



Texas Instruments

PMP4371 REVA Test Procedure

China Power Reference Design

REVA

5/15/2013

1 General

1.1 PURPOSE

To provide detailed data for evaluating and verifying the PMP4371.

1.2 REFERENCE DOCUMENTATION

Schematic PMP4371_REVA_SCH.PDF
Assembly PMP4371_REVA_PCB.PDF
BOM

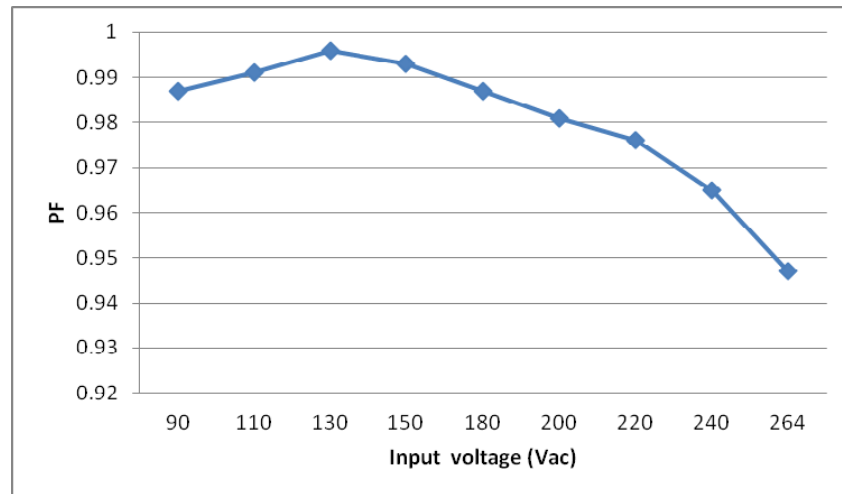
1.3 TEST EQUIPMENTS

Multi-meter: Fluke 287
Power Analyser: PM100
AC Source: Chroma 61503
Ambient Temperature at 25DegC

2: INPUT CHARACTERISTICS

2.1 Power Factor

Vin(Vac)	Freq(Hz)	PF	Io(Arms)
90	60	0.987	Full Load
110	60	0.991	Full Load
230	50	0.969	Full Load
264	50	0.947	Full Load

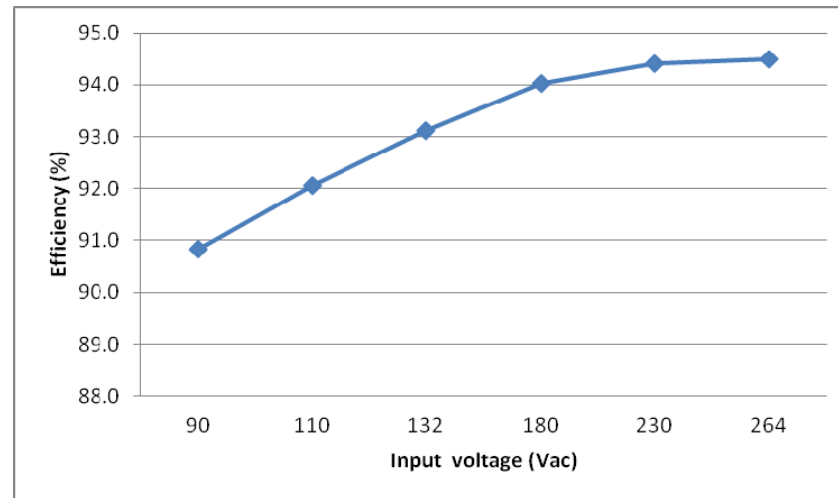


The test was executed under the condition of full load.

2.2: Efficiency

Vin(Vac)	Freq(Hz)	Pin	Po	Eff(%)
90	60	136.6	124.1	90.8
110	60	134.2	123.5	92.1
132	60	132.5	123.4	93.1

180	50	131.1	123.3	94.0
230	50	130.5	123.2	94.4
264	50	130.2	123.0	94.5



The test was executed under the condition of full load.

