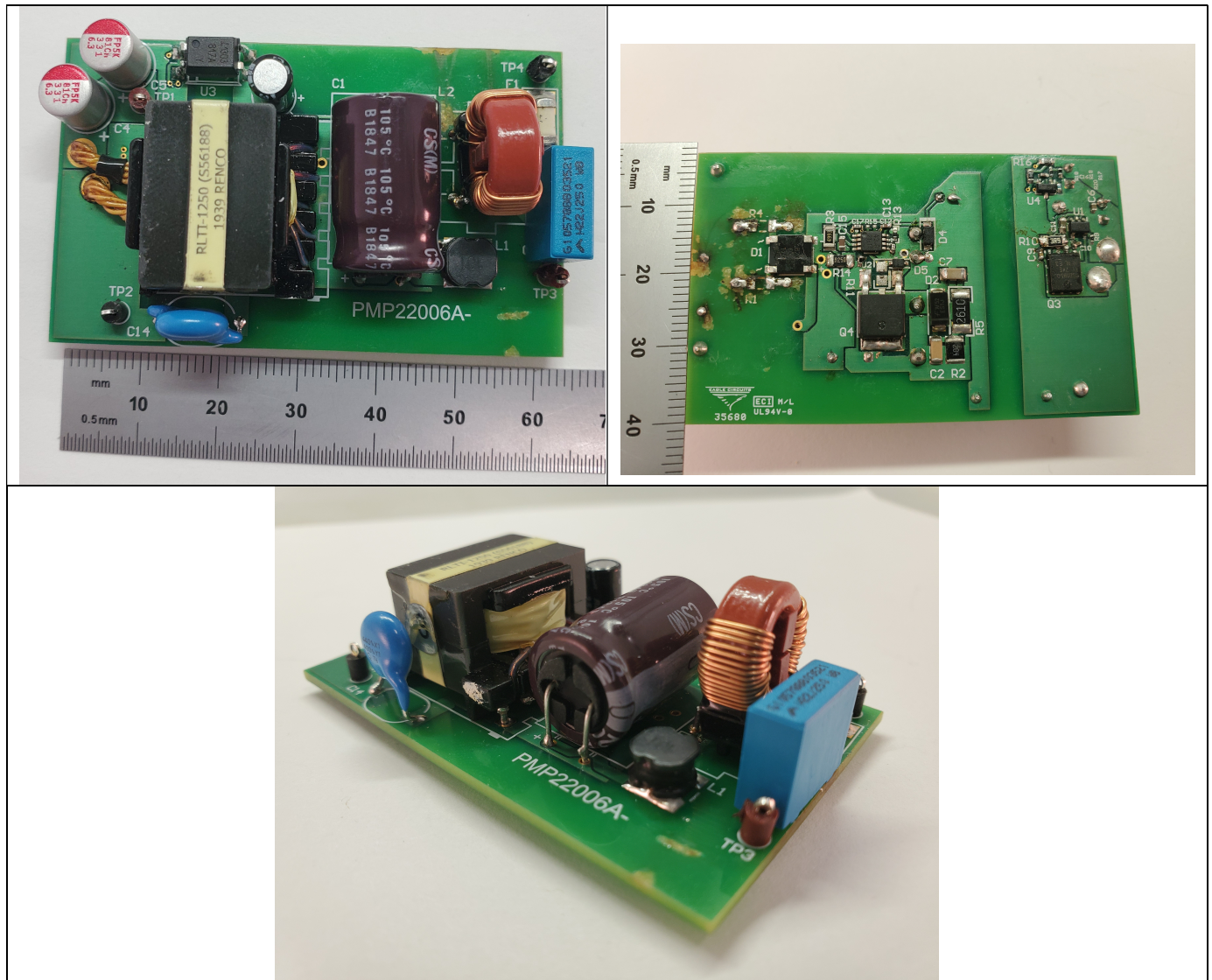


# Test Report: PMP22006 100-VAC-130-VAC Input, 5-Vout, 6-A CCM Flyback Reference Design



## Description

The PMP22006 is an isolated continuous conduction mode (CCM) flyback design that outputs 5 V at 6 A. The input is US line only (100 VAC-130 VAC).



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## 1 Test Prerequisites

### 1.1 Voltage and Current Requirements

**Table 1. Voltage and Current Requirements**

PARAMETER	SPECIFICATIONS
Input Voltage Range	100VAC-132VAC
Switching Frequency	125kHz
Output Voltage/Current	5V/6A

