Texas Instruments

PMP4391 Test Procedure

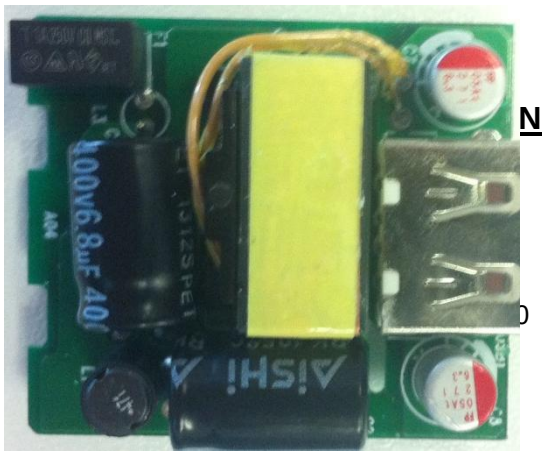
China Power Reference Design

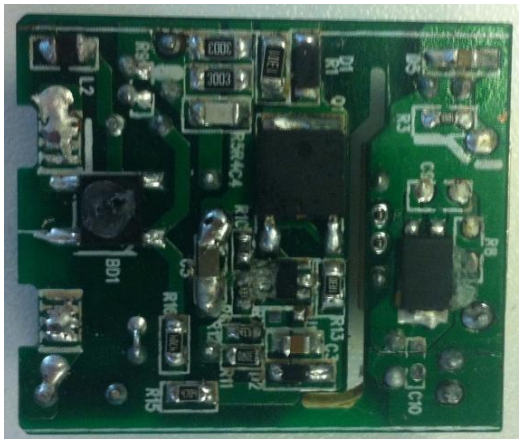
12/29/2013

1 GENERAL

1.1 PURPOSE

To provide detailed data for evaluating and verifying the PMP4391, which uses TI new Primary Side Controller UCC28722.





2 INPUT CHARACTERISTICS

2.1 EFFICIENCY

	Pin	Vo	Io	Efficiency
115V	2.47	5.021	0.375	0.762
	4.84	5.026	0.75	0.779
	7.21	5.033	1.125	0.785
	9.58	5.044	1.5	0.790
				0.779
230V	2.52	5.023	0.375	0.747
	4.88	5.027	0.75	0.773
	7.24	5.037	1.125	0.783
	9.6	5.045	1.5	0.788
				0.773

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

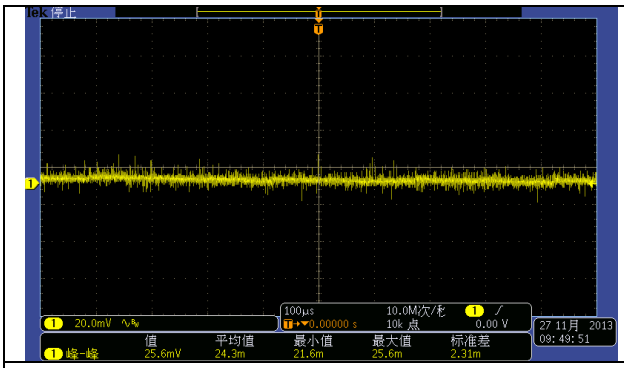
2.2 STANDBY POWER LOSS

Vin(Vac)	Freq(Hz)	Pin(mW)
90	60	**48**

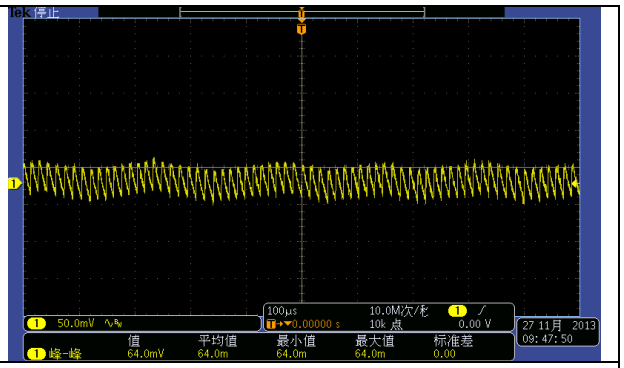
115	60	**48**
230	50	**63**
264	50	**88**

