



Texas Instruments

PMP4478 Test Procedure

China Power Reference Design

REV A

03/20/2015

1 GENERAL

1.1 PURPOSE

To provide detailed data for evaluating and verifying the PMP4478, this uses TI controller-
- UCC28740 for 5V3A adapter with size 44mmx35mmx15mm.

1.2 REFERENCE DOCUMENTATION

Schematic PMP4478_SCH.PDF

Assembly PMP4478_PCB.PDF

BOM

Gerber files

1.3 TEST EQUIPMENTS

Power-meter: YOKOGAWA WT210

Multi-meter(voltage): Fluke 287C

AC Source: Chroma 61530

Electronic load: Chroma 63105A module

Testing demoboard

2 INPUT CHARACTERISTICS

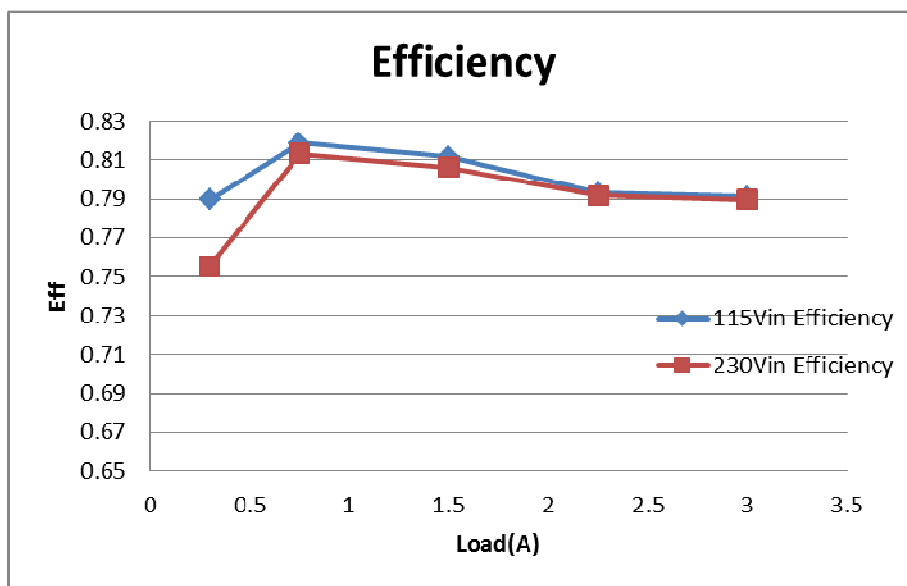
2.1 STANDBY POWER

V _{in} (Vac)	P _{in} (mW)
264	27
230	22
180	18
150	16
115	16
90	15

2.2 EFFICIENCY DATA

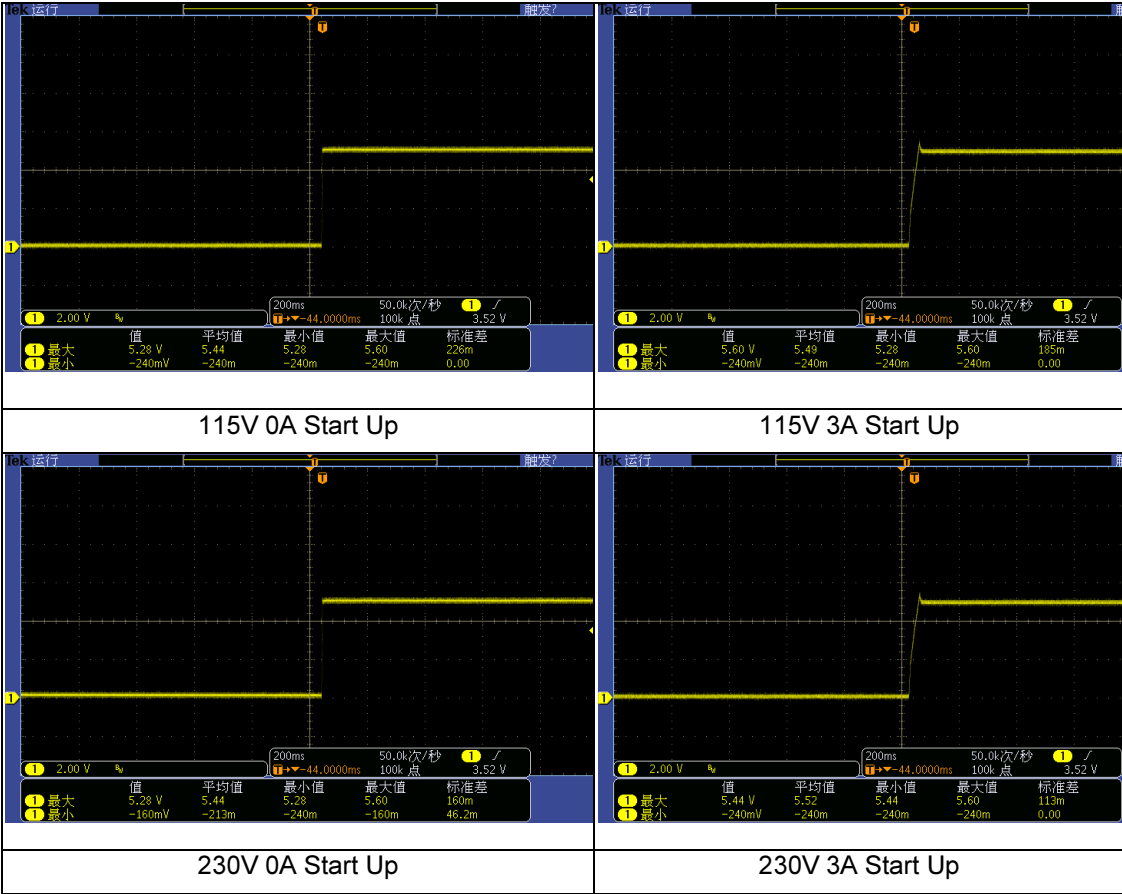
Notes: efficiency test is based on USB port

