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EMC TEST REPORT
For

INVT POWER SYSTEM (SHENZHEN) CO., LTD.

UPS Module

Model No.: PM10, PM15, PM20

Prepared for	:	INVT POWER SYSTEM (SHENZHEN) CO., LTD.
Address	:	5# Building, Gaofa Industrial Park, Longjing, Nanshan District, Shenzhen, China, 518055
Prepared by	:	EMTEK(SHENZHEN) CO., LTD.
Address	:	Bldg 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, China
		Tel: (0755) 26954280
		Fax: (0755) 26954282

Report Number	:	ES160523070E
Date of Test	:	November 11, 2015 to November 12, 2015
Date of Report	:	May 24, 2016

TABLE OF CONTENT

TEST REPORT DESCRIPTION

Applicant	:	INVT POWER SYSTEM (SHENZHEN) CO., LTD.
Manufacturer	:	INVT POWER SYSTEM (SHENZHEN) CO., LTD.
Trademark	:	INVT
EUT	:	UPS Module (A) Model No. : PM10, PM15, PM20 (B) Power Supply: AC Input: 380/400/415VAC Batt. Input: ±240VDC

Measurement Procedure Used:

EN62040-2: 2006
(EN61000-4-2:2009,EN61000-4-3:2006+A2:2010,EN61000-4-4: 2004+A1:2010, EN61000-4-5: 2014, EN61000-4-6: 2014, EN61000-4-8: 2010, EN61000-4-11: 2004, EN61000-2-2: 2006 EN61000-3-12: 2011, EN 61000-3-11: 2000)

The device described above is tested by EMTEK (SHENZHEN) CO., LTD. to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and EMTEK (SHENZHEN) CO., LTD. is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with the EN 62040-2 requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of EMTEK (SHENZHEN) CO., LTD.

Date of Test	:	November 11, 2015 to November 12, 2015
Prepared by	:	Bunny Zhang/Editor
Reviewer	:	Jessie Hu/Supervisor
Approved & Authorized Signer	:	Lisa Wang/Manager

Modified Information

Version	Report No.	Revision Date	Summary
Ver.1.0	ES110217038E	/	Original Version
Ver.1.0	ES151111016E	November 12, 2015	Standard updated
Ver.1.0	ES160523070E	May 24, 2016	Update EMC directive and Standards, Changed address

Note: Standard updated no impact on EMC compliance.

1. SUMMARY OF TEST RESULT

EMISSION			
Description of test item	Standard	Limits	Results
Conducted disturbance at mains terminals	EN62040-2: 2006	C3	Pass
Radiated Disturbance	EN62040-2: 2006	C3	Pass
Harmonic current emissions	EN61000-3-12:2011	Class A	Pass
Voltage fluctuation and flicker	EN 61000-3-11: 2000	-	Pass
Immunity			
Description of test item	Basic Standard	Performance Criteria	Results
Electrostatic Discharge (ESD)	EN61000-4-2: 2009	B	Pass
Radio-frequency, Continuous radiated disturbance	EN61000-4-3: 2006+A2:2010	A	Pass
EFT/B Immunity	EN61000-4-4: 2004+A1:2010	B	Pass
Surge Immunity	EN61000-4-5: 2014	B	Pass
Conducted RF Immunity	EN61000-4-6: 2014	A	Pass
Power frequency magnetic field	EN61000-4-8: 2010	A	Pass
Voltage dips and Voltage interruptions	EN61000-4-11:2004	A	Pass
Low Frequency signals	EN61000-2-2: 2006	A	Pass
Note: N/A is an abbreviation for Not Applicable.			

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

EUT	:	UPS Module
Model Number	:	PM10, PM15, PM20 (Note: All the modes have the same PCB and circuit diagram, only differences are the output current, input current and rating power. We take PM10 for test.)
Input Rating	:	PM20: AC Input : 380/400/415VAC, 3ø+N+PE, 50Hz/60Hz, 29Amax, Batt Input: ±240Vdc, 40Amax PM15: AC Input : 380/400/415VAC, 3ø+N+PE, 50Hz/60Hz, 19Amax, Batt Input: ±240Vdc, 30Amax PM10: AC Input : 380/400/415VAC, 3ø+N+PE, 50Hz/60Hz, 15Amax, Batt Input: ±240Vdc, 20Amax
Output Rating	:	PM20: 380/400/415VAC, 3ø+N+PE, 50Hz/60Hz, 20kVA/18kW PM15: 380/400/415VAC, 3ø+N+PE, 50Hz/60Hz, 15kVA/13.5kW PM10: 380/400/415VAC, 3ø+N+PE, 50Hz/60Hz, 10kVA/9kW
Test Voltage	:	AC 380V/50Hz
Applicant	:	INVT POWER SYSTEM (SHENZHEN) CO., LTD.
Address	:	5# Building, Gaofa Industrial Park, Longjing, Nanshan District, Shenzhen, China, 518055
Manufacturer	:	INVT POWER SYSTEM (SHENZHEN) CO., LTD.
Address	:	5# Building, Gaofa Industrial Park, Longjing, Nanshan District, Shenzhen, China, 518055
Date of receiver	:	November 11, 2015
Date of Test	:	November 11, 2015 to November 12, 2015

2.2. Description of Support Device

N/A

2.3. Description of Test Facility

Site Description

EMC Lab. : Accredited by CNAS, 2013.10.29
The certificate is valid until 2016.10.28
The Laboratory has been assessed and proved to be in compliance with CNAS-CL01:2006(identical to ISO/IEC17025:2005)
The Certificate Registration Number is L2291.

Accredited by TUV Rheinland Shenzhen 2010.5.25
The Laboratory has been assessed according to the requirements ISO/IEC 17025.

Accredited by FCC, October 17, 2013
The Certificate Registration Number is 709623.

Accredited by Industry Canada, November 29, 2012
The Certificate Registration Number is 4480A.

Name of Firm : EMTEK (SHENZHEN) CO., LTD

Site Location : Bldg 69, Majialong Industry Zone,
Nanshan District, Shenzhen, Guangdong, China

2.4. Measurement Uncertainty

Test Item		Uncertainty
Conducted Emission Uncertainty	:	3.16dB(9k~150kHz Conduction 2#) 2.90dB(150k-30MHz Conduction 2#)
Power clamp	:	2.53dB
Uncertainty for Flicker test	:	0.07%
Uncertainty for Harmonic test	:	1.8%
Uncertainty for C/S Test	:	1.45(Using CDN Test)
Uncertainty for test site temperature and humidity	:	0.6℃ 4%

3. MEASURING DEVICE AND TEST EQUIPMENT

3.1.For Power Line Conducted Emission

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESCS30	828985/018	May 29, 2010	1 Year
2.	L.I.S.N	Rohde & Schwarz	ESH2-Z5	834549/005	May 29, 2010	1 Year
3.	50ΩCoaxial Switch	Anritsu	MP59B	M20531	N/A	N/A
4.	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100006	May 29, 2010	1 Year
5.	Voltage Probe	Rohde & Schwarz	TK9416	N/A	May 29, 2010	1 Year

3.2.For 10m Radiated Emission Measurement

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Test Receiver	Rohde & Schwarz	ESCI	101045	May 29, 2010	1 Year
2.	Pre-Amplifier	CDIL	PAP-0203	22013	May 29, 2010	1 Year
3.	Bilog Antenna	Schwarzbeck	VULB9163	143	May 29, 2010	1 Year
4.	Cable	H+B	CBL3-MN-0.5 m	100319-2140 500-1	May 29, 2010	1 Year
5.	Cable	H+B	CBL3-NN-3m	100319-2143 000-1	May 29, 2010	1 Year
6	Cable	H+B	CBL3-MN-6.5 m	100319-2146 500-1	May 29, 2010	1 Year
7.	Cable	H+B	CBL3-NN-10.5 m	100319-2141 0500	May 29, 2010	1 Year
8.	Cable	H+B	CBL3-NN-12.5 m	100319-2141 2500	May 29, 2010	1 Year

3.3.For Harmonic Current / Flicker Measurement

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	AC Power source	California Instruments	5001iX-CT S-400-413	72795	May 29, 2010	1 Year

3.4.For Electrostatic Discharge Immunity Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	ESD Tester	TESEQAG	NSG 437	000409	May 29, 2010	1 Year

3.5.For RF Strength Susceptibility Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	RF Power Meter. Dual Channel	BOONTON	4232A	10539	May 29, 2010	1 Year
2.	50ohm Diode Power Sensor	BOONTON	51011EMC	34236/34238	May 29, 2010	1 Year
3.	Broad-Band Horn Antenna	SCHWARZBECK	BBHA 9120 L3F	332	May 29, 2010	1 Year
4.	Power Amplifier	PRANA	AP32MT215	N/A	May 29, 2010	1 Year
5.	Power Amplifier	MILMEGA	AS0102-55	N/A	May 29, 2010	1 Year
6.	Signal Generator	AEROFLEX	2023B	N/A	May 29, 2010	1 Year
7.	Field Strength Meter	HOLADAY	HI-6005	N/A	May 29, 2010	1Year
8.	RS232 Fiber Optic Modem	HOLADAY	HI-4413P	N/A	May 29, 2010	1 Year
9.	Log.-Per. Antenna	SCHWARZBECK	VULP 9118E	N/A	May 29, 2010	1 Year

3.6.For Electrical Fast Transient /Burst Immunity Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Burst Tester	HAEFELY	PEFT4010	080981-16	May 29, 2010	1Year
2.	Coupling Clamp	HAEFELY	IP-4A	147147	May 29, 2010	1Year

3.7.For Surge Immunity Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Psurge 8000 Controller	HAEFELY	Psurge 8000	174031	May 29, 2010	1Year
2.	Impulse Module	HAEFELY	PIM 100	174124	May 29, 2010	1Year
3.	Coupling Decoupling Filter	HAEFELY	PCD 130	172181	May 29, 2010	1Year

3.8.For Injected Current Susceptibility Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Simulator	EMTEST	CWS500C	0900-12	May 29, 2010	1Year
2.	CDN	EMTEST	CDN-M2	5100100100	May 29, 2010	1Year
3.	CDN	EMTEST	CDN-M3	0900-11	May 29, 2010	1Year
4.	Injection Clamp	EMTEST	F-2031-23 MM	368	May 29, 2010	1Year
5.	Attenuator	EMTEST	ATT6	0010222A	May 29, 2010	1Year

3.9.For Magnetic Field Immunity Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Magnetic Field Tester	HAEFELY	MAG100	250040.1	May 29, 2010	1Year

3.10.For Voltage Dips and Interruptions Test

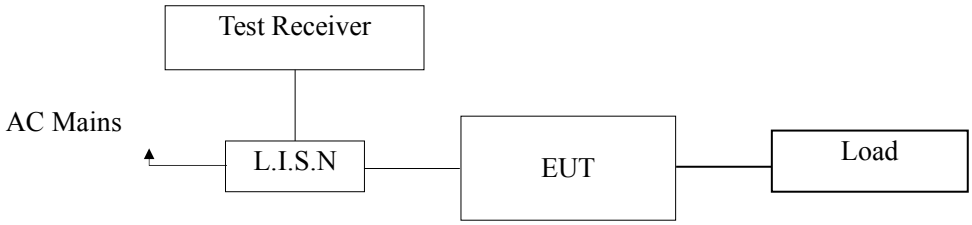
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Dips Tester	HAEFELY	Pline1610	083732-12	May 29, 2010	1Year

3.11.Low Frequency Signals Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Programmable AC Source	CHROMA	6530	/	May 29, 2010	1Year

4. POWER LINE CONDUCTED EMISSION MEASUREMENT

4.1. Block Diagram of Test Setup



(EUT: UPS Module)

4.2. Measuring Standard

EN62040-2: 2006 Category C3

Power Line Conducted Emission Limits (C3)

UPS rated output current	Frequency range	Limits dB (μV)	
A	MHz	Quasi-peak	Average
>16 – 100	0,15 to 0,50[b]	100	90
	0,50 to 5,0[b]	86	76
	5,0 to 30,0	90 to 70[a]	80 to 60[a]
>100	0,15 to 0,50[b]	130	120
	0,50 to 5,0[b]	125	115
	5,0 to 30,0	115	105

[a] The limits decrease linearly with the logarithm of the frequency.

[b] The lower limit shall apply at the transition frequency.

4.3. EUT Configuration on Measurement

The following equipments are installed on Conducted Emission Measurement to meet EN62040-2 requirements and operating in a manner which tends to maximize its emission characteristics in a normal application.

EUT	:	UPS Module
Model Number	:	PM20
Serial Number	:	N/A

4.4.Operating Condition of EUT

4.4.1.Setup the EUT as shown on Section 4.1.

4.4.2.Turn on the power of all equipments.

