



PBW30F EMI/EMS Test result

November 8, 2005  
Design engineering dep.

Approved : *K. Inohara*

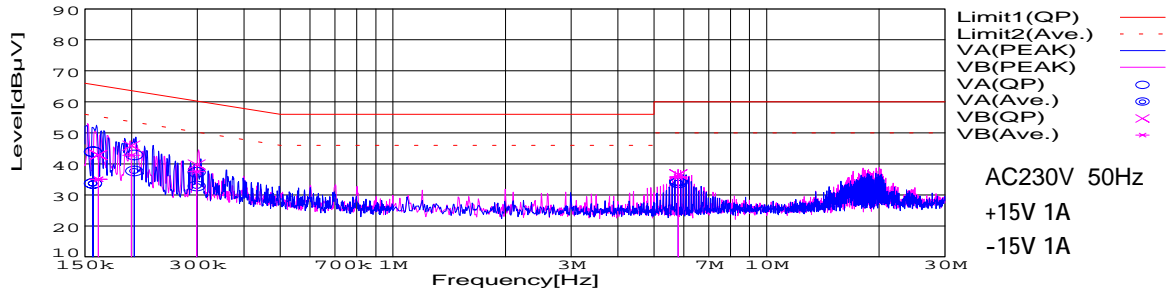
Prepared : *Akito Joboji*

| No. | Test item   | Conditions   | Conditions of Acceptability  | Result |
|-----|---|--|--|--------|
| 1   | Line conduction   | (1) Rated input(AC100V,120V,230V)<br>(2) Rated load<br>(3) Ambient temp. 25±10°C   | (1)Meets the undermentioned standard.<br>FCC Part15 classB , VCCI classB<br>CISPR22 classB , EN55022-B<br>EN55011-B  | OK     |
| 2   | Radiated emission   | (1) Rated input(AC100V,120V,230V)<br>(2) Rated load<br>(3) Ambient temp. 25±10°C   | (1)Meets the undermentioned standard.<br>FCC Part15 classB , VCCI classB<br>CISPR22 classB , EN55022-B<br>EN55011-B  | OK     |
| 3   | Harmonic current<br>(EN61000-3-2)   | (1) Rated input (AC100V,230V)<br>(2) Load 0 - Rated load<br>(3) Ambient temp. 25±10°C  | (1)Meets the undermentioned standard.<br>EN61000-3-2 classA  | OK     |
| 4   | Static electricity immunity test<br>(EN61000-4-2)   | (1) Rated input (AC230V)<br>(2) Rated load<br>(3) Ambient temp. 25±10°C<br>(4) Contact discharge voltage 8[kV]<br>(Level 4)  | (1)No protection circuit failure.<br>(2)No output voltage drop with control<br>circuit failure.<br>(3)No any other function failure                        | OK     |
| 5   | Radiated, radio-frequency,<br>electromagnetic field immunity test<br>(EN61000-4-3)          | (1) Rated input (AC230V)<br>(2) Rated load<br>(3) Ambient temp. 25±10°C<br>(4)Testing field strength 10[V/m]<br>(Level 3)  | (1)No protection circuit failure.<br>(2)No output voltage drop with control<br>circuit failure.<br>(3)No any other function failure                        | OK     |
| 6   | Electrical fast transient/<br>burst immunity test<br>(EN61000-4-4)                          | (1) Rated input (AC230V)<br>(2) Rated load<br>(3) Ambient temp. 25±10°C<br>(4) Test peak voltage 4[kV]<br>(Level 4)  | (1)No protection circuit failure.<br>(2)No output voltage drop with control<br>circuit failure.<br>(3)No any other function failure                        | OK     |
| 7   | Surge immunity test<br>(EN61000-4-5)  | (1) Rated input (AC230V)<br>(2) Rated load<br>(3) Ambient temp. 25±10°C<br>(4) Test voltage<br>Line to line 2[kV] (Level 3)<br>Line to earth 4[kV] (Level 4)                                       | (1)The power supply is not stop<br>(2)Circuit does not malfunction.<br>(3)No abnormality of the insulation<br>destruction etc.<br>(4)Parts are no damaged. | OK     |
| 8   | Immunity to conducted disturbances,<br>induced by radio-frequency fields<br>(EN61000-4-6)   | (1) Rated input (AC230V)<br>(2) Rated load<br>(3) Ambient temp. 25±10°C<br>(4) Voltage level (e.m.f.) 10[V]<br>(Level 3)   | (1)No protection circuit failure.<br>(2)No output voltage drop with control<br>circuit failure.<br>(3)No any other function failure                        | OK     |
| 9   | Power frequency magnetic field<br>immunity test<br>(EN61000-4-8)                            | (1) Rated input (AC230V)<br>(2) Rated load<br>(3) Ambient temp. 25±10°C<br>(4) Magnetic field strength 30[A/m]<br>(Level 4)  | (1)No protection circuit failure.<br>(2)No output voltage drop with control<br>circuit failure.<br>(3)No any other function failure                        | OK     |
| 10  | Voltage dips, short interruptions<br>and voltage variations immunity test<br>(EN61000-4-11) | (1) Rated input (AC230V)<br>-30% reduction at 10mS min.<br>-60% reduction at 100mS min<br>-95% reduction at 5S min.<br>±10% variation at 15 minutes<br>(2) Rated load<br>(3) Ambient temp. 25±10°C | (1)No protection circuit failure.<br>(2)No output voltage drop with control<br>circuit failure.<br>(3)No any other function failure                        | OK     |

