

EMC TEST REPORT

For

Internal Radio

Model Number: IR608 ITC-IR1000W ITC-IR1000B
FCC ID: BZAIR608

Report Number : WT078002032

Test Laboratory : Shenzhen Academy of Metrology and
Quality Inspection EMC Laboratory
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TABLE OF CONTENTS

TEST REPORT DECLARATION	4
1. TEST RESULTS SUMMARY	5
2. GENERAL INFORMATION	6
2.1. Report information	6
2.2. Laboratory Accreditation and Relationship to Customer	6
2.3. Measurement Uncertainty	7
3. PRODUCT DESCRIPTION	7
3.1. EUT Description	7
3.2. Related Submittal(s) / Grant (s)	8
3.3. Block Diagram of EUT Configuration.....	8
3.4. Operating Condition of EUT	8
3.5. Special Accessories.....	8
3.6. Equipment Modifications.....	8
3.7. Support Equipment List	8
3.8. Test Conditions	8
4. TEST EQUIPMENT USED	9
5. CONDUCTED DISTURBANCE TEST	10
5.1. Test Standard and Limit	10
5.2. Test Procedure	10
5.3. Test Arrangement.....	10
5.4. Test Data	10
6. RADIATED DISTURBANCE TEST	14
6.1. Test Standard and Limit	14
6.2. Test Procedure	14
6.3. Test Arrangement.....	14
6.4. Test Data	15
7. 6DB BANDWIDTH MEASUREMENT	19
7.1. LIMITS OF 6dB BANDWIDTH MEASUREMENT.....	19
7.2. TEST PROCEDURE	19
7.3. TEST SETUP	19
7.4. EUT OPERATING CONDITIONS	19
7.5. Test Data	19
8. MAXIMUM PEAK OUTPUT POWER	23
8.1. LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT	23
8.2. TEST PROCEDURES	23
8.3. TEST SETUP	23
8.4. EUT OPERATING CONDITIONS	23
8.5. Test Data	23
9. POWER SPECTRAL DENSITY MEASUREMENT	24
9.1. LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT	24
9.2. TEST PROCEDURE	24
9.3. 4.5.5 TEST SETUP	24
9.4. 4.5.6 EUT OPERATING CONDITION	24
9.5. Test Data	24

10.	BAND EDGES MEASUREMENT	28
10.1.	LIMITS OF BAND EDGES MEASUREMENT	28
10.2.	TEST PROCEDURE	28
10.3.	EUT OPERATING CONDITION	28
10.4.	TEST RESULTS	28
11.	ANTENNA REQUIREMENT	35
11.1.	STANDARD APPLICABLE.....	35
11.2.	ANTENNA CONNECTED CONSTRUCTION	35
12.	MPE CALCULATION	35
	APPENDIX I TEST PHOTO.....	36
	APPENDIX II EUT PHOTO	38

TEST REPORT DECLARATION


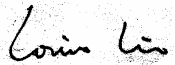

Applicant : Hip Shing Electronics Limited
Address : Unit 1-3, 20FL, New Treasure Centre, No. 10, Ng Fong St., San Po Kong KLN, HK
Manufacturer : Dongguan Zhi Cheng Electronic Products Co., Ltd
Address : China Dongguanshi, Tangxia Ping San 188 Ind Zone
EUT Description : Internal Radio
Model Number IR608 ITC-IR1000W ITC-IR1000B
FCC ID Number BZAIR608

Test Standards:

FCC Part 15 15.247

The EUT described above is tested by Shenzhen Academy of Metrology and Quality Inspection EMC Laboratory to determine the maximum emissions from the EUT. Shenzhen Academy of Metrology and Quality Inspection EMC Laboratory is assumed full responsibility for the accuracy of the test results. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4 (2003) and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rules Part 15.247.

The test report is valid for above tested sample only and shall not be reproduced in part without written approval of the laboratory.

Tested by:	 _____ (Dewelly Yang)	Date:	Sep.06,2007 _____
Checked by:	 _____ (Louis Lin)	Date:	Sep.06,2007 _____
Approved by:	 _____ (Peter Lin)	Date:	Sep.06,2007 _____

1. TEST RESULTS SUMMARY

Table 1 Test Results Summary

Test Items	FCC Rules	Test Results
Conducted Disturbance	15.207	Pass
Radiated disturbance	15.247 d	Pass
Spectrum Bandwidth of a Direct Sequence Spread Spectrum System	15.247(a)(2)	Pass
Maximum Peak Output Power	15.247(b)	Pass
Power Spectral Density	15.247(e)	Pass
Band Edge Measurement	15.247(d)	Pass
Antenna Requirement	15.203	Pass

2. GENERAL INFORMATION

2.1. Report information

- 2.1.1. This report is not a certificate of quality; it only applies to the sample of the specific product/equipment given at the time of its testing. The results are not used to indicate or imply that they are application to the similar items. In addition, such results must not be used to indicate or imply that SMQ approves recommends or endorses the manufacture, supplier or use of such product/equipment, or that SMQ in any way guarantees the later performance of the product/equipment.
- 2.1.2. The sample/s mentioned in this report is/are supplied by Applicant, SMQ therefore assumes no responsibility for the accuracy of information on the brand name, model number, origin of manufacture or any information supplied.
- 2.1.3. Additional copies of the report are available to the Applicant at an additional fee. No third part can obtain a copy of this report through SMQ, unless the applicant has authorized SMQ in writing to do so.

2.2. Laboratory Accreditation and Relationship to Customer

The testing report were performed by the Shenzhen Academy of Metrology and quality Inspection EMC Laboratory (Guangdong EMC compliance testing center), in their facilities located at Bldg. of Metrology & Quality Inspection, Longzhu Road, Nanshan District, Shenzhen, Guangdong, China. At the time of testing, Laboratory is accredited by the following organizations:

China National Accreditation Committee for Laboratories (**CNAL**) accredits the Laboratory for conformance to FCC standards, EMC international standards and EN standards. The Registration Number is L0579.

The Laboratory is listed in the United States of American Federal Communications Commission (**FCC**), and the registration number are **97379**(open area test site) and **274801**(semi anechoic chamber).

The Laboratory is listed in Voluntary Control Council for Interference by Information Technology Equipment (**VCCI**), and the registration number are **R-1974**(open area test site) , **R-1966**(semi anechoic chamber), **C-2117**(mains ports conducted interference measurement) and **T-180**(telecommunication ports conducted interference measurement).

The Laboratory is registered to perform emission tests with Industry Canada (**IC**), and the registration number is **IC4174**.

TUV Rhineland accredits the Laboratory for conformance to IEC and EN standards, the registration number is **E2024086Z02**.

Measurement Uncertainty

2.3. Measurement Uncertainty

Conducted Disturbance : 9kHz~30MHz 3.5dB

Radiated Disturbance: 30MHz~1000MHz 4.5dB
1GHz~18GHz 4.6dB

3. PRODUCT DESCRIPTION

3.1. EUT Description

Description : Internal Radio
Manufacturer : Dongguan Zhi Cheng Electronic Products Co., Ltd
Model Number : IR608 ITC-IR1000W ITC-IR1000B
Input : AC120V 60Hz
Operate Frequency : IEEE802.11 b/g 2412~2462MHz(11channel)
Antenna Designation : Non-User Replaceable (Fixed)

IR608 ITC-IR1000W and ITC-IR1000B are identical in schematic, structure and critical components except for different model number. The pretest was performed with all model. The test report was shown the worst case.

Table 2 The working Frequency List

Channel	Frequency	Channel	Frequency
1	2412 MHz	7	2442 MHz
2	2417 MHz	8	2447 MHz
3	2422 MHz	9	2452 MHz
4	2427 MHz	10	2457 MHz
5	2432 MHz	11	2462 MHz
6	2437 MHz		

3.2. Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for FCC ID: BZAIR608 filing to comply with Section 15.247 of the FCC Part 15, Subpart C Rules.

3.3. Block Diagram of EUT Configuration

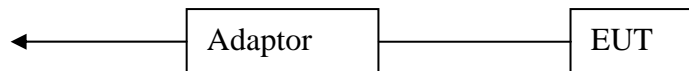


Figure 1 EUT setup 1

3.4. Operating Condition of EUT

Mode 1: ch1(IEEE802.11 54Mbps)
Mode2: ch5(IEEE802.11 54Mbps)
Mode3: ch11(IEEE802.11 54Mbps)

3.5. Special Accessories

Not available for this EUT intended for grant.

3.6. Equipment Modifications

Not available for this EUT intended for grant.

3.7. Support Equipment List

Table 3 Support Equipment List

Name	Model No	S/N	Manufacturer	Used “√”
Notebook	2672	99-1N31N	IBM	✓

3.8. Test Conditions

Date of test: Aug.10-20.15,2007
Date of EUT Receive: Aug.8,2007
Temperature: 24-26 °C
Relative Humidity: 45-53%

4. TEST EQUIPMENT USED

Table 4 Test Equipment

No.	Equipment	Manufacturer	Model No.	Last Cal.	Cal. Interval
SB2603	EMI Test Receiver	Rohde & Schwarz	ESCS30	Jan.25, 2007	1 Year
SB3321	AMN	Rohde & Schwarz	ESH2-Z5	Jan.25, 2007	1 Year
SB2604	AMN	Rohde & Schwarz	ESH3-Z5	Jan.25, 2007	1 Year
SB3436	EMI Test Receiver	Rohde & Schwarz	ESI26	Jan.25, 2007	1 Year
SB3440	Bilog Antenna	Chase	CBL6112B	Jan.25, 2007	1 Year
SB3435	Horn Antenna	Rohde & Schwarz	HF906	Jan.25, 2007	1 Year
SB3435/01	Amplifier(1-18 GHz)	Rohde & Schwarz	---	Jan.25, 2007	1 Year
SB3435/02	Amplifier(18-40 GHz)	Rohde & Schwarz	---	May.05, 2007	1 Year
SB3435/03	Horn Antenna	Rohde & Schwarz	AT4560	May.05, 2007	1 Year
SB3450/01	3m Semi-anechoic chamber	Albatross Projects	9X6X6	Jan.25, 2007	1 Year

5. CONDUCTED DISTURBANCE TEST

5.1. Test Standard and Limit

5.1.1. Test Standard

FCC Part 15 15.207

5.1.2. Test Limit

Table 5 Conducted Disturbance Test Limit (Class B)

Frequency	Maximum RF Line Voltage (dB μ V)	
	Quasi-peak Level	Average Level
150kHz~500kHz	66 ~ 56 *	56 ~ 46 *
500kHz~5MHz	56	46
5MHz~30MHz	60	50

- Decreasing linearly with logarithm of the frequency
- The lower limit shall apply at the transition frequency.

5.2. Test Procedure

The EUT is put on a table of non-conducting material that is 80cm high. The vertical conducting wall of shielding is located 40cm to the rear of the EUT. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.). A EMI test receiver (R&S Test Receiver ESCS30) is used to test the emissions form both sides of AC line. According to the requirements in Section 7 and 13 of ANSI C63.4-2003. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-Peak and average detector mode.

