

FCC TEST REPORT

Applicant:	Gicom Enterprises, Inc.
Address of Applicant:	No.5 Street 5, Shangdi, Haidian District, Beijing China
Manufacturer:	Gicom Enterprises, Inc.
Address of Manufacturer:	No.5 Street 5, Shangdi, Haidian District, Beijing China
Product name:	Mobile Computer
Model:	GC300
Rating(s):	Rechargeable battery :3.7Vx1 DC Rating:5VDC 1A
Trademark:	GC
FCC register number:	935596
FCC ID:	QVW-GC300
Standards:	FCC Part15 subpart B: 2010
Data of Receipt:	2012-09-24
Date of Test:	2012-09-24~2012-10-08
Date of Issue:	2012-10-12
Test Result	Pass*

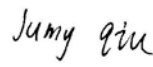
* In the configuration tested, the test item complied with the standards specified above.

Authorized for issue by:**Test by: Eleven Liang****Reviewed by: Jummy Qiu****Approved by: Pauler Li**

Oct.12.2012



Oct.12.2012



Oct.12.2012



Project Engineer

Project Engineer

Project Manager

Date Name/Position Signature

Date Name/Position Signature

Date Name/Position Signature

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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:

/

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(30-1000MHz)	FCC part 15.109	ANSI C63.4:2009	Class B	PASS
Radiated Emission(1000-12000MHz)	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: Gicom Enterprises, Inc.
Address of Applicant: No.5 Street 5, Shangdi, Haidian District, Beijing China

1.2 EUT General and Technical Descriptions

EUT Name: Mobile Computer
EUT Model: GC300
EUT Trademark: GC
Input Voltage: DC 5V
Frequency: /
Input Power/Current: /
Output rated: /
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
/	/	/	/	/

1.3.2 Working State of EUT

Power Supply of EUT: DC 5V
EUT Status: Normal Working

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	2012/06/08	2013/06/07
Two-line v-network	R&S	ENV216	ITL-103	2012/06/08	2013/06/07
Shielded Room	ETS•Lindgren	8*4*3	ITL-101	2012/03/12	2015/03/11

Radiated Emission					
Test Equipment	Manufacturer	Model	Serial No.	Last Cal.	Cal. Due
Semi-Anechoic chamber	ETS•Lindgren	FACT3 2.0	ITL-100	2012/04/11	2015/04/10
Shielding room	ETS•Lindgren	8*4*3	ITL-101	2012/03/12	2015/03/12
EMI Test Receiver	R&S	ESVS10	ITL-111	2011/12/29	2012/12/28
EXA Spectrum Analyzer	Agilent Technologies	N9010A	ITL-114	2012/02/29	2013/02/29
Biconilog Antenna	ETS•Lindgren	3142D	ITL-105	2012/02/10	2013/02/10
Broadband horn antenna	A-INFOMW	JXTXLB-101 80-NF	ITL-110	2011/12/28	2014/12/27

Section 2 Emission Test Results

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

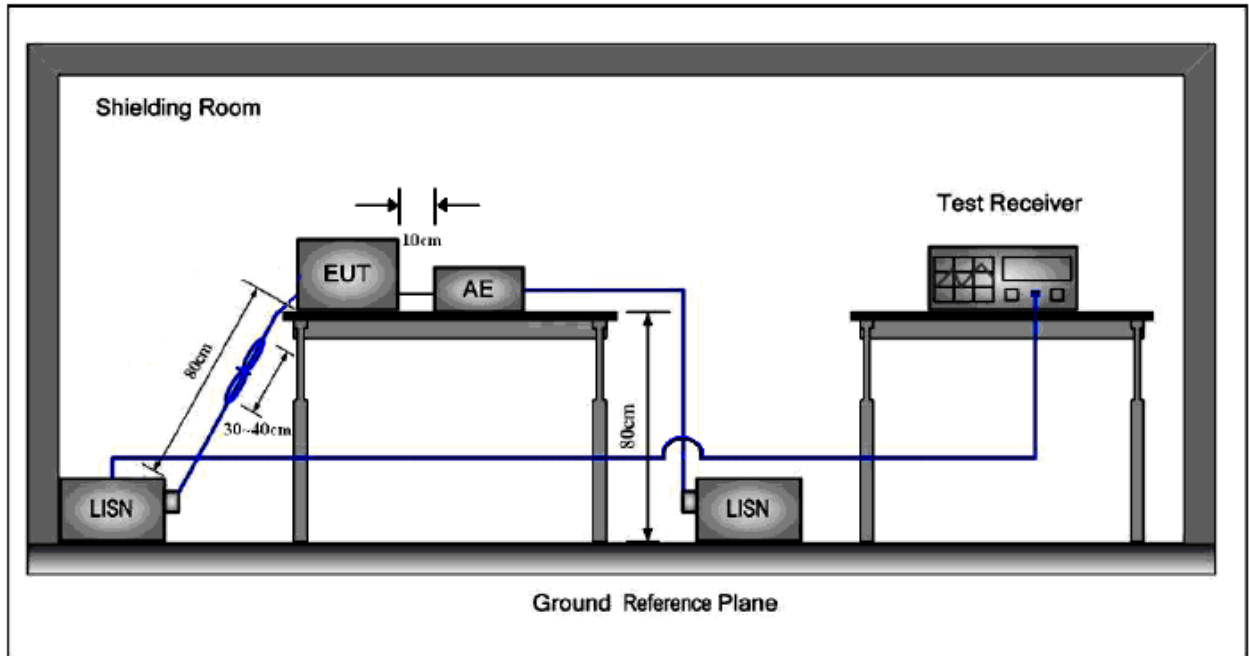
Test Requirement:	FCC part 15.107/ ICES-003
Test Method:	ANSI C63.4:2009/ ICES-003
Test Voltage:	120V AC
Test Date:	2012-09-27
Frequency Range:	150 kHz to 30MHz
Detector:	Peak for pre-scan Quasi-Peak and Average at frequency with maximum peak (9 kHz resolution bandwidth)
Uncertainty:	2Uc (V) = 2.3dB
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:	24.0 °C	Humidity:	48 % 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

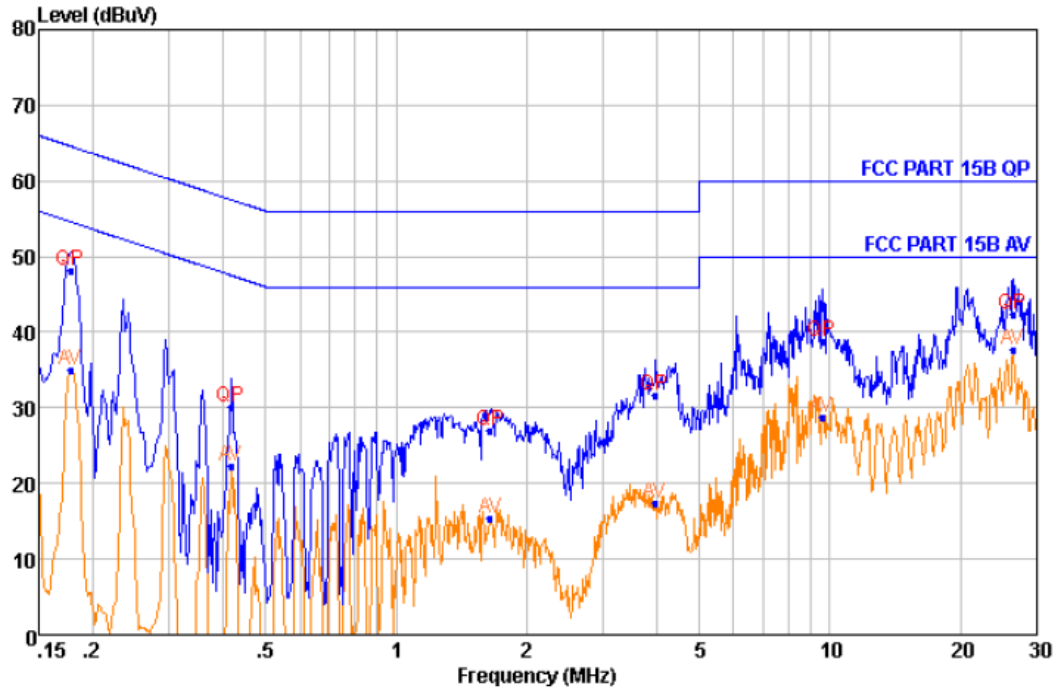
Pre-scan was performed with peak detected on both live and neutral cable. Quasi-peak & average measurements were performed at the frequencies which maximum peak emission level was detected. Please see the attached Quasi-peak and Average test results.

