



FCC PART 15 SUBPART C TEST REPORT

FCC PART 15.247

Report Reference No.....: **WE10060027**

FCC ID.....: **QISHG530X**

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Date of issue.....: July 12, 2010

Testing Laboratory Name: **Shenzhen Huatongwei International Inspection Co., Ltd**

Address: Keji Nan No.12 Road, Hi-tech Park, Shenzhen, China

Applicant's name.....: **HUAWEI TECHNOLOGIES CO.,LTD.**

Address: Administration Building, Huawei Base, Bantian, Longgang District, Shenzhen 518129 P.R.C.

Test specification:

Standard.....: **FCC Part 15.247: Operation within the bands 920-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz Direct Sequence System**

TRF Originator.....: Shenzhen Huatongwei International Inspection CO., Ltd

Master TRF.....: Dated 2006-06

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Test item description: Home Gateway

Trade Mark



Model/Type reference.....: HG530

Listed Models: /

Result.....: **Positive**

TEST REPORT

Test Report No. :	WE10060027	July 12, 2010
		Date of issue

Equipment under Test : Home Gateway

Model /Type : HG530

Listed Models : /

Applicant : **HUAWEI TECHNOLOGIES CO.,LTD.**

Address : Administration Building,Huawei Base,Bantian,Longgang District,Shenzhen 518129 P.R.C.

Manufacturer : **HUAWEI TECHNOLOGIES CO.,LTD.**

Address : Administration Building,Huawei Base,Bantian,Longgang District,Shenzhen 518129 P.R.C.

Test Result according to the standards on page 4:	Positive
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The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

Contents

<u>1.</u>	<u>TEST STANDARDS</u>	<u>4</u>
<u>2.</u>	<u>SUMMARY</u>	<u>5</u>
2.1.	General Remarks	5
2.2.	Equipment Under Test	5
2.3.	Short description of the Equipment under Test (EUT)	5
2.4.	EUT operation mode	5
2.5.	EUT configuration	5
2.6.	Related Submittal(s) / Grant (s)	6
2.7.	Modifications	6
2.8.	NOTE	6
<u>3.</u>	<u>TEST ENVIRONMENT.....</u>	<u>7</u>
3.1.	Address of the test laboratory	7
3.2.	Test Facility	7
3.3.	Environmental conditions	8
3.4.	Configuration of Tested System	8
3.5.	Test Description	9
3.6.	Statement of the measurement uncertainty	10
3.7.	Equipments Used during the Test	10
<u>4.</u>	<u>TEST CONDITIONS AND RESULTS.....</u>	<u>12</u>
4.1.	AC Power Conducted Emission	12
4.2.	Radiated Emission	17
4.3.	Maximum Peak Output Power	35
4.4.	Power Spectral Density	38
4.5.	Band Edge Compliance of RF Emission	46
4.6.	Spurious RF Conducted Emission	51
4.7.	6dB Bandwidth	58
4.8.	Antenna Requirement	72
<u>5.</u>	<u>TEST SETUP PHOTOS OF THE EUT</u>	<u>73</u>
<u>6.</u>	<u>EXTERNAL AND INTERNAL PHOTOS OF THE EUT</u>	<u>75</u>

1. TEST STANDARDS

The tests were performed according to following standards:

FCC Rules Part 15.247: Frequency Hopping, Direct Spread Spectrum and Hybrid Systems that are in operation within the bands of 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz.

ANSI C63.4-2009: American National Standard for Methods of Measurement of Radio-Noise Emissions From Low Voltage Electrical and Electronic Equipment in the Range of 9kHz to 40GHz.

ANSI C63.10: American National Standard for Testing Unlicensed Wireless Devices

2. SUMMARY

2.1. General Remarks

Date of receipt of test sample : Jun 27, 2010

Testing commenced on : Jun 27, 2010

Testing concluded on : July 12, 2010

2.2. Equipment Under Test

Power supply system utilised

Power supply voltage : 120V / 60 Hz 115V / 60Hz
 12 V DC 24 V DC
 Other (specified in blank below)

DC 12V Adapter from AC 120V/60Hz

Description of the test mode

IEEE 802.11b/g/n: Thirteen channels are provided to the EUT, but only eleventh channels used for USA.

Channel	Frequency(MHz)	Channel	Frequency(MHz)
1	2412	8	2447
2	2417	9	2452
3	2422	10	2457
4	2427	11	2462
5	2432	12	2467
6	2437	13	2472
7	2442		

2.3. Short description of the Equipment under Test (EUT)

2.4GHz (Home Gateway (HG530)) For more details, refer to the user's manual of the EUT.

The product has two kinds of patterns: Including the WPS function and non-WPS function. Two kinds of the patterns both have the outer coverings of picture frame and waterfall.

Serial number: Prototype

2.4. EUT operation mode

The EUT has been tested under typical operating condition. The Applicant provides AT command to control the EUT for staying in continuous transmitting and receiving mode for testing.

2.5. EUT configuration

The following peripheral devices and interface cables were connected during the measurement:

● - supplied by the manufacturer

○ - supplied by the lab

○ Power Cable Length (m) : /

Shield : /

Detachable : /

○ Multimeter Manufacturer : /

Model No. : /

● #1 AC Adapter

MODEL:FPS005USA-120050

INPUT:100-240V~50/60Hz 300mA

OUTPUT:12.0V DC 0.5A

Power Cable:150cm

◇ Shield ◆ Unshield

● #2 AC Adapter

MODEL:UE06L4-120050SPAU

INPUT:100-240V~50/60Hz 0.2A

OUTPUT:12.0V DC 0.5A

Power Cable:150cm

◇ Shield ◆ Unshield

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

This submittal(s) (test report) is intended for **FCC ID: QISHG530X** filing to comply with Section 15.247 of the FCC Part 15, Subpart C Rules.

2.7. Modifications

No modifications were implemented to meet testing criteria.

2.8. NOTE

1. The EUT is an 802.11b/g/n Home Gateway, The functions of the EUT listed as below:

	Test Standards	Reference Report
WLAN 802.11b/g, 802.11n	FCC Part 15 Subpart C (Section15.247)	WE10060027
WLAN 802.11b/g, 802.11n	FCC Part 15 Subpart B	SQE10060042

2. The frequency bands used in this EUT are listed as follows:

Frequency Band(MHz)	2400-2483.5	5150-5350	5470-5725	5725-5850
802.11b	√	—	—	—
802.11g	√	—	—	—
802.11n(20MHz)	√	—	—	—
802.11n(40MHz)	√	—	—	—

3. The EUT incorporates a SISO function, Physically, the EUT provides one completed transmitter and one completed receivers.

Modulation Mode	TX Function
802.11b	1TX
802.11g	1TX
802.11n (20MHz)	1TX
802.11n (40MHz)	1TX

3. TEST ENVIRONMENT

3.1. Address of the test laboratory

Shenzhen Huatongwei International Inspection Co., Ltd
Keji Nan No.12 Road, Hi-tech Park, Shenzhen, China
Phone: 86-755-26715686 Fax: 86-755-26748089

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 (2009) and CISPR Publication 22.

3.2. Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L1225

Shenzhen Huatongwei International Inspection Co., Ltd has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC 17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories, Date of Registration: August 02, 2007. Valid time is until March 29, 2012.

A2LA-Lab Cert. No. 2243.01

Shenzhen Huatongwei International Inspection Co., Ltd, EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing. Valid time is from Aug 24, 2005 to Oct 31, 2009.

FCC-Registration No.: 662850

Shenzhen Huatongwei International Inspection Co., Ltd, EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Registration 662850, Renewal date July 01, 2009.

IC-Registration No.: 5377

The 3m Alternate Test Site of Shenzhen Huatongwei International Inspection Co., Ltd has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 5377 on February 13th, 2011.

ACA

Shenzhen Huatongwei International Inspection Co., Ltd, EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our A2LA accreditation.

NEMKO-Aut. No.: ELA125

Shenzhen Huatongwei International Inspection Co., Ltd has been assessed the quality assurance system, the testing facilities, qualifications and testing practices of the relevant parts of the organization. The quality assurance system of the Laboratory has been validated against ISO/IEC 17025:2005 or equivalent. The laboratory also fulfils the conditions described in Nemko Document NLA-10, the Authorization is valid through April 25, 2009.

VCCI

The 3m Semi-anechoic chamber (12.2m×7.95m×6.7m) and Shielded Room (8m×4m×3m) of Shenzhen Huatongwei International Inspection Co., Ltd has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-2484. Date of Registration: December 20, 2006. Valid time is until December 19, 2009.

Main Ports Conducted Interference Measurement of Shenzhen Huatongwei International Inspection Co., Ltd has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: C-2726. Date of Registration: December 20, 2006. Valid time is until December 19, 2009.

DNV

Shenzhen Huatongwei International Inspection Co Ltd has been found to comply with the requirements of DNV towards subcontractor of EMC and safety testing services in conjunction with the EMC and Low voltage Directives and in the voluntary field. The acceptance is based on a formal quality Audit and follow-ups according to relevant parts of ISO/IEC Guide 17025(2005), in accordance with the requirements of the DNV Laboratory Quality Manual towards subcontractors. Valid time is until 09 July, 2010.

3.3. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	<u>15-35 ° C</u>
Humidity:	<u>30-60 %</u>
Atmospheric pressure:	<u>950-1050mbar</u>

3.4. Configuration of Tested System

Fig. 2-1 Configuration of Tested System

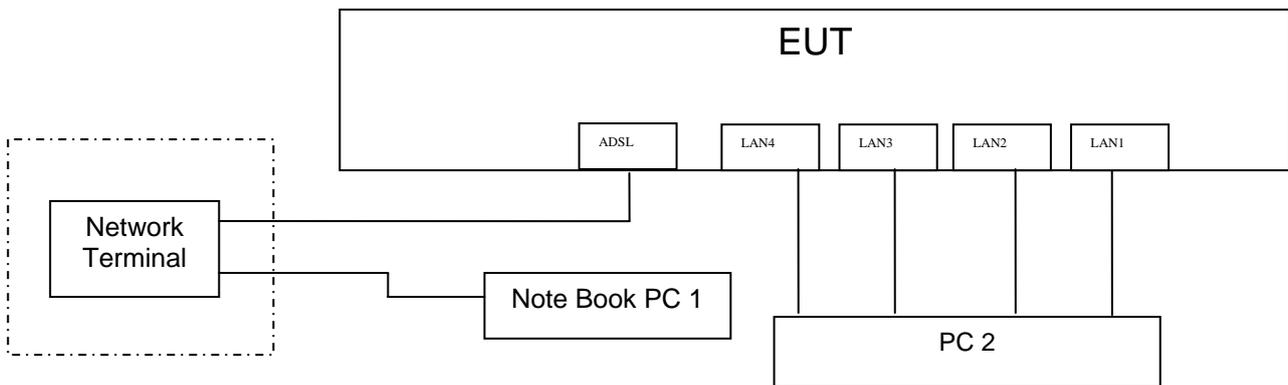


Table 2-1 Equipment Used in Tested System

No.	Product	Manufacturer	Model No.	Serial No.	FCC ID
1	Notebook PC 1	IBM	1843-2XL	LV-BLH05 06/02	FCC DoC
2	PC 2	IBM	8126KCF	L3DC575	FCC DoC
3	LCD Display	BenQ	FP71G ⁺	ETR7701900CL 0	CCC
4	Network Terminal	HUAWEI	MT5600A	61557010001-001	CE DoC

3.5. Test Description

FCC PART 15		
FCC Part 15.207	AC Power Conducted Emission	PASS
FCC Part 15.247(a)(2)	6dB Bandwidth	PASS
FCC Part 15.247(d)	Spurious RF Conducted Emission	PASS
FCC Part 15.247(b)	Maximum Peak Output Power	PASS
FCC Part 15.247(e)	Power Spectral Density	PASS
FCC Part 15.109/ 15.205/ 15.209	Radiated Emissions	PASS
FCC Part 15.247(d)	Band Edge Compliance of RF Emission	PASS
FCC Part 15.203/15.247 (b)	Antenna Requirement	PASS
FCC Part 1.1307 (b)	MPE Evaluation	PASS

Remark: The measurement uncertainty is not included in the test result.

Preliminary tests were performed in different data rate to find the worst radiated emission. The data rate shown in the table below is the worst-case rate with respect to the specific test item. Investigation has been done on all the possible configurations for searching the worst cases. The following table is a list of the test modes shown in this test report.