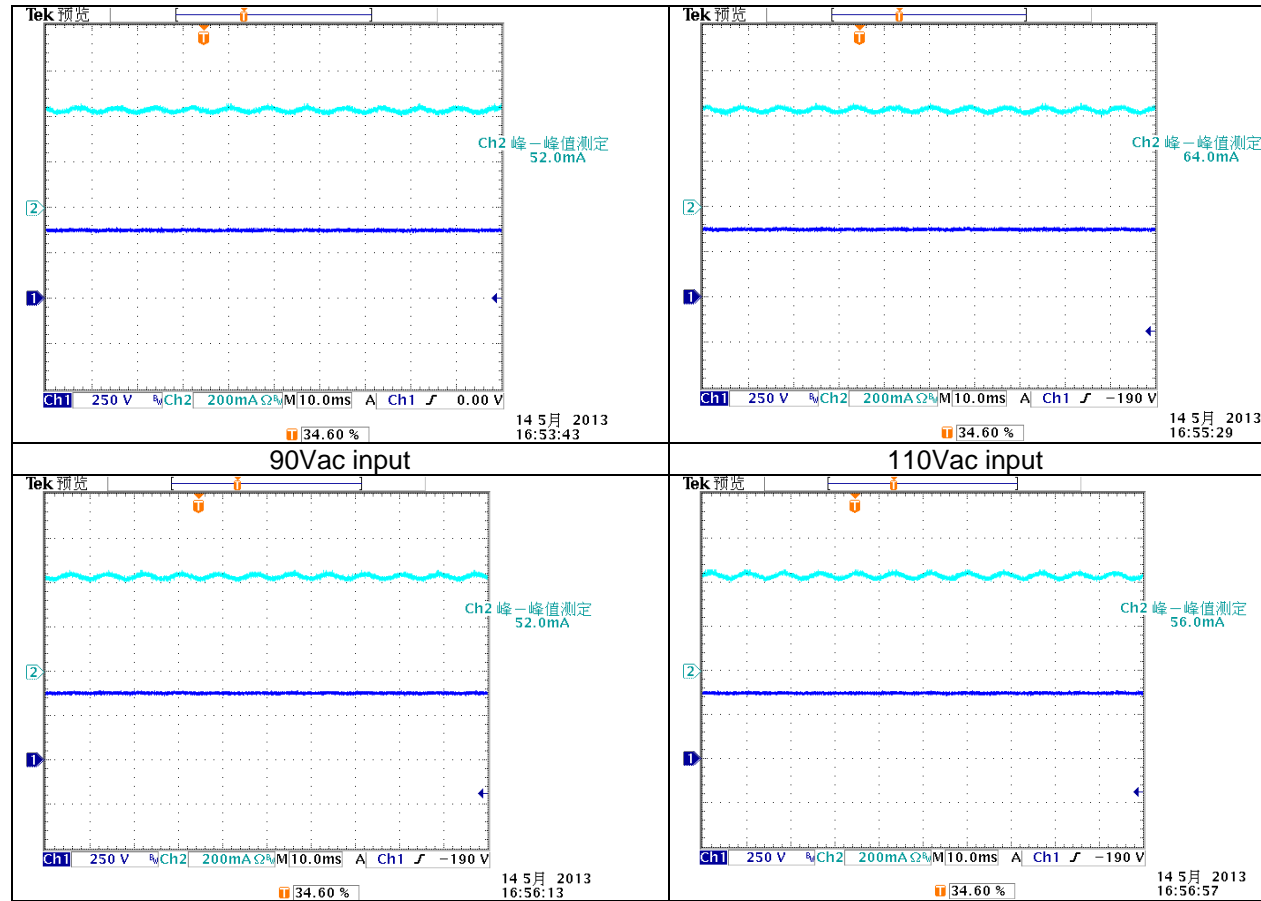
2.3: Maximum input current

Vin(Vac)	Freq(Hz)	Iin(Arms)
90	60	1.4

2.4: Output Current

Vin (Vac)	90	110	130	150	180	200	220	240	264
I _o (A)	0.349	0.349	0.349	0.349	0.349	0.350	0.350	0.350	0.350

