

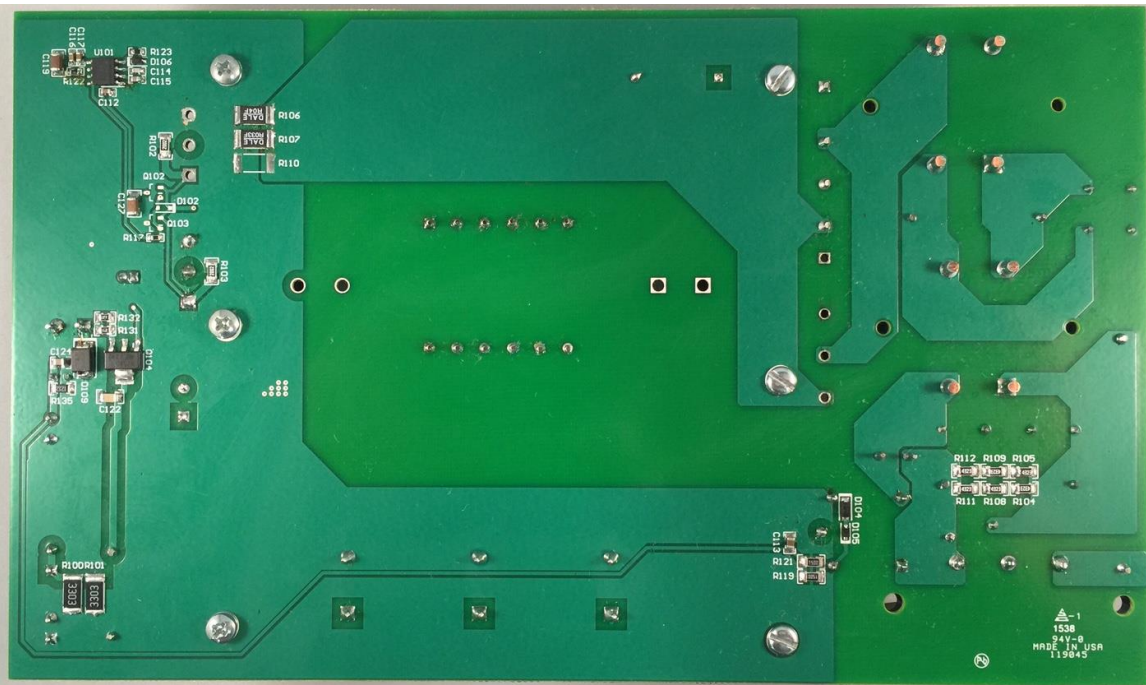
1 Photo

The photographs below show the top and bottom views of the PMP12074 Rev A board, which is built on PMP11062 Rev A PCB.