Test Items	Mode	Data Rate	Channel
AC Power Conducted Emission	Normal Link	11 Mbps	1
Maximum Peak Conducted Output Power Power Spectral Density 6dB Bandwidth Spurious RF conducted emission	11b/DSSS	11 Mbps	1/6/11
	11g/OFDM	54 Mbps	1/6/11
	11n(20MHz)/OFDM	65Mbps	1/6/11
	11n(40MHz)/OFDM	135 Mbps	3/6/9
Radiated Emission 9kHz~1GHz	11b/DSSS	11 Mbps	1/6/11
	11g/OFDM	54 Mbps	1/6/11
	11n(20MHz)/OFDM	65 Mbps	1/6/11
	11n(40MHz)/OFDM	135 Mbps	3/6/9
Radiated Emission 1GHz~10th Harmonic	11b/DSSS	11 Mbps	1/6/11
	11g/OFDM	54 Mbps	1/6/11
	11n(20MHz)/OFDM	65 Mbps	1/6/11
	11n(40MHz)/OFDM	135 Mbps	3/6/9
Band Edge Compliance of RF Emission	11b/DSSS	11 Mbps	1/11
	11g/OFDM	54 Mbps	1/11
	11n(20MHz)/OFDM	65Mbps	1/11
	11n(40MHz)/OFDM	135 Mbps	3/9

3.6. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 „Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements“ and is documented in the Shenzhen Huatongwei International Inspection Co., Ltd quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Shenzhen Huatongwei laboratory is reported:

Test	Range	Measurement Uncertainty	Notes
Radiated Emission	30~1000MHz	4.24 dB	(1)
Radiated Emission	1~18GHz	5.16 dB	(1)
Radiated Emission	18-40GHz	5.54 dB	(1)
Conducted Disturbance	0.15~30MHz	3.39 dB	(1)

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

3.7. Equipments Used during the Test

AC Power Conducted Emission					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI TEST RECEIVER	ROHDE & SCHWARZ	ESCS30	100038	2009/11
2	ARTIFICIAL MAINS	ROHDE & SCHWARZ	ESH2-Z5	100028	2009/11
3	PULSE LIMITER	ROHDE & SCHWARZ	ESHSZ2	100044	2009/11
4	EMI TEST SOFTWARE	ROHDE & SCHWARZ	ES-K1 1.71	N/A	2009/11
5	L.I.S.N	ROHDE & SCHWARZ	ESH3-Z5	831.5518.52	2009/11

Radiated Emission					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	ULTRA-BROADBAND ANTENNA	ROHDE & SCHWARZ	HL562	100015	2010/05
2	EMI TEST RECEIVER	ROHDE & SCHWARZ	ESI 26	100009	2009/11
3	RF TEST PANEL	ROHDE & SCHWARZ	TS / RSP	335015/ 0017	2009/11
4	TURNTABLE	ETS	2088	2149	2009/11
5	ANTENNA MAST	ETS	2075	2346	2009/11
6	EMI TEST OFTWARE	ROHDE & SCHWARZ	ESK1	N/A	2009/11
7	HORN ANTENNA	ROHDE &SCHWARZ	HF906	100039	2009/11
8	Amplifer	Sonoma	310N	E009-13	2009/11
9	JS amplifier	ROHDE &SCHWARZ	JS4-00101800-28-5A	F201504	2009/11
10	High pass filter	Compliance Direction systems	BSU-6	34202	2010/03

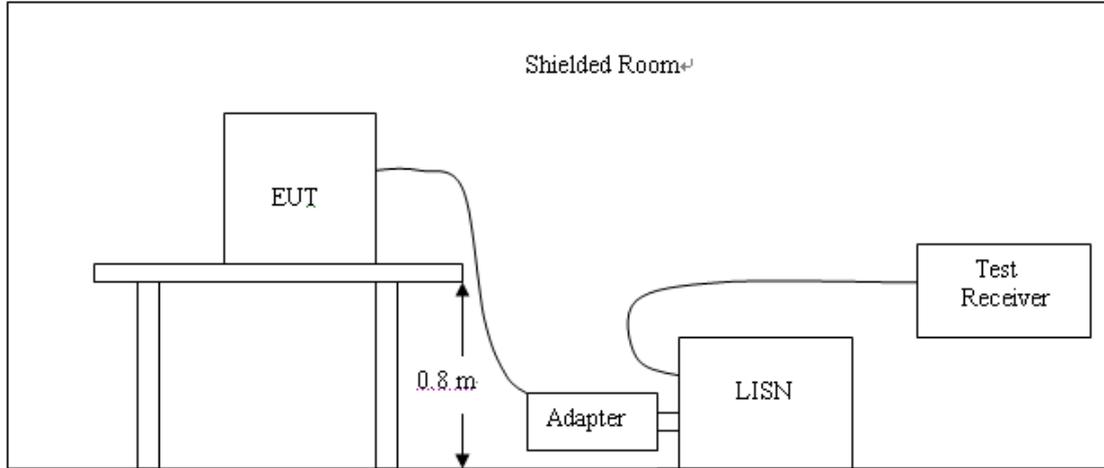
Maximum Peak Output Power / Power Spectral Density / 6dB Bandwidth / Band Edge Compliance of RF Emission / Spurious RF Conducted Emission

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI TEST RECEIVER	ROHDE & SCHWARZ	ESI 26	100009	2009/11
2	Power Meter	Anritsu	ML2487A	6K00001568	2009/11
3	Power Meter Sensor	Anritsu	ML2491A	0630989	2009/11

4. TEST CONDITIONS AND RESULTS

4.1. AC Power Conducted Emission

TEST CONFIGURATION



TEST PROCEDURE

- 1 The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4-2009.
- 2 Support equipment, if needed, was placed as per ANSI C63.4-2009
- 3 All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4-2009
- 4 The EUT received DC12V power from the adapter, the adapter received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
- 5 All support equipments received AC power from a second LISN, if any.
- 6 The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7 Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.
- 8 During the above scans, the emissions were maximized by cable manipulation.

AC Power Conducted Emission Limit

For intentional device, according to § 15.207(a) AC Power Conducted Emission Limits is as following :

Frequency (MHz)	Maximum RF Line Voltage (dBµV)			
	CLASS A		CLASS B	
	Q.P.	Ave.	Q.P.	Ave.
0.15 - 0.50	79	66	66-56*	56-46*
0.50 - 5.00	73	60	56	46
5.00 - 30.0	73	60	60	50

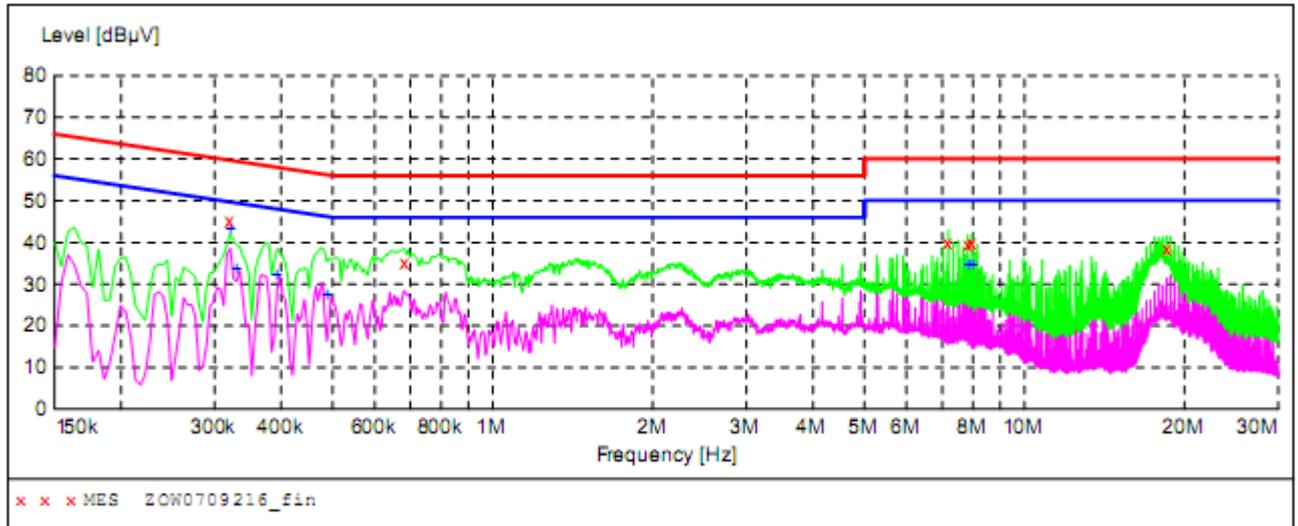
* Decreasing linearly with the logarithm of the frequency

TEST RESULTS

For #1 AC Adapter

SCAN TABLE: "Voltage (9K-30M)FIN"

Short Description: 150K-30M Voltage



MEASUREMENT RESULT: "ZOW0709216_fin"

7/9/2010 5:27PM

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.321000	45.00	10.1	60	14.7	QP	N	GND
0.685500	35.20	10.1	56	20.8	QP	N	GND
7.188000	40.00	10.3	60	20.0	QP	N	GND
7.827000	39.20	10.4	60	20.8	QP	N	GND
7.984500	40.00	10.4	60	20.0	QP	N	GND
18.514500	38.50	10.6	60	21.5	QP	N	GND

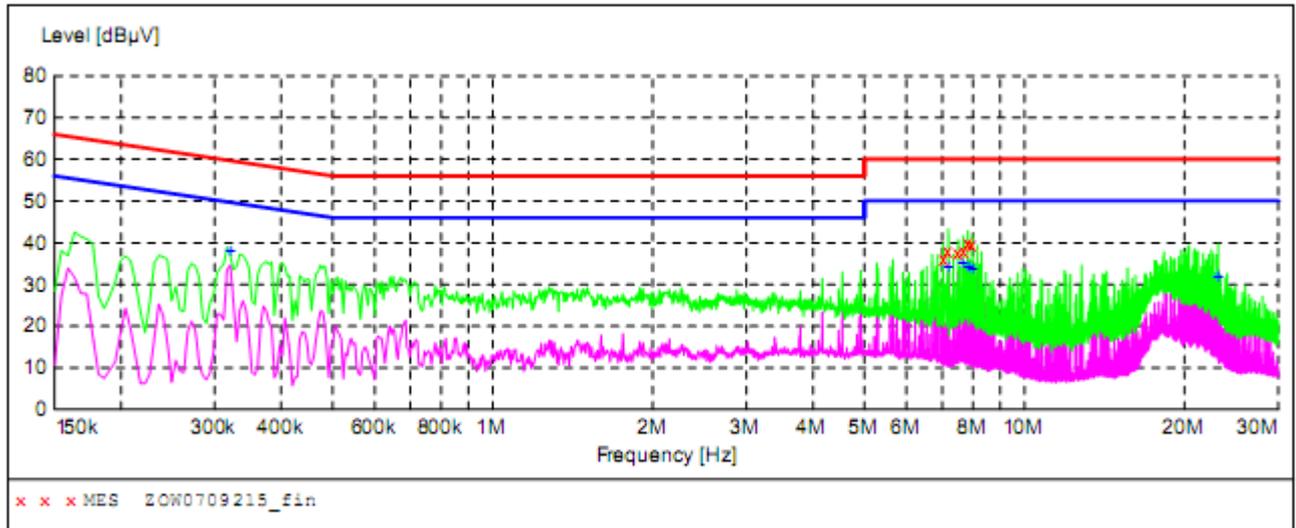
MEASUREMENT RESULT: "ZOW0709216_fin2"

7/9/2010 5:27PM

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.321000	43.10	10.1	50	6.6	AV	N	GND
0.330000	33.70	10.1	50	15.8	AV	N	GND
0.393000	32.10	10.1	48	15.9	AV	N	GND
0.487500	27.40	10.1	46	18.8	AV	N	GND
7.827000	34.60	10.4	50	15.4	AV	N	GND
7.984500	34.60	10.4	50	15.4	AV	N	GND

SCAN TABLE: "Voltage (9K-30M)FIN"

Short Description: 150K-30M Voltage



MEASUREMENT RESULT: "ZOW0709215_fin"

7/9/2010 5:16PM

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
7.026000	36.00	10.2	60	24.0	QP	L1	GND
7.188000	38.00	10.3	60	22.0	QP	L1	GND
7.507500	37.30	10.3	60	22.7	QP	L1	GND
7.665000	38.20	10.3	60	21.8	QP	L1	GND
7.827000	40.10	10.4	60	19.9	QP	L1	GND
7.984500	39.60	10.4	60	20.4	QP	L1	GND

MEASUREMENT RESULT: "ZOW0709215_fin2"

7/9/2010 5:16PM

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.321000	38.20	10.1	50	11.5	AV	L1	GND
7.188000	34.30	10.3	50	15.7	AV	L1	GND
7.665000	35.20	10.3	50	14.8	AV	L1	GND
7.827000	34.30	10.4	50	15.7	AV	L1	GND
7.984500	33.60	10.4	50	16.4	AV	L1	GND
23.127000	31.80	10.7	50	18.2	AV	L1	GND

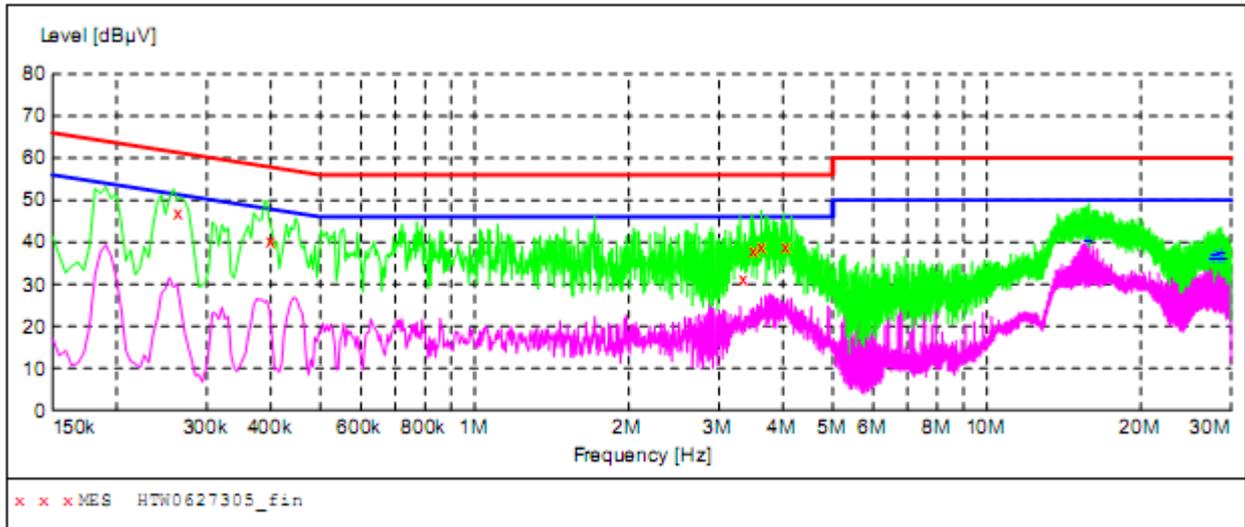
REMARKS :

1. Margin value = Limit value- Emission level
2. The EUT was set to be normal operation condition. Each Ethernet port was connected and data pay lead was transmitted at highest data rate. The RF chip can be operated in 802.11g and 802.11b and 802.11n mode. The rf chip will detect the environment and select the proper mode automatically. The WLAN function was set to normal operation condition.

