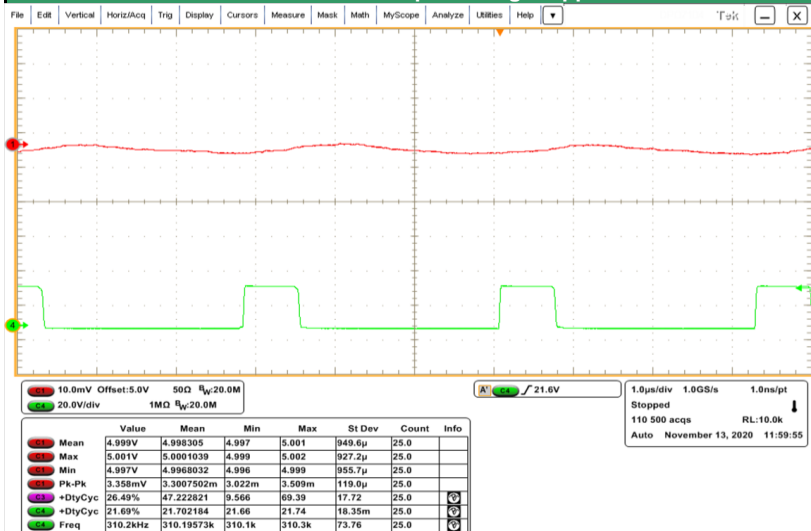


5Vout at 48Vin - TC2 Output Voltage Ripple



Ripple Screen Captures:

5Vout at 24Vin - TC1 Output Voltage Ripple at 6A



5Vout at 48Vin - TC2 Output Voltage Ripple at 6A



Parametric Input and Test Results Summary

Thermal Measurements for 5Vout at 24Vin - TC1

Ambient =	23.0 °C	Thermals @ 23°C Ambient			
Load =	6.0 A				
Airflow =	0 lfm				
Area	Component	Temp	Rise		
1	Controller/Driver	48.2 °C	25.2 °C		
2	Inductor	42.7 °C	19.7 °C		
3	Max Hot Spot	48.2 °C	25.2 °C		

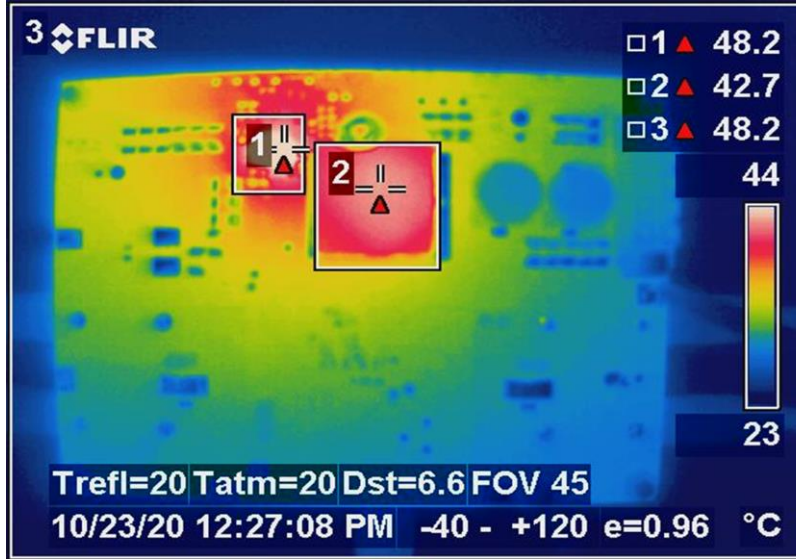
Max Temp / Rise = 48.2 °C 25.2 °C

Thermal Measurements for 28Vout at 48Vin - TC4

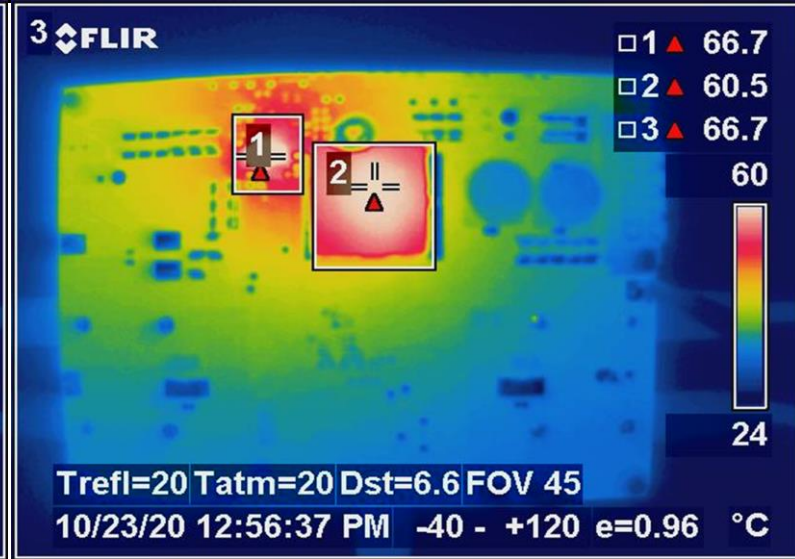
Ambient =	23.0 °C	Thermals @ °C Ambient			
Load =	6.0 A				
Airflow =	0 lfm				
Area	Component	Temp	Rise		
1	Controller/Driver	66.7 °C	43.7 °C		
2	Inductor	60.5 °C	37.5 °C		
3	Max Hot Spot	66.7 °C	43.7 °C		

Max Temp / Rise = 66.7 °C 43.7 °C

No Airflow



No Airflow



Efficiency Summary

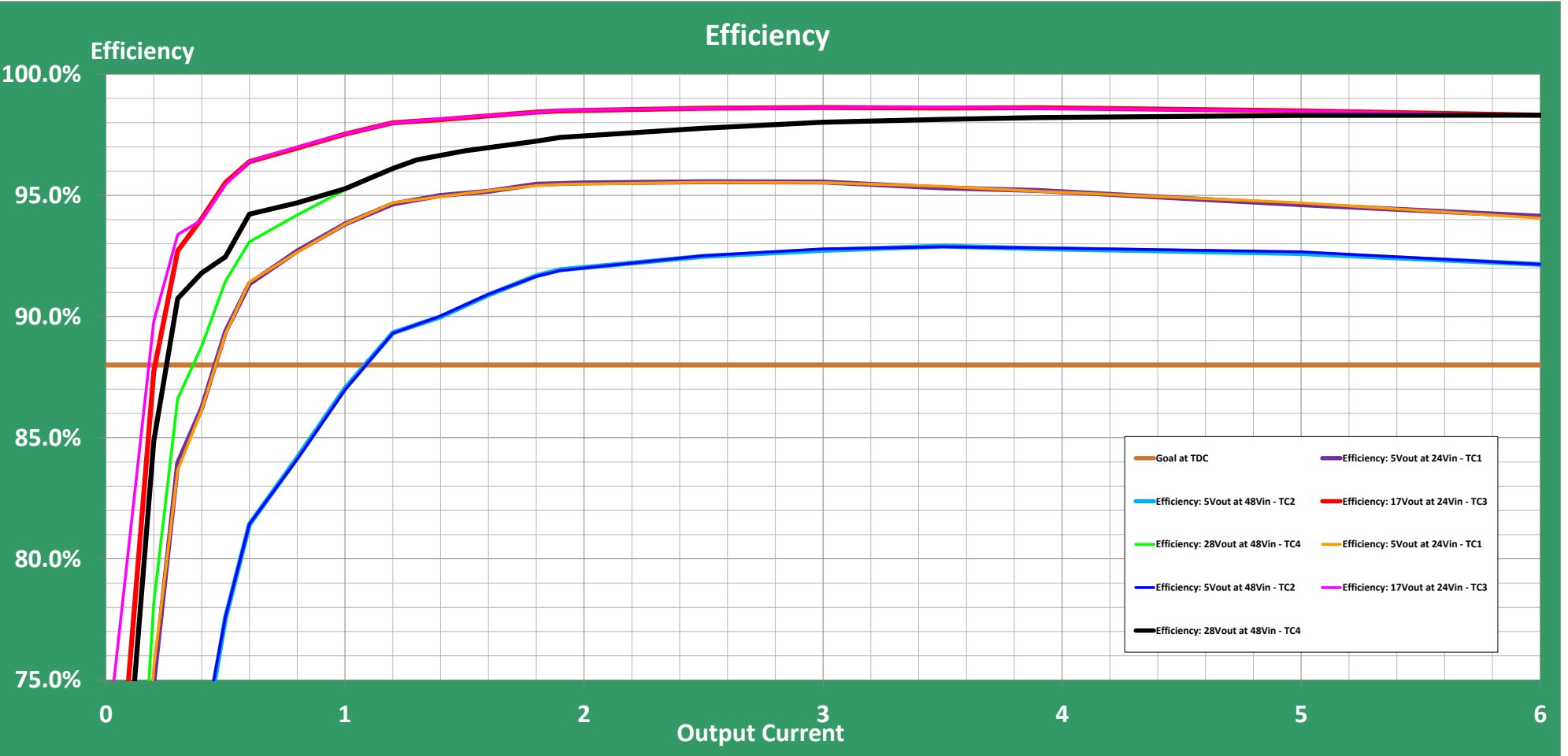
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Design Summary			Design Specs:	
0	1 phases	22 nH	Tolerance (+/--%)	1.00%
0 x HS 0 phases			Offset (+/-mV)	0.0 mV
0 x LS 0 HS x			Nominal Load Line (mΩ)	0.00 mOhm
Fsw = 310 kHz			Target Efficiency at TDC	88.0%
			TDC	6 A

Load Accuracy

1 decimals

Results Summary				
	5Vout at 24Vin - TC1	5Vout at 48Vin - TC2	17Vout at 24Vin - TC3	28Vout at 48Vin - TC4
Load Line - AVERAGE	0.00 mOhm	0.00 mOhm	0.00 mOhm	0.00 mOhm
Board Resistance - AVERAGE	0.00 mOhm	0.00 mOhm	0.00 mOhm	0.00 mOhm
Efficiency at TDC - POWERTRAIN	94.1%	92.2%	98.3%	98.3%
Peak Efficiency - POWERTRAIN	95.6%	92.9%	98.6%	98.3%
VR Power Loss at TDC	1.9 W	2.5 W	1.7 W	2.9 W
Board Resistance Loss at TDC	0.0 W	0.0 W	0.0 W	0.0 W
HS MOSFET Bootstrap Drive (Vbst)	0.00 V	0.00 V	0.00 V	0.00 V
LS MOSFET Drive (Vcc)	0.00 V	0.00 V	0.00 V	0.00 V

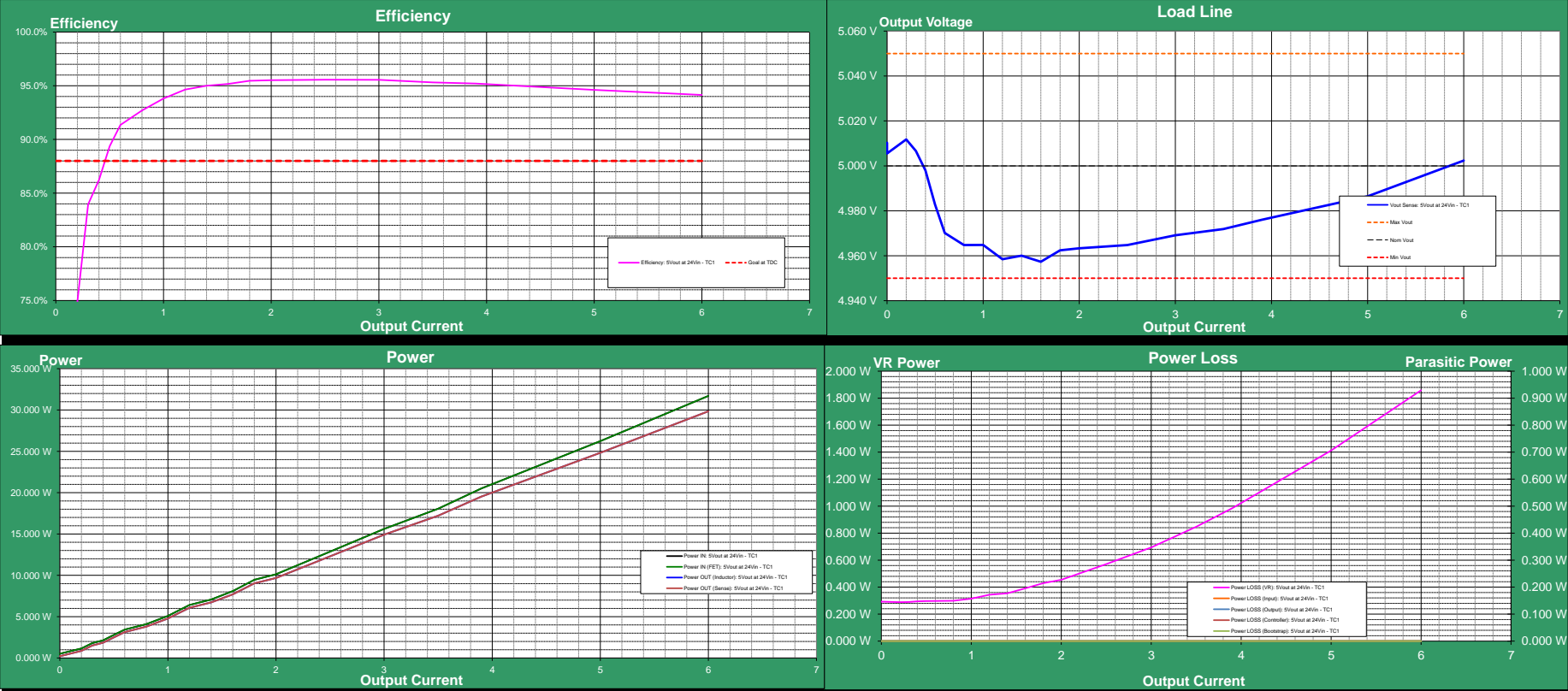


FAN65004B EVB
DC Load Line, Efficiency, Current Balance 5Vout at 24Vin - TC1

STR-FAN65004B-GEVB

Design Summary			Design Specs		Results Summary		Current Sensing Setup (Shunts)			Plot Labels			
0	1 phases	22 nH	Nominal VID (V)	5.000 V				Shunt Used	Resistance (Ω)	Efficiency at Inductor	Efficiency: 5Vout at 24Vin - TC1	Phases	Phase 1: 5Vout at 24Vin - TC1
	0 x HS	0 phases	Tolerance (±V-mV)	50.000 mV			Main Input Current	Yes	0.0100 Ω	Load Line	Vout Sense: 5Vout at 24Vin - TC1		Phase 2: 5Vout at 24Vin - TC1
	0 x LS	0 HS x	Offset (±V-mV)	0.0 mV	Efficiency at TDC - POWERTRAIN	94.1%	Main Output Current	Yes	0.0040 Ω	Power IN	Power IN: 5Vout at 24Vin - TC1		Phase 3: 5Vout at 24Vin - TC1
	Fsw = 310.1957		Nominal Load Line (mD)	0.00 mD	Peak Efficiency - POWERTRAIN	95.6%	Controller Current	No	1.0000 Ω	Power IN (FET)	Power IN (FET): 5Vout at 24Vin - TC1		Phase 4: 5Vout at 24Vin - TC1
			Target Efficiency at TDC	88.0%	VR Power Loss at TDC	1.86 W	Bootstrap Current	No	1.0000 Ω	Power OUT (Inductor)	Power OUT (Inductor): 5Vout at 24Vin - TC1	Power LOSS (Input)	Power LOSS (Input): 5Vout at 24Vin - TC1
			TDC	6 A	Board Resistance Loss at TDC	0.00 W		Bias (A)		Power OUT (Sense)	Power OUT (Sense): 5Vout at 24Vin - TC1	Power LOSS (Board)	Power LOSS (Output): 5Vout at 24Vin - TC1
					High Side MOSFET Bootstrap Drive (Vbst)	0.00 V	Main Input Current Offset	0.0000 A				Power LOSS (Controller)	Power LOSS (Controller): 5Vout at 24Vin - TC1
					Low Side MOSFET Drive (Vcc)	0.00 V	Output Current Offset	0.0000 A				Power LOSS (Bootstrap)	Power LOSS (Bootstrap): 5Vout at 24Vin - TC1
							Controller Current Offset	0.0000 A				Power LOSS (VR)	Power LOSS (VR): 5Vout at 24Vin - TC1
							Bootstrap Current Offset	0.0000 A					

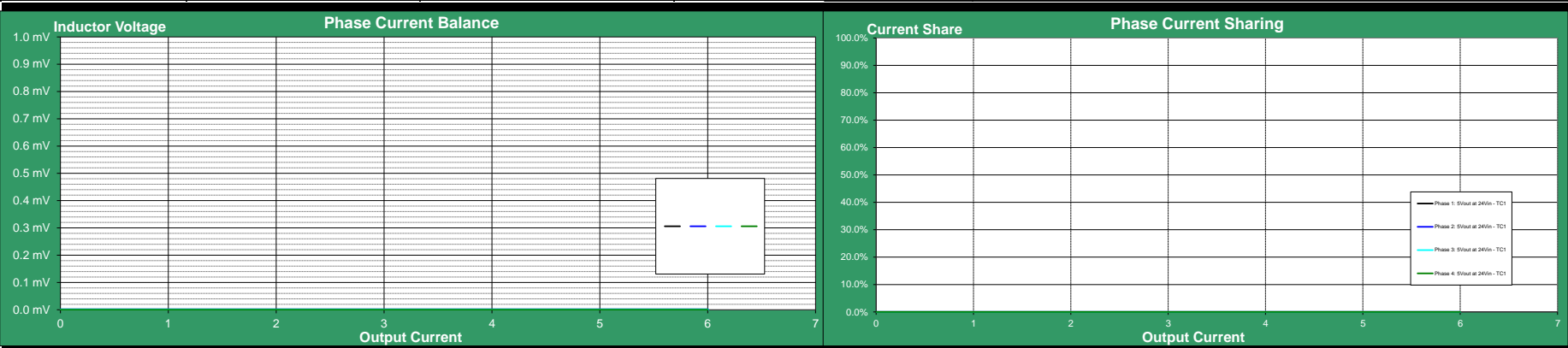
Data plots



FAN65004B EVB

DC Load Line, Efficiency, Current Balance5Vout at 24Vin - TC1

STR-FAN65004B-GEVB



Load Icc ROUNDING 1 decimals	D	D	B	E				C	M	O	O	O	Q	R	S				T					
Icc LOAD (A)	Main Rail - POWER IN				Main Rail - POWER OUT				Efficiency				Current Sharing				Bias Rails - POWER IN				Parasitic Losses			
	Vin	Vin (FET)	Iin	Power IN	Power IN (FET)	Vout (Inductor Average)	Vout (Sense)	Iout	Power OUT (Inductor)	Power OUT (Sense)	Efficiency (Inductor)	Vind1	Vind2	Vind3	Vind4	Vcc	Icc	Power IN (Controller)	Vbst	Ibst	Power IN (Bootstrap)	Input Filter Loss	Output Board Loss	VR Loss
0	24.004 V	24.004 V	0.021 A	0.508 W	0.508 W	5.010 V	5.010 V	0.043 A	0.217 W	0.217 W	42.7%	0.0mV	0.0mV	0.0mV	0.0mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.291 W
0	24.003 V	24.003 V	0.021 A	0.509 W	0.509 W	5.006 V	5.006 V	0.043 A	0.217 W	0.217 W	42.6%	0.0mV	0.0mV	0.0mV	0.0mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.293 W
0.2	24.003 V	24.003 V	0.048 A	1.150 W	1.150 W	5.012 V	5.012 V	0.172 A	0.861 W	0.861 W	74.9%	0.0mV	0.0mV	0.0mV	0.0mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.289 W
0.3	24.003 V	24.003 V	0.075 A	1.803 W	1.803 W	5.007 V	5.007 V	0.302 A	1.514 W	1.514 W	84.0%	0.0mV	0.0mV	0.0mV	0.0mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.289 W
0.4	24.003 V	24.003 V	0.089 A	2.136 W	2.136 W	4.998 V	4.998 V	0.369 A	1.842 W	1.842 W	86.2%	0.0mV	0.0mV	0.0mV	0.0mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.294 W
0.5	24.003 V	24.003 V	0.116 A	2.791 W	2.791 W	4.983 V	4.983 V	0.501 A	2.495 W	2.495 W	89.4%	0.0mV	0.0mV	0.0mV	0.0mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.297 W
0.6	24.003 V	24.003 V	0.143 A	3.436 W	3.436 W	4.970 V	4.970 V	0.632 A	3.139 W	3.139 W	91.3%	0.0mV	0.0mV	0.0mV	0.0mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.297 W
0.8	24.003 V	24.003 V	0.171 A	4.093 W	4.093 W	4.965 V	4.965 V	0.764 A	3.794 W	3.794 W	92.7%	0.0mV	0.0mV	0.0mV	0.0mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.299 W
1	24.003 V	24.003 V	0.212 A	5.088 W	5.088 W	4.965 V	4.965 V	0.961 A	4.774 W	4.774 W	93.6%	0.0mV	0.0mV	0.0mV	0.0mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.315 W
1.2	24.003 V	24.003 V	0.267 A	6.415 W	6.415 W	4.958 V	4.958 V	1.224 A	6.071 W	6.071 W	94.6%	0.0mV	0.0mV	0.0mV	0.0mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.344 W
1.4	24.003 V	24.003 V	0.295 A	7.077 W	7.077 W	4.960 V	4.960 V	1.355 A	6.723 W	6.723 W	95.0%	0.0mV	0.0mV	0.0mV	0.0mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.354 W
1.6	24.003 V	24.003 V	0.337 A	8.095 W	8.095 W	4.957 V	4.957 V	1.554 A	7.704 W	7.704 W	95.2%	0.0mV	0.0mV	0.0mV	0.0mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.391 W
1.8	24.003 V	24.003 V	0.394 A	9.457 W	9.457 W	4.962 V	4.962 V	1.819 A	9.027 W	9.027 W	95.5%	0.0mV	0.0mV	0.0mV	0.0mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.429 W
2	24.003 V	24.003 V	0.422 A	10.134 W	10.134 W	4.963 V	4.963 V	1.950 A	9.679 W	9.679 W	95.5%	0.0mV	0.0mV	0.0mV	0.0mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.454 W
2.5	24.002 V	24.002 V	0.536 A	12.865 W	12.865 W	4.965 V	4.965 V	2.476 A	12.294 W	12.294 W	95.6%	0.0mV	0.0mV	0.0mV	0.0mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.571 W
3	24.002 V	24.002 V	0.651 A	15.614 W	15.614 W	4.969 V	4.969 V	3.022 A	14.920 W	14.920 W	95.6%	0.0mV	0.0mV	0.0mV	0.0mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.694 W
3.5	24.002 V	24.002 V	0.753 A	18.062 W	18.062 W	4.972 V	4.972 V	3.462 A	17.215 W	17.215 W	95.3%	0.0mV	0.0mV	0.0mV	0.0mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.847 W
3.9	24.001 V	24.001 V	0.855 A	20.517 W	20.517 W	4.976 V	4.976 V	3.925 A	19.532 W	19.532 W	95.2%	0.0mV	0.0mV	0.0mV	0.0mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.984 W
5	24.001 V	24.001 V	1.093 A	26.237 W	26.237 W	4.986 V	4.986 V	4.978 A	24.825 W	24.825 W	94.6%	0.0mV	0.0mV	0.0mV	0.0mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	1.412 W
6	24.000 V	24.000 V	1.321 A	31.706 W	31.706 W	5.002 V	5.002 V	5.967 A	29.847 W	29.847 W	94.1%	0.0mV	0.0mV	0.0mV	0.0mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	1.858 W

FAN65004B EVB

DC Load Line, Efficiency, Current Balance

5Vout at 48Vin - TC2

STR-FAN65004B-GEVB

Design Summary			Design Specs		Results Summary		Current Sensing Setup (Shunts)			Plot Labels			
0	1 phases	22 nH	Nominal VID (V)	5.000 V				Shunt Used	Resistance (Ω)	Efficiency at Inductor	Efficiency: 5Vout at 48Vin - TC2	Phases	Phase 1: 5Vout at 48Vin - TC2
	0 x HS 0 phases		Tolerance (+/-mV)	50.000 mV			Main Input Current	Yes	0.0100 Ω	Load Line	Vout Sense: 5Vout at 48Vin - TC2		Phase 2: 5Vout at 48Vin - TC2
	0 x LS 0 HS x		Offset (+/-mV)	0.0 mV	Efficiency at TDC - POWERTRAIN	92.2%	Main Output Current	Yes	0.0040 Ω	Power IN	Power IN: 5Vout at 48Vin - TC2		Phase 3: 5Vout at 48Vin - TC2
	Fsw = 310.1957		Nominal Load Line (mΩ)	0.00 mΩ	Peak Efficiency - POWERTRAIN	92.9%	Controller Current	No	1.0000 Ω	Power IN (FET)	Power IN (FET): 5Vout at 48Vin - TC2		Phase 4: 5Vout at 48Vin - TC2
			Target Efficiency at TDC	88.0%	VR Power Loss at TDC	2.54 W	Bootstrap Current	No	1.0000 Ω	Power OUT (Inductor)	Power OUT (Inductor): 5Vout at 48Vin - TC2	Power LOSS (Input)	Power LOSS (Input): 5Vout at 48Vin - TC2
			TDC	5 A	Board Resistance Loss at TDC	0.00 W			Bias (A)	Power OUT (Sense)	Power OUT (Sense): 5Vout at 48Vin - TC2	Power LOSS (Board)	Power LOSS (Output): 5Vout at 48Vin - TC2
					High Side MOSFET Bootstrap Drive (Vbst)	0.00 V	Main Input Current Offset		0.0000 A			Power LOSS (Controller)	Power LOSS (Controller): 5Vout at 48Vin - TC2
					Low Side MOSFET Drive (Vcc)	0.00 V	Output Current Offset		0.0000 A			Power LOSS (Bootstrap)	Power LOSS (Bootstrap): 5Vout at 48Vin - TC2
							Controller Current Offset		0.0000 A			Power LOSS (VR)	Power LOSS (VR): 5Vout at 48Vin - TC2
							Bootstrap Current Offset		0.0000 A				

Plot Label

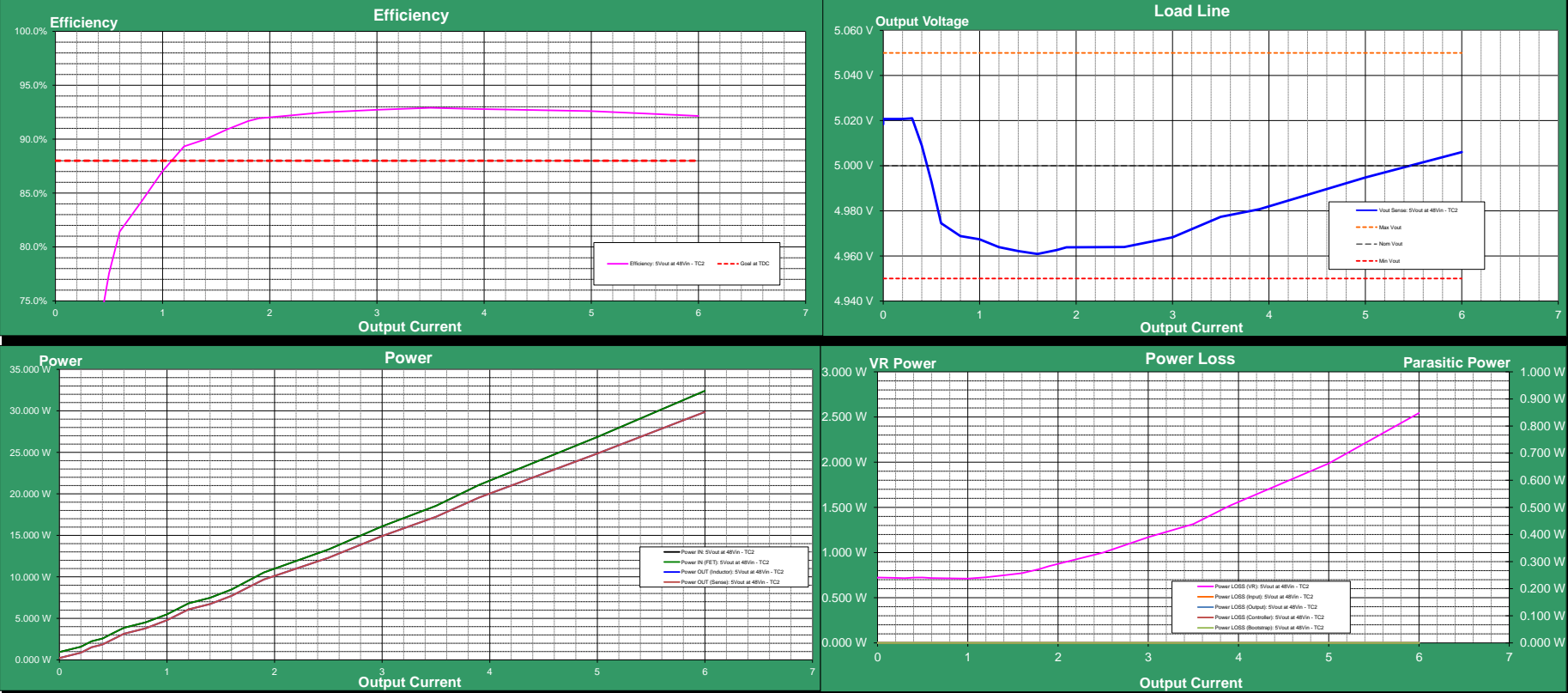
5Vout at 48Vin - TC2

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Overwrite info if needed - custom config

Delete RED cells after loading data

Data plots

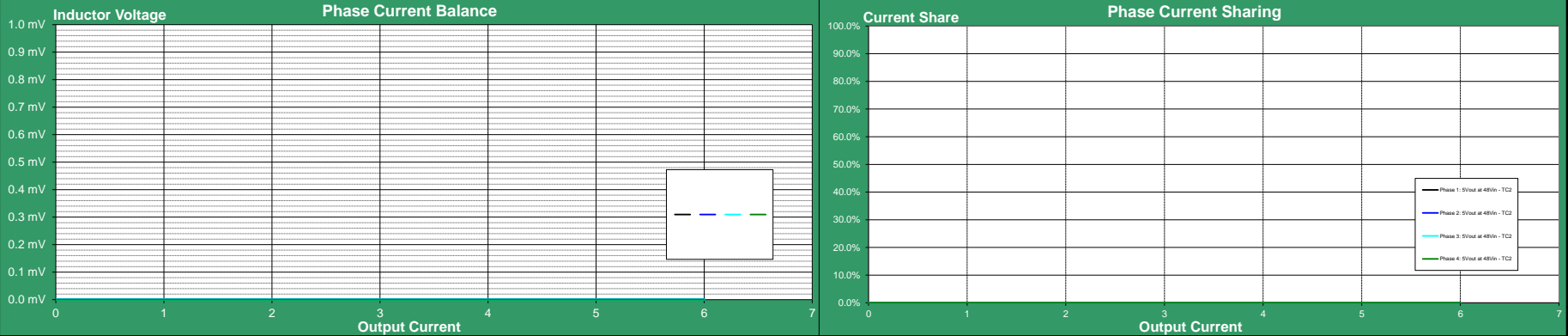


FAN65004B EVB

DC Load Line, Efficiency, Current Balance

5Vout at 48Vin - TC2

STR-FAN65004B-GEVB



Load Icc ROUNDING 1 decimals	D	D	B	E				M	B	D	Q	R	S	T										
Main Rail - POWER IN				Main Rail - POWER OUT				Efficiency				Current Sharing				Bias Rails - POWER IN				Parasitic Losses				
Icc LOAD (A)	Vin	Vin (FET)	Iin	Power IN	Vout (Inductor Average)	Vout (Sense)	Iout	Power OUT (Inductor)	Power OUT (Sense)	Efficiency (Inductor)		Vind1	Vind2	Vind3	Vind4	Vcc	Icc	Power IN (Controller)	Vbst	Ibst	Power IN (Bootstrap)	Input Filter Loss	Output Board Loss	VR Loss
0	48.013 V	48.013 V	0.020 A	0.940 W	5.018 V	5.018 V	0.044 A	0.219 W	0.219 W	23.3%		0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.720 W
0	48.013 V	48.013 V	0.020 A	0.942 W	5.021 V	5.021 V	0.043 A	0.218 W	0.218 W	23.2%		0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.724 W
0.2	48.013 V	48.013 V	0.033 A	1.581 W	5.021 V	5.021 V	0.172 A	0.861 W	0.861 W	54.5%		0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.720 W
0.3	48.013 V	48.013 V	0.047 A	2.236 W	5.021 V	5.021 V	0.302 A	1.519 W	1.519 W	67.9%		0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.717 W
0.4	48.013 V	48.013 V	0.054 A	2.571 W	5.009 V	5.009 V	0.369 A	1.848 W	1.848 W	71.9%		0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.723 W
0.5	48.013 V	48.013 V	0.067 A	3.225 W	4.993 V	4.993 V	0.501 A	2.501 W	2.501 W	77.6%		0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.724 W
0.6	48.013 V	48.013 V	0.080 A	3.860 W	4.975 V	4.975 V	0.632 A	3.143 W	3.143 W	81.4%		0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.717 W
0.8	48.013 V	48.013 V	0.094 A	4.511 W	4.969 V	4.969 V	0.764 A	3.797 W	3.797 W	84.2%		0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.714 W
1	48.013 V	48.013 V	0.114 A	5.489 W	4.967 V	4.967 V	0.962 A	4.777 W	4.777 W	87.0%		0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.712 W
1.2	48.013 V	48.013 V	0.142 A	6.807 W	4.964 V	4.964 V	1.225 A	6.080 W	6.080 W	88.3%		0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.726 W
1.4	48.013 V	48.013 V	0.156 A	7.475 W	4.962 V	4.962 V	1.356 A	6.727 W	6.727 W	90.0%		0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.748 W
1.6	48.013 V	48.013 V	0.177 A	8.481 W	4.961 V	4.961 V	1.554 A	7.708 W	7.708 W	90.9%		0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.772 W
1.8	48.012 V	48.012 V	0.205 A	9.846 W	4.963 V	4.963 V	1.819 A	9.027 W	9.027 W	91.7%		0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.819 W
1.9	48.013 V	48.013 V	0.219 A	10.528 W	4.964 V	4.964 V	1.950 A	9.678 W	9.678 W	91.9%		0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.849 W
2.5	48.012 V	48.012 V	0.277 A	13.292 W	4.964 V	4.964 V	2.476 A	12.293 W	12.293 W	92.5%		0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.999 W
3	48.012 V	48.012 V	0.335 A	16.089 W	4.968 V	4.968 V	3.003 A	14.919 W	14.919 W	92.7%		0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	1.170 W
3.5	48.012 V	48.012 V	0.386 A	18.552 W	4.977 V	4.977 V	3.463 A	17.235 W	17.235 W	92.9%		0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	1.316 W
3.9	48.012 V	48.012 V	0.439 A	21.067 W	4.981 V	4.981 V	3.925 A	19.551 W	19.551 W	92.8%		0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	1.517 W
5	48.012 V	48.012 V	0.559 A	26.851 W	4.995 V	4.995 V	4.978 A	24.865 W	24.865 W	92.6%		0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	1.987 W
6	48.011 V	48.011 V	0.675 A	32.413 W	5.006 V	5.006 V	5.967 A	29.869 W	29.869 W	92.2%		0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	2.544 W

FAN65004B EVB

DC Load Line, Efficiency, Current Balance

17Vout at 24Vin - TC3

STR-FAN65004B-GEVB

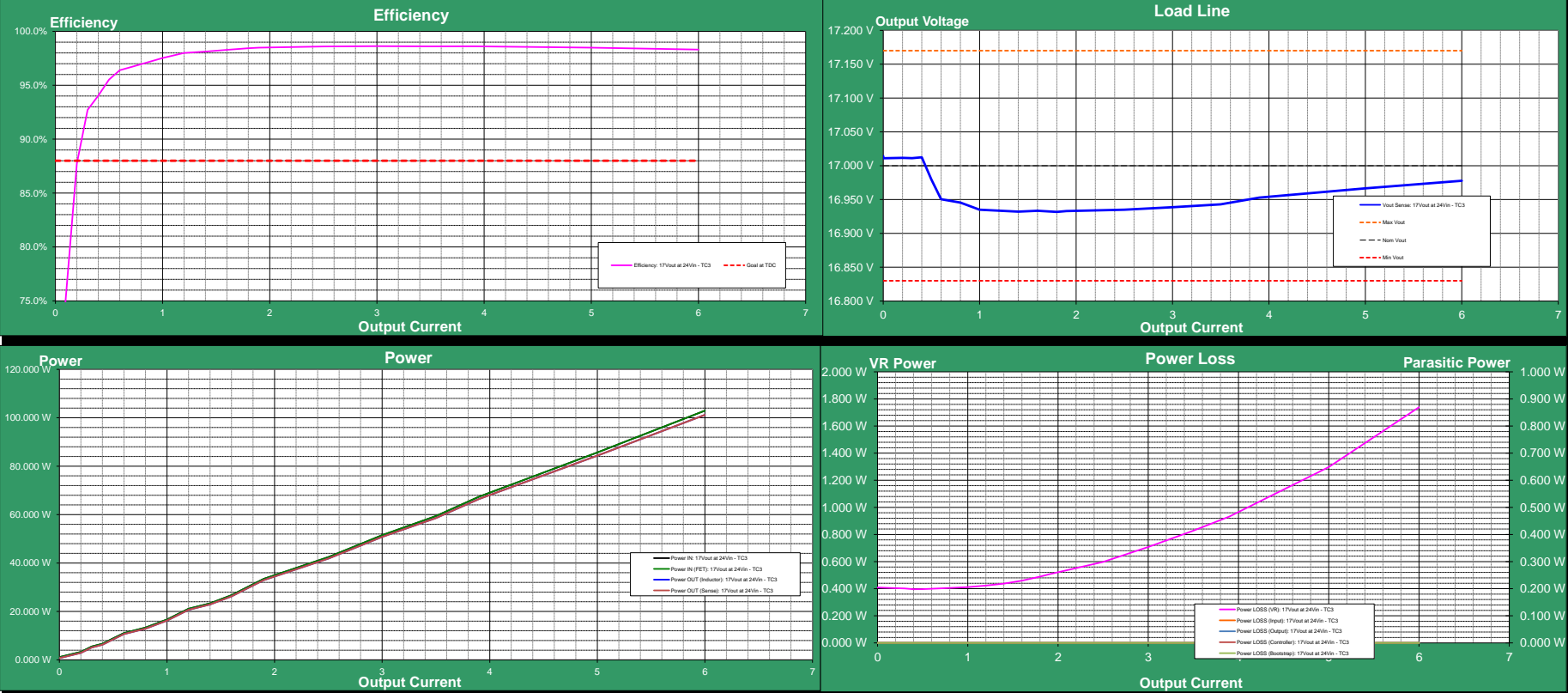
Design Summary			Design Specs		Results Summary		Current Sensing Setup (Shunts)			Plot Labels			
0	1 phases	22 nH	Nominal VID (V)	17.000 V				Shunt Used	Resistance (Ω)	Efficiency at Inductor	Efficiency: 17Vout at 24Vin - TC3	Phases	Phase 1: 17Vout at 24Vin - TC3
	0 x HS 0 phases		Tolerance (+/-mV)	170.000 mV			Main Input Current	Yes	0.0100 Ω	Load Line	Vout Sense: 17Vout at 24Vin - TC3		Phase 2: 17Vout at 24Vin - TC3
	0 x LS 0 HS x		Offset (+/-mV)	0.0 mV	Efficiency at TDC - POWERTRAIN	98.3%	Main Output Current	Yes	0.0040 Ω	Power IN	Power IN: 17Vout at 24Vin - TC3		Phase 3: 17Vout at 24Vin - TC3
	Fsw = 310.1957		Nominal Load Line (mΩ)	0.00 mΩ	Peak Efficiency - POWERTRAIN	98.6%	Controller Current	No	1.0000 Ω	Power IN (FET)	Power IN (FET): 17Vout at 24Vin - TC3		Phase 4: 17Vout at 24Vin - TC3
			Target Efficiency at TDC	88.0%	VR Power Loss at TDC	1.74 W	Bootstrap Current	No	1.0000 Ω	Power OUT (Inductor)	Power OUT (Inductor): 17Vout at 24Vin - TC3	Power LOSS (Input)	Power LOSS (Input): 17Vout at 24Vin - TC3
			TDC	6 A	Board Resistance Loss at TDC	0.00 W			Bias (A)	Power OUT (Sense)	Power OUT (Sense): 17Vout at 24Vin - TC3	Power LOSS (Board)	Power LOSS (Output): 17Vout at 24Vin - TC3
Plot Label	17Vout at 24Vin - TC3				High Side MOSFET Bootstrap Drive (Vbst)	0.00 V	Main Input Current Offset	0.0000 A				Power LOSS (Controller)	Power LOSS (Controller): 17Vout at 24Vin - TC3
					Low Side MOSFET Drive (Vcc)	0.00 V	Output Current Offset	0.0000 A				Power LOSS (Bootstrap)	Power LOSS (Bootstrap): 17Vout at 24Vin - TC3
	⚡ Enter Design INFO in cells colored						Controller Current Offset	0.0000 A				Power LOSS (VR)	Power LOSS (VR): 17Vout at 24Vin - TC3
	⚡ Overwrite info if needed - custom config						Bootstrap Current Offset	0.0000 A					

⚡ Enter Design INFO in cells colored

⚡ Overwrite info if needed - custom config

Delete RED cells after loading data

Data plots

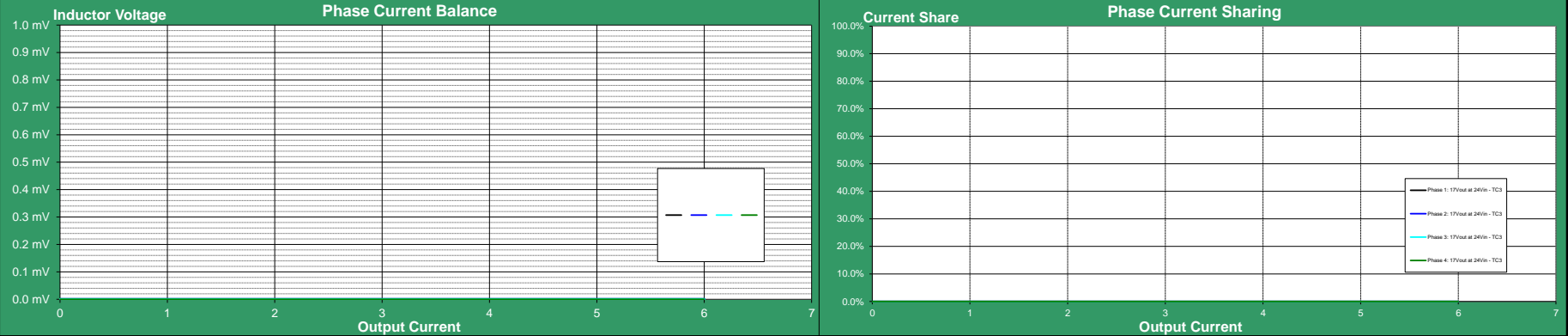


FAN65004B EVB

DC Load Line, Efficiency, Current Balance

17Vout at 24Vin - TC3

STR-FAN65004B-GEVB



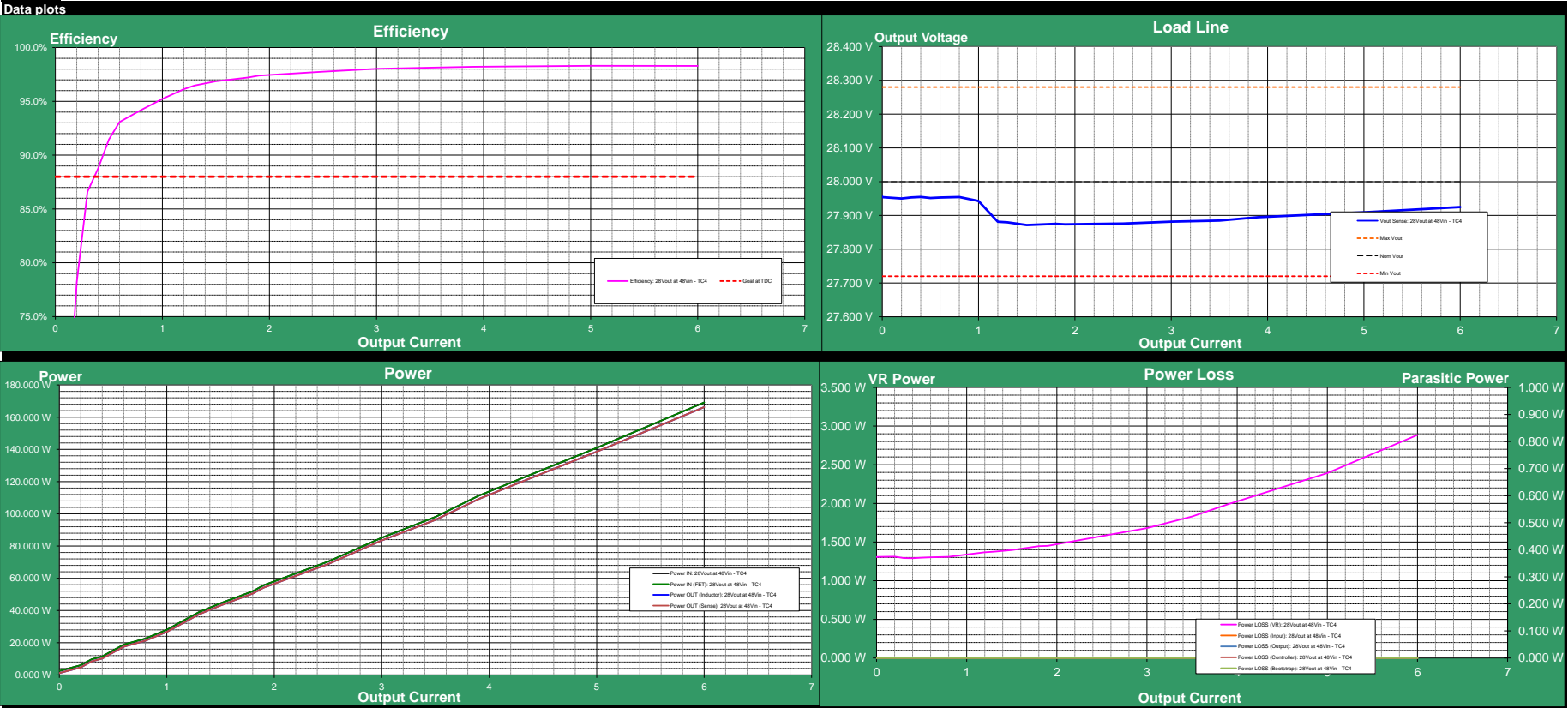
Load Icc ROUNDING 1 decimals	D				B				E				G				Q				R				S				T			
	Main Rail - POWER IN								Main Rail - POWER OUT				Efficiency				Current Sharing				Bias Rails - POWER IN				Parasitic Losses							
Icc LOAD (A)	Vin	Vin (FET)	Iin	Power IN	Power IN (FET)	Vout (Inductor Average)	Vout (Sense)	Iout	Power OUT (Inductor)	Power OUT (Sense)	Efficiency (Inductor)	Vind1	Vind2	Vind3	Vind4	Vcc	Icc	Power IN (Controller)	Vbst	Ibst	Power IN (Bootstrap)	Input Filter Loss	Output Board Loss	VR Loss								
0	24.003 V	24.003 V	0.047 A	1.121 W	1.121 W	17.014 V	17.014 V	0.042 A	0.713 W	0.713 W	63.6%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.408 W								
0	24.003 V	24.003 V	0.047 A	1.123 W	1.123 W	17.011 V	17.011 V	0.042 A	0.714 W	0.714 W	63.6%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.409 W								
0.2	24.003 V	24.003 V	0.137 A	3.291 W	3.291 W	17.012 V	17.012 V	0.170 A	2.887 W	2.887 W	87.7%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.404 W								
0.3	24.003 V	24.003 V	0.230 A	5.512 W	5.512 W	17.011 V	17.011 V	0.300 A	5.110 W	5.110 W	92.7%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.402 W								
0.4	24.003 V	24.003 V	0.277 A	6.640 W	6.640 W	17.012 V	17.012 V	0.367 A	6.244 W	6.244 W	94.0%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.396 W								
0.5	24.003 V	24.003 V	0.370 A	8.869 W	8.869 W	16.979 V	16.979 V	0.499 A	8.472 W	8.472 W	95.5%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.397 W								
0.6	24.003 V	24.003 V	0.461 A	11.070 W	11.070 W	16.950 V	16.950 V	0.630 A	10.671 W	10.671 W	96.4%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.400 W								
0.8	24.002 V	24.002 V	0.554 A	13.308 W	13.308 W	16.945 V	16.945 V	0.761 A	12.903 W	12.903 W	97.0%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.405 W								
1	24.002 V	24.002 V	0.693 A	16.645 W	16.645 W	16.935 V	16.935 V	0.959 A	16.233 W	16.233 W	97.5%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.411 W								
1.2	24.001 V	24.001 V	0.879 A	21.107 W	21.107 W	16.934 V	16.934 V	1.221 A	20.684 W	20.684 W	98.0%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.423 W								
1.4	24.001 V	24.001 V	0.972 A	23.332 W	23.332 W	16.932 V	16.932 V	1.352 A	22.894 W	22.894 W	98.1%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.437 W								
1.6	24.001 V	24.001 V	1.113 A	26.711 W	26.711 W	16.933 V	16.933 V	1.550 A	26.252 W	26.252 W	98.3%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.459 W								
1.8	24.000 V	24.000 V	1.301 A	31.226 W	31.226 W	16.932 V	16.932 V	1.815 A	30.737 W	30.737 W	98.4%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.489 W								
1.9	24.000 V	24.000 V	1.394 A	33.459 W	33.459 W	16.933 V	16.933 V	1.946 A	32.954 W	32.954 W	98.5%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.506 W								
2.5	23.999 V	23.999 V	1.769 A	42.465 W	42.465 W	16.935 V	16.935 V	2.472 A	41.867 W	41.867 W	98.6%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.597 W								
3	23.998 V	23.998 V	2.146 A	51.493 W	51.493 W	16.939 V	16.939 V	2.998 A	50.785 W	50.785 W	98.6%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.708 W								
3.5	23.997 V	23.997 V	2.476 A	59.414 W	59.414 W	16.943 V	16.943 V	3.458 A	58.586 W	58.586 W	98.6%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.828 W								
3.9	23.996 V	23.996 V	2.808 A	67.390 W	67.390 W	16.953 V	16.953 V	3.920 A	66.457 W	66.457 W	98.6%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.933 W								
5	23.994 V	23.994 V	3.570 A	85.661 W	85.661 W	16.967 V	16.967 V	4.972 A	84.363 W	84.363 W	98.5%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	1.296 W								
6	23.992 V	23.992 V	4.290 A	102.935 W	102.935 W	16.978 V	16.978 V	5.960 A	101.196 W	101.196 W	98.3%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	1.739 W								

FAN65004B EVB
DC Load Line, Efficiency, Current Balance 28Vout at 48Vin - TC4
STR-FAN65004B-GEVB

Design Summary			Design Specs		Results Summary		Current Sensing Setup (Shunts)			Plot Labels			
0	1 phases	22 nH	Nominal VID (V)	28.000 V				Shunt Used	Resistance (Ω)	Efficiency at Inductor	Efficiency: 28Vout at 48Vin - TC4	Phases	Phase 1: 28Vout at 48Vin - TC4
	0 x HS 0 phases		Tolerance (+/-mV)	280.000 mV			Main Input Current	Yes	0.0100 Ω	Load Line	Vout Sense: 28Vout at 48Vin - TC4		Phase 2: 28Vout at 48Vin - TC4
	0 x LS 0 HS x		Offset (+/-mV)	0.0 mV	Efficiency at TDC - POWERTRAIN	98.3%	Main Output Current	Yes	0.0040 Ω	Power IN	Power IN: 28Vout at 48Vin - TC4		Phase 3: 28Vout at 48Vin - TC4
	Fsw = 310.1957		Nominal Load Line (mΩ)	0.00 mΩ	Peak Efficiency - POWERTRAIN	98.3%	Controller Current	No	1.0000 Ω	Power IN (FET)	Power IN (FET): 28Vout at 48Vin - TC4		Phase 4: 28Vout at 48Vin - TC4
			Target Efficiency at TDC	88.0%	VR Power Loss at TDC	2.89 W	Bootstrap Current	No	1.0000 Ω	Power OUT (Inductor)	Power OUT (Inductor): 28Vout at 48Vin - TC4	Power LOSS (Input)	Power LOSS (Input): 28Vout at 48Vin - TC4
			TDC	6 A	Board Resistance Loss at TDC	0.00 W			Bias (A)	Power OUT (Sense)	Power OUT (Sense): 28Vout at 48Vin - TC4	Power LOSS (Board)	Power LOSS (Output): 28Vout at 48Vin - TC4
					High Side MOSFET Bootstrap Drive (Vbst)	0.00 V	Main Input Current Offset		0.0000 A			Power LOSS (Controller)	Power LOSS (Controller): 28Vout at 48Vin - TC4
					Low Side MOSFET Drive (Vcc)	0.00 V	Output Current Offset		0.0000 A			Power LOSS (Bootstrap)	Power LOSS (Bootstrap): 28Vout at 48Vin - TC4
							Controller Current Offset		0.0000 A			Power LOSS (VR)	Power LOSS (VR): 28Vout at 48Vin - TC4
							Bootstrap Current Offset		0.0000 A				

Plot Label 28Vout at 48Vin - TC4

Enter Design INFO in cells colored
Overwrite info if needed - custom config
Delete RED cells after loading data

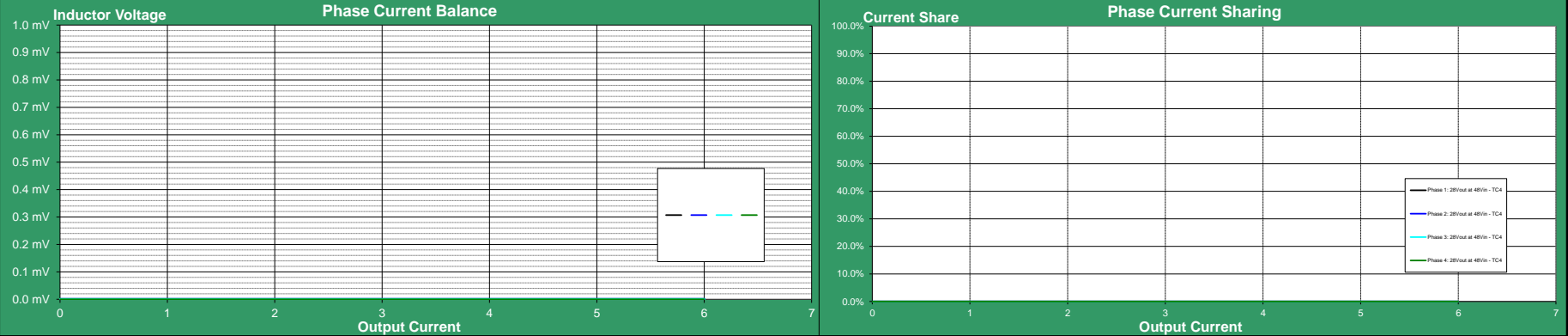


FAN65004B EVB

DC Load Line, Efficiency, Current Balance

28Vout at 48Vin - TC4

STR-FAN65004B-GEVB



Load Icc ROUNDING 1 decimals	D				E				M				Q				R				S		T	
	Main Rail - POWER IN				Main Rail - POWER OUT				Efficiency				Current Sharing				Bias Rails - POWER IN				Parasitic Losses			
Icc LOAD (A)	Vin	Vin (FET)	Iin	Power IN (FET)	Vout (Inductor Average)	Vout (Sense)	Iout	Power OUT (Inductor)	Power OUT (Sense)	Efficiency (Inductor)	Vind1	Vind2	Vind3	Vind4	Vcc	Icc	Power IN (Controller)	Vbst	Ibst	Power IN (Bootstrap)	Input Filter Loss	Output Board Loss	VR Loss	
0	48.013 V	48.013 V	0.051 A	2.457 W	2.457 W	27.955 V	27.955 V	0.041 A	1.151 W	1.151 W	46.8%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	1.306 W	
0	48.013 V	48.013 V	0.051 A	2.455 W	2.455 W	27.954 V	27.954 V	0.041 A	1.148 W	1.148 W	46.8%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	1.307 W	
0.2	48.013 V	48.013 V	0.125 A	6.012 W	6.012 W	27.950 V	27.950 V	0.168 A	4.700 W	4.700 W	78.2%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	1.312 W	
0.3	48.012 V	48.012 V	0.201 A	9.658 W	9.658 W	27.953 V	27.953 V	0.299 A	8.364 W	8.364 W	86.6%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	1.293 W	
0.4	48.012 V	48.012 V	0.239 A	11.498 W	11.498 W	27.955 V	27.955 V	0.365 A	10.207 W	10.207 W	88.8%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	1.291 W	
0.5	48.012 V	48.012 V	0.316 A	15.189 W	15.189 W	27.952 V	27.952 V	0.497 A	13.891 W	13.891 W	91.5%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	1.297 W	
0.6	48.012 V	48.012 V	0.392 A	18.831 W	18.831 W	27.953 V	27.953 V	0.627 A	17.528 W	17.528 W	93.1%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	1.303 W	
0.8	48.012 V	48.012 V	0.469 A	22.532 W	22.532 W	27.954 V	27.954 V	0.759 A	21.223 W	21.223 W	94.2%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	1.309 W	
1	48.011 V	48.011 V	0.584 A	28.042 W	28.042 W	27.943 V	27.943 V	0.956 A	26.703 W	26.703 W	95.2%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	1.339 W	
1.2	48.011 V	48.011 V	0.736 A	35.333 W	35.333 W	27.881 V	27.881 V	1.218 A	33.965 W	33.965 W	96.1%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	1.368 W	
1.3	48.011 V	48.011 V	0.812 A	38.979 W	38.979 W	27.880 V	27.880 V	1.349 A	37.605 W	37.605 W	96.5%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	1.375 W	
1.5	48.010 V	48.010 V	0.927 A	44.559 W	44.559 W	27.872 V	27.872 V	1.547 A	43.114 W	43.114 W	96.9%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	1.395 W	
1.8	48.010 V	48.010 V	1.082 A	51.935 W	51.935 W	27.875 V	27.875 V	1.811 A	50.488 W	50.488 W	97.2%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	1.446 W	
1.9	48.010 V	48.010 V	1.158 A	55.597 W	55.597 W	27.874 V	27.874 V	1.943 A	54.146 W	54.146 W	97.4%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	1.451 W	
2.5	48.009 V	48.009 V	1.465 A	70.356 W	70.356 W	27.876 V	27.876 V	2.467 A	68.779 W	68.779 W	97.8%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	1.577 W	
3	48.008 V	48.008 V	1.773 A	85.128 W	85.128 W	27.882 V	27.882 V	2.993 A	83.448 W	83.448 W	98.0%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	1.680 W	
3.5	48.007 V	48.007 V	2.043 A	98.088 W	98.088 W	27.885 V	27.885 V	3.452 A	96.257 W	96.257 W	98.1%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	1.831 W	
3.9	48.006 V	48.006 V	2.315 A	111.155 W	111.155 W	27.895 V	27.895 V	3.913 A	109.165 W	109.165 W	98.2%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	1.990 W	
5	48.004 V	48.004 V	2.937 A	140.971 W	140.971 W	27.909 V	27.909 V	4.965 A	138.579 W	138.579 W	98.3%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	2.392 W	
6	48.002 V	48.002 V	3.523 A	169.112 W	169.112 W	27.925 V	27.925 V	5.953 A	166.227 W	166.227 W	98.3%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	2.885 W	

FAN65004B EVB

DC Load Line, Efficiency, Current Balance 5Vout at 24Vin - TC1

STR-FAN65004B-GEVB

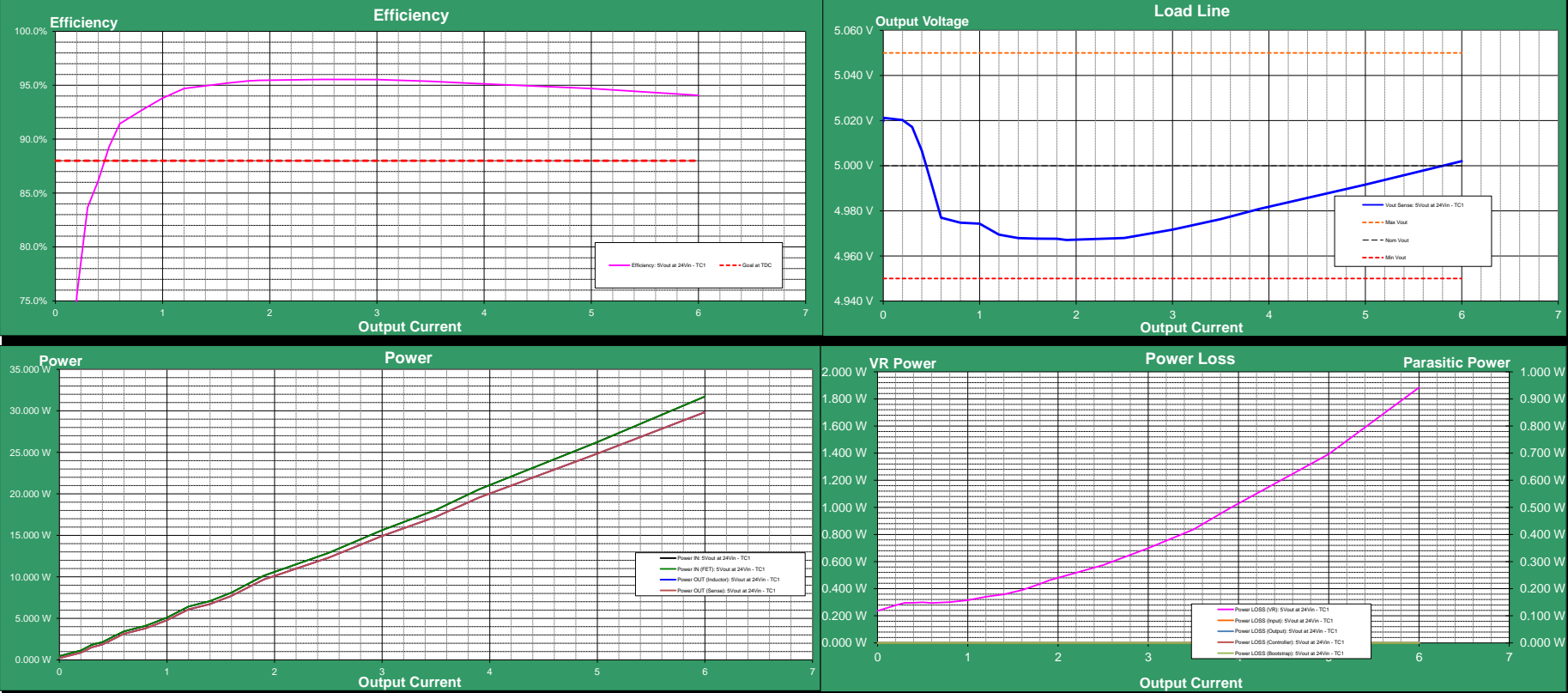
Design Summary			Design Specs		Results Summary		Current Sensing Setup (Shunts)			Plot Labels			
0	1 phases	22 nH	Nominal VID (V)	5.000 V				Shunt Used	Resistance (Ω)	Efficiency at Inductor	Efficiency: 5Vout at 24Vin - TC1	Phases	Phase 1: 5Vout at 24Vin - TC1
	0 x HS 0 phases		Tolerance (+/-mV)	50.000 mV			Main Input Current	Yes	0.0100 Ω	Load Line	Vout Sense: 5Vout at 24Vin - TC1		Phase 2: 5Vout at 24Vin - TC1
	0 x LS 0 HS x		Offset (+/-mV)	0.0 mV	Efficiency at TDC - POWERTRAIN	94.1%	Main Output Current	Yes	0.0040 Ω	Power IN	Power IN: 5Vout at 24Vin - TC1		Phase 3: 5Vout at 24Vin - TC1
	Fsw = 310.1957		Nominal Load Line (mΩ)	0.00 mΩ	Peak Efficiency - POWERTRAIN	95.5%	Controller Current	No	1.0000 Ω	Power IN (FET)	Power IN (FET): 5Vout at 24Vin - TC1		Phase 4: 5Vout at 24Vin - TC1
			Target Efficiency at TDC	88.0%	VR Power Loss at TDC	1.88 W	Bootstrap Current	No	1.0000 Ω	Power OUT (Inductor)	Power OUT (Inductor): 5Vout at 24Vin - TC1	Power LOSS (Input)	Power LOSS (Input): 5Vout at 24Vin - TC1
Plot Label			TDC	5 A	Board Resistance Loss at TDC	0.00 W			Bias (A)	Power OUT (Sense)	Power OUT (Sense): 5Vout at 24Vin - TC1	Power LOSS (Board)	Power LOSS (Output): 5Vout at 24Vin - TC1
			5Vout at 24Vin - TC1		High Side MOSFET Bootstrap Drive (Vbst)	0.00 V	Main Input Current Offset	0.0000 A				Power LOSS (Controller)	Power LOSS (Controller): 5Vout at 24Vin - TC1
					Low Side MOSFET Drive (Vcc)	0.00 V	Output Current Offset	0.0000 A				Power LOSS (Bootstrap)	Power LOSS (Bootstrap): 5Vout at 24Vin - TC1
							Controller Current Offset	0.0000 A				Power LOSS (VR)	Power LOSS (VR): 5Vout at 24Vin - TC1
							Bootstrap Current Offset	0.0000 A					

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Overwrite info if needed - custom config

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Data plots

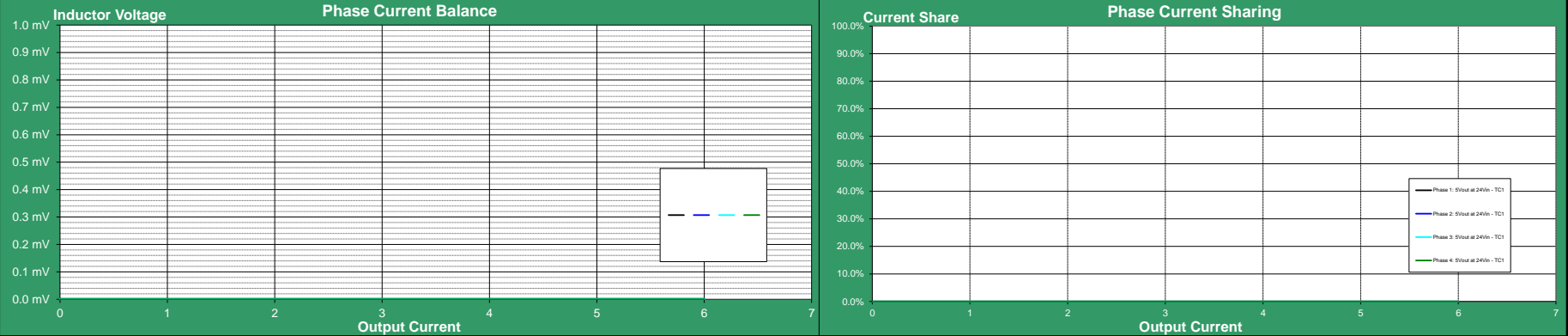


FAN65004B EVB

DC Load Line, Efficiency, Current Balance

5Vout at 24Vin - TC1

STR-FAN65004B-GEVB



Load Icc ROUNDING 1 decimals	D				E				M				Q				R				S				T			
	Main Rail - POWER IN				Main Rail - POWER OUT				Efficiency				Current Sharing				Bias Rails - POWER IN				Parasitic Losses							
Icc LOAD (A)	Vin	Vin (FET)	Iin	Power IN	Power IN (FET)	Vout (Inductor Average)	Vout (Sense)	Iout	Power OUT (Inductor)	Power OUT (Sense)	Efficiency (Inductor)	Vind1	Vind2	Vind3	Vind4	Vcc	Icc	Power IN (Controller)	Vbst	Ibst	Power IN (Bootstrap)	Input Filter Loss	Output Board Loss	VR Loss				
0	24.003 V	24.003 V	0.019 A	0.448 W	0.448 W	5.020 V	5.020 V	0.042 A	0.212 W	0.212 W	47.4%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.236 W				
0	24.003 V	24.003 V	0.019 A	0.452 W	0.452 W	5.021 V	5.021 V	0.043 A	0.216 W	0.216 W	47.7%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.236 W				
0.2	24.003 V	24.003 V	0.047 A	1.134 W	1.134 W	5.020 V	5.020 V	0.171 A	0.857 W	0.857 W	75.5%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.278 W				
0.3	24.003 V	24.003 V	0.075 A	1.808 W	1.808 W	5.017 V	5.017 V	0.302 A	1.513 W	1.513 W	83.7%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.296 W				
0.4	24.003 V	24.003 V	0.089 A	2.138 W	2.138 W	5.007 V	5.007 V	0.368 A	1.842 W	1.842 W	86.1%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.296 W				
0.5	24.003 V	24.003 V	0.117 A	2.797 W	2.797 W	4.992 V	4.992 V	0.500 A	2.497 W	2.497 W	89.3%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.300 W				
0.6	24.003 V	24.003 V	0.143 A	3.437 W	3.437 W	4.977 V	4.977 V	0.631 A	3.142 W	3.142 W	91.4%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.295 W				
0.8	24.003 V	24.003 V	0.171 A	4.099 W	4.099 W	4.975 V	4.975 V	0.763 A	3.797 W	3.797 W	92.7%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.301 W				
1	24.003 V	24.003 V	0.212 A	5.093 W	5.093 W	4.974 V	4.974 V	0.960 A	4.777 W	4.777 W	93.8%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.315 W				
1.2	24.003 V	24.003 V	0.268 A	6.422 W	6.422 W	4.969 V	4.969 V	1.224 A	6.081 W	6.081 W	94.7%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.341 W				
1.4	24.003 V	24.003 V	0.295 A	7.089 W	7.089 W	4.968 V	4.968 V	1.355 A	6.731 W	6.731 W	94.9%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.358 W				
1.6	24.002 V	24.002 V	0.335 A	8.105 W	8.105 W	4.968 V	4.968 V	1.553 A	7.716 W	7.716 W	95.2%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.390 W				
1.8	24.002 V	24.002 V	0.395 A	9.470 W	9.470 W	4.968 V	4.968 V	1.819 A	9.035 W	9.035 W	95.4%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.435 W				
1.9	24.002 V	24.002 V	0.423 A	10.145 W	10.145 W	4.967 V	4.967 V	1.950 A	9.683 W	9.683 W	95.5%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.461 W				
2.5	24.002 V	24.002 V	0.536 A	12.875 W	12.875 W	4.968 V	4.968 V	2.476 A	12.301 W	12.301 W	95.5%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.574 W				
3	24.002 V	24.002 V	0.651 A	15.627 W	15.627 W	4.972 V	4.972 V	3.003 A	14.928 W	14.928 W	95.5%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.699 W				
3.5	24.001 V	24.001 V	0.753 A	18.067 W	18.067 W	4.976 V	4.976 V	3.462 A	17.230 W	17.230 W	95.4%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.837 W				
3.9	24.001 V	24.001 V	0.895 A	20.543 W	20.543 W	4.981 V	4.981 V	3.925 A	19.551 W	19.551 W	95.2%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.992 W				
5	24.001 V	24.001 V	1.093 A	26.242 W	26.242 W	4.992 V	4.992 V	4.978 A	24.849 W	24.849 W	94.7%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	1.393 W				
6	24.000 V	24.000 V	1.322 A	31.729 W	31.729 W	5.002 V	5.002 V	5.967 A	29.845 W	29.845 W	94.1%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	1.884 W				

FAN65004B EVB

DC Load Line, Efficiency, Current Balance

5Vout at 48Vin - TC2

STR-FAN65004B-GEVB

Design Summary			Design Specs		Results Summary		Current Sensing Setup (Shunts)			Plot Labels			
0	1 phases	22 nH	Nominal VID (V)	5.000 V				Shunt Used	Resistance (Ω)	Efficiency at Inductor	Efficiency: 5Vout at 48Vin - TC2	Phases	Phase 1: 5Vout at 48Vin - TC2
	0 x HS 0 phases		Tolerance (+/-mV)	50.000 mV			Main Input Current	Yes	0.0100 Ω	Load Line	Vout Sense: 5Vout at 48Vin - TC2		Phase 2: 5Vout at 48Vin - TC2
	0 x LS 0 HS x		Offset (+/-mV)	0.0 mV	Efficiency at TDC - POWERTRAIN	92.2%	Main Output Current	Yes	0.0040 Ω	Power IN	Power IN: 5Vout at 48Vin - TC2		Phase 3: 5Vout at 48Vin - TC2
	Fsw = 310.1957		Nominal Load Line (mΩ)	0.00 mΩ	Peak Efficiency - POWERTRAIN	92.9%	Controller Current	No	1.0000 Ω	Power IN (FET)	Power IN (FET): 5Vout at 48Vin - TC2		Phase 4: 5Vout at 48Vin - TC2
			Target Efficiency at TDC	88.0%	VR Power Loss at TDC	2.54 W	Bootstrap Current	No	1.0000 Ω	Power OUT (Inductor)	Power OUT (Inductor): 5Vout at 48Vin - TC2	Power LOSS (Input)	Power LOSS (Input): 5Vout at 48Vin - TC2
			TDC	5 A	Board Resistance Loss at TDC	0.00 W			Bias (A)	Power OUT (Sense)	Power OUT (Sense): 5Vout at 48Vin - TC2	Power LOSS (Board)	Power LOSS (Output): 5Vout at 48Vin - TC2
					High Side MOSFET Bootstrap Drive (Vbst)	0.00 V	Main Input Current Offset		0.0000 A			Power LOSS (Controller)	Power LOSS (Controller): 5Vout at 48Vin - TC2
					Low Side MOSFET Drive (Vcc)	0.00 V	Output Current Offset		0.0000 A			Power LOSS (Bootstrap)	Power LOSS (Bootstrap): 5Vout at 48Vin - TC2
							Controller Current Offset		0.0000 A			Power LOSS (VR)	Power LOSS (VR): 5Vout at 48Vin - TC2
							Bootstrap Current Offset		0.0000 A				

Plot Label

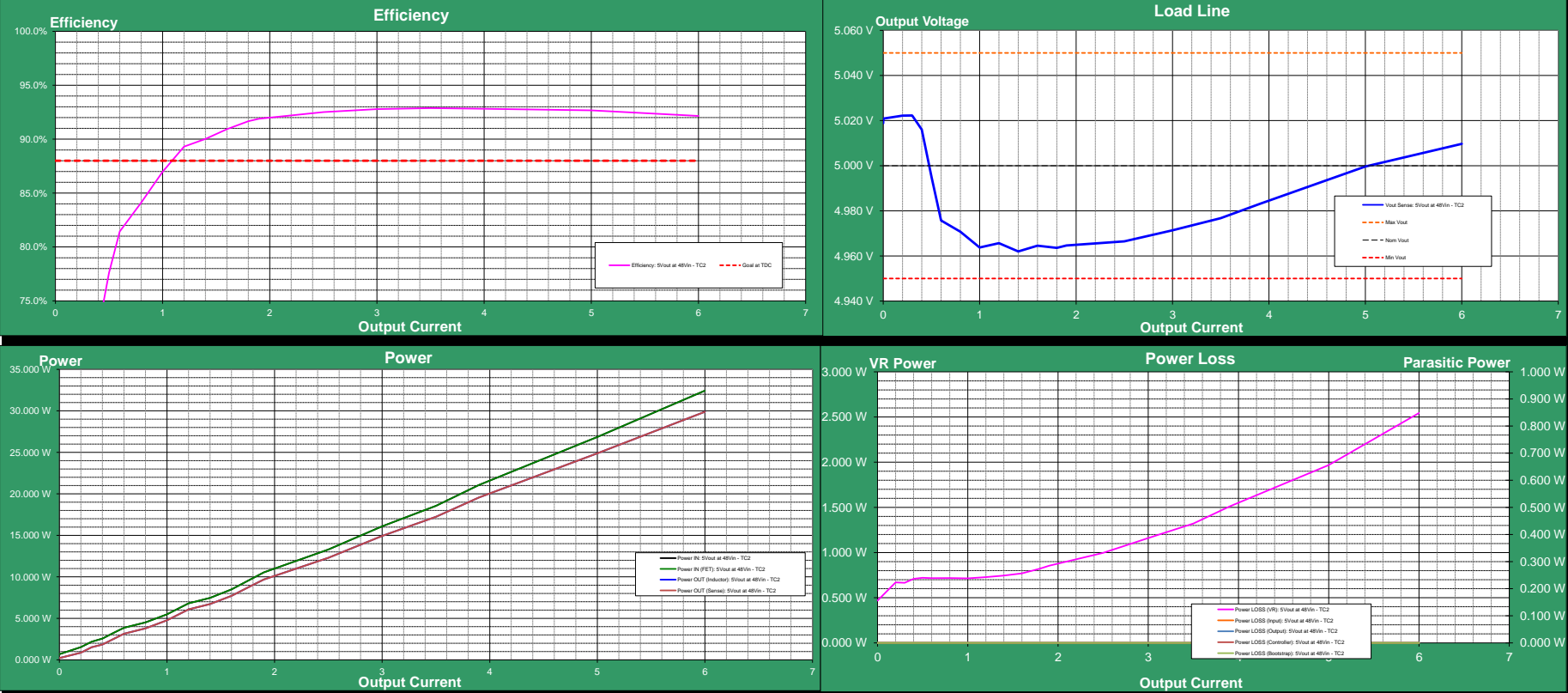
5Vout at 48Vin - TC2

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Data plots

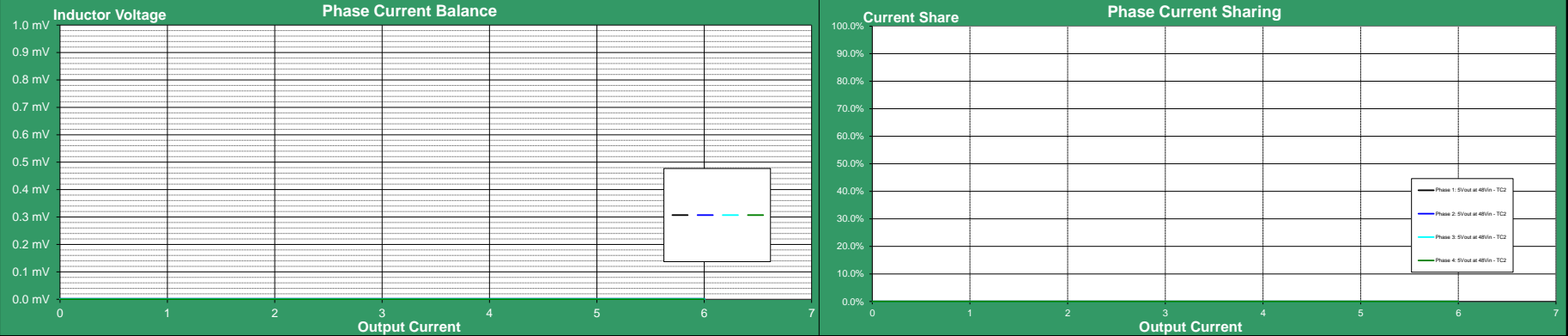


FAN65004B EVB

DC Load Line, Efficiency, Current Balance

5Vout at 48Vin - TC2

STR-FAN65004B-GEVB



Load Icc ROUNDING 1 decimals	D				B				E				C				M				0				0				Q				R				S				T			
	Main Rail - POWER IN								Main Rail - POWER OUT								Efficiency				Current Sharing				Bias Rails - POWER IN				Parasitic Losses															
Icc LOAD (A)	Vin	Vin (FET)	Iin	Power IN	Power IN (FET)	Vout (Inductor Average)	Vout (Sense)	Iout	Power OUT (Inductor)	Power OUT (Sense)	Efficiency (Inductor)	Vind1	Vind2	Vind3	Vind4	Vcc	Icc	Power IN (Controller)	Vbst	Ibst	Power IN (Bootstrap)	Input Filter Loss	Output Board Loss	VR Loss																				
0	48.013 V	48.013 V	0.014 A	0.685 W	0.685 W	5.019 V	5.019 V	0.043 A	0.216 W	0.216 W	31.5%					0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.469 W																				
0	48.013 V	48.013 V	0.014 A	0.683 W	0.683 W	5.021 V	5.021 V	0.043 A	0.215 W	0.215 W	31.5%					0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.468 W																				
0.2	48.013 V	48.013 V	0.032 A	1.530 W	1.530 W	5.022 V	5.022 V	0.171 A	0.861 W	0.861 W	56.2%					0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.669 W																				
0.3	48.013 V	48.013 V	0.045 A	2.183 W	2.183 W	5.022 V	5.022 V	0.302 A	1.518 W	1.518 W	69.5%					0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.665 W																				
0.4	48.013 V	48.013 V	0.053 A	2.560 W	2.560 W	5.016 V	5.016 V	0.369 A	1.850 W	1.850 W	72.3%					0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.710 W																				
0.5	48.013 V	48.013 V	0.067 A	3.223 W	3.223 W	4.995 V	4.995 V	0.501 A	2.501 W	2.501 W	77.6%					0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.721 W																				
0.6	48.013 V	48.013 V	0.080 A	3.859 W	3.859 W	4.976 V	4.976 V	0.632 A	3.142 W	3.142 W	81.4%					0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.717 W																				
0.8	48.013 V	48.013 V	0.094 A	4.514 W	4.514 W	4.971 V	4.971 V	0.764 A	3.797 W	3.797 W	84.1%					0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.717 W																				
1	48.013 V	48.013 V	0.114 A	5.487 W	5.487 W	4.964 V	4.964 V	0.961 A	4.772 W	4.772 W	87.0%					0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.715 W																				
1.2	48.012 V	48.012 V	0.142 A	6.808 W	6.808 W	4.965 V	4.965 V	1.224 A	6.080 W	6.080 W	88.3%					0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.728 W																				
1.4	48.012 V	48.012 V	0.156 A	7.470 W	7.470 W	4.962 V	4.962 V	1.395 A	6.725 W	6.725 W	90.0%					0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.745 W																				
1.6	48.013 V	48.013 V	0.177 A	8.482 W	8.482 W	4.965 V	4.965 V	1.553 A	7.712 W	7.712 W	90.9%					0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.770 W																				
1.8	48.012 V	48.012 V	0.205 A	9.849 W	9.849 W	4.964 V	4.964 V	1.819 A	9.028 W	9.028 W	91.7%					0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.821 W																				
1.9	48.012 V	48.012 V	0.219 A	10.534 W	10.534 W	4.965 V	4.965 V	1.950 A	9.681 W	9.681 W	91.9%					0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.854 W																				
2.5	48.012 V	48.012 V	0.277 A	13.295 W	13.295 W	4.966 V	4.966 V	2.476 A	12.299 W	12.299 W	92.5%					0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.996 W																				
3	48.012 V	48.012 V	0.335 A	16.087 W	16.087 W	4.971 V	4.971 V	3.003 A	14.927 W	14.927 W	92.8%					0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	1.160 W																				
3.5	48.012 V	48.012 V	0.386 A	18.554 W	18.554 W	4.977 V	4.977 V	3.463 A	17.233 W	17.233 W	92.9%					0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	1.322 W																				
3.9	48.012 V	48.012 V	0.439 A	21.069 W	21.069 W	4.983 V	4.983 V	3.925 A	19.559 W	19.559 W	92.8%					0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	1.510 W																				
5	48.011 V	48.011 V	0.559 A	26.857 W	26.857 W	5.000 V	5.000 V	4.978 A	24.888 W	24.888 W	92.7%					0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	1.969 W																				
6	48.011 V	48.011 V	0.676 A	32.434 W	32.434 W	5.010 V	5.010 V	5.966 A	29.890 W	29.890 W	92.2%					0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	2.544 W																				

FAN65004B EVB

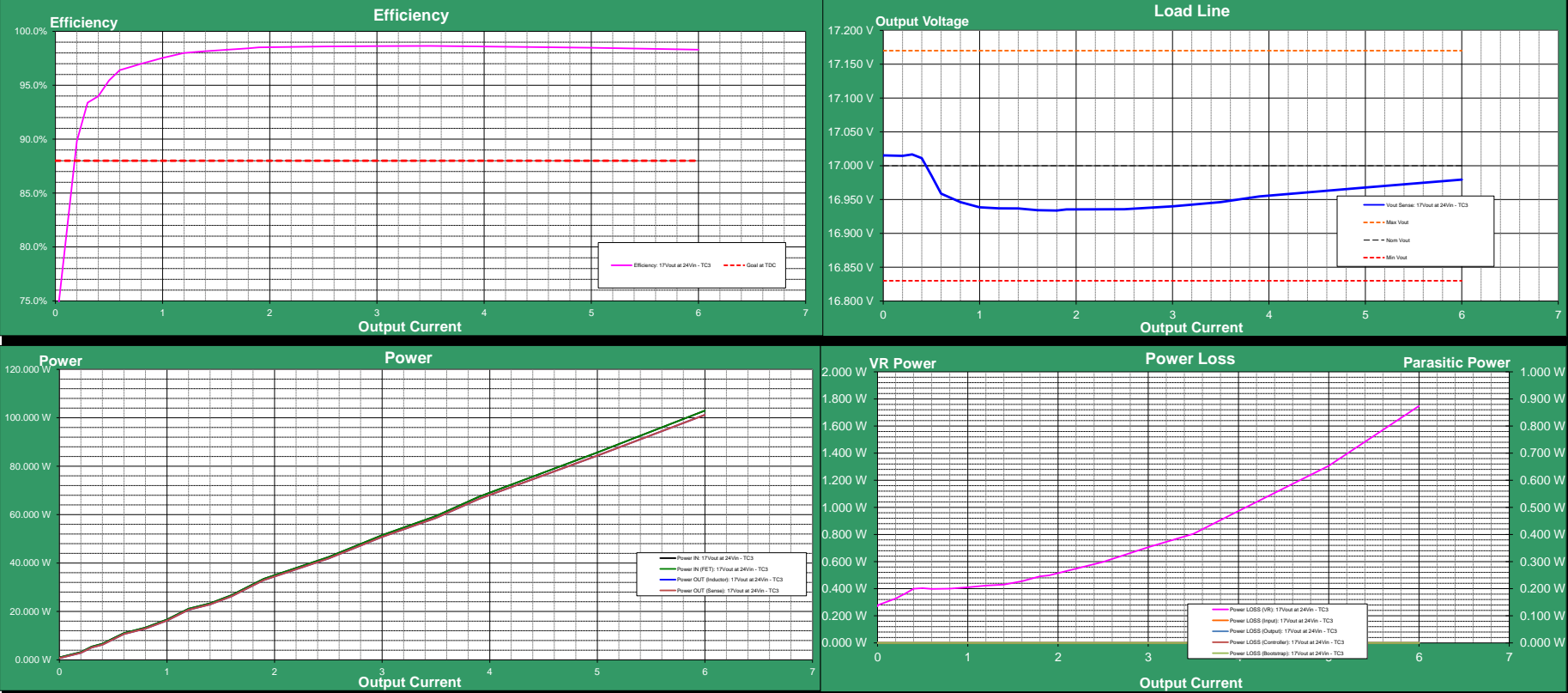
DC Load Line, Efficiency, Current Balance

17Vout at 24Vin - TC3

STR-FAN65004B-GEVB

Design Summary			Design Specs		Results Summary		Current Sensing Setup (Shunts)			Plot Labels				
0	1 phases	22 nH	Nominal VID (V)		17.000 V			Shunt Used	Resistance (Ω)	Efficiency at Inductor	Efficiency: 17Vout at 24Vin - TC3	Phases	Phase 1: 17Vout at 24Vin - TC3	
	0 x HS	0 phases	Tolerance (+/-mV)		170.000 mV		Main Input Current	Yes	0.0100 Ω	Load Line	Vout Sense: 17Vout at 24Vin - TC3		Phase 2: 17Vout at 24Vin - TC3	
	0 x LS	0 HS x	Offset (+/-mV)		0.0 mV	Efficiency at TDC - POWERTRAIN	98.3%	Main Output Current	Yes	0.0040 Ω	Power IN		Power IN: 17Vout at 24Vin - TC3	Phase 3: 17Vout at 24Vin - TC3
	Fsw = 310.1957		Nominal Load Line (mΩ)		0.00 mΩ	Peak Efficiency - POWERTRAIN	98.6%	Controller Current	No	1.0000 Ω	Power IN (FET)		Power IN (FET): 17Vout at 24Vin - TC3	Phase 4: 17Vout at 24Vin - TC3
			Target Efficiency at TDC		88.0%	VR Power Loss at TDC	1.75 W	Bootstrap Current	No	1.0000 Ω	Power OUT (Inductor)	Power OUT (Inductor): 17Vout at 24Vin - TC3	Power LOSS (Input)	Power LOSS (Input): 17Vout at 24Vin - TC3
			TDC		5 A	Board Resistance Loss at TDC		0.00 W	Bias (A)		Power OUT (Sense)	Power OUT (Sense): 17Vout at 24Vin - TC3	Power LOSS (Board)	Power LOSS (Output): 17Vout at 24Vin - TC3
Plot Label	17Vout at 24Vin - TC3					High Side MOSFET Bootstrap Drive (Vbst)	0.00 V	Main Input Current Offset	0.0000 A				Power LOSS (Controller)	Power LOSS (Controller): 17Vout at 24Vin - TC3
						Low Side MOSFET Drive (Vcc)	0.00 V	Output Current Offset	0.0000 A				Power LOSS (Bootstrap)	Power LOSS (Bootstrap): 17Vout at 24Vin - TC3
	⚡ Enter Design INFO in cells colored ✍ Overwrite info if needed - custom config ⚡ Delete RED cells after loading data							Controller Current Offset	0.0000 A				Power LOSS (VR)	Power LOSS (VR): 17Vout at 24Vin - TC3
								Bootstrap Current Offset	0.0000 A					

Data plots

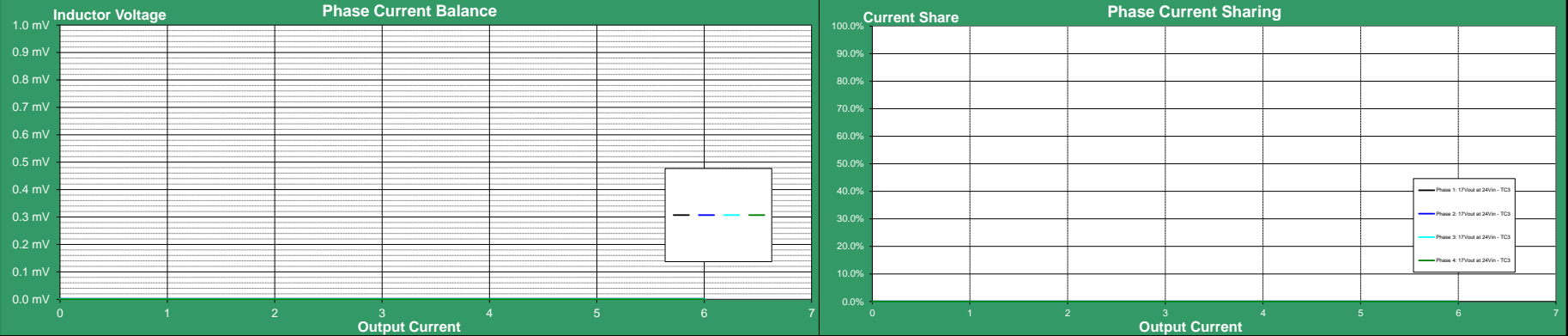


FAN65004B EVB

DC Load Line, Efficiency, Current Balance

17Vout at 24Vin - TC3

STR-FAN65004B-GEVB



Load Icc ROUNDED 1 decimals	D											E											M											Q											R											S											T										
	Main Rail - POWER IN					Main Rail - POWER OUT					Efficiency	Current Sharing					Bias Rails - POWER IN						Parasitic Losses																																																						
	Vin	Vin (FET)	Iin	Power IN	Power IN (FET)	Vout (Inductor Average)	Vout (Sense)	Iout	Power OUT (Inductor)	Power OUT (Sense)	Efficiency (Inductor)	Vind1	Vind2	Vind3	Vind4	Vcc	Icc	Power IN (Controller)	Vbst	Ibst	Power IN (Bootstrap)	Input Filter Loss	Output Board Loss	VR Loss																																																					
0	24.003 V	24.003 V	0.041 A	0.989 W	0.989 W	17.015 V	17.015 V	0.042 A	0.719 W	0.719 W	72.7%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.270 W																																																					
0	24.003 V	24.003 V	0.041 A	0.991 W	0.991 W	17.015 V	17.015 V	0.042 A	0.714 W	0.714 W	72.0%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.277 W																																																					
0.2	24.003 V	24.003 V	0.134 A	3.208 W	3.208 W	17.015 V	17.015 V	0.169 A	2.881 W	2.881 W	89.8%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.327 W																																																					
0.3	24.003 V	24.003 V	0.228 A	5.471 W	5.471 W	17.017 V	17.017 V	0.300 A	5.109 W	5.109 W	93.4%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.362 W																																																					
0.4	24.003 V	24.003 V	0.277 A	6.638 W	6.638 W	17.011 V	17.011 V	0.367 A	6.239 W	6.239 W	94.0%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.398 W																																																					
0.5	24.003 V	24.003 V	0.370 A	8.871 W	8.871 W	16.985 V	16.985 V	0.498 A	8.467 W	8.467 W	95.4%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.404 W																																																					
0.6	24.002 V	24.002 V	0.461 A	11.071 W	11.071 W	16.959 V	16.959 V	0.629 A	10.673 W	10.673 W	96.4%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.398 W																																																					
0.8	24.002 V	24.002 V	0.554 A	13.309 W	13.309 W	16.946 V	16.946 V	0.762 A	12.909 W	12.909 W	97.0%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.400 W																																																					
1	24.002 V	24.002 V	0.694 A	16.646 W	16.646 W	16.938 V	16.938 V	0.958 A	16.235 W	16.235 W	97.5%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.411 W																																																					
1.2	24.001 V	24.001 V	0.879 A	21.107 W	21.107 W	16.937 V	16.937 V	1.221 A	20.683 W	20.683 W	98.0%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.423 W																																																					
1.4	24.001 V	24.001 V	0.972 A	23.331 W	23.331 W	16.937 V	16.937 V	1.352 A	22.901 W	22.901 W	98.2%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.430 W																																																					
1.6	24.001 V	24.001 V	1.113 A	26.704 W	26.704 W	16.934 V	16.934 V	1.550 A	26.249 W	26.249 W	98.3%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.455 W																																																					
1.8	24.000 V	24.000 V	1.301 A	31.229 W	31.229 W	16.934 V	16.934 V	1.815 A	30.738 W	30.738 W	98.4%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.492 W																																																					
1.9	24.000 V	24.000 V	1.394 A	33.461 W	33.461 W	16.935 V	16.935 V	1.946 A	32.963 W	32.963 W	98.5%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.498 W																																																					
2.5	23.999 V	23.999 V	1.769 A	42.465 W	42.465 W	16.936 V	16.936 V	2.472 A	41.867 W	41.867 W	98.6%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.597 W																																																					
3	23.998 V	23.998 V	2.146 A	51.492 W	51.492 W	16.940 V	16.940 V	2.998 A	50.786 W	50.786 W	98.6%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.706 W																																																					
3.5	23.997 V	23.997 V	2.475 A	59.402 W	59.402 W	16.946 V	16.946 V	3.458 A	58.597 W	58.597 W	98.6%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.805 W																																																					
3.9	23.996 V	23.996 V	2.899 A	67.406 W	67.406 W	16.955 V	16.955 V	3.920 A	66.466 W	66.466 W	98.6%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	0.940 W																																																					
5	23.995 V	23.995 V	3.571 A	85.677 W	85.677 W	16.968 V	16.968 V	4.972 A	84.370 W	84.370 W	98.5%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	1.306 W																																																					
6	23.992 V	23.992 V	4.291 A	102.954 W	102.954 W	16.980 V	16.980 W	5.960 A	101.206 W	101.206 W	98.3%	0.0 mV	0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.000 W	1.748 W																																																					

FAN65004B EVB

DC Load Line, Efficiency, Current Balance

28Vout at 48Vin - TC4

STR-FAN65004B-GEVB

Design Summary			Design Specs			Results Summary			Current Sensing Setup (Shunts)			Plot Labels			
0	1 phases	22 nH	Nominal VID (V)	28.000 V						Shunt Used	Resistance (Ω)	Efficiency at Inductor	Efficiency: 28Vout at 48Vin - TC4	Phases	Phase 1: 28Vout at 48Vin - TC4
	0 x HS 0 phases		Tolerance (+/-mV)	280.000 mV				Main Input Current	Yes	0.0100 Ω		Load Line	Vout Sense: 28Vout at 48Vin - TC4		Phase 2: 28Vout at 48Vin - TC4
	0 x LS 0 HS x		Offset (+/-mV)	0.0 mV		Efficiency at TDC - POWERTRAIN	98.3%	Main Output Current	Yes	0.0040 Ω		Power IN	Power IN: 28Vout at 48Vin - TC4		Phase 3: 28Vout at 48Vin - TC4
	Fsw = 310.1957		Nominal Load Line (mΩ)	0.00 mΩ		Peak Efficiency - POWERTRAIN	98.3%	Controller Current	No	1.0000 Ω		Power IN (FET)	Power IN (FET): 28Vout at 48Vin - TC4		Phase 4: 28Vout at 48Vin - TC4
			Target Efficiency at TDC	88.0%		VR Power Loss at TDC	2.86 W	Bootstrap Current	No	1.0000 Ω		Power OUT (Inductor)	Power OUT (Inductor): 28Vout at 48Vin - TC4		Power LOSS (Input): 28Vout at 48Vin - TC4
			TDC	5 A		Board Resistance Loss at TDC	0.00 W			Bias (A)		Power OUT (Sense)	Power OUT (Sense): 28Vout at 48Vin - TC4	Power LOSS (Board)	Power LOSS (Output): 28Vout at 48Vin - TC4
						High Side MOSFET Bootstrap Drive (Vbst)	0.00 V	Main Input Current Offset		0.0000 A				Power LOSS (Controller)	Power LOSS (Controller): 28Vout at 48Vin - TC4
						Low Side MOSFET Drive (Vcc)	0.00 V	Output Current Offset		0.0000 A				Power LOSS (Bootstrap)	Power LOSS (Bootstrap): 28Vout at 48Vin - TC4
								Controller Current Offset		0.0000 A				Power LOSS (VR)	Power LOSS (VR): 28Vout at 48Vin - TC4
								Bootstrap Current Offset		0.0000 A					

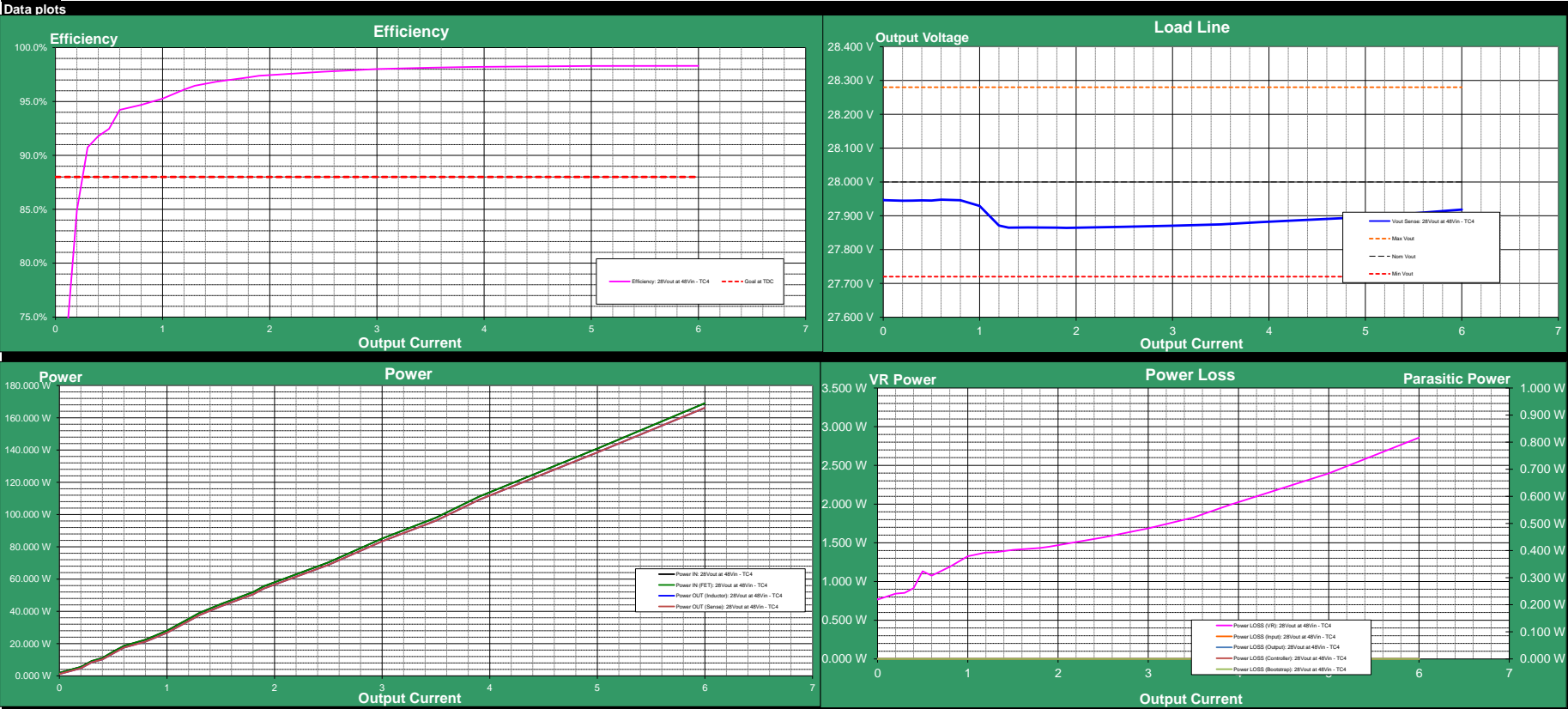
Plot Label

28Vout at 48Vin - TC4

Enter Design INFO in cells colored

Overwrite info if needed - custom config

Delete RED cells after loading data

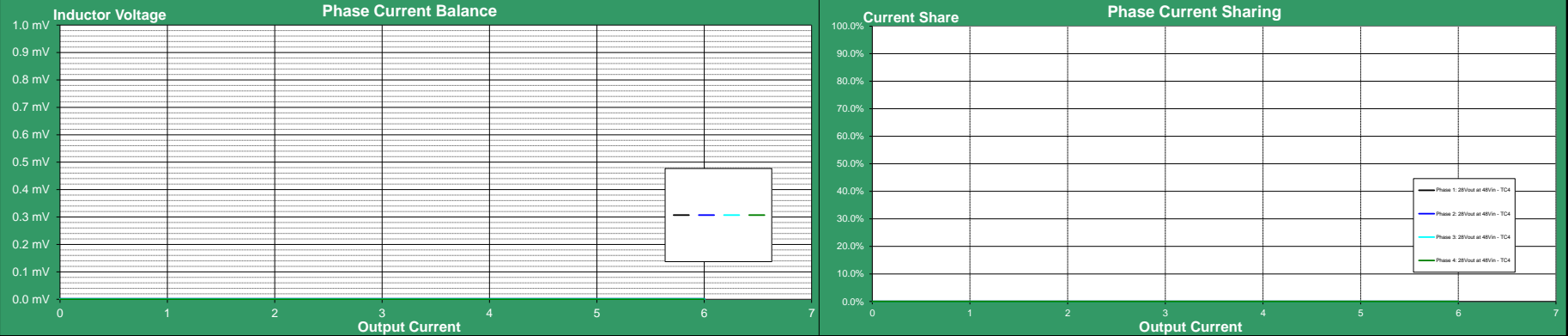


FAN65004B EVB

DC Load Line, Efficiency, Current Balance

28Vout at 48Vin - TC4

STR-FAN65004B-GEVB



Load Icc ROUNDING 1 decimals	D	D	B	E										M	B	D	Q	R	S		T			
	Main Rail - POWER IN					Main Rail - POWER OUT					Efficiency		Current Sharing				Bias Rails - POWER IN					Parasitic Losses		
Icc LOAD (A)	Vin	Vin (FET)	Iin	Power IN (FET)	Vout (Inductor Average)	Vout (Sense)	Iout	Power OUT (Inductor)	Power OUT (Sense)	Efficiency (Inductor)	Vind1	Vind2	Vind3	Vind4	Vcc	Icc	Power IN (Controller)	Vbst	Ibst	Power IN (Bootstrap)	Input Filter Loss	Output Board Loss	VR Loss	
0	48.013 V	48.013 V	0.040 A	1.928 W	1.928 W	27.947 V	27.947 V	0.041 A	1.154 W	1.154 W	59.8%		0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.775 W	
0	48.013 V	48.013 V	0.040 A	1.928 W	1.928 W	27.946 V	27.946 V	0.042 A	1.161 W	1.161 W	60.2%		0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.767 W	
0.2	48.013 V	48.013 V	0.116 A	5.569 W	5.569 W	27.944 V	27.944 V	0.169 A	4.725 W	4.725 W	84.9%		0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.843 W	
0.3	48.013 V	48.013 V	0.192 A	9.223 W	9.223 W	27.945 V	27.945 V	0.299 A	8.369 W	8.369 W	90.7%		0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.854 W	
0.4	48.012 V	48.012 V	0.232 A	11.134 W	11.134 W	27.946 V	27.946 V	0.366 A	10.220 W	10.220 W	91.8%		0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	0.914 W	
0.5	48.012 V	48.012 V	0.313 A	15.028 W	15.028 W	27.945 V	27.945 V	0.497 A	13.895 W	13.895 W	92.5%		0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	1.133 W	
0.6	48.012 V	48.012 V	0.388 A	18.615 W	18.615 W	27.948 V	27.948 V	0.628 A	17.540 W	17.540 W	94.2%		0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	1.075 W	
0.8	48.012 V	48.012 V	0.467 A	22.411 W	22.411 W	27.946 V	27.946 V	0.759 A	21.221 W	21.221 W	94.7%		0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	1.190 W	
1	48.012 V	48.012 V	0.584 A	28.039 W	28.039 W	27.929 V	27.929 V	0.956 A	26.713 W	26.713 W	95.3%		0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	1.326 W	
1.2	48.011 V	48.011 V	0.736 A	35.327 W	35.327 W	27.871 V	27.871 V	1.218 A	33.953 W	33.953 W	96.1%		0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	1.375 W	
1.3	48.011 V	48.011 V	0.812 A	38.975 W	38.975 W	27.865 V	27.865 V	1.349 A	37.597 W	37.597 W	96.5%		0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	1.378 W	
1.5	48.010 V	48.010 V	0.927 A	44.503 W	44.503 W	27.865 V	27.865 V	1.547 A	43.095 W	43.095 W	96.8%		0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	1.408 W	
1.8	48.010 V	48.010 V	1.081 A	51.912 W	51.912 W	27.865 V	27.865 V	1.812 A	50.479 W	50.479 W	97.2%		0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	1.434 W	
1.9	48.010 V	48.010 V	1.158 A	55.581 W	55.581 W	27.864 V	27.864 V	1.943 A	54.132 W	54.132 W	97.4%		0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	1.449 W	
2.5	48.009 V	48.009 V	1.465 A	70.336 W	70.336 W	27.868 V	27.868 V	2.468 A	68.766 W	68.766 W	97.8%		0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	1.569 W	
3	48.008 V	48.008 V	1.773 A	85.101 W	85.101 W	27.871 V	27.871 V	2.993 A	83.415 W	83.415 W	98.0%		0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	1.686 W	
3.5	48.007 V	48.007 V	2.042 A	98.049 W	98.049 W	27.875 V	27.875 V	3.452 A	96.222 W	96.222 W	98.1%		0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	1.827 W	
3.9	48.006 V	48.006 V	2.315 A	111.112 W	111.112 W	27.881 V	27.881 V	3.914 A	109.123 W	109.123 W	98.2%		0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	1.989 W	
5	48.004 V	48.004 V	2.935 A	140.909 W	140.909 W	27.896 V	27.896 V	4.965 A	138.512 W	138.512 W	98.3%		0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	2.396 W	
6	48.002 V	48.002 V	3.522 A	169.041 W	169.041 W	27.918 V	27.918 V	5.952 A	166.182 W	166.182 W	98.3%		0.0 mV	0.0 mV	0.0 mV	0.000 V	0.000 A	0.000 W	0.000 V	0.000 A	0.000 W	0.000 W	2.859 W	