The bandwidth of EMI test receiver is set at 9kHz.

5.3. Test Arrangement

The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application. The detailed information refers to test picture.

5.4. Test Data

The emissions don't show in below are too low against the limits. Refer to the test curves .
Working mode: Ch1 (the worst case)

Table 6 Conducted Disturbance Test Data

Model: IR608							
Mode: 1							
Line							
Frequency (MHz)	Correction Factor (dB)	Quasi-Peak			Average		
		Reading (dB μ V)	Emission Level (dB μ V)	Limits (dB μ V)	Reading (dB μ V)	Emission Level (dB μ V)	Limits (dB μ V)
12.675	10.2	25.5	35.7	56	25.3	35.5	46

- REMARKS:** 1. Emission level(dBuV)=Read Value(dBuV) + Correction Factor(dB)
 2. Correction Factor(dB) =LISN Factor (dB) + Cable Factor (dB)+Limiter Factor(dB)
 3. The other emission levels were very low against the limit.

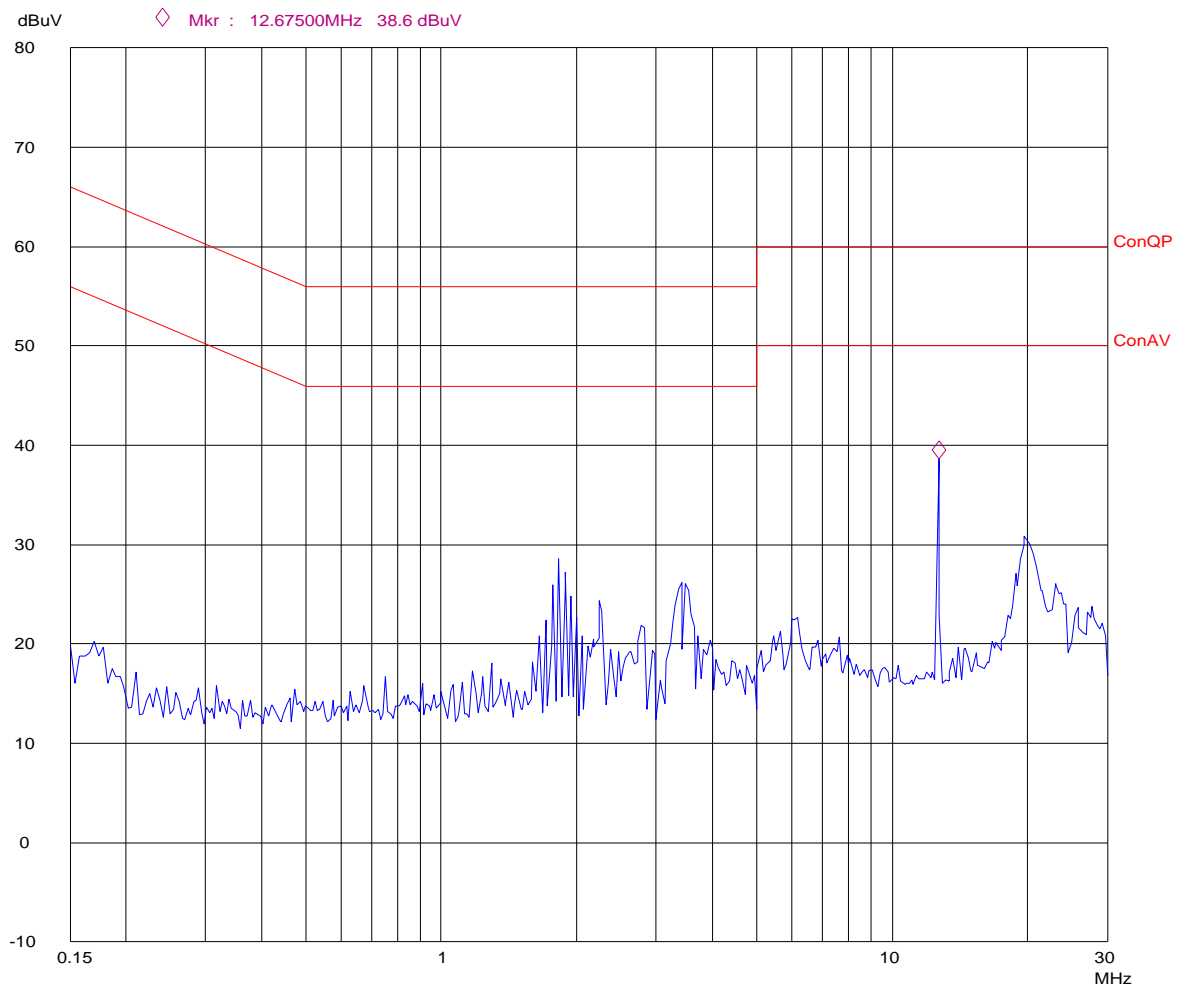
Table 7 Conducted Disturbance Test Data

Model: IR608							
Mode: 1							
Neutral							
Frequency (MHz)	Correction Factor (dB)	Quasi-Peak			Average		
		Reading (dB μ V)	Emission Level (dB μ V)	Limits (dB μ V)	Reading (dB μ V)	Emission Level (dB μ V)	Limits (dB μ V)
12.675	10.2	28.0	38.2	56	28.0	38.2	46

- REMARKS:** 1. Emission level(dBuV)=Read Value(dBuV) + Correction Factor(dB)
 2. Correction Factor(dB) =LISN Factor (dB) + Cable Factor (dB)+Limiter Factor(dB)
 3. The other emission levels were very low against the limit.

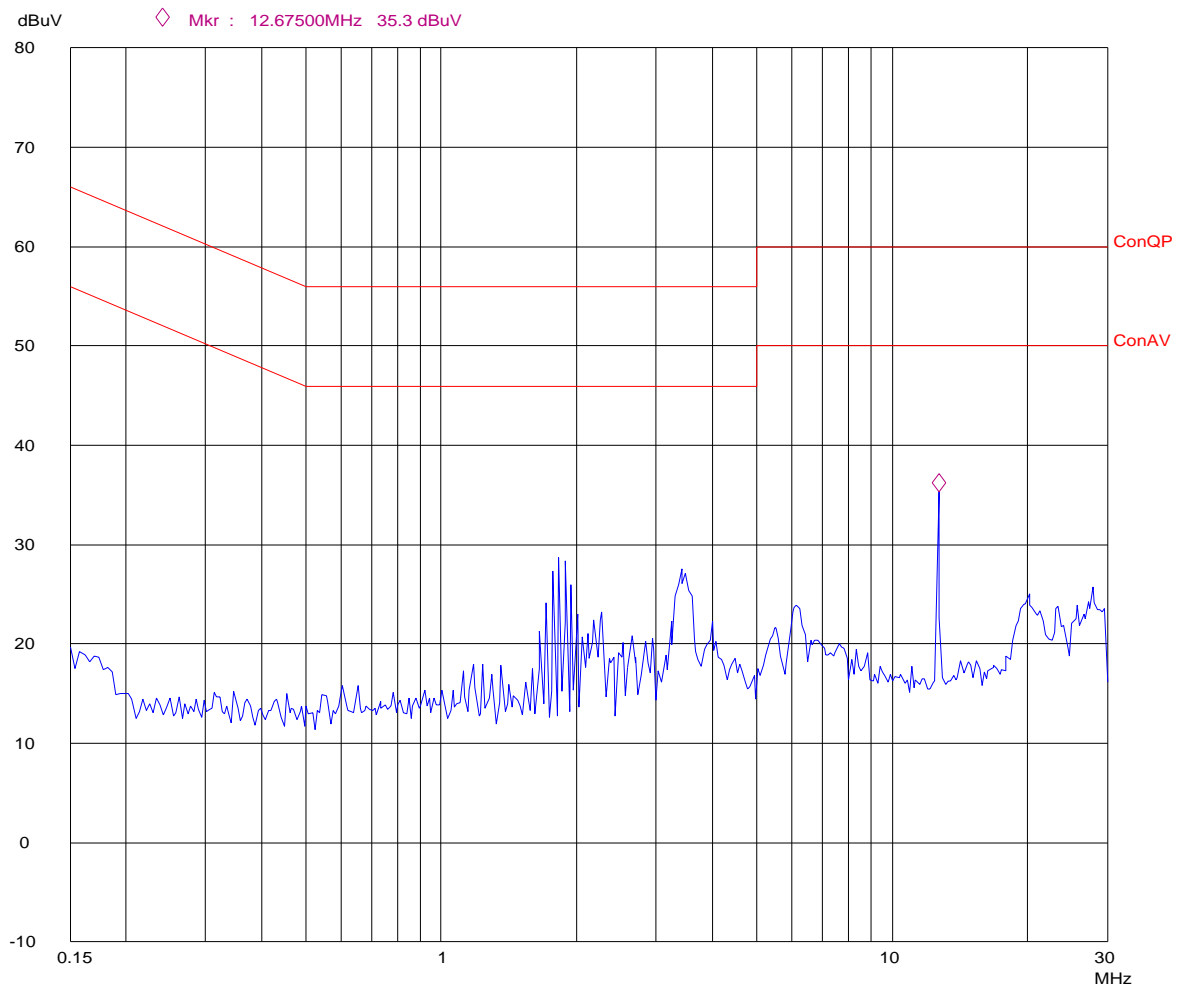
Conducted Disturbance

EUT: M/N:IR608
Op Cond: CH1
Test Spec: N
Comment: AC 120V/60Hz



Conducted Disturbance

EUT: M/N:IR608
Op Cond: CH1
Test Spec: L
Comment: AC 120V/60Hz



6. RADIATED DISTURBANCE TEST

6.1. Test Standard and Limit

6.1.1. Test Standard

FCC Part 15 15.247 d

6.1.2. Test Limit

Table 8 Radiated Disturbance Test Limit

FREQUENCY MHz	FIELD STRENGTHS LIMITS (μ V/m)	FIELD STRENGTHS LIMITS dB (μ V/m)
Fundamental	50000	94.0
Harmonics	500	54.0
30 ~ 88	100	40.0
88 ~ 216	150	43.5
216 ~ 960	200	46.0
960 ~	500	54.0

* The lower limit shall apply at the transition frequency.

* The test distance is 3m.

6.2. Test Procedure

The EUT is placed on a turntable, which is 0.8 meter above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can move up and down between 1 to 4 meters to find out the maximum emission level. Broadband antenna is used as a receiving antenna. Both horizontal and vertical polarization of the antenna is set on test. In order to find out the max. emission, the relative positions of this hand-held transmitter(EUT) was rotated through three orthogonal axes according to the requirements in Section 8 and13 of ANSI C63.4-2003.

The frequency spectrum from 30 MHz to 25 GHz was investigated. Measurements were made at 3 meters

the setting of the EMI test receiver is

30-1000MHz Detector=QP RBW=120kHz VBW=300kHz

1-25GHz Detector=Peak RBW=1MHz RBW=3MHz

Detector=AV RBW=1MHz RBW=10Hz

6.3. Test Arrangement

The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application. The detailed information refers to test picture.

