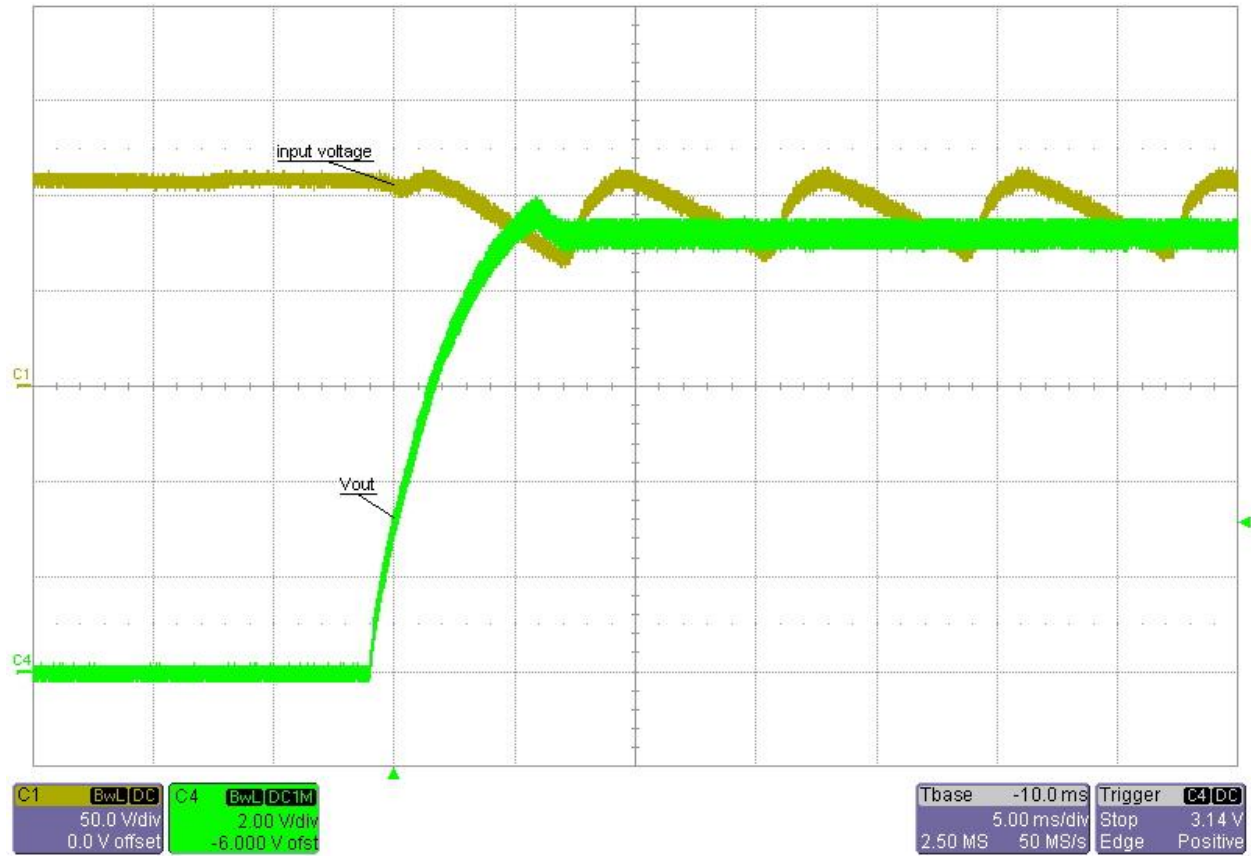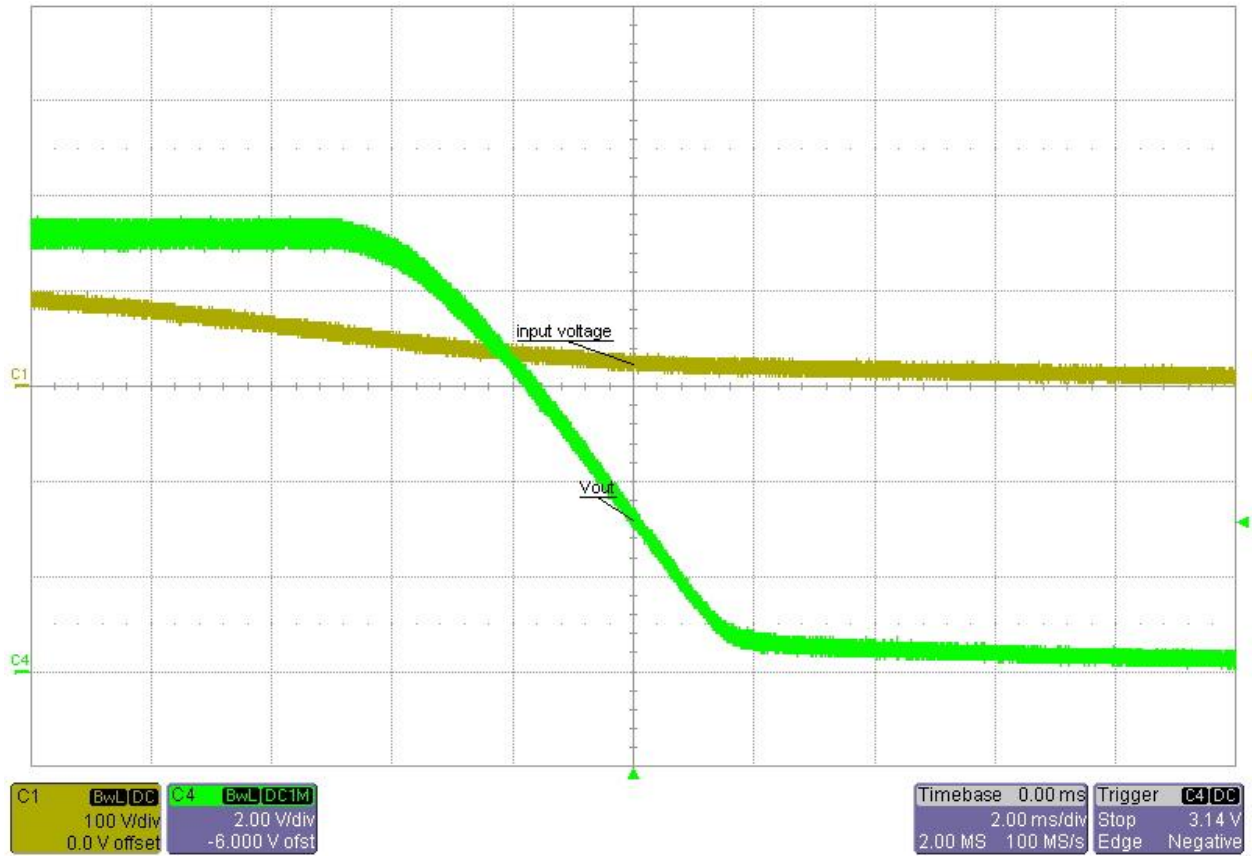# 1   Startup

