



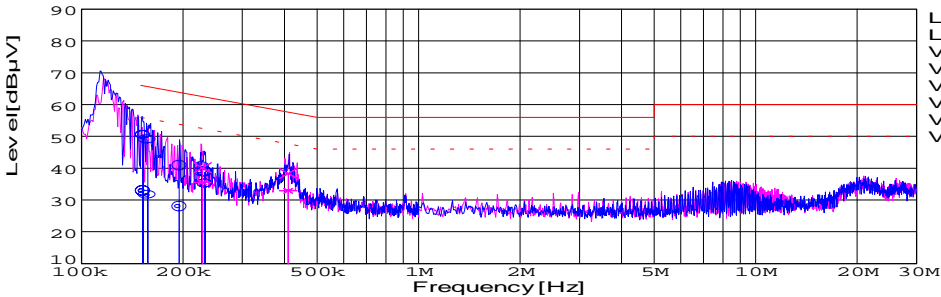
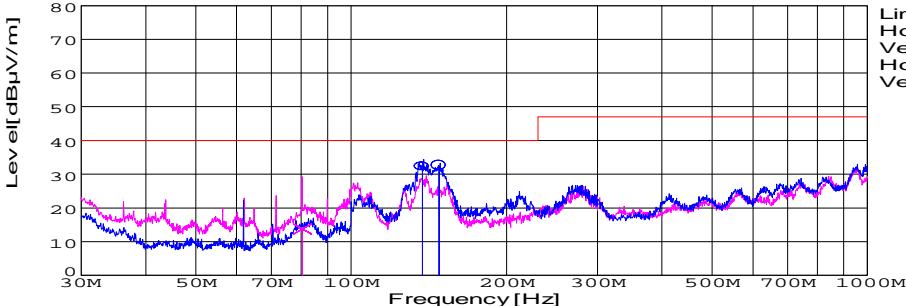
PBA150F EMI/EMS Test result

October 8, 2004
Design engineering dep.

Approved : *Takahiro Genda*

Prepared : *Setuna Kuside*

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 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	08-Mar-04			
Model	PBA150F-15						Temp.	25 degreeC			
Test	EMI Line conduction & Radiated emission						Humid.	45 %RH			
							Tested by	N.Inazawa			
LINE CONDUCTION											
Model Name			PBA150F-15			Temp.			25 degreeC		
Model No.						Humi.			45 %		
Serial No.						Date			2004/3/8 18:19		
Points			7			Test Equip.			R3132,ESPC		
Detector			PEAK/QP/Ave.			Load Line			150 mm		
Line Mode			VA/VB			Comment					
Power Supply			AC230V 50Hz								
Limit1: [EN 55022] Class B(QP)											
Limit2: [EN 55022] Class B(Ave.)											
							Limit1(QP) Limit2(Ave.) VA(PEAK) VB(PEAK) VA(QP) VA(Ave.) VB(QP) VB(Ave.) AC230V 50Hz +15V 10A				
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]	
0.1522	22.9	40.6	9.8	32.7	50.4	VA	55.9	65.9	23.2	15.5	
0.1574	21.6	39.1	9.8	31.4	48.9	VA	55.6	65.6	24.2	16.7	
0.195	18.1	31	9.8	27.9	40.8	VA	53.8	63.8	25.9	23.0	
0.2327	25.2	28.9	9.8	35	38.7	VA	52.4	62.4	17.4	23.7	
0.2278	29	30.6	9.8	38.8	40.4	VA	52.5	62.5	13.7	22.1	
0.2285	25.7	30.3	9.8	35.5	40.1	VB	52.5	62.5	17.0	22.4	
0.4107	23	28.4	9.9	32.9	38.3	VB	47.6	57.6	14.7	19.3	
RADIATED EMISSION											
Model Name			PBA150F-15			Temp.			25 degreeC		
Model No.						Humi.			45 %		
Serial No.						Date			2004/3/8 18:46		
Points			3			Test Equip.			R3132,ESPC		
Detector			PEAK/QP			Load Line			150 mm		
Polarization			Hori. & Vert.			Comment					
Power Supply			AC230V 50Hz								
Limit: [EN 55022] Class B<3m>											
							Limit(QP) Horizontal(PEAK) Vertical(PEAK) Horizontal(QP) Vertical(QP) AC230V 50Hz +15V 10A				
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]	
137.339	50	BL	10.9	-28.7	32.2	146	152	Hori.	40	7.8	
148.037	50.1	BL	10.6	-28.2	32.5	7	145	Hori.	40	7.5	