

FCC TEST REPORT

Applicant:	HuiKe Electronics(shenzhen)Co., Ltd.
Address of Applicant:	Building 1, 2, 3, HuiKe Industrial Park, Minying Industrial Park, Shuitian Country, Shiyan, Baoan District, Shenzhen.
Manufacturer:	HuiKe Electronics(shenzhen)Co., Ltd.
Address of Manufacturer:	Building 1, 2, 3, HuiKe Industrial Park, Minying Industrial Park, Shuitian Country, Shiyan, Baoan District, Shenzhen.
Product name:	Mobile Internet Device
Model:	See Page 2
Rating(s):	AC 100-240V, 50/60Hz (For Adaptor) DC 5V 2A (For main)
Trademark:	HKC, ODYS, ASTONE
FCC register number:	935596
Standards:	FCC Part15 subpart B: 2010
Data of Receipt:	2012-02-20
Date of Test:	2012-03-01~2012-03-02
Date of Issue:	2012-03-05
Test Result	Pass*

* In the configuration tested, the test item complied with the standards specified above.

Authorized for issue by:

Test by:

Mar.05.2012 Jumy Qiu

Project Engineer

Date

Name/Position

Signature

Reviewed by:

Mar.05.2012

Pauler Li

Project Engineer

Date

Name/Position

Signature

Testing Laboratory information:

Testing Laboratory Name: I-Test Laboratory
Address: 1-2 floor, South Block, Building A2 , No 3 Keyan Lu, Science City, Guangzhou, Guangdong Province, P.R. China
Testing location: Same as above
Tel.....: 0086-20-32209330
Fax: 0086-20-62824387
E-mail: itl@i-testlab.com

Possible test case verdicts:

- test case does not apply to the test object..: N/A
- test object does meet the requirement.....: P (Pass)
- test object does not meet the requirement ..: F (Fail)

General remarks:

The test results presented in this report relate only to the object tested.

The results contained in this report reflect the results for this particular model and serial number. It is the responsibility of the manufacturer to ensure that all production models meet the intent of the requirements detailed within this report.

This report would be invalid test report without all the signatures of testing technician and approver.
This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

General product information:

The models P711F, P077A2, P077A, P077N, P071J, P071S, P073A, PH71A, PH72A, PH73K, P716A, M7, M701, M702, M712, XELIO, Atab-H 7.0, P071A, P072A, P074A, P075A, P076A, P078A, P079A, PH73A, PH74A, PH75A, PH76A, P071R, P072R, P073R, PH74R, PH75R, P071K, P072K, P073K, P074K, P075K, PH71K, PH72K, PH74K, PH75K, P072J, P073J, P074J, P075J, P071G, P072G, P073G, P072S, P073S, P074S, P075S, P071B, P072B, P073B, P074B, P075B, P071Y, P072Y, P073Y, P074Y, P075Y, R71, R72, R76, R78, R80, VB70, VB70B_ADCN_B1, VB70W_ADCN_B2, VB70W_ADCN_B3, PXXXXX (Note: XXXXX stands for different appearance. XXXXX denote any number from 0 to 9, or letter from A to Z .or blank) are identical same except the Shape, the color, the model name and the trademarks.

Unless otherwise specified, all tests were performed on model P711F.

Test Summary:

The following standards have been applied to ensure the product conforms with the protection requirements of the council directive FCC part 15B.

Electromagnetic Emissions				
Test Item	Test Standard	Test Method	Class/Severity	Result
Conducted Emission(0.15-30MHz)	FCC part 15.107	ANSI C63.4:2009	Class B	PASS
Radiated Emission(9k-6000MHz)	FCC part 15.109	ANSI C63.4:2009	Class B	PASS

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Section 1 General Information and Equipment Used

1.1 Client Information

Applicant: HuiKe Electronics(shenzhen)Co., Ltd.
Address of Applicant: Building 1, 2, 3, HuiKe Industrial Park, Minying Industrial Park, Shuitian Country, Shiyan, Baoan District, Shenzhen.

1.2 EUT General and Technical Descriptions

EUT Name: Mobile Internet Device
EUT Model: P711F
EUT Trademark: HKC, ODYS, ASTONE
Input Voltage: 100-240V ~ (For Adaptor)
Input Voltage: DC 5V (For main)
Frequency: 50/60Hz (For Adaptor)
Input Power/Current: 0.5A Max (For Adaptor)
Output rated: DC 5V2A (For Adaptor)
Power Cable Description: /
Other Cables Description: /
I/O Ports: /
Function(s) Description: /
Accessories information: /

1.3 Support Equipment(s) and Test Configuration

1.3.1 Details of Support Equipment(s)

Description	Manufacturer	Model No.	Connection	Working state
PC	DELL	OPTIPLEX 380	/	Normal Working
Mouse	Microsoft	1113	/	Normal Working
Keyboard	Microsoft	1366	/	Normal Working
LED TV	HKC	32V7	/	Normal Working

1.3.2 Working State of EUT

Power Supply of EUT: 120V~/60Hz
EUT Status: Playing video or USB mode

1.3.3 Block Diagram of Test Configuration

/

1.4 Equipment Used during Test

Conducted Emission					
Test Equipment	Manufacturer	Model	Serial No.	Last Cal.	Cal. Due
EMI Test receiver	R&S	ESCI	ITL-102	2011/06/08	2012/06/07
Two-line v-network	R&S	ENV216	ITL-103	2011/06/08	2012/06/07
Shielded Room	ETS•Lindgren	8*4*3	ITL-101	2009/03/13	2012/03/12

Radiated Emission					
Test Equipment	Manufacturer	Model	Serial No.	Last Cal.	Cal. Due
Semi-Anechoic chamber	ETS•Lindgren	FACT3 2.0	ITL-100	2009/04/11	2012/04/10
Loop Antenna	ZHINAN	ZN30900A	002489	2012/01/22	2013/01/22
Shielding room	ETS•Lindgren	8*4*3	ITL-101	2009/03/13	2012/03/12
EMI Test receiver	R&S	ESCI	ITL-102	2011/06/08	2012/06/07
Biconilog Antenna	ETS•Lindgren	3142D	ITL-105	2012/02/10	2013/02/10

Section 2 Emission Test Results

2.1 Conducted Emission at Mains Terminals, 150 kHz to 30MHz

Test Requirement: FCC part 15.107
Test Method: ANSI C63.4:2009
Test Voltage: 120V AC
Test Date: 2012-03-01
Frequency Range: 150 kHz to 30MHz
Detector: Peak for pre-scan
Quasi-Peak and Average at frequency with maximum peak
(9 kHz resolution bandwidth)
Uncertainty: $2U_c (V) = 2.3\text{dB}$
Class / Limit: Class B