Input voltage   = 80VAC
Load current   = 4.22A
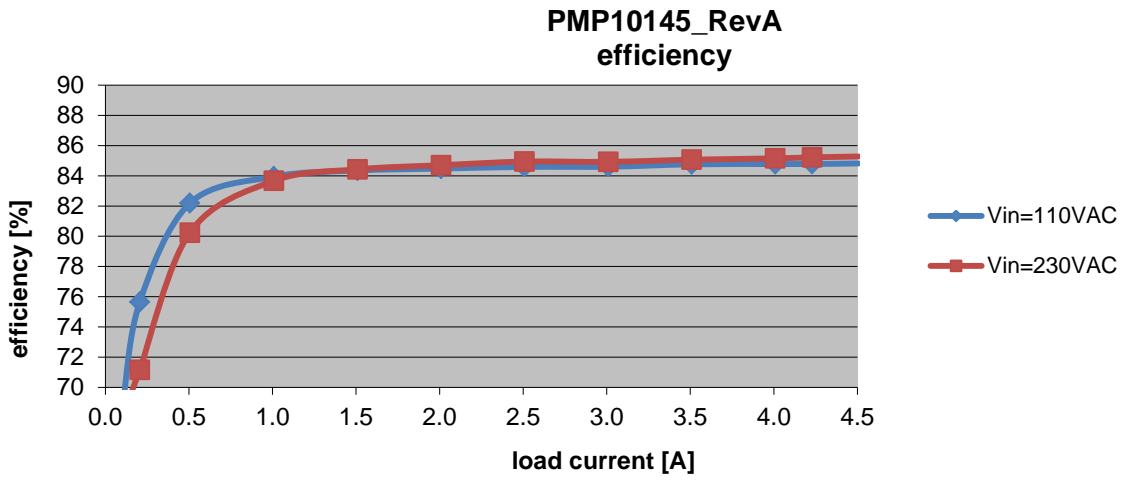
2 Shutdown