4.4.3.Let the EUT work in measuring mode (Line mode/Battery mode) and measure it.

4.5.Test Procedure

The EUT is put on the plane 0.8m high above the ground by insulating support and connected to the AC mains through Line Impedance Stability Network (L.I.S.N). This provided a 50ohm coupling impedance for the tested equipments. Both sides of AC line are investigated to find out the maximum conducted emission according to the EN62040-2 regulations during conducted emission measurement.
The bandwidth of the field strength meter (R&S Test Receiver ESCS30) is set at 9KHz in 150KHz~30MHz and 200Hz in 9KHz~150KHz.
The frequency range from 150kHz to 30MHz is investigated
All the scanning waveform is put in Appendix I.

4.6.Measuring Results

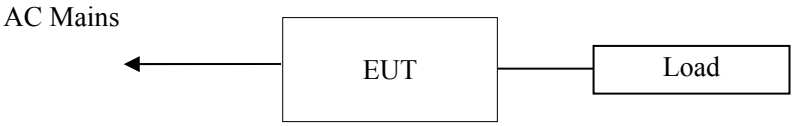
PASS.

Please reference to the following page.

5. RADIATED EMISSION MEASUREMENT

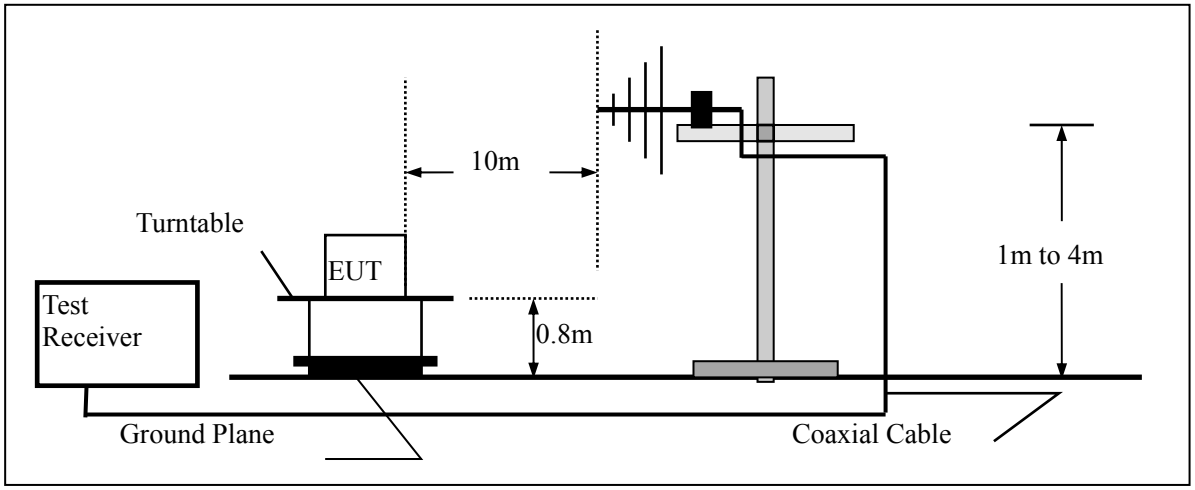
5.1.Block Diagram of Test

5.1.1.Block diagram of connection between the EUT and simulators.



(EUT: UPS Module)

5.1.2.Block diagram of test setup (In chamber)



(EUT: UPS Module)

5.2.Measuring Standard

EN62040-2: 2006 Category C3

5.3.Radiated Emission Limits

EN62040-2: 2006 Category C3 Limits:
All emanations from a C3 device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified below:

FREQUENCY (MHz)	DISTANCE (Meters)	FIELD STRENGTHS LIMIT (dBμV/m)
30 ~ 230	10	50
230 ~ 1000	10	60

Note**:** (1) The smaller limit shall apply at the combination point between two frequency bands.
(2) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the EUT.

5.4.EUT Configuration on Test

The EN62040-2 regulations test method must be used to find the maximum emission during radiated emission measurement.

5.5.Operating Condition of EUT

5.5.1.Turn on the power.

5.5.2.After that, let the EUT work in test mode (Line mode/Battery mode) and measure it.

5.6.Test Procedure

The EUT is placed on a turn table which is 0.8 meter high above the ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 10 meters away from the receiving antenna which is mounted on a antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. Bilog antenna (calibrated by Dipole Antenna) is used as a receiving antenna. Both horizontal and vertical polarization of the antenna are set on test.

The bandwidth of the Receiver is set at 120kHz.
All the scanning curves are attached in Appendix II.

5.7.Measuring Results

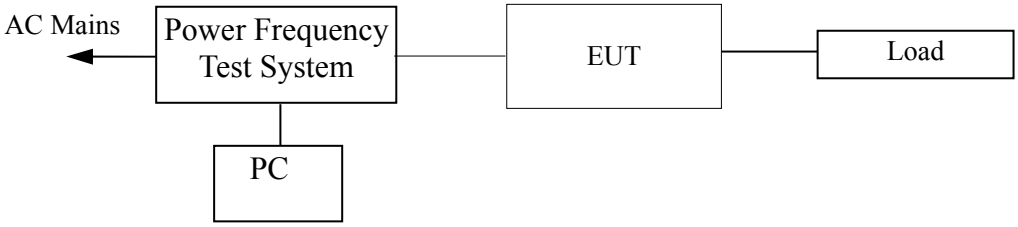
PASS.

The frequency range from 30MHz to 1000MHz is investigated.

Please reference to Appendix II.

6. HARMONIC CURRENT EMISSION MEASUREMENT

6.1.Block Diagram of Test Setup



(EUT: UPS Module)

6.2.Measuring Standard

EN61000-3-12: 2005+A2:2009 CLASS A

6.3.Operation Condition of EUT

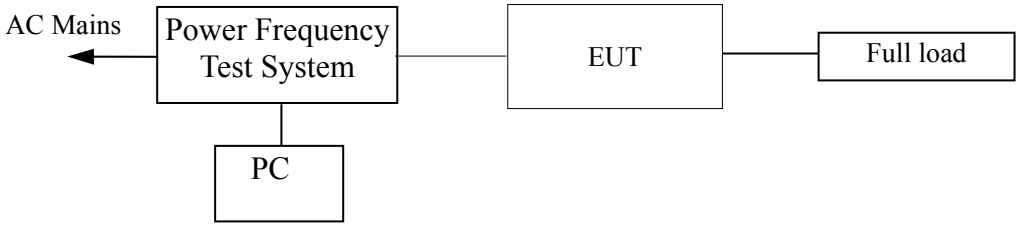
Same as Section 4.4, except the test setup replaced as Section 6.1.

6.4.Measuring Results

PASS.

7. VOLTAGE FLUCTUATION AND FLICKER MEASUREMENT

7.1.Block Diagram of Test Setup



(EUT: UPS Module)

7.2.Measuring Standard

EN 61000-3-11: 2000

7.3.Operation Condition of EUT

Same as Section 4.4, except the test setup replaced as Section 7.1.

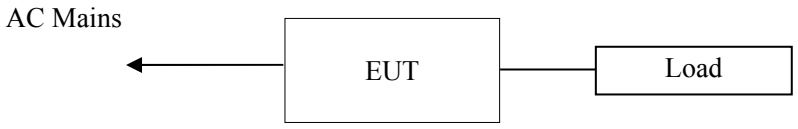
7.4.Measuring Results

PASS.

8. ELECTROSTATIC DISCHARGE IMMUNITY TEST

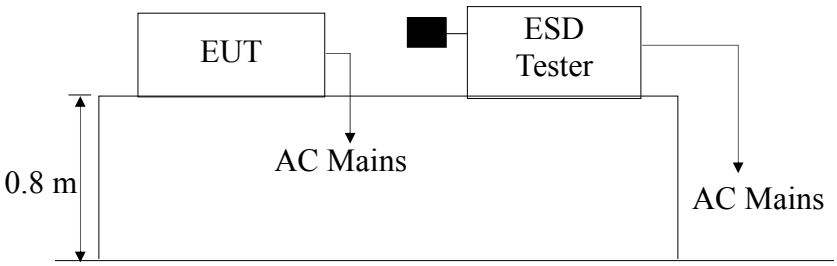
8.1.Block Diagram of Test Setup

8.1.1.Block diagram of connection between the EUT and simulators.



(EUT: UPS Module)

8.1.2.Block diagram of ESD test setup



(EUT: UPS Module)

8.2.Test Standard

EN62040-2:2006
(EN61000-4-2: 2009 Severity Level: 3 / Air Discharge: ±8KV
Level: 2/ Contact Discharge: ±4KV)

8.3.Severity Levels and Performance Criterion

8.3.1.Severity level

Level	Test Voltage Contact Discharge (KV)	Test Voltage Air Discharge (KV)
1.	±2	±2
2.	±4	±4
3.	±6	±8
4.	±8	±15
X	Special	Special

8.3.2.Performance criterion: A

8.4. EUT Configuration

The configuration of EUT is listed in Section 4.3.

8.5. Operating Condition of EUT

Same as conducted emission measurement, which is listed in Section 4.4. Except the test set up replaced by Section 8.1.

8.6. Test Procedure

8.6.1. Air Discharge:

This test is done on a non-conductive surface. The round discharge tip of the discharge electrode shall be approached as fast as possible to touch the EUT. After each discharge, the discharge electrode shall be removed from the EUT. The generator is then re-triggered for a new single discharge and repeated 10 times for each pre-selected test point. This procedure shall be repeated until all the air discharge completed.

8.6.2. Contact Discharge:

All the procedure shall be same as Section 8.6.1. Except that the tip of the discharge electrode shall touch the EUT before the discharge switch is operated.

8.6.3. Indirect discharge for horizontal coupling plane

At least 10 single discharges (in the most sensitive polarity) shall be applied at the front edge of each HCP opposite the center point of each unit (if applicable) of the EUT and 0.1m from the front of the EUT. The long axis of the discharge electrode shall be in the plane of the HCP and perpendicular to its front edge during the discharge.

8.6.4. Indirect discharge for vertical coupling plane

At least 10 singles discharge (in the most sensitive polarity) shall be applied to the center of one vertical edge of the coupling plane. The coupling plane, of dimensions 0.5m X 0.5m, is placed parallel to, and positioned at a distance of 0.1m from the EUT. Discharges shall be applied to the coupling plane, with this plane in sufficient different positions that the four faces of the EUT are completely illuminated.

8.7. Test Results

PASS

Please refer to the following pages

Electrostatic Discharge Test Result

EMTEK (SHENZHEN) CO., LTD

Applicant	: INVT POWER SYSTEM (SHENZHEN) CO., LTD.			
EUT	: UPS Module	Test Date	: February 26, 2011	
M/N	: PM10	Temperature	: 22℃	
Power Supply	: AC 380V / 50Hz	Humidity	: 50%	
Air discharge	: ± 8.0KV	Test Mode	: Line mode/Battery mode	
Contact discharge:	± 4.0KV	Criterion	: B	

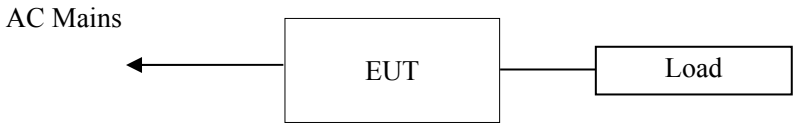
Location	**Kind** A-Air Discharge C-Contact Discharge	**Result**
All slots of EUT	A	PASS
Metal	C	PASS
Screw	C	PASS
Port	C	PASS
HCP	C	PASS
VCP of front	C	PASS
VCP of rear	C	PASS
VCP of left	C	PASS
VCP of right	C	PASS

Test Equipment: ESD Simulator (EMTEST, ESD30C)

