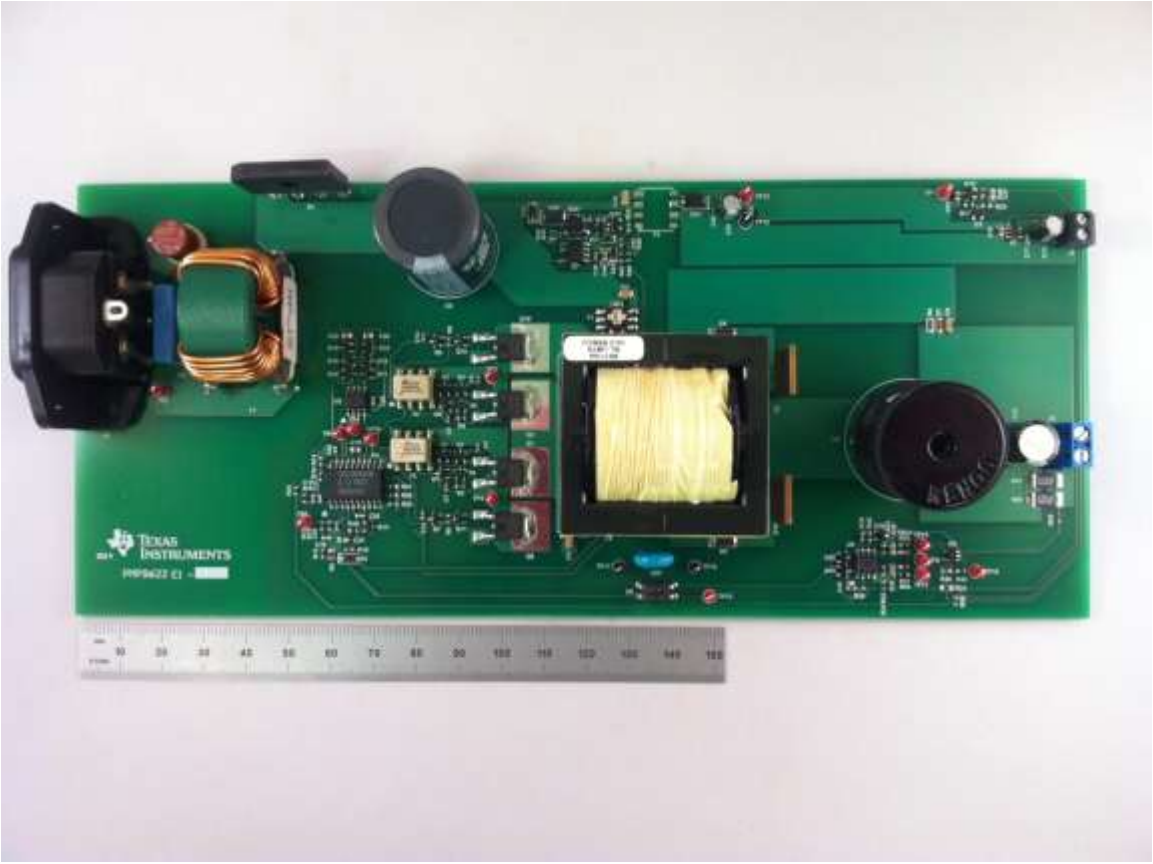
1 Photo



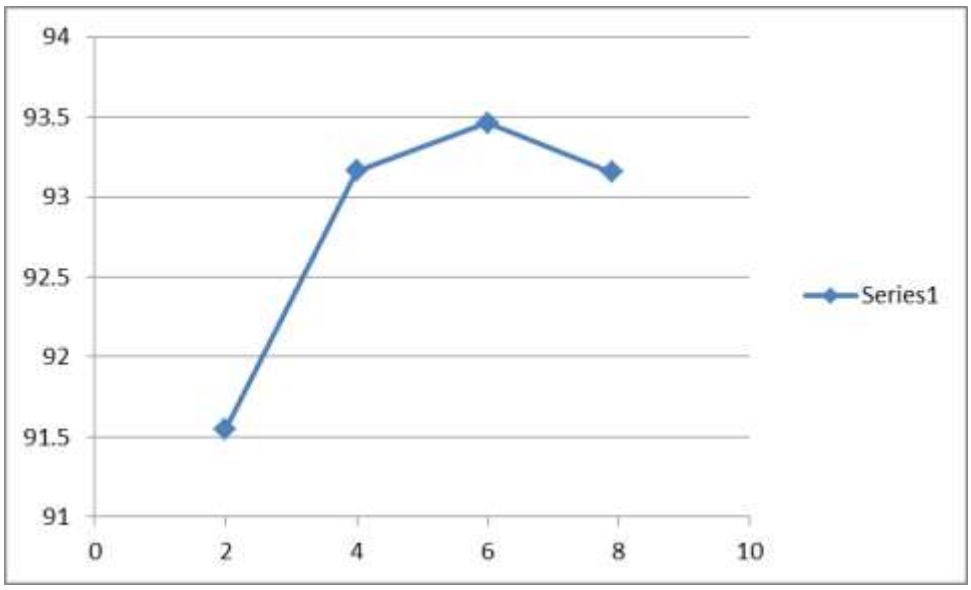
2 EFFICIENCY

Since measuring AC to DC efficiency tends to be not as accurate, DC to DC efficiency was also measured. The DC was applied after the ac bridge at various output currents and 150 v DC.

dc v in	I in	p in	v out	I out	p out	efficiency
150	0.635	95.25	43.6	2	87.2	91.54856
