CERTIFICATION

Applicant	：American Power Conversion Holding Inc. Taiwan Branch
Address	：3F., No. 205, Sec. 3, Beixin Rd., Xindian Dist., New Taipei City 231, Taiwan R.O.C.
Manufacturer	：American Power Conversion Holding Inc. Taiwan Branch
Address	：3F., No. 205, Sec. 3, Beixin Rd., Xindian Dist., New Taipei City 231, Taiwan R.O.C.
Description of EUT	：Uninterruptible Power System
Trade Name	：APC
Model Number	：BX1000M
Product Series	：BX1000MXXXXXXXX, BX850MXXXXXXXX ("X" can be 0-9, A-Z, "-" or blank)
Type of Test	：FCC Part 15 Subpart B
Technical Standard	：**Emission** FCC Part 15：Subpart B Class B CISPR 22：2008 Class B ANSI C63.4：2014
Report Number	：HA161121-FD
Receipt Date	：07-DEC-2016
Issue Date	：08-DEC-2016
Test Result	：**Compliance**

The above equipment was tested by *HongAn TECHNOLOGY CO., LTD.* , for compliance with the requirement set forth in the FCC Rules and Regulation Part 15, Subpart B and the measurement procedures were based on ANSI C63.4.

Note ：

1. The results of the test report relate only to the sample tested.

2. The test report shall not be reproduced without the written approval of *HongAn TECHNOLOGY CO., LTD.*

Approved by:

Adam Yang / Section Manager

HongAn TECHNOLOGY CO., LTD.

HongAn TECHNOLOGY EMC Laboratory

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LINKOU DIST, NEW TAIPEI CITY, TAIWAN, R.O.C.

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BSMI Registration No.： SL2-IN-E-0023,SL2-IS-E-0023, SL2-A1-E-0023,SL2-R1-E-0023, SL2-R2-E-0023,SL2-L1-E-0023

FCC Designation No.：TW1071, TW1163

TAF Accreditation No.：1163

VCCI Registration No.：R-2156, C-2329, T-219, G-696

FCC COMPLIANCE TEST REPORT

Technical Statement of Conformity

in accordance with FCC Part 15 Subpart B

The Product

Equipment Under Test	:	Uninterruptible Power System
Model Number	:	BX1000M
Product Series	:	BX1000MXXXXXXXX, BX850MXXXXXXXX ("X" can be 0-9, A-Z, "-" or blank)
Report Number	:	HA161121-FD
Issue Date	:	08-DEC-2016
Test Result	:	Compliance

is produced by

American Power Conversion Holding Inc. Taiwan Branch

3F., No. 205, Sec. 3, Beixin Rd., Xindian Dist., New Taipei City 231, Taiwan R.O.C.

HongAn TECHNOLOGY CO., LTD.
HongAn TECHNOLOGY EMC Laboratory

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FCC Designation No.: TW1071, TW1163
TAF Accreditation No.: 1163
VCCI Registration No.: R-2156, C-2329, T-219, G-696

Contents

Verification

Applicant	:	American Power Conversion Holding Inc. Taiwan Branch
Manufacturer	:	American Power Conversion Holding Inc. Taiwan Branch
Equipment Under Test	:	Uninterruptible Power System
Model Number	:	BX1000M
Product Series	:	BX1000MXXXXXXXX, BX850MXXXXXXXX ("X" can be 0-9, A-Z, "-" or blank)
Sample Received Date	:	05-DEC-2016
Test Standards	:	

Emission：

FCC Part 15 Subpart B Class B
CISPR 22：2008 Class B
ANSI C63.4：2014

Remark

This report details the results of the test carried out on one sample. The test results are contained in this test report and HongAn Technology Co., Ltd. assumes full responsibility for the accuracy and completeness of these tests. This report shows the EUT is technically compliant with FCC Part 15 Subpart B and CISPR 22 Class B official requirements. The test procedure is in compliance with ANSI C63.4. This report applies to the above sample only and shall not be reproduced in part without written approval of HongAn Technology Co., Ltd..

Documented by: Mei Cheng **Date:** 08-DEC-2016

Mei Cheng / ADM. Dept. Staff

Tested by: M.S.Shi **Date:** 07-DEC-2016

M.S. Shi / ENG. Dept. Staff

Approved by: Adam Yang **Date:** 08-DEC-2016

Adam Yang / SEC. Manager

Summary of Test Result

Emission			
Test Standard	**Test Item**	**Test Result**	**Remark**
FCC Part15 Subpart B CISPR22 Class B ANSI C63.4	Conducted Emission	Pass	Highest Emission (LINE Mode) L: 17.20MHz, A.V. 31.58dBuV, Margin -18.42dBuV N: 17.38MHz, A.V. 31.10dBuV, Margin -18.90dBuV
			Highest Emission (Battery Mode) L: 1.70MHz, Q.P. 53.82dBuV, Margin -2.18dBuV N: 1.46MHz, Q.P. 48.83dBuV, Margin -7.17dBuV
FCC Part15 Subpart B CISPR22 Class B ANSI C63.4	Radiated Emission (Below 1GHz)	Pass	Highest Emission(LINE Mode) H: 191.96MHz, 23.01dBuV, Margin -6.99dB Antenna Height 393cm, Turntable Angle 93° V: 207.69MHz, 24.41dBuV, Margin -5.59dB Antenna Height 105cm, Turntable Angle 92°
			Highest Emission(Battery Mode) H: 55.93MHz, 23.87dBuV, Margin -6.13dB Antenna Height 400cm, Turntable Angle 58° V: 31.55MHz, 23.01dBuV, Margin -6.99dB Antenna Height 100cm, Turntable Angle 99°
FCC Part15 Subpart B CISPR22 Class B ANSI C63.4	Radiated Emission (Above 1GHz)	N/A	The highest frequency of the internal sources of the EUT is less than 108MHz, the measurement shall only be made up to 1GHz. Hence, the test item is not required.

Measurement Uncertainty

The following measurement uncertainty has been calculated for Emission Tests performed on the EUT as specified in CISPR 16-4-2:

Test Item		**Uncertainty**
Conducted Emission		± 4.34dB
Radiated Emission	Below 1GHz	± 5.87dB
	Above 1GHz	± 4.03dB

This reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor of k = 2, providing a level of confidence of approximately 95%.

1 General Description

1.1 Description of Equipment Under Test

Equipment Under Test	:	Uninterruptible Power System
Model Number	:	BX1000M
Product Series	:	BX1000MXXXXXXXX, BX850MXXXXXXXX ("X" can be 0-9, A-Z, "-" or blank)
Applicant	:	American Power Conversion Holding Inc. Taiwan Branch
Address of Applicant	:	3F., No. 205, Sec. 3, Beixin Rd., Xindian Dist., New Taipei City 231, Taiwan R.O.C.
Manufacturer	:	American Power Conversion Holding Inc. Taiwan Branch
Address of Manufacturer	:	3F., No. 205, Sec. 3, Beixin Rd., Xindian Dist., New Taipei City 231, Taiwan R.O.C.
Power Supply	:	AC 120V, 60Hz, 12A ☐Shielded ☒Non-Shielded ☐Detachable ☒Un-Detachable, 1.8m ☐w Ferrite Core ☒w/o Ferrite Core
I/O Port	:	Battery Backup Outlet *4, Surge Outlet *4, Data Port*1(USB & Serial), Network In Port*1, Network Out Port *1, Cable In Port *1,Cable Out Port *1
Data Cable	:	Data Cable*1(USB to Serial) ☒Shielded ☐Non-Shielded ☒Detachable, 1.9m ☐Un-Detachable ☒w Ferrite Core*1 ☐w/o Ferrite Core Coaxial Cable*1 ☒Shielded ☐Non-Shielded ☒Detachable, 0.9m ☐Un-Detachable ☐w Ferrite Core ☒w/o Ferrite Core
Description of EUT	:	**Dimensions :** 32 cm (L) X 9.5 cm (W) X 19 cm (H) **Highest Frequency of the Internal Source :** <108MHz **Position :** ☒Table-top / ☐Floor-standing **Intended Function**：The EUT is a Uninterruptible Power System. **Product Variance**：The manufacturer declares that the only difference between the series is on their output rating. HongAn is only responsible for the test result of the main test sample.

1.2 Test Facility

All the Conducted and Radiated Emission Tests are performed at No. 15-1, Cweishuh Keng, Cweipin Village, Linkou, New Taipei City, Taiwan, R.O.C.