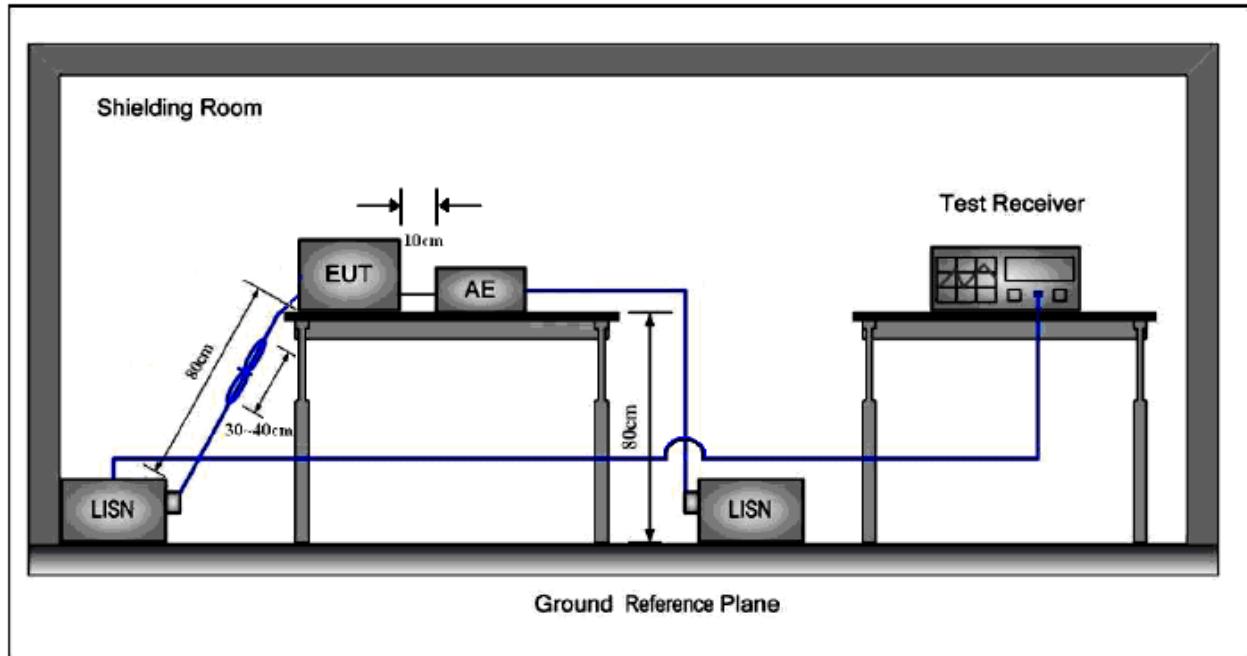
Frequency range MHz	Class B Limits dB (μV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

NOTE 1 :The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.
NOTE 2: The lower limit is applicable at the transition frequency.

2.1.1 E.U.T. Operation

Operating Environment:
Temperature: 25.0 °C Humidity: 45 % RH Atmospheric Pressure: 101 k Pa
EUT Operation: Normal Working.

2.1.2 Test Setup and Procedure



1. The mains terminal disturbance voltage test was conducted in a shielded room.
2. The EUT was connected to nominal power supply through a LISN 1 (Line Impedance Stabilization Network) which provides a $50\Omega/50\mu\text{H}+5\Omega$ linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
3. The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane, but separated from metallic contact with the ground reference plane by 0.1m of insulation.
4. The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.

2.1.3 Measurement Data

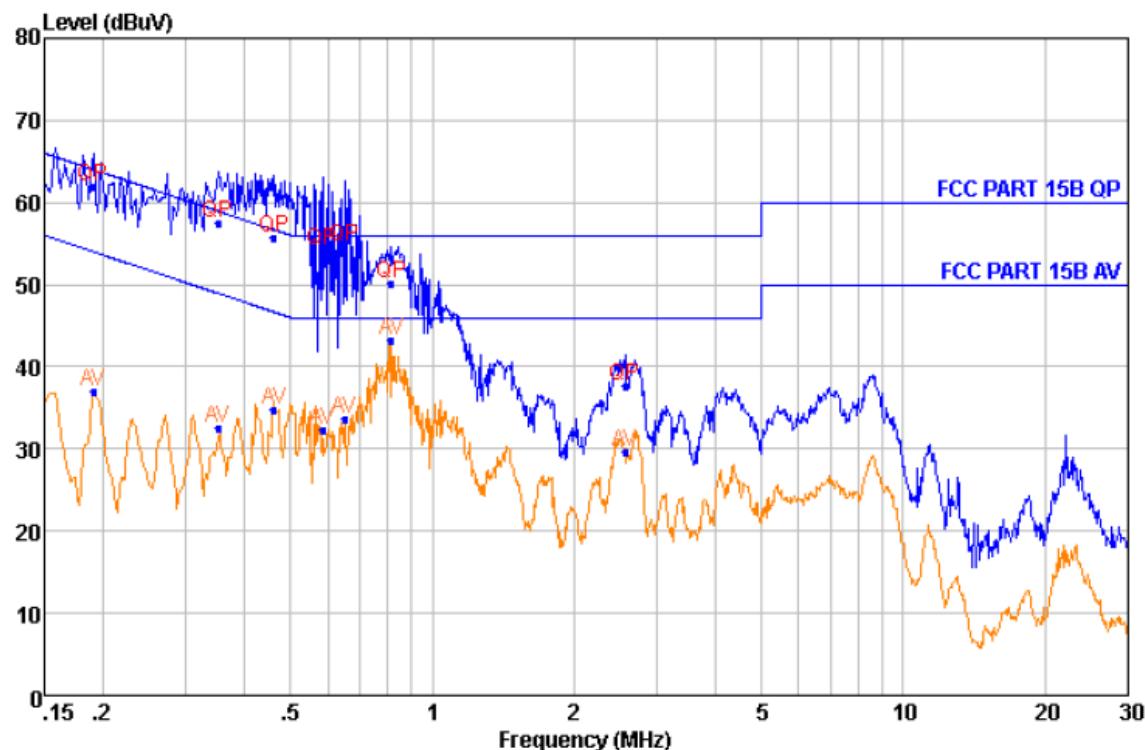
Pre-scan was performed with peak detected on both live and neutral cable. Quasi-peak & average measurements were performed at the frequencies which maximum peak emission level was detected. Please see the attached Quasi-peak and Average test results.

Model: P711F.

Test Mode: Playing video

Live Line:

Peak Scan:

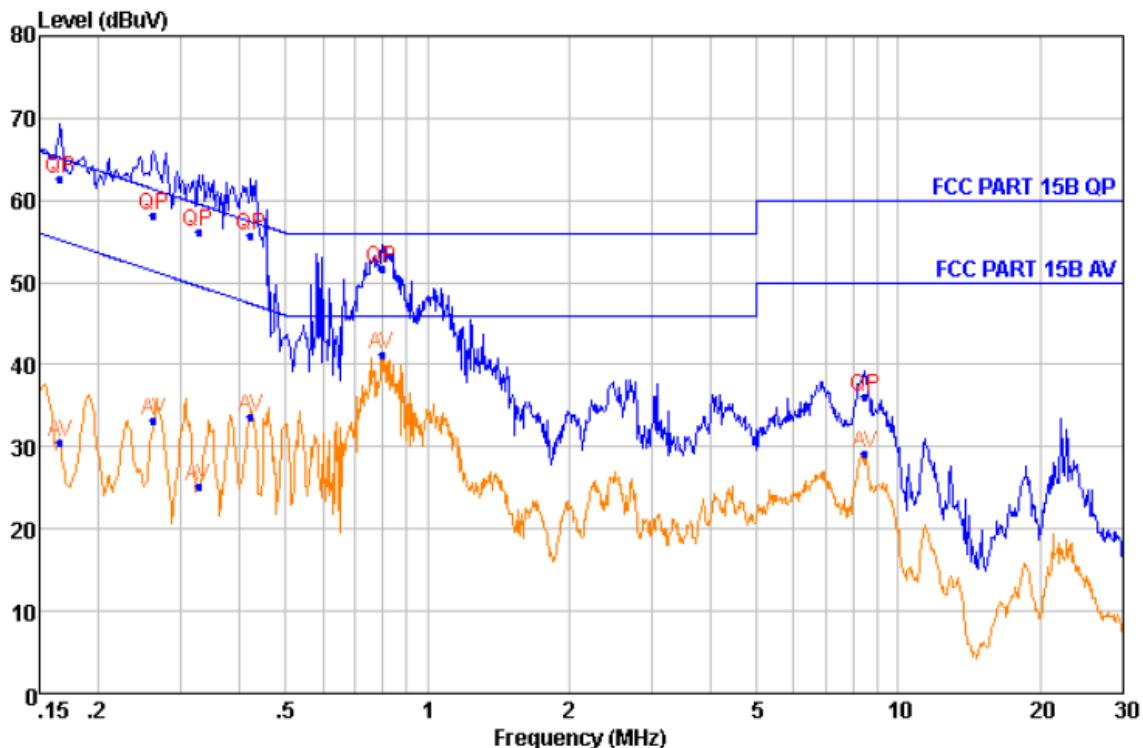
Level (dB μ V)