Input voltage = 230VAC
Load current   = 4.22A

3 Efficiency

PMP10145_RevA efficiency

4 Load regulation

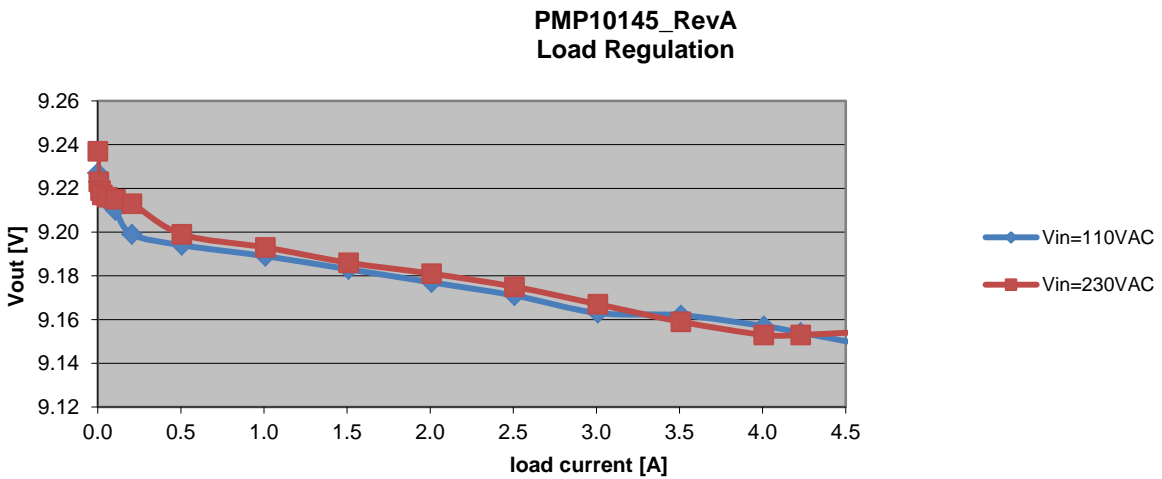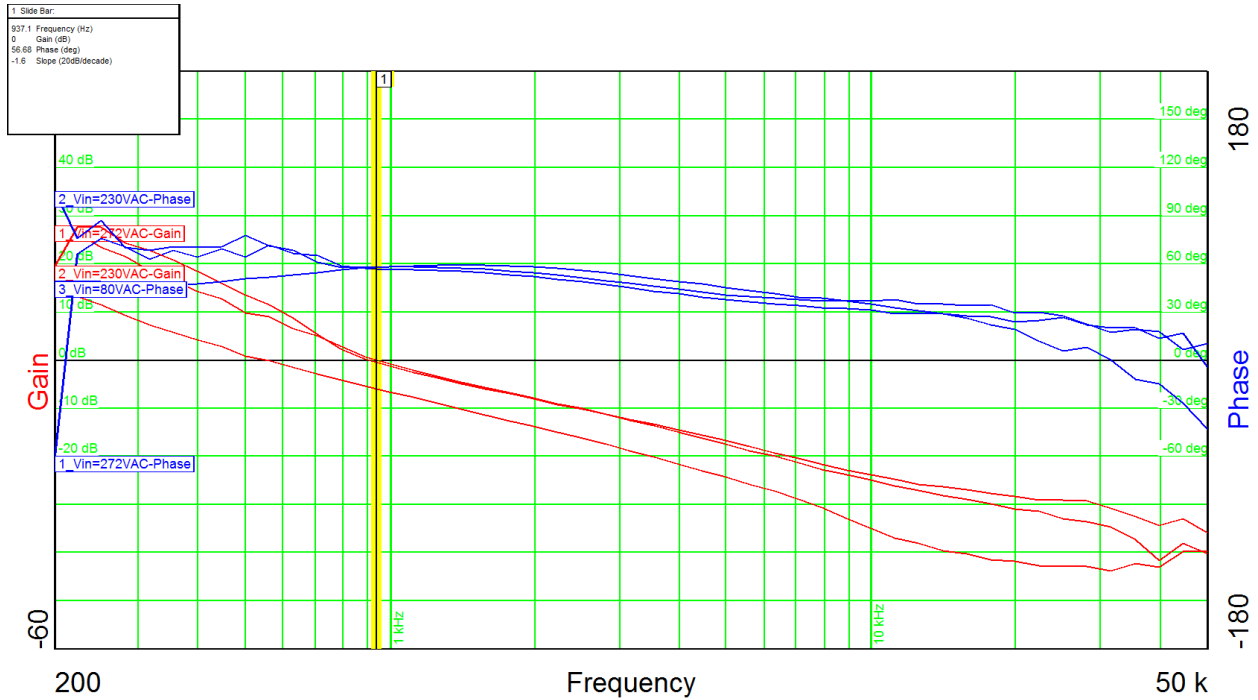**PMP10145_RevA Load Regulation**

