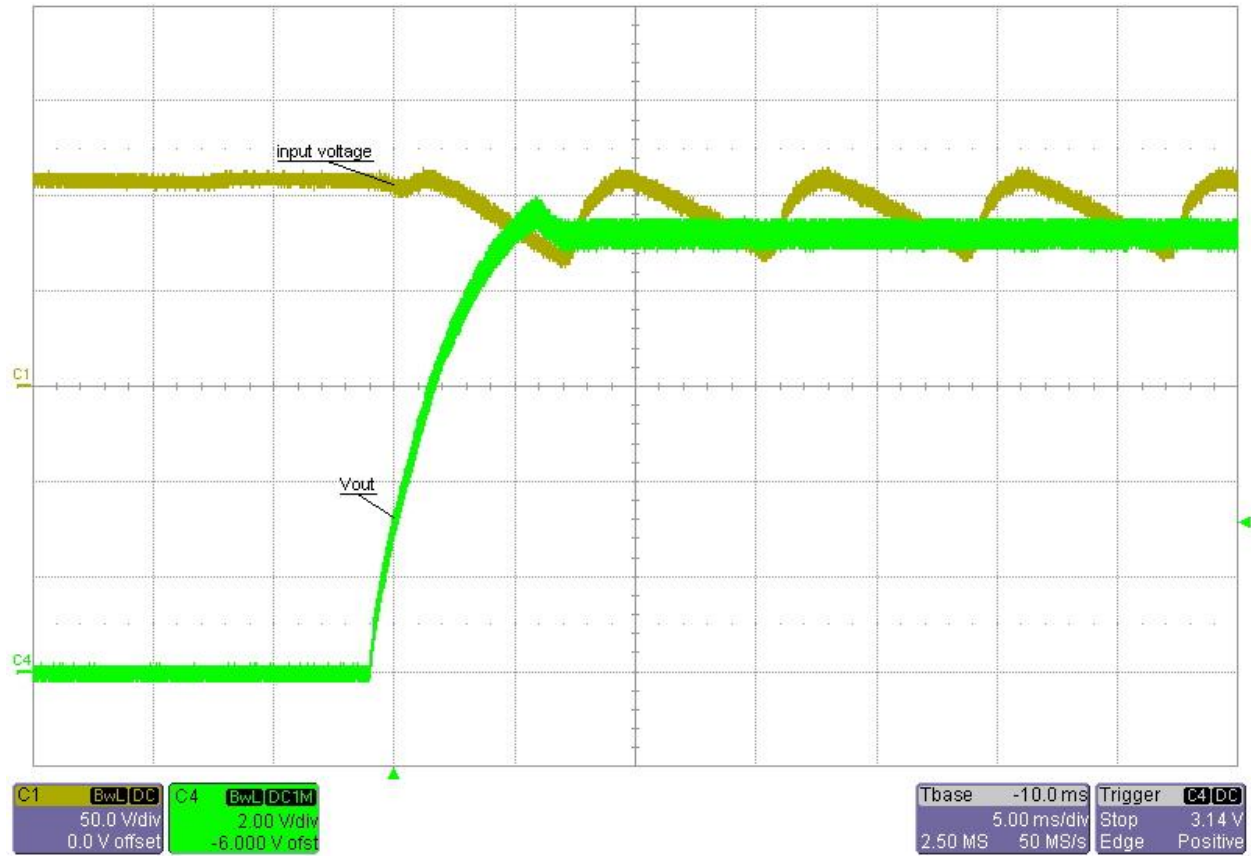


1 Startup

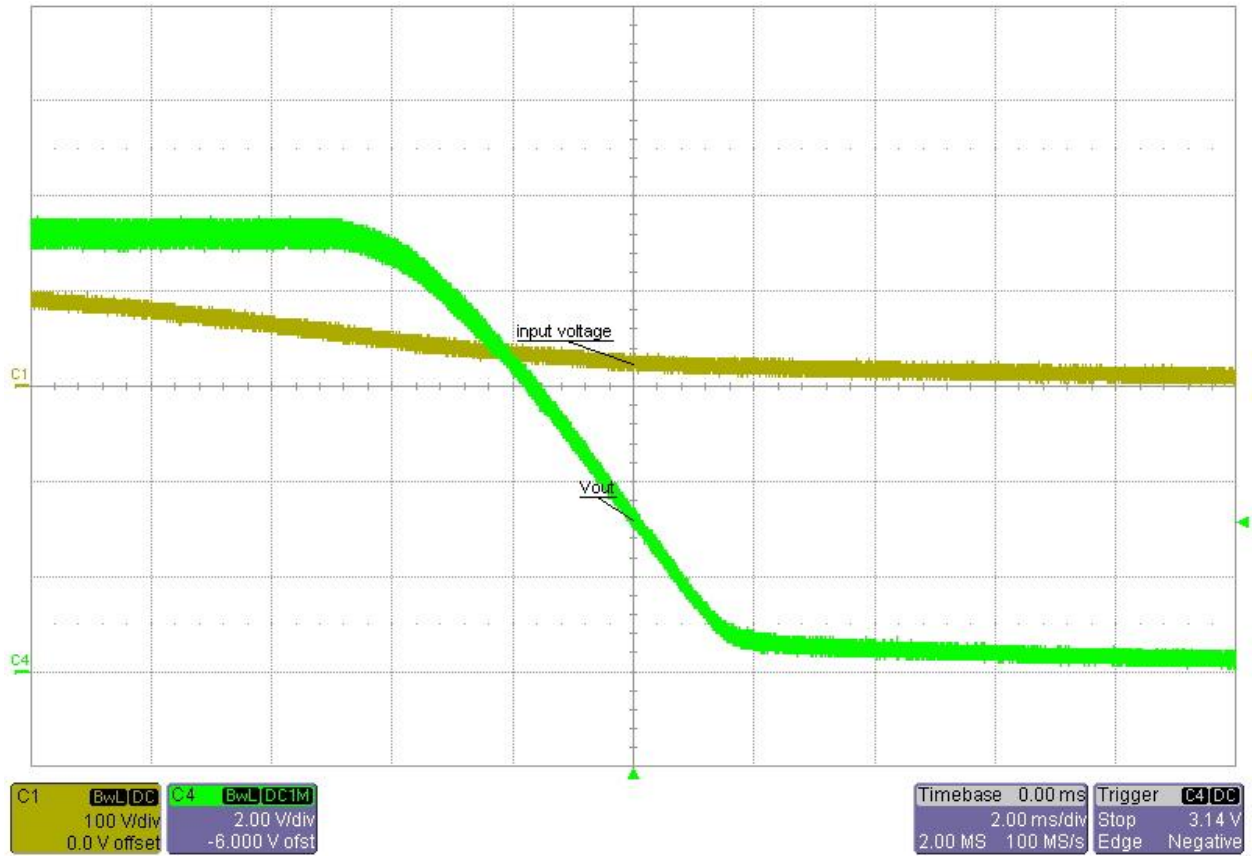
Input voltage = 80VAC
Load current = 4.22A