For #2 AC Adapter

SCAN TABLE: "Voltage (9K-30M)FIN"

Short Description: 150K-30M Voltage



MEASUREMENT RESULT: "HTW0627305_fin"

6/27/2010 4:18PM

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.262500	46.90	10.1	61	14.5	QP	L1	GND
0.397500	40.00	10.1	58	17.9	QP	L1	GND
3.336000	31.20	10.2	56	24.8	QP	L1	GND
3.502500	38.00	10.2	56	18.0	QP	L1	GND
3.633000	39.00	10.2	56	17.0	QP	L1	GND
4.033500	38.60	10.2	56	17.4	QP	L1	GND

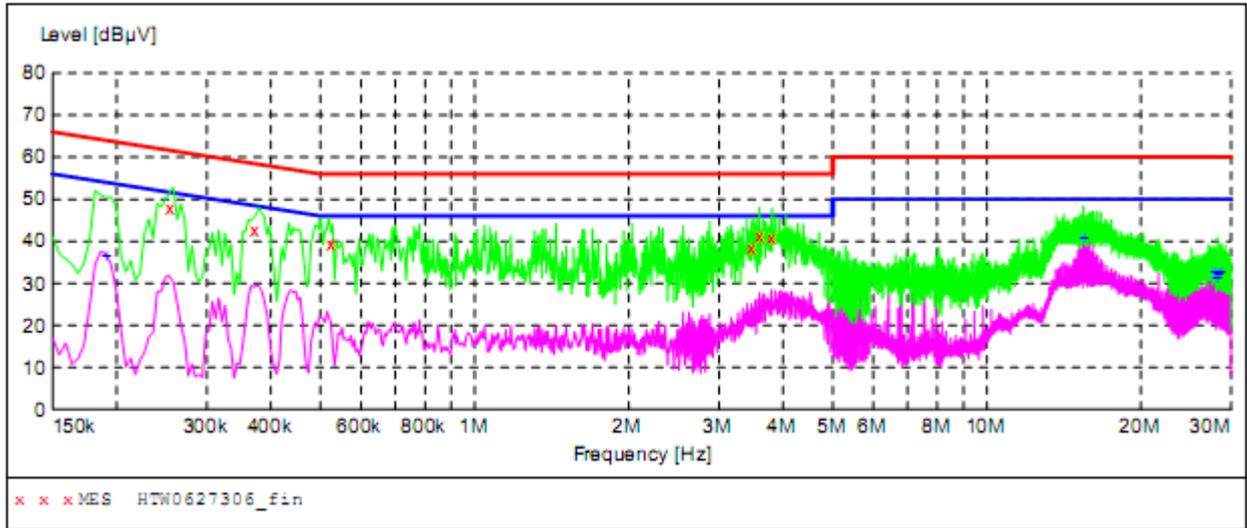
MEASUREMENT RESULT: "HTW0627305_fin2"

6/27/2010 4:18PM

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
15.823500	40.10	10.7	50	9.9	AV	L1	GND
27.658500	36.00	11.0	50	14.0	AV	L1	GND
27.915000	36.70	11.0	50	13.3	AV	L1	GND
28.297500	36.10	11.1	50	13.9	AV	L1	GND
28.684500	37.20	11.1	50	12.8	AV	L1	GND
28.945500	35.90	11.1	50	14.1	AV	L1	GND

SCAN TABLE: "Voltage (9K-30M)FIN"

Short Description: 150K-30M Voltage



MEASUREMENT RESULT: "HTW0627306_fin"

6/27/2010 4:22PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.253500	47.80	10.1	62	13.8	QP	N	GND
0.370500	42.70	10.1	59	15.8	QP	N	GND
0.523500	39.20	10.1	56	16.8	QP	N	GND
3.462000	38.20	10.2	56	17.8	QP	N	GND
3.588000	41.20	10.2	56	14.8	QP	N	GND
3.804000	40.70	10.2	56	15.3	QP	N	GND

MEASUREMENT RESULT: "HTW0627306_fin2"

6/27/2010 4:22PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.190500	36.20	10.1	54	17.8	AV	N	GND
15.436500	40.60	10.7	50	9.4	AV	N	GND
27.915000	32.50	11.0	50	17.5	AV	N	GND
28.045500	31.20	11.0	50	18.8	AV	N	GND
28.297500	31.90	11.1	50	18.1	AV	N	GND
28.684500	32.80	11.1	50	17.2	AV	N	GND

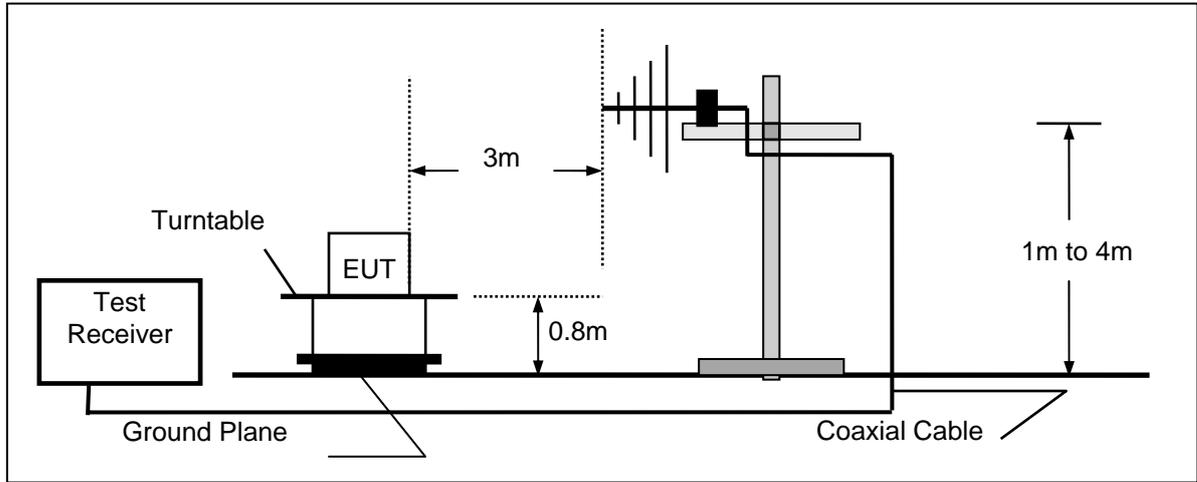
REMARKS :

1. Margin value = Limit value- Emission level
2. The EUT was set to be normal operation condition. Each Ethernet port was connected and data pay lead was transmitted at highest data rate. The RF chip can be operated in 802.11g and 802.11b and 802.11n mode. The rf chip will detect the environment and select the proper mode automatically. The WLAN function was set to normal operation condition.

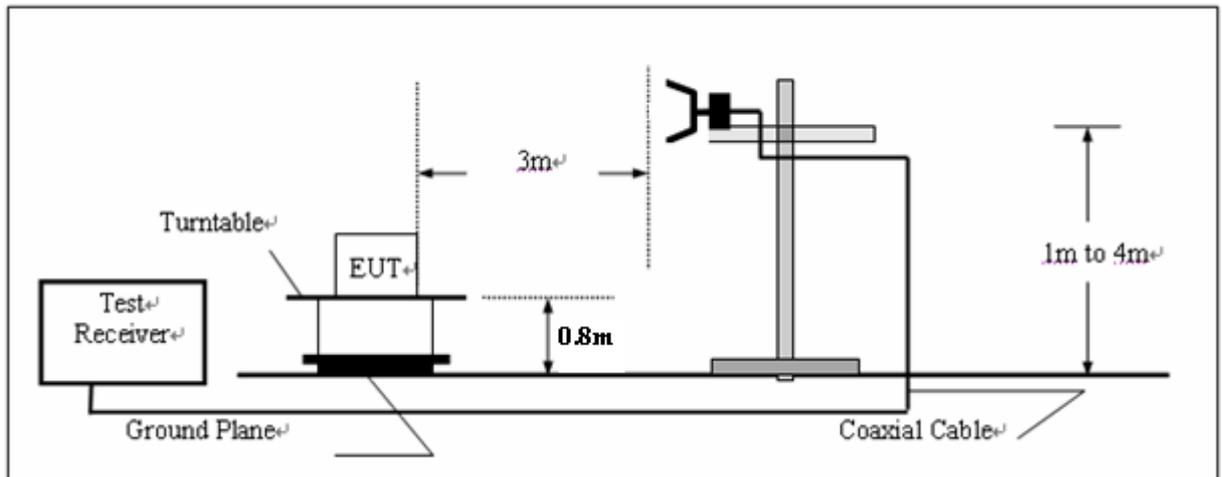
4.2. Radiated Emission

TEST CONFIGURATION

(a) Radiated Emission Test Set-Up, Frequency below 1000MHz



(b) Radiated Emission Test Set-Up, Frequency above 1000MHz



TEST PROCEDURE

- 1 The EUT was placed on a turn table which is 0.8m above ground plane.
- 2 Maximum procedure was performed by raising the receiving antenna from 1m to 4m and rotating the turn table from 0° to 360° to acquire the highest emissions from EUT
3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
4. Repeat above procedures until all frequency measurements have been completed.

Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor(if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CL + AG$$

Where FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
RA = Reading Amplitude	AG = Amplifier Gain
AF = Antenna Factor	

RADIATION LIMIT

For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emission from intentional radiators at a distance of 3 meters shall not exceed the following table. According to § 15.247(d), in any 100kHz bandwidth outside the frequency band in which the EUT is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of desired power.

Frequency (MHz)	Distance (Meters)	Radiated (dBµV/m)	Radiated (µV/m)
30-88	3	40.0	100
88-216	3	43.5	150
216-960	3	46.0	200
Above 960	3	54.0	500

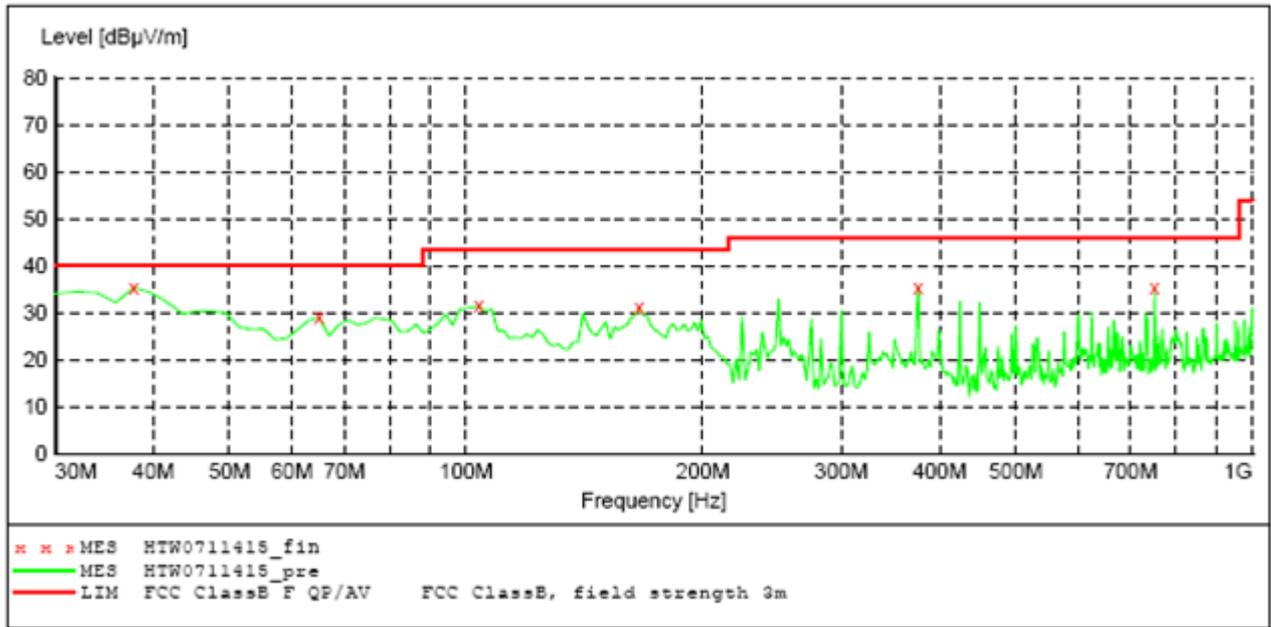
TEST RESULTS

The radiated measurement are performed the each test mode (b/g/n) and channel (low/mid/high), the datum recorded below (802.11b mode,the middle channel) is the worst case for all the test mode and channel.