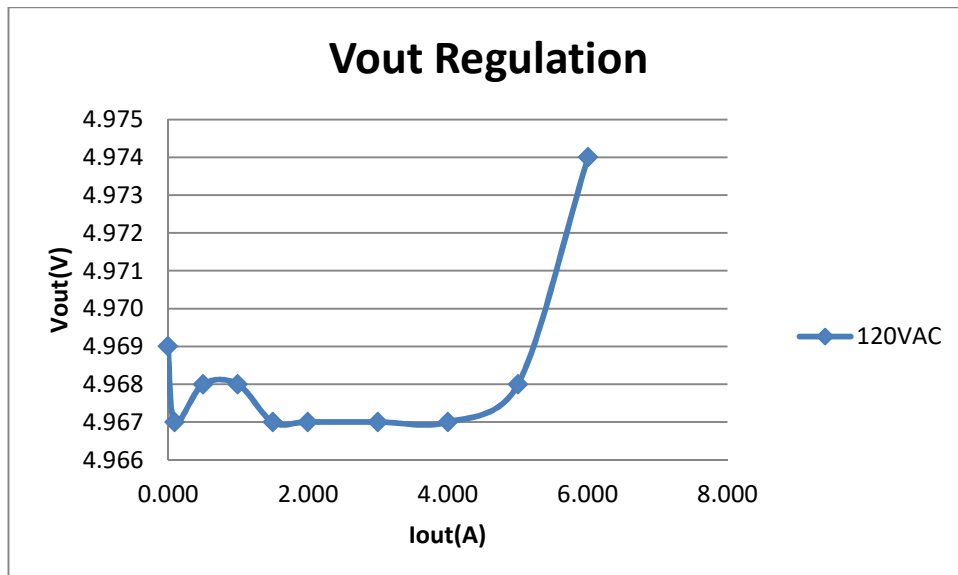
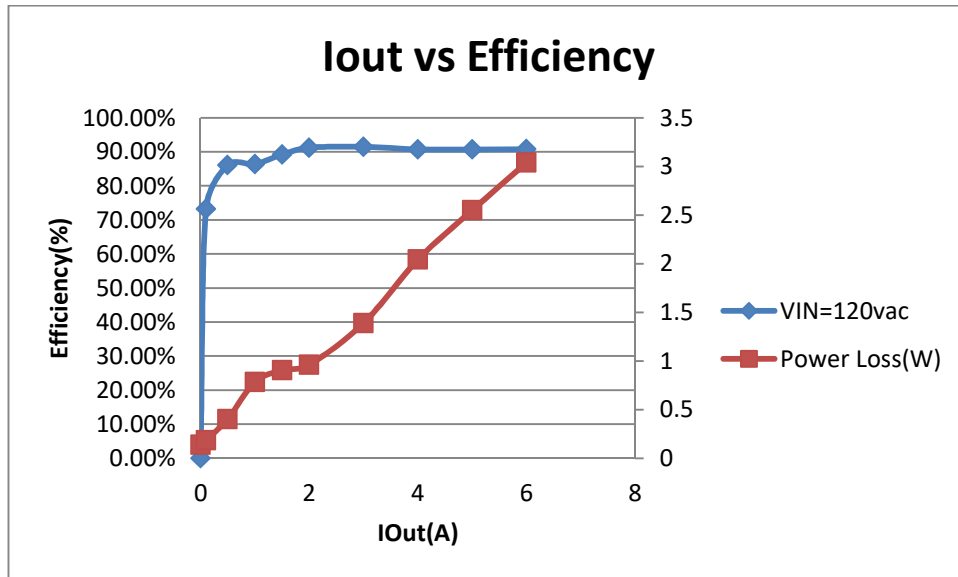
### 1.2 Required Equipment\*

- AC voltage source
- Electronic load
- Multi-meters
- Oscilloscope

## 2 Testing and Results

### 2.1 Efficiency and Voltage Regulation

#### 2.1.1 5V output



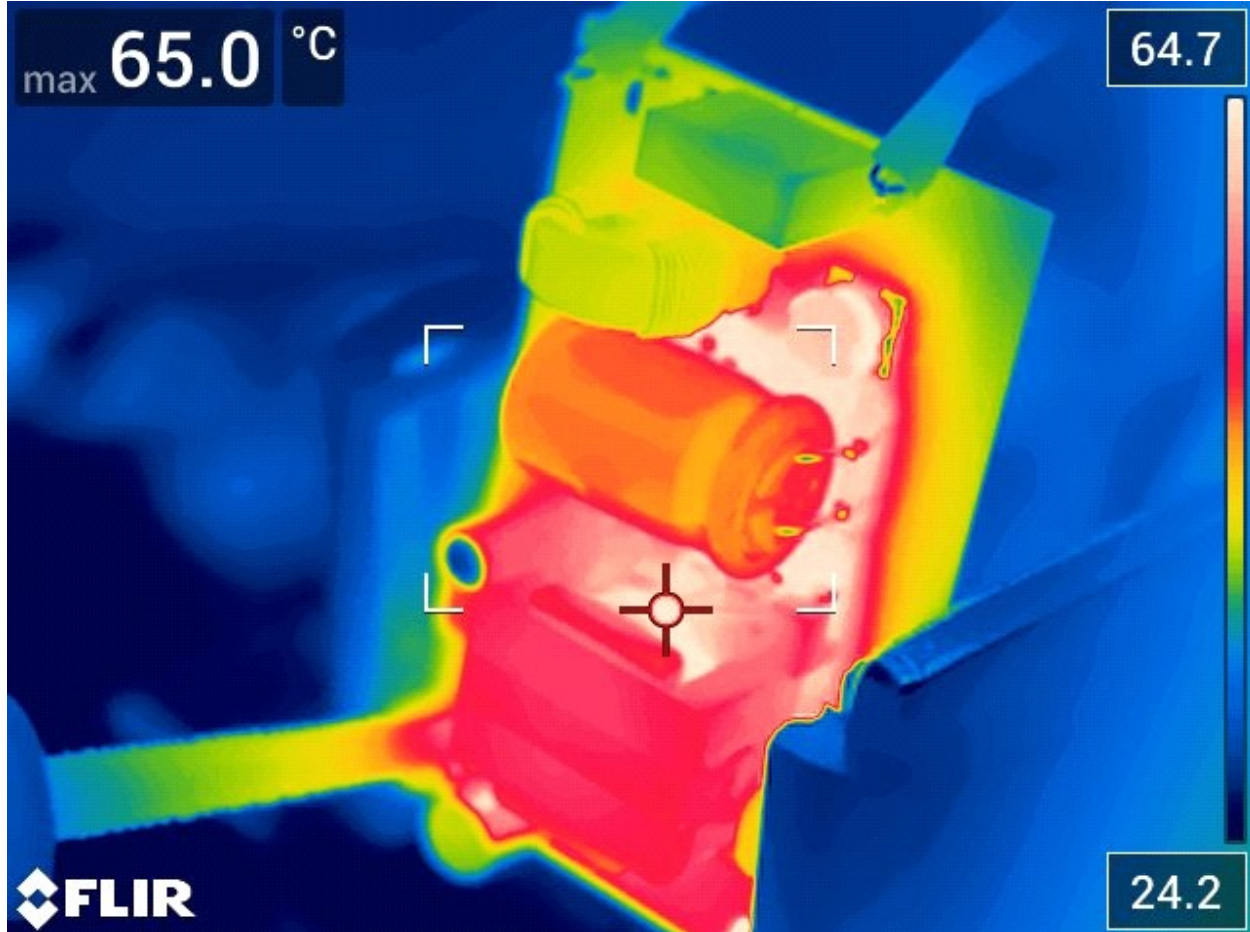
VIN(V)	Iin(A)	Pin(W)	VOUT(V)	Iout(A)	Pout(W)	EFF(%)	Ploss(W)
120	0.028	0.154	4.969	0.000	0.000	0.000	0.154
120	0.034	0.750	4.967	0.099	0.492	0.656	0.258
120	0.080	3.180	4.968	0.503	2.499	0.786	0.681
120	0.129	5.795	4.968	1.000	4.968	0.857	0.827
120	0.175	8.520	4.967	1.500	7.451	0.874	1.070
120	0.217	11.162	4.967	2.003	9.949	0.891	1.213
120	0.293	16.400	4.967	3.003	14.916	0.910	1.484
120	0.372	22.060	4.967	4.003	19.883	0.901	2.177
120	0.445	27.560	4.968	5.006	24.870	0.902	2.690
120	0.515	33.000	4.974	6.008	29.884	0.906	3.116



