



Texas Instruments

PMP4373 Test Procedure

China Power Reference Design

5/27/2013

1 GENERAL

1.1 PURPOSE

To provide detailed data for evaluating and verifying the PMP4373, which uses TI new Primary Side Controller UCC28720. The below photo shows this demo board.

1.2 REFERENCE DOCUMENTATION

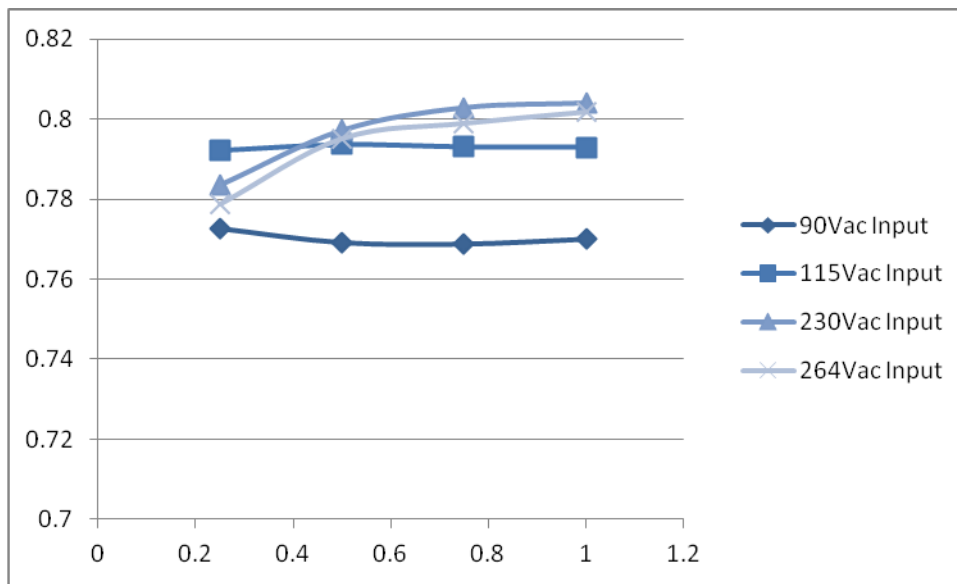
Schematic PMP4373_SCH.PDF
Assembly PMP4373_PCB.PDF
BOM

1.3 TEST EQUIPMENTS

Power-meter: YOKOGAWA WT210
Multi-meter(voltage): Agilent 34401A
AC Source: Chroma 61503
E-Load: Chroma 63103A module

2 INPUT CHARACTERISTICS

2.1 EFFICIENCY



Note: Current is read from E-Load directly, there may cause some error in the result.