6.4. Test Data

Emissions don't show below are too low against the limits, the test curves are shown in the APPENDIX I

- Note: 1. Emission level (dBuV/m)=Reading Value(dBuV) + Correction Factor(dB/m)+ Antenna Factor (dB/m)
 2. Correction Factor (dB/m) = Cable Factor (dB)+Amplifier Factor(dB)
 3. The other emission levels were very low against the limit.

Table 9 General Radiated Emission Data

Model number: IR608 Test Mode: ch 1							
Frequency (MHz)	Polarization	Reading Value (dB μ V)	Cable Loss (dB)	Antenna Factor (dB/m)	Emission Level dB (μ V/m)	Limits dB (μ V/m)	Detector
63.046	H	25.5	1.4	6.2	33.1	40.0	QP
114.078	H	27.8	1.9	12.8	42.5	43.5	QP
138.857	H	26.1	2.1	12.1	40.3	43.5	QP
168.016	H	28.3	2.2	10.6	41.1	43.5	QP
179.679	H	27.2	2.2	10.1	39.5	43.5	QP
191.342	H	26.7	2.4	9.9	39.0	43.5	QP
214.669	H	25.9	2.6	10.0	38.5	43.5	QP
214.669	V	27.2	2.6	10.0	39.8	43.5	QP
2415.703	H	89.0	-32.2	28.5	85.3	----	Fundamental AV
2415.703	V	93.8	-32.2	28.5	90.1	----	Fundamental AV
3623.200	V	45.1	-31.4	32.4	44.1	74.0	Peak
3623.200	V	40.0	-31.4	32.4	39.0	54.0	AV
4830.120	H	40.2	-31.0	33.3	47.9	74.0	Peak
4830.120	H	36.2	-31.0	33.3	33.9	54.0	AV
7238.500	H	37.6	-28.3	36.4	29.5	74.0	Peak
7238.500	H	33.1	-28.3	36.4	25.0	54.0	AV

Table10 General Radiated Emission Data

Model number: IR608 Test Mode: ch 5							
Frequency (MHz)	Polarization	Reading Value (dB μ V)	Cable Loss (dB)	Antenna Factor (dB/m)	Emission Level (dB (μ V/m))	Limits dB (μ V/m)	Detector
63.056	H	25.5	1.4	25.4	33.0	40.0	QP
114.158	H	27.8	1.9	27.3	42.0	43.5	QP
138.907	H	26.1	2.1	26.1	40.3	43.5	QP
168.106	H	28.3	2.2	28.4	41.2	43.5	QP
179.699	H	27.2	2.2	27.3	39.6	43.5	QP
191.442	H	26.7	2.4	26.8	39.1	43.5	QP
214.789	H	25.9	2.6	26.0	38.6	43.5	QP
214.789	V	27.2	2.6	27.1	39.7	43.5	QP
2431.678	H	93.1	-32.2	28.5	89.4	----	Fundamental AV
2431.678	V	94.8	-32.2	28.5	91.1	----	Fundamental AV
3646.210	V	44.2	-31.4	32.4	43.2	74.0	Peak
3646.210	V	39.2	-31.4	32.4	38.2	54.0	AV
4865.110	H	40.0	-31.0	33.3	37.7	74.0	Peak
4865.110	H	36.0	-31.0	33.3	33.7	54.0	AV
7297.510	H	37.5	-28.3	36.4	29.4	74.0	Peak
7297.510	H	32.9	-28.3	36.4	24.8	54.0	AV

Table 11 General Radiated Emission Data

Model number: IR608

Test Mode: ch 11

Frequency (MHz)	Polarization	Reading Value (dB μ V)	Cable Loss (dB)	Antenna Factor (dB/m)	Emission Level dB (μ V/m)	Limits dB (μ V/m)	Detector
63.106	H	25.5	1.4	25.5	33.1	40.0	QP
114.188	H	27.8	1.9	27.5	42.2	43.5	QP
138.907	H	26.1	2.1	25.9	40.1	43.5	QP
168.126	H	28.3	2.2	28.4	41.2	43.5	QP
179.689	H	27.2	2.2	27.4	39.7	43.5	QP
191.443	H	26.7	2.4	26.8	39.1	43.5	QP
214.781	H	25.9	2.6	26.0	38.6	43.5	QP
214.781	V	27.2	2.6	27.2	39.8	43.5	QP
2460.432	H	88.8	-32.2	28.5	85.1	----	Fundamental AV
2460.432	V	93.6	-32.2	28.5	89.9	----	Fundamental AV
3693.120	V	44.5	-31.4	32.4	43.5	74.0	Peak
3693.120	V	39.0	-31.4	32.4	38.0	54.0	AV
4924.100	H	40.8	-31.0	33.3	38.5	74.0	Peak
4924.100	H	35.8	-31.0	33.3	33.5	54.0	AV
7357.620	H	37.1	-28.3	36.4	29.0	54.0	Peak
7357.620	H	32.5	-28.3	36.4	24.4	54.0	AV

Table 12 **Restricted Band Radiated Emission Data**

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	
12.51975 -	240 - 285	3345.8 - 3358	
12.52025	322 - 335.4	3600 - 4400	
12.57675 -			
12.57725			
13.36 - 13.41			

All the emission of the above band were less than the limit 20dB.

7. 6DB BANDWIDTH MEASUREMENT

7.1. LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

7.2. TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100kHz RBW and 100kHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

7.3. TEST SETUP



7.4. EUT OPERATING CONDITIONS

Mode1
Mode 2
Mode 3

7.5. Test Data

Table 13 Test Data

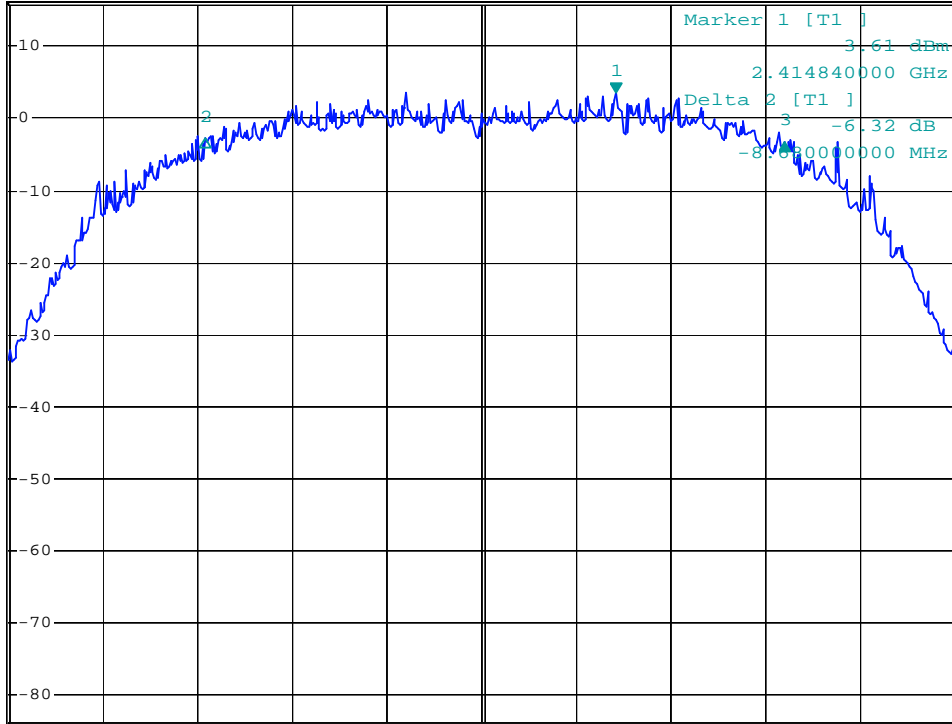
CHANNEL	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	results
Ch1	12.2	0.5	Pass
Ch5	12.5	0.5	Pass
Ch11	12.6	0.5	Pass

Ch1 2412MHz



*RBW 100 kHz Delta 3 [T1]
*VBW 100 kHz -6.93 dB
Ref 16 dBm Att 50 dB SWT 5 ms 3.560000000 MHz

1 PK
VIEW



A

3DB

Center 2.412 GHz 2 MHz/ Span 20 MHz

UB-8H

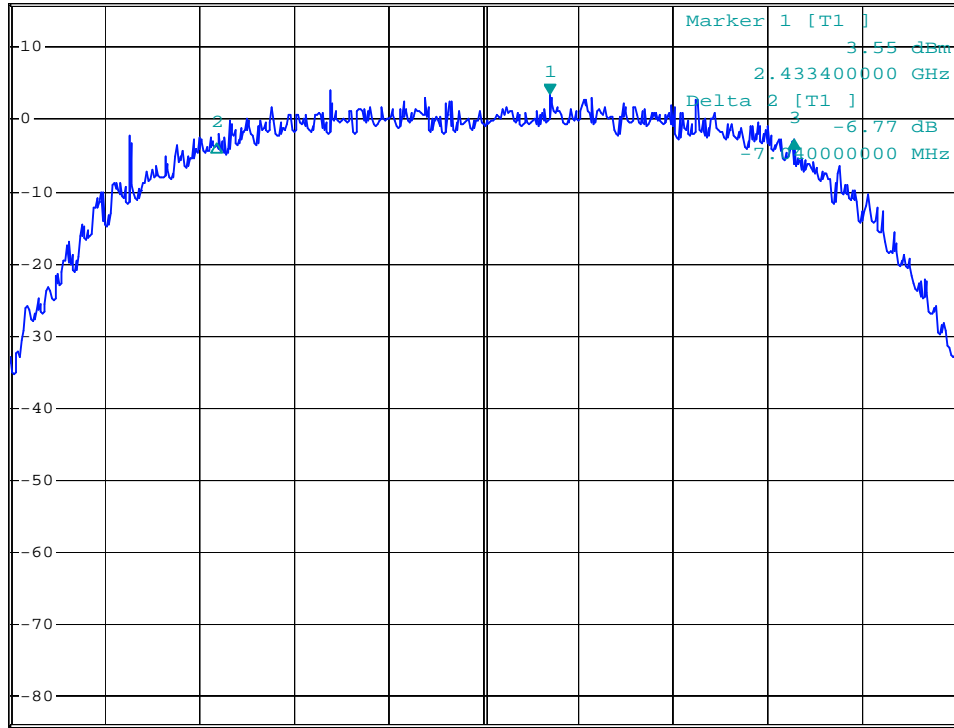
Date: 6.AUG.2007 19:38:29

Ch 5 (2432MHz)



*RBW 100 kHz Delta 3 [T1]
*VBW 100 kHz -6.34 dB
Ref 16 dBm Att 50 dB SWT 5 ms 5.160000000 MHz