Model: GC300

Live Line:

Peak Scan:

Level (dBμV)



Quasi-peak and Average measurement

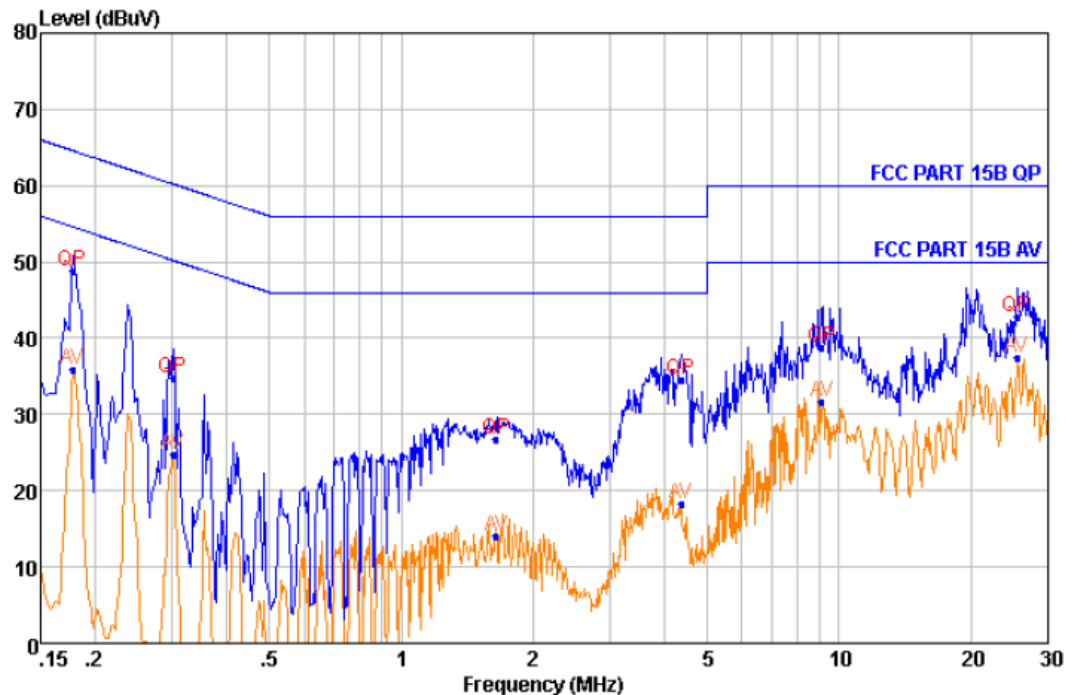
NO.	Freq MHz	Level dBμV	Remark	LISN Factor dB	Cable Loss dB	Limit Line dBμV	Margin dB
1	0.178	48.11	QP	9.69	0.21	64.59	-16.48
2	0.178	35.08	Average	9.69	0.21	54.59	-19.51
3	0.416	30.16	QP	9.66	0.26	57.52	-27.36
4	0.416	22.20	Average	9.66	0.26	47.52	-25.32
5	1.650	26.98	QP	9.66	0.34	56.00	-29.02
6	1.650	15.42	Average	9.66	0.34	46.00	-30.58
7	3.955	31.56	QP	9.61	0.39	56.00	-24.44
8	3.955	17.37	Average	9.61	0.39	46.00	-28.63
9	9.581	38.87	QP	9.66	0.44	60.00	-21.13
10	9.581	28.80	Average	9.66	0.44	50.00	-21.20
11	26.353	42.39	QP	9.66	0.49	60.00	-17.61
12	26.353	37.70	Average	9.66	0.49	50.00	-12.30

Level=Read Level + Liscn Factor + Cable Loss

Neutral Line:

Peak Scan:

Level (dBμV)



Quasi-peak and Average measurement

NO.	Freq MHz	Level dBμV	Remark	LISN Factor dB	Cable Loss dB	Limit Line dBμV	Margin dB
1	0.178	48.89	QP	9.66	0.21	64.59	-15.70
2	0.178	35.82	Average	9.66	0.21	54.59	-18.77
3	0.301	34.66	QP	9.65	0.24	60.21	-25.55
4	0.301	24.11	Average	9.65	0.24	50.21	-25.50
5	1.650	26.82	QP	9.62	0.34	56.00	-29.18
6	1.650	14.11	Average	9.62	0.34	46.00	-31.89
7	4.350	34.55	QP	9.62	0.39	56.00	-21.45
8	4.350	18.18	Average	9.62	0.39	46.00	-27.82
9	9.139	38.85	QP	9.62	0.43	60.00	-21.15
10	9.139	31.55	Average	9.62	0.43	50.00	-18.45
11	25.526	42.14	QP	9.63	0.49	60.00	-17.26
12	25.526	37.38	Average	9.63	0.49	50.00	-12.62

Level=Read Level + Lisn Factor + Cable Loss

2.2 Radiated Emissions, 30MHz to 1GHz

Test Requirement: FCC part 15.109
Test Method: ANSI C63.4:2009
Test Voltage: DC 5V
Test Date: 2012-09-27
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:

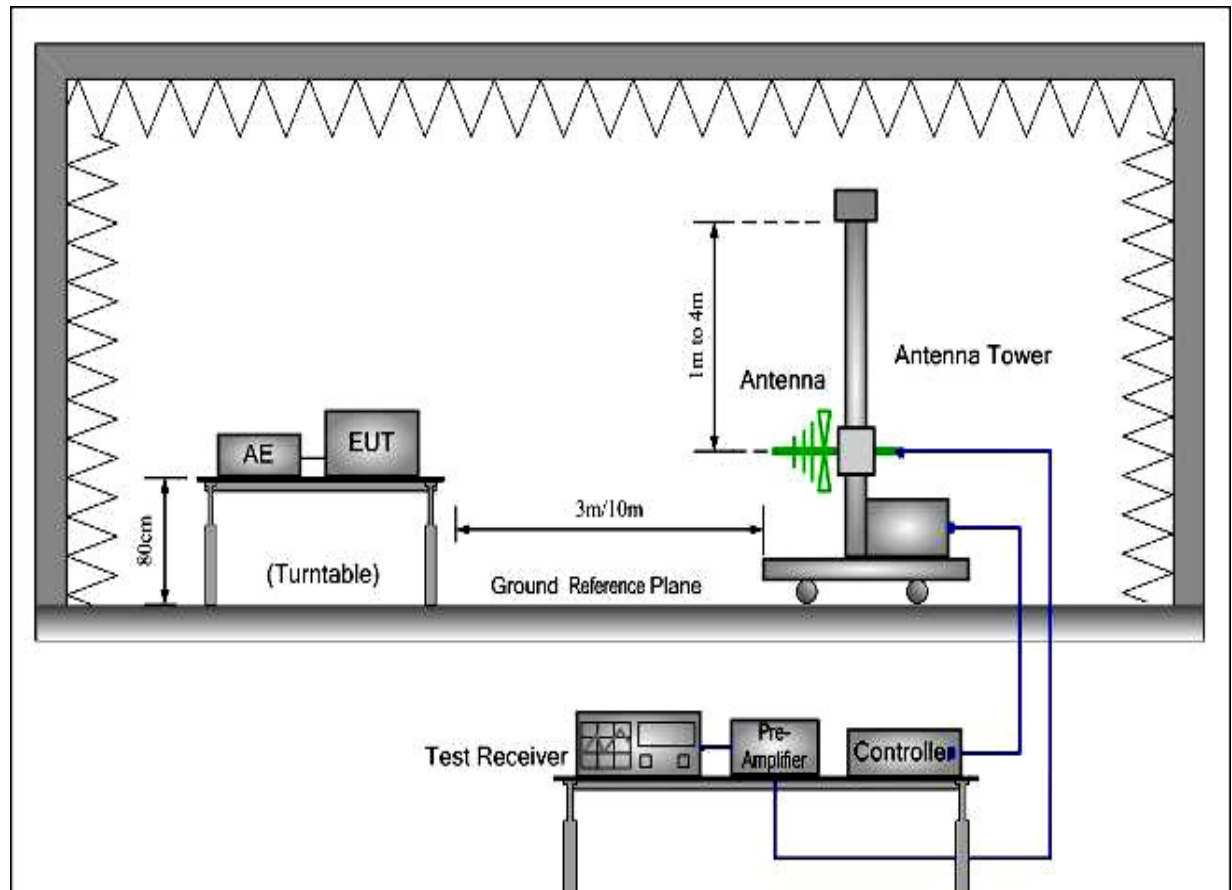
Temperature: 24.0 °C

Humidity: 48 % 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.

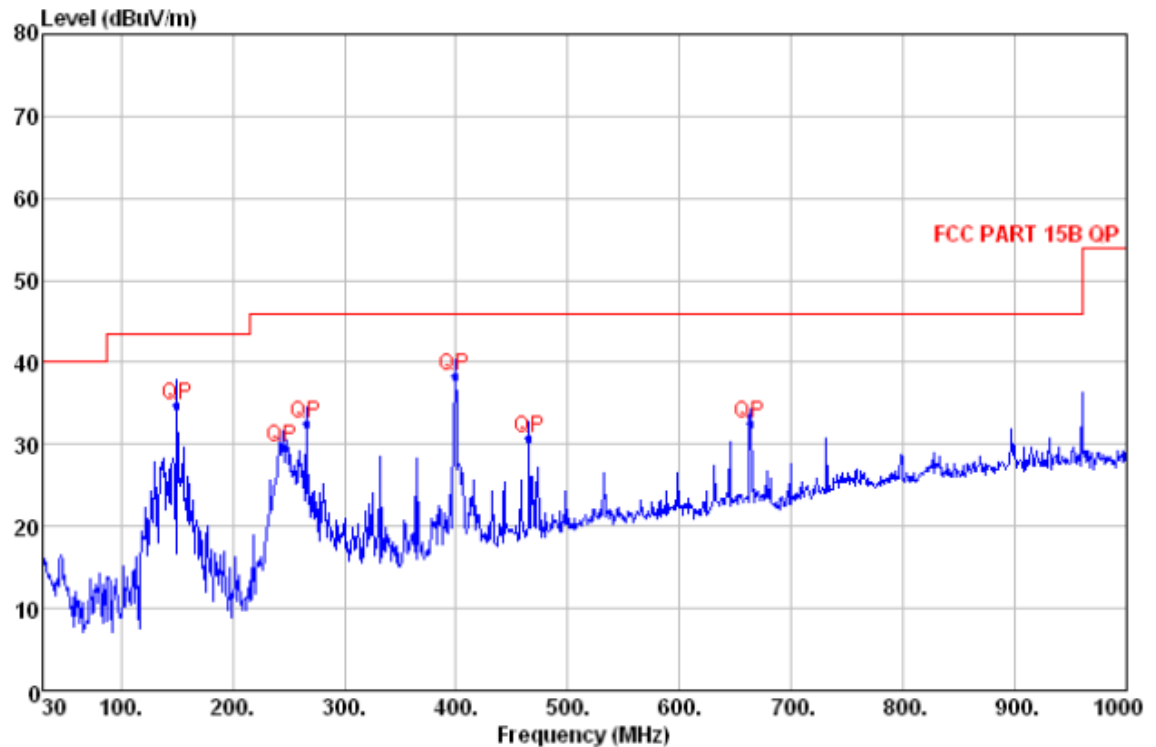
2.2.3 Measurement Data

Model: GC300

Horizontal:

Peak scan

Level (dBuV/m)



Quasi-peak measurement

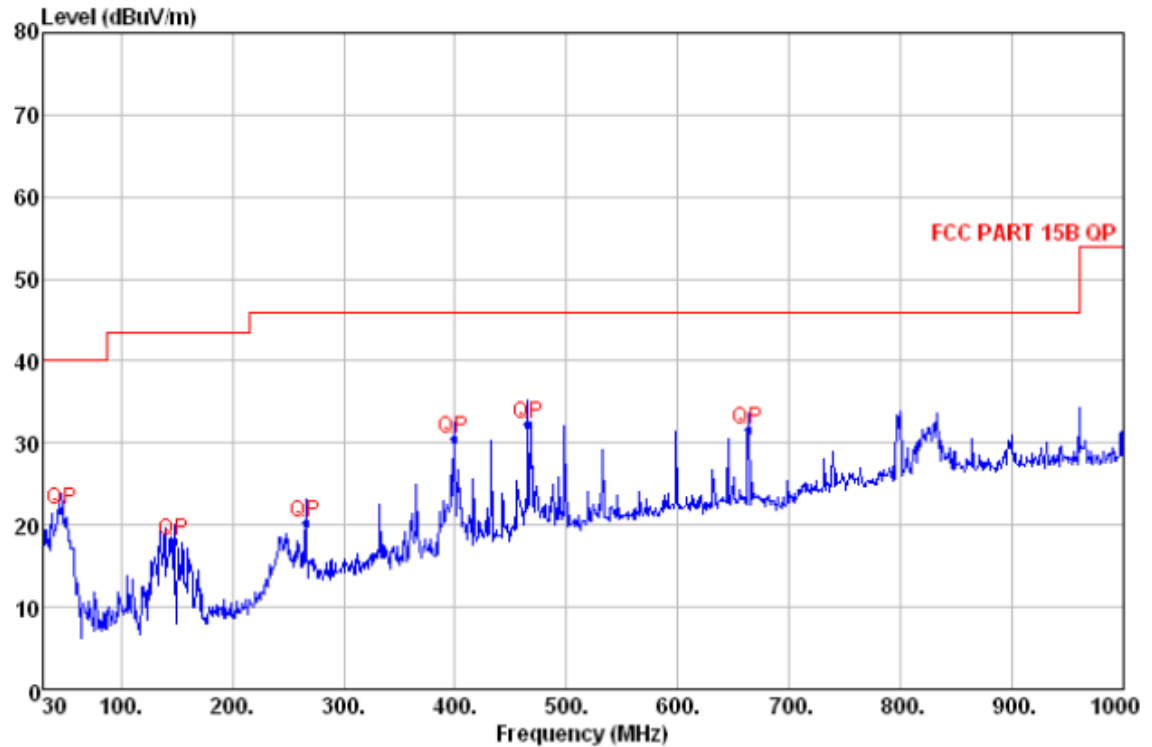
No.	Freq MHz	Level dBuV/m	Remark	Antenna Factor dB/m	Cable Loss dB	Limit Line dBuV/m	Margin dB	A/pos cm	T/pos deg
1	150.280	34.87	QP	7.13	1.46	43.50	-8.63	100	273
2	244.370	29.57	QP	11.16	1.90	46.00	-16.43	100	161
3	265.710	32.55	QP	12.49	1.99	46.00	-13.45	100	183
4	398.600	38.37	QP	15.94	2.44	46.00	-7.63	200	54
5	465.530	30.71	QP	17.69	2.67	46.00	-15.29	200	246
6	663.410	32.42	QP	20.77	3.23	46.00	-13.58	200	134