150	1.248	187.2	43.6	4	174.4	93.16239
150	1.866	279.9	43.6	6	261.6	93.46195
150	2.465	369.75	43.6	7.9	344.44	93.15483

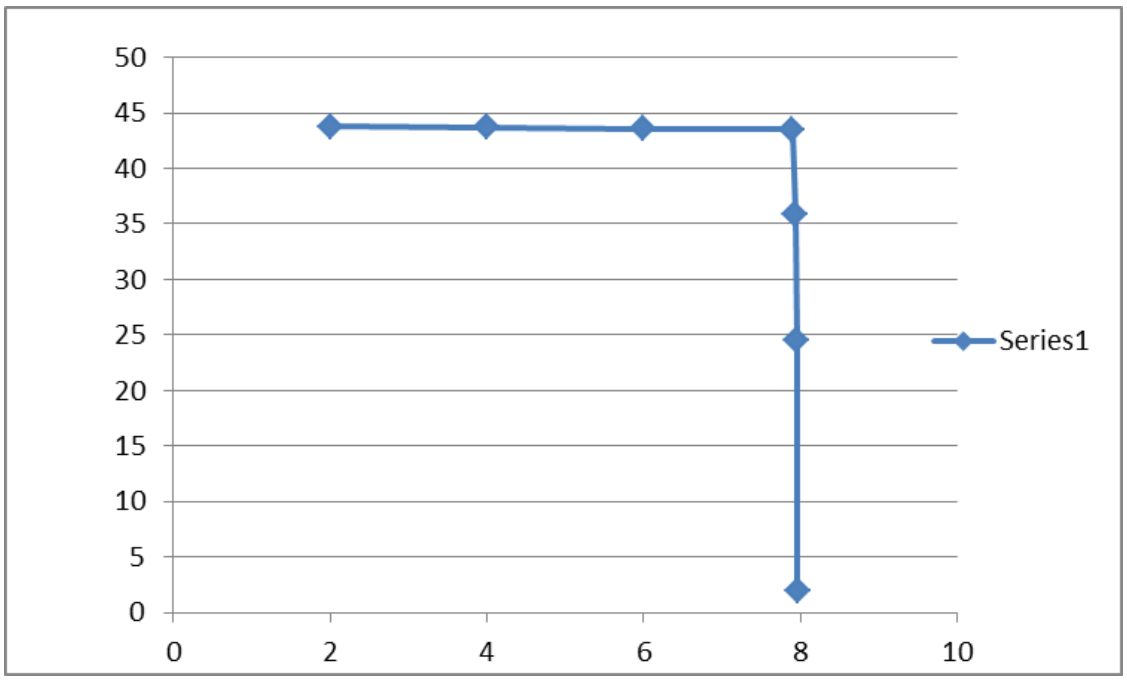
from AC meter

ac in					
120	99.62	43.6	2	87.2	87.53262
	194.02	43.6	4	174.4	89.88764
	289.7	43.6	6	261.6	90.30031
	372.7	43.6	7.9	344.44	92.41749
108	372.7	43.6	7.9	344.44	92.41749
132	372	43.6	7.9	344.44	92.5914