Vin	Pin	Vo	Io	Po	Eff
230	1.99	5.01	0.3	1.503	0.7553
	4.62	5.01	0.75	3.7575	0.8133
	9.32	5.01	1.5	7.515	0.8063
	14.25	5.01	2.252	11.283	0.7918
	19	5	3	15	0.7895
					0.8002
115	1.91	5.01	0.301	1.508	0.7895
	4.59	5.01	0.75	3.7575	0.8186
	9.26	5.01	1.5	7.515	0.8116
	14.19	5	2.251	11.255	0.7932
	18.96	5	3	15	0.7911
					0.8036

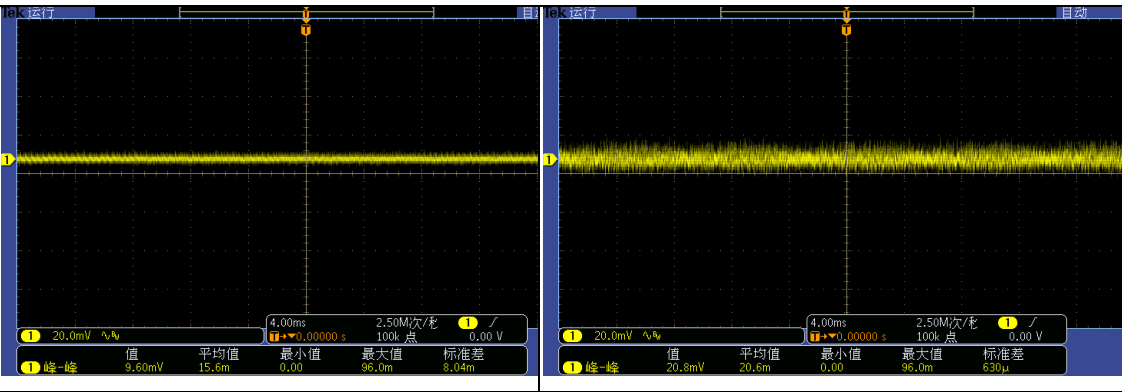


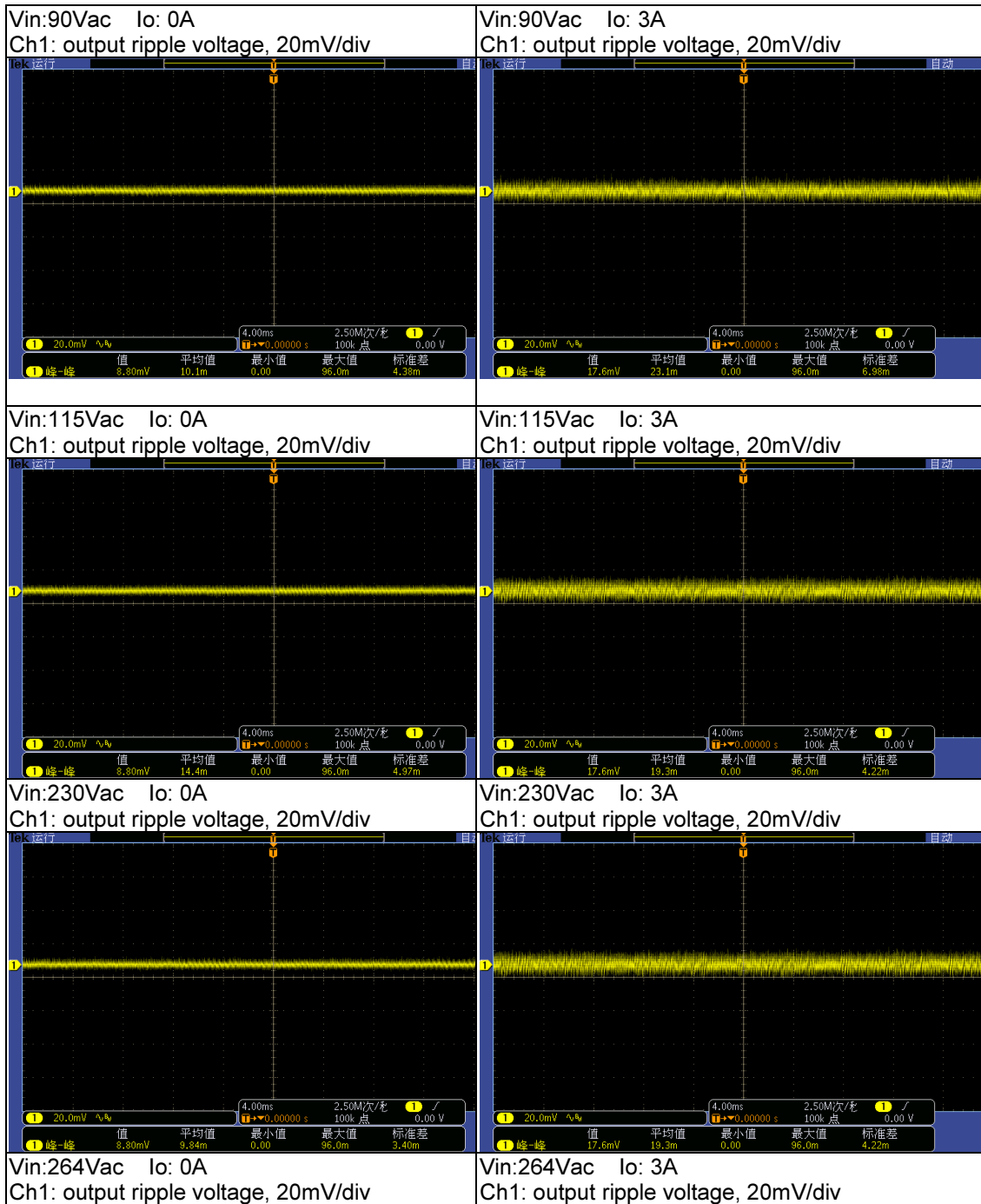
3 OUTPUT CHARACTERISTICS

3.1 STARTUP



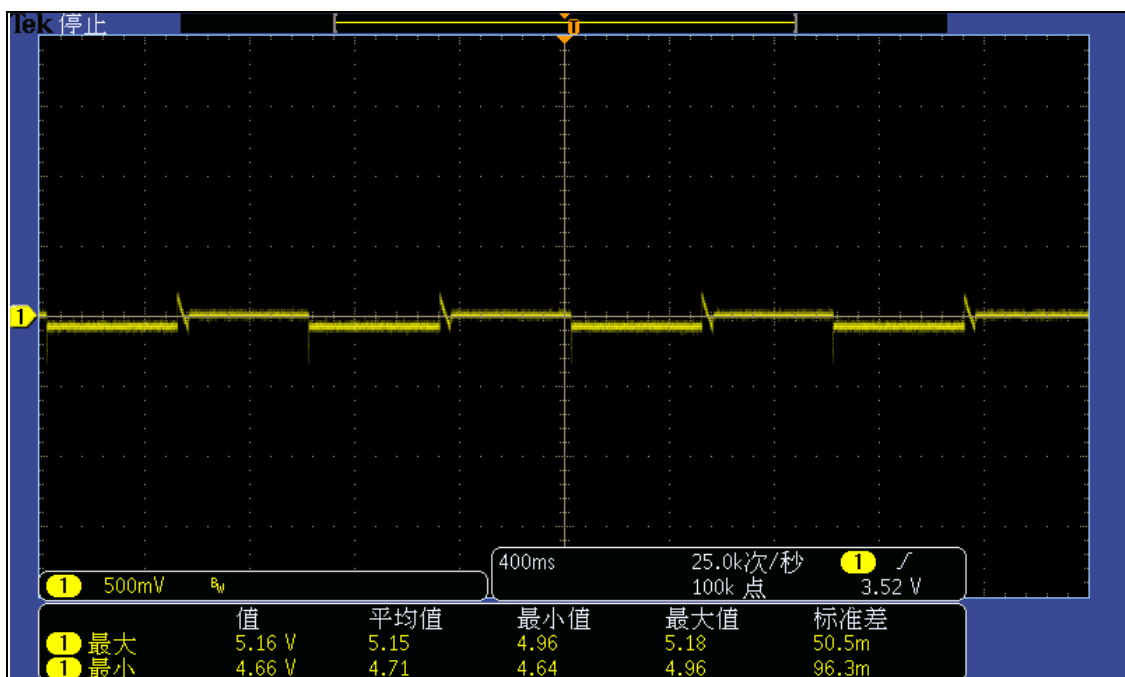