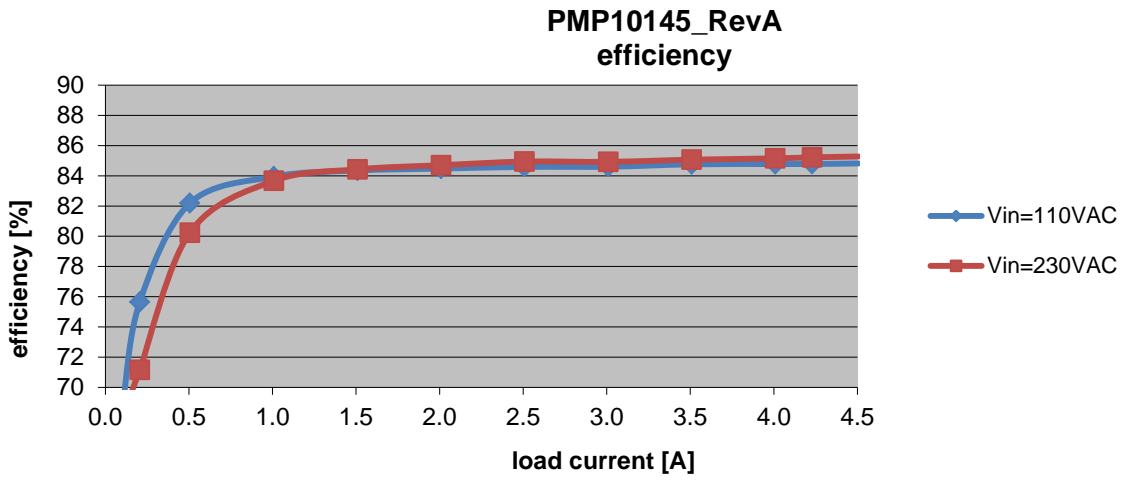
2 Shutdown

Input voltage = 230VAC

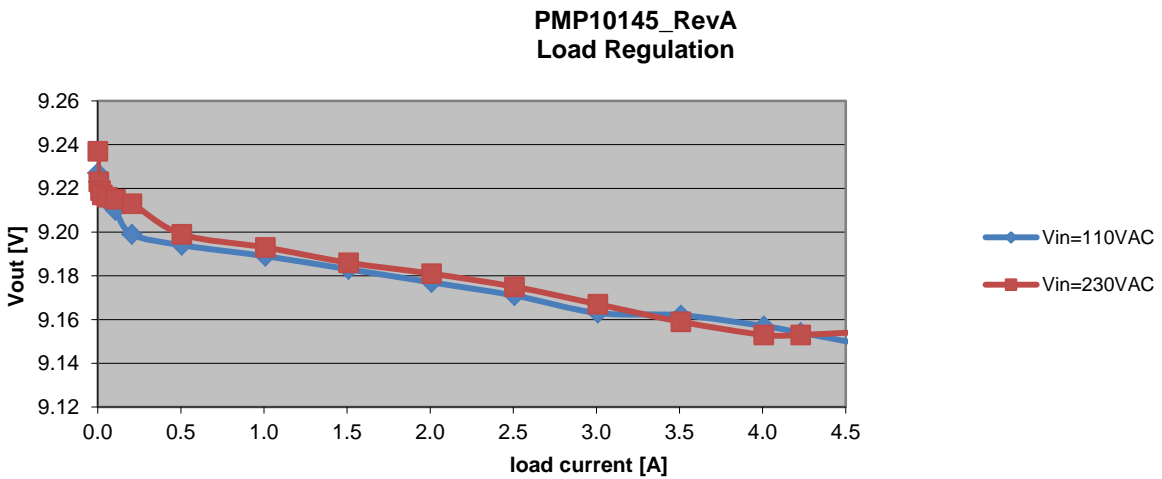
Load current = 4.22A



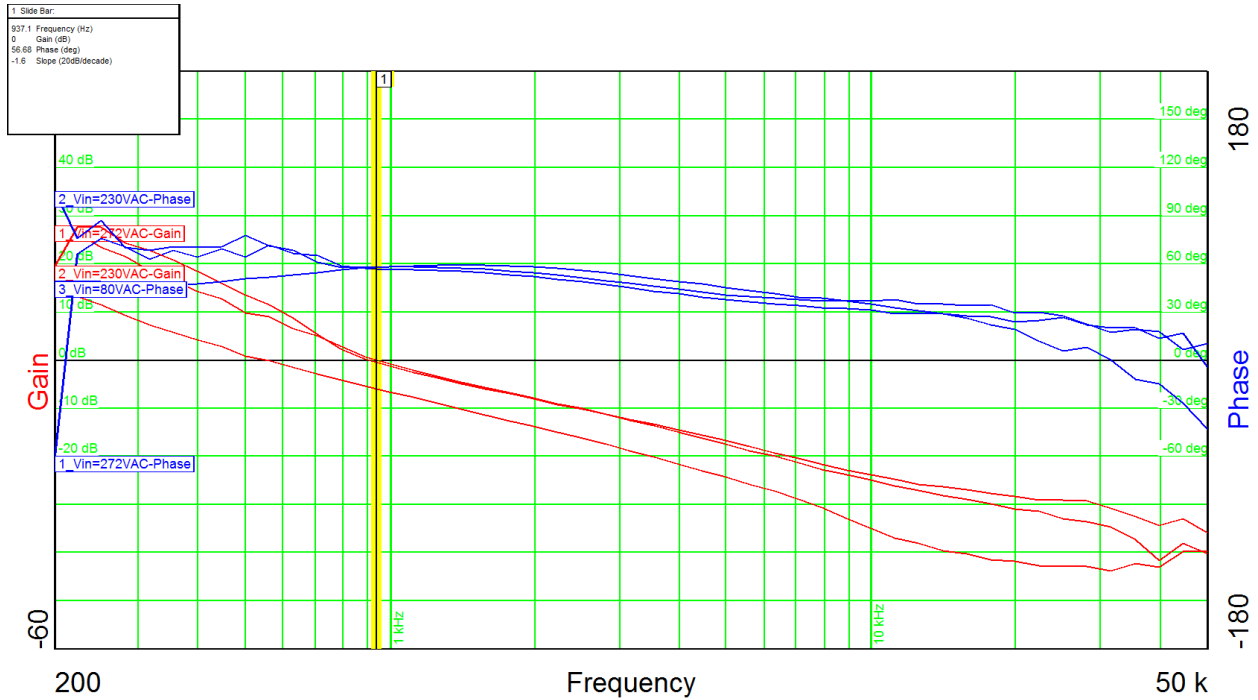
3 Efficiency



4 Load regulation



5 Control Loop Frequency Response



Load current = 4.22A
 Input voltage = 80VAC
 Phase margin = 52°
 Bandwidth = 0.55kHz

