



## PBA15F EMI/EMS Test result

November 8, 2005  
Design engineering dep.

Approved : *K. Hoshino*

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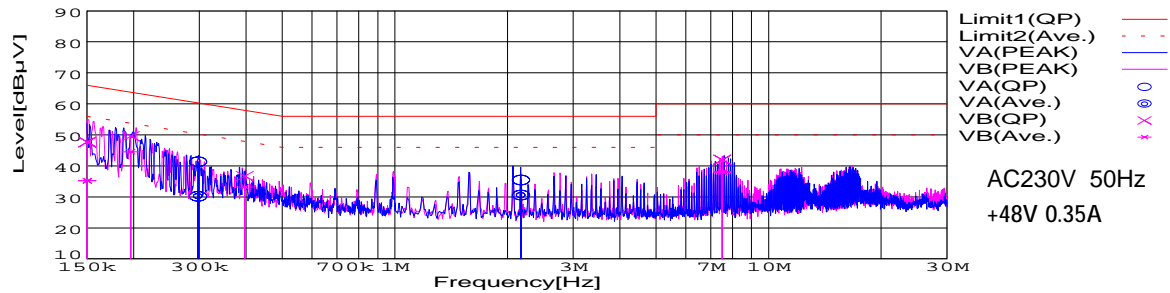
No.	Test item	Conditions	Conditions of Acceptability	Result
1	Line conduction	(1) Rated input(AC100V,120V,230V) (2) Rated load (3) Ambient temp. $25 \pm 10^{\circ}\text{C}$	(1)Meets the undermentioned standard. FCC Part15 classB , VCCI classB CISPR22 classB , EN55022-B EN55011-B	OK
2	Radiated emission	(1) Rated input(AC100V,120V,230V) (2) Rated load (3) Ambient temp. $25 \pm 10^{\circ}\text{C}$	(1)Meets the undermentioned standard. FCC Part15 classB , VCCI classB CISPR22 classB , EN55022-B EN55011-B	OK
3	Harmonic current (EN61000-3-2)	(1) Rated input (AC100V,230V) (2) Load 0 - Rated load (3) Ambient temp. $25 \pm 10^{\circ}\text{C}$	(1)Meets the undermentioned standard. EN61000-3-2 classA	OK
4	Static electricity immunity test (EN61000-4-2)	(1) Rated input (AC230V) (2) Rated load (3) Ambient temp. $25 \pm 10^{\circ}\text{C}$ (4) Contact discharge voltage 8[kV] (Level 4)	(1)No protection circuit failure. (2)No output voltage drop with control circuit failure. (3)No any other function failure	OK
5	Radiated, radio-frequency, electromagnetic field immunity test (EN61000-4-3)	(1) Rated input (AC230V) (2) Rated load (3) Ambient temp. $25 \pm 10^{\circ}\text{C}$ (4)Testing field strength 10[V/m] (Level 3)	(1)No protection circuit failure. (2)No output voltage drop with control circuit failure. (3)No any other function failure	OK
6	Electrical fast transient/ burst immunity test (EN61000-4-4)	(1) Rated input (AC230V) (2) Rated load (3) Ambient temp. $25 \pm 10^{\circ}\text{C}$ (4) Test peak voltage 4[kV] (Level 4)	(1)No protection circuit failure. (2)No output voltage drop with control circuit failure. (3)No any other function failure	OK
7	Surge immunity test (EN61000-4-5)	(1) Rated input (AC230V) (2) Rated load (3) Ambient temp. $25 \pm 10^{\circ}\text{C}$ (4) Test voltage Line to line 2[kV] (Level 3) Line to earth 4[kV] (Level 4)	(1)The power supply is not stop (2)Circuit does not malfunction. (3)No abnormality of the insulation destruction etc. (4)Parts are no damaged.	OK
8	Immunity to conducted disturbances, induced by radio-frequency fields (EN61000-4-6)	(1) Rated input (AC230V) (2) Rated load (3) Ambient temp. $25 \pm 10^{\circ}\text{C}$ (4) Voltage level (e.m.f.) 10[V] (Level 3)	(1)No protection circuit failure. (2)No output voltage drop with control circuit failure. (3)No any other function failure	OK
9	Power frequency magnetic field immunity test (EN61000-4-8)	(1) Rated input (AC230V) (2) Rated load (3) Ambient temp. $25 \pm 10^{\circ}\text{C}$ (4) Magnetic field strength 30[A/m] (Level 4)	(1)No protection circuit failure. (2)No output voltage drop with control circuit failure. (3)No any other function failure	OK
10	Voltage dips, short interruptions and voltage variations immunity test (EN61000-4-11)	(1) Rated input (AC230V) •30% reduction at 10mS min. •60% reduction at 100mS min •95% reduction at 5S min. • $\pm 10\%$ variation at 15 minutes (2) Rated load (3) Ambient temp. $25 \pm 10^{\circ}\text{C}$	(1)No protection circuit failure. (2)No output voltage drop with control circuit failure. (3)No any other function failure	OK