3.2 RIPPLE VOLTAGE



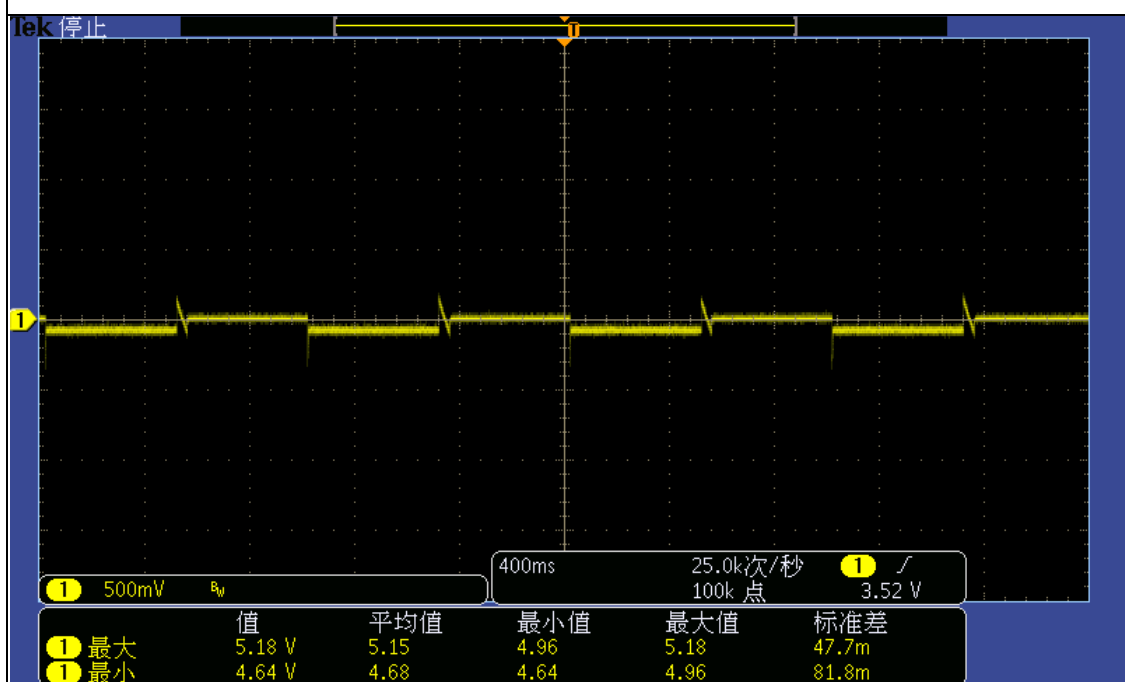


3.3 DYNAMIC RESPONSE

Input voltage	Output current	Max voltage	Min voltage
115Vac	0%-100% of full load	5.16V	4.66V
230Vac	0%-100% of full load	5.18V	4.64V