Quasi-peak and Average measurement

NO.	Freq MHz	Level dBuV	Remark	LISN Factor dB	Cable Loss dB	Limit Line dBuV	Margin dB
1	0.190	61.92	QP	9.68	0.21	64.02	-2.10
2	0.190	36.92	Average	9.68	0.21	54.02	-17.10
3	0.350	57.54	QP	9.66	0.25	58.96	-1.42
4	0.350	32.54	Average	9.66	0.25	48.96	-16.42
5	0.461	55.81	QP	9.65	0.26	56.67	-0.86
6	0.461	34.81	Average	9.65	0.26	46.67	-11.86
7	0.585	54.26	QP	9.68	0.28	56.00	-1.74
8	0.585	32.26	Average	9.68	0.28	46.00	-13.74
9	0.651	54.68	QP	9.70	0.28	56.00	-1.32
10	0.651	33.68	Average	9.70	0.28	46.00	-12.32
11	0.817	50.17	QP	9.69	0.30	56.00	-5.83
12	0.817	43.17	Average	9.69	0.30	46.00	-2.83
13	2.567	37.56	QP	9.64	0.36	56.00	-18.44
14	2.567	29.56	Average	9.64	0.36	46.00	-16.44

Neutral Line:

Peak Scan:

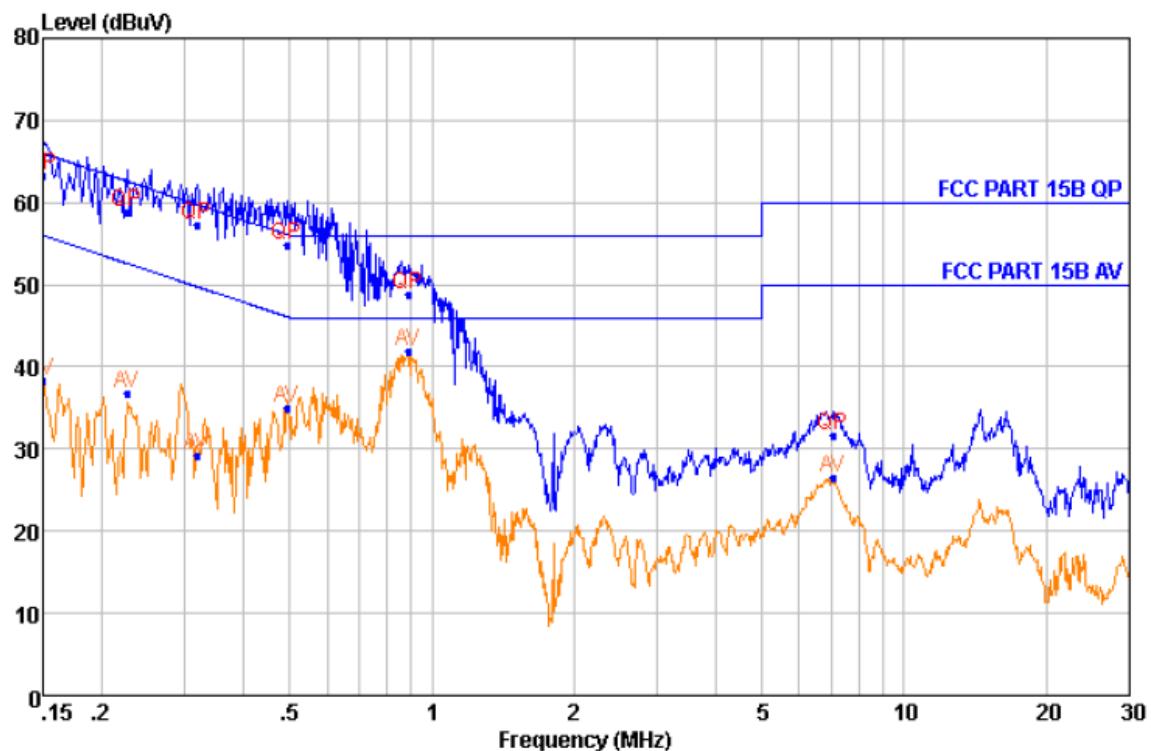
Level (dB μ V)

Quasi-peak and Average measurement

NO.	Freq MHz	Level dBuV	Remark	LISN Factor dB	Cable Loss dB	Limit Line dBuV	Margin dB
1	0.166	62.59	QP	9.68	0.21	65.16	-2.57
2	0.166	30.59	Average	9.68	0.21	55.16	-24.57
3	0.262	58.11	QP	9.64	0.23	61.38	-3.27
4	0.262	33.11	Average	9.64	0.23	51.38	-18.27
5	0.327	56.11	QP	9.65	0.24	59.53	-3.42
6	0.327	25.11	Average	9.65	0.24	49.53	-24.42
7	0.421	55.72	QP	9.66	0.26	57.42	-1.70
8	0.421	33.72	Average	9.66	0.26	47.42	-13.70
9	0.800	51.61	QP	9.62	0.29	56.00	-4.39
10	0.800	41.29	Average	9.62	0.29	46.00	-4.71
11	8.501	36.18	QP	9.62	0.43	60.00	-23.82
12	8.501	29.18	Average	9.62	0.43	50.00	-20.82

Test Mode: Data transmission**Live Line:**

Peak Scan:

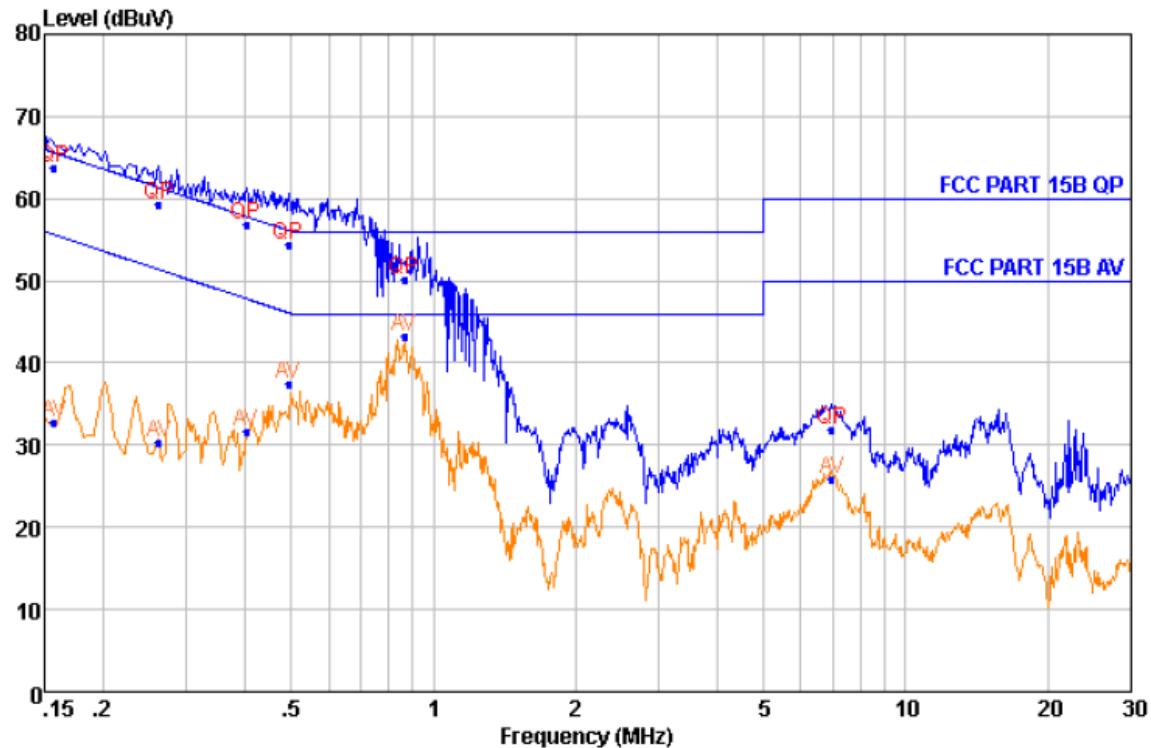
Level (dB μ V)

Quasi-peak and Average measurement

NO.	Freq MHz	Level dB μ V	Remark	LISN Factor dB	Cable Loss dB	Limit Line dBuV	Margin dB
1	0.150	63.30	QP	9.70	0.20	66.00	-2.70
2	0.150	38.30	Average	9.70	0.20	56.00	-17.70
3	0.226	58.88	QP	9.68	0.22	62.61	-3.73
4	0.226	36.88	Average	9.68	0.22	52.61	-15.73
5	0.318	57.28	QP	9.66	0.24	59.75	-2.47
6	0.318	29.28	Average	9.66	0.24	49.75	-20.47
7	0.494	54.90	QP	9.65	0.27	56.10	-1.20
8	0.494	34.90	Average	9.65	0.27	46.10	-11.20
9	0.890	48.91	QP	9.68	0.30	56.00	-7.09
10	0.890	41.91	Average	9.68	0.30	46.00	-4.09
11	7.062	31.61	QP	9.70	0.42	60.00	-28.39
12	7.062	26.61	Average	9.70	0.42	50.00	-23.39

Neutral Line:

Peak Scan:

Level (dB μ V)

Quasi-peak and Average measurement

NO.	Freq MHz	Level dBuV	Remark	LISN Factor dB	Cable Loss dB	Limit Line dBuV	Margin dB
1	0.157	63.67	QP	9.70	0.20	65.60	-1.93
2	0.157	32.67	Average	9.70	0.20	55.60	-22.93
3	0.262	59.37	QP	9.64	0.23	61.38	-2.01
4	0.262	30.37	Average	9.64	0.23	51.38	-21.01
5	0.402	56.72	QP	9.66	0.26	57.81	-1.09
6	0.402	31.72	Average	9.66	0.26	47.81	-16.09
7	0.494	54.34	QP	9.67	0.27	56.10	-1.76
8	0.494	37.34	Average	9.67	0.27	46.10	-8.76
9	0.866	50.13	QP	9.63	0.30	56.00	-5.87
10	0.866	43.13	Average	9.63	0.30	46.00	-2.87
11	6.988	31.88	QP	9.62	0.42	60.00	-28.12
12	6.988	25.88	Average	9.62	0.42	50.00	-24.12

2.2 Radiated Emissions, 30MHz to 1GHz

Test Requirement: FCC part 15.109
Test Method: ANSI C63.4:2009
Test Voltage: 120V AC
Test Date: 2012-03-02
Frequency Range: 30MHz to 1GHz
Measurement Distance 3m
Detector: Peak for pre-scan
Quasi-Peak if maximised peak within 6dB of limit
(120 kHz resolution bandwidth)
Uncertainty: $2U_c (V) = 3.35\text{dB}$
Class / Limit: Class B

Frequency range MHz	Quasi-peak limits dB ($\mu\text{V/m}$)
30 to 88	40
88 to 216	43.5
216 to 960	46
960 to 1000	54

At transitional frequencies the lower limit applies

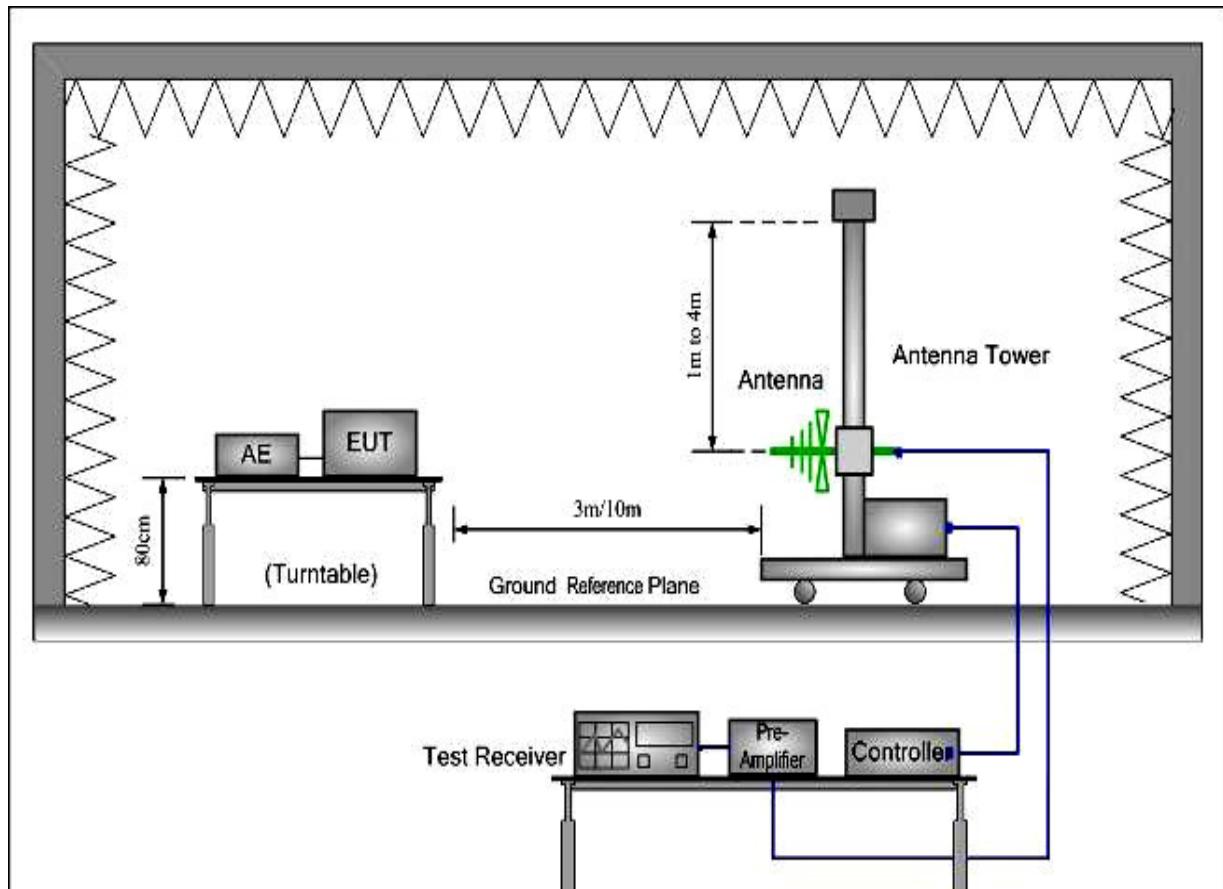
2.2.1 E.U.T. Operation

Operating Environment:

Temperature: 25.0 °C Humidity: 45 % RH Atmospheric Pressure: 101 k Pa

EUT Operation: Normal Working.