5   Control Loop Frequency Response

Load current   = 4.22A
Input voltage   = 80VAC
Phase margin   = 52°
Bandwidth   = 0.55kHz
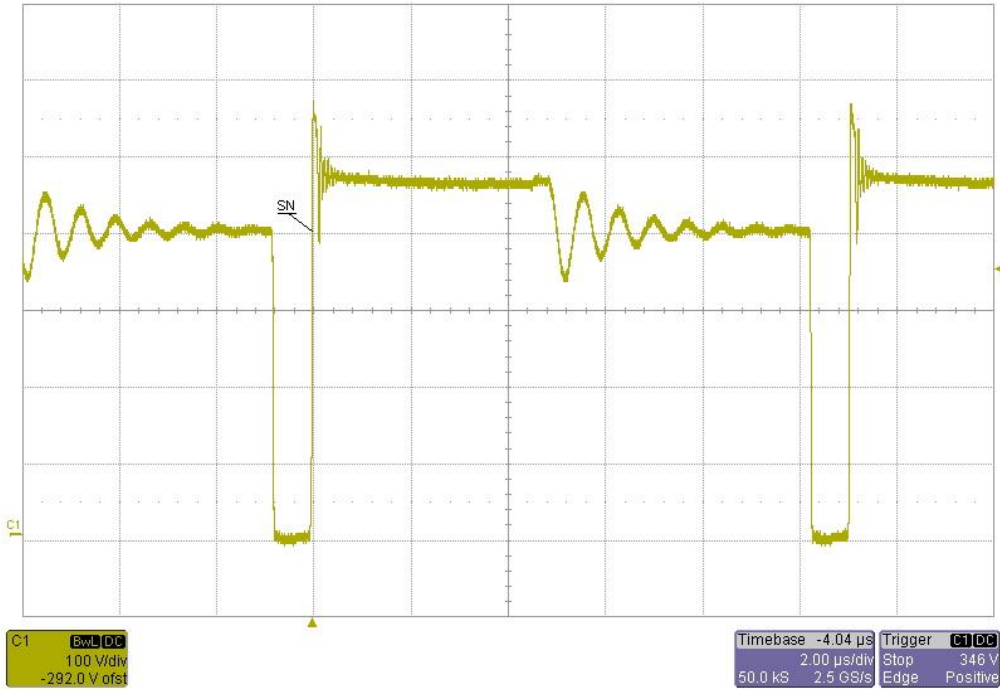
Load current   = 4.22A
Input voltage   = 230VAC
Phase margin   = 58°
Bandwidth   = 0.91kHz

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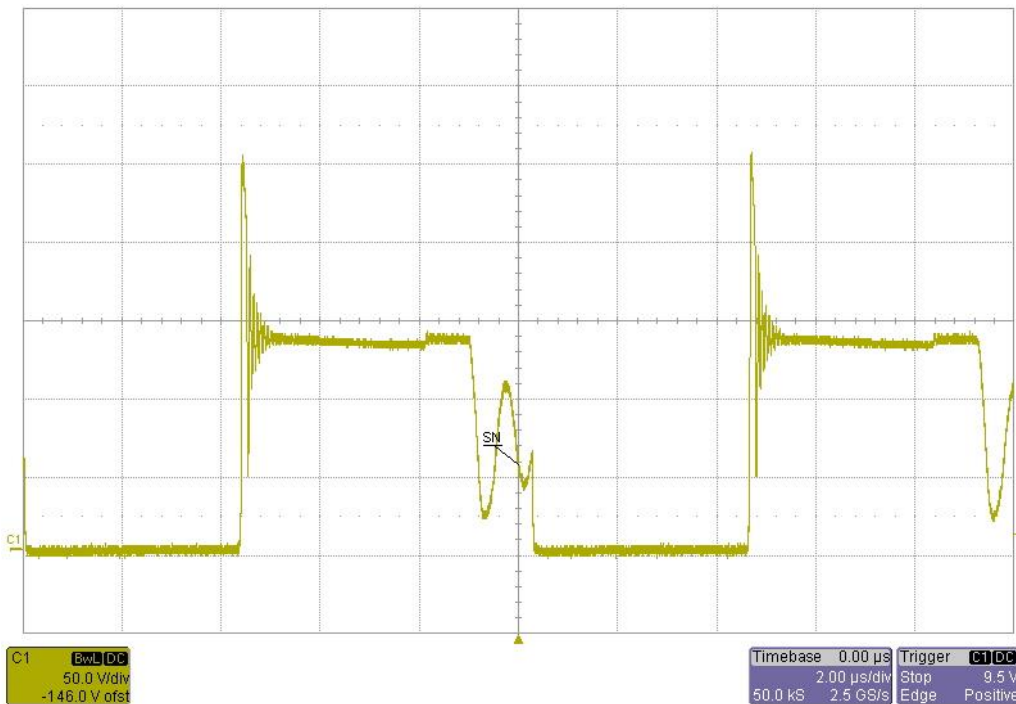
6 Switch Node