3 OUTPUT CHARACTERISTICS

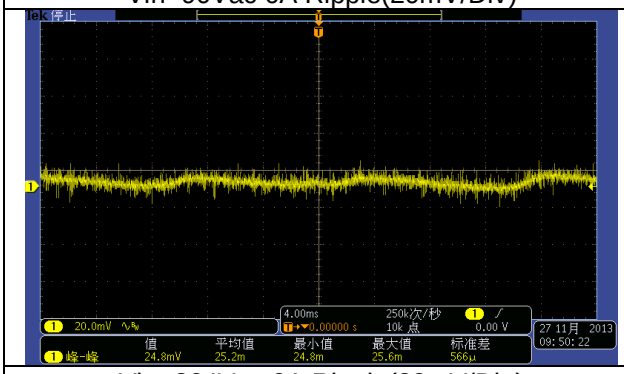
3.1 OUTPUT VOLTAGE RIPPLE (full load)



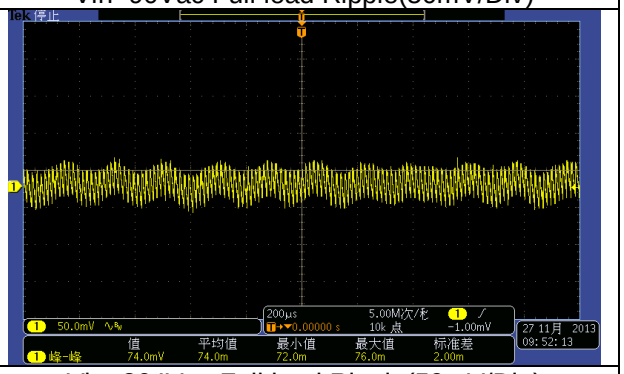
Vin=90Vac 0A Ripple(20mV/Div)



Vin=90Vac Full load Ripple(50mV/Div)

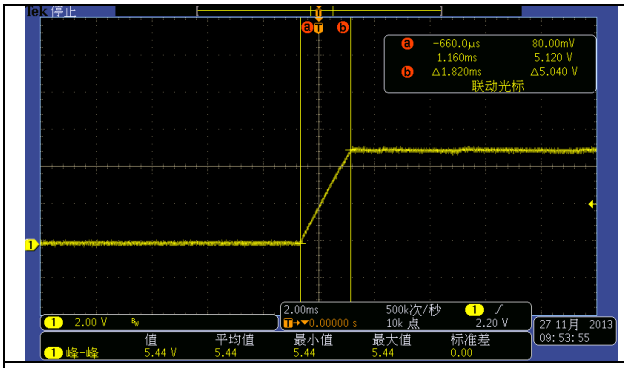


Vin=264Vac 0A Ripple(20mV/Div)

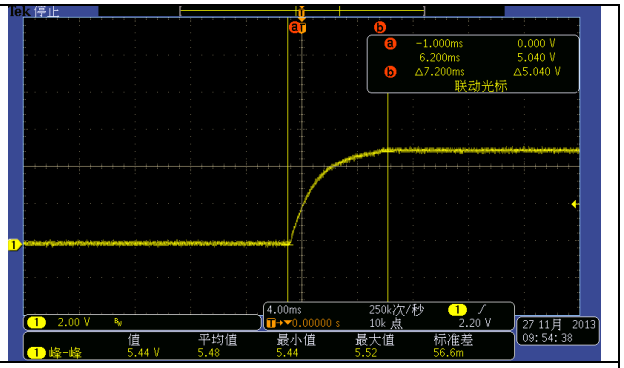


Vin=264Vac Full load Ripple(50mV/Div)