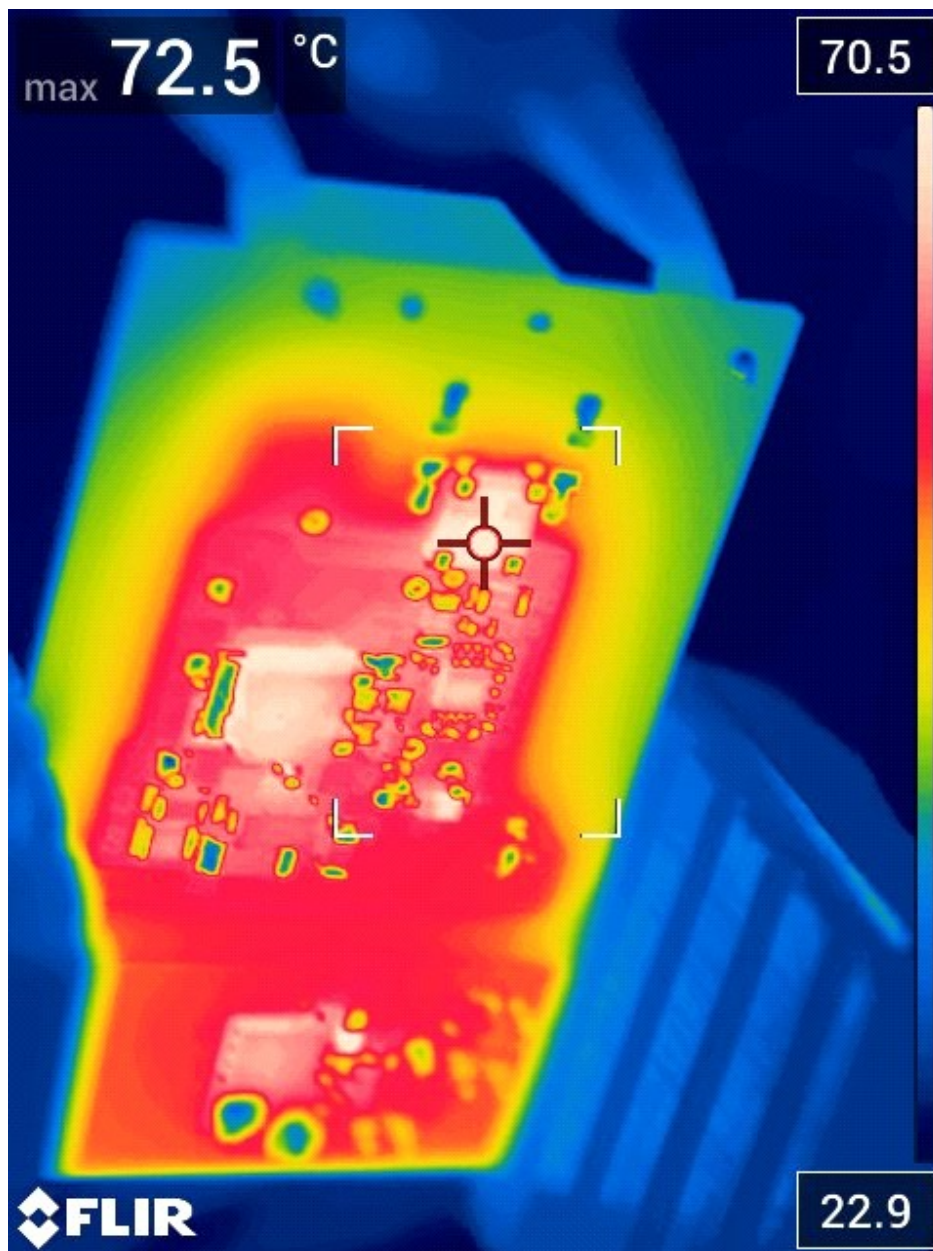
## 2.2 Thermal Images

All images were taken after a 10 minute soak and at 25C. These were taken open frame and not in any case