Input voltage = 411VDC
Load current = 4.22A

Input voltage = 80VAC
Load current = 4.22A

7 Output ripple voltage
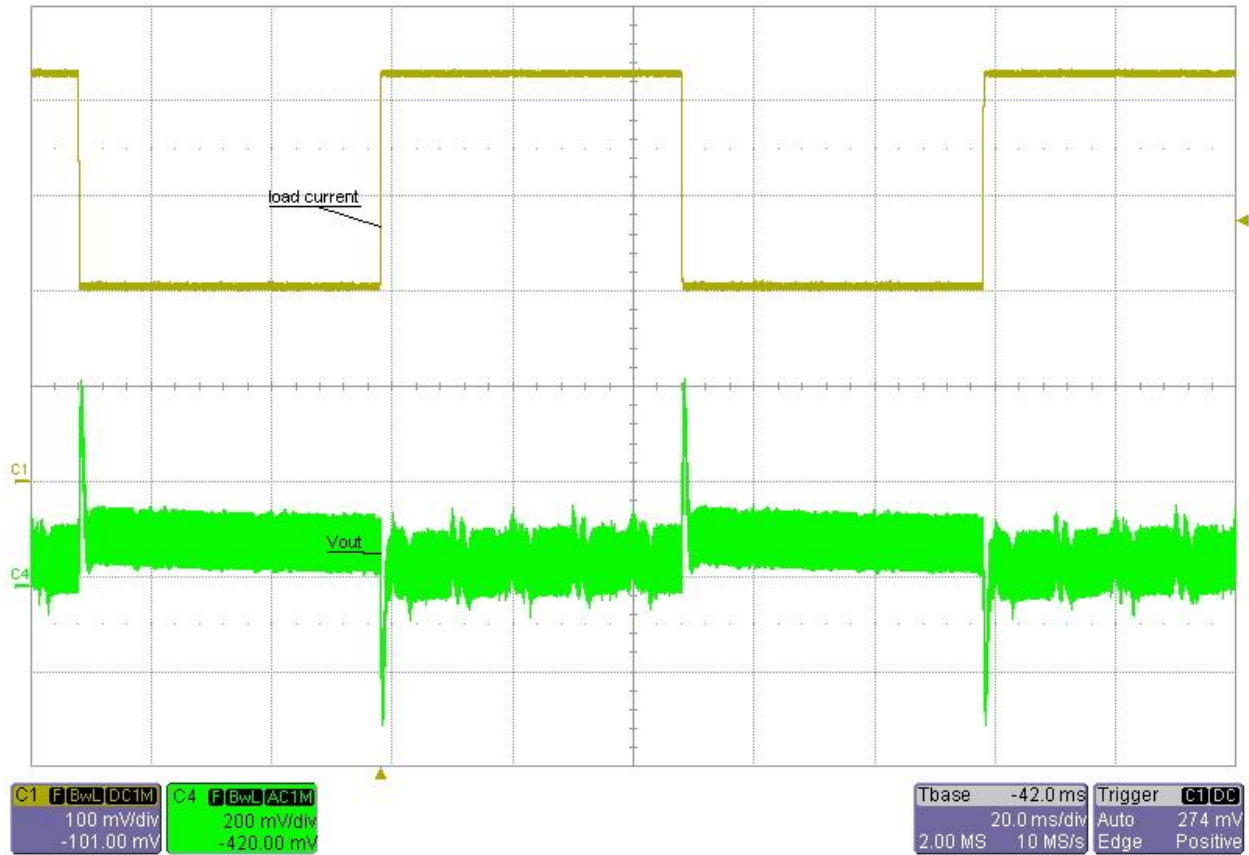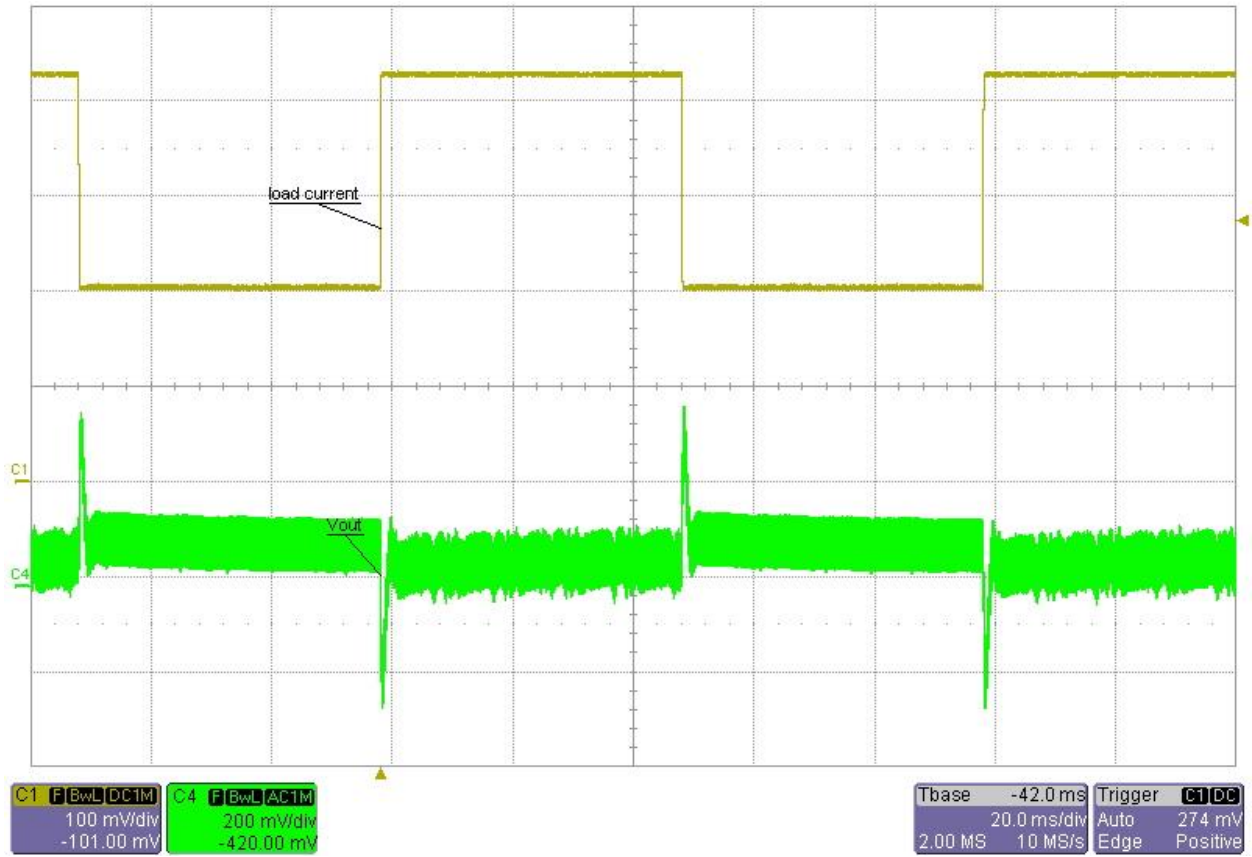
Input voltage   = 230VAC
Load current   = 4.22A