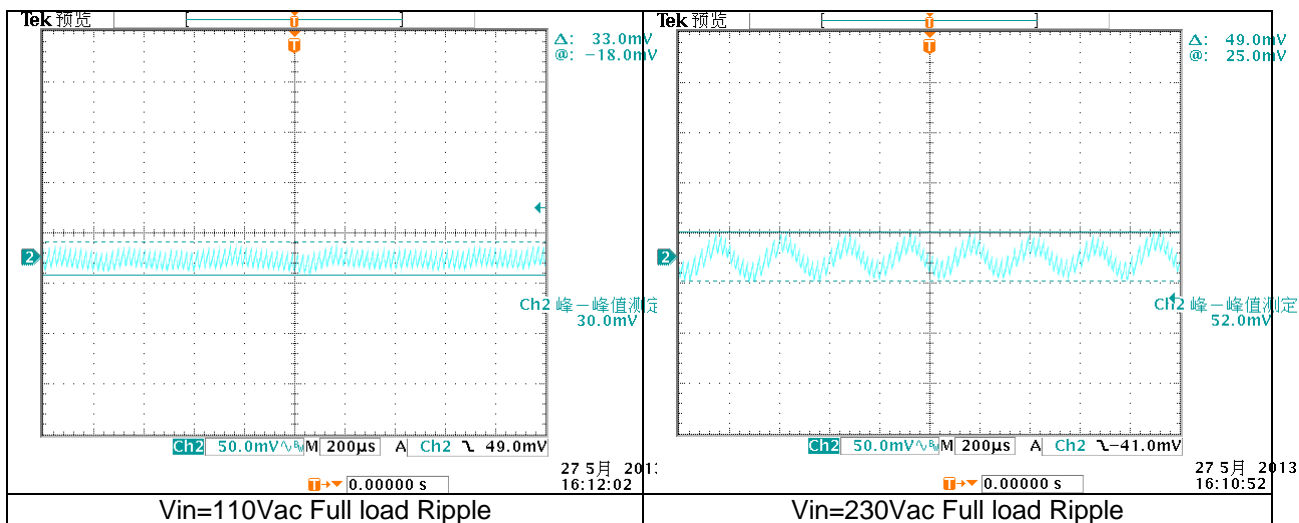
2.2 STANDBY POWER LOSS

Vin(Vac)	Freq(Hz)	Pin(mW)	Pass/Fail
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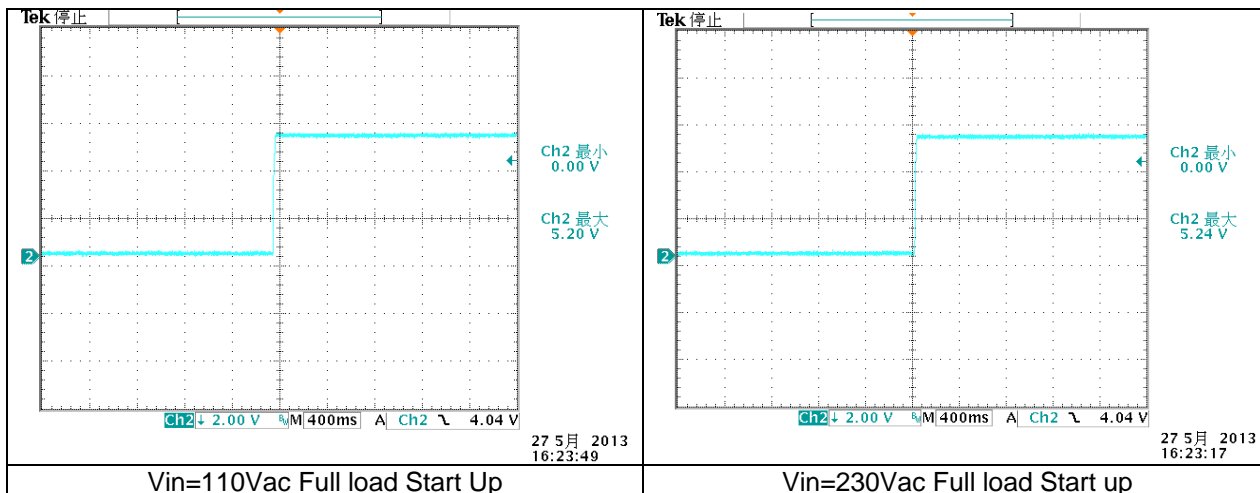
110	60	6	
220	50	9	