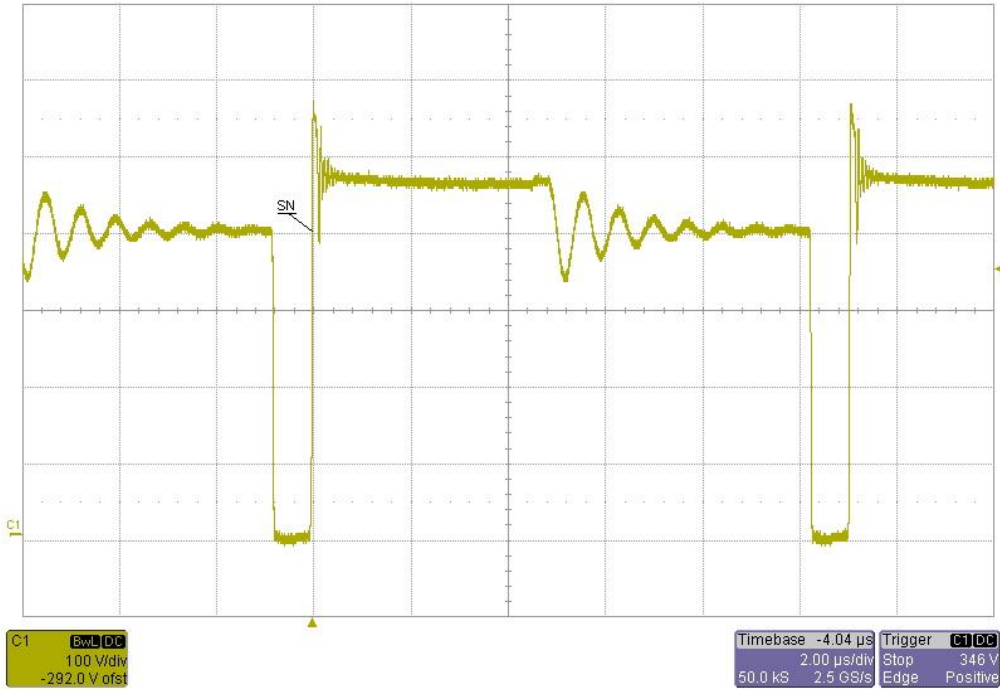
Load current = 4.22A
 Input voltage = 230VAC
 Phase margin = 58°
 Bandwidth = 0.91kHz

Load current = 4.22A
 Input voltage = 272VAC
 Phase margin = 57°
 Bandwidth = 0.94kHz