Efficiency V.S. output current

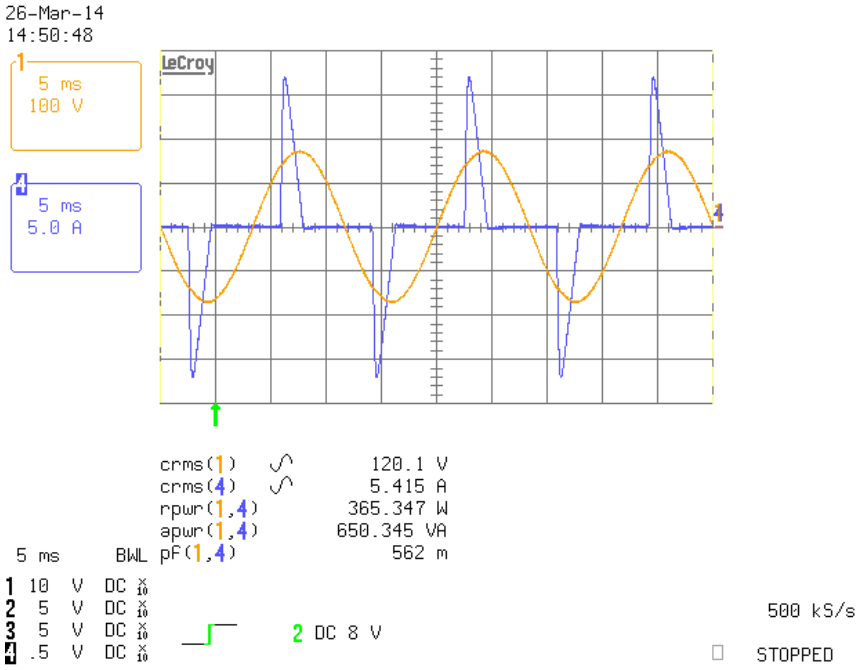
3 Output load characteristics



Output current and voltage

The power supply is set up to be constant voltage-constant current.
The voltage and current are set by fixed resistor values and could be set by micro-processor in the actual product.