9. RF FIELD STRENGTH SUSCEPTIBILITY TEST

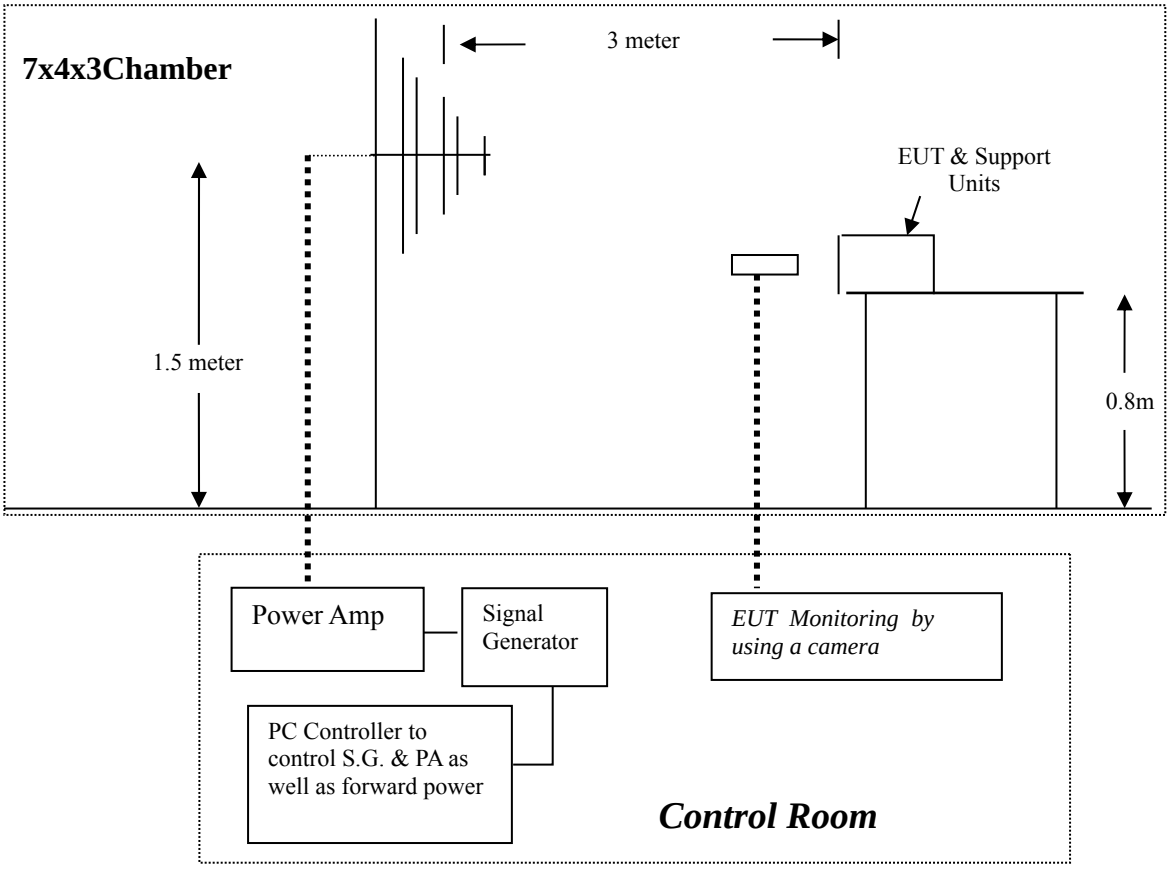
9.1.Block Diagram of Test

9.1.1.Block diagram of connection between the EUT and simulators.



(EUT: UPS Module)

9.1.2.Block diagram of RS test setup



(EUT: UPS Module)

9.2.Test Standard

EN62040-2:2006 (EN61000-4-3: 2006+A2:2010, Severity Level: 3, 10V / m)

9.3. Severity Levels and Performance Criterion

9.3.1. Severity Levels

Level	Field Strength V/m
1.	1
2.	3
3.	10
X	Special

9.3.2. Performance Criterion: A

9.4. EUT Configuration on Test

The configuration of the EUT is same as Section 4.3.

9.5. Operating Condition of EUT

Same as radiated emission measurement that is listed in Section 4.4, except the test setup replaced as Section 9.1.

9.6. Test Procedure

The EUT are placed on a table that is 0.8 meter high above the ground. The EUT is set 3 meters away from the transmitting antenna that is mounted on an antenna tower. Both horizontal and vertical polarization of the antenna is set on test. Each of the four sides of the EUT must be faced this transmitting antenna and measured individually.
In order to judge the EUT performance, a CCD camera is used to monitor it.
All the scanning conditions are as following:

Condition of Test	Remark
1. Fielded Strength	10V/m (Severity Level 3)
2. Radiated Signal	Modulated
3. Scanning Frequency	80-1000MHz
4. Sweep time of radiated	0.0015 Decade/s
5. Dwell Time	1 Sec.

9.7. Test Results

PASS.

Please refer to the following page.

RF Field Strength Susceptibility Test Results

EMTEK (SHENZHEN) CO., LTD.

Applicant	: INVT POWER SYSTEM (SHENZHEN) CO., LTD.		
EUT	: UPS Module	Test Date :	February 26, 2011
M/N	: PM10	Temperature :	22℃
Field Strength	: 10 V/m	Humidity :	50 %
Power Supply	: AC 380V / 50Hz	Criterion :	A
Test Mode	: Line mode/ Battery mode	Frequency Range:	80 MHz to1000 MHz

Modulation: □ None Pulse ☒ AM 1KHz 80%
□

	Frequency Rang 1: 80~ 1000MHz		Frequency Rang 2: N/A	
Steps	1%			
	Horizontal	Vertical	Horizontal	Vertical
Front	PASS	PASS		
Right	PASS	PASS		
Rear	PASS	PASS		
Left	PASS	PASS		

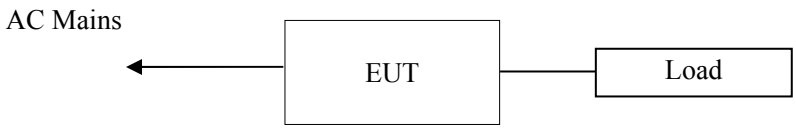
Test Equipment:
1. Signal Generator: 2023B (AEROFLEX)
2. Power Amplifier: AS0102-55 (MILMEGA)&AP32MT215 (PRANA)
3. Log.-Per.Antenna: VULP9118E(SCHWARZBECK)
4. Broad-Band Horn Antenna: BBHA 9120L3F(SCHWARZBECK)
5. RF Power Meter. Dual Channel: 4232A(BOONTON)
6. Field Strength Meter: HI-6005 (HOLADAY)

Note:

10.ELECTRICAL FAST TRANSIENT/BURST IMMUNITY TEST

10.1.Block Diagram of Test Setup

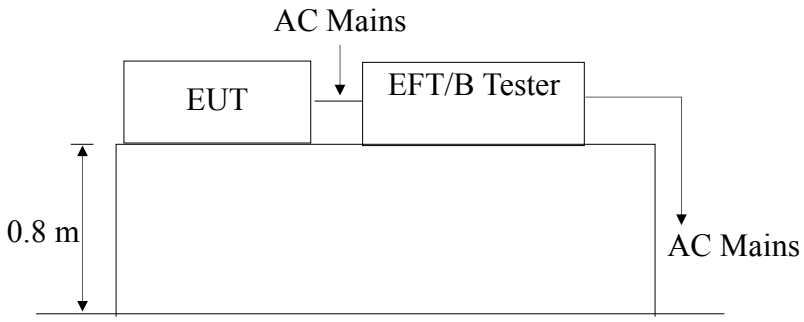
10.1.1.Block Diagram of the EUT.



(EUT: UPS Module)

10.1.2.EFT Test Setup

AC Port:



(EUT: UPS Module)

10.2.Test Standard

EN62040-2:2006 (EN61000-4-4: 2004+A1:2010, Severity Level: 3, 2KV)

10.3.Severity Levels and Performance Criterion

10.3.1.Severity level

Open Circuit Output Test Voltage ±10%		
Level	On Power Supply Lines	On I/O (Input/Output) Signal data and control lines
1	0.5 KV	0.25 KV
2	1 KV	0.5 KV
3	2 KV	1 KV
4	4 KV	2 KV
X	Special	Special

10.3.2.Performance criterion: B

10.4.EUT Configuration

The configuration of EUT is listed in Section 4.3.

10.5.Operating Condition of EUT

10.5.1.Setup the EUT as shown in Section 10.1.

10.5.2.Turn on the power of all equipments.

10.5.3.Let the EUT work in test mode (Line mode) and measure it.

10.6.Test Procedure

The EUT is put on the table that is 0.8 meter high above the ground. This reference ground plane shall project beyond the EUT by at least 0.1m on all sides and the minimum distance between EUT and all other conductive structure, except the ground plane beneath the EUT, shall be more than 0.5m.

10.6.1.For input and output AC power ports:

The EUT is connected to the power mains by using a coupling device that couples the EFT interference signal to AC power lines. Both polarities of the test voltage should be applied during compliance test and the duration of the test is 2 mins.

10.6.2.For signal lines and control lines ports:

It’s unnecessary to test.

10.6.3.For DC output line ports:

It’s unnecessary to test.

10.7.Test Result

PASS.
Please refer to the following page.

Electrical Fast Transient/Burst Test Results

EMTEK (SHENZHEN) CO., LTD.

Standard : ☒ EN 61000-4-4	Result: ☒ PASS / ☐ FAIL

Applicant : INVT POWER SYSTEM (SHENZHEN) CO., LTD.

EUT : UPS Module

M/N : PM10

Input Voltage: AC 380V / 50Hz

Criterion : B

Ambient Condition : 22 ℃ 50% RH

Operation Mode: Line mode

Line : ☒ AC Mains	Line : ☐ Signal ☐ I/O Cable
Coupling : ☒ Direct	Coupling : ☐ Capacitive
Test Time : 120s	

Line	Test Voltage	Result(+)	Result(-)
L1, L2, L3, PE	2kV	PASS	PASS
L1-L2, L1-L3, L2-L3	2kV	PASS	PASS
L1-PE, L2-PE, L3-PE,	2kV	PASS	PASS
L1-L2- PE, L1-L3- PE, L2-L3- PE, L1-L2-L3	2kV	PASS	PASS
L1-L2-L3-PE	2kV	PASS	PASS
Signal Line			
DC Line			

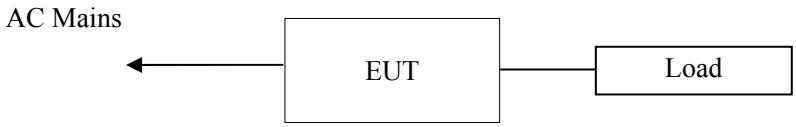
Note:

Test Equipment	Burst Tester Model : PEFT 4010

11. SURGE IMMUNITY TEST

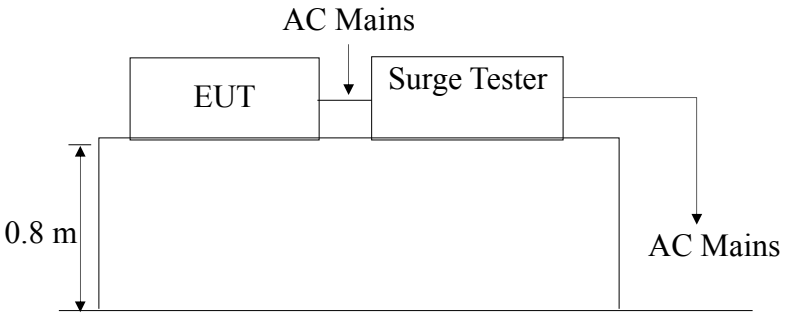
11.1. Block Diagram of Test Setup

11.1.1. Block Diagram of the EUT.



(EUT: UPS Module)

11.1.2. Surge Test Setup



11.2. Test Standard

EN62040-2:2006
(EN61000-4-5: 2006, Line to Line: Severity Level 2, 1.0KV;
Line to earth: Severity Level 3: 2.0KV)

11.3. Severity Levels and Performance Criterion

11.3.1. Severity level

Severity Level	Open-Circuit Test Voltage KV
1	0.5
2	1.0
3	2.0
4	4.0
*	Special

11.3.2. Performance criterion: A

11.4. EUT Configuration

The configuration of EUT is listed in Section 4.3.

11.5.Operating Condition of EUT

11.5.1.Setup the EUT as shown in Section 11.1.

11.5.2.Turn on the power of all equipments.

11.5.3.Let the EUT work in test mode (Line mode) and measure it.

11.6.Test Procedure

1) Set up the EUT and test generator as shown on Section 11.1.2.
2) For line to line coupling mode, provide 1.0 KV (1.2/50us) voltage surge, For line to earth coupling mode, provide 2.0 KV (1.2/50us) voltage surge (At open-circuit condition). At least 5 positive and 5 negative (polarity) tests with a maximum 1/min repetition rate are conducted during test.
3) Different phase angles are done individually.
4) Record the EUT operating situation during compliance test and decide the EUT immunity criterion for above each test.

11.7.Test Result

PASS.

Please refer to the following page.

Surge Immunity Test Result

EMTEK (SHENZHEN) CO., LTD.