| DATA SHEET |  | Date      | 20-May-05  |
|------------|--|-----------|------------|
| Model      | PBW30F-15                                  | Temp.     | 25 degreeC |
| Test       | EMI<br>Line conduction & Radiated emission | Humid.    | 45 %RH     |
|            |  | Tested by | K.Kosugi   |

**LINE CONDUCTION**

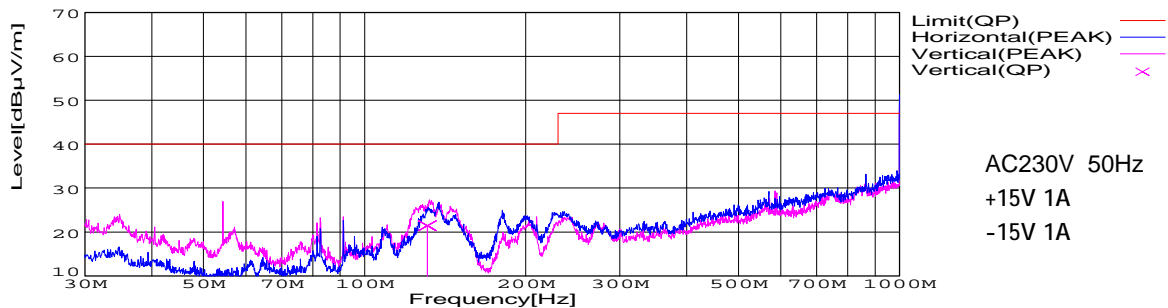
Model Name : PBW30F-15 Temp. : 25 degreeC  
 Model No. : Humi. : 45 %  
 Serial No. : Date : 2005/5/20 14:55  
 Points : 4 Test Equip. : R3132,ESPC  
 Detector : PEAK/QP/Ave. Load Line : 100 mm  
 Line Mode : VA/VB Comment :  
 Power Supply : AC 230V 50Hz  
 Limit1: [EN 55022] Class B(QP)  
 Limit2: [EN 55022] Class B(Ave.)



| 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] |
|-----------------|-----------------------------|---------------------------|-------------|--------------------|------------------|------|--------------------|------------------|-------------------|-----------------|
| 0.1577          | 23.7                        | 33.9                      | 10          | 33.7               | 43.9             | VA   | 55.6               | 65.6             | 21.9              | 21.7            |
| 0.1997          | 32.7                        | 35.9                      | 10          | 42.7               | 45.9             | VB   | 53.6               | 63.6             | 10.9              | 17.7            |
| 0.2989          | 27.5                        | 29.7                      | 10          | 37.5               | 39.7             | VB   | 50.3               | 60.3             | 12.8              | 20.6            |
| 5.8059          | 25.3                        | 26.1                      | 10.4        | 35.7               | 36.5             | VB   | 50                 | 60               | 14.3              | 23.5            |

**RADIATED EMISSION**

Model Name : PBW30F-15 Temp. : 25 degreeC  
 Model No. : Humi. : 45 %  
 Serial No. : Date : 2005/5/20 14:21  
 Points : 1 Test Equip. : R3132,ESPC  
 Detector : PEAK/QP Polarization : Vertical Load Line : 100 mm  
 Power Supply : AC 230V 50Hz Comment :  
 Limit: [EN 55022] Class B<3m>



| 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] |
|-----------------|--------------------------|-----------|-----------------------|---------------------|--------------------|-----------|-------------|--------|----------------|-------------|
| 131.123         | 38.3                     | BL        | 11.1                  | -28                 | 21.4               | 138       | 102         | Vert.  | 40             | 18.6        |