STR-FAN65004B-GEVB

FAN65004B EVB

Output Voltage Transients

Transient Tool Used	ON Semi DLT
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Test Set	Test Name	Slew Rate	DC Load Line	AC Load Line	AC Load Line Overshoot	VID	Current Step Min	Current Step Max	Current Step	Slew	Drop Tolerance	Overshoot Tolerance	Overshoot Allowance	Undershoot Allowance
1	5Vout at 24Vin - TC1 - HIGH Load Test	10 A/μs	0.0 mΩ	0.0 mΩ	0.0 mΩ	5.00000 V	3.0 A	6.0 A	3.0 A	300 ns	3.5%	3.5%	0 mV	0 mV
2	5Vout at 24Vin - TC1 - LOW Load Test	10 A/μs	0.0 mΩ	0.0 mΩ	0.0 mΩ	5.00000 V	0.6 A	3.6 A	3.0 A	300 ns	3.5%	3.5%	0 mV	0 mV
3	5Vout at 48Vin - TC2 - HIGH Load Test	10 A/μs	0.0 mΩ	0.0 mΩ	0.0 mΩ	5.00000 V	3.0 A	6.0 A	3.0 A	300 ns	3.5%	3.5%	0 mV	0 mV
4	5Vout at 48Vin - TC2 - LOW Load Test	10 A/μs	0.0 mΩ	0.0 mΩ	0.0 mΩ	5.00000 V	0.6 A	3.6 A	3.0 A	300 ns	3.5%	3.5%	0 mV	0 mV
5	17Vout at 24Vin - TC3 - HIGH Load Test	10 A/μs	0.0 mΩ	0.0 mΩ	0.0 mΩ	17.00000 V	3.0 A	6.0 A	3.0 A	300 ns	3.5%	3.5%	0 mV	0 mV
6	17Vout at 24Vin - TC3 - LOW Load Test	10 A/μs	0.0 mΩ	0.0 mΩ	0.0 mΩ	17.00000 V	0.6 A	3.6 A	3.0 A	300 ns	3.5%	3.5%	0 mV	0 mV
7	28Vout at 48Vin - TC4 - HIGH Load Test	10 A/μs	0.0 mΩ	0.0 mΩ	0.0 mΩ	28.00000 V	3.0 A	6.0 A	3.0 A	300 ns	3.5%	3.5%	0 mV	0 mV
8	28Vout at 48Vin - TC4 - LOW Load Test	10 A/μs	0.0 mΩ	0.0 mΩ	0.0 mΩ	28.00000 V	0.6 A	3.6 A	3.0 A	300 ns	3.5%	3.5%	0 mV	0 mV

Transient Load Testing at 5Vout at 24Vin - TC1 - HIGH Load Test

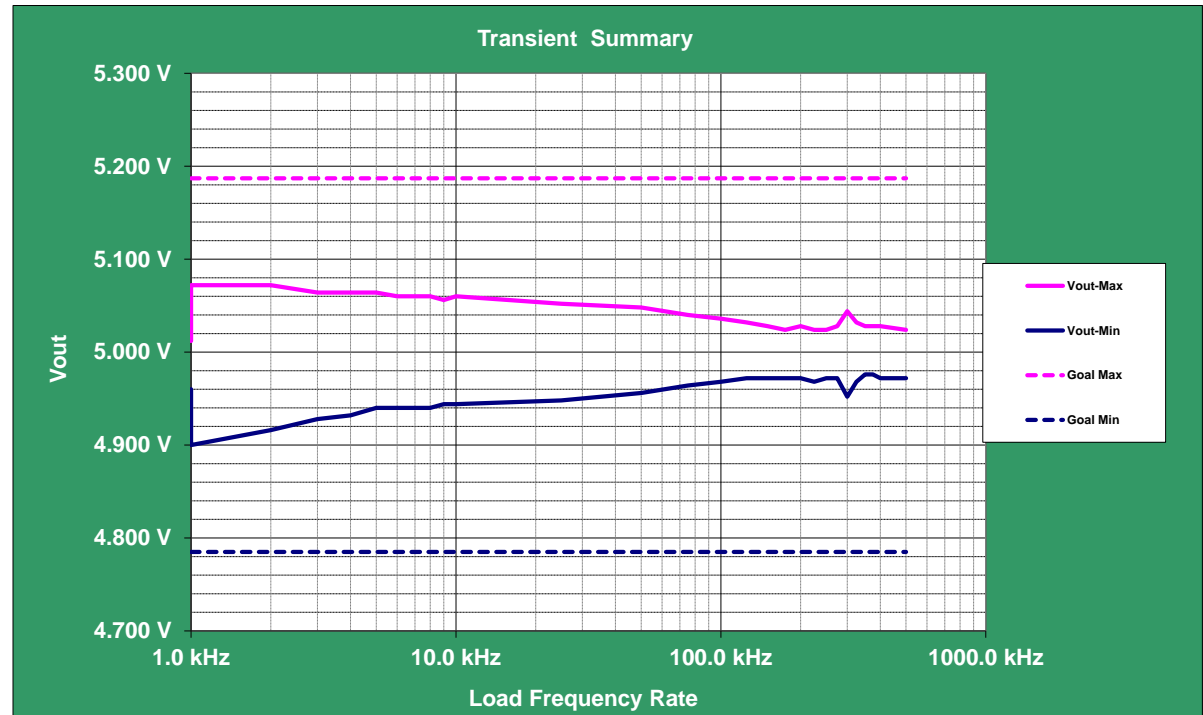
Test Setup	
Channel1	Vout
Channel2	Isense
Channel3	N/A
Channel4	SWN1
#Tests	28

Transient Reference Levels	4.960 V	Droop
	5.012 V	Over shoot

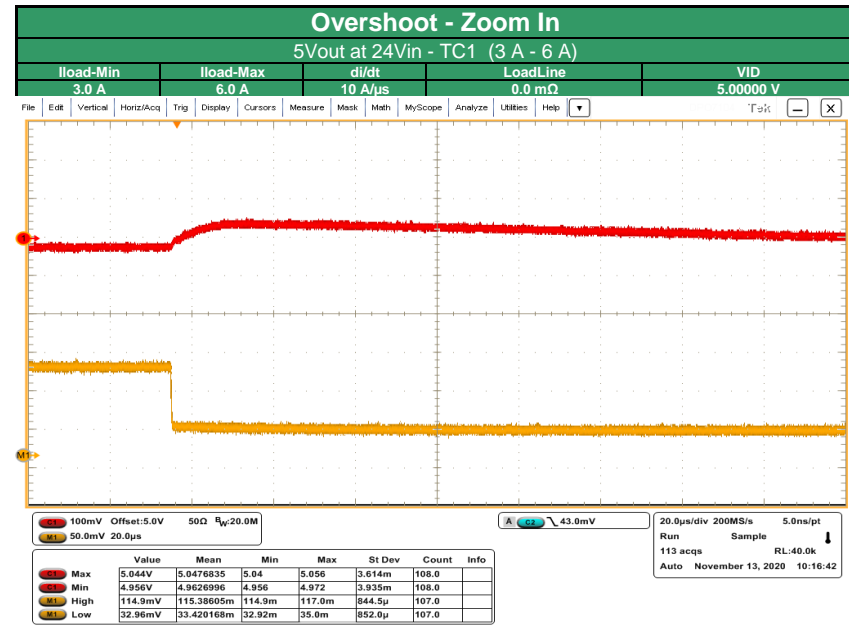
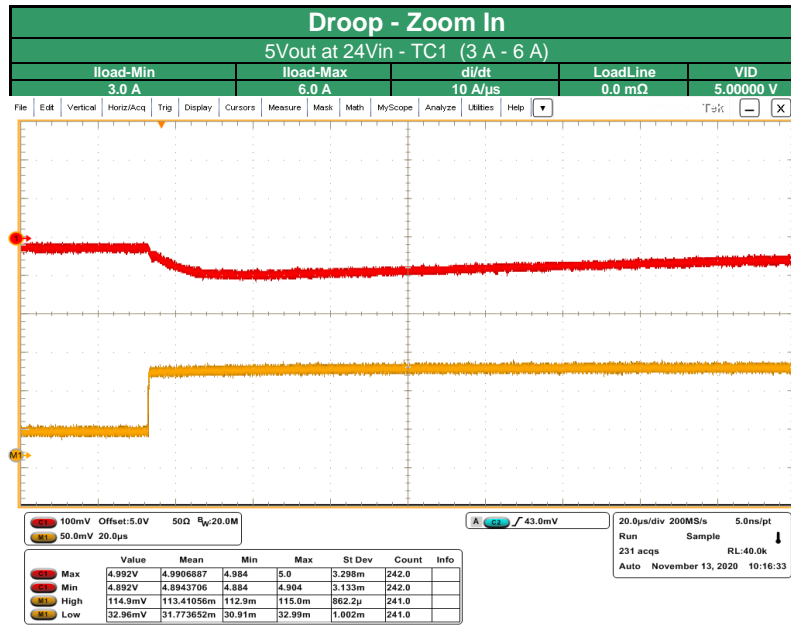
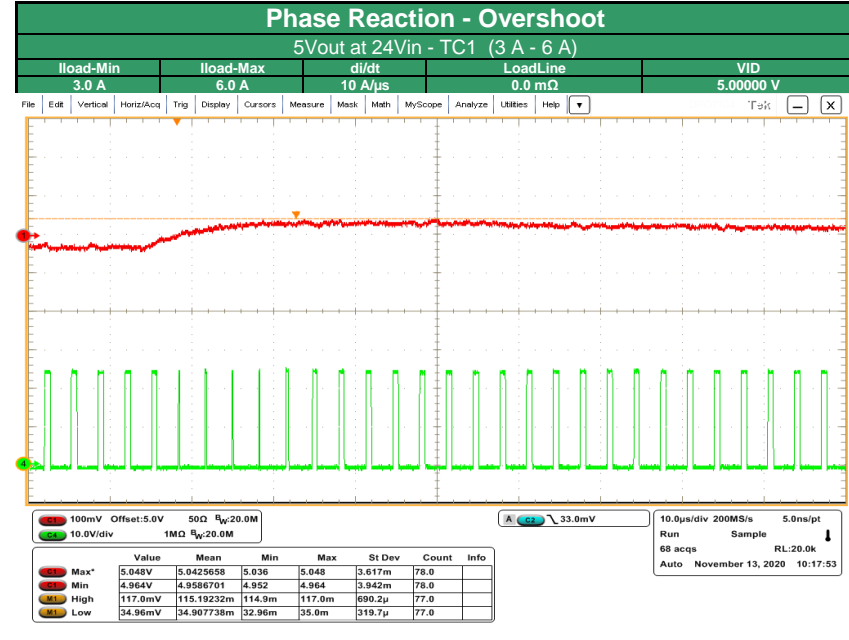
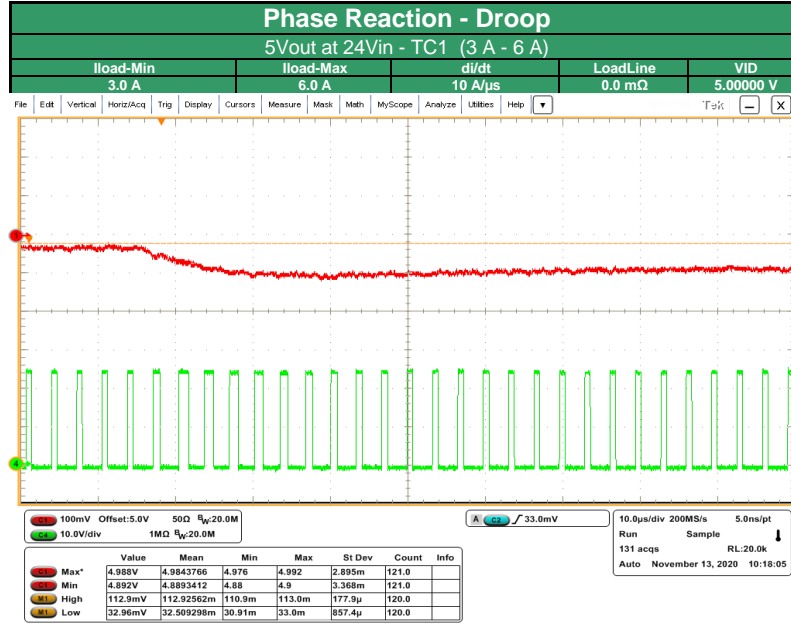
Test Details	
Test Name	5Vout at 24Vin - TC1
VID	5.00000 V
DC Load Line	0.0 mΩ
Min Current	3.0 A
Max Current	6.0 A
Current Step	3.0 A
Slew Rate	10 A/μs
Min Droop	4.785 V
Max Overshoot	5.187 V

Results Summary				
	Meas. %	Margin	LRR	Max/Min Value
Min Droop	1.20%	115.0 mV	1.0 kHz	4.900 V
Max Overshoot	1.20%	115.0 mV	1.0 kHz	5.072 V

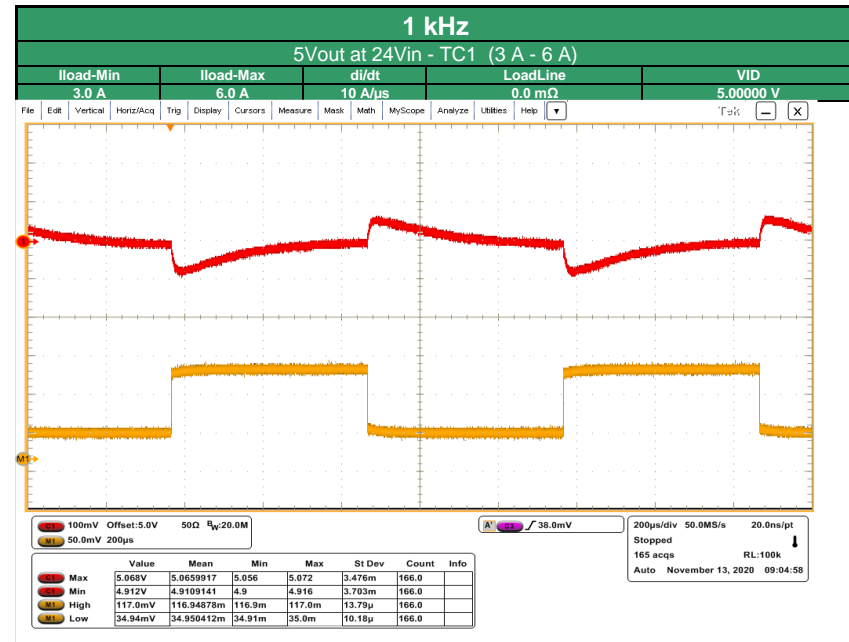
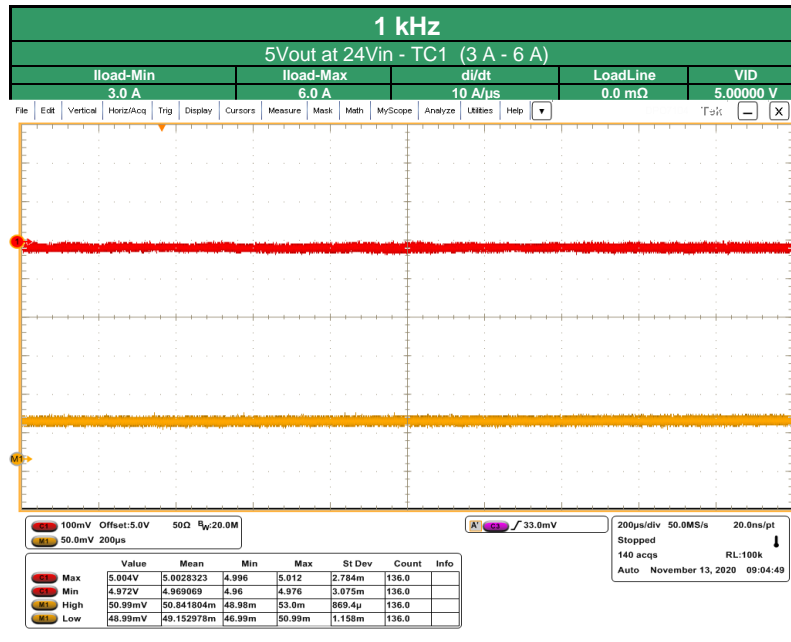
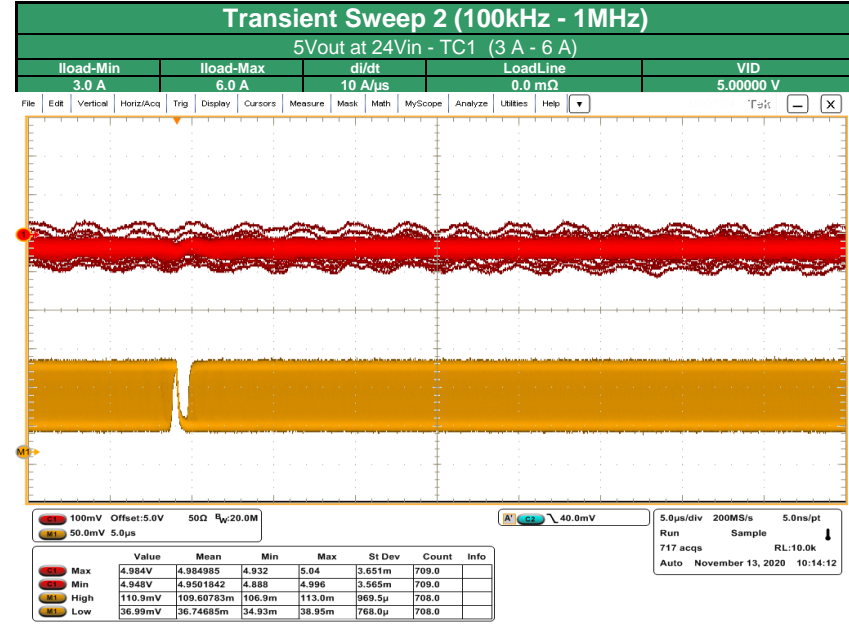
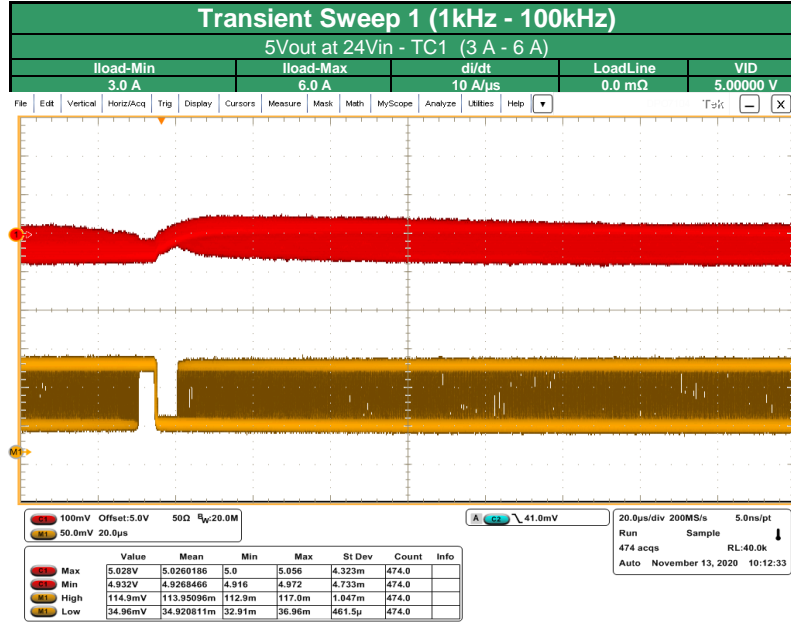
LRR	Vmax	Result	Vmin	Result
1.0 kHz	5.012 V	PASS	4.960 V	PASS
1.0 kHz	5.072 V	PASS	4.900 V	PASS
2.0 kHz	5.072 V	PASS	4.916 V	PASS
3.0 kHz	5.064 V	PASS	4.928 V	PASS
4.0 kHz	5.064 V	PASS	4.932 V	PASS
5.0 kHz	5.064 V	PASS	4.940 V	PASS
6.0 kHz	5.060 V	PASS	4.940 V	PASS
7.0 kHz	5.060 V	PASS	4.940 V	PASS
8.0 kHz	5.060 V	PASS	4.940 V	PASS
9.0 kHz	5.056 V	PASS	4.944 V	PASS
10.0 kHz	5.060 V	PASS	4.944 V	PASS
25.0 kHz	5.052 V	PASS	4.948 V	PASS
50.0 kHz	5.048 V	PASS	4.956 V	PASS
75.0 kHz	5.040 V	PASS	4.964 V	PASS
100.0 kHz	5.036 V	PASS	4.968 V	PASS
125.0 kHz	5.032 V	PASS	4.972 V	PASS
150.0 kHz	5.028 V	PASS	4.972 V	PASS
175.0 kHz	5.024 V	PASS	4.972 V	PASS
200.0 kHz	5.028 V	PASS	4.972 V	PASS
225.0 kHz	5.024 V	PASS	4.968 V	PASS
250.0 kHz	5.024 V	PASS	4.972 V	PASS
275.0 kHz	5.028 V	PASS	4.972 V	PASS
300.0 kHz	5.044 V	PASS	4.952 V	PASS
325.0 kHz	5.032 V	PASS	4.968 V	PASS
350.0 kHz	5.028 V	PASS	4.976 V	PASS
375.0 kHz	5.028 V	PASS	4.976 V	PASS
400.0 kHz	5.028 V	PASS	4.972 V	PASS
500.0 kHz	5.024 V	PASS	4.972 V	PASS



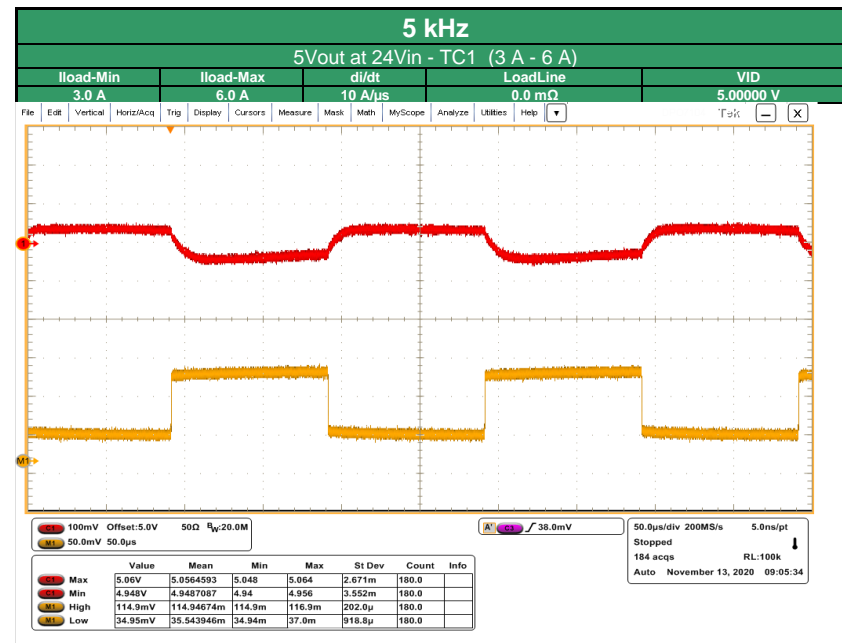
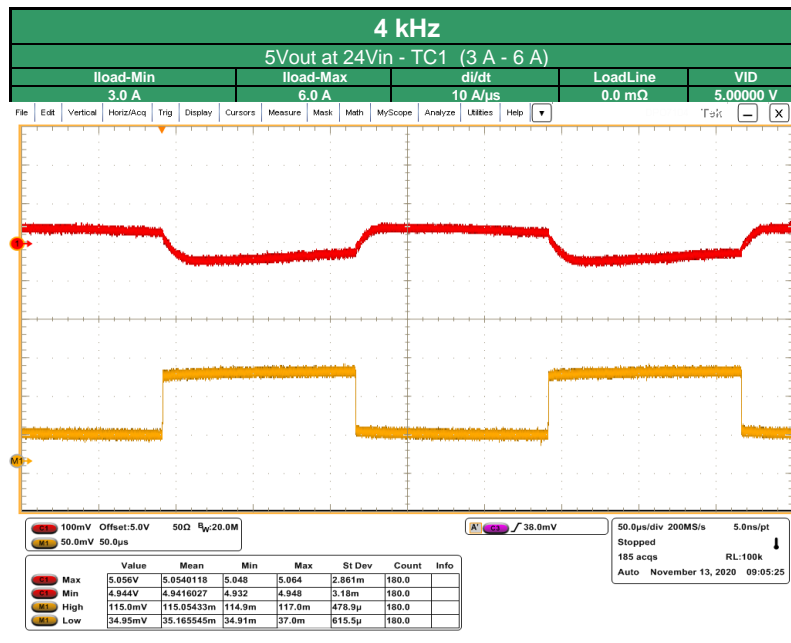
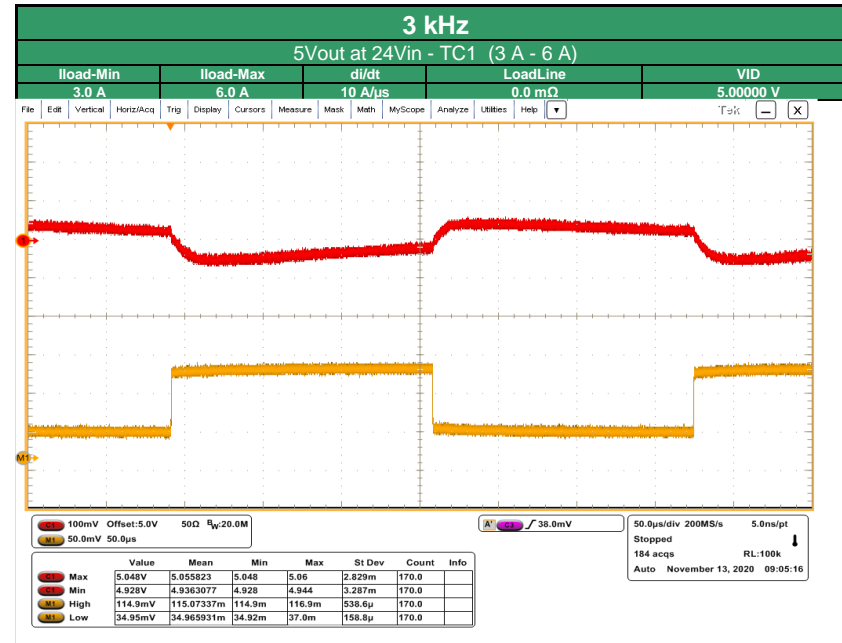
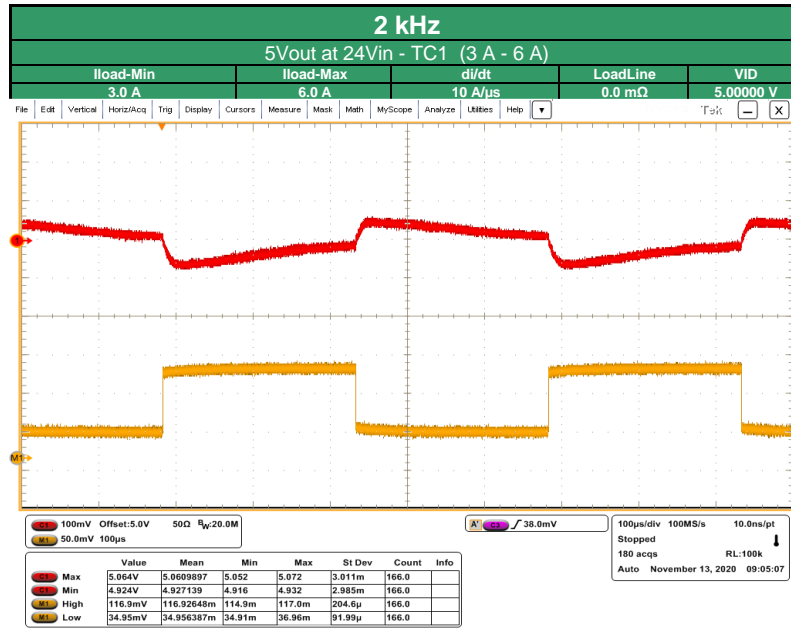
Transient Load Testing at 5Vout at 24Vin - TC1 - HIGH Load Test



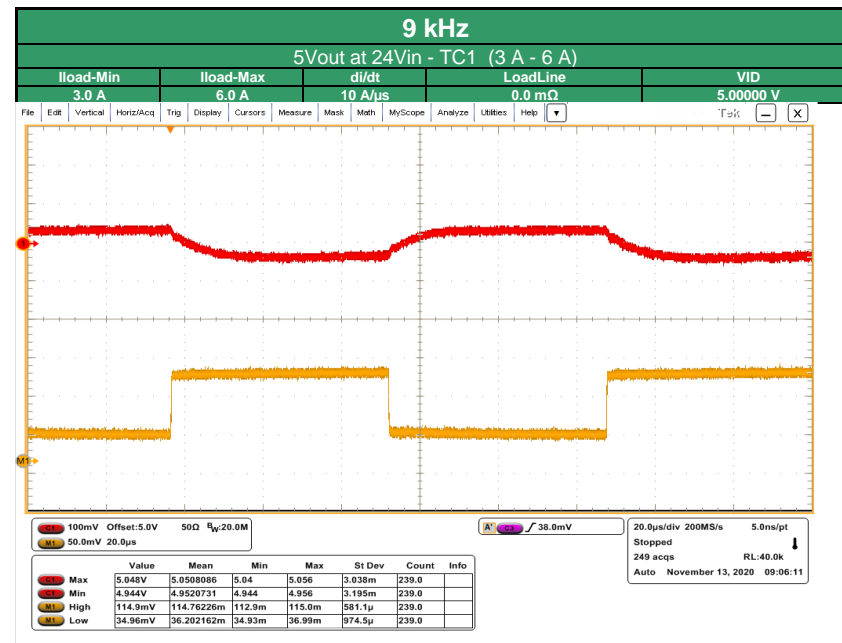
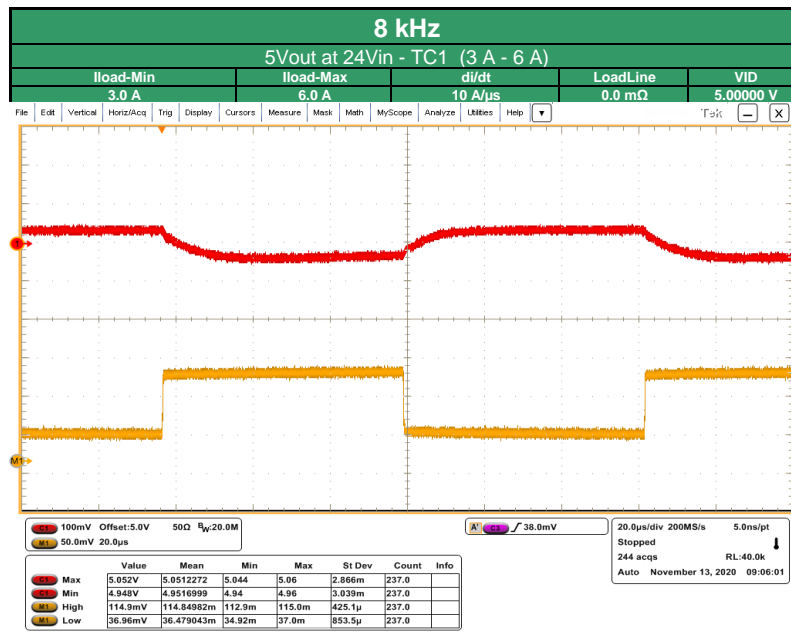
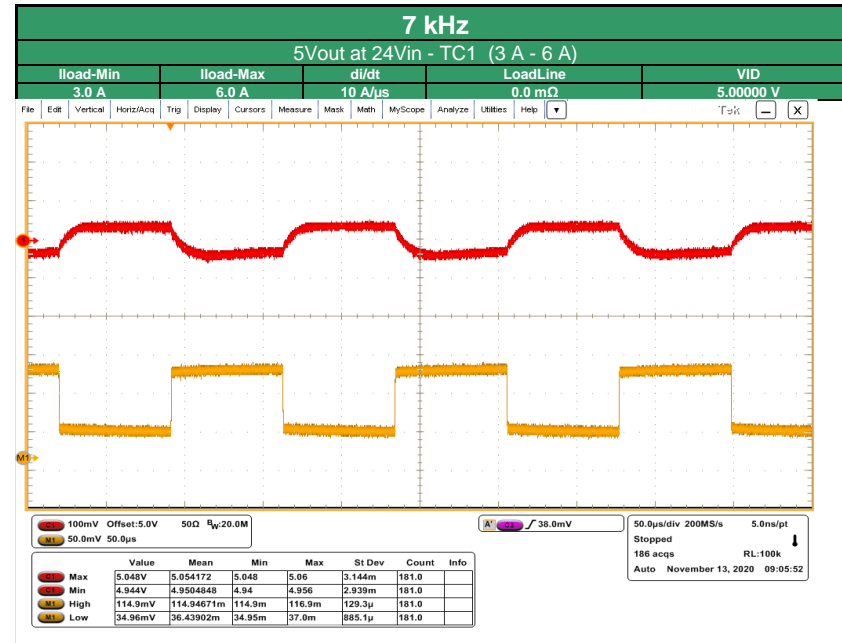
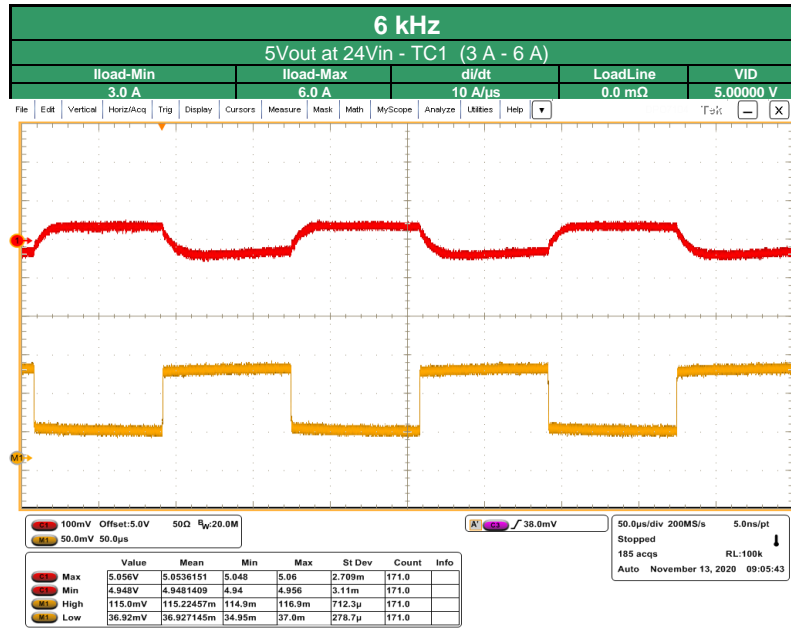
Transient Load Testing at 5Vout at 24Vin - TC1 - HIGH Load Test



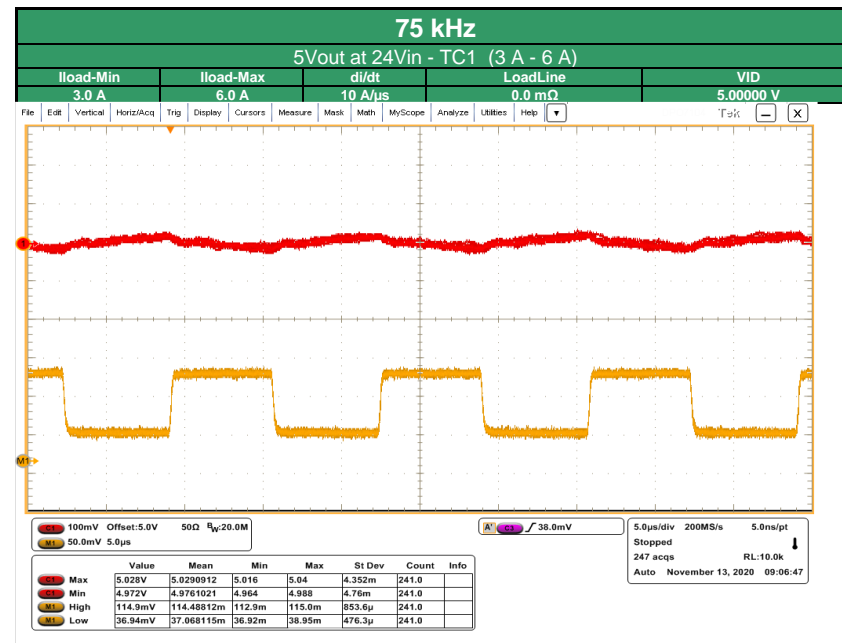
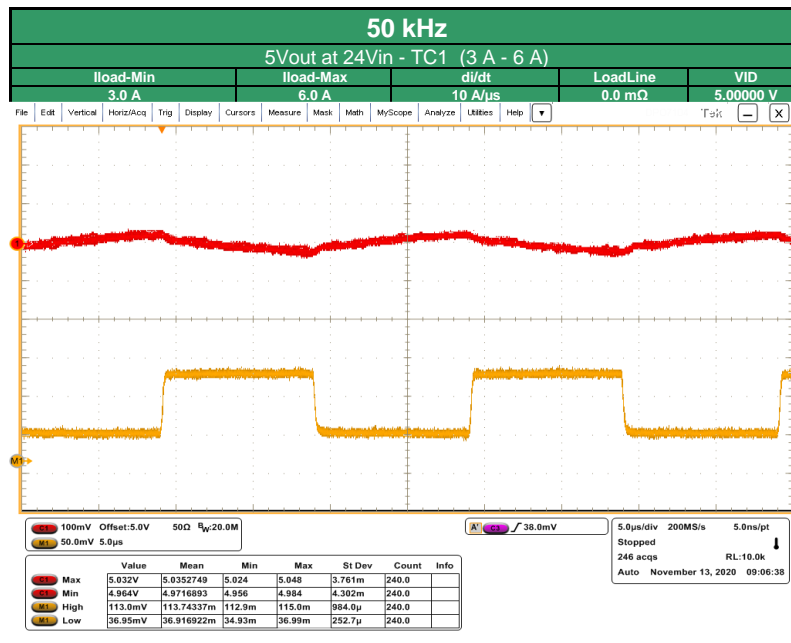
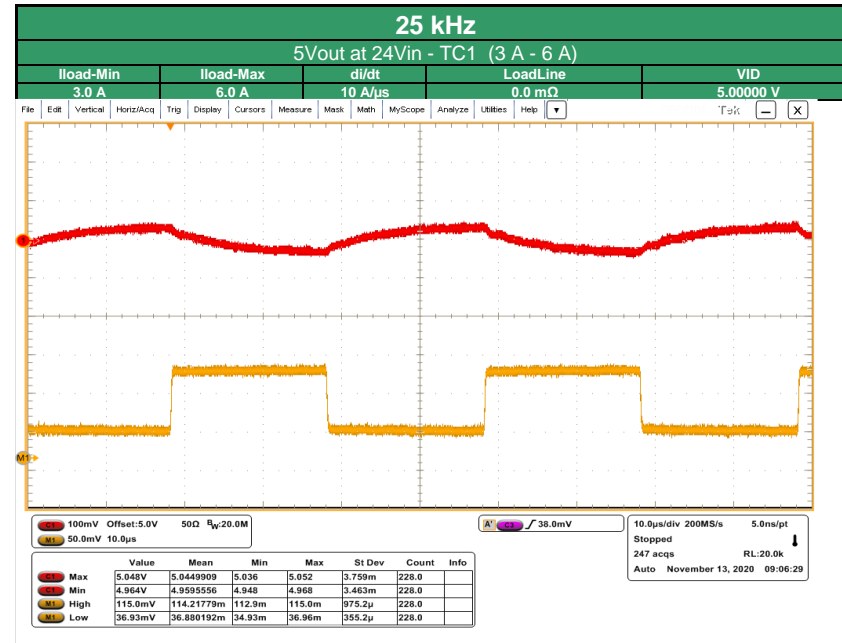
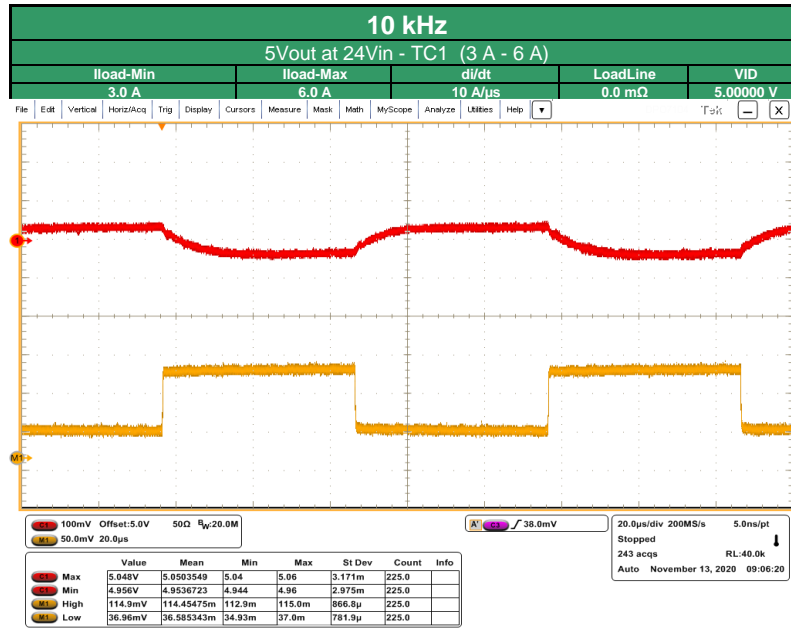
Transient Load Testing at 5Vout at 24Vin - TC1 - HIGH Load Test



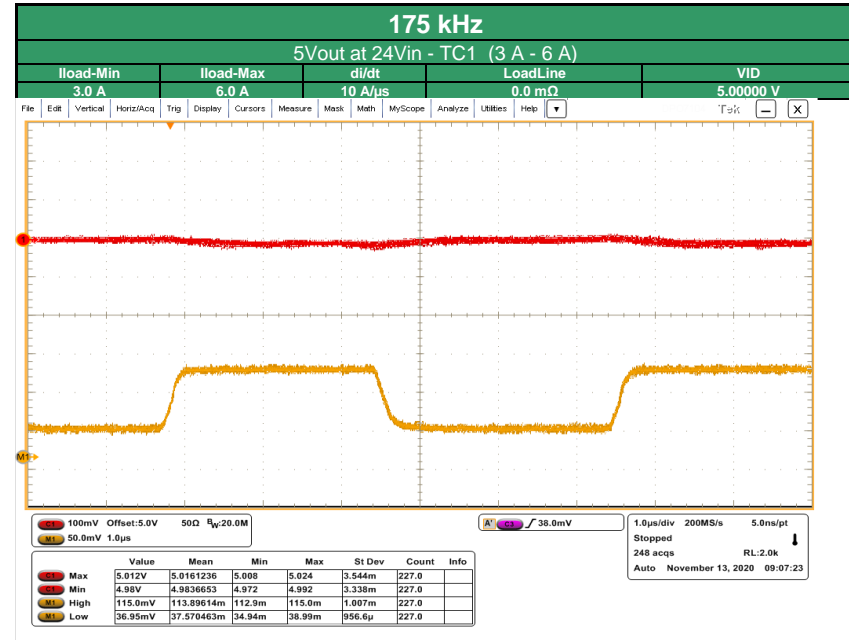
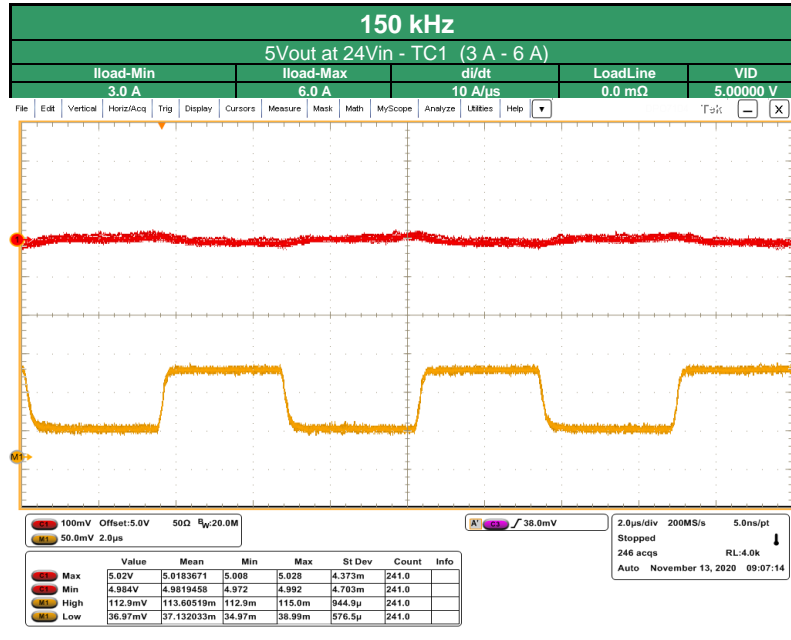
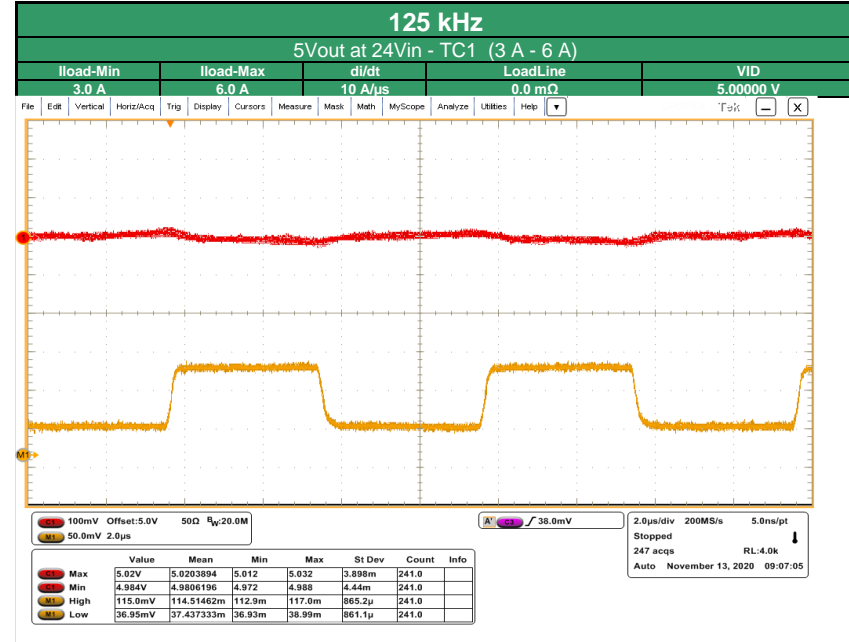
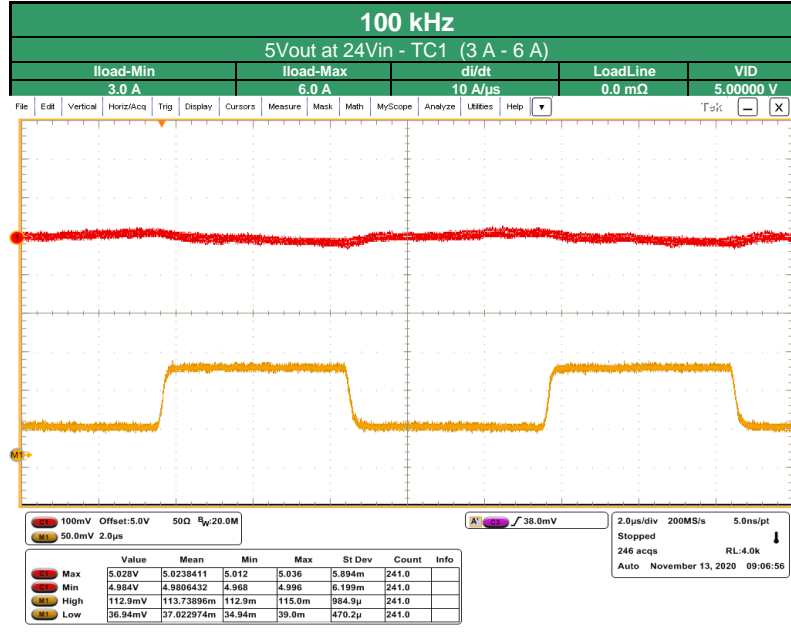
Transient Load Testing at 5Vout at 24Vin - TC1 - HIGH Load Test



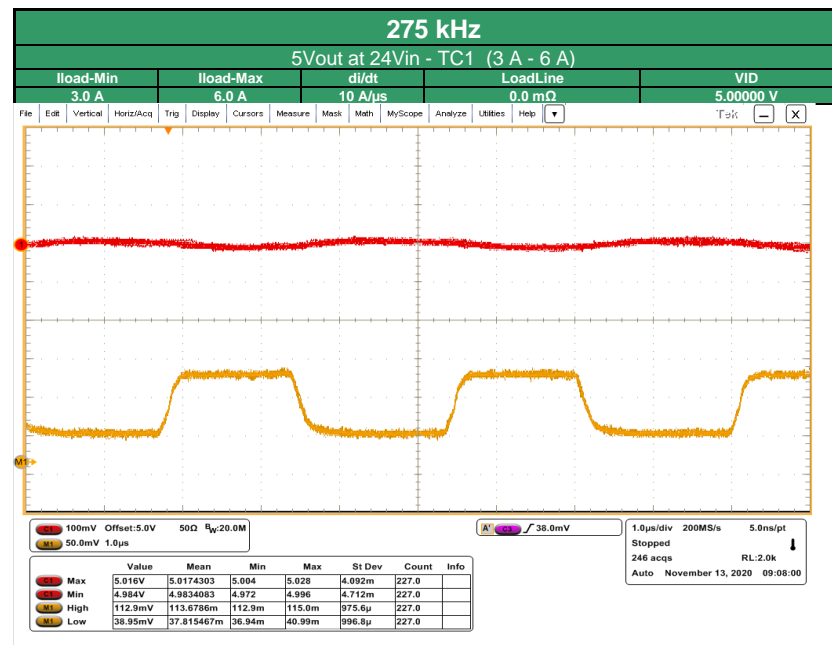
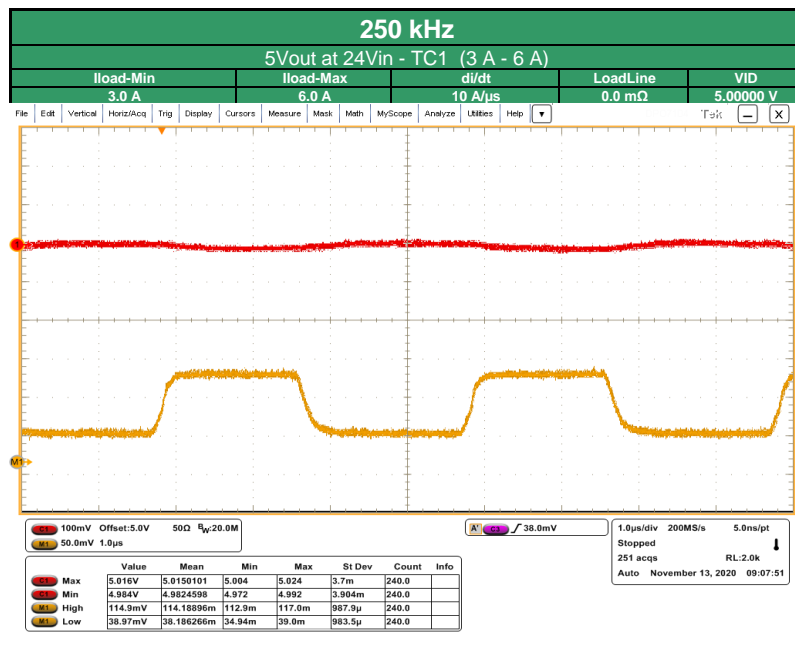
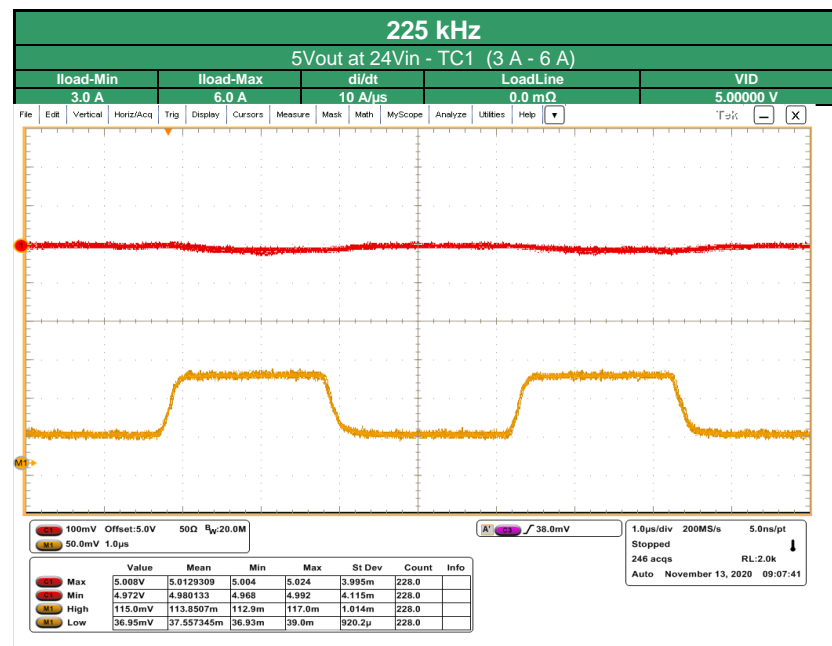
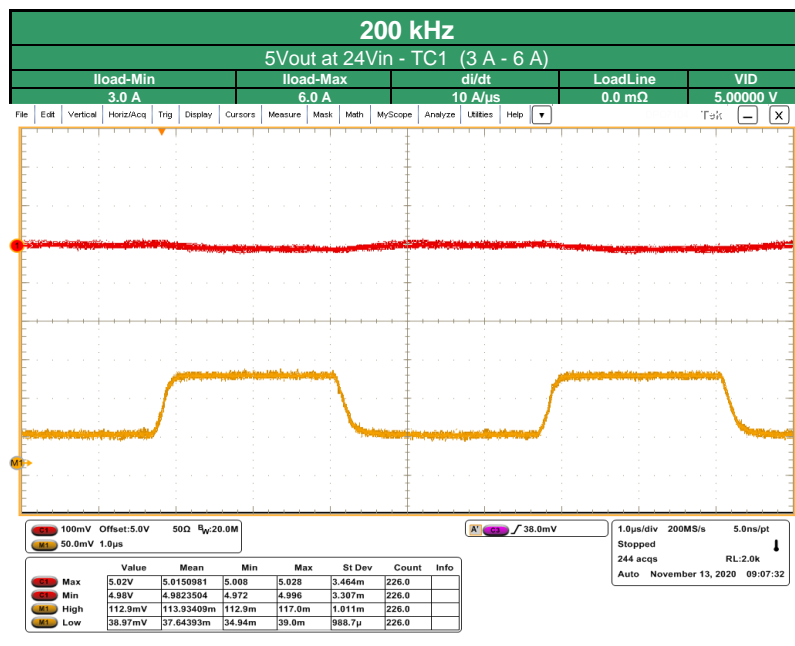
Transient Load Testing at 5Vout at 24Vin - TC1 - HIGH Load Test



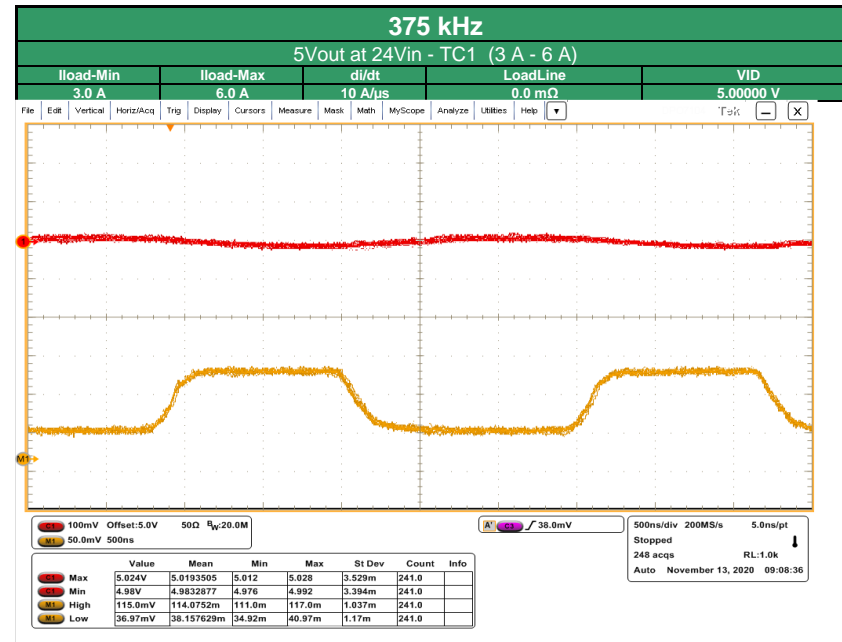
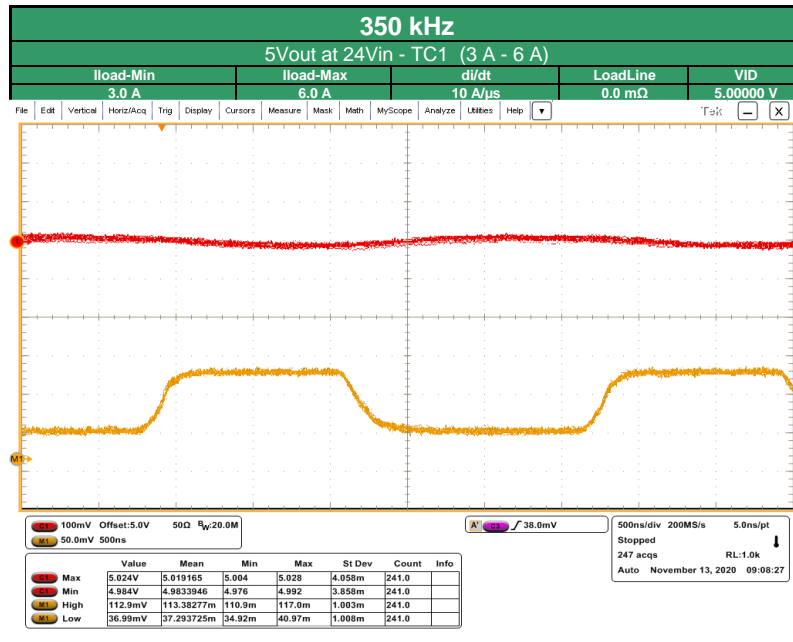
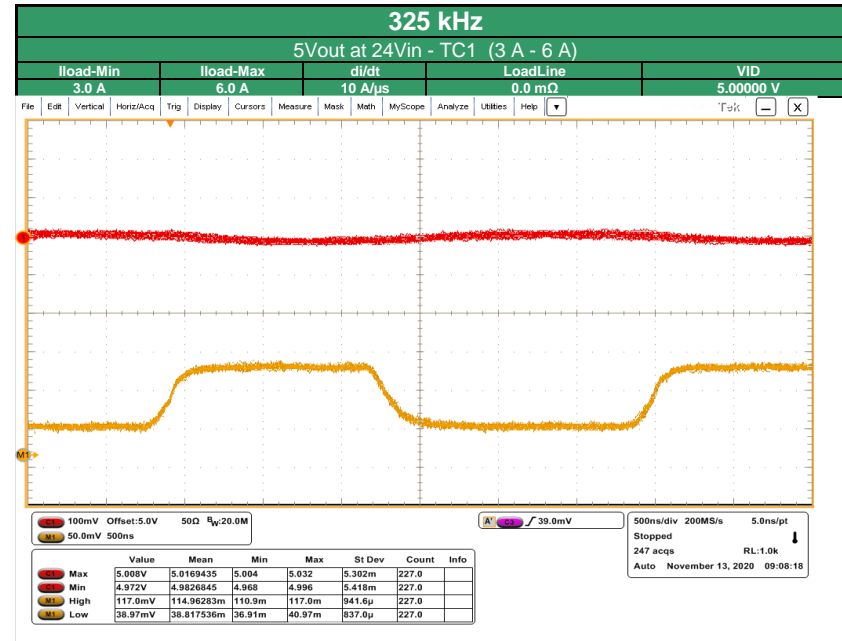
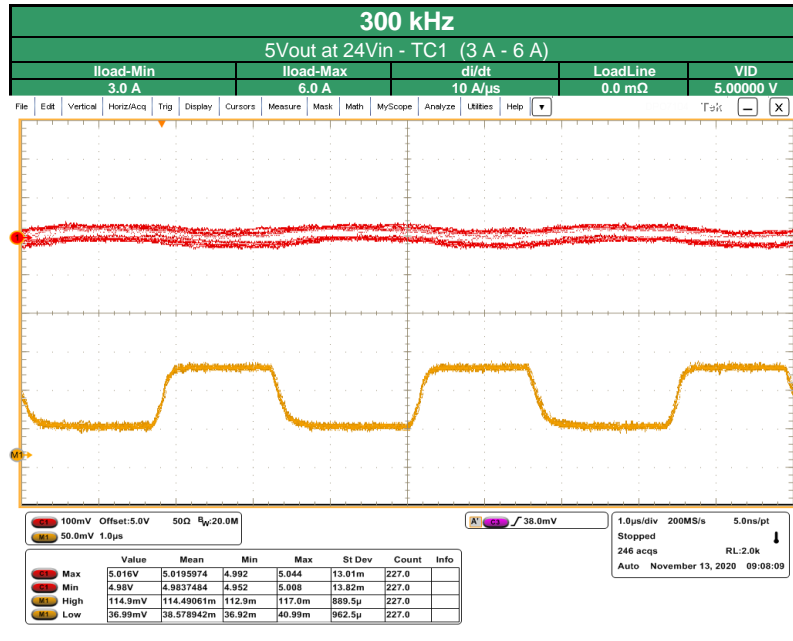
Transient Load Testing at 5Vout at 24Vin - TC1 - HIGH Load Test



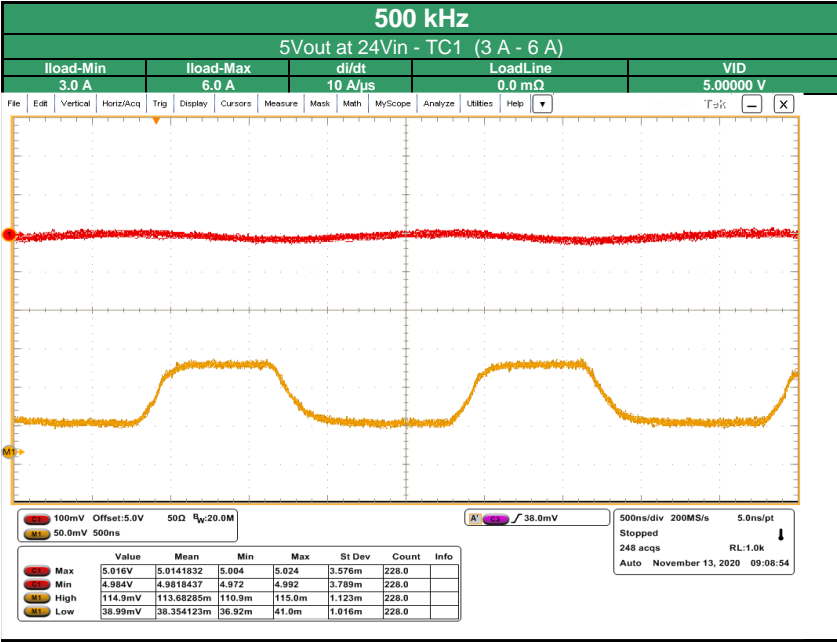
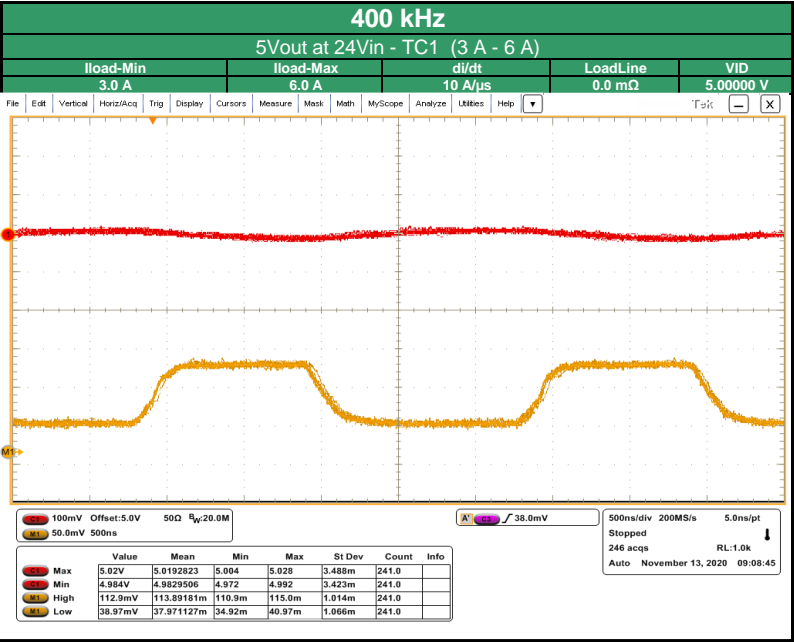
Transient Load Testing at 5Vout at 24Vin - TC1 - HIGH Load Test



Transient Load Testing at 5Vout at 24Vin - TC1 - HIGH Load Test



Transient Load Testing at 5Vout at 24Vin - TC1 - HIGH Load Test



Transient Reference Levels	4.932 V	Droop
	4.984 V	Over shoot

Results Summary				
	Meas. %	Margin	LRR	Max/Min Value
Min Droop	1.20%	115.0 mV	1.0 kHz	4.872 V
Max Overshoot	1.44%	103.0 mV	1.0 kHz	5.056 V

Transient Summary

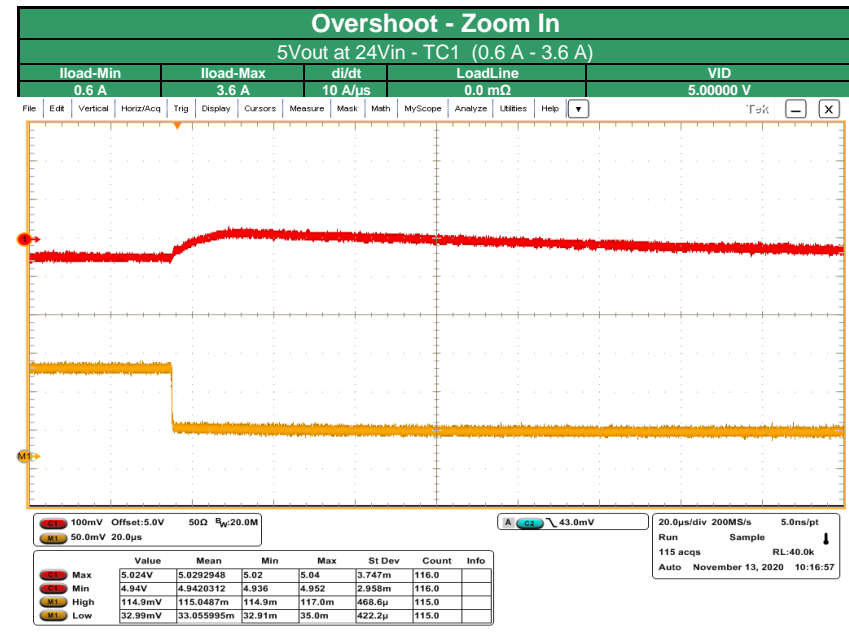
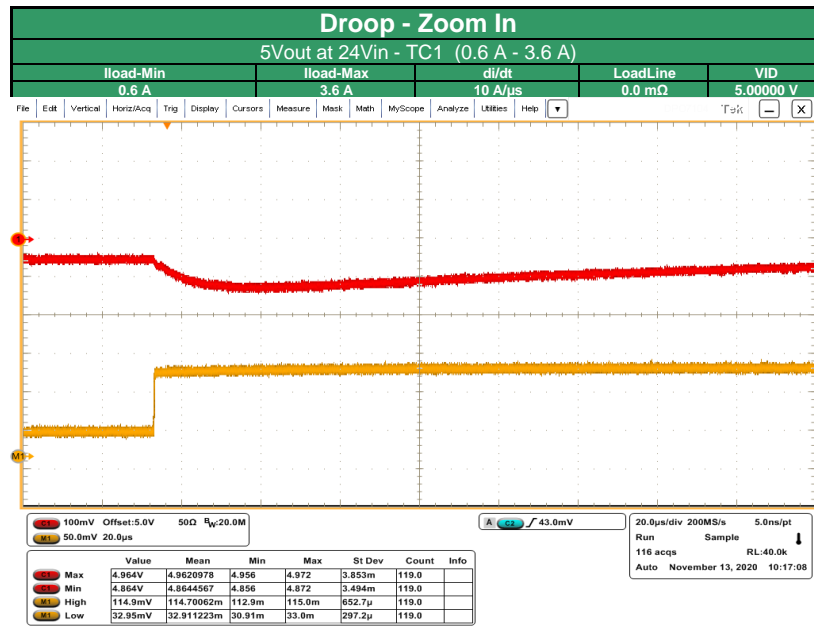
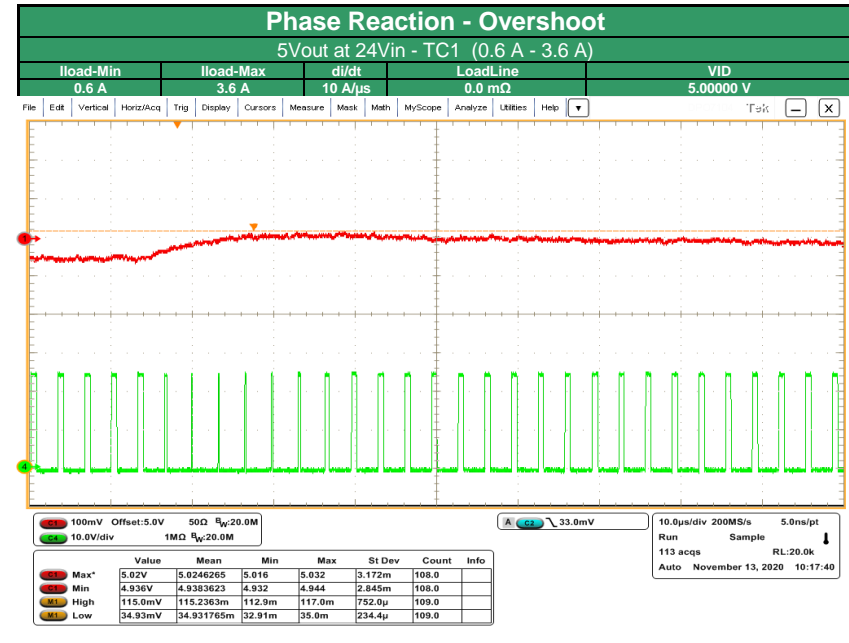
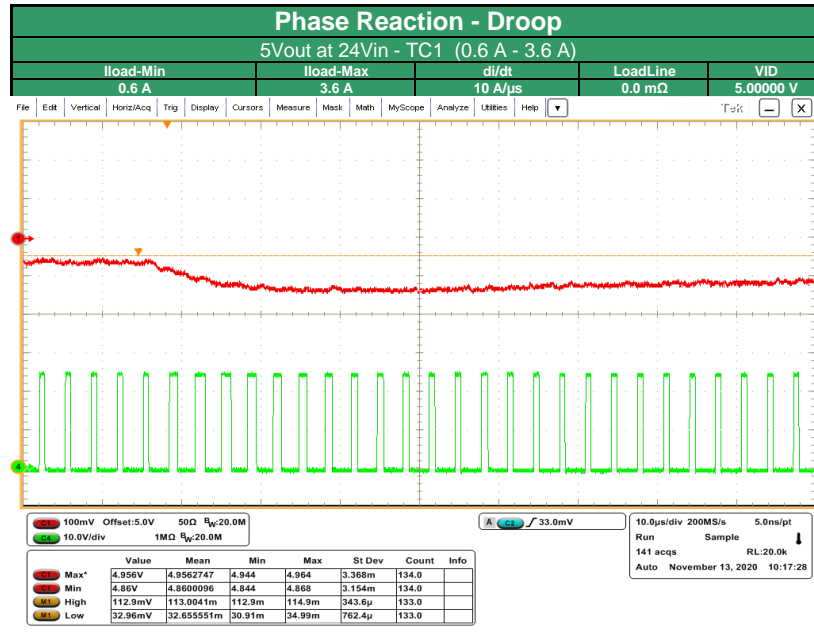
The graph displays the output voltage (V_{out}) versus the Load Frequency Rate. The Y-axis ranges from 4.700 V to 5.200 V, and the X-axis ranges from 1.0 kHz to 1000.0 kHz on a logarithmic scale.

Four data series are plotted:

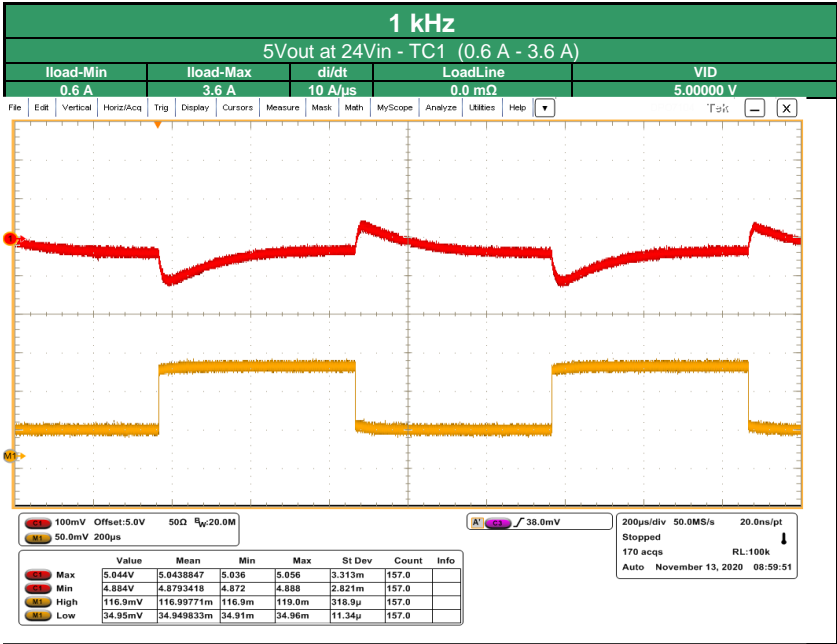
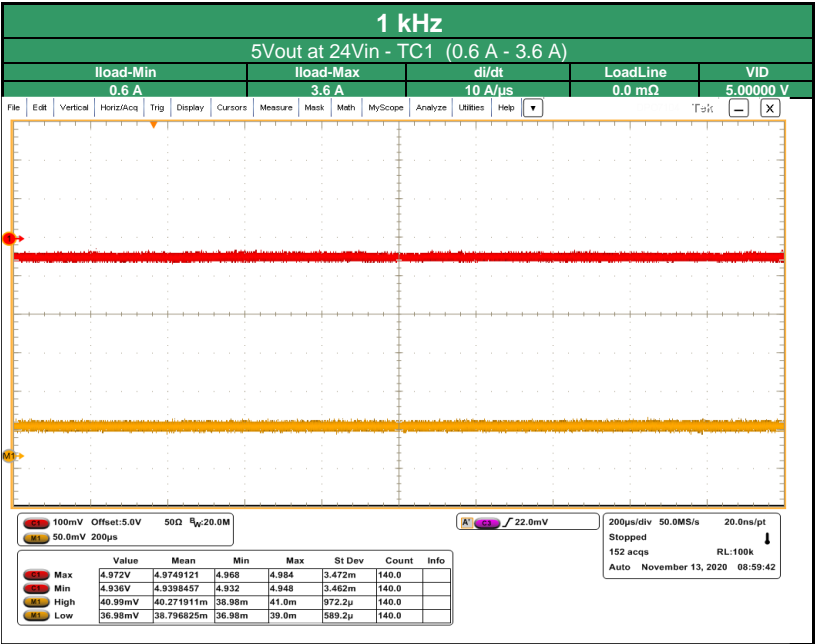
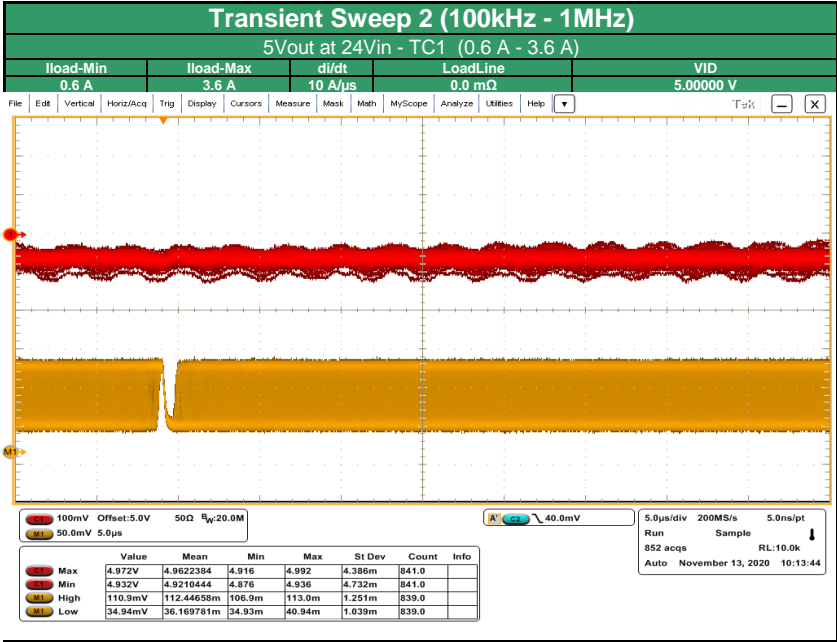
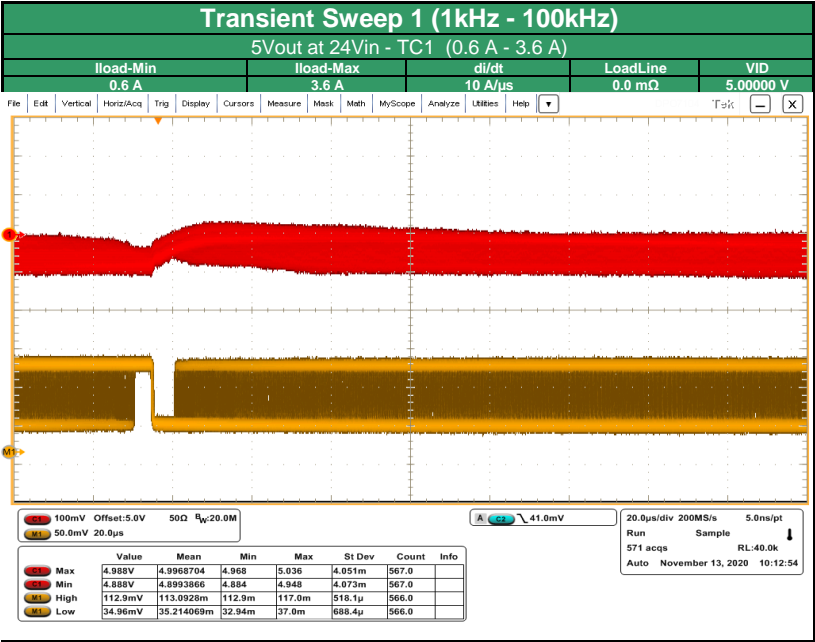
- Vout-Max** (Solid Magenta Line): Represents the maximum output voltage. It starts at approximately 5.05 V at 1.0 kHz and decreases to approximately 4.99 V at 1000.0 kHz.
- Vout-Min** (Solid Dark Blue Line): Represents the minimum output voltage. It starts at approximately 4.87 V at 1.0 kHz and increases to approximately 4.93 V at 1000.0 kHz.
- Goal Max** (Dashed Magenta Line): Represents the maximum goal voltage, which is constant at approximately 5.16 V.
- Goal Min** (Dashed Dark Blue Line): Represents the minimum goal voltage, which is constant at approximately 4.75 V.

The graph shows that the output voltage range (Vout-Max - Vout-Min) is wider than the goal range (Goal Max - Goal Min) across the entire frequency range.

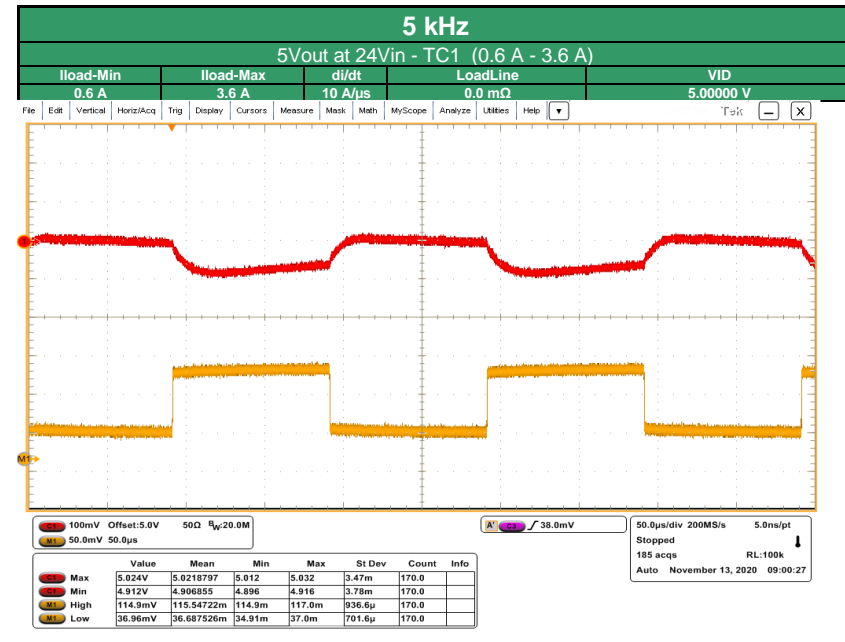
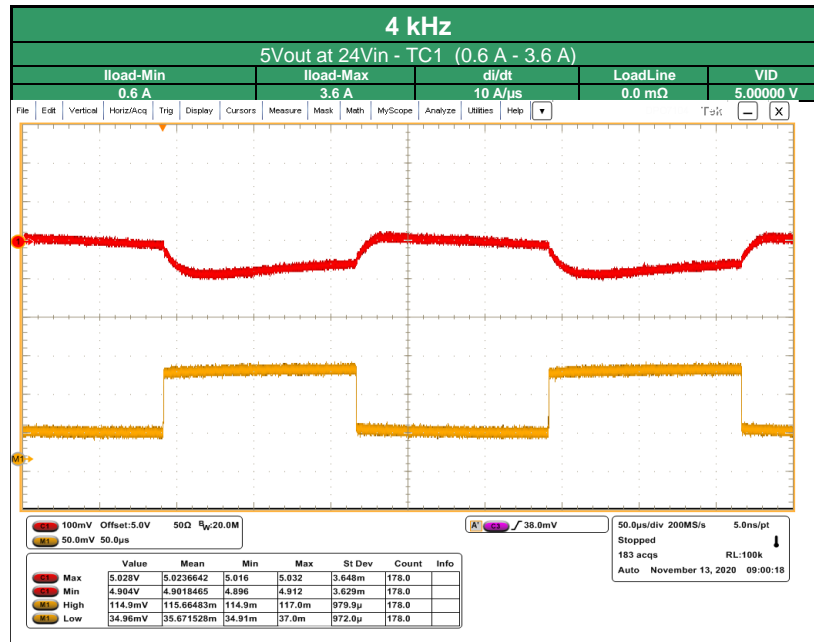
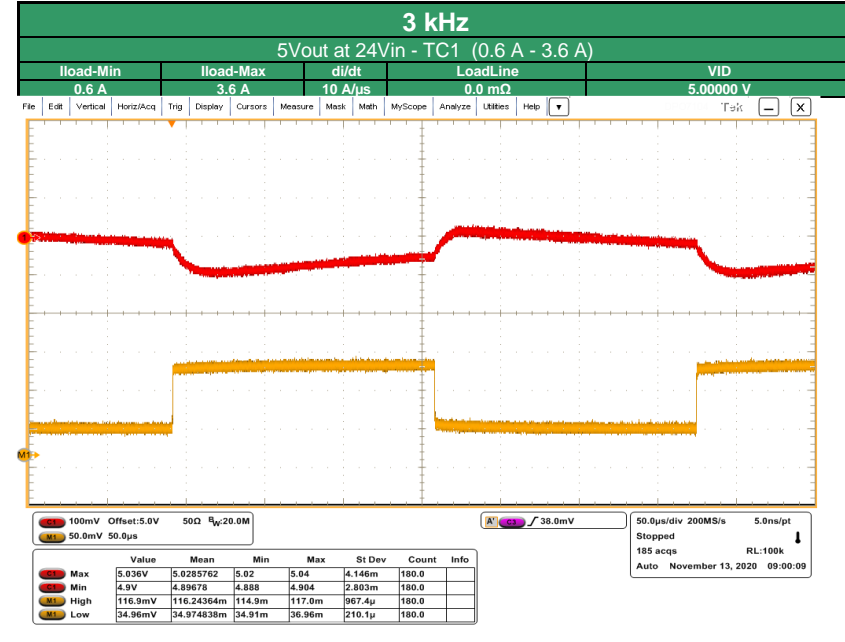
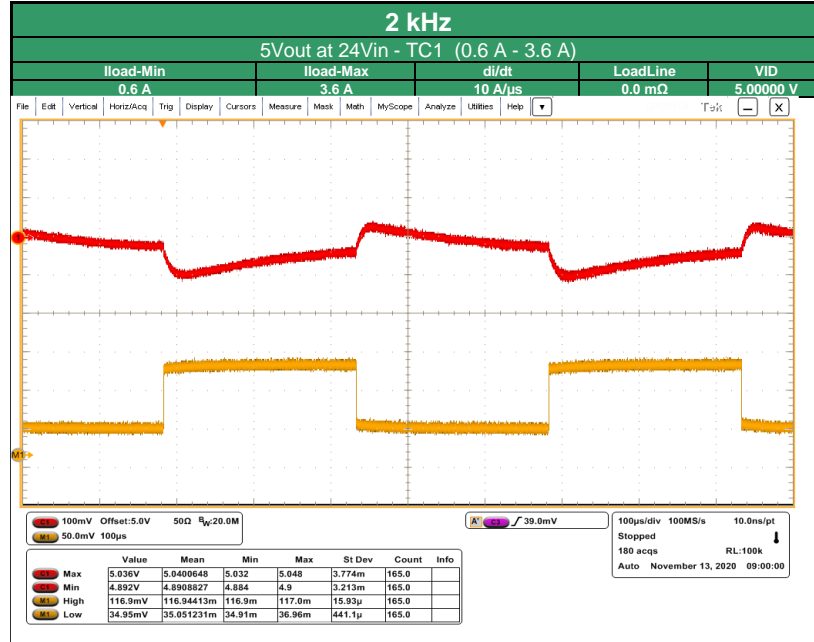
Transient Load Testing at 5Vout at 24Vin - TC1 - LOW Load Test



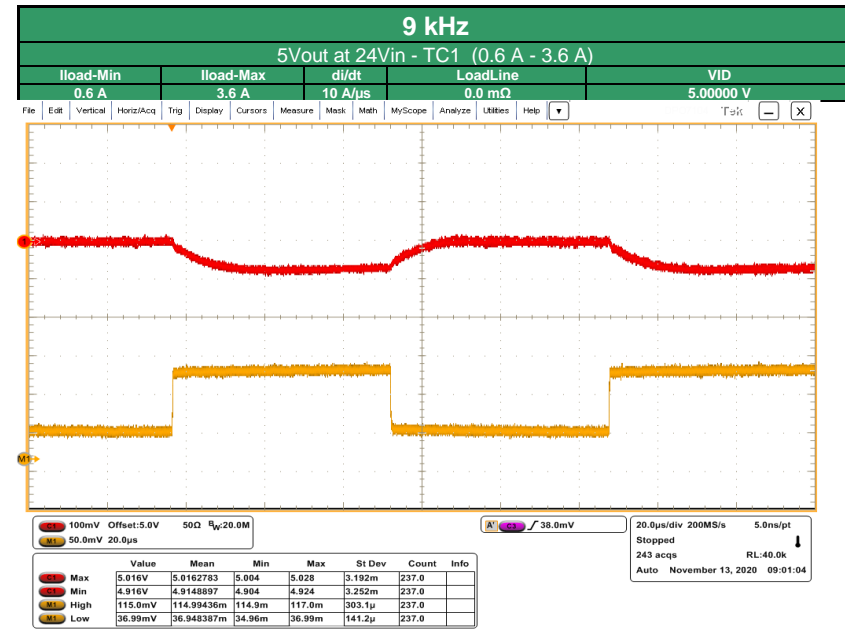
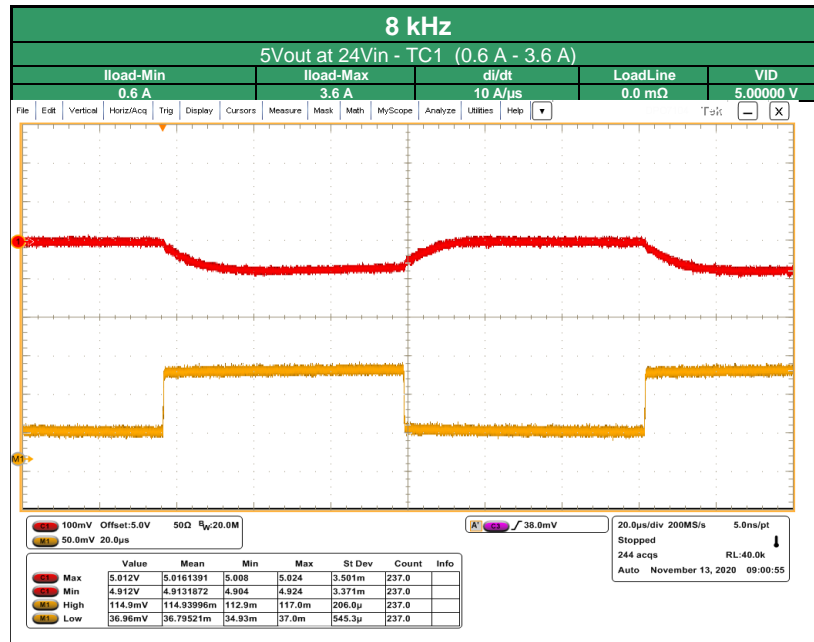
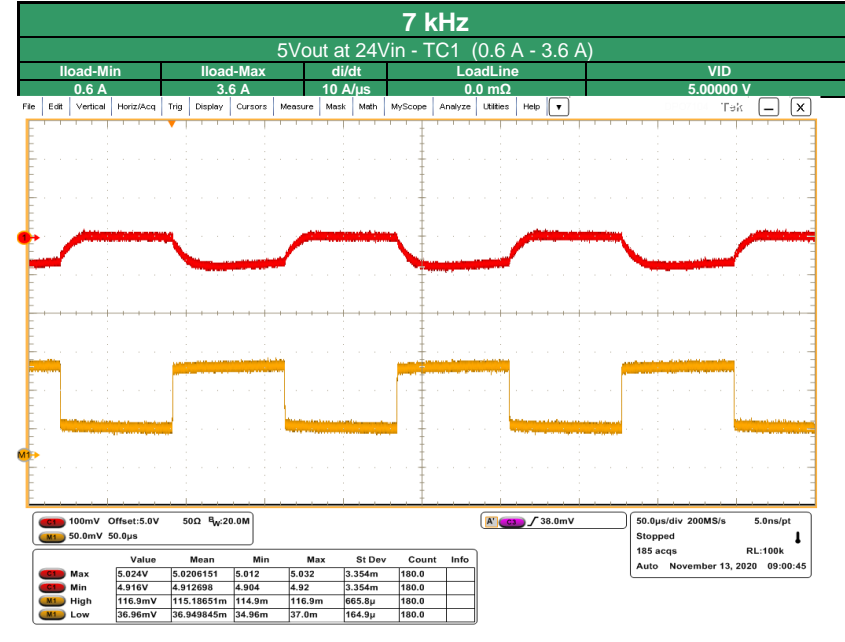
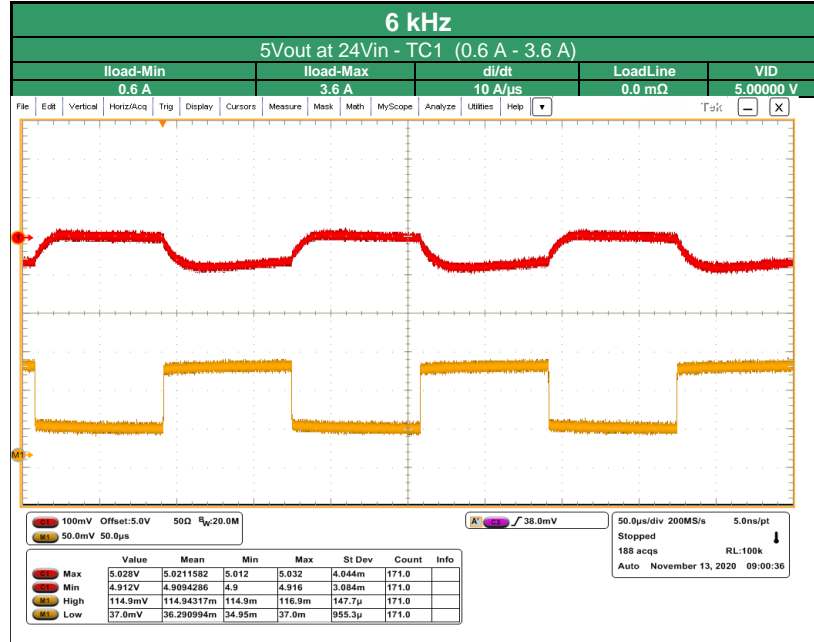
Transient Load Testing at 5Vout at 24Vin - TC1 - LOW Load Test



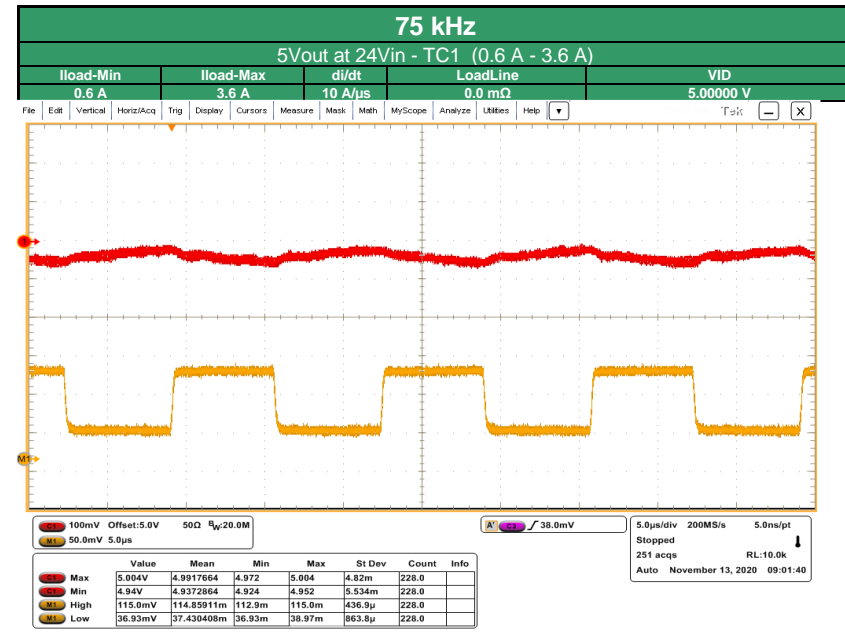
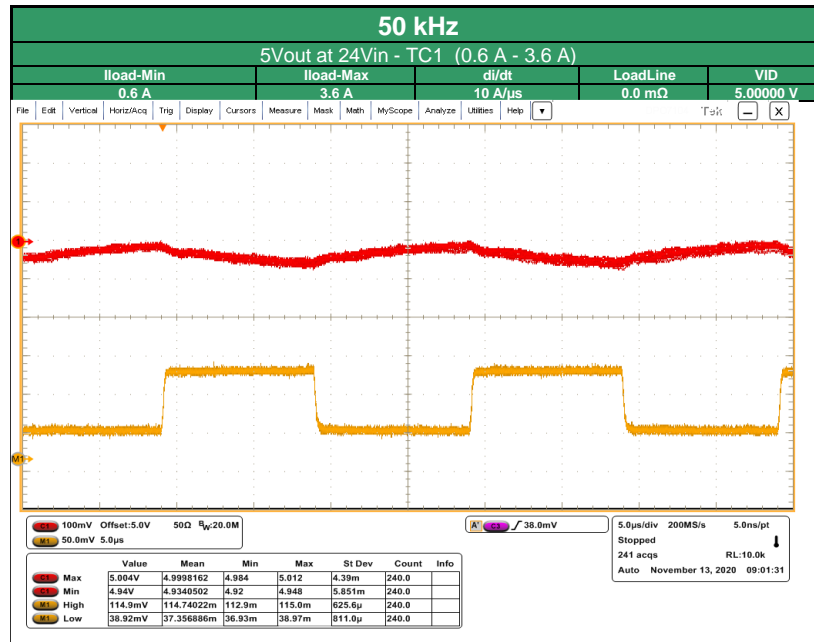
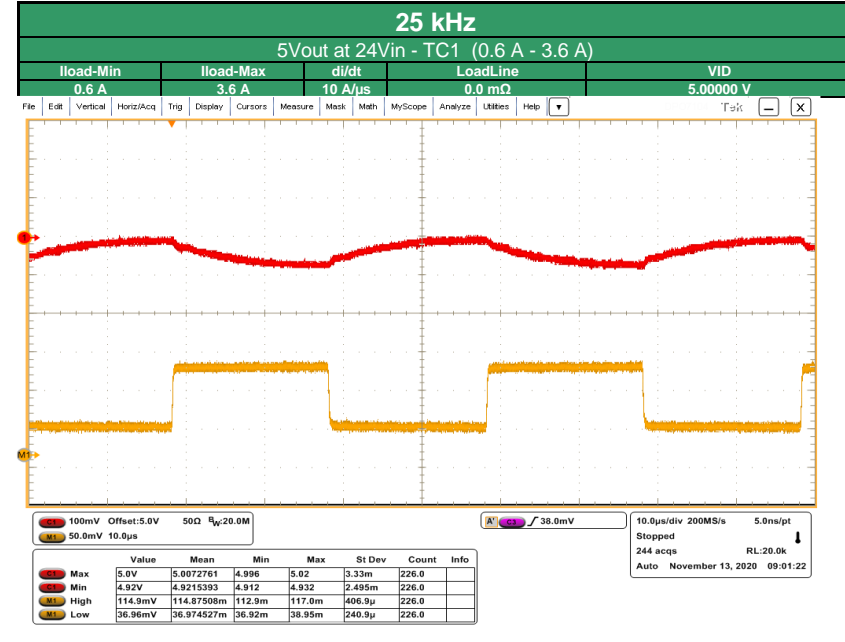
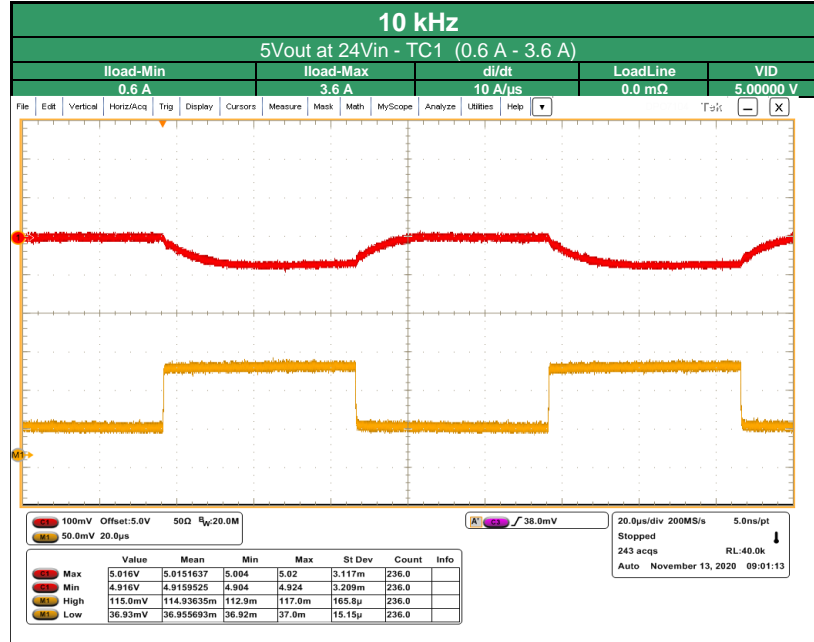
Transient Load Testing at 5Vout at 24Vin - TC1 - LOW Load Test



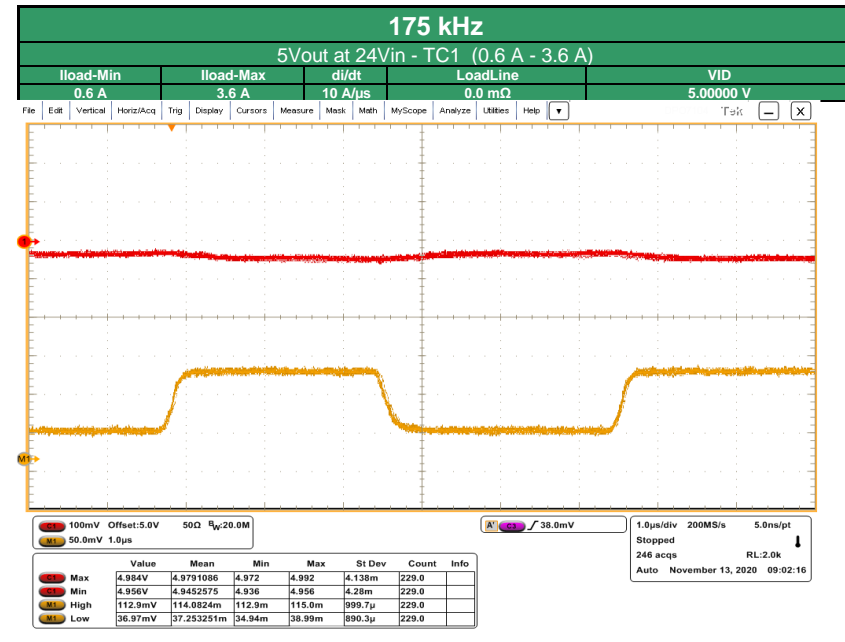
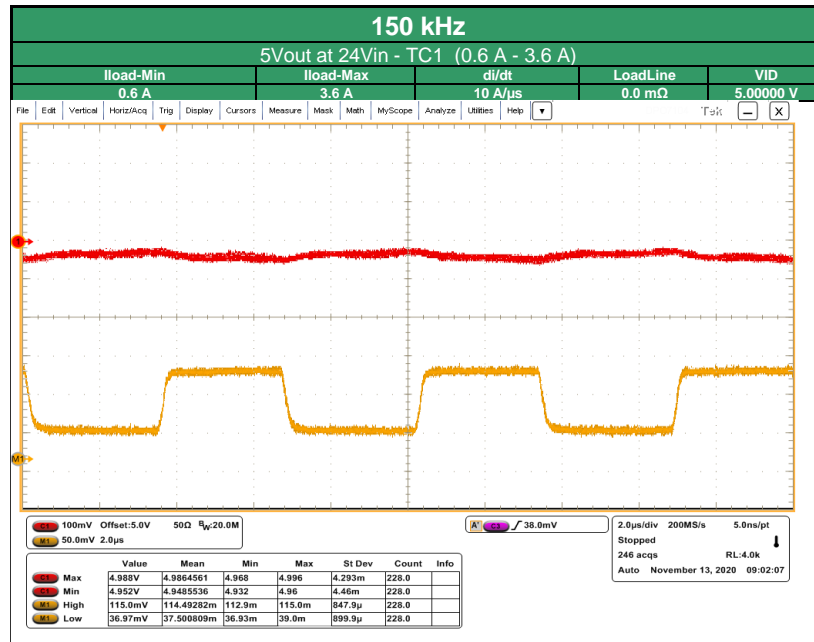
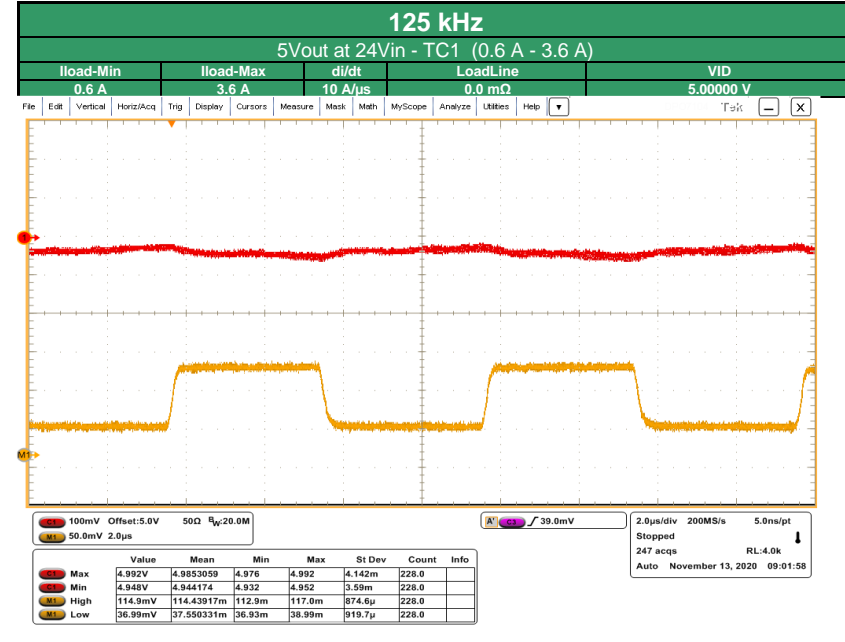
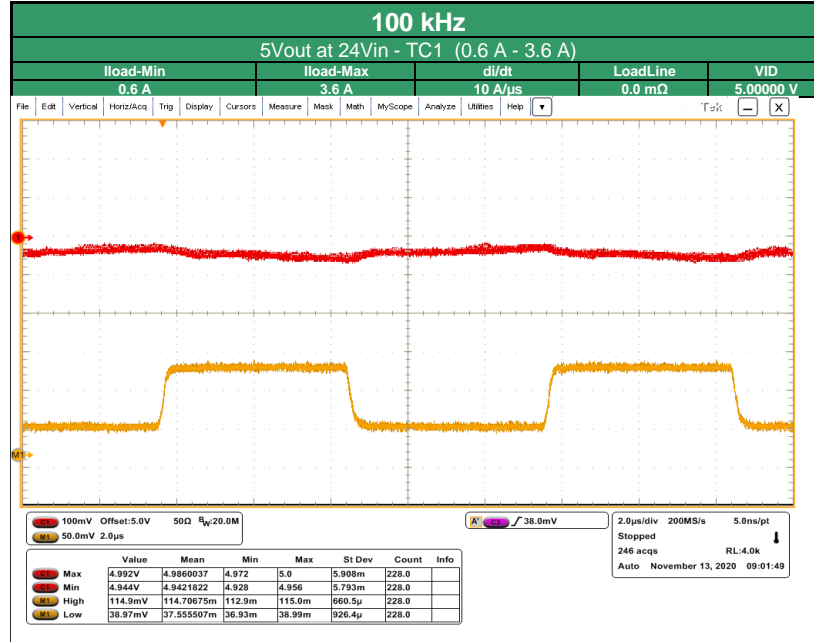
Transient Load Testing at 5Vout at 24Vin - TC1 - LOW Load Test