Top Side



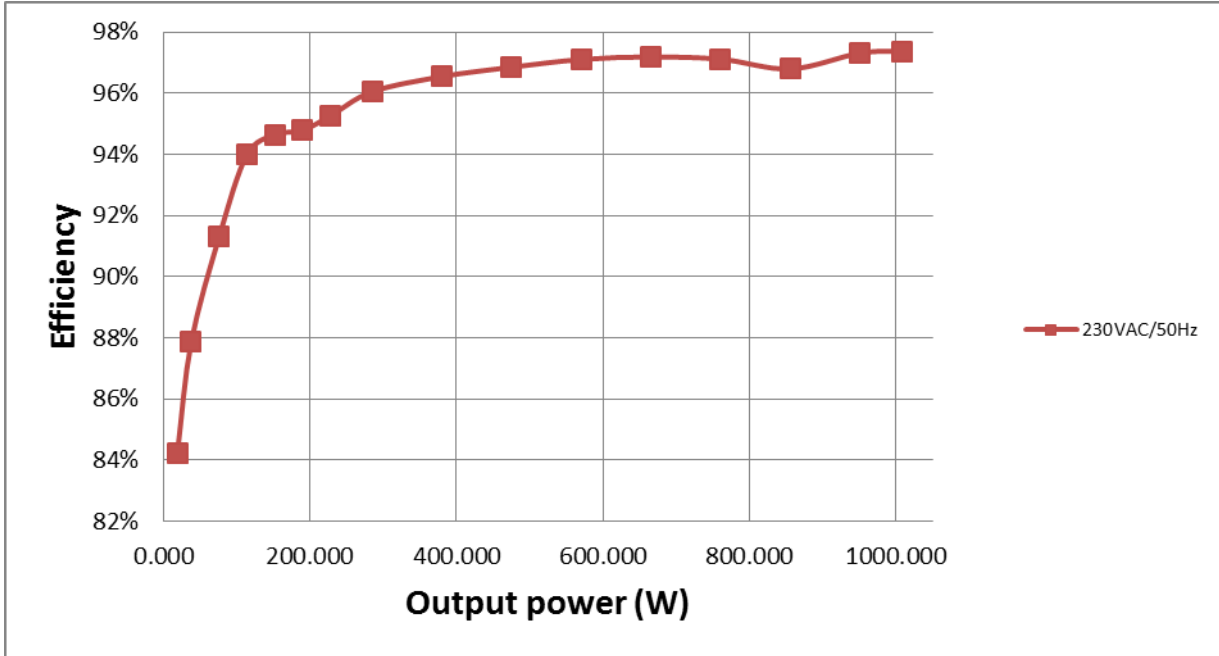
Bottom Side



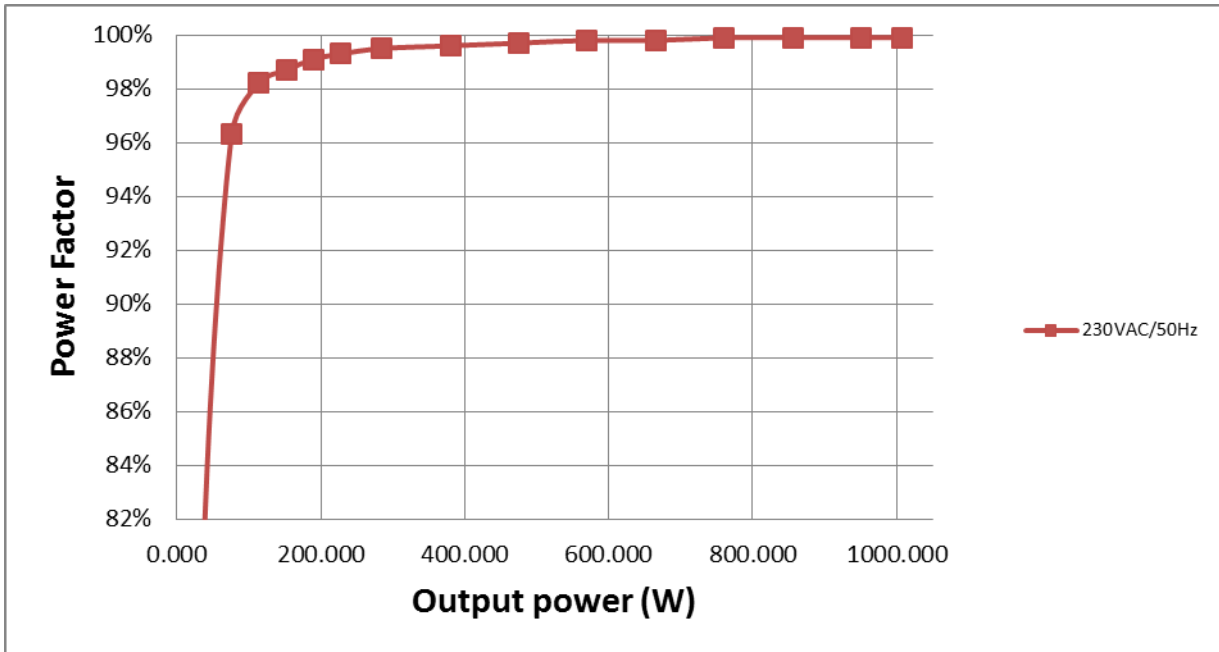
2 Efficiency and Power Factor

The efficiency curves of total supply are shown in the tables and graph below. Efficiency tests are performed with nature airflow.