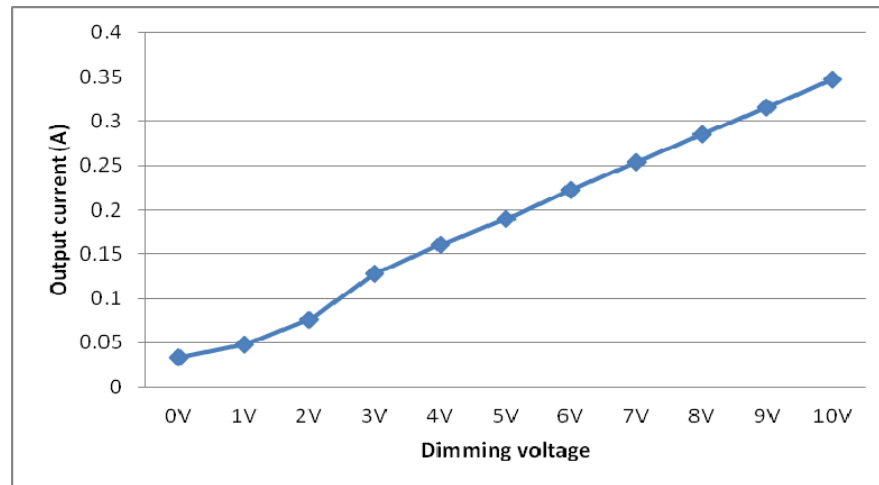
Output current ripple waveforms
CH1: LED Output Voltage 250V/Div
CH2: LED Output Current 200mA/Div



230Vac input	264Vac input
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2.5: Output Analog Dimming Control

Dimming Voltage	0V	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V
Io(A)	0.034	0.048	0.076	0.128	0.160	0.190	0.222	0.254	0.285	0.316	0.347



2.6: Output Dimming Control

230Vin		
Dimming	Io(mA)	%
10%	33.8	9.7
20%	63.2	18.1

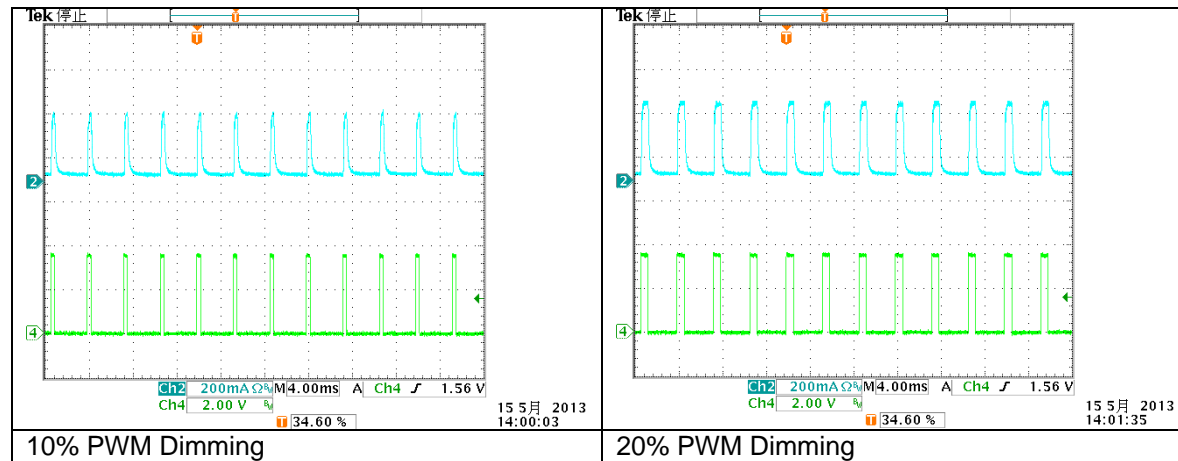
30%	107.1	30.6
40%	142.3	40.7
50%	176.5	50.5
60%	210.6	60.2
70%	244.6	69.9
80%	278.5	79.6
90%	311.8	89.1
100%	349.8	100.0

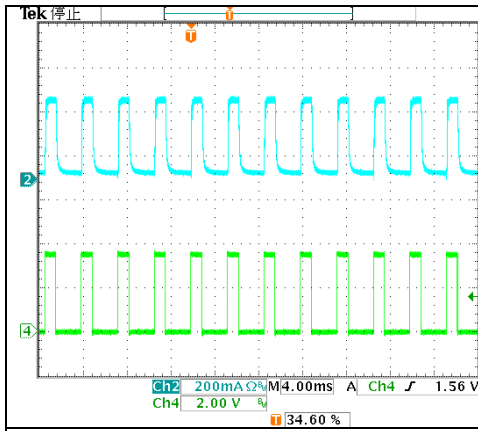
1. Waveform from LED Output Current is controlled by 300Hz PWM dimming.