8   Load Transients

Input voltage   = 230VAC
Load current   = 2 to 4.3A

PMP10145_RevA Test Results

TEXAS INSTRUMENTS

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

Power Management Solutions

TEXAS
INSTRUMENTS

9   Thermal Analysis

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

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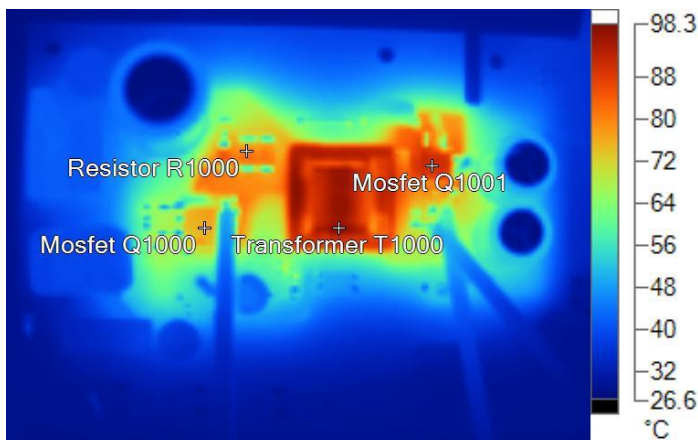Load current   = 4.22A
Ambient temperature = 25°C
No heatsink, no airflow