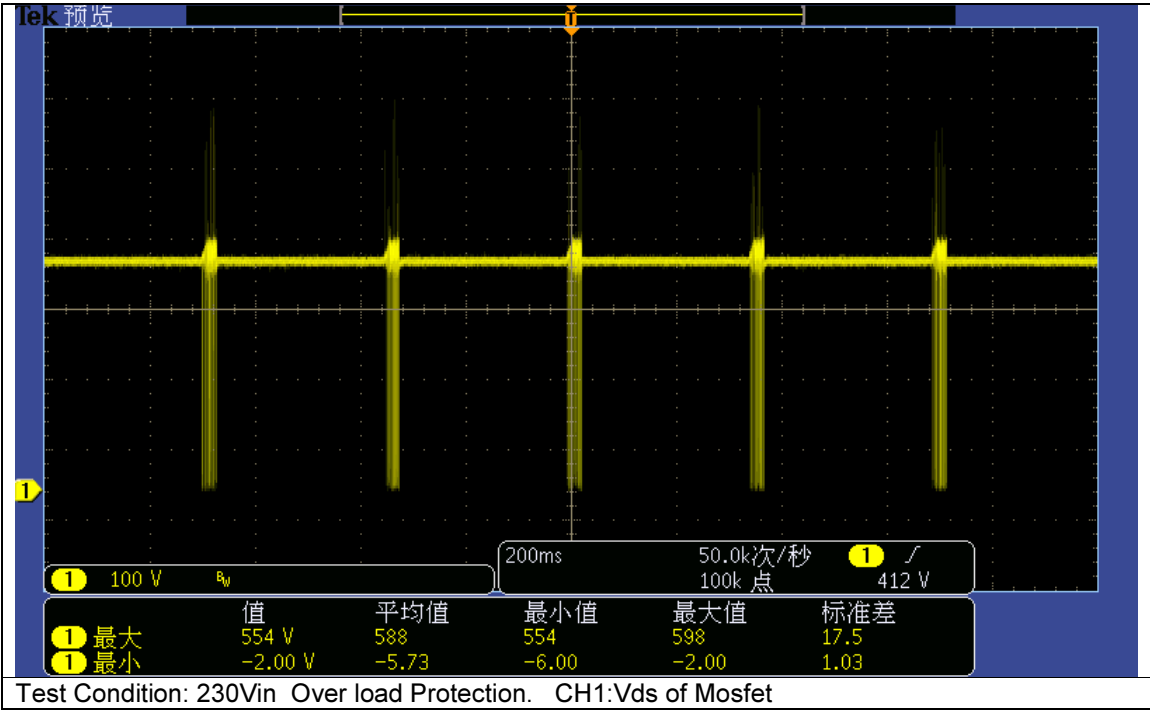
Vin:115Vac test condition: 0%-100% of full load, 0.4A/us, 500ms cycle, 100cm cable
Ch1: output voltage



Vin:230Vac test condition: 0%-100% of full load, 0.4A/us, 500ms cycle, 100cm cable
Ch1: output voltage