It was tested under the condition of 230Vac input.

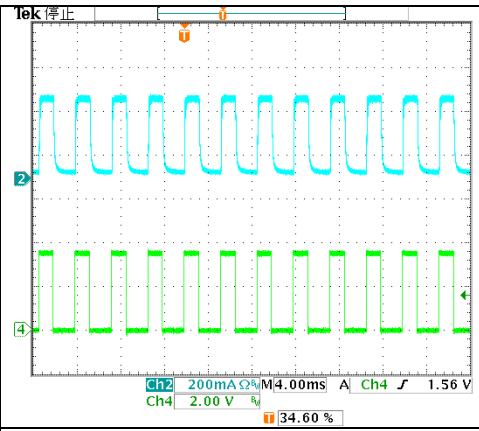
CH2: LED Output Current 200mA/Div

CH4: PWM Dimming 2V/Div





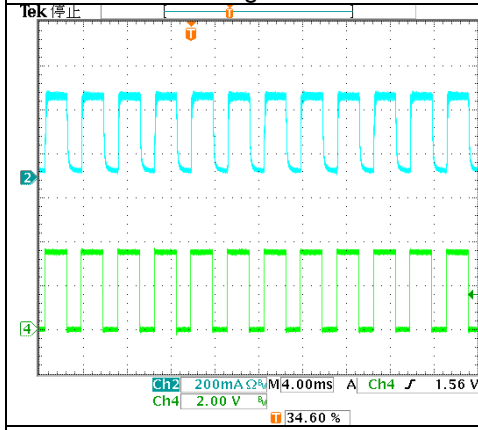
15 5月 2013
14:08:31



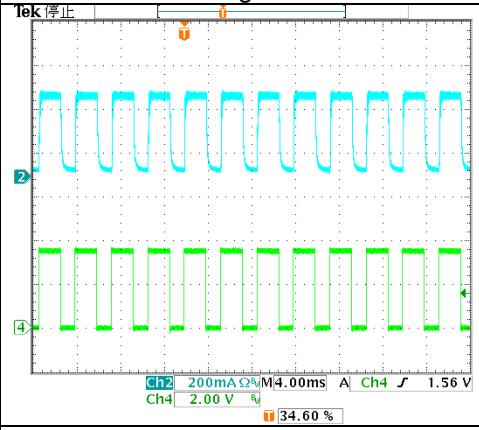
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30% PWM Dimming