IR20150515_0579 Vin=110VAC I=4.22A.is2
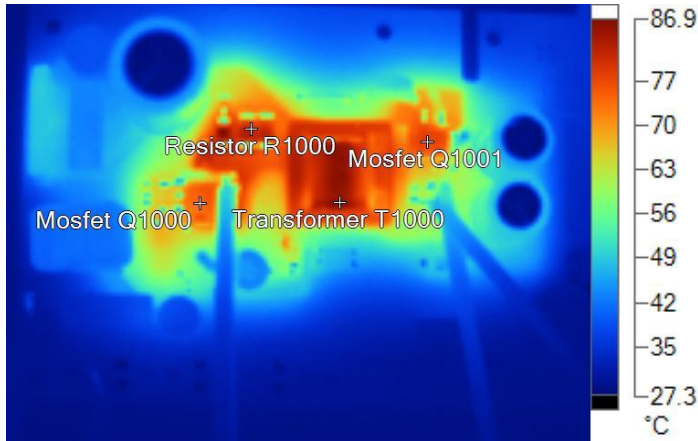
Name	Temperature	
Mosfet Q1001	77.1°C	
Transformer T1000	86.7°C	
Resistor R1000	81.1°C	
Mosfet Q1000	74.6°C	

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

IR20150515_0580 Vin=230VAC I=4.22A.is2

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

Power Management Solutions
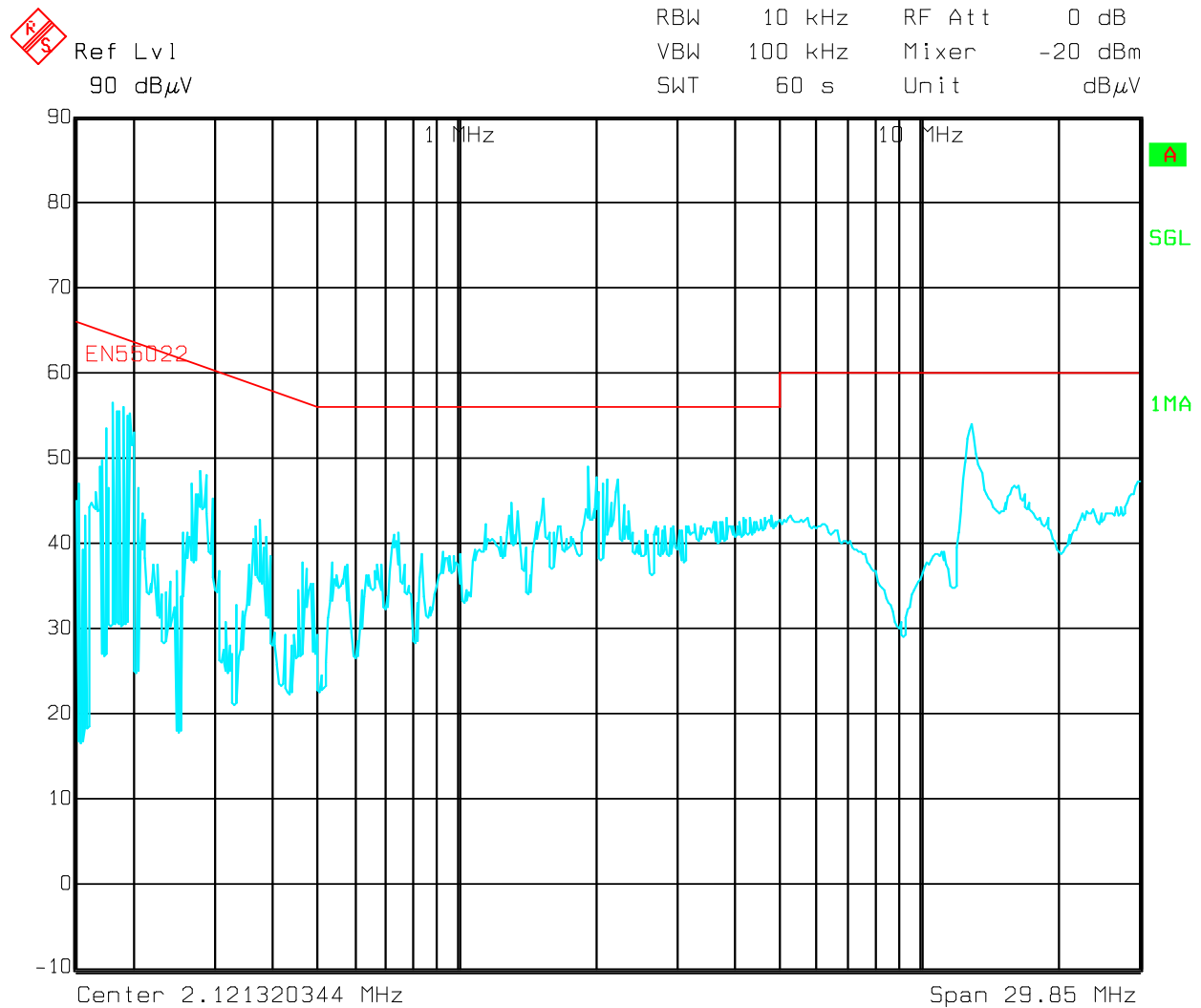
10 EMI Measurement