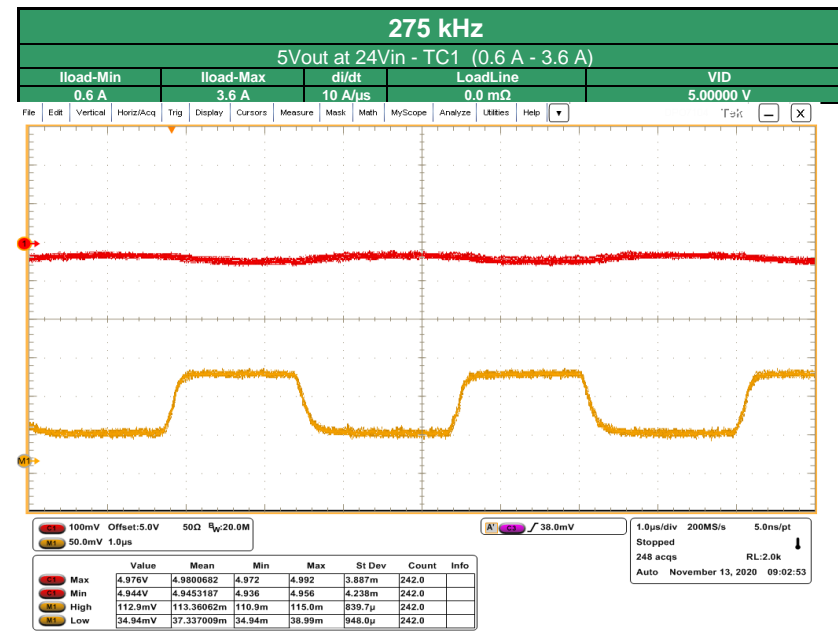
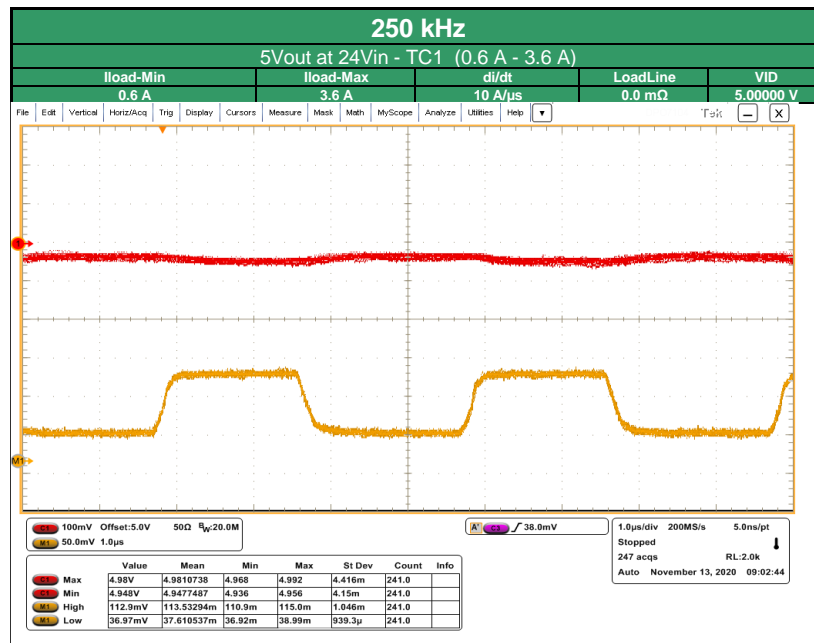
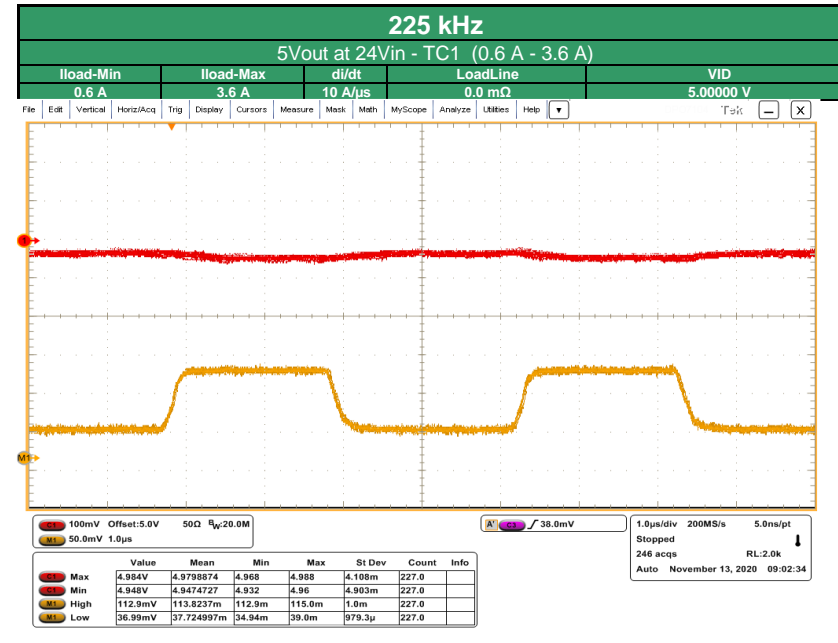
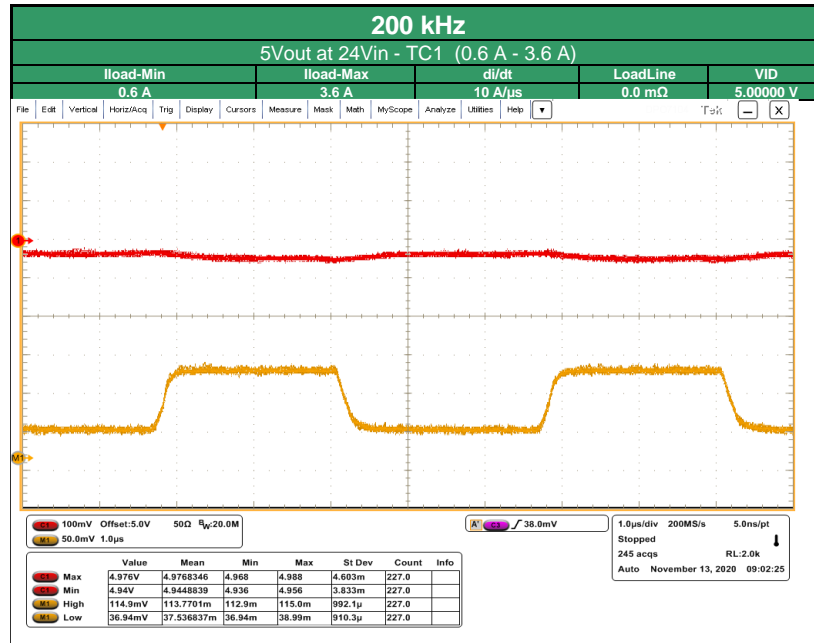
Transient Load Testing at 5Vout at 24Vin - TC1 - LOW Load Test



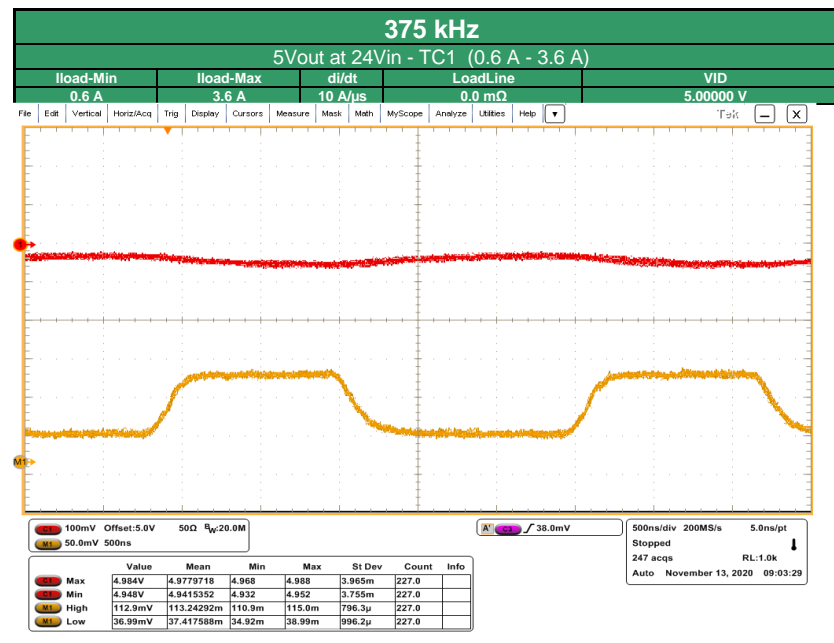
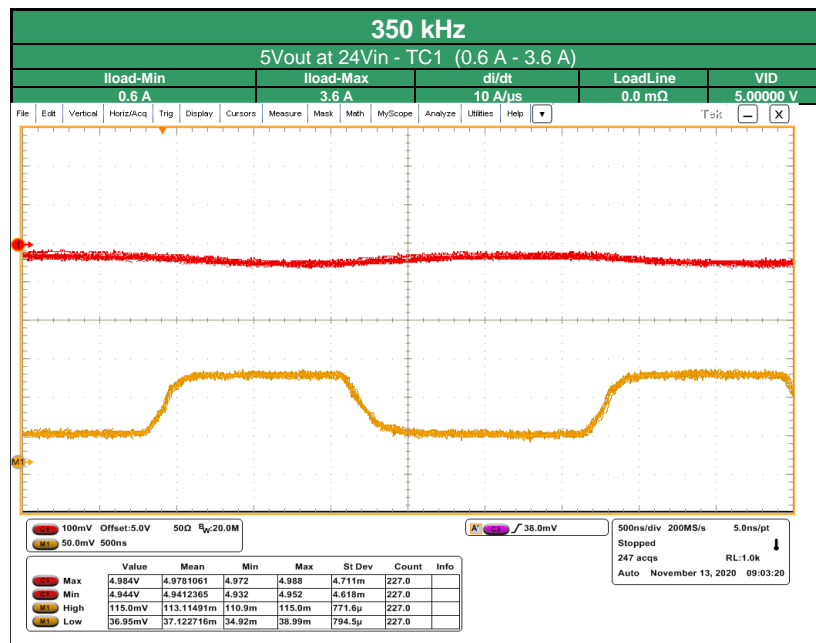
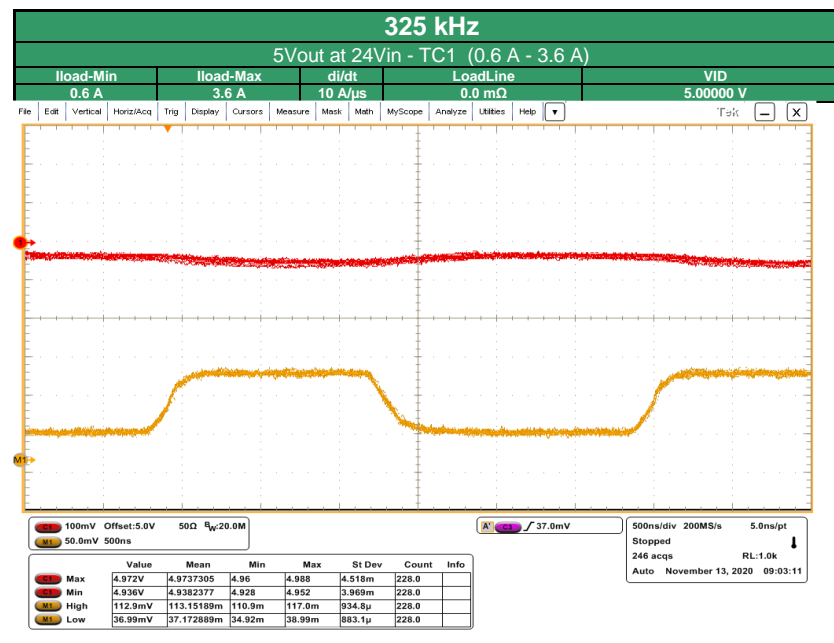
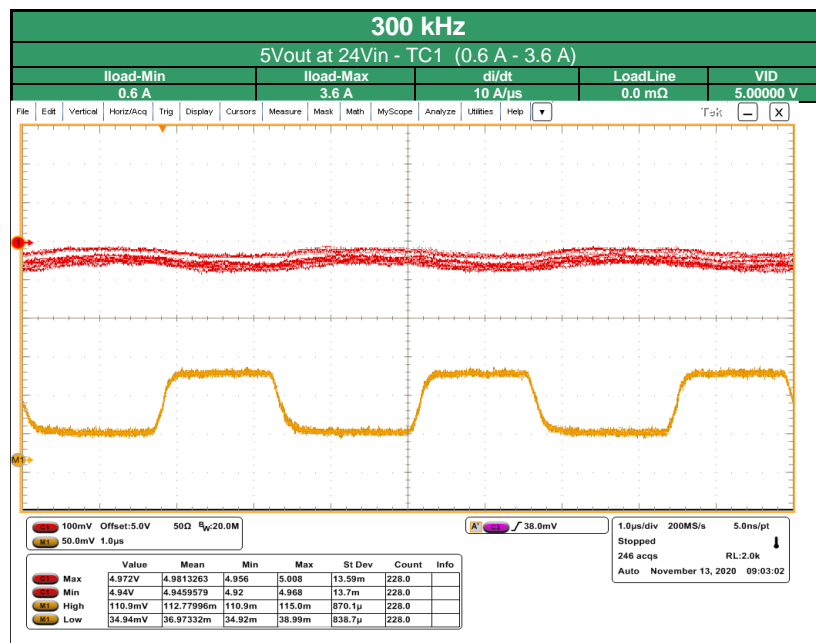
Transient Load Testing at 5Vout at 24Vin - TC1 - LOW Load Test



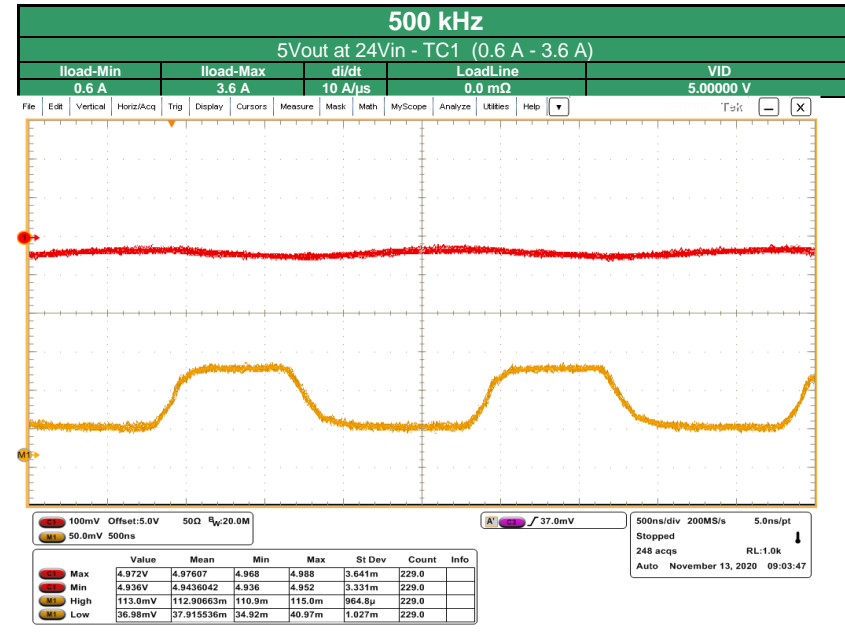
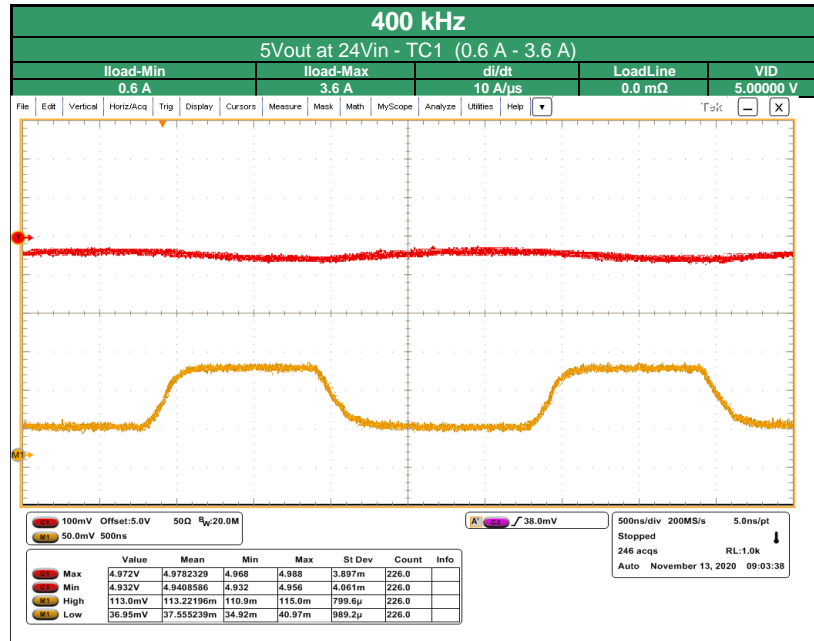
Transient Load Testing at 5Vout at 24Vin - TC1 - LOW Load Test



Transient Load Testing at 5Vout at 24Vin - TC1 - LOW Load Test



Transient Load Testing at 5Vout at 24Vin - TC1 - LOW Load Test



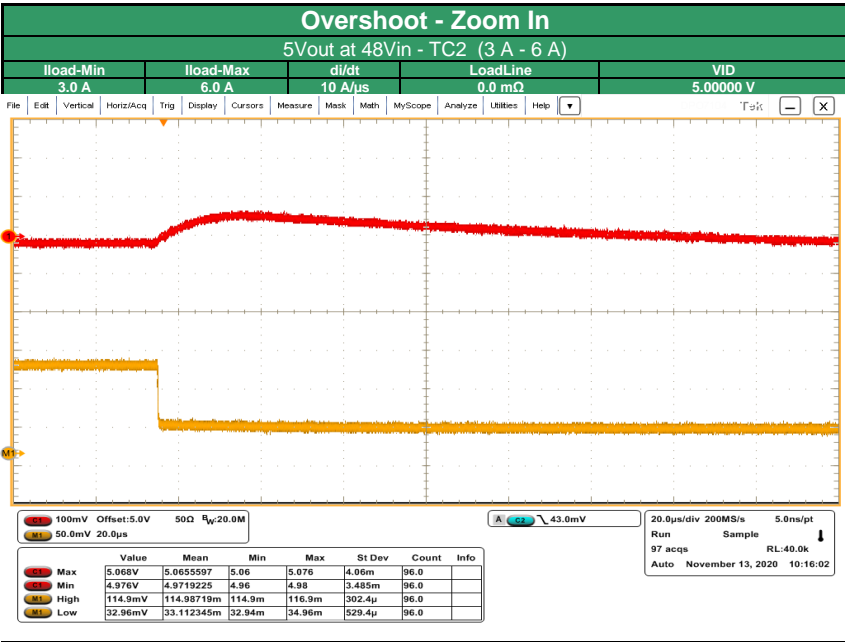
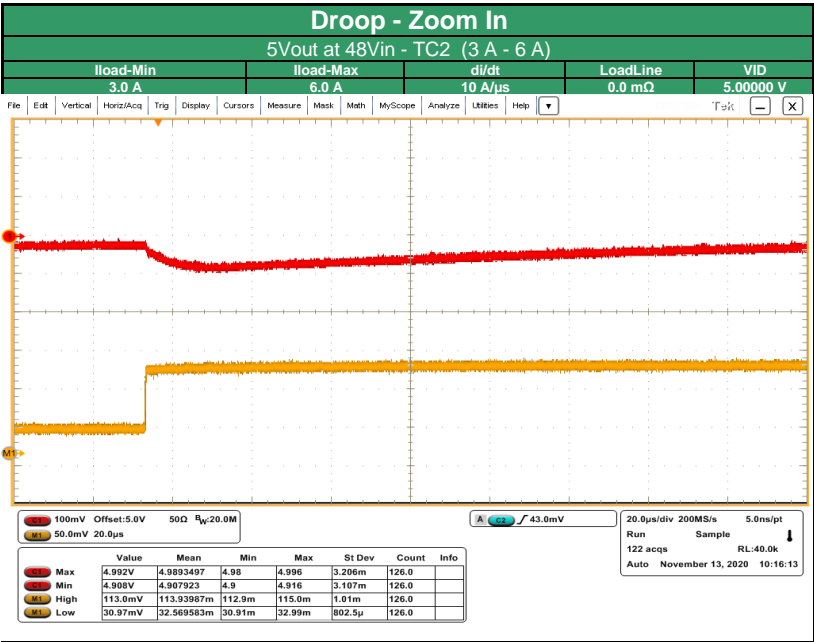
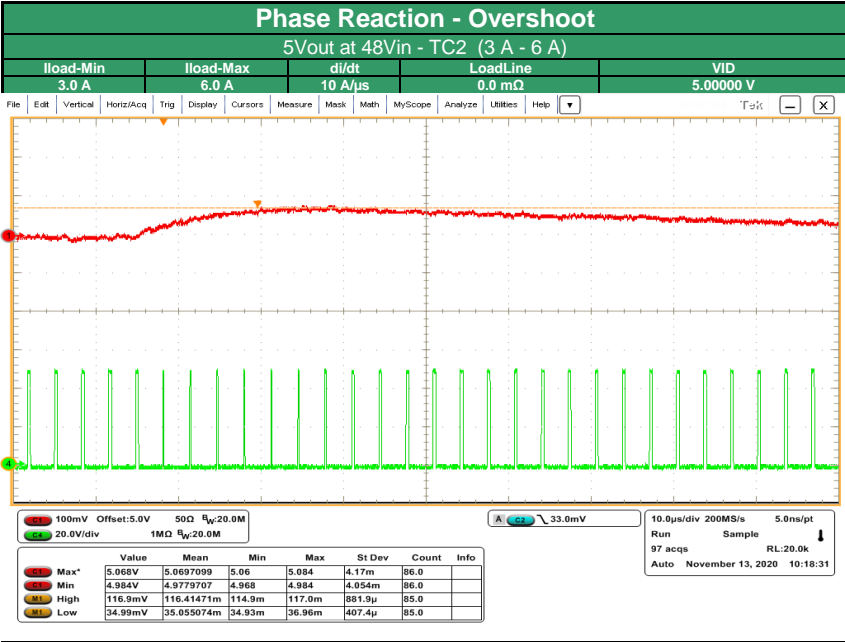
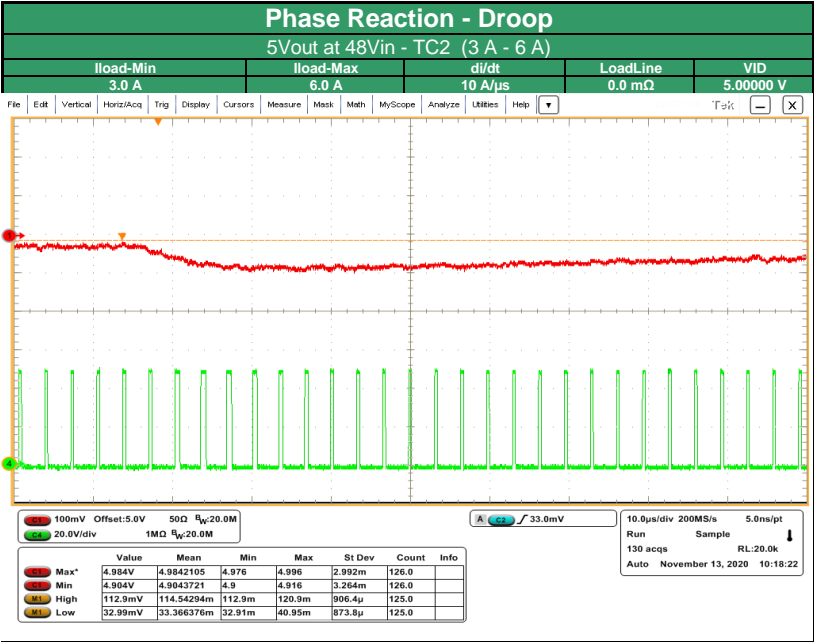
Transient Reference Levels	4.972 V	Droop
	5.020 V	Over shoot

Results Summary				
	Meas. %	Margin	LRR	Max/Min Value
Min Droop	0.96%	127.0 mV	1.0 kHz	4.924 V
Max Overshoot	1.68%	91.0 mV	1.0 kHz	5.104 V

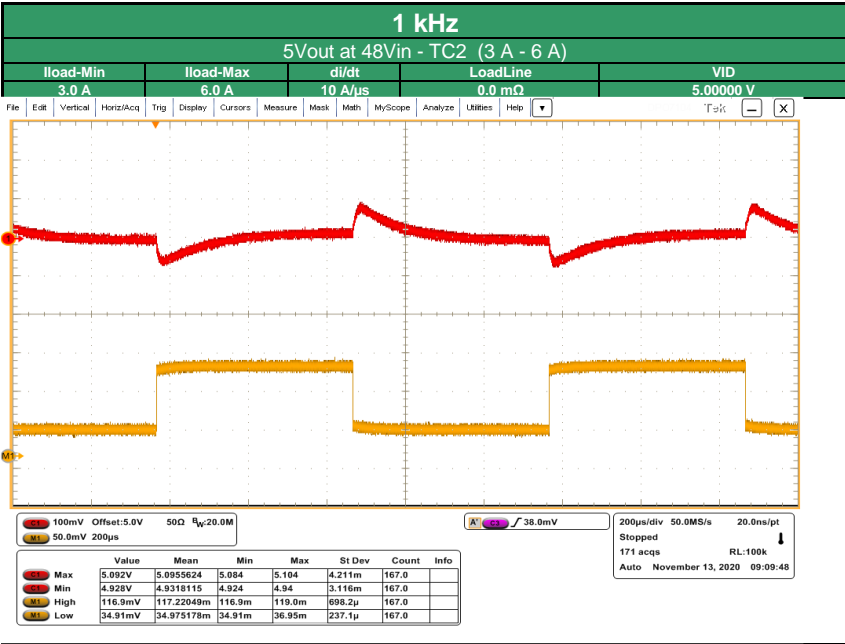
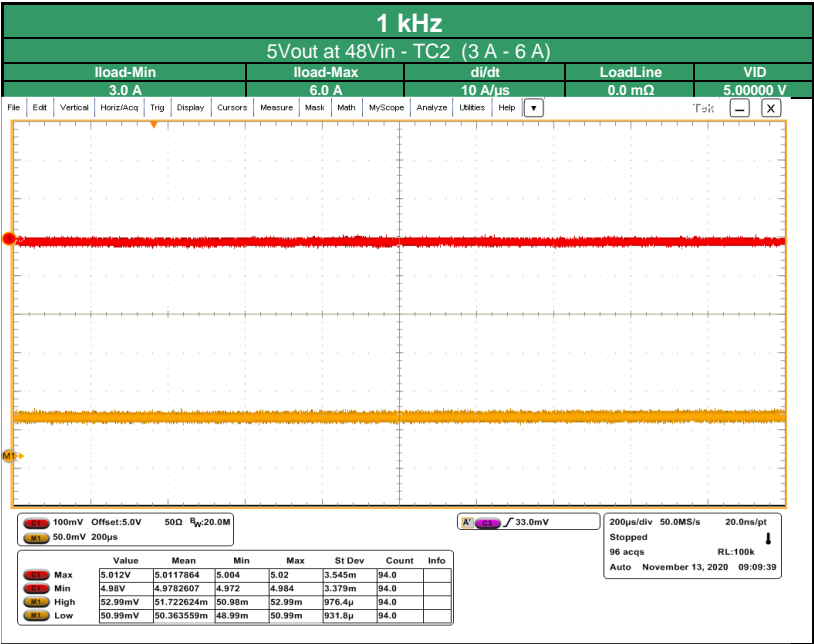
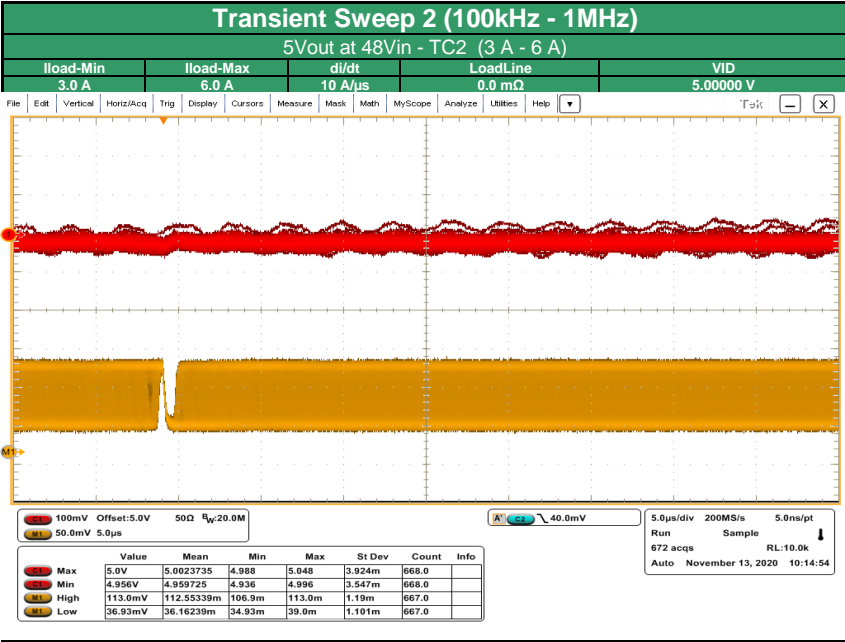
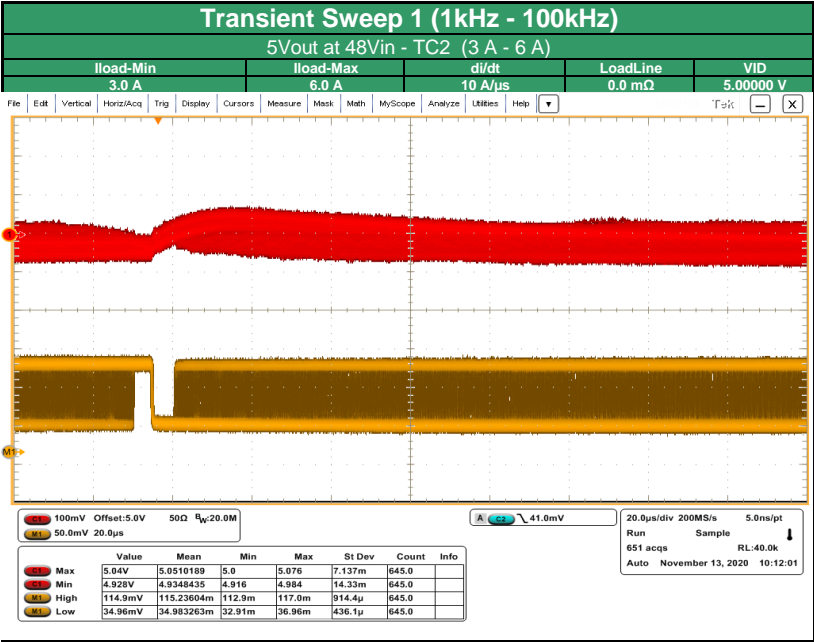
Transient Summary

Load Frequency Rate (kHz)	Vout-Max (V)	Vout-Min (V)	Goal Max (V)	Goal Min (V)
1.0	5.11	4.92	5.20	4.80
10.0	5.08	4.96	5.20	4.80
100.0	5.05	4.98	5.20	4.80
1000.0	5.04	4.99	5.20	4.80

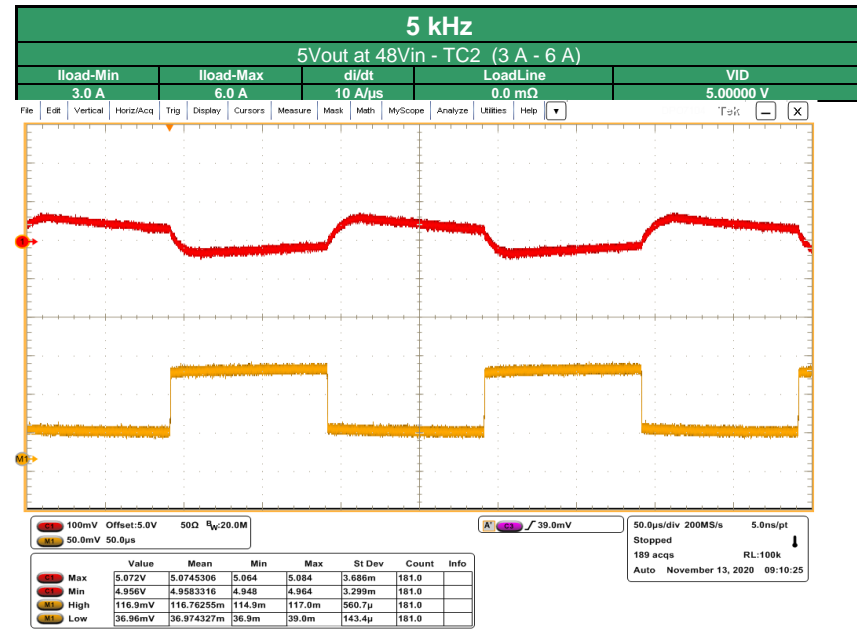
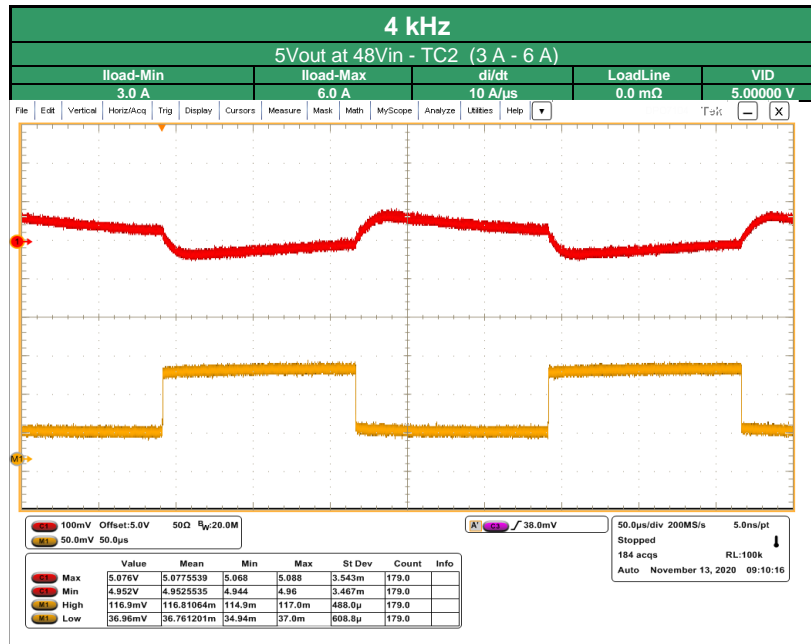
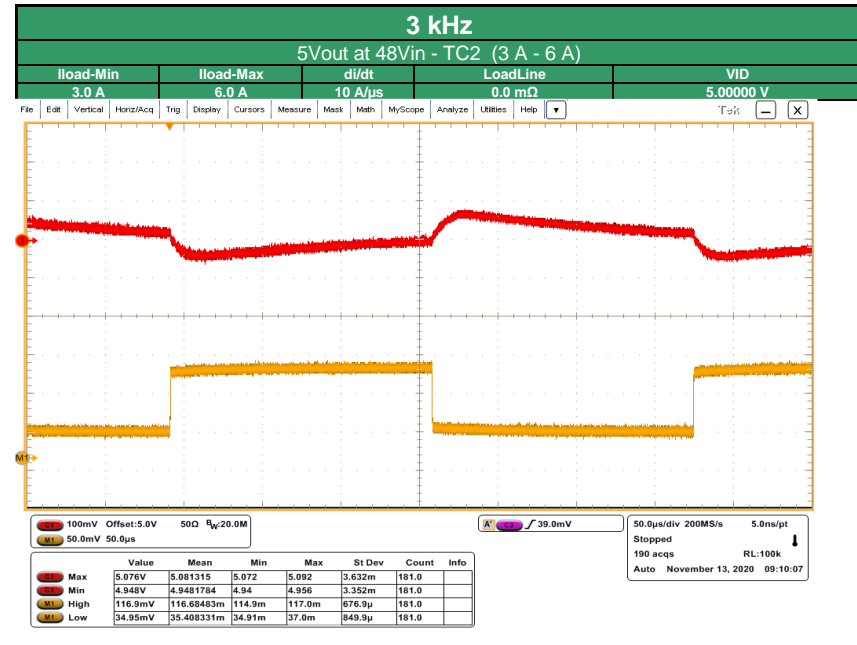
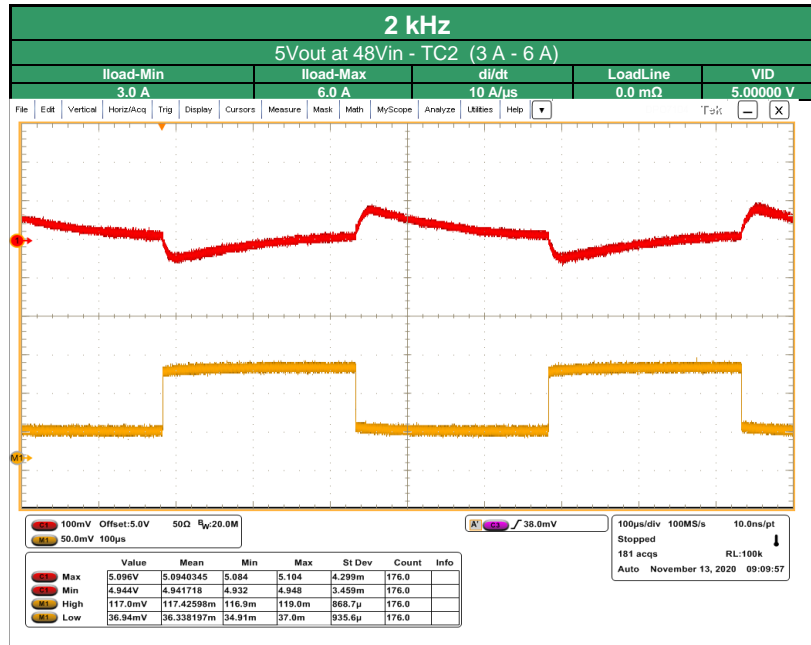
Transient Load Testing at 5Vout at 48Vin - TC2 - HIGH Load Test



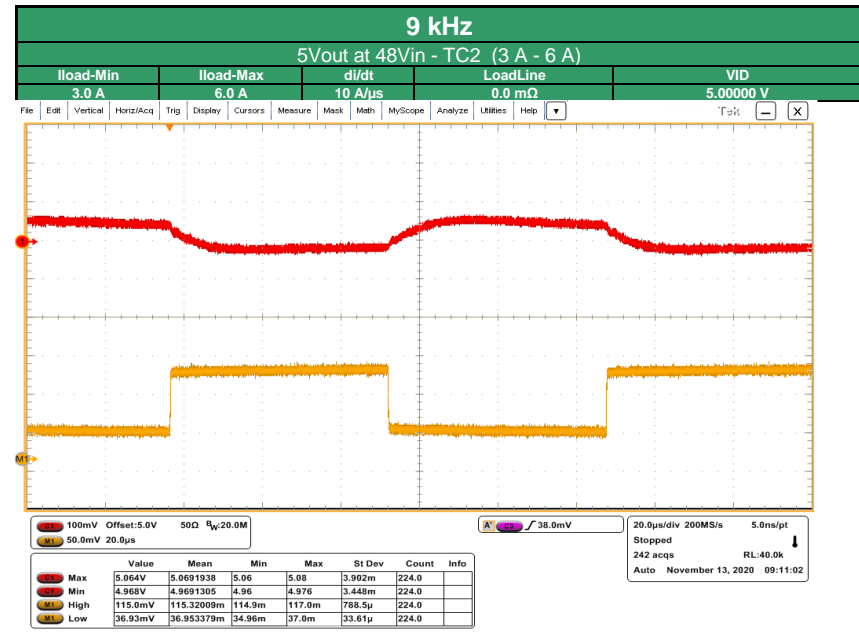
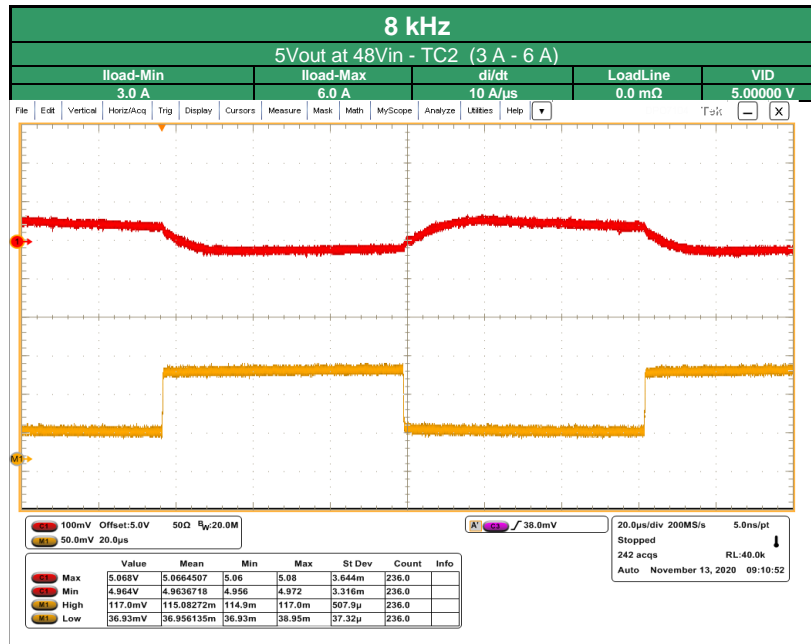
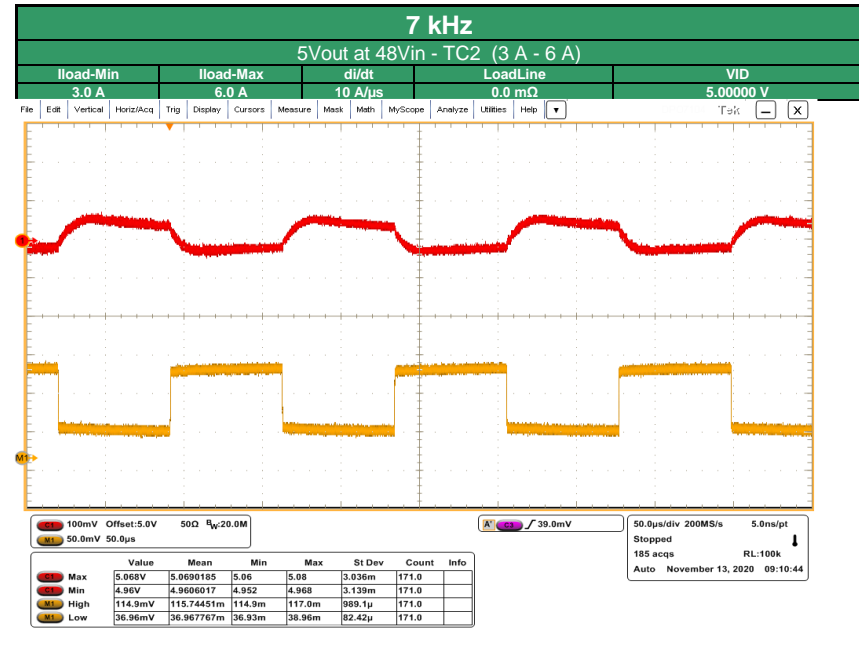
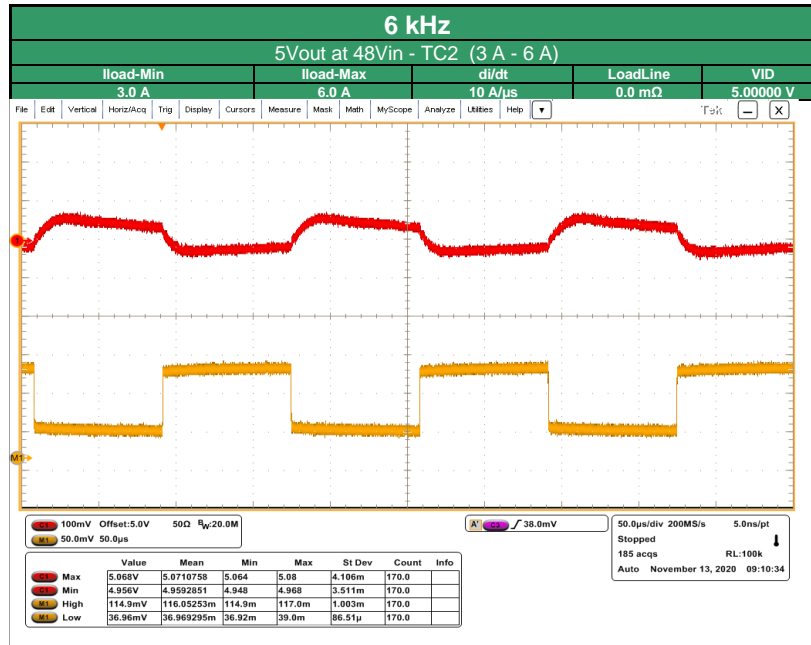
Transient Load Testing at 5Vout at 48Vin - TC2 - HIGH Load Test



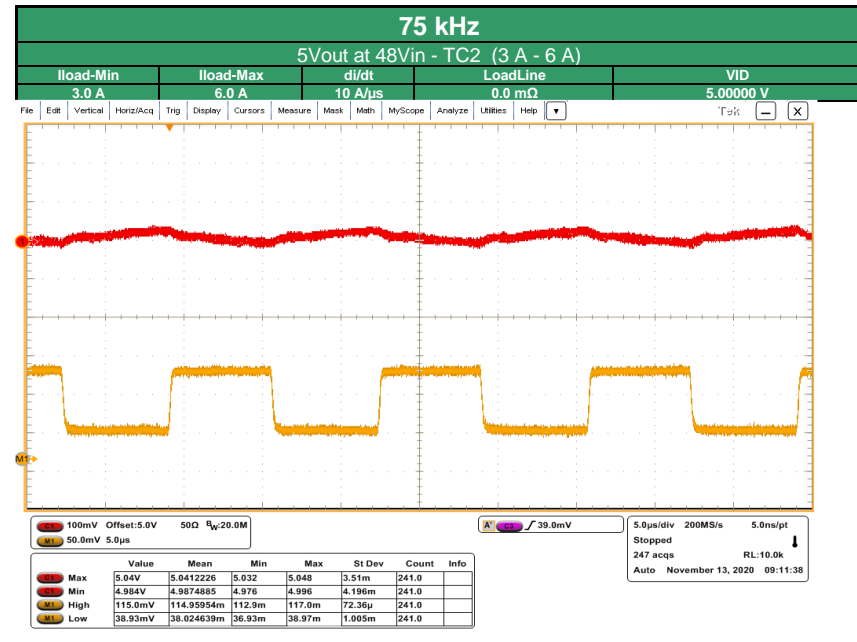
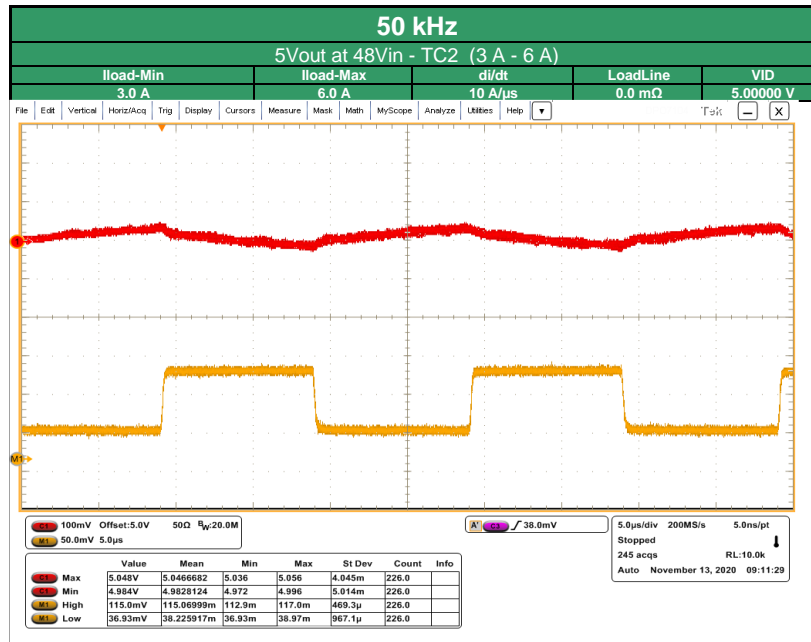
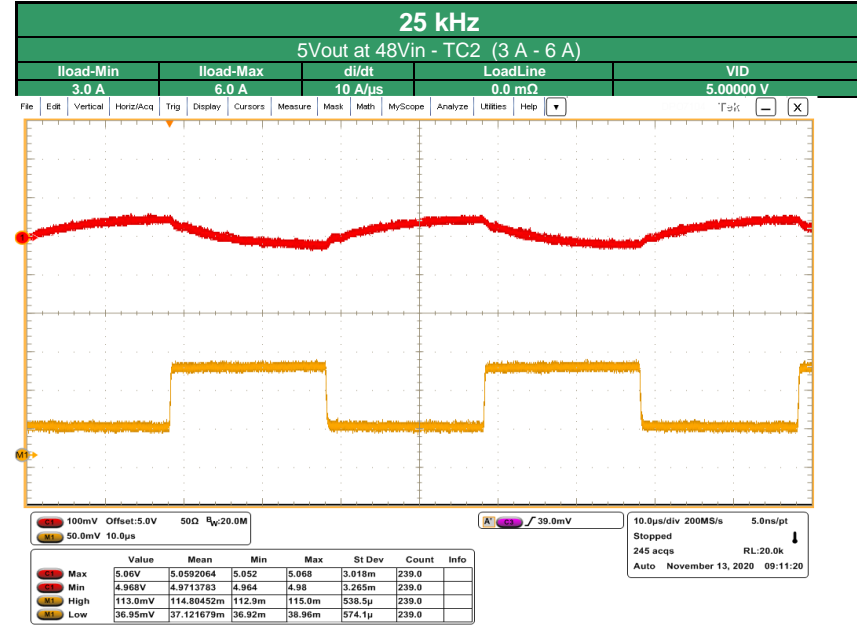
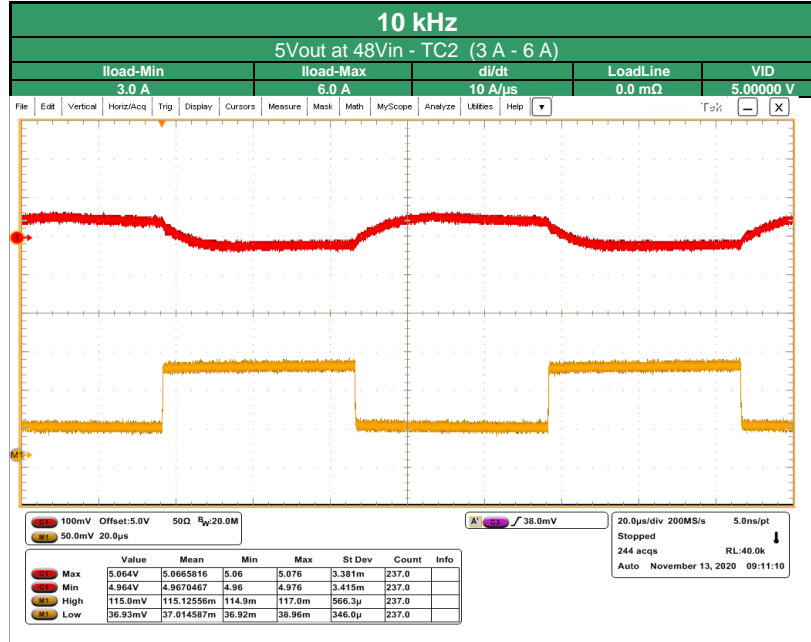
Transient Load Testing at 5Vout at 48Vin - TC2 - HIGH Load Test



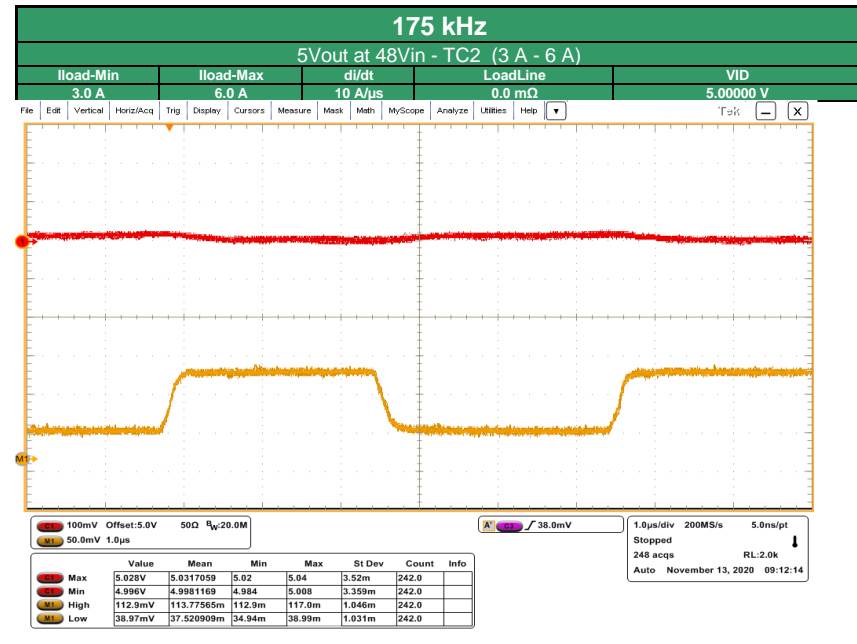
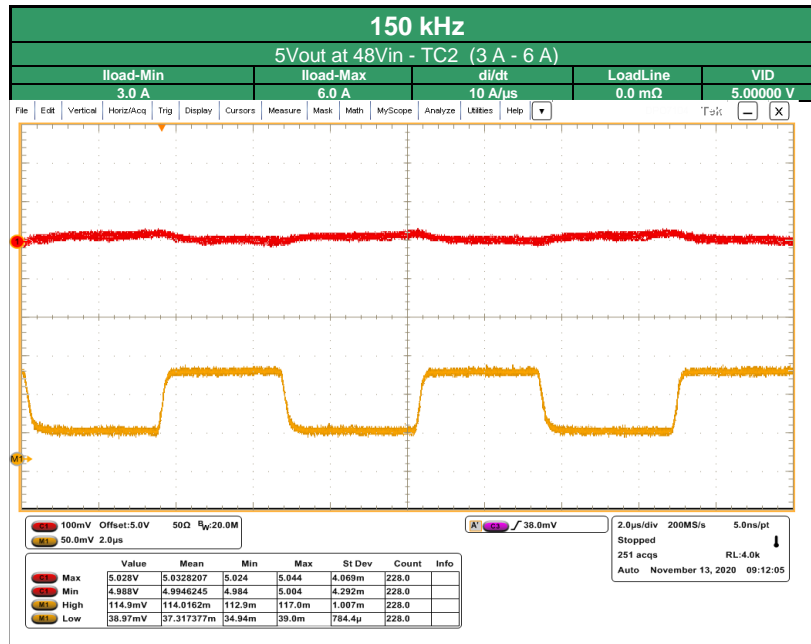
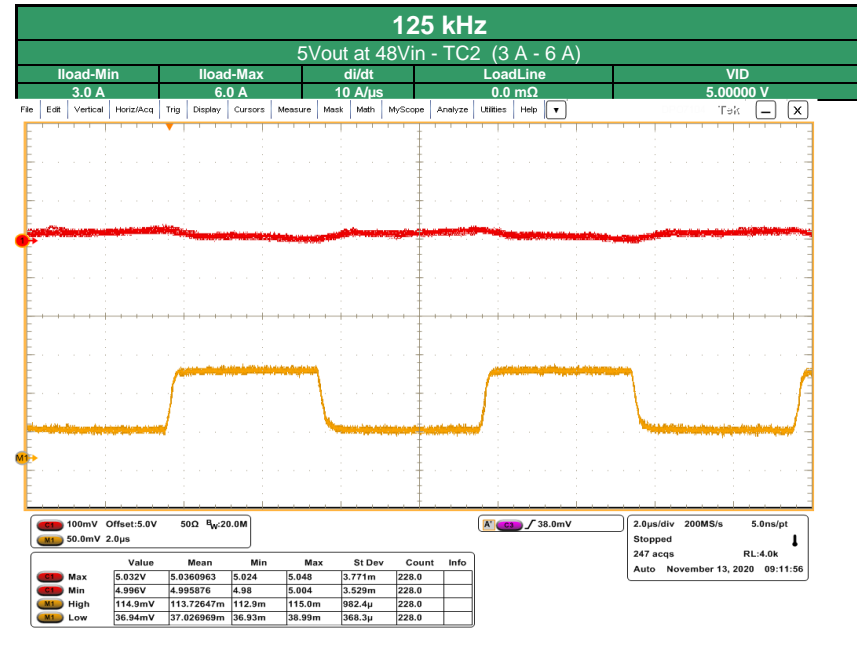
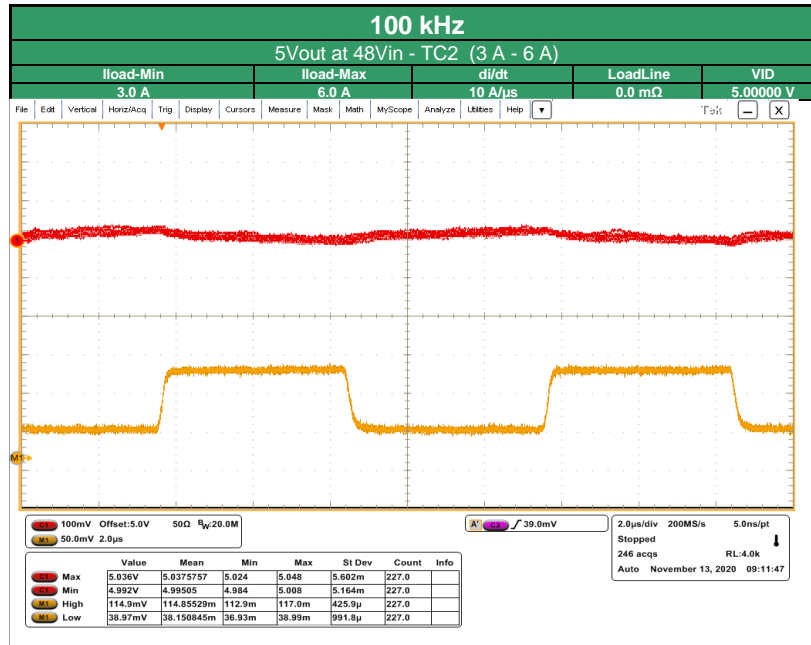
Transient Load Testing at 5Vout at 48Vin - TC2 - HIGH Load Test



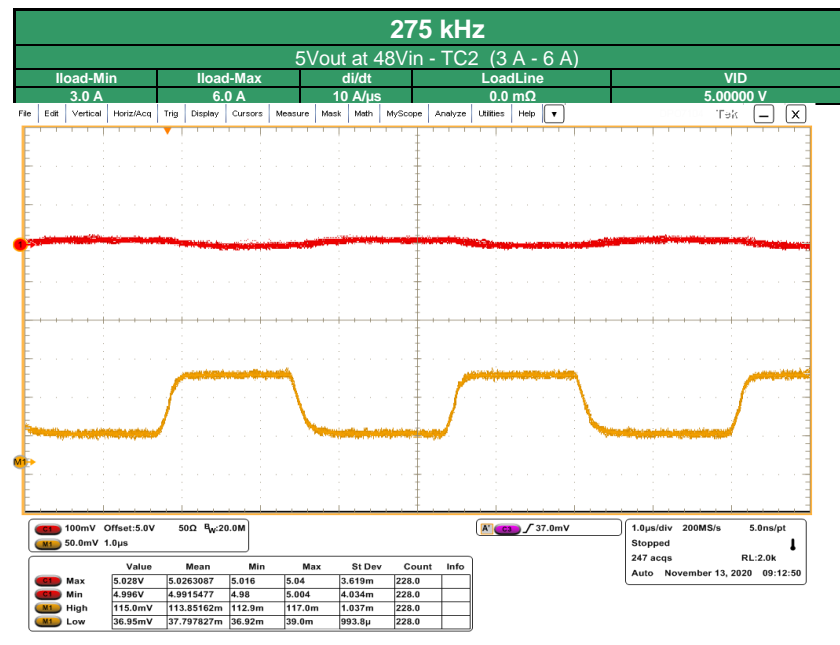
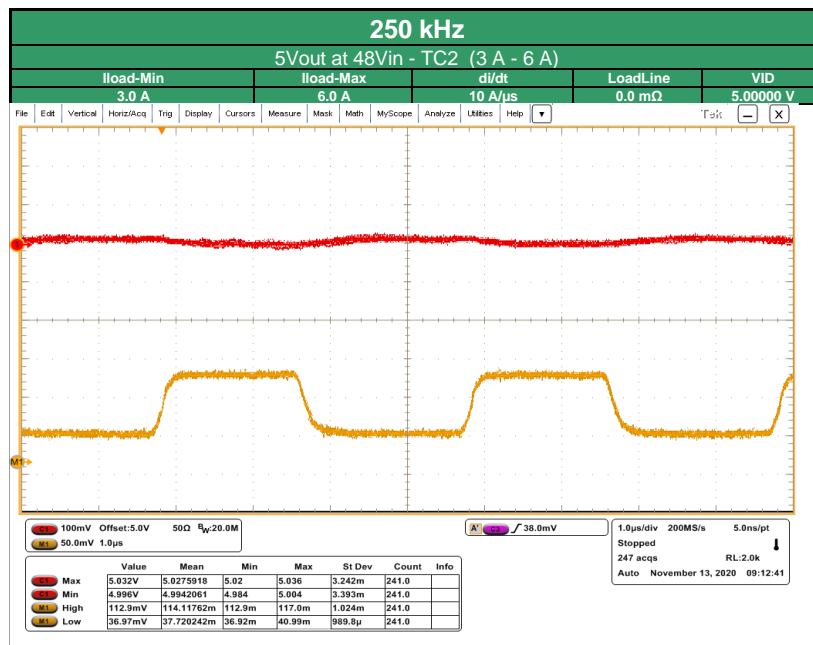
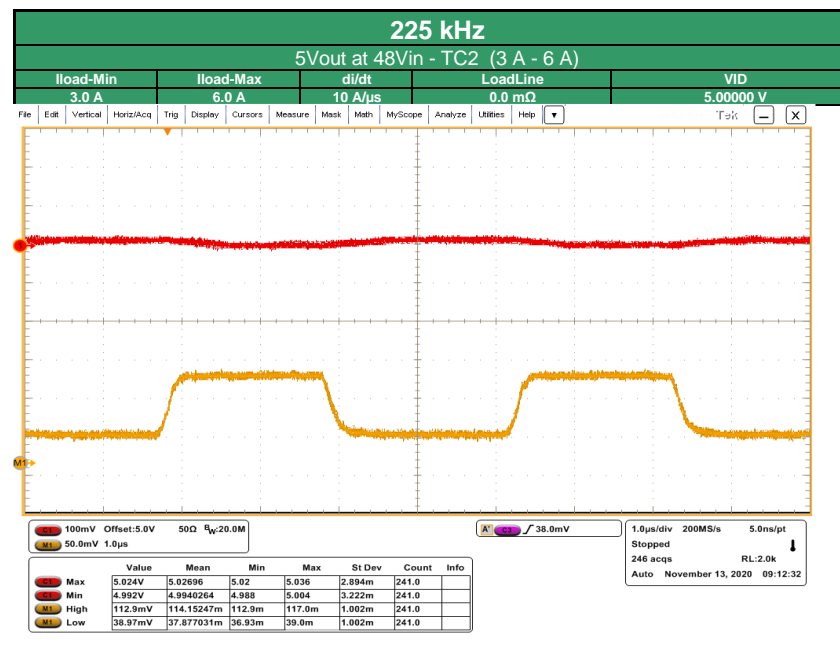
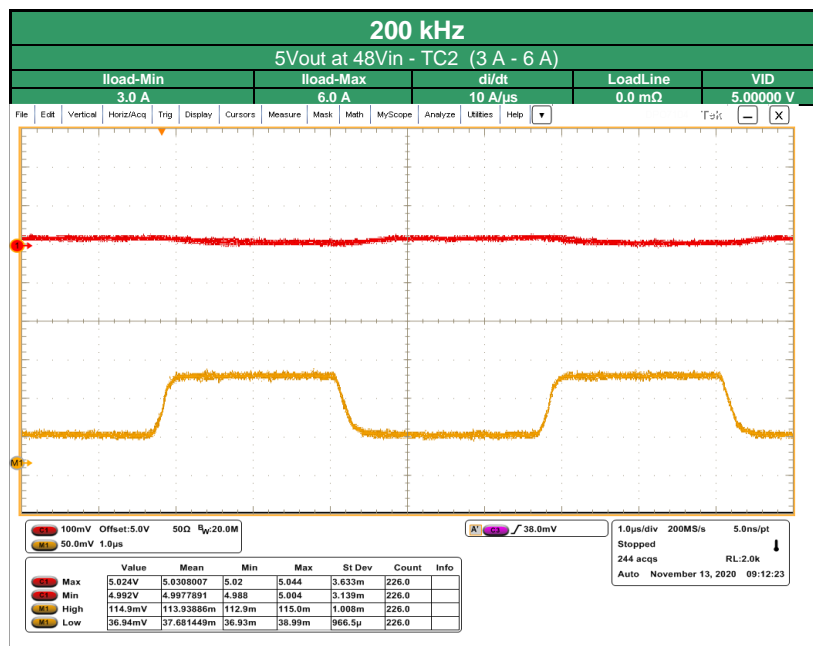
Transient Load Testing at 5Vout at 48Vin - TC2 - HIGH Load Test



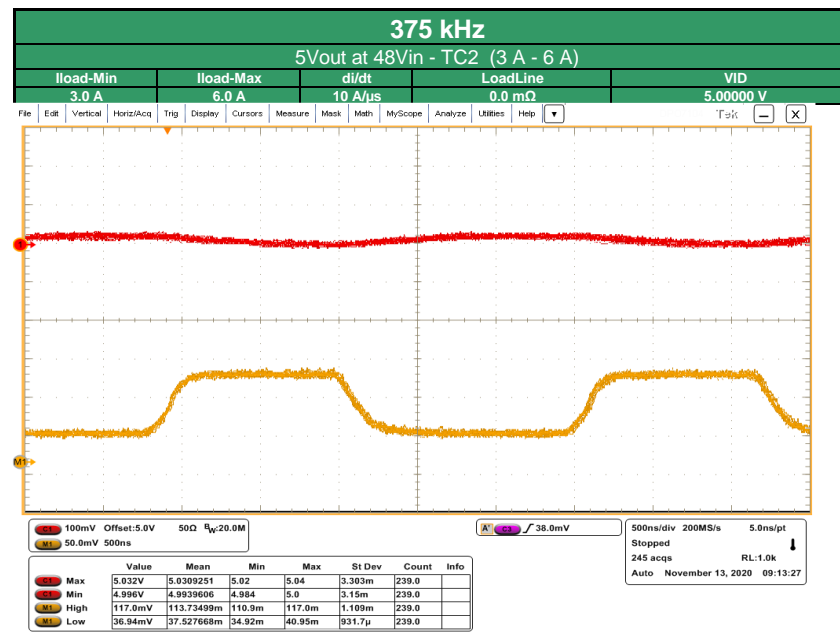
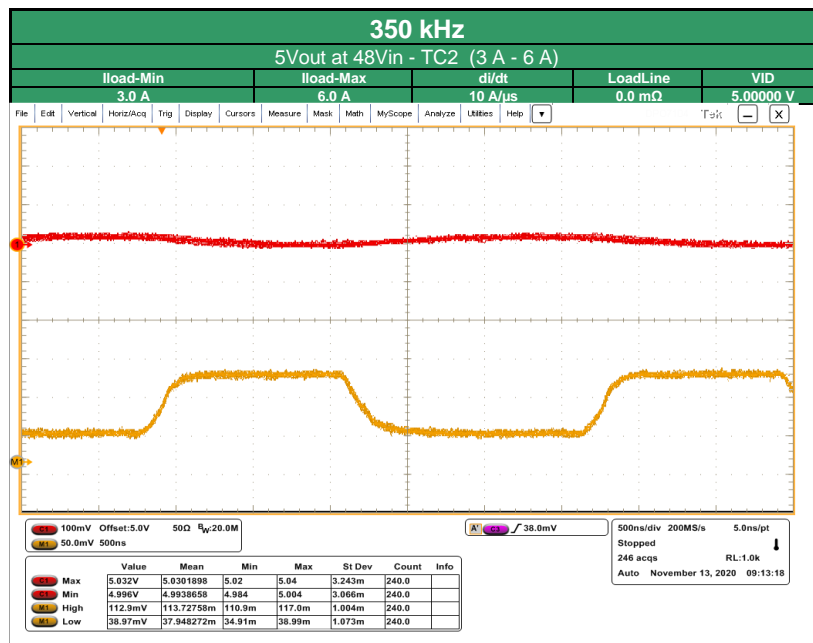
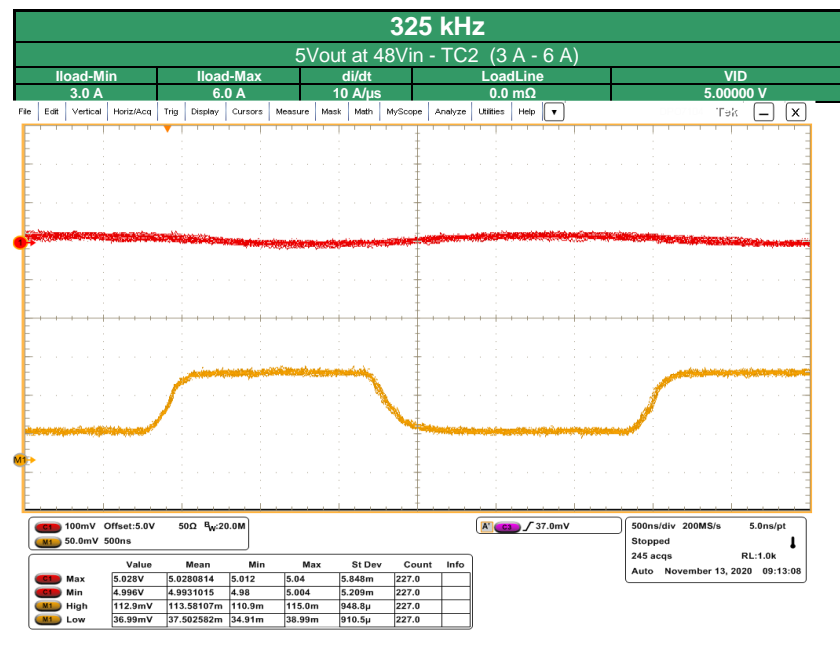
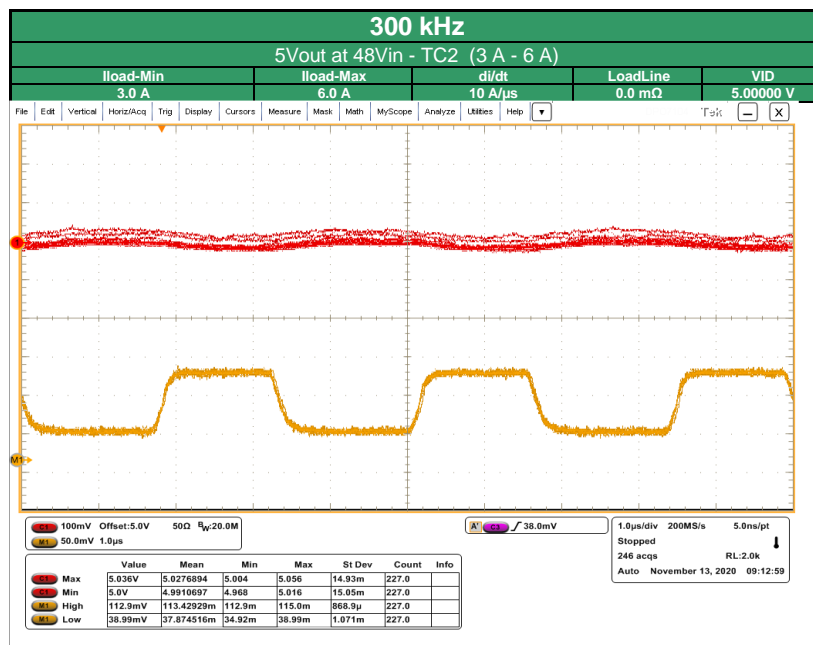
Transient Load Testing at 5Vout at 48Vin - TC2 - HIGH Load Test



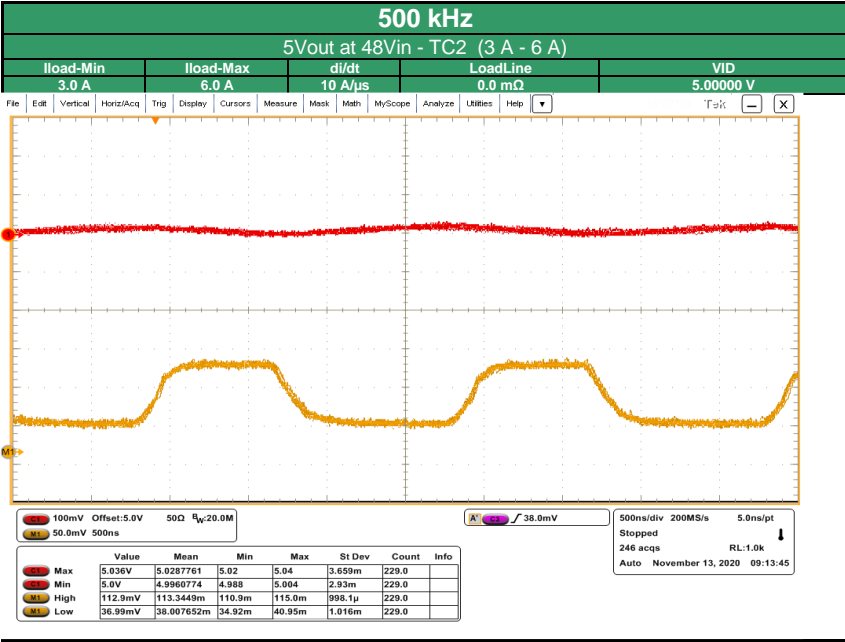
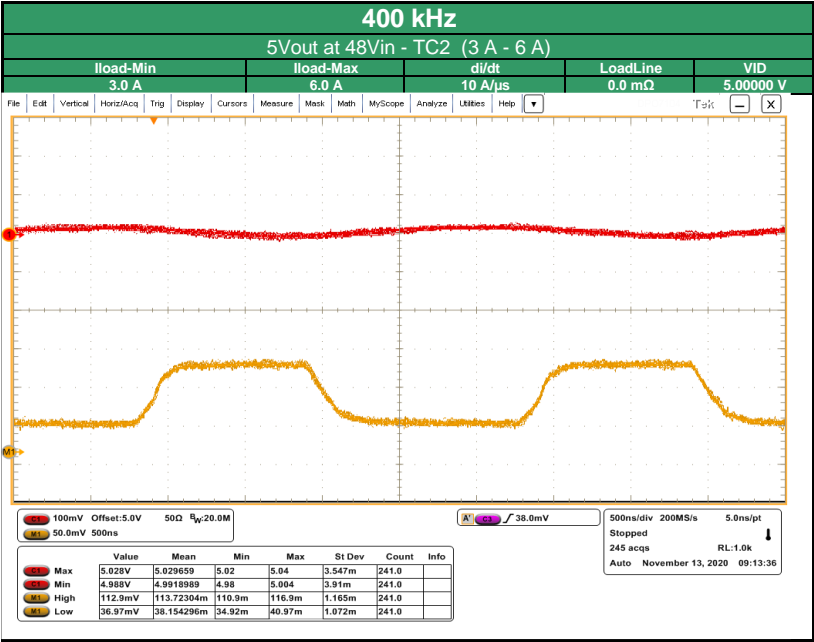
Transient Load Testing at 5Vout at 48Vin - TC2 - HIGH Load Test



Transient Load Testing at 5Vout at 48Vin - TC2 - HIGH Load Test



Transient Load Testing at 5Vout at 48Vin - TC2 - HIGH Load Test



Transient Load Testing at 5Vout at 48Vin - TC2 - LOW Load Test

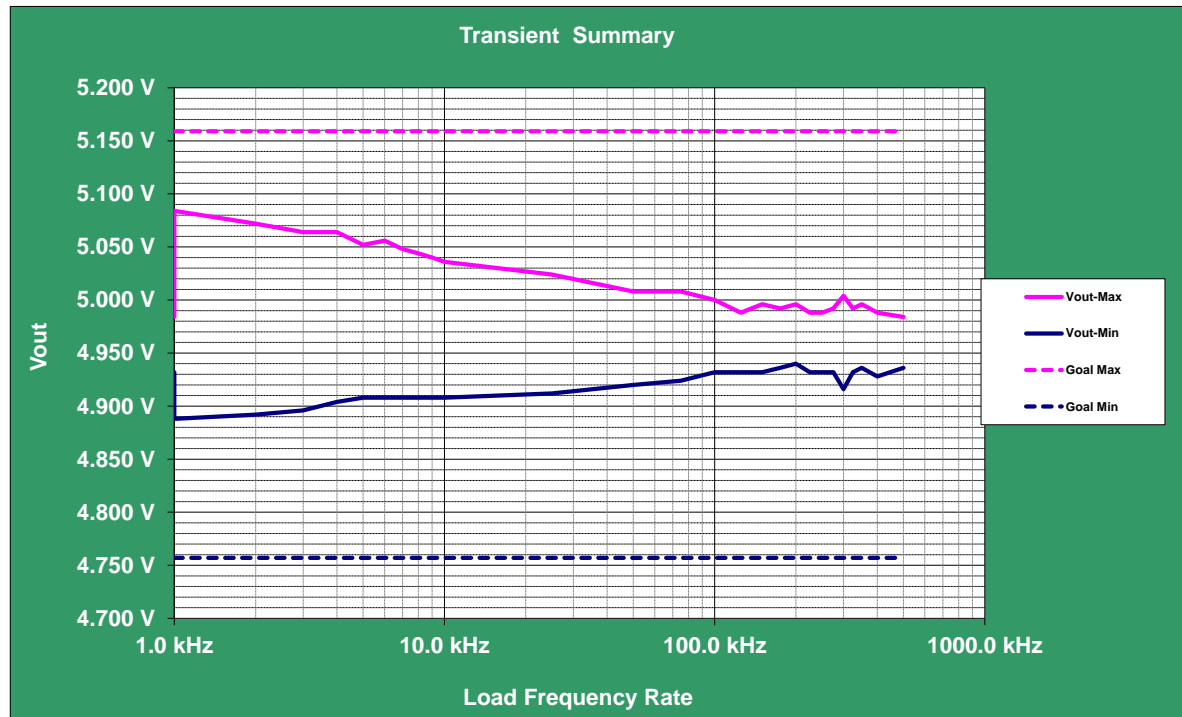
Test Setup	
Channel1	Vout
Channel2	Isense
Channel3	N/A
Channel4	SWN1
#Tests	28

Transient Reference Levels	4.932 V	Droop
	4.984 V	Over shoot

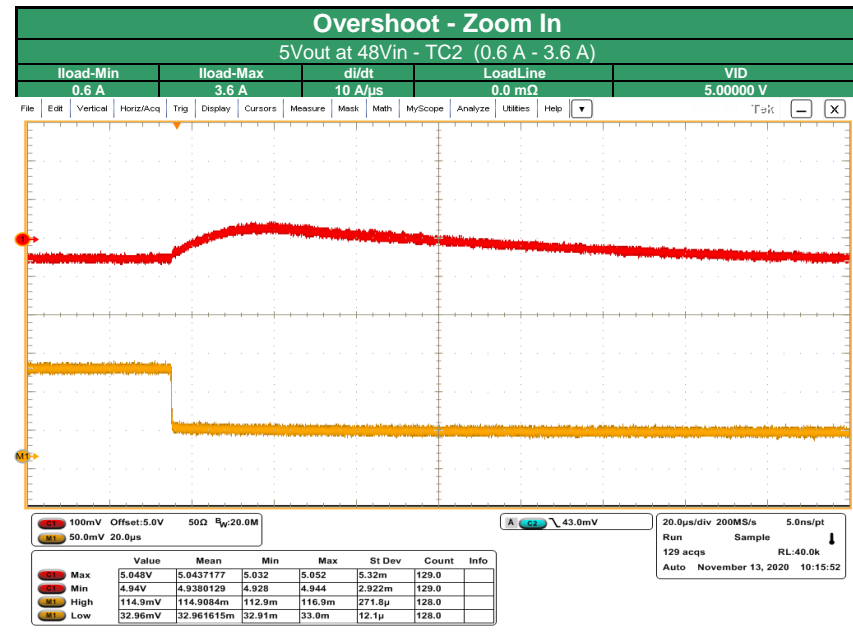
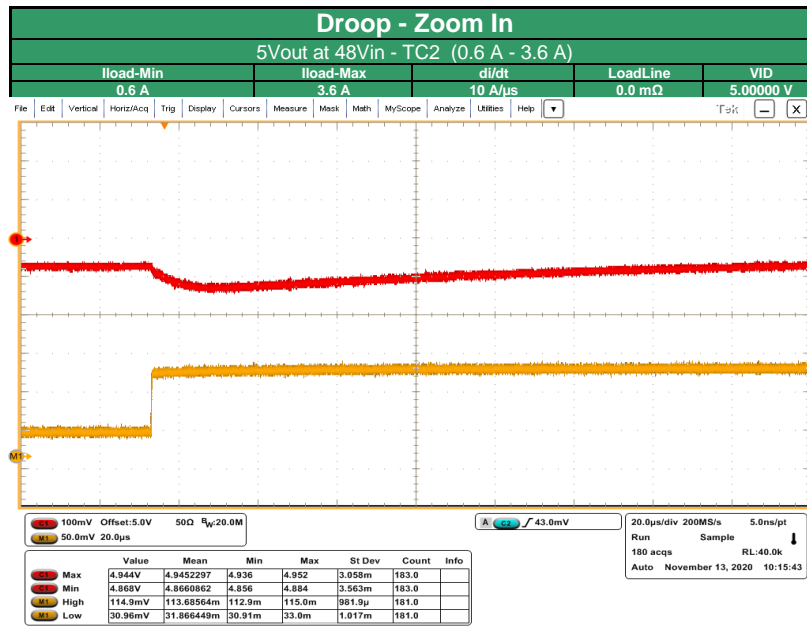
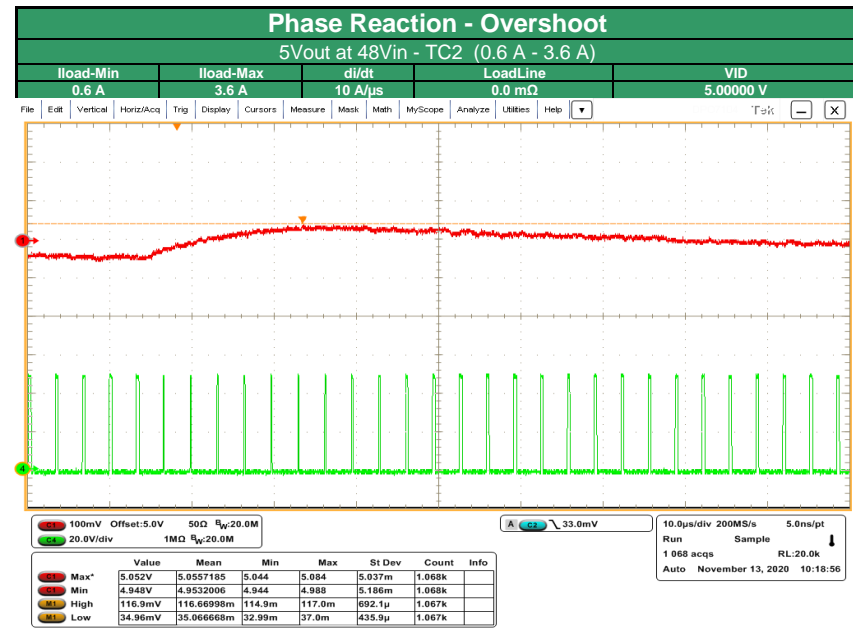
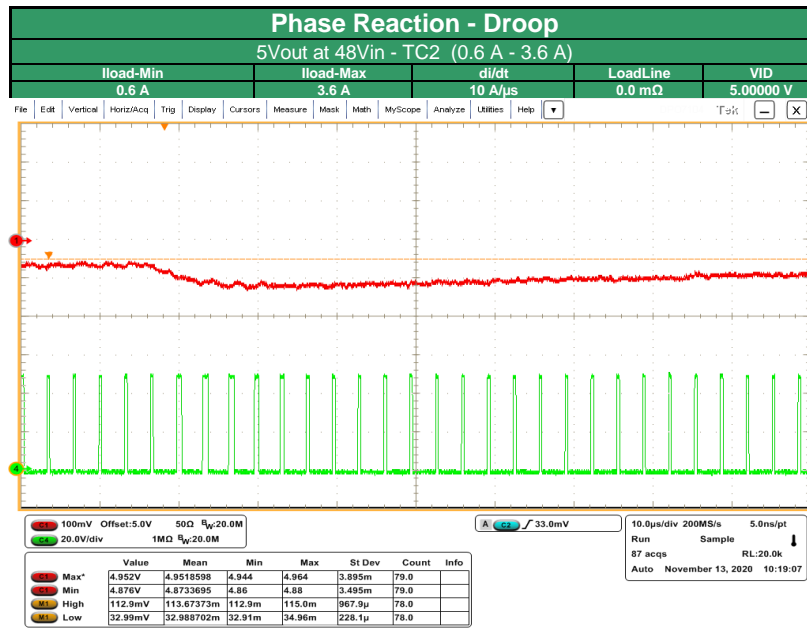
Test Details	
Test Name	5Vout at 48Vin - TC2
VID	5.00000 V
Load Line	0.0 mΩ
Min Current	0.6 A
Max Current	3.6 A
Current Step	3.0 A
Slew Rate	10 A/μs
Min Droop	4.757 V
Max Overshoot	5.159 V

Results Summary				
	Meas. %	Margin	LRR	Max/Min Value
Min Droop	0.88%	131.0 mV	1.0 kHz	4.888 V
Max Overshoot	2.00%	75.0 mV	1.0 kHz	5.084 V

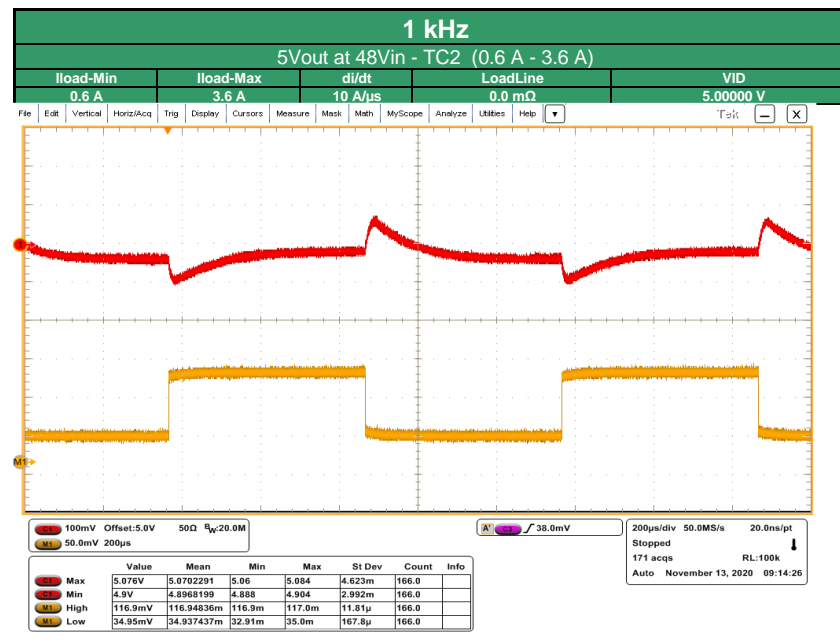
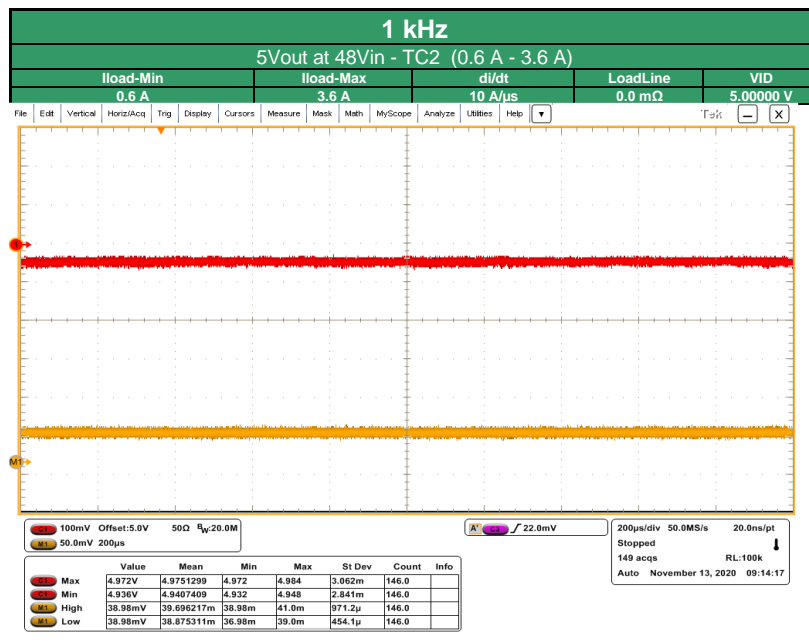
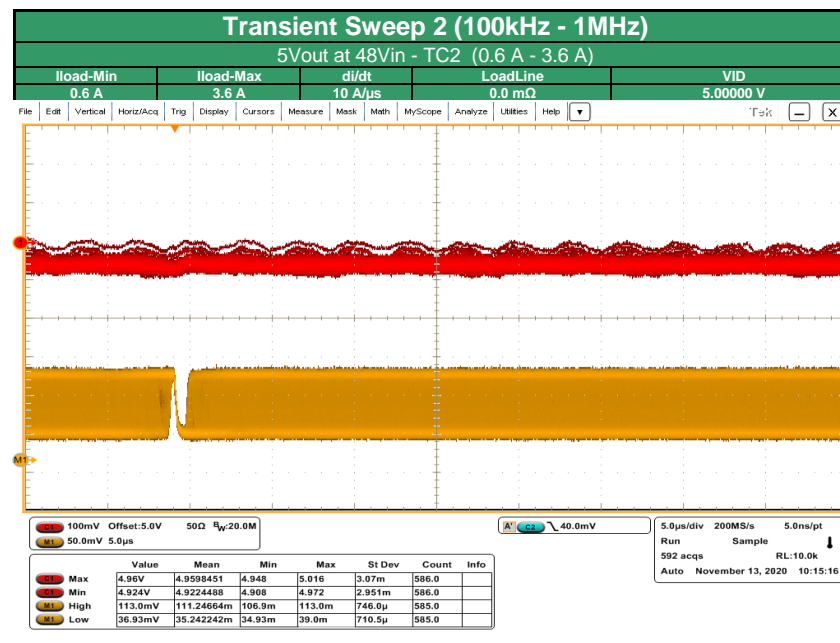
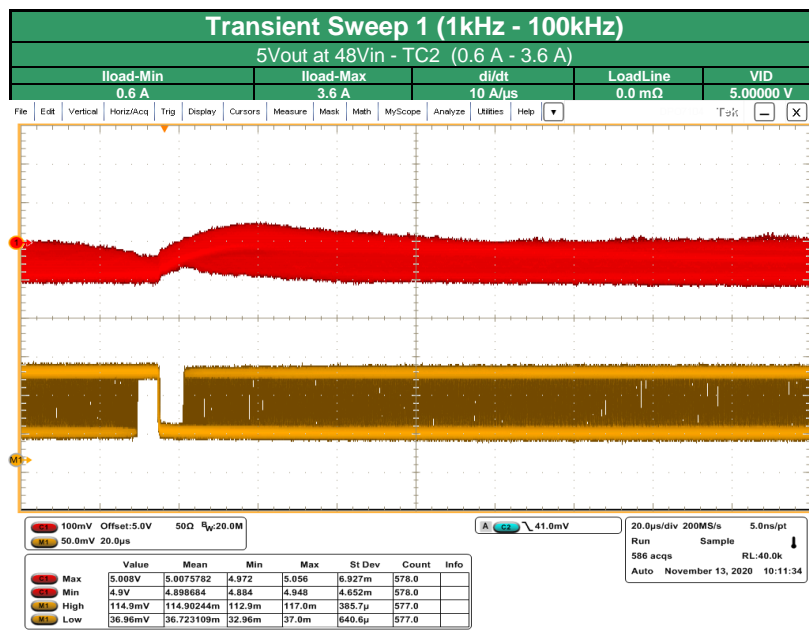
LRR	Vmax	Result	Vmin	Result
1.0 kHz	4.984 V	PASS	4.932 V	PASS
1.0 kHz	5.084 V	PASS	4.888 V	PASS
2.0 kHz	5.072 V	PASS	4.892 V	PASS
3.0 kHz	5.064 V	PASS	4.896 V	PASS
4.0 kHz	5.064 V	PASS	4.904 V	PASS
5.0 kHz	5.052 V	PASS	4.908 V	PASS
6.0 kHz	5.056 V	PASS	4.908 V	PASS
7.0 kHz	5.048 V	PASS	4.908 V	PASS
8.0 kHz	5.044 V	PASS	4.908 V	PASS
9.0 kHz	5.040 V	PASS	4.908 V	PASS
10.0 kHz	5.036 V	PASS	4.908 V	PASS
25.0 kHz	5.024 V	PASS	4.912 V	PASS
50.0 kHz	5.008 V	PASS	4.920 V	PASS
75.0 kHz	5.008 V	PASS	4.924 V	PASS
100.0 kHz	5.000 V	PASS	4.932 V	PASS
125.0 kHz	4.988 V	PASS	4.932 V	PASS
150.0 kHz	4.996 V	PASS	4.932 V	PASS
175.0 kHz	4.992 V	PASS	4.936 V	PASS
200.0 kHz	4.996 V	PASS	4.940 V	PASS
225.0 kHz	4.988 V	PASS	4.932 V	PASS
250.0 kHz	4.988 V	PASS	4.932 V	PASS
275.0 kHz	4.992 V	PASS	4.932 V	PASS
300.0 kHz	5.004 V	PASS	4.916 V	PASS
325.0 kHz	4.992 V	PASS	4.932 V	PASS
350.0 kHz	4.996 V	PASS	4.936 V	PASS
375.0 kHz	4.992 V	PASS	4.932 V	PASS
400.0 kHz	4.988 V	PASS	4.928 V	PASS
500.0 kHz	4.984 V	PASS	4.936 V	PASS



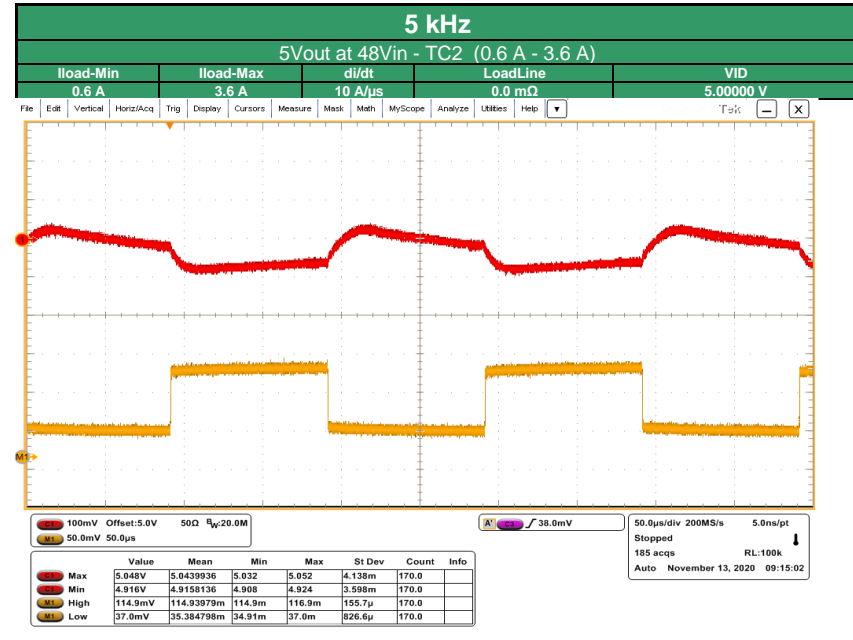
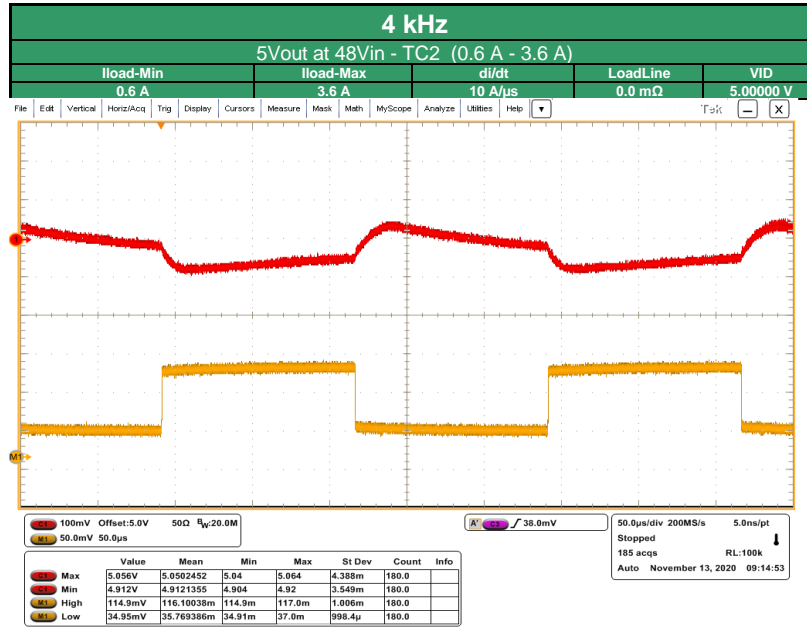
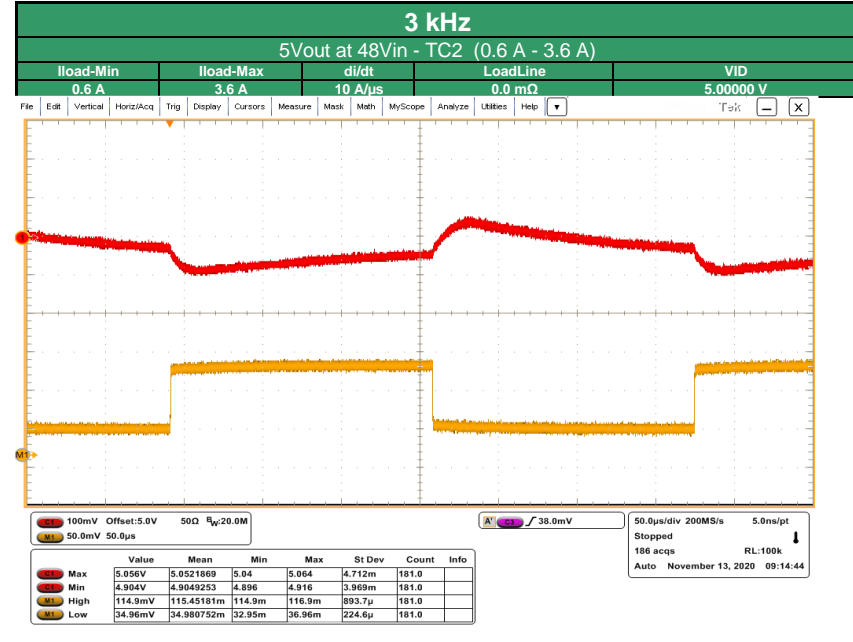
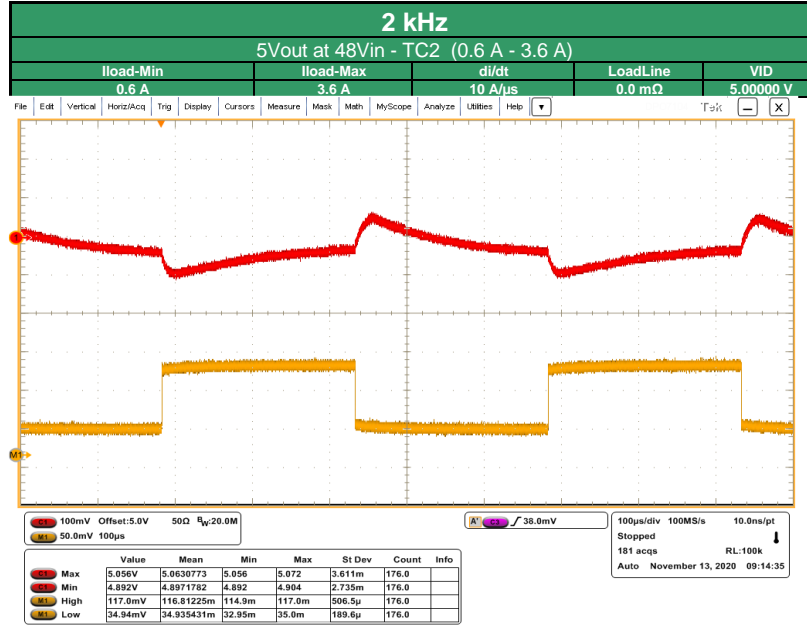
Transient Load Testing at 5Vout at 48Vin - TC2 - LOW Load Test



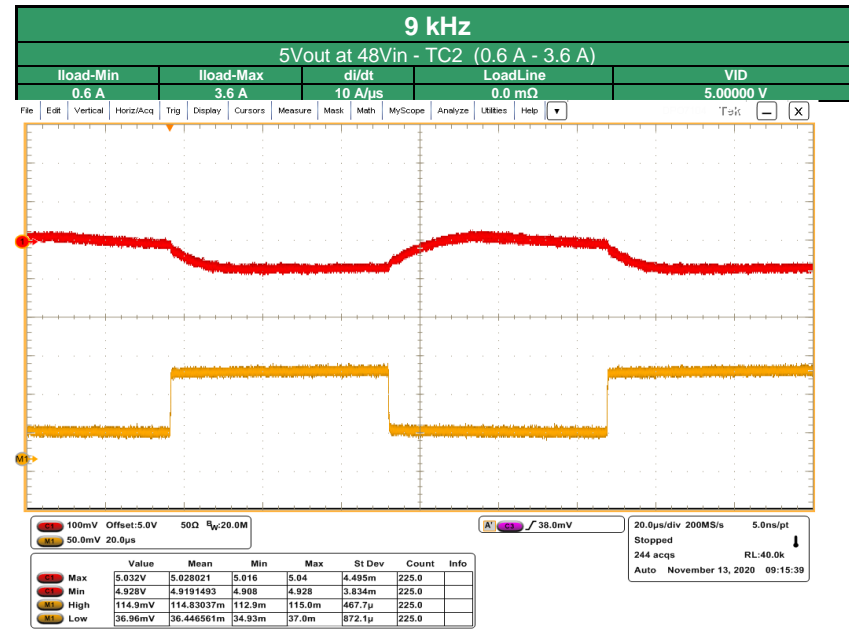
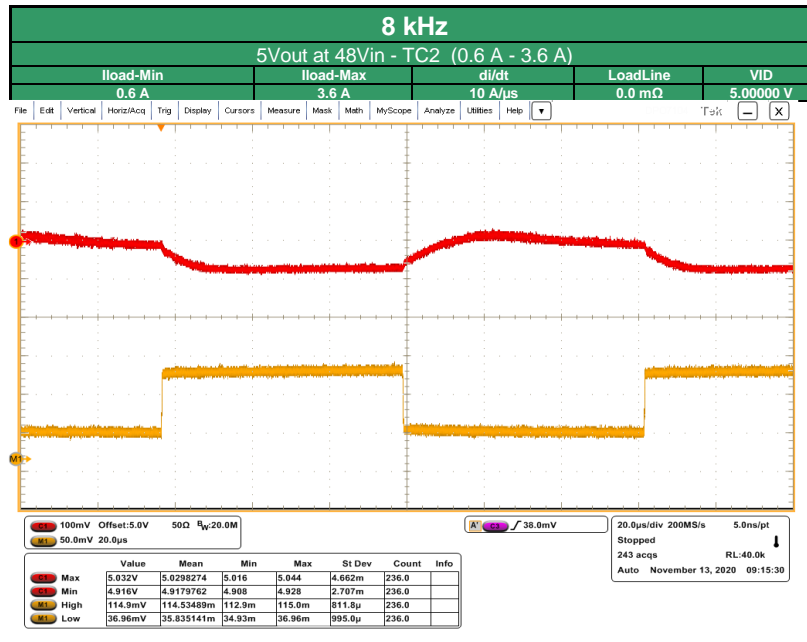
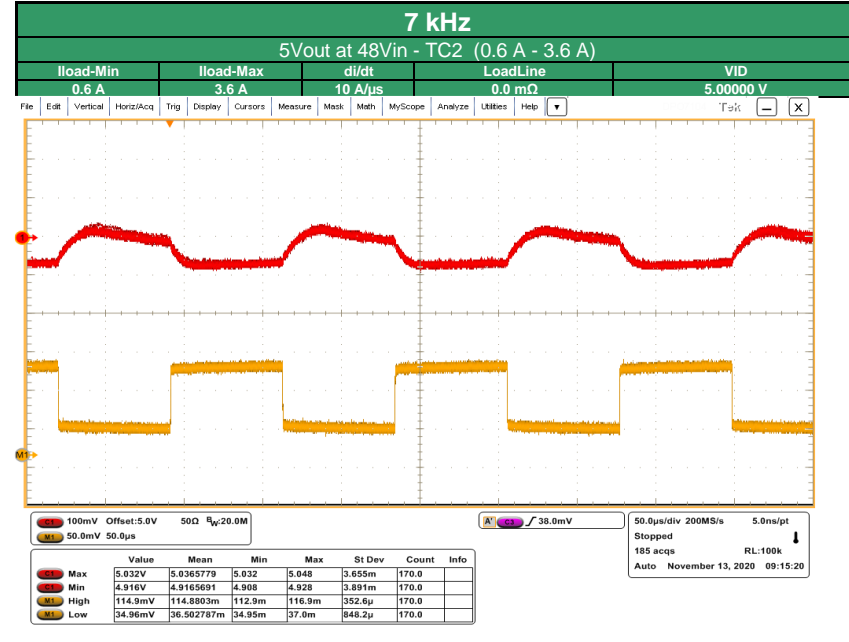
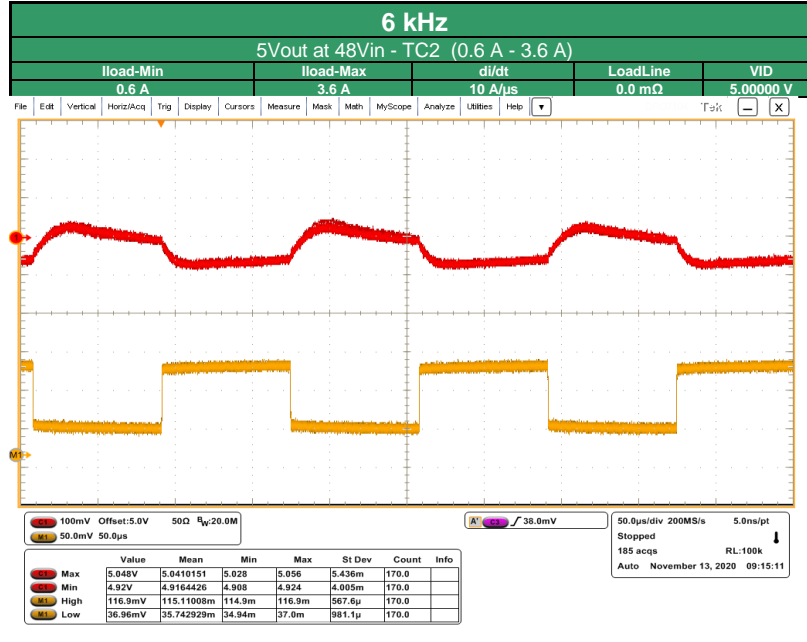
Transient Load Testing at 5Vout at 48Vin - TC2 - LOW Load Test