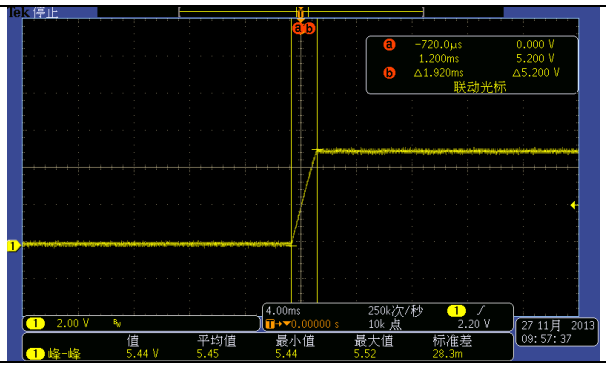
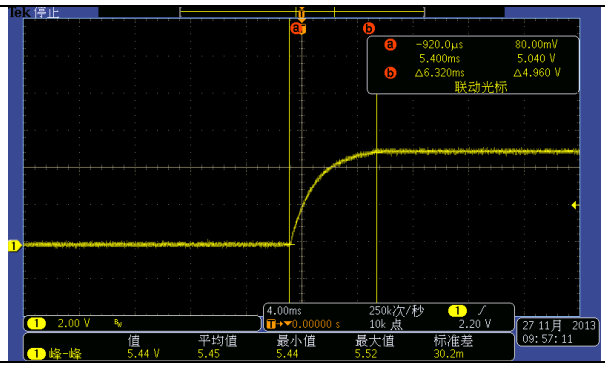
3.2 Start Up



Vin=90Vac 0A Start Up



Vin=90Vac 1.5A Start up

	
Vin=264Vac 0A Start Up	Vin=264Vac 1.5A Start up

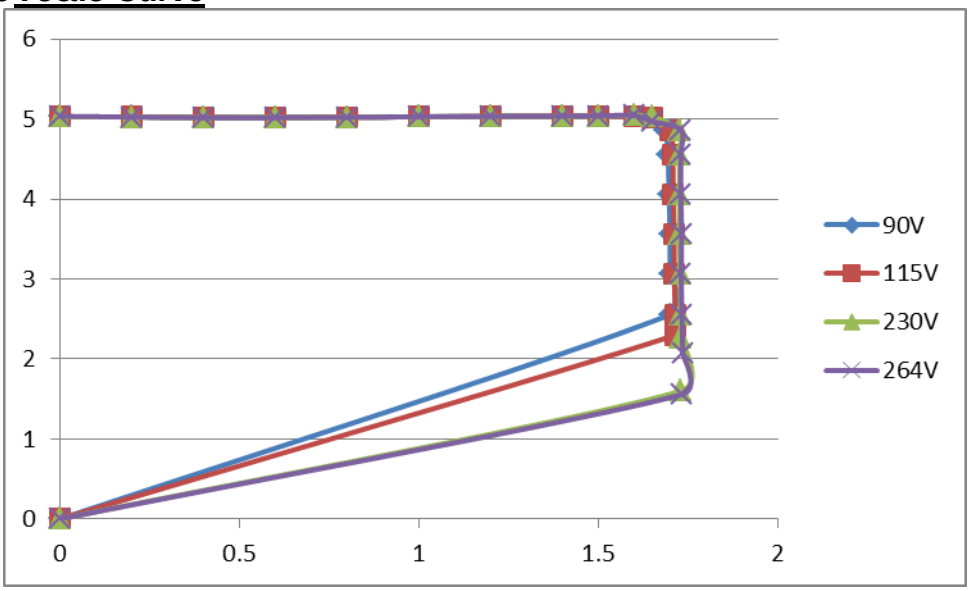
3.3 OUTPUT CURRENT PROTECTION

CONDITIONS Vin (Vac)	Protection current（A）
90V	1.69A
115V	1.71A
230V	1.72A
264V	1.73A