Applicant : INVT POWER SYSTEM (SHENZHEN) CO., LTD.
EUT : UPS Module
M/N : PM10
Power Supply : AC 380V / 50Hz
Test Mode : Line mode

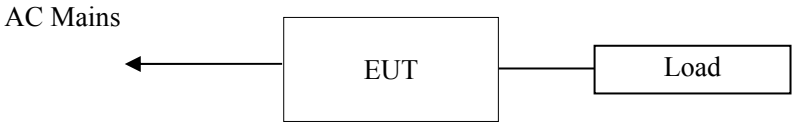
Test Date : February 26, 2011
Temperature : 22℃
Humidity : 50%
Criterion : B

Location	Polarity	Phase Angle	Number of Pulse	Pulse Voltage (kV)	Result
L1-L2, L1-L3, L2-L3	+	0°, 90°, 180°, 270°	5	1.0	PASS
	-	0°, 90°, 180°, 270°	5	1.0	PASS
L1-N,L2-N, L3-N	+	0°, 90°, 180°, 270°	5	1.0	PASS
	-	0°, 90°, 180°, 270°	5	1.0	PASS
L1-PE, L2-PE, L3-PE	+	0°, 90°, 180°, 270°	5	2.0	PASS
	-	0°, 90°, 180°, 270°	5	2.0	PASS
N-PE	+	0°, 90°, 180°, 270°	5	2.0	PASS
	-	0°, 90°, 180°, 270°	5	2.0	PASS
				Test Equipment:PIM100, PCD130 Surge Tester: King	

12. INJECTED CURRENTS SUSCEPTIBILITY TEST

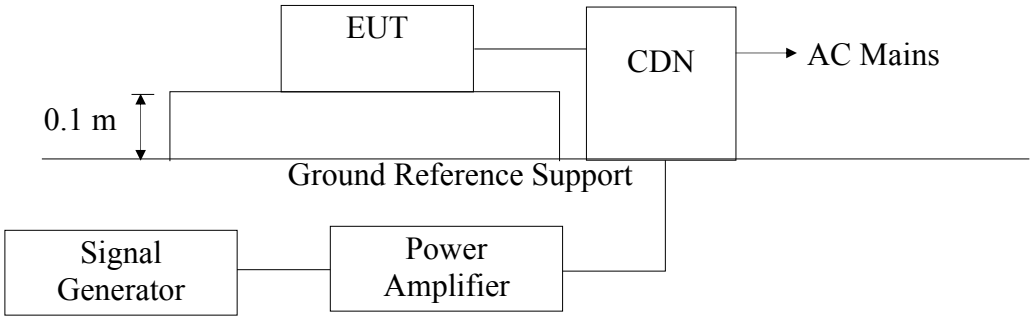
12.1.Block Diagram of Test Setup

12.1.1.Block Diagram of the EUT.



(EUT: UPS Module)

12.1.2.Block Diagram of Test Setup



(EUT: UPS Module)

12.2.Test Standard

EN62040-2:2006
(EN61000-4-6: 2009, Severity Level: Level 3, 10V (r.m.s.), 0.15MHz ~ 80MHz)

12.3.Severity Levels and Performance Criterion

12.3.1.Severity level

Level	Field Strength V
1	1
2	3
3	10
X	Special

12.3.2.Performance criterion: A

12.4.EUT Configuration

The configuration of EUT is listed in Section 4.3.

12.5.Operating Condition of EUT

12.5.1.Setup the EUT as shown in Section 12.1.

12.5.2.Turn on the power of all equipments.

12.5.3.Let the EUT work in test mode (Line mode) and measure it.

12.6.Test Procedure

1) Set up the EUT, CDN and test generators as shown on Section 12.1.2.
2) Let the EUT work in test mode and measure it.
3) For AC Mains: The EUT are placed on an insulating support 0.1m high above a ground reference plane. CDN (coupling and decoupling device) is placed on the ground plane about 0.3m from EUT. Cables between CDN and EUT are as short as possible, and their height above the ground reference plane shall be between 30 and 50 mm (where possible). The disturbance signal described below is injected to EUT through CDN. The EUT operates within its operational mode(s) under intended climatic conditions after power on.
4) The frequency range is swept from 150KHz to80MHz using 10V signal level, and with the disturbance signal 80% amplitude modulated with a 1KHz sine wave.
5) The rate of sweep shall not exceed $1.5*10^{-3}$decades/s. where the frequency is swept incrementally; the step size shall not exceed 1% of the start and thereafter 1% of the preceding frequency value.
6) Recording the EUT operating situation during compliance testing and decide the EUT immunity criterion.

12.7.Test Results

PASS.

Please refer to the following page.

Injected Currents Susceptibility Test Results

EMTEK (SHENZHEN) CO., LTD.

Applicant : INVT POWER SYSTEM (SHENZHEN) CO., LTD.

EUT : UPS Module

Test Date: February 26, 2011

M/N : PM10

Temperature : 22℃

Power Supply : AC 380V / 50Hz

Humidity : 58%

Test Engineer : ANDY

Test Mode: Line mode

Frequency Range (MHz)	Injected Position	Strength (Unmodulated)	Criterion	Result
0.15 ~ 80	AC Mains	10V	A	PASS

Test Mode : N/A

Frequency Range (MHz)	Injected Position	Strength (Unmodulated)	Criterion	Result

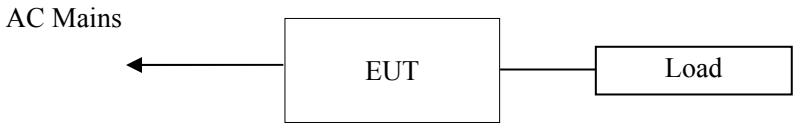
Remark : 1. Modulation Signal:1KHz 80% AM
Measurement Equipment :
Simulator: CWS 500 (SWITZERLAND EMTEST)
CDN : □ CDN-M2 (SWITZERLAND EMTEST)
☒ CDN-M3 (SWITZERLAND EMTEST)

Note:

13. MAGNETIC FIELD SUSCEPTIBILITY TEST

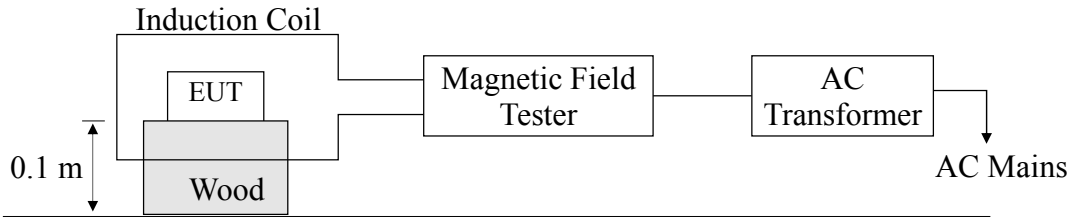
13.1. Block Diagram of Test

13.1.1. Block diagram of test setup.



(EUT: UPS Module)

13.1.2. Magnetic field test setup



(EUT: UPS Module)

13.2. Test Standard

EN62040-2:2006
(EN61000-4-8: 2010, Severity Level: Level 3, 10A / m)

13.3. Severity Levels and Performance Criterion

13.3.1. Severity Levels

Level	Field Strength A/m
1	1
2	3
3	10
4	30
5	100
X	Special

13.3.2. Performance Criterion: A

13.4. EUT Configuration on Test

The configuration of the EUT is same as Section 4.3.

13.5. Test Procedure

The EUT is placed in the middle of a induction coil (1*1m), under which is a 1*1*0.1m (high) table, this small table is also placed on a larger table, 0.8 m above the ground. Both horizontal and vertical polarization of the induction coil is set on test, so that each side of the EUT is affected by the magnetic field. Also can reach the same aim by change the position of the EUT.

13.6. Test Results

PASS.

Please refer to the following page.

Magnetic Field Immunity Test Result

EMTEK (SHENZHEN) CO., LTD.

Standard: ☒ EN 61000-4-8	Result: ☒ PASS / ☐ FAIL

Applicant : INVT POWER SYSTEM (SHENZHEN) CO., LTD.
EUT : UPS Module
M/N : PM10
Input Voltage : AC380V/50Hz

Date of Test : February 26, 2011 Test Engineer: ANDY

Ambient Condition : Temp : 22℃ Humid: 50%

Criterion: A

Operation Mode: Line mode

Test Level (A/M)	Testing Duration	Coil Orientation	Criterion	Result
30	5 mins	X	A	PASS
30	5 mins	Y	A	PASS
30	5 mins	Z	A	PASS

Operation Mode: N/A

Test Level (A/M)	Testing Duration	Coil Orientation	Criterion	Result

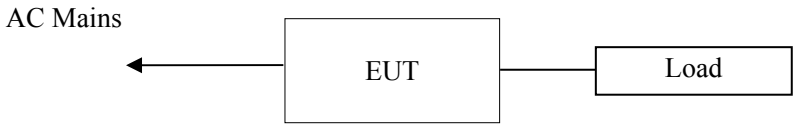
Test Equipment	Magnetic Field Test: HEAFELY MAG 100.1

Note:

14. VOLTAGE DIPS AND INTERRUPTIONS TEST

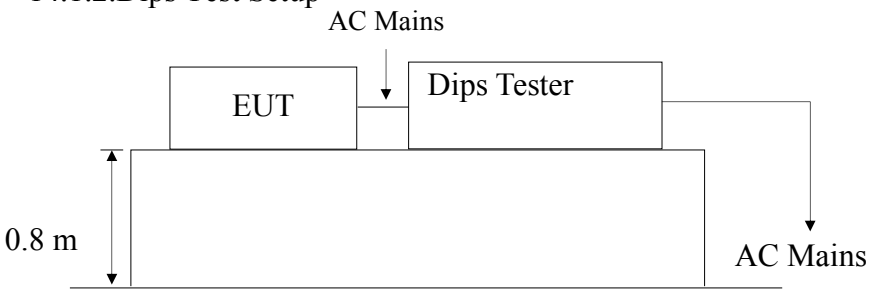
14.1. Block Diagram of Test Setup

14.1.1. Block Diagram of the EUT.



(EUT: UPS Module)

14.1.2. Dips Test Setup



(EUT: UPS Module)

14.2. Test Standard

EN62040-2:2006 (EN61000-4-11: 2004, Class 3)

14.3. Severity Levels and Performance Criterion

14.3.1. Severity level

Test Level %UT	Voltage dip and short interruptions %UT	Duration (in period)
0	100	0.5
0	100	1
40	60	12
70	30	30
80	20	300

14.3.2. Performance criterion: B&C

14.4.EUT Configuration

The configuration of EUT is listed in Section 4.3.

14.5.Operating Condition of EUT

14.5.1.Setup the EUT as shown in Section 14.1.

14.5.2.Turn on the power of all equipments.

14.5.3.Let the EUT work in test mode (Line mode) and measure it.

14.6.Test Procedure

1) Set up the EUT and test generator as shown on Section 14.1.2.
2) The interruption is introduced at selected phase angles with specified duration.
3) Record any degradation of performance.

14.7.Test Result

PASS.

Please refer to the following page.

Voltage Dips and Interruptions Test Results

EMTEK (SHENZHEN) CO., LTD.

Applicant : INVT POWER SYSTEM (SHENZHEN) CO., LTD.

EUT : UPS Module

M/N : PM10

Power Supply : AC 380V / 50Hz

Test Date : February 26, 2011

Temperature : 22℃

Humidity : 50%

Test Mode: Line mode

Test Level % U_T	Voltage Dips & Short Interruptions % U_T	Duration (in periods)	Criterion ☒A ☐B ☐C ☐D	Result P=PASS F=FAIL
0	100	0.5p	A	P
0	100	1 p	A	P
40	60	12 p	A	P
70	30	30 p	A	P
80	20	300 p	A	P

Test Mode : N/A

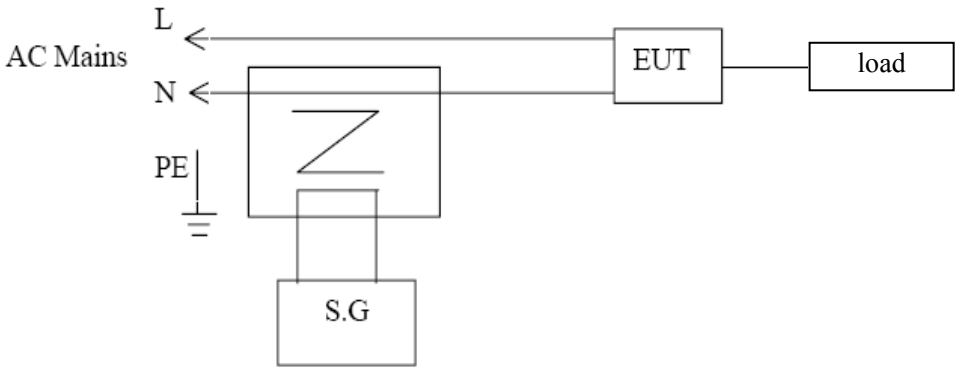
Test Level % U_T	Voltage Dips & Short Interruptions % U_T	Duration (in periods)	Criterion ☐A ☐B ☐C ☐D	Result P=PASS F=FAIL

Note:

15. LOW FREQUENCY SIGNALS TEST

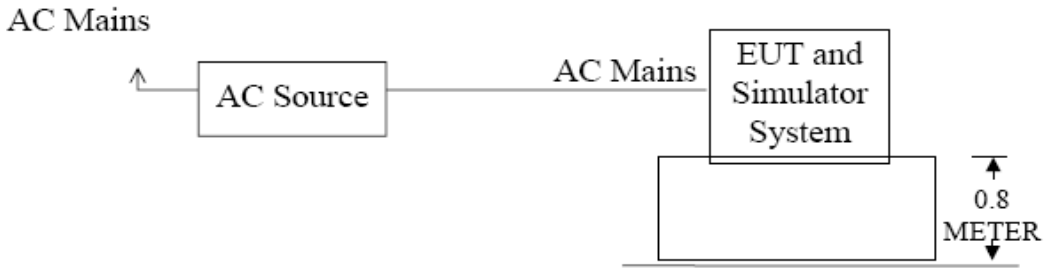
15.1. Block Diagram of Test Setup

15.1.1. Block Diagram of the EUT



(EUT: UPS Module)

15.1.2. Block Diagram of Test Setup



(EUT: UPS Module)

15.2. Test Standard

EN61000-2-2: 2002, Performance: A

15.3. Operating Condition of EUT

Same as Section 4.5, Except the test setup replaced by Section 15.1.