6 Switch Node

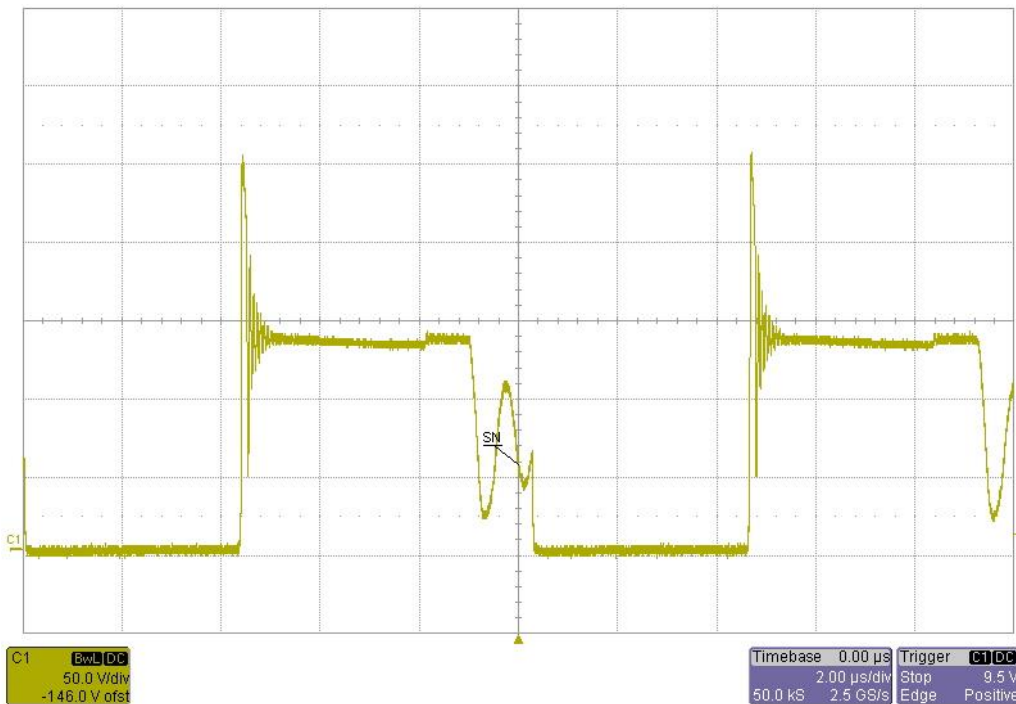
Input voltage = 411VDC

Load current = 4.22A



Input voltage = 80VAC

Load current = 4.22A



7 Output ripple voltage

Input voltage = 230VAC

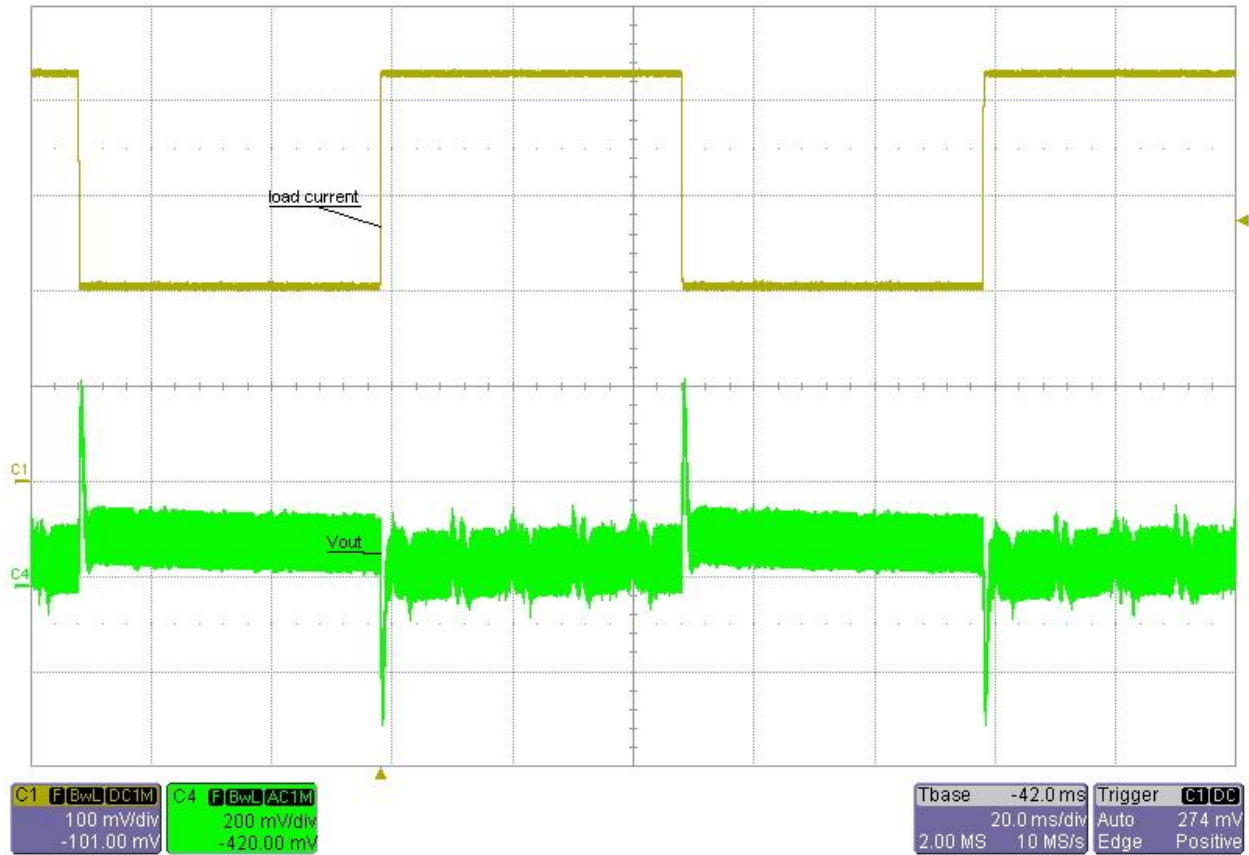