2.2.2 Test Setup and Procedure



1. The radiated emissions test was conducted in a semi-anechoic chamber.
2. Biconical and log periodic antenna was used for the frequency range from 30MHz to 1GHz
3. The EUT was connected to nominal power supply through a mains power outlet which was bonded to the ground reference plane; The mains cables were draped to the ground reference plane. The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane, but separated from metallic contact with the ground reference plane by 0.1m of insulation.
4. Before final measurements of radiated emissions, a pre-scan was performed in the spectrum mode with the peak detector to find out the maximum emissions spectrum plots of the EUT.
5. The frequencies of maximum emission were determined in the final radiated emissions measurement. At each frequency, the EUT was rotated 360°, and the antenna was raised and lowered from 1 to 4 meters in order to determine the maximum disturbance. Measurements were performed for both horizontal and vertical antenna polarization.

2.2.3 Measurement Data

Model: P711F.

Test Mode: Playing Video

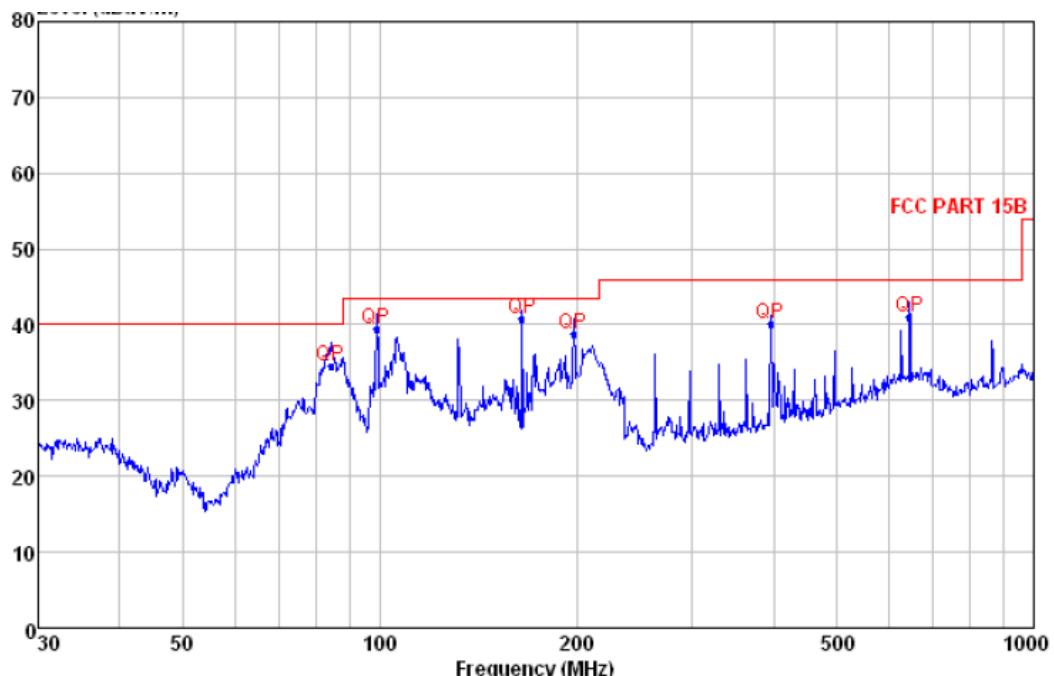
9kHz~30MHz Test result

The Low frequency, which started from 9kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not report

Horizontal:

Peak scan

Level (dB μ V/m)

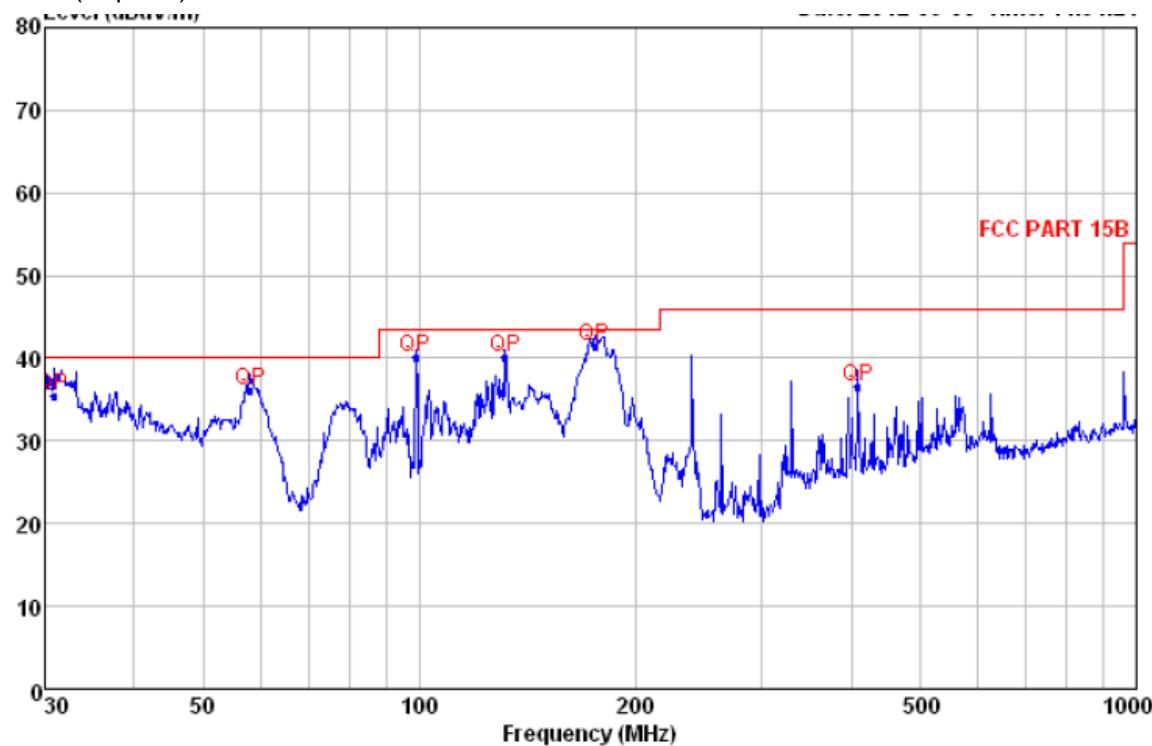


Quasi-peak measurement

No.	Freq	Level	Remark	Antenna	Cable	Limit	Margin	A/pos	T/pos
				Factor	Loss	Line	dB	cm	deg
	MHz	dB μ V/m		dB/m	dB	dB μ V/m			
1	84.110	34.58	QP	7.71	2.07	40.00	-5.42	150	106
2	98.833	39.47	QP	8.65	2.14	43.50	-4.03	200	72
3	164.908	40.83	QP	8.59	2.38	43.50	-2.67	200	85
4	197.893	38.72	QP	9.93	2.46	43.50	-4.78	100	96
5	396.242	40.21	QP	15.25	2.78	46.00	-5.79	100	95
6	645.120	40.93	QP	20.58	3.00	46.00	-5.07	150	85