15.4. Test Results

PASS.

Please refer to following pages.

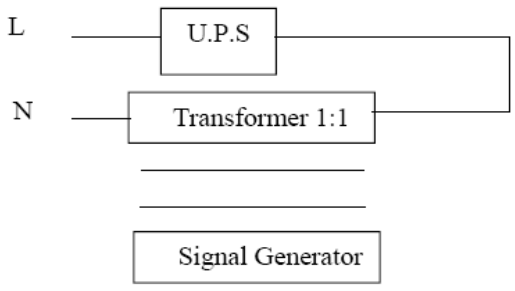
Low Frequency Signals Test Result

EMTEK (SHENZHEN) CO., LTD.

Applicant : INVT POWER SYSTEM (SHENZHEN) CO., LTD. EUT : UPS Module M/N : PM10 Power Supply : AC380V/50Hz Test Engineer : KYLE	Test Date: February 26, 2011 Temperature : 22℃ Humidity : 58% Test Mode : Line mode

Frequency Range (Hz)	Position	Strength	Result	Note
140	See Fig.1	10V(rms) Sinusoidal	PASS	
160			PASS	
200			PASS	
240			PASS	
280			PASS	
320			PASS	
360			PASS	

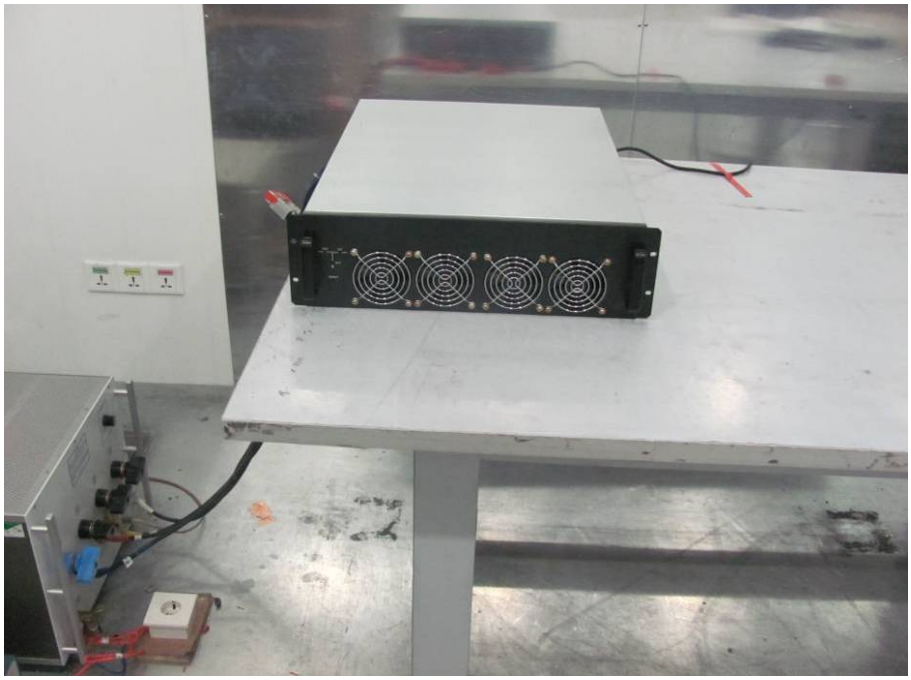
Note



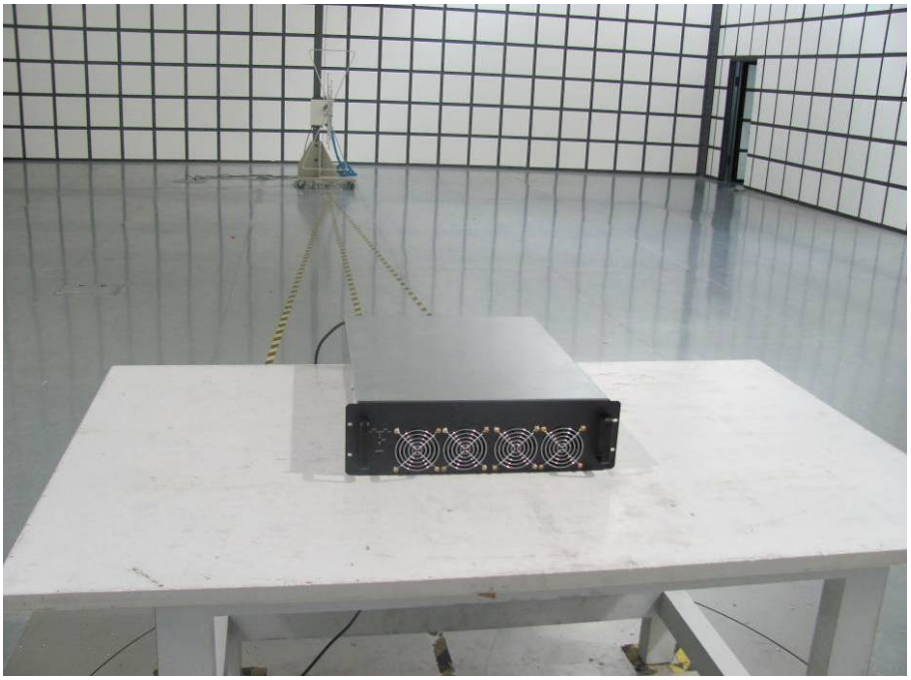
Test Equipment:
1. Isolation transformer
   Primary: Secondary=1:1
2. Signal Generator
   AC Source: 65930(Chroma)

16. PHOTOGRAPH

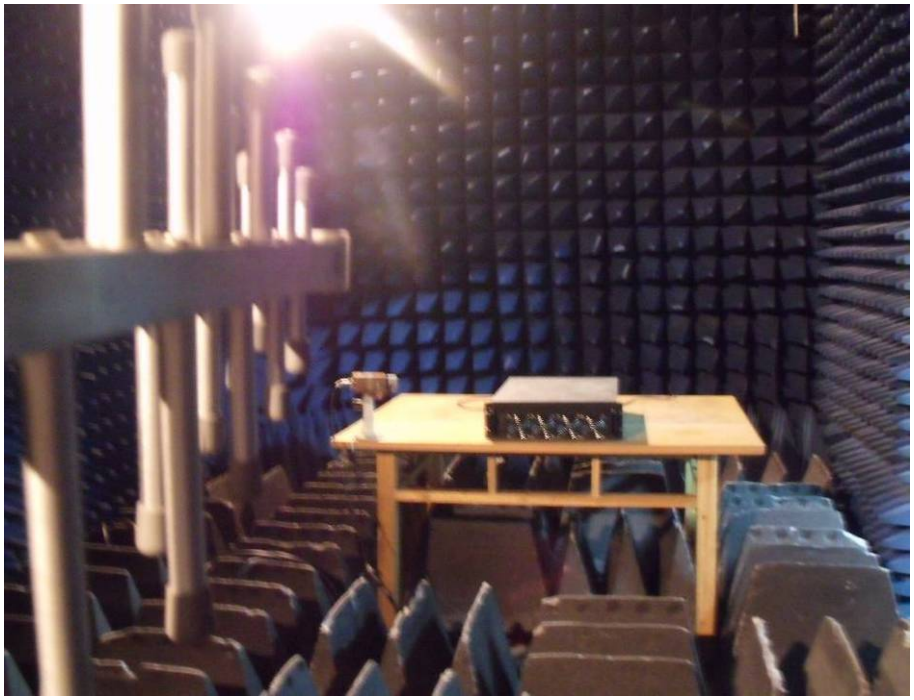
16.1. Photo of Conducted Emission Measurement



16.2. Photo of Radiation Emission Measurement

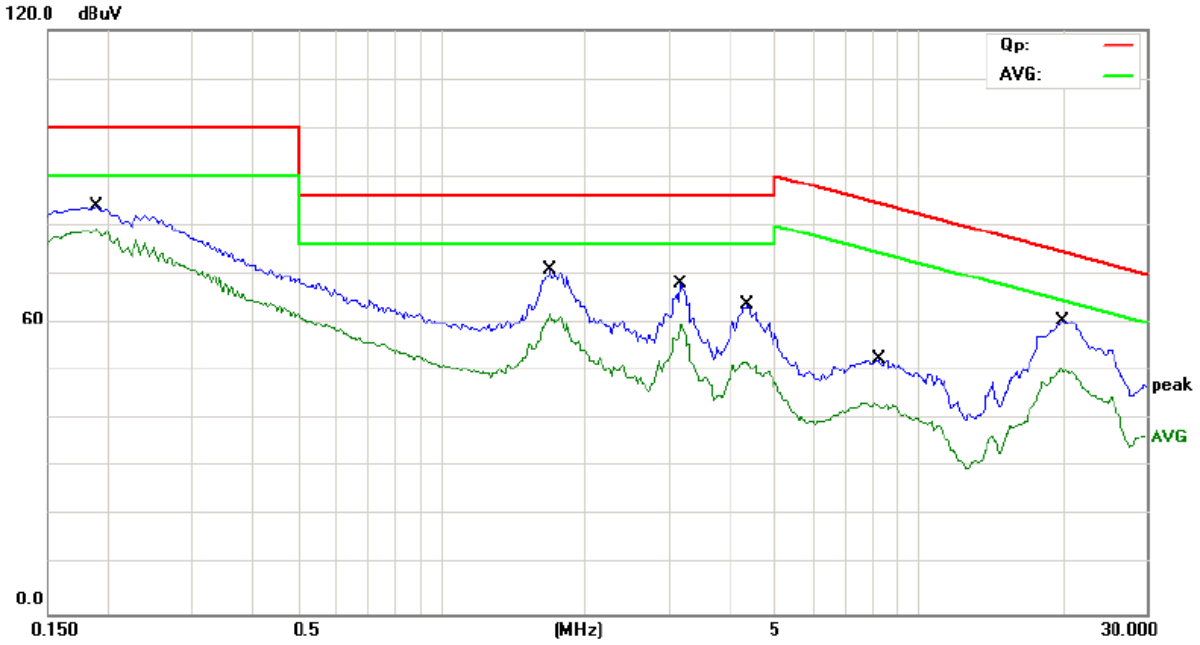


16.3.Photo of RF Field Strength Susceptibility Test



16.4.Photo of Surge Test

APPENDIX I



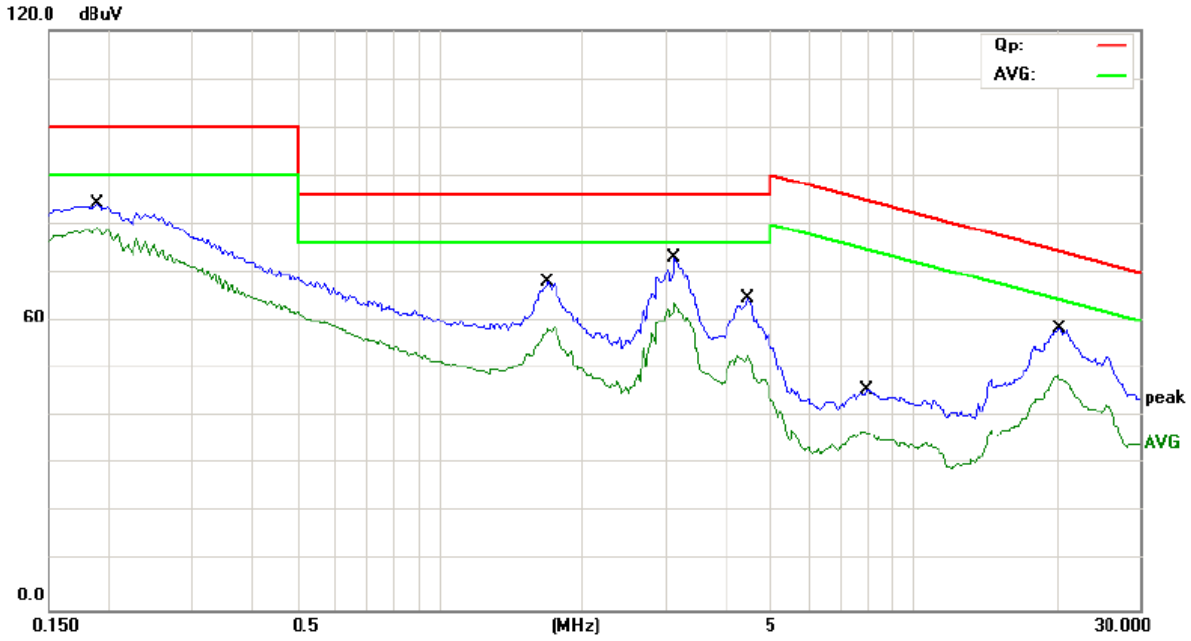
Site Conduction #2 Phase: L1 Temperature: 22