2.1 Efficiency:



2.2 Power factor:

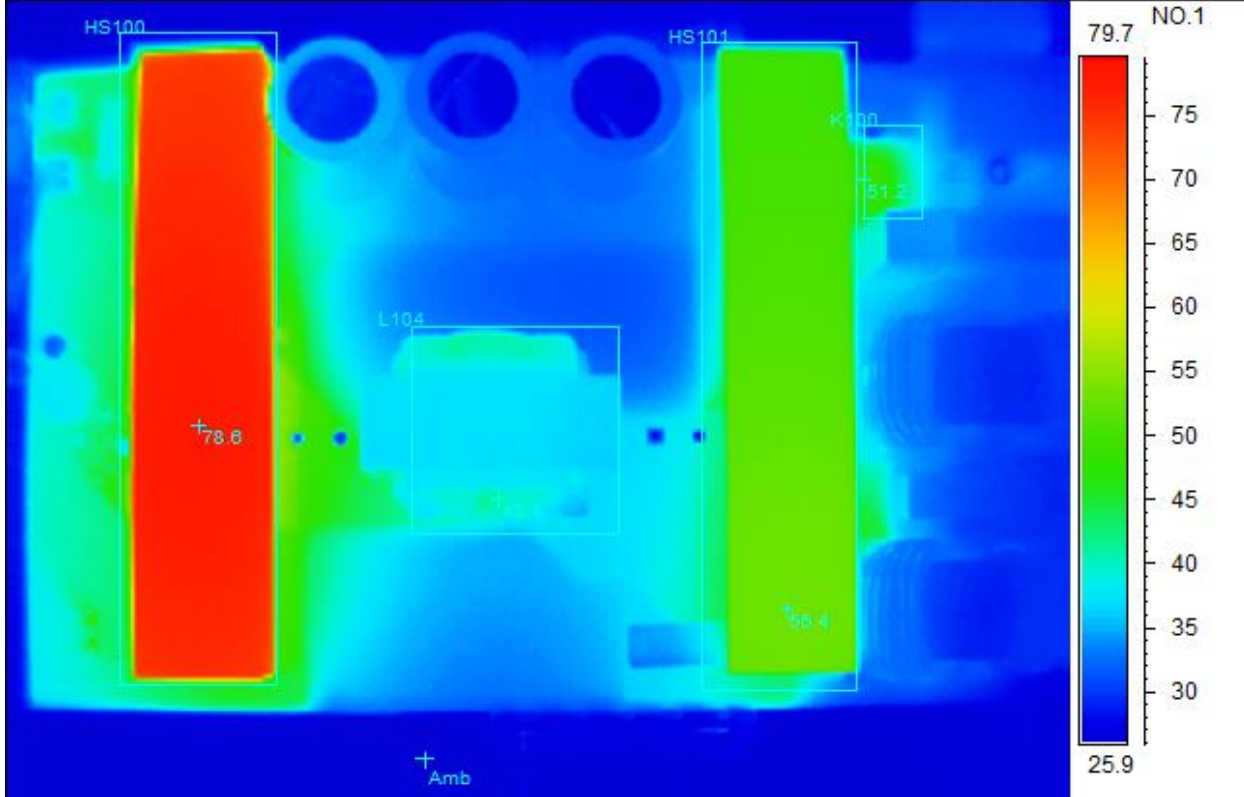


230V_{AC}/50Hz

Vin,rms(V)	Iin,rms(A)	Pin(W)	P.F.	Vout(V)	Iout(A)	Pout(W)	Ploss(W)	Eff. (%)
230	4.504	1035.00	0.999	380.3	2.650	1007.795	27.2050	97.37%
230	4.254	977.00	0.999	380.3	2.500	950.750	26.2500	97.31%
230	3.850	884.00	0.999	380.3	2.250	855.675	28.3250	96.80%
230	3.410	783.20	0.999	380.3	2.000	760.600	22.6000	97.11%
230	2.981	684.60	0.998	380.2	1.750	665.350	19.2500	97.19%
230	2.559	587.30	0.998	380.2	1.500	570.300	17.0000	97.11%
230	2.139	490.70	0.997	380.2	1.250	475.250	15.4500	96.85%
230	1.718	393.70	0.996	380.1	1.000	380.100	13.6000	96.55%
230	1.297	296.80	0.995	380.1	0.750	285.075	11.7250	96.05%
230	1.048	239.40	0.993	380.1	0.600	228.060	11.3400	95.26%
230	0.880	200.50	0.991	380.1	0.500	190.050	10.4500	94.79%
230	0.708	160.64	0.987	380.1	0.400	152.040	8.6000	94.65%
230	0.537	121.32	0.982	380.1	0.300	114.030	7.2900	93.99%
230	0.376	83.27	0.963	380.1	0.200	76.020	7.2500	91.29%
230	0.231	43.25	0.814	380	0.100	38.000	5.2500	87.86%
230	0.173	22.57	0.568	380.1	0.050	19.005	3.5650	84.20%

3 Thermal Images

The thermal images below show top views of the board. The board is placed horizontally during the test. The ambient temperature was 25°C with natural airflow. 230V_{AC}/50Hz AC voltage is applied to input. The output was loaded with 380V/2.65A.



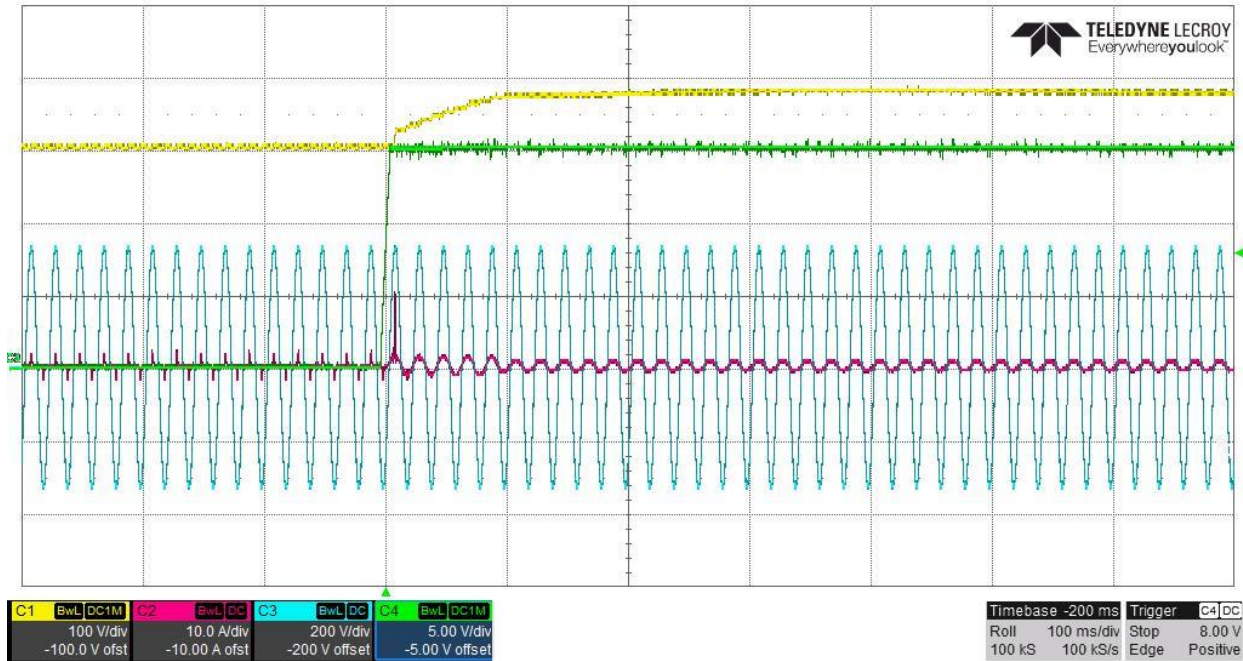
Spot analysis	Value
Amb Temperature	26.0°C
Area analysis	Value
K100Max	51.2°C
HS101Max	55.4°C
L104Max	43.1°C
HS100Max	78.6°C

4 Startup

The voltages at startup are shown in the images below.