Level=Read Level + Antenna Factor + Cable Loss

Vertical:

Peak scan

Level (dBμV/m)



Quasi-peak measurement

No.	Freq	Level	Remark	Antenna	Cable	Limit	Margin	A/pos	T/pos
	MHz	dBμV/m		Factor	Loss	Line	dB	cm	deg
				dB/m	dB	dBμV/m			
1	46.490	21.93	QP	9.80	0.77	40.00	-18.07	100	266
2	147.370	17.99	QP	7.26	1.45	43.50	-25.51	100	82
3	265.710	20.27	QP	12.49	1.99	46.00	-25.73	100	119
4	398.600	30.45	QP	15.94	2.44	46.00	-15.55	200	137
5	465.530	32.31	QP	17.69	2.67	46.00	-13.69	200	254
6	663.410	31.56	QP	20.77	3.23	46.00	-14.44	200	12

Level=Read Level + Antenna Factor + Cable Loss

2.3 Radiated Emissions above 1 GHz

Test Requirement:	FCC part 15B
Test Method	ANSI C63.4
Test Voltage:	DC 5V
Frequency Range:	1GHz to 12GHz
Measurement Distance	3m
Class / Limit:	Class B
Test Date:	2012-10-08
Detector:	Peak for pre-scan Quasi-Peak if maximised peak within 6dB of limit (120 kHz resolution bandwidth)
Uncertainty:	2Uc (V) = 3.69dB

Frequency range MHz	Class B Limits	
	Peak	Average
Above 1000	74	54

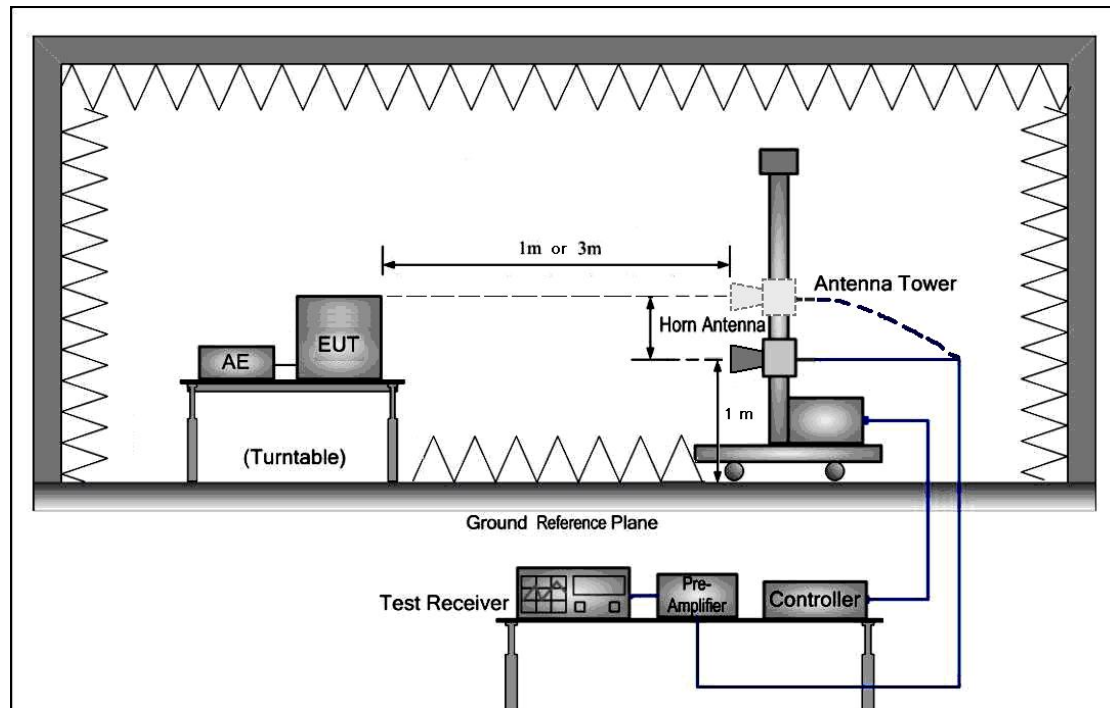
2.3.1 E.U.T. Operation

Operating Environment:

Temperature: 25.0 °C Humidity: 47 % RH Atmospheric Pressure: 101 k Pa

EUT Operation: Normal Working.

2.3.2 Test Setup and Procedure



1. The radiated emissions test was conducted in a fully-anechoic chamber.
2. Horn antenna was used for the frequency above 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 emission 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.