Vertical:

Peak scan

Level (dB μ V/m)

Quasi-peak measurement

No.	Freq MHz	Level dB μ V/m	Remark	Antenna Factor	Cable Loss	Limit Line	Margin dB	A/pos cm	I/pos deg
1	30.853	35.48	QP	17.34	1.61	40.00	-4.52	100	321
2	57.999	36.12	QP	6.83	1.90	40.00	-3.88	150	302
3	98.833	40.05	QP	8.66	2.14	43.50	-3.45	100	312
4	131.758	40.02	QP	7.34	2.28	43.50	-3.48	100	333
5	175.652	41.50	QP	9.24	2.41	43.50	-2.00	100	306
6	408.946	36.60	QP	15.56	2.79	46.00	-9.40	150	325

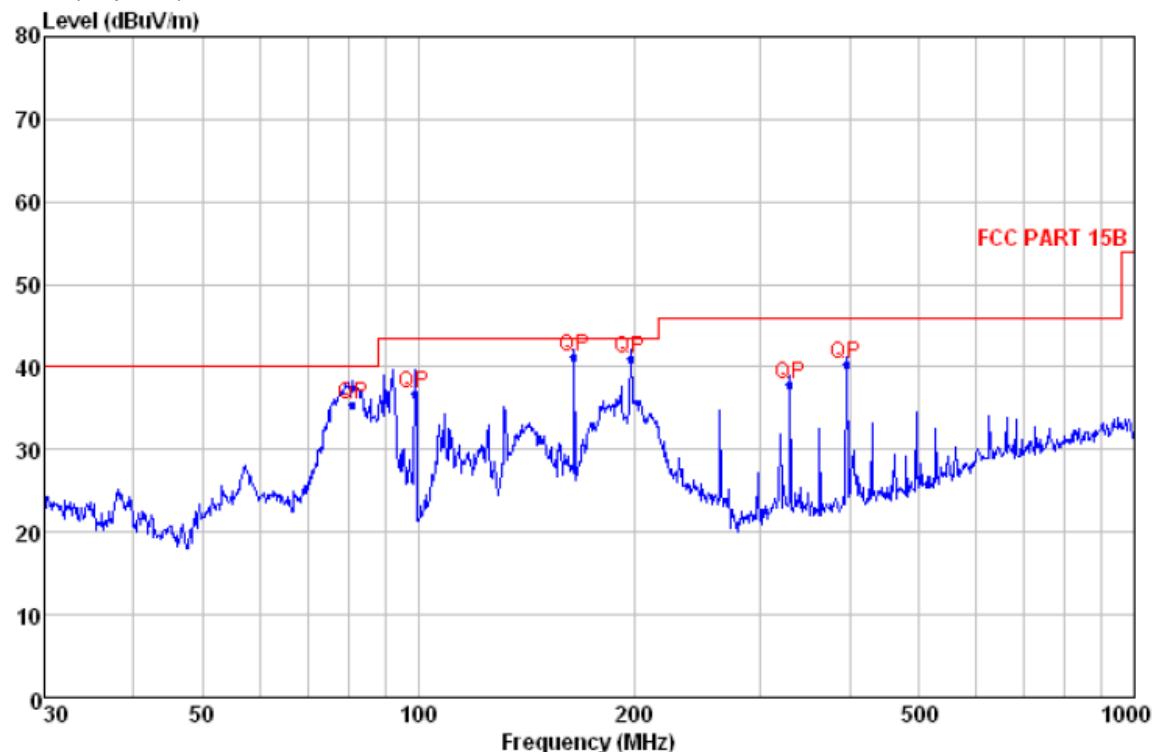
Test Mode: Data transmission

9kHz~30MHz Test result

The Low frequency, which started from 9kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not report

Horizontal:

Peak scan

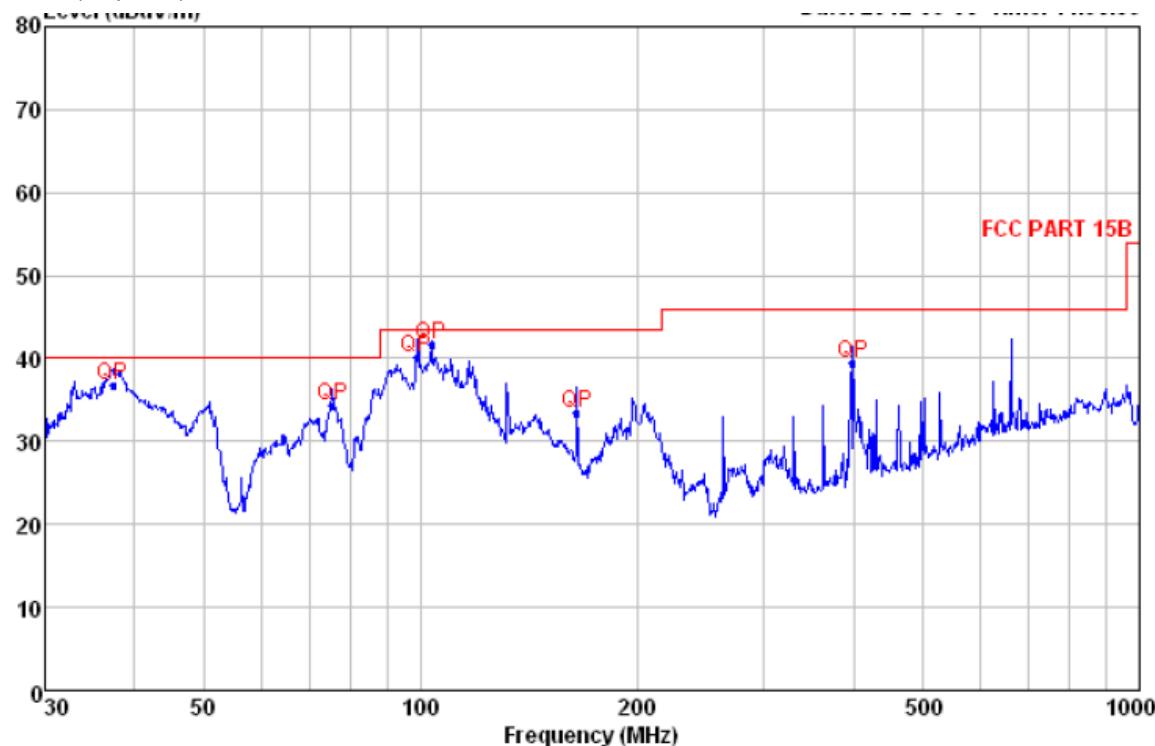
Level (dB μ V/m)

Quasi-peak measurement

No.	Freq MHz	Level dB μ V/m	Remark	Antenna Factor	Cable Loss	Limit Line	Margin dB	A/pos cm	T/pos deg
---	---	---	---	---	---	---	---	---	---
1	80.927	35.38	QP	7.39	2.05	40.00	-4.62	200	235
2	98.833	36.71	QP	8.65	2.14	43.50	-6.79	200	246
3	164.908	41.16	QP	8.59	2.38	43.50	-2.34	200	246
4	197.893	41.03	QP	9.93	2.46	43.50	-2.47	100	254
5	330.195	37.91	QP	14.16	2.69	46.00	-8.09	150	235
6	396.242	40.28	QP	15.25	2.78	46.00	-5.72	100	246

