Design PMP40025 Test Results

1 GENERAL

1.1 PURPOSE

The PMP40025 is a 48W TV reference design using the primary-side regulation UCC28730D and UCC24650DBVR. The test report presents the standby power, efficiency and related electrical performance.

1.2 REFERENCE DOCUMENTATION

Schematic: PMP40025E1(001)_Sch.PDF
PCB: PMP40025_RevA.PcbDoc
BOM: PMP40025E1(001)_TI-BOM.PDF

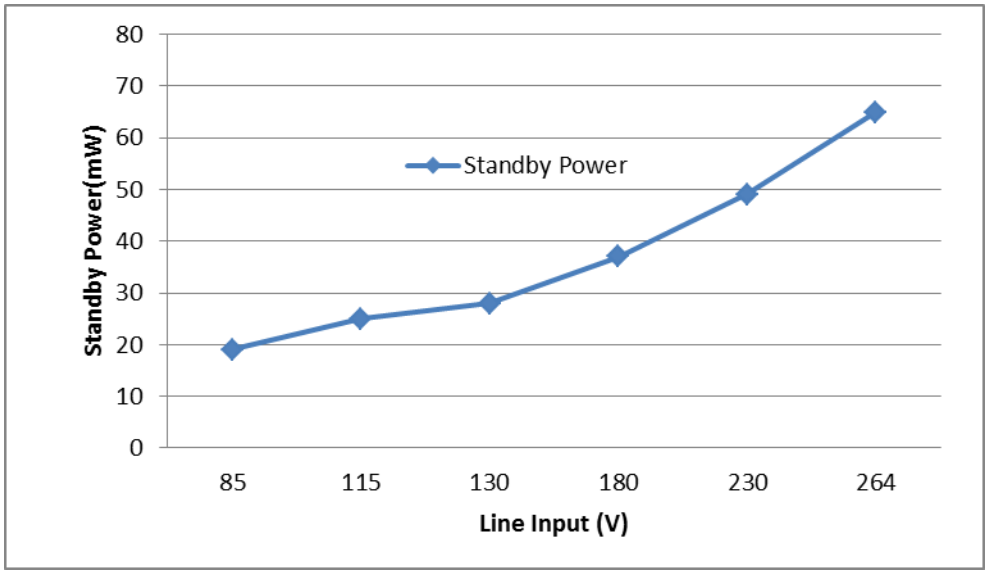
1.3 TEST EQUIPMENTS

Multi-meter (current): Fluke 287C*2
Multi-meter (voltage): Agilent 34401A
AC Source: Chroma 61503
E-Load: Chroma 63101 module