3.4 OUTPUT SHORT PROTECTION

Okay

3.5 Vo&Io Curve



4 EMI Test

EMI TEST REPORT

parameter

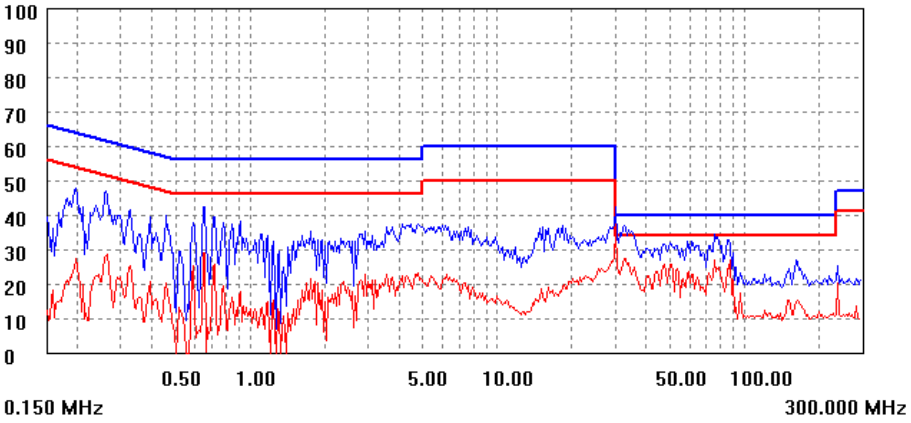
Organization: TI		Operator:		EUT:	
Place:		Time:	2013/11/27/10:58	Test equipment:	KH3939
Detector:	PK+AV	Test-time(ms):	20	SN:	1139203
Limit:	EN55022-3-1G	Transductor(PK/AV):	PK1 / AV1		
Remark:					

freq, step

Start(MHz)	End(MHz)	Step(MHz)
0.150	2.000	0.002
2.000	10.000	0.010
10.000	30.000	0.025
30.000	100.000	0.075
100.000	300.000	0.150

scan result

dBuV



Vin:220Vac, Line, full load

EMI TEST REPORT

parameter

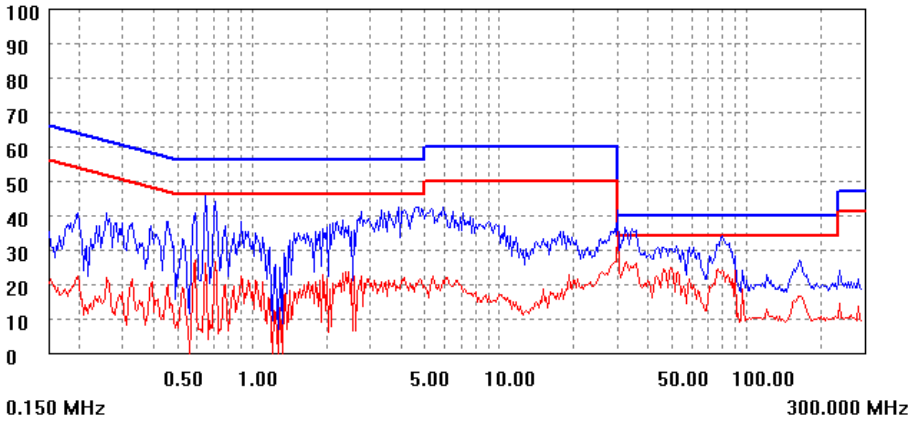
Organization: TI		Operator:		EUT:	
Place:		Time:	2013/11/27/11:1	Test equipment:	KH3939
Detector:	PK+AV	Test-time(ms):	20	SN:	1139203
Limit:	EN55022-3-1G	Transductor(PK/AV):	PK1 / AV1		
Remark:					

freq, step

Start(MHz)	End(MHz)	Step(MHz)
0.150	2.000	0.002
2.000	10.000	0.010
10.000	30.000	0.025
30.000	100.000	0.075
100.000	300.000	0.150

scan result

dBuV



Vin:220Vac, Neutral, full load

5 Thermal Test Result

The data were tested under 25C ambient temperature,with case.

	1hours with case	2hours with case
Bridge	69.9	69.9
BJT	73.3	73.4
Controller	74.9	74.8
Diode	72.5	72.4
Transformer	72.0	72.0

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