Texas Instruments

PMP4362 Test Procedure

China Power Reference Design

REV A

21/03/2013

1 GENERAL

1.1 PURPOSE

To provide detailed data for evaluating and verifying the PMP4362.

1.2 REFERENCE DOCUMENTATION

Schematic: PMP4362_SCH_RevA
Assembly: PMP4362_PCB_RevA
BOM

1.3 TEST EQUIPMENTS

Power-meter: YOKOGAWA WT210
Multi-meter(current): Fluke 3345A
Multi-meter(voltage): Fluke 187
AC Source: Chroma 61530
LED load: Chroma 63110A module

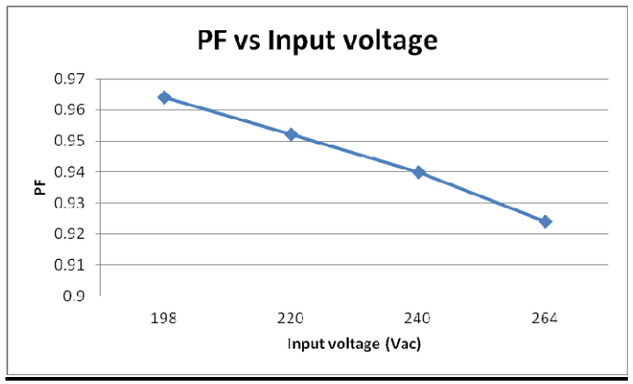
2 INPUT CHARACTERISTICS

Otherwise Specified, the test is under the condition With LED electric Load (Chroma 63310A, 120V, 0.23A).

2.1 POWER FACTOR

Pass/Fail criteria: 0.9 minimum at 100% load.

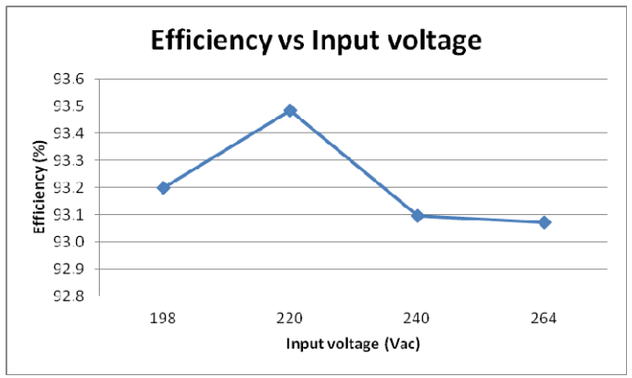
Vin(Vac)	Freq(Hz)	PF	Pass/Fail
198	50	**0.964**	**Pass**
220	50	**0.952**	**Pass**
240	50	**0.940**	**Pass**
264	50	**0.924**	**Pass**



2.2 EFFICIENCY

Pass/Fail criteria: 90% minimum at 100% load.

Vin(Vac)	Freq(Hz)	Pin(W)	Vo(V)	Io(A)	Eff(%)	Pass/Fail
198	50	**28.77**	**119.7**	**0.224**	**93.2**	**Pass**
220	50	**28.81**	**119.7**	**0.225**	**93.5**	**Pass**
240	50	**28.93**	**119.7**	**0.225**	**93.1**	**Pass**
264	50	**29.09**	**119.8**	**0.226**	**93.1**	**Pass**