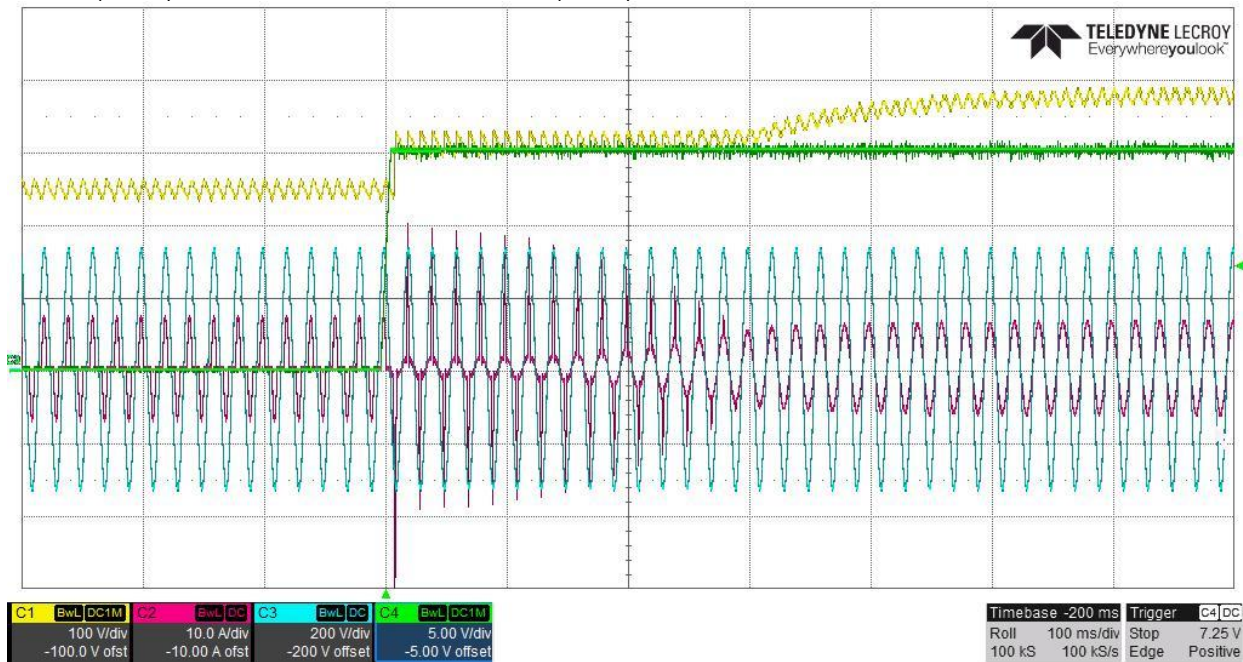
4.1 230V_{AC}/50Hz – 100W full load on J100

CH1: V(C104) CH2: Iin, CH3: Vin, and CH4: V(C123).



4.2 230V_{AC}/50Hz – 1000W full load on J100

CH1: V(C104) CH2: Iin, CH3: Vin, and CH4: V(C123).

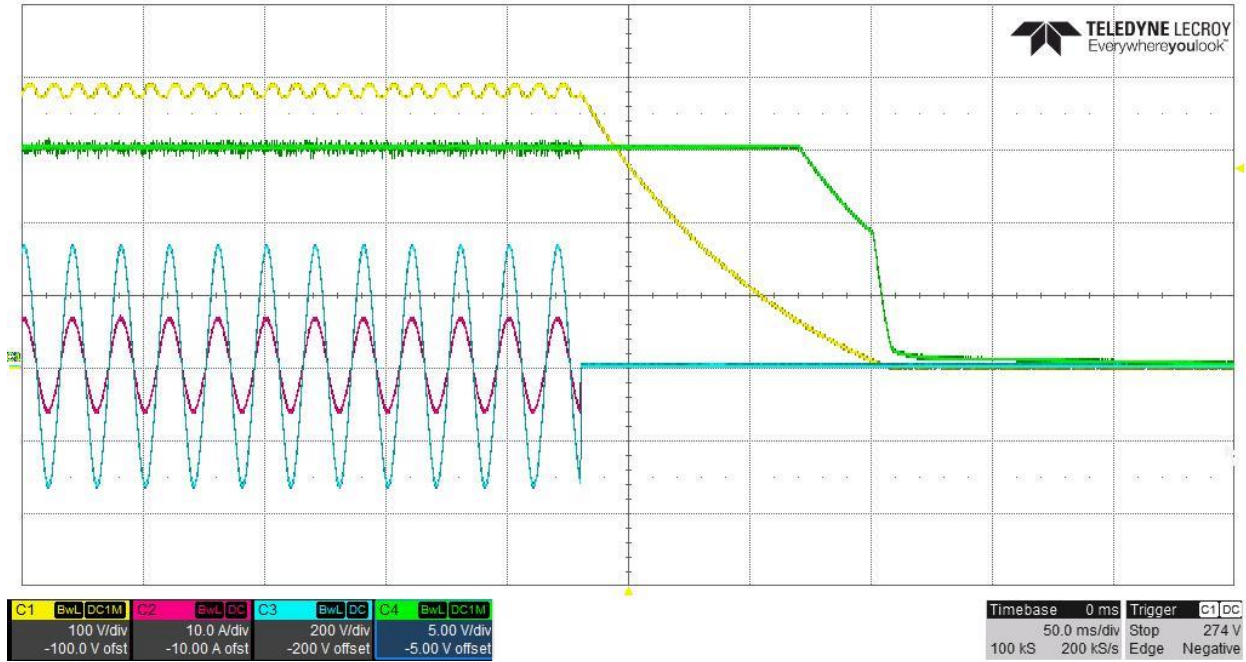


5 Turn-off

The voltages at turn-off are shown in the images below.