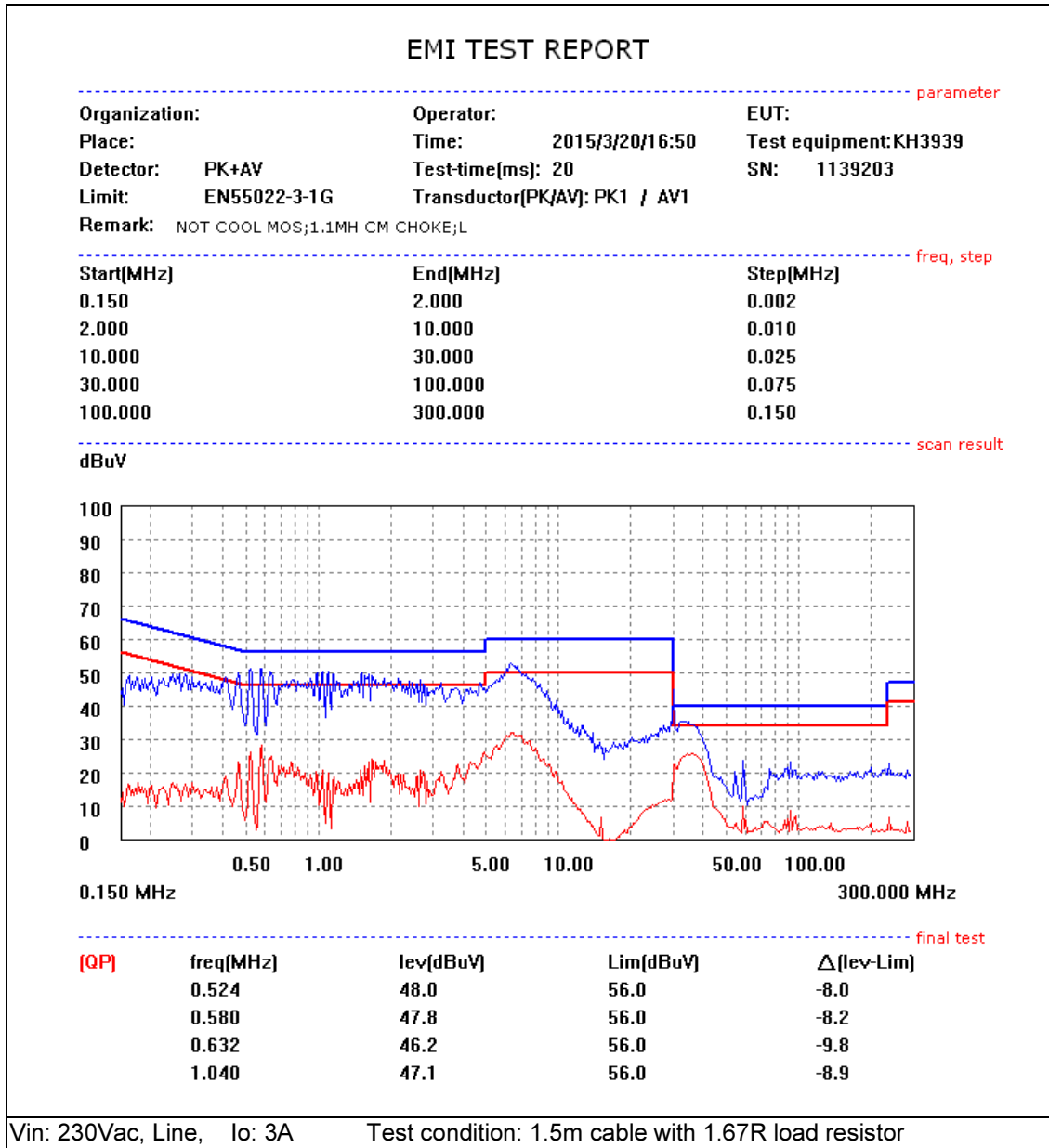
3.4 OUTPUT SHORT PROTECTION

Input voltage	Output short protection
115&230Vac	Hiccup mode



4 EMI Test

4.1 Conduction emission

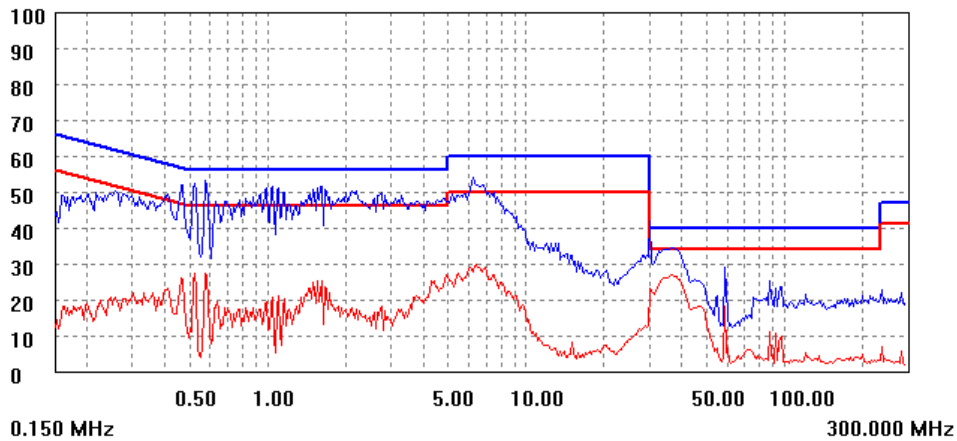


EMI TEST REPORT

Organization:	Operator:	EUT:
Place:	Time: 2015/3/20/16:54	Test equipment: KH3939
Detector: PK+AV	Test-time(ms): 20	SN: 1139203
Limit: EN55022-3-1G	Transductor(PK/AV): PK1 / AV1	
Remark: NOT COOL MOS;1.1MH CM CHOKE;N		

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

dBuV



(QP)	freq(MHz)	lev(dBuV)	Lim(dBuV)	Δ(lev-Lim)
	0.576	50.5	56.0	-5.5
	0.522	49.5	56.0	-6.5
	0.988	47.7	56.0	-8.3

Vin:230Vac, Neutral, Io: 3A Test condition: 1.5m cable with 1.67R load resistor

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