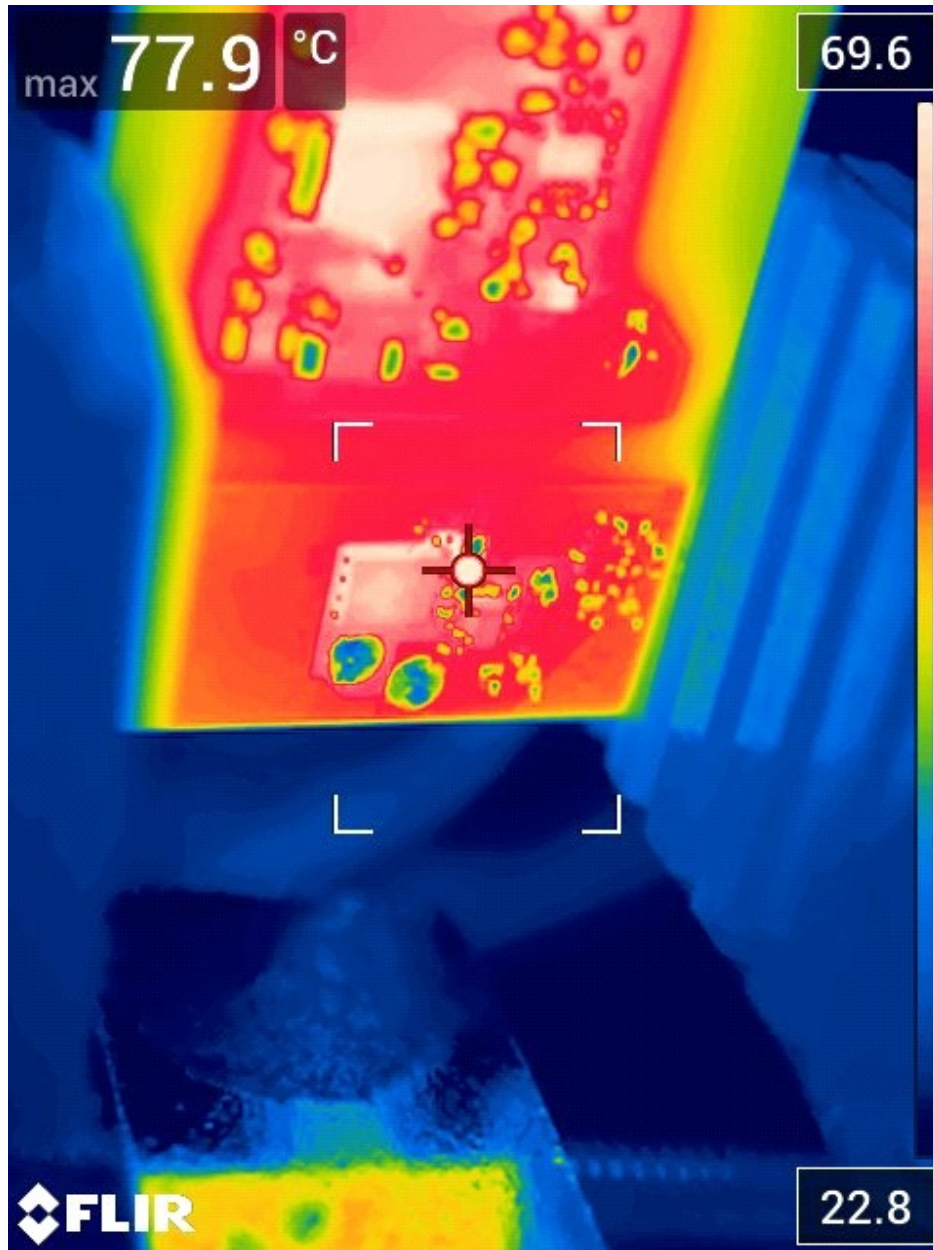
### 2.2.1 120Vac; 5Vout; 6A out



Transformer core: 65C



Diode Bridge: 72.5C

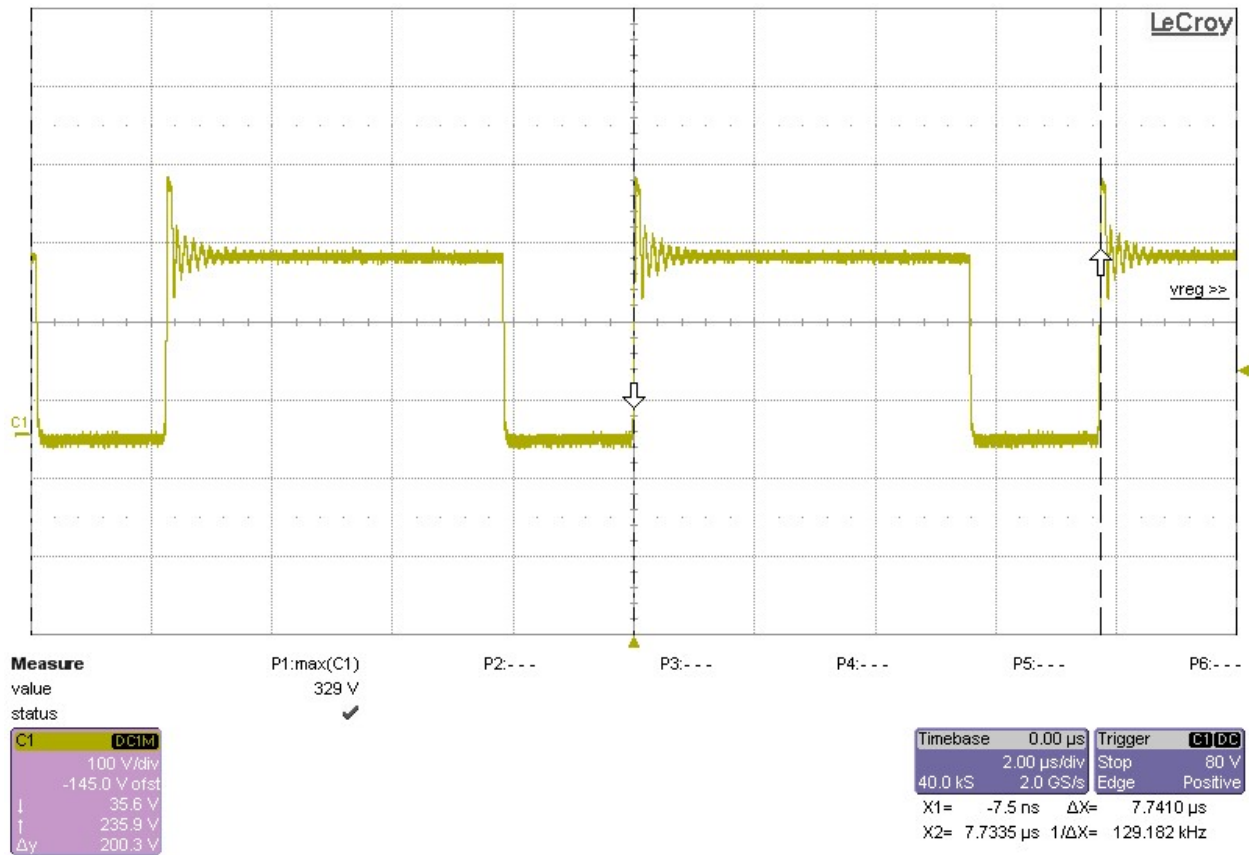


