



## PBA1000F EMI/EMS Test result

 September 16, 2004  
 Design engineering dep.

 Approved : *Takahiro Uemura*

 Prepared : *Kazumasa Uetani*

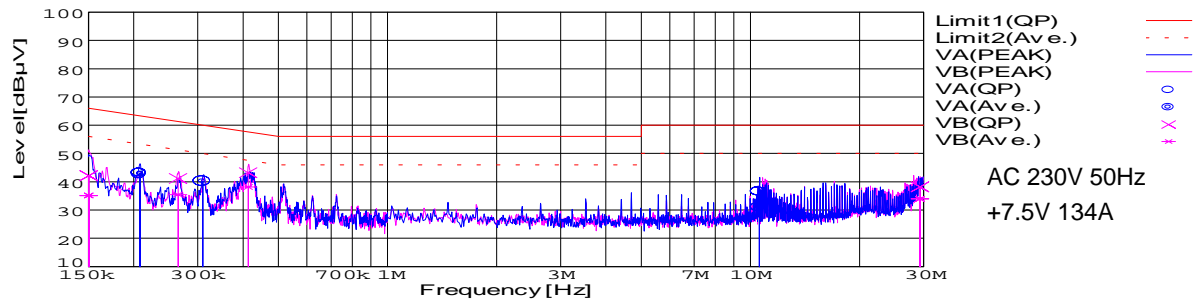
No.	Test item	Conditions	Conditions of Acceptability	Result
1	Line conduction	(1) Rated input(AC100V,120V,230V) (2) Rated load (3) Ambient temp. $25\pm 10^{\circ}\text{C}$	(1)Meets the undermentioned standard. FCC Part15 classB , VCCI classB CISPR22 classB , EN55022-B	ok
2	Radiated emission	(1) Rated 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	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	10-Feb-04
Model	PBA1000F-7R5		Temp.	25 degreeC
Test	EMI Line conduction & Radiated emission		Humid.	45 %RH
			Tested by	K.Uotani

## LINE CONDUCTION

Model Name : PBA1000F-7R5  
 Model No. :  
 Serial No. :  
 Points : 7  
 Detector : PEAK/QP/Ave.  
 Line Mode : VA/VB  
 Power Supply : AC 230V 50Hz  
 Limit1: [CISPR Pub22] Class B(QP)  
 Limit2: [CISPR Pub22] Class B(Ave.)

Temp. : 25  
 Humi. : 45  
 Date : 2004/2/10 23:03  
 Test Equip. : R3132,ESPC  
 Comment : K.Uotani  
 +7.5V 134A

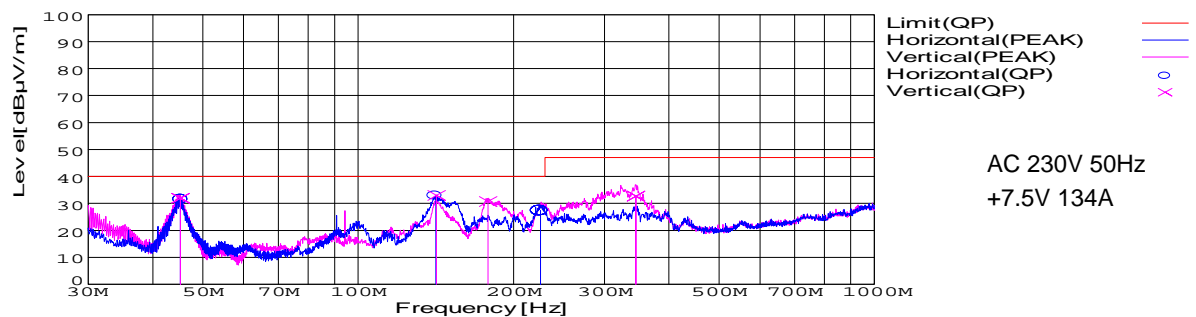


Frequency [MHz]	Meter Reading (Ave.) [dBuV]	Meter Reading (QP) [dBuV]	Factor [dB]	Level(Ave.) [dBuV]	Level(QP) [dBuV]	Line	Limit(Ave.) [dBuV]	Limit(QP) [dBuV]	Margin(Ave.) [dB]	Margin(QP) [dB]
0.1502	25.3	32.4	9.8	35.1	42.2	VB	56	66	20.9	23.8
0.208	33.1	33.3	9.8	42.9	43.1	VA	53.3	63.3	10.4	20.2
0.2649	25.7	31.4	9.8	35.5	41.2	VB	51.3	61.3	15.8	20.1
0.3097	30.3	30.4	9.8	40.1	40.2	VA	50	60	9.9	19.8
0.4133	28.2	33.3	9.9	38.1	43.2	VB	47.6	57.6	9.5	14.4
10.5981	20.9	26.4	10.1	31	36.5	VA	50	60	19	23.5
29.3257	23.4	27.7	10.5	33.9	38.2	VB	50	60	16.1	21.8

## RADIATED EMISSION

Model Name : PBA1000F-7R5  
 Model No. :  
 Serial No. :  
 Points : 7  
 Detector : PEAK/QP  
 Polarization : Hori. & Vert.  
 Power Supply : AC 230V 50Hz  
 Limit: [EN 55022] Class B<3m>

Temp. : 25  
 Humi. : 45  
 Date : 2004/2/10 23:03  
 Test Equip. : R3132,ESPC  
 Comment : K.Uotani  
 +7.5V 134A



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]
45.262	53.4	BL	10.1	-32.1	31.4	168	152	Hori.	40	8.6
45.266	54	BL	10.1	-32.1	32	258	115	Vert.	40	8
141.278	53.4	BL	10.8	-31.6	32.6	99	146	Hori.	40	7.4
141.856	53.8	BL	10.8	-31.6	33	23	158	Vert.	40	7
178.434	53.6	BL	8.5	-31.4	30.7	196	121	Vert.	40	9.3
225.34	49	BL	9.4	-31.2	27.2	114	154	Hori.	40	12.8
345.087	49.3	BL	14.2	-30.8	32.7	182	114	Vert.	47	14.3