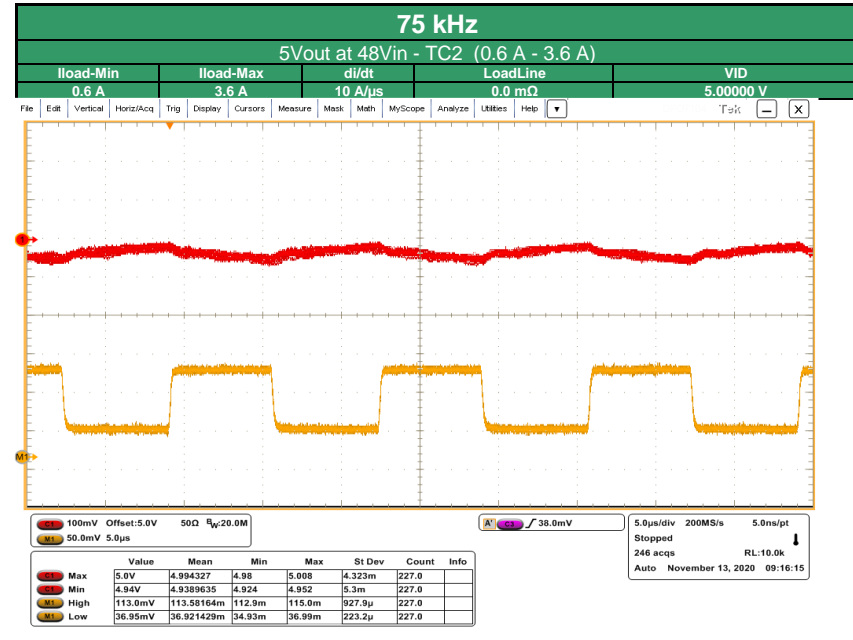
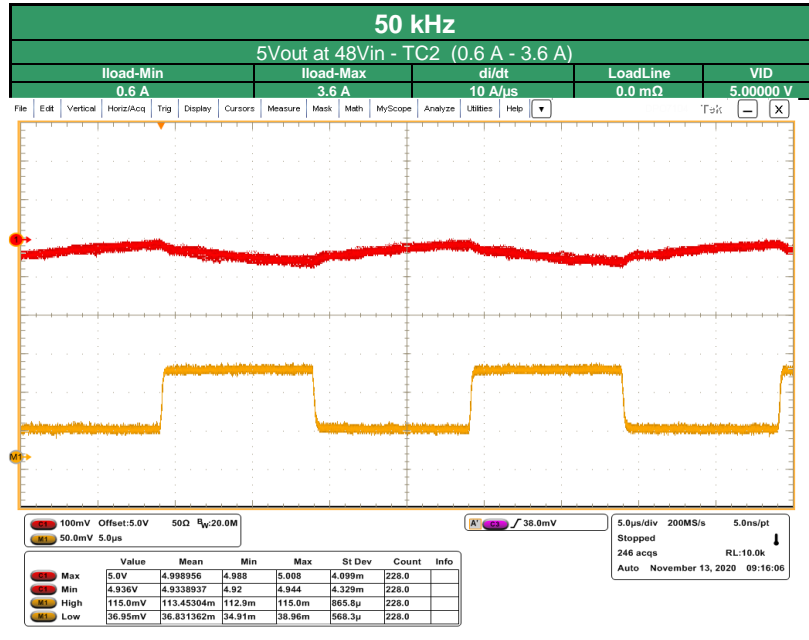
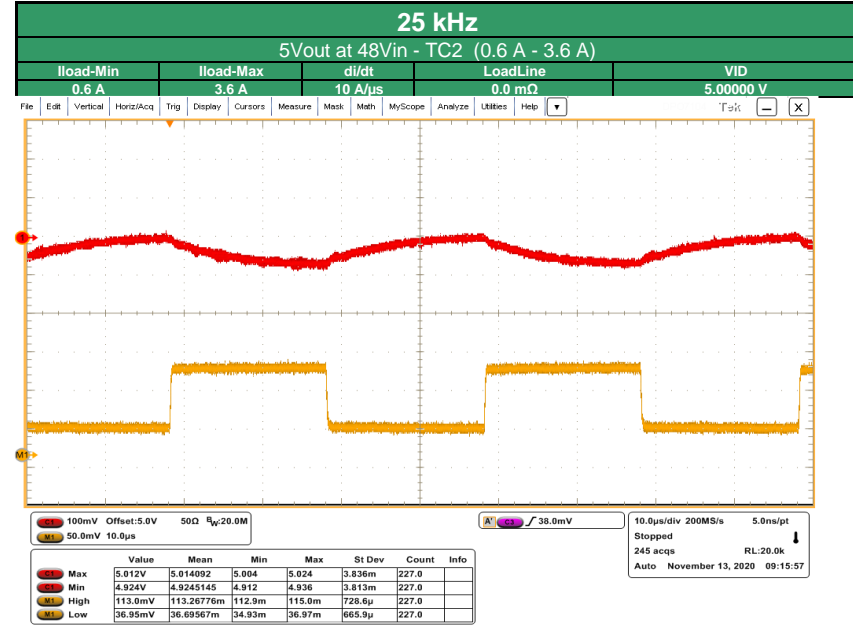
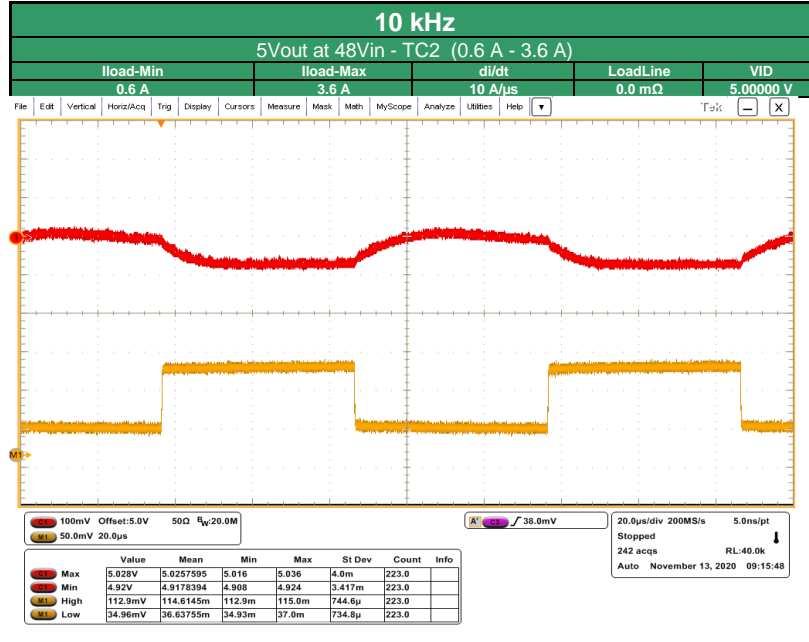
Transient Load Testing at 5Vout at 48Vin - TC2 - LOW Load Test



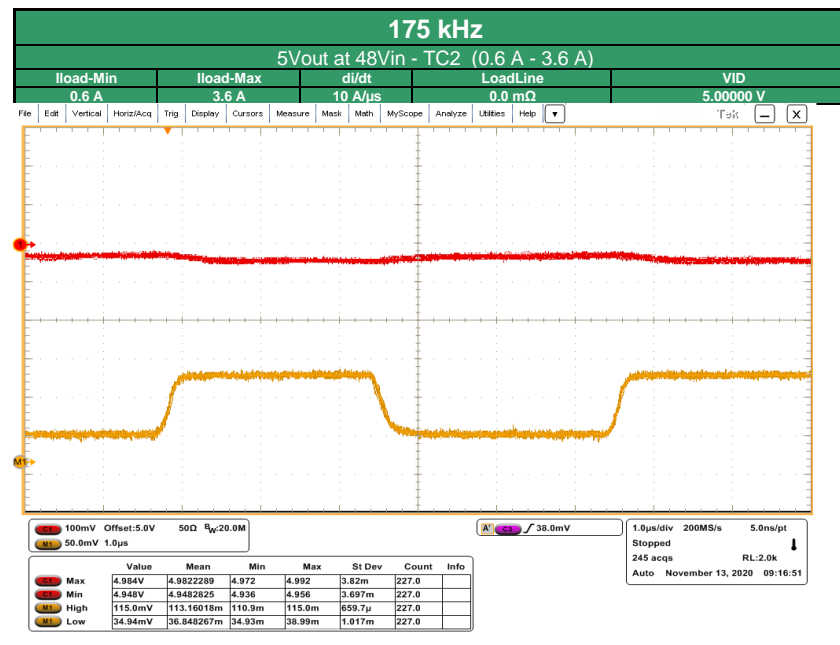
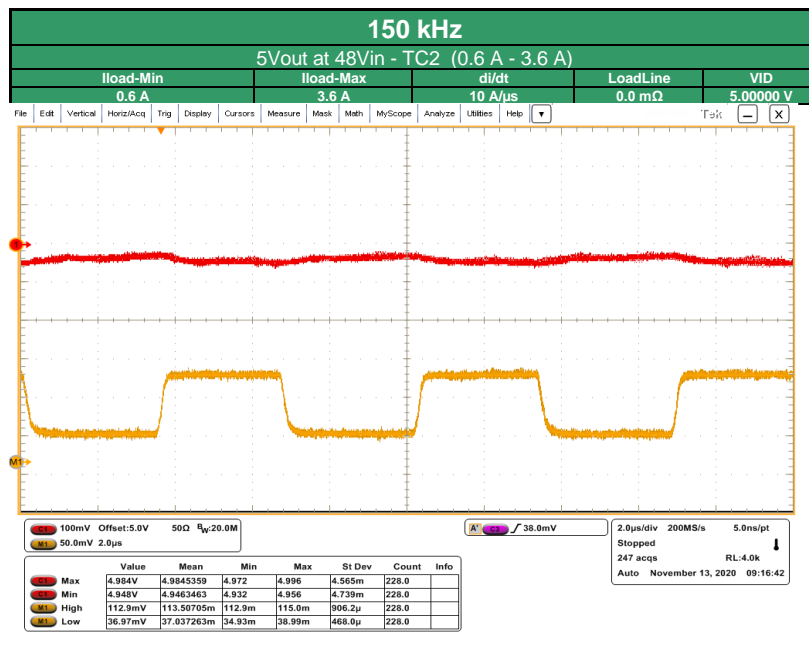
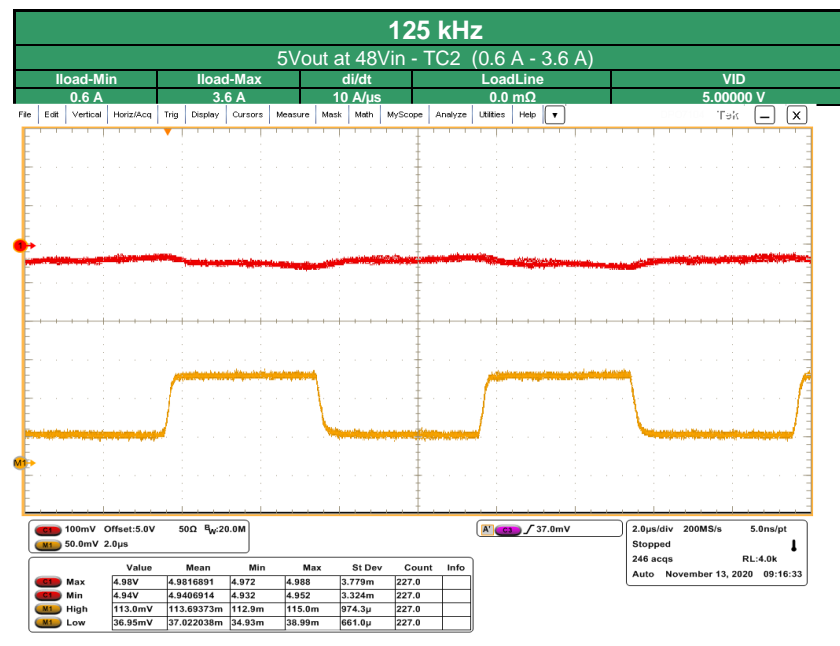
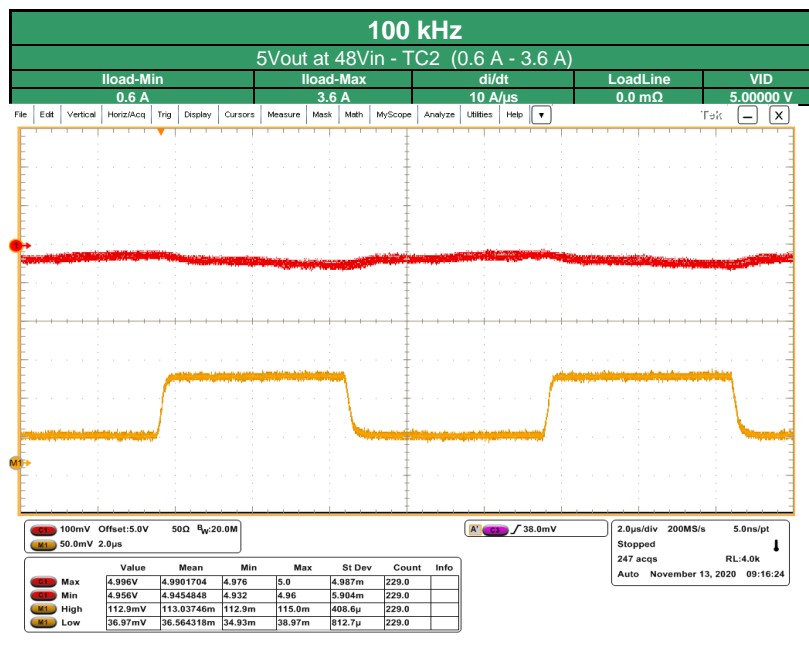
Transient Load Testing at 5Vout at 48Vin - TC2 - LOW Load Test



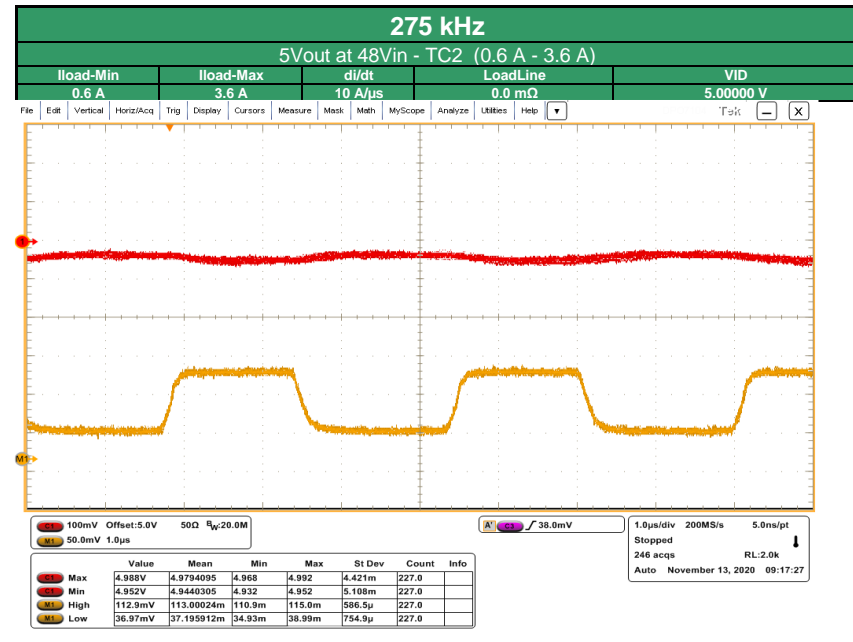
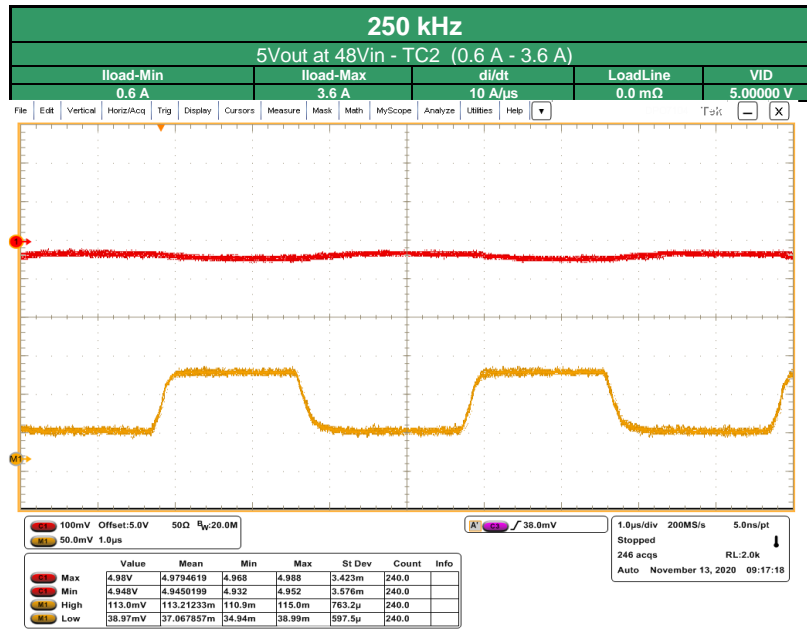
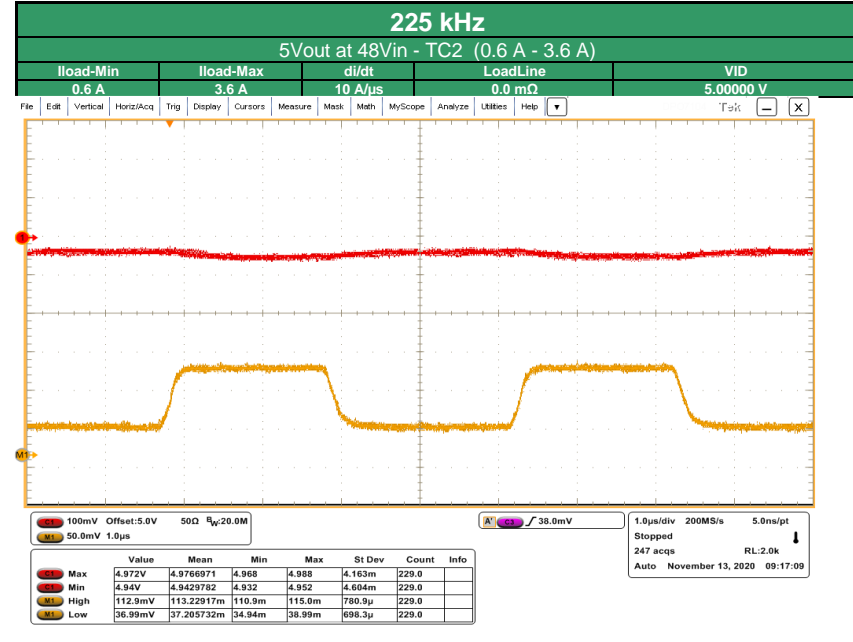
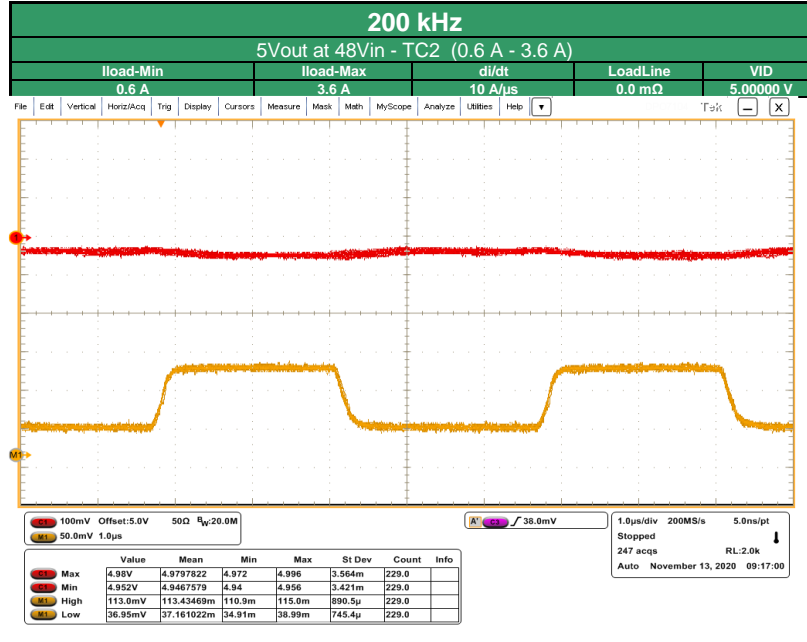
Transient Load Testing at 5Vout at 48Vin - TC2 - LOW Load Test



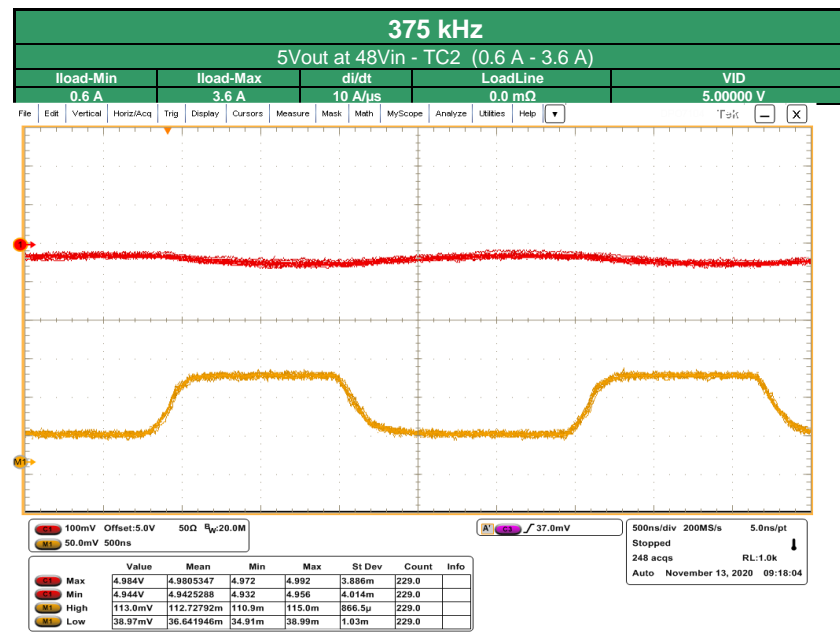
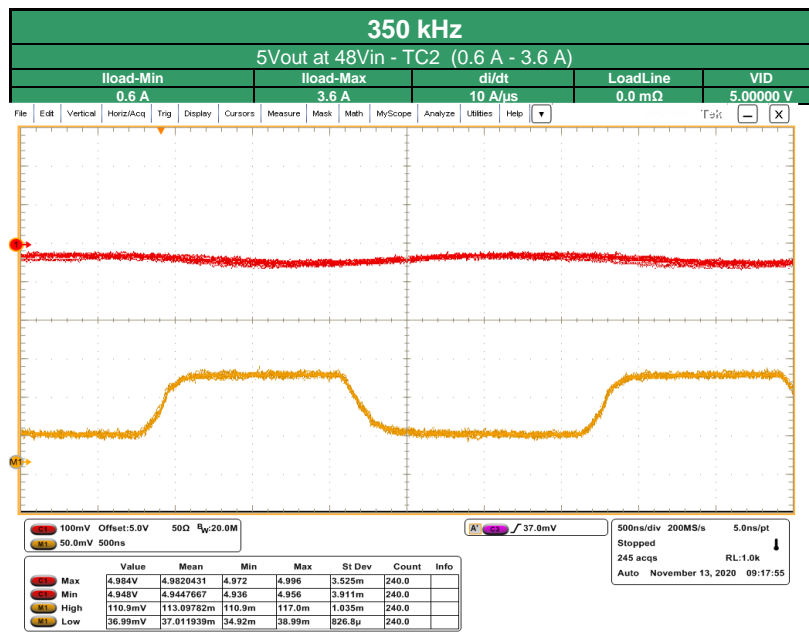
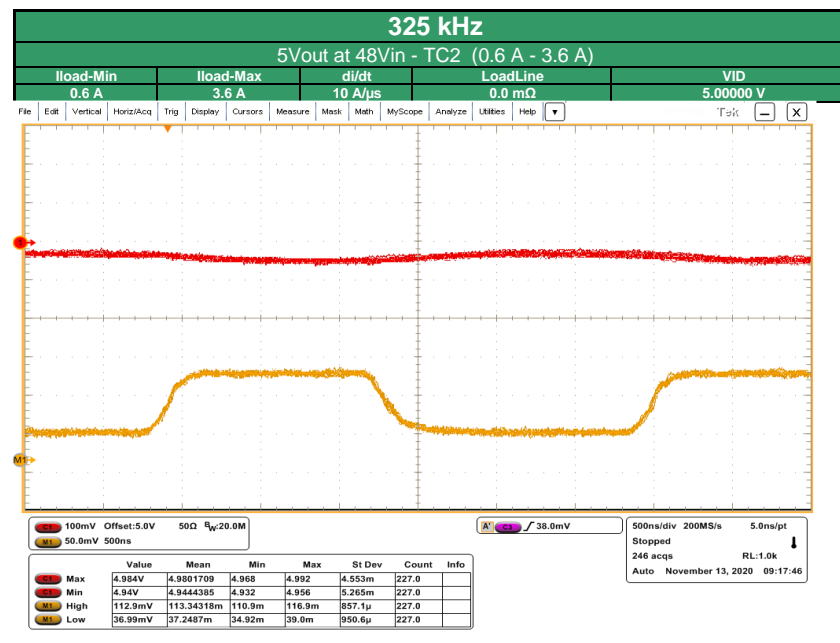
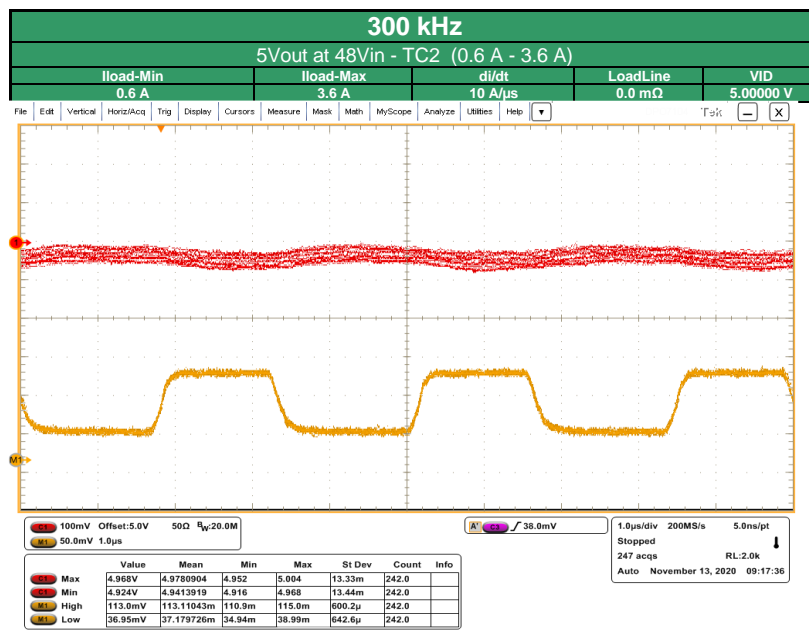
Transient Load Testing at 5Vout at 48Vin - TC2 - LOW Load Test



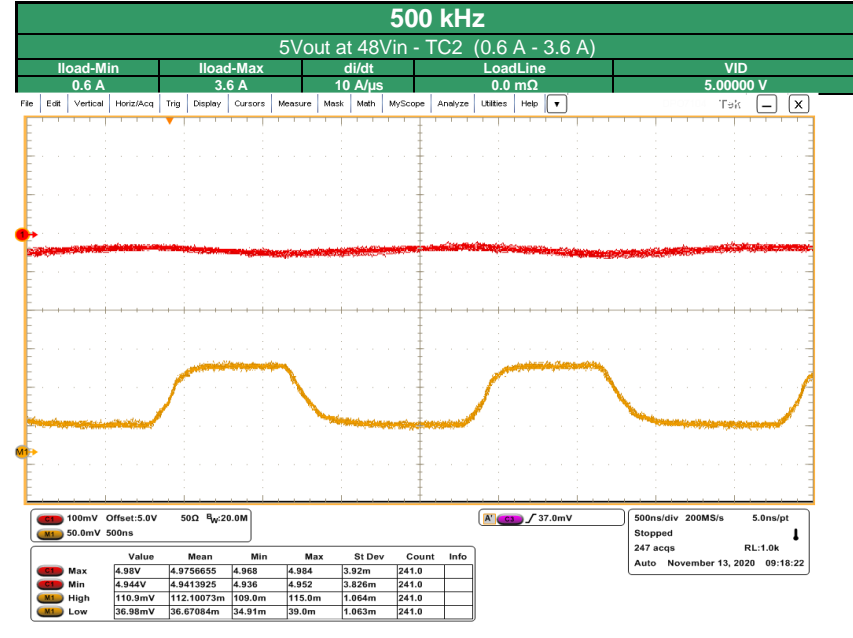
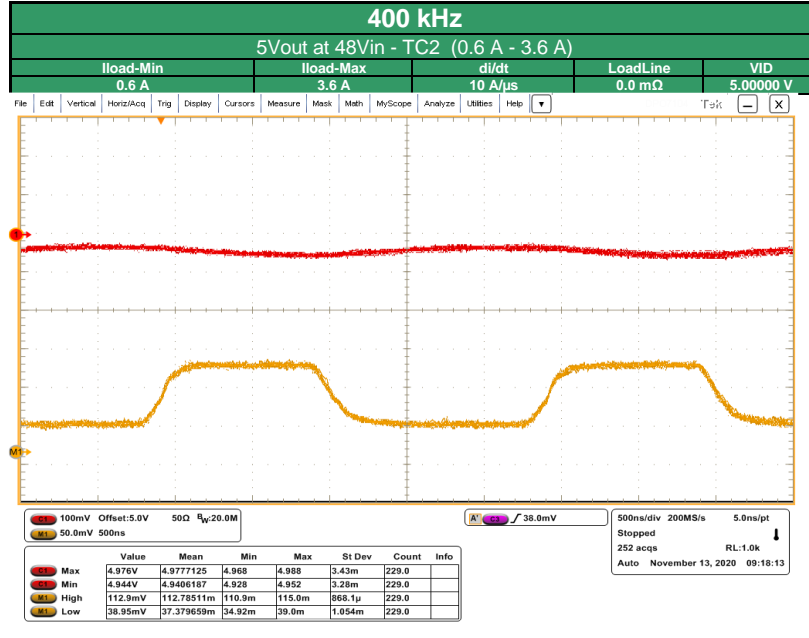
Transient Load Testing at 5Vout at 48Vin - TC2 - LOW Load Test



Transient Load Testing at 5Vout at 48Vin - TC2 - LOW Load Test

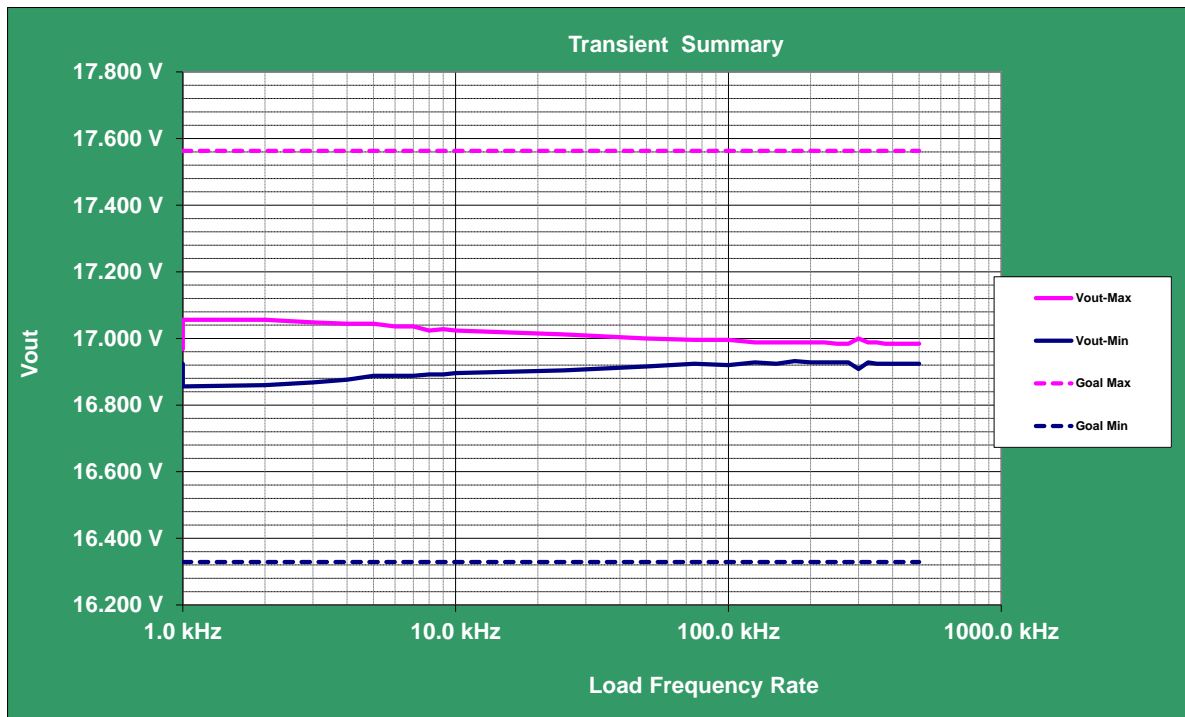


Transient Load Testing at 5Vout at 48Vin - TC2 - LOW Load Test

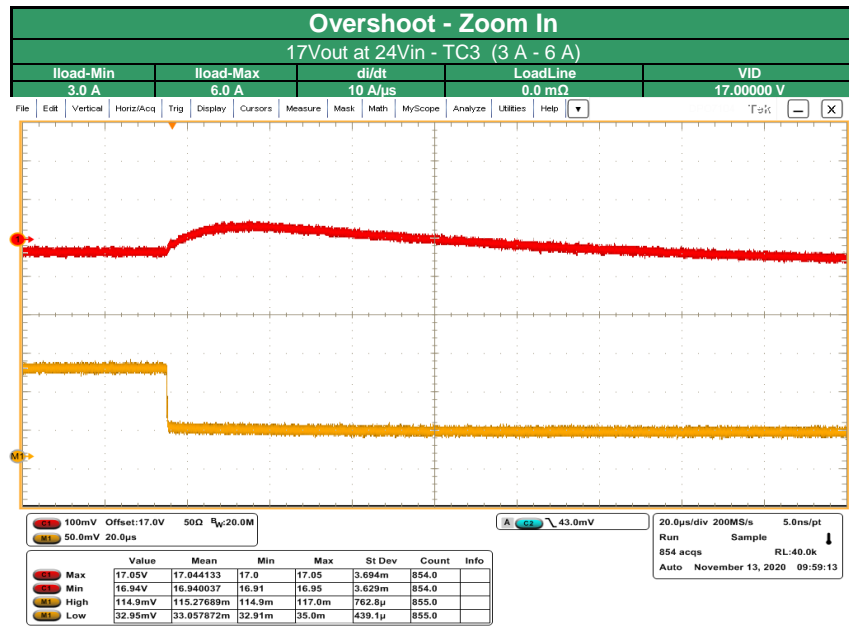
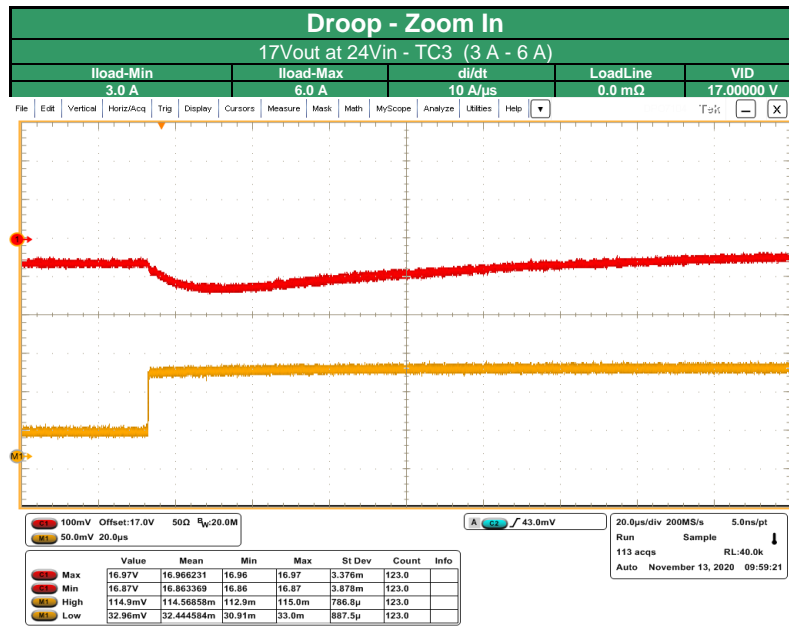
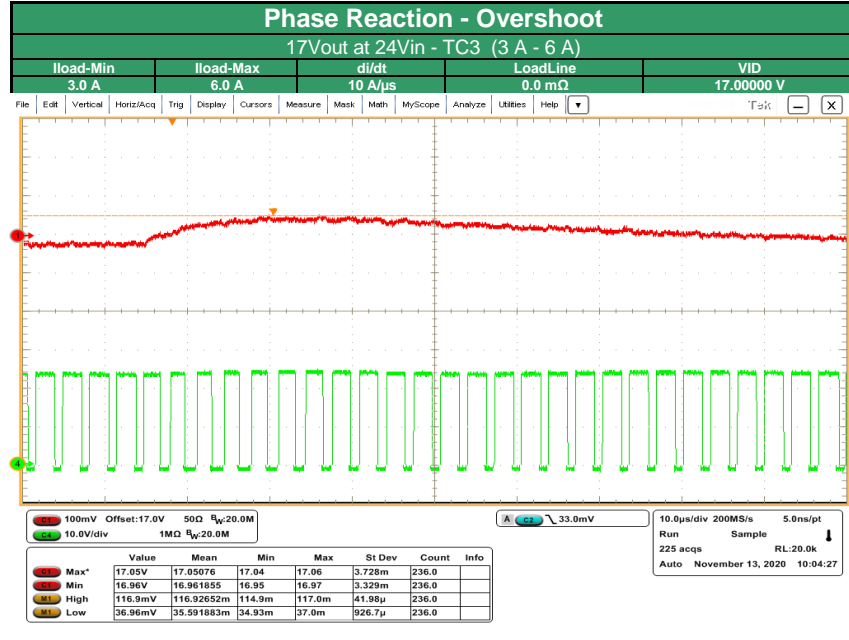
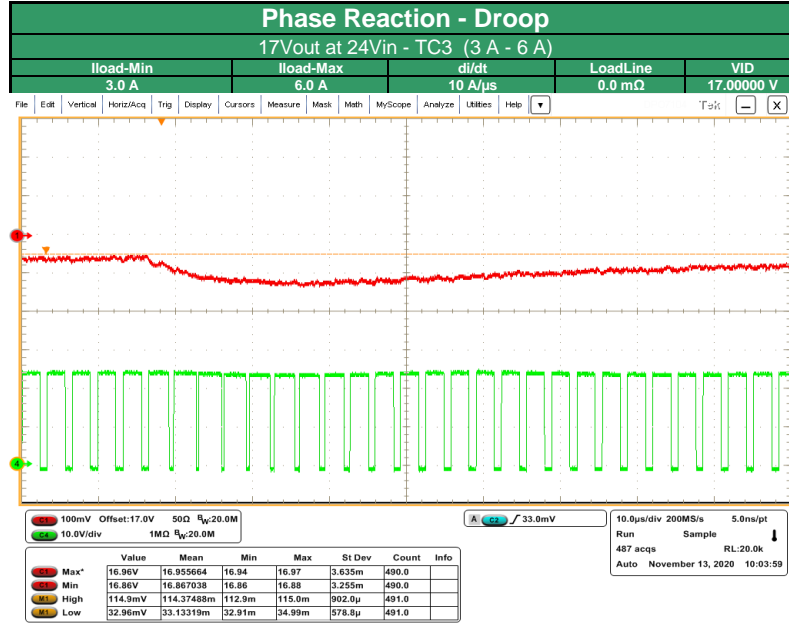


Transient Reference Levels	16.924 V	Droop
	16.968 V	Over shoot

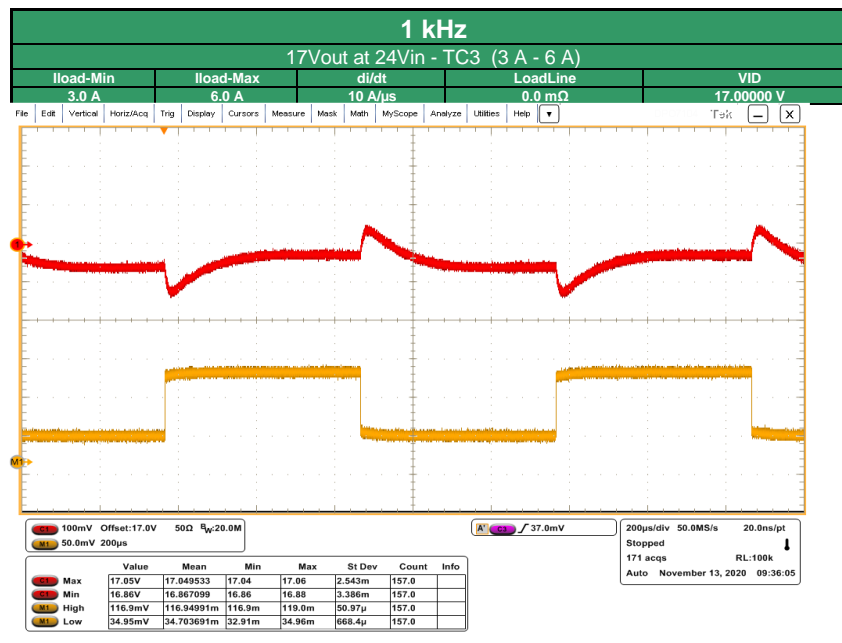
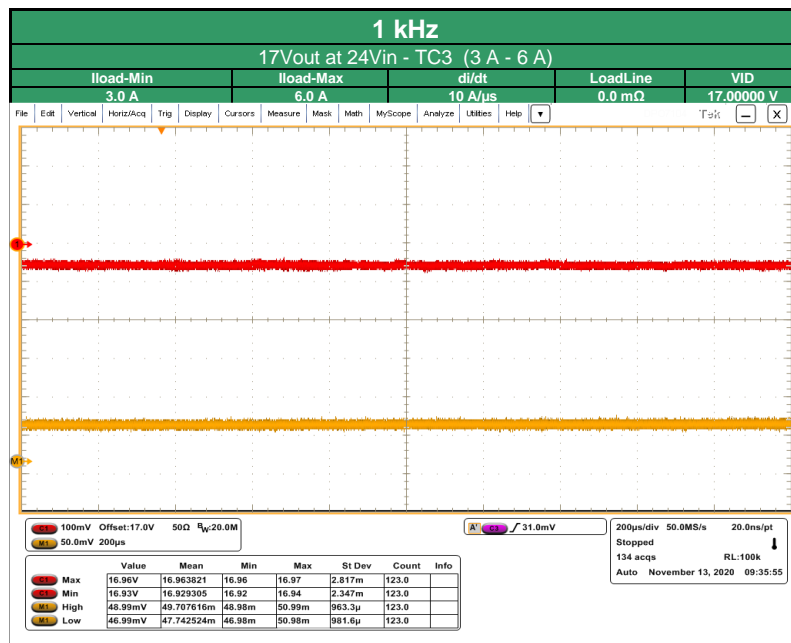
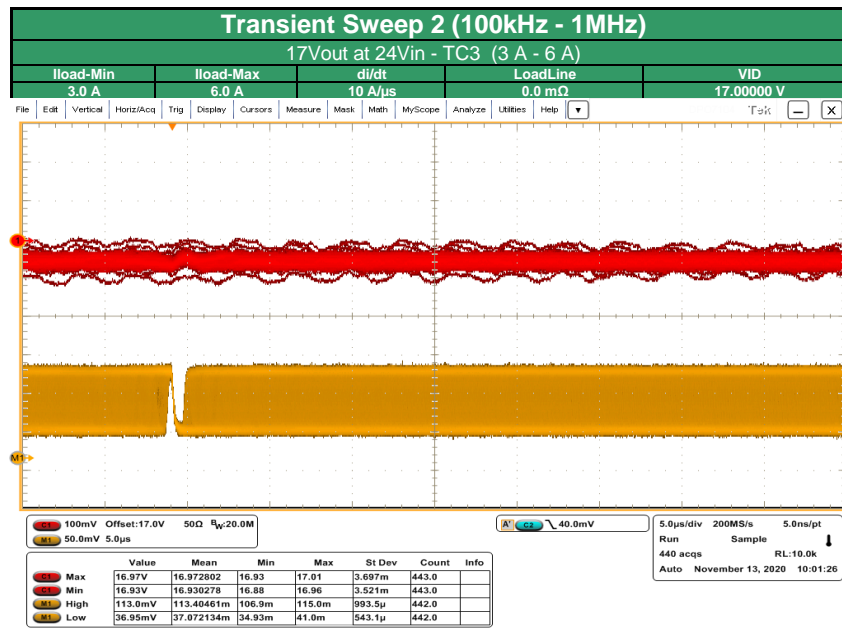
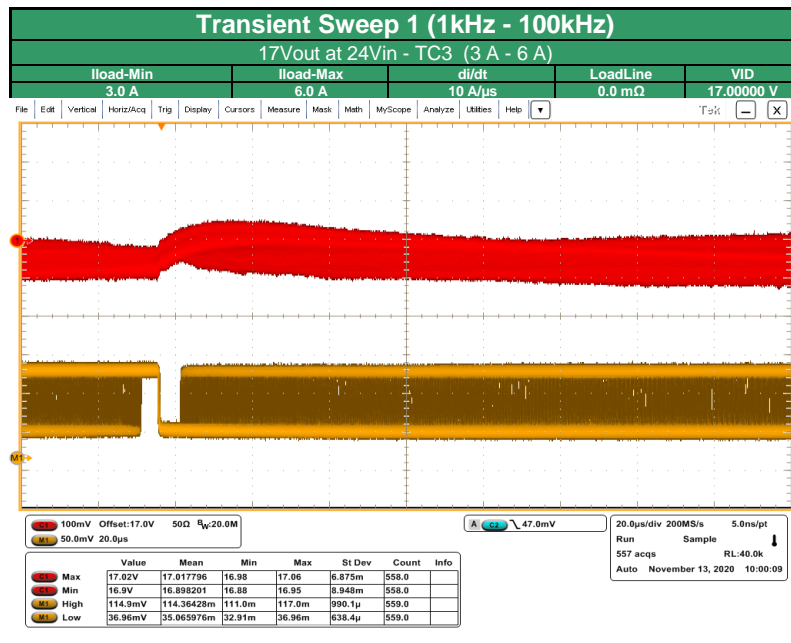
Results Summary				
	Meas. %	Margin	LRR	Max/Min Value
Min Droop	0.40%	527.0 mV	1.0 kHz	16.856 V
Max Overshoot	0.52%	507.0 mV	1.0 kHz	17.056 V

[illegible]

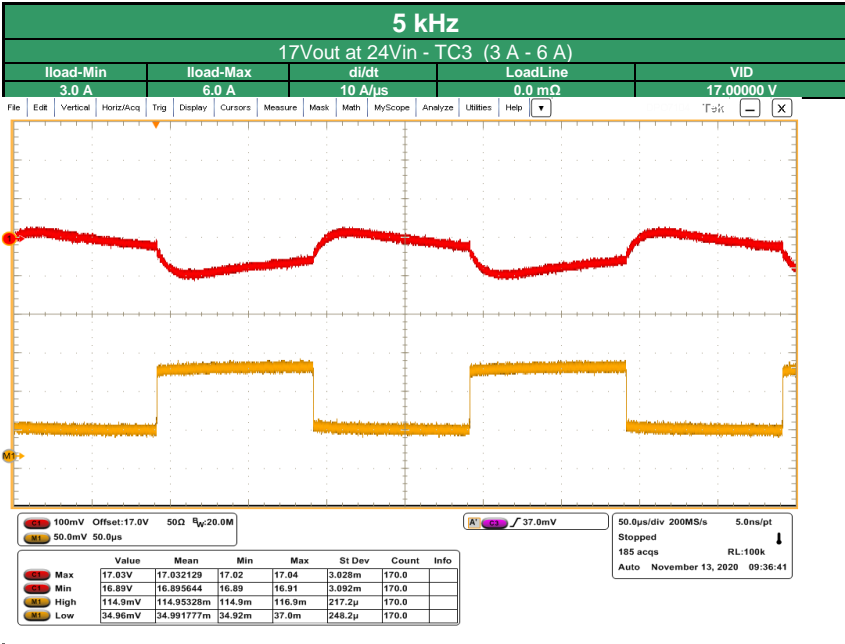
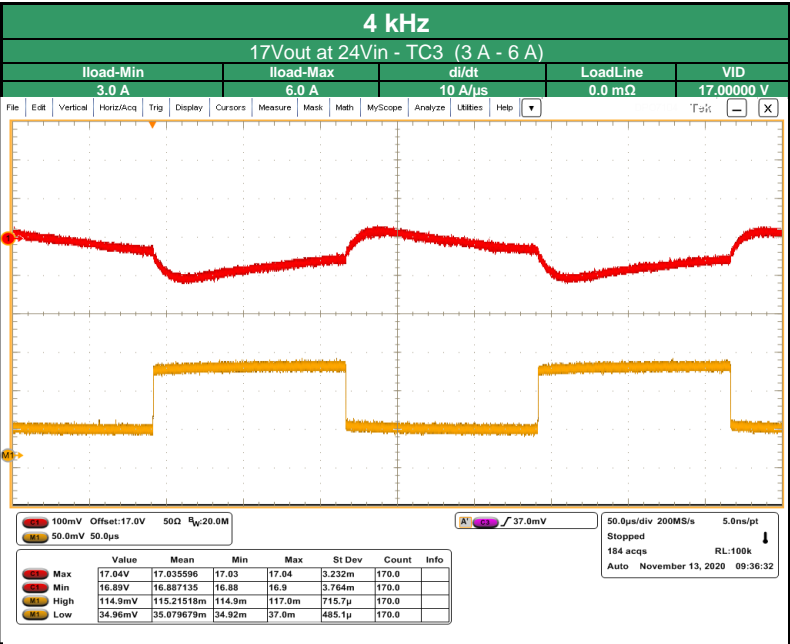
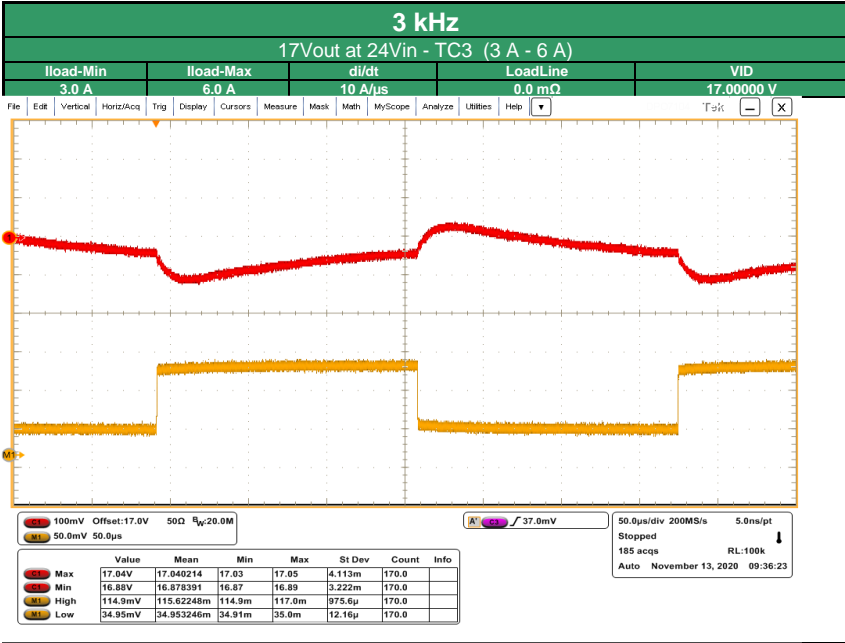
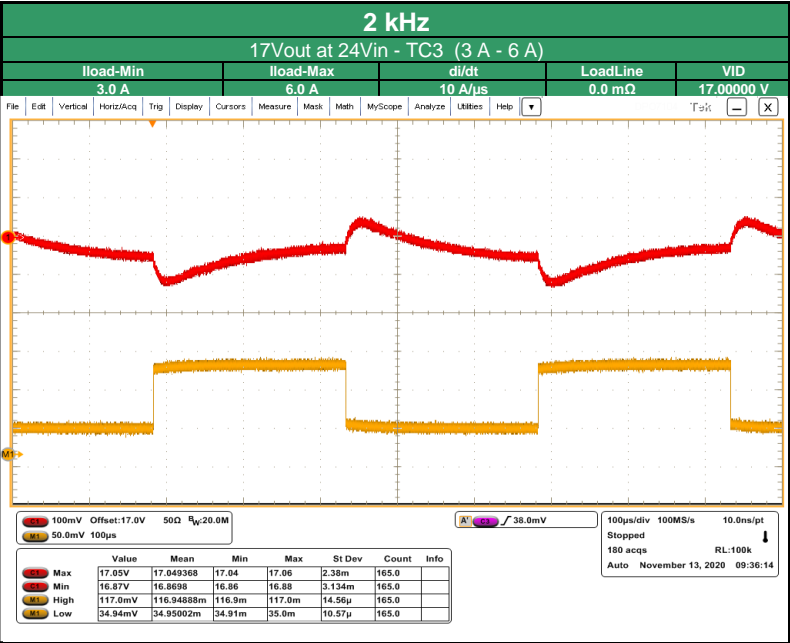
Transient Load Testing at 17Vout at 24Vin - TC3 - HIGH Load Test



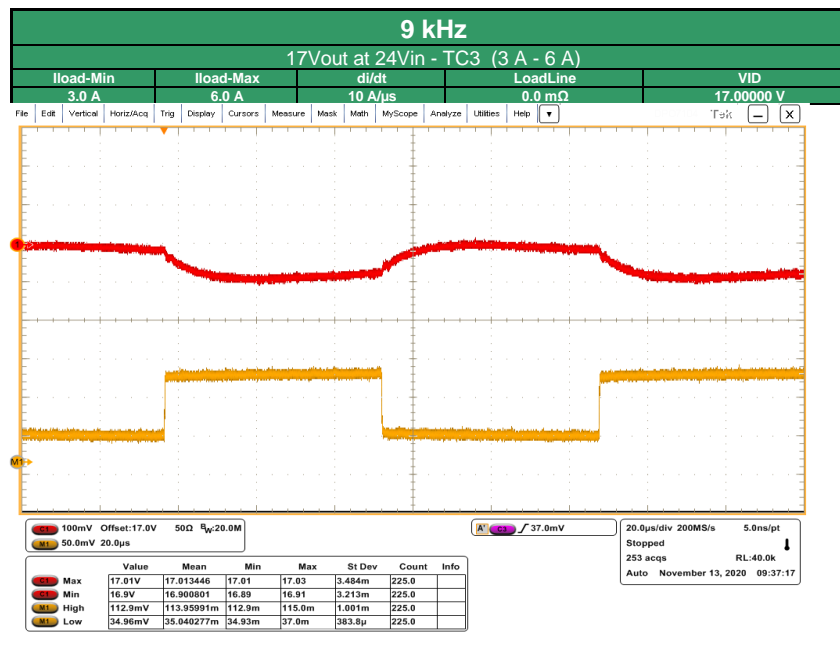
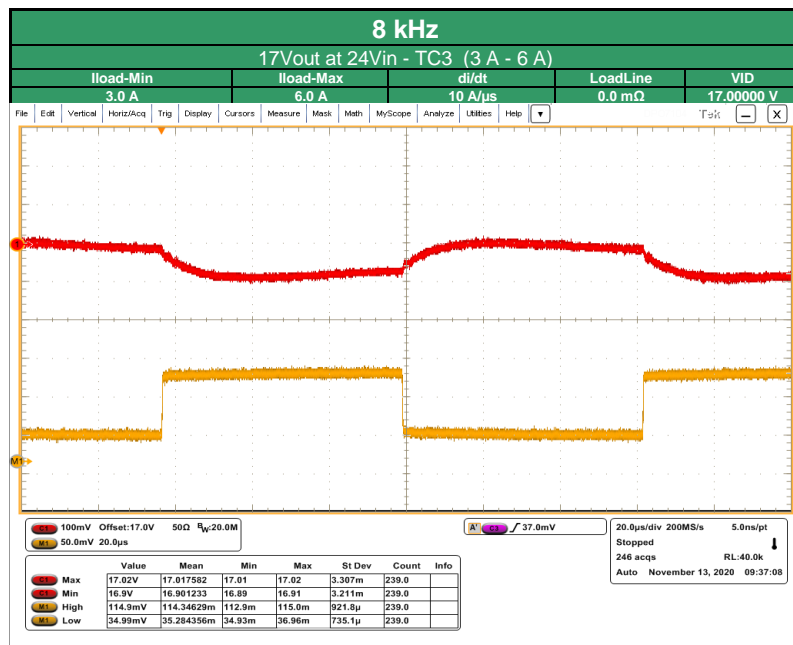
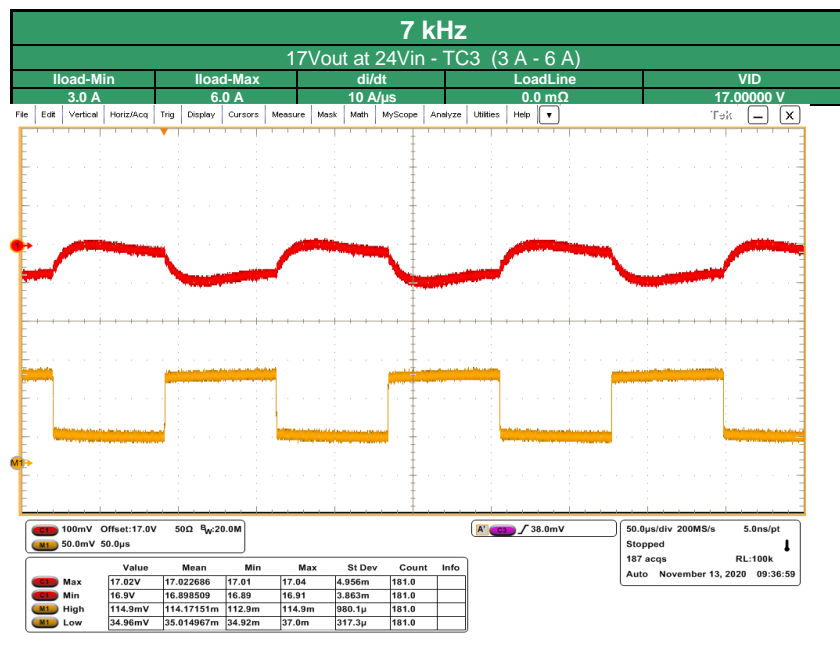
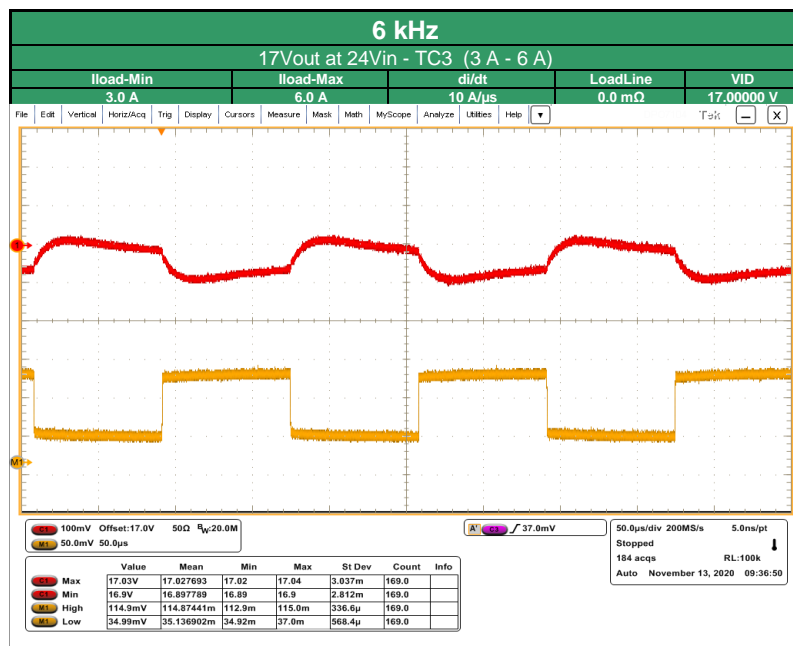
Transient Load Testing at 17Vout at 24Vin - TC3 - HIGH Load Test



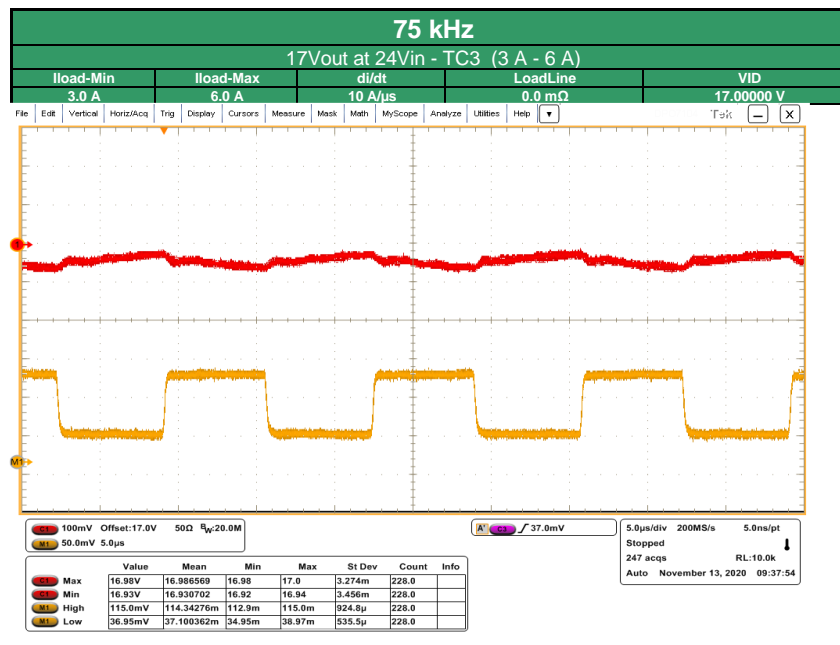
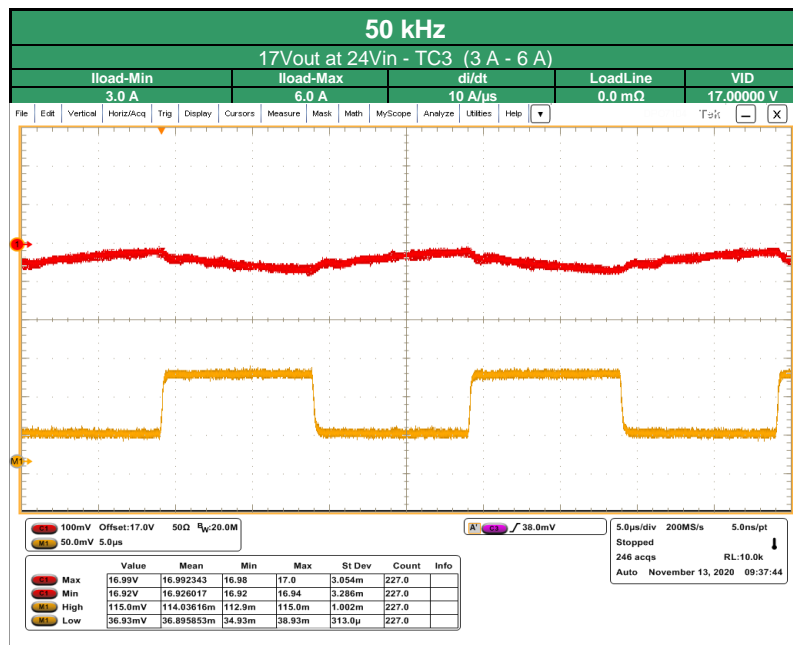
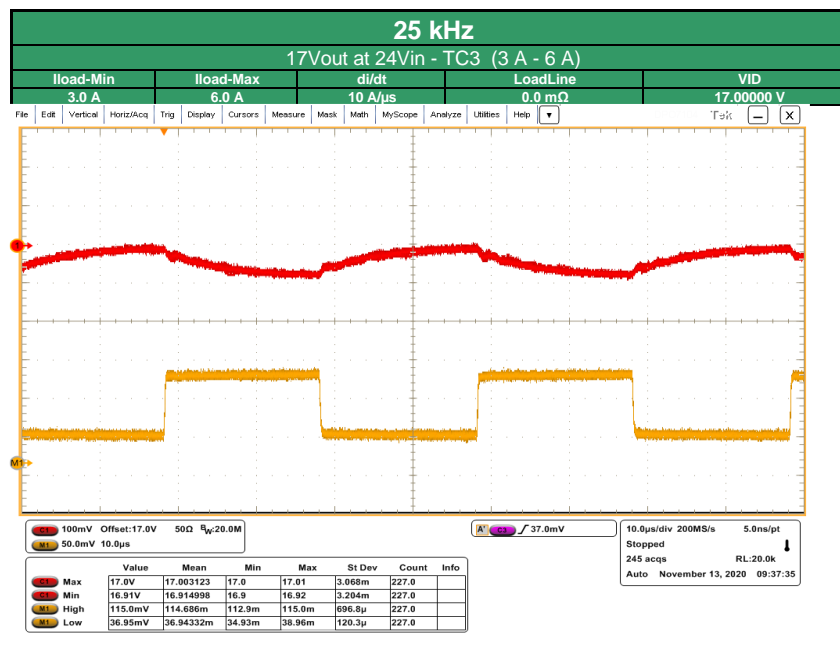
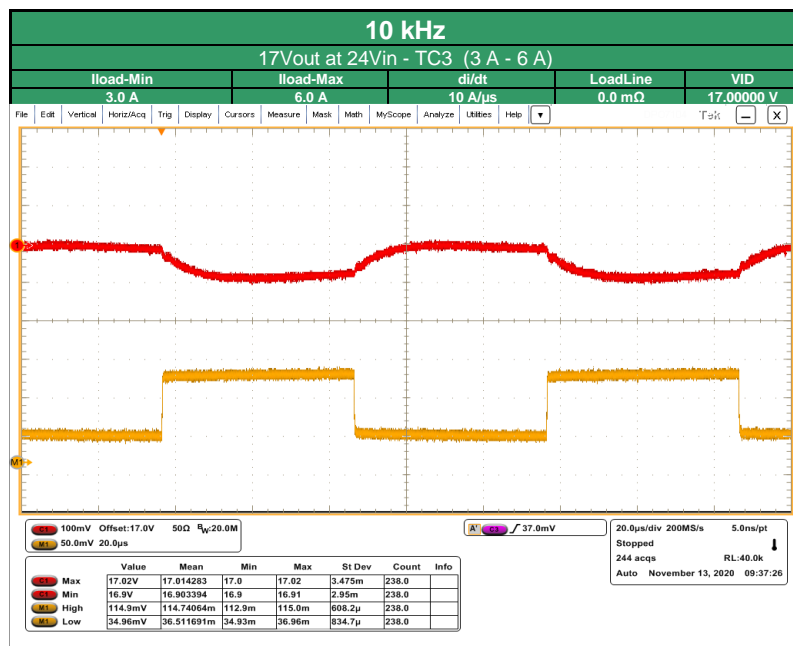
Transient Load Testing at 17Vout at 24Vin - TC3 - HIGH Load Test



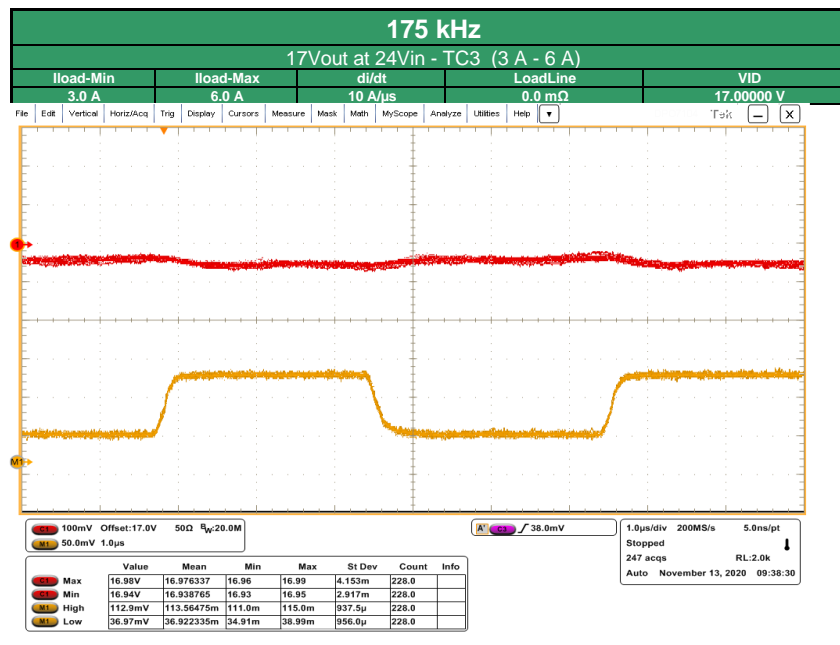
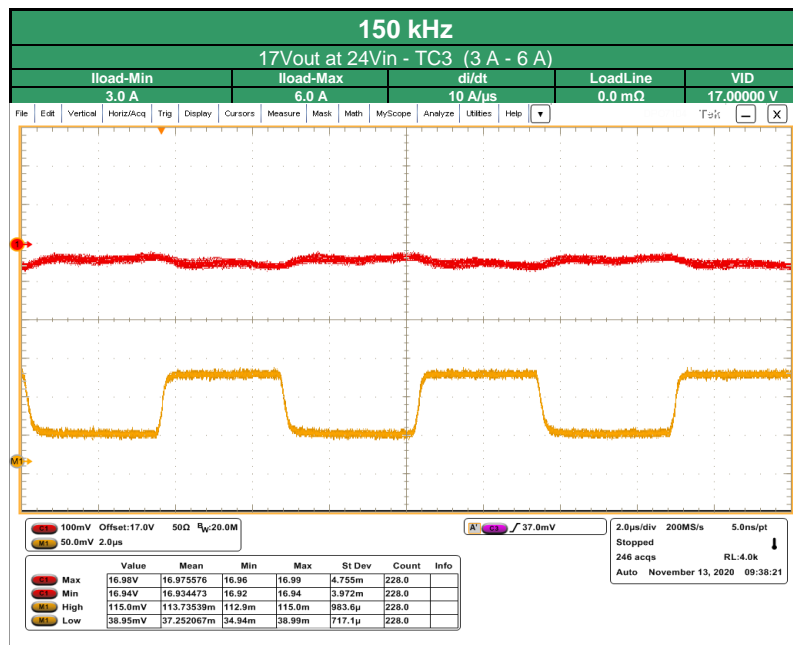
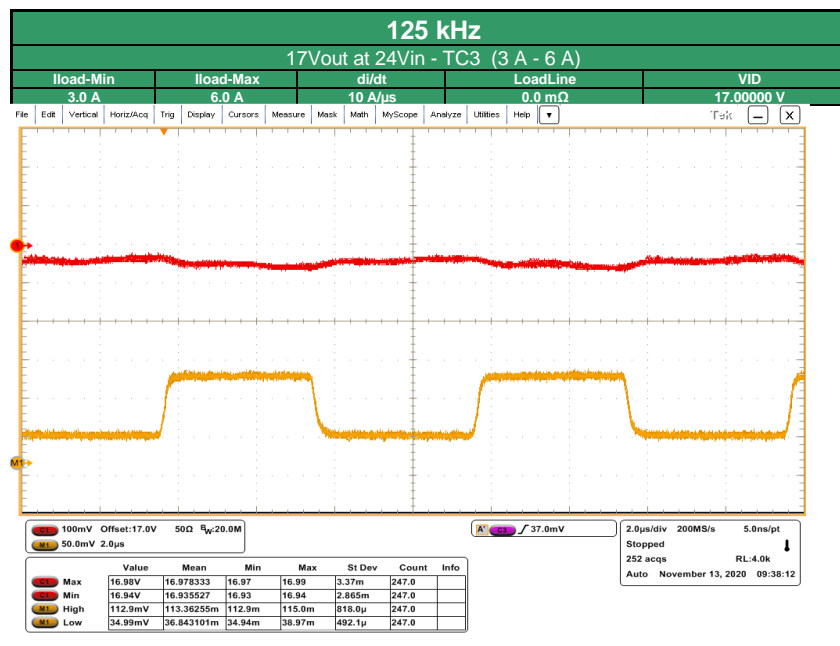
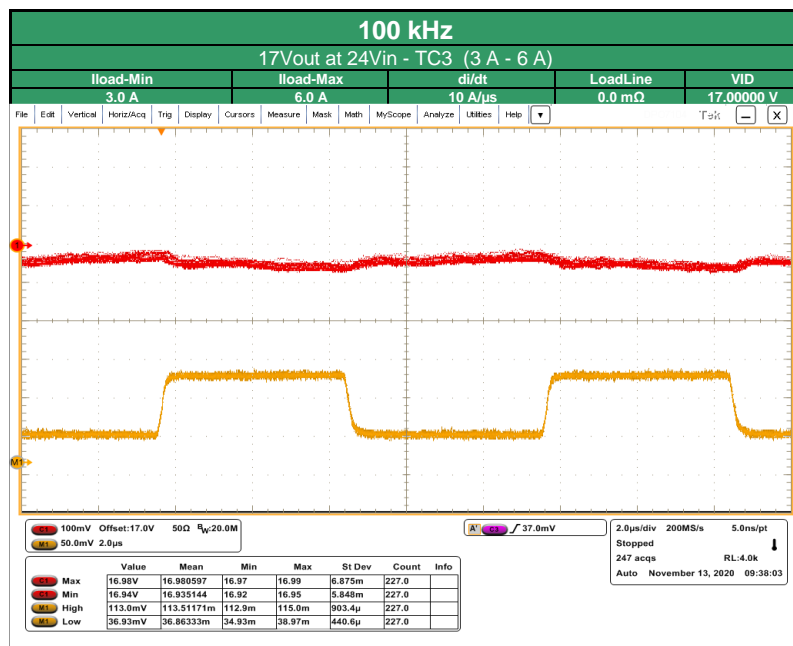
Transient Load Testing at 17Vout at 24Vin - TC3 - HIGH Load Test



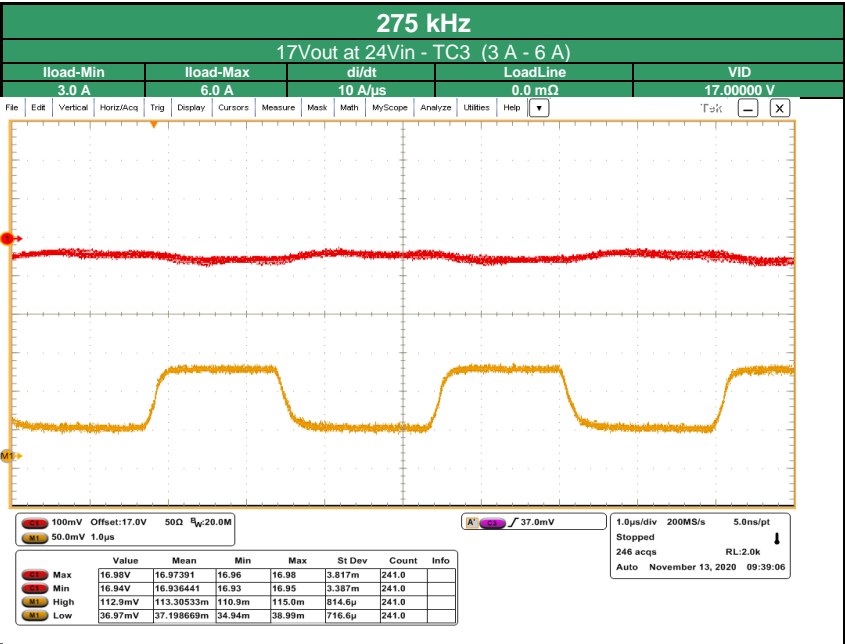
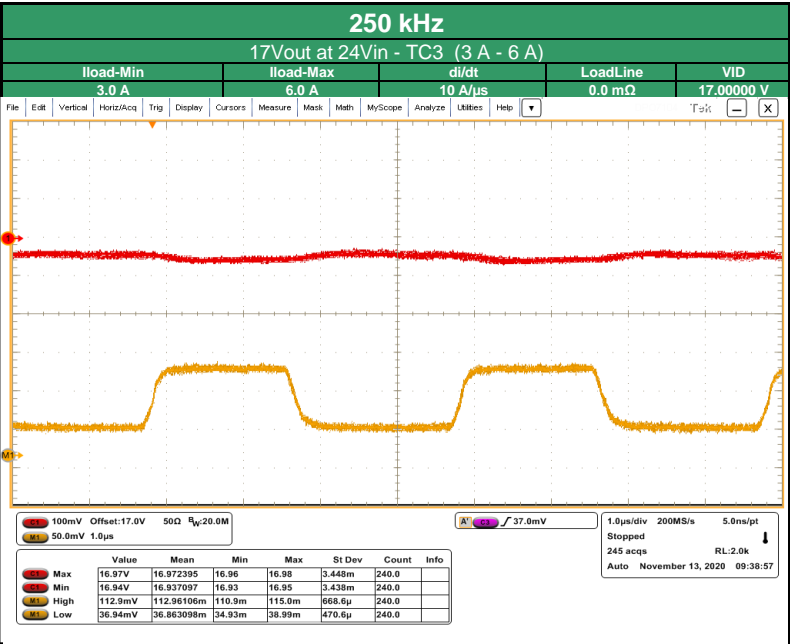
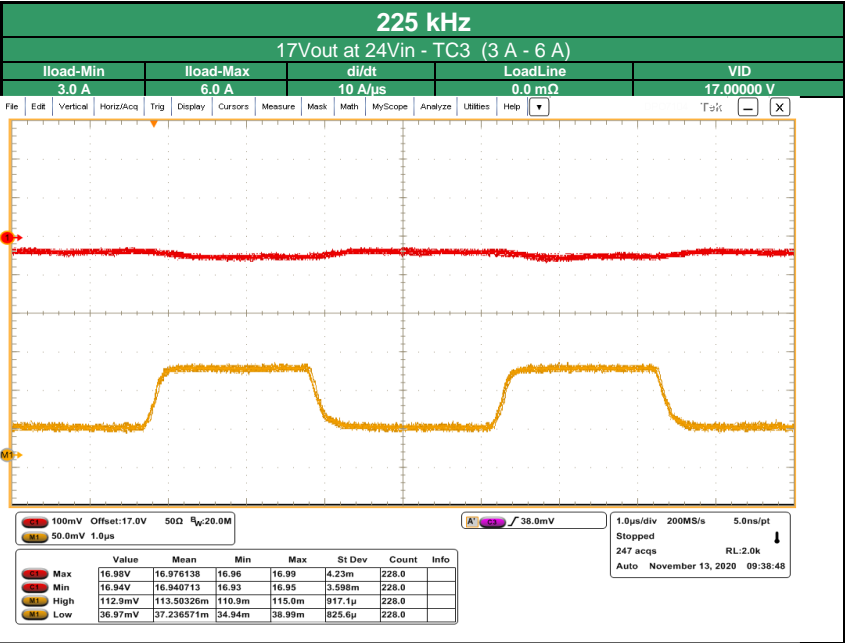
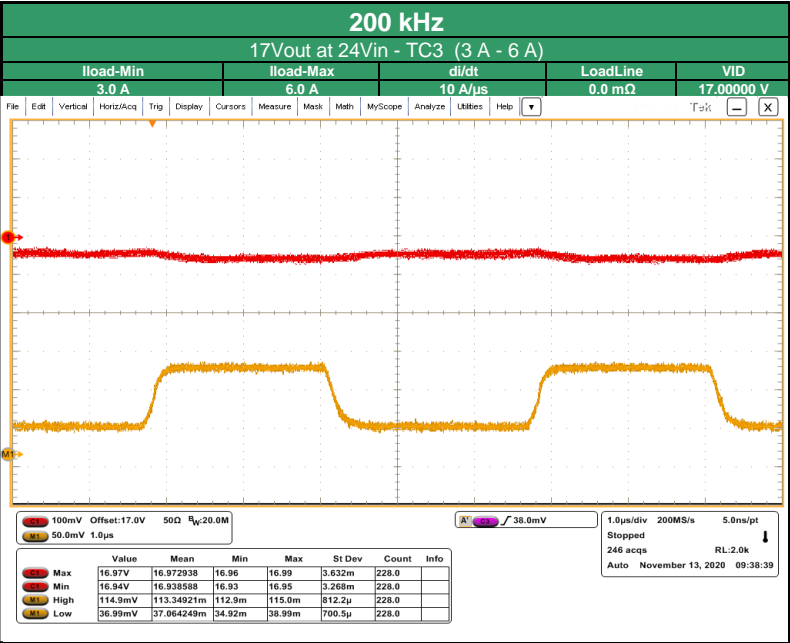
Transient Load Testing at 17Vout at 24Vin - TC3 - HIGH Load Test



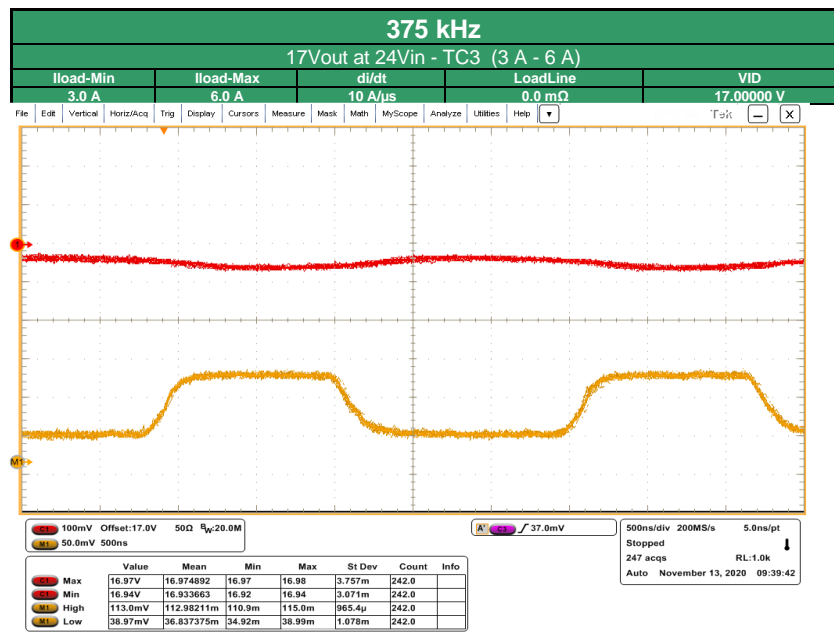
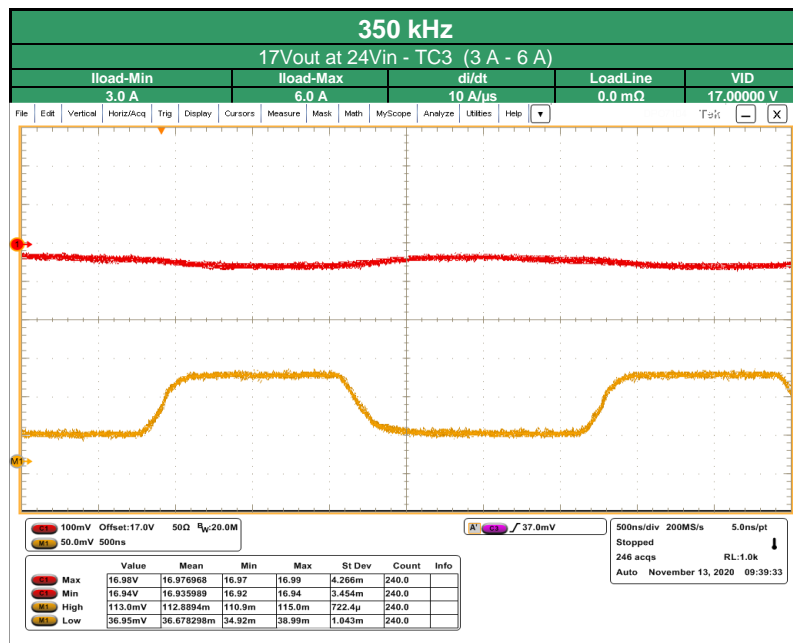
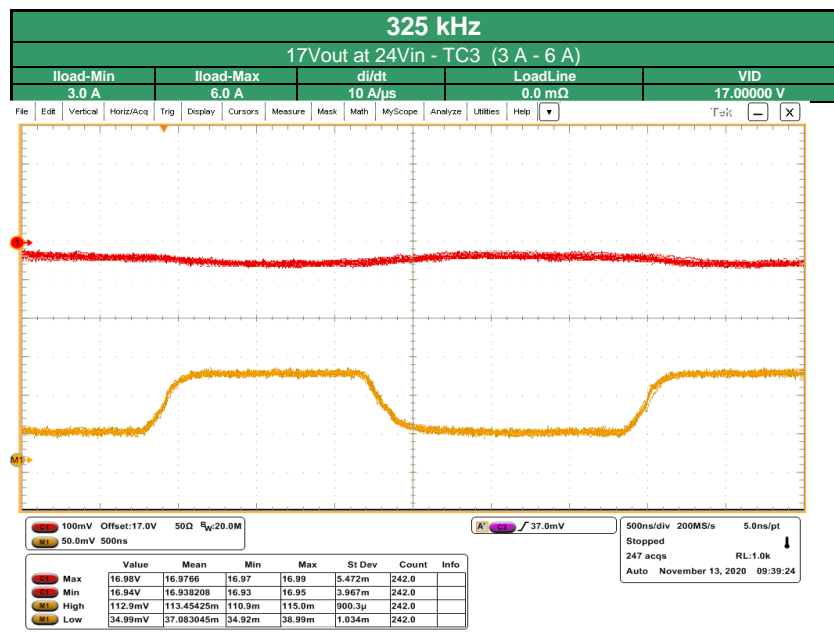
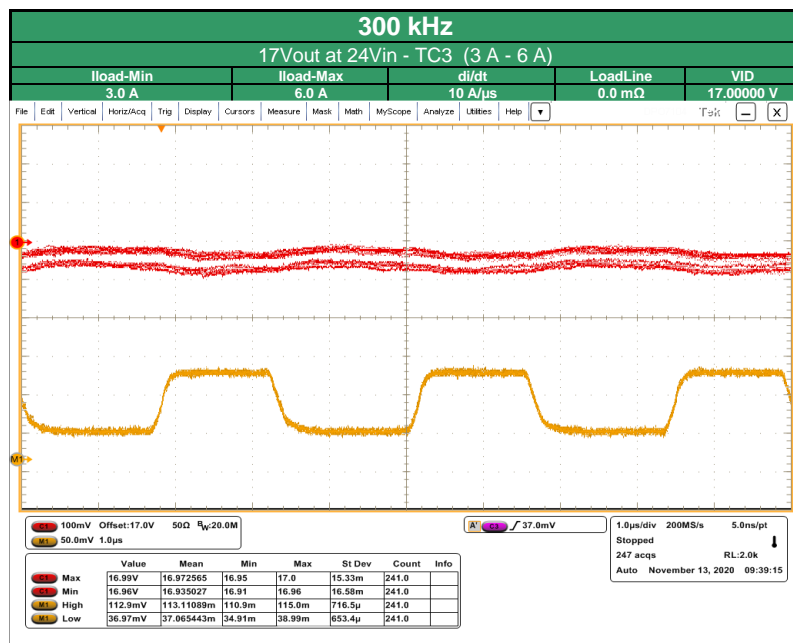
Transient Load Testing at 17Vout at 24Vin - TC3 - HIGH Load Test



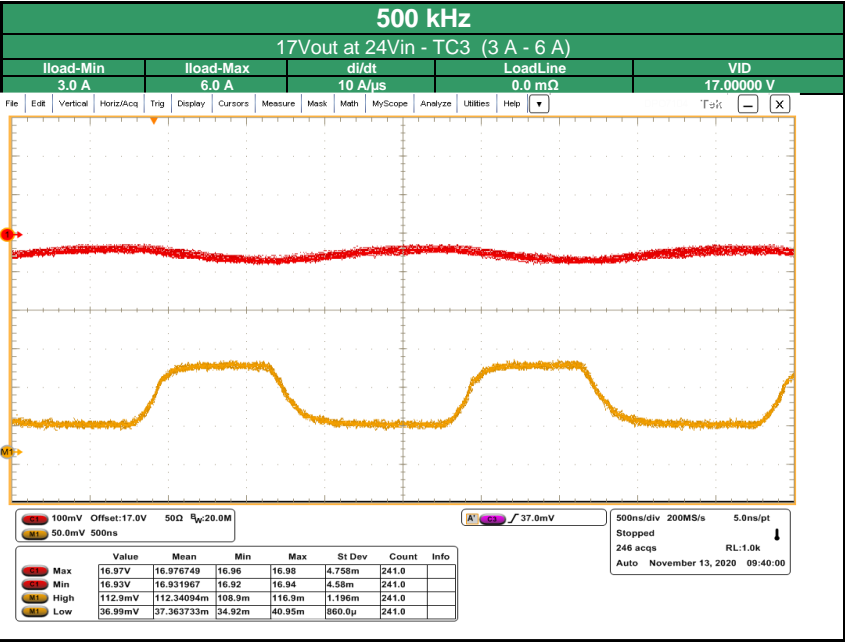
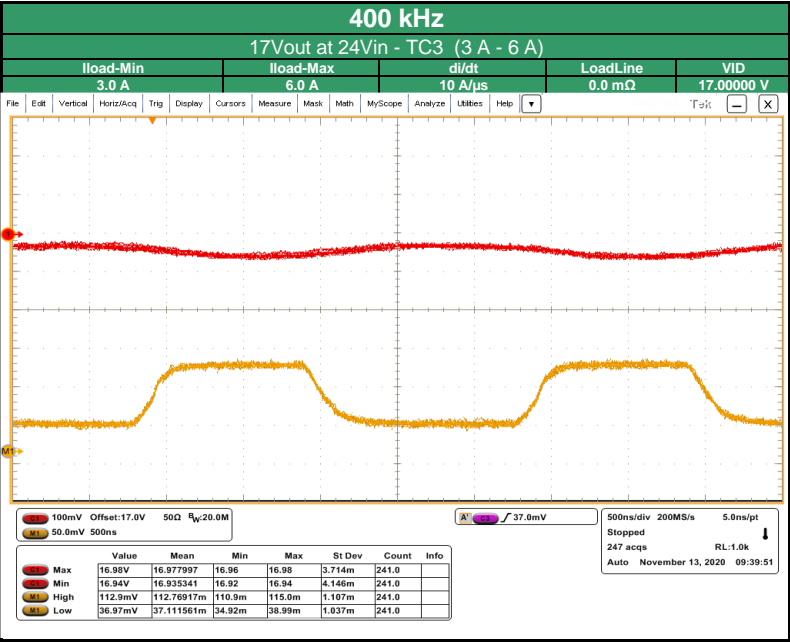
Transient Load Testing at 17Vout at 24Vin - TC3 - HIGH Load Test



Transient Load Testing at 17Vout at 24Vin - TC3 - HIGH Load Test



Transient Load Testing at 17Vout at 24Vin - TC3 - HIGH Load Test



Transient Load Testing at 17Vout at 24Vin - TC3 - LOW Load Test

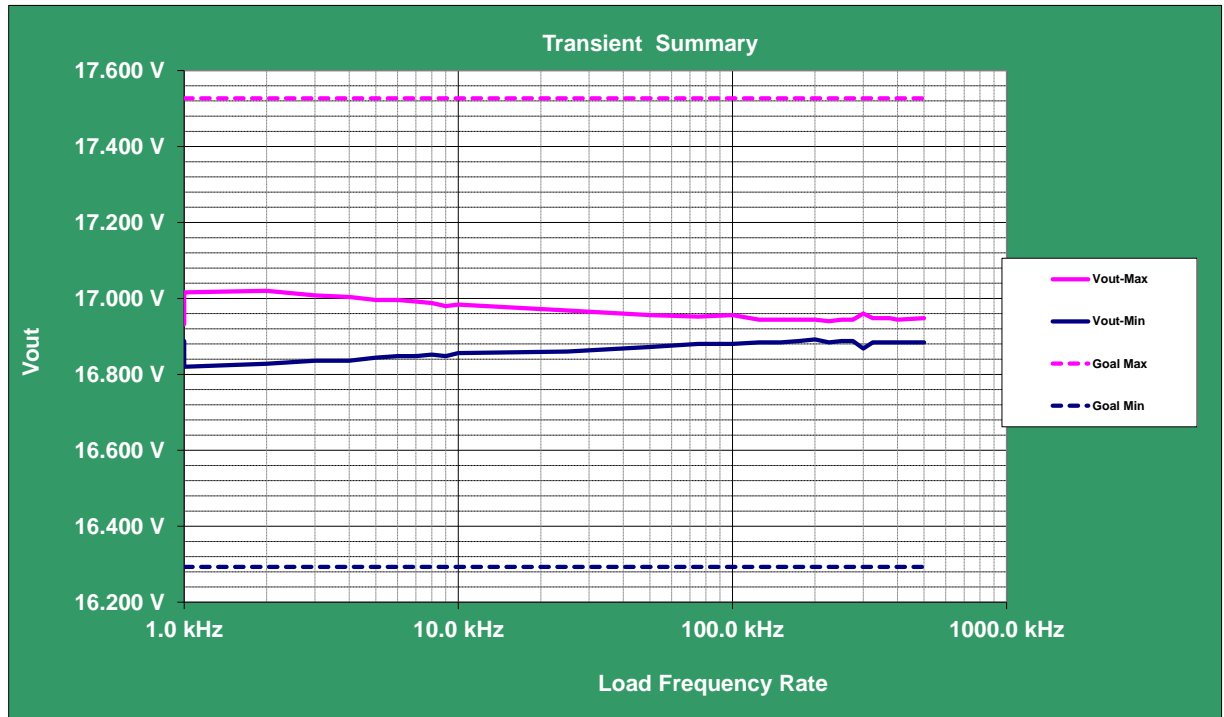
Test Setup	
Channel1	Vout
Channel2	Isense
Channel3	N/A
Channel4	SWN1
#Tests	28

Transient Reference Levels	16.888 V	Drop
	16.932 V	Over shoot

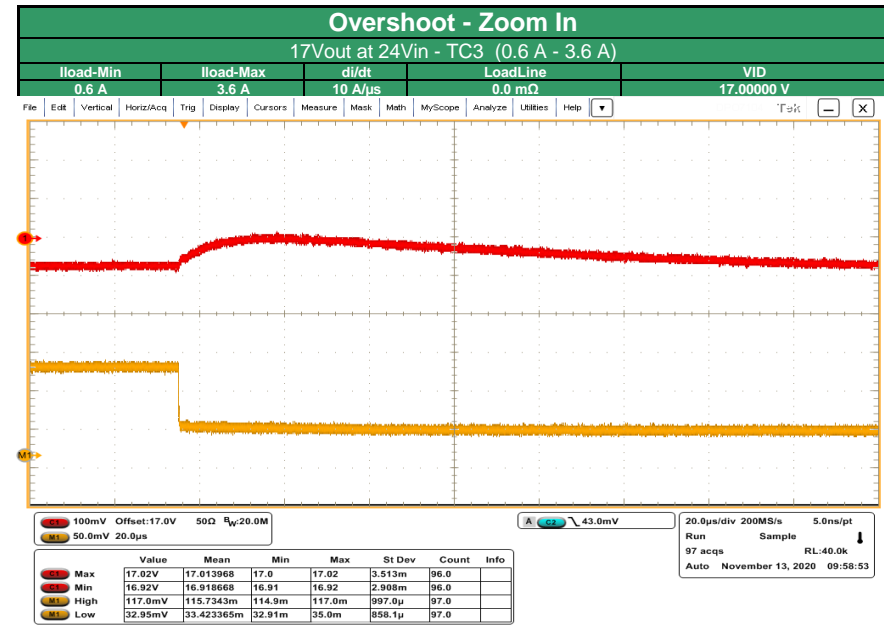
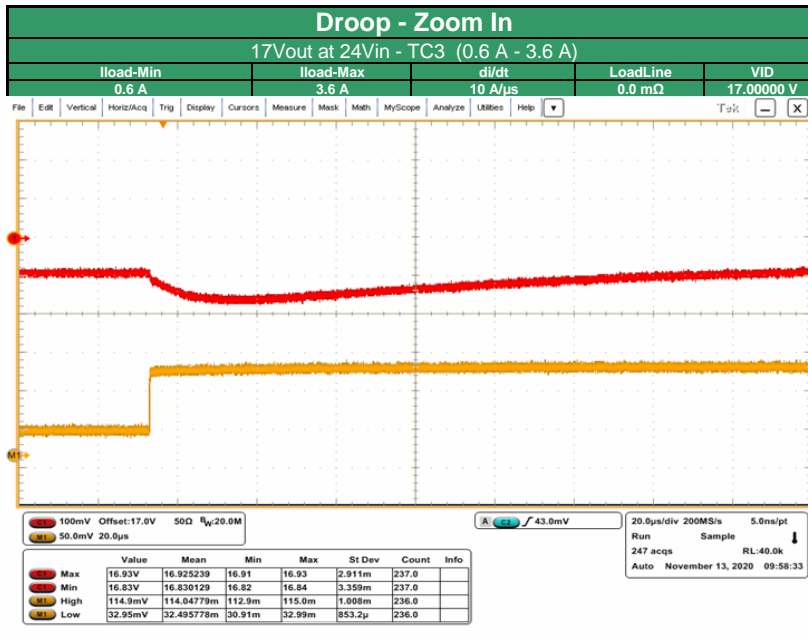
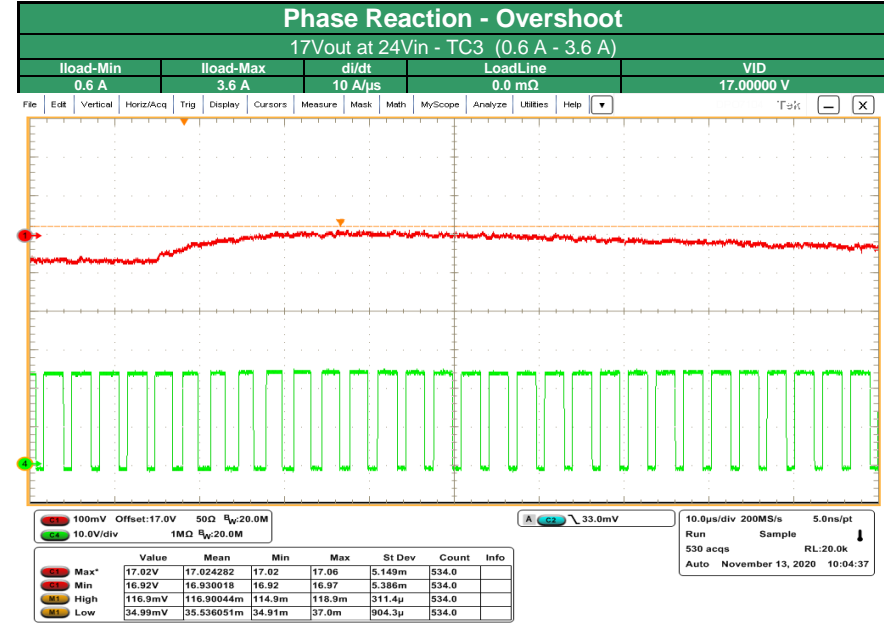
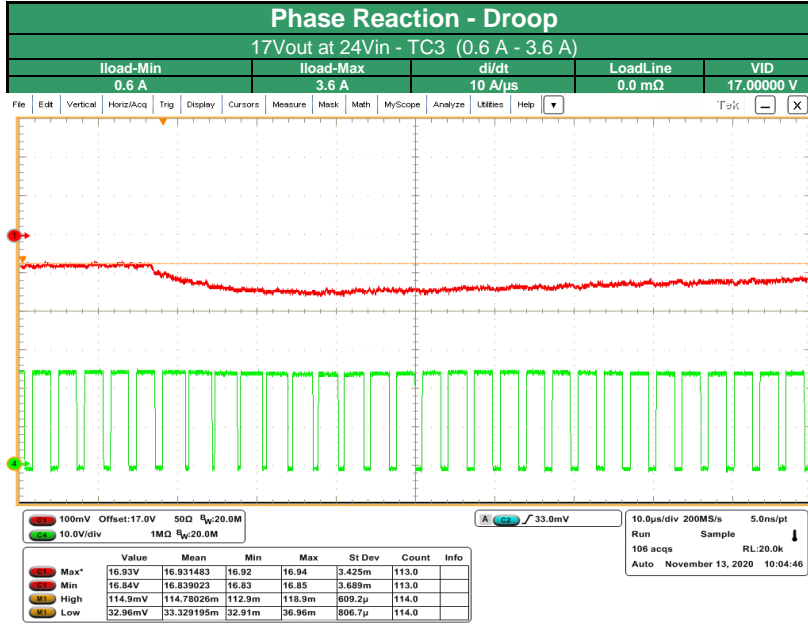
Test Details	
Test Name	17Vout at 24Vin - TC3
VID	17.00000 V
Load Line	0.0 mΩ
Min Current	0.6 A
Max Current	3.6 A
Current Step	3.0 A
Slew Rate	10 A/μs
Min Droop	16.293 V
Max Overshoot	17.527 V

Results Summary				
	Meas. %	Margin	LRR	Max/Min Value
Min Droop	0.40%	527.0 mV	1.0 kHz	16.820 V
Max Overshoot	0.52%	507.0 mV	2.0 kHz	17.020 V

LRR	Vmax	Result	Vmin	Result
1.0 kHz	16.932 V	PASS	16.888 V	PASS
1.0 kHz	17.016 V	PASS	16.820 V	PASS
2.0 kHz	17.020 V	PASS	16.828 V	PASS
3.0 kHz	17.008 V	PASS	16.836 V	PASS
4.0 kHz	17.004 V	PASS	16.836 V	PASS
5.0 kHz	16.996 V	PASS	16.844 V	PASS
6.0 kHz	16.996 V	PASS	16.848 V	PASS
7.0 kHz	16.992 V	PASS	16.848 V	PASS
8.0 kHz	16.988 V	PASS	16.852 V	PASS
9.0 kHz	16.980 V	PASS	16.848 V	PASS
10.0 kHz	16.984 V	PASS	16.856 V	PASS
25.0 kHz	16.968 V	PASS	16.860 V	PASS
50.0 kHz	16.956 V	PASS	16.872 V	PASS
75.0 kHz	16.952 V	PASS	16.880 V	PASS
100.0 kHz	16.956 V	PASS	16.880 V	PASS
125.0 kHz	16.944 V	PASS	16.884 V	PASS
150.0 kHz	16.944 V	PASS	16.884 V	PASS
175.0 kHz	16.944 V	PASS	16.888 V	PASS
200.0 kHz	16.944 V	PASS	16.892 V	PASS
225.0 kHz	16.940 V	PASS	16.884 V	PASS
250.0 kHz	16.944 V	PASS	16.888 V	PASS
275.0 kHz	16.944 V	PASS	16.888 V	PASS
300.0 kHz	16.960 V	PASS	16.868 V	PASS
325.0 kHz	16.948 V	PASS	16.884 V	PASS
350.0 kHz	16.948 V	PASS	16.884 V	PASS
375.0 kHz	16.948 V	PASS	16.884 V	PASS
400.0 kHz	16.944 V	PASS	16.884 V	PASS
500.0 kHz	16.948 V	PASS	16.884 V	PASS



Transient Load Testing at 17Vout at 24Vin - TC3 - LOW Load Test

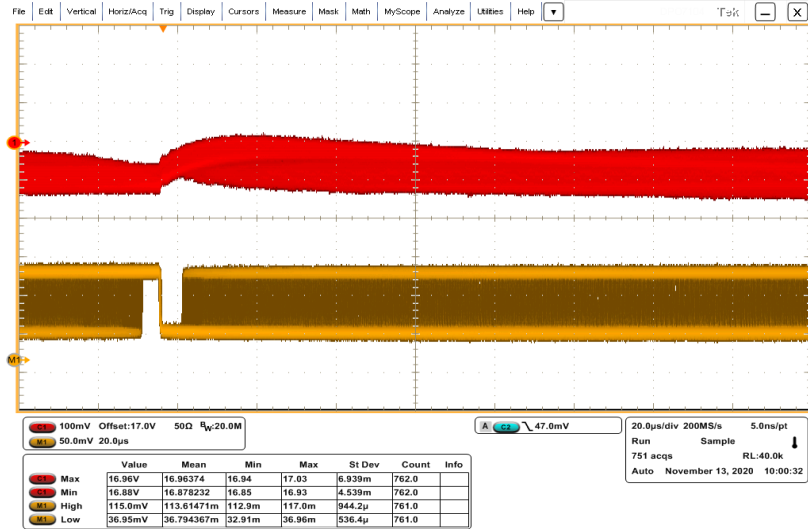


Transient Load Testing at 17Vout at 24Vin - TC3 - LOW Load Test

Transient Sweep 1 (1kHz - 100kHz)

17Vout at 24Vin - TC3 (0.6 A - 3.6 A)

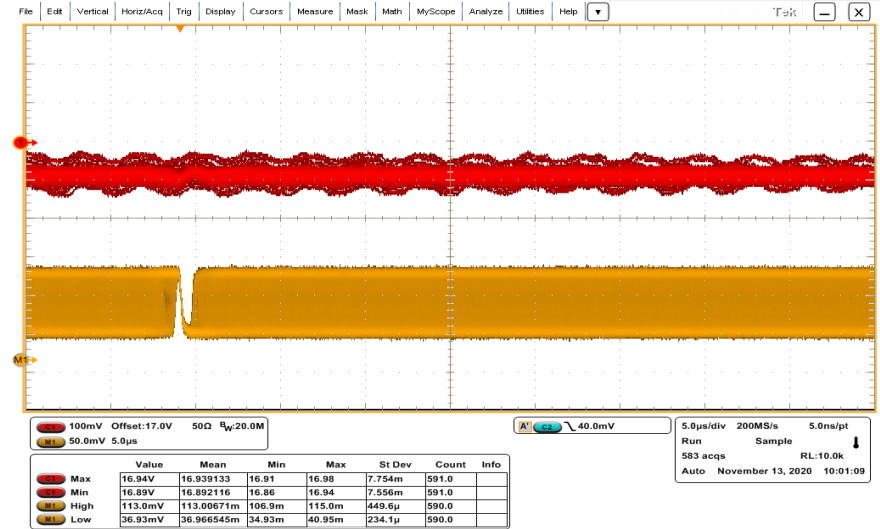
Iload-Min	Iload-Max	di/dt	LoadLine	VID
0.6 A	3.6 A	10 A/μs	0.0 mΩ	17.00000 V