1.3 Test Instruments

Instruments Used for Emission Measurement

Instrument Name	Manufacture Mode	Model Number	Serial Number	Last Cal. Date	Next Cal. Date
LISN	EMCO	3810/2NM	9702-1820	03-Aug-2016	03-Aug-2017
LISN	EMCO	3810/2NM	9702-1821	03-Aug-2016	03-Aug-2017
RF Current Probe	FCC	F-33-4	53	19-May-2016	19-May-2017
Impedance Stabilization Network (ISN)	TESEQ	ISN T800	30838	18-Aug-2016	18-Aug-2017
EMI Receiver	R&S	ESR	101970	12-Oct-2016	12-Oct-2017
EMI Receiver	R&S	ESCI	100931	21-Jul-2016	21-Jul-2017
Spectrum Analyzer	R&S	FSV 30	101629	30-Jan-2016	30-Jan-2017
Preamplifier	WIRELESS	FPA-6592G	060050	24-Aug-2016	24-Aug-2017
Preamplifier	HD	HD17187	004	20-May-2016	20-May-2017
Bilog Antenna	TESEQ	CBL6111D	25769	22-Feb-2016	22-Feb-2017
Bilog Antenna	TESEQ	CBL6111D	38521	10-Oct-2016	10-Oct-2017
Double-Ridged Waveguide Horn	EMCO	3115	9912-5992	23-May-2016	23-May-2017

※ The test equipments used are calibrated and can be traced to National ITRI and International Standards.

1.4 Test Methodology

All Conducted and Radiated Emission Tests were performed according to the procedures stated in FCC Part 15 Subpart B Sec. 15.31.

1.5 Auxiliary Equipments

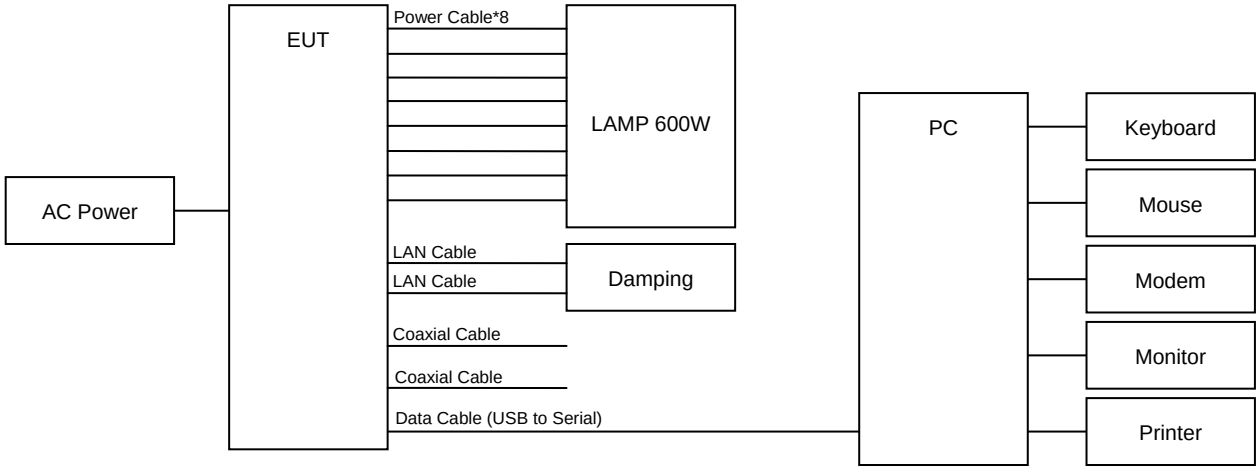
1.5.1 Provided by HongAn Technology Co., Ltd. for Emission Test.

No.	Equipment	Model No.	Serial No.	EMC Approved	Brand	Description	
						Data Cable	Power Cable
01	PC	HP ProDesk 400G2 MT	SGH528TFSC	BSMI ID 33001 FCC	Hewlett Packard	N/A	N/A
02	Keyboard	PK110U	AUT1034004409	CE Mark, FCC DoC, BSMI ID R41108	ASUS	Shielded(Foil) *1.5m	N/A
03	Mouse	MO96UOB	96NO35688	CE Mark, FCC DoC, BSMI ID R41108	ASUS	Shielded(Foil) *1.8m	N/A
04	Modem	E210	N/A	CE Mark, FCC DoC	MAIAC	Shielded(Braid) *1m	Unshielded *1m with EMI core*1
05	Monitor	E1709Wc	CN-0J672H-64180-042-3CRH	CE FCC BSMI R33037	DELL	N/A	N/A
06	Printer	C2642A	TH85M1M2J4	CE Mark, FCC DoC	Hewlett Packard	Shielded(Braid) *1.6m	AC to Adapter unshielded *1.8m, Adapter to Printer unshielded *0.9m
07	LAMP*2	200W	N/A	N/A	N/A	N/A	N/A
08	LAMP*2	100W	N/A	N/A	N/A	N/A	N/A
09	Power Cable*8	N/A	N/A	N/A	N/A	N/A	Non-shielded, Detachable, 1.8m, W/O core

1.5.2 Provided by the Manufacturer

No.	Equipment	Model No.	Serial No.	EMC Approved	Brand	Description	
						Data Cable	Power Cable
01	Coaxial Cable	N/A	N/A	N/A	N/A	Shielded, Detachable, 0.9m, W/O core	N/A
02	LAN Cable*2	N/A	N/A	N/A	N/A	Shielded, Detachable, 2m, W/O core	N/A

1.6 Block Diagram



1.7 Identifying the Final Test Mode

1. Line mode (600W).
2. Battery mode (600W).

Note: The additional power cords do not increase the disturbance level by 2dB. Therefore, the Final EMC Assessment was performed for the Line mode and Battery mode.

1.8 Final Test Mode

1. Line mode.
2. Battery mode.

1.9 Condition of Power Supply

AC 120 V; 60 Hz

1.10 EUT Configuration

1. Setup the EUT and peripheral as shown in Section 1.6.
2. Turn on the power of all equipments.
3. Activate the selected Final Test Mode shown in Sec. 1.8.

2 Conducted Emission Test

2.1 Test Instruments

Refer to Sec. 1.3 Test Instruments.