2 Performance data and waveform

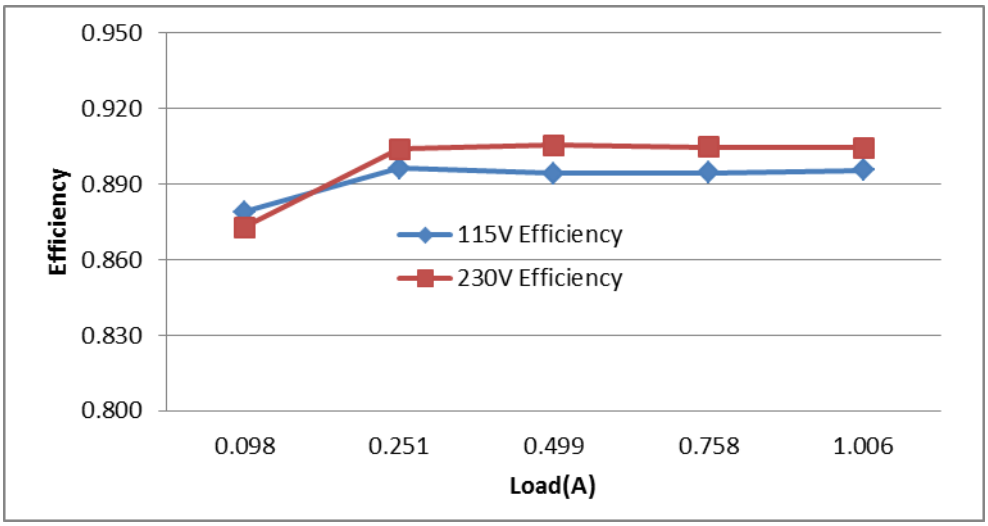
2.1 Standby Power

Input Voltage(V)	85	115	130	180	230	264
Standby Power(mW)	19	25	28	37	49	65

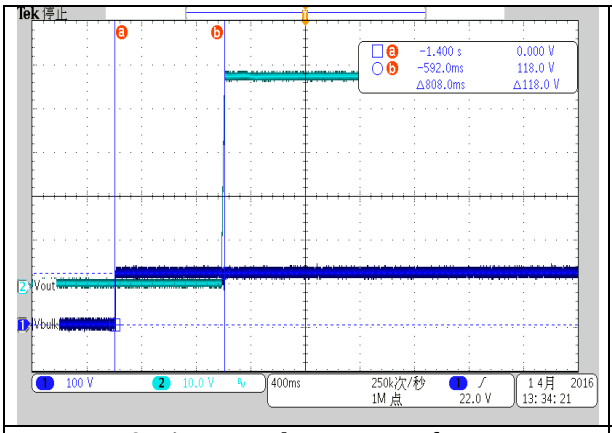


2.2 Efficiency

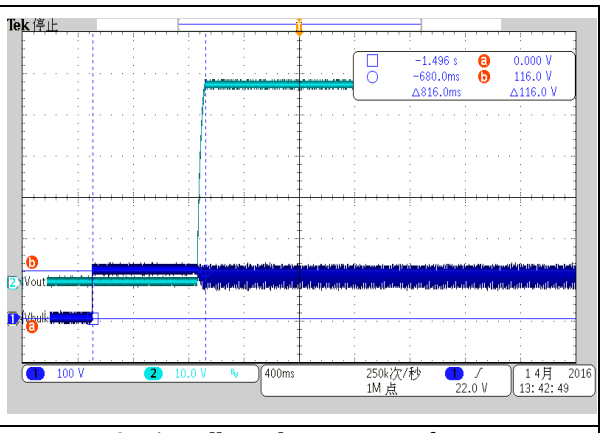
Input Voltage(V)	Pin(W)	Vout(V)	Iout(A)	Pout(W)	Efficiency	Average Efficiency
115	0.025		0			
	5.34	48.138	0.098	4.693	0.879	0.895
	13.47	48.059	0.251	12.072	0.896	
	26.82	48.090	0.499	23.983	0.894	
	40.74	48.108	0.758	36.442	0.894	
	54.09	48.141	1.006	48.439	0.896	
Input Voltage(V)	Pin(W)	Vout(V)	Iout(A)	Pout(W)	Efficiency	Average Efficiency
230	0.049		0			
	5.51	48.099	0.100	4.810	0.873	0.905
	13.34	47.998	0.251	12.057	0.904	
	26.45	48.014	0.499	23.945	0.905	
	40.27	48.085	0.758	36.425	0.905	
	53.57	48.156	1.006	48.454	0.905	