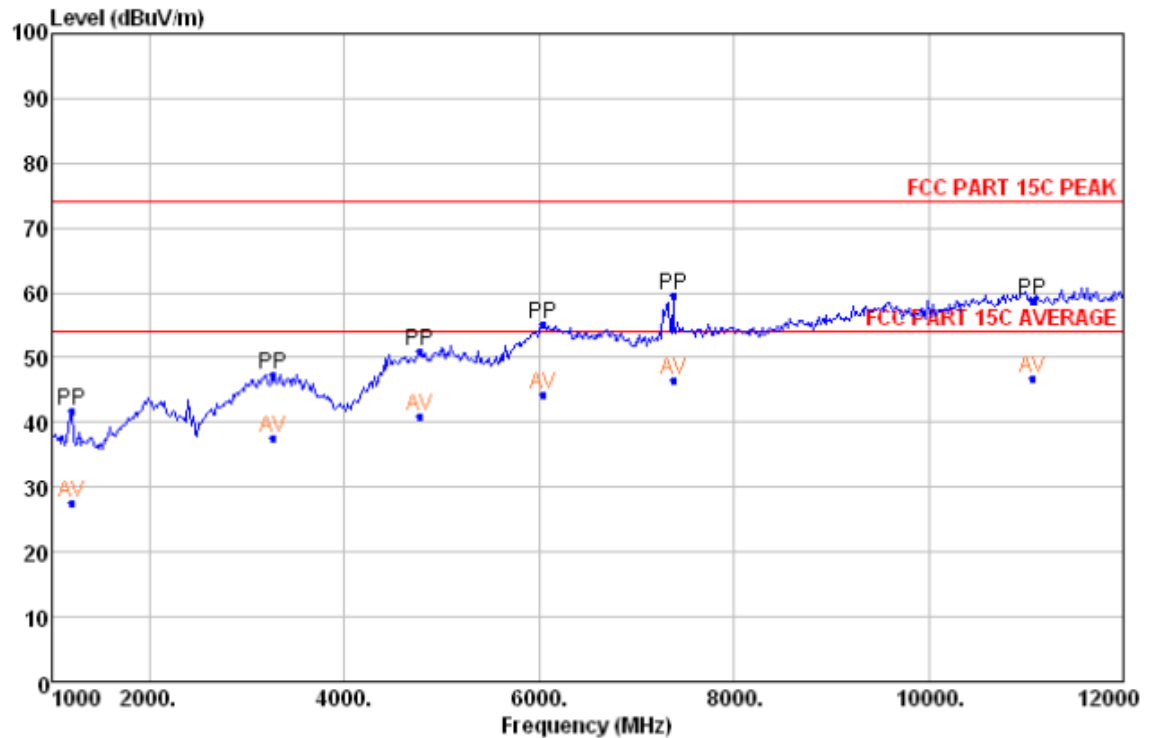
2.3.3 Measurement Data

Model: GC300

Horizontal:

Peak scan

Level (dBuV/m)



Peak measurement

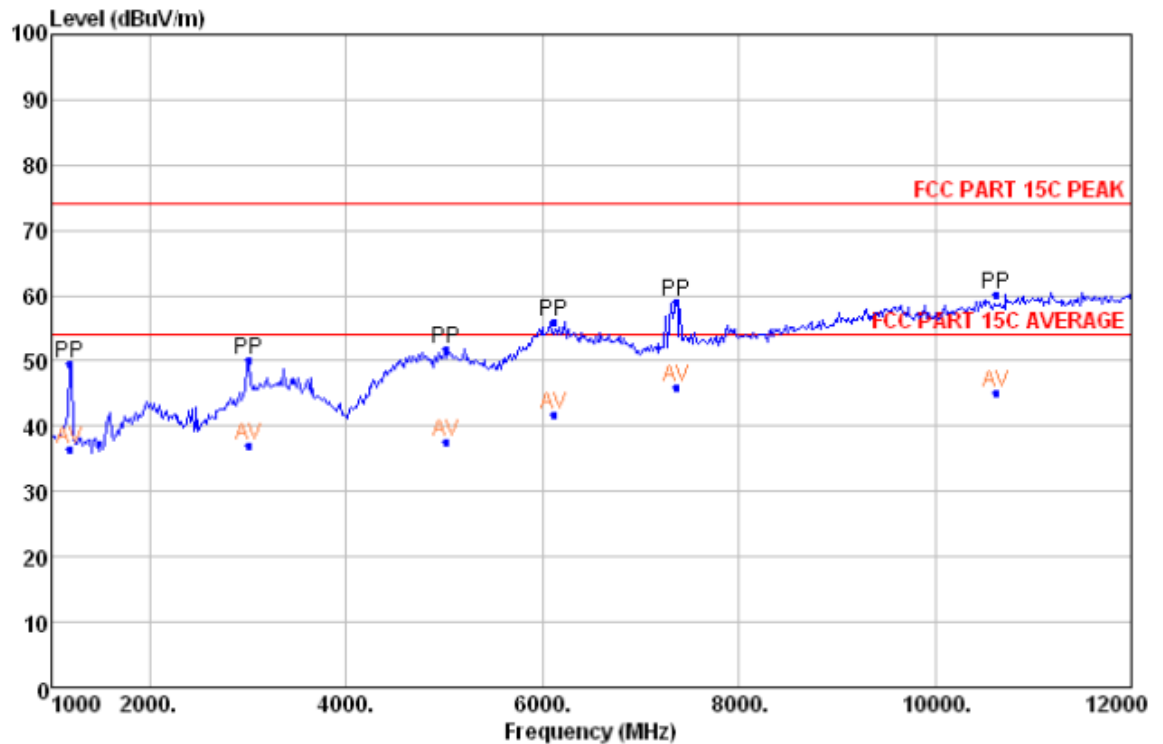
No.	Freq MHz	Level dBuV/m	Remark	Antenna Factor dB/m	Cable Loss dB	Limit Line dBuV/m	Margin dB	A/pos cm	T/pos deg
1	1204.000	41.69	Peak	24.74	4.41	74.00	-32.31	100	155
2	1204.000	27.69	Average	24.74	4.41	54.00	-26.31	100	155
3	3268.000	47.48	Peak	31.64	7.68	74.00	-26.52	100	300
4	3268.000	37.48	Average	31.64	7.68	54.00	-16.52	100	300
5	4774.000	51.07	Peak	34.27	9.54	74.00	-22.93	100	155
6	4774.000	41.07	Average	34.27	9.54	54.00	-12.93	100	155
7	6049.000	55.28	Peak	35.71	10.95	74.00	-18.72	200	57
8	6049.000	44.28	Average	35.71	10.95	54.00	-9.72	200	57
9	7375.000	59.50	Peak	35.35	12.30	74.00	-14.50	200	228
10	7375.000	46.50	Average	35.35	12.30	54.00	-7.50	200	228
11	11066.000	58.85	Peak	38.43	15.63	74.00	-15.15	200	101
12	11066.000	46.85	Average	38.43	15.63	54.00	-7.15	200	101

Level=Read Level + Antenna Factor + Cable Loss

Vertical:

Peak scan

Level (dBμV/m)



Peak measurement

No.	Freq MHz	Level dBμV/m	Remark	Antenna Factor dB/m	Cable Loss dB	Limit Line dBμV/m	Margin dB	A/pos cm	T/pos deg
1	1187.000	49.49	Peak	24.81	4.37	74.00	-24.51	100	166
2	1187.000	36.49	Average	24.81	4.37	54.00	-17.51	100	166
3	3006.000	50.07	Peak	31.11	7.34	74.00	-23.93	100	15
4	3006.000	37.07	Average	31.11	7.34	54.00	-16.93	100	15
5	5011.000	51.72	Peak	34.42	9.81	74.00	-22.28	100	221
6	5011.000	37.72	Average	34.42	9.81	54.00	-16.28	100	221
7	6122.000	55.87	Peak	35.58	11.03	74.00	-18.13	200	184
8	6122.000	41.87	Average	35.58	11.03	54.00	-12.13	200	184
9	7358.000	58.94	Peak	35.28	12.28	74.00	-15.06	200	154
10	7358.000	45.94	Average	35.28	12.28	54.00	-8.06	200	154
11	10629.000	60.12	Peak	38.15	15.20	74.00	-13.88	200	337
12	10629.000	45.12	Average	38.15	15.20	54.00	-8.88	200	337