Secondary FET and snubber: 77.9C

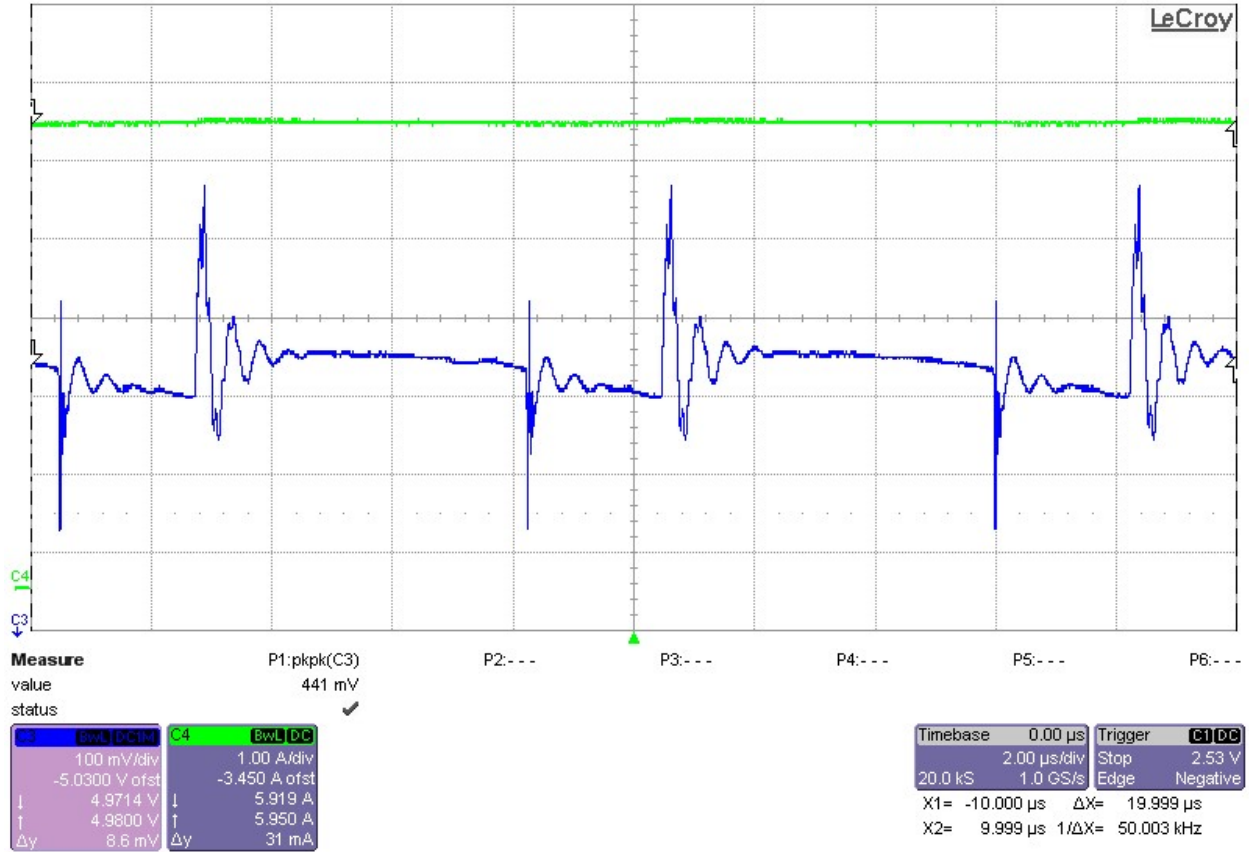


## 2.3 Switching Waveforms

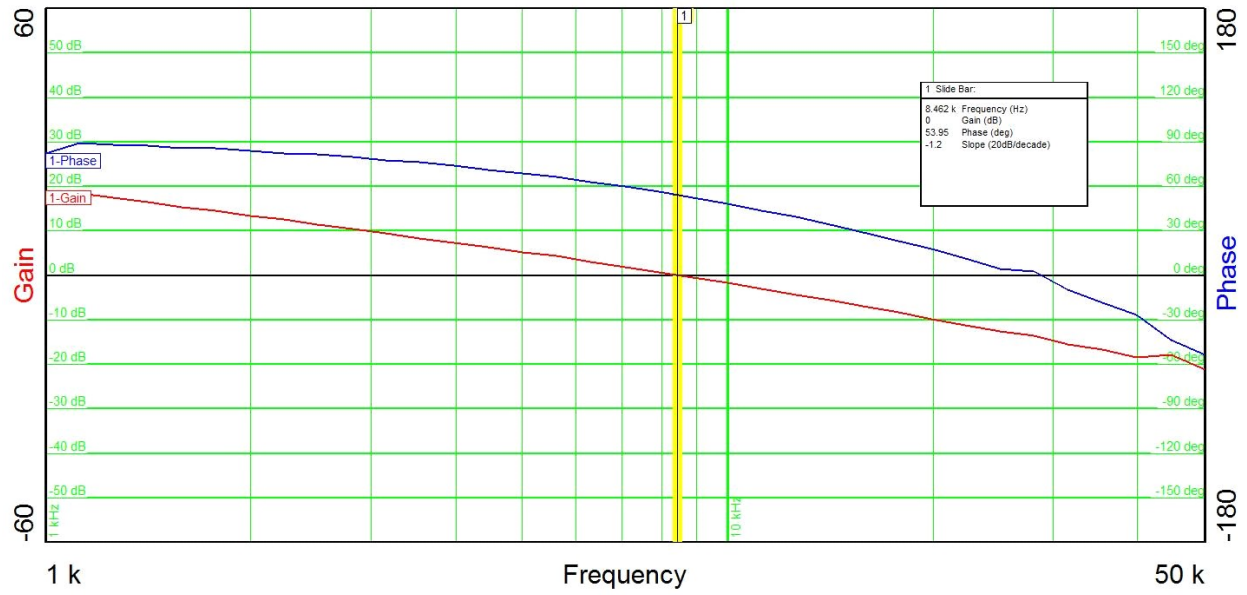
### 2.3.1 120Vac; 5Vout; 6A out; fsw=129kHz



