



PBA1000F EMI/EMS Test result

 September 16, 2004
 Design engineering dep.

 Approved : *Takahiro Uemura*

 Prepared : *Kazumasa Uetani*

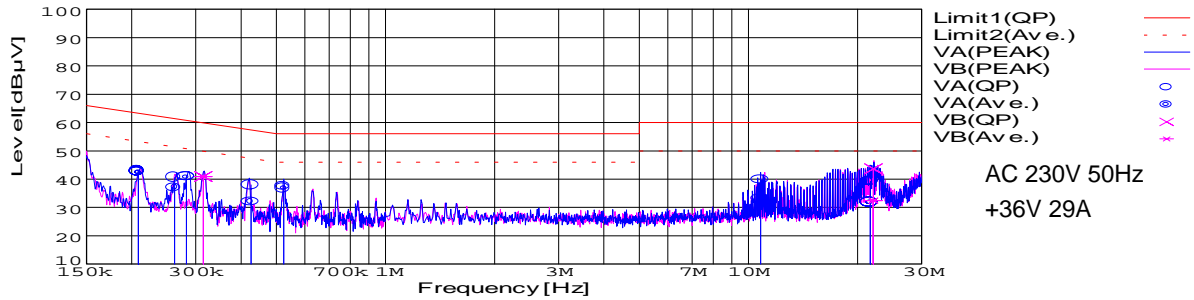
No.	Test item	Conditions	Conditions of Acceptability	Result
1	Line conduction	(1) Rated input(AC100V,120V,230V) (2) Rated load (3) Ambient temp. $25\pm 10^{\circ}\text{C}$	(1)Meets the undermentioned standard. FCC Part15 classB , VCCI classB CISPR22 classB , EN55022-B	ok
2	Radiated emission	(1) Rated 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-36	Temp.	25 degreeC
Test	EMI Line conduction & Radiated emission	Humid.	45 %RH
		Tested by	K.Uotani

LINE CONDUCTION

Model Name : PBA1000F-36
 Model No. :
 Serial No. :
 Points : 9
 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
 Humi. : 45
 Date : 2004/2/10 23:35
 Test Equip. : R3132,ESPC
 Comment : K.Uotani
 +36V 29A

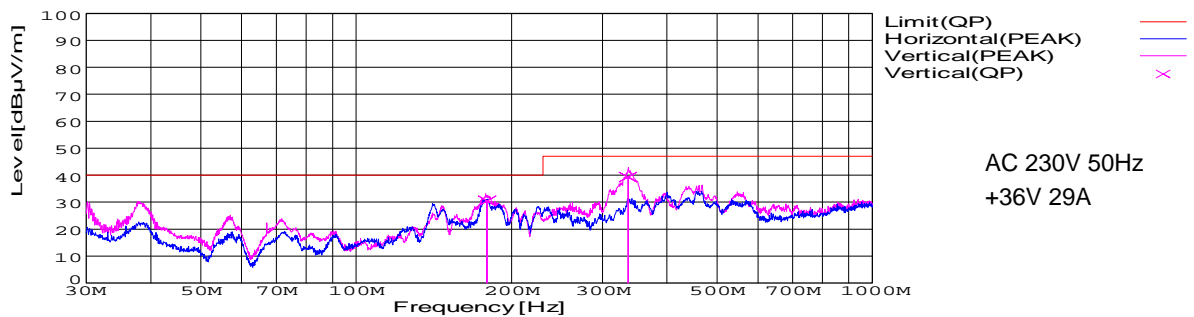


Frequency [MHz]	Meter Reading (Ave.) [dBuV]	Meter Reading (QP) [dBuV]	Factor [dB]	Level(Ave.) [dBuV]	Level(QP) [dBuV]	Line	Limit(Ave.) [dBuV]	Limit(QP) [dBuV]	Margin(Ave.) [dB]	Margin(QP) [dB]
0.2086	32.6	33.1	9.8	42.4	42.9	VA	53.3	63.3	10.9	20.4
0.262	27.2	30.8	9.8	37	40.6	VA	51.4	61.4	14.4	20.8
0.2827	30.9	31.2	9.8	40.7	41	VA	50.7	60.7	10	19.7
0.3148	31.1	31.1	9.8	40.9	40.9	VB	49.9	59.9	9	19
0.4267	22.2	28	9.9	32.1	37.9	VA	47.3	57.3	15.2	19.4
0.5241	26.9	27.9	9.9	36.8	37.8	VA	46	56	9.2	18.2
10.8004	23.1	29.7	10.1	33.2	39.8	VA	50	60	16.8	20.2
21.6934	21.4	28.8	10.3	31.7	39.1	VA	50	60	18.3	20.9
22.0958	33.4	22.1	10.3	43.7	32.4	VB	60	50	16.3	17.6

RADIATED EMISSION

Model Name : PBA1000F-36
 Model No. :
 Serial No. :
 Points : 2
 Detector : PEAK/QP
 Polarization : Vertical
 Power Supply : AC 230V 50Hz
 Limit: [EN 55022] Class B<3m>

Temp. : 25
 Humi. : 45
 Date : 2004/2/10 23:35
 Test Equip. : R3132,ESPC
 Comment : K.Uotani
 +36V 29A



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]
179.34	53.4	BL	8.4	-31.4	30.4	217	122	Vert.	40	9.6
336.092	56.1	BL	14	-30.8	39.3	251	102	Vert.	47	7.7