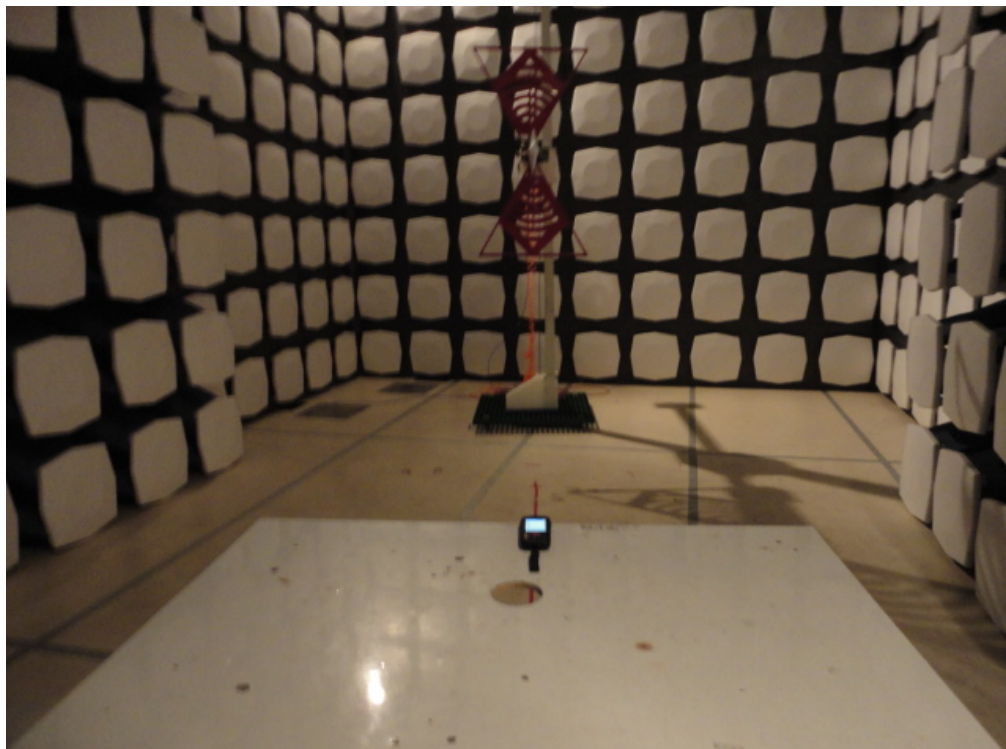
Level=Read Level + Antenna Factor + Cable Loss

Section 3 Photographs

3.1 Conducted Emission Test Setup

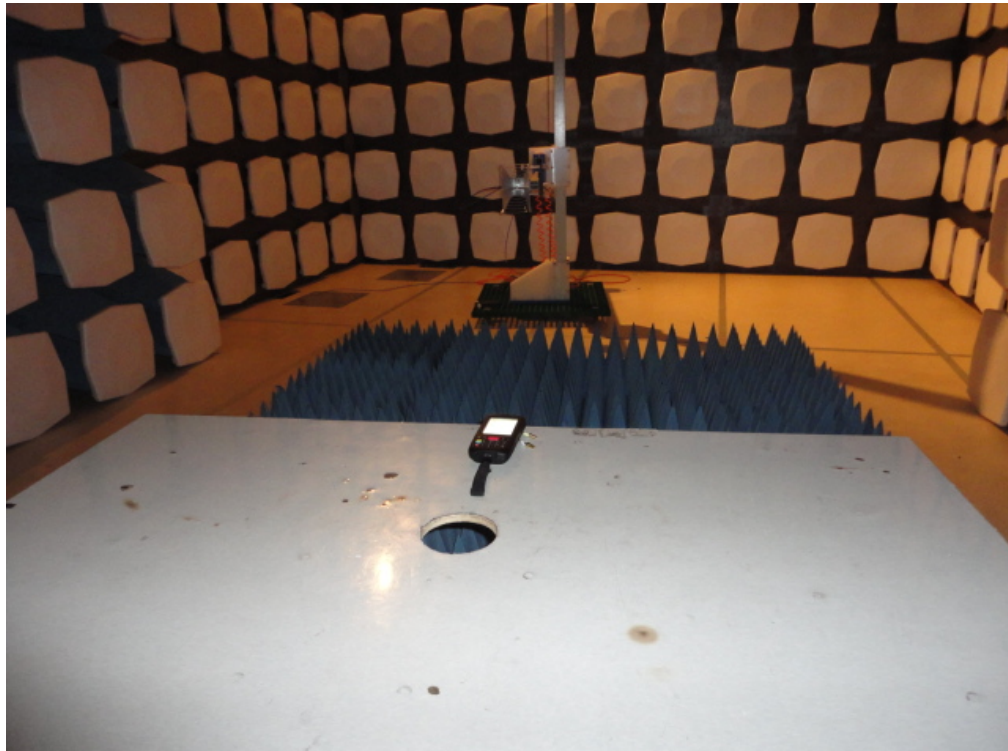


3.2 Radiated Emissions, 30MHz to 1GHz Test Setup



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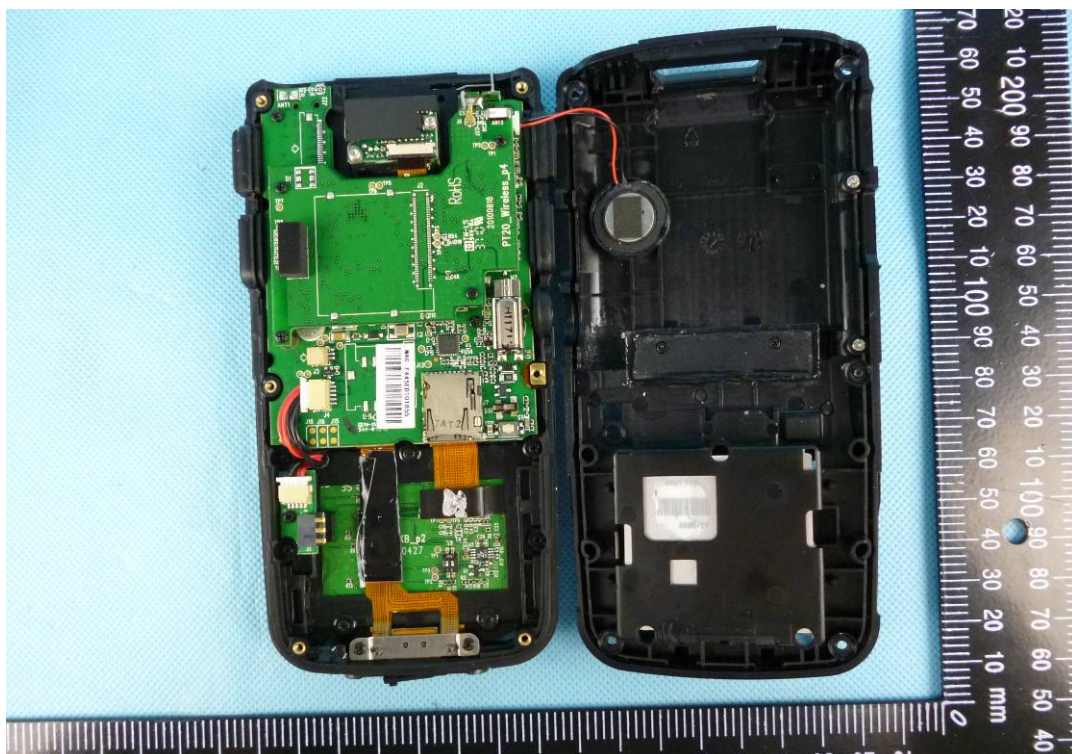
3.3 Radiated Emissions above 1 GHz Test Setup