1 PK
VIEW



Center 2.432 GHz 2 MHz/ Span 20 MHz

UB-8H

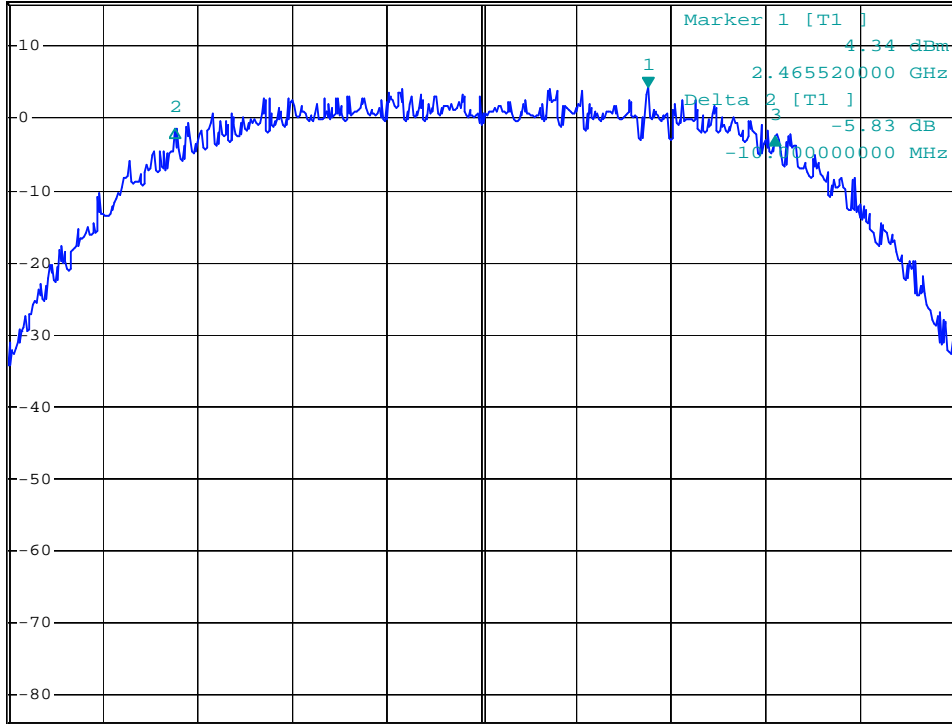
Date: 6.AUG.2007 19:34:23

Ch11 (2462MHz)



*RBW 100 kHz Delta 3 [T1]
*VBW 100 kHz -6.82 dB
Ref 16 dBm Att 50 dB SWT 5 ms 2.680000000 MHz

1 PK
VIEW



Center 2.462 GHz 2 MHz/ Span 20 MHz

UB-8H

Date: 6.AUG.2007 19:12:39

8. MAXIMUM PEAK OUTPUT POWER

8.1. LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

8.2. TEST PROCEDURES

1. A detector was used on the output port of the EUT. An oscilloscope was used to read the response of the detector.
2. Replaced the EUT by the signal generator. The center frequency of the S.G was adjusted to the center frequency of the measured channel.
3. Adjusted the power to have the same reading on oscilloscope. Record the power level.

8.3. TEST SETUP



8.4. EUT OPERATING CONDITIONS

Same as Item 4.3.6

8.5. Test Data

Table 14 Test Data

CHANNEL	Peak Power Output (dBm)	LIMIT (dBm)	results
Ch1	13.5	30dBm	Pass
Ch5	13.7	30dBm	Pass
Ch11	14.2	30dBm	Pass

9. POWER SPECTRAL DENSITY MEASUREMENT

9.1. LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

9.2. TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured with the spectrum analyzer using 1kHz RBW and 1kHz VBW, set sweep time = span/1kHz. The power spectral density was measured and recorded. The sweep time is allowed to be longer than span/1kHz for a full response of the mixer in the spectrum analyzer.

9.3. 4.5.5 TEST SETUP



9.4. 4.5.6 EUT OPERATING CONDITION

Mode1
Mode 2
Mode 3

9.5. Test Data

Table 15 Test Data

CHANNEL	RF POWER LEVEL IN 1kHz BW (dBm)	MAXIMUM LIMIT (dBm)	results
Ch1	-7.19	8	Pass
Ch5	-6.12	8	Pass
Ch11	-8.17	8	Pass