4 Input line at 7.8 amp load



Blue is current, orange is 120Vac

5 Thermal image

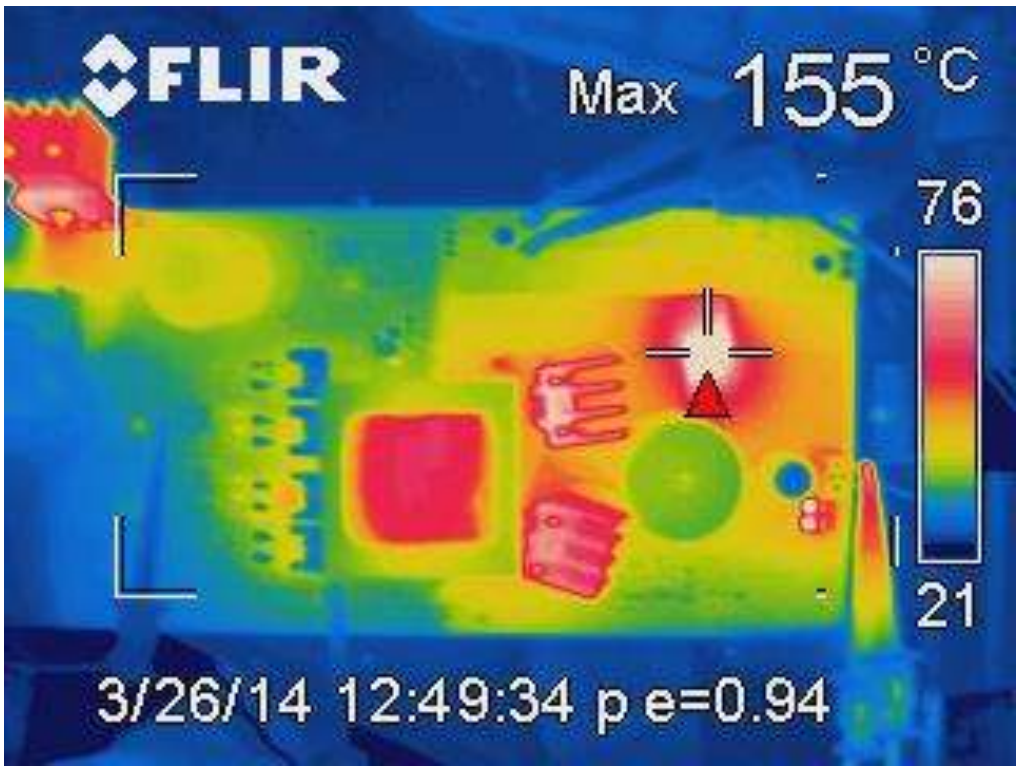
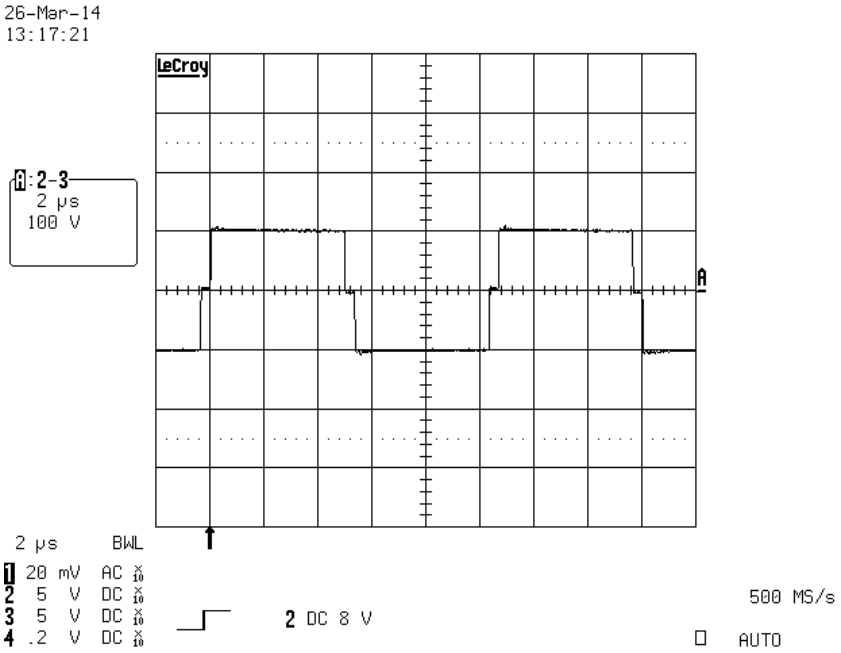
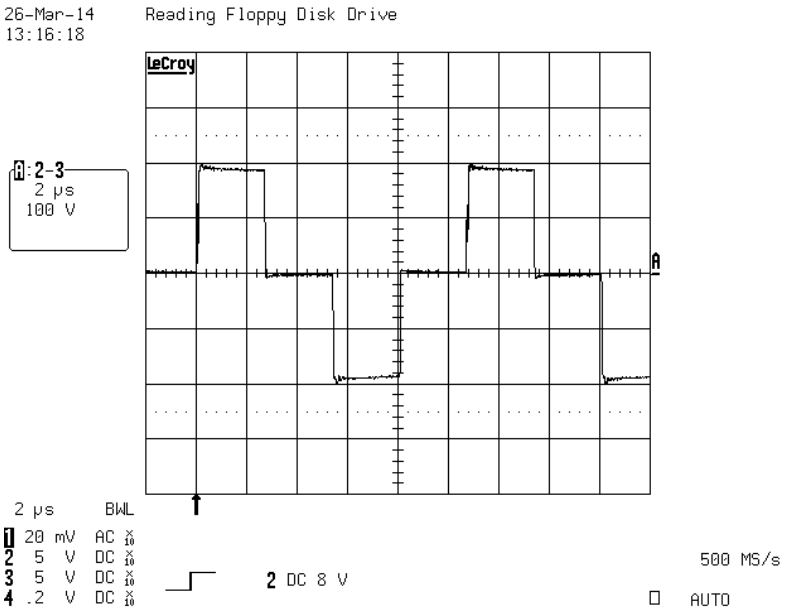


Image taken at full load in still air at 24 deg C. the hottest part on the board is are the snubber Rs and the diode bridge.