Transient Sweep 2 (100kHz - 1MHz)

17Vout at 24Vin - TC3 (0.6 A - 3.6 A)

Iload-Min	Iload-Max	di/dt	LoadLine	VID
0.6 A	3.6 A	10 A/μs	0.0 mΩ	17.00000 V



1 kHz

17Vout at 24Vin - TC3 (0.6 A - 3.6 A)

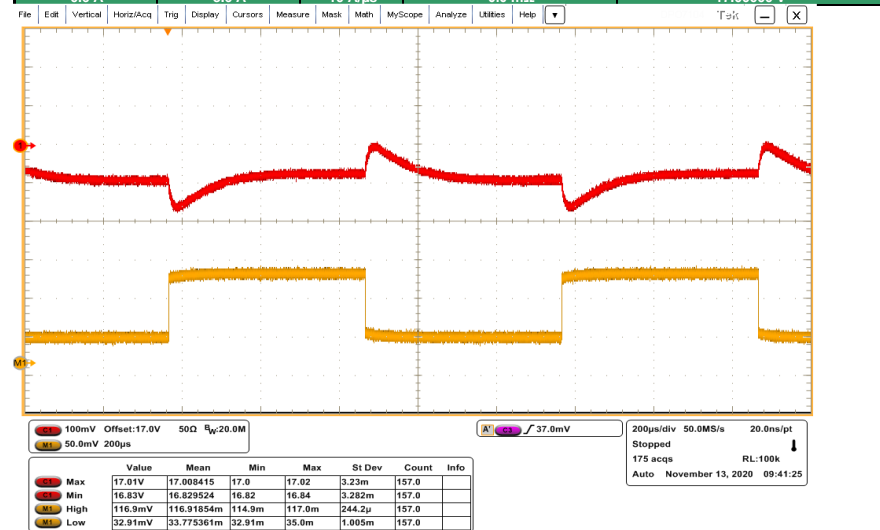
Iload-Min	Iload-Max	di/dt	LoadLine	VID
0.6 A	3.6 A	10 A/μs	0.0 mΩ	17.00000 V



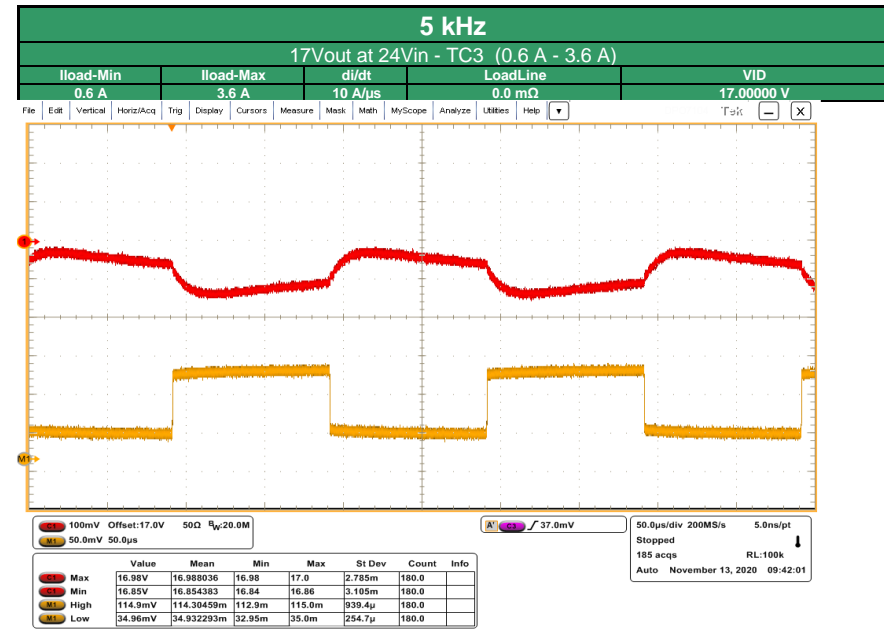
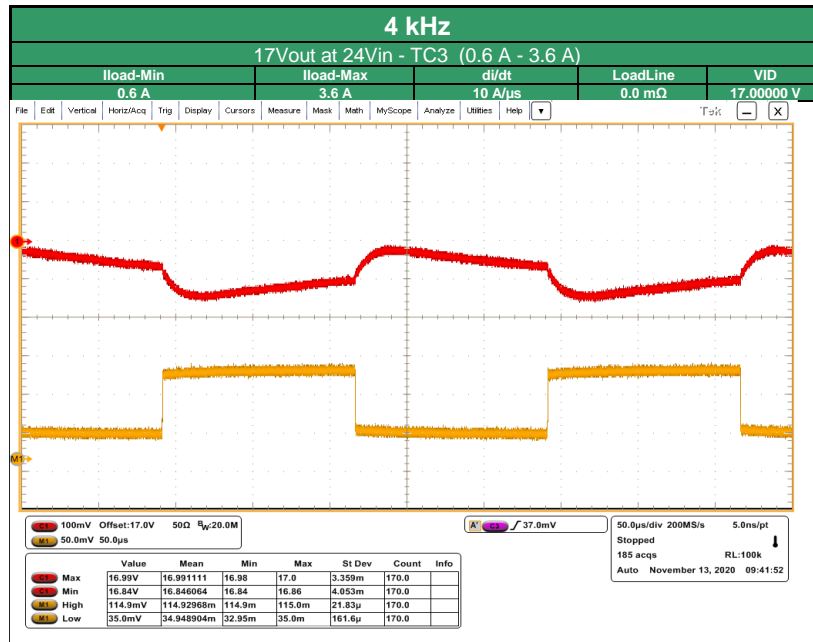
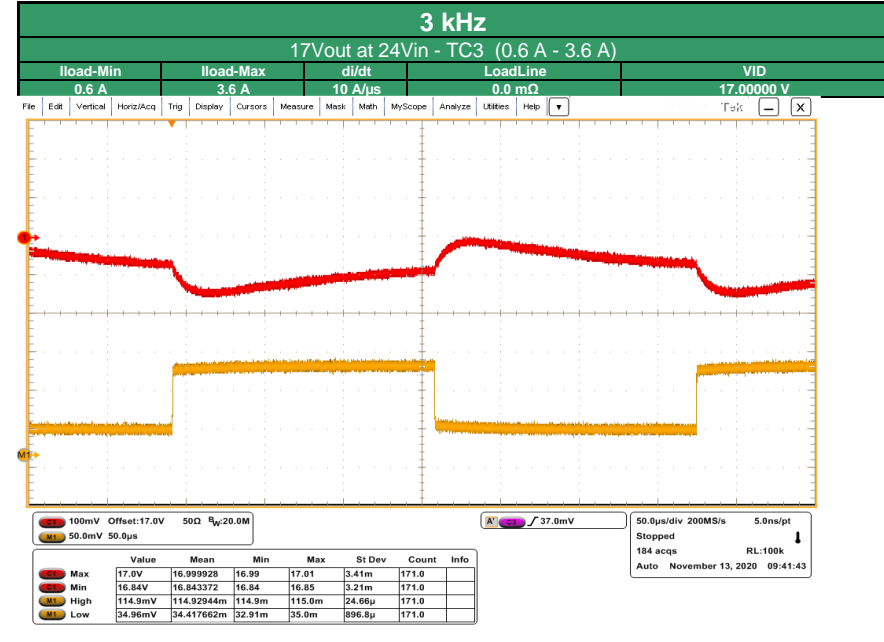
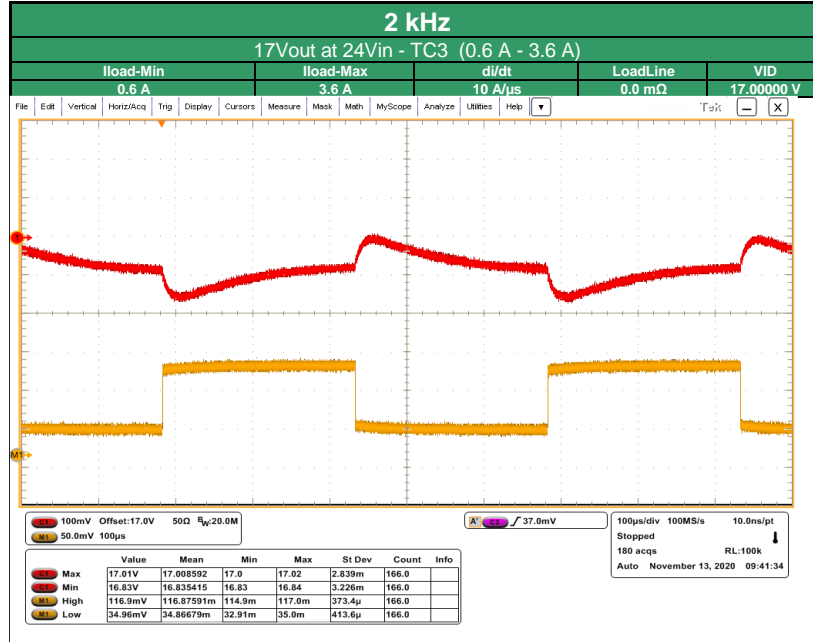
1 kHz

17Vout at 24Vin - TC3 (0.6 A - 3.6 A)

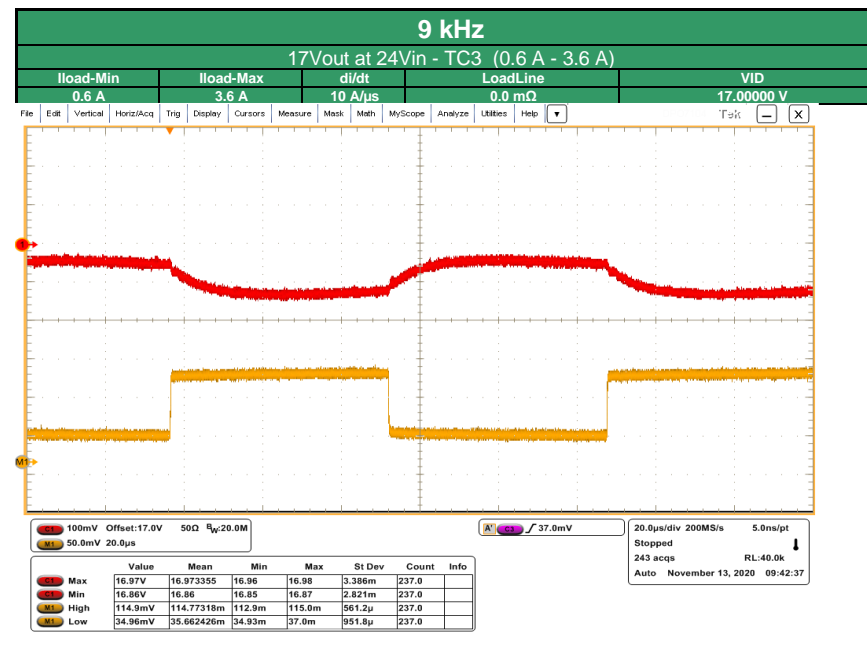
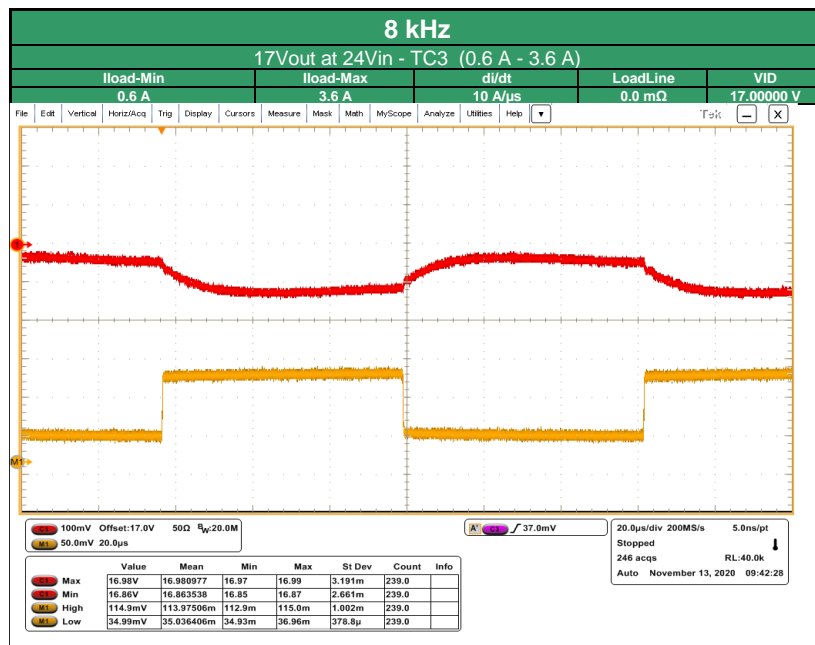
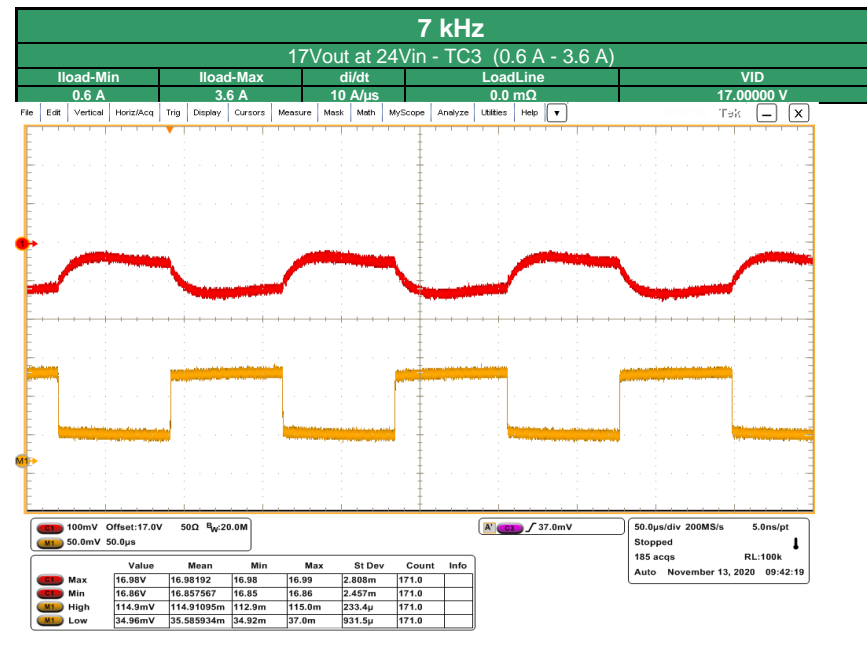
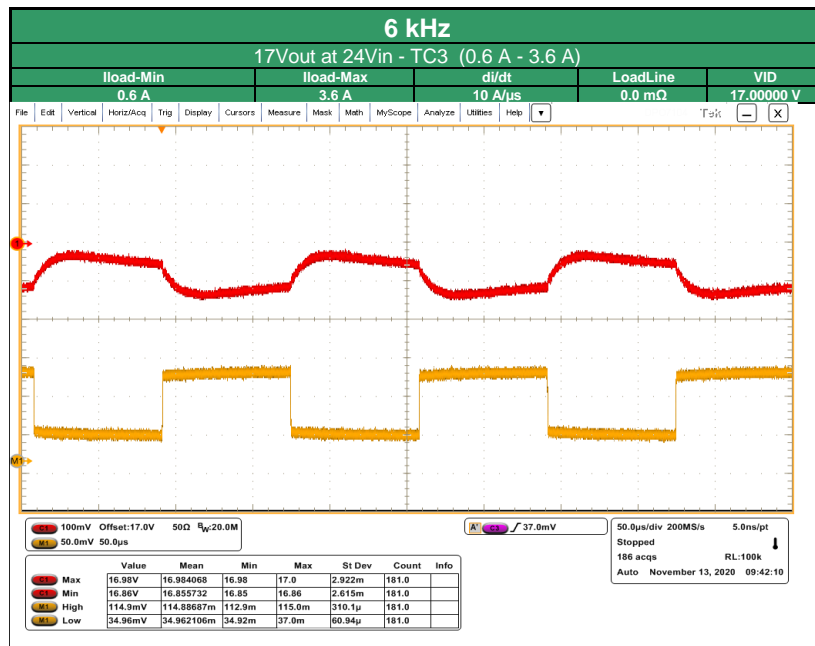
Iload-Min	Iload-Max	di/dt	LoadLine	VID
0.6 A	3.6 A	10 A/μs	0.0 mΩ	17.00000 V



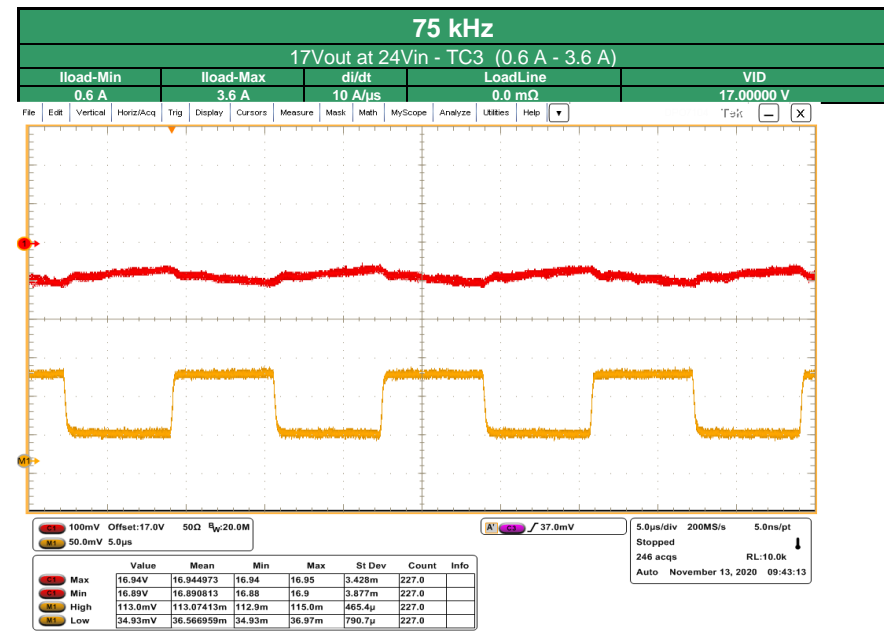
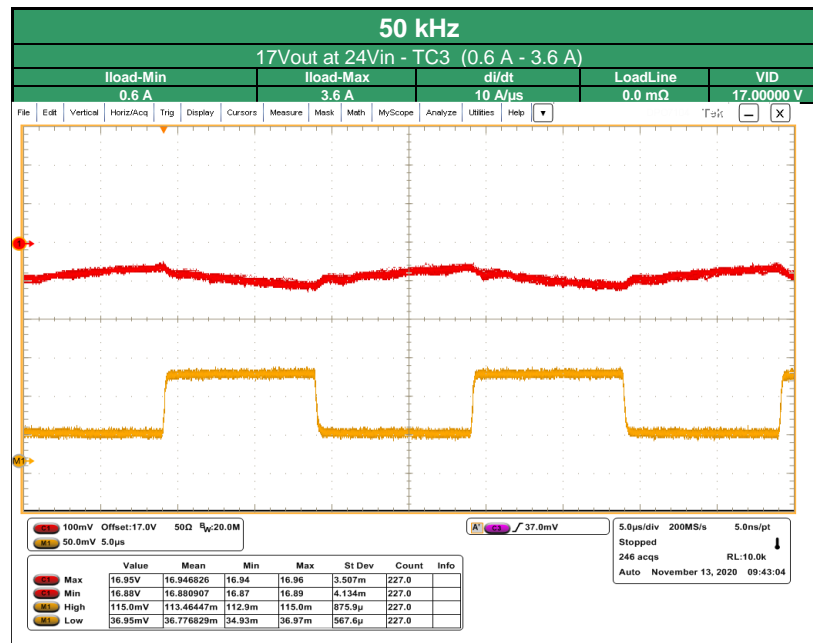
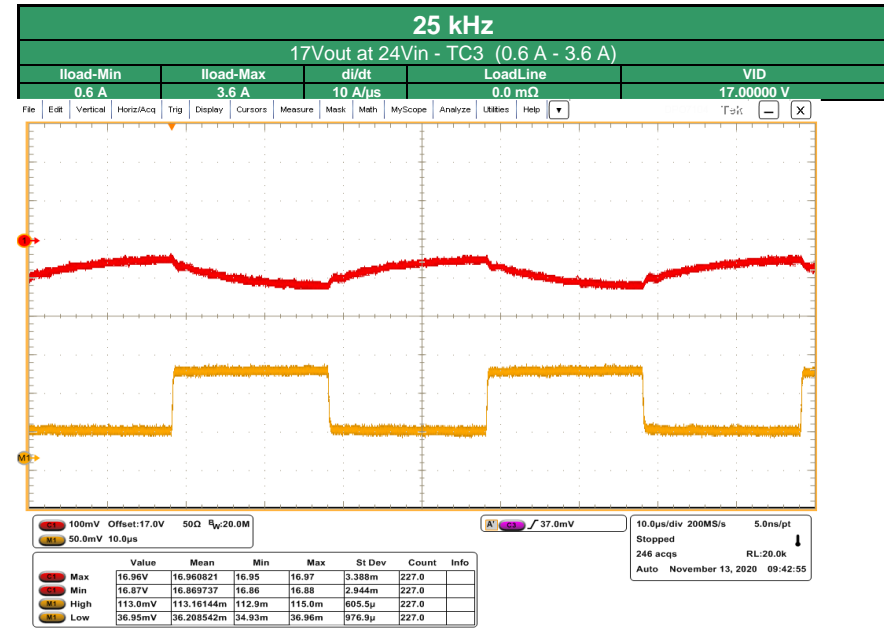
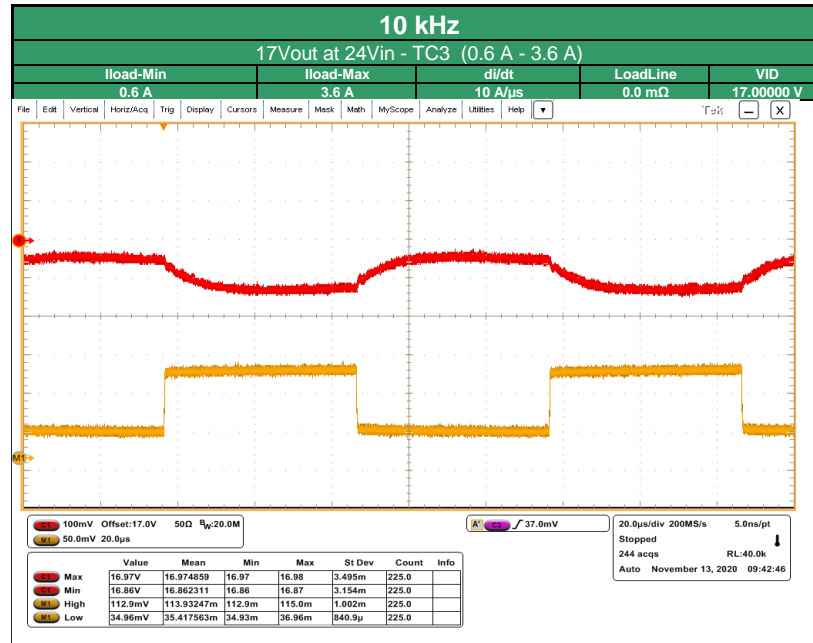
Transient Load Testing at 17Vout at 24Vin - TC3 - LOW Load Test



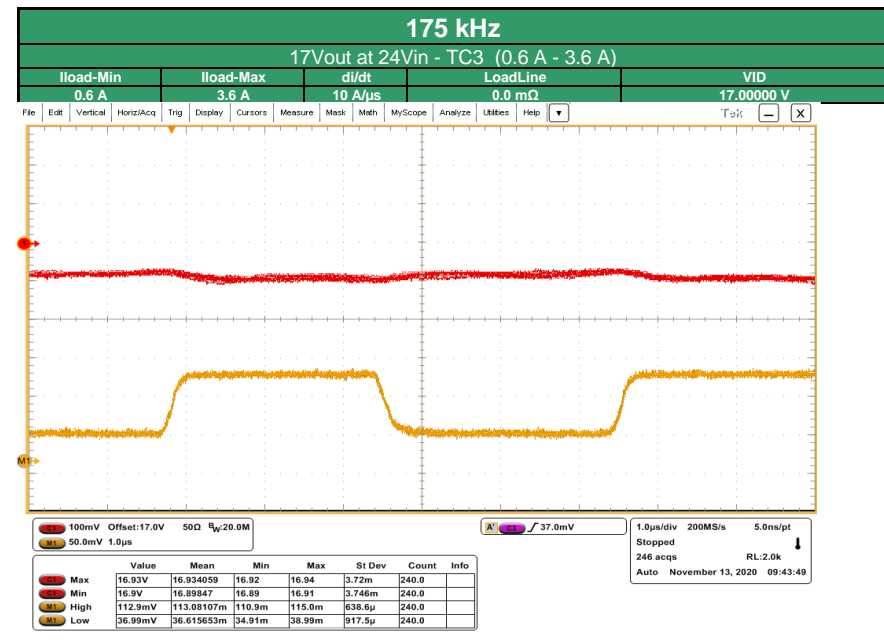
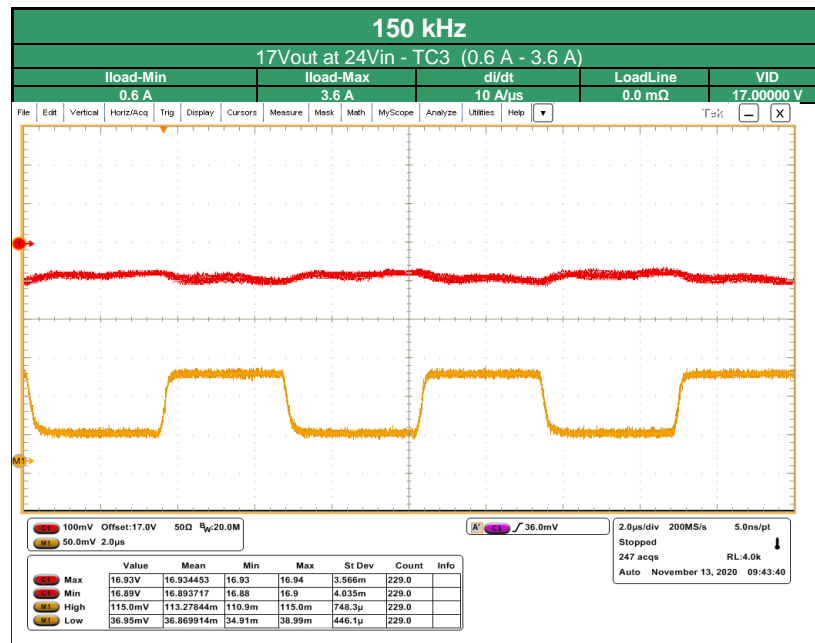
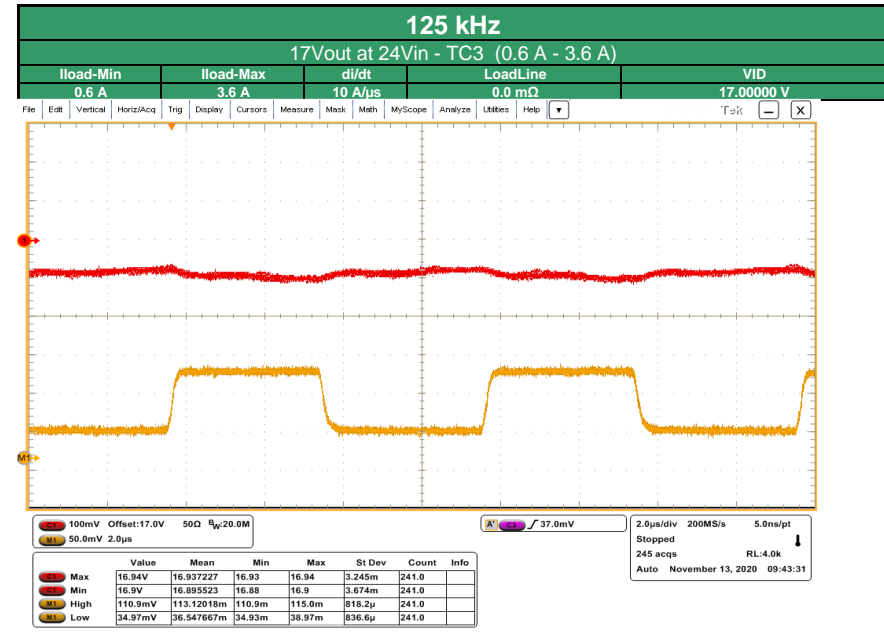
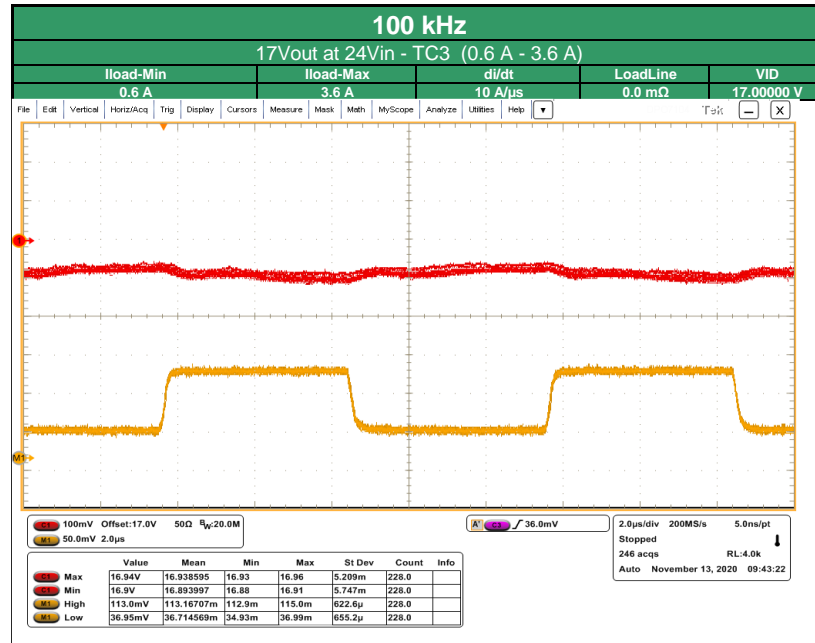
Transient Load Testing at 17Vout at 24Vin - TC3 - LOW Load Test



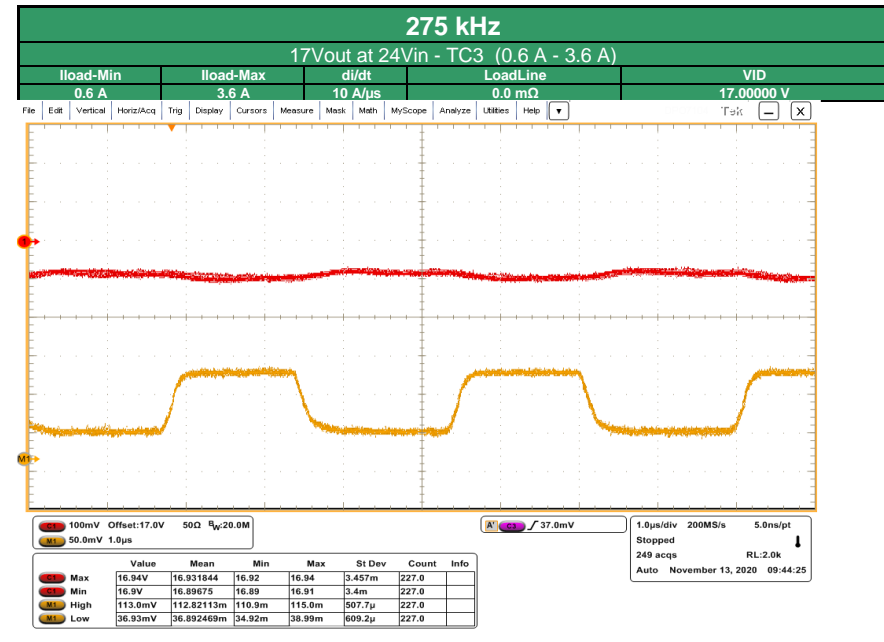
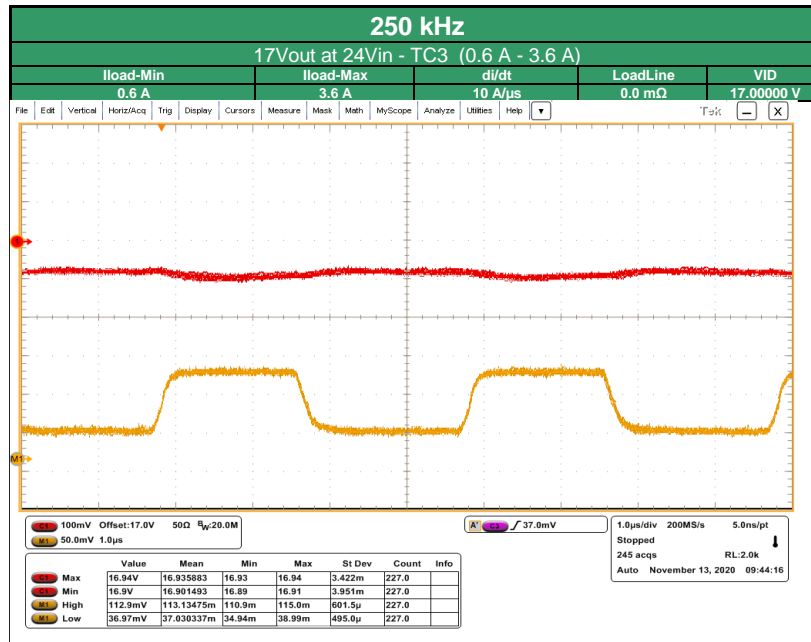
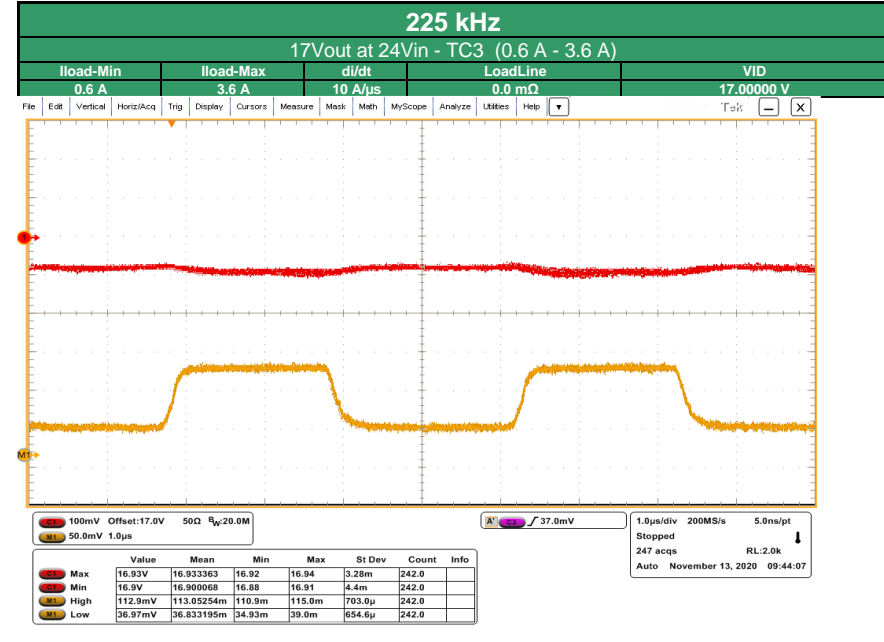
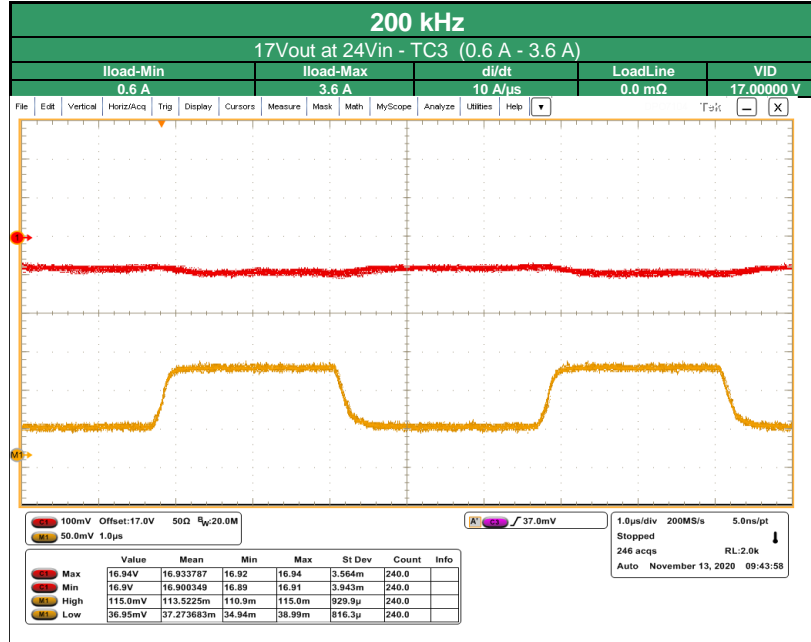
Transient Load Testing at 17Vout at 24Vin - TC3 - LOW Load Test



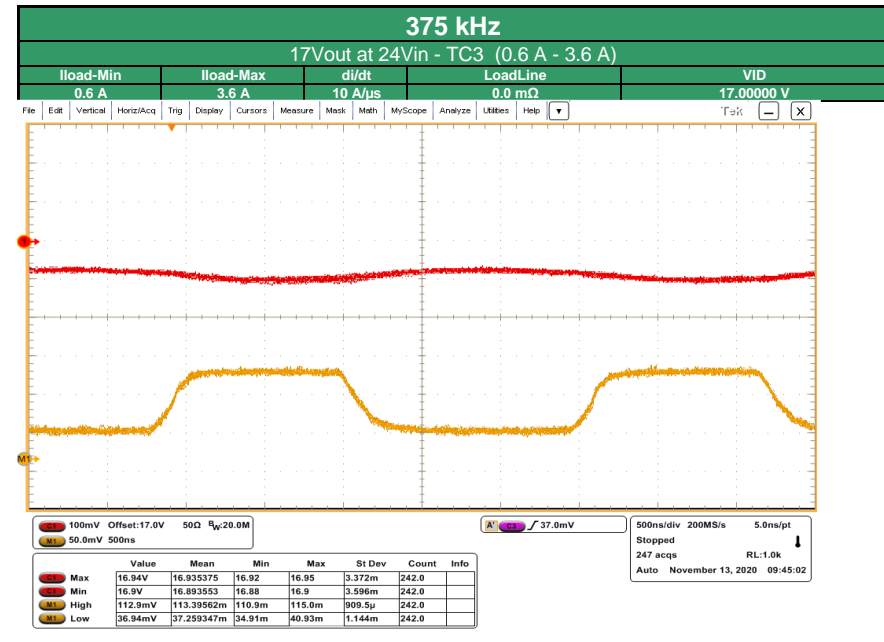
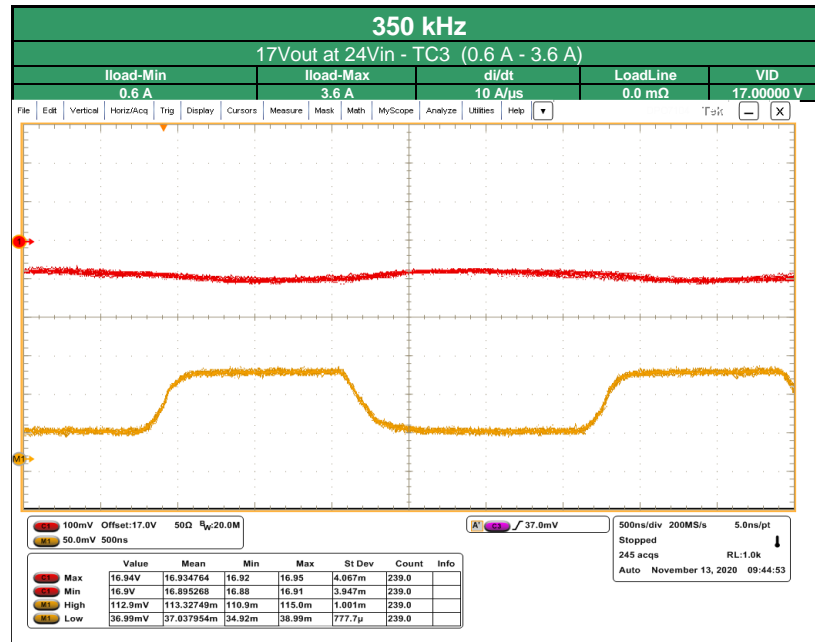
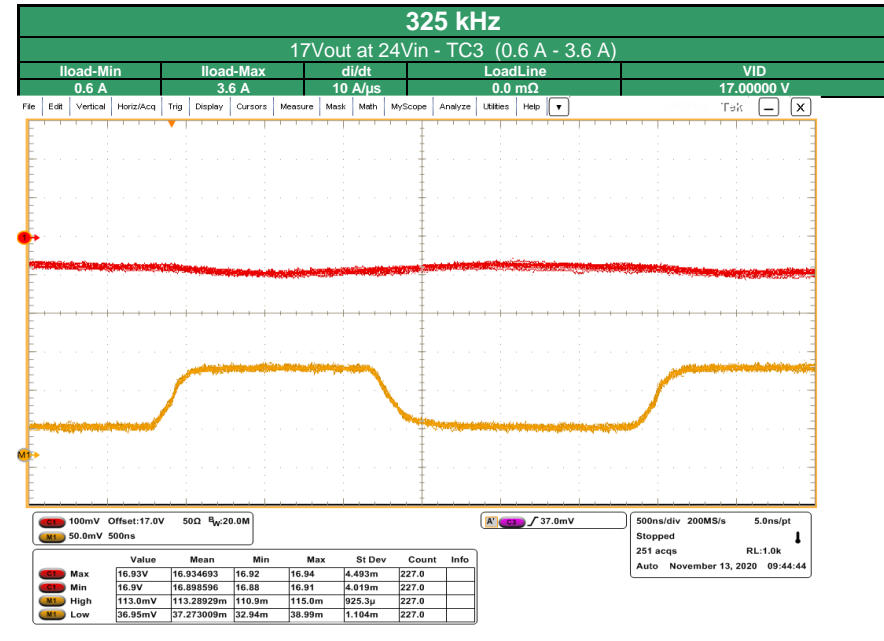
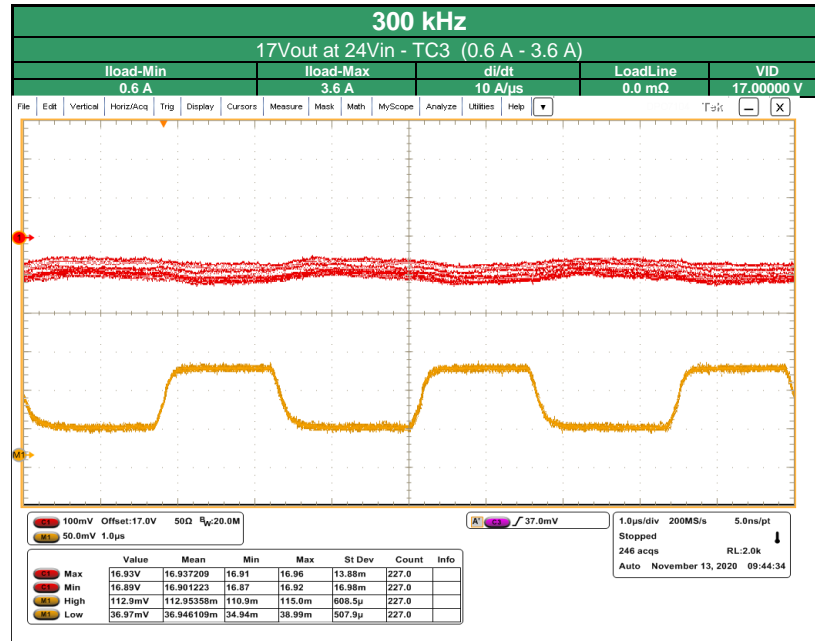
Transient Load Testing at 17Vout at 24Vin - TC3 - LOW Load Test



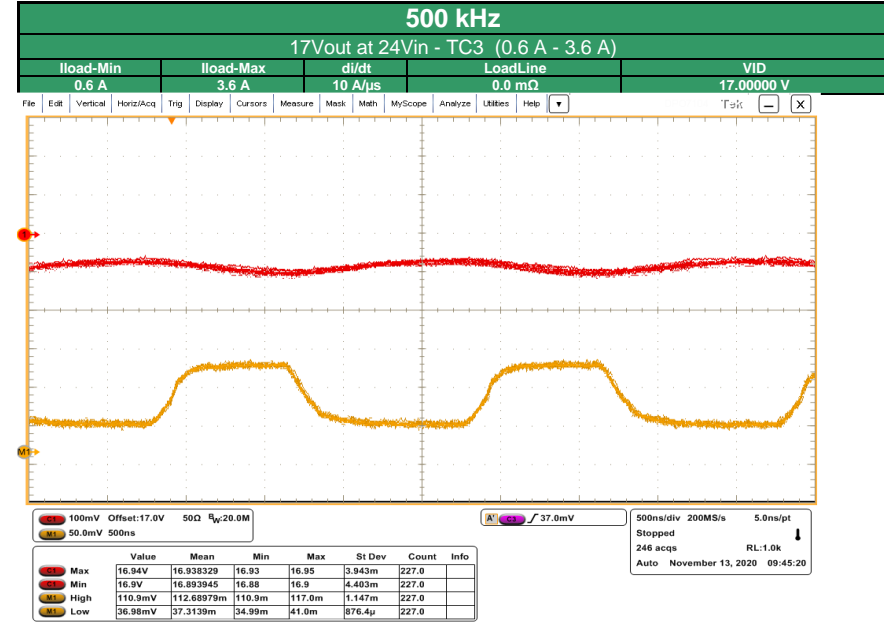
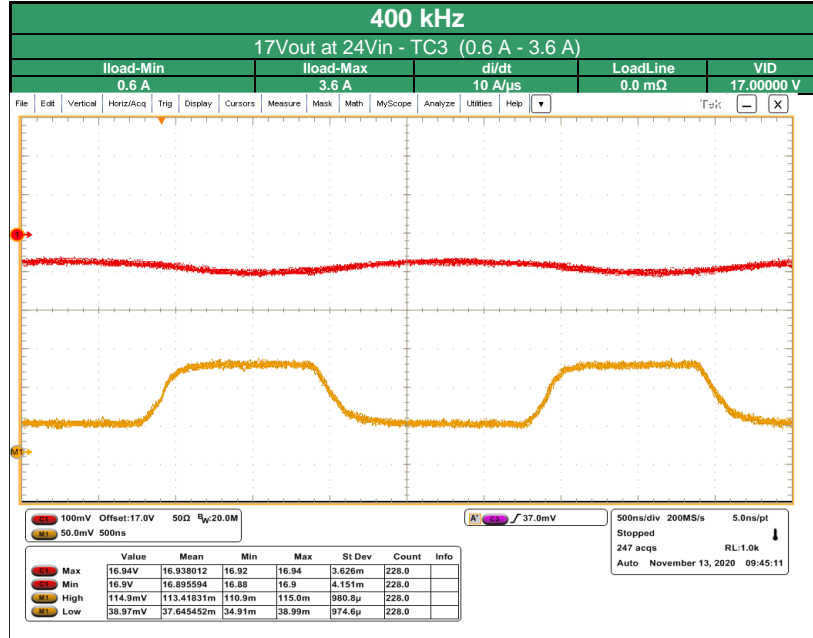
Transient Load Testing at 17Vout at 24Vin - TC3 - LOW Load Test



Transient Load Testing at 17Vout at 24Vin - TC3 - LOW Load Test



Transient Load Testing at 17Vout at 24Vin - TC3 - LOW Load Test



Transient Load Testing at 28Vout at 48Vin - TC4 - HIGH Load Test

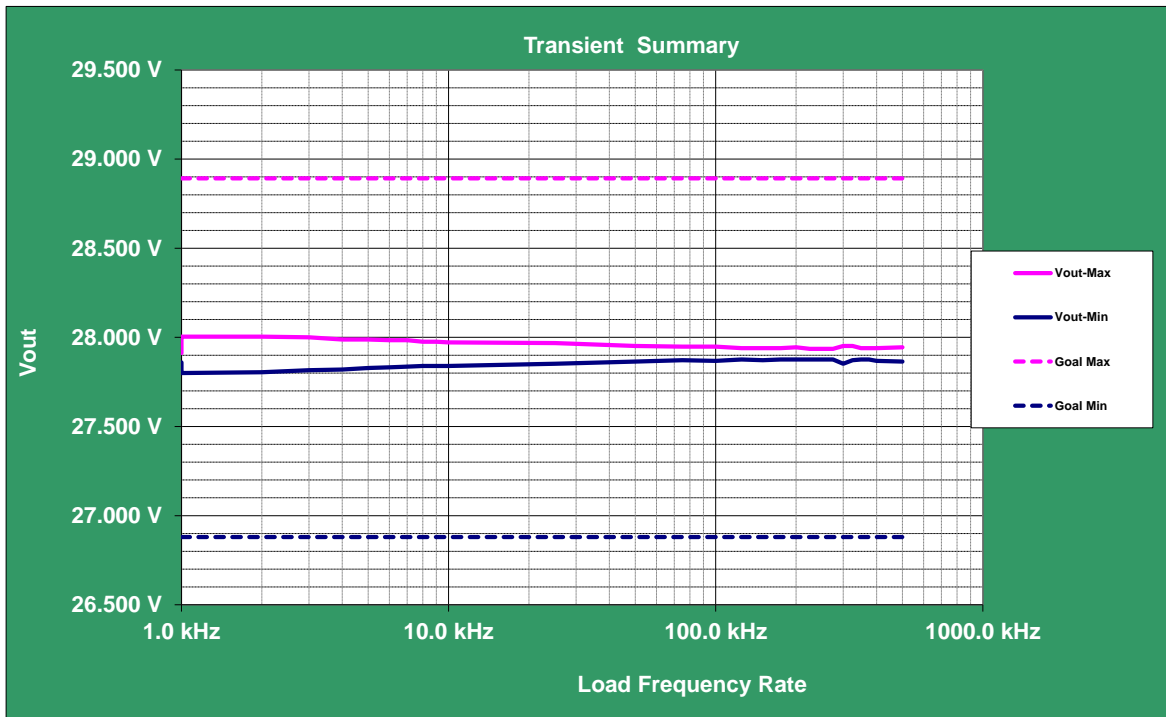
Test Setup	
Channel1	Vout
Channel2	Isense
Channel3	N/A
Channel4	SWN1
#Tests	28

Transient Reference Levels	27.860 V	Droop
	27.912 V	Over shoot

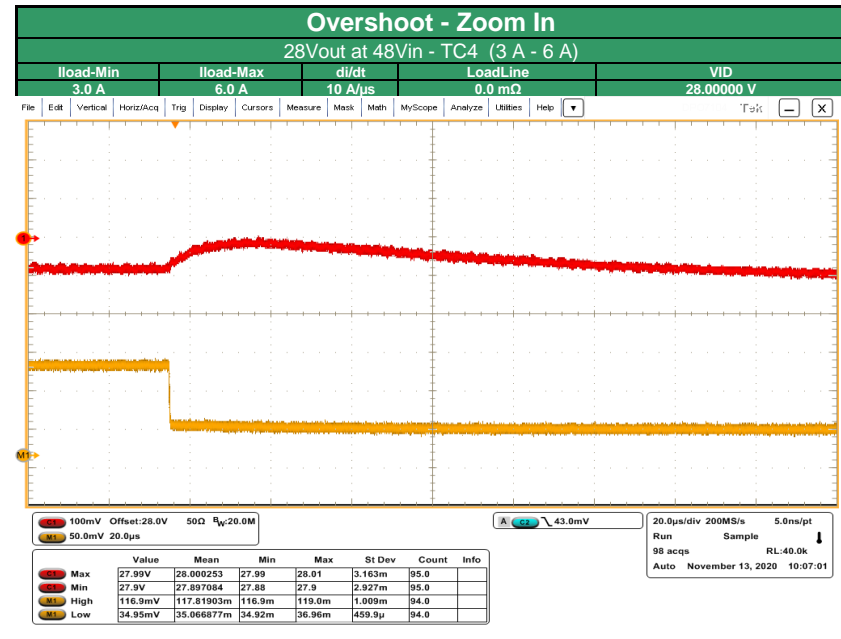
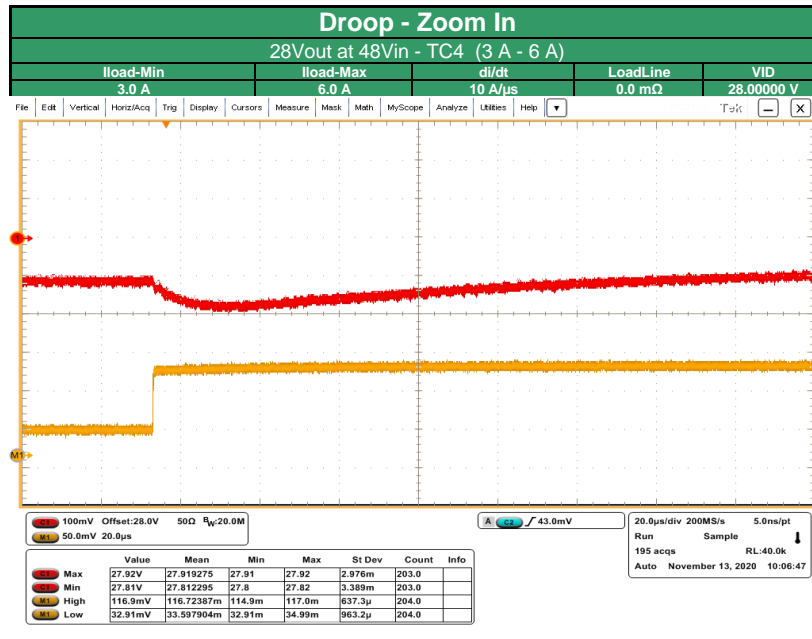
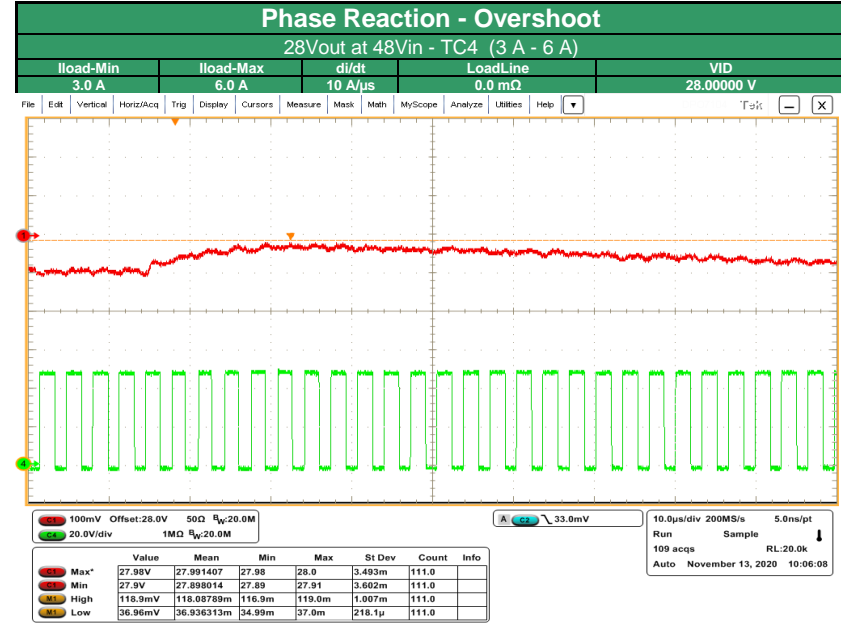
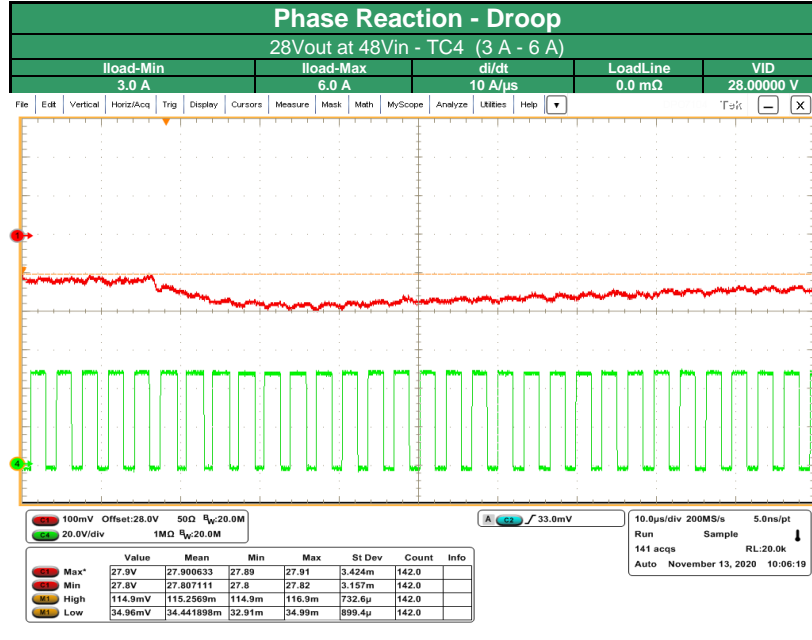
Test Details	
Test Name	28Vout at 48Vin - TC4
VID	28.00000 V
Load Line	0.0 mΩ
Min Current	3.0 A
Max Current	6.0 A
Current Step	3.0 A
Slew Rate	10 A/μs
Min Droop	26.880 V
Max Overshoot	28.892 V

Results Summary				
	Meas. %	Margin	LRR	Max/Min Value
Min Droop	0.21%	920.0 mV	1.0 kHz	27.800 V
Max Overshoot	0.33%	888.0 mV	1.0 kHz	28.004 V

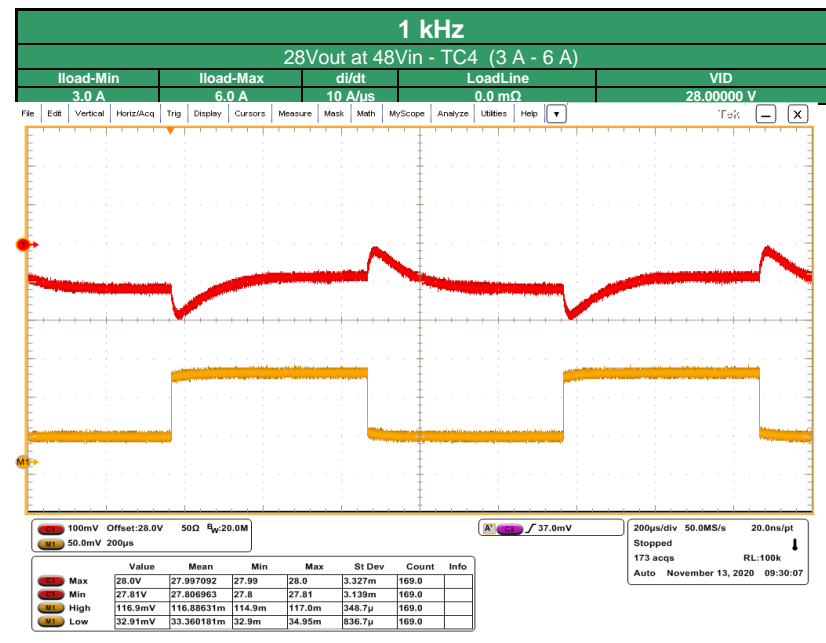
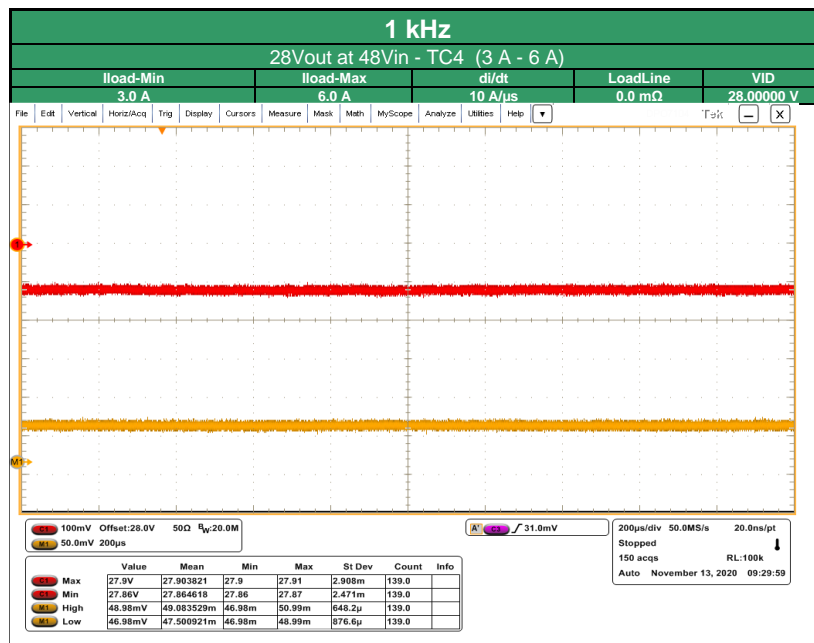
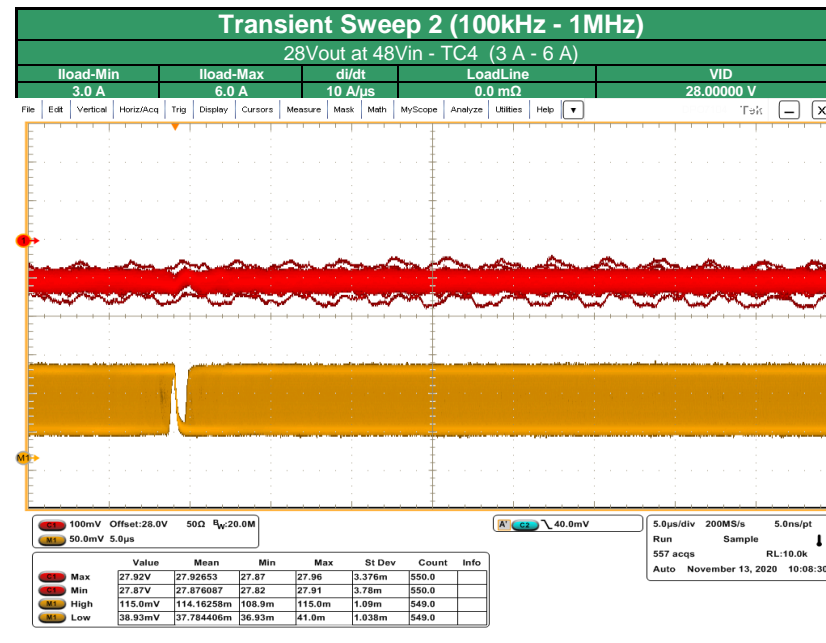
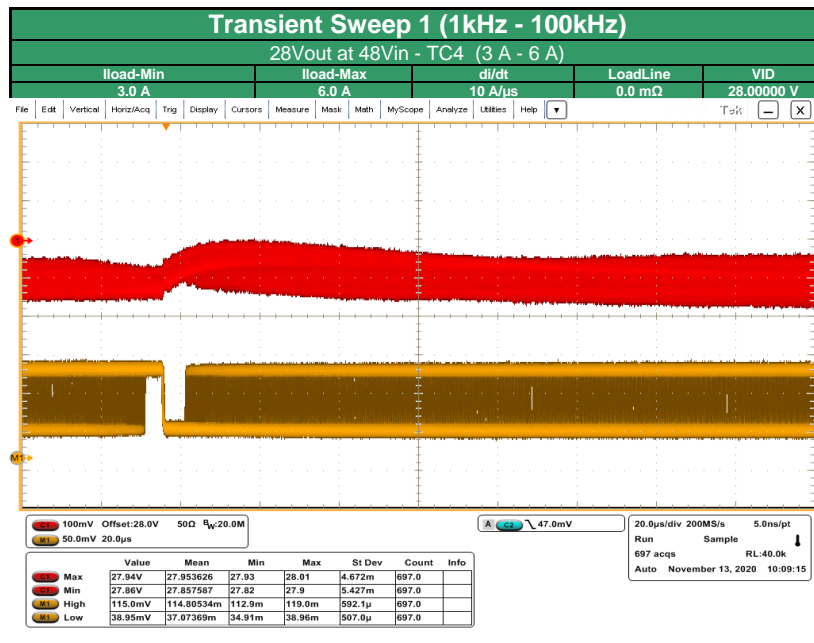
LRR	Vmax	Result	Vmin	Result
1.0 kHz	27.912 V	PASS	27.860 V	PASS
1.0 kHz	28.004 V	PASS	27.800 V	PASS
2.0 kHz	28.004 V	PASS	27.804 V	PASS
3.0 kHz	28.000 V	PASS	27.816 V	PASS
4.0 kHz	27.988 V	PASS	27.820 V	PASS
5.0 kHz	27.988 V	PASS	27.828 V	PASS
6.0 kHz	27.984 V	PASS	27.832 V	PASS
7.0 kHz	27.984 V	PASS	27.836 V	PASS
8.0 kHz	27.976 V	PASS	27.840 V	PASS
9.0 kHz	27.976 V	PASS	27.840 V	PASS
10.0 kHz	27.972 V	PASS	27.840 V	PASS
25.0 kHz	27.968 V	PASS	27.852 V	PASS
50.0 kHz	27.952 V	PASS	27.864 V	PASS
75.0 kHz	27.948 V	PASS	27.872 V	PASS
100.0 kHz	27.948 V	PASS	27.868 V	PASS
125.0 kHz	27.940 V	PASS	27.876 V	PASS
150.0 kHz	27.940 V	PASS	27.872 V	PASS
175.0 kHz	27.940 V	PASS	27.876 V	PASS
200.0 kHz	27.944 V	PASS	27.876 V	PASS
225.0 kHz	27.936 V	PASS	27.876 V	PASS
250.0 kHz	27.936 V	PASS	27.876 V	PASS
275.0 kHz	27.936 V	PASS	27.876 V	PASS
300.0 kHz	27.952 V	PASS	27.852 V	PASS
325.0 kHz	27.952 V	PASS	27.872 V	PASS
350.0 kHz	27.940 V	PASS	27.876 V	PASS
375.0 kHz	27.940 V	PASS	27.876 V	PASS
400.0 kHz	27.940 V	PASS	27.868 V	PASS
500.0 kHz	27.944 V	PASS	27.864 V	PASS



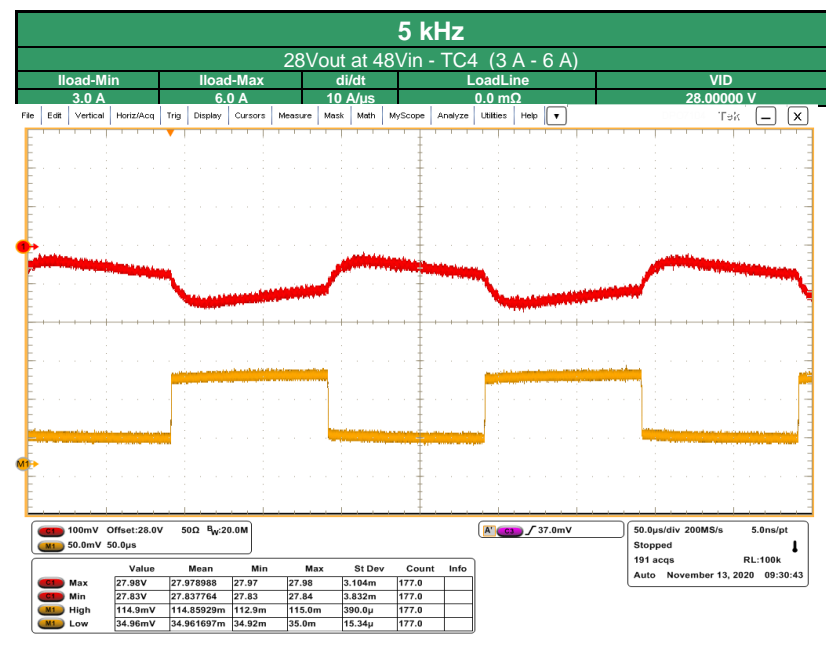
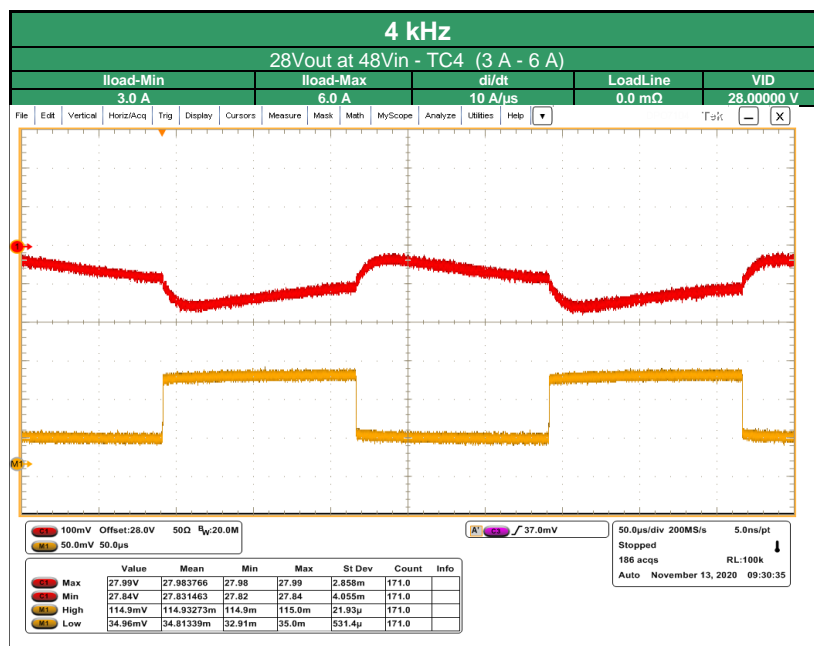
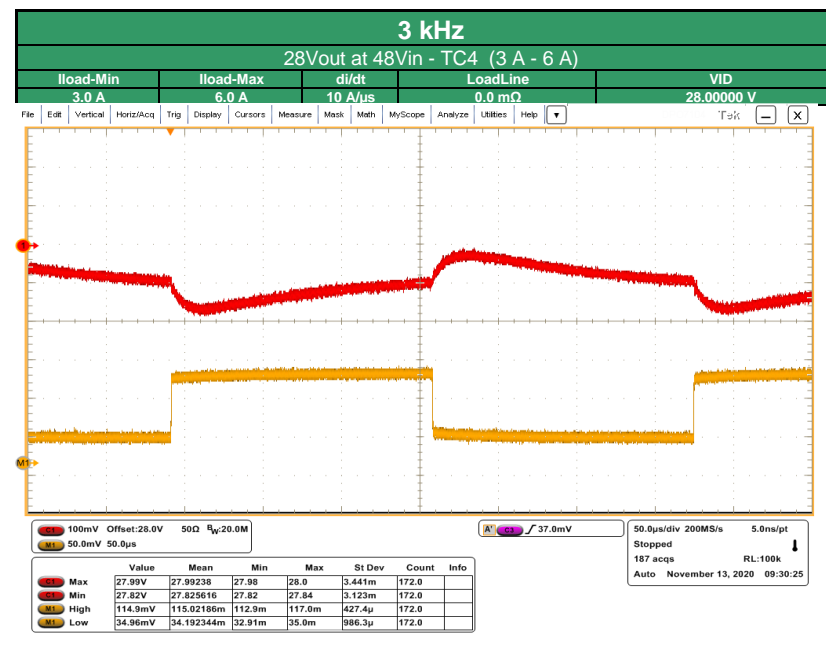
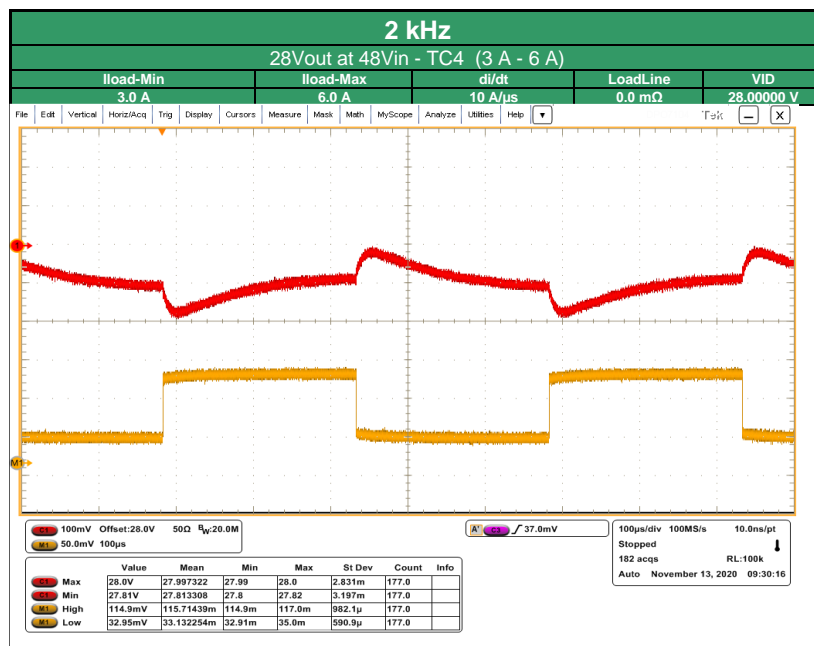
Transient Load Testing at 28Vout at 48Vin - TC4 - HIGH Load Test



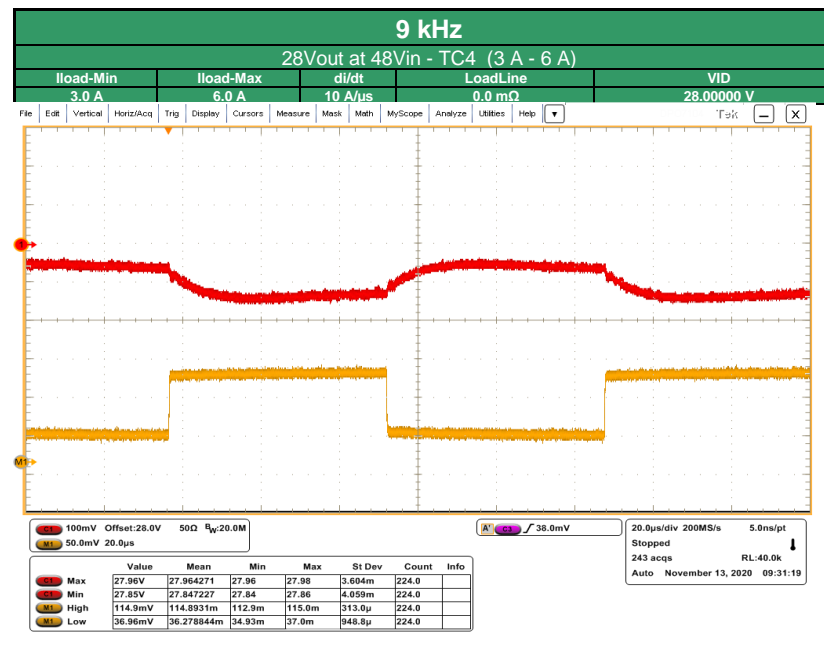
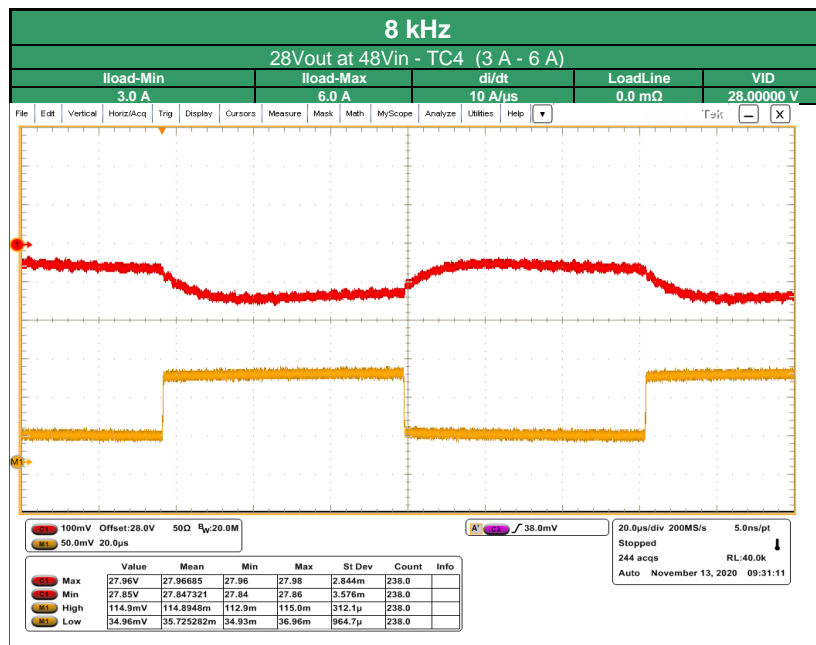
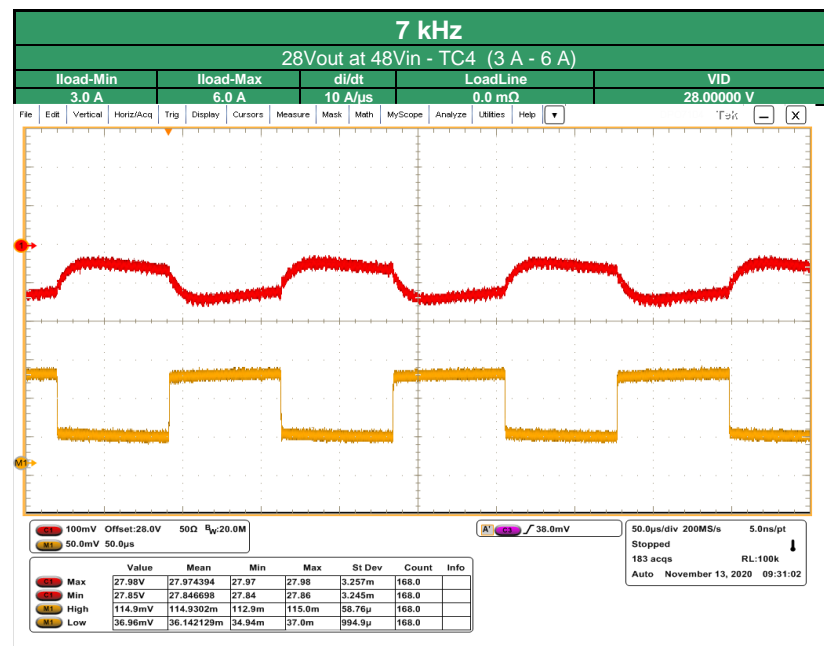
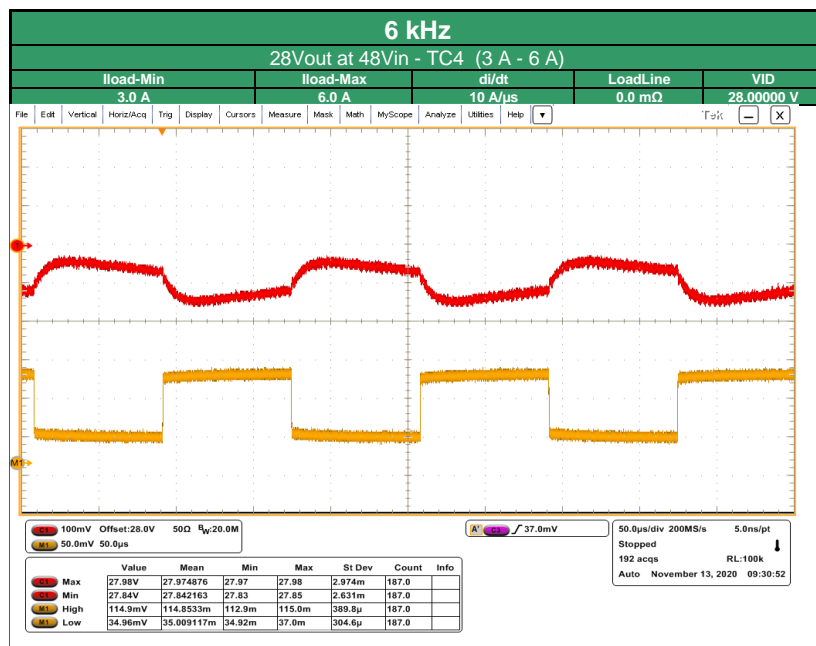
Transient Load Testing at 28Vout at 48Vin - TC4 - HIGH Load Test



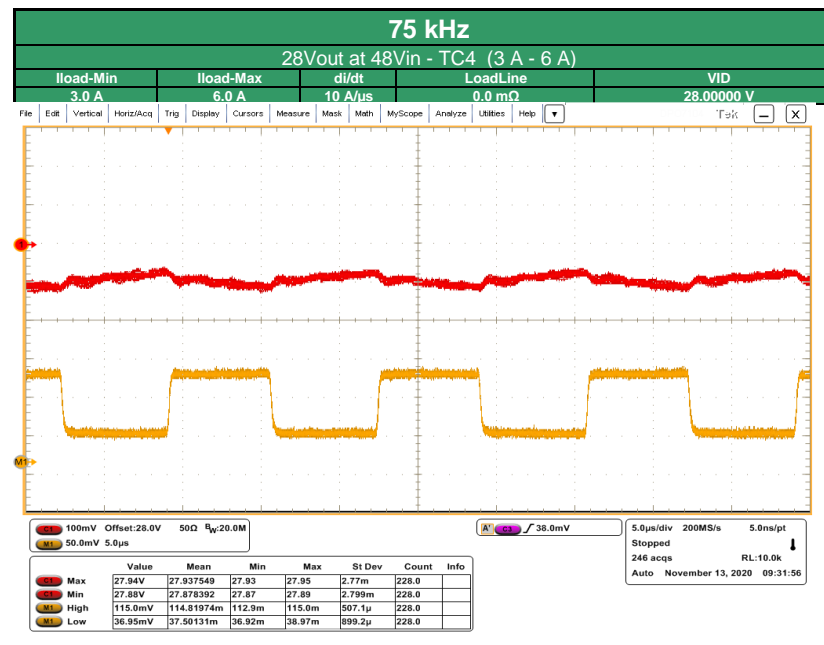
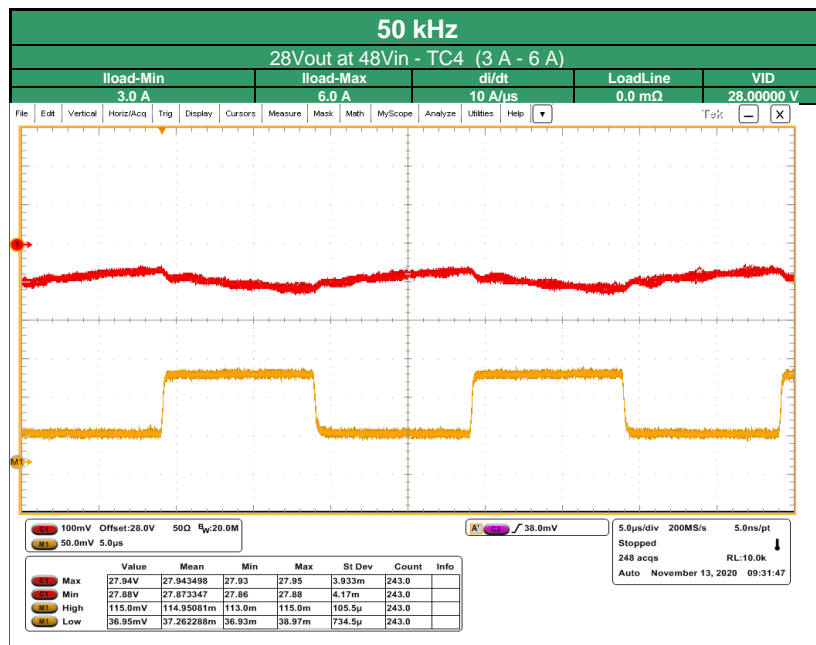
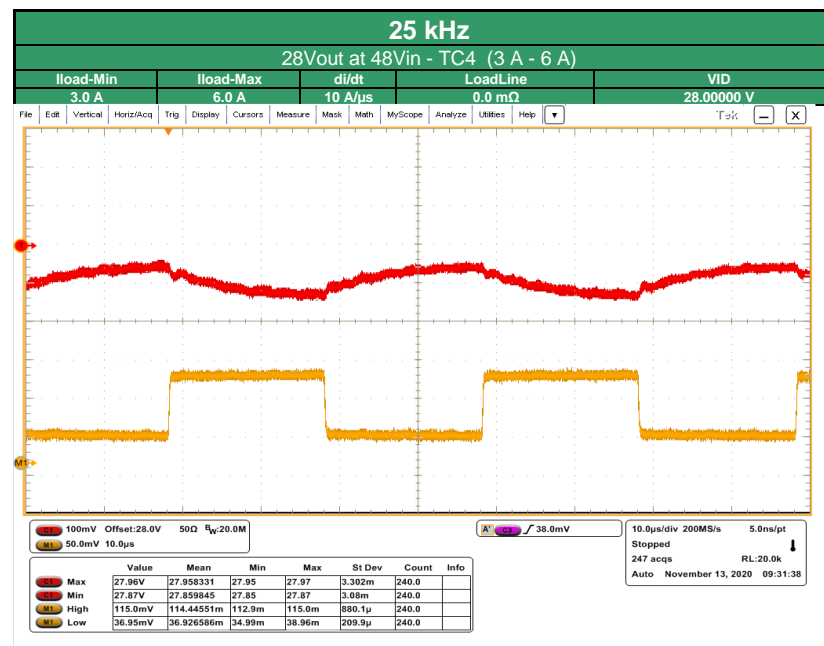
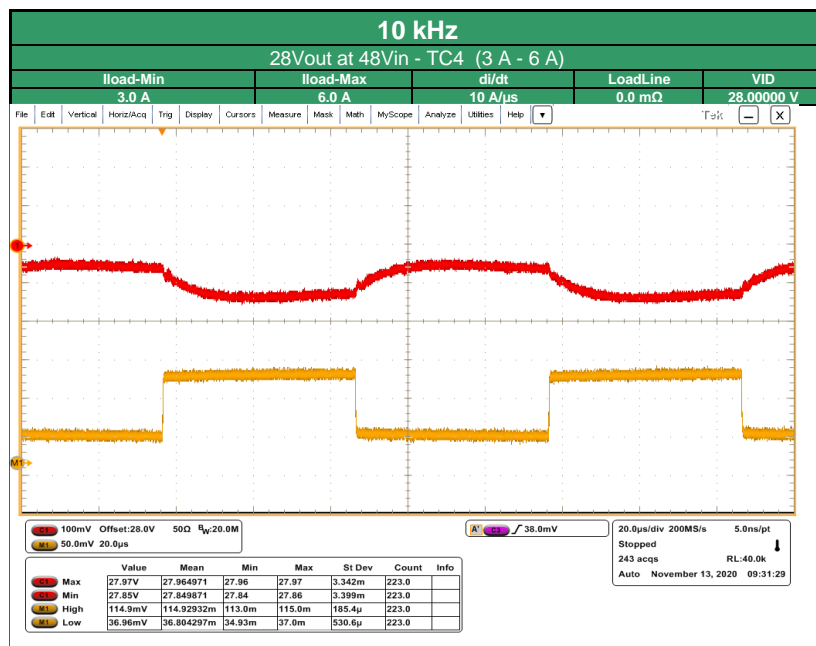
Transient Load Testing at 28Vout at 48Vin - TC4 - HIGH Load Test



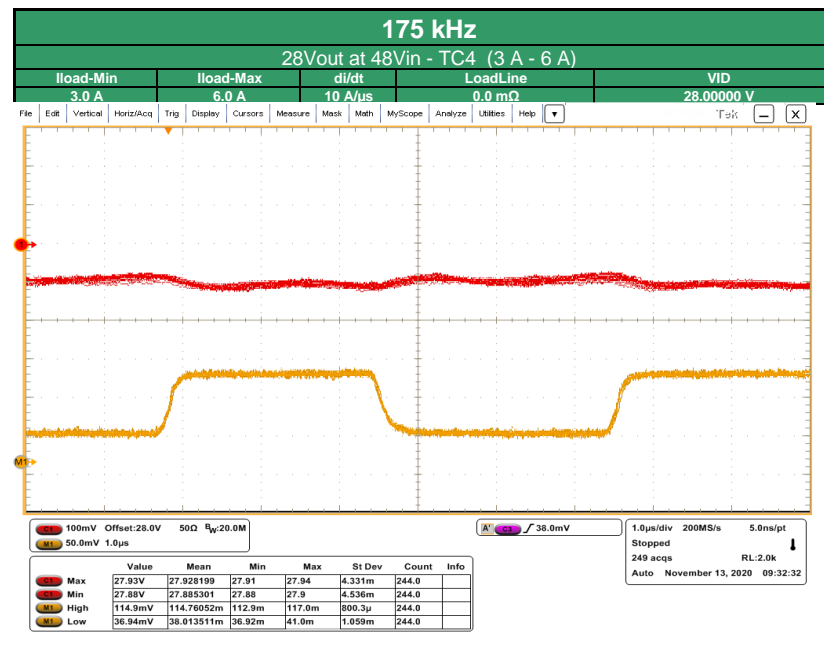
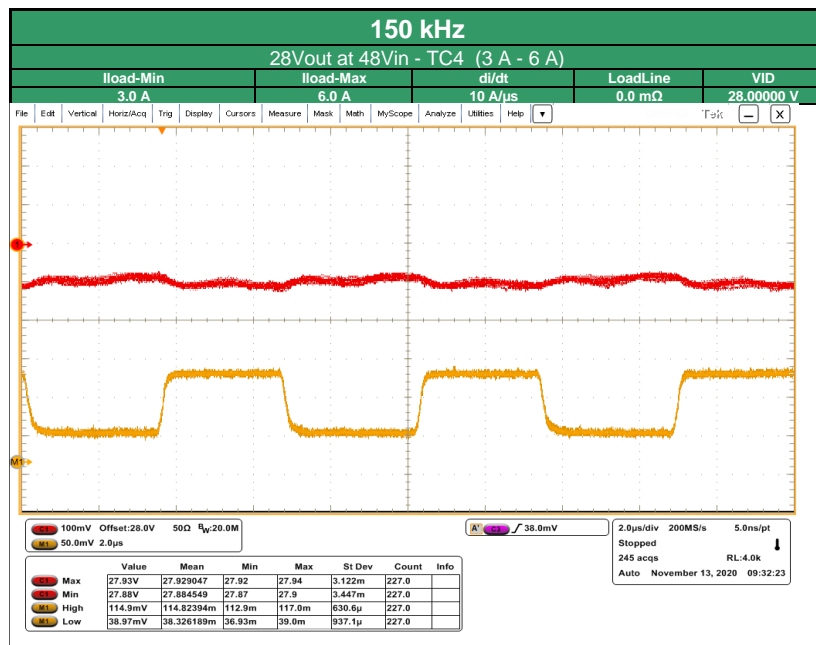
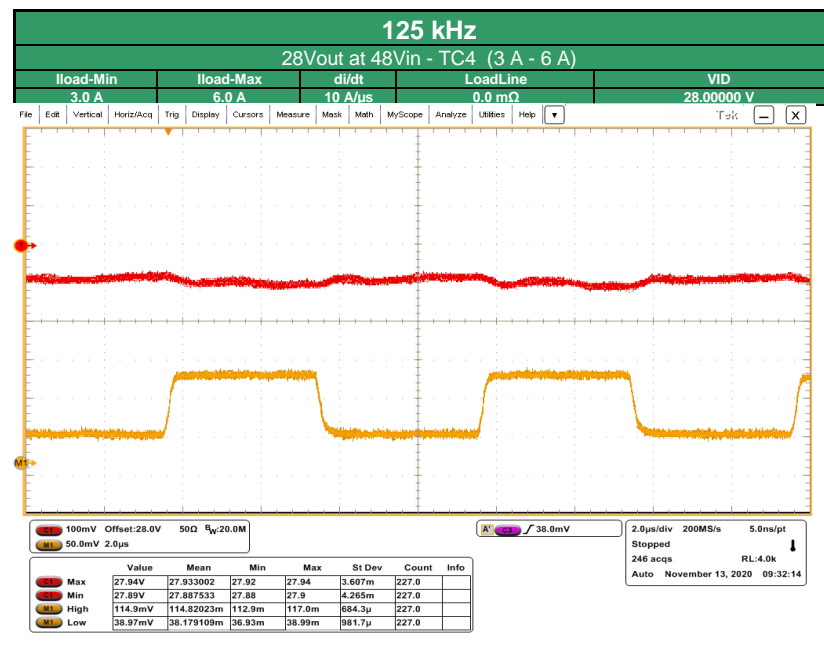
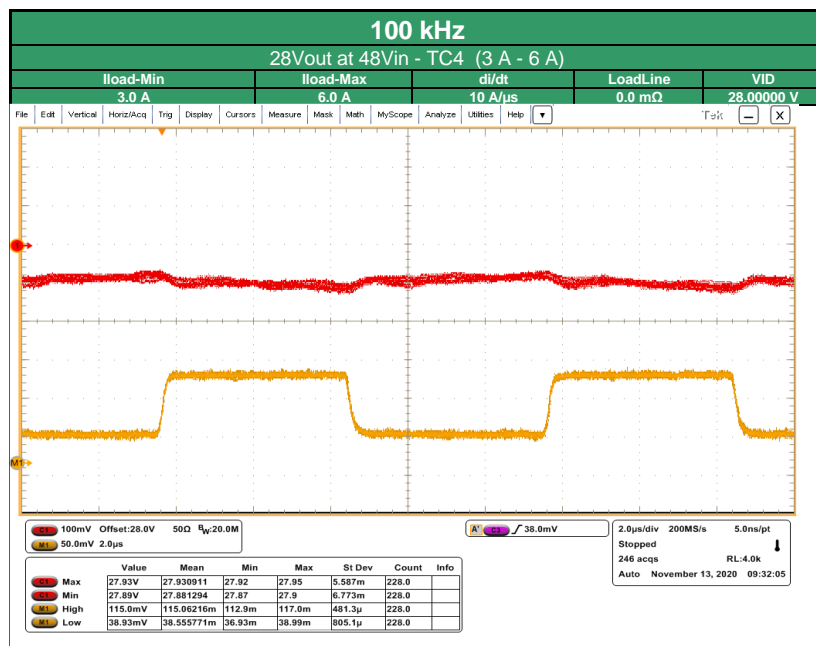
Transient Load Testing at 28Vout at 48Vin - TC4 - HIGH Load Test



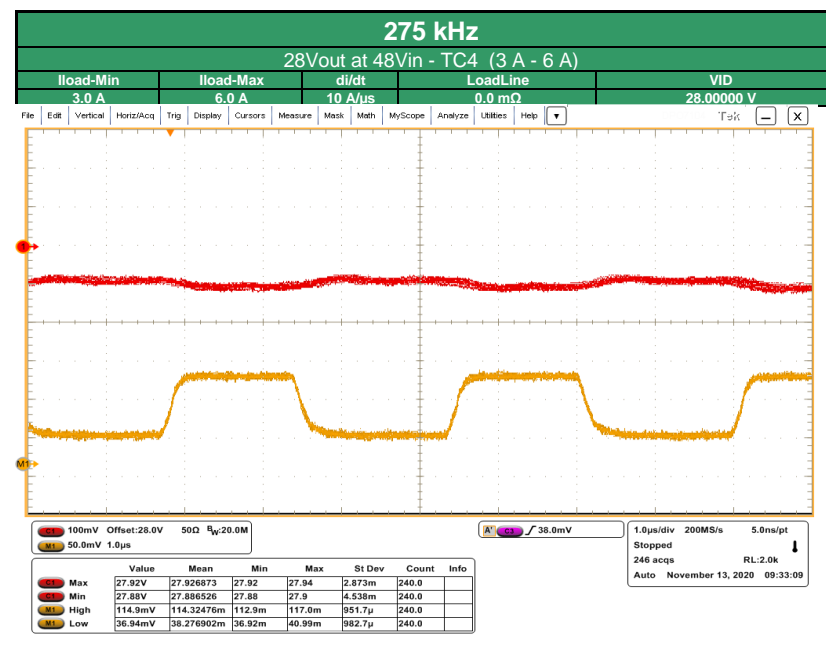
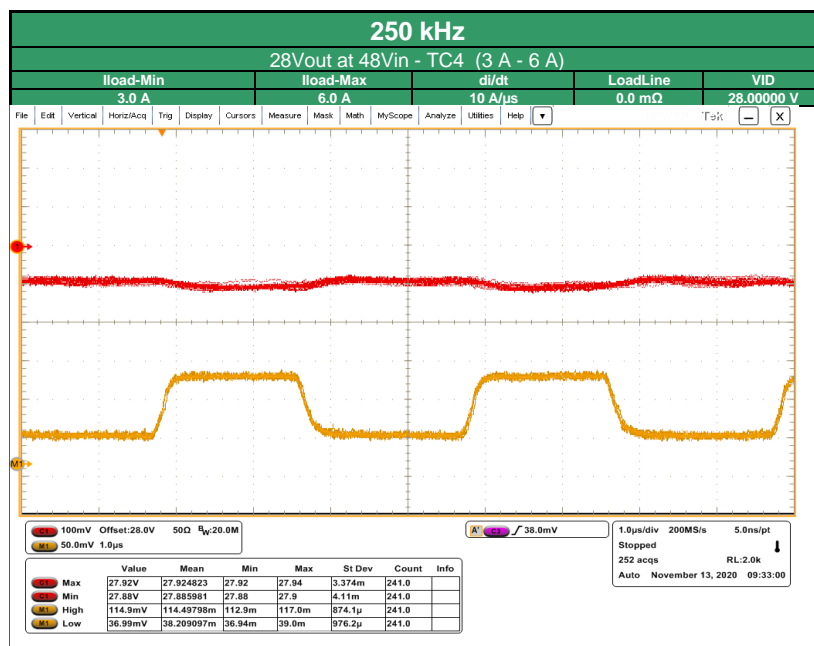
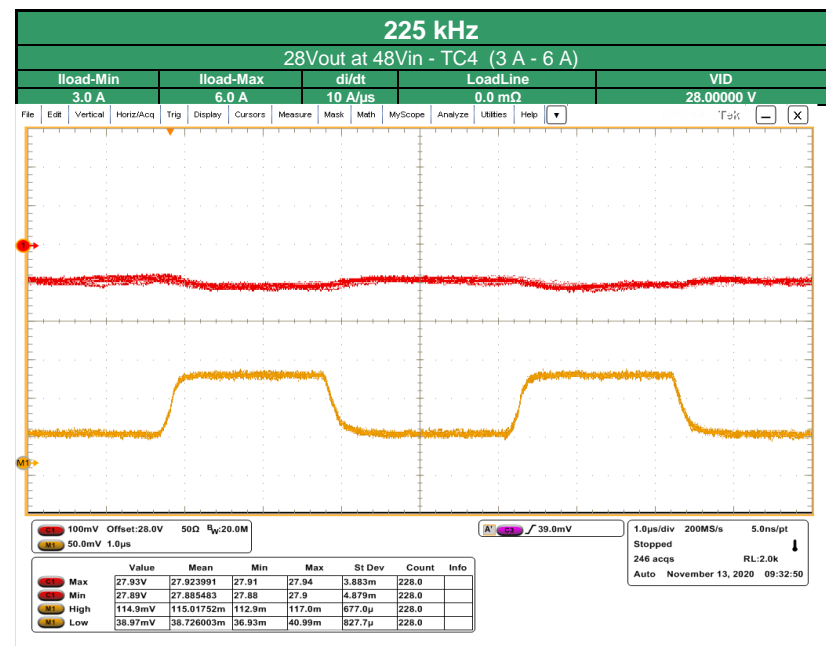
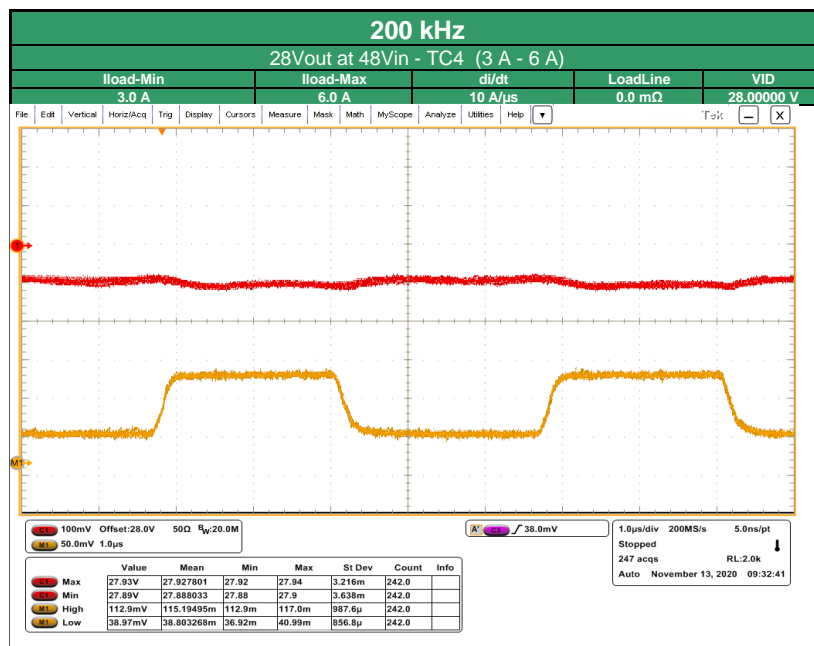
Transient Load Testing at 28Vout at 48Vin - TC4 - HIGH Load Test



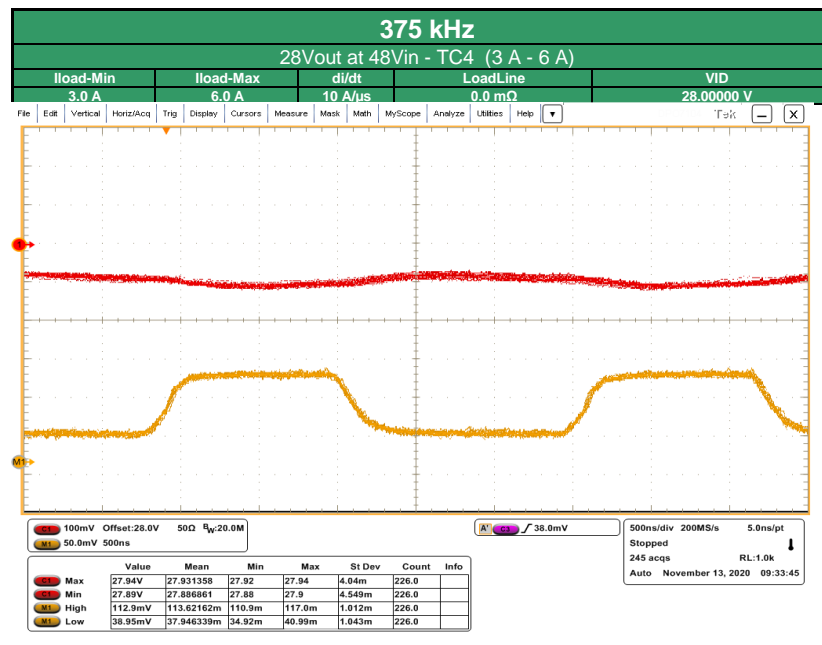
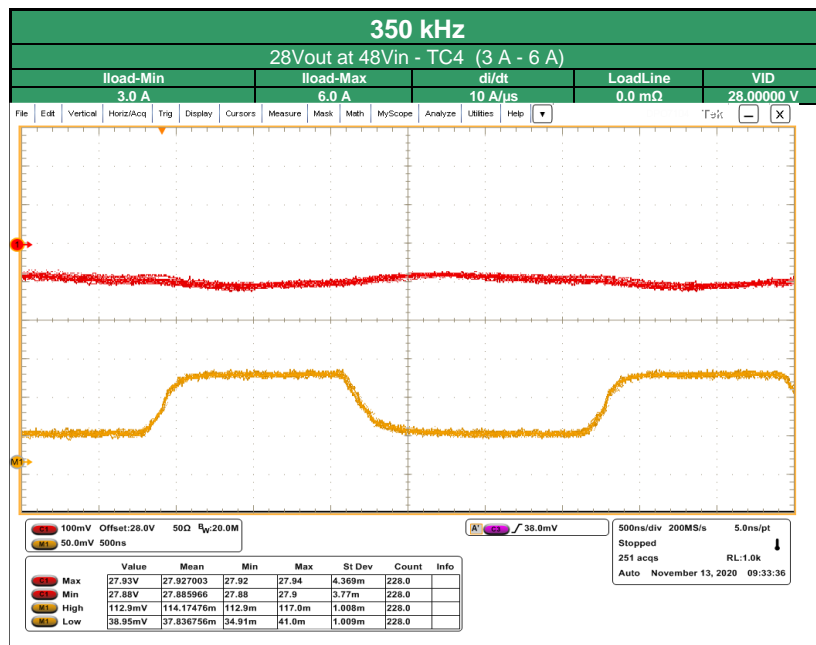
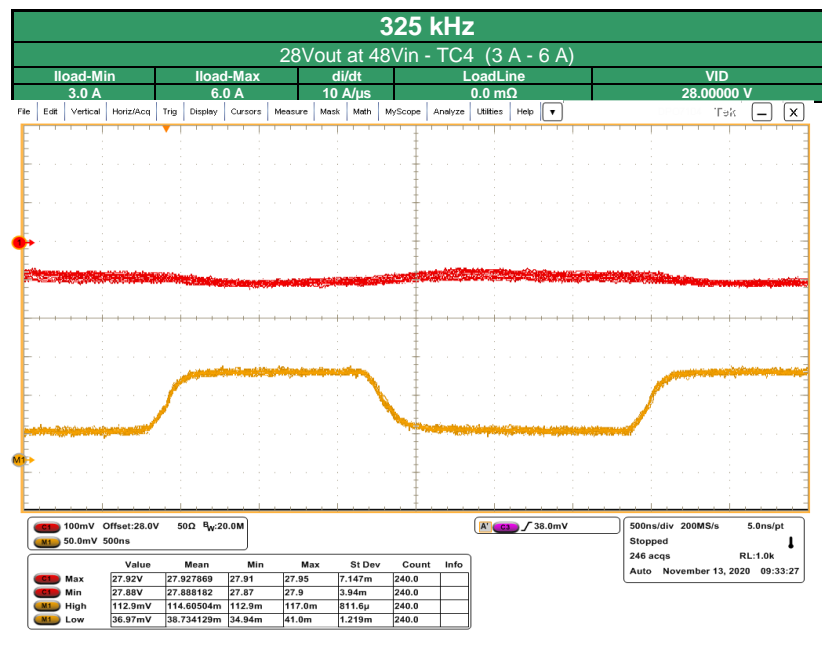
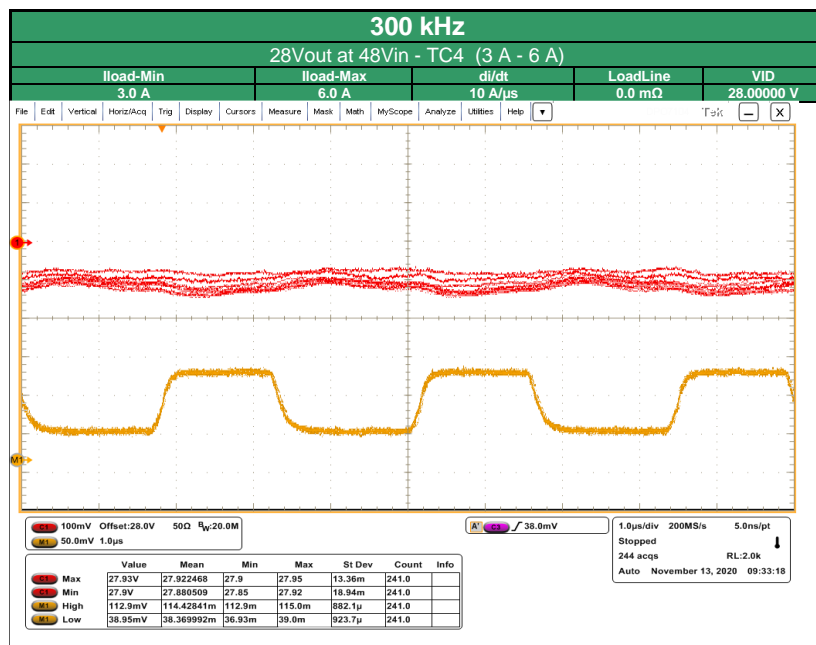
Transient Load Testing at 28Vout at 48Vin - TC4 - HIGH Load Test