5.1 230V_{AC}/50Hz – 1000W full load on J100

CH1: V(C104) CH2: Iin, CH3: Vin, and CH4: V(C123).

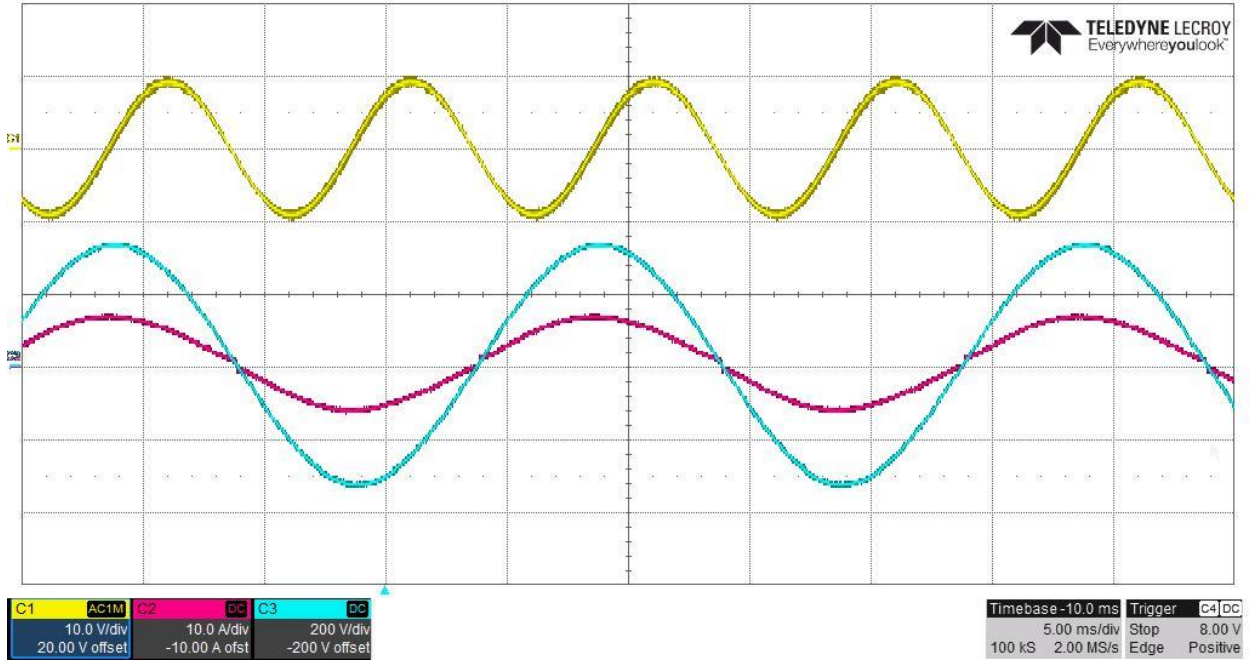


6 Output Ripple Voltage

The output ripple voltage (in AC level) during 1000W full load is shown in the plots below.

6.1 230V_{AC}/50Hz

CH1: V(C104) CH2: Iin, and CH3: Vin.

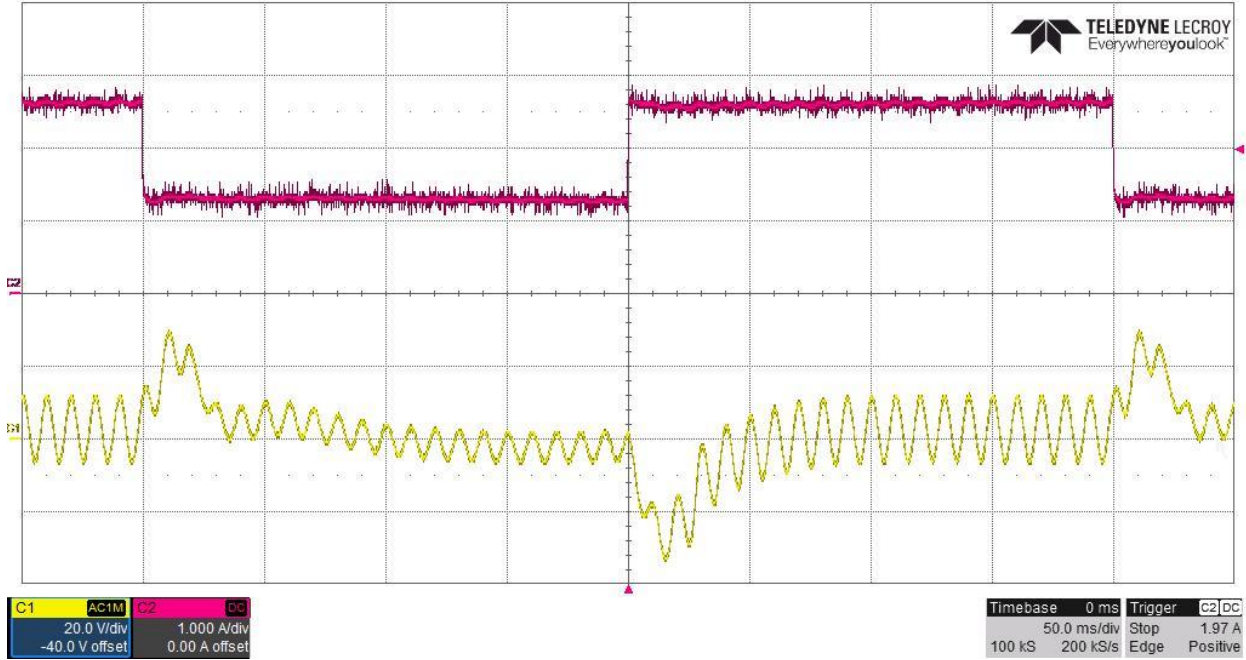


7 Transient Response

Transient responses are shown in the plots below.