Load current = 4.22A



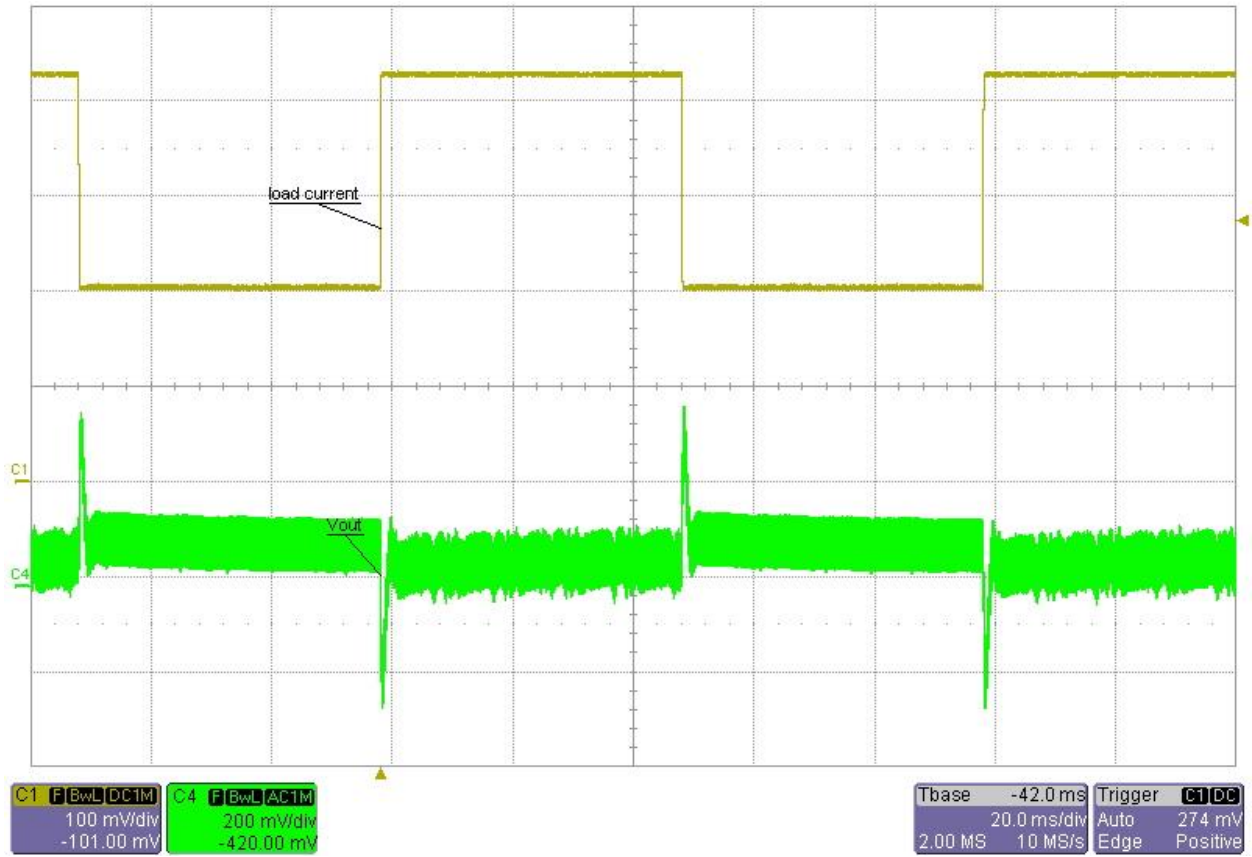
8 Load Transients

Input voltage = 230VAC

Load current = 2 to 4.3A



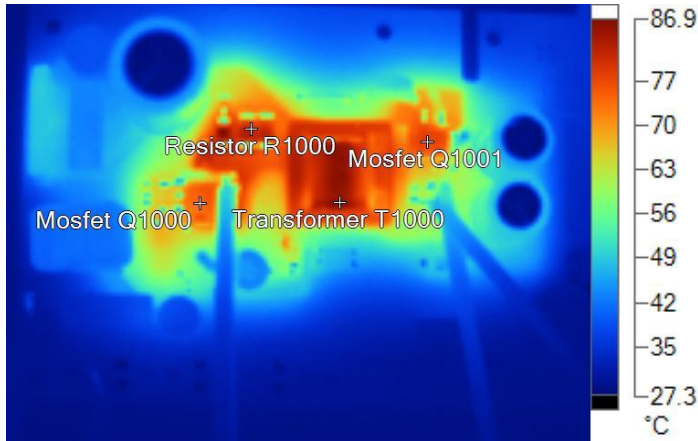
Input voltage = 85VAC
Load current = 2 to 4.3A



9 Thermal Analysis

The images below show the infrared images taken from the FlexCam after 15min at full load.

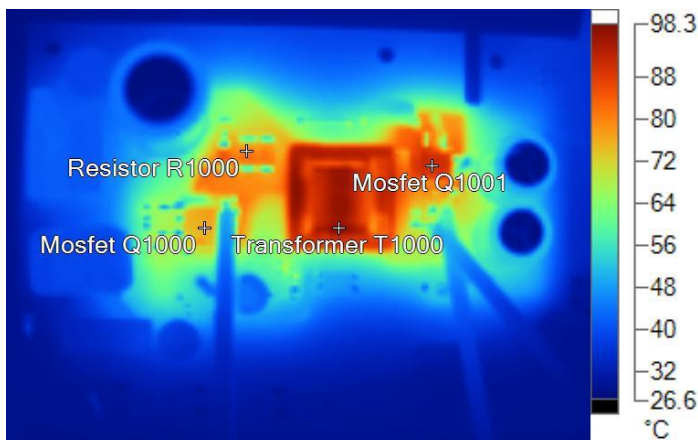
Input voltage = 110VAC
 Load current = 4.22A
 Ambient temperature = 25°C
 No heatsink, no airflow