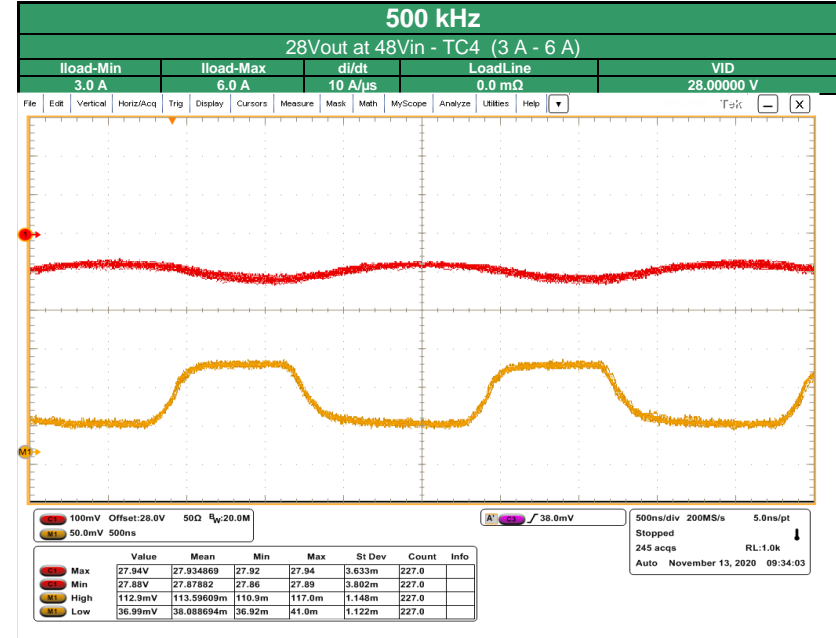
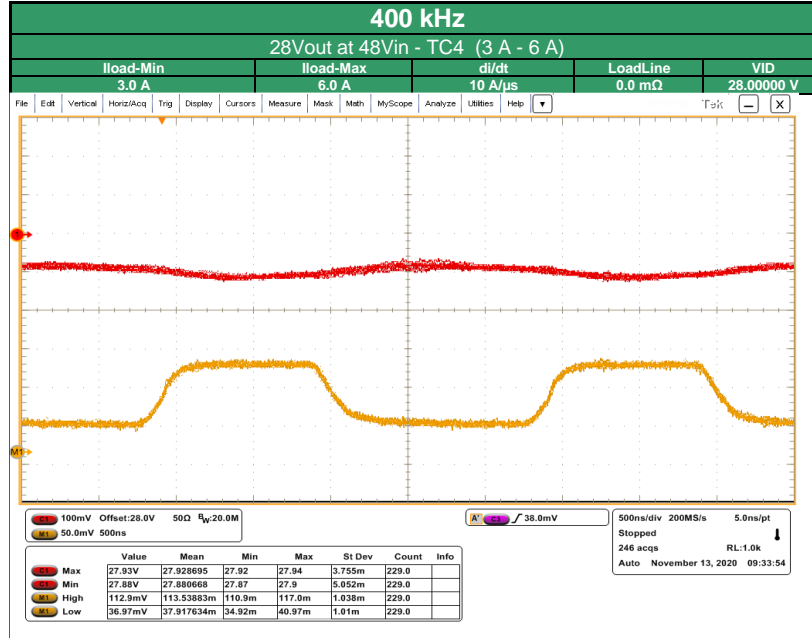
Transient Load Testing at 28Vout at 48Vin - TC4 - HIGH Load Test



Transient Load Testing at 28Vout at 48Vin - TC4 - HIGH Load Test



Transient Load Testing at 28Vout at 48Vin - TC4 - HIGH Load Test



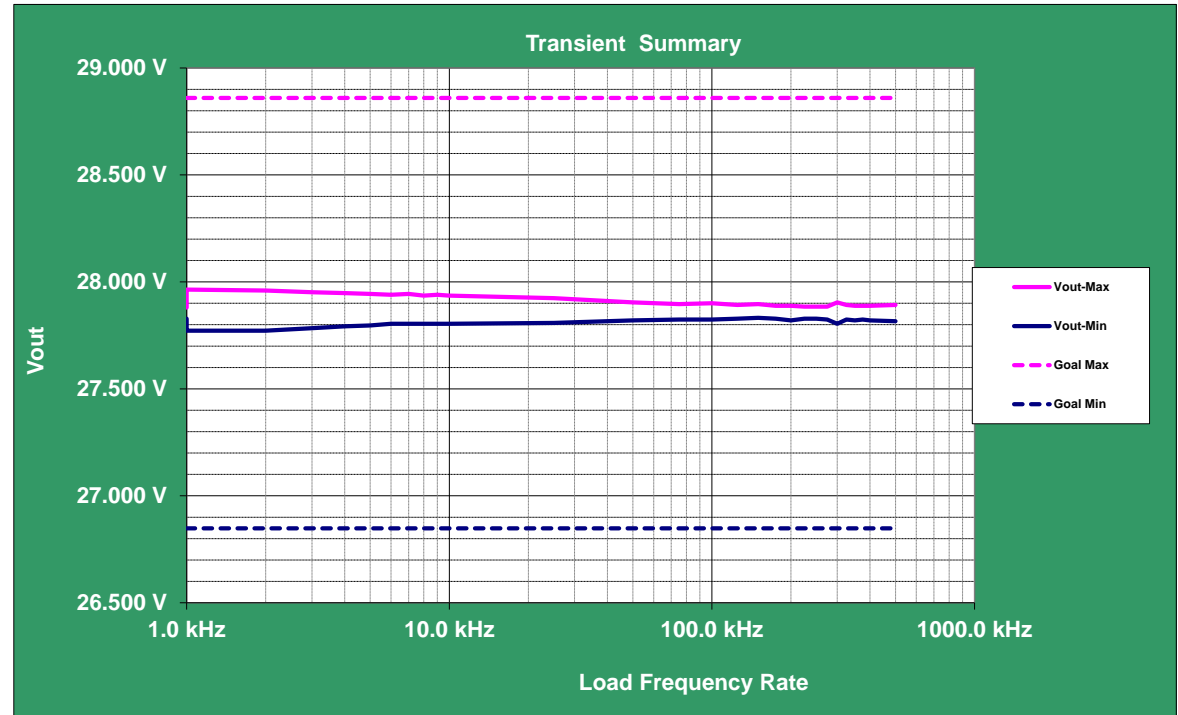
Transient Load Testing at 28Vout at 48Vin - TC4 - LOW Load Test

Test Setup	
Channel1	Vout
Channel2	Isense
Channel3	N/A
Channel4	SWN1
#Tests	28

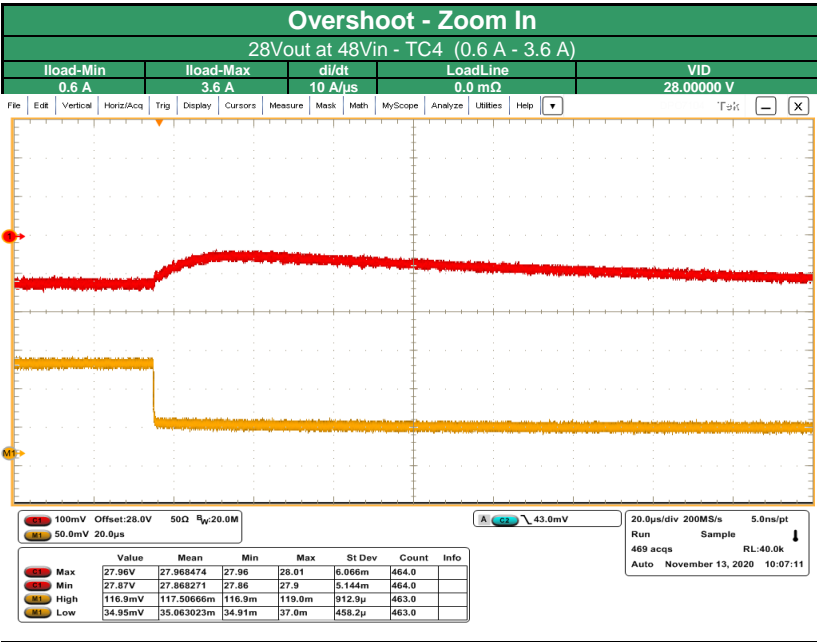
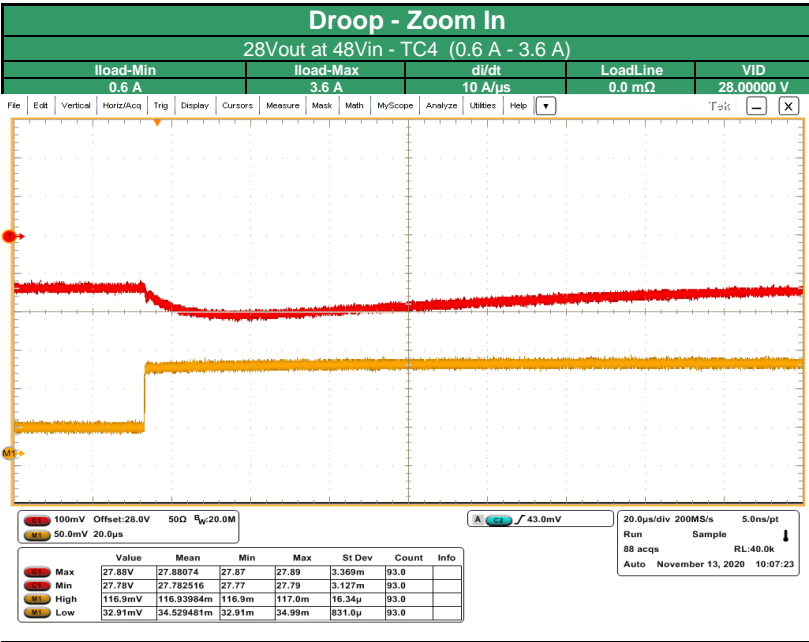
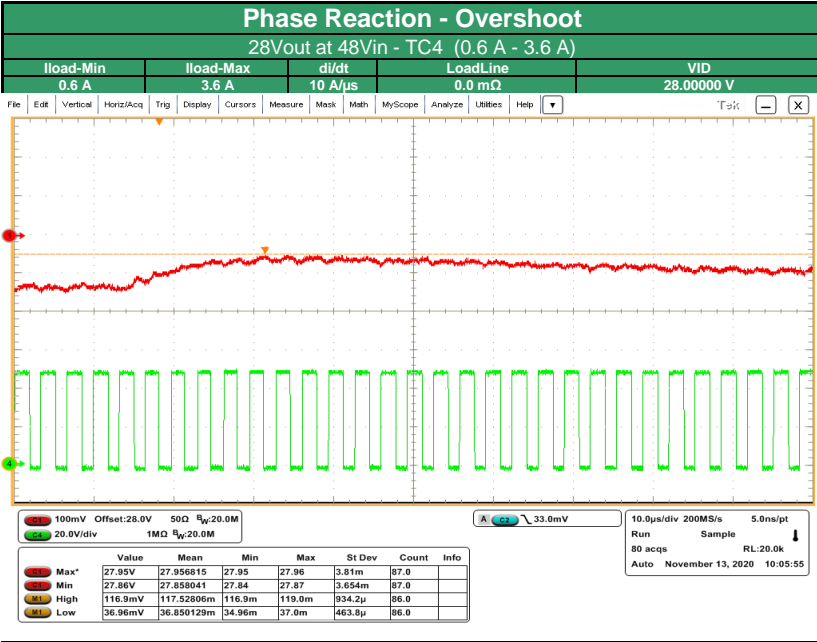
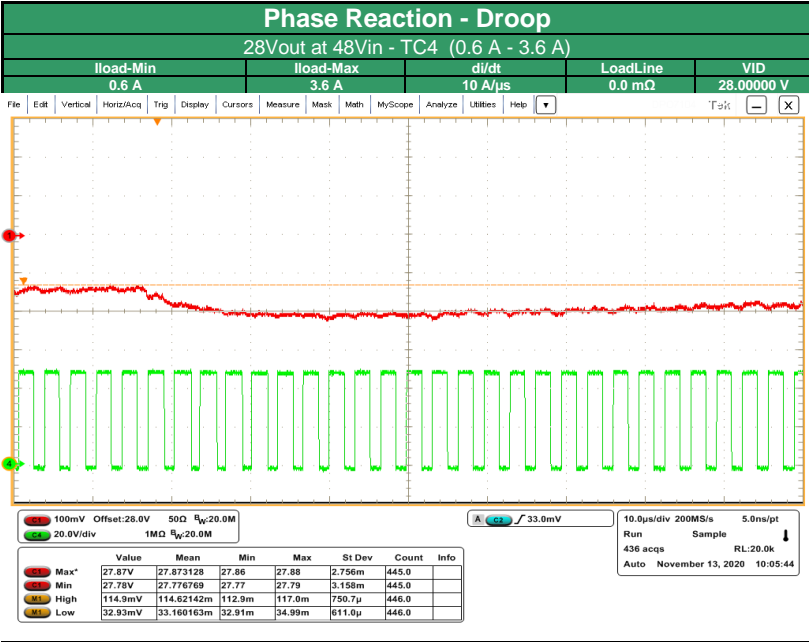
Transient Reference Levels	27.828 V	Droop
	27.880 V	Over shoot

Test Details	
Test Name	28Vout at 48Vin - TC4
VID	28.00000 V
Load Line	0.0 mΩ
Min Current	0.6 A
Max Current	3.6 A
Current Step	3.0 A
Slew Rate	10 A/μs
Min Droop	26.848 V
Max Overshoot	28.860 V

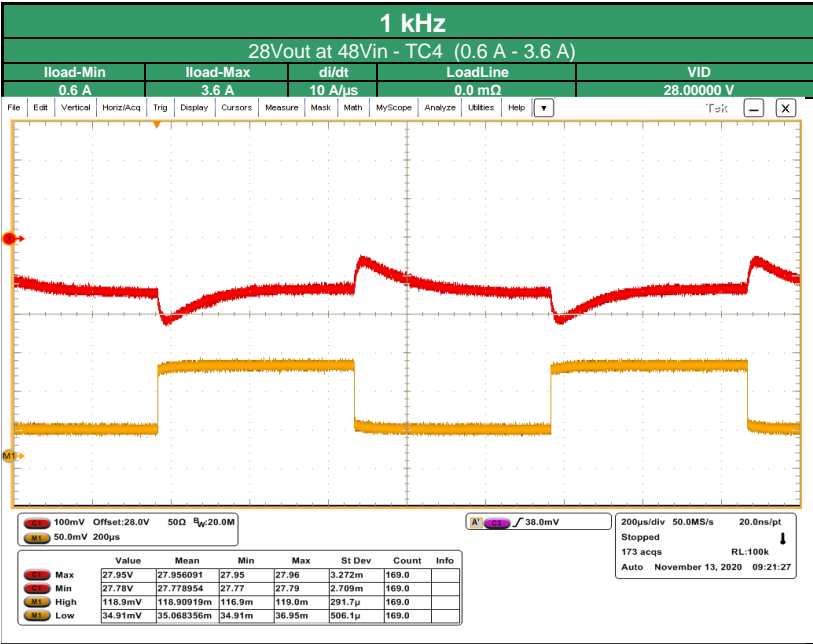
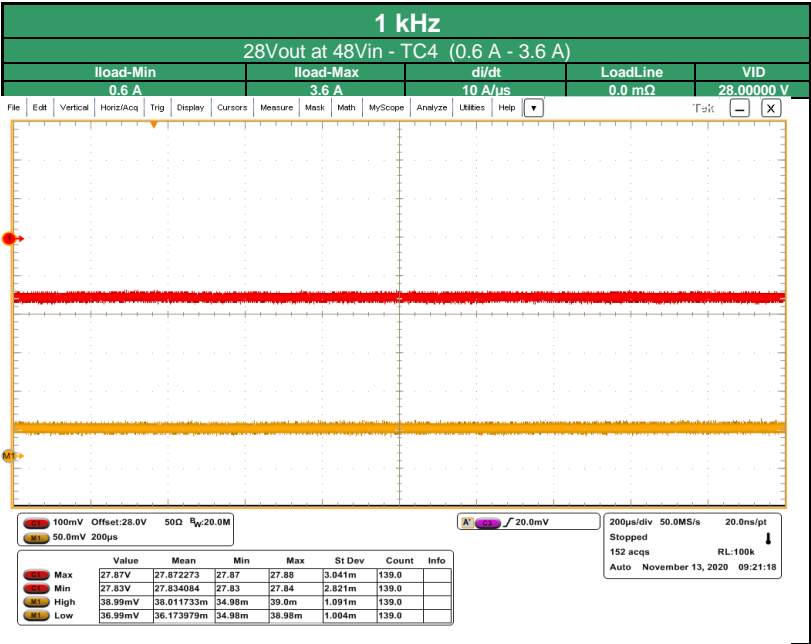
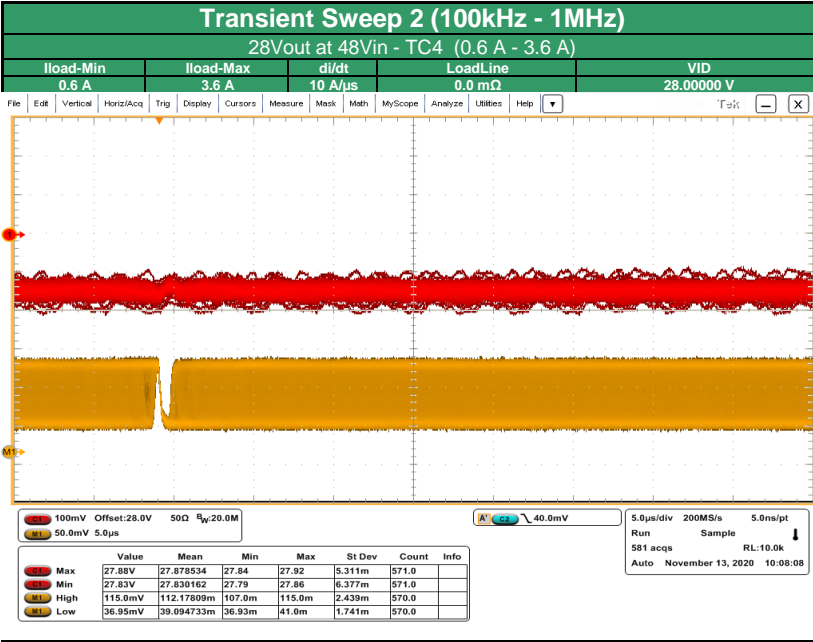
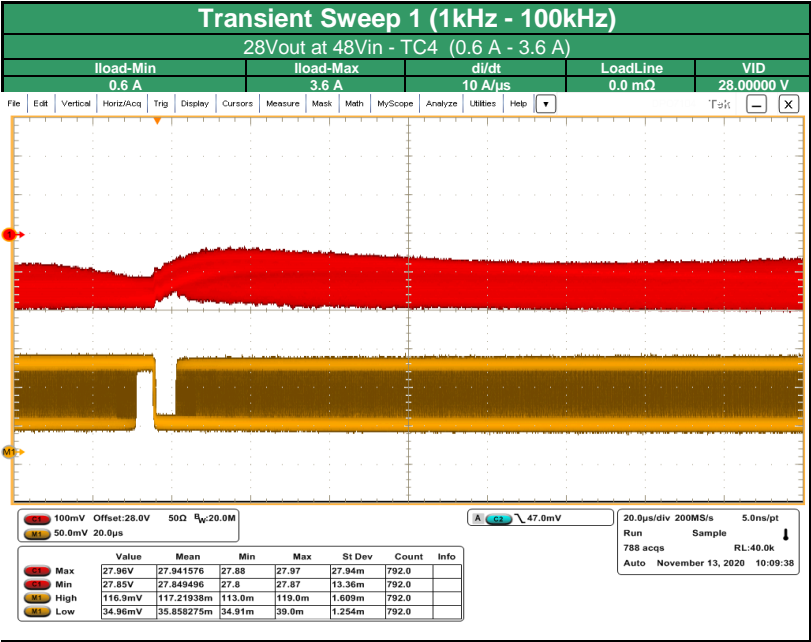
Results Summary				
	Meas. %	Margin	LRR	Max/Min Value
Min Droop	0.20%	924.0 mV	1.0 kHz	27.772 V
Max Overshoot	0.30%	896.0 mV	1.0 kHz	27.964 V

[illegible]

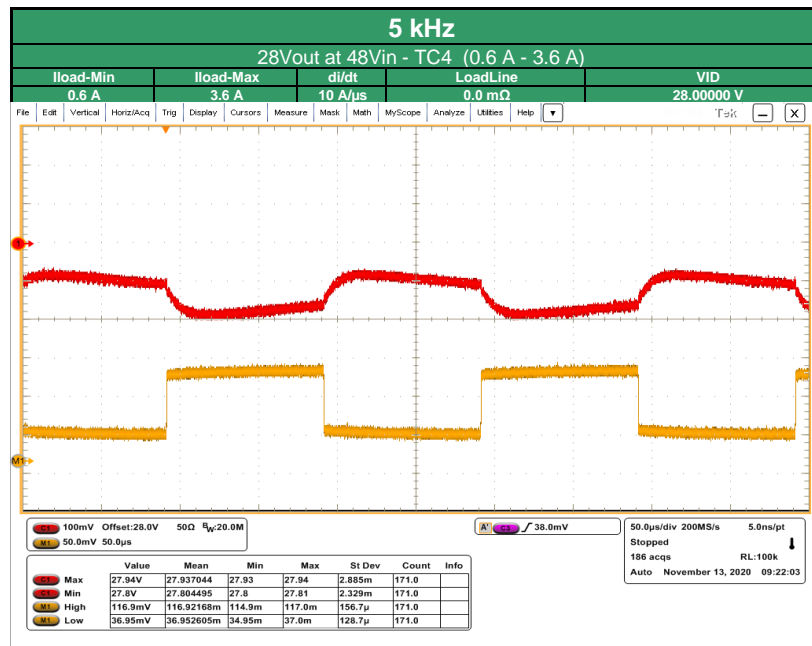
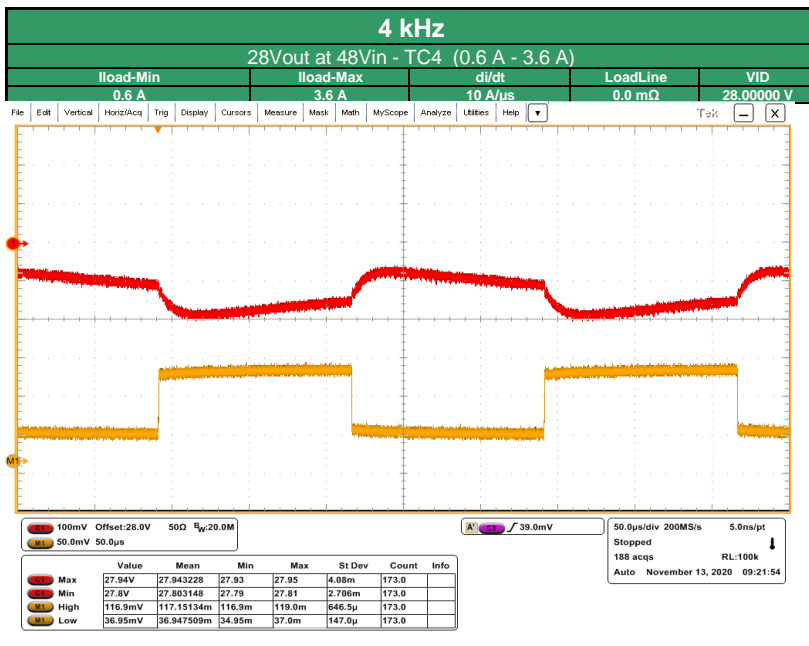
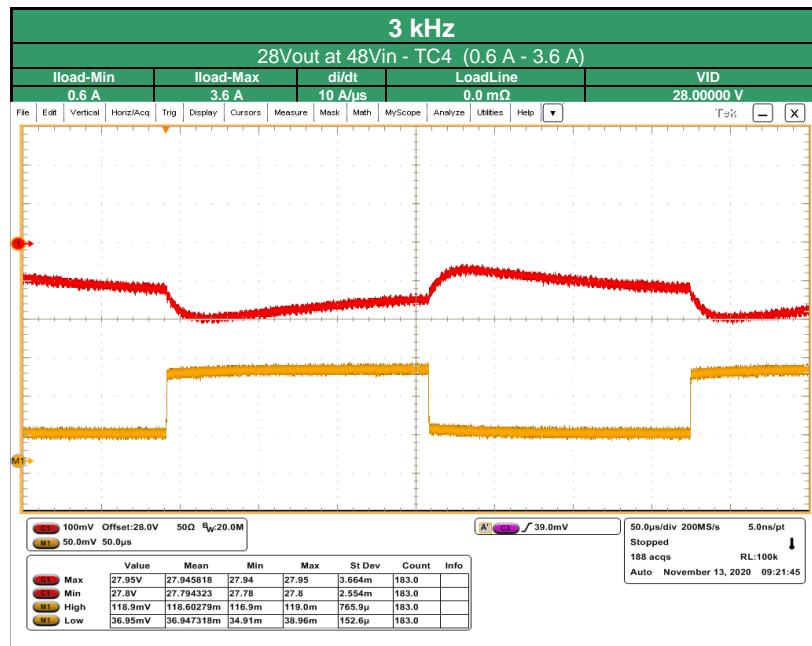
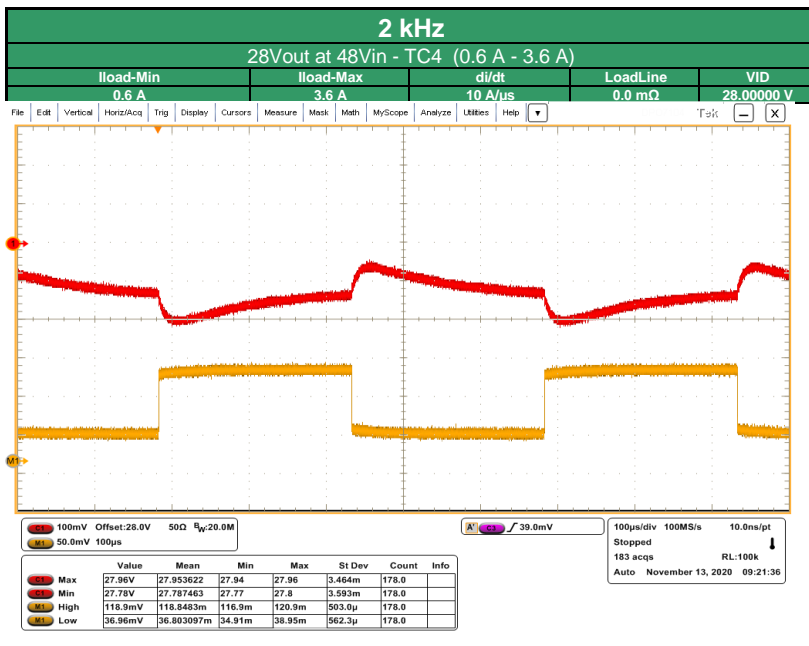
Transient Load Testing at 28Vout at 48Vin - TC4 - LOW Load Test



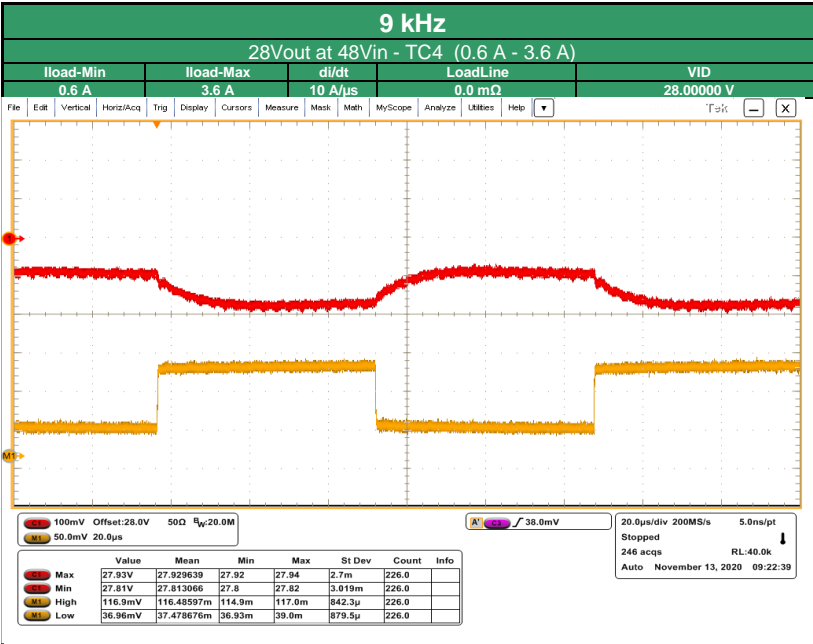
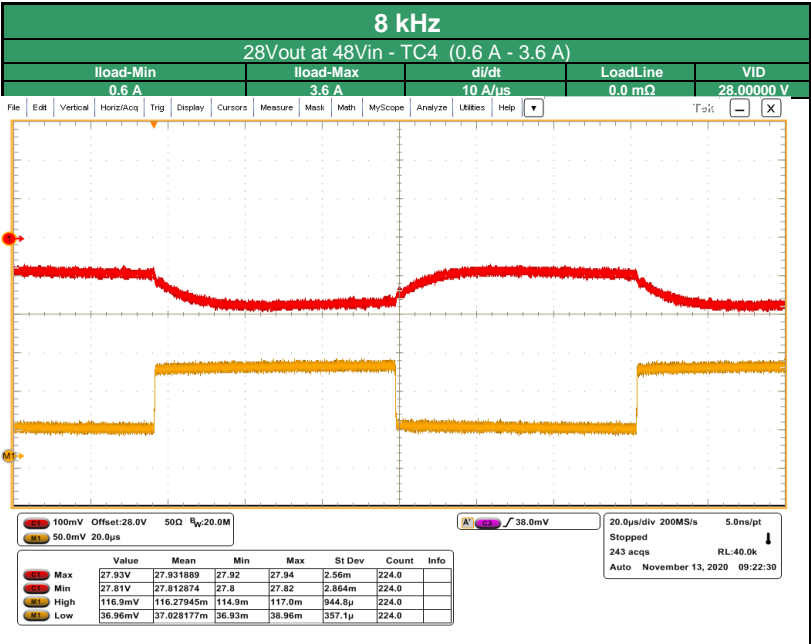
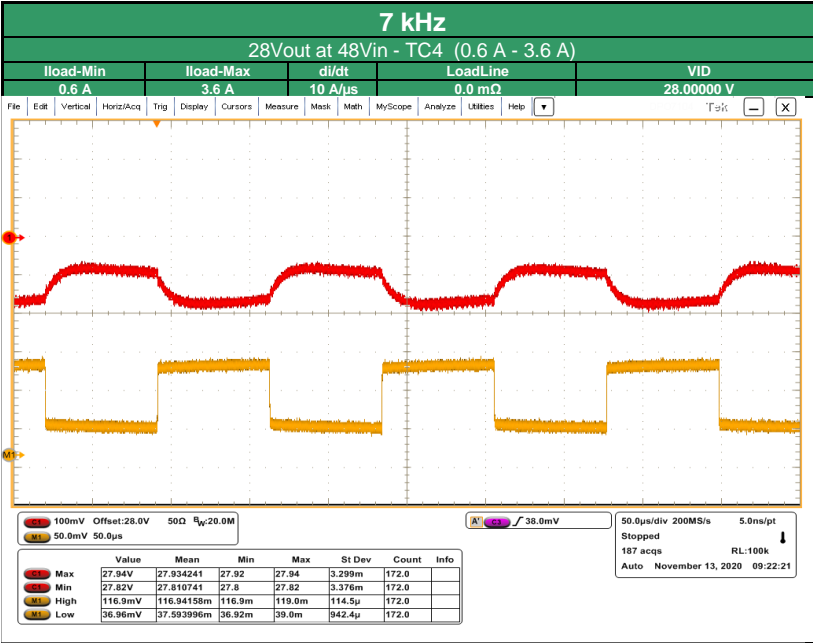
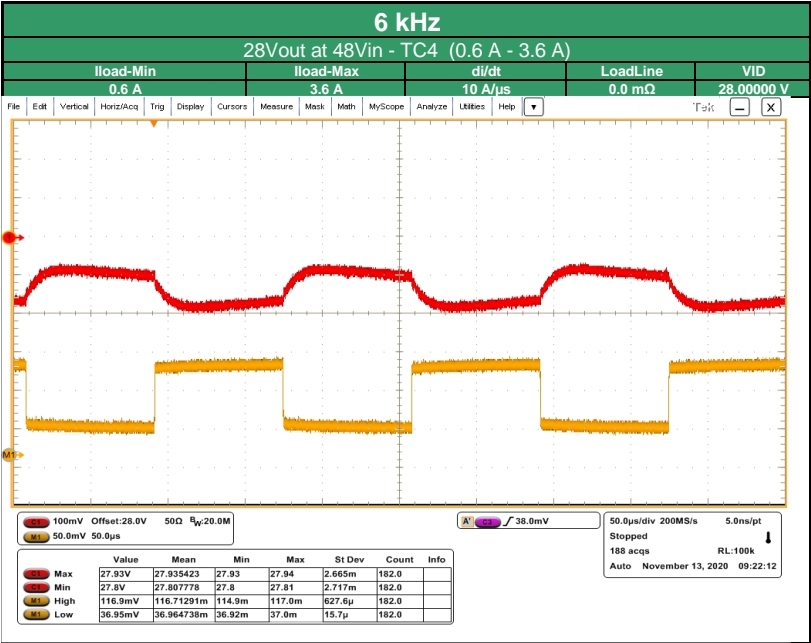
Transient Load Testing at 28Vout at 48Vin - TC4 - LOW Load Test



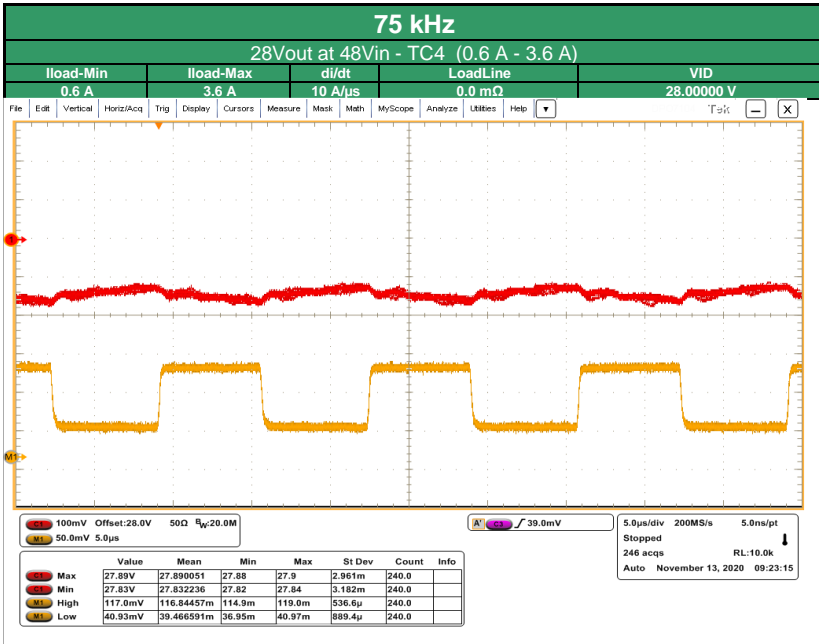
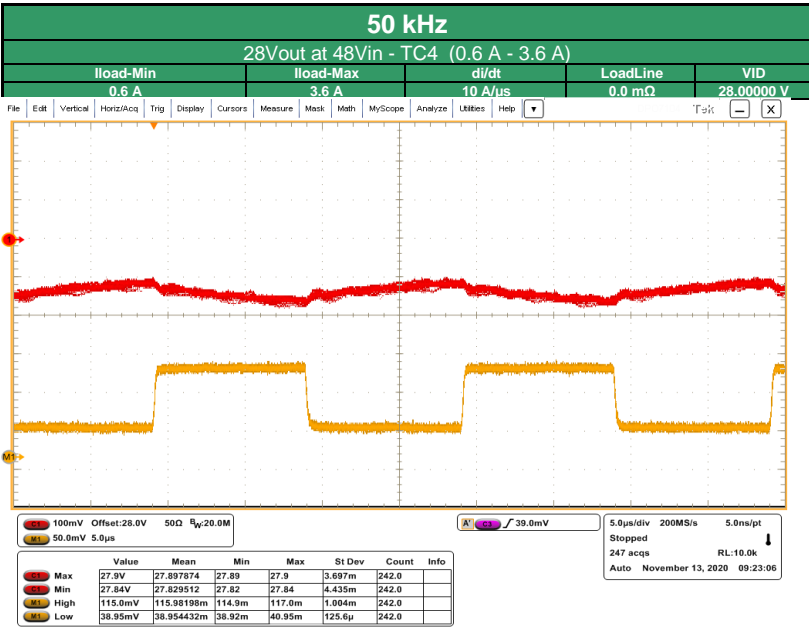
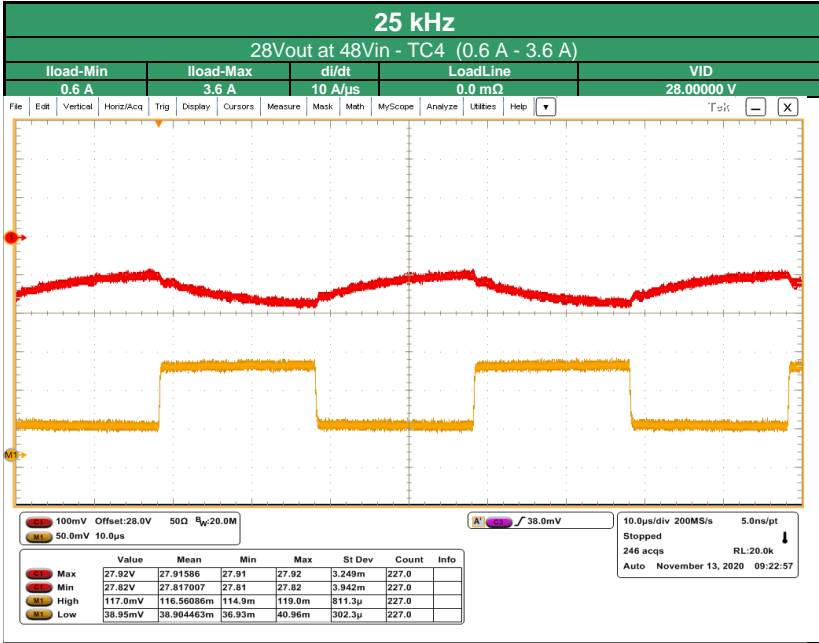
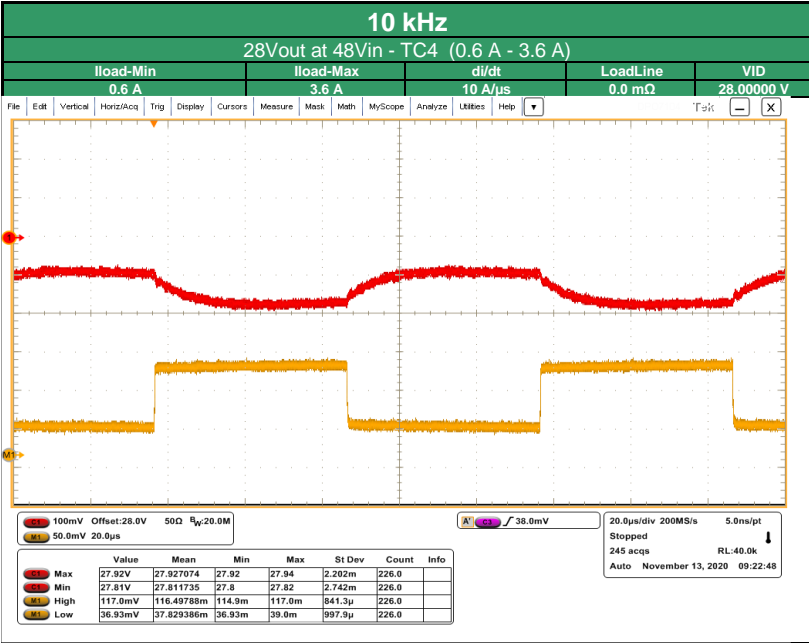
Transient Load Testing at 28Vout at 48Vin - TC4 - LOW Load Test



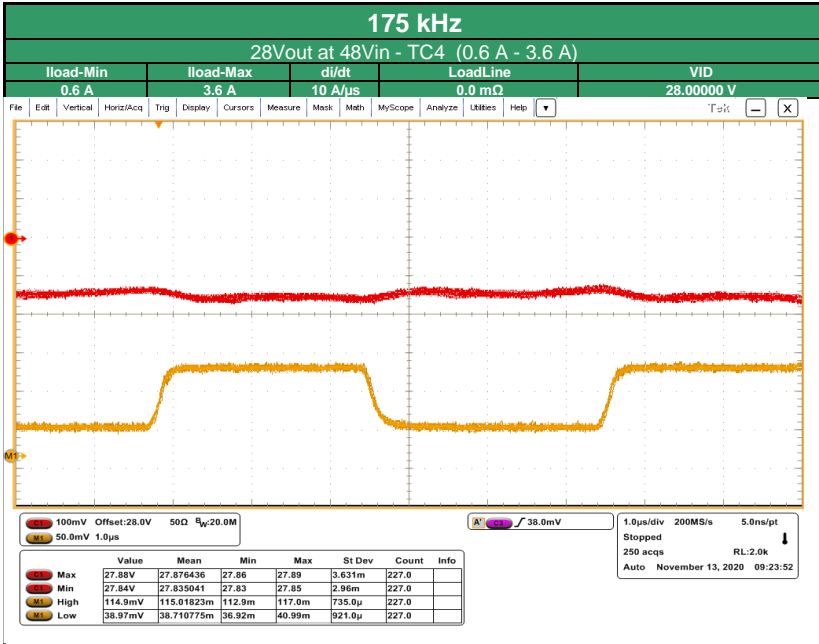
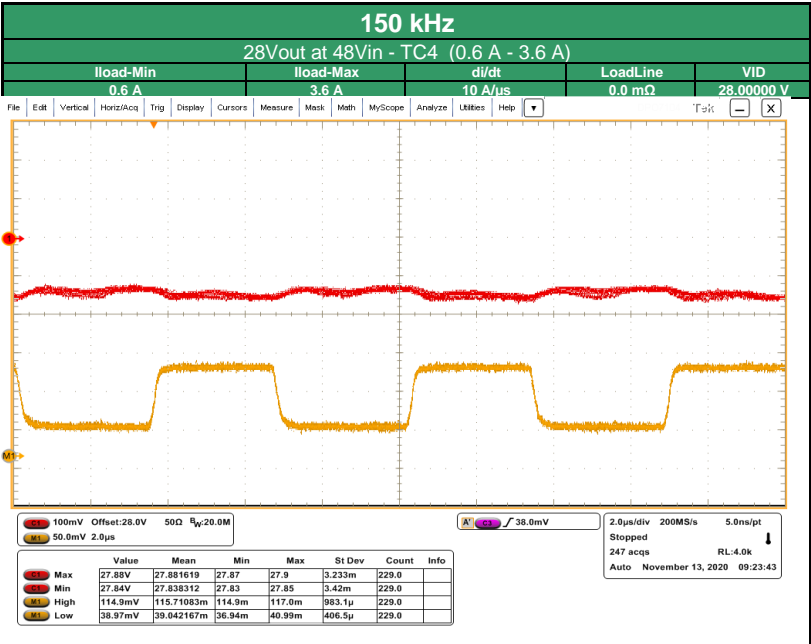
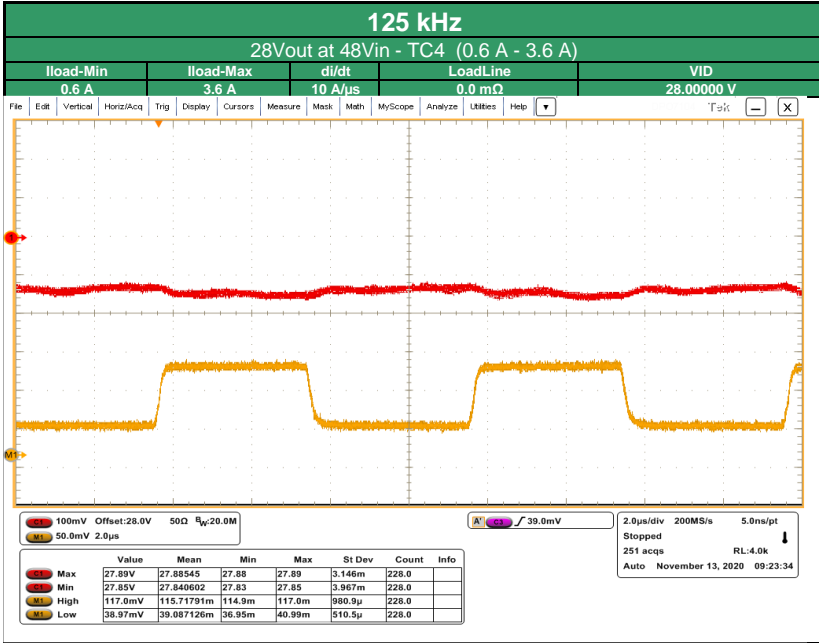
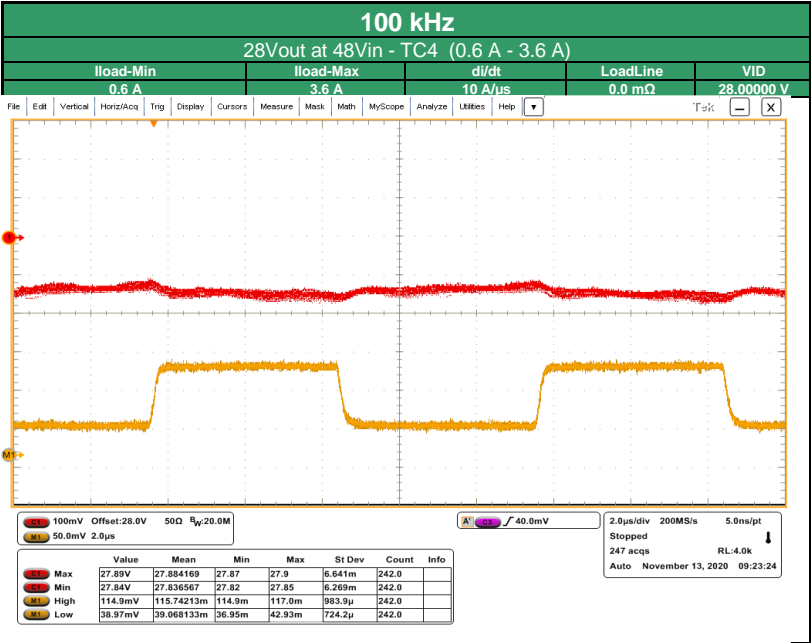
Transient Load Testing at 28Vout at 48Vin - TC4 - LOW Load Test



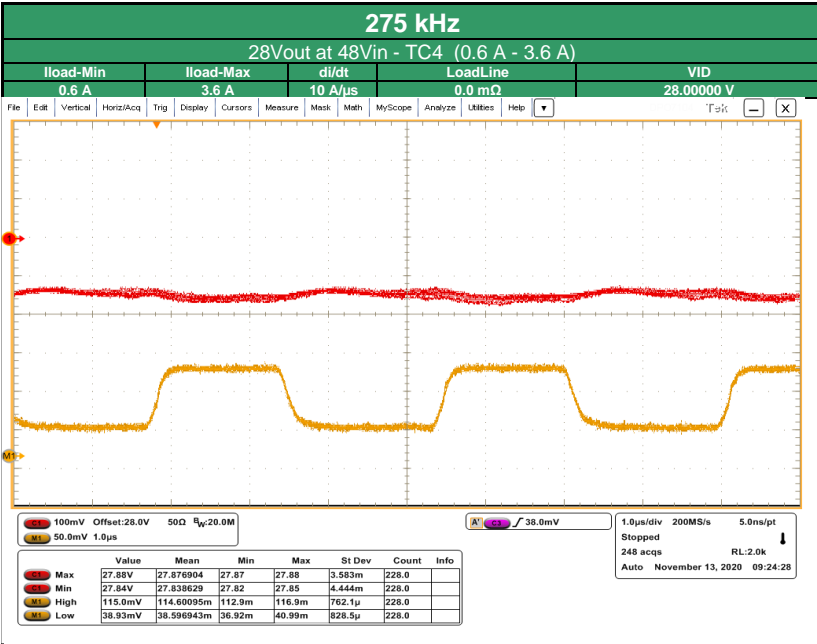
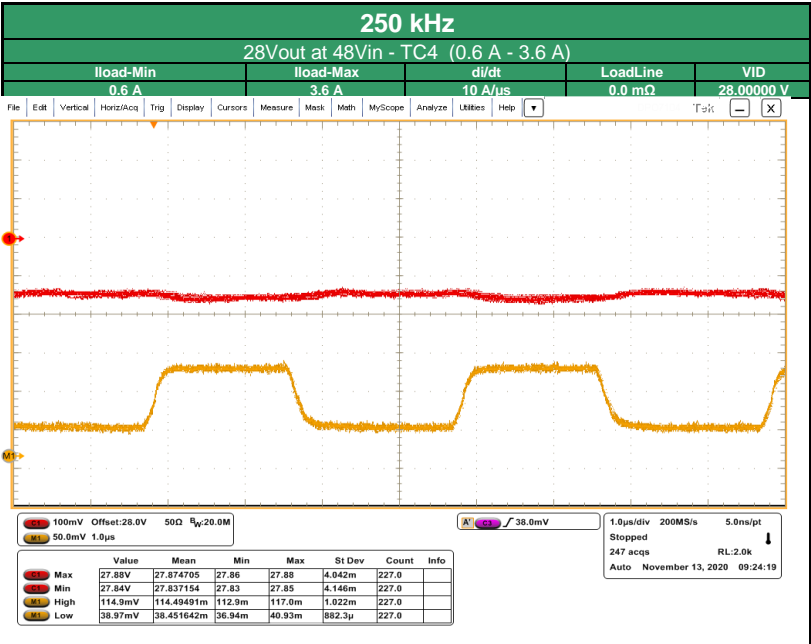
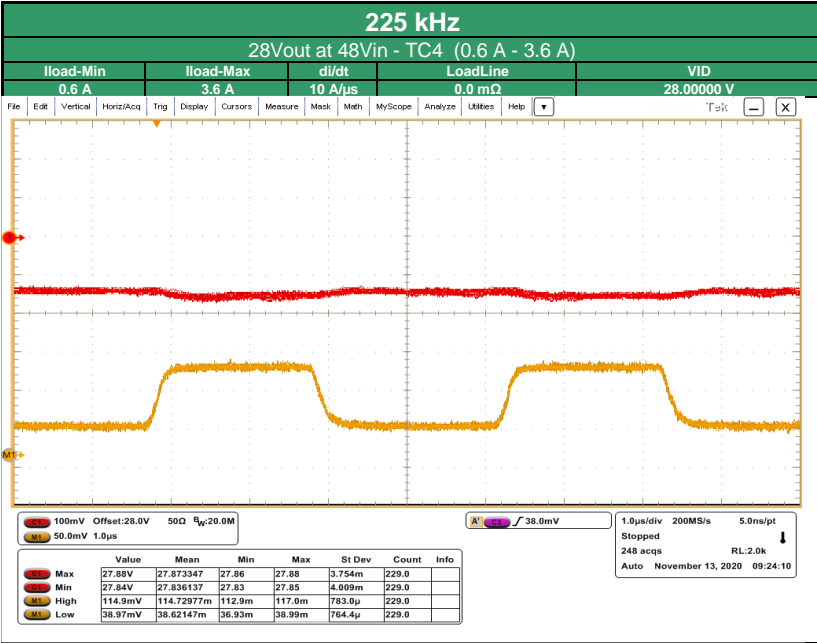
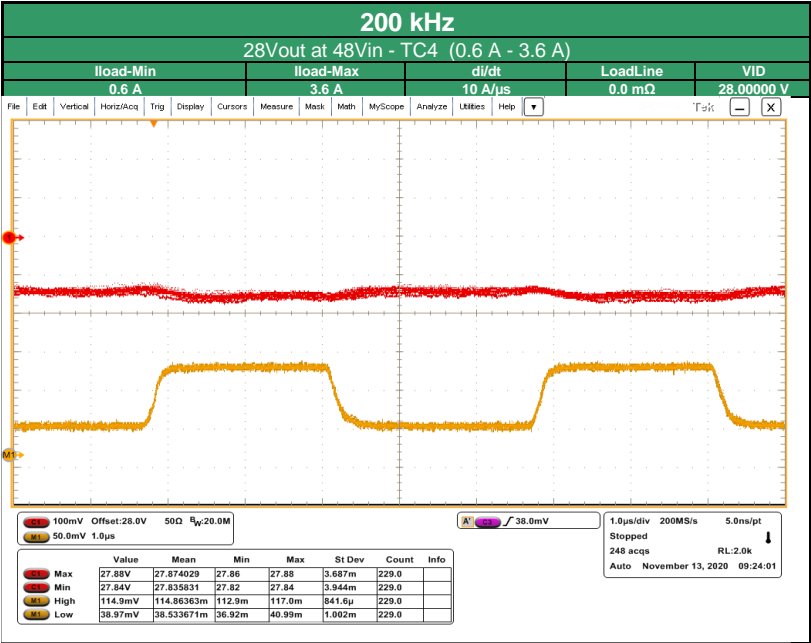
Transient Load Testing at 28Vout at 48Vin - TC4 - LOW Load Test



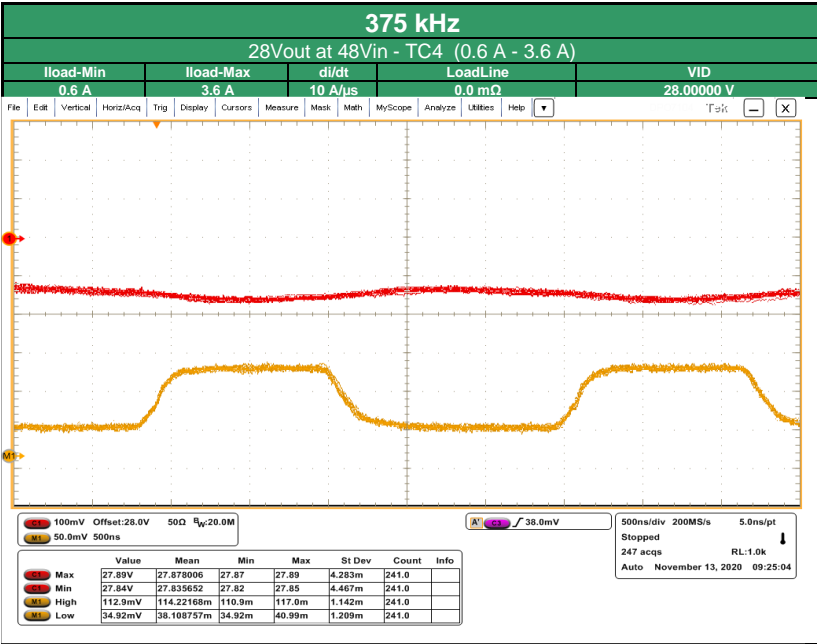
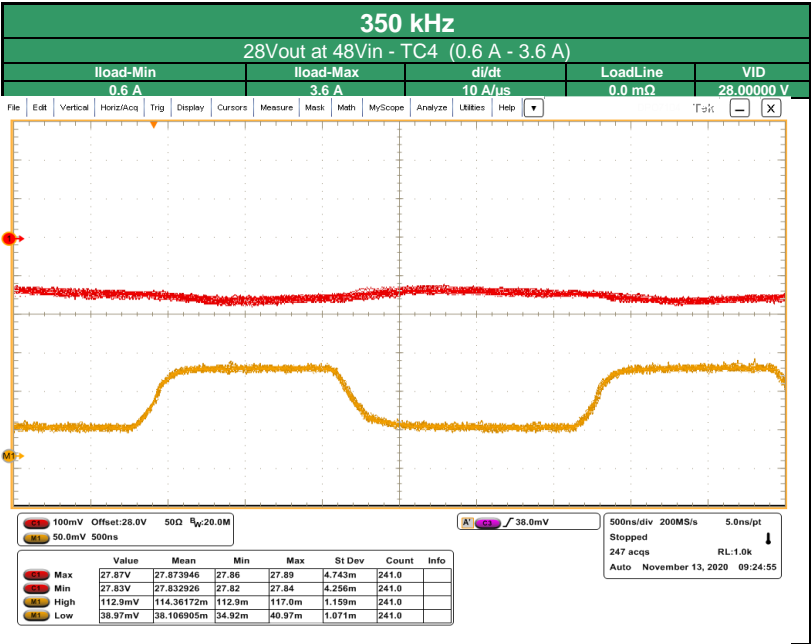
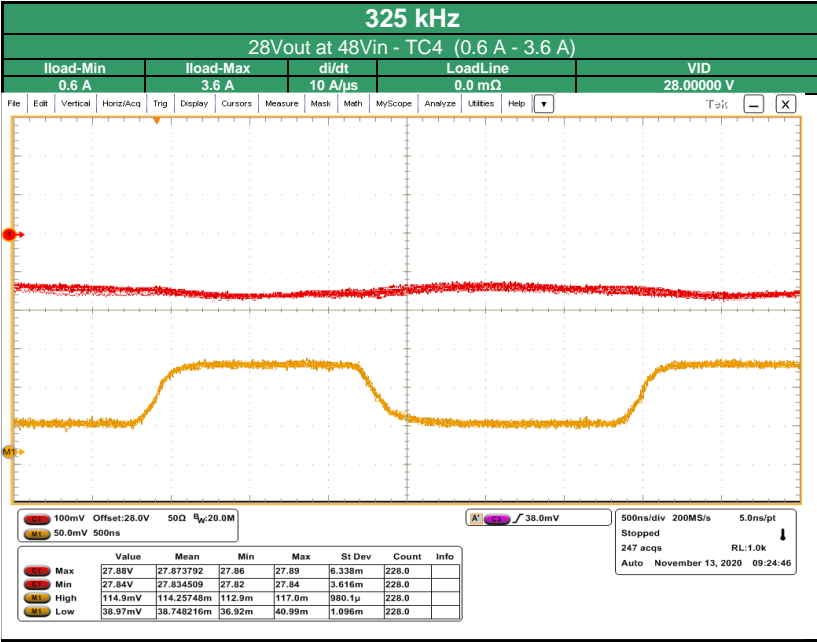
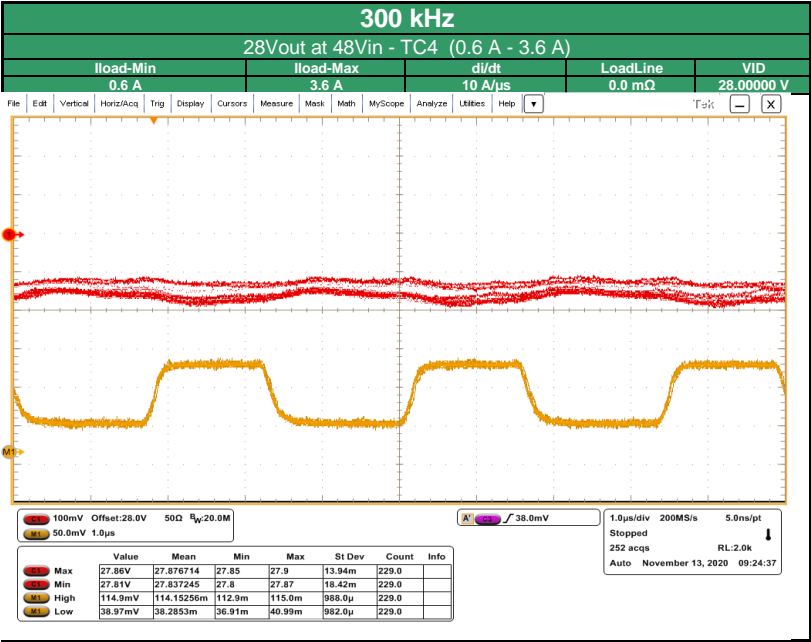
Transient Load Testing at 28Vout at 48Vin - TC4 - LOW Load Test



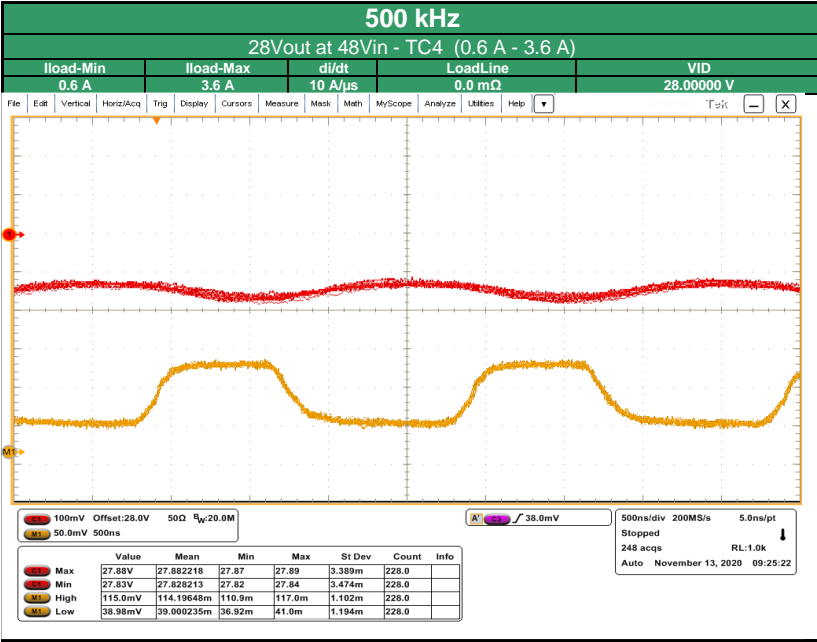
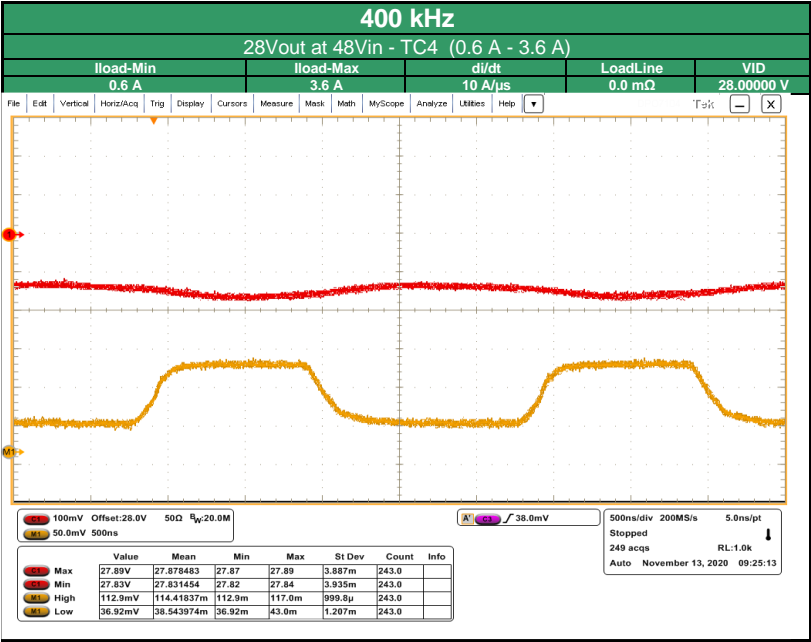
Transient Load Testing at 28Vout at 48Vin - TC4 - LOW Load Test



Transient Load Testing at 28Vout at 48Vin - TC4 - LOW Load Test



Transient Load Testing at 28Vout at 48Vin - TC4 - LOW Load Test



FAN65004B EVB DC Load Ripple at 5Vout at 24Vin - TC1

Output Voltage Ripple

Test Setup		Output Voltage Ripple for 5Vout at 24Vin - TC1					
Channel1	Vout						
Channel2	N/A	Switching Frequency @ TDC	310.2 kHz	ranged	310.1 kHz	310.2 kHz	
Channel3	N/A	Duty Cycle @ TDC	21.70 %	ranged	20.61 %	21.70 %	
Channel4	SWN	Inside Spec Ripple	3.3 mV	between	0.0 A	6.0 A	
#Tests	13	Max Ripple	3.3 mV	at	6.0 A		Ripple Goal 50,000

[illegible]

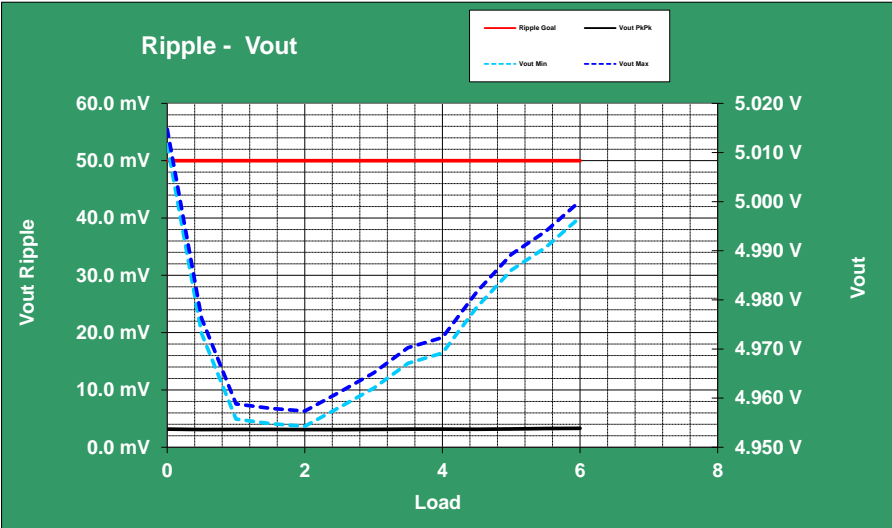
Input Voltage Ripple

Test Setup		Input Voltage Ripple for 5Vout at 24Vin - TC1					
Channel1	Vin						
Channel2	N/A	Switching Frequency @ TDC	305.3 kHz	ranged	305.2 kHz	305.3 kHz	
Channel3	N/A	Duty Cycle @ TDC	21.82 %	ranged	20.77 %	21.82 %	
Channel4	SWN	Inside Spec Ripple	98.6 mV	between	0.0 A	6.0 A	
#Tests	13	Max Ripple	98.6 mV	at	6.0 A		960.000

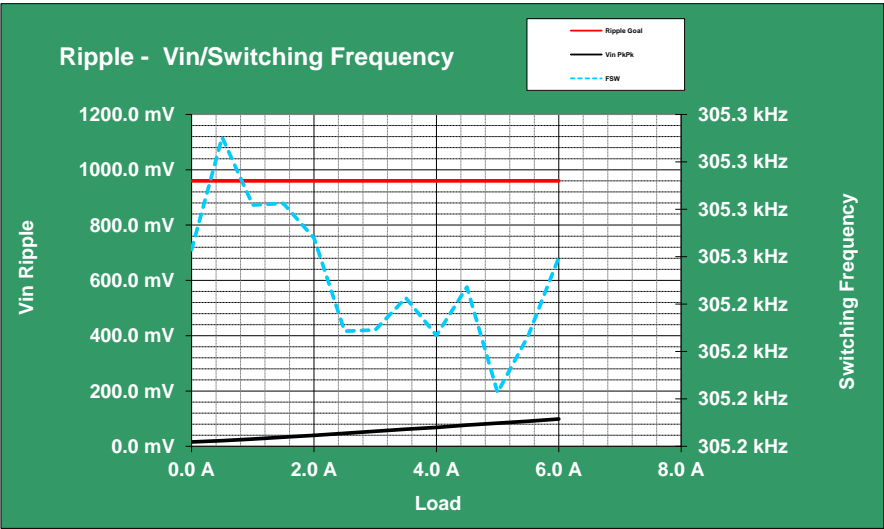
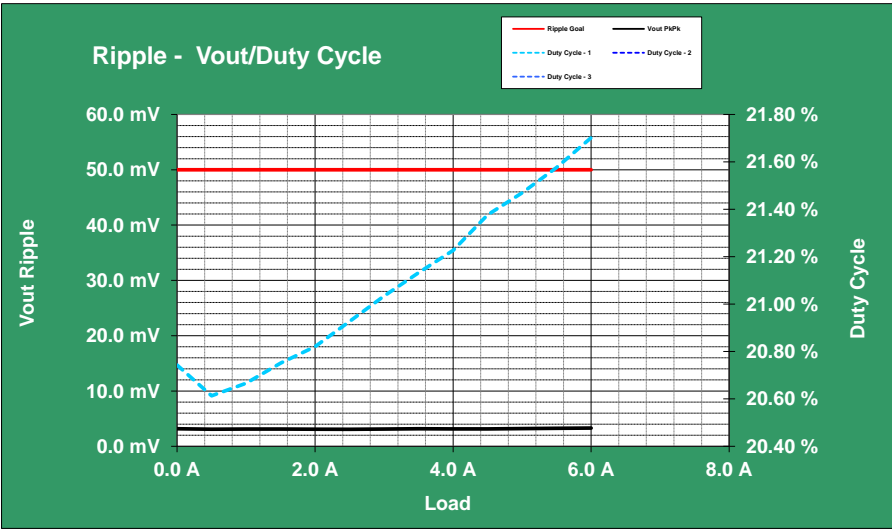
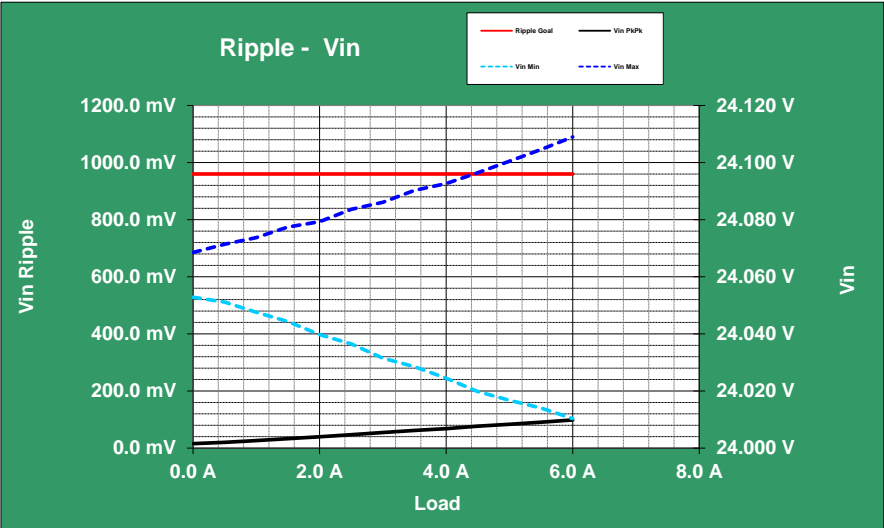
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FAN65004B EVB DC Load Ripple at 5Vout at 24Vin - TC1

Output Voltage Ripple



Input Voltage Ripple

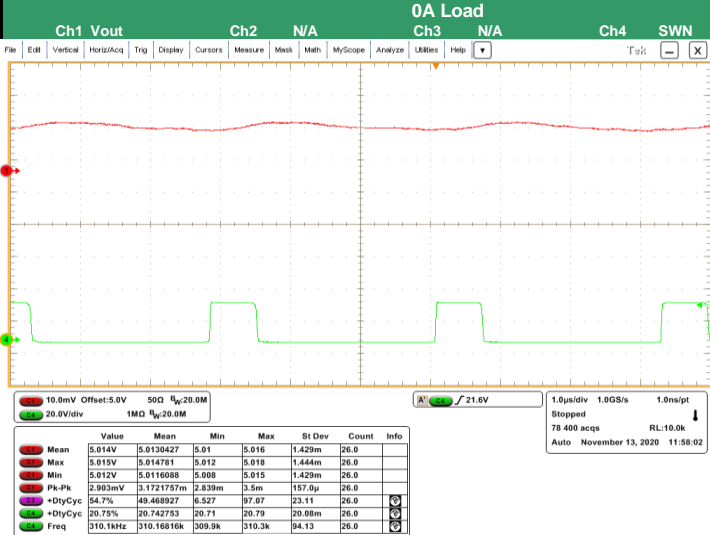


FAN65004B EVB DC Load Ripple at 5Vout at 24Vin - TC1

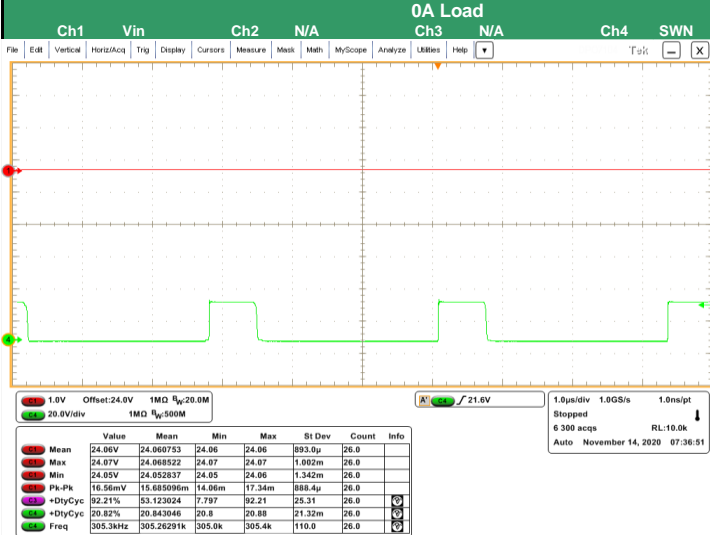
Output Voltage Ripple

Input Voltage Ripple

Output Voltage Ripple for 5Vout at 24Vin - TC1



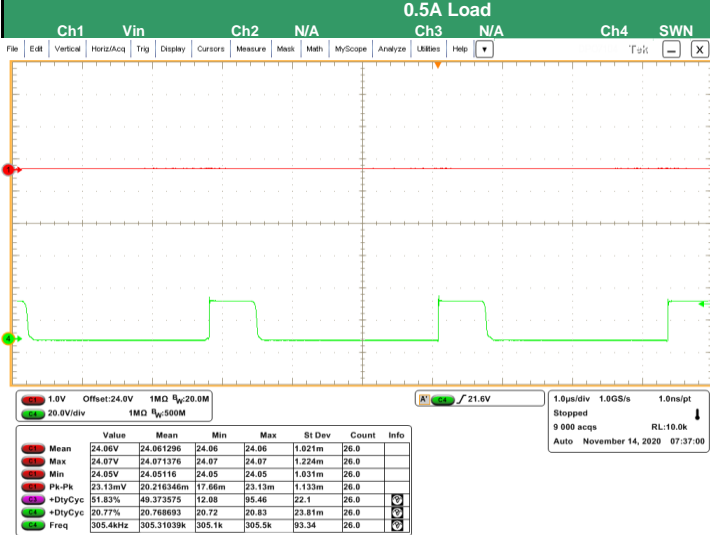
Input Voltage Ripple for 5Vout at 24Vin - TC1



Output Voltage Ripple for 5Vout at 24Vin - TC1



Input Voltage Ripple for 5Vout at 24Vin - TC1

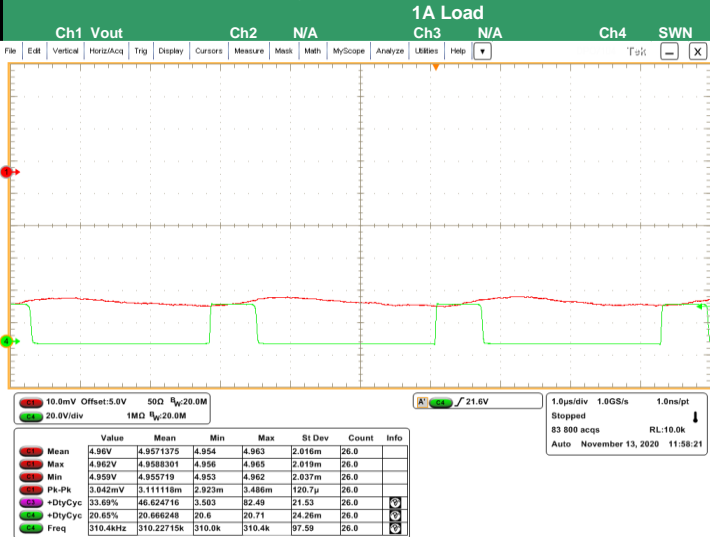


FAN65004B EVB DC Load Ripple at 5Vout at 24Vin - TC1

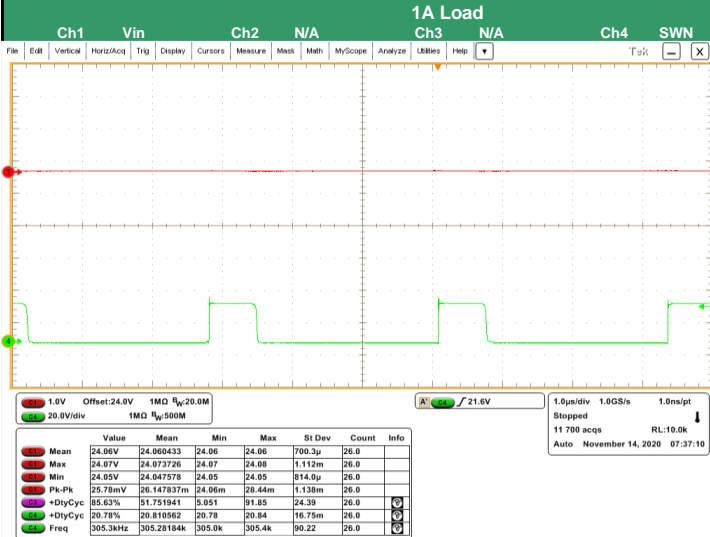
Output Voltage Ripple

Input Voltage Ripple

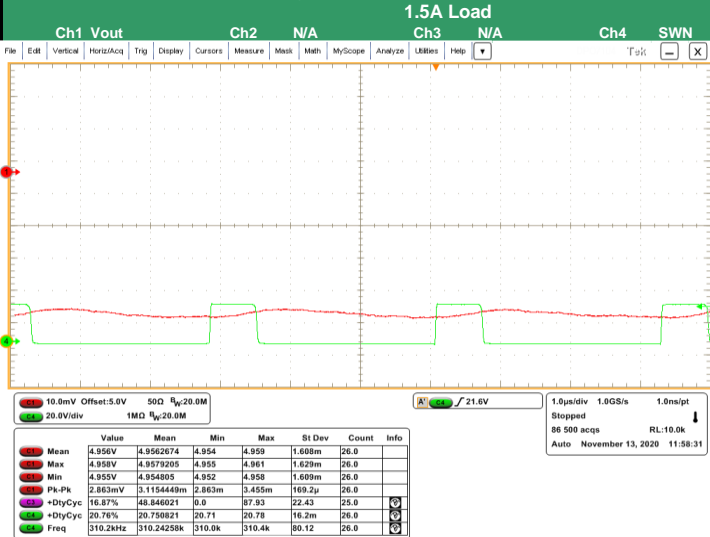
Output Voltage Ripple for 5Vout at 24Vin - TC1



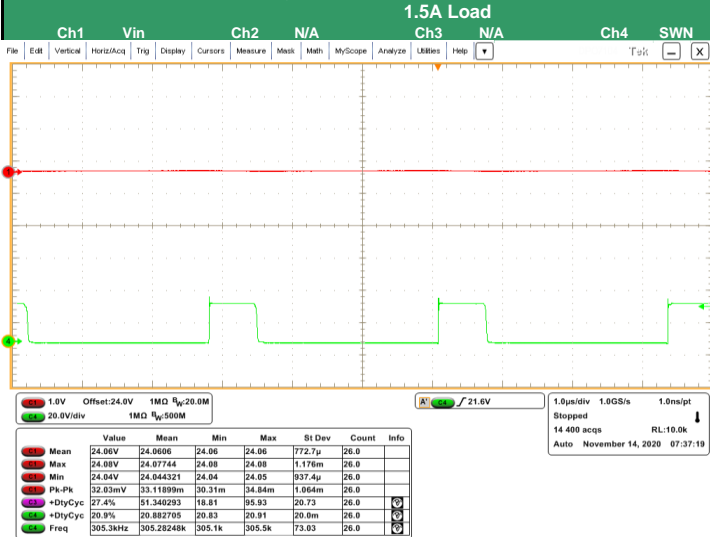
Input Voltage Ripple for 5Vout at 24Vin - TC1



Output Voltage Ripple for 5Vout at 24Vin - TC1



Input Voltage Ripple for 5Vout at 24Vin - TC1

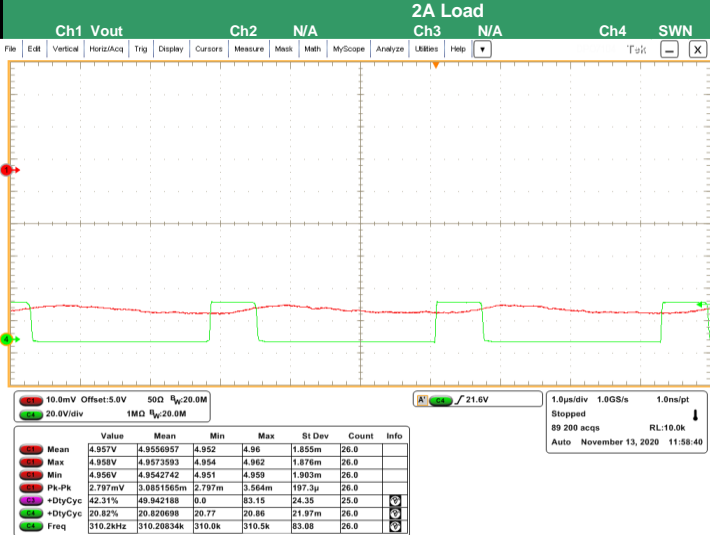


FAN65004B EVB DC Load Ripple at 5Vout at 24Vin - TC1

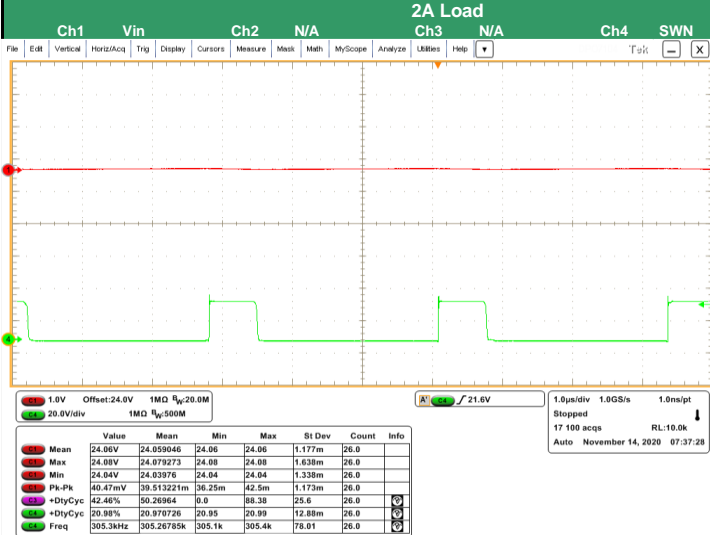
Output Voltage Ripple

Input Voltage Ripple

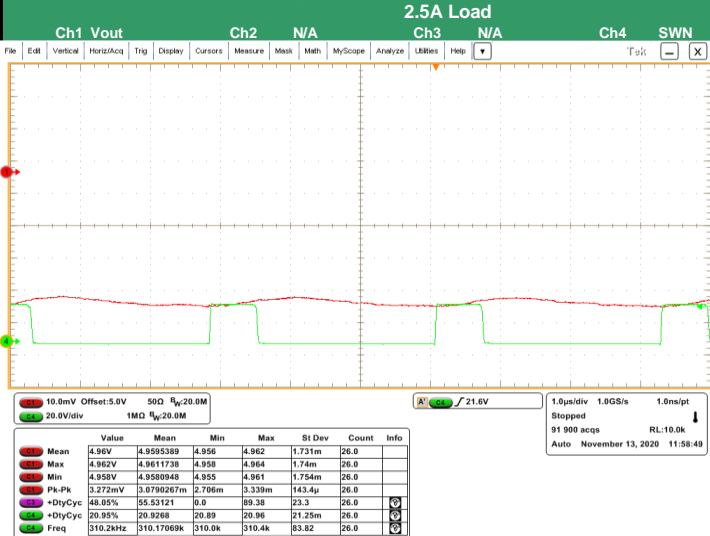
Output Voltage Ripple for 5Vout at 24Vin - TC1



Input Voltage Ripple for 5Vout at 24Vin - TC1



Output Voltage Ripple for 5Vout at 24Vin - TC1



Input Voltage Ripple for 5Vout at 24Vin - TC1

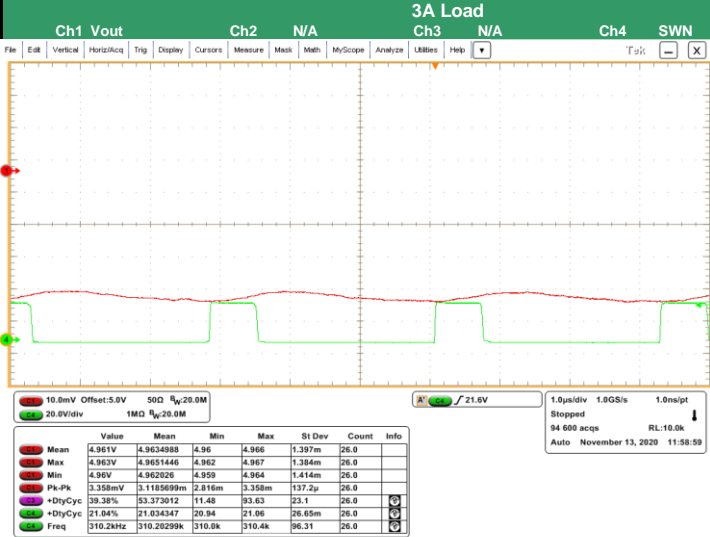


FAN65004B EVB DC Load Ripple at 5Vout at 24Vin - TC1

Output Voltage Ripple

Input Voltage Ripple

Output Voltage Ripple for 5Vout at 24Vin - TC1



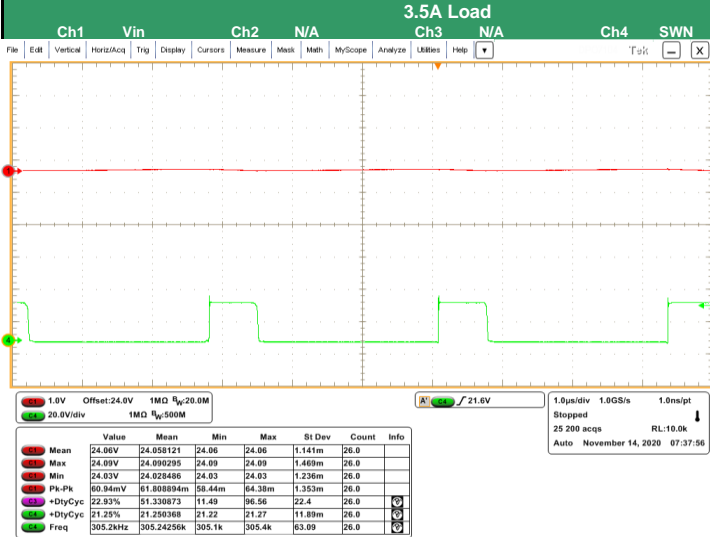
Input Voltage Ripple for 5Vout at 24Vin - TC1



Output Voltage Ripple for 5Vout at 24Vin - TC1



Input Voltage Ripple for 5Vout at 24Vin - TC1



FAN65004B EVB DC Load Ripple at 5Vout at 24Vin - TC1

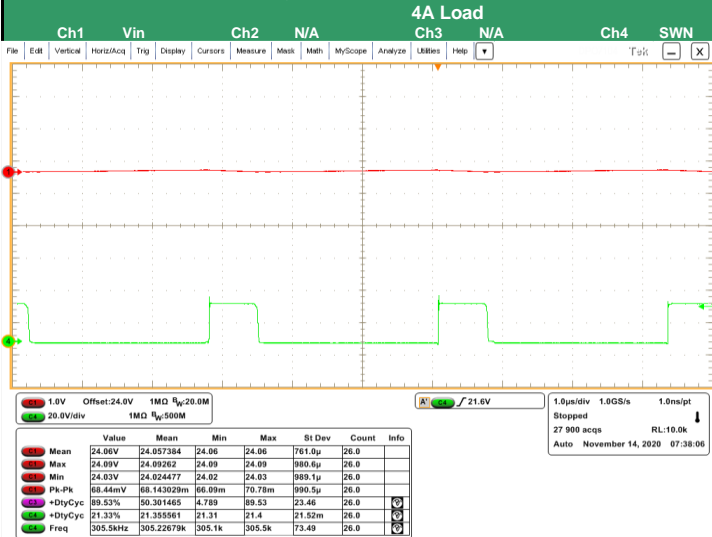
Output Voltage Ripple

Input Voltage Ripple

Output Voltage Ripple for 5Vout at 24Vin - TC1



Input Voltage Ripple for 5Vout at 24Vin - TC1



Output Voltage Ripple for 5Vout at 24Vin - TC1



Input Voltage Ripple for 5Vout at 24Vin - TC1

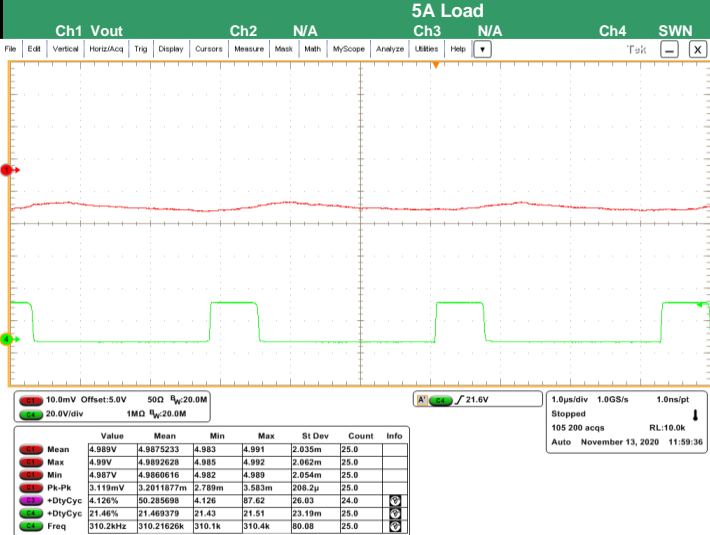


FAN65004B EVB DC Load Ripple at 5Vout at 24Vin - TC1

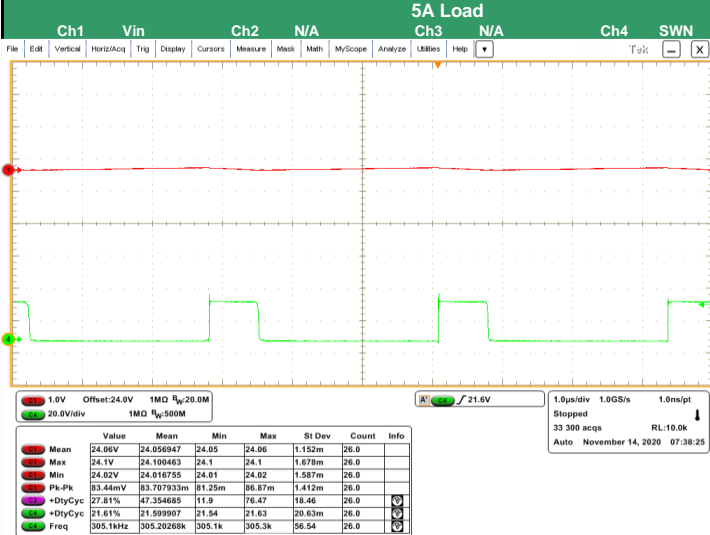
Output Voltage Ripple

Input Voltage Ripple

Output Voltage Ripple for 5Vout at 24Vin - TC1



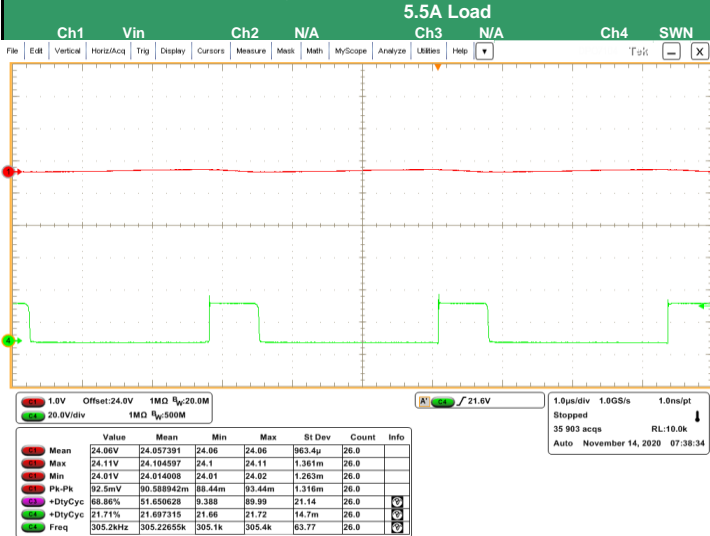
Input Voltage Ripple for 5Vout at 24Vin - TC1



Output Voltage Ripple for 5Vout at 24Vin - TC1



Input Voltage Ripple for 5Vout at 24Vin - TC1

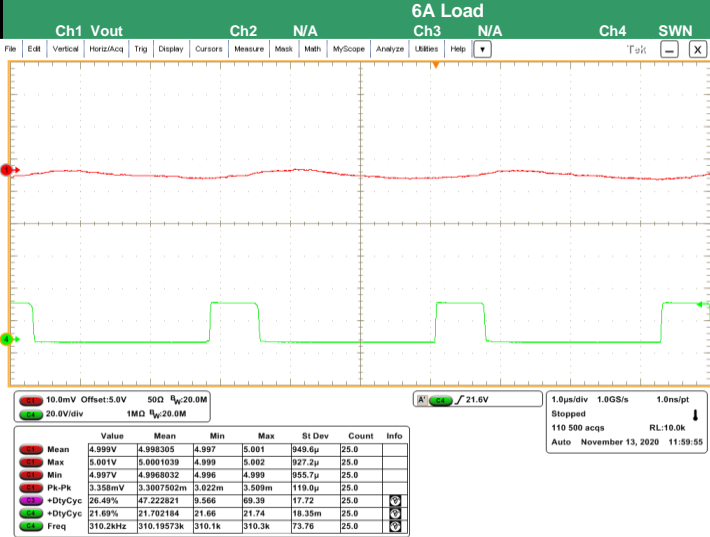


FAN65004B EVB DC Load Ripple at 5Vout at 24Vin - TC1

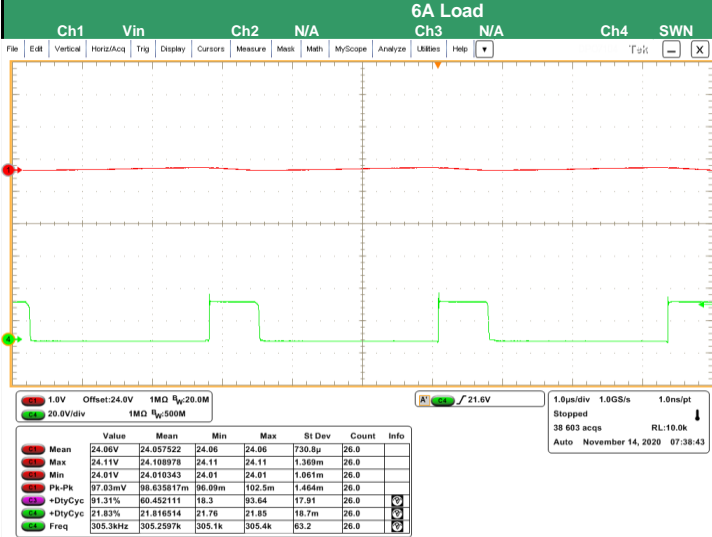
Output Voltage Ripple

Input Voltage Ripple

Output Voltage Ripple for 5Vout at 24Vin - TC1

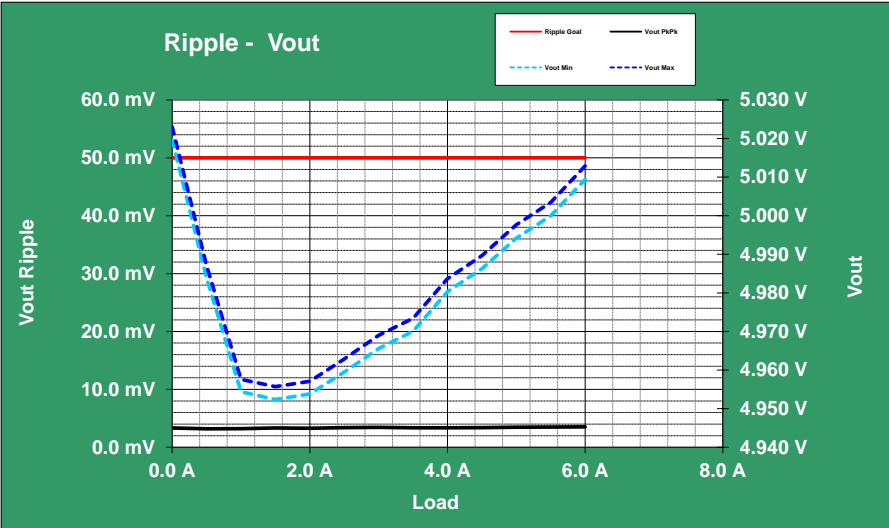


Input Voltage Ripple for 5Vout at 24Vin - TC1

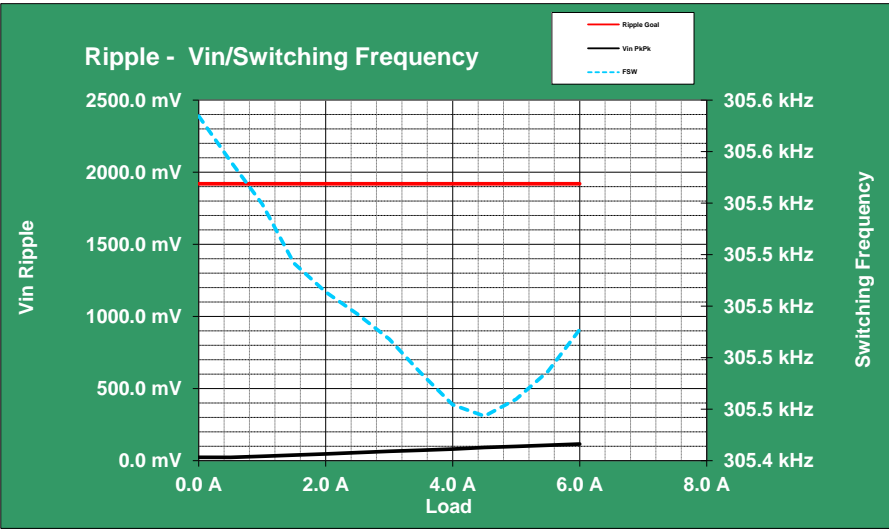
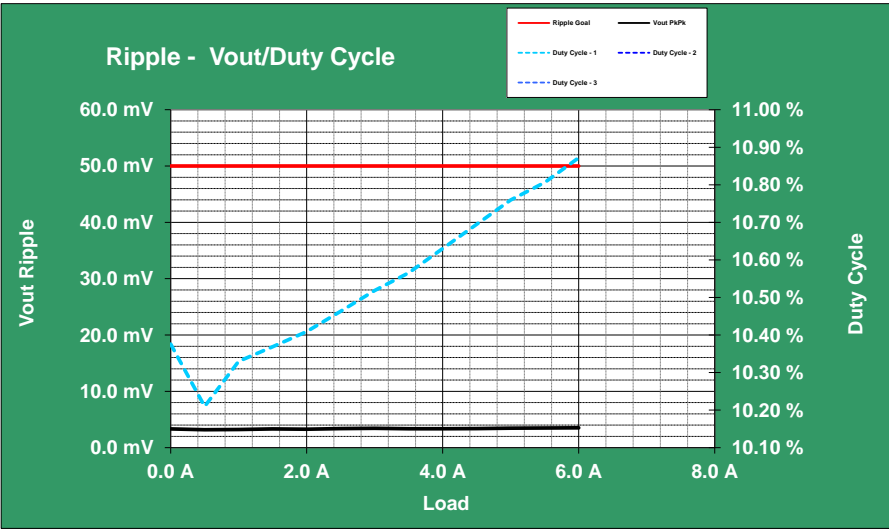
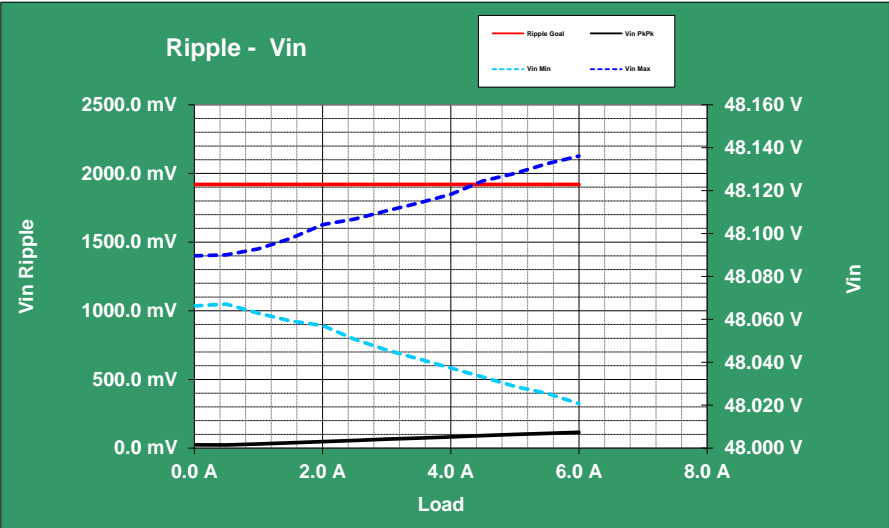


FAN65004B EVB DC Load Ripple at 5Vout at 48Vin - TC2

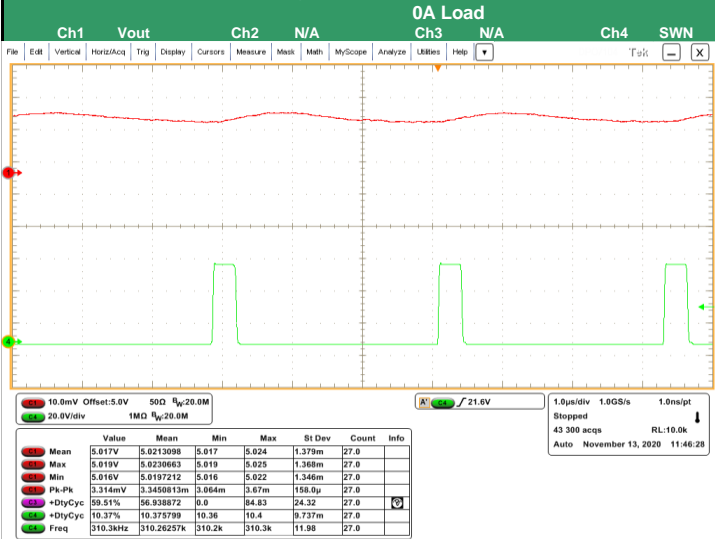
Output Voltage Ripple



Input Voltage Ripple



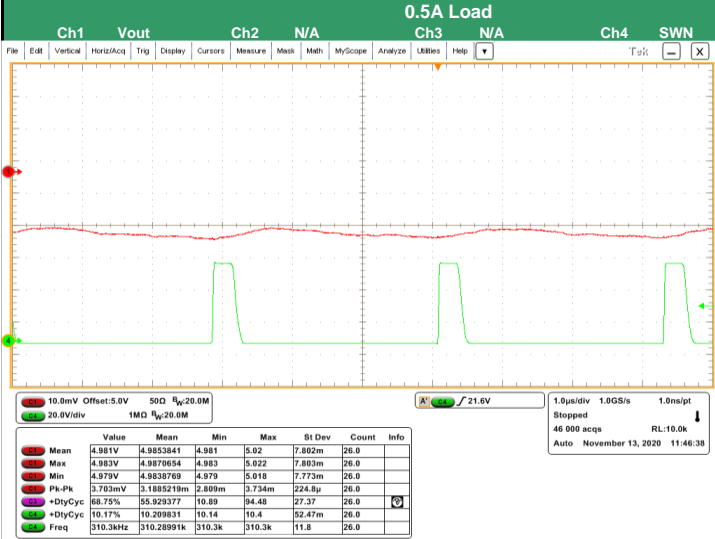
Output Voltage Ripple for 5Vout at 48Vin - TC2



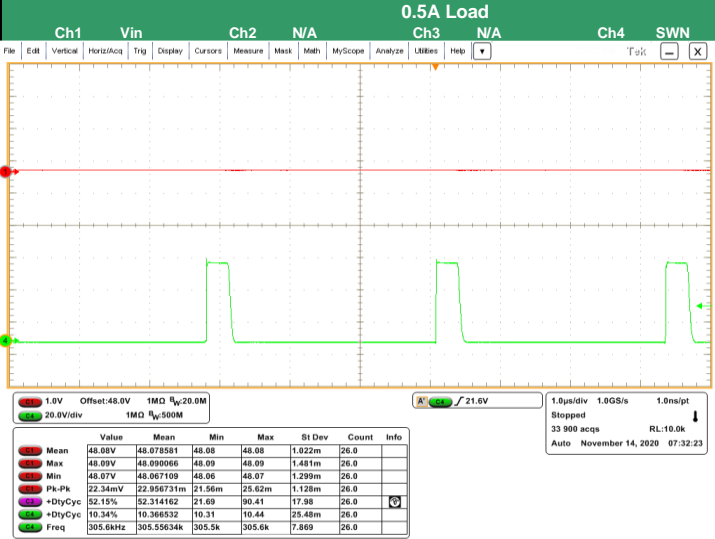
Input Voltage Ripple for 5Vout at 48Vin - TC2



