



# PBA1500F EMI/EMS Test result

September 16, 2004  
Design engineering dep.

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No.	Test item	Conditions	Conditions of Acceptability	Result
1	Line conduction	(1) Rated input(AC100V,230V) (2) Rated load (3) Ambient temp. $25\pm 10^{\circ}\text{C}$	(1)Meets the undermentioned standard. FCC Part15 classA , VCCI classA CISPR22 classA , EN55011-A	OK
2	Radiated emission	(1) Rated input(AC100V,230V) (2) Rated load (3) Ambient temp. $25\pm 10^{\circ}\text{C}$	(1)Meets the undermentioned standard. FCC Part15 classA , VCCI classA CISPR22 classA , EN55011-A	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 30A/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

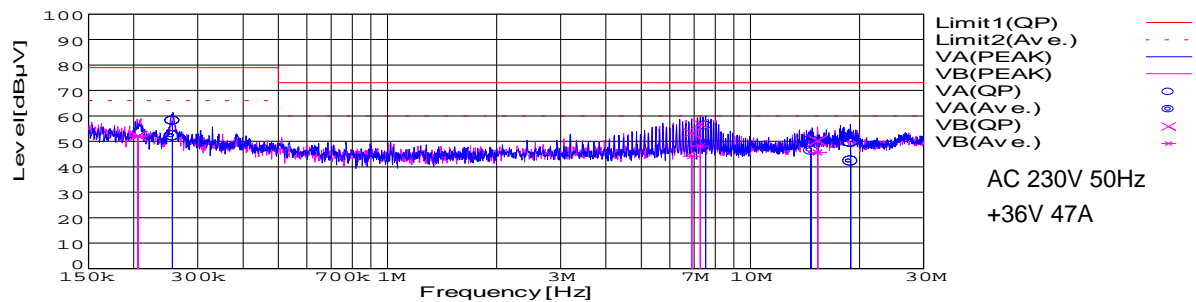
## DATA SHEET

Date		09-Mar-03	
Model	PBA1500F-36	Temp.	25 degreeC
Test	EMI Line conduction & Radiated emission	Humid.	45 %RH
		Tested by	T.Kubota

### LINE CONDUCTION

Model Name : PBA1500F-36  
 Model No. :  
 Serial No. :  
 Points : 8  
 Detector : PEAK/QP/Ave.  
 Line Mode : VA/VB  
 Power Supply : AC 230V 50Hz  
 Limit1: [EN 55011] Class A Gr.1(QP)  
 Limit2: [EN 55011] Class A Gr.1(Ave.)

Temp. : 25  
 Humi. : 45  
 Date : 2003/3/9 0:15  
 Test Equip. : R3132,ESPC  
 Comment : T.Kubota  
 +36V 47A

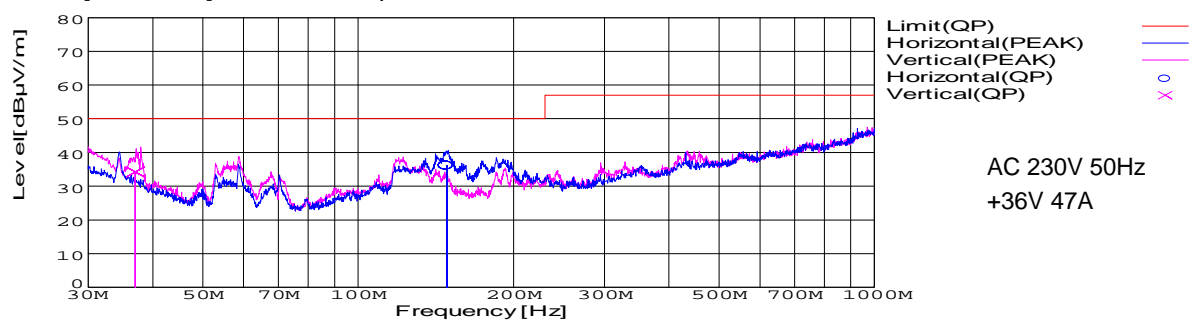


Frequency [MHz]	Meter Reading (Ave.) [dBuV]	Meter Reading (QP) [dBuV]	Factor [dB]	Level(Ave.) [dBuV]	Level(QP) [dBuV]	Line	Limit(Ave.) [dBuV]	Limit(QP) [dBuV]	Margin(Ave.) [dB]	Margin(QP) [dB]
0.2056	42.3	42.3	9.8	52.1	52.1	VB	66	79	13.9	26.9
0.2557	42.3	48.2	9.8	52.1	58	VA	66	79	13.9	21
6.8979	34.1	43.2	10	44.1	53.2	VB	60	73	15.9	19.8
7.2713	38	46.7	10.1	48.1	56.8	VB	60	73	11.9	16.2
7.5311	38.7	46.1	10.1	48.8	56.2	VA	60	73	11.2	16.8
14.6953	36	40.4	10.2	46.2	50.6	VA	60	73	13.8	22.4
15.3174	35.4	40	10.2	45.6	50.2	VB	60	73	14.4	22.8
18.8869	31.9	39.1	10.3	42.2	49.4	VA	60	73	17.8	23.6

### RADIATED EMISSION

Model Name : PBA1500F-36  
 Model No. :  
 Serial No. :  
 Points : 2  
 Detector : PEAK/QP  
 Polarization : Hori. & Vert.  
 Power Supply : AC 230V 50Hz  
 Limit: [EN 55011] Class A Group 1<3m>

Temp. : 25  
 Humi. : 45  
 Date : 2003/3/9 1:06  
 Test Equip. : R3132,ESPC  
 Comment : T.Kubota  
 +36V 47A



Frequency [MHz]	Meter Reading (QP) [dBuV]	Ant. Type	Antenna Factor [dB/m]	Cable & Preamp [dB]	Level(QP) [dBuV/m]	Angle [°]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
37.014	51.7	BL	14.7	-32.2	34.2	87	118	Vert.	50	15.8
148.519	57.1	BL	10.6	-31.6	36.1	178	146	Hori.	50	13.9