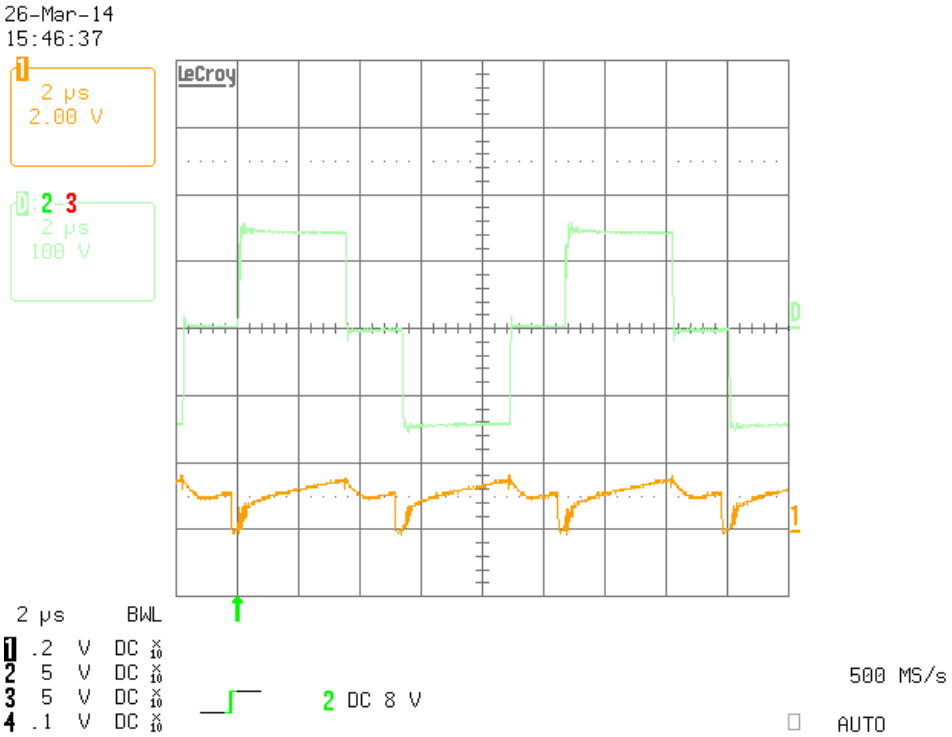
6 Dain wave forms. Voltage across the transformer primary