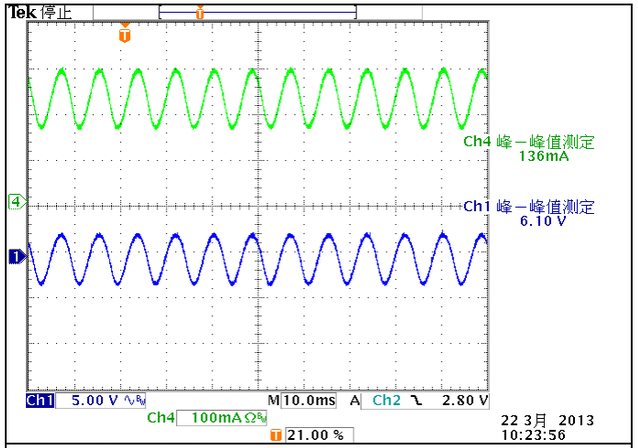
2.3 INPUT CURRENT

Vin(Vac)	Freq(Hz)	Iin(A)	Pass/Fail
220	50	**0.137**	
240	50	**0.128**	

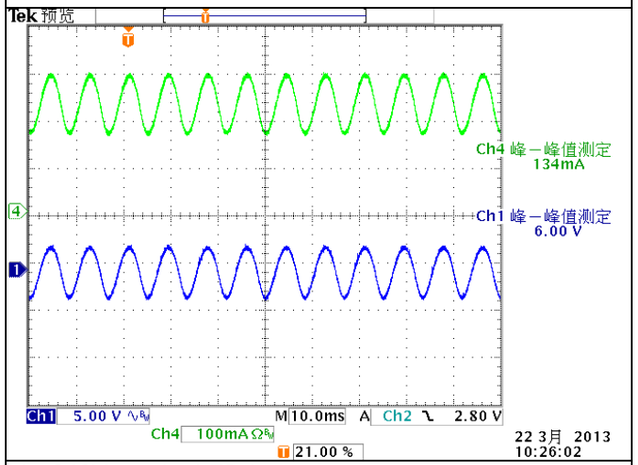
3 OUTPUT CHARACTERISTICS

3.1 RIPPLE CURRENT

CONDITIONS		Ripple current (A)	Pass/Fail
Vin (Vac)	Load		
220	Full load	0.136	
240	Full load	0.134	



Vin:220Vac Io: LED Lamp load
Ch1: LED ripple voltage 5V/div
Ch4: LED current 100mA/div

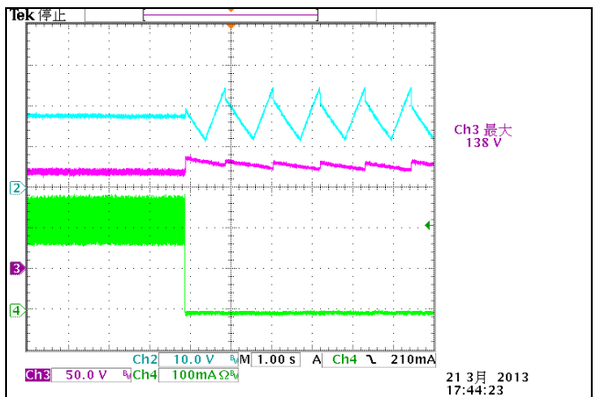


Vin:240Vac Io: LED Lamp load
Ch1: LED ripple voltage 5V/div

Ch4: LED current 100mA/div

3.2 OUTPUT OVER VOLTAGE AND NO LOAD PROTECTION

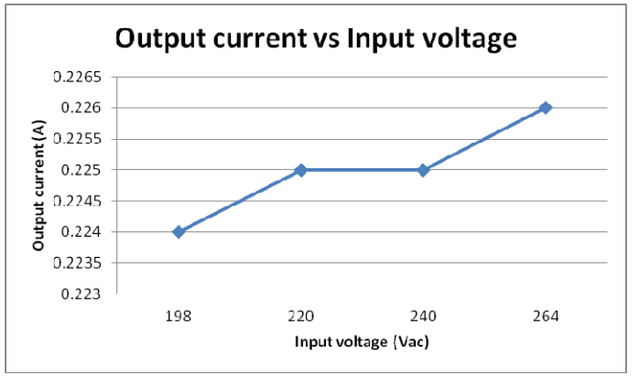
CONDITIONS	Protection voltage (V)	Pass/Fail
Vin (Vac)		
230	138	