For #1 AC Adapter

SCAN TABLE: "test Field(30M-1G)QP"

Short Description: Field Strength(30M-1G)
 Start Stop Step Detector Meas. IF Transducer
 Frequency Frequency Width Time Bandw.
 30.0 MHz 1.0 GHz 60.0 kHz QuasiPeak 1.0 s 120 kHz HL562 09



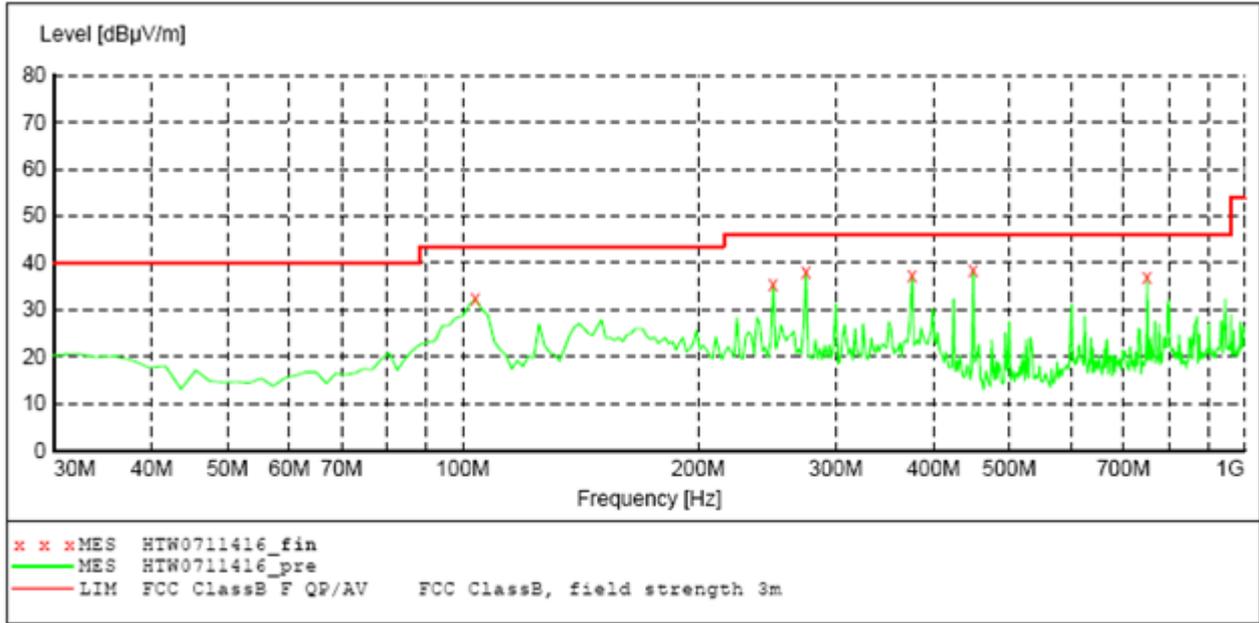
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Dete ctor	RAW (dBuV/ m)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)	Polari- zation
37.77	35.40	40.00	4.6	100	QP	44.5	17.5	5.2	-31.80	-9.1	V
64.98	29.10	40.00	10.9	150	QP	47.5	6.8	6.7	-31.90	-18.4	V
103.86	31.60	43.50	11.9	100	QP	45.5	11.5	6.5	-31.90	-13.9	V
166.07	31.30	43.50	12.2	150	QP	49.1	7.4	6.8	-32.00	-17.8	V
376.01	35.60	46.00	10.4	150	QP	45.3	14.2	8	-31.90	-9.7	V
751.18	35.50	46.00	10.5	150	QP	38.0	19.3	10	-31.80	-2.5	V

REMARKS :

- *Undetectable
- The IF bandwidth of EMI Test Receiver was 120KHz for measuring from 30 MHz to 1 GHz and 1 MHz for measuring above 1 GHz
- The Transd=Cabel loss +Antenna factor +pre-amplifier factor

SCAN TABLE: "test Field(30M-1G)QP"

Short Description: Field Strength(30M-1G)
 Start Stop Step Detector Meas. IF Transducer
 Frequency Frequency Width Time Bandw.
 30.0 MHz 1.0 GHz 60.0 kHz QuasiPeak 1.0 s 120 kHz HL562 09



Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Dete ctor	RAW (dBuV/ m)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)	Polari- zation
103.86	32.30	43.50	11.2	300	QP	46.2	11.8	6.2	-31.9	-13.9	H
249.65	35.40	46.00	10.6	100	QP	48.2	10.5	8.6	-31.9	-12.8	H
274.92	38.10	46.00	7.9	100	QP	50.5	11.2	8.3	-31.9	-12.4	H
376.01	37.20	46.00	8.8	100	QP	46.9	14.2	8.0	-31.9	-9.7	H
449.87	38.60	46.00	7.4	100	QP	47.6	14.5	8.5	-32.0	-9.0	H
751.18	36.90	46.00	9.1	100	QP	39.4	19.3	10.0	-31.8	-2.5	H

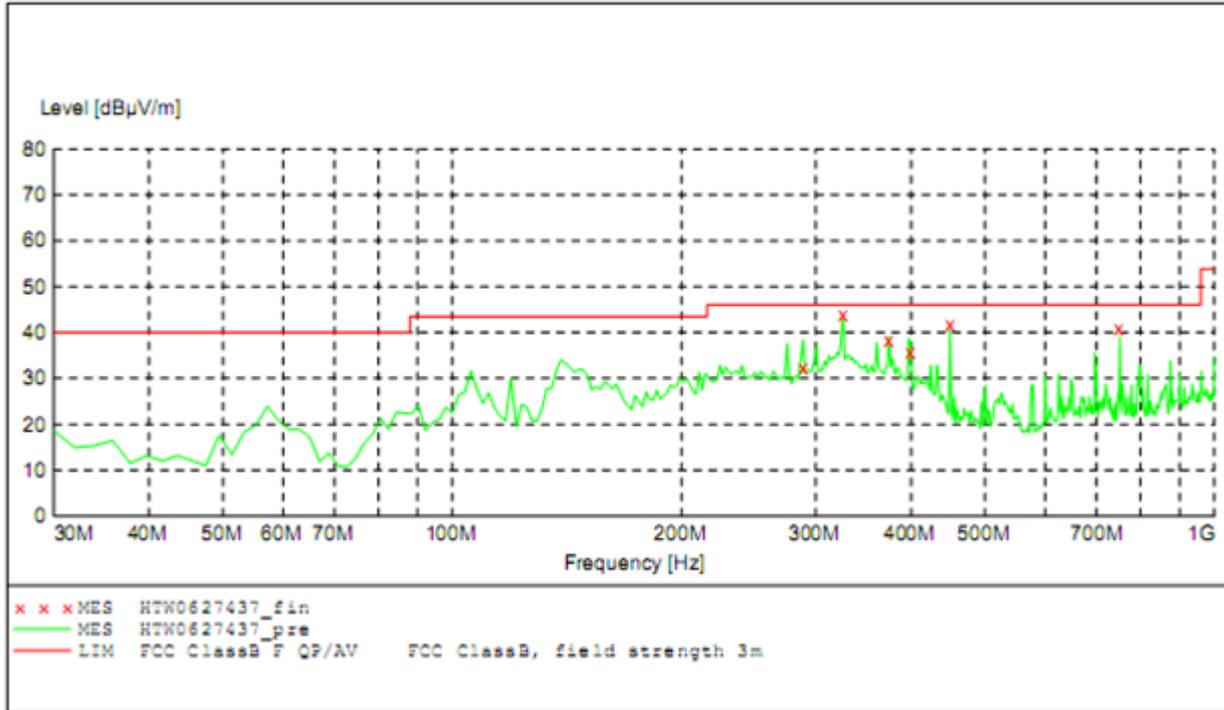
REMARKS :

- *Undetectable
- The IF bandwidth of EMI Test Receiver was 120KHz for measuring from 30 MHz to 1 GHz and 1 MHz for measuring above 1 GHz
- The Transd=Cabel loss +Antenna factor +pre-amplifier factor

For #2 AC Adapter

SCAN TABLE: "test Field(30M-1G)QP"

Short Description: Field Strength(30M-1G)
 Start Stop Step Detector Meas. IF Transducer
 Frequency Frequency Width Time Bandw.
 30.0 MHz 1.0 GHz 60.0 kHz QuasiPeak 1.0 s 120 kHz HL562 09



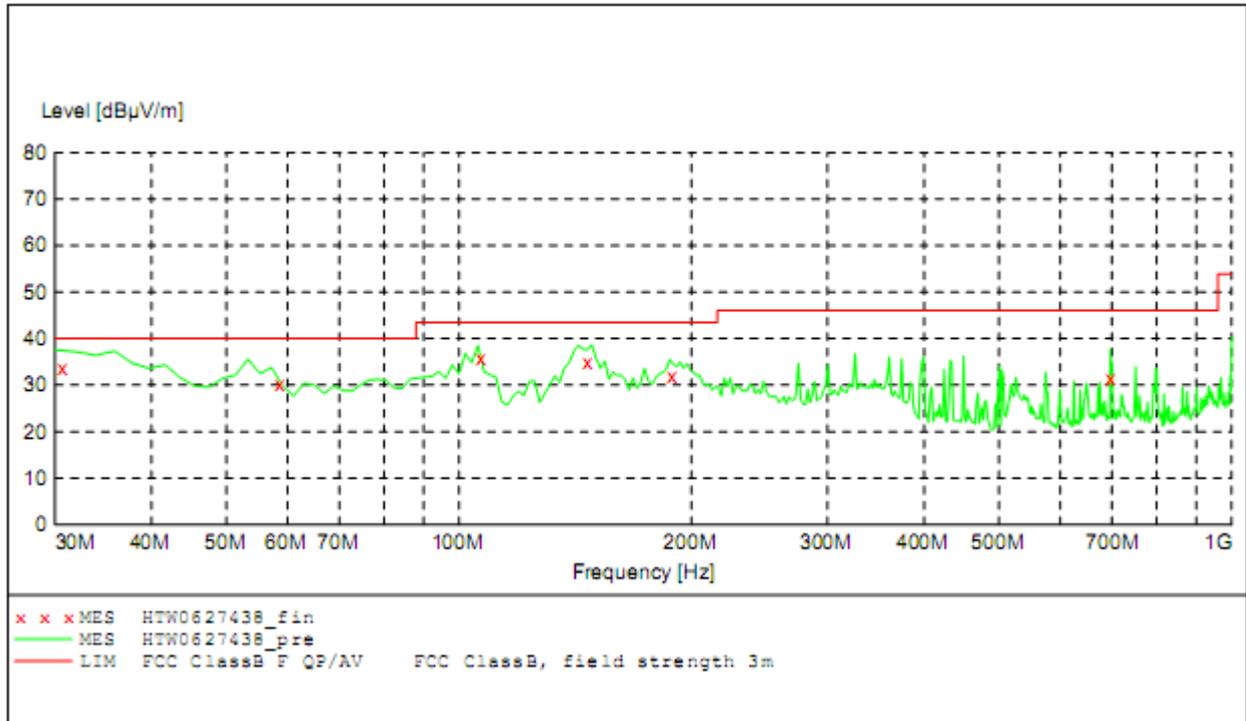
Frequency (MHz)	Emssion Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Dete ctor	RAW (dBuV/ m)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)	Polari- zation
288.36	32.30	43.50	11.2	300	QP	43.4	11.5	9.3	-31.9	-11.1	H
325.02	43.70	46.00	2.3	100	QP	54.5	12.6	8.5	-31.9	-10.8	H
375.00	38.20	46.00	7.8	100	QP	47.4	14.2	8.5	-31.9	-9.2	H
395.40	35.80	46.00	10.2	100	QP	44.6	14.3	8.8	-31.9	-8.8	H
450.00	41.90	46.00	4.1	100	QP	50.2	14.5	9.2	-32.0	-8.3	H
750.00	40.80	46.00	5.2	100	QP	42.6	19.3	10.7	-31.8	-1.8	H

REMARKS :

1. *Undetectable
2. The IF bandwidth of EMI Test Receiver was 120KHz for measuring from 30 MHz to 1 GHz and 1 MHz for measuring above 1 GHz
3. The Transd=Cabel loss +Antenna factor +pre-amplifier factor

SCAN TABLE: "test Field(30M-1G)QP"

Short Description:		Field Strength(30M-1G)				
Start	Stop	Step	Detector	Meas.	IF	Transducer
Frequency	Frequency	Width		Time	Bandw.	
30.0 MHz	1.0 GHz	60.0 kHz	QuasiPeak	1.0 s	120 kHz	HL562 09



Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Detector	RAW (dBuV/m)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)	Polarization
30.66	33.70	40.00	6.3	100	QP	38.8	21.2	5.5	-31.80	-5.1	V
58.74	30.00	40.00	10	150	QP	48.8	7.0	6.0	-31.80	-18.8	V
106.68	35.90	43.50	7.6	100	QP	49.4	11.8	6.6	-31.90	-13.5	V
146.64	34.70	43.50	8.8	150	QP	50.5	9.1	7.0	-31.90	-15.8	V
189.24	32.00	46.00	14	150	QP	48.2	8.7	7.0	-31.90	-16.2	V
697.14	31.60	46.00	14.4	150	QP	34.4	18.9	10.1	-31.80	-2.8	V

REMARKS :

1. *Undetectable
2. The IF bandwidth of EMI Test Receiver was 120KHz for measuring from 30 MHz to 1 GHz and 1 MHz for measuring above 1 GHz
3. The Transd=Cabel loss +Antenna factor +pre-amplifier factor

The frequency spectrum above 1 GHz for Transmitter was investigated. All emission not reported are much lower than the prescribed limits. Set the RBW=1MHz,VBW=3MHz for Peak Detector while the RBW=1MHz,VBW=10Hz for Average Detector,Readings are both peak and average values.