2.2 Test Configuration and Procedure

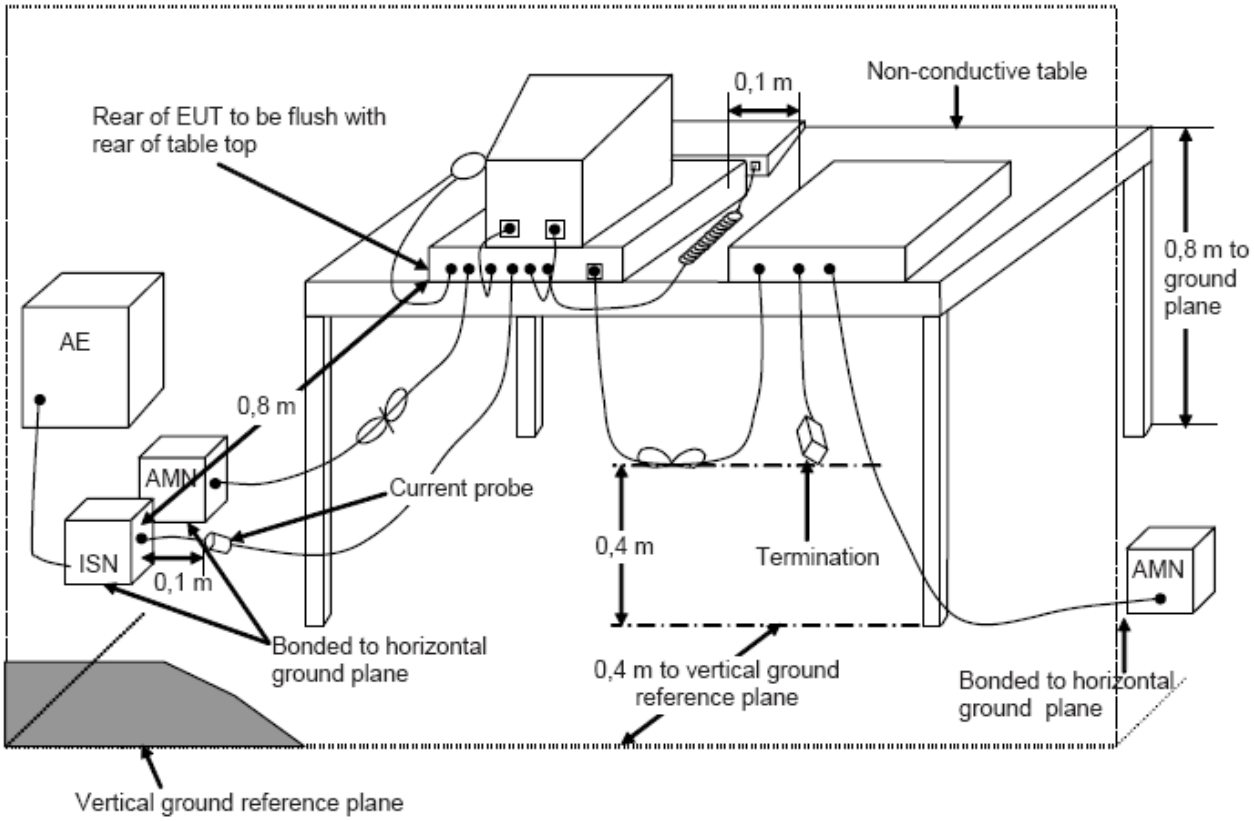


Table-top Equipment

- The EUT was placed on a non-conductive table which was 80 cm above the horizontal coupling plane. The rear of the EUT was 40 cm from the vertical coupling plane.
- The excess interface cables were folded at the cable center into a bundle no longer than 40 cm, so that the bundles were on the table.
- The EUT was connected to the main power through a L.I.S.N. This set up provided 50 ohm / 50 μH coupling impedance for the measuring equipment.
- All auxiliary equipment received power from a second L.I.S.N.
- The conducted emissions were measured between the Line Phase and the PE ground and between the Neutral Phase and the PE ground using an EMI Receiver.
- The values were recorded.

2.3 Conducted Limit

☒ CISPR 22 / FCC Part 15 B

Frequency (MHz)	☐ Class A		☒ Class B	
	Q.P. (Quasi-Peak)	A.V. (Average)	Q.P. (Quasi-Peak)	A.V. (Average)
0.15 to 0.50	79	66	66 to 56	56 to 46
0.50 to 5.0	73	60	56	46
5.0 to 30	73	60	60	50

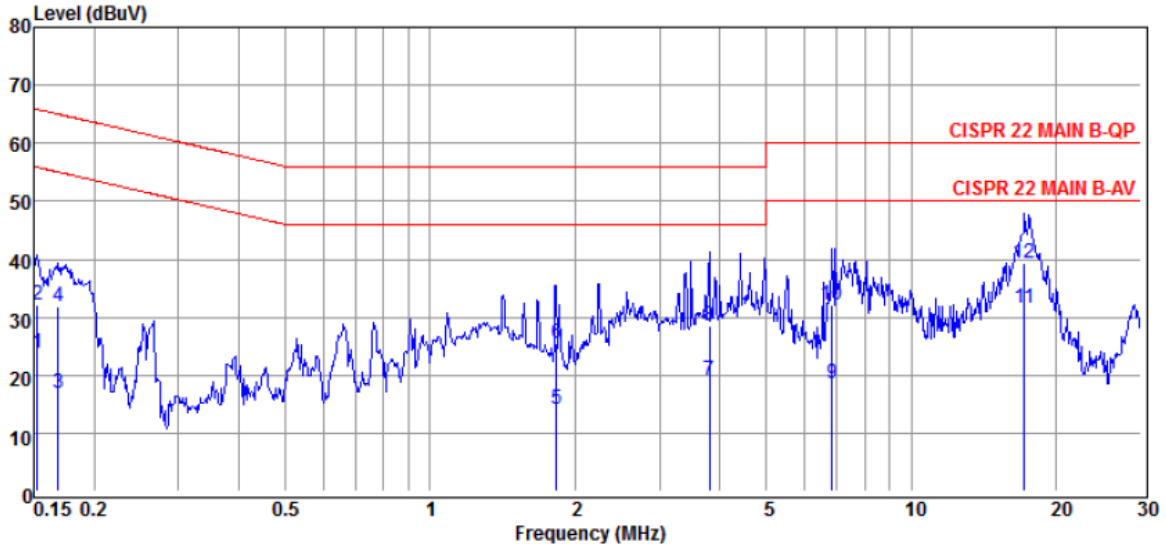
2.4 Test Result

PASS

The final tests data are shown on the following page(s).

Conducted Emission Test Data-Line mode

Test Date	:	06-DEC-2016	Power Line	:	Line
Temperature	:	25℃	Humidity	:	50%



No.	Freq MHz	Reading dBµV	C.F dB	Result dBµV	Limit dBµV	Margin dB	Power Line	Remark
1	0.15	23.58	0.12	23.70	55.87	-32.17	LINE	Average
2	0.15	31.88	0.12	32.00	65.87	-33.87	LINE	QP
3	0.17	16.74	0.11	16.85	55.03	-38.18	LINE	Average
4	0.17	31.81	0.11	31.92	65.03	-33.11	LINE	QP
5	1.83	13.93	0.16	14.09	46.00	-31.91	LINE	Average
6	1.83	25.37	0.16	25.53	56.00	-30.47	LINE	QP
7	3.80	18.92	0.26	19.18	46.00	-26.82	LINE	Average
8	3.80	28.19	0.26	28.45	56.00	-27.55	LINE	QP
9	6.84	18.11	0.40	18.51	50.00	-31.49	LINE	Average
10	6.84	31.66	0.40	32.06	60.00	-27.94	LINE	QP
11	17.20	30.62	0.96	31.58	50.00	-18.42	LINE	Average
12	17.20	38.45	0.96	39.41	60.00	-20.59	LINE	QP

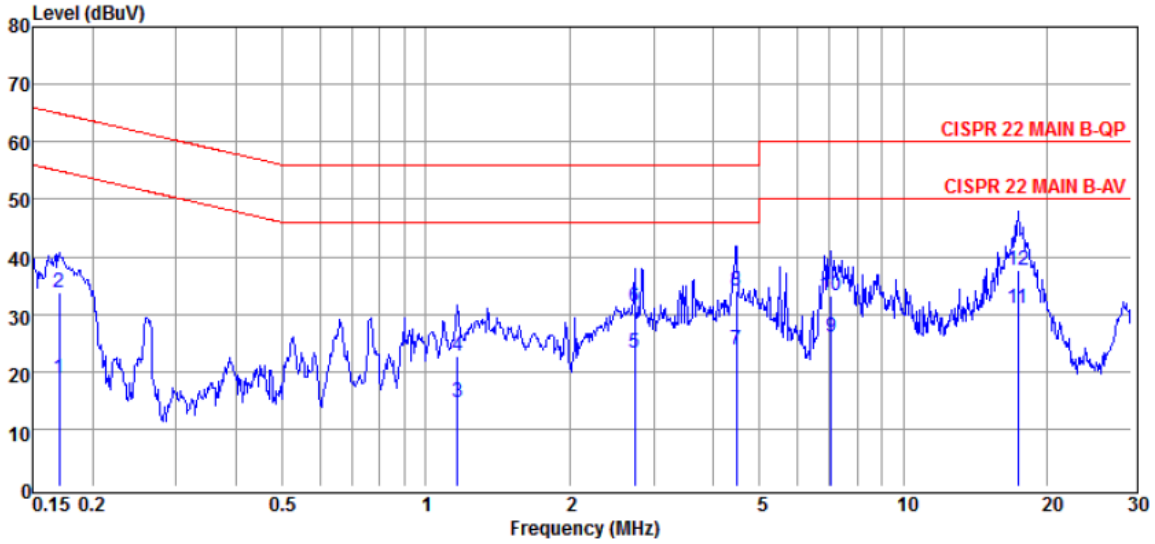
Remark： 1. All readings are Quasi-Peak and Average values.