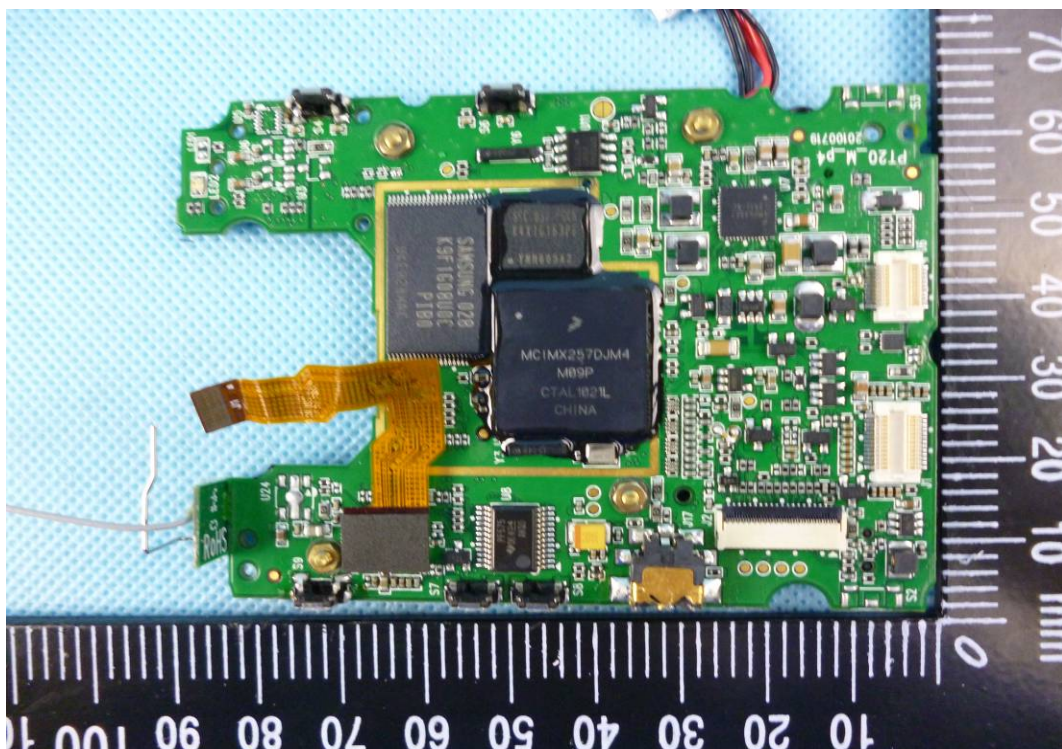
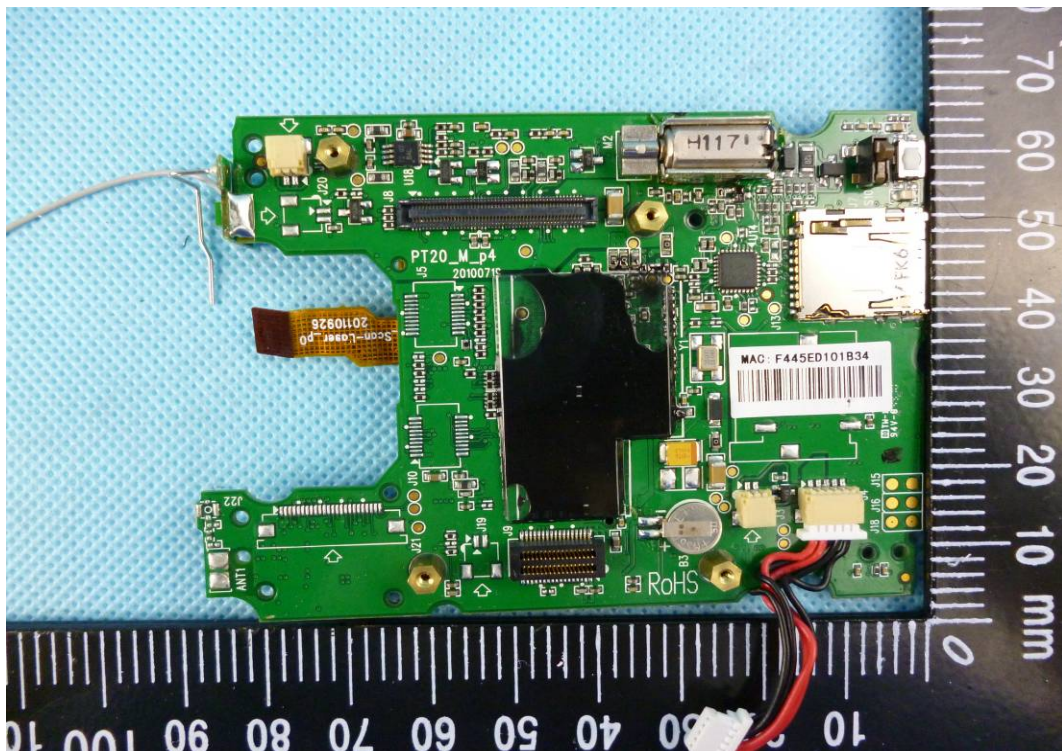
3.4 EUT Constructional Details

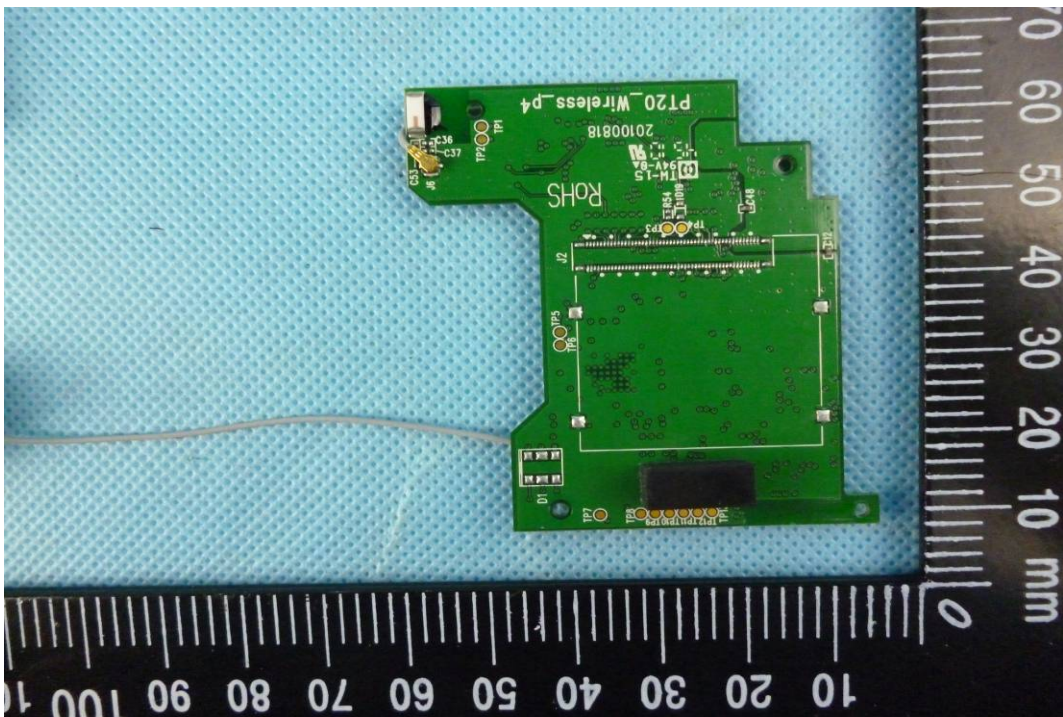
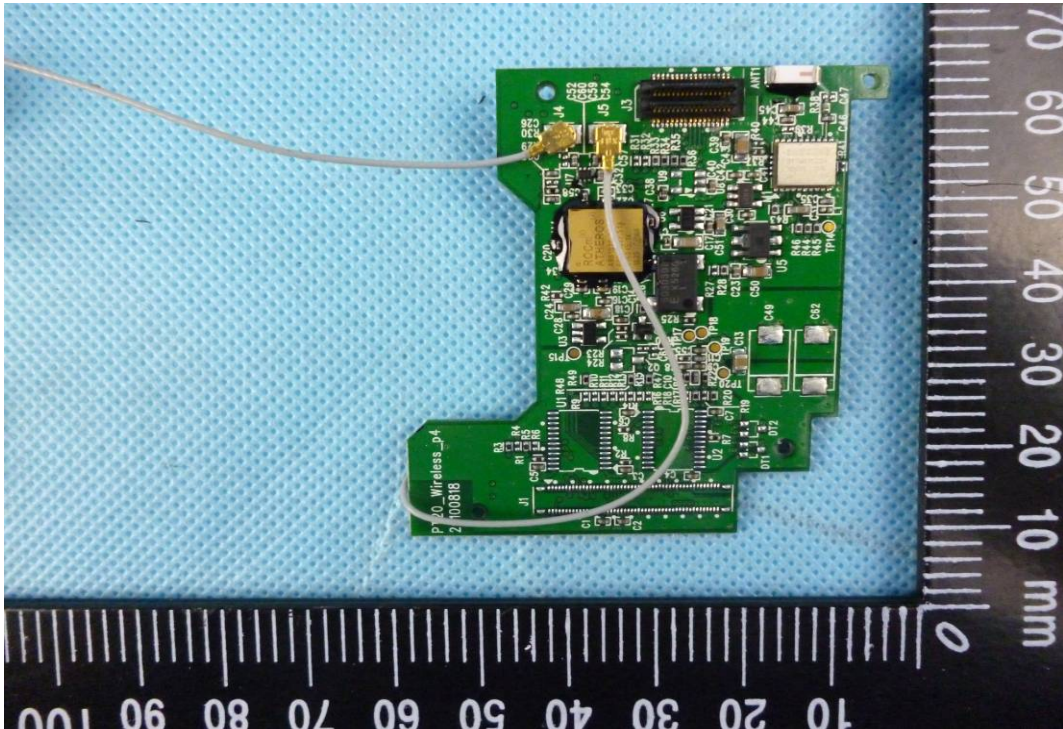