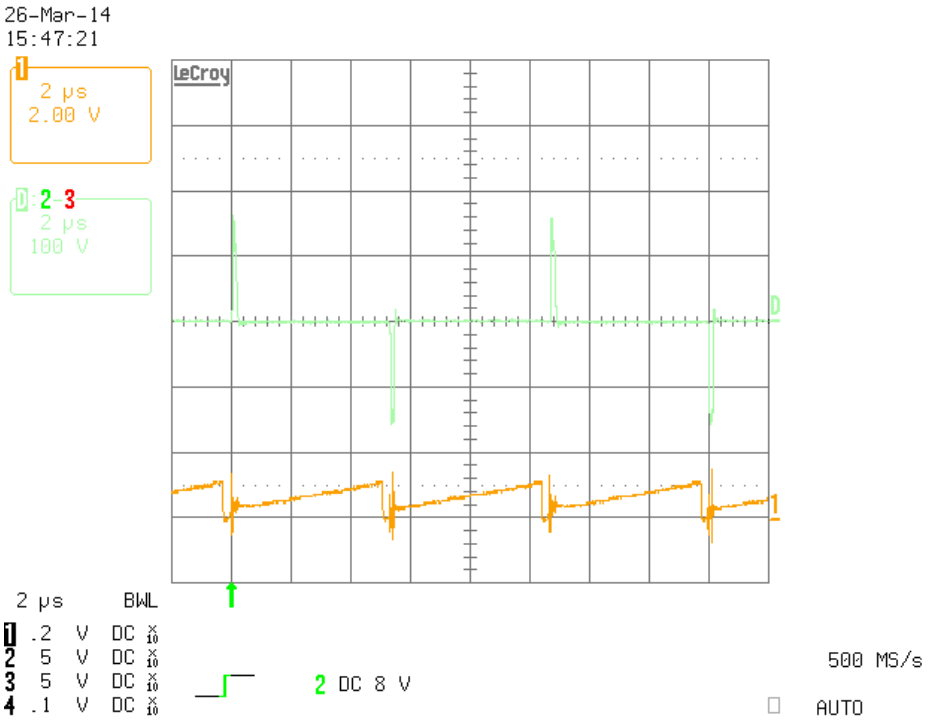
At 7.7amp load and 100Vdc in



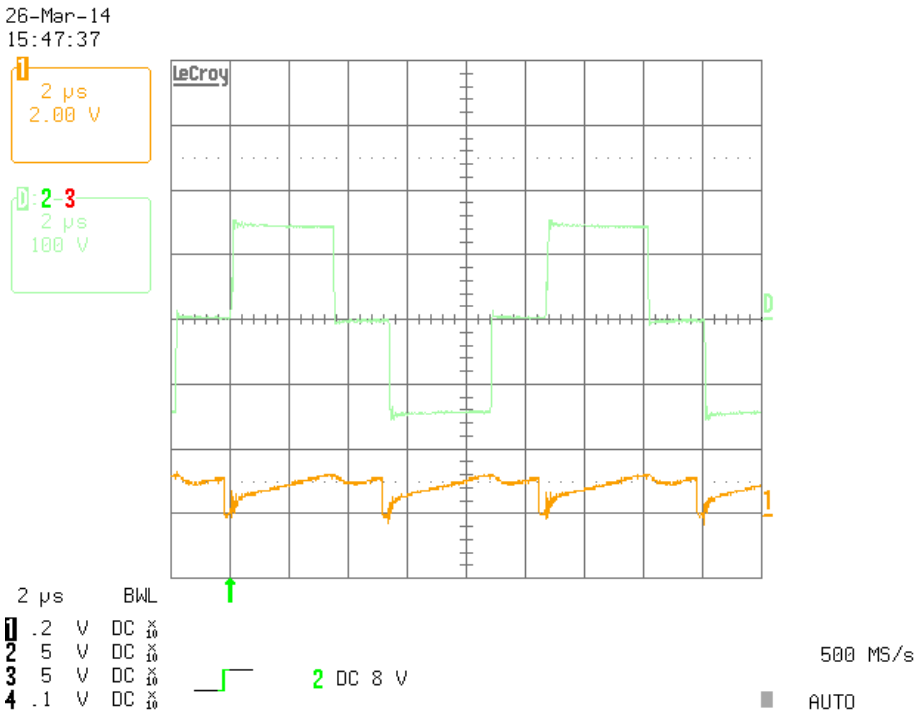
At 7.7 amp load and 180Vdc in



Voltage across the Tx and the current sense pin of the IC at full load

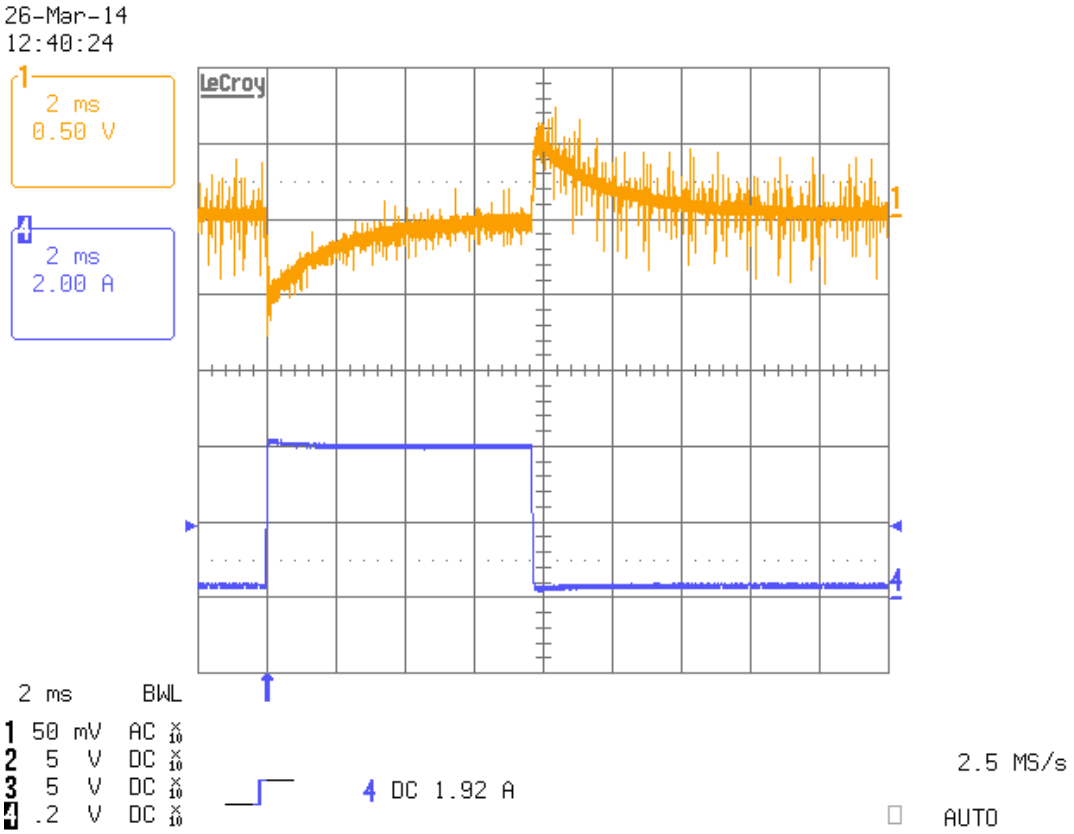


At no load


26-Mar-14
15:47:37
1
2 µs
2.00 V
D 2 3
2 µs
100 V
LeCroy