DATA SHEET		Date	26-Apr-05
Model	PBA15F-48	Temp.	25 degreeC
Test	EMI Line conduction & Radiated emission	Humid.	45 %RH
		Tested by	K.Kosugi

## LINE CONDUCTION

Model Name : PBA15F-48  
 Model No. :  
 Serial No. :  
 Points : 6  
 Detector : PEAK/QP/Ave.  
 Line Mode : VA/VB  
 Power Supply : AC 230V 50Hz  
 Limit1 : [EN 55022] Class B(QP)  
 Limit2 : [EN 55022] Class B(Ave.)

Temp. : 25 degreeC  
 Humi. : 45 %  
 Date : 2005/4/26 9:59  
 Test Equip. : R3132,ESPC  
 Load Line : 50 mm  
 Comment :

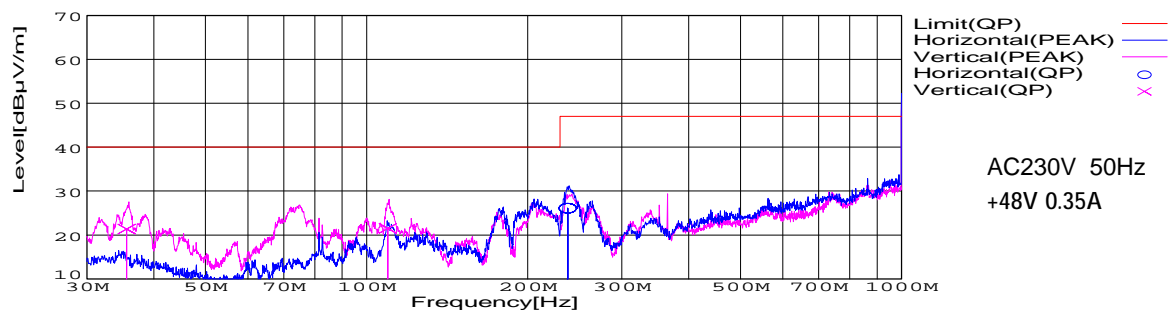


Frequency [MHz]	Meter Reading (Ave.) [dBuV]	Meter Reading (QP) [dBuV]	Factor [dB]	Level(Ave.) [dBuV]	Level(QP) [dBuV]	Line	Limit(Ave.) [dBuV]	Limit(QP) [dBuV]	Margin(Ave.) [dB]	Margin(QP) [dB]
0.2975	20.2	31.3	10	30.2	41.3	VA	50.3	60.3	20.1	19
2.1749	20.4	25.2	10.2	30.6	35.4	VA	46	56	15.4	20.6
0.1503	25.2	37.7	10	35.2	47.7	VB	56	66	20.8	18.3
0.1965	34.6	39.6	10	44.6	49.6	VB	53.8	63.8	9.2	14.2
0.3967	23.2	26.7	10	33.2	36.7	VB	47.9	57.9	14.7	21.2
7.5176	27.6	31.5	10.4	38	41.9	VB	50	60	12	18.1

## RADIATED EMISSION

Model Name : PBA15F-48  
 Model No. :  
 Serial No. :  
 Points : 3  
 Detector : PEAK/QP  
 Polarization : Hori. & Vert.  
 Power Supply : AC 230V 50Hz  
 Limit : [EN 55022] Class B<3m>

Temp. : 25 degreeC  
 Humi. : 45 %  
 Date : 2005/5/11 9:57  
 Test Equip. : R3132,ESPC  
 Load Line : 50 mm  
 Comment :



Frequency [MHz]	MeterReading (QP) [dBuV]	Ant. Type	Antenna Factor [dB/m]	Cable & Preamp [dB]	Level(QP) [dBuV/m]	Angle [°]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
237.722	39.3	BL	10.5	-23.7	26.1	166	120	Hori.	47	20.9
35.593	33.9	BL	15	-27.6	21.3	265	113	Vert.	40	18.7
109.494	37.3	BL	10.4	-26.2	21.5	118	147	Vert.	40	18.5