Ch1

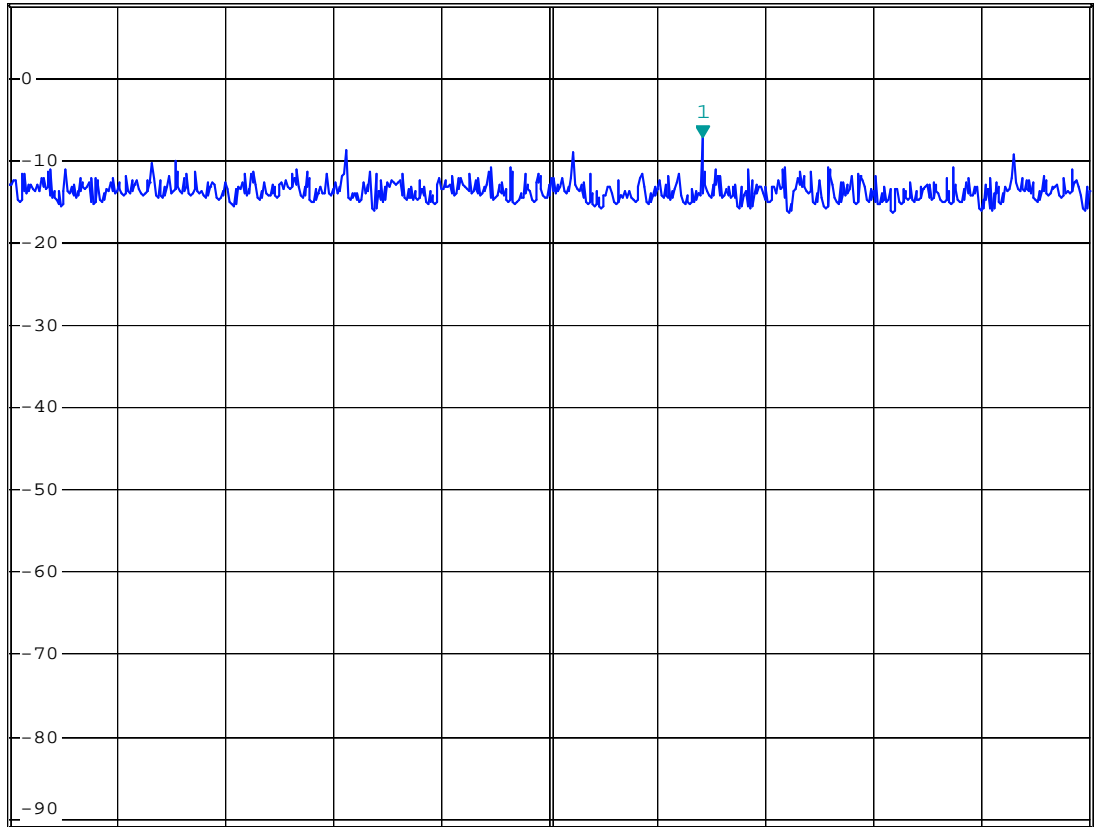


*RBW 3 kHz Marker 1 [T1]
VBW 10 kHz -7.19 dBm
*SWT 680 s 2.412284000 GHz

Ref 9 dBm

Att 40 dB

1 PK
MAXH



Center 2.412 GHz

200 kHz/

Span 2 MHz

Date: 24.SEP.2007 23:22:04

Ch5

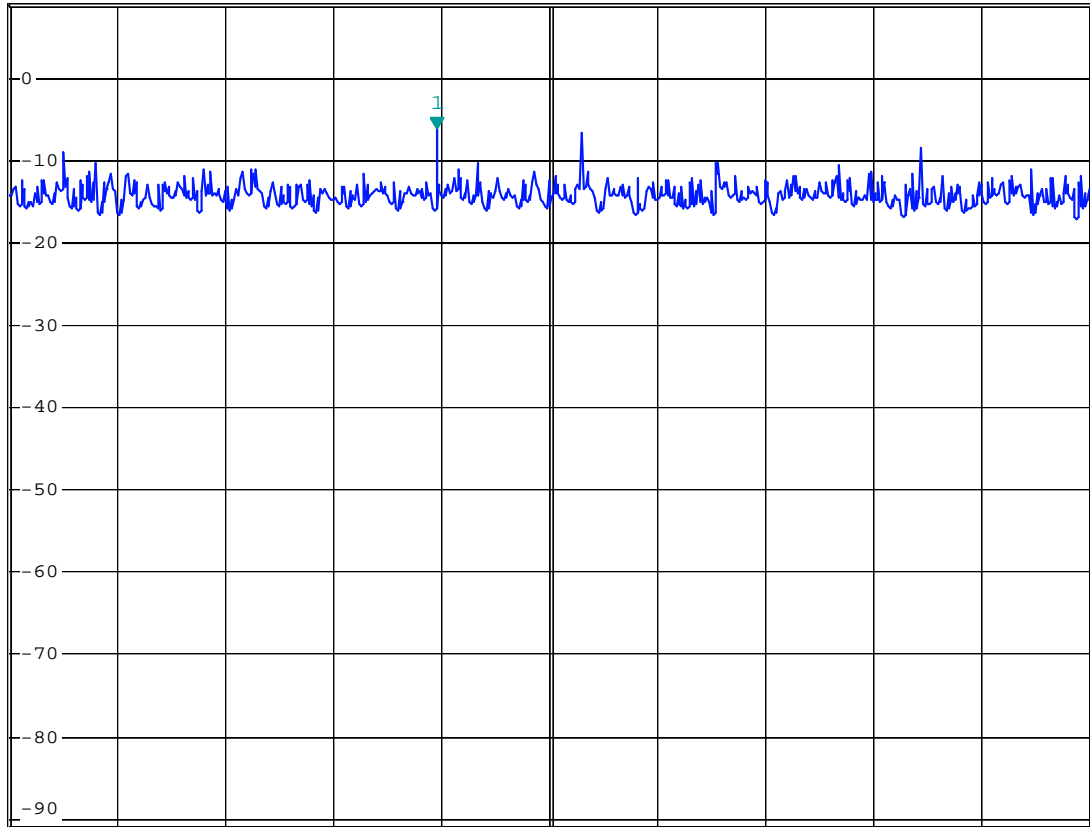


*RBW 3 kHz Marker 1 [T1]
VBW 10 kHz -6.12 dBm
*SWT 680 s 2.430792000 GHz

Ref 9 dBm

Att 40 dB

1 PK
MAXH



Center 2.431 GHz

200 kHz/

Span 2 MHz

Date: 24.SEP.2007 23:35:37

Ch11

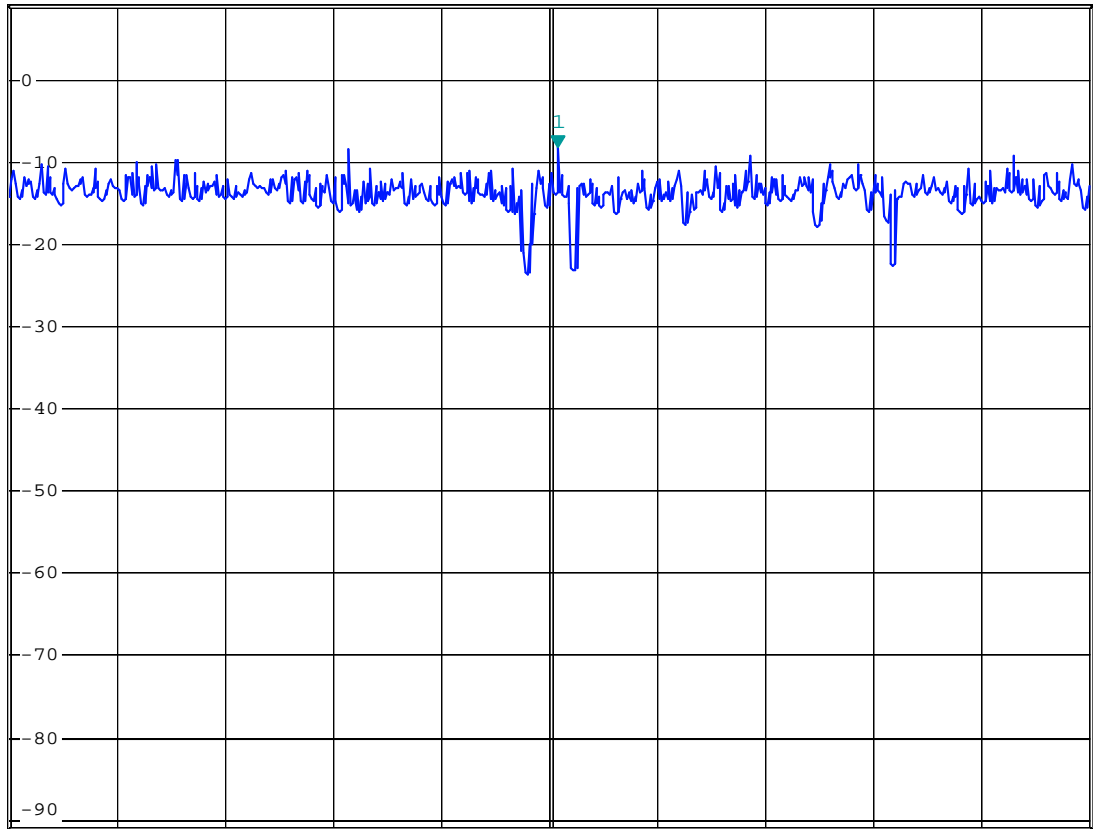


*RBW 3 kHz Marker 1 [T1]
VBW 10 kHz -8.17 dBm
*SWT 680 s 2.462016000 GHz

Ref 9 dBm

Att 40 dB

1 PK
MAXH



Center 2.462 GHz

200 kHz/

Span 2 MHz

Date: 24.SEP.2007 23:51:36

10. BAND EDGES MEASUREMENT

10.1.LIMITS OF BAND EDGES MEASUREMENT

Below -20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

10.2.TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer via a low lose cable. Set both RBW and VBW of spectrum analyzer to 100kHz with suitable frequency span including 100 MHz bandwidth from band edge. The band edges was measured and recorded.

The spectrum plots (Peak RBW=VBW=100kHz) are attached on the following pages.

10.3.EUT OPERATING CONDITION

Mode1

Mode 3

10.4.TEST RESULTS

The spectrum plots are attached on the following 3 images. It shows compliance with the requirement in part 15.247(d).

NOTE 1: The band edge emission plot of on page 29 shows 39.5dBc. The emission of carrier strength list in the test result of channel 1 is 90.1V/m (AV), so the maximum field strength in restrict band is $91.5-39.5=52.0$ dBuV/m which is under 54dBuV/m limit.

The band edge emission plot of on page 30 ch11 shows 44.8dBc. The emission of carrier strength list in the test result of channel 1 is 89.9dBuV/m (AV), so the maximum field strength in restrict band is $89.9-44.8=45.1$ dBuV/m which is under 54dBuV/m limit.

