



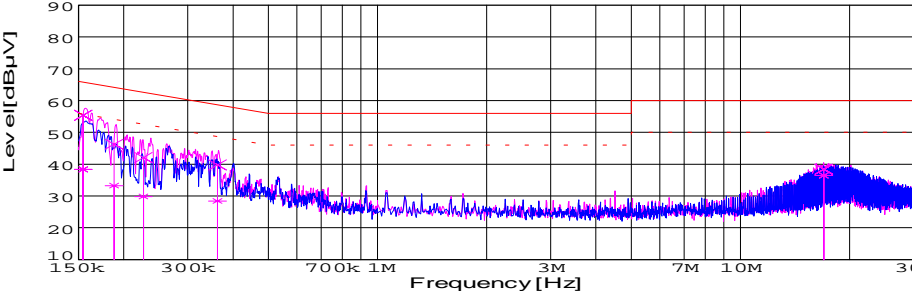
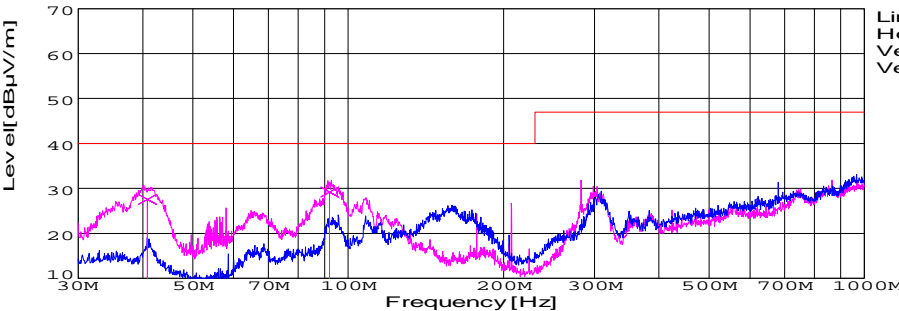
PBA50F EMI/EMS Test result

October 8, 2004
Design engineering dep.

Approved : *Takahiro Yamada*

Prepared : *Azumi Yoshiyama*

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	02-Feb-04																																																																				
Model	PBA50F-3R3						Temp.	25 degreeC																																																																				
Test	EMI Line conduction & Radiated emission						Humid.	44 %RH																																																																				
							Tested by	A.Yoshiyama																																																																				
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Model No. :			Humi. : 44 %																																																																									
Serial No. :			Date : 2004/2/2 22:04																																																																									
Points : 5			Test Equip. : R3132,ESPC																																																																									
Detector : PEAK/QP/Ave.			Load Line : 150 mm																																																																									
Line Mode : VB			Comment :																																																																									
Power Supply : AC230V 50Hz																																																																												
Limit1: [EN 55022] Class B(QP)																																																																												
Limit2: [EN 55022] Class B(Ave.)																																																																												
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<table><tr><th>Frequency [MHz]</th><th>Meter Reading (Ave.) [dBuV]</th><th>Meter Reading (QP) [dBuV]</th><th>Factor [dB]</th><th>Level(Ave.) [dBuV]</th><th>Level(QP) [dBuV]</th><th>Line</th><th>Limit(Ave.) [dBuV]</th><th>Limit(QP) [dBuV]</th><th>Margin(Ave.) [dB]</th><th>Margin(QP) [dB]</th></tr><tr><td>0.1544</td><td>28.3</td><td>45.4</td><td>10</td><td>38.3</td><td>55.4</td><td>VB</td><td>55.8</td><td>65.8</td><td>17.5</td><td>10.4</td></tr><tr><td>0.1881</td><td>23.3</td><td>36.3</td><td>10</td><td>33.3</td><td>46.3</td><td>VB</td><td>54.1</td><td>64.1</td><td>20.8</td><td>17.8</td></tr><tr><td>0.2266</td><td>19.8</td><td>32.1</td><td>10</td><td>29.8</td><td>42.1</td><td>VB</td><td>52.6</td><td>62.6</td><td>22.8</td><td>20.5</td></tr><tr><td>0.3624</td><td>18.4</td><td>29.8</td><td>10</td><td>28.4</td><td>39.8</td><td>VB</td><td>48.7</td><td>58.7</td><td>20.3</td><td>18.9</td></tr><tr><td>16.9853</td><td>25.7</td><td>27.7</td><td>10.7</td><td>36.4</td><td>38.4</td><td>VB</td><td>50</td><td>60</td><td>13.6</td><td>21.6</td></tr></table>											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]	0.1544	28.3	45.4	10	38.3	55.4	VB	55.8	65.8	17.5	10.4	0.1881	23.3	36.3	10	33.3	46.3	VB	54.1	64.1	20.8	17.8	0.2266	19.8	32.1	10	29.8	42.1	VB	52.6	62.6	22.8	20.5	0.3624	18.4	29.8	10	28.4	39.8	VB	48.7	58.7	20.3	18.9	16.9853	25.7	27.7	10.7	36.4	38.4	VB	50	60	13.6	21.6
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