Company	HUAWEI TECHNOLOGIES CO.,LTD.	Test Date	03/07/2010
Test Mode	802.11b Channel 1	Detector Function	Peak(PK)/Average(AV)
Product Name	Home Gateway	Test By	Eric Zhang
Model Name	HG530	TEMP&Humidity	25°C, 55%

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	2390.00	43.24	PK	74.00	30.76	1.00 H	216	46.64	28.3	4.90	-36.6	-3.40
1	2390.00	35.21	AV	54.00	18.79	1.00 H	216	38.61	28.3	4.90	-36.6	-3.40
2	*2412.00	93.06	PK			1.00 H	360	96.46	28.3	4.90	-36.6	-3.40
2	*2412.00	86.65	AV			1.00 H	360	90.05	28.3	4.90	-36.6	-3.40
3	4824.00	48.98	PK	74.00	25.02	1.00 H	359	45.78	32.7	7.00	-36.5	3.20
3	4824.00	39.15	AV	54.00	14.85	1.00 H	359	35.95	32.7	7.00	-36.5	3.20
4	7236.00	55.17	PK	74.00	18.83	1.00 H	152	45.77	35.8	8.90	-35.3	9.40
4	7236.00	47.62	AV	54.00	6.38	1.00 H	152	38.22	35.8	8.90	-35.3	9.40
5	9648.00	52.02	PK	74.00	21.98	1.00 H	140	39.42	37.2	10.20	-34.8	12.60
5	9648.00	43.25	AV	54.00	10.75	1.00 H	140	30.65	37.2	10.20	-34.8	12.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	2390.0	43.04	PK	74.00	30.96	1.0	192	46.4	28.3	4.90	-36.6	-3.40
1	2390.0	34.65	AV	54.00	19.35	1.0	192	38.0	28.3	4.90	-36.6	-3.40
2	*2412.	98.29	PK			1.0	124	101.	28.3	4.90	-36.6	-3.40
2	*2412.	90.26	AV			1.0	124	93.6	28.3	4.90	-36.6	-3.40
3	4824.0	56.69	PK	74.00	17.31	1.0	339	53.4	32.7	7.00	-36.5	3.20
3	4824.0	45.26	AV	54.00	8.74	1.0	339	42.0	32.7	7.00	-36.5	3.20
4	7236.0	62.19	PK	74.00	11.81	1.0	340	52.7	35.8	8.90	-35.3	9.40
4	7236.0	51.52	AV	54.00	2.48	1.0	340	42.1	35.8	8.90	-35.3	9.40
5	9648.0	58.64	PK	74.00	15.36	1.0	20	46.0	37.2	10.20	-34.8	12.60
5	9648.0	48.57	AV	54.00	5.43	1.0	20	35.9	37.2	10.20	-34.8	12.60

REMARKS:

1. Emission level (dBuV/m) =Raw Value (dBuV) + Correction Factor (dB/m)
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) +Pre-amplifier Factor
3. The other emission levels were very low against the limit.
4. Margin value = Limit value- Emission level.
5. The limit value is defined as per 15.247
6. "*" ": Fundamental frequency
7. For Wireless 802.11b mode at 11Mbps.

Company	HUAWEI TECHNOLOGIES CO.,LTD.	Test Date	03/07/2010
Test Mode	802.11b Channel 6	Detector Function	Peak(PK)/Average(AV)
Product Name	Home Gateway	Test By	Eric Zhang
Model Name	HG530	TEMP&Humidity	25°C, 55%

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	*2437.00	99.26	PK			1.00 H	153	102.46	28.3	5.10	-36.6	-3.20
1	*2437.00	90.23	AV			1.00 H	153	93.43	28.3	5.10	-36.6	-3.20
2	4874.00	46.12	PK	74.00	27.88	1.00 H	202	42.72	32.3	7.60	-36.5	3.40
2	4874.00	35.06	AV	54.00	18.94	1.00 H	202	31.66	32.3	7.60	-36.5	3.40
3	7311.00	51.36	PK	74.00	22.64	1.00 H	355	41.96	36.1	8.60	-35.3	9.40
3	7311.00	39.48	AV	54.00	14.52	1.00 H	355	30.08	36.1	8.60	-35.3	9.40
4	9748.00	53.63	PK	74.00	20.37	1.00 H	28	41.03	37.2	10.20	-34.8	12.60
4	9748.00	41.20	AV	54.00	12.80	1.00 H	28	28.6	37.2	10.20	-34.8	12.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	*2437.00	100.65	PK			1.00 V	121	103.8	28.3	5.10	-36.6	-3.20
1	*2437.00	90.25	AV			1.00 V	121	93.45	28.3	5.10	-36.6	-3.20
2	4874.00	47.23	PK	74.00	26.77	1.00 V	97	43.83	32.3	7.60	-36.5	3.40
2	4874.00	35.13	AV	54.00	18.87	1.00 V	97	31.73	32.3	7.60	-36.5	3.40
3	7311.00	59.52	PK	74.00	14.48	1.00 V	288	50.12	36.1	8.60	-35.3	9.40
3	7311.00	39.78	AV	54.00	14.22	1.00 V	288	30.38	36.1	8.60	-35.3	9.40
4	9748.00	49.85	PK	74.00	24.15	1.00 V	89	37.25	37.2	10.20	-34.8	12.60
4	9748.00	38.55	AV	54.00	15.45	1.00 V	89	25.95	37.2	10.20	-34.8	12.60

- REMARKS:**
1. Emission level (dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) +Pre-amplifier Factor
 3. The other emission levels were very low against the limit.
 4. Margin value = Limit value- Emission level.
 5. The limit value is defined as per 15.247
 6. “* “: Fundamental frequency
 7. For Wireless 802.11b mode at 11Mbps.

Company	HUAWEI TECHNOLOGIES CO.,LTD.	Test Date	03/07/2010
Test Mode	802.11b Channel 11	Detector Function	Peak(PK)/Average(AV)
Product Name	Home Gateway	Test By	Eric Zhang
Model Name	HG530	TEMP&Humidity	25°C, 55%

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	*2462.00	93.19	PK			1.00 H	154	96.49	28.6	4.70	-36.6	-3.30
1	*2462.00	80.96	AV			1.00 H	154	84.26	28.6	4.70	-36.6	-3.30
2	2483.50	63.97	PK	74.00	10.03	1.00 H	146	67.27	28.6	4.70	-36.6	-3.30
2	2483.50	48.62	AV	54.00	5.38	1.00 H	146	51.92	28.6	4.70	-36.6	-3.30
3	4924.00	49.24	PK	74.00	24.76	1.00 H	100	45.44	33.0	7.00	-36.2	3.80
3	4924.00	31.91	AV	54.00	22.09	1.00 H	100	28.11	33.0	7.00	-36.2	3.80
4	7386.00	55.79	PK	74.00	18.21	1.00 H	190	46.39	36.2	8.50	-35.3	9.40
4	7386.00	40.62	AV	54.00	13.38	1.00 H	190	31.22	36.2	8.50	-35.3	9.40
5	9848.00	50.56	PK	74.00	23.44	1.00 H	113	37.96	37.2	10.20	-34.8	12.60
5	9848.00	30.52	AV	54.00	23.48	1.00 H	113	17.92	37.2	10.20	-34.8	12.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	*2462.00	98.20	PK			1.00 V	247	101.50	28.6	4.70	-36.6	-3.30
1	*2462.00	89.45	AV			1.00 V	247	92.75	28.6	4.70	-36.6	-3.30
2	2483.50	70.80	PK	74.00	3.20	1.00 V	150	74.10	28.6	4.70	-36.6	-3.30
2	2483.50	50.21	AV	54.00	3.79	1.00 V	150	53.51	28.6	4.70	-36.6	-3.30
3	4924.00	54.93	PK	74.00	19.07	1.00 V	90	51.13	33.0	7.00	-36.2	3.80
3	4924.00	45.83	AV	54.00	8.17	1.00 V	90	42.03	33.0	7.00	-36.2	3.80
4	7386.00	68.60	PK	74.00	5.40	1.00 V	29	59.20	36.2	8.50	-35.3	9.40
4	7386.00	43.57	AV	54.00	10.43	1.00 V	29	34.17	36.2	8.50	-35.3	9.40
5	9848.00	56.22	PK	74.00	17.78	1.00 V	222	43.62	37.2	10.20	-34.8	12.60
5	9848.00	33.57	AV	54.00	20.43	1.00 V	222	20.97	37.2	10.20	-34.8	12.60

- REMARKS:**
1. Emission level (dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) +Pre-amplifier Factor
 3. The other emission levels were very low against the limit.
 4. Margin value = Limit value- Emission level.
 5. The limit value is defined as per 15.247
 6. "*" ": Fundamental frequency
 7. For Wireless 802.11b mode at 11Mbps.

The frequency spectrum above 1 GHz for Transmitter was investigated. All emission not reported are much lower than the prescribed limits. Set the RBW=1MHz,VBW=3MHz for Peak Detector while the RBW=1MHz,VBW=10Hz for Average Detector,Readings are both peak and average values.

Company	HUAWEI TECHNOLOGIES CO.,LTD.	Test Date	03/07/2010
Test Mode	802.11g Channel 1	Detector Function	Peak(PK)/Average(AV)
Product Name	Home Gateway	Test By	Eric Zhang
Model Name	HG530	TEMP&Humidity	25°C, 55%

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	2390.00	43.48	PK	74.00	30.52	1.00 H	142	46.7	28.3	5.00	-36.6	-3.30
1	2390.00	30.52	AV	54.00	23.48	1.00 H	142	33.8	28.3	5.00	-36.6	-3.30
2	*2412.00	93.62	PK			1.00 H	123	96.9	28.3	5.00	-36.6	-3.30
2	*2412.00	80.35	AV			1.00 H	123	83.6	28.3	5.00	-36.6	-3.30
3	4824.00	49.92	PK	74.00	24.08	1.00 H	216	46.1	32.7	7.30	-36.2	3.80
3	4824.00	36.14	AV	54.00	17.86	1.00 H	216	32.3	32.7	7.30	-36.2	3.80
4	7236.00	54.66	PK	74.00	19.34	1.00 H	176	45.2	35.8	8.90	-35.3	9.40
4	7236.00	35.67	AV	54.00	18.33	1.00 H	176	26.2	35.8	8.90	-35.3	9.40
5	9648.00	50.42	PK	74.00	23.58	1.00 H	72	37.8	37.2	10.20	-34.8	12.60
5	9648.00	32.47	AV	54.00	21.53	1.00 H	72	19.8	37.2	10.20	-34.8	12.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	2390.00	52.67	PK	74.00	21.33	1.00 V	199	55.97	28.3	5.00	-36.6	-3.30
1	2390.00	33.45	AV	54.00	20.55	1.00 V	199	36.75	28.3	5.00	-36.6	-3.30
2	*2412.00	100.6	PK			1.00 V	127	103.9	28.3	5.00	-36.6	-3.30
2	*2412.00	86.57	AV			1.00 V	127	89.87	28.3	5.00	-36.6	-3.30
3	4824.00	57.35	PK	74.00	16.65	1.00 V	95	53.55	32.7	7.30	-36.2	3.80
3	4824.00	39.58	AV	54.00	14.42	1.00 V	95	35.78	32.7	7.30	-36.2	3.80
4	7236.00	71.29	PK	74.00	2.71	1.00 V	0	61.89	35.8	8.90	-35.3	9.40
4	7236.00	52.47	AV	54.00	1.53	1.00 V	0	43.07	35.8	8.90	-35.3	9.40
5	9648.00	60.54	PK	74.00	13.46	1.00 V	264	47.94	37.2	10.20	-34.8	12.60
5	9648.00	42.57	AV	54.00	11.43	1.00 V	264	29.97	37.2	10.20	-34.8	12.60

- REMARKS:**
1. Emission level (dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) +Pre-amplifier Factor
 3. The other emission levels were very low against the limit.
 4. Margin value = Limit value- Emission level.
 5. The limit value is defined as per 15.247
 6. "*" : Fundamental frequency
 7. For Wireless 802.11g mode at 54Mbps.