2. Result = Reading + C.F

3. Margin = Result – Limit

Conducted Emission Test Data-Line mode

Test Date	:	06-DEC-2016	Power Line	:	Neutral
Temperature	:	25℃	Humidity	:	50%

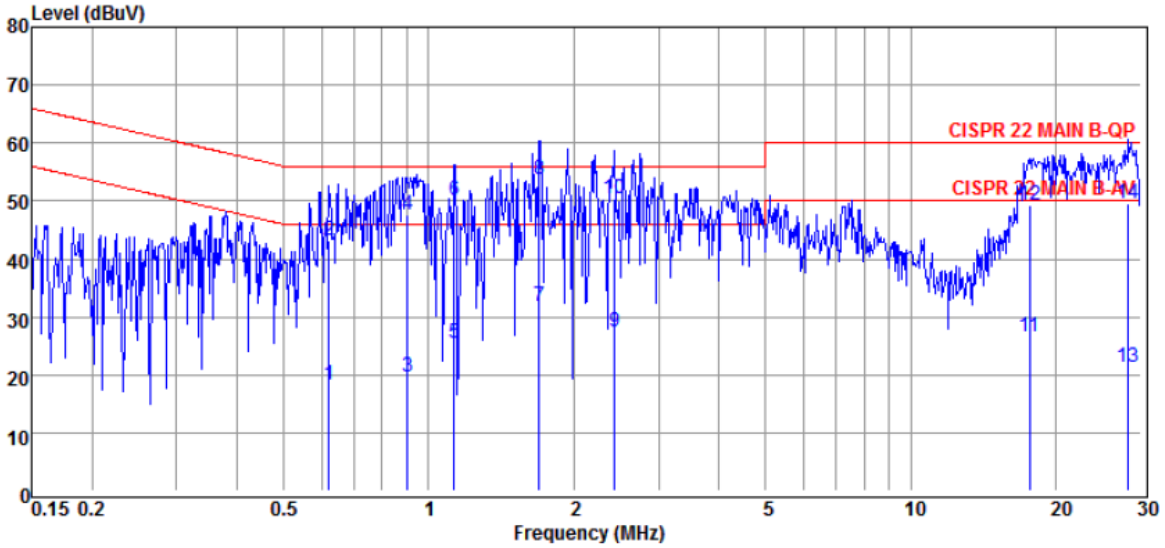


No.	Freq MHz	Reading dBµV	C.F dB	Result dBµV	Limit dBµV	Margin dB	Power Line	Remark
1	0.17	18.83	0.10	18.93	54.94	-36.01	NEUTRAL	Average
2	0.17	33.81	0.10	33.91	64.94	-31.03	NEUTRAL	QP
3	1.17	14.65	0.13	14.78	46.00	-31.22	NEUTRAL	Average
4	1.17	22.67	0.13	22.80	56.00	-33.20	NEUTRAL	QP
5	2.74	23.14	0.21	23.35	46.00	-22.65	NEUTRAL	Average
6	2.74	30.98	0.21	31.19	56.00	-24.81	NEUTRAL	QP
7	4.48	23.53	0.30	23.83	46.00	-22.17	NEUTRAL	Average
8	4.48	33.81	0.30	34.11	56.00	-21.89	NEUTRAL	QP
9	7.06	25.69	0.42	26.11	50.00	-23.89	NEUTRAL	Average
10	7.06	32.67	0.42	33.09	60.00	-26.91	NEUTRAL	QP
11	17.38	30.04	1.06	31.10	50.00	-18.90	NEUTRAL	Average
12	17.38	36.45	1.06	37.51	60.00	-22.49	NEUTRAL	QP

Remark：
1. All readings are Quasi-Peak and Average values.
2. Result = Reading + C.F
3. Margin = Result – Limit

Conducted Emission Test Data-Battery mode

Test Date	:	06-DEC-2016	Power Line	:	Line
Temperature	:	25℃	Humidity	:	50%



No.	Freq MHz	Reading dBµV	C.F dB	Result dBµV	Limit dBµV	Margin dB	Power Line	Remark
1	0.62	18.22	0.10	18.32	46.00	-27.68	LINE	Average
2	0.62	43.12	0.10	43.22	56.00	-12.78	LINE	QP
3	0.90	19.67	0.12	19.79	46.00	-26.21	LINE	Average
4	0.90	47.54	0.12	47.66	56.00	-8.34	LINE	QP
5	1.13	25.26	0.13	25.39	46.00	-20.61	LINE	Average
6	1.13	49.98	0.13	50.11	56.00	-5.89	LINE	QP
7	1.70	31.74	0.16	31.90	46.00	-14.10	LINE	Average
8	1.70	53.66	0.16	53.82	56.00	-2.18	LINE	QP
9	2.44	27.13	0.20	27.33	46.00	-18.67	LINE	Average
10	2.44	50.14	0.20	50.34	56.00	-5.66	LINE	QP
11	17.66	25.64	0.98	26.62	50.00	-23.38	LINE	Average
12	17.66	48.22	0.98	49.20	60.00	-10.80	LINE	QP
13	28.30	19.85	1.55	21.40	50.00	-28.60	LINE	Average
14	28.30	47.89	1.55	49.44	60.00	-10.56	LINE	QP

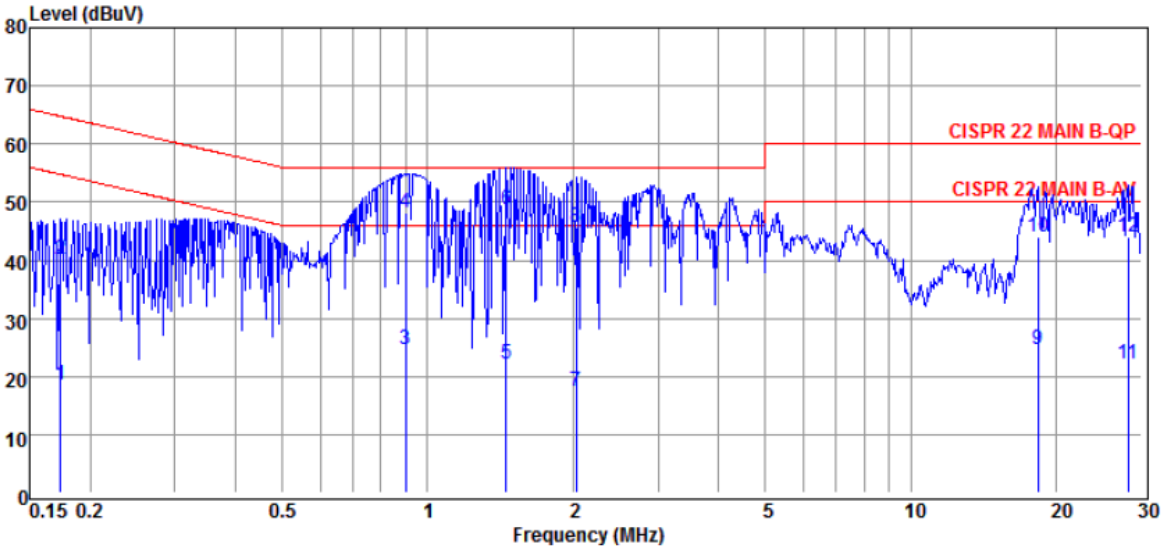
Remark： 1. All readings are Quasi-Peak and Average values.

2. Result = Reading + C.F

3. Margin = Result – Limit

Conducted Emission Test Data-Battery mode

Test Date	:	06-DEC-2016	Power Line	:	Neutral
Temperature	:	25℃	Humidity	:	50%



No.	Freq MHz	Reading dBµV	C.F dB	Result dBµV	Limit dBµV	Margin dB	Power Line	Remark
1	0.17	18.57	0.10	18.67	54.77	-36.10	NEUTRAL	Average
2	0.17	40.11	0.10	40.21	64.77	-24.56	NEUTRAL	QP
3	0.90	24.62	0.12	24.74	46.00	-21.26	NEUTRAL	Average
4	0.90	48.14	0.12	48.26	56.00	-7.74	NEUTRAL	QP
5	1.46	21.98	0.15	22.13	46.00	-23.87	NEUTRAL	Average
6	1.46	48.68	0.15	48.83	56.00	-7.17	NEUTRAL	QP
7	2.03	17.26	0.17	17.43	46.00	-28.57	NEUTRAL	Average
8	2.03	45.57	0.17	45.74	56.00	-10.26	NEUTRAL	QP
9	18.33	23.55	1.11	24.66	50.00	-25.34	NEUTRAL	Average
10	18.33	42.94	1.11	44.05	60.00	-15.95	NEUTRAL	QP
11	28.15	20.31	1.75	22.06	50.00	-27.94	NEUTRAL	Average
12	28.15	42.17	1.75	43.92	60.00	-16.08	NEUTRAL	QP

Remark： 1. All readings are Quasi-Peak and Average values.