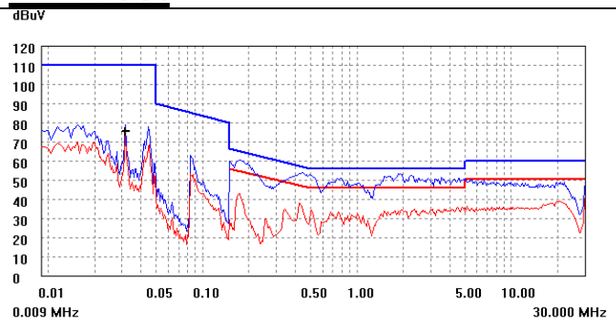
Vin:230Vac From full load to no load
Ch2: VCC, 10V/div
Ch3: LED voltage, 50V/div
Ch4: LED current, 100mA/div

3.3 LINE REGULATION CURVE

Vin(Vac)	Freq(Hz)	Io(A)	Pass/Fail
198	50	**0.224**	
220	50	**0.225**	
240	50	**0.225**	
264	50	**0.226**	



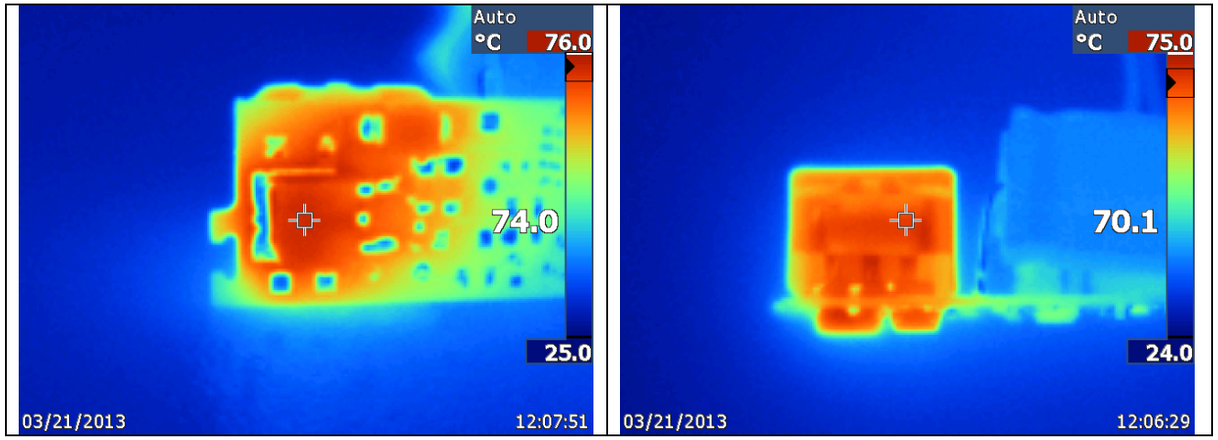
4 EMI Test



Vin: 220Vac Io: LED lamp load

5 Thermal Test

Test condition: Room Temperature


Auto
°C
76.0
74.0
25.0
03/21/2013
12:07:51

Auto
°C
75.0
70.1
24.0
03/21/2013
12:06:29

IMPORTANT NOTICE AND DISCLAIMER

TI PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATASHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES “AS IS” AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with TI products. You are solely responsible for (1) selecting the appropriate TI products for your application, (2) designing, validating and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, or other requirements. These resources are subject to change without notice. TI grants you permission to use these resources only for development of an application that uses the TI products described in the resource. Other reproduction and display of these resources is prohibited. No license is granted to any other TI intellectual property right or to any third party intellectual property right. TI disclaims responsibility for, and you will fully indemnify TI and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources.

TI’s products are provided subject to TI’s Terms of Sale (https:www.ti.com/legal/termsofsale.html) or other applicable terms available either on ti.com or provided in conjunction with such TI products. TI’s provision of these resources does not expand or otherwise alter TI’s applicable warranties or warranty disclaimers for TI products.

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265
Copyright © 2021, Texas Instruments Incorporated