Output Voltage Ripple for 5Vout at 48Vin - TC2



Input Voltage Ripple for 5Vout at 48Vin - TC2

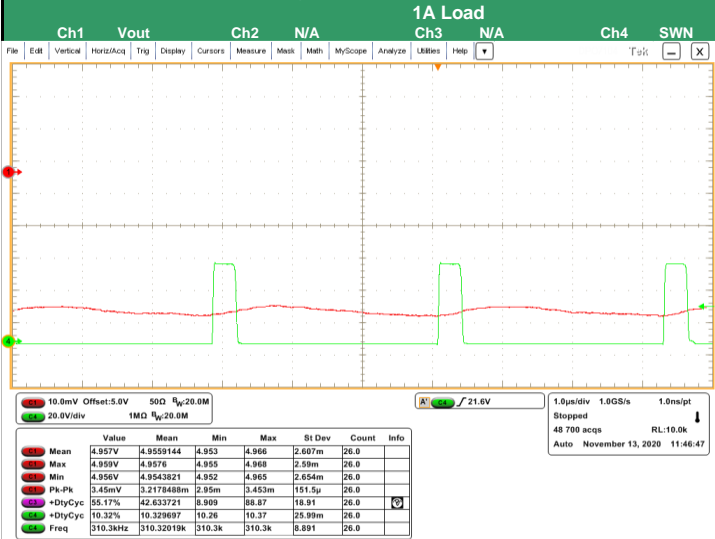


FAN65004B EVB DC Load Ripple at 5Vout at 48Vin - TC2

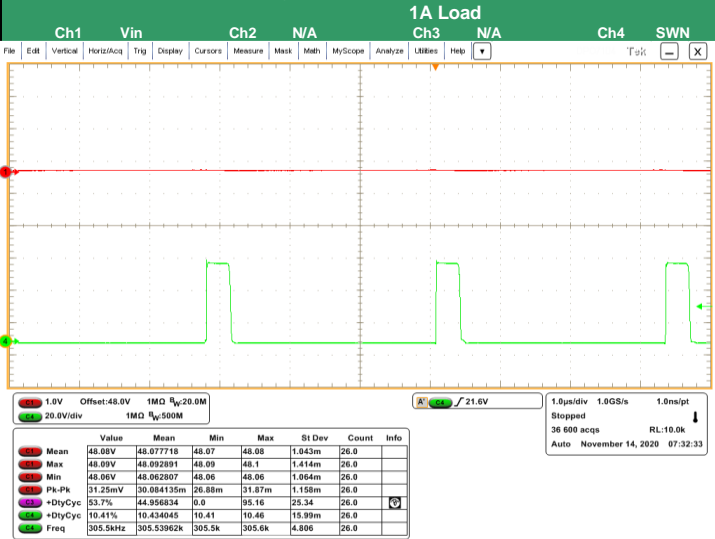
Output Voltage Ripple

Input Voltage Ripple

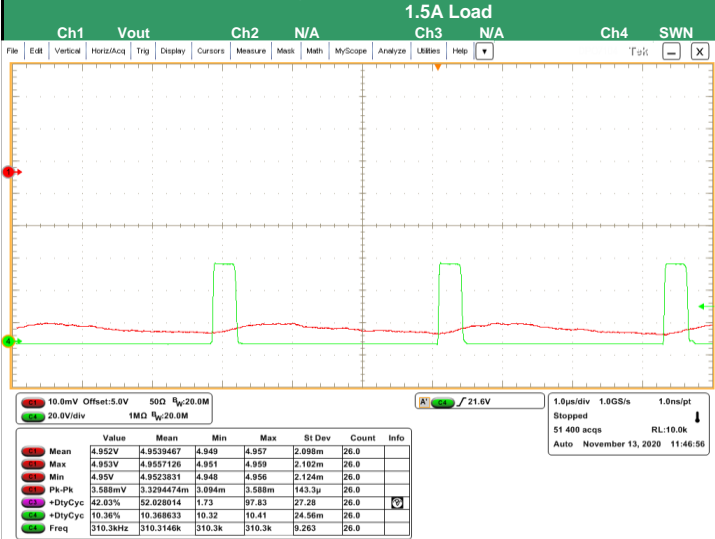
Output Voltage Ripple for 5Vout at 48Vin - TC2



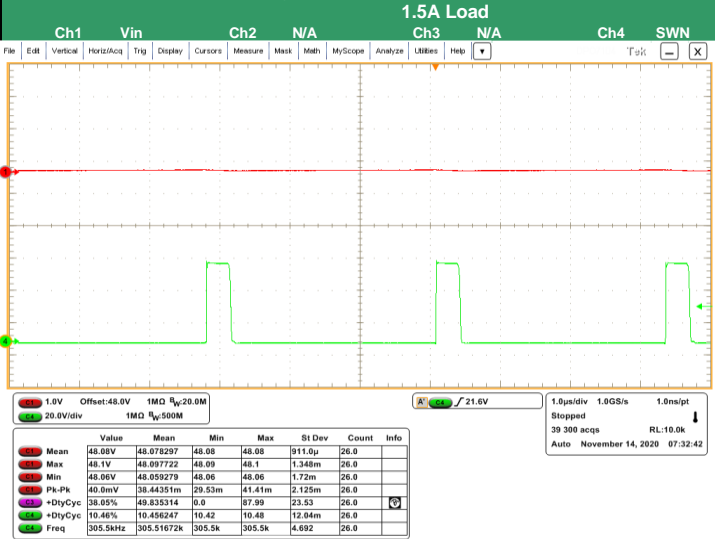
Input Voltage Ripple for 5Vout at 48Vin - TC2



Output Voltage Ripple for 5Vout at 48Vin - TC2



Input Voltage Ripple for 5Vout at 48Vin - TC2

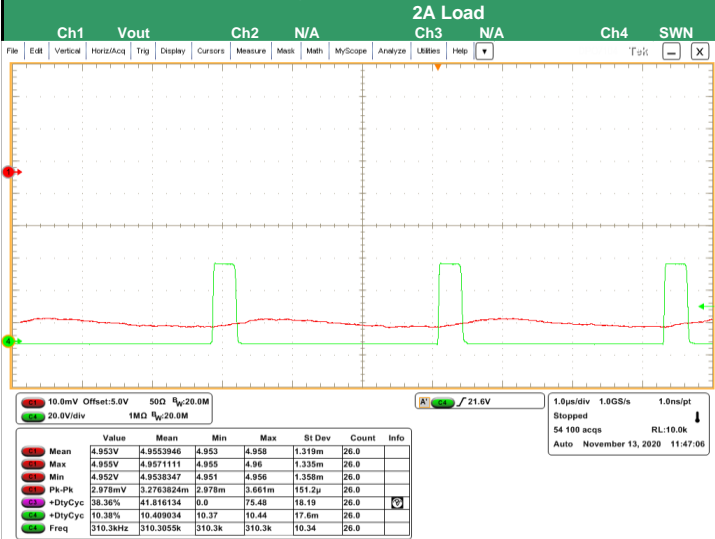


FAN65004B EVB DC Load Ripple at 5Vout at 48Vin - TC2

Output Voltage Ripple

Input Voltage Ripple

Output Voltage Ripple for 5Vout at 48Vin - TC2



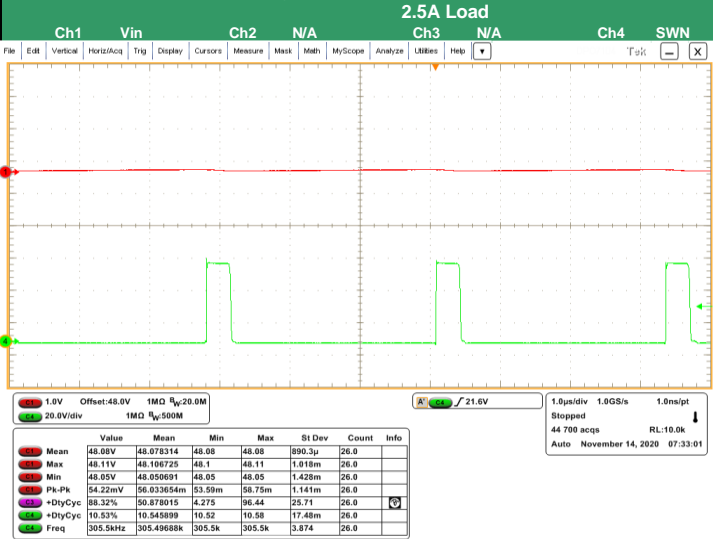
Input Voltage Ripple for 5Vout at 48Vin - TC2



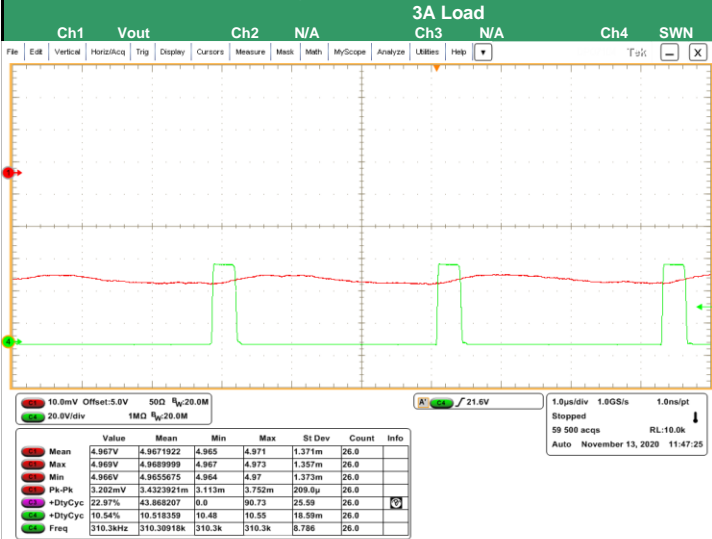
Output Voltage Ripple for 5Vout at 48Vin - TC2



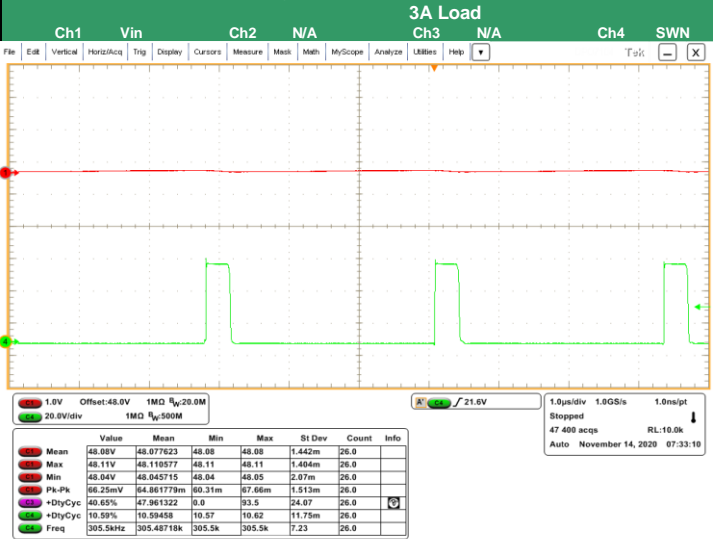
Input Voltage Ripple for 5Vout at 48Vin - TC2



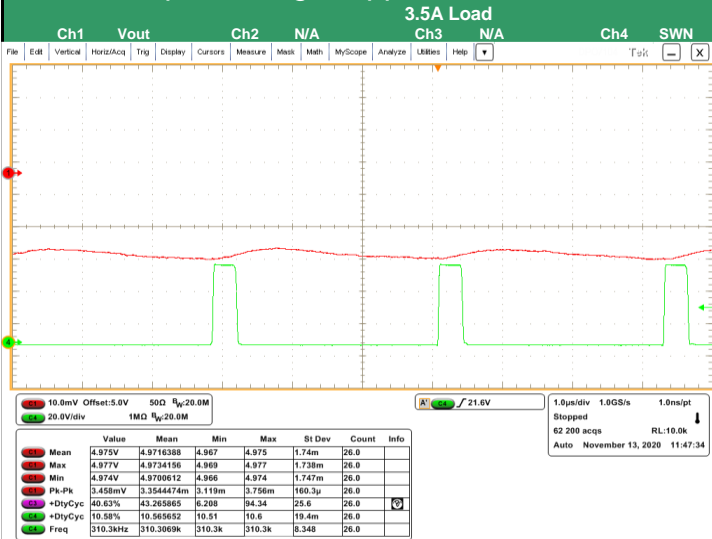
Output Voltage Ripple for 5Vout at 48Vin - TC2



Input Voltage Ripple for 5Vout at 48Vin - TC2



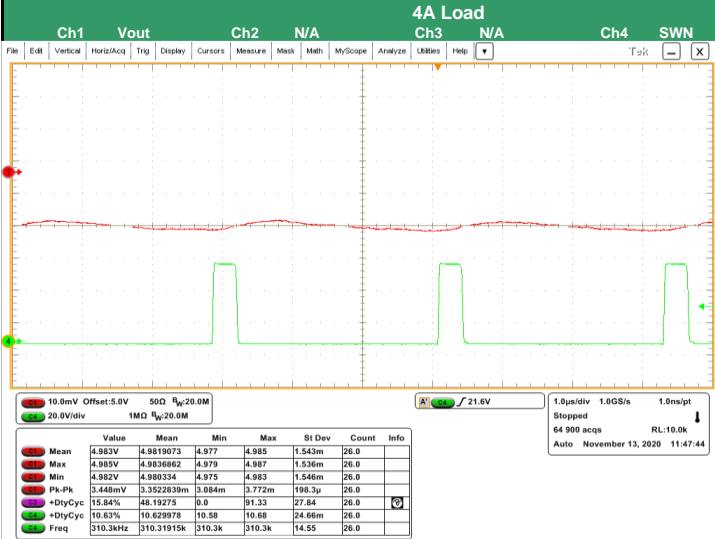
Output Voltage Ripple for 5Vout at 48Vin - TC2



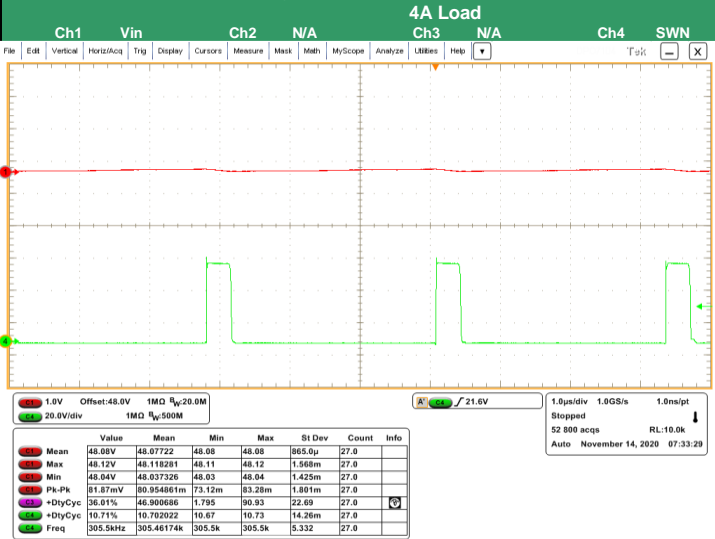
Input Voltage Ripple for 5Vout at 48Vin - TC2



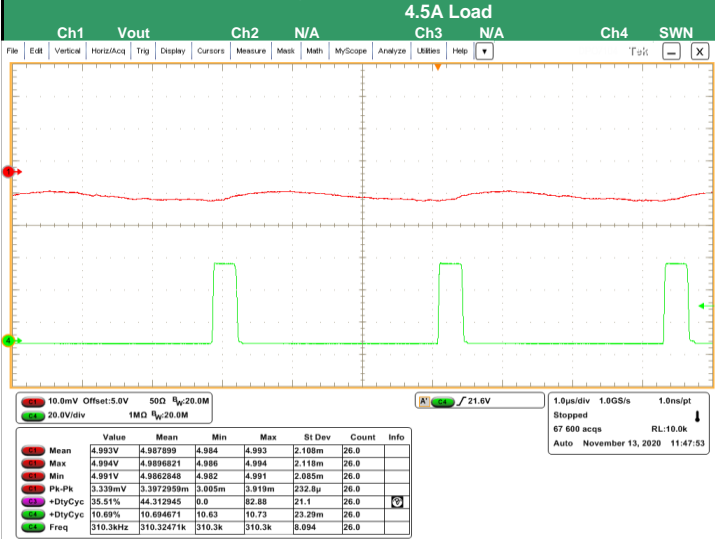
Output Voltage Ripple for 5Vout at 48Vin - TC2



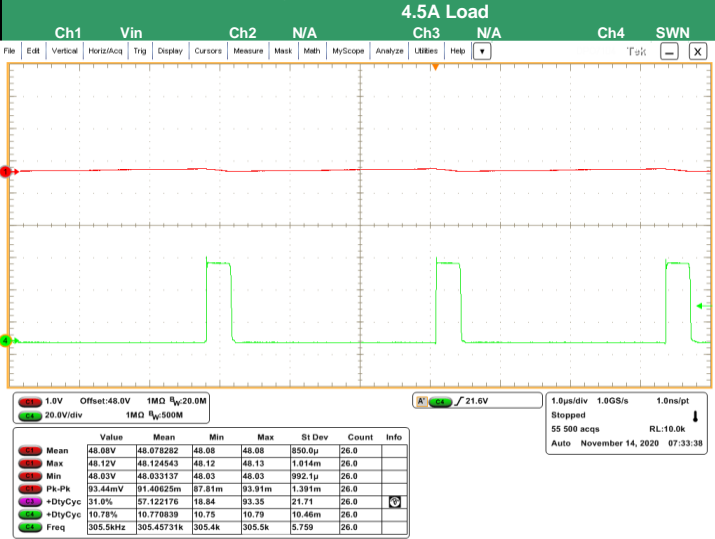
Input Voltage Ripple for 5Vout at 48Vin - TC2



Output Voltage Ripple for 5Vout at 48Vin - TC2



Input Voltage Ripple for 5Vout at 48Vin - TC2

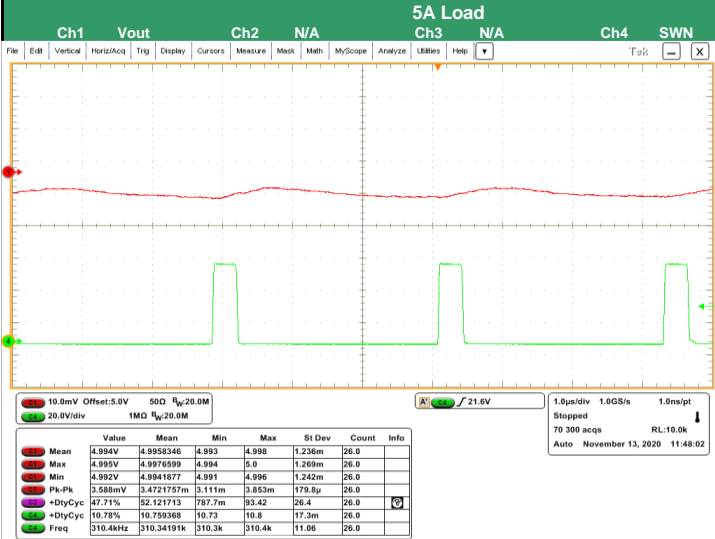


FAN65004B EVB DC Load Ripple at 5Vout at 48Vin - TC2

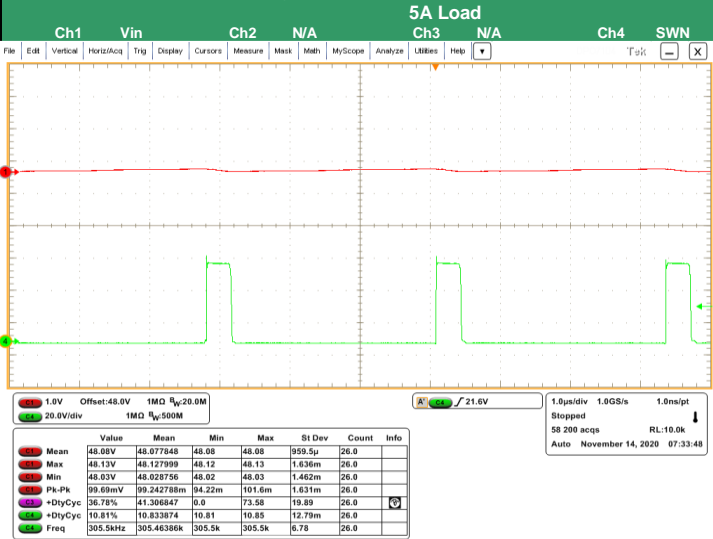
Output Voltage Ripple

Input Voltage Ripple

Output Voltage Ripple for 5Vout at 48Vin - TC2



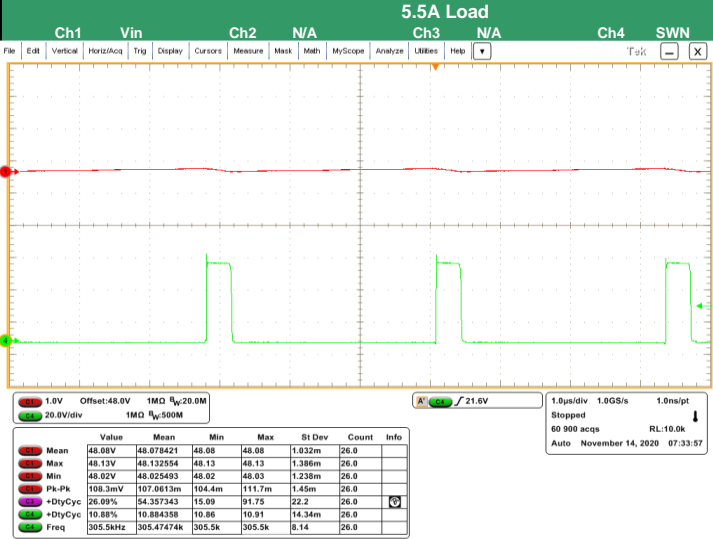
Input Voltage Ripple for 5Vout at 48Vin - TC2



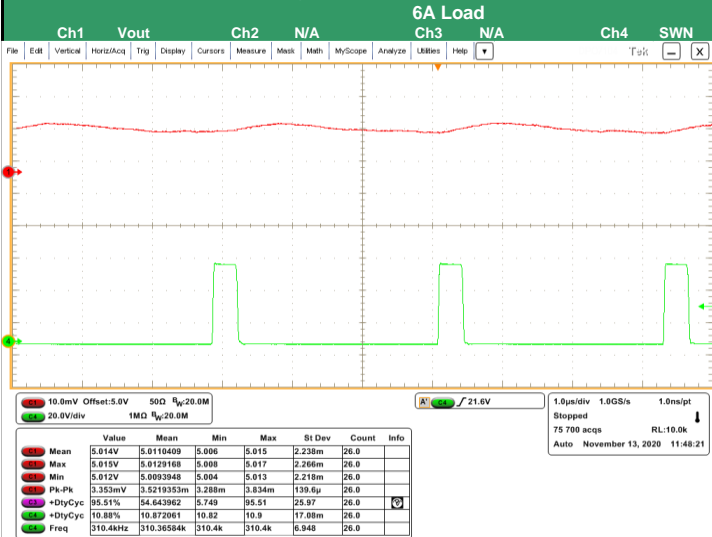
Output Voltage Ripple for 5Vout at 48Vin - TC2



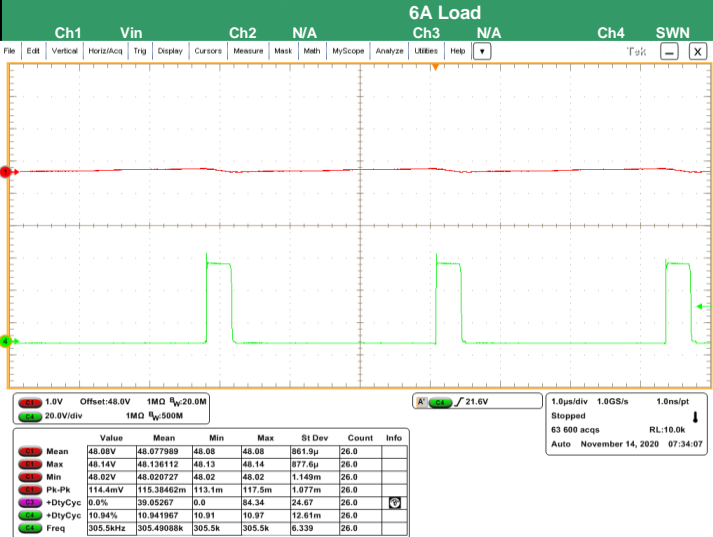
Input Voltage Ripple for 5Vout at 48Vin - TC2



Output Voltage Ripple for 5Vout at 48Vin - TC2



Input Voltage Ripple for 5Vout at 48Vin - TC2

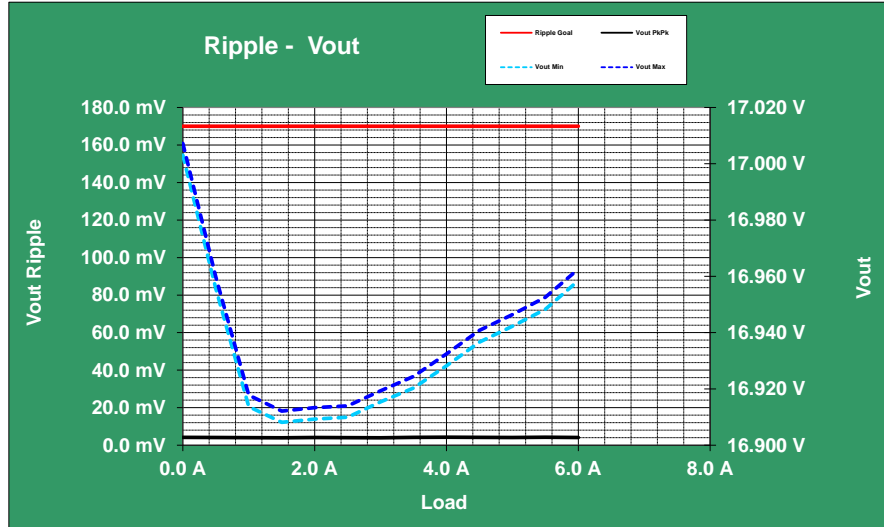


Test Setup		Input Voltage Ripple for 17Vout at 24Vin - TC3					
Channel1	Vin						
Channel2	N/A	Switching Frequency @ TDC	305.3 kHz	ranged	305.2 kHz	305.3 kHz	
Channel3	N/A	Duty Cycle @ TDC	71.73 %	ranged	70.70 %	71.73 %	
Channel4	SWN	Inside Spec Ripple	112.7 mV	between	0.0 A	6.0 A	Ripple Goal
#Tests	13	Max Ripple	112.7 mV	at	6.0 A		960.000

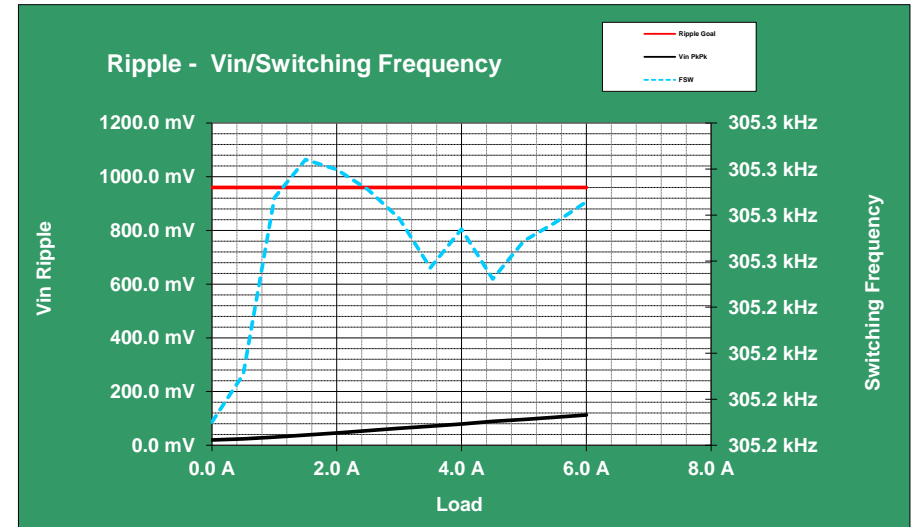
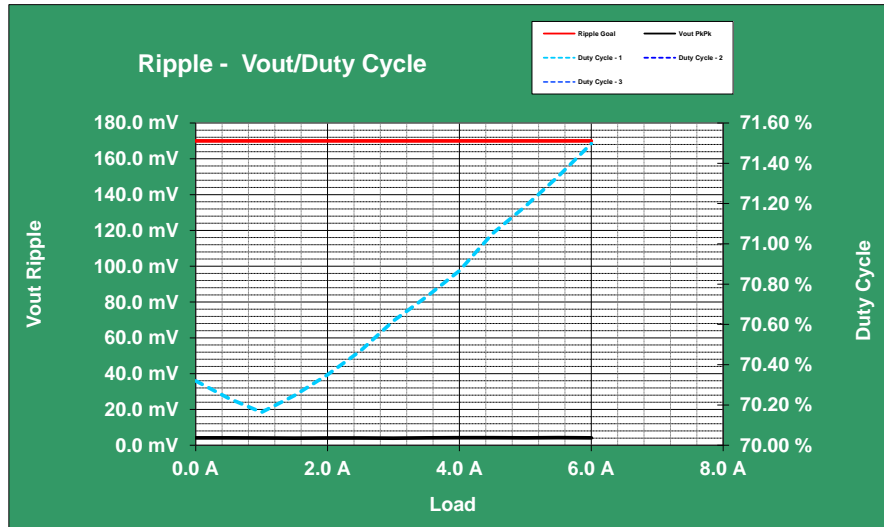
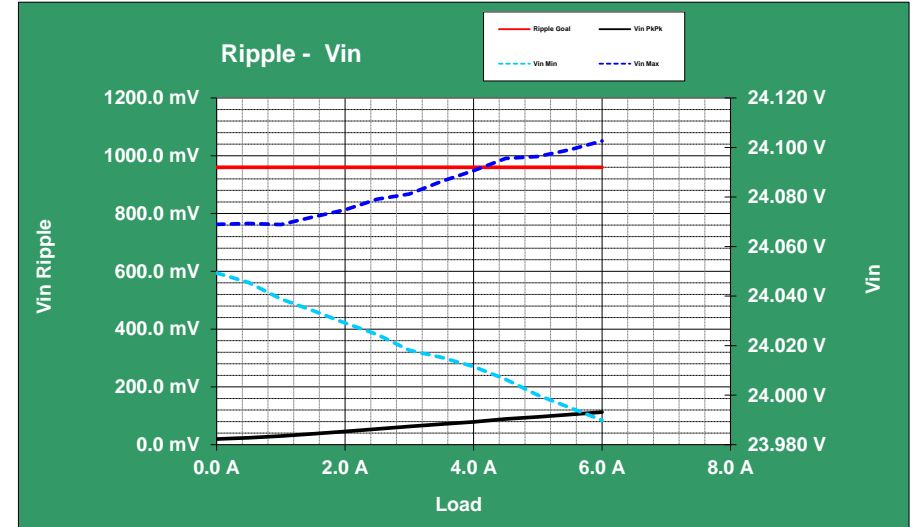
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FAN65004B EVB DC Load Ripple at 17Vout at 24Vin - TC3

Output Voltage Ripple



Input Voltage Ripple

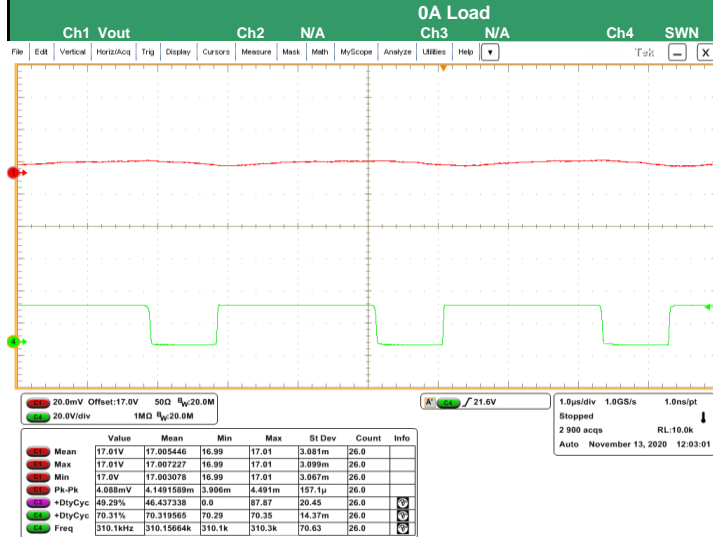


FAN65004B EVB DC Load Ripple at 17Vout at 24Vin - TC3

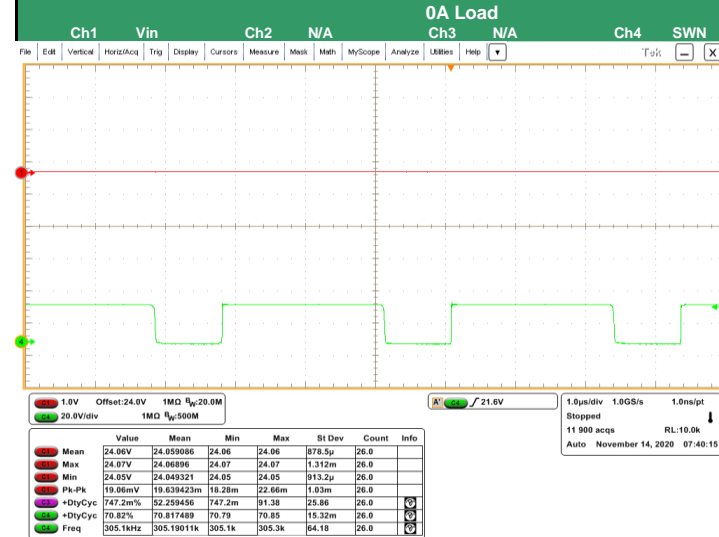
Output Voltage Ripple

Input Voltage Ripple

Output Voltage Ripple for 17Vout at 24Vin - TC3



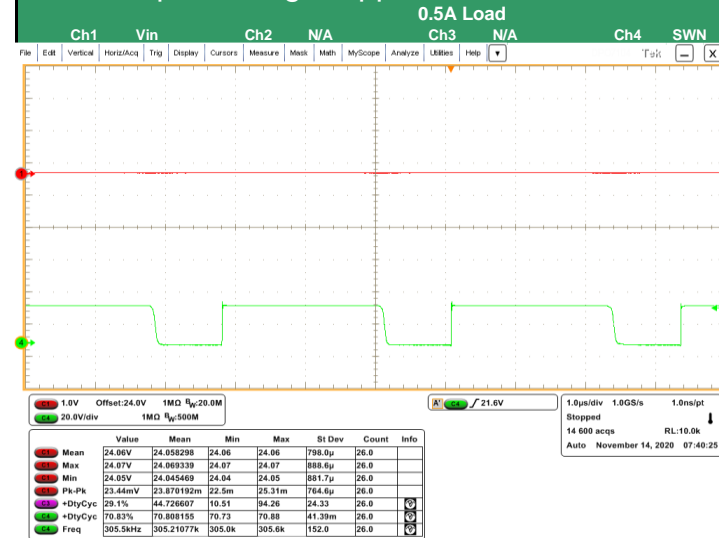
Input Voltage Ripple for 17Vout at 24Vin - TC3



Output Voltage Ripple for 17Vout at 24Vin - TC3



Input Voltage Ripple for 17Vout at 24Vin - TC3

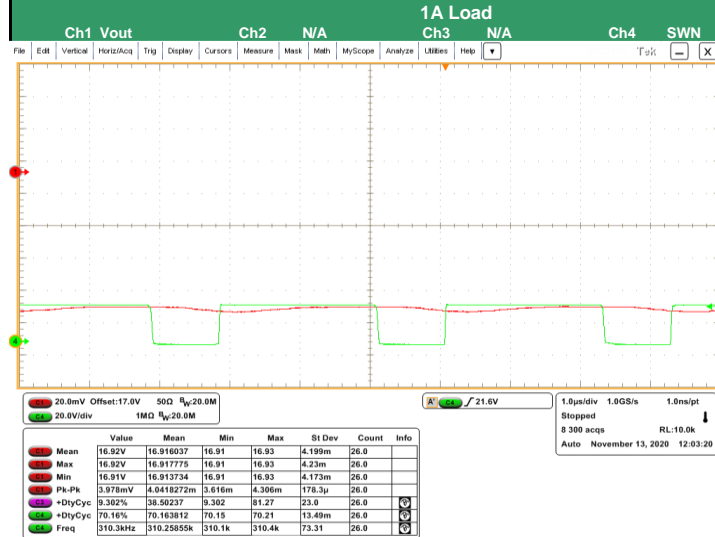


FAN65004B EVB DC Load Ripple at 17Vout at 24Vin - TC3

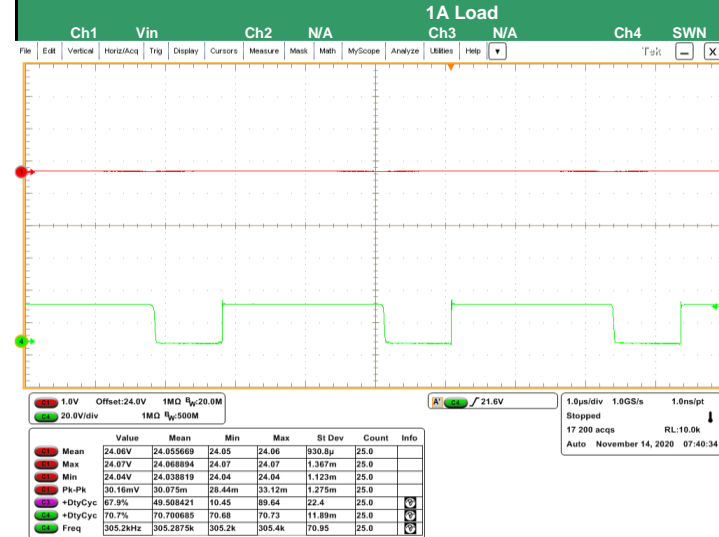
Output Voltage Ripple

Input Voltage Ripple

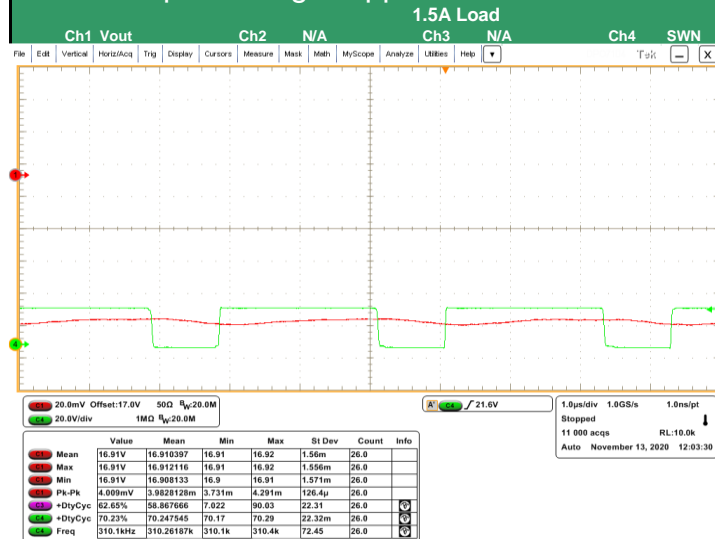
Output Voltage Ripple for 17Vout at 24Vin - TC3



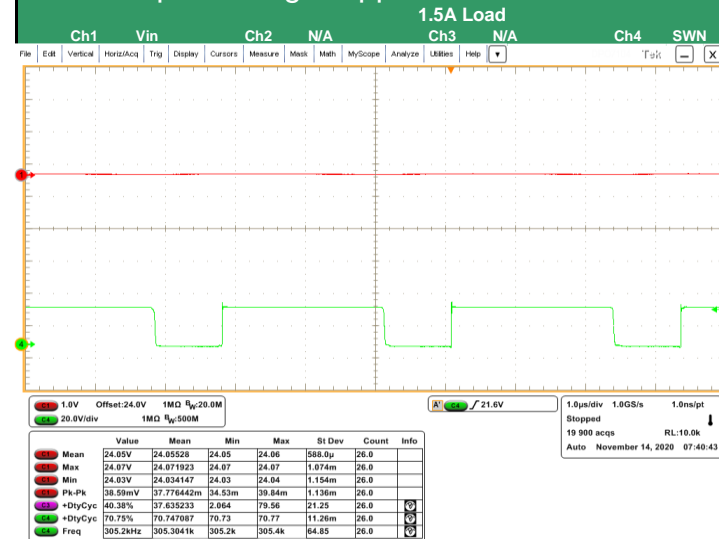
Input Voltage Ripple for 17Vout at 24Vin - TC3



Output Voltage Ripple for 17Vout at 24Vin - TC3



Input Voltage Ripple for 17Vout at 24Vin - TC3

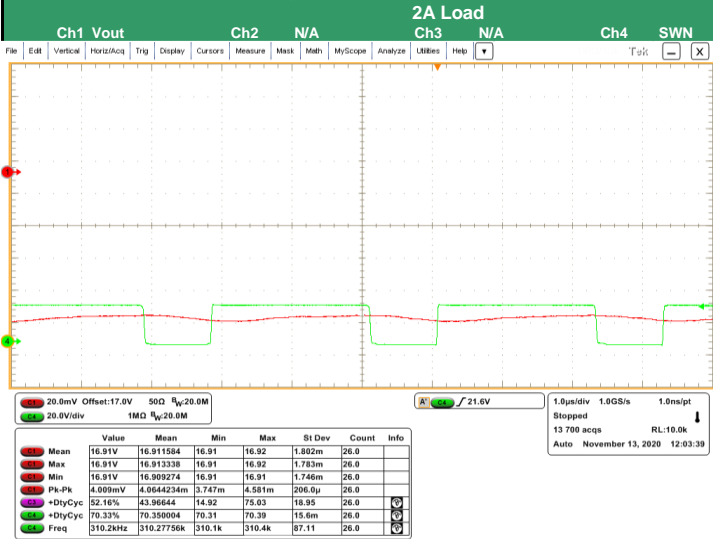


FAN65004B EVB DC Load Ripple at 17Vout at 24Vin - TC3

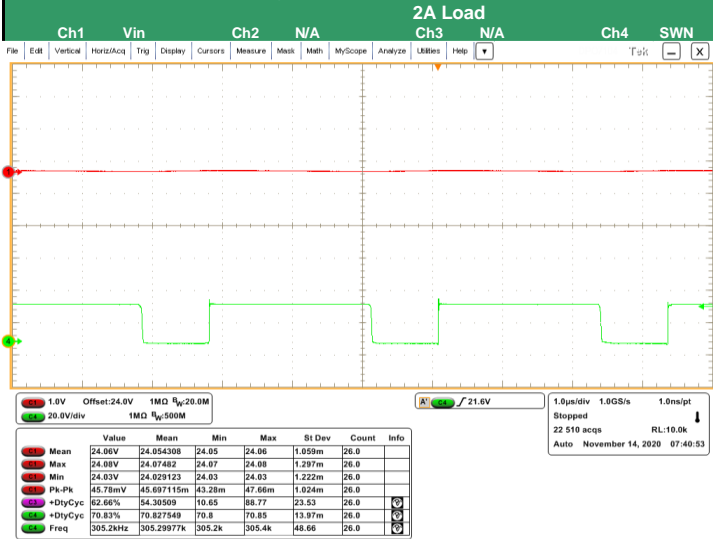
Output Voltage Ripple

Input Voltage Ripple

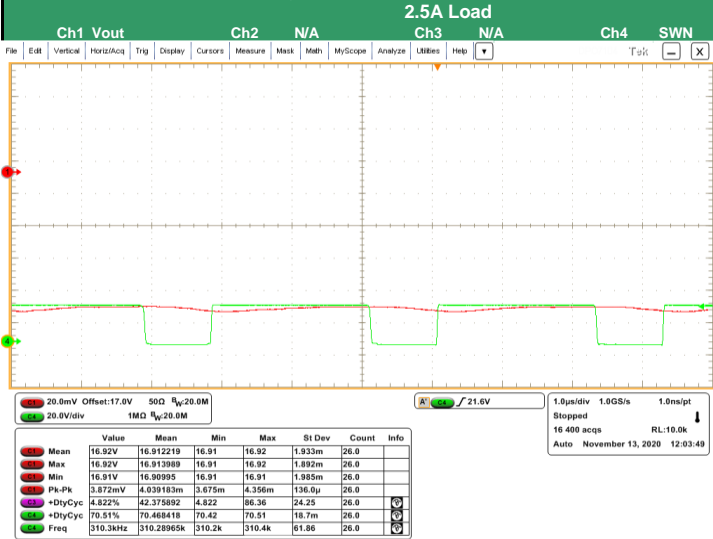
Output Voltage Ripple for 17Vout at 24Vin - TC3



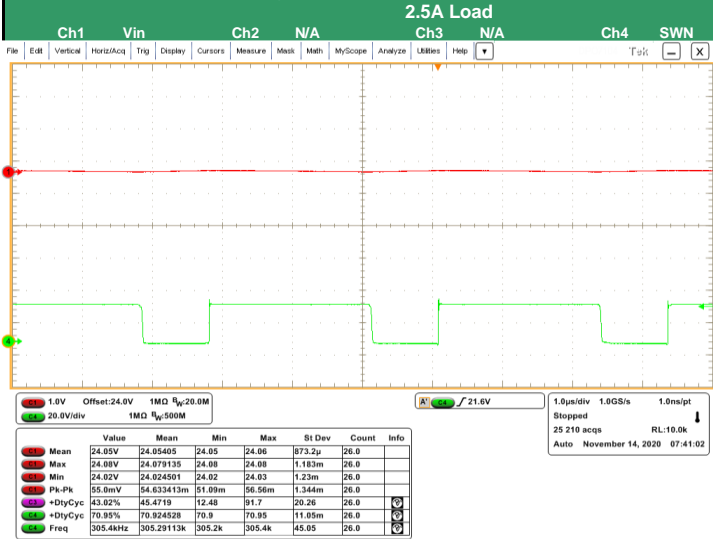
Input Voltage Ripple for 17Vout at 24Vin - TC3



Output Voltage Ripple for 17Vout at 24Vin - TC3



Input Voltage Ripple for 17Vout at 24Vin - TC3

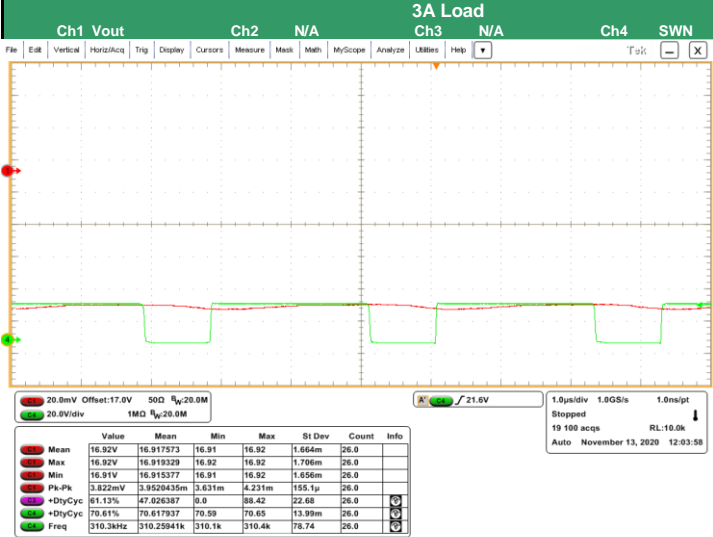


FAN65004B EVB DC Load Ripple at 17Vout at 24Vin - TC3

Output Voltage Ripple

Input Voltage Ripple

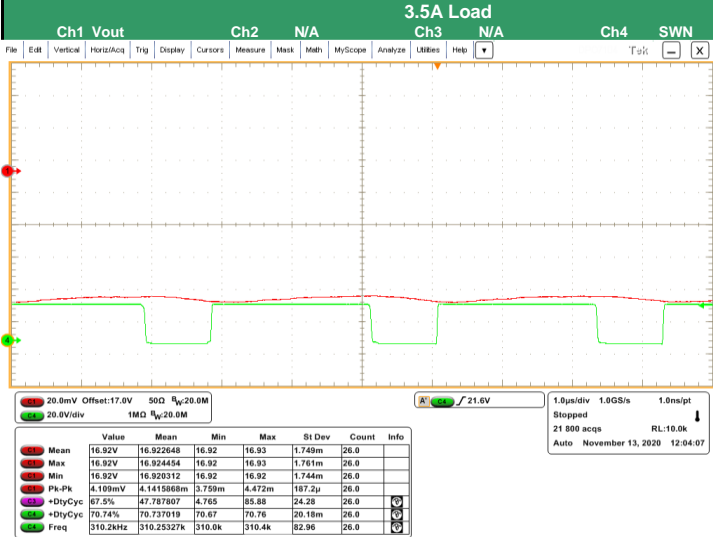
Output Voltage Ripple for 17Vout at 24Vin - TC3



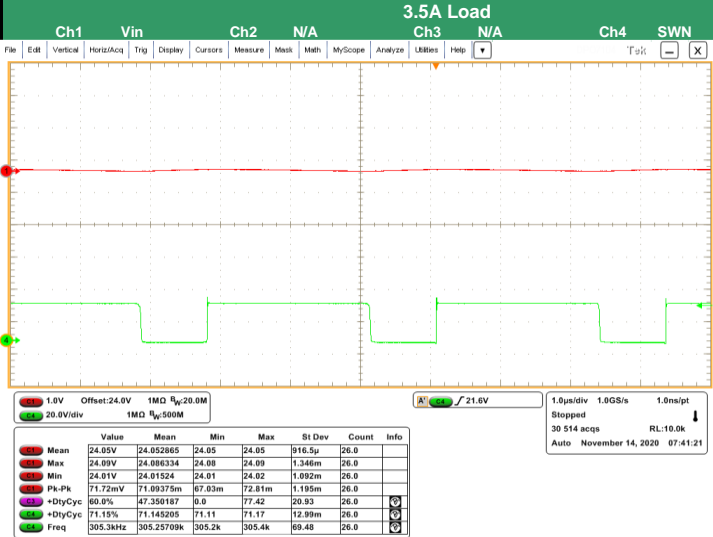
Input Voltage Ripple for 17Vout at 24Vin - TC3



Output Voltage Ripple for 17Vout at 24Vin - TC3



Input Voltage Ripple for 17Vout at 24Vin - TC3



FAN65004B EVB DC Load Ripple at 17Vout at 24Vin - TC3

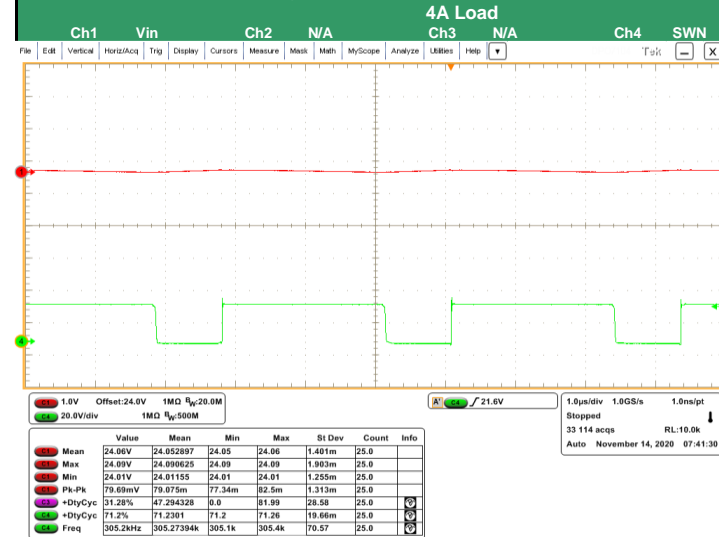
Output Voltage Ripple

Input Voltage Ripple

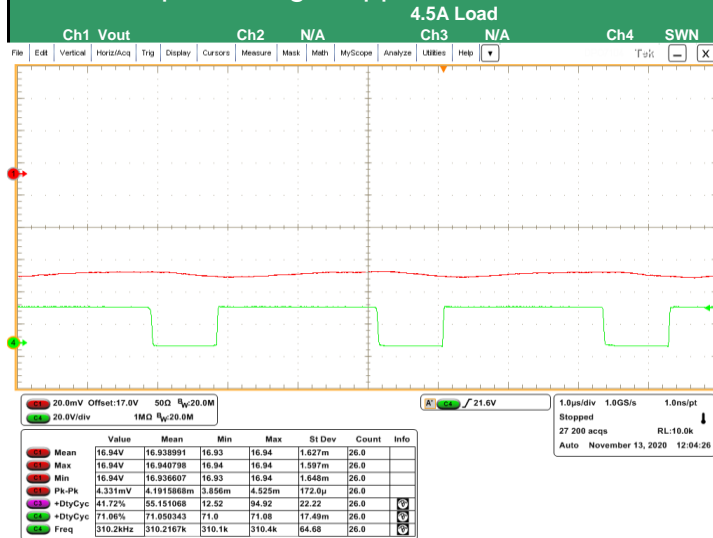
Output Voltage Ripple for 17Vout at 24Vin - TC3



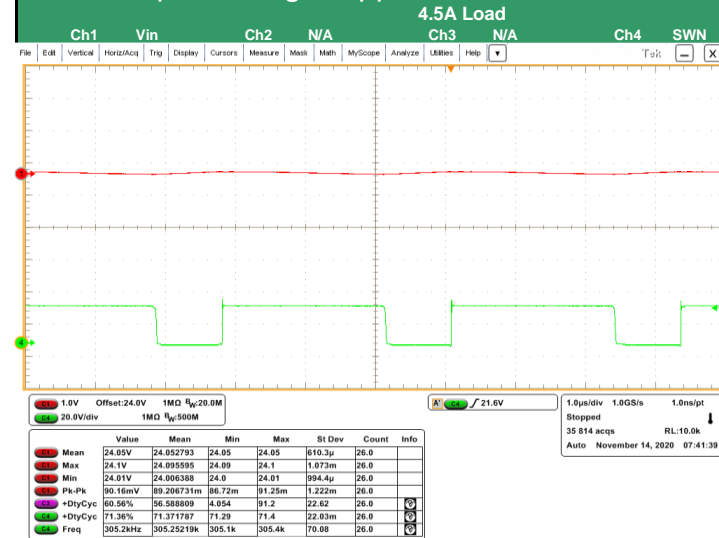
Input Voltage Ripple for 17Vout at 24Vin - TC3



Output Voltage Ripple for 17Vout at 24Vin - TC3



Input Voltage Ripple for 17Vout at 24Vin - TC3

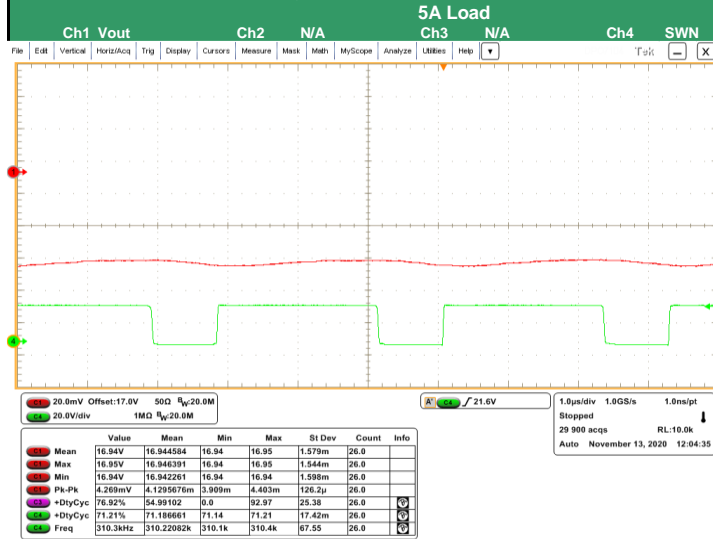


FAN65004B EVB DC Load Ripple at 17Vout at 24Vin - TC3

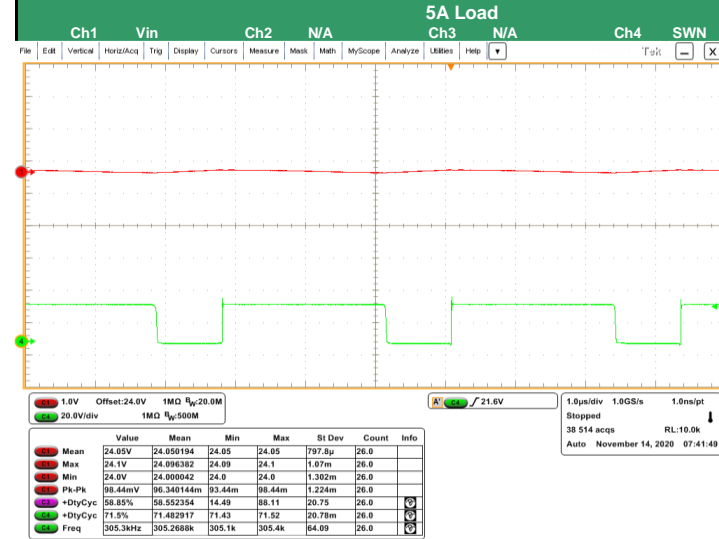
Output Voltage Ripple

Input Voltage Ripple

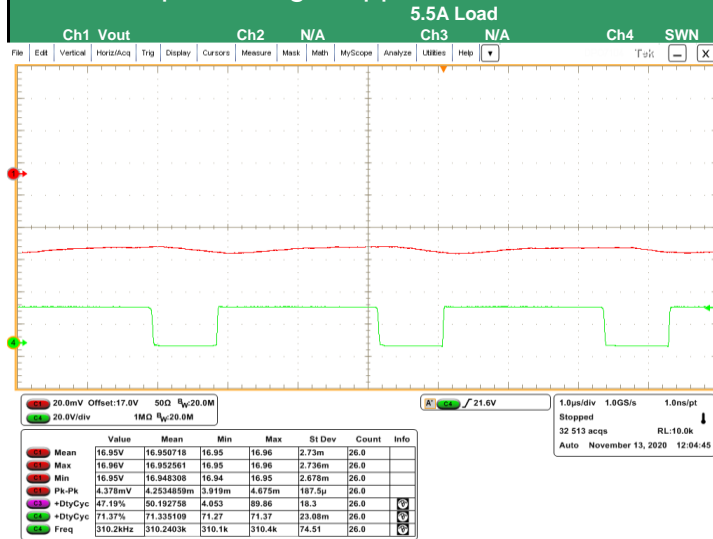
Output Voltage Ripple for 17Vout at 24Vin - TC3



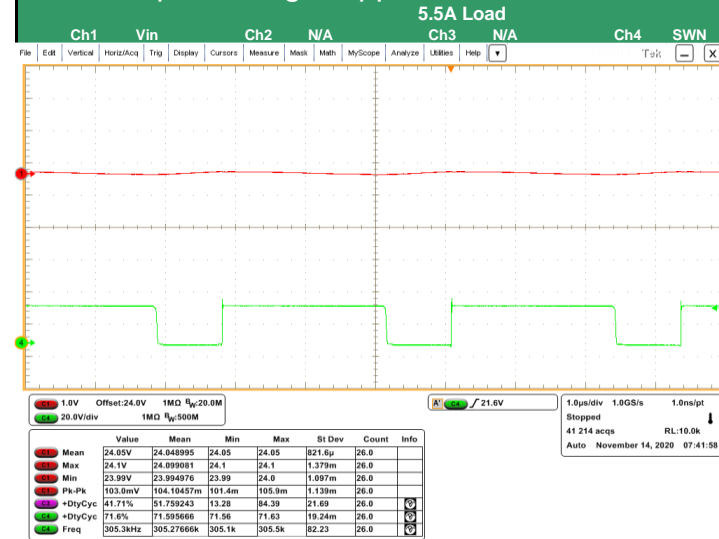
Input Voltage Ripple for 17Vout at 24Vin - TC3



Output Voltage Ripple for 17Vout at 24Vin - TC3



Input Voltage Ripple for 17Vout at 24Vin - TC3

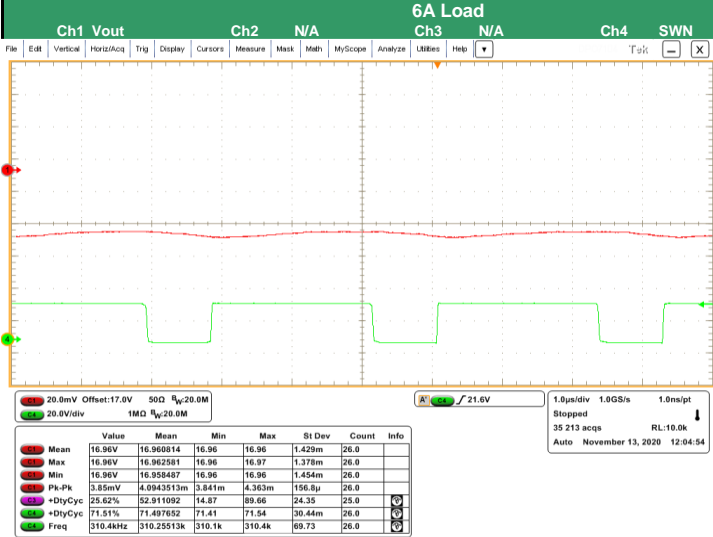


FAN65004B EVB DC Load Ripple at 17Vout at 24Vin - TC3

Output Voltage Ripple

Input Voltage Ripple

Output Voltage Ripple for 17Vout at 24Vin - TC3



Input Voltage Ripple for 17Vout at 24Vin - TC3

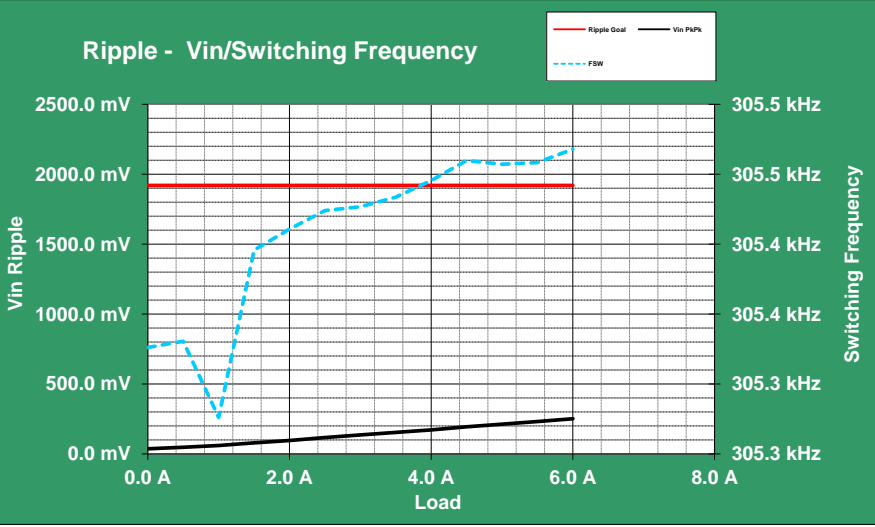
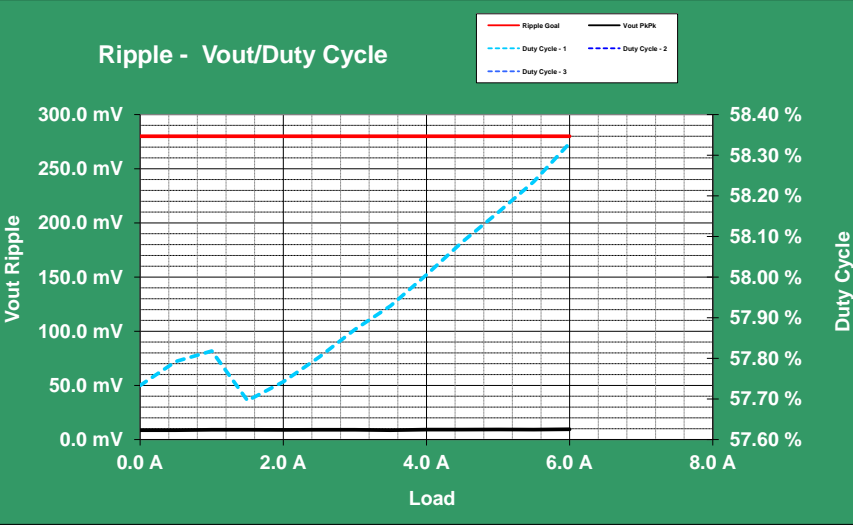
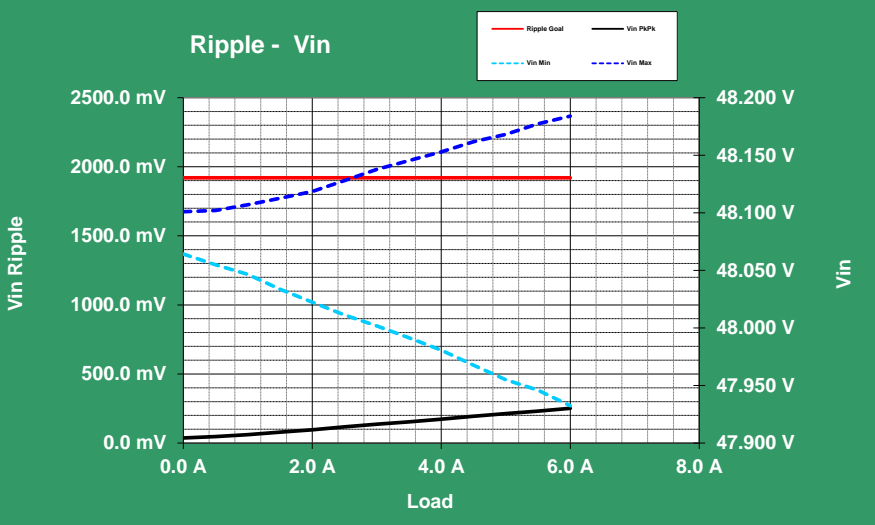
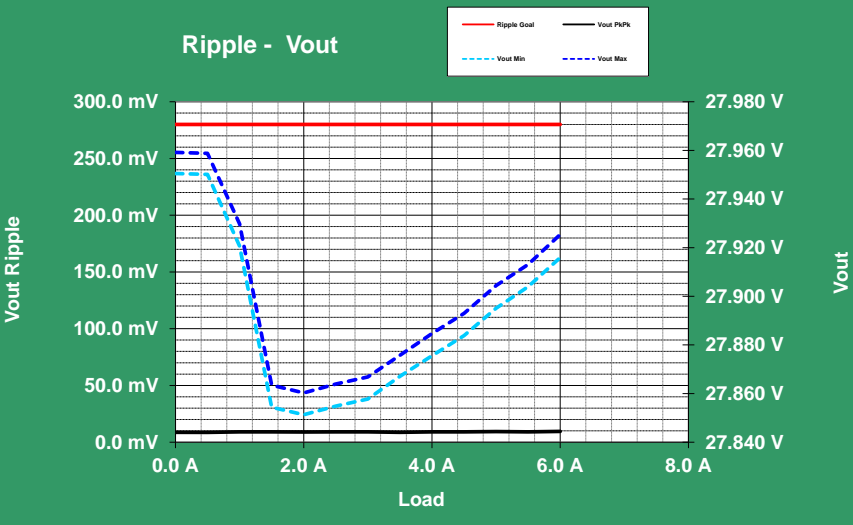


[illegible][illegible]

FAN65004B EVB DC Load Ripple at 28Vout at 48Vin - TC4

Output Voltage Ripple

Input Voltage Ripple

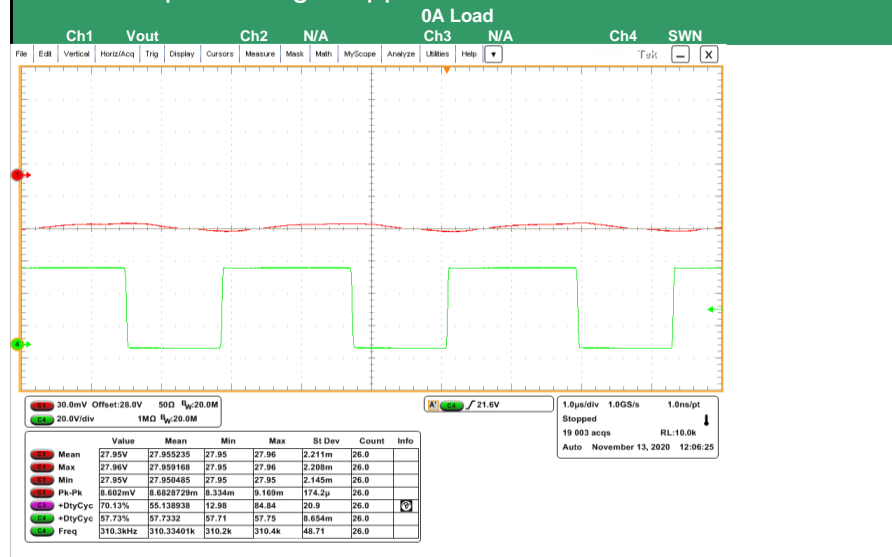


FAN65004B EVB DC Load Ripple at 28Vout at 48Vin - TC4

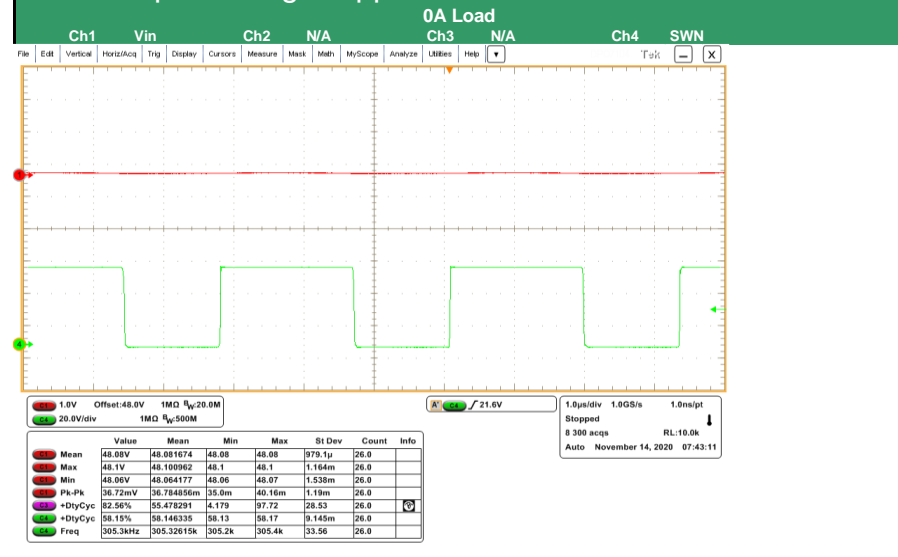
Output Voltage Ripple

Input Voltage Ripple

Output Voltage Ripple for 28Vout at 48Vin - TC4



Input Voltage Ripple for 28Vout at 48Vin - TC4



Output Voltage Ripple for 28Vout at 48Vin - TC4



Input Voltage Ripple for 28Vout at 48Vin - TC4

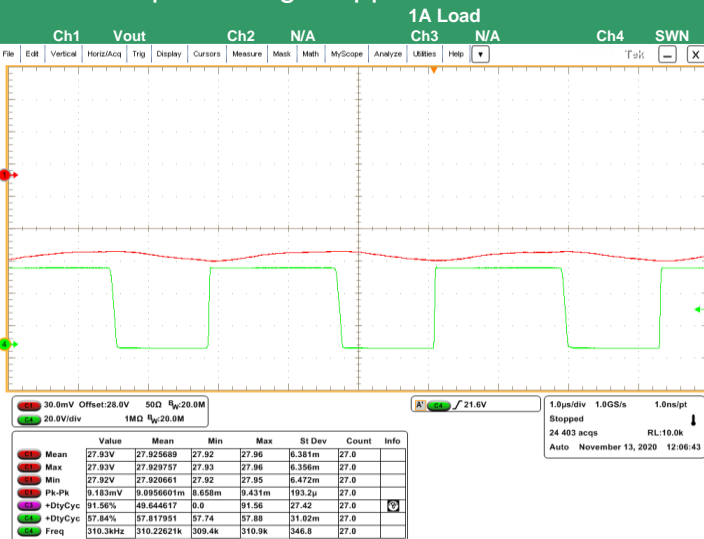


FAN65004B EVB DC Load Ripple at 28Vout at 48Vin - TC4

Output Voltage Ripple

Input Voltage Ripple

Output Voltage Ripple for 28Vout at 48Vin - TC4



Input Voltage Ripple for 28Vout at 48Vin - TC4



Output Voltage Ripple for 28Vout at 48Vin - TC4



Input Voltage Ripple for 28Vout at 48Vin - TC4

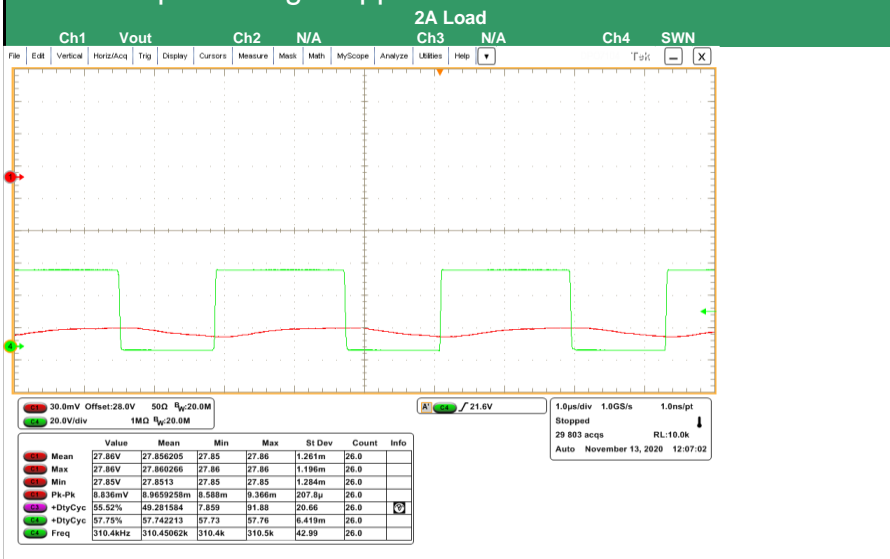


FAN65004B EVB DC Load Ripple at 28Vout at 48Vin - TC4

Output Voltage Ripple

Input Voltage Ripple

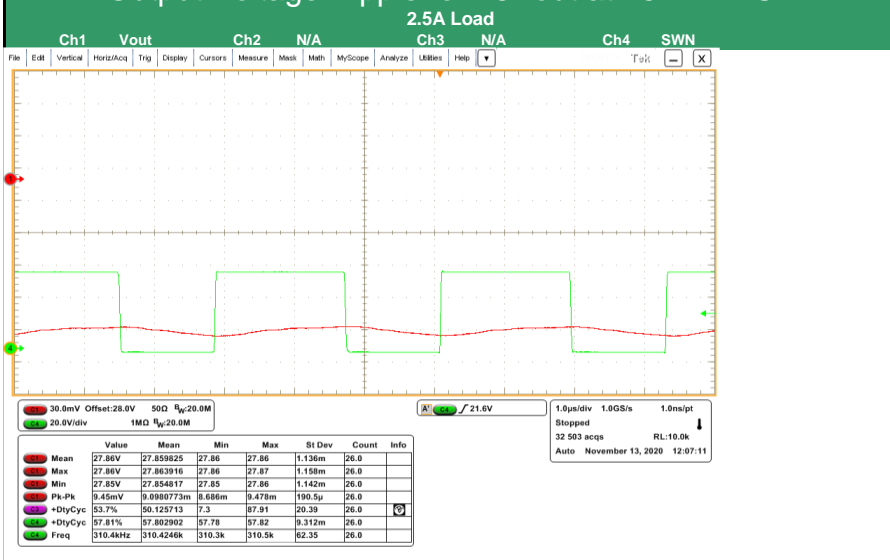
Output Voltage Ripple for 28Vout at 48Vin - TC4



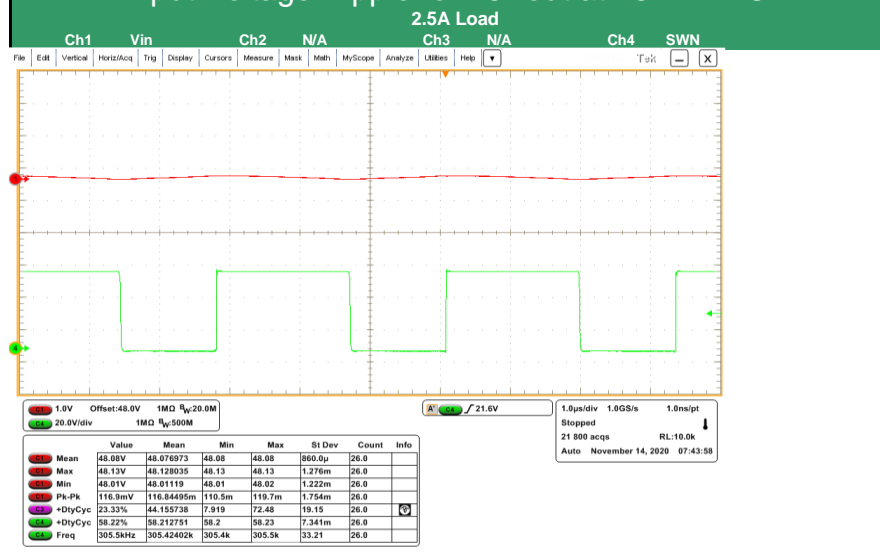
Input Voltage Ripple for 28Vout at 48Vin - TC4



Output Voltage Ripple for 28Vout at 48Vin - TC4



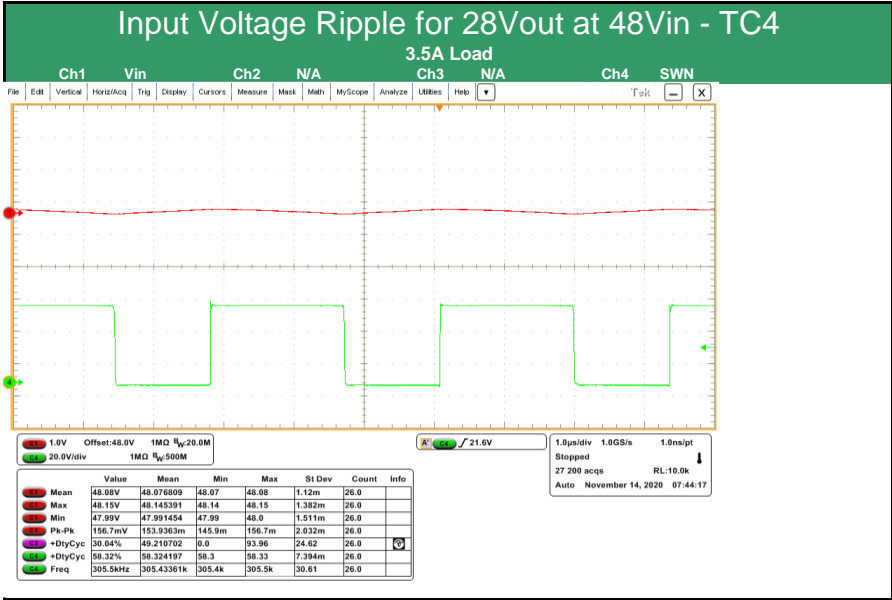
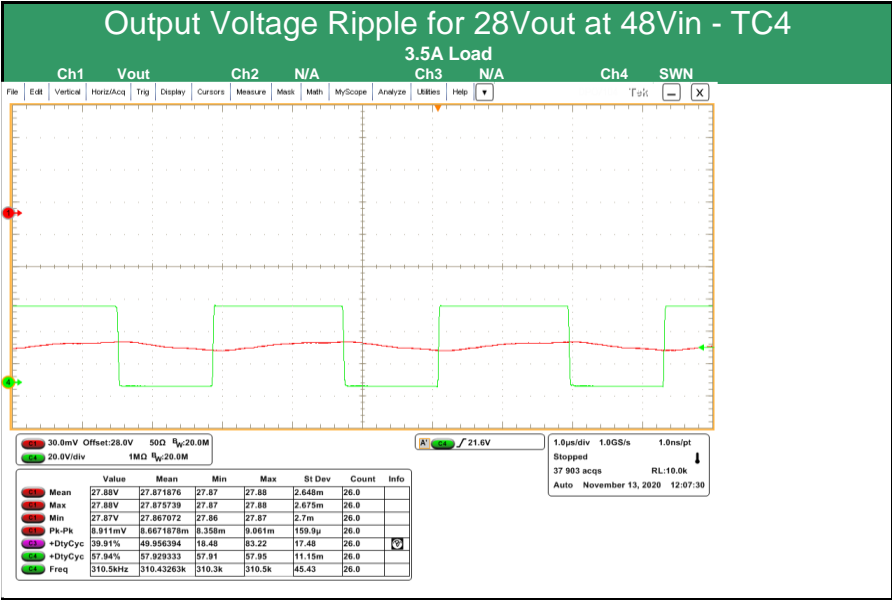
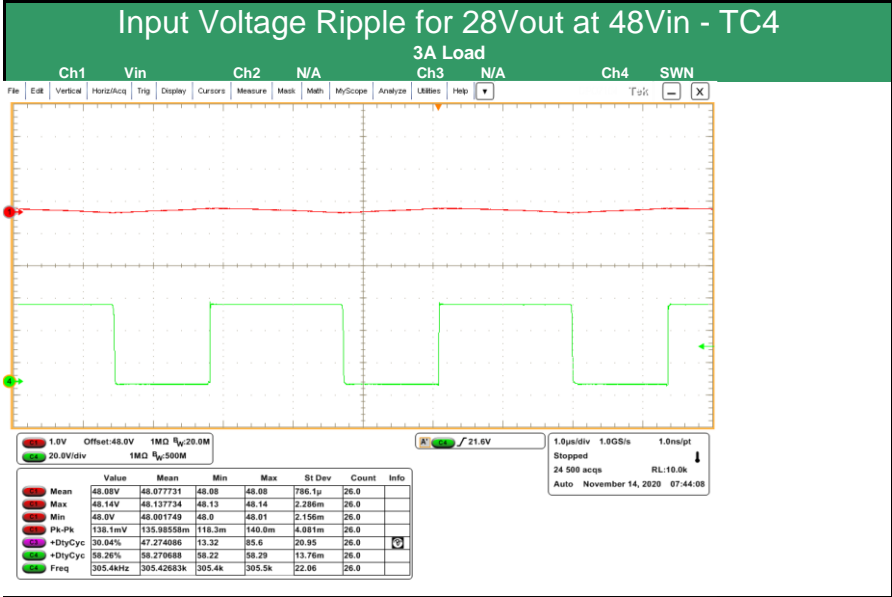
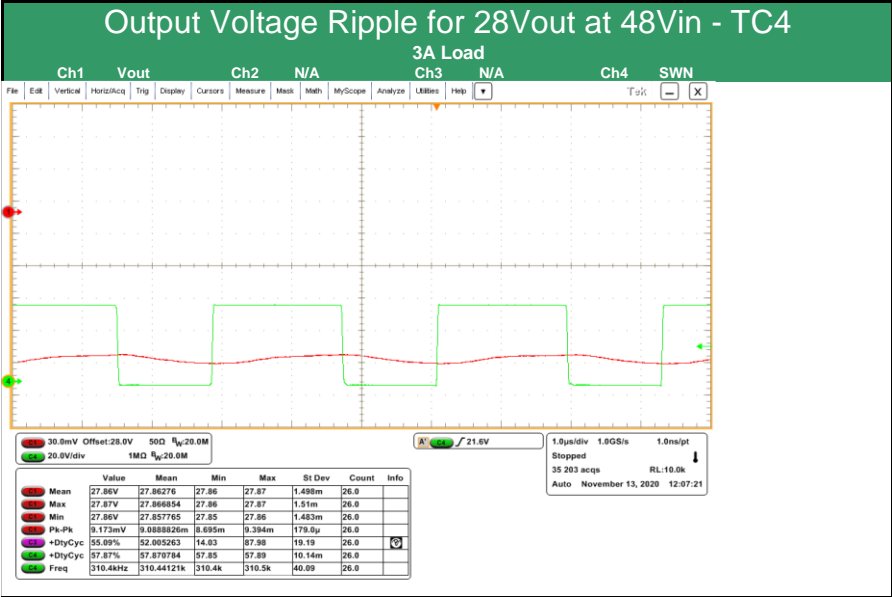
Input Voltage Ripple for 28Vout at 48Vin - TC4



FAN65004B EVB DC Load Ripple at 28Vout at 48Vin - TC4

Output Voltage Ripple

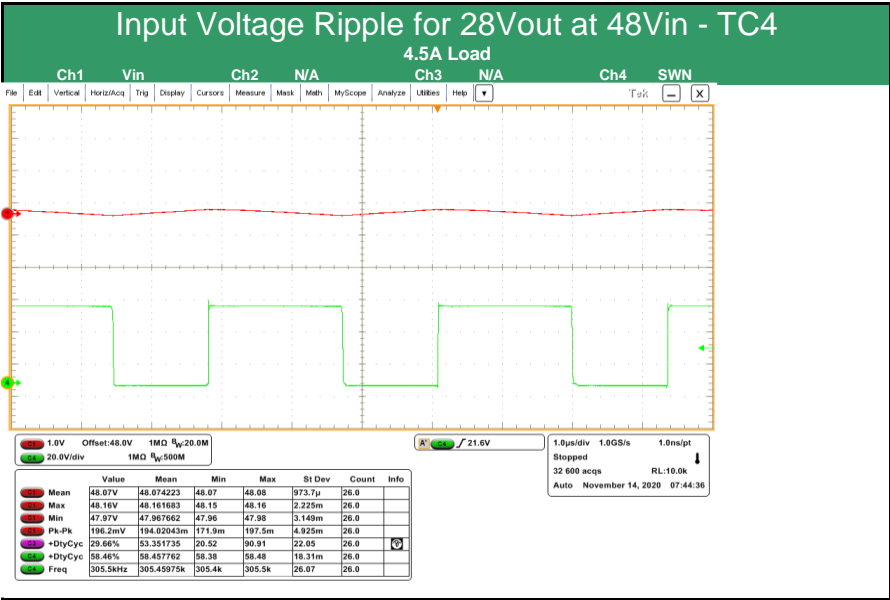
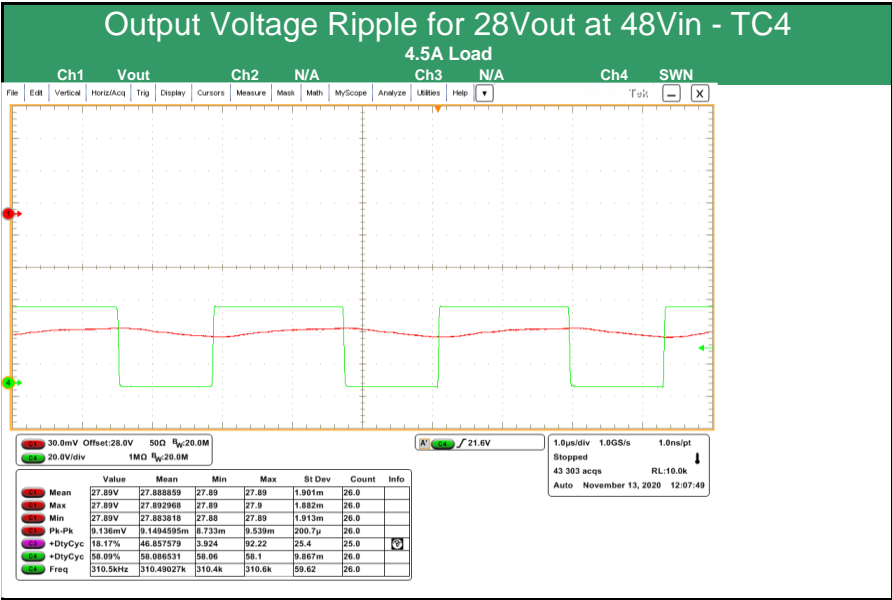
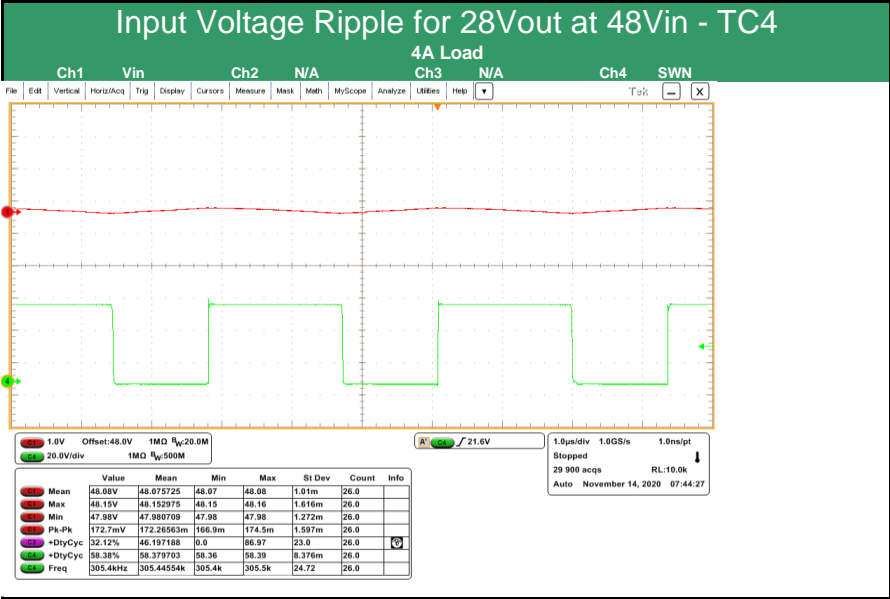
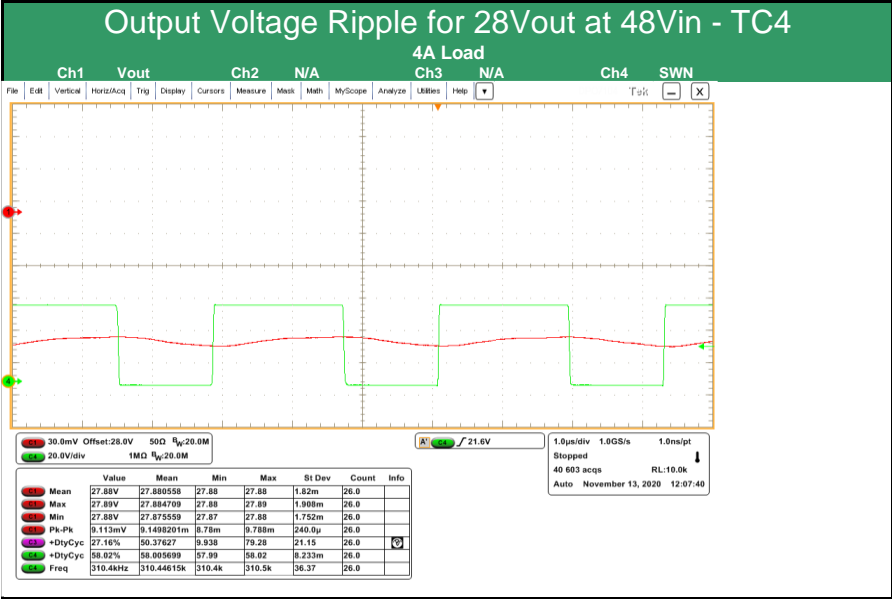
Input Voltage Ripple



FAN65004B EVB DC Load Ripple at 28Vout at 48Vin - TC4

Output Voltage Ripple

Input Voltage Ripple

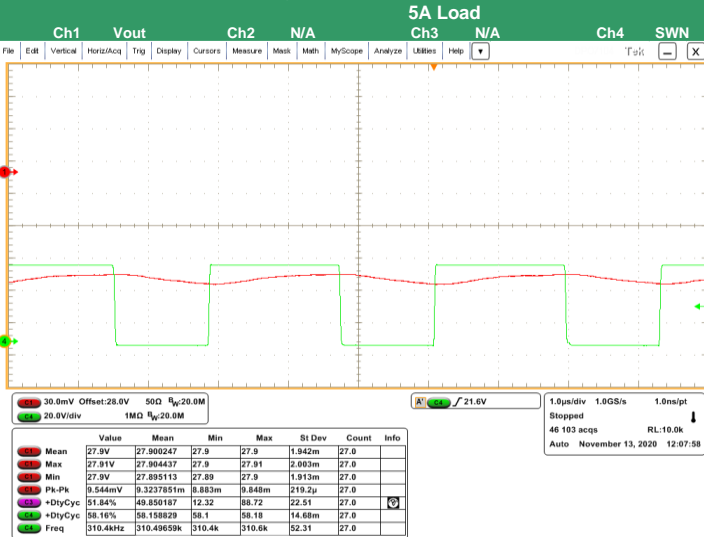


FAN65004B EVB DC Load Ripple at 28Vout at 48Vin - TC4

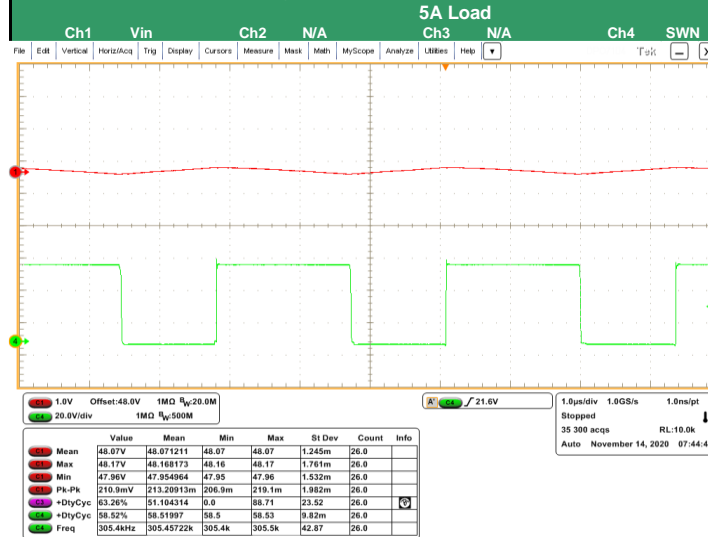
Output Voltage Ripple

Input Voltage Ripple

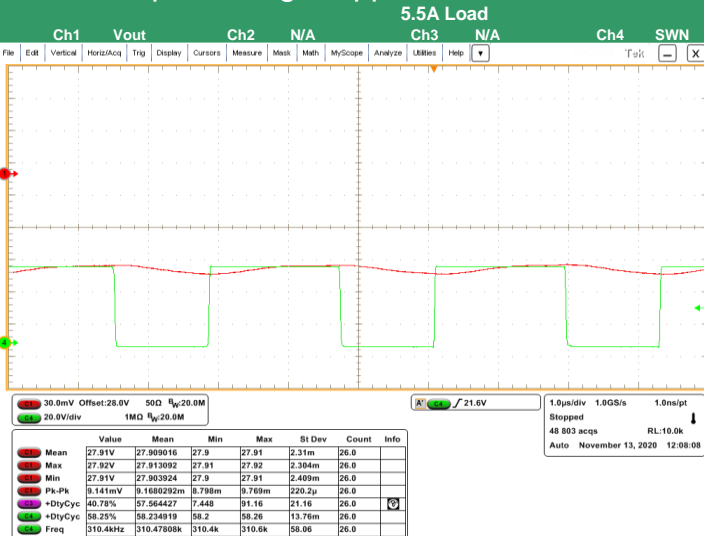
Output Voltage Ripple for 28Vout at 48Vin - TC4



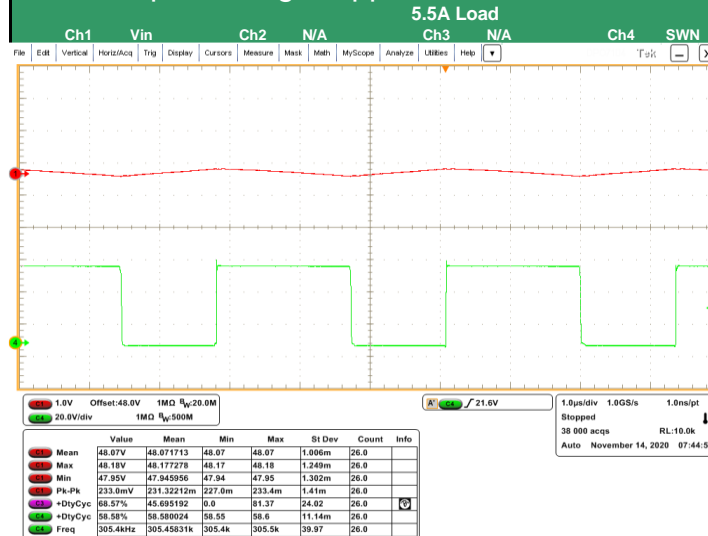
Input Voltage Ripple for 28Vout at 48Vin - TC4



Output Voltage Ripple for 28Vout at 48Vin - TC4



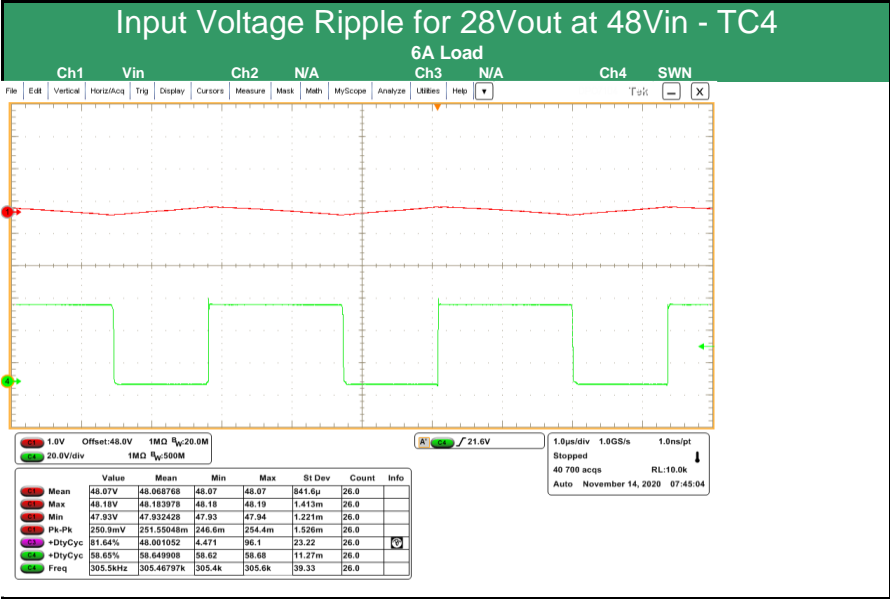
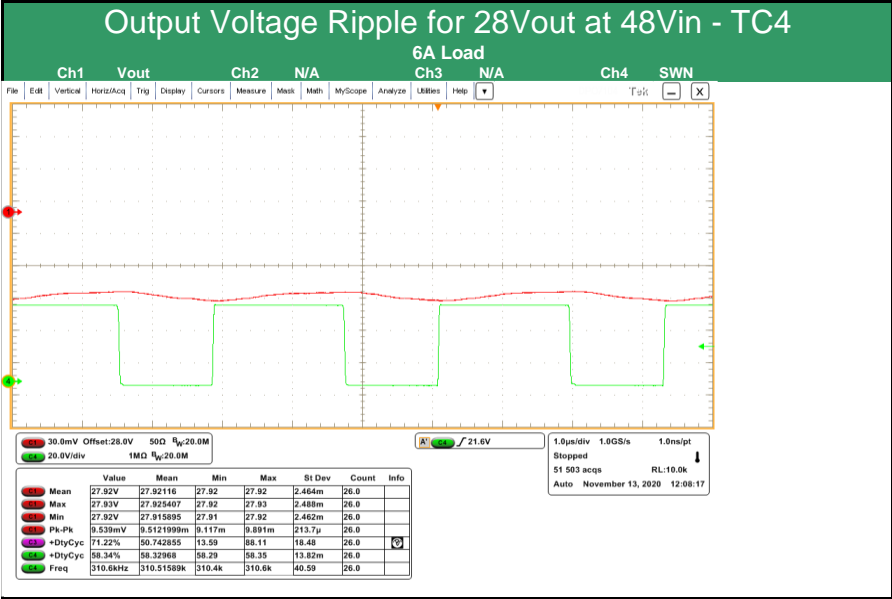
Input Voltage Ripple for 28Vout at 48Vin - TC4

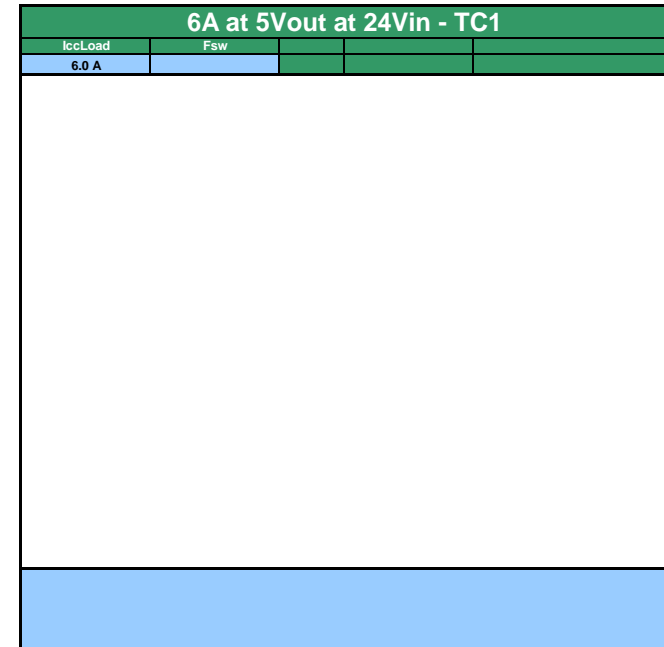
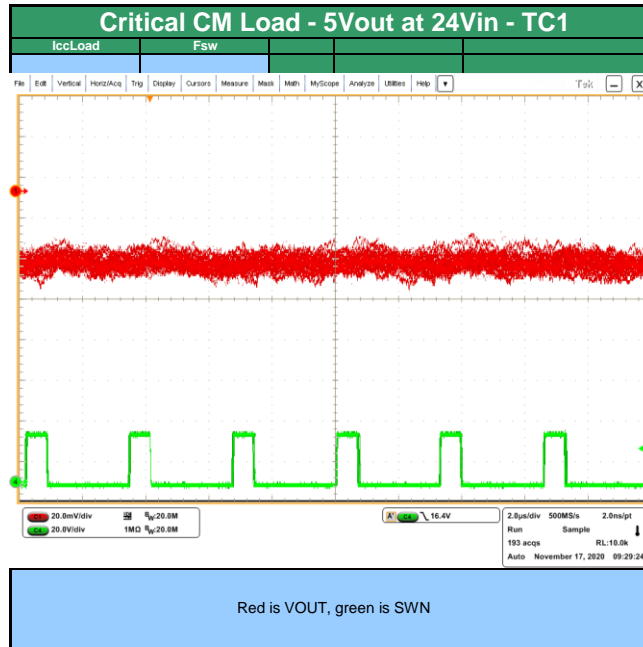