Limit: (CE)EN62040-2 (16-100A)QP Power: AC 380V/50Hz Humidity: 50 %

Note: LINE MODE

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1900	83.83	0.00	83.83	100.00	-16.17	QP	
2	*	0.1900	79.32	0.00	79.32	90.00	-10.68	AVG	
3		1.6900	70.84	0.00	70.84	86.00	-15.16	QP	
4		1.6900	61.86	0.00	61.86	76.00	-14.14	AVG	
5		3.1700	67.81	0.00	67.81	86.00	-18.19	QP	
6		3.1700	59.60	0.00	59.60	76.00	-16.40	AVG	
7		4.4000	63.68	0.00	63.68	86.00	-22.32	QP	
8		4.4000	52.10	0.00	52.10	76.00	-23.90	AVG	
9		8.2500	52.61	0.00	52.61	84.41	-31.80	QP	
10		8.2500	43.66	0.00	43.66	74.41	-30.75	AVG	
11		20.0500	60.45	0.00	60.45	74.50	-14.05	QP	
12		20.0500	50.73	0.00	50.73	64.50	-13.77	AVG	

*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver. Operator: xzj



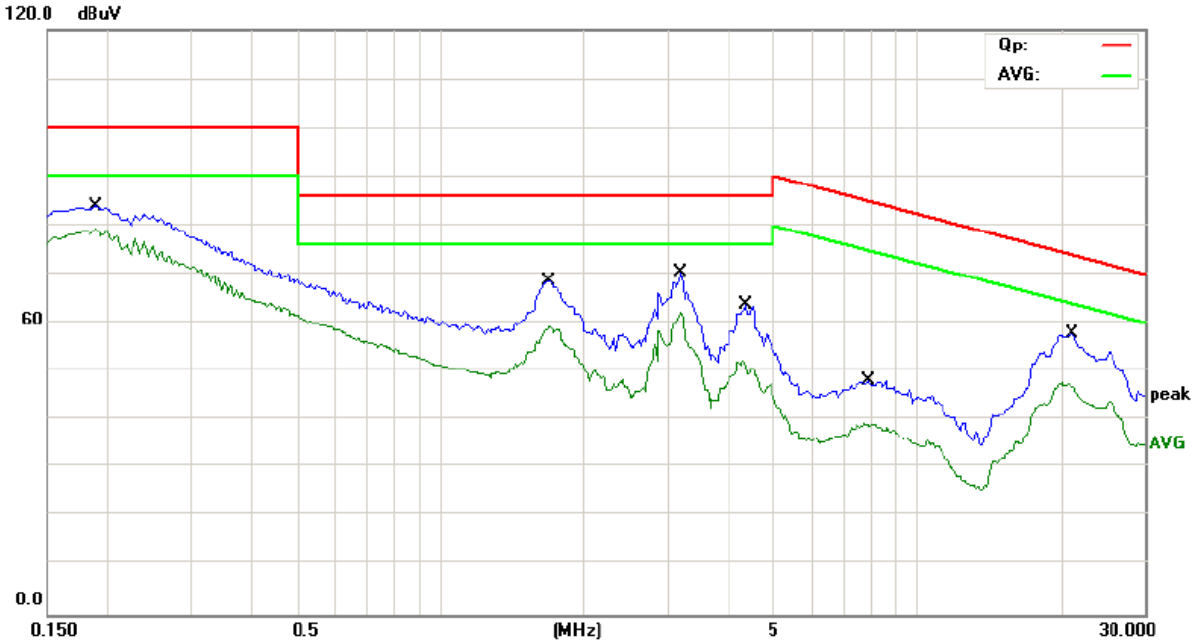
Site Conduction #2 Phase: L2 Temperature: 22

Limit: (CE)EN62040-2 (16-100A)QP Power: AC 380V/50Hz Humidity: 50 %

Note: LINE MODE

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1900	84.10	0.00	84.10	100.00	-15.90	QP	
2	*	0.1900	79.48	0.00	79.48	90.00	-10.52	AVG	
3		1.6950	67.99	0.00	67.99	86.00	-18.01	QP	
4		1.6950	58.24	0.00	58.24	76.00	-17.76	AVG	
5		3.1300	73.05	0.00	73.05	86.00	-12.95	QP	
6		3.1300	63.84	0.00	63.84	76.00	-12.16	AVG	
7		4.4700	64.68	0.00	64.68	86.00	-21.32	QP	
8		4.4700	52.96	0.00	52.96	76.00	-23.04	AVG	
9		7.9900	45.63	0.00	45.63	84.77	-39.14	QP	
10		7.9900	36.94	0.00	36.94	74.77	-37.83	AVG	
11		20.3000	58.39	0.00	58.39	74.36	-15.97	QP	
12		20.3000	48.69	0.00	48.69	64.36	-15.67	AVG	

*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver. Operator: xzj



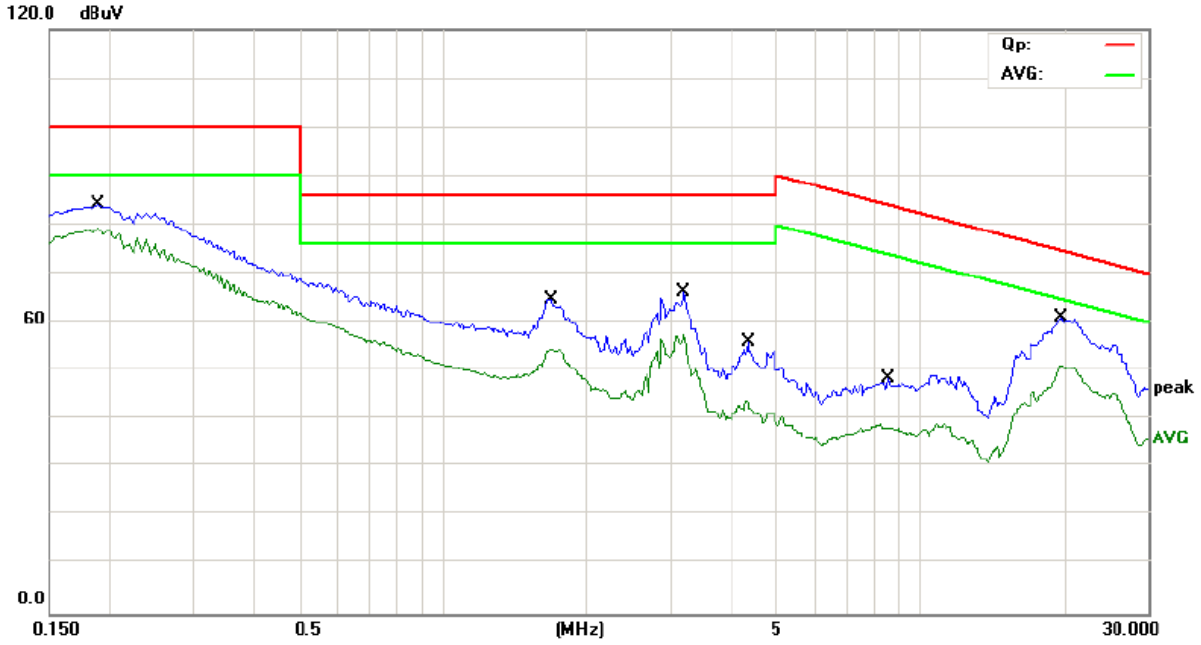
Site Conduction #2 Phase: L3 Temperature: 22

Limit: (CE)EN62040-2 (16-100A)QP Power: AC 380V/50Hz Humidity: 50 %

Note: LINE MODE

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1900	84.00	0.00	84.00	100.00	-16.00	QP	
2	*	0.1900	79.38	0.00	79.38	90.00	-10.62	AVG	
3		1.6950	68.60	0.00	68.60	86.00	-17.40	QP	
4		1.6950	59.23	0.00	59.23	76.00	-16.77	AVG	
5		3.1900	70.30	0.00	70.30	86.00	-15.70	QP	
6		3.1900	62.39	0.00	62.39	76.00	-13.61	AVG	
7		4.3800	63.70	0.00	63.70	86.00	-22.30	QP	
8		4.3800	52.44	0.00	52.44	76.00	-23.56	AVG	
9		7.9500	48.15	0.00	48.15	84.82	-36.67	QP	
10		7.9500	39.35	0.00	39.35	74.82	-35.47	AVG	
11		21.2250	57.66	0.00	57.66	73.86	-16.20	QP	
12		21.2250	47.53	0.00	47.53	63.86	-16.33	AVG	

*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver. Operator: xzj



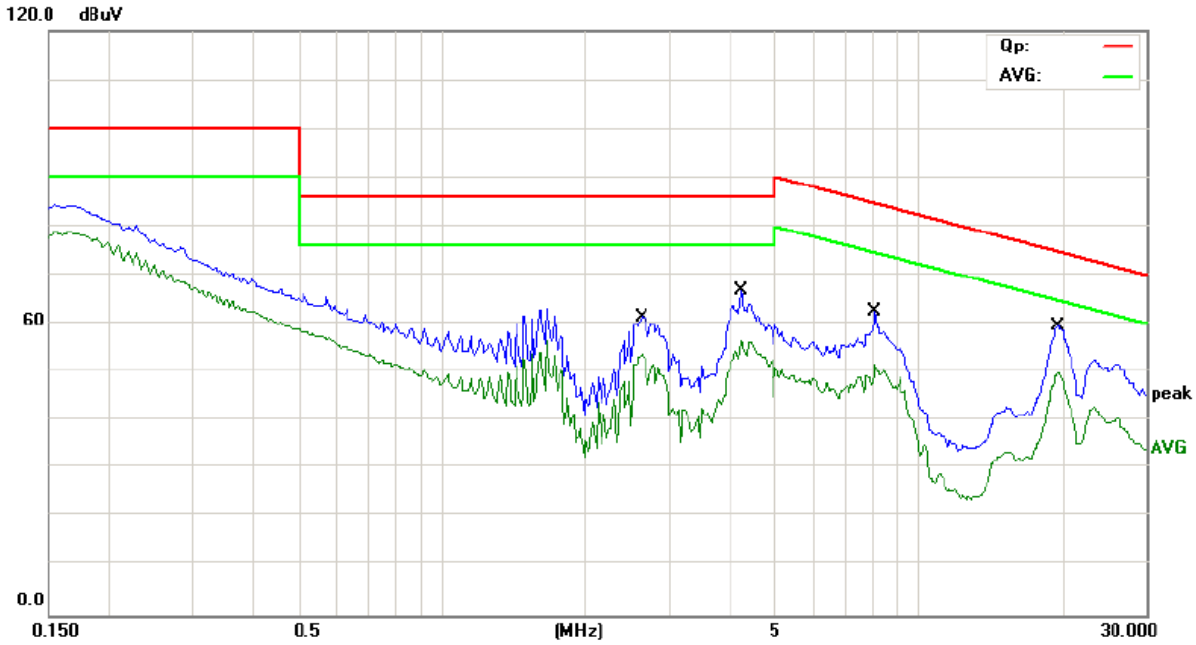
Site Conduction #2 Phase: N Temperature: 22