Name	Temperature
Mosfet Q1001	77.1°C
Transformer T1000	86.7°C
Resistor R1000	81.1°C
Mosfet Q1000	74.6°C

IR20150515_0579 Vin=110VAC I=4.22A.is2

Input voltage = 230VAC
 Load current = 4.22A
 Ambient temperature = 25°C
 No heatsink, no airflow



Name	Temperature
Resistor R1000	81.4°C
Mosfet Q1000	75.8°C
Transformer T1000	98.3°C
Mosfet Q1001	90.4°C

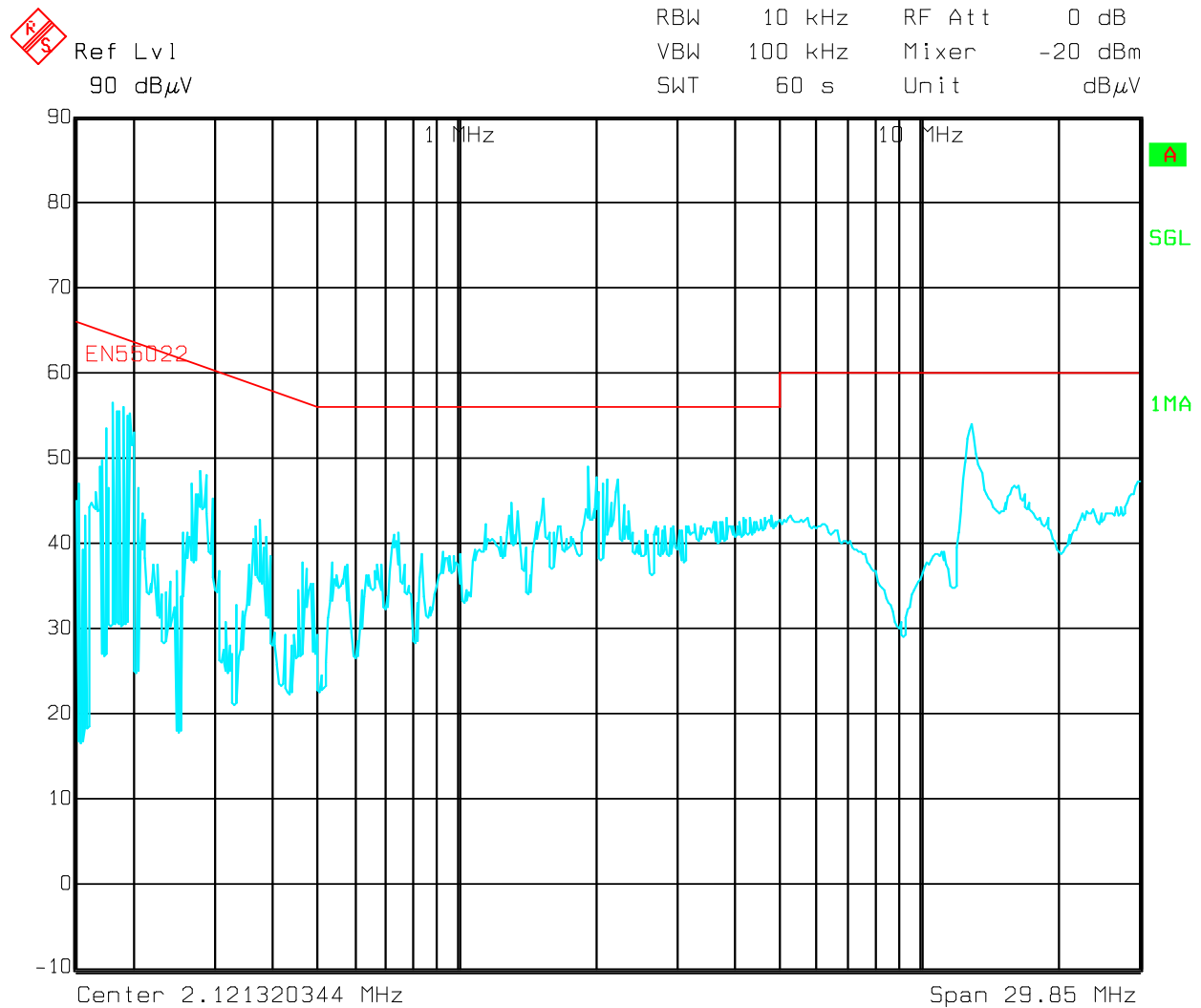
IR20150515_0580 Vin=230VAC I=4.22A.is2

10 EMI Measurement

The graph below shows the conducted emission EMI noise and the EN55022 Class-B Quasi-Peak limits (measurement from the worst case line). The load was connected to a LISN and an isolation transformer; the load was a power resistor (9V@4.22A). The receiver was set to Quasi-peak detector, 10 KHz bandwidth. The secondary side GND of the converter was connected to the ground of the LISN.