## 2.4 Output voltage ripple

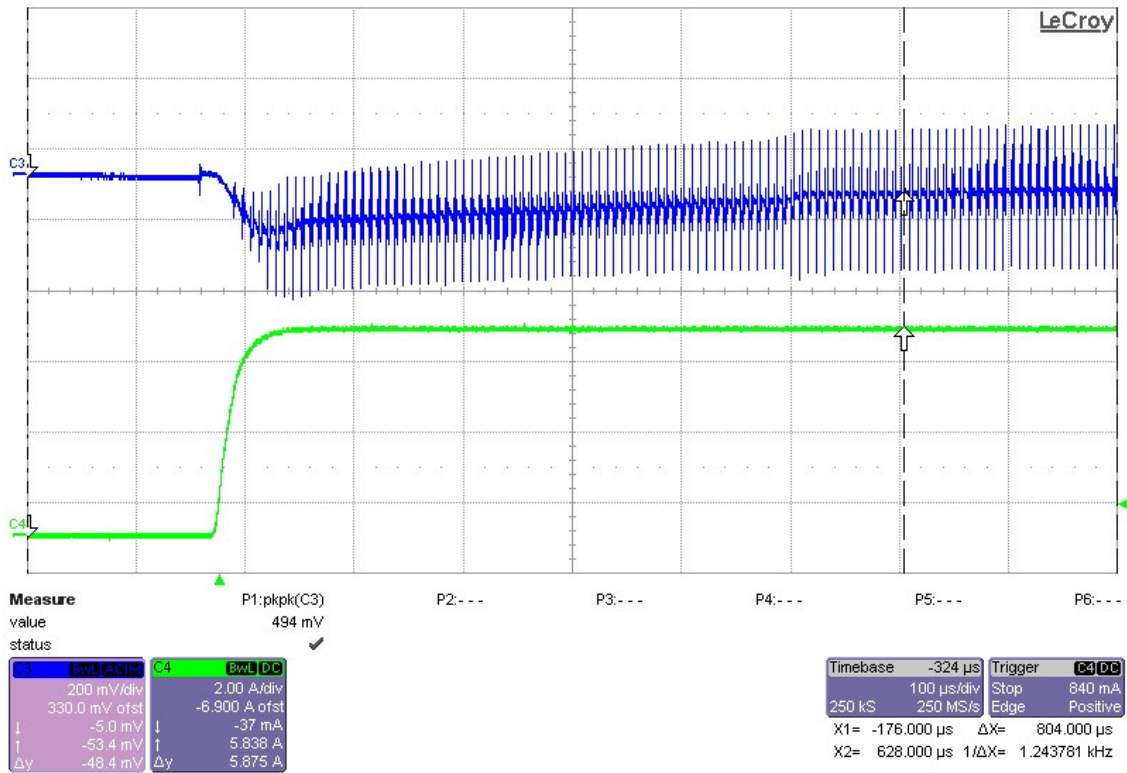


## 2.5 Bode