Ch1



*RBW 300 kHz Delta 2 [T1]
*VBW 1 MHz -39.53 dB
SWT 5 ms -15.84000000 MHz

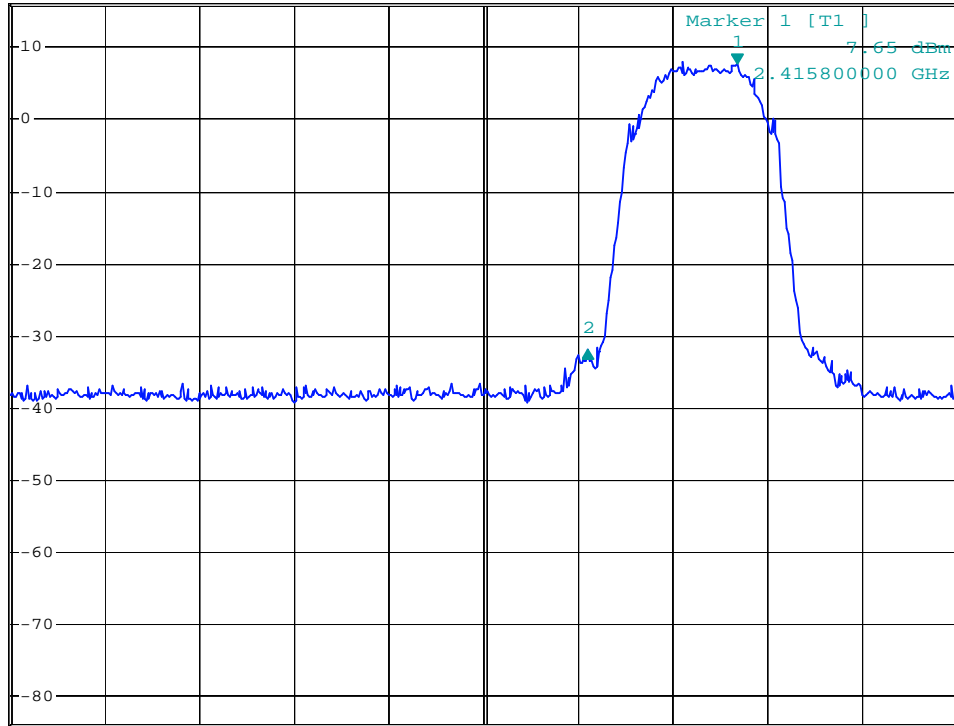
Ref 16 dBm

Att 50 dB

SWT 5 ms

-15.84000000 MHz

1 PK
MAXH



Center 2.389 GHz

10 MHz/

Span 100 MHz

UB-8H

Date: 6.AUG.2007 19:42:30

Ch11

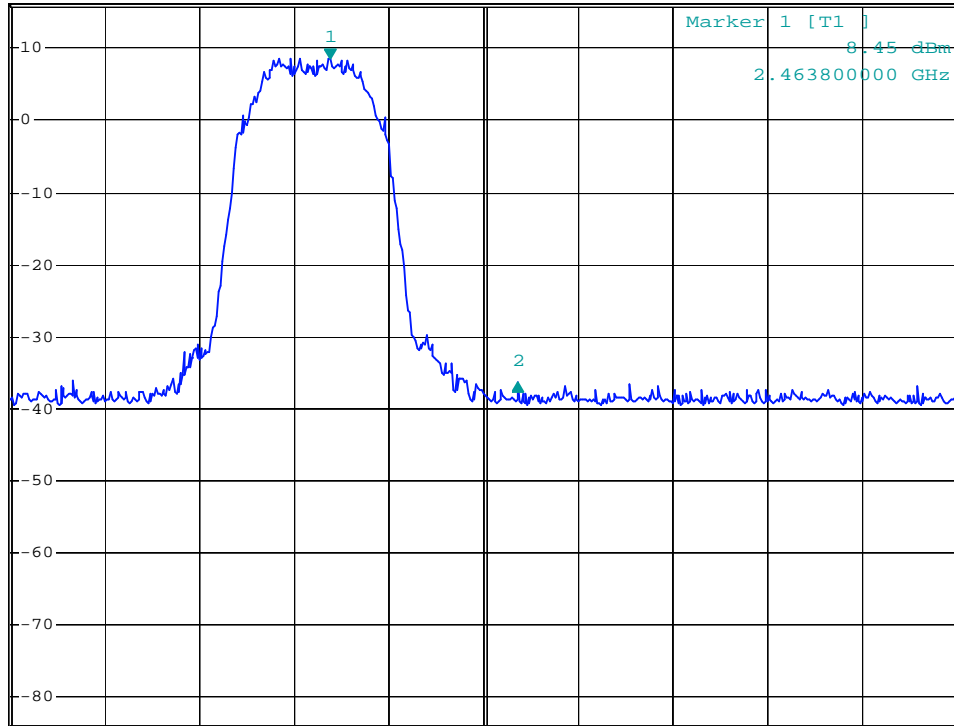


*RBW 300 kHz Delta 2 [T1]
VBW 1 MHz -44.86 dB
SWT 5 ms 19.80000000 MHz

Ref 16 dBm

Att 50 dB

1 PK
MAXH



Center 2.48 GHz

10 MHz/

Span 100 MHz

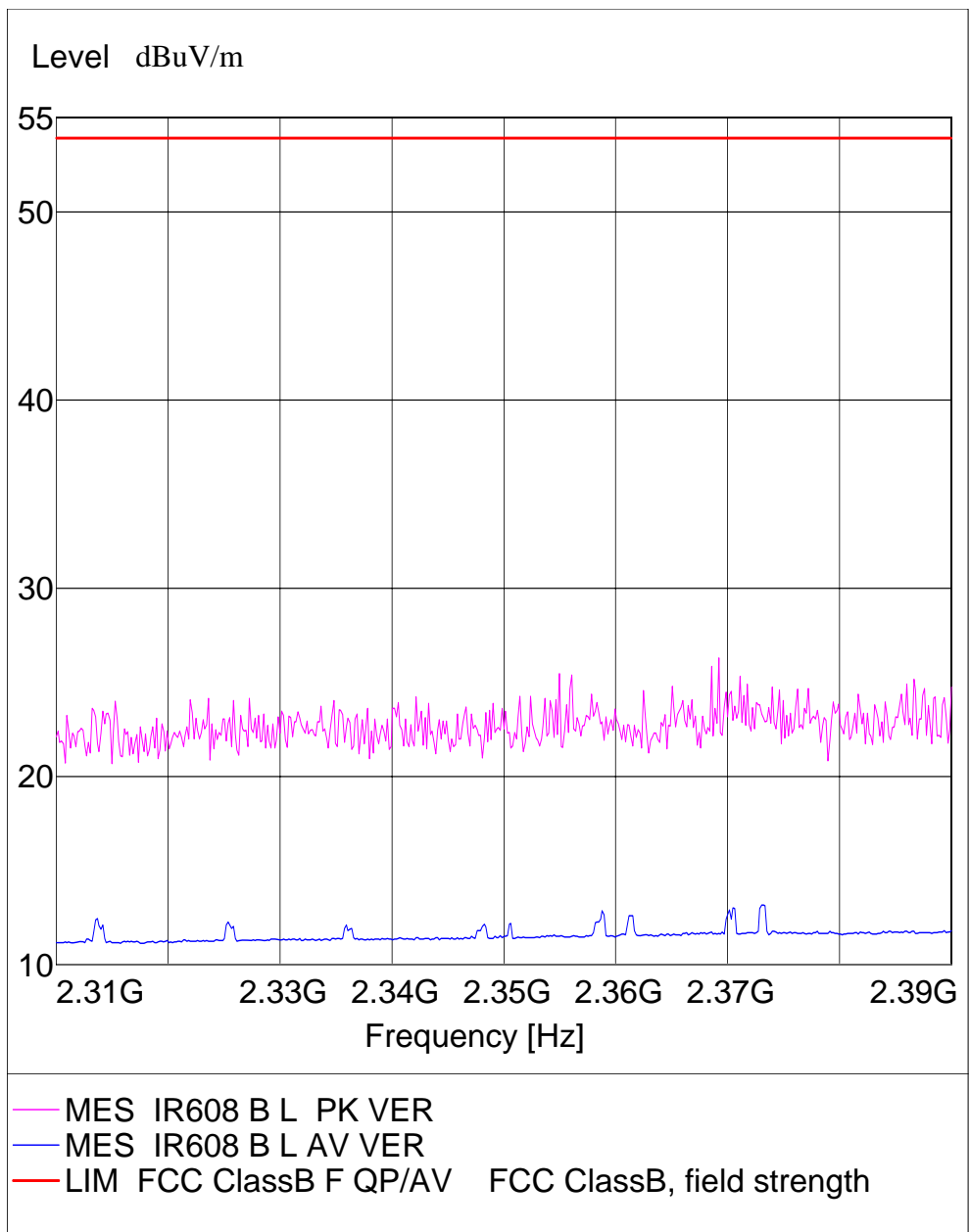
UB-8H

Date: 6.AUG.2007 19:10:10

The setting of the spectrum analyzer is
Detector=Peak RBW=1MHz RBW=3MHz
Detector=AV RBW=1MHz RBW=10Hz

