



PBW15F EMI/EMS Test result

November 8, 2005
Design engineering dep.

Approved : *K. Nishimura*

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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 strength 30[A/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

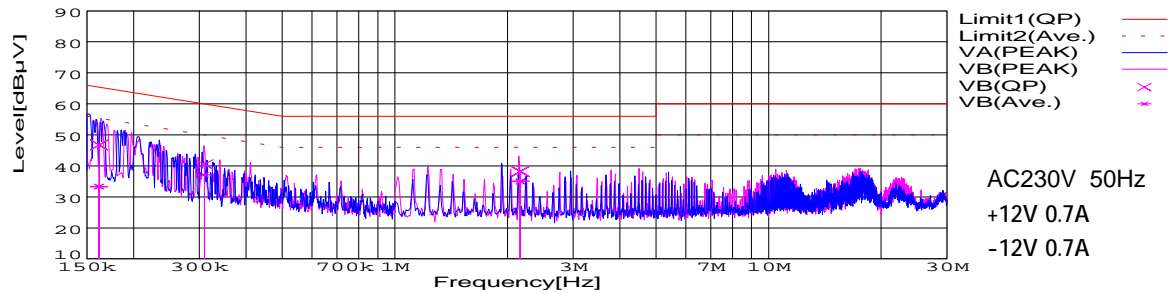
DATA SHEET

Date		30-Aug-05	
Model	PBW15F-12	Temp.	25 degreeC
Test	EMI Line conduction & Radiated emission	Humid.	45 %RH
		Tested by	K.Kosugi

LINE CONDUCTION

Model Name : PBW15F-12
 Model No. :
 Serial No. :
 Points : 3
 Detector : PEAK/QP/Ave.
 Line Mode : VB
 Power Supply : AC 230V 50Hz
 Limit1: [EN 55022] Class B(QP)
 Limit2: [EN 55022] Class B(Ave.)

Temp. : 25 degreeC
 Humi. : 45 %
 Date : 2005/8/30 8:51
 Test Equip. : R3132,ESPC
 Load Line : 50 mm
 Comment :

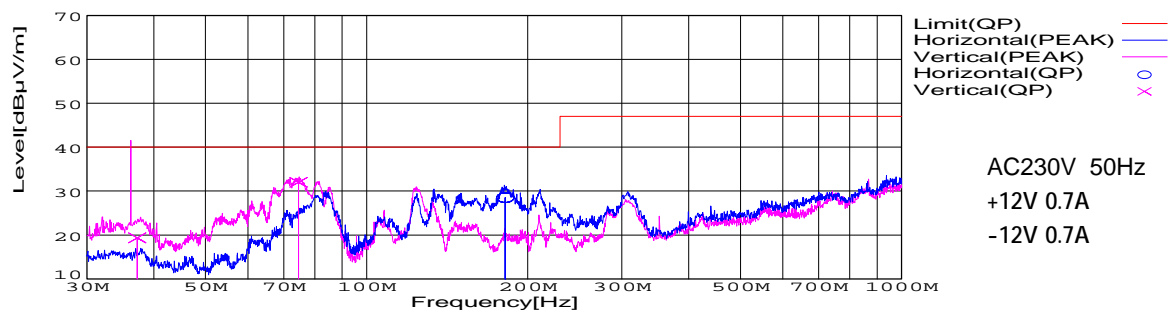


Frequency [MHz]	Meter Reading (Ave.)[dBuV]	Meter Reading (QP)[dBuV]	Factor [dB]	Level(Ave.) [dBuV]	Level(QP) [dBuV]	Line	Limit(Ave.) [dBuV]	Limit(QP) [dBuV]	Margin(Ave.) [dB]	Margin(QP) [dB]
0.1616	23.3	36.7	10	33.3	46.7	VB	55.4	65.4	22.1	18.7
0.3094	27.1	30.5	10	37.1	40.5	VB	50	60	12.9	19.5
2.166	24.8	28	10.2	35	38.2	VB	46	56	11	17.8

RADIATED EMISSION

Model Name : PBW15F-12
 Model No. :
 Serial No. :
 Points : 3
 Detector : PEAK/QP
 Polarization : Hori. & Vert.
 Power Supply : AC 230V 50Hz
 Limit: [EN 55022] Class B<3m>

Temp. : 25 degreeC
 Humi. : 45 %
 Date : 2005/8/30 8:34
 Test Equip. : R3132,ESPC
 Load Line : 50 mm
 Comment :



Frequency [MHz]	MeterReading (QP)[dBuV]	Ant. Type	Antenna Factor[dB/m]	Cable & Preamp[dB]	Level(QP) [dBuV/m]	Angle [°]	Height[cm]	Polar.	Limit [dBuV/m]	Margin [dB]
181.636	43.7	BL	8.2	-23.4	28.5	293	156	Hori.	40	11.5
37.259	32.3	BL	14.1	-27	19.4	191	110	Vert.	40	20.6
74.639	50	BL	5.8	-23.8	32	139	147	Vert.	40	8