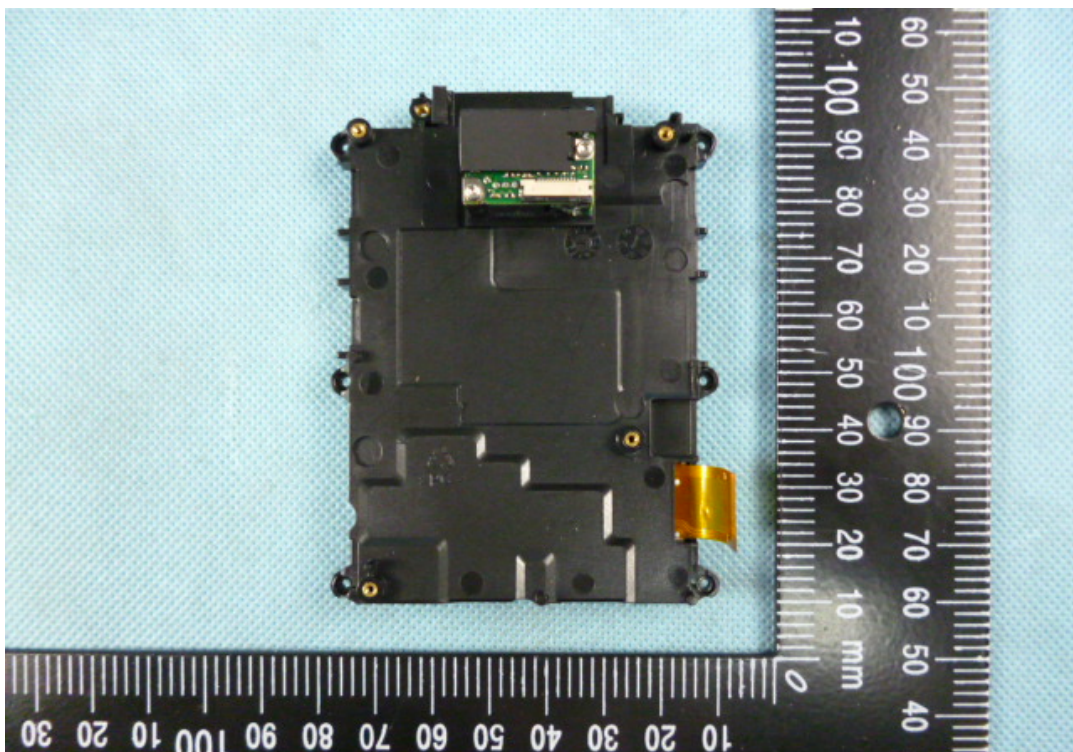
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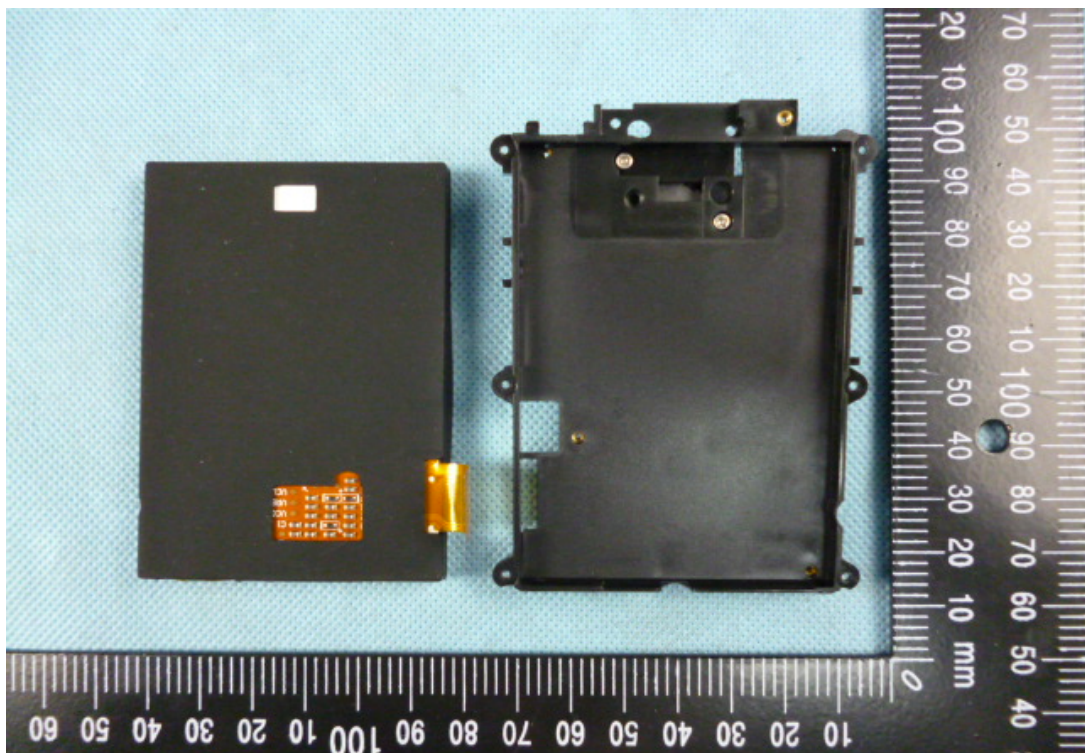


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END OF THE TEST REPORT