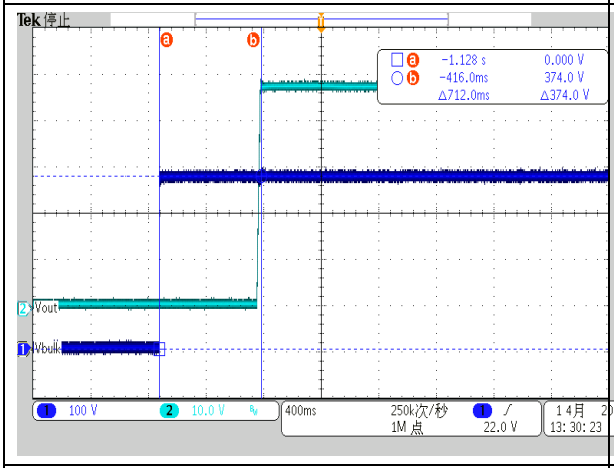
2.3 Start Up



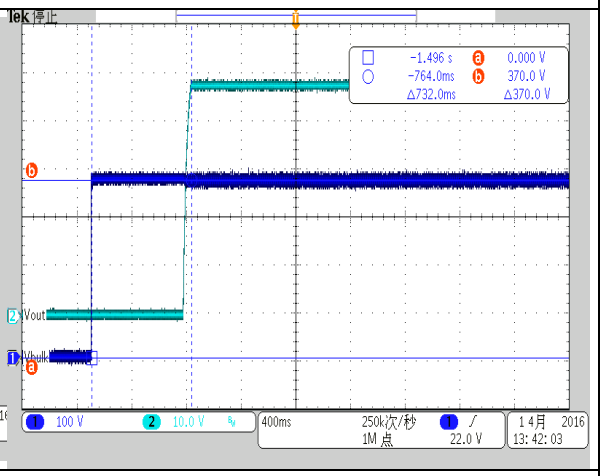
85Vin No-Load turn-on waveform



85Vin Full-Load turn-on waveform

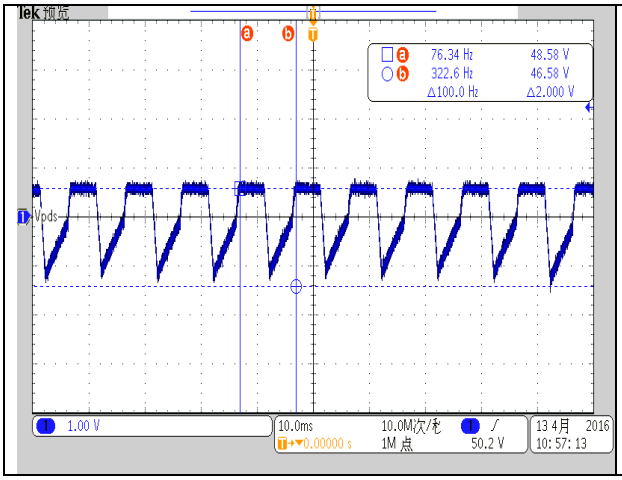


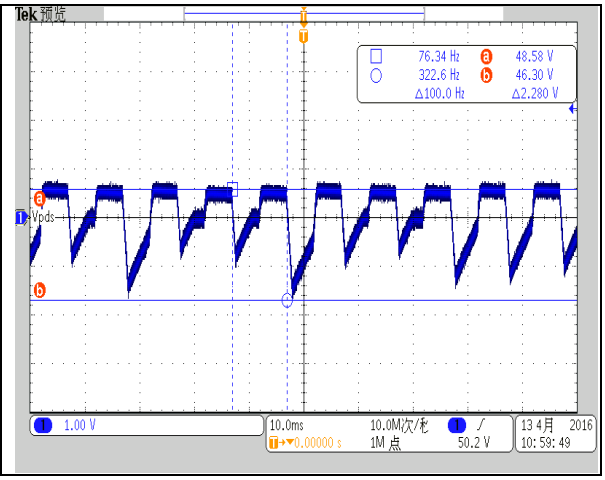
264Vin No-Load turn-on waveform



264Vin Full-Load turn-on waveform

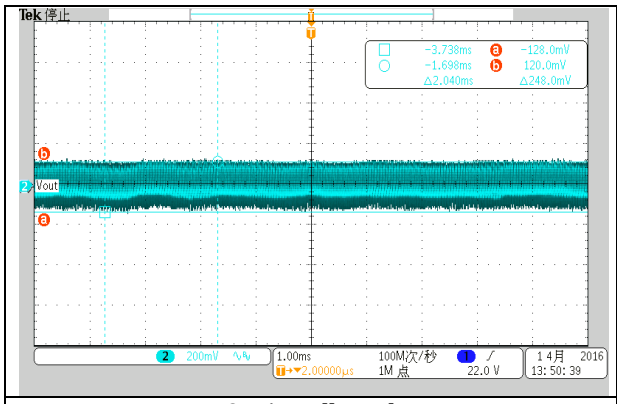
2.4 Transient Performance



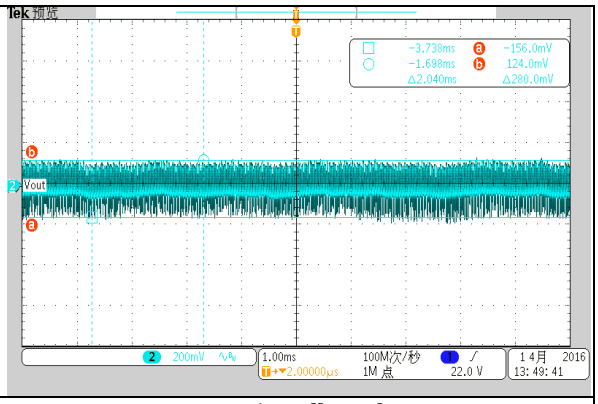


115Vin 0-1A step load, 100Hz cycle, slew rate 1A/us	230Vin 0-1A step load, 100Hz cycle, slew rate 1A/us