7.1 230V_{AC}/50Hz, load changes from 1.15A to 2.65A

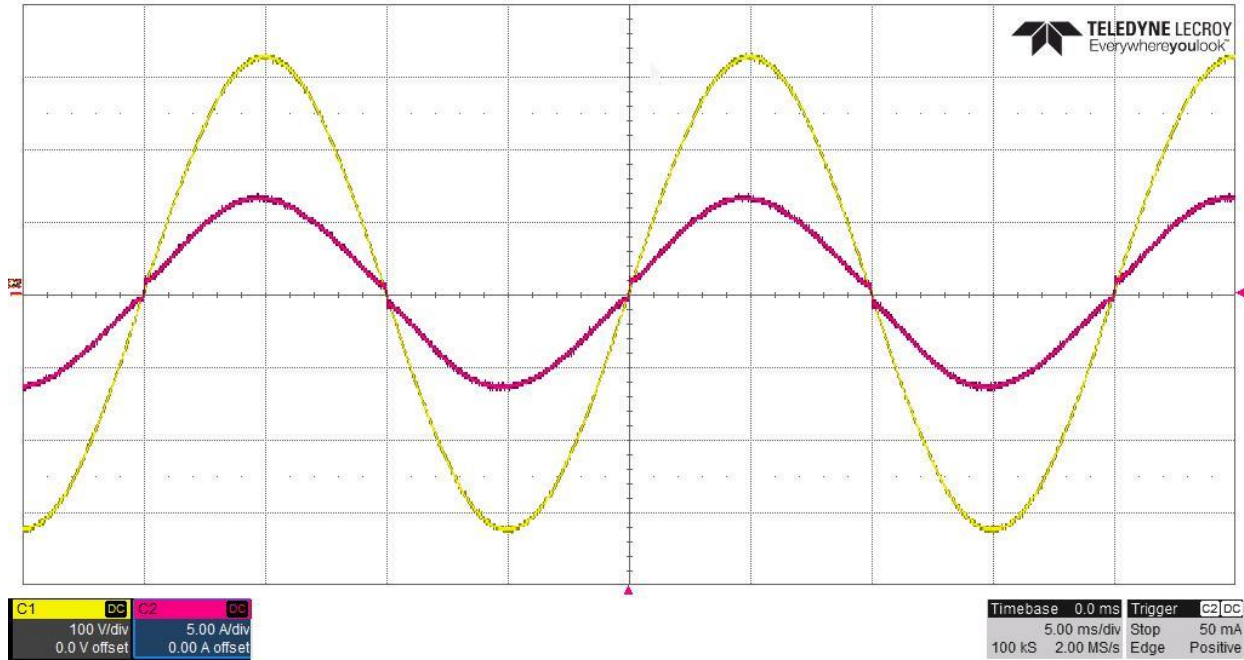
CH1: V(C102) and CH2: Iout.



8 Key Waveforms

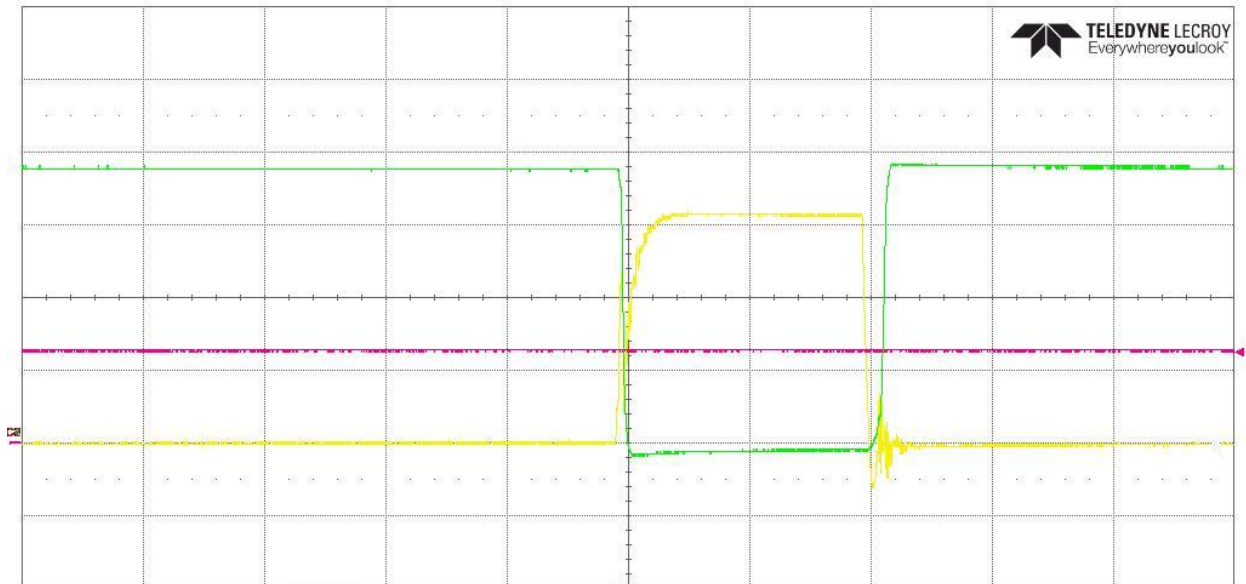
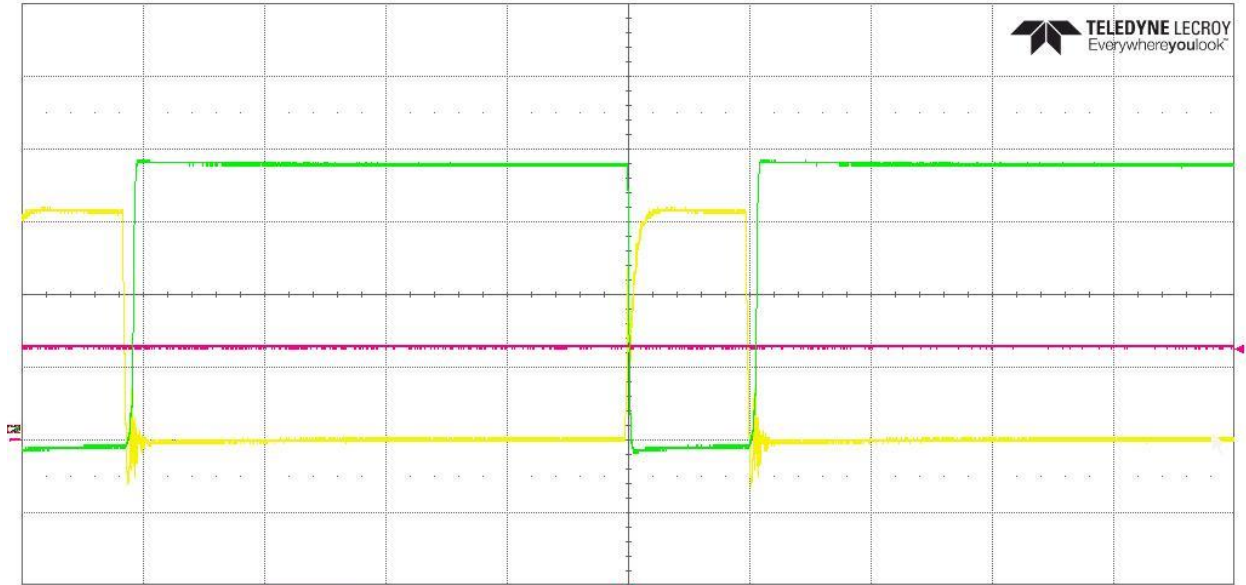
8.1 Input current and voltage waveforms