Plot

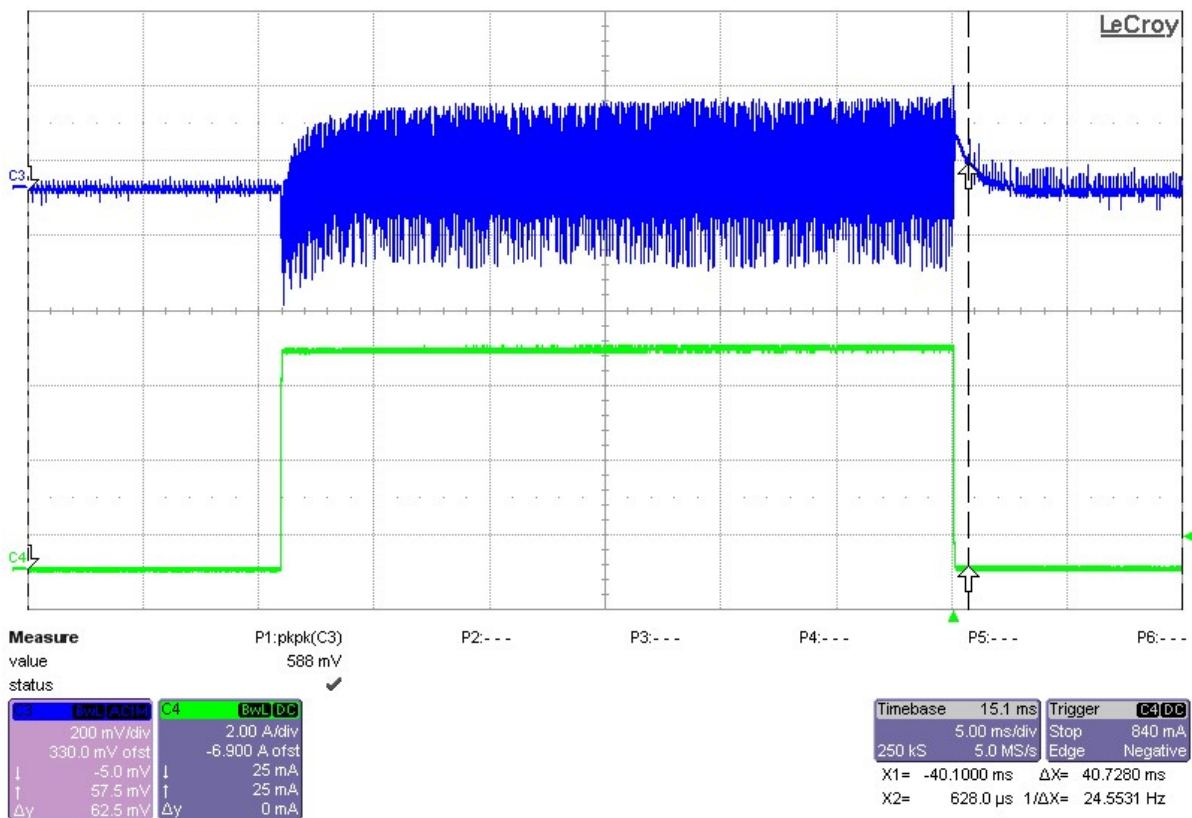
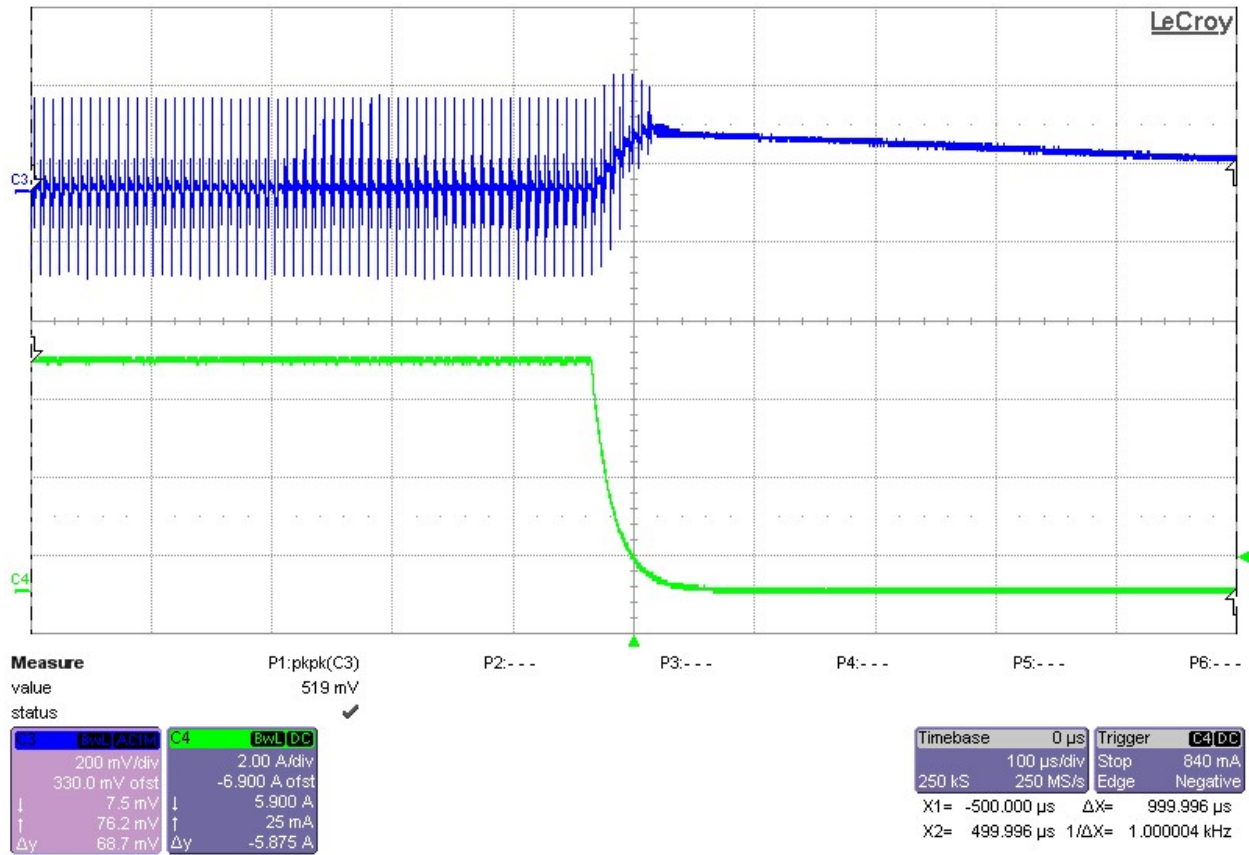