2 µs BWL
1 .2 V DC
2 5 V DC
3 5 V DC
4 .1 V DC
2 DC 8 V
500 MS/s
AUTO

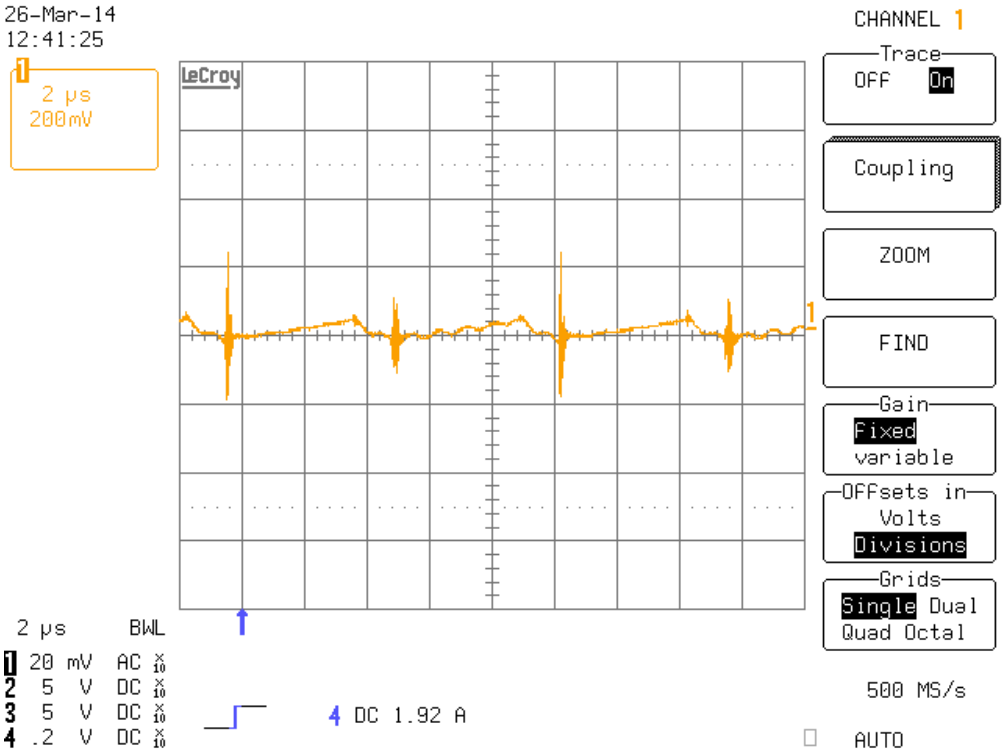
At half load

7 Constant voltage mode load step response



Blue is the load current step, orange is the output voltage response

8 Output ripple



At full load

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