8.1.1 230V_{AC}/50Hz, 1000W.

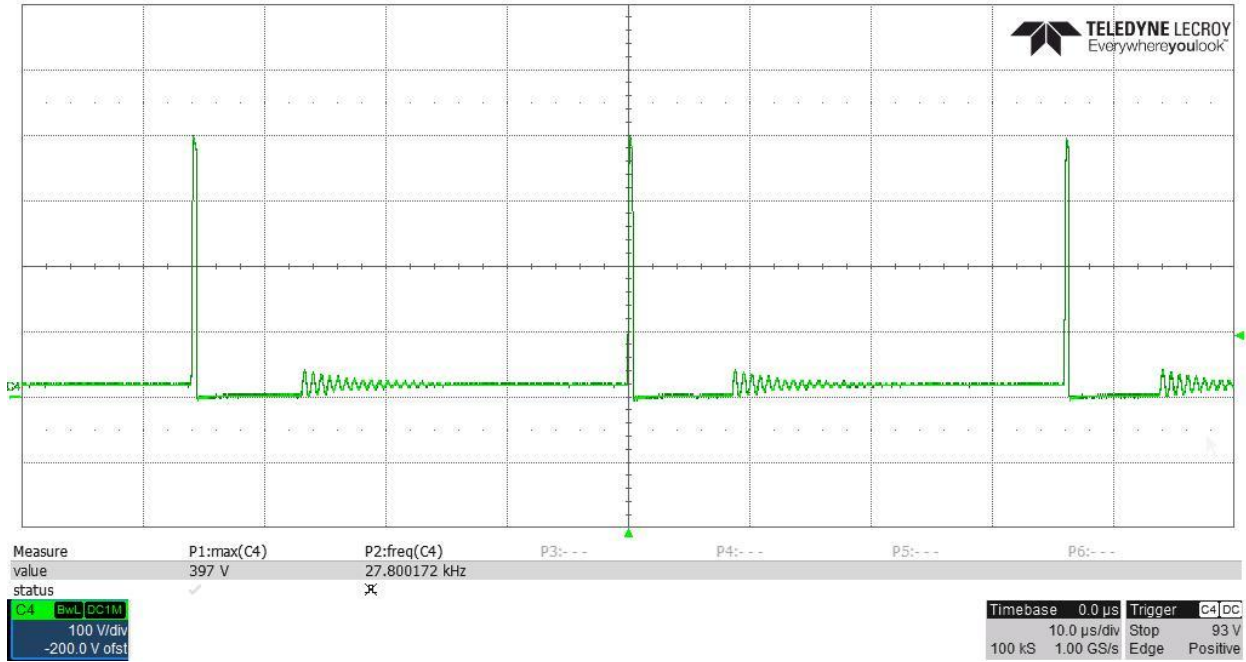


8.2 Q100 @ 1000W output from J100 and 230V_{AC}/50Hz.

CH1: V_{GS}, CH2: I_{in}, and CH4: V_{DS}.