Limit: (CE)EN62040-2 (16-100A)QP Power: AC 380V/50Hz Humidity: 50 %

Note: LINE MODE

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1900	84.10	0.00	84.10	100.00	-15.90	QP	
2	*	0.1900	79.48	0.00	79.48	90.00	-10.52	AVG	
3		1.6900	64.64	0.00	64.64	86.00	-21.36	QP	
4		1.6900	54.55	0.00	54.55	76.00	-21.45	AVG	
5		3.1900	66.23	0.00	66.23	86.00	-19.77	QP	
6		3.1900	57.33	0.00	57.33	76.00	-18.67	AVG	
7		4.3800	55.93	0.00	55.93	86.00	-30.07	QP	
8		4.3800	44.02	0.00	44.02	76.00	-31.98	AVG	
9		8.5500	48.33	0.00	48.33	84.01	-35.68	QP	
10		8.5500	39.21	0.00	39.21	74.01	-34.80	AVG	
11		19.8250	60.96	0.00	60.96	74.62	-13.66	QP	
12		19.8250	51.29	0.00	51.29	64.62	-13.33	AVG	

*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver. Operator: xzj



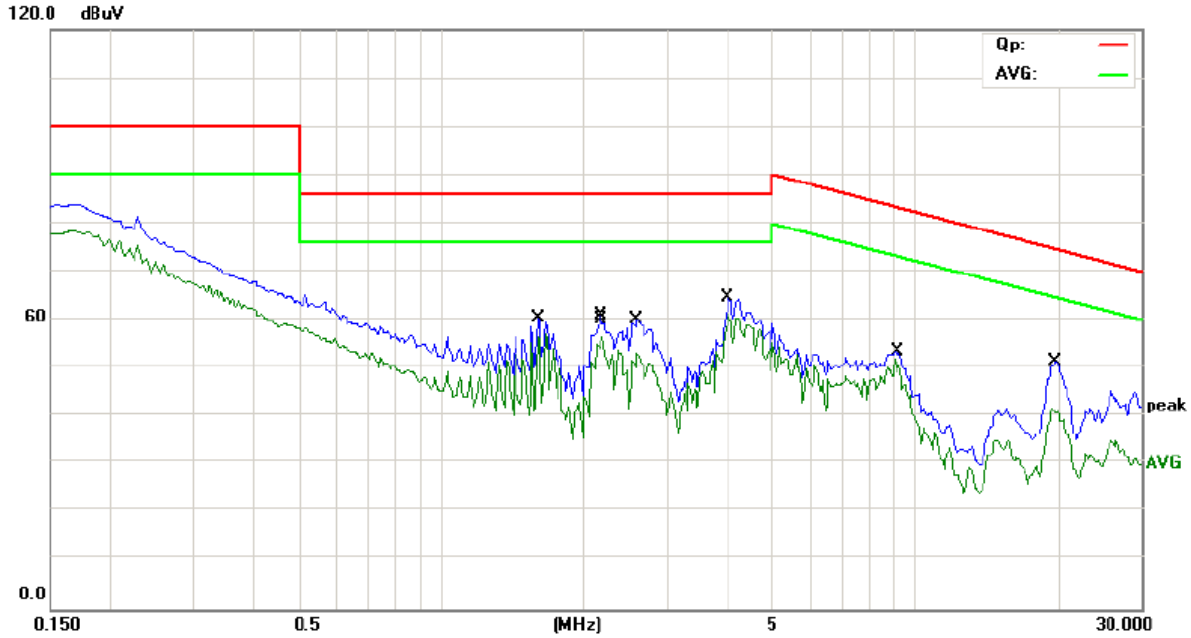
Site Conduction #2 Phase: L3 Temperature: 22

Limit: (CE)EN62040-2 (16-100A)QP Power: Humidity: 50 %

Note: BAT MODE

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		2.6300	61.50	0.00	61.50	86.00	-24.50	QP	
2		2.6300	53.82	0.00	53.82	76.00	-22.18	AVG	
3		4.2600	66.75	0.00	66.75	86.00	-19.25	QP	
4		4.2600	56.62	0.00	56.62	76.00	-19.38	AVG	
5		8.1200	62.58	0.00	62.58	84.59	-22.01	QP	
6		8.1200	51.65	0.00	51.65	74.59	-22.94	AVG	
7		19.6250	59.47	0.00	59.47	74.74	-15.27	QP	
8	*	19.6250	49.90	0.00	49.90	64.74	-14.84	AVG	

*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver. Operator: xzj



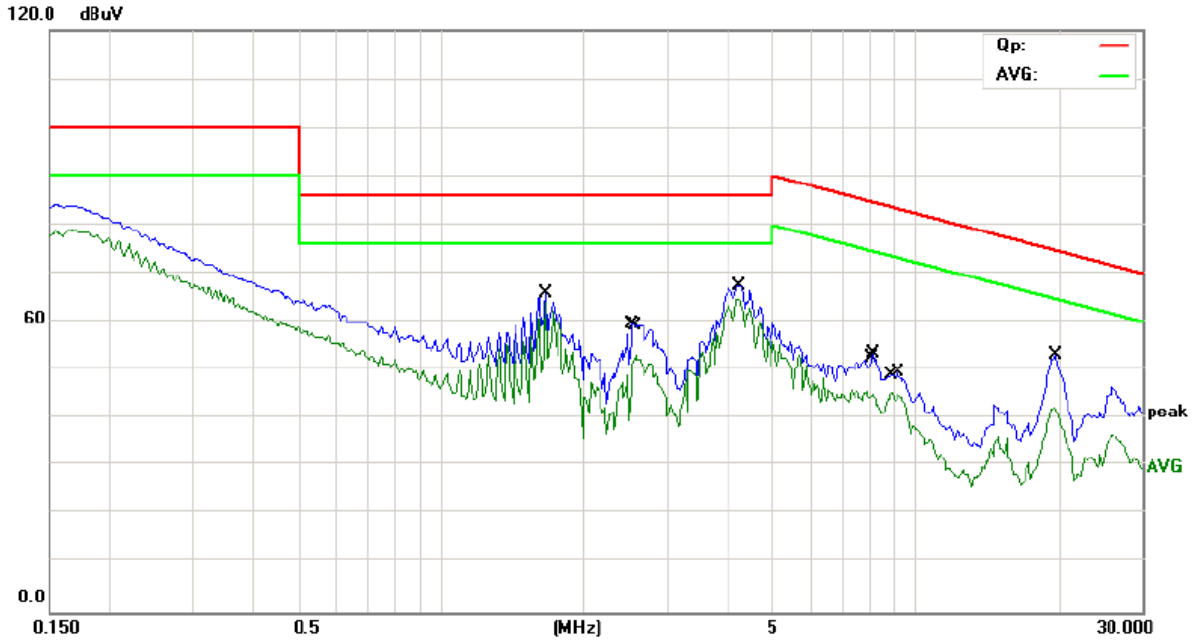
Site Conduction #2 Phase: L2 Temperature: 22

Limit: (CE)EN62040-2 (16-100A)QP Power: Humidity: 50 %

Note: BAT MODE

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		1.6100	60.38	0.00	60.38	86.00	-25.62	QP	
2		1.6100	56.48	0.00	56.48	76.00	-19.52	AVG	
3		2.1700	60.92	0.00	60.92	86.00	-25.08	QP	
4		2.1900	56.51	0.00	56.51	76.00	-19.49	AVG	
5		2.5900	60.21	0.00	60.21	86.00	-25.79	QP	
6		2.5900	53.22	0.00	53.22	76.00	-22.78	AVG	
7		4.0300	64.66	0.00	64.66	86.00	-21.34	QP	
8	*	4.0300	61.29	0.00	61.29	76.00	-14.71	AVG	
9		9.0800	51.98	0.00	51.98	73.34	-21.36	AVG	
10		9.2500	53.44	0.00	53.44	83.13	-29.69	QP	
11		19.4750	41.88	0.00	41.88	64.82	-22.94	AVG	
12		19.8000	51.46	0.00	51.46	74.64	-23.18	QP	

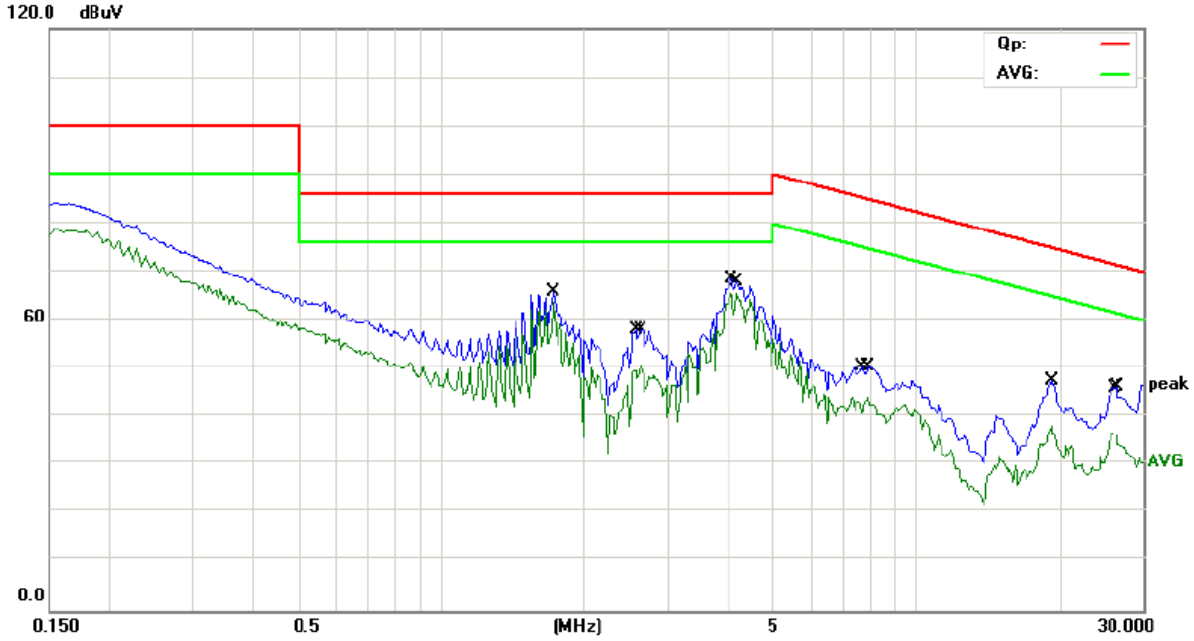
*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver. Operator: xzj



Site Conduction #2 Phase: L1 Temperature: 22
Limit: (CE)EN62040-2 (16-100A)QP Power: Humidity: 50 %
Note: BAT MODE

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		1.6700	65.94	0.00	65.94	86.00	-20.06	QP	
2		1.6700	63.97	0.00	63.97	76.00	-12.03	AVG	
3		2.5300	59.67	0.00	59.67	86.00	-26.33	QP	
4		2.5800	53.14	0.00	53.14	76.00	-22.86	AVG	
5	*	4.2000	64.70	0.00	64.70	76.00	-11.30	AVG	
6		4.2600	67.46	0.00	67.46	86.00	-18.54	QP	
7		8.0198	44.56	0.00	44.56	74.73	-30.17	AVG	
8		8.1600	53.58	0.00	53.58	84.53	-30.95	QP	
9		8.9000	45.58	0.00	45.58	73.56	-27.98	AVG	
10		9.1900	49.61	0.00	49.61	83.21	-33.60	QP	
11		19.5750	42.43	0.00	42.43	64.77	-22.34	AVG	
12		19.7250	53.16	0.00	53.16	74.68	-21.52	QP	

*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver. Operator: xzj



Site Conduction #2 Phase: N Temperature: 22

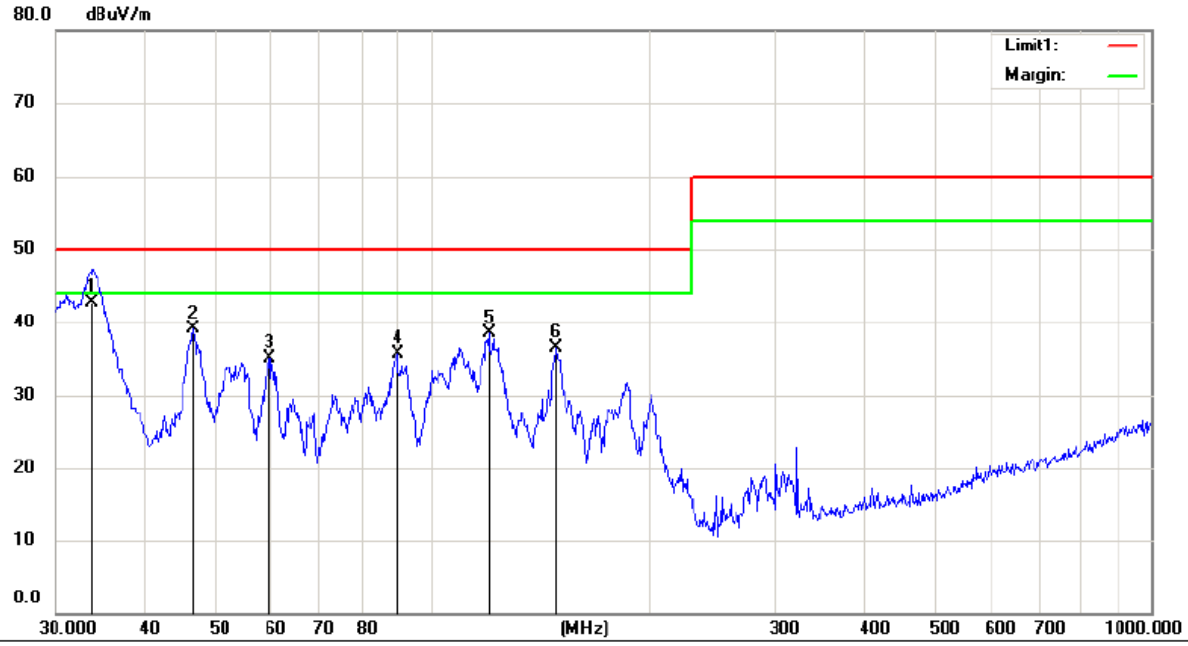
Limit: (CE)EN62040-2 (16-100A)QP Power: Humidity: 50 %