FAN65004B EVB DC Load Ripple at 28Vout at 48Vin - TC4

Output Voltage Ripple

Input Voltage Ripple





Light Load Behavior

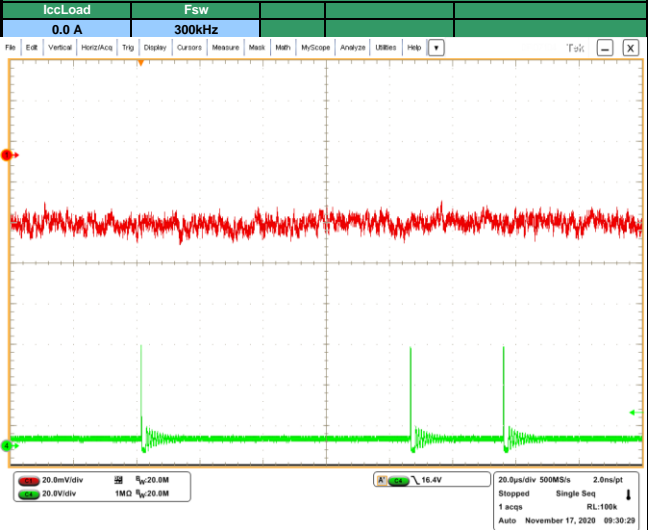
5Vout at 48Vin - TC2 at 0A

Fsw300kHz

5Vout at 48Vin - TC2 at 0.25A

Fsw300kHz

0A behavior - 5Vout at 48Vin - TC2



Red is VOUT, green is SWN

1/2 Critical CM load - 5Vout at 48Vin - TC2



Red is VOUT, green is SWN

Light Load Behavior

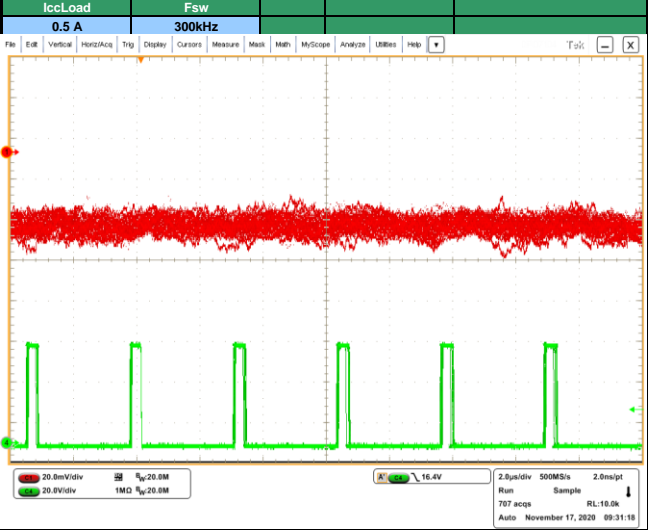
5Vout at 48Vin - TC2 at 0.5A

Fsw300kHz

5Vout at 48Vin - TC2 at 6A

Fsw0kHz

Critical CM Load - 5Vout at 48Vin - TC2



Red is VOUT, green is SWN

6A at 5Vout at 48Vin - TC2

6.0 A

Fsw

Light Load Behavior

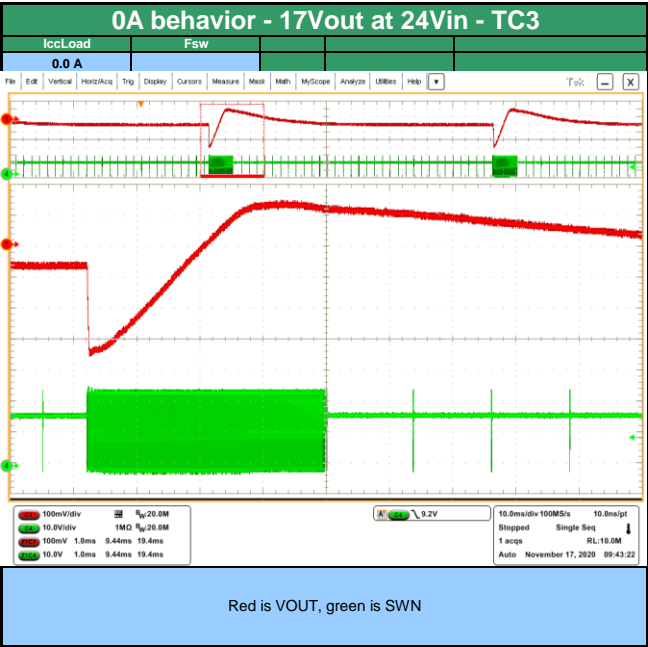
17Vout at 24Vin - TC3 at 0A

Fsw 0kHz

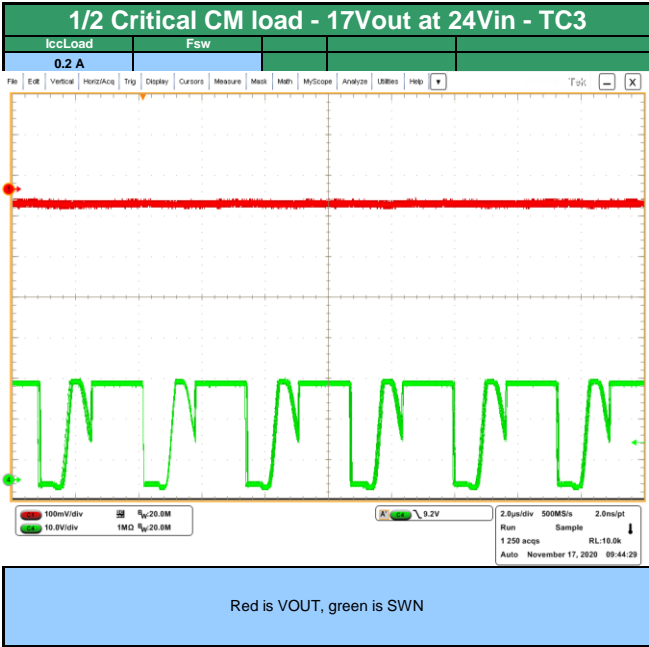
17Vout at 24Vin - TC3 at 0.2A

Fsw 0kHz

0A behavior - 17Vout at 24Vin - TC3



1/2 Critical CM load - 17Vout at 24Vin - TC3



Light Load Behavior

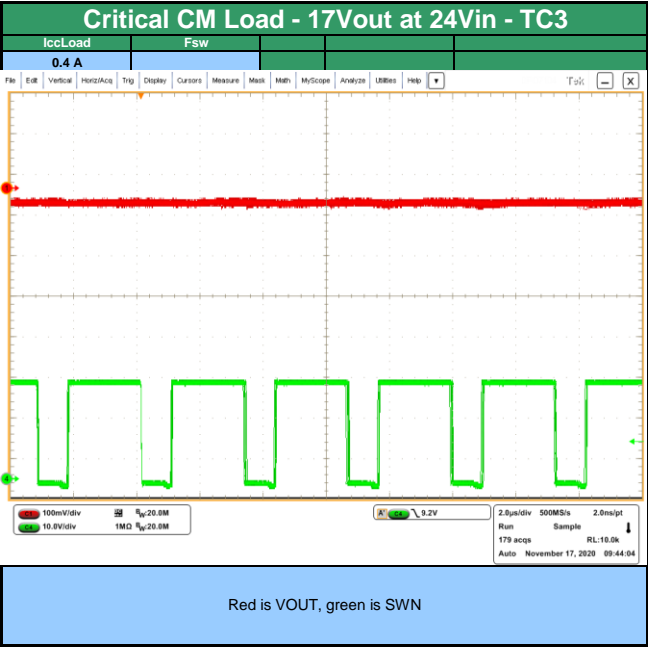
17Vout at 24Vin - TC3 at 0.4A

Fsw 0kHz

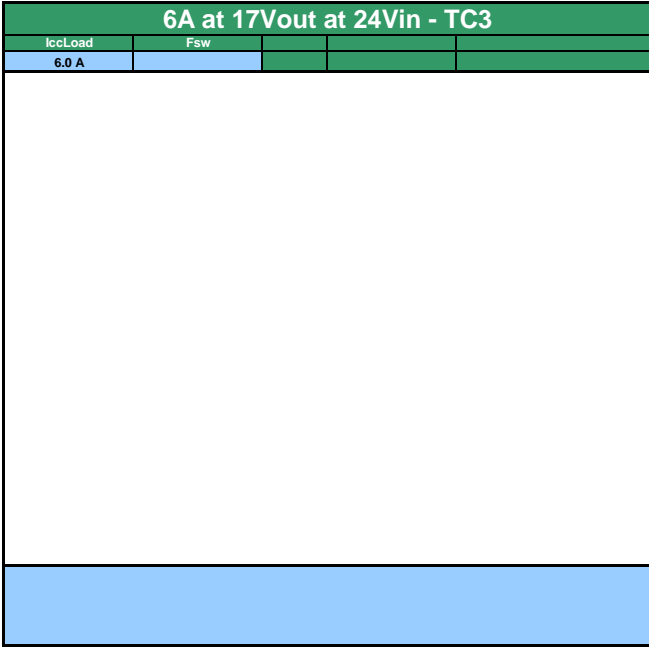
17Vout at 24Vin - TC3 at 6A

Fsw 0kHz

Critical CM Load - 17Vout at 24Vin - TC3



6A at 17Vout at 24Vin - TC3



Light Load Behavior

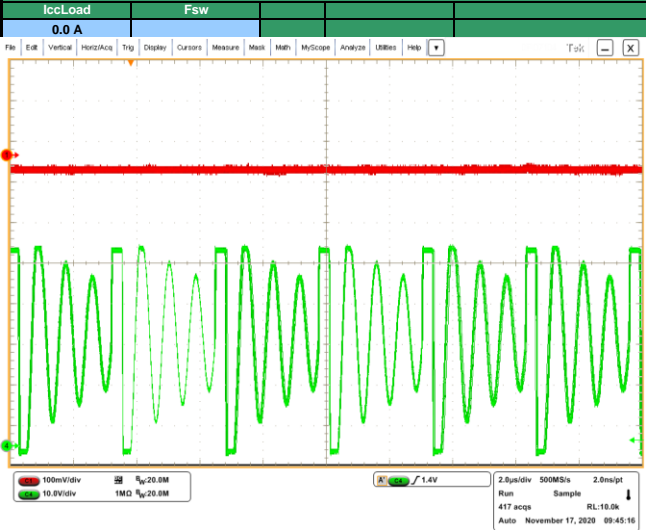
28Vout at 48Vin - TC4 at 0A

Fsw0kHz

28Vout at 48Vin - TC4 at 0.45A

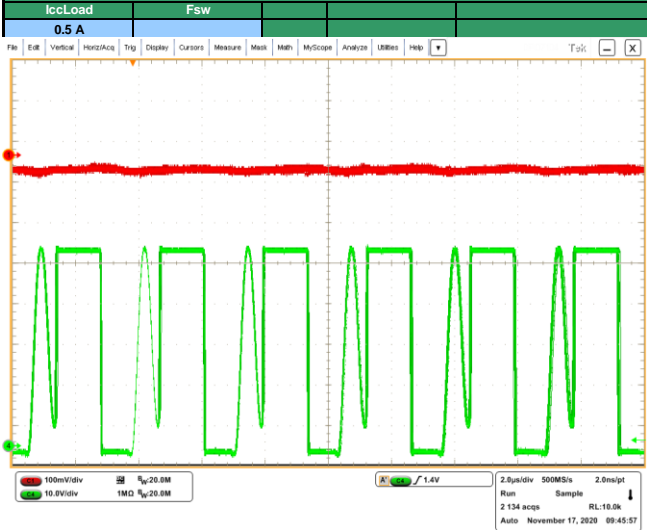
Fsw0kHz

0A behavior - 28Vout at 48Vin - TC4



Red is VOUT, green is SWN

1/2 Critical CM load - 28Vout at 48Vin - TC4



Red is VOUT, green is SWN

Light Load Behavior

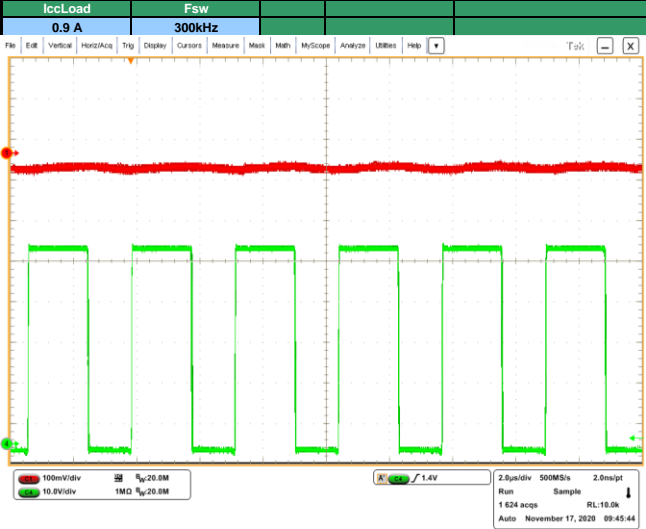
28Vout at 48Vin - TC4 at 0.9A

Fsw300kHz

28Vout at 48Vin - TC4 at 6A

Fsw0kHz

Critical CM Load - 28Vout at 48Vin - TC4



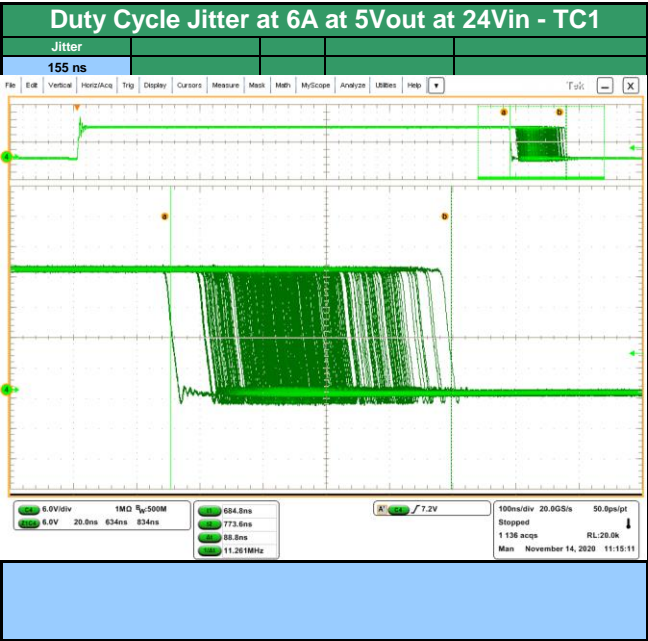
Red is VOUT, green is SWN

6A at 28Vout at 48Vin - TC4

6.0 A

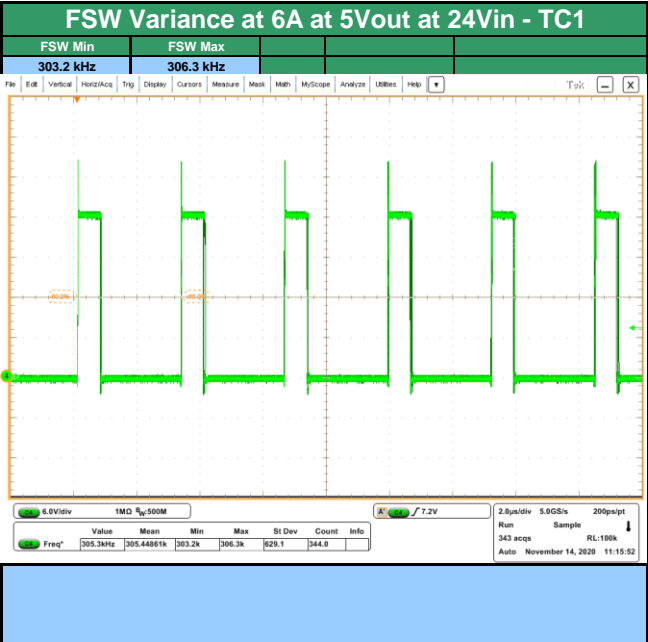
Fsw

Duty Cycle Jitter	
5Vout at 24Vin - TC1 at 6A	
DC Jitter	155 ns
5Vout at 24Vin - TC1 at 3A	
DC Jitter	0 ns
DC Jitter Max	155 ns



Duty Cycle Jitter at 3A at 5Vout at 24Vin - TC1	
Jitter	

FSW Variance	
5Vout at 24Vin - TC1 at 6A	
FSW Variance	3.1 kHz
5Vout at 24Vin - TC1 at 3A	
FSW Variance	0.0 kHz
FSW Variance Max	3.1 kHz

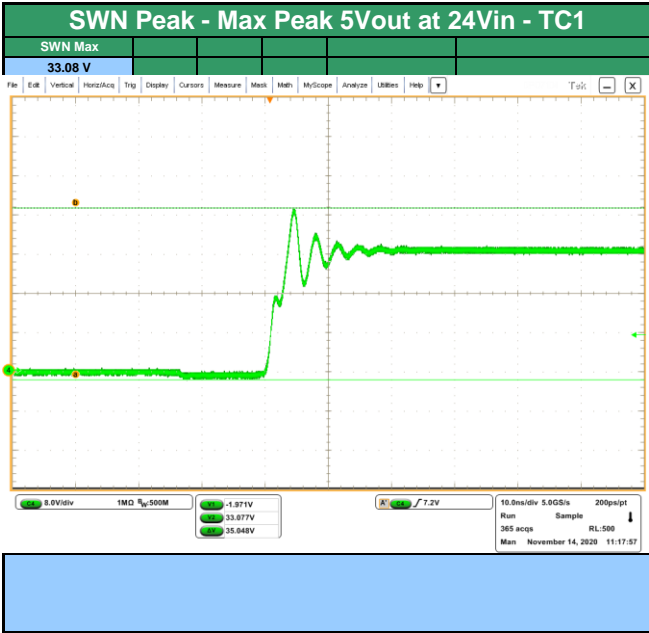
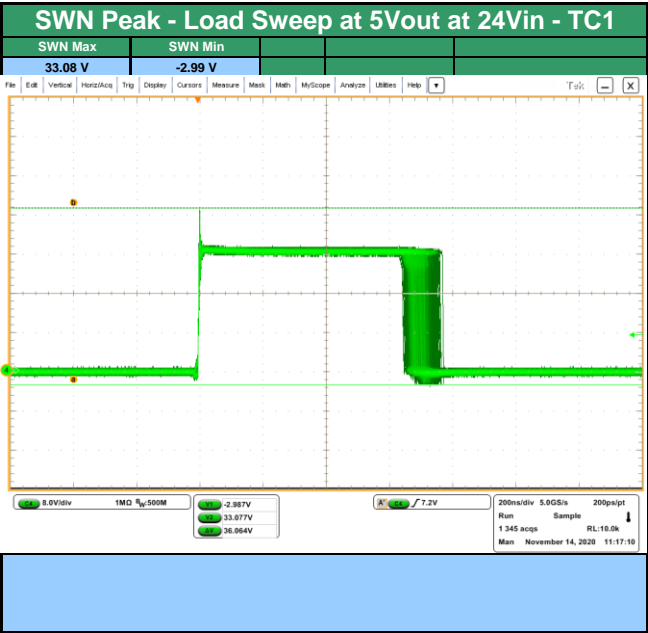


FSW Variance at 3A at 5Vout at 24Vin - TC1			
FSW Min	FSW Max		

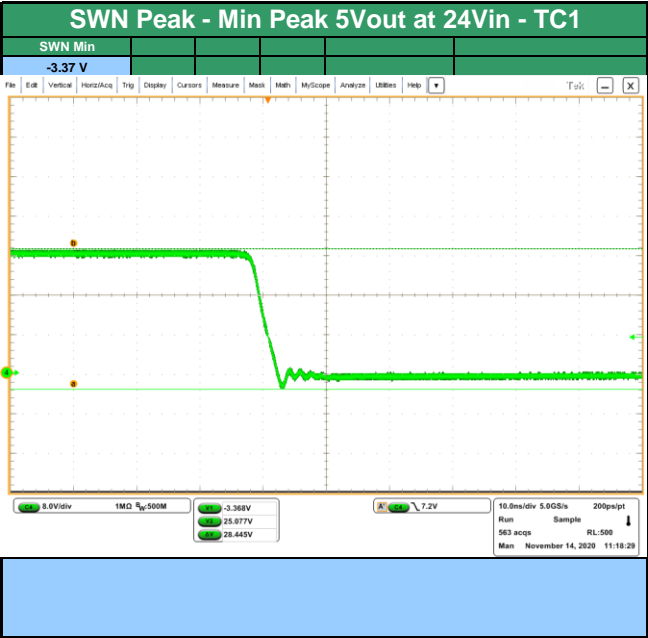
SWN Peak

5Vout at 24Vin - TC1 at 6A

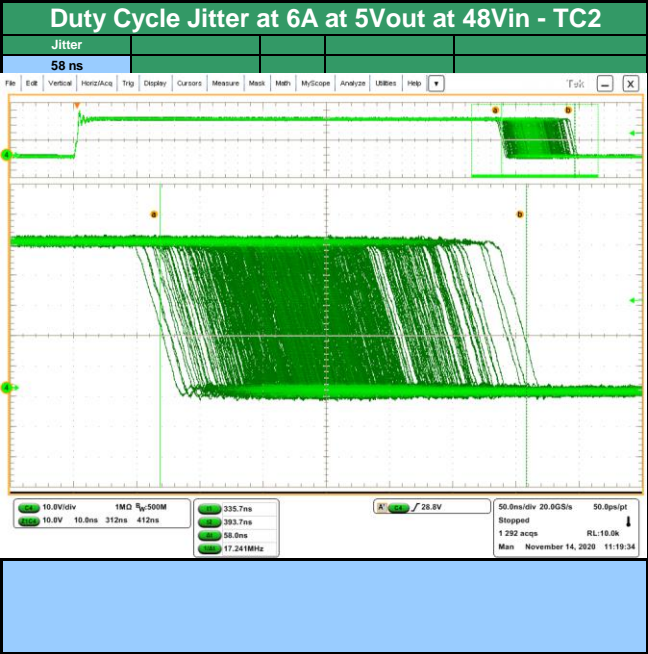
SWN Max	33.1 V
SWN Min	-3.4 V



SWN Peak

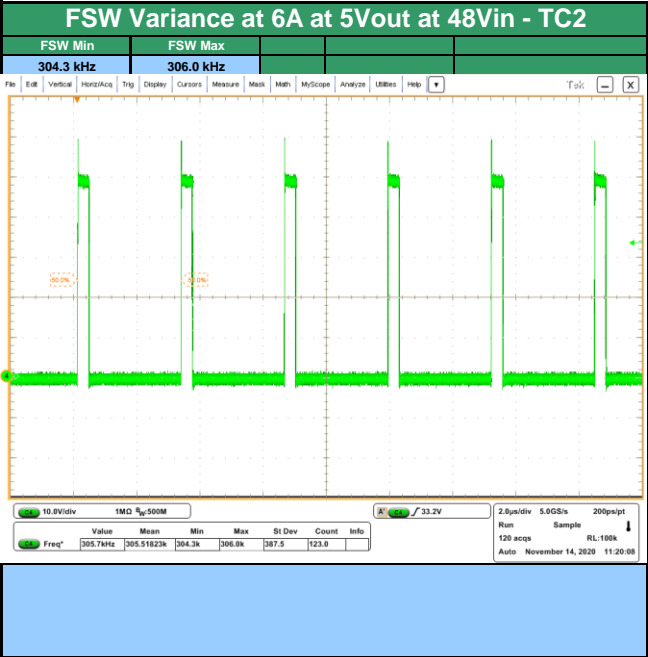


Duty Cycle Jitter	
5Vout at 48Vin - TC2 at 6A	
DC Jitter	58 ns
5Vout at 48Vin - TC2 at 3A	
DC Jitter	0 ns
DC Jitter Max	58 ns



Duty Cycle Jitter at 3A at 5Vout at 48Vin - TC2	
Jitter	

FSW Variance	
5Vout at 48Vin - TC2 at 6A	
FSW Variance	1.7 kHz
5Vout at 48Vin - TC2 at 3A	
FSW Variance	0.0 kHz
FSW Variance Max	1.7 kHz

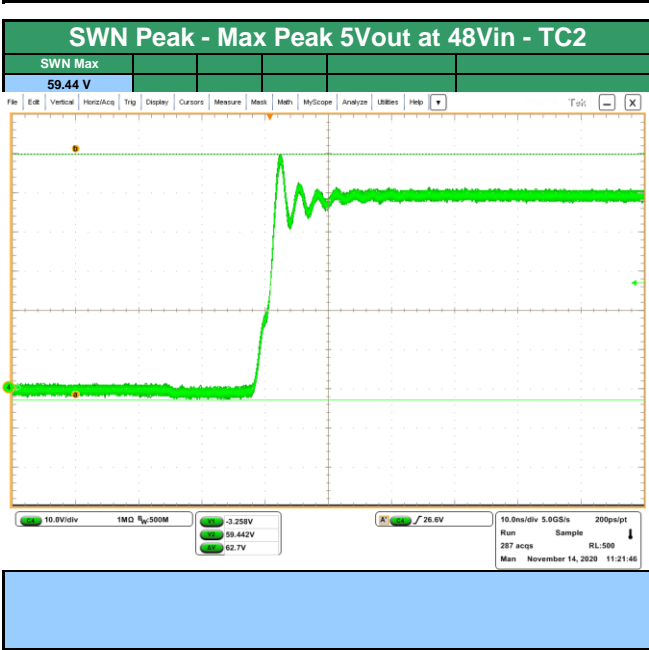
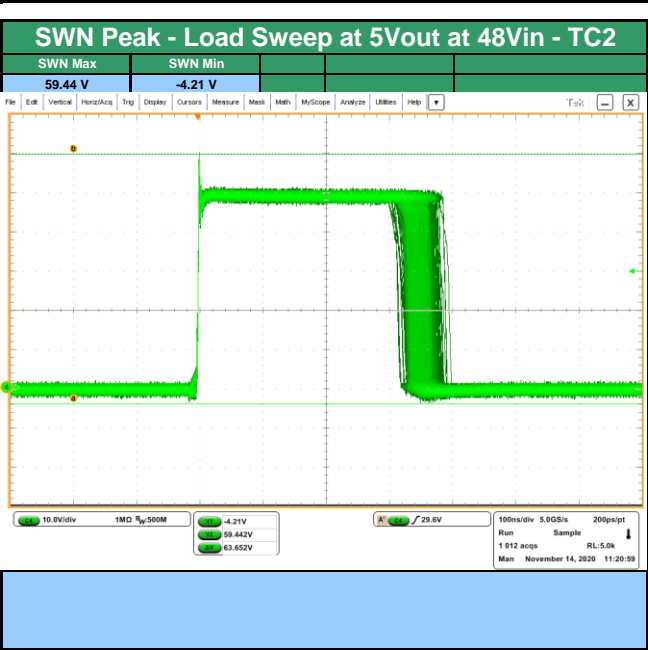


FSW Variance at 3A at 5Vout at 48Vin - TC2				
FSW Min	FSW Max			

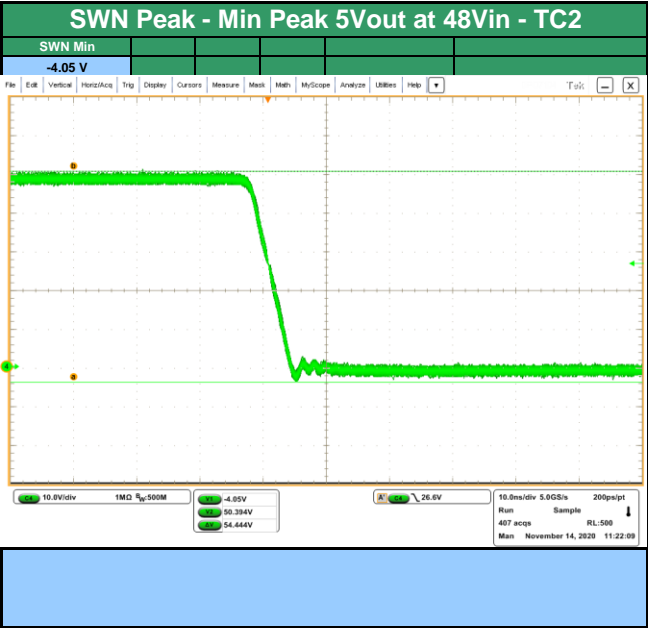
SWN Peak

5Vout at 48Vin - TC2 at 6A

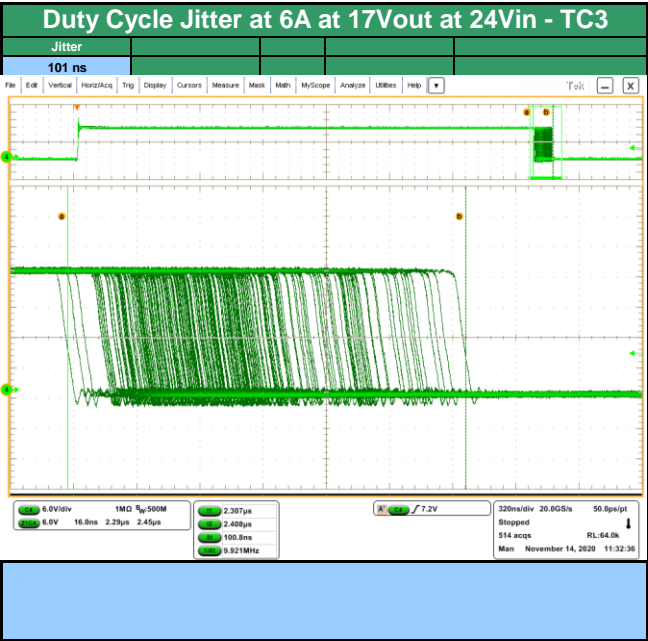
SWN Max	59.4 V
SWN Min	-4.2 V



SWN Peak

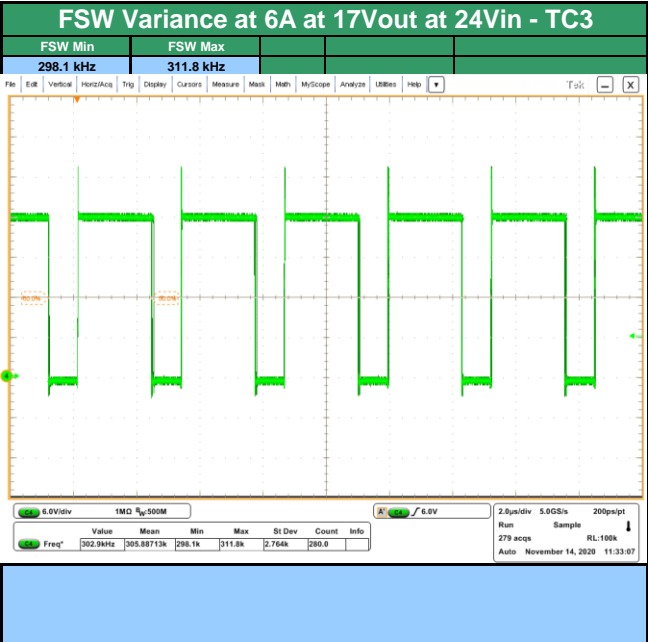


Duty Cycle Jitter	
17Vout at 24Vin - TC3 at 6A	
DC Jitter	101 ns
17Vout at 24Vin - TC3 at 3A	
DC Jitter	0 ns
DC Jitter Max	101 ns



Duty Cycle Jitter at 3A at 17Vout at 24Vin - TC3	
Jitter	

FSW Variance	
17Vout at 24Vin - TC3 at 6A	
FSW Variance	13.7 kHz
17Vout at 24Vin - TC3 at 3A	
FSW Variance	0.0 kHz
FSW Variance Max	13.7 kHz

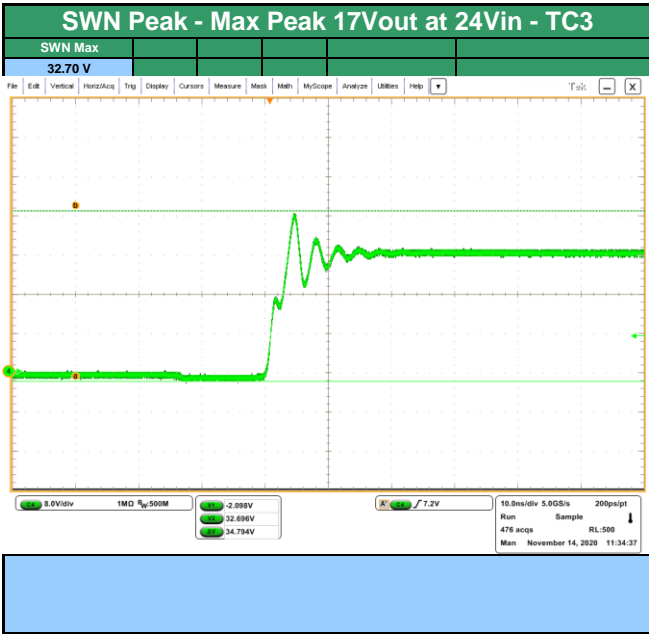
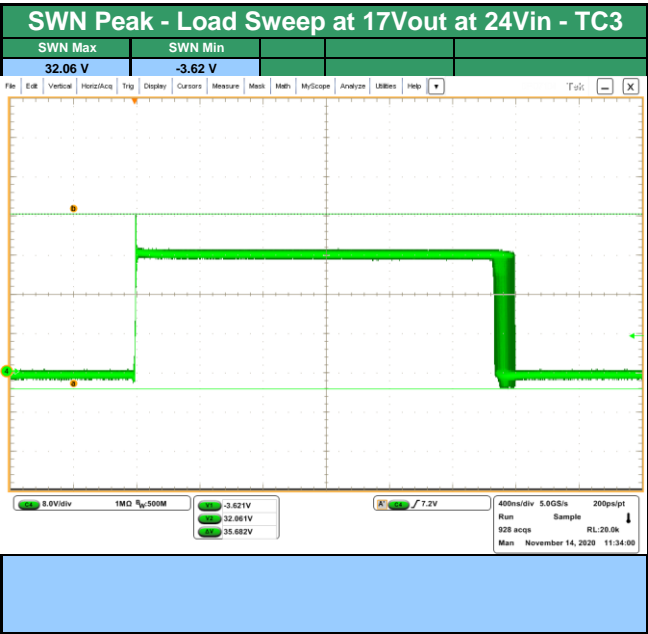


FSW Variance at 3A at 17Vout at 24Vin - TC3				
FSW Min	FSW Max			

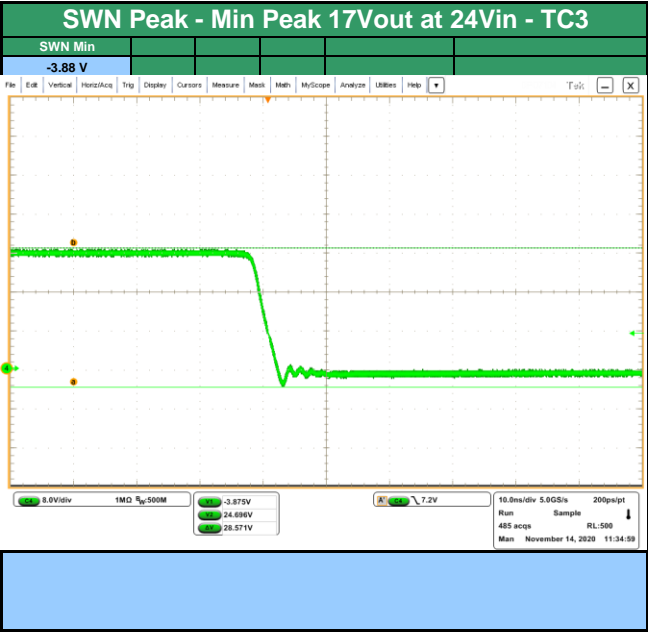
SWN Peak

17Vout at 24Vin - TC3 at 6A

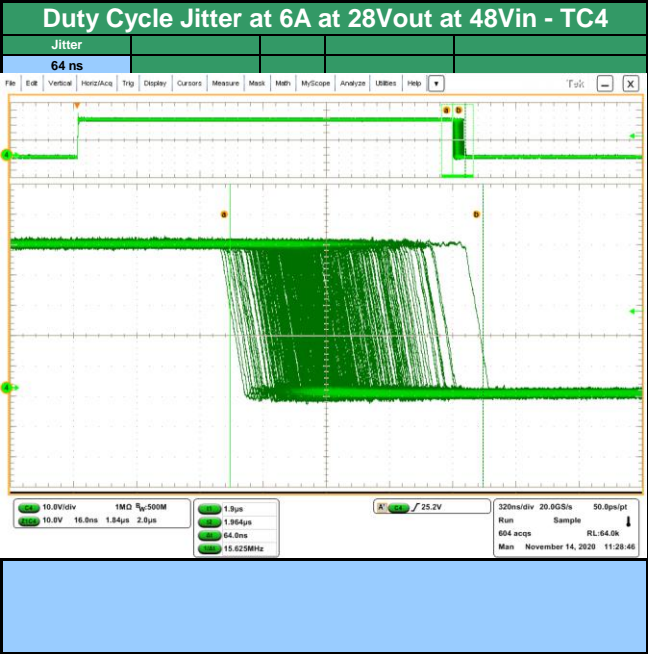
SWN Max	32.7 V
SWN Min	-3.9 V



SWN Peak

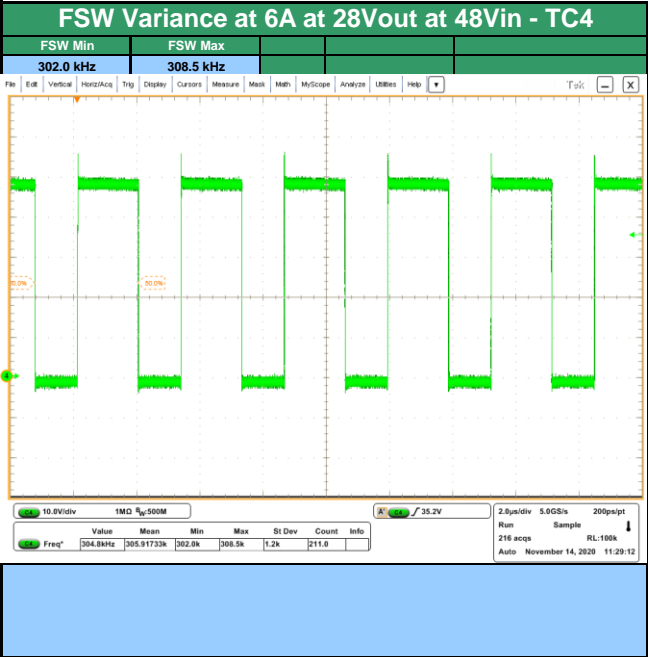


Duty Cycle Jitter	
28Vout at 48Vin - TC4 at 6A	
DC Jitter	64 ns
28Vout at 48Vin - TC4 at 3A	
DC Jitter	0 ns
DC Jitter Max	64 ns

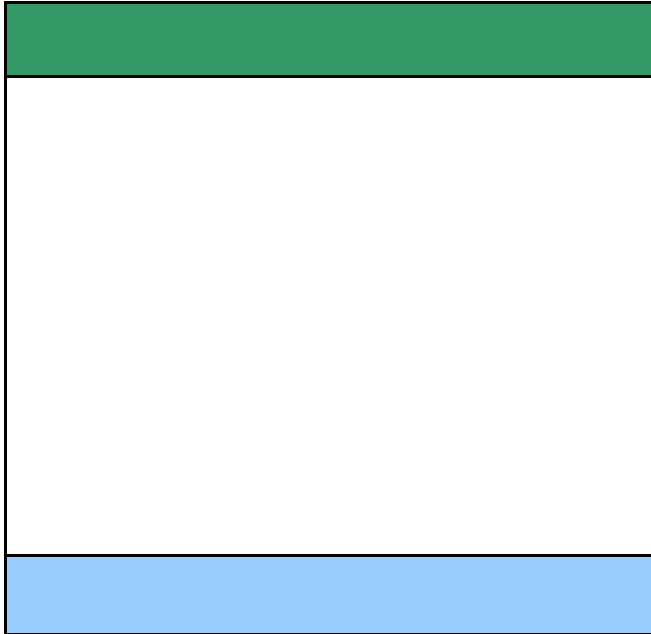
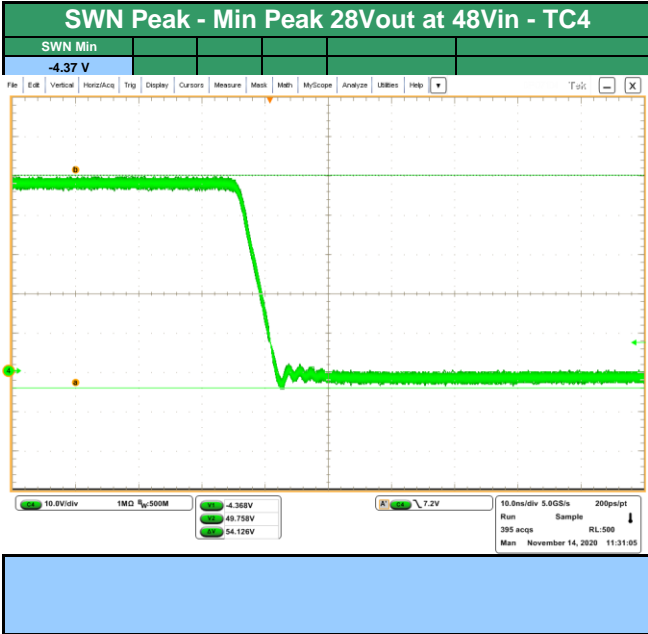
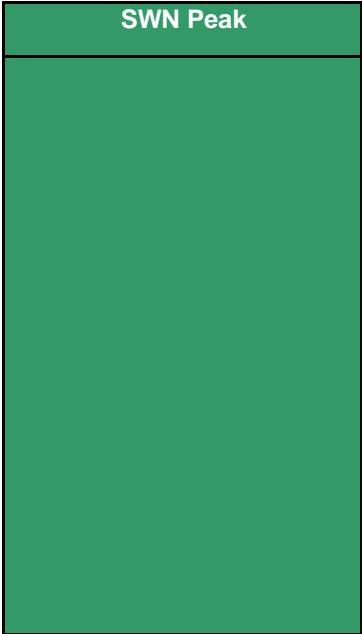
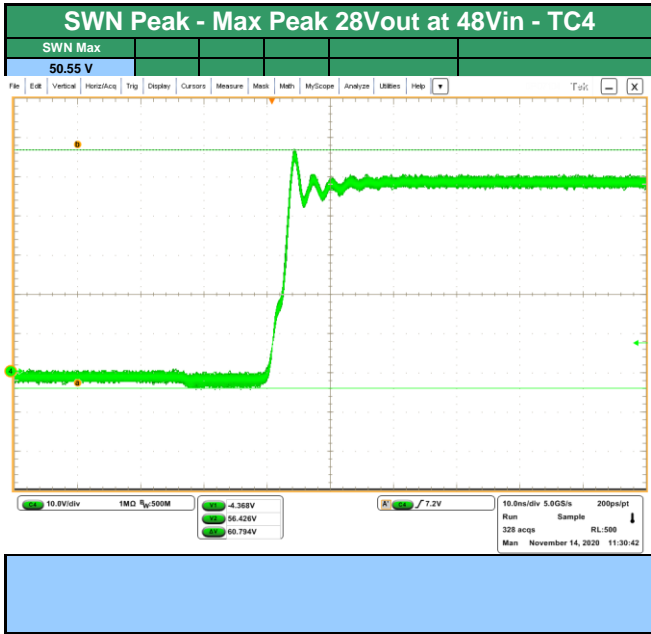
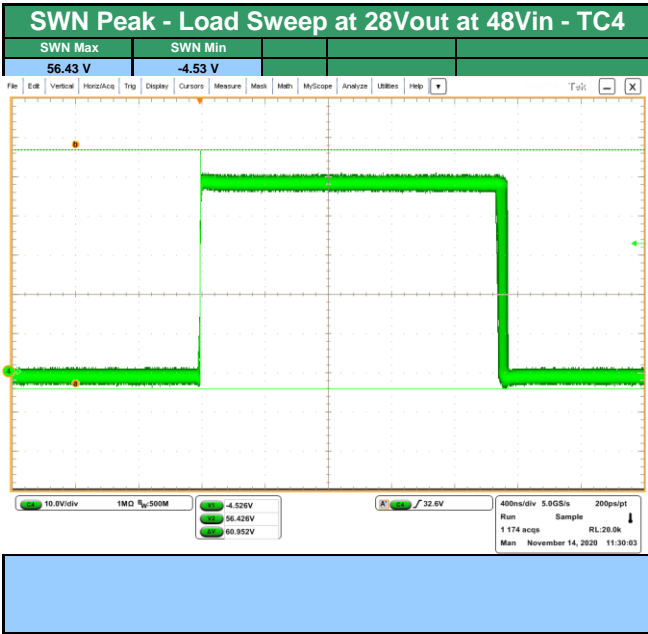
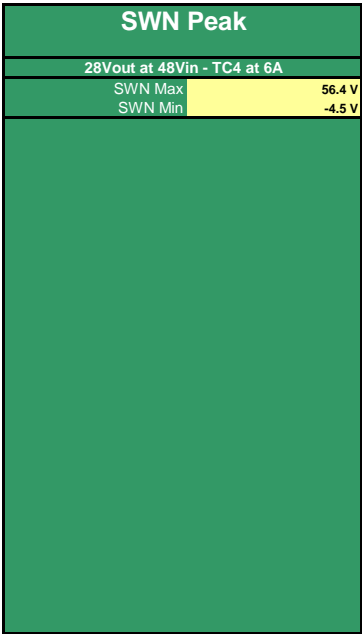


Duty Cycle Jitter at 3A at 28Vout at 48Vin - TC4	
Jitter	

FSW Variance	
28Vout at 48Vin - TC4 at 6A	
FSW Variance	6.5 kHz
28Vout at 48Vin - TC4 at 3A	
FSW Variance	0.0 kHz
FSW Variance Max	6.5 kHz



FSW Variance at 3A at 28Vout at 48Vin - TC4				
FSW Min	FSW Max			



Startup

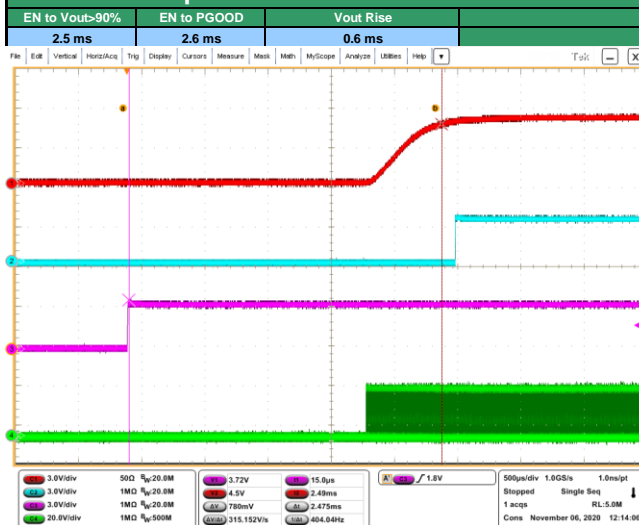
5Vout at 24Vin - TC1 at 6A

Enable to Vout >90%	2.5 ms
Enable to PGOOD	2.6 ms
Vout Rise	0.6 ms

5Vout at 24Vin - TC1 at 0A

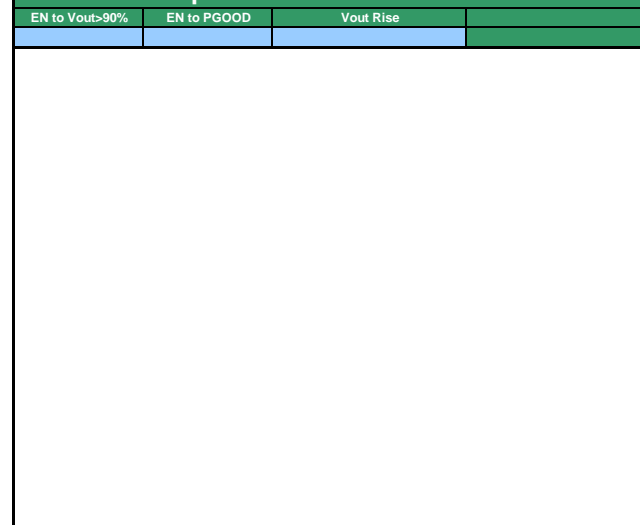
Enable to Vout >90%	0.0 ms
Enable to PGOOD	0.0 ms
Vout Rise	0.0 ms

Startup at 6A at 5Vout at 24Vin - TC1



Red trace is VOUT, blue is PG, purple is EN, and green is SWN

Startup at 0A at 5Vout at 24Vin - TC1



Shutdown

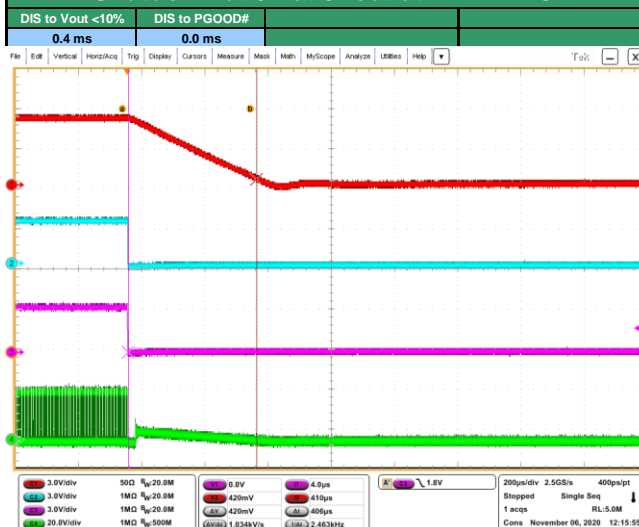
5Vout at 24Vin - TC1 at 6A

DISable to Vout <10%	0.4 ms
DISable to PGOOD#	0.0 ms

5Vout at 24Vin - TC1 at 0A

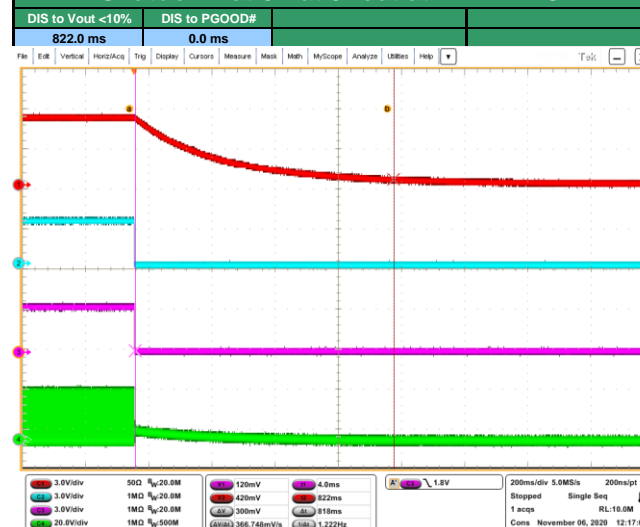
DISable to Vout <10%	822.0 ms
DISable to PGOOD#	0.0 ms

Shutdown at 6A at 5Vout at 24Vin - TC1



Red trace is VOUT, blue is PG, purple is EN, and green is SWN

Shutdown at 0A at 5Vout at 24Vin - TC1



Bleeder circuit used to decrease output cap discharge time
Red trace is VOUT, blue is PG, purple is EN, and green is SWN

Startup

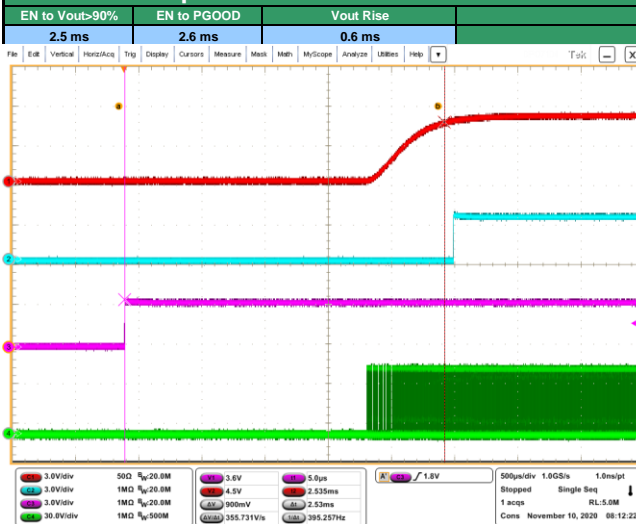
5Vout at 48Vin - TC2 at 6A

Enable to Vout >90%	2.5 ms
Enable to PGOOD	2.6 ms
Vout Rise	0.6 ms

5Vout at 48Vin - TC2 at 0A

Enable to Vout >90%	0.0 ms
Enable to PGOOD	0.0 ms
Vout Rise	0.0 ms

Startup at 6A at 5Vout at 48Vin - TC2



Red trace is VOUT, blue is PG, purple is EN, and green is SWN

Startup at 0A at 5Vout at 48Vin - TC2



Shutdown

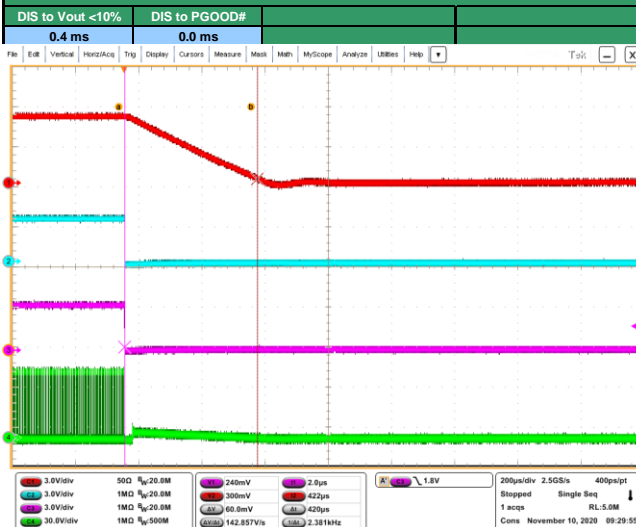
5Vout at 48Vin - TC2 at 6A

DISable to Vout <10%	0.4 ms
DISable to PGOOD#	0.0 ms

5Vout at 48Vin - TC2 at 0A

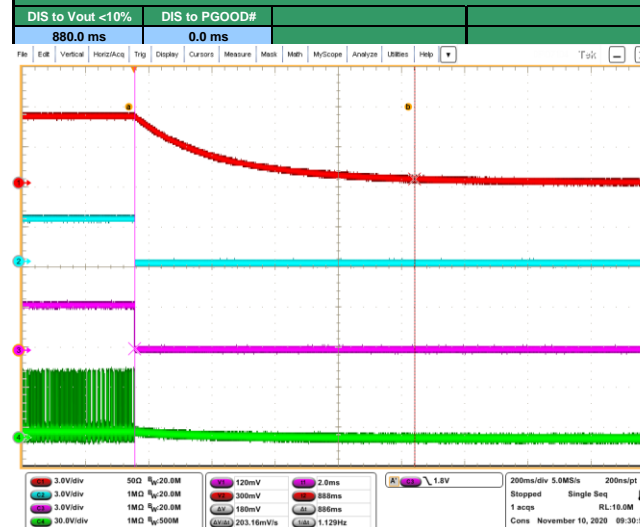
DISable to Vout <10%	880.0 ms
DISable to PGOOD#	0.0 ms

Shutdown at 6A at 5Vout at 48Vin - TC2



Red trace is VOUT, blue is PG, purple is EN, and green is SWN

Shutdown at 0A at 5Vout at 48Vin - TC2

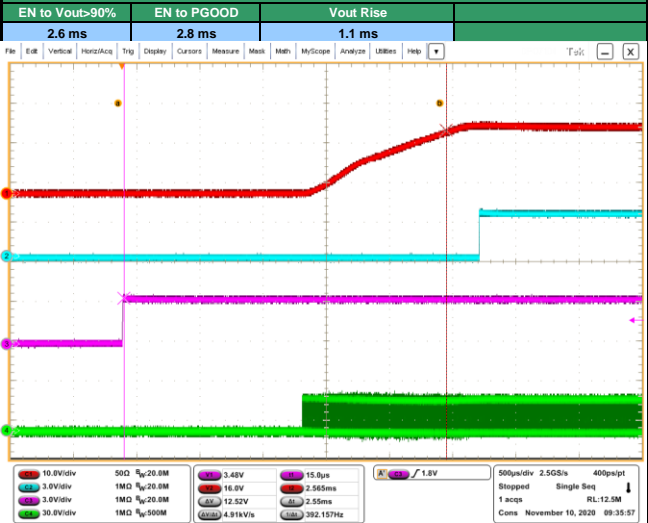


Bleeder circuit used to decrease output cap discharge time
Red trace is VOUT, blue is PG, purple is EN, and green is SWN

Startup

17Vout at 24Vin - TC3 at 6A	
Enable to Vout >90%	2.6 ms
Enable to PGOOD	2.8 ms
Vout Rise	1.1 ms
17Vout at 24Vin - TC3 at 0A	
Enable to Vout >90%	0.0 ms
Enable to PGOOD	0.0 ms
Vout Rise	0.0 ms

Startup at 6A at 17Vout at 24Vin - TC3



Red trace is VOUT, blue is PG, purple is EN, and green is SWN

Startup at 0A at 17Vout at 24Vin - TC3



Shutdown

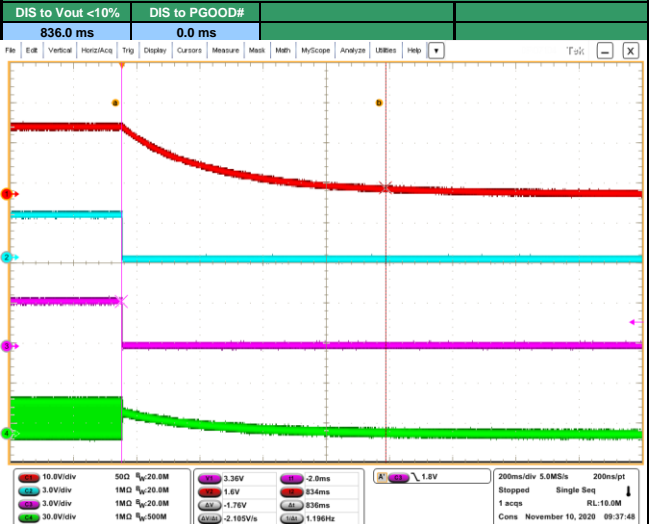
17Vout at 24Vin - TC3 at 6A	
DISable to Vout <10%	1.5 ms
DISable to PGOOD#	0.0 ms
17Vout at 24Vin - TC3 at 0A	
DISable to Vout <10%	836.0 ms
DISable to PGOOD#	0.0 ms

Shutdown at 6A at 17Vout at 24Vin - TC3



Red trace is VOUT, blue is PG, purple is EN, and green is SWN

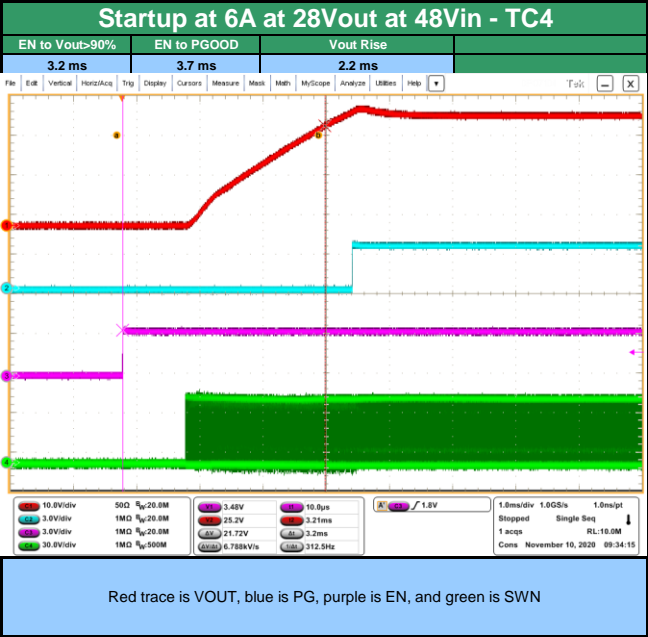
Shutdown at 0A at 17Vout at 24Vin - TC3



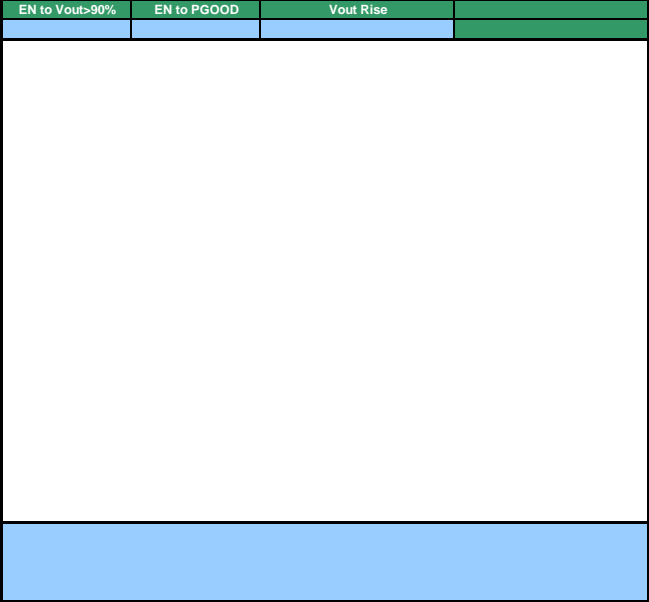
Bleeder circuit used to decrease output cap discharge time
Red trace is VOUT, blue is PG, purple is EN, and green is SWN

Startup

28Vout at 48Vin - TC4 at 6A		
Enable to Vout >90%		3.2 ms
Enable to PGOOD		3.7 ms
Vout Rise		2.2 ms
28Vout at 48Vin - TC4 at 0A		
Enable to Vout >90%		0.0 ms
Enable to PGOOD		0.0 ms
Vout Rise		0.0 ms

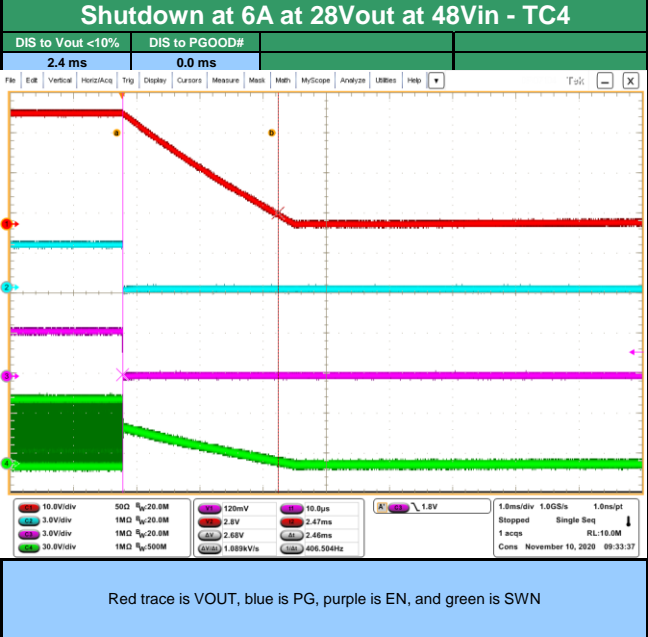


Startup at 0A at 28Vout at 48Vin - TC4

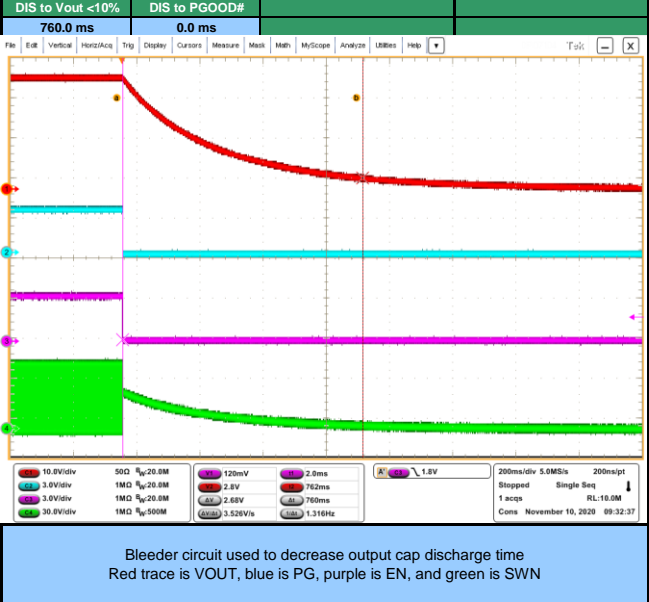


Shutdown

28Vout at 48Vin - TC4 at 6A		
DISable to Vout <10%		2.4 ms
DISable to PGOOD#		0.0 ms
28Vout at 48Vin - TC4 at 0A		
DISable to Vout <10%		760.0 ms
DISable to PGOOD#		0.0 ms



Shutdown at 0A at 28Vout at 48Vin - TC4



Protection

Protection

5Vout at 24Vin - TC1

Current Limit

ROCP
DC OCP Shutdown 6 A
AC OCP Shutdown 0 A

UVLO (Vin)

UVLO Start 21.20 V
UVLO Stop 19.00 V

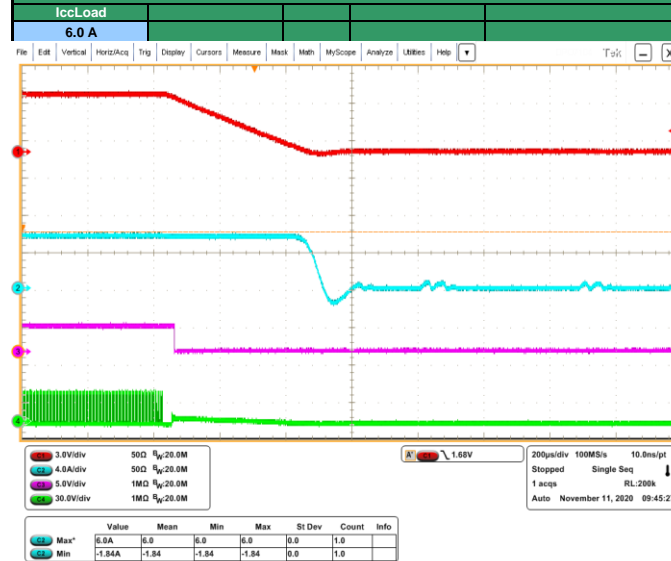
UVLO PGOOD to Vout decay 0.4 ms
UVLO start to PGOOD 0.7 ms

UVLO (Vcc)

UVLO Start 4.08 V
UVLO Stop 3.88 V

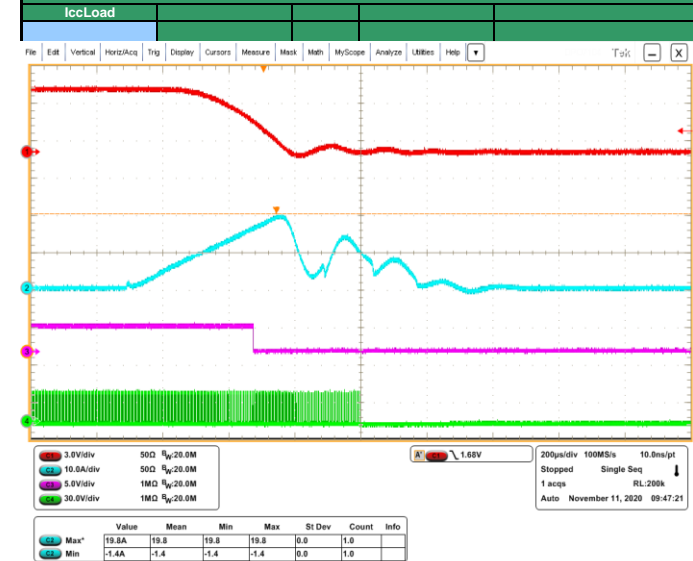
UVLO PGOOD to Vout decay 0.4 ms
UVLO start to PGOOD 0.7 ms

DC Over Current Protection



Electronic load slowly increased up until OCP event
Red trace is VOUT, blue is IOUT, purple is PGOOD, and green is SWN

AC Over Current Protection



Current measured at output banana plugs. FAN6500XX uses peak inductor current for detection, with SCP at 130% of value of DC OCP.
Red trace is VOUT, blue is IOUT, purple is PGOOD, and green is SWN

Protection

Protection

5Vout at 48Vin - TC2

Current Limit

ROCP	
DC OCP Shutdown	7 A
AC OCP Shutdown	0 A

UVLO (Vin)

UVLO Start	21.20 V
UVLO Stop	19.00 V

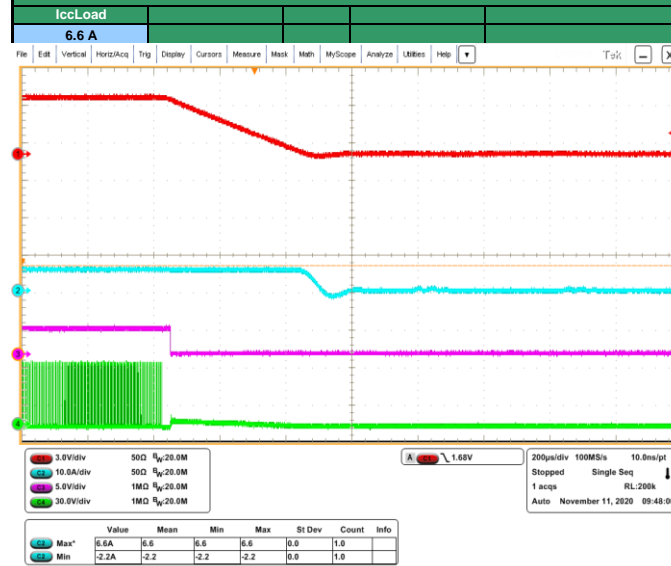
UVLO PGOOD to Vout decay	0.4 ms
UVLO start to PGOOD	0.7 ms

UVLO (Vcc)

UVLO Start	4.04 V
UVLO Stop	3.88 V

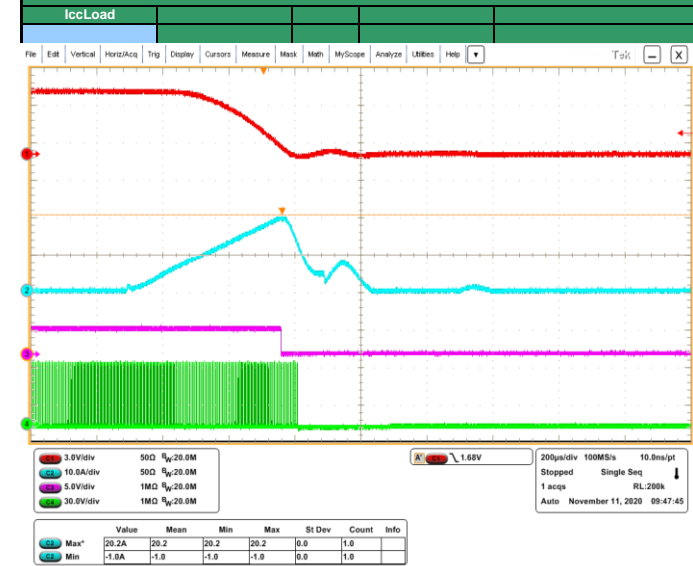
UVLO PGOOD to Vout decay	0.4 ms
UVLO start to PGOOD	0.7 ms

DC Over Current Protection



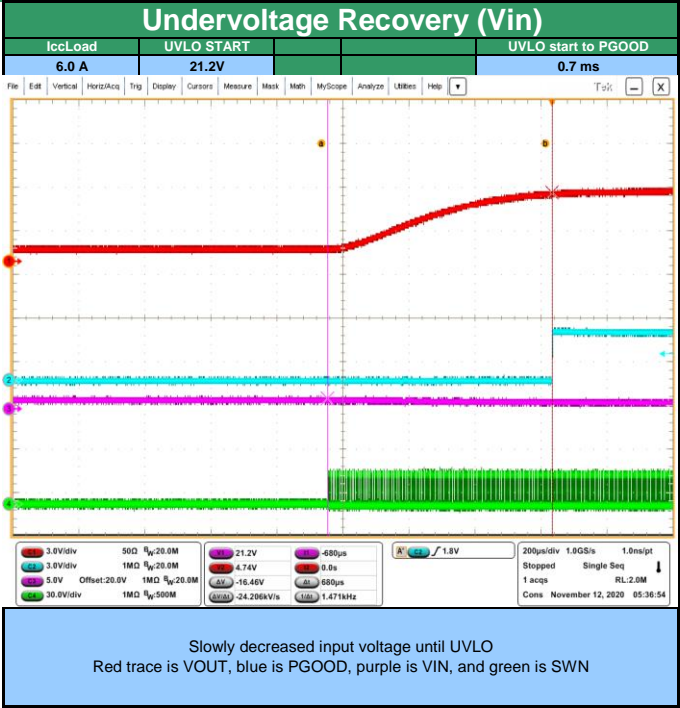
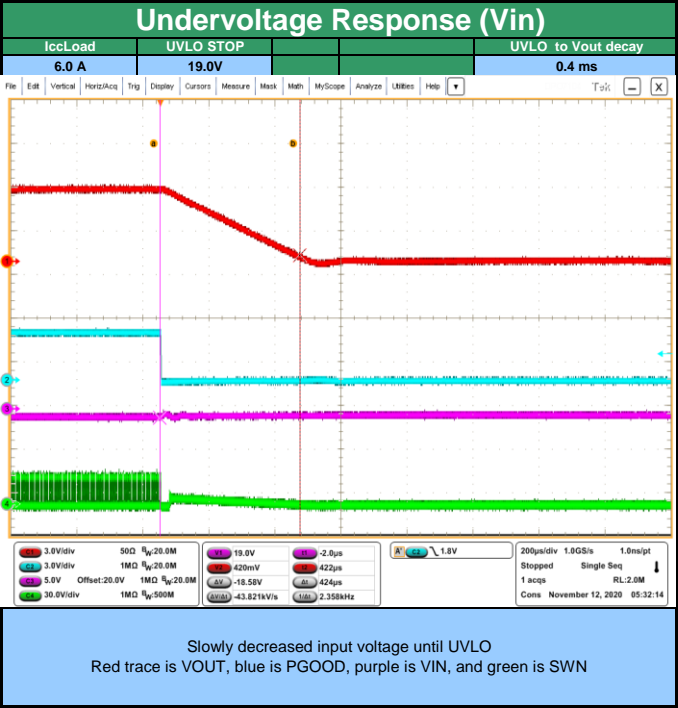
Electronic load slowly increased up until OCP event
Red trace is VOUT, blue is IOUT, purple is PGOOD, and green is SWN

AC Over Current Protection

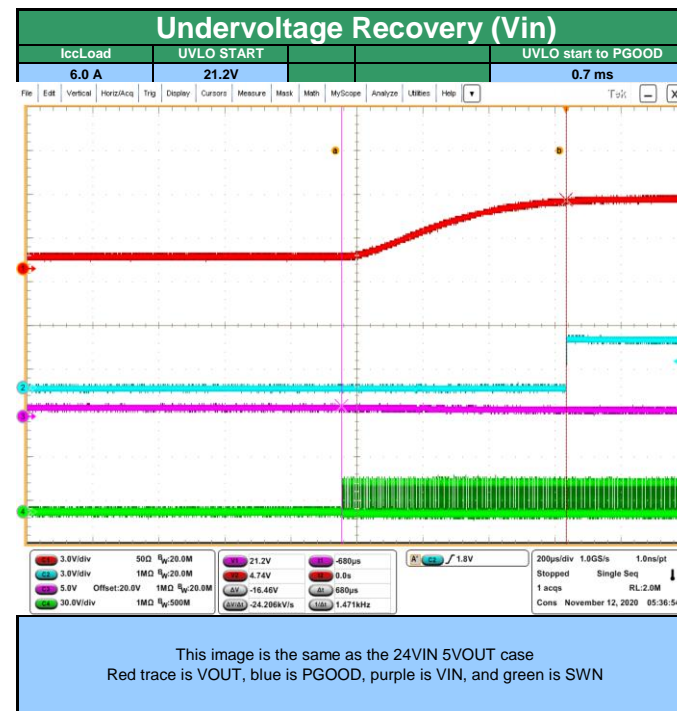
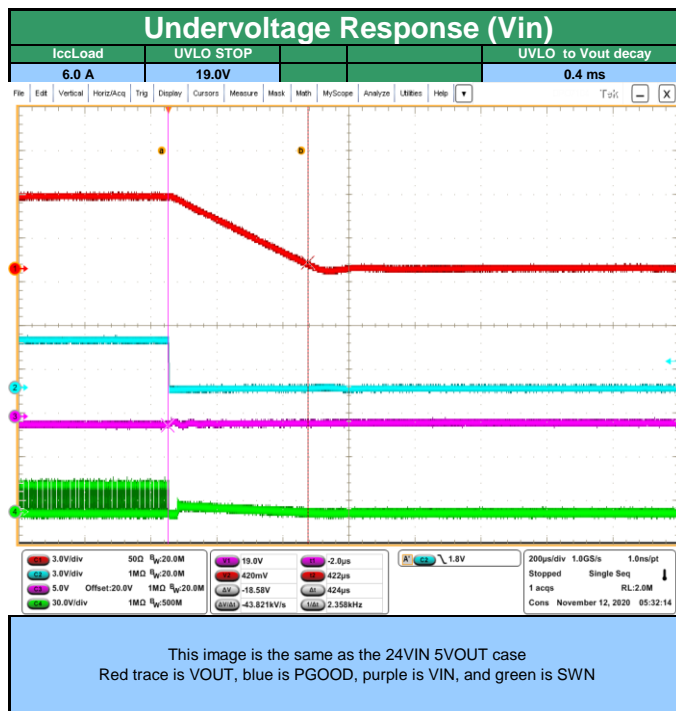


Current measured at output banana plugs. FAN6500XX uses peak inductor current for detection, with SCP at 130% of value of DC OCP.
Red trace is VOUT, blue is IOUT, purple is PGOOD, and green is SWN

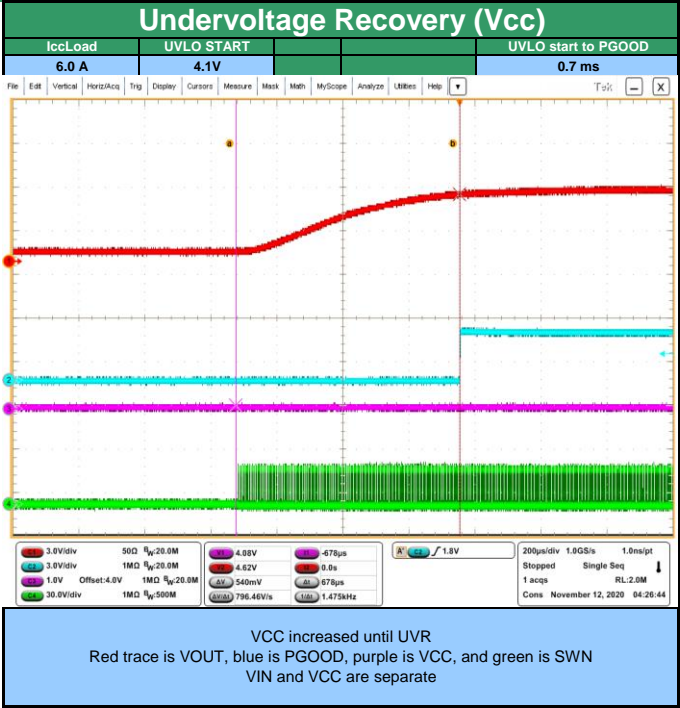
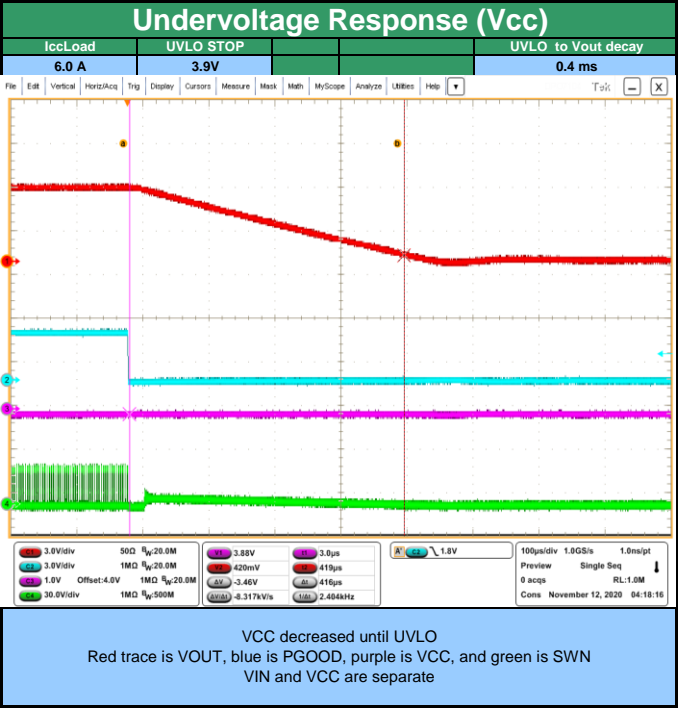
Protection	
5Vout at 24Vin - TC1	
Current Limit	
ROCP	
DC OCP Shutdown	6 A
AC OCP Shutdown	0 A
UVLO (Vin)	
UVLO Start	21.20 V
UVLO Stop	19.00 V
UVLO PGOOD to Vout decay	0.4 ms
UVLO start to PGOOD	0.7 ms
UVLO (Vcc)	
UVLO Start	4.08 V
UVLO Stop	3.88 V
UVLO PGOOD to Vout decay	0.4 ms
UVLO start to PGOOD	0.7 ms



Protection		
5Vout at 48Vin - TC2		
Current Limit		
ROCP		
DC OCP Shutdown		7 A
AC OCP Shutdown		0 A
UVLO (Vin)		
UVLO Start		21.20 V
UVLO Stop		19.00 V
UVLO PGOOD to Vout decay		0.4 ms
UVLO start to PGOOD		0.7 ms
UVLO (Vcc)		
UVLO Start		4.04 V
UVLO Stop		3.88 V
UVLO PGOOD to Vout decay		0.4 ms
UVLO start to PGOOD		0.7 ms



Protection	
5Vout at 24Vin - TC1	
Current Limit	
ROCP	
DC OCP Shutdown	6 A
AC OCP Shutdown	0 A
UVLO (Vin)	
UVLO Start	21.20 V
UVLO Stop	19.00 V
UVLO PGOOD to Vout decay	0.4 ms
UVLO start to PGOOD	0.7 ms
UVLO (Vcc)	
UVLO Start	4.08 V
UVLO Stop	3.88 V
UVLO PGOOD to Vout decay	0.4 ms
UVLO start to PGOOD	0.7 ms



Protection

5Vout at 48Vin - TC2

Current Limit

ROCP	
DC OCP Shutdown	7 A
AC OCP Shutdown	0 A

UVLO (Vin)

UVLO Start	21.20 V
UVLO Stop	19.00 V

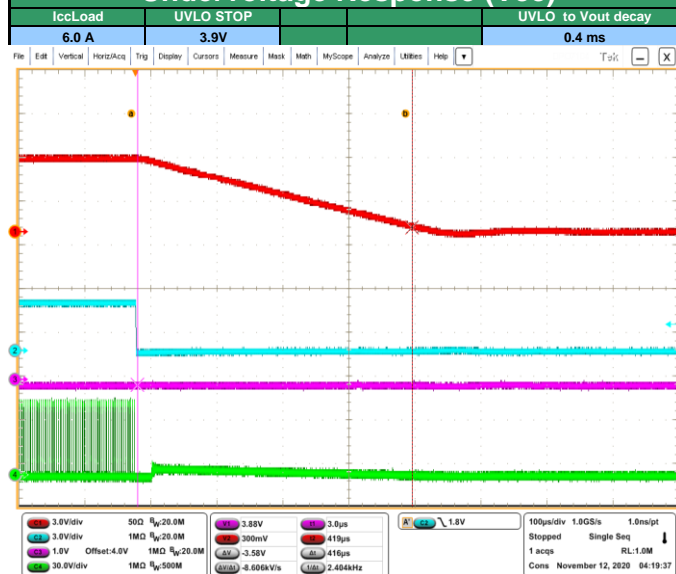
UVLO PGOOD to Vout decay	0.4 ms
UVLO start to PGOOD	0.7 ms

UVLO (Vcc)

UVLO Start	4.04 V
UVLO Stop	3.88 V

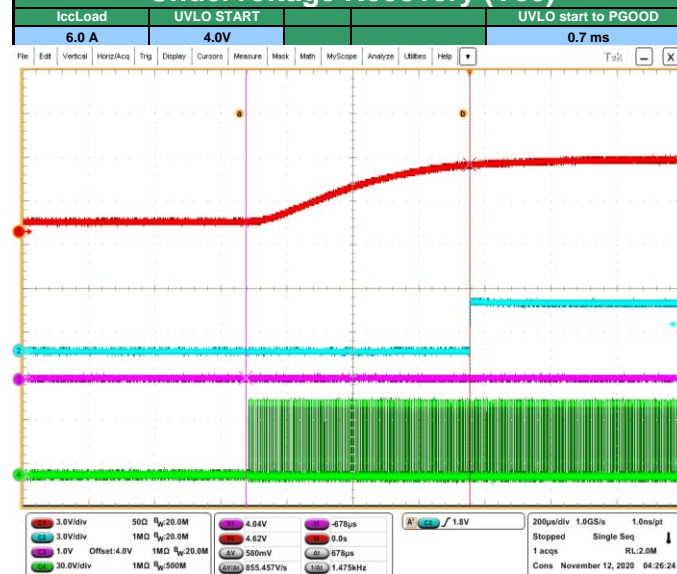
UVLO PGOOD to Vout decay	0.4 ms
UVLO start to PGOOD	0.7 ms

Undervoltage Response (Vcc)



VCC decreased until UVLO
Red trace is VOUT, blue is PGOOD, purple is VCC, and green is SWN
VIN and VCC are separate

Undervoltage Recovery (Vcc)



VCC increased until UVR
Red trace is VOUT, blue is PGOOD, purple is VCC, and green is SWN
VIN and VCC are separate

Protection

Protection

17Vout at 24Vin - TC3

Current Limit

ROCP	
DC OCP Shutdown	6 A
AC OCP Shutdown	0 A

UVLO (Vin)

UVLO Start	21.00 V
UVLO Stop	19.20 V

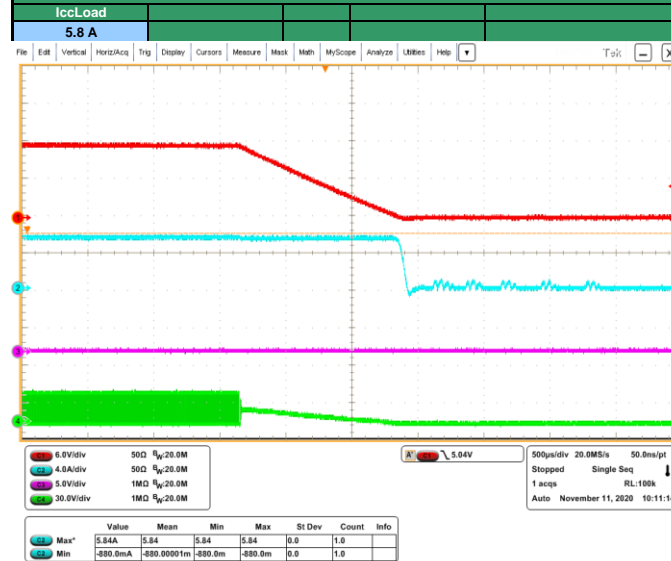
UVLO PGOOD to Vout decay	1.4 ms
UVLO start to PGOOD	1.4 ms

UVLO (Vcc)

UVLO Start	4.08 V
UVLO Stop	3.88 V

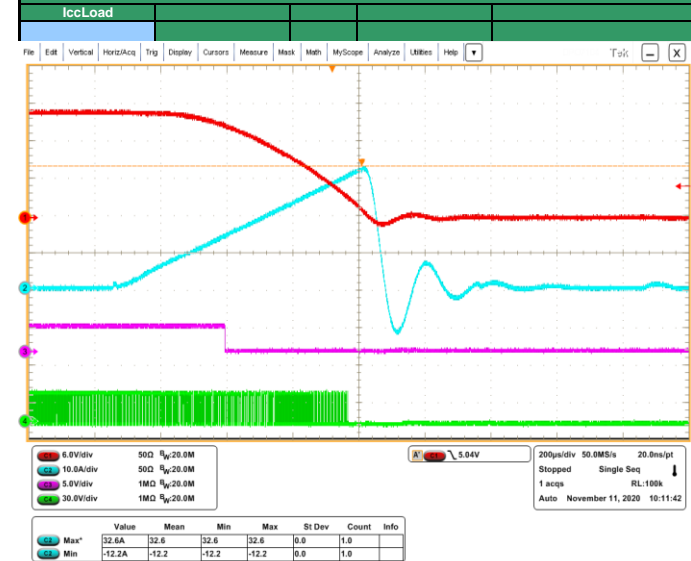
UVLO PGOOD to Vout decay	1.4 ms
UVLO start to PGOOD	1.3 ms

DC Over Current Protection



Electronic load slowly increased up until OCP event
Red trace is VOUT, blue is IOUT, purple is PGOOD, and green is SWN

AC Over Current Protection



Current measured at output banana plugs. FAN6500XX uses peak inductor current for detection, with SCP at 130% of value of DC OCP.
Red trace is VOUT, blue is IOUT, purple is PGOOD, and green is SWN

Protection

Protection

28Vout at 48Vin - TC4

Current Limit

ROCP
DC OCP Shutdown 5 A
AC OCP Shutdown 0 A

UVLO (Vin)

UVLO Start 0.00 V
UVLO Stop 0.00 V

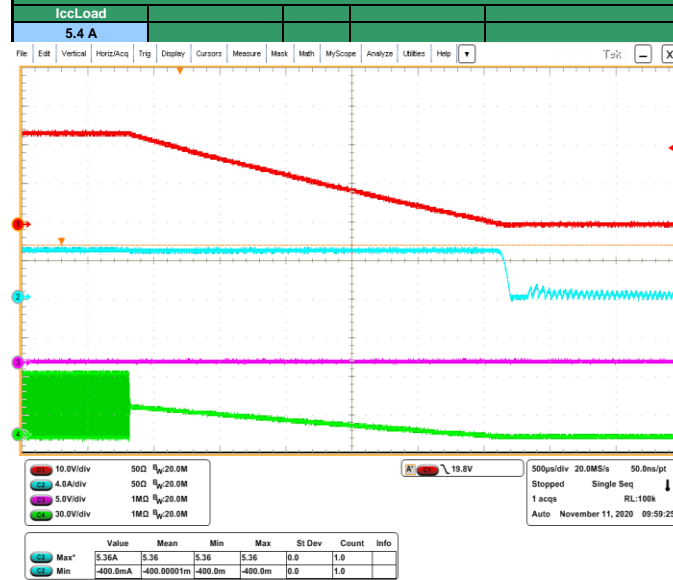
UVLO PGOOD to Vout decay 0.0 ms
UVLO start to PGOOD 0.0 ms

UVLO (Vcc)

UVLO Start 4.08 V
UVLO Stop 3.88 V

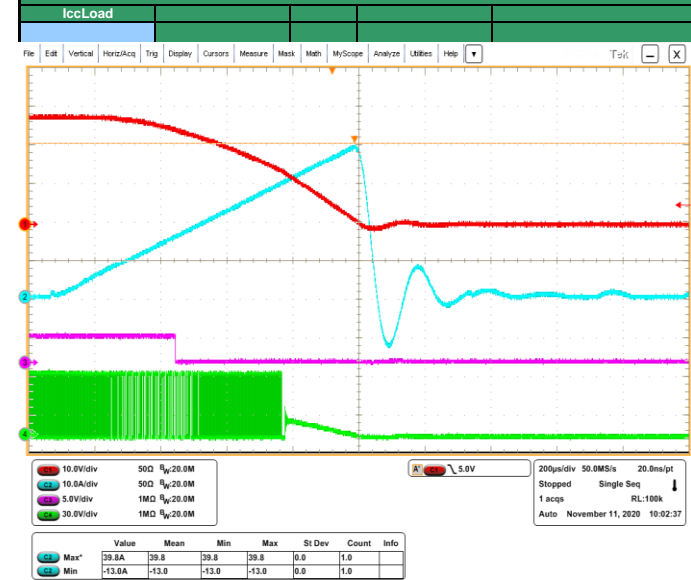
UVLO PGOOD to Vout decay 2.5 ms
UVLO start to PGOOD 2.2 ms

DC Over Current Protection



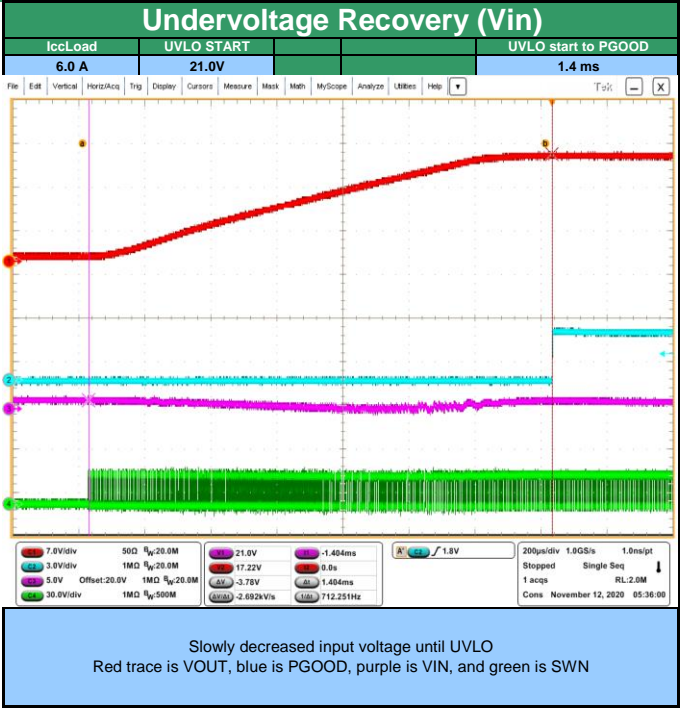
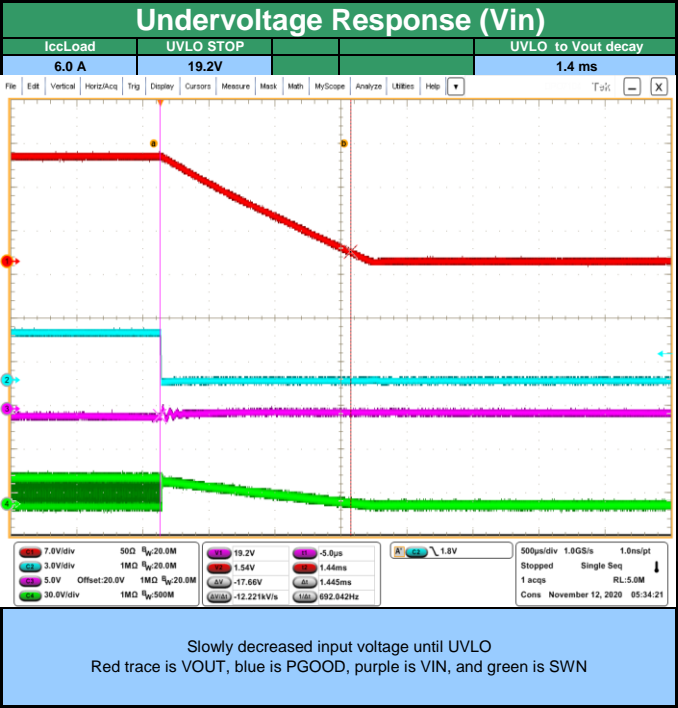
Electronic load slowly increased up until OCP event
Red trace is VOUT, blue is IOUT, purple is PGOOD, and green is SWN

AC Over Current Protection



Current measured at output banana plugs. FAN6500XX uses peak inductor current for detection, with SCP at 130% of value of DC OCP.
Red trace is VOUT, blue is IOUT, purple is PGOOD, and green is SWN

Protection	
17Vout at 24Vin - TC3	
Current Limit	
ROCP	
DC OCP Shutdown	6 A
AC OCP Shutdown	0 A
UVLO (Vin)	
UVLO Start	21.00 V
UVLO Stop	19.20 V
UVLO PGOOD to Vout decay	1.4 ms
UVLO start to PGOOD	1.4 ms
UVLO (Vcc)	
UVLO Start	4.08 V
UVLO Stop	3.88 V
UVLO PGOOD to Vout decay	1.4 ms
UVLO start to PGOOD	1.3 ms

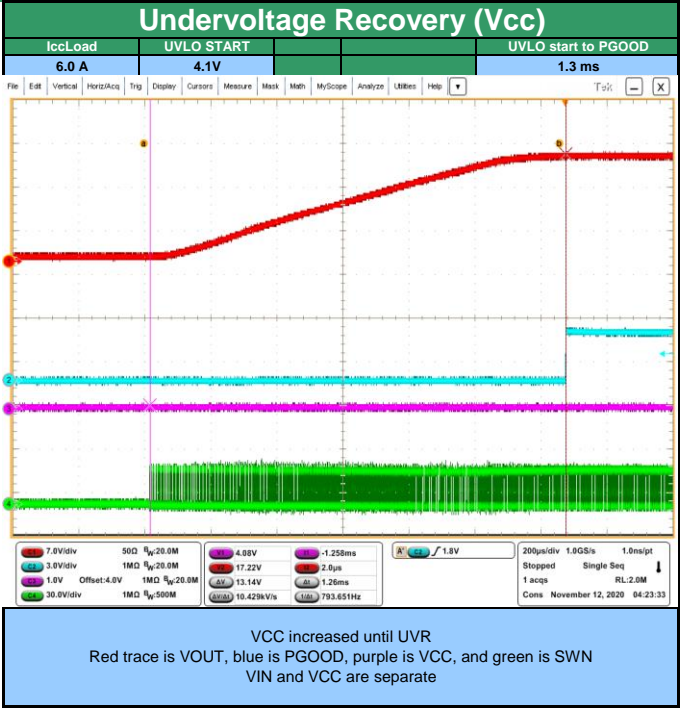
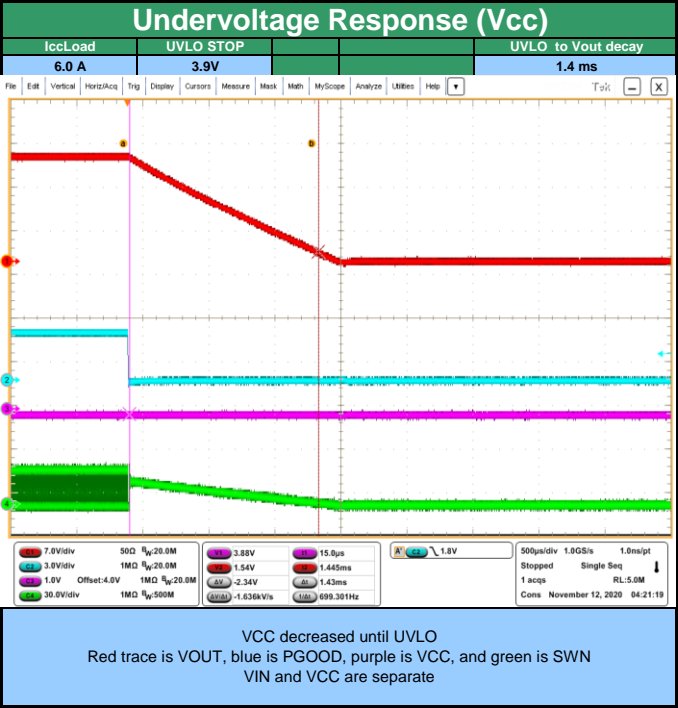


Protection	
28Vout at 48Vin - TC4	
Current Limit	
ROCP	
DC OCP Shutdown	5 A
AC OCP Shutdown	0 A
UVLO (Vin)	
UVLO Start	0.00 V
UVLO Stop	0.00 V
UVLO PGOOD to Vout decay	0.0 ms
UVLO start to PGOOD	0.0 ms
UVLO (Vcc)	
UVLO Start	4.08 V
UVLO Stop	3.88 V
UVLO PGOOD to Vout decay	2.5 ms
UVLO start to PGOOD	2.2 ms

Undervoltage Response (Vin)				
IccLoad	UVLO STOP			UVLO to Vout decay
VIN UVLO occurs ~20V, so this case is not valid				

Undervoltage Recovery (Vin)				
IccLoad	UVLO START			UVLO start to PGOOD
VIN UVLO occurs ~20V, so this case is not valid				

Protection	
17Vout at 24Vin - TC3	
Current Limit	
ROCP	
DC OCP Shutdown	6 A
AC OCP Shutdown	0 A
UVLO (Vin)	
UVLO Start	21.00 V
UVLO Stop	19.20 V
UVLO PGOOD to Vout decay	1.4 ms
UVLO start to PGOOD	1.4 ms
UVLO (Vcc)	
UVLO Start	4.08 V
UVLO Stop	3.88 V
UVLO PGOOD to Vout decay	1.4 ms
UVLO start to PGOOD	1.3 ms



Protection

28Vout at 48Vin - TC4

Current Limit

ROCP
DC OCP Shutdown 5 A
AC OCP Shutdown 0 A

UVLO (Vin)

UVLO Start 0.00 V
UVLO Stop 0.00 V

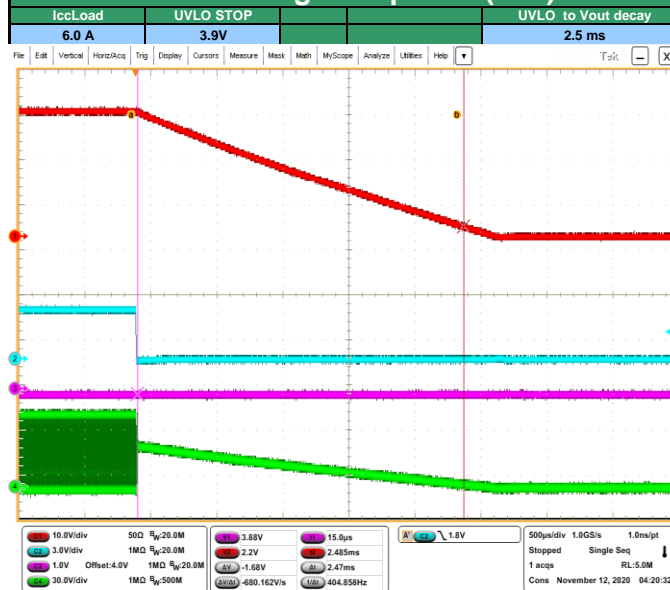
UVLO PGOOD to Vout decay 0.0 ms
UVLO start to PGOOD 0.0 ms

UVLO (Vcc)

UVLO Start 4.08 V
UVLO Stop 3.88 V

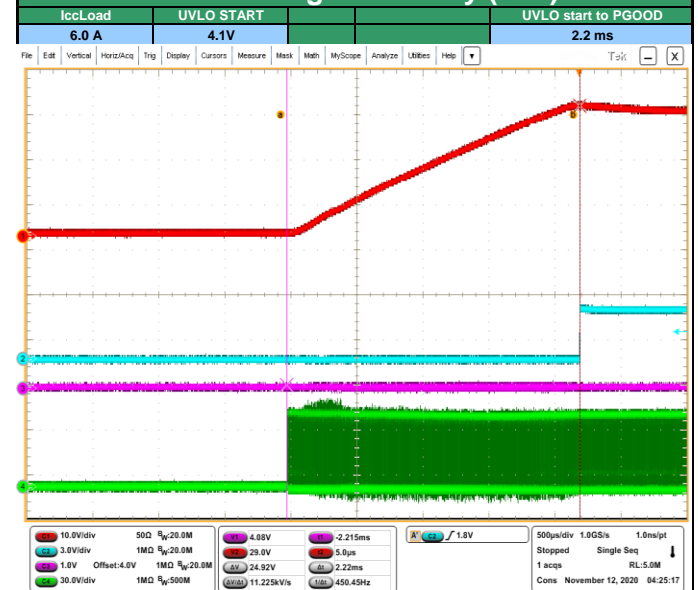
UVLO PGOOD to Vout decay 2.5 ms
UVLO start to PGOOD 2.2 ms

Undervoltage Response (Vcc)



VCC decreased until UVLO
Red trace is VOUT, blue is PGOOD, purple is VCC, and green is SWN
VIN and VCC are separate

Undervoltage Recovery (Vcc)



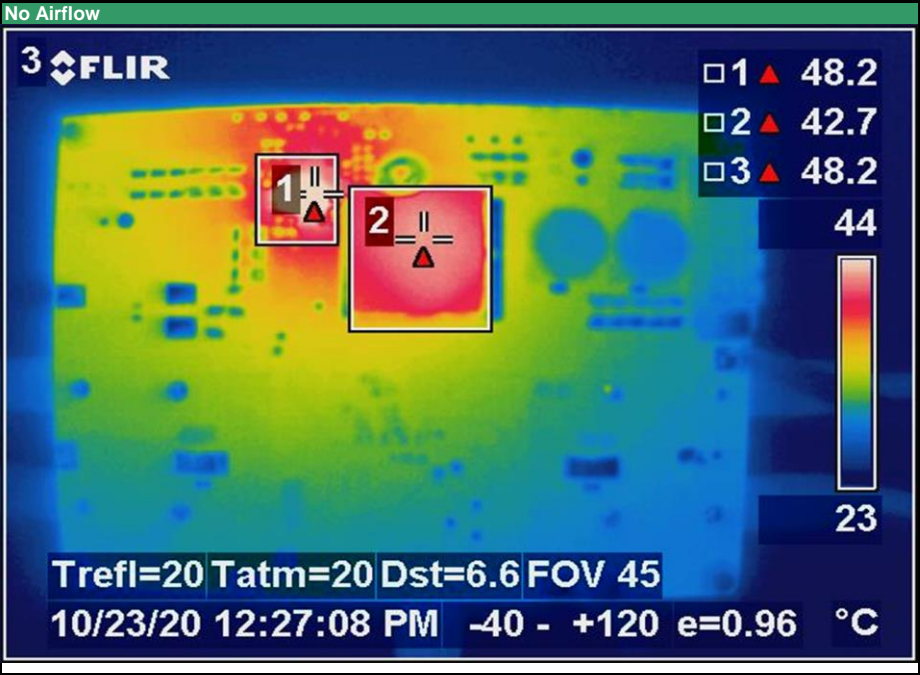
VCC increased until UVR
Red trace is VOUT, blue is PGOOD, purple is VCC, and green is SWN
VIN and VCC are separate

Thermals at 5Vout at 24Vin - TC1

Thermal Compensation	
Time	Vout
0 min	
5 min	
10 min	
Max drift	0.0000 V

Tsoak =	5 min
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Ambient =	23.0 °C	Thermals @ 23°C Ambient			
Load =	6.0 A	No Airflow			
Airflow =	0 lfm				
Area	Component	Temp	Rise		
1	Controller/Driver	48.2 °C	25.2 °C		
2	Inductor	42.7 °C	19.7 °C		
3	Max Hot Spot	48.2 °C	25.2 °C		
Max Temp / Rise =		48.2 °C	25.2 °C		

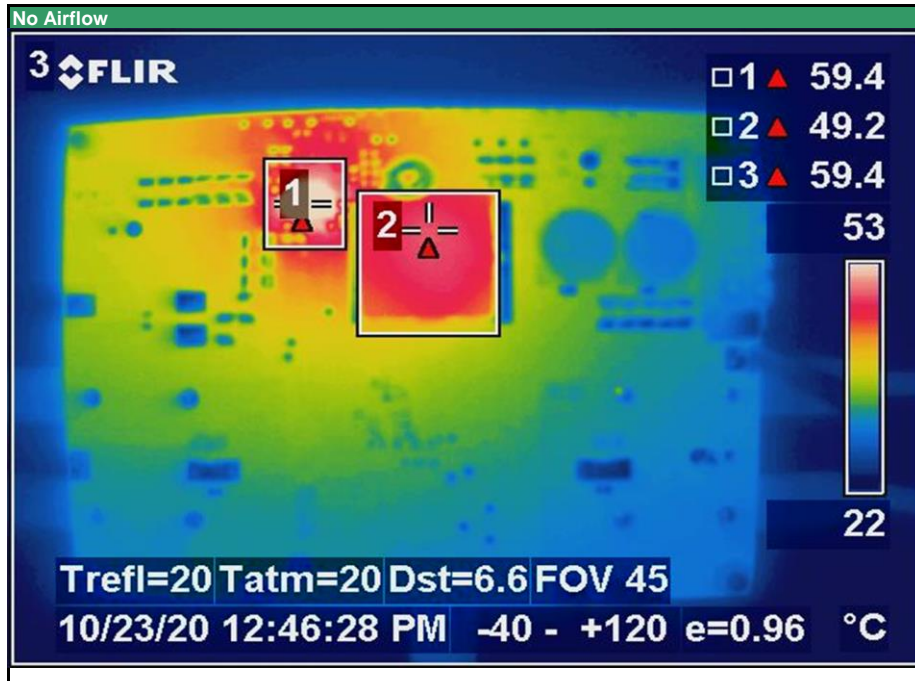


Thermals at 5Vout at 48Vin - TC2

Thermal Compensation	
Time	Vout
0 min	
5 min	
10 min	
Max drift	0.0000 V

Tsoak = 5 min

Ambient =	23.0 °C	Thermals @ 23°C Ambient			
Load =	6.0 A				
Airflow =	0 lfm	No Airflow			
Area	Component	Temp	Rise		
1	Controller/Driver	59.4 °C	36.4 °C		
2	Inductor	49.2 °C	26.2 °C		
3	Max Hot Spot	59.4 °C	36.4 °C		
Max Temp / Rise =		59.4 °C	36.4 °C		

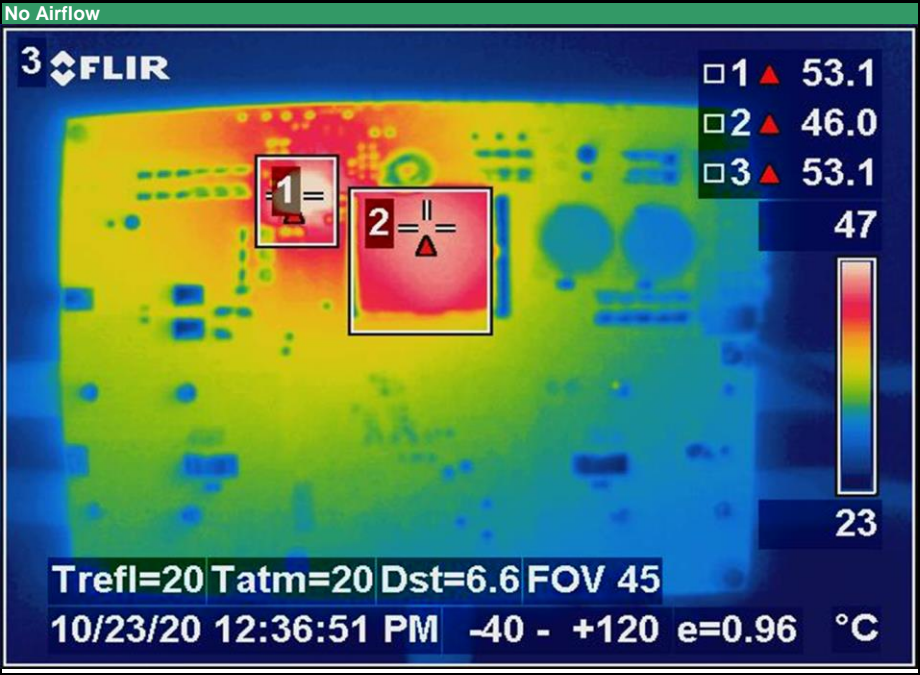


Thermals at 17Vout at 24Vin - TC3

Thermal Compensation	
Time	Vout
0 min	
5 min	
10 min	
Max drift	0.0000 V

Tsoak =	5 min
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Ambient =	23.0 °C	Thermals @ 23°C Ambient			
Load =	6.0 A				
Airflow =	0 lfm	No Airflow			
Area	Component	Temp	Rise		
1	Controller/Driver	53.1 °C	30.1 °C		
2	Inductor	46.0 °C	23.0 °C		
3	Max Hot Spot	53.1 °C	30.1 °C		
Max Temp / Rise =		53.1 °C	30.1 °C		



Thermals at 28Vout at 48Vin - TC4

Thermal Compensation	
Time	Vout
0 min	
5 min	
10 min	
Max drift	0.0000 V

Tsoak =	5 min
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Ambient =	23.0 °C	Thermals @ 23°C Ambient			
Load =	6.0 A	No Airflow			
Airflow =	0 lfm				
Area	Component	Temp	Rise		
1	Controller/Driver	66.7 °C	43.7 °C		
2	Inductor	60.5 °C	37.5 °C		
3	Max Hot Spot	66.7 °C	43.7 °C		
Max Temp / Rise =		66.7 °C	43.7 °C		