3 OUTPUT CHARACTERISTICS

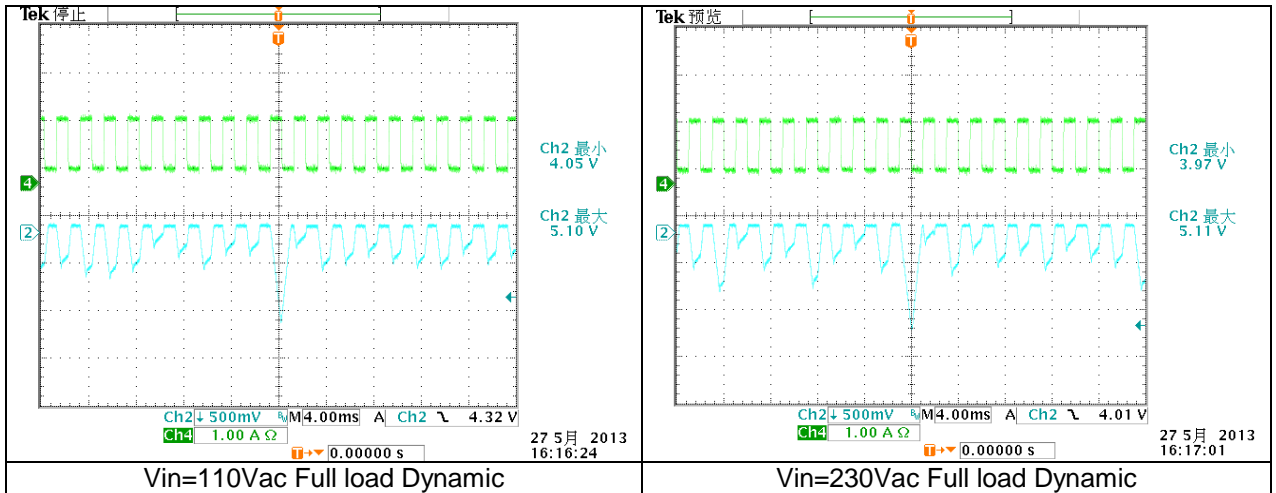
3.1 OUTPUT VOLTAGE RIPPLE (full load)