Company	HUAWEI TECHNOLOGIES CO.,LTD.	Test Date	03/07/2010
Test Mode	802.11g Channel 6	Detector Function	Peak(PK)/Average(AV)
Product Name	Home Gateway	Test By	Eric Zhang
Model Name	HG530	TEMP&Humidity	25°C, 55%

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	*2437.00	97.54	PK			1.00 H	100	100.74	28.3	5.10	-36.6	-3.20
1	*2437.00	83.45	AV			1.00 H	100	86.65	28.3	5.10	-36.6	-3.20
2	4874.00	65.12	PK	74.00	8.88	1.00 H	214	61.72	32.8	7.10	-36.5	3.40
2	4874.00	41.57	AV	54.00	12.43	1.00 H	214	38.17	32.8	7.10	-36.5	3.40
3	7311.00	68.41	PK	74.00	5.59	1.00 H	0	59.01	36.1	8.60	-35.3	9.40
3	7311.00	50.91	AV	54.00	3.09	1.00 H	0	41.51	36.1	8.60	-35.3	9.40
4	9748.00	50.40	PK	74.00	23.6	1.00 H	163	37.8	37.2	10.20	-34.8	12.60
4	9748.00	30.78	AV	54.00	23.22	1.00 H	163	18.18	37.2	10.20	-34.8	12.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	*2437.00	99.21	PK			1.00 V	122	102.41	28.3	5.10	-36.6	-3.20
1	*2437.00	86.78	AV			1.00 V	122	89.98	28.3	5.10	-36.6	-3.20
2	4874.00	58.72	PK	74.00	15.28	1.00 V	100	55.32	32.8	7.10	-36.5	3.40
2	4874.00	40.15	AV	54.00	13.85	1.00 V	100	36.75	32.8	7.10	-36.5	3.40
3	7311.00	63.21	PK	74.00	10.79	1.00 V	356	53.81	36.1	8.60	-35.3	9.40
3	7311.00	51.00	AV	54.00	3.00	1.00 V	356	41.6	36.1	8.60	-35.3	9.40
4	9748.00	49.87	PK	74.00	24.13	1.00 V	26	37.27	37.2	10.20	-34.8	12.60
4	9748.00	35.92	AV	54.00	18.08	1.00 V	26	23.32	37.2	10.20	-34.8	12.60

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m)
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) + Pre-amplifier Factor
 3. The other emission levels were very low against the limit.
 4. Margin value = Limit value - Emission level.
 5. The limit value is defined as per 15.247
 6. “* “: Fundamental frequency
 7. For Wireless 802.11g mode at 54Mbps.

Company	HUAWEI TECHNOLOGIES CO.,LTD.	Test Date	03/07/2010
Test Mode	802.11g Channel 11	Detector Function	Peak(PK)/Average(AV)
Product Name	Home Gateway	Test By	Eric Zhang
Model Name	HG530	TEMP&Humidity	25°C, 55%

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	*2462.00	92.63	PK			1.00 H	156	95.93	28.2	5.10	-36.6	-3.30
1	*2462.00	80.21	AV			1.00 H	156	83.51	28.2	5.10	-36.6	-3.30
2	2483.50	50.15	PK	74.00	23.85	1.00 H	191	53.45	28.2	5.10	-36.6	-3.30
2	2483.50	38.54	AV	54.00	15.46	1.00 H	191	41.84	28.2	5.10	-36.6	-3.30
3	4924.00	50.98	PK	74.00	23.02	1.00 H	198	47.18	33.0	7.00	-36.2	3.80
3	4924.00	36.47	AV	54.00	17.53	1.00 H	198	32.67	33.0	7.00	-36.2	3.80
4	7386.00	65.13	PK	74.00	8.87	1.00 H	90	55.73	36.2	8.50	-35.3	9.40
4	7386.00	50.57	AV	54.00	3.43	1.00 H	90	41.17	36.2	8.50	-35.3	9.40
5	9848.00	53.47	PK	74.00	20.53	1.00 H	124	40.87	37.3	10.10	-34.8	12.60
5	9848.00	40.11	AV	54.00	13.89	1.00 H	124	27.51	37.3	10.10	-34.8	12.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	*2462.00	87.83	PK			1.00 V	125	91.13	28.2	5.10	-36.6	-3.30
1	*2462.00	80.12	AV			1.00 V	125	83.42	28.2	5.10	-36.6	-3.30
2	2483.50	51.80	PK	74.00	22.20	1.00 V	348	55.1	28.2	5.10	-36.6	-3.30
2	2483.50	34.52	AV	54.00	19.48	1.00 V	348	37.82	28.2	5.10	-36.6	-3.30
3	4924.00	46.71	PK	74.00	27.29	1.00 V	96	42.91	33.0	7.00	-36.2	3.80
3	4924.00	33.58	AV	54.00	20.42	1.00 V	96	29.78	33.0	7.00	-36.2	3.80
4	7386.00	54.35	PK	74.00	19.65	1.00 V	35	44.95	36.2	8.50	-35.3	9.40
4	7386.00	40.87	AV	54.00	13.13	1.00 V	35	31.47	36.2	8.50	-35.3	9.40
5	9848.00	46.52	PK	74.00	27.48	1.00 V	37	33.92	37.3	10.10	-34.8	12.60
5	9848.00	33.86	AV	54.00	20.14	1.00 V	37	21.26	37.3	10.10	-34.8	12.60

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m)
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) + Pre-amplifier Factor
 3. The other emission levels were very low against the limit.
 4. Margin value = Limit value - Emission level.
 5. The limit value is defined as per 15.247
 6. " * " : Fundamental frequency
 7. For Wireless 802.11g mode at 54Mbps.

The frequency spectrum above 1 GHz for Transmitter was investigated. All emission not reported are much lower than the prescribed limits. Set the RBW=1MHz,VBW=3MHz for Peak Detector while the RBW=1MHz,VBW=10Hz for Average Detector,Readings are both peak and average values.

Company	HUAWEI TECHNOLOGIES CO.,LTD.	Test Date	03/07/2010
Test Mode	802.11n (20MHz) Channel 1	Detector Function	Peak(PK)/Average(AV)
Product Name	Home Gateway	Test By	Eric Zhang
Model Name	HG530	TEMP&Humidity	25°C, 55%

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	2390.00	42.51	PK	74.00	31.49	1.00 H	248	45.81	28.3	5.00	-36.6	-3.30
1	2390.00	30.78	AV	54.00	23.22	1.00 H	248	34.08	28.3	5.00	-36.6	-3.30
2	*2412.00	98.62	PK			1.00 H	100	101.92	28.3	5.00	-36.6	-3.30
2	*2412.00	83.69	AV			1.00 H	100	86.99	28.3	5.00	-36.6	-3.30
3	4824.00	56.56	PK	74.00	17.44	1.00 H	204	52.76	32.7	7.30	-36.2	3.80
3	4824.00	40.89	AV	54.00	13.11	1.00 H	204	37.09	32.7	7.30	-36.2	3.80
4	7236.00	67.52	PK	74.00	6.48	1.00 H	114	58.12	35.8	8.90	-35.3	9.40
4	7236.00	50.13	AV	54.00	3.87	1.00 H	114	40.73	35.8	8.90	-35.3	9.40
5	9648.00	50.21	PK	74.00	23.79	1.00 H	93	37.61	37.2	10.20	-34.8	12.60
5	9648.00	35.69	AV	54.00	18.31	1.00 H	93	23.09	37.2	10.20	-34.8	12.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	2390.00	44.03	PK	74.00	29.97	1.00 V	123	47.33	28.3	5.00	-36.6	-3.30
1	2390.00	31.74	AV	54.00	22.26	1.00 V	123	35.04	28.3	5.00	-36.6	-3.30
2	*2412.00	100.58	PK			1.00 V	123	103.88	28.3	5.00	-36.6	-3.30
2	*2412.00	86.54	AV			1.00 V	123	89.84	28.3	5.00	-36.6	-3.30
3	4824.00	58.42	PK	74.00	15.58	1.00 V	100	54.62	32.7	7.30	-36.2	3.80
3	4824.00	42.57	AV	54.00	11.43	1.00 V	100	38.77	32.7	7.30	-36.2	3.80
4	7236.00	70.14	PK	74.00	3.86	1.00 V	236	60.74	35.8	8.90	-35.3	9.40
4	7236.00	53.87	AV	54.00	0.13	1.00 V	236	44.47	35.8	8.90	-35.3	9.40
5	9648.00	56.87	PK	74.00	17.13	1.00 V	116	44.27	37.2	10.20	-34.8	12.60
5	9648.00	40.57	AV	54.00	13.43	1.00 V	116	27.97	37.2	10.20	-34.8	12.60

- REMARKS:**
1. Emission level (dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) +Pre-amplifier Factor
 3. The other emission levels were very low against the limit.
 4. Margin value = Limit value- Emission level.
 5. The limit value is defined as per 15.247
 6. “* “: Fundamental frequency
 7. For Wireless 802.11n (20MHz) mode at 65Mbps.

Company	HUAWEI TECHNOLOGIES CO.,LTD.	Test Date	03/07/2010
Test Mode	802.11n (20MHz) Channel 6	Detector Function	Peak(PK)/Average(AV)
Product Name	Home Gateway	Test By	Eric Zhang
Model Name	HG530	TEMP&Humidity	25°C, 55%

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	*2437.00	93.58	PK			1.00 H	120	96.7	28.3	5.10	-36.6	-3.20
1	*2437.00	80.52	AV			1.00 H	120	83.7	28.3	5.10	-36.6	-3.20
2	4874.00	50.62	PK	74.00	23.38	1.00 H	194	47.2	32.3	7.60	-36.5	3.40
2	4874.00	38.62	AV	54.00	15.38	1.00 H	194	35.2	32.3	7.60	-36.5	3.40
3	7311.00	53.12	PK	74.00	20.88	1.00 H	248	43.7	36.1	8.60	-35.3	9.40
3	7311.00	42.69	AV	54.00	11.31	1.00 H	248	33.2	36.1	8.60	-35.3	9.40
4	9748.00	50.05	PK	74.00	23.95	1.00 H	36	37.4	37.2	10.20	-34.8	12.60
4	9748.00	36.54	AV	54.00	17.46	1.00 H	36	23.9	37.2	10.20	-34.8	12.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	*2437.00	96.52	PK			1.00 V	122	99.72	28.3	5.10	-36.6	-3.20
1	*2437.00	82.66	AV			1.00 V	122	85.86	28.3	5.10	-36.6	-3.20
2	4874.00	52.64	PK	74.00	21.36	1.00 V	181	49.24	32.3	7.60	-36.5	3.40
2	4874.00	39.52	AV	54.00	14.48	1.00 V	181	36.12	32.3	7.60	-36.5	3.40
3	7311.00	59.56	PK	74.00	14.44	1.00 V	346	50.16	36.1	8.60	-35.3	9.40
3	7311.00	40.56	AV	54.00	13.44	1.00 V	346	31.16	36.1	8.60	-35.3	9.40
4	9748.00	53.25	PK	74.00	20.75	1.00 V	335	40.65	37.2	10.20	-34.8	12.60
4	9748.00	40.56	AV	54.00	13.44	1.00 V	335	27.96	37.2	10.20	-34.8	12.60

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m)
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) + Pre-amplifier Factor
 3. The other emission levels were very low against the limit.
 4. Margin value = Limit value - Emission level.
 5. The limit value is defined as per 15.247
 6. “* “: Fundamental frequency
 7. For Wireless 802.11n (20MHz) mode at 65Mbps.

Company	HUAWEI TECHNOLOGIES CO.,LTD.	Test Date	03/07/2010
Test Mode	802.11n (20MHz) Channel 11	Detector Function	Peak(PK)/Average(AV)
Product Name	Home Gateway	Test By	Eric Zhang
Model Name	HG530	TEMP&Humidity	25°C, 55%

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	*2462.00	92.63	PK			1.00 H	122	95.9	28.2	5.10	-36.6	-3.30
1	*2462.00	79.52	AV			1.00 H	122	82.8	28.2	5.10	-36.6	-3.30
2	2483.50	50.15	PK	74.00	23.85	1.00 H	354	53.4	28.2	5.10	-36.6	-3.30
2	2483.50	38.52	AV	54.00	15.48	1.00 H	354	41.8	28.2	5.10	-36.6	-3.30
3	4924.00	50.89	PK	74.00	23.11	1.00 H	217	47.0	33.0	7.00	-36.2	3.80
3	4924.00	36.52	AV	54.00	17.48	1.00 H	217	32.7	33.0	7.00	-36.2	3.80
4	7386.00	55.22	PK	74.00	18.78	1.00 H	0	45.8	36.2	8.50	-35.3	9.40
4	7386.00	42.21	AV	54.00	11.79	1.00 H	0	32.8	36.2	8.50	-35.3	9.40
5	9848.00	51.21	PK	74.00	22.79	1.00 H	118	38.6	37.3	10.10	-34.8	12.60
5	9848.00	37.85	AV	54.00	16.15	1.00 H	118	25.2	37.3	10.10	-34.8	12.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	*2462.00	94.85	PK			1.00 V	125	98.1	28.2	5.10	-36.6	-3.30
1	*2462.00	80.54	AV			1.00 V	125	83.8	28.2	5.10	-36.6	-3.30
2	2483.50	51.80	PK	74.00	22.20	1.00 V	153	55.1	28.2	5.10	-36.6	-3.30
2	2483.50	38.52	AV	54.00	15.48	1.00 V	153	41.8	28.2	5.10	-36.6	-3.30
3	4924.00	46.51	PK	74.00	27.49	1.00 V	100	42.7	33.0	7.00	-36.2	3.80
3	4924.00	32.56	AV	54.00	21.44	1.00 V	100	28.7	33.0	7.00	-36.2	3.80
4	7386.00	54.35	PK	74.00	19.65	1.00 V	0	44.9	36.2	8.50	-35.3	9.40
4	7386.00	40.56	AV	54.00	13.44	1.00 V	0	31.1	36.2	8.50	-35.3	9.40
5	9848.00	49.80	PK	74.00	24.20	1.00 V	187	37.2	37.3	10.10	-34.8	12.60
5	9848.00	32.95	AV	54.00	21.05	1.00 V	187	20.3	37.3	10.10	-34.8	12.60

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m)
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) + Pre-amplifier Factor
 3. The other emission levels were very low against the limit.
 4. Margin value = Limit value - Emission level.
 5. The limit value is defined as per 15.247
 6. " * " : Fundamental frequency
 7. For Wireless 802.11n (20MHz) mode at 65Mbps.