2. Result = Reading + C.F

3. Margin = Result – Limit

3 Radiated Emission Test – Below 1 GHz

3.1 Test Instruments

Refer to Sec. 1.3 Test Instruments.

3.2 Test Configuration and Procedure

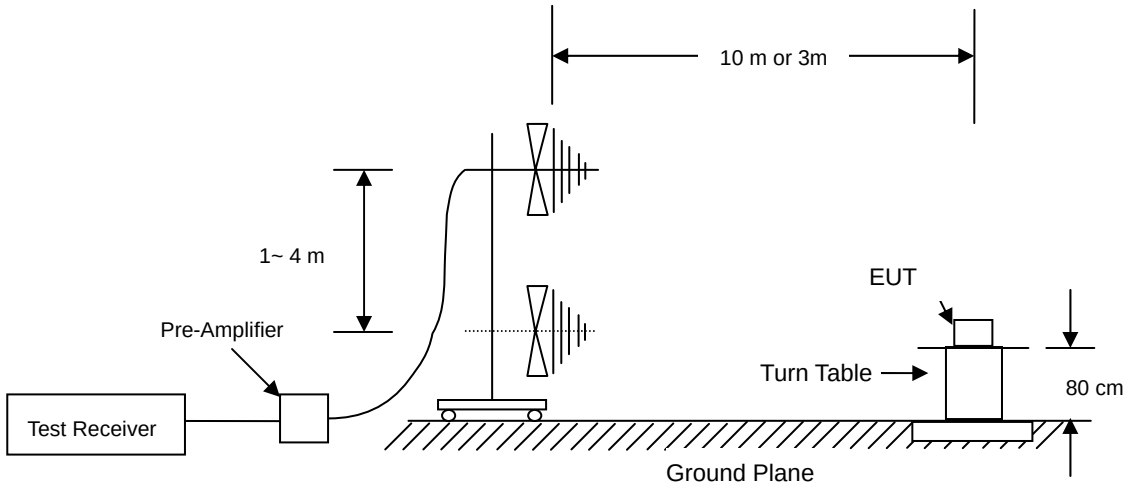


Table-top Equipment

- The EUT was place on a non-conductive turntable which was 80cm above the horizontal ground plane. The EUT was set 10m or 3m away from the receiving antenna that was mounted on a non-conductive mast.
- Main cables draped to the ground plane and were routed to the mains power outlet. The mains power outlet was bonded to and did not protrude above the ground plane.
- The antenna was adjusted between 1m and 4m in height above the ground plane and the Antenna-to-EUT azimuth was also varied during the measurements to find the top 6 maximum meter readings within the frequency range limit as indicated in Sec 3.3.
- The radiated emissions were measured when the Antenna-to-EUT polarization was set horizontally and vertically.
- The values were recorded.

3.3 Radiated Limit

☐ FCC Part 15 Subpart B

	☐ Class A (10m)		☐ Class B (3m)	
Frequency (MHz)	Field Strength (μV/m)	Quasi-Peak (dBμV/m)	Field Strength (μV/m)	Quasi-Peak (dBμV/m)
30 to 88	90	39.0	100	40.0
88 to 216	150	43.5	150	43.5
216 to 960	210	46.5	200	46.0
Above 960	300	49.5	500	54.0

Emission Level (dBμV/m)=20 Log Emission Level (μV/m)

☒ CISPR 22

	☐ Class A (10m)	☒ Class B (10m)
Frequency (MHz)	Quasi-Peak (dBμV/m)	Quasi-Peak (dBμV/m)
30 to 230	40.0	30.0
230 to 1000	47.0	37.0

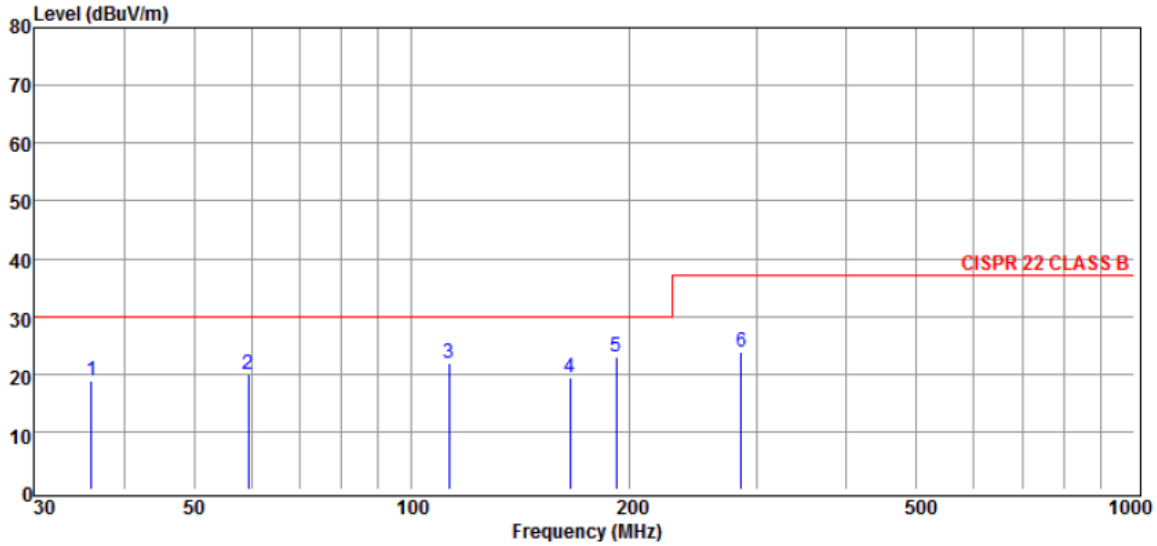
3.4 Test Result

PASS

The final tests data are shown on the following page(s).

Radiated Emission Test Data-Line mode

Test Date	:	06-DEC-2016	Polarization	:	Horizontal
Temperature	:	26℃	Humidity	:	51%



No.	Freq	Reading	C.F	Result	Limit	Margin	Height	Angle	Antenna	Remark
	MHz	dBμV	dB	dBμV/m	dBμV/m	dB	cm	deg	Pol.	
1	36.06	27.28	-8.57	18.71	30.00	-11.29	400	60	HORIZONTAL	QP
2	59.41	37.88	-17.95	19.93	30.00	-10.07	400	180	HORIZONTAL	QP
3	112.55	34.24	-12.46	21.78	30.00	-8.22	399	72	HORIZONTAL	QP
4	165.86	32.56	-13.11	19.45	30.00	-10.55	397	55	HORIZONTAL	QP
5	191.96	37.14	-14.13	23.01	30.00	-6.99	393	93	HORIZONTAL	QP
6	286.01	32.82	-8.94	23.88	37.00	-13.12	391	110	HORIZONTAL	QP

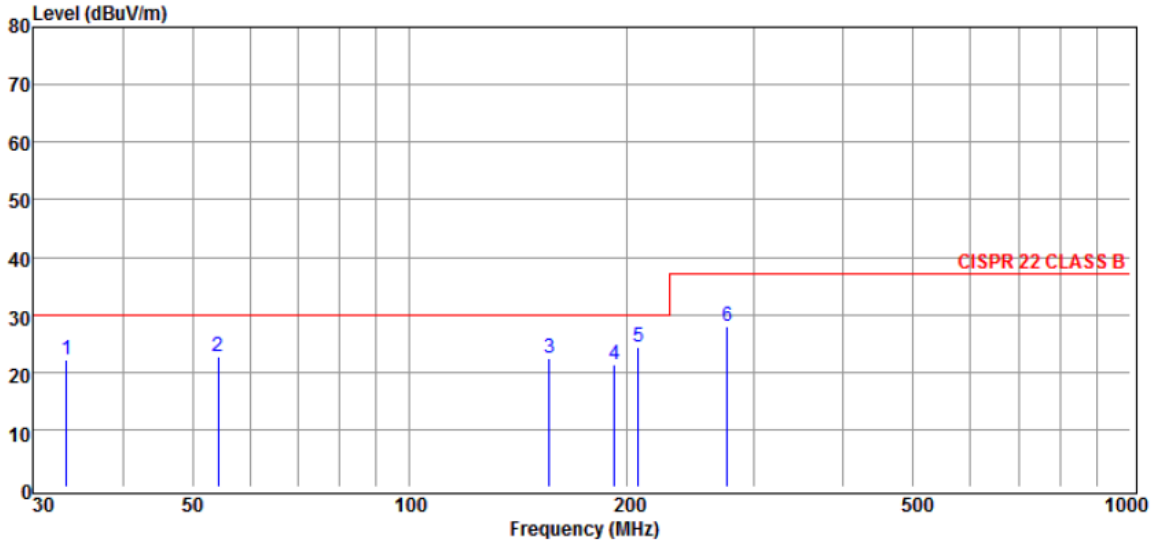
Remark： 1. All readings are Quasi-Peak values.