Input voltage = 110VAC

Load current = 4.22A



Date: 15.MAY.2015 12:15:11

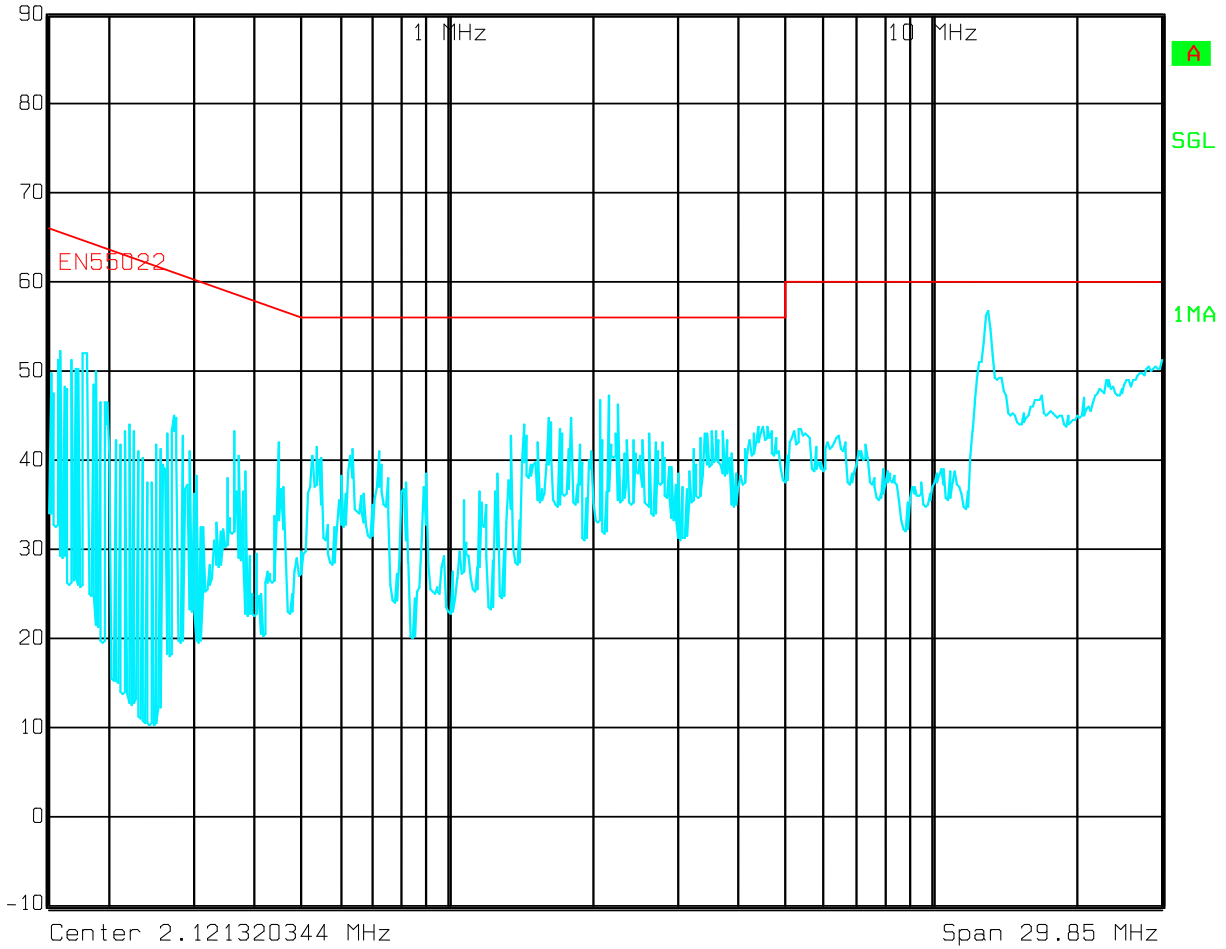
Input voltage = 230VAC

Load current = 4.22A



Ref Lvl
90 dB μ V

RBW	10 kHz	RF Att	0 dB
VBW	100 kHz	Mixer	-20 dBm
SWT	60 s	Unit	dB μ V



Date: 15.MAY.2015 12:12:09

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