## 2.6 load transients

### 2.6.1 5V output, 0A-6A

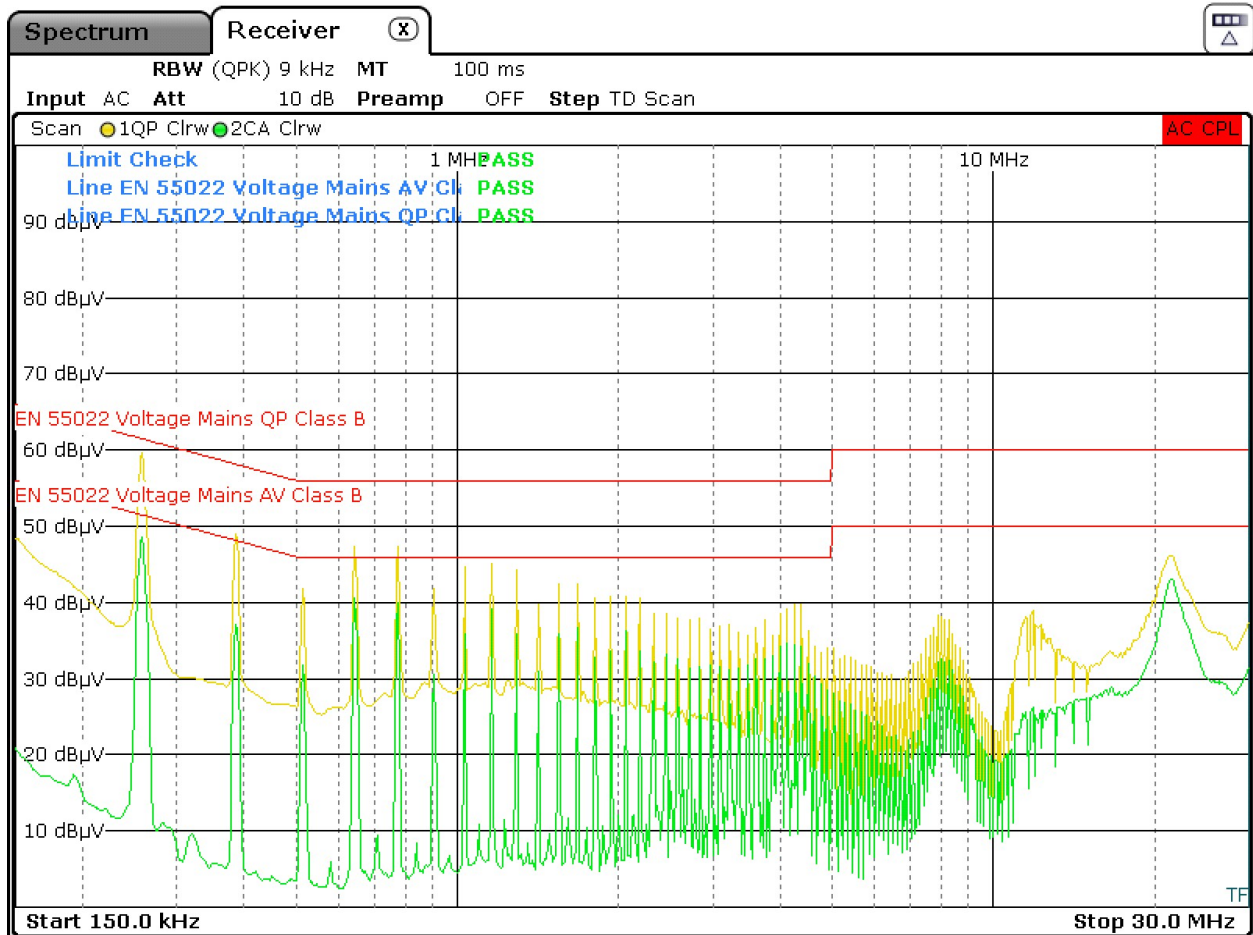






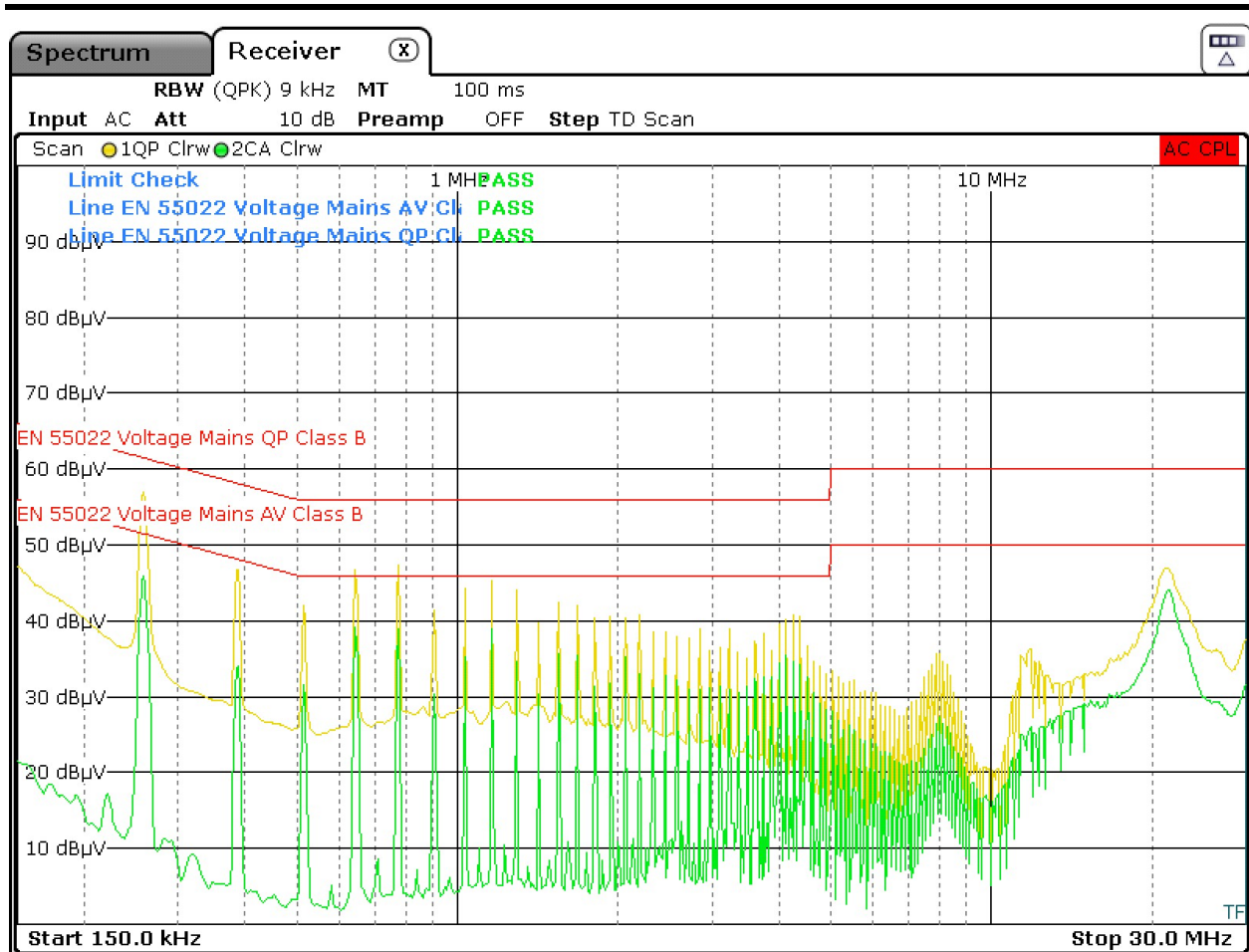
## 2.7 EMI

Note: below shows the Conducted EMI testing for LINE and NTRL and incorporates the Quasi-peak and Average class B guidelines to show that the test passed for both.



Date: 7.OCT.2019 10:48:34

LINE



NEUTRAL

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