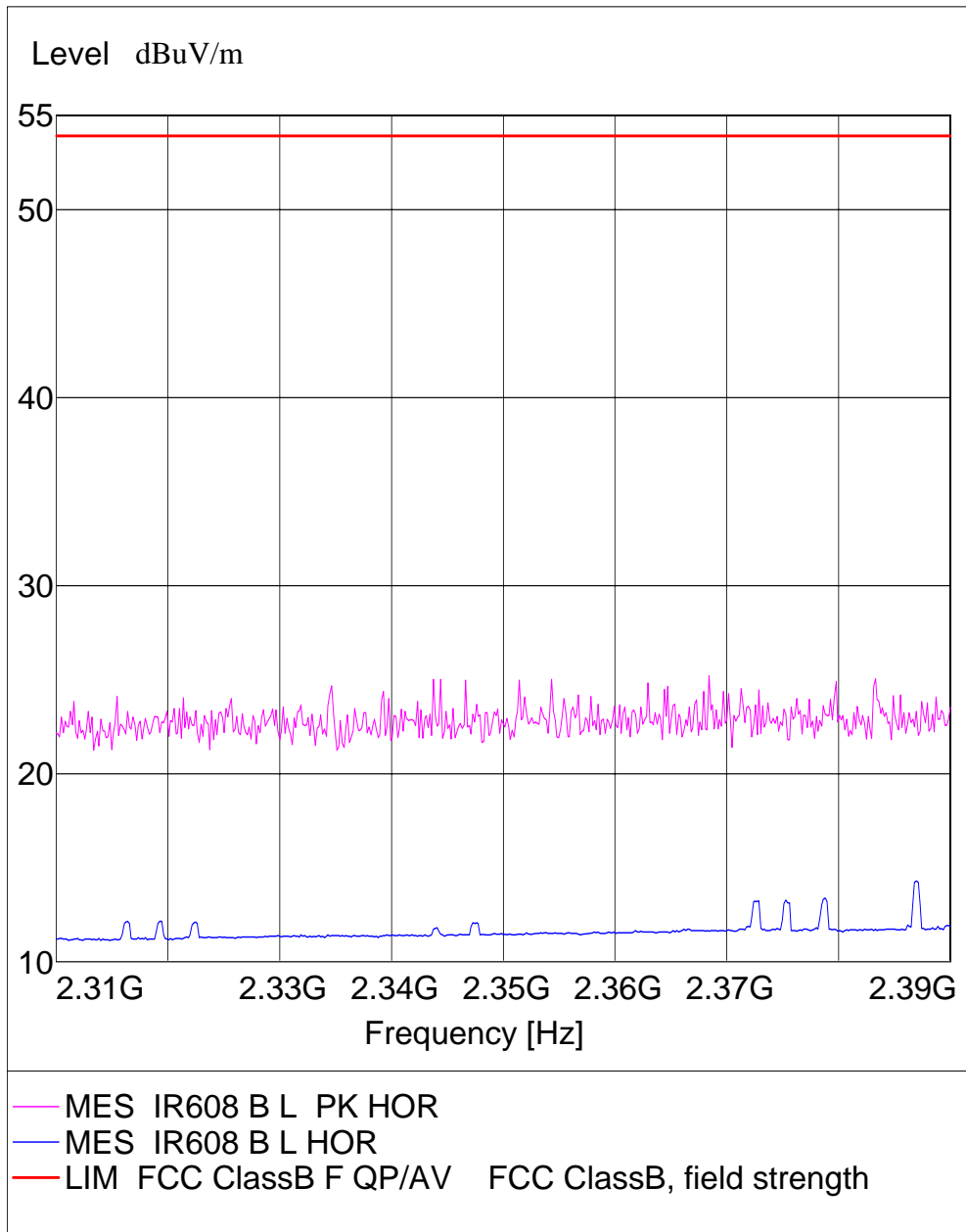
RADIATED EMISSION

EUT: IR608
Operating Condition: Ch1
Test Specification: Vertical



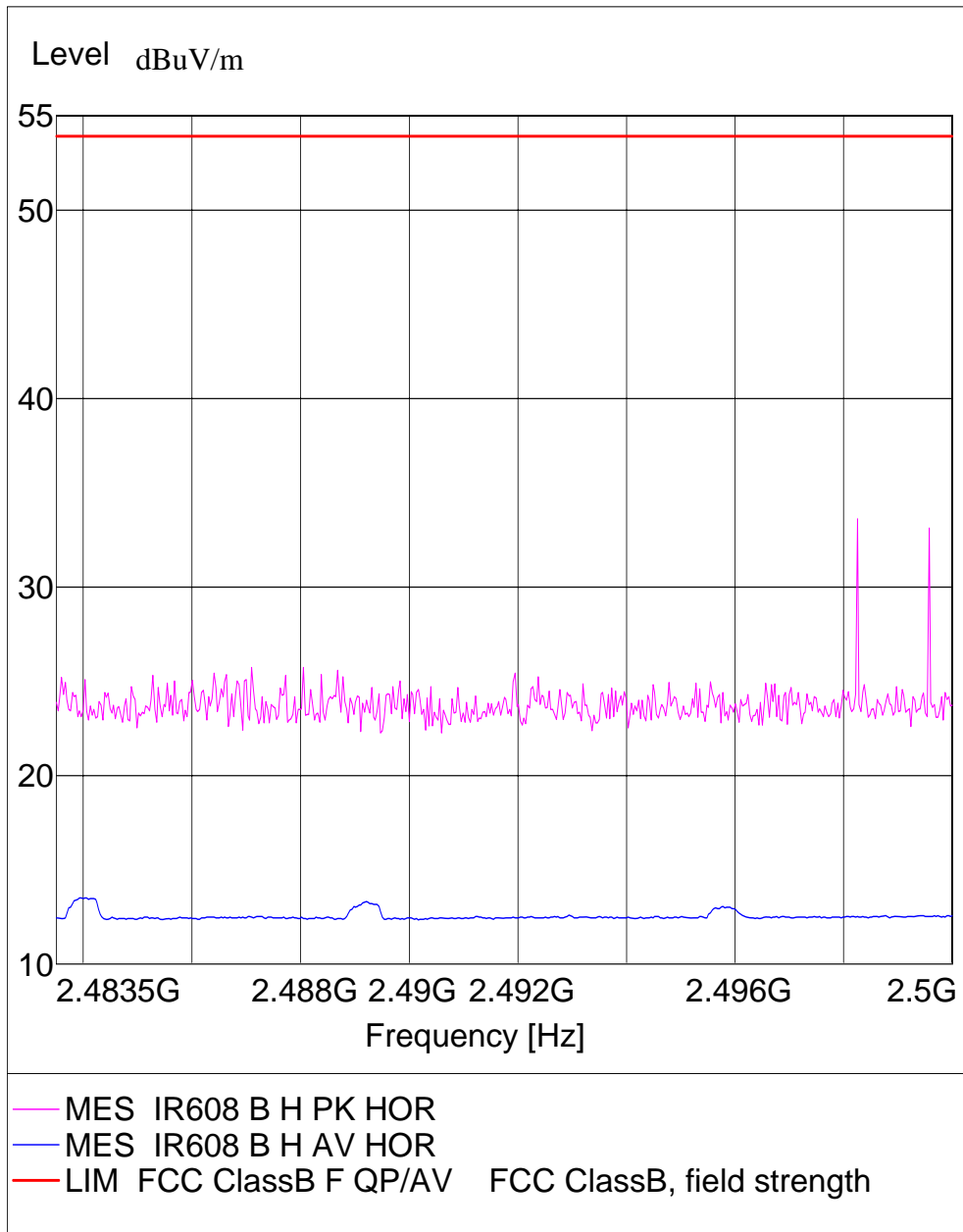
RADIATED EMISSION

EUT: IR608
Operating Condition: Ch1
Test Specification: Horizontal



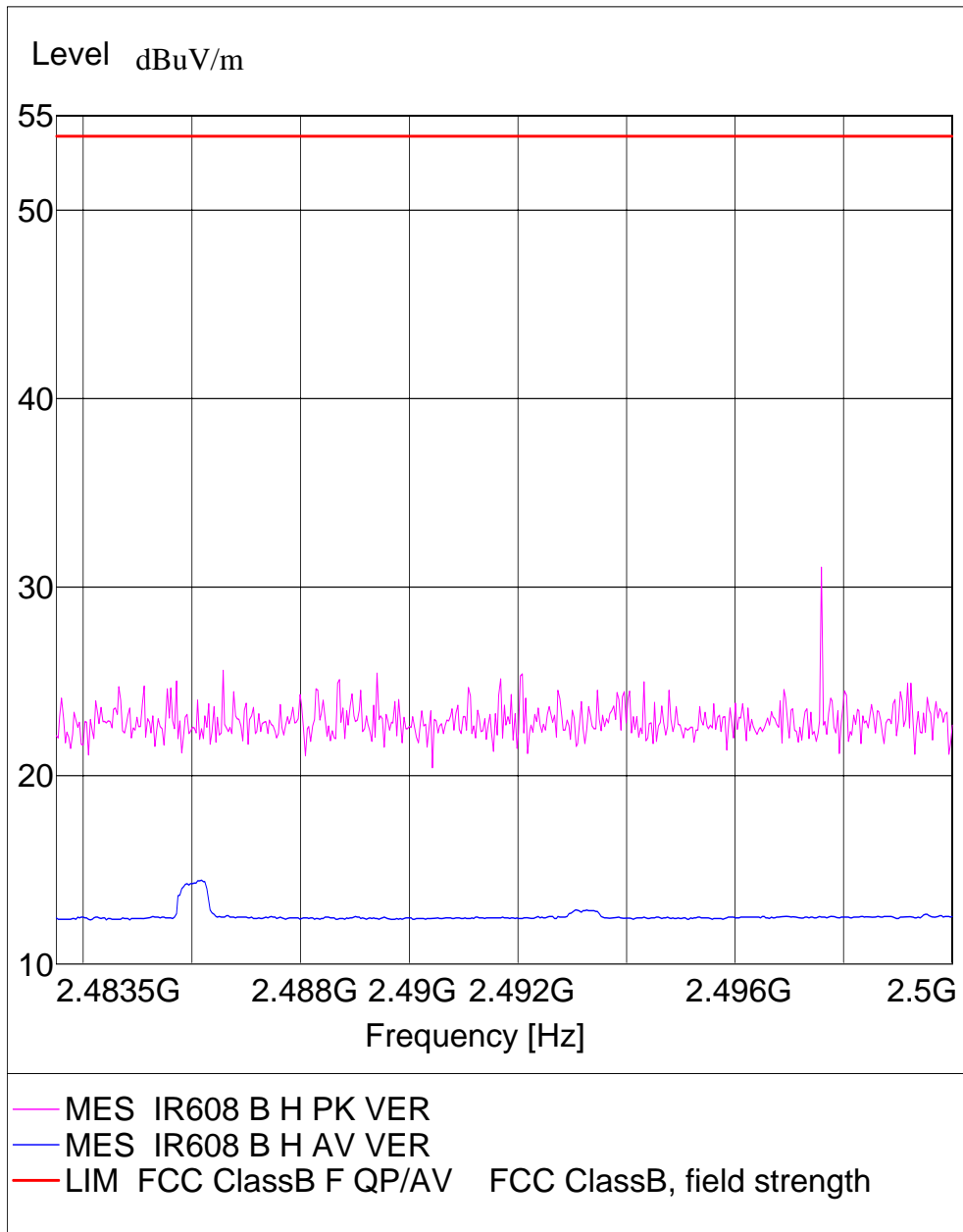
RADIATED EMISSION

EUT: IR608
Operating Condition: Ch11
Test Specification: Horizontal



RADIATED EMISSION

EUT: IR608
Manufacturer:
Operating Condition: Ch11
Test Specification: Vertical



11. ANTENNA REQUIREMENT

11.1. STANDARD APPLICABLE

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

11.2. ANTENNA CONNECTED CONSTRUCTION

The antenna used in this product is fixed on the enclosure. The maximum Gain of the antenna is 3.0dBi.

12. MPE CALCULATION

Maximum Power output: 2462MHz: 25.7mW (14.1dBm)

Max Antenna gain,: 3.0 dBi

One-half power: 11.1 dBm

Maximum EIRP from transmit antenna is $11.1 + 3.0 = 14.1$ dBm EIRP

To determine the overall exposure at 20 cm from the EUT.

The field strength contribution from each antenna is calculated using the equation