3.2 Start Up



3.3 Load Transient



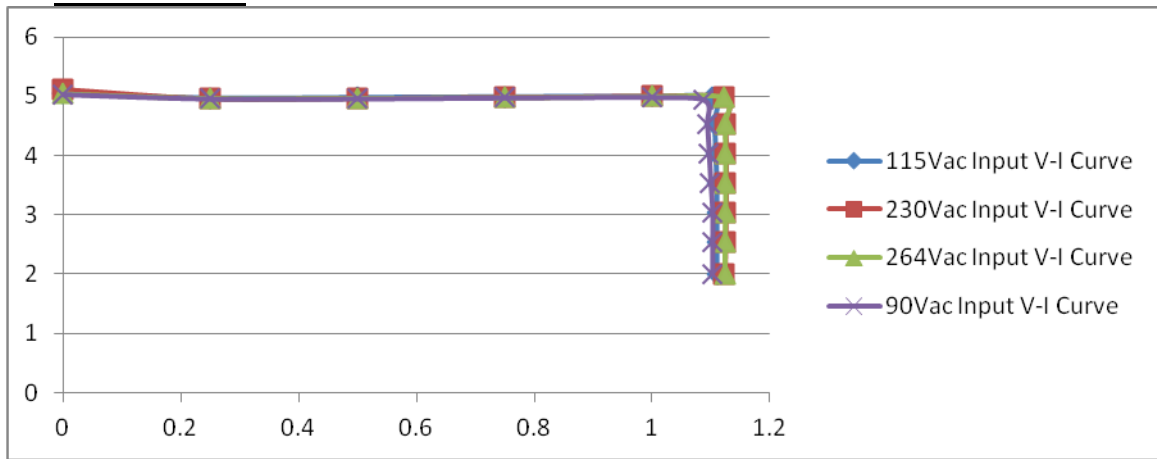
3.4 OUTPUT CURRENT PROTECTION

CONDITIONS	Protection current (A)	Pass/Fail
Vin (Vac)		
110&220	1.1	

3.5 OUTPUT SHORT PROTECTION

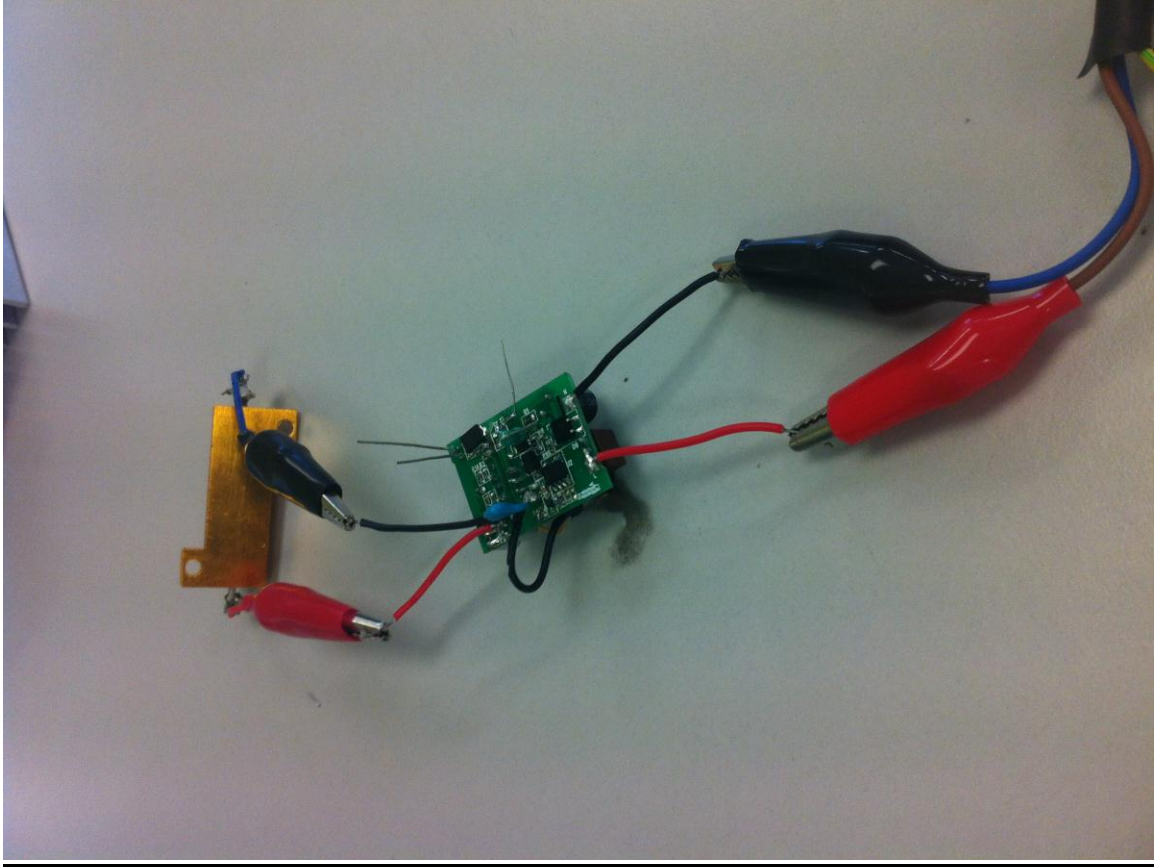
Okay

3.6 Vo&Io Curve



4 EMI Test

Test set Up1:

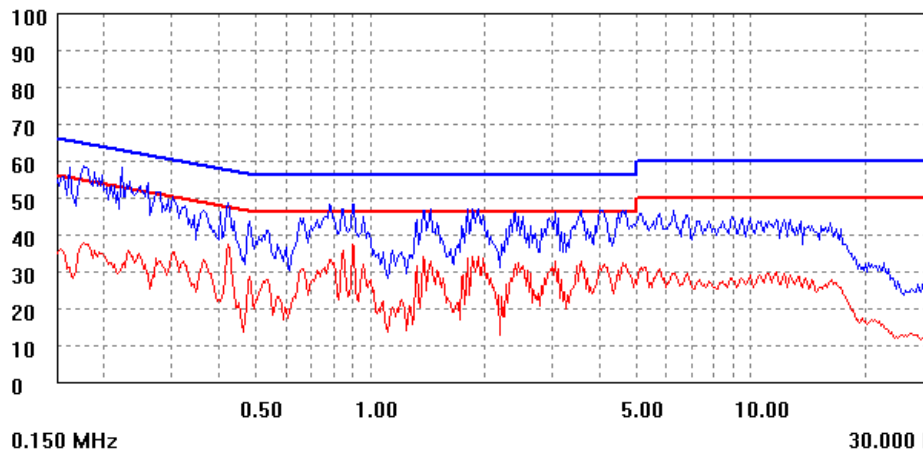


EMI TEST REPORT

Organization:	Operator:	EUT:
Place:	Time: 2013/5/27/15:2	Test equipment: KH3939
Detector: PK+AV	Test-time[ms]: 30	SN: 1139203
Limit: EN55022B	Transductor(PK/AV): PK1 / AV1	
Remark: 230V L full load;470pf Ycap. 0.5p-a-s-sec-0.5p-s		