The frequency spectrum above 1 GHz for Transmitter was investigated. All emission not reported are much lower than the prescribed limits. Set the RBW=1MHz,VBW=3MHz for Peak Detector while the RBW=1MHz,VBW=10Hz for Average Detector,Readings are both peak and average values.

Company	HUAWEI TECHNOLOGIES CO.,LTD.	Test Date	03/07/2010
Test Mode	802.11n (40MHz) Channel 3	Detector Function	Peak(PK)/Average(AV)
Product Name	Home Gateway	Test By	Eric Zhang
Model Name	HG530	TEMP&Humidity	25°C, 55%

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	2390.00	40.52	PK	74.00	33.48	1.00 H	222	43.82	28.3	5.00	-36.6	-3.30
1	2390.00	30.21	AV	54.00	23.79	1.00 H	222	33.51	28.3	5.00	-36.6	-3.30
2	*2422.00	97.52	PK			1.00 H	123	100.82	28.3	5.00	-36.6	-3.30
2	*2422.00	80.41	AV			1.00 H	123	83.71	28.3	5.00	-36.6	-3.30
3	4844.00	52.64	PK	74.00	21.36	1.00 H	91	48.84	32.7	7.30	-36.2	3.80
3	4844.00	35.85	AV	54.00	18.15	1.00 H	91	32.05	32.7	7.30	-36.2	3.80
4	7266.00	45.95	PK	74.00	28.05	1.00 H	266	36.55	35.8	8.90	-35.3	9.40
4	7266.00	35.69	AV	54.00	18.31	1.00 H	266	26.29	35.8	8.90	-35.3	9.40
5	9688.00	52.59	PK	74.00	21.41	1.00 H	337	39.99	37.2	10.20	-34.8	12.60
5	9688.00	36.85	AV	54.00	17.15	1.00 H	337	24.25	37.2	10.20	-34.8	12.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	2390.00	44.98	PK	74.00	29.02	1.00 V	80	48.28	28.3	5.00	-36.6	-3.30
1	2390.00	32.08	AV	54.00	21.92	1.00 V	80	35.38	28.3	5.00	-36.6	-3.30
2	*2422.00	96.50	PK			1.00 V	127	99.80	28.3	5.00	-36.6	-3.30
2	*2422.00	82.08	AV			1.00 V	127	85.38	28.3	5.00	-36.6	-3.30
3	4844.00	51.49	PK	74.00	22.51	1.00 V	211	47.69	32.7	7.30	-36.2	3.80
3	4844.00	37.19	AV	54.00	16.81	1.00 V	211	33.39	32.7	7.30	-36.2	3.80
4	7266.00	60.52	PK	74.00	13.48	1.00 V	57	51.12	35.8	8.90	-35.3	9.40
4	7266.00	43.89	AV	54.00	10.11	1.00 V	57	34.49	35.8	8.90	-35.3	9.40
5	9688.00	50.69	PK	74.00	23.31	1.00 V	249	38.09	37.2	10.20	-34.8	12.60
5	9688.00	35.88	AV	54.00	18.12	1.00 V	249	23.28	37.2	10.20	-34.8	12.60

- REMARKS:**
1. Emission level (dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) +Pre-amplifier Factor
 3. The other emission levels were very low against the limit.
 4. Margin value = Limit value- Emission level.
 5. The limit value is defined as per 15.247
 6. "*" : Fundamental frequency
 7. For Wireless 802.11n (40MHz) mode at 135Mbps.

Company	HUAWEI TECHNOLOGIES CO.,LTD.	Test Date	03/07/2010
Test Mode	802.11n (40MHz) Channel 6	Detector Function	Peak(PK)/Average(AV)
Product Name	Home Gateway	Test By	Eric Zhang
Model Name	HG530	TEMP&Humidity	25°C, 55%

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	*2437.00	94.15	PK			1.00 H	100	97.35	28.3	5.10	-36.6	-3.20
1	*2437.00	82.16	AV			1.00 H	100	85.36	28.3	5.10	-36.6	-3.20
2	4874.00	52.61	PK	74.00	21.39	1.00 H	198	49.21	32.3	7.60	-36.5	3.40
2	4874.00	38.52	AV	54.00	15.48	1.00 H	198	35.12	32.3	7.60	-36.5	3.40
3	7311.00	56.22	PK	74.00	17.78	1.00 H	203	46.82	36.1	8.60	-35.3	9.40
3	7311.00	39.56	AV	54.00	14.44	1.00 H	203	30.16	36.1	8.60	-35.3	9.40
4	9748.00	50.10	PK	74.00	23.90	1.00 H	56	37.50	37.2	10.20	-34.8	12.60
4	9748.00	35.99	AV	54.00	18.01	1.00 H	56	23.39	37.2	10.20	-34.8	12.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	*2437.00	97.85	PK			1.00 V	122	101.05	28.3	5.10	-36.6	-3.20
1	*2437.00	83.51	AV			1.00 V	122	86.71	28.3	5.10	-36.6	-3.20
2	4874.00	50.62	PK	74.00	23.38	1.00 V	96	47.22	32.3	7.60	-36.5	3.40
2	4874.00	41.66	AV	54.00	12.34	1.00 V	96	38.26	32.3	7.60	-36.5	3.40
3	7311.00	55.58	PK	74.00	18.42	1.00 V	26	46.18	36.1	8.60	-35.3	9.40
3	7311.00	40.25	AV	54.00	13.75	1.00 V	26	30.85	36.1	8.60	-35.3	9.40
4	9748.00	48.52	PK	74.00	25.48	1.00 V	299	35.92	37.2	10.20	-34.8	12.60
4	9748.00	32.20	AV	54.00	21.80	1.00 V	299	19.6	37.2	10.20	-34.8	12.60

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m)
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) + Pre-amplifier Factor
 3. The other emission levels were very low against the limit.
 4. Margin value = Limit value - Emission level.
 5. The limit value is defined as per 15.247
 6. “* “: Fundamental frequency
 7. For Wireless 802.11n (40MHz) mode at 135Mbps.

Company	HUAWEI TECHNOLOGIES CO.,LTD.	Test Date	03/07/2010
Test Mode	802.11n (40MHz) Channel 9	Detector Function	Peak(PK)/Average(AV)
Product Name	Home Gateway	Test By	Eric Zhang
Model Name	HG530	TEMP&Humidity	25°C, 55%

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	*2452.00	94.94	PK			1.00 H	153	98.14	28.2	5.20	-36.6	-3.20
1	*2452.00	80.12	AV			1.00 H	153	83.32	28.2	5.20	-36.6	-3.20
2	2483.50	49.33	PK	74.00	24.67	1.00 H	127	52.63	28.2	5.10	-36.6	-3.30
2	2483.50	35.21	AV	54.00	18.79	1.00 H	127	38.51	28.2	5.10	-36.6	-3.30
3	4904.00	50.58	PK	74.00	23.42	1.00 H	204	46.78	33.0	7.00	-36.2	3.80
3	4904.00	36.15	AV	54.00	17.85	1.00 H	204	32.35	33.0	7.00	-36.2	3.80
4	7356.00	56.74	PK	74.00	17.26	1.00 H	301	47.34	36.2	8.50	-35.3	9.40
4	7356.00	41.25	AV	54.00	12.75	1.00 H	301	31.85	36.2	8.50	-35.3	9.40
5	9808.00	50.26	PK	74.00	23.74	1.00 H	118	37.66	37.3	10.10	-34.8	12.60
5	9808.00	34.58	AV	54.00	19.42	1.00 H	118	21.98	37.3	10.10	-34.8	12.60

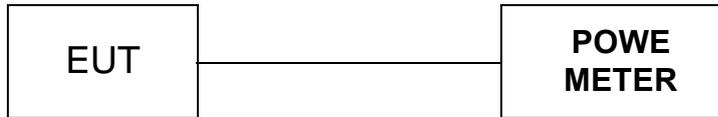
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	*2452.00	98.99	PK			1.00 V	125	102.19	28.2	5.20	-36.6	-3.20
1	*2452.00	81.54	AV			1.00 V	125	84.74	28.2	5.20	-36.6	-3.20
2	2483.50	40.90	PK	74.00	33.1	1.00 V	143	44.20	28.2	5.10	-36.6	-3.30
2	2483.50	29.58	AV	54.00	24.42	1.00 V	143	32.88	28.2	5.10	-36.6	-3.30
3	4904.00	55.14	PK	74.00	18.86	1.00 V	177	51.34	33.0	7.00	-36.2	3.80
3	4904.00	38.47	AV	54.00	15.53	1.00 V	177	34.67	33.0	7.00	-36.2	3.80
4	7356.00	70.09	PK	74.00	3.91	1.00 V	0	60.69	36.2	8.50	-35.3	9.40
4	7356.00	52.31	AV	54.00	1.69	1.00 V	0	42.91	36.2	8.50	-35.3	9.40
5	9808.00	52.68	PK	74.00	21.32	1.00 V	315	40.08	37.3	10.10	-34.8	12.60
5	9808.00	31.55	AV	54.00	22.45	1.00 V	315	18.95	37.3	10.10	-34.8	12.60

- REMARKS:**
1. Emission level (dBuV/m) =Raw Value (dBuV) + Correction Factor (dB/m)
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) +Pre-amplifier Factor
 3. The other emission levels were very low against the limit.
 4. Margin value = Limit value- Emission level.
 5. The limit value is defined as per 15.247
 6. “ * “ : Fundamental frequency
 7. For Wireless 802.11n (40MHz) mode at 135Mbps.

4.3. Maximum Peak Output Power

TEST CONFIGURATION



TEST PROCEDURE

The EUT was directly connected to the power meter and antenna output port as show in the block diagram as TEST CONFIGURATION shows.

LIMIT

The Maximum Peak Output Power Measurement is 30dBm.

TEST RESULTS

Company	HUAWEI TECHNOLOGIES CO.,LTD.	Test Date	03/07/2010
Product Name	Home Gateway	Test By	Eric Zhang
Model Name	HG530	TEMP&Humidity	25°C, 55%

Data Rate (Mbps)	Channel Frequency (MHz)	Peak Power Output (dBm)	Peak Power Limit (dBm)	Pass / Fail
1	2437	22.30	30	PASS
2	2437	22.68	30	PASS
5.5	2437	23.04	30	PASS
11	2437	23.21	30	PASS

Note: 1. The test results including the cable lose.

2. From the channel power vs the transmission rate,we can see the maximum output power as the transimissin rate is 11 M bps.

Channel	Channel Frequency (MHz)	Peak Power Output (dBm)	Peak Power Limit (dBm)	Pass / Fail
1	2412	22.54	30	PASS
6	2437	23.21	30	PASS
11	2462	23.68	30	PASS

Note: 1. For 802.11b Mode at 11M bps

Data Rate (Mbps)	Channel Frequency (MHz)	Peak Power Output (dBm)	Peak Power Limit (dBm)	Pass / Fail
6	2437	20.11	30	PASS
9	2437	19.90	30	PASS
12	2437	19.75	30	PASS
18	2437	19.98	30	PASS
24	2437	20.03	30	PASS
36	2437	20.35	30	PASS
48	2437	20.45	30	PASS
54	2437	20.74	30	PASS

Note: 1. The test results including the cable lose.

2. From the channel power vs the transmission rate, we can see the maximum output power as the transimissin rate is 54 M bps.

Channel	Channel Frequency (MHz)	Peak Power Output (dBm)	Peak Power Limit (dBm)	Pass / Fail
1	2412	19.96	30	PASS
6	2437	20.74	30	PASS
11	2462	20.91	30	PASS

Note: 1. For 802.11g Mode at 54M bps

Data Rate (Mbps)	Channel Frequency (MHz)	Peak Power Output (dBm)	Peak Power Limit (dBm)	Pass / Fail
6.5	2437	19.68	30	PASS
13	2437	20.01	30	PASS
19.5	2437	19.59	30	PASS
26	2437	19.26	30	PASS
39	2437	20.11	30	PASS
52	2437	20.35	30	PASS
58.5	2437	20.15	30	PASS
65	2437	20.80	30	PASS

Note: 1. The test results including the cable lose.