$E, \text{ V/m} = (30 * \text{EIRP, watts})^{0.5} / \text{separation distance}$

Maximum EIRP from transmit antenna is 14.1 dBm EIRP = 25.7mW EIRP

$S, \text{ mW/cm}^2 = E/3770$, E in V/m

Total exposure at 20cm: 0.0011 mW.cm²

FCC Limit: 1.0 mW/cm²

APPENDIX I TEST PHOTO

Photo 1 Conducted Emission Test

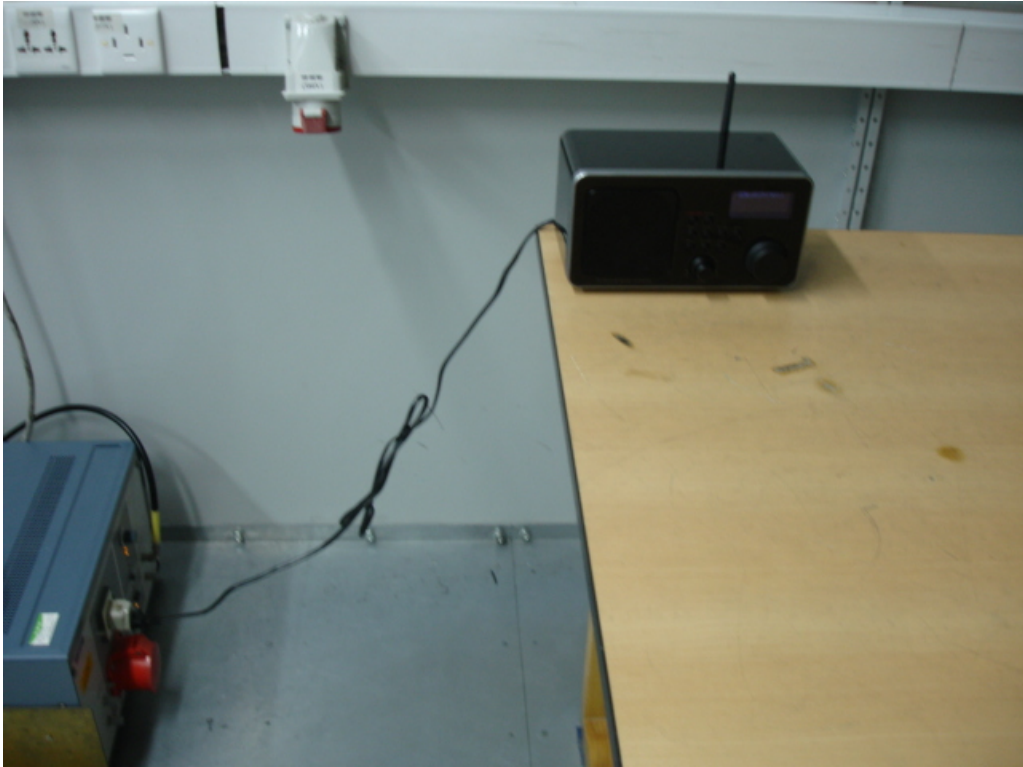


Photo 2 Radaited Emission Test



APPENDIX II EUT PHOTO

Photo 1 Appearance of EUT

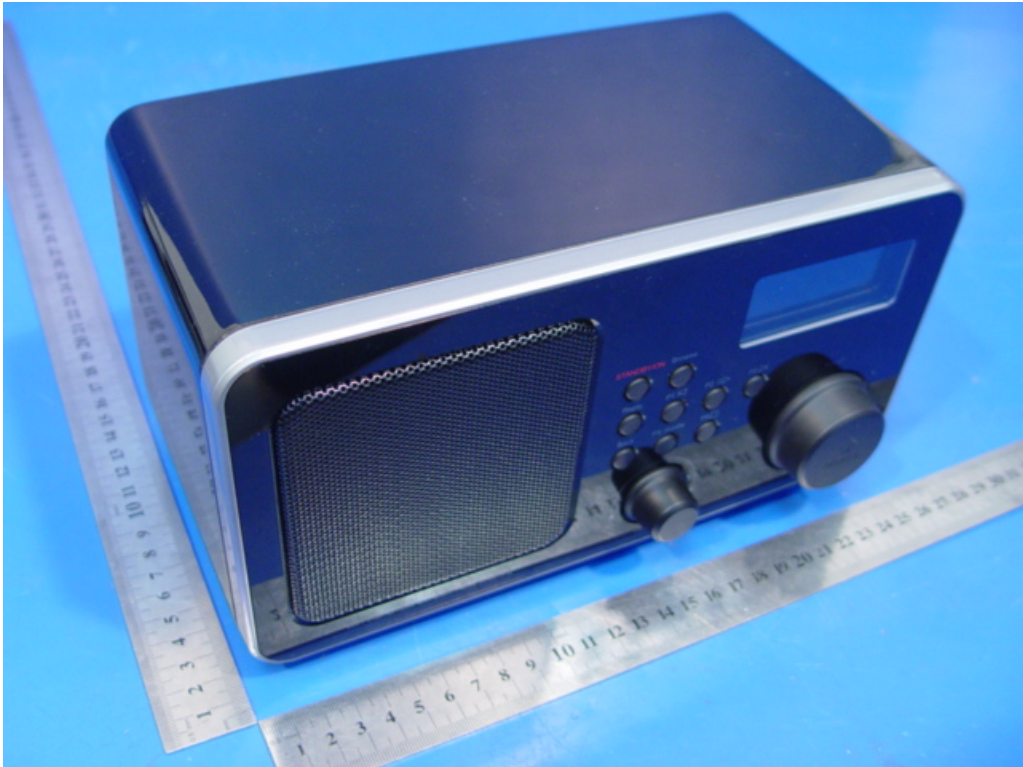


Photo 2 Appearance of EUT



Photo 3 Inside of EUT



Photo 4 Inside of EUT

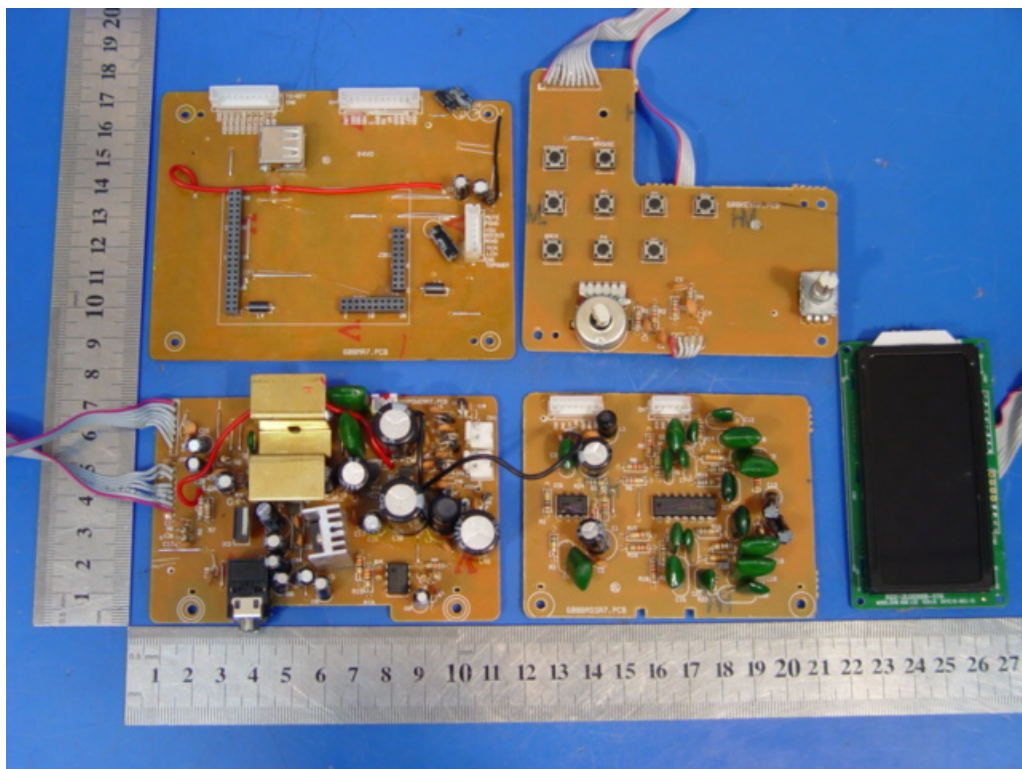


Photo 5 Inside of EUT

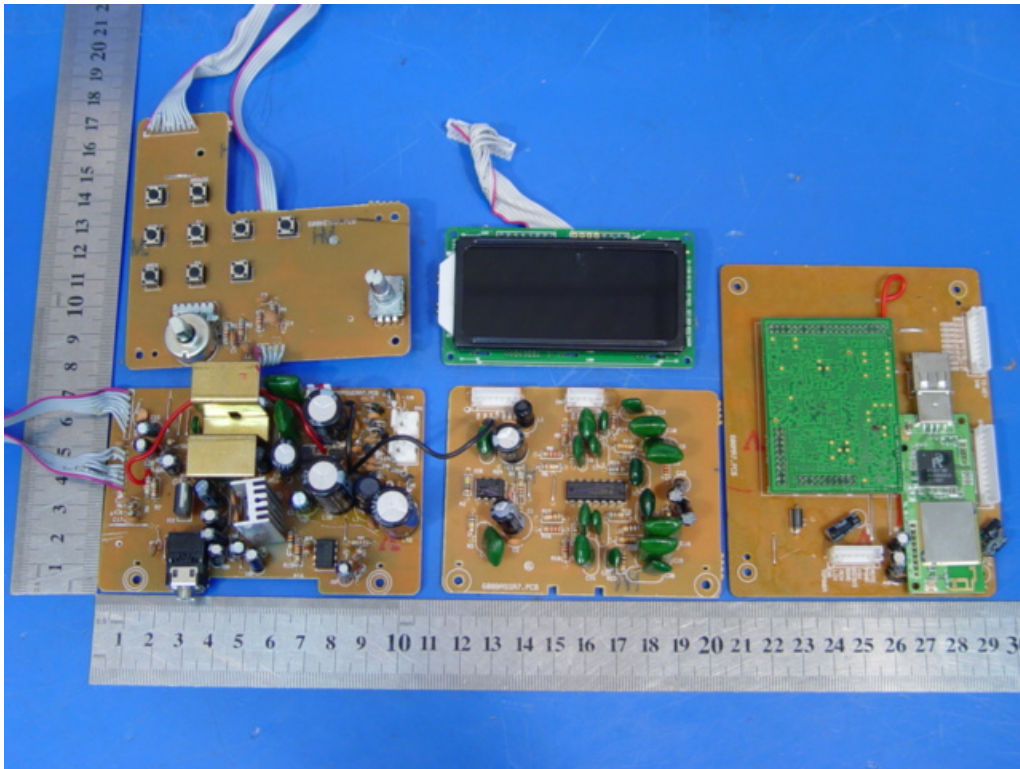


Photo 6 Inside of EUT

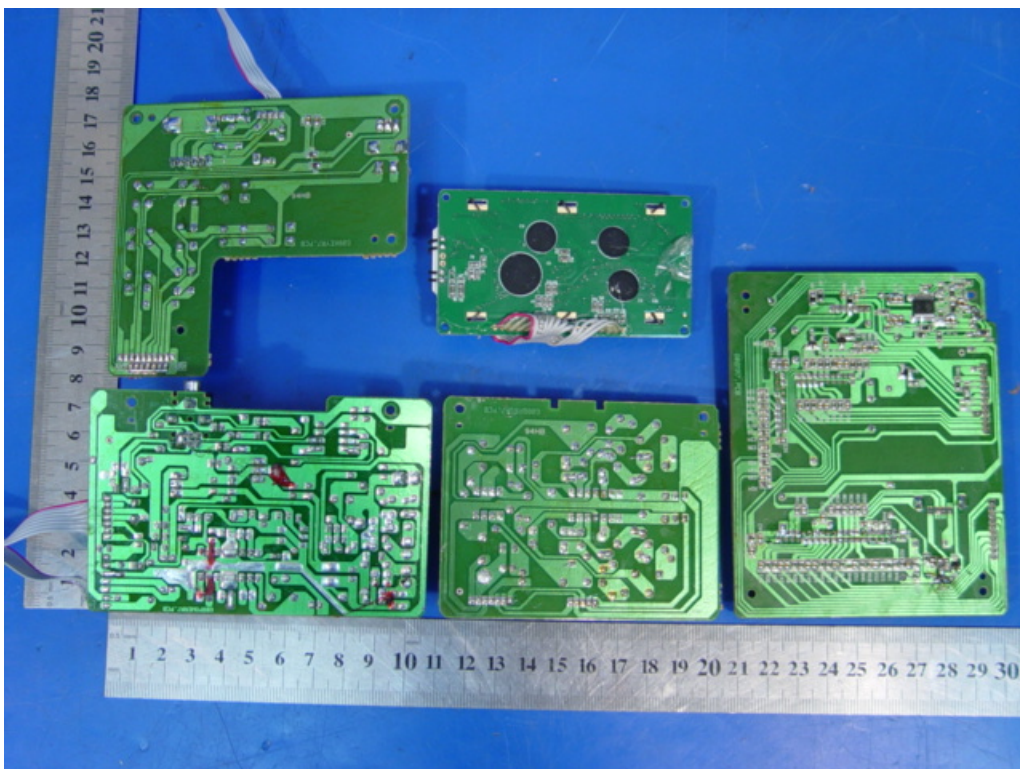


Photo 7 Inside of EUT

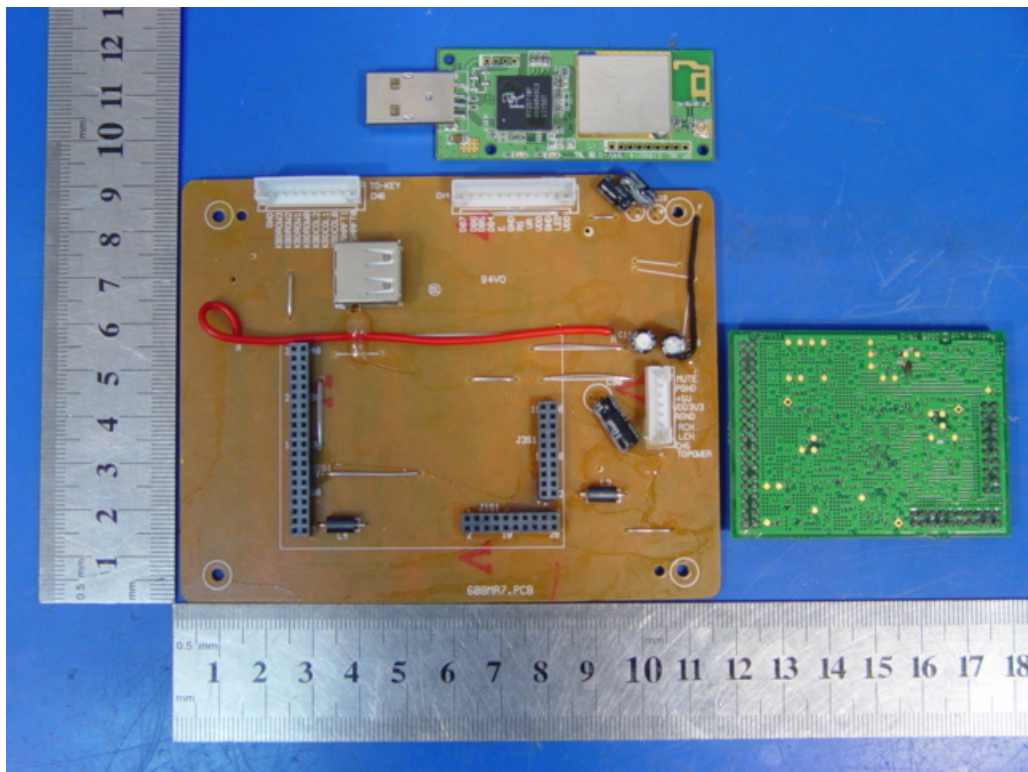


Photo 8 Inside of EUT

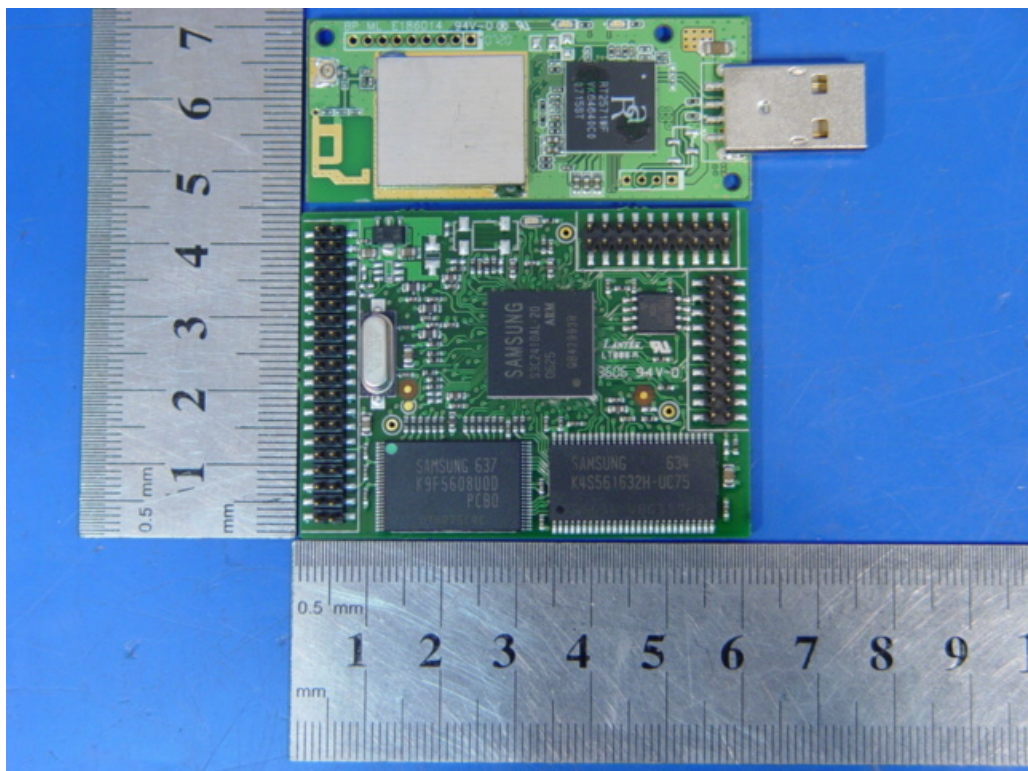


Photo 9 Inside of EUT