2. Result = Reading + C.F

3. Margin = Result – Limit

Radiated Emission Test Data-Line mode

Test Date	:	06-DEC-2016	Polarization	:	Vertical
Temperature	:	26℃	Humidity	:	51%



No.	Freq	Reading	C.F	Result	Limit	Margin	Height	Angle	Antenna	Remark
	MHz	dBμV	dB	dBμV/m	dBμV/m	dB	cm	deg	Pol.	
1	33.39	29.44	-7.21	22.23	30.00	-7.77	100	36	VERTICAL	QP
2	54.31	39.56	-16.84	22.72	30.00	-7.28	100	25	VERTICAL	QP
3	156.21	34.80	-12.47	22.33	30.00	-7.67	101	114	VERTICAL	QP
4	192.55	35.42	-14.12	21.30	30.00	-8.70	103	78	VERTICAL	QP
5	207.69	38.07	-13.66	24.41	30.00	-5.59	105	92	VERTICAL	QP
6	275.62	37.18	-9.11	28.07	37.00	-8.93	108	100	VERTICAL	QP

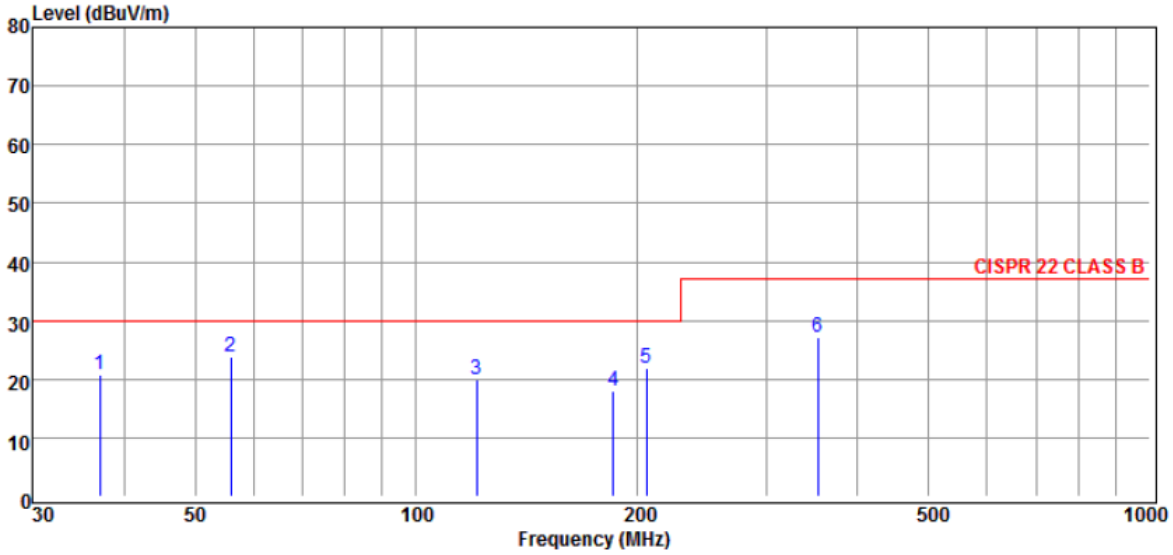
Remark： 1. All readings are Quasi-Peak values.

2. Result = Reading + C.F

3. Margin = Result – Limit

Radiated Emission Test Data- Battery mode

Test Date	:	06-DEC-2016	Polarization	:	Horizontal
Temperature	:	26℃	Humidity	:	51%



No.	Freq	Reading	C.F	Result	Limit	Margin	Height	Angle	Antenna	Remark
	MHz	dBμV	dB	dBμV/m	dBμV/m	dB	cm	deg	Pol.	
1	37.04	30.01	-9.14	20.87	30.00	-9.13	400	69	HORIZONTAL	QP
2	55.93	41.09	-17.22	23.87	30.00	-6.13	400	58	HORIZONTAL	QP
3	120.82	31.99	-11.98	20.01	30.00	-9.99	398	74	HORIZONTAL	QP
4	185.80	32.12	-14.14	17.98	30.00	-12.02	395	120	HORIZONTAL	QP
5	206.29	35.67	-13.71	21.96	30.00	-8.04	392	33	HORIZONTAL	QP
6	353.35	34.13	-7.14	26.99	37.00	-10.01	385	158	HORIZONTAL	QP

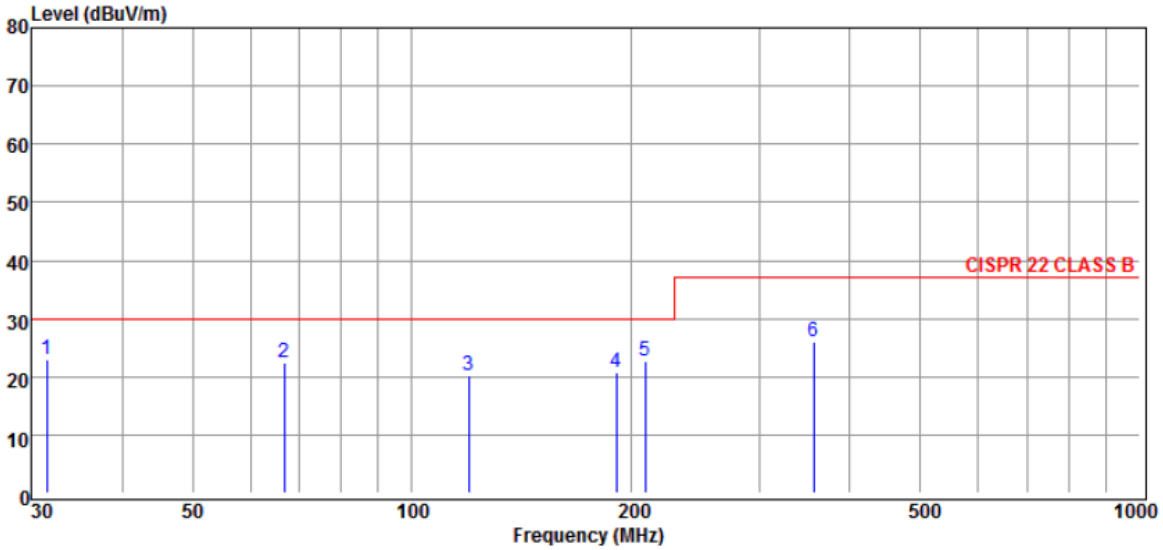
Remark： 1. All readings are Quasi-Peak values.

2. Result = Reading + C.F

3. Margin = Result – Limit

Radiated Emission Test Data-Battery mode

Test Date	:	06-DEC-2016	Polarization	:	Vertical
Temperature	:	26℃	Humidity	:	51%



No.	Freq	Reading	C.F	Result	Limit	Margin	Height	Angle	Antenna	Remark
	MHz	dBμV	dB	dBμV/m	dBμV/m	dB	cm	deg	Pol.	
1	31.55	29.16	-6.15	23.01	30.00	-6.99	100	99	VERTICAL	QP
2	66.84	40.08	-17.77	22.31	30.00	-7.69	100	35	VERTICAL	QP
3	119.81	32.34	-12.00	20.34	30.00	-9.66	101	180	VERTICAL	QP
4	191.13	34.97	-14.15	20.82	30.00	-9.18	105	47	VERTICAL	QP
5	209.29	36.21	-13.61	22.60	30.00	-7.40	108	125	VERTICAL	QP
6	356.94	32.92	-7.00	25.92	37.00	-11.08	112	160	VERTICAL	QP

Remark： 1. All readings are Quasi-Peak values.

2. Result = Reading + C.F

3. Margin = Result – Limit

4 Radiated Emission Test – Above 1GHz

4.1 Test Instruments

Refer to Sec. 1.3 Test Instruments.