40% PWM Dimming



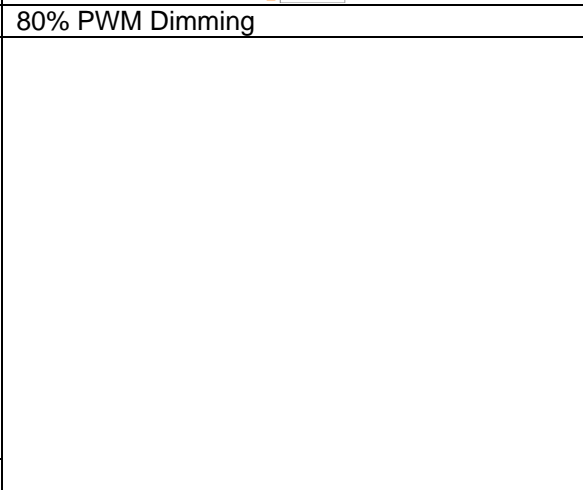
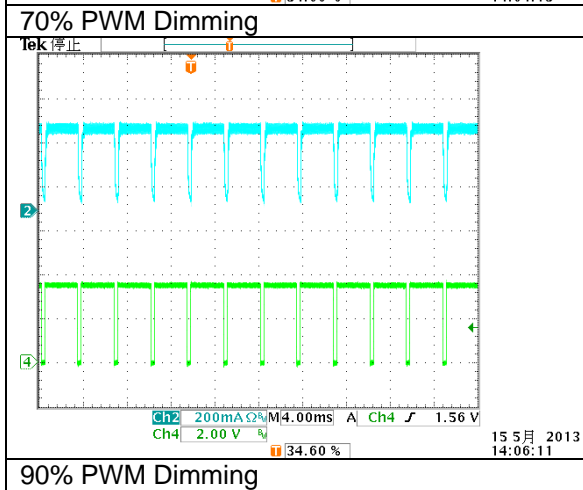
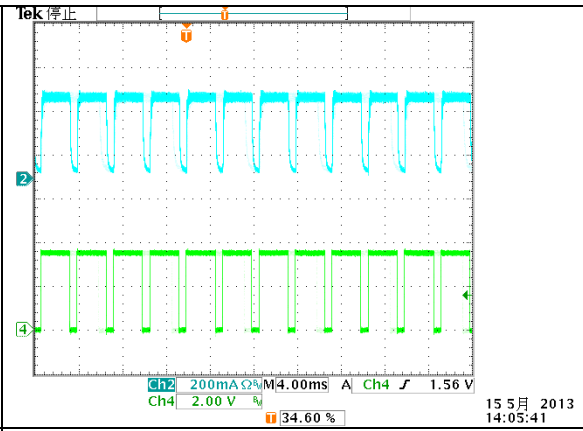
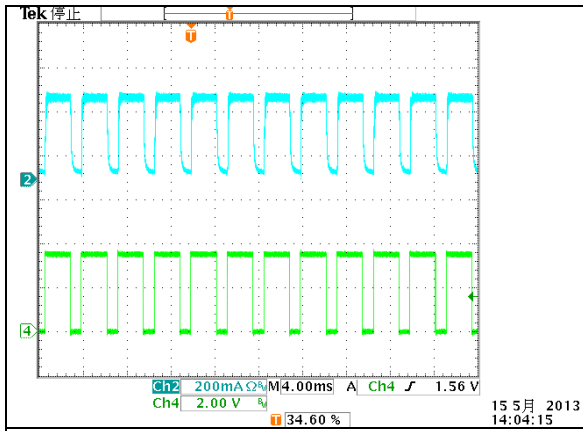
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50% PWM Dimming

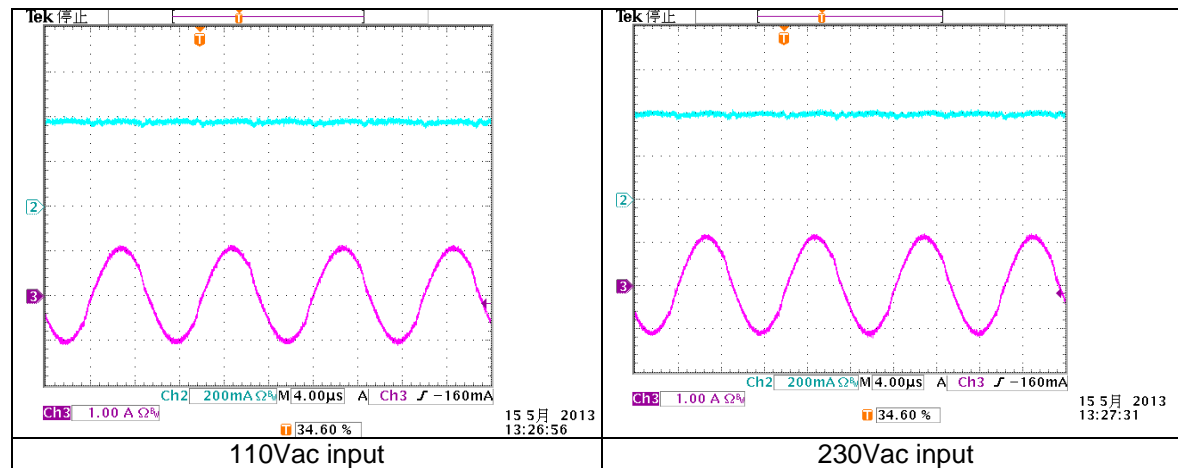
60% PWM Dimming



2.7: Operating waveform

CH2: LED Output Current 200mA/Div

CH3: Primary Current 1A/Div



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