Note: BAT MODE

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		1.7250	65.89	0.00	65.89	86.00	-20.11	QP	
2		1.7250	63.65	0.00	63.65	76.00	-12.35	AVG	
3		2.5800	58.07	0.00	58.07	86.00	-27.93	QP	
4		2.6300	50.92	0.00	50.92	76.00	-25.08	AVG	
5		4.0900	68.65	0.00	68.65	86.00	-17.35	QP	
6	*	4.2000	65.48	0.00	65.48	76.00	-10.52	AVG	
7		7.7000	50.47	0.00	50.47	85.18	-34.71	QP	
8		7.9500	44.36	0.00	44.36	74.82	-30.46	AVG	
9		19.2750	47.61	0.00	47.61	74.94	-27.33	QP	
10		19.2750	38.13	0.00	38.13	64.94	-26.81	AVG	
11		25.7750	36.74	0.00	36.74	61.69	-24.95	AVG	
12		26.5000	46.42	0.00	46.42	71.38	-24.96	QP	

*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver. Operator: xzj

APPENDIX II



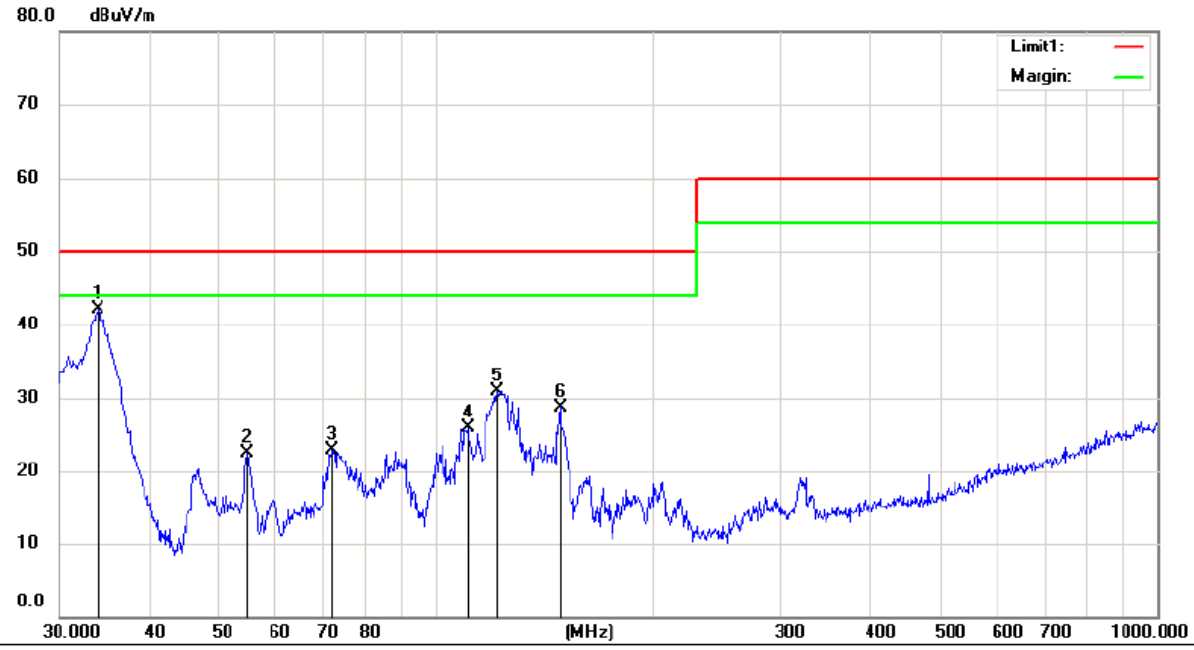
Site site #1 Polarization: *Vertical* Temperature: 26 C

Limit: EN62040-2 C3 10M Power: AC 380V/50Hz Humidity: 50 %

Note: LINE MODE

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	33.6802	66.23	-23.43	42.80	50.00	-7.20	QP			
2		46.6662	61.07	-22.04	39.03	50.00	-10.97	QP			
3		59.4405	57.73	-22.55	35.18	50.00	-14.82	QP			
4		89.5900	58.88	-23.23	35.65	50.00	-14.35	QP			
5		120.2766	62.81	-24.22	38.59	50.00	-11.41	QP			
6		148.4410	62.23	-25.68	36.55	50.00	-13.45	QP			

*:Maximum data x:Over limit I:over margin Operator: JOE



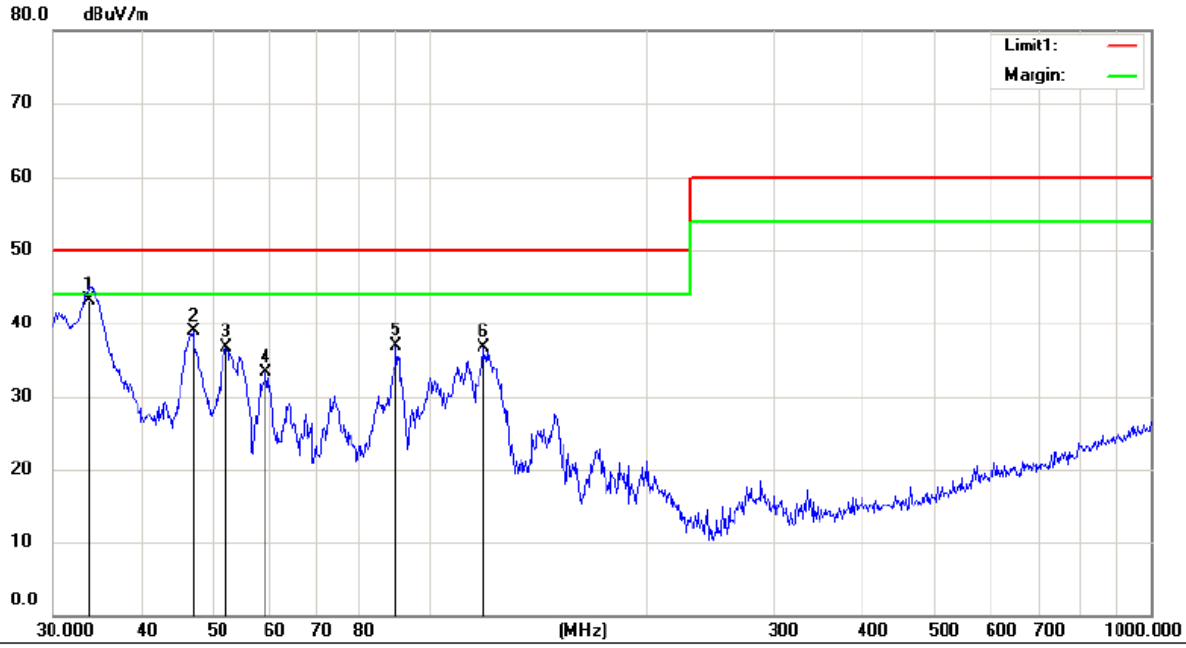
Site site #1 Polarization: *Horizontal* Temperature: 26 C

Limit: EN62040-2 C3 10M Power: AC 380V/50Hz Humidity: 50 %

Note: LINE MODE

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	33.9174	65.47	-23.42	42.05	50.00	-7.95	QP			
2		54.6428	44.79	-22.32	22.47	50.00	-27.53	QP			
3		71.8320	49.78	-26.83	22.95	50.00	-27.05	QP			
4		110.5686	48.45	-22.60	25.85	50.00	-24.15	QP			
5		121.5486	55.25	-24.37	30.88	50.00	-19.12	QP			
6		148.4410	54.48	-25.68	28.80	50.00	-21.20	QP			

*:Maximum data x:Over limit !:over margin Operator: JOE



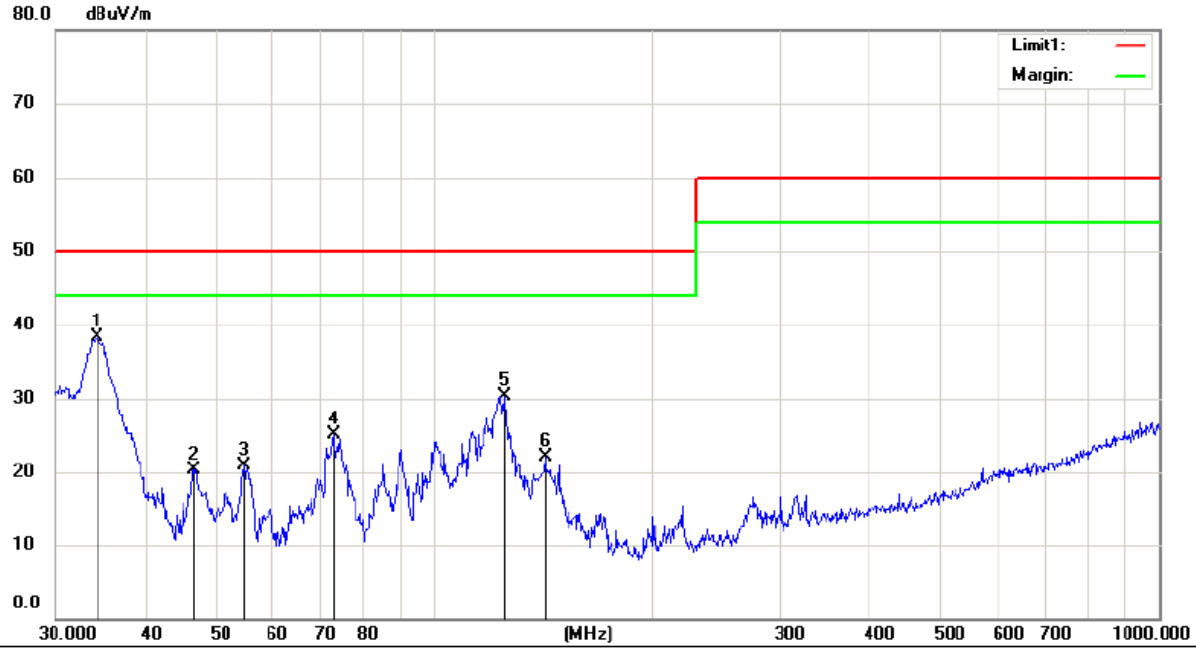
Site site #1 Polarization: *Vertical* Temperature: 26 C

Limit: EN62040-2 C3 10M Power: Humidity: 50 %

Note: BAT MODE

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	33.6802	66.53	-23.43	43.10	50.00	-6.90	QP			
2		46.9947	60.87	-22.06	38.81	50.00	-11.19	QP			
3		52.2078	58.96	-22.24	36.72	50.00	-13.28	QP			
4		59.2324	55.78	-22.54	33.24	50.00	-16.76	QP			
5		89.9046	59.97	-23.12	36.85	50.00	-13.15	QP			
6		118.6013	60.70	-23.95	36.75	50.00	-13.25	QP			

*:Maximum data x:Over limit I:over margin Operator: JOE



Site site #1 Polarization: *Horizontal* Temperature: 26 C

Limit: EN62040-2 C3 10M Power: Humidity: 50 %

Note: BAT MODE

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	34.2760	61.77	-23.43	38.34	50.00	-11.66	QP			
2		46.6662	42.42	-22.04	20.38	50.00	-29.62	QP			
3		54.6428	43.20	-22.32	20.88	50.00	-29.12	QP			
4		72.5915	52.05	-26.94	25.11	50.00	-24.89	QP			
5		125.0066	55.20	-24.82	30.38	50.00	-19.62	QP			
6		142.3242	47.98	-25.86	22.12	50.00	-27.88	QP			

*:Maximum data x:Over limit !:over margin Operator: JOE

APPENDIX III
(Photos of EUT)