2. From the channel power vs the transmission rate, we can see the maximum output power as the transimissin rate is 65 M bps.

Channel	Channel Frequency (MHz)	Peak Power Output (dBm)	Peak Power Limit (dBm)	Pass / Fail
1	2412	20.17	30	PASS
6	2437	20.80	30	PASS
11	2462	21.36	30	PASS

Note: 1. For 802.11n (20MHz) Mode at 65M bps

Data Rate (Mbps)	Channel Frequency (MHz)	Peak Power Output (dBm)	Peak Power Limit (dBm)	Pass / Fail
13.5	2437	18.85	30	PASS
27	2437	18.69	30	PASS
40.5	2437	19.04	30	PASS
54	2437	19.33	30	PASS
81	2437	18.56	30	PASS
108	2437	19.05	30	PASS
121.5	2437	19.20	30	PASS
135	2437	19.45	30	PASS

Note: 1. The test results including the cable lose.

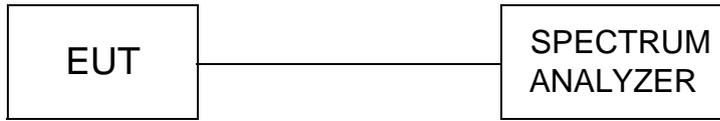
2. From the channel power vs the transmission rate, we can see the maximum output power as the transmission rate is 135 M bps.

Channel	Channel Frequency (MHz)	Peak Power Output (dBm)	Peak Power Limit (dBm)	Pass / Fail
3	2422	19.24	30	PASS
6	2437	19.45	30	PASS
9	2452	20.06	30	PASS

Note: 1. For 802.11n (40MHz) Mode at 135M bps

4.4. Power Spectral Density

TEST CONFIGURATION



TEST PROCEDURE

1. Set CENTER FREQUENCY = Frequency from Power Spectral Density Test Matrix
2. Set SPAN = 20 MHz (For devices with a nominal 40 MHz BW, 50 MHz span will be needed)
3. Set REFERENCE LEVEL = 20 dBm
4. Set ATTENUATION = 0 dB (add internal attenuation, if necessary)
5. Set SWEEP TIME = Coupled
6. Set RBW = 3 kHz
7. Set VBW = 10 kHz
8. Set DETECTOR = Peak
9. Set MKR = Center Frequency
10. Set TRACE = CLEAR WRITE

Place the radio in continuous transmit mode. Set the TRACE to MAX HOLD, and after the trace stabilizes, the TRACE to VIEW. Set the marker on the peak of the signal and then adjust the center frequency of the spectrum analyzer to the marker frequency. After viewing the EUT waveform on the spectrum analyzer, perform the following spectrum analyzer functions to capture the trace:

11. Set SPAN = 300 kHz
12. Set SWEEP TIME = 100 s
13. Set TRACE = MAX HOLD
14. Set MKR = PEAK SEARCH
15. Record the marker level for the particular mode. Repeat these steps for other device modes.

LIMIT

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

TEST RESULTS

Company	HUAWEI TECHNOLOGIES CO.,LTD.	Test Date	03/07/2010
Product Name	Home Gateway	Test By	Eric Zhang
Model Name	HG530	TEMP&Humidity	25°C, 55%

CHANNEL NUMBER	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 KHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-6.97	8	PASS
6	2437	-6.76	8	PASS
11	2462	-6.72	8	PASS

Note: 1. For 802.11b mode at final test to get the worst-case emission at 11Mbps.
2. The test results including the cable lose.

CHANNEL NUMBER	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 KHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-10.93	8	PASS
6	2437	-10.45	8	PASS
11	2462	-10.27	8	PASS

Note: 1. For 802.11g mode at final test to get the worst-case emission at 54Mbps.
2. The test results including the cable lose.

CHANNEL NUMBER	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 KHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-11.20	8	PASS
6	2437	-12.18	8	PASS
11	2462	-11.43	8	PASS

Note: 1. For 802.11n(20MHz) mode at final test to get the worst-case emission at 65 Mbps.
2. The test results including the cable lose.

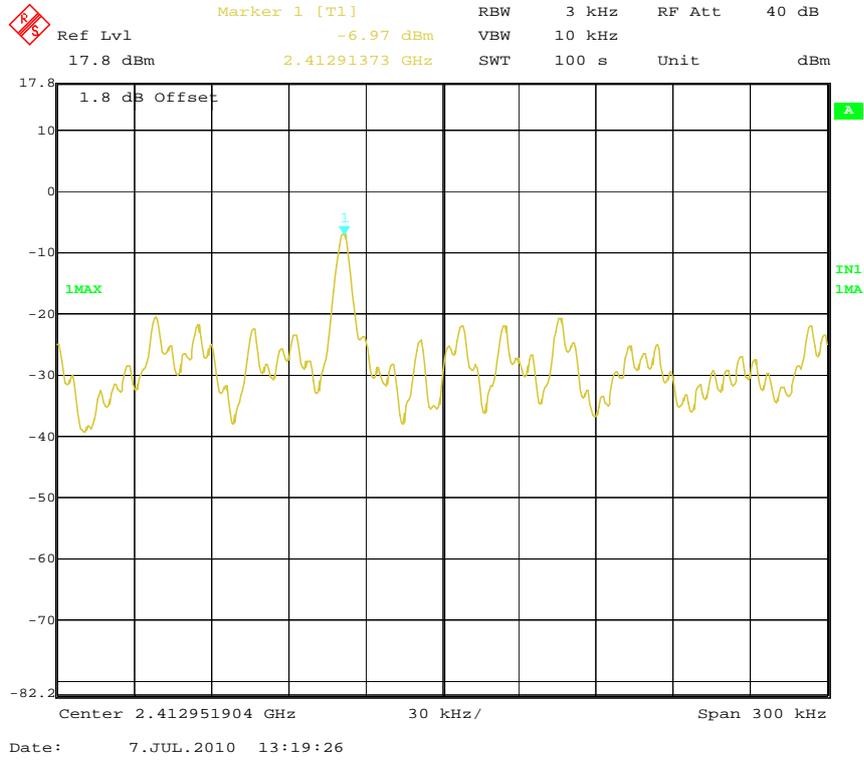
CHANNEL NUMBER	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 KHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
3	2422	-14.43	8	PASS
6	2437	-14.59	8	PASS
9	2452	-15.23	8	PASS

Note: 1. For 802.11n(40MHz) mode at final test to get the worst-case emission at 135Mbps.
2. The test results including the cable lose.

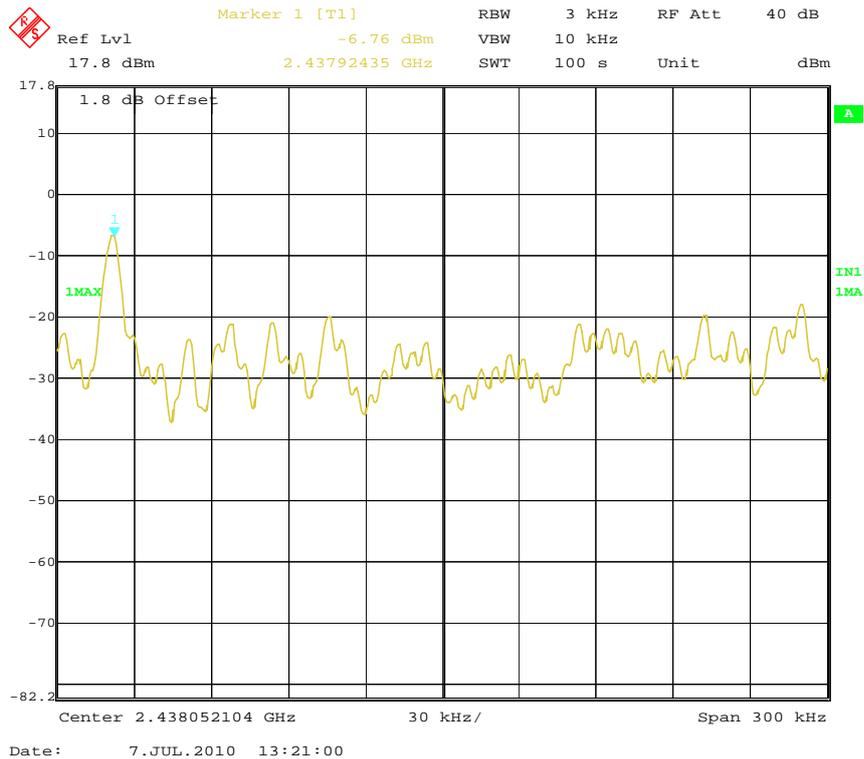
Photos of Power Spectral Density Measurement

Note: For 802.11b Mode

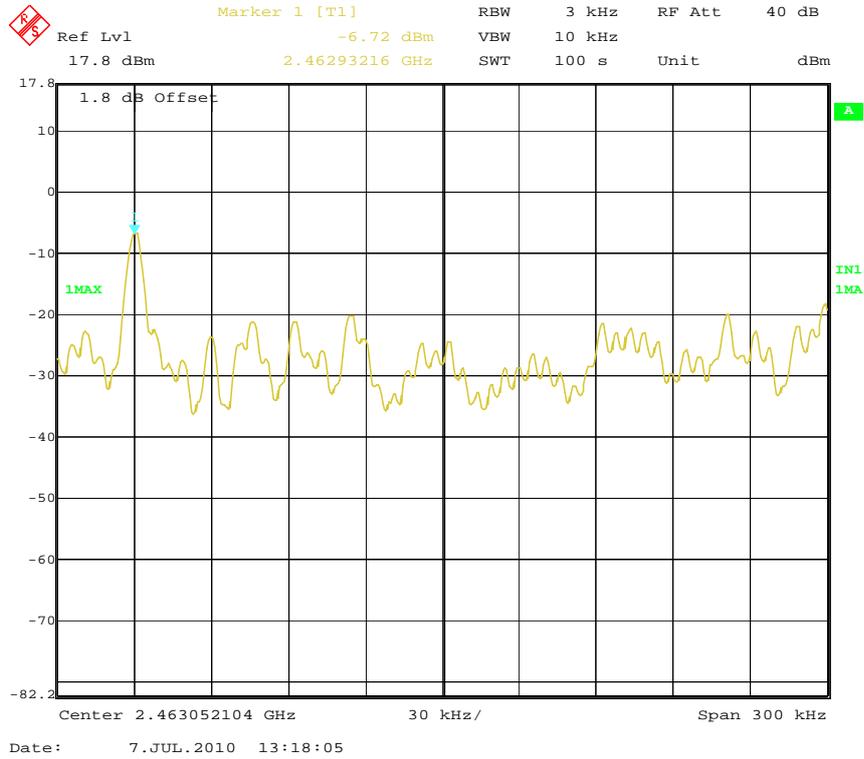
Channel 1



Channel 6

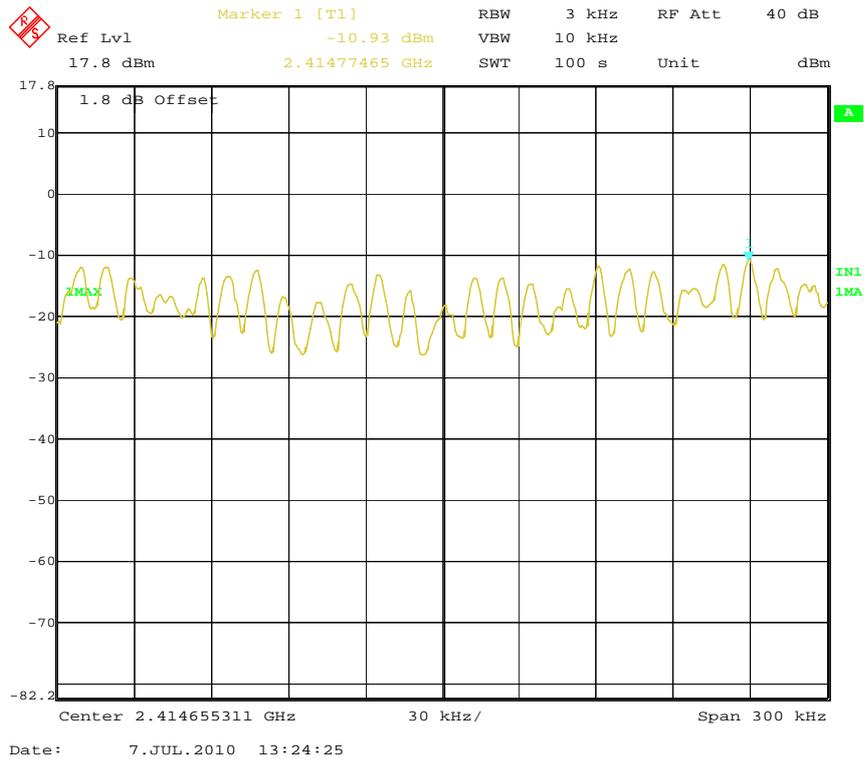


Channel 11