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.
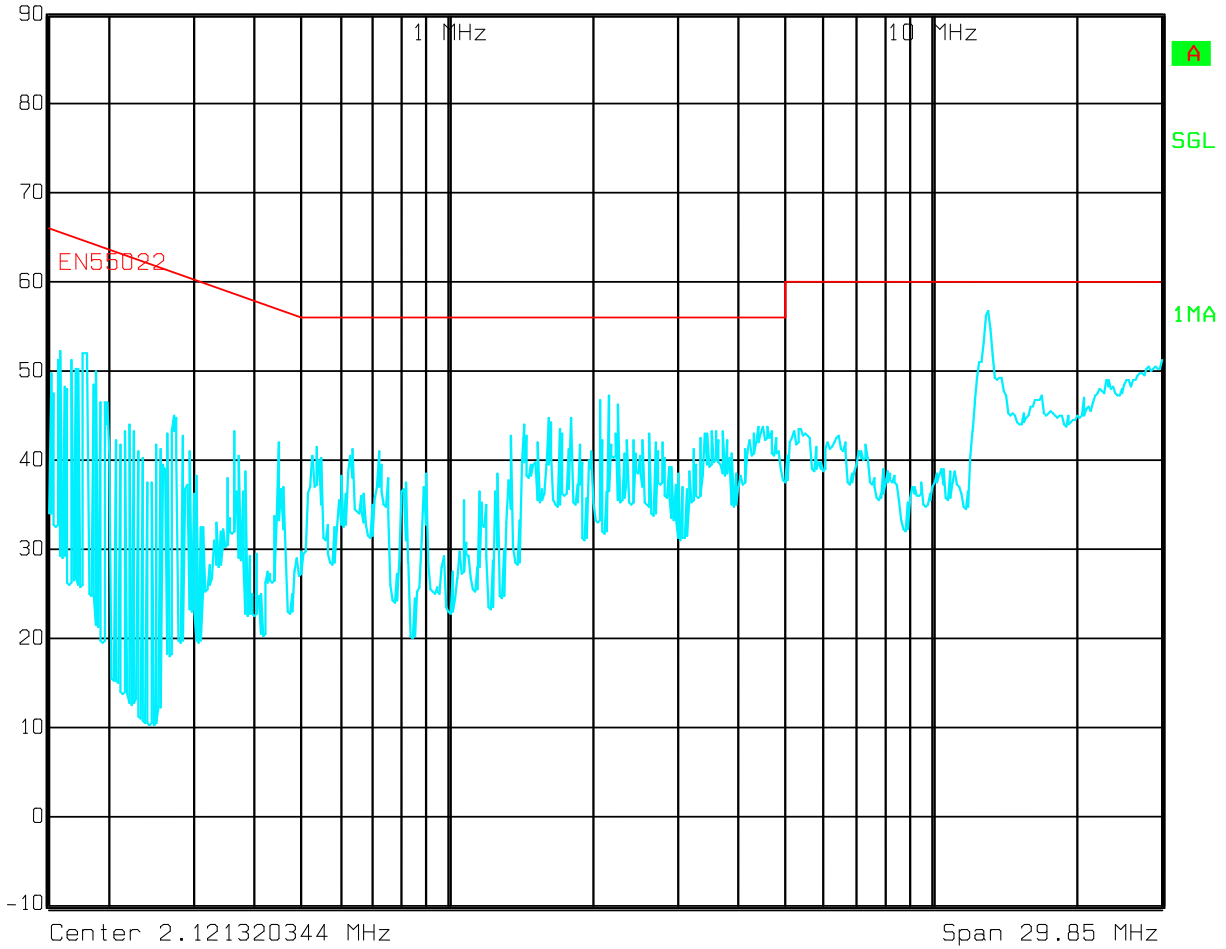
Input voltage = 110VAC
Load current = 4.22A

Input voltage = 230VAC
Load current = 4.22A

	RBW	10 kHz	RF Att	0 dB
Ref Lvl	VBW	100 kHz	Mixer	-20 dBm
90 dBμV	SWT	60 s	Unit	dBμV

Center 2.121320344 MHz   Span 29.85 MHz

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

IMPORTANT NOTICE AND DISCLAIMER