4.2 Test Configuration and Procedure

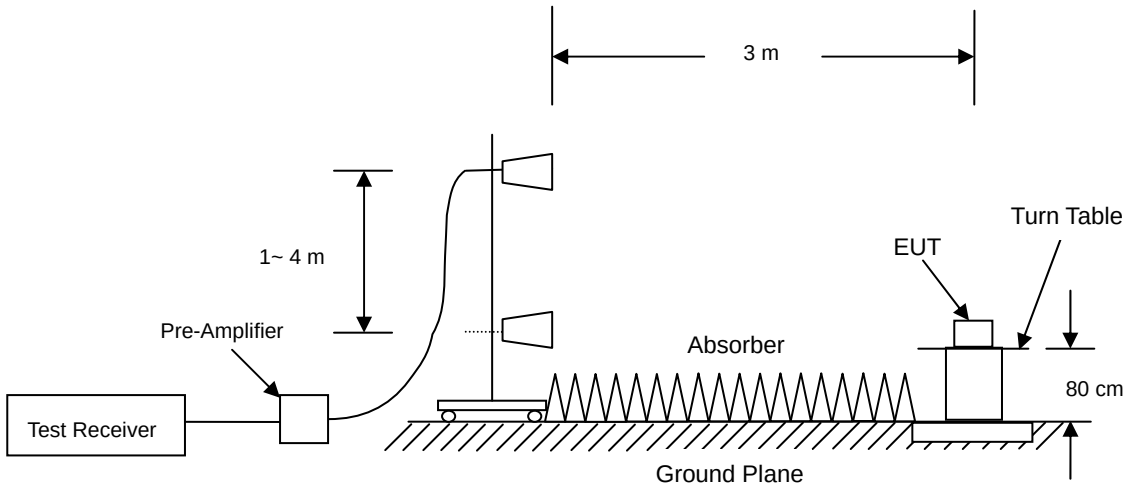


Table-top Equipment

- The EUT was place on a non-conductive turntable which was 80cm above the horizontal ground plane. The EUT was set 3m away from the receiving antenna that was mounted on a non-conductive mast.
- Main cables draped to the ground plane and were routed to the mains power outlet. The mains power outlet was bonded to and did not protrude above the ground plane.
- The antenna was adjusted between 1m and 4m in height above the ground plane and the Antenna-to-EUT azimuth was also varied during the measurements to find the top 6 maximum meter readings within the frequency range limit as indicated in Sec 4.3.
- The radiated emissions were measured when the Antenna-to-EUT polarization was set horizontally and vertically.
- The values were recorded.

4.3 Test Limit

FCC Part 15 Subpart B

Frequency GHz	Class A at 10m			Class B at 3m		
	Field Strength (μV/m)	Average (dBμV/m)	Peak (dBμV/m)	Field Strength (μV/m)	Average (dBμV/m)	Peak (dBμV/m)
Above 1GHz	300	49.5	69.5	500	54	74

Note : 1. The lower limit shall apply at the transition frequencies.

2. Emission level (dBμV/m) = 20 log Emission level (μV/m).

3. The measurement above 1GHz is at close-in 3m, and determine the limit **L2** corresponding to the close-in distance **d2** by applying the following relation: **L2=L1(d1/d2)**, where **L1** is the specified limit in microvolts per meter **(μV/m)** at the distance **d1(10m)**, **L2** is the new limit for distance **d2(3m)**.

So the new Class A limit above 1GHz at 3m is as following table:

Frequency GHz	Class A at 3m	
	Average (dBμV/m)	Peak (dBμV/m)
Above 1GHz	60	80

4.4 Test Result

Not applicable

※The highest frequency of the internal sources of the EUT is less than 108MHz. Hence, above 1GHz Radiated Measurement shall not be made.

5 Photographs of Test

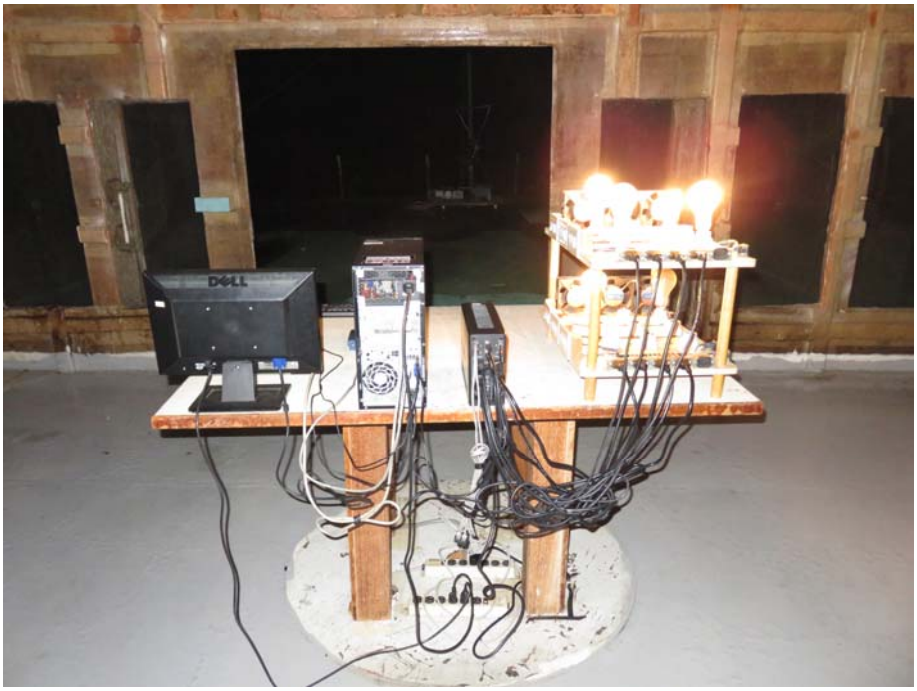
5.1 Conducted Emission Test

Front View

Rear View

5.2 Radiated Emission Test – Below 1 GHz

Front View

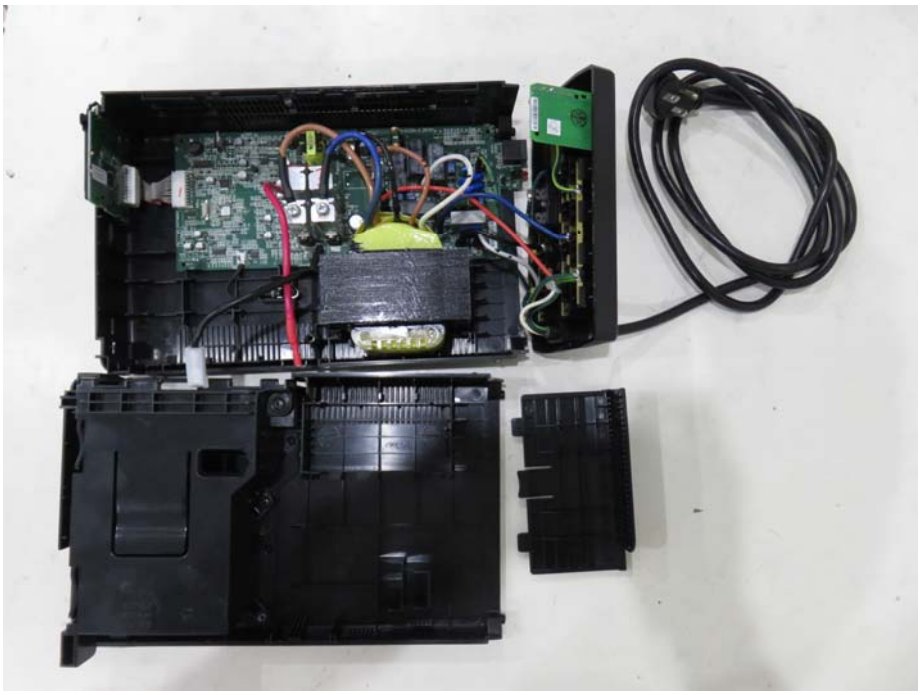


Rear View

6 Photographs of EUT

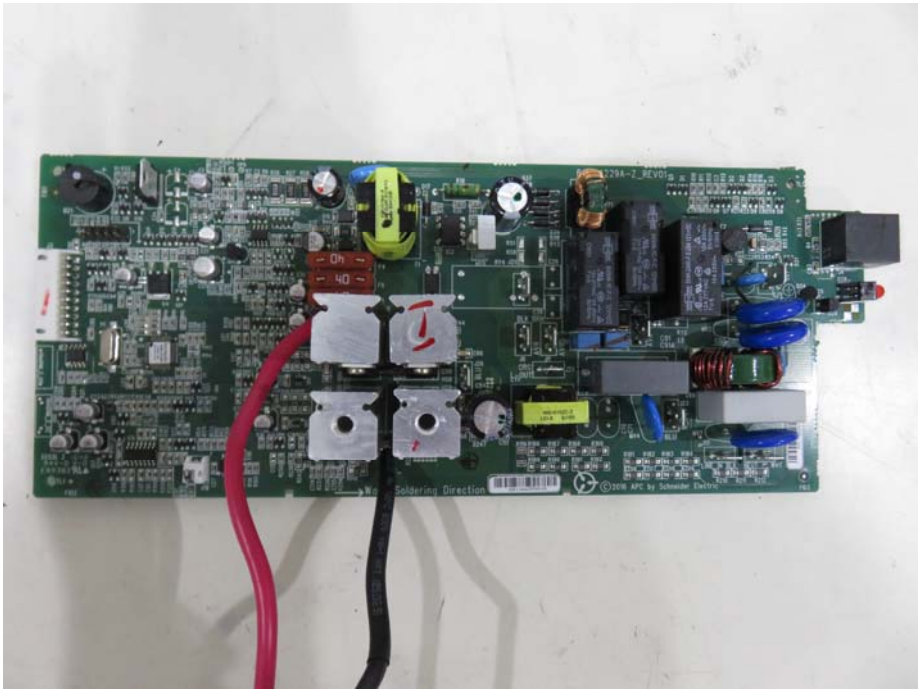
Front View of EUT

Rear View of EUT

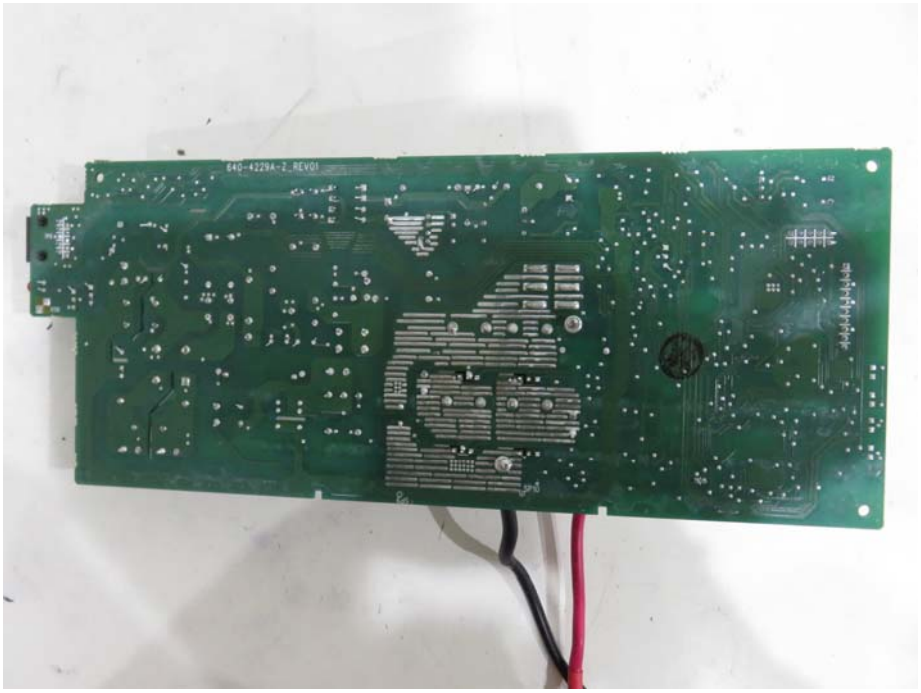


Inside View of EUT

View of the I/O Port



Front View of the PCB 1

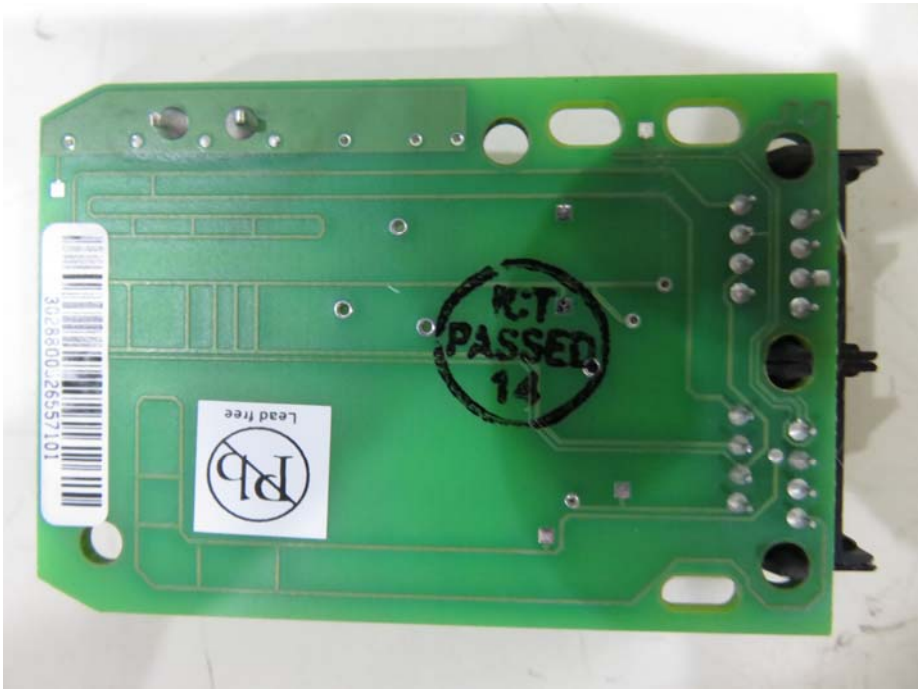


Rear View of the PCB 1

Front View of the PCB 2

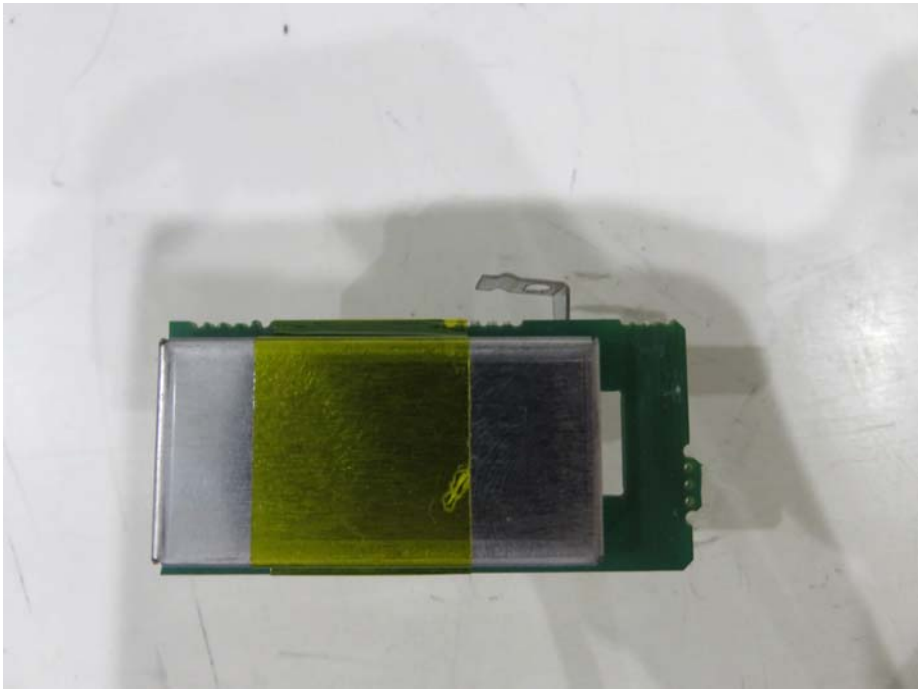
Rear View of the PCB 2

Front View of the PCB 3



Rear View of the PCB 3

Front View of the PCB 4



Rear View of the PCB 4

View of the Transformer

View of the Battery

View of the Data Cable (USB to Serial)

View of the Coaxial Cable