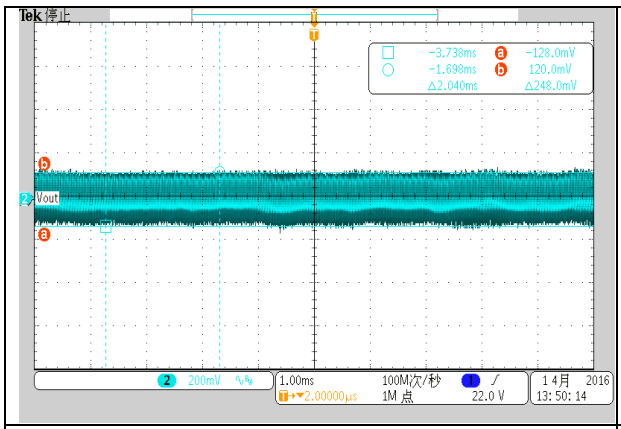
2.5 OUTPUT Voltage Ripple



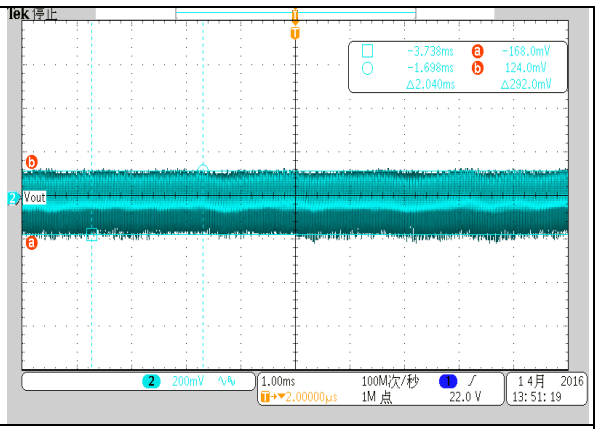
85Vin Full Load



115Vin Full Load

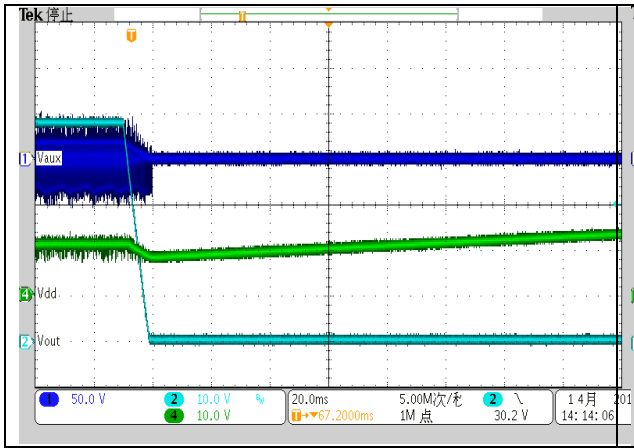


230Vin Full Load

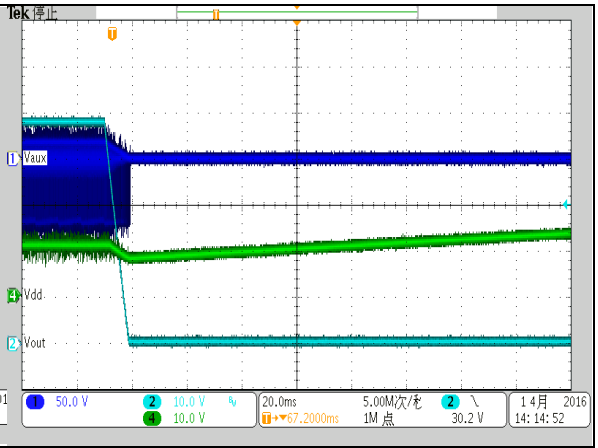


264Vin Full Load

2.6 Short Circuit Protection



115VAC from full load to short circuit



230VAC from full load to short circuit

2.7 EMI

EMI TEST REPORT

parameter

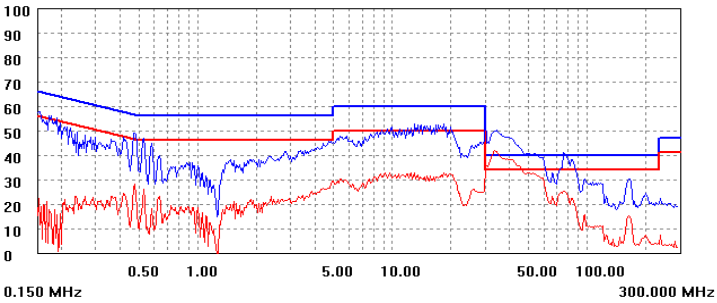
Organization:	Operator:	EUT:
Place:	Time: 2016/4/14/17:12	Test equipment:KH3939
Detector: PK+AV	Test-time(ms): 20	SN: 1139203
Limit: EN55022-3-1G	Transductor(PK/AV): PK1 / AV1	
Remark:		

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



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