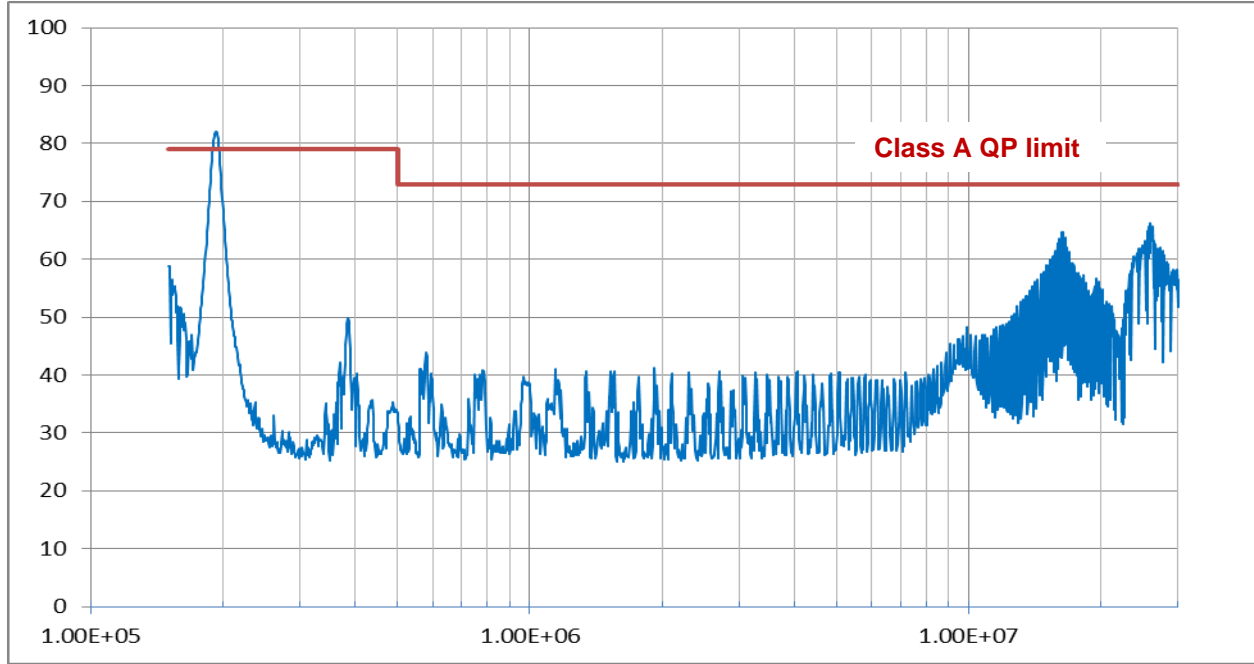
8.3 D109 @ 1000W output from J100.



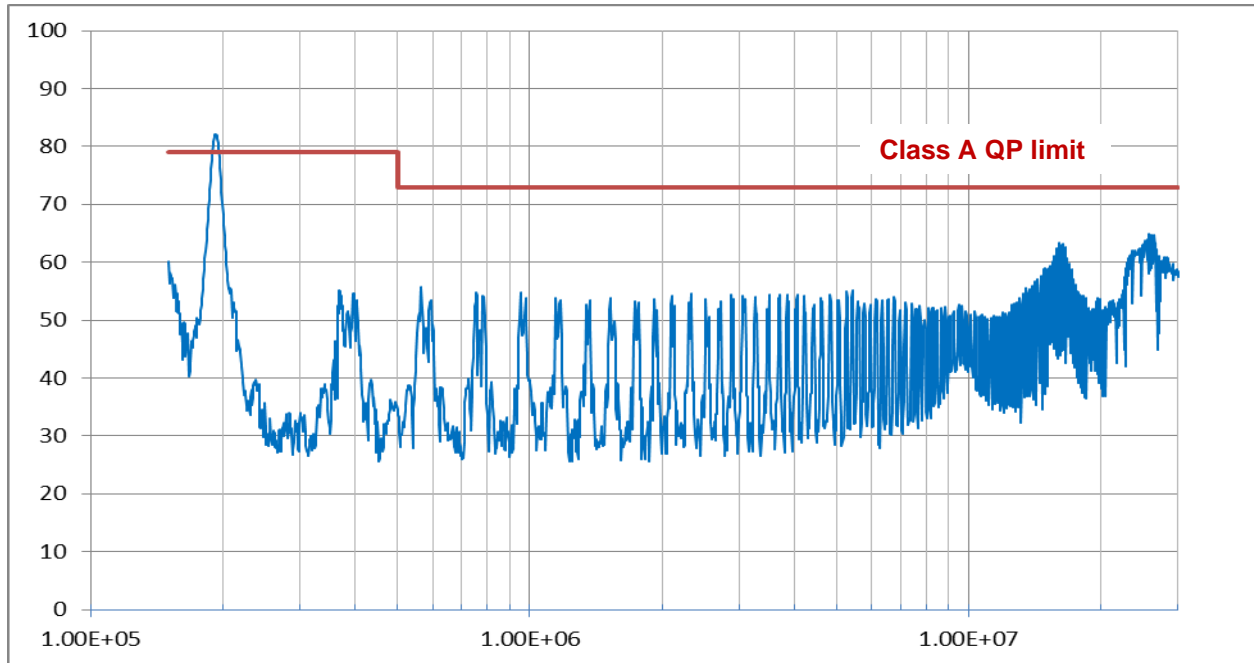
9 Conducted EMI:

The following curves show the **peak scan** results with **maximum hold** on PMP12074Rev A board. The board is loaded with 145Ω resistor.

9.1 230V_{AC}/50Hz, I_{in}=4.33A: Line



9.2 230V_{AC}/50Hz, I_{in}=4.33A: Neutral



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