Vertical:

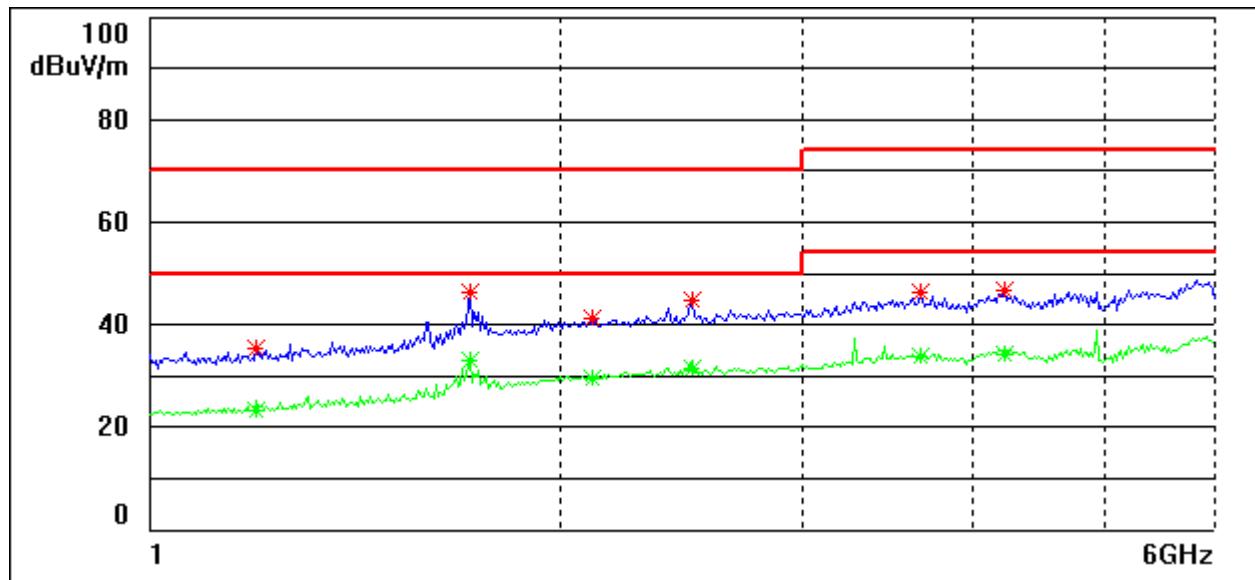
Peak scan

Level (dB μ V/m)

Quasi-peak measurement

No.	Freq MHz	Level dB μ V/m	Remark	Antenna Factor	Cable Loss	Limit Line	Margin dB	A/pos cm	T/pos deg
1	37.285	36.67	QP	13.59	1.70	40.00	-3.33	150	305
2	75.446	34.32	QP	7.04	2.02	40.00	-5.68	100	329
3	98.833	40.16	QP	8.66	2.14	43.50	-3.34	100	325
4	103.442	41.61	QP	8.59	2.16	43.50	-1.89	100	319
5	164.908	33.53	QP	8.60	2.38	43.50	-9.97	150	332
6	399.030	39.55	QP	15.29	2.78	46.00	-6.45	150	333

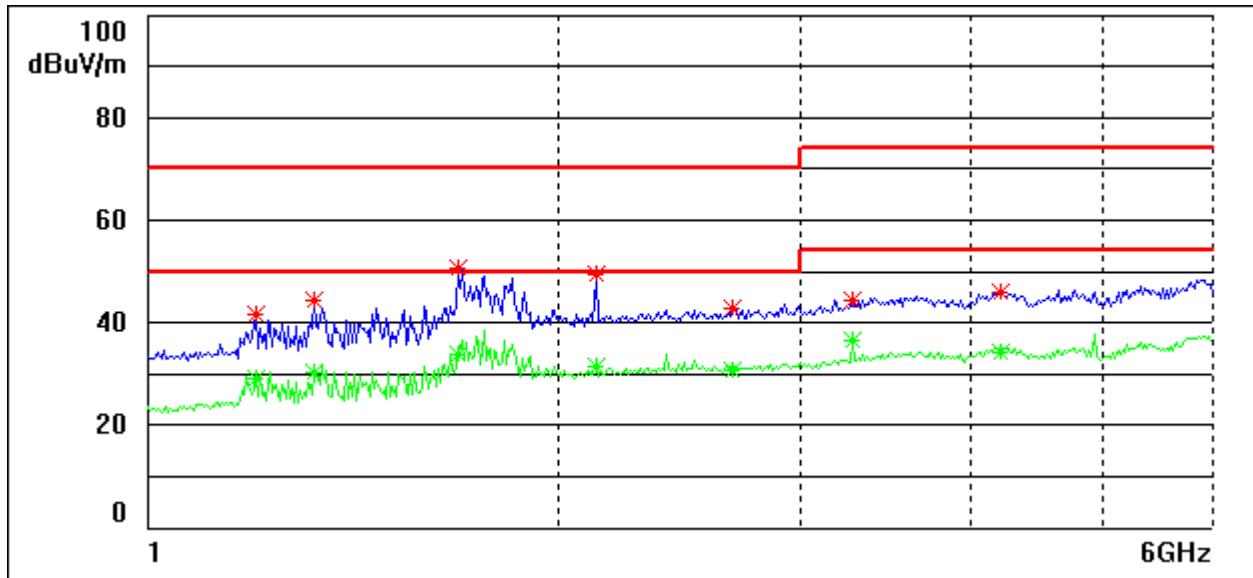
HORIZONTAL:



MEASUREMENT RESULT

No.	Frequency	Level	Transd	Limit	Margin	Height	Angle
	GHz	dBuV/m	dB	dBuV/m	dB	cm	deg
1	1.1965	35.4	-16.3	70	-34.6	100	2
2	1.7145	46.1	-12.8	70	-23.9	100	25
3	2.1065	41.4	-9.8	70	-28.6	100	66
4	2.4975	44.9	-8.5	70	-25.1	100	11
5	3.6585	46.3	-4.6	74	-27.7	100	253
6	4.222	46.7	-3.9	74	-27.3	100	286
7	1.1965	23.4	-16.3	50	-26.6	100	166
8	1.7145	32.8	-12.8	50	-17.2	100	172
9	2.1065	29.3	-9.8	50	-20.7	100	209
10	2.4975	31.6	-8.5	50	-18.4	100	152
11	3.6585	33.8	-4.6	54	-20.2	100	116
12	4.222	34	-3.9	54	-20	100	112

Vertical:



MEASUREMENT RESULT

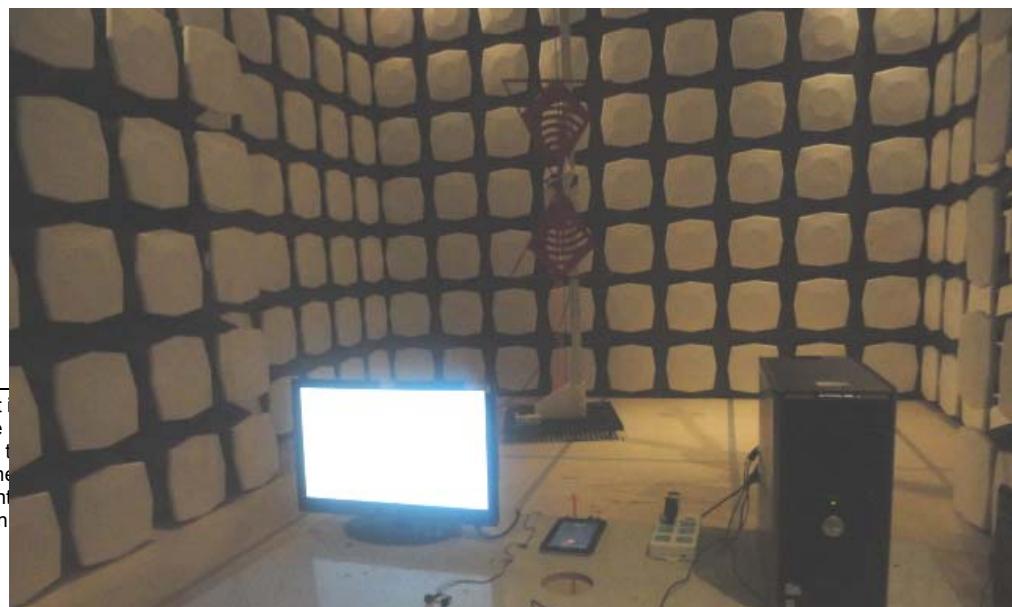
No.	Frequency GHz	Level dBuV/m	Transd dB	Limit dBuV/m	Margin dB	Height cm	Angle deg
1	1. 202	41. 5	-16. 2	70	-28. 5	100	86
2	1. 324	44. 2	-15. 6	70	-25. 8	100	89
3	1. 688	50. 6	-13. 1	70	-19. 4	100	120
4	2. 1325	49. 3	-9. 7	70	-20. 7	100	118
5	2. 6815	42. 7	-8. 1	70	-27. 3	100	68
6	3. 2825	44. 2	-5. 9	74	-29. 8	100	96
7	4. 2125	46. 1	-3. 9	74	-27. 9	100	110
8	1. 202	29. 1	-16. 2	50	-20. 9	100	168
9	1. 324	30. 3	-15. 6	50	-19. 7	100	99
10	1. 688	33. 9	-13. 1	50	-16. 1	100	230
11	2. 1325	31. 3	-9. 7	50	-18. 7	100	289
12	2. 6815	30. 8	-8. 1	50	-19. 2	100	300
13	3. 2825	36. 4	-5. 9	54	-17. 6	100	169
14	4. 2125	34. 2	-3. 9	54	-19. 8	100	268

Section 3 Photographs

3.1 Conducted Emissions Mains Terminals Test Setup



3.2 Radiated Emissions, 30MHz to 1GHz Test Setup

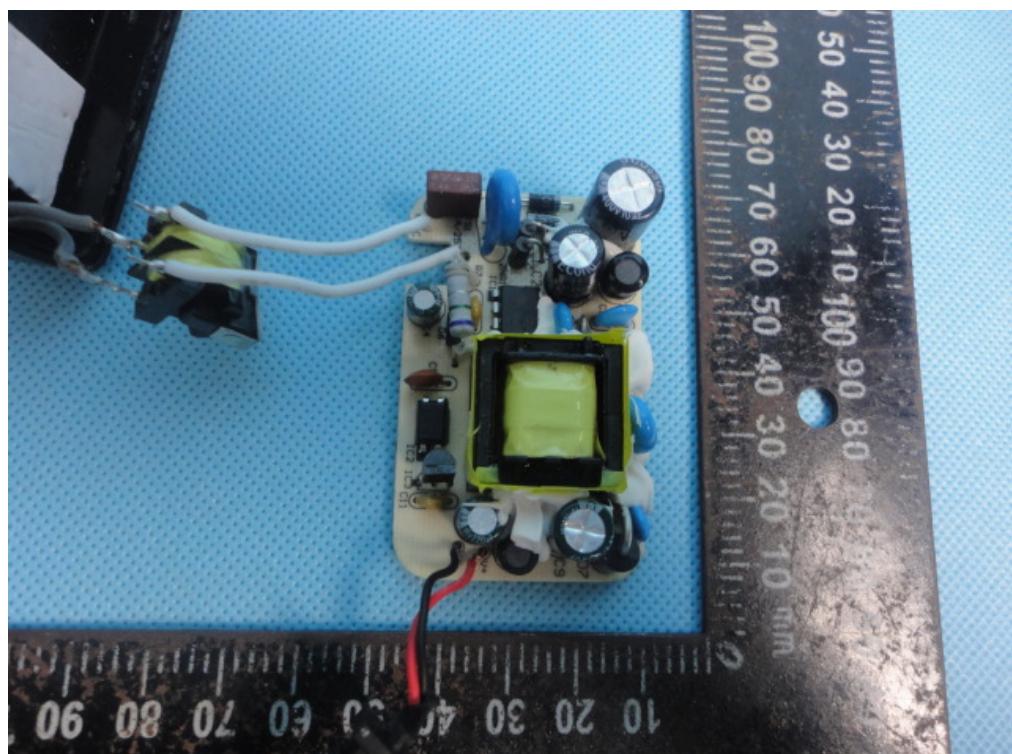


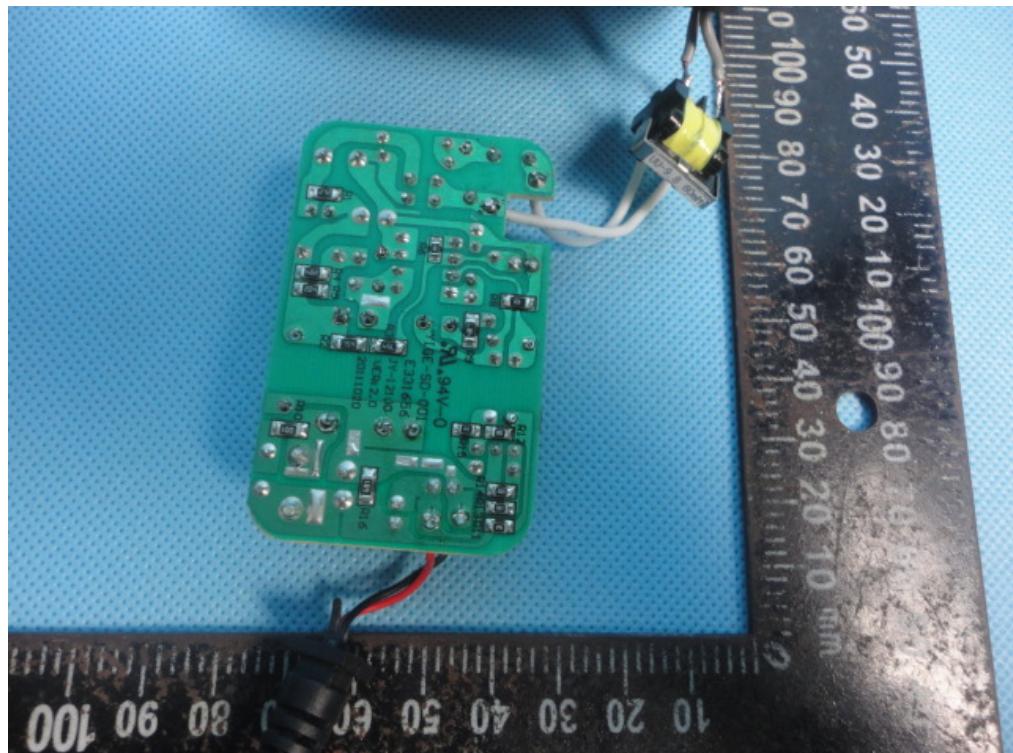
3.3 EUT Constructional Details











END OF THE TEST REPORT