Start(MHz)	End(MHz)	Step(MHz)
0.150	2.000	0.002
2.000	10.000	0.010
10.000	30.000	0.025

dBuV



	freq(MHz)	lev(dBuV)	Lim(dBuV)	Δ (lev-Lim)
[QP]	0.904	42.8	56.0	-13.2
[AV]	0.904	35.6	46.0	-10.4

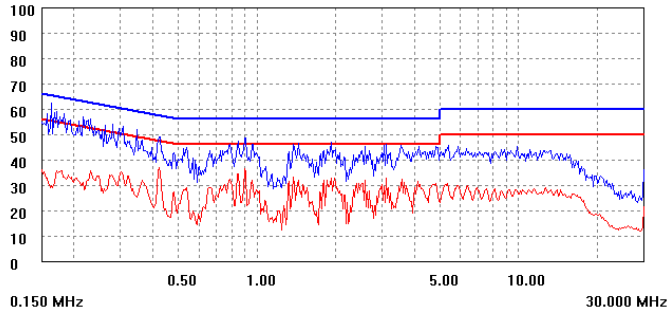
Vin: 220Vac, Line, full load

EMI TEST REPORT

Organization: Operator: EUT: parameter
Place: Time: 2013/5/27/15:4 Test equipment: KH3939
Detector: PK+AV Test-time(ms): 30 SN: 1139203
Limit: EN55022B Transducer(PK/AV): PK1 / AV1
Remark: 230V N full load; 470pf Ycap, 0.5p-a-s-sec-0.5p-s

Start(MHz) End(MHz) Step(MHz) freq, step
0.150 2.000 0.002
2.000 10.000 0.010
10.000 30.000 0.025

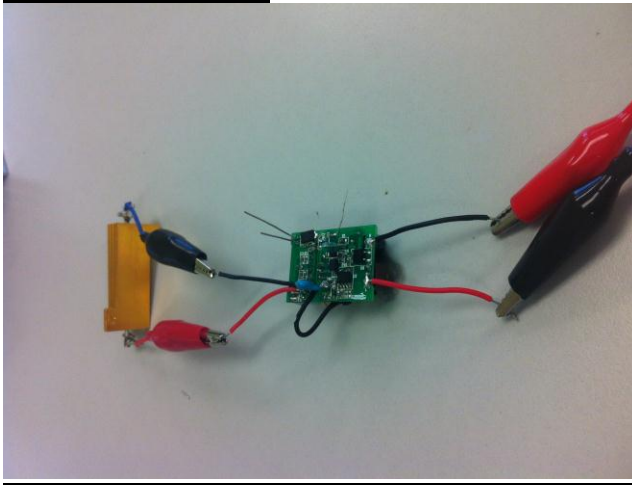
dBuV scan result



(QP) freq(MHz) lev(dBuV) Lim(dBuV) Δ(lev-Lim) final test
0.164 49.0 65.6 -16.6
0.900 44.5 56.0 -11.5
(AV) freq(MHz) lev(dBuV) Lim(dBuV) Δ(lev-Lim)
0.900 36.2 46.0 -9.8

Vin:220Vac, Neutral, full load

Test set Up2:

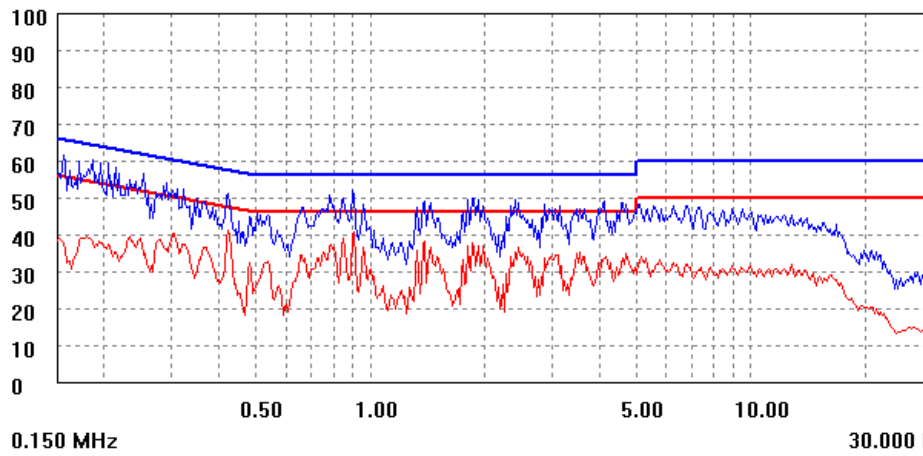


EMI TEST REPORT

Organization:	Operator:	EUT:
Place:	Time: 2013/5/27/14:59	Test equipment: KH3939
Detector: PK+AV	Test-time[ms]: 30	SN: 1139203
Limit: EN55022B	Transductor(PK/AV): PK1 / AV1	
Remark: 230V L full load;470pf Ycap. 0.5p-a-s-sec-0.5p-s		

Start(MHz)	End(MHz)	Step(MHz)
0.150	2.000	0.002
2.000	10.000	0.010
10.000	30.000	0.025

dBuV



	freq(MHz)	lev(dBuV)	Lim(dBuV)	Δ(lev-Lim)
[QP]	0.902	47.4	56.0	-8.6
[AV]	0.902	40.5	46.0	-5.5

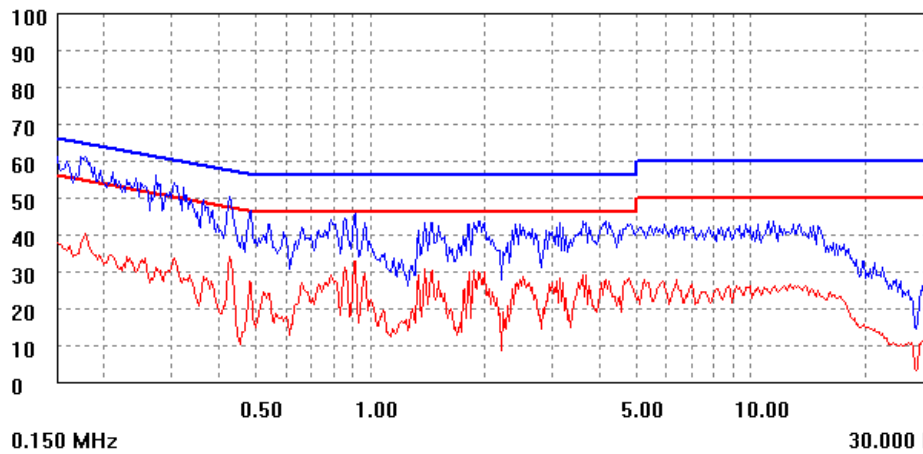
Vin:220Vac, Line, full load

EMI TEST REPORT

Organization:	Operator:	EUT:
Place:	Time: 2013/5/27/14:57	Test equipment: KH3939
Detector: PK+AV	Test-time[ms]: 30	SN: 1139203
Limit: EN55022B	Transductor(PK/AV): PK1 / AV1	
Remark: 230V N full load;470pf Ycap. 0.5p-a-s-sec-0.5p-s		

Start(MHz)	End(MHz)	Step(MHz)
0.150	2.000	0.002
2.000	10.000	0.010
10.000	30.000	0.025

dBuV



	freq(MHz)	lev(dBuV)	Lim(dBuV)	Δ(lev-Lim)
[QP]	0.178	53.5	65.2	-11.7
[AV]	0.178	37.2	55.2	-18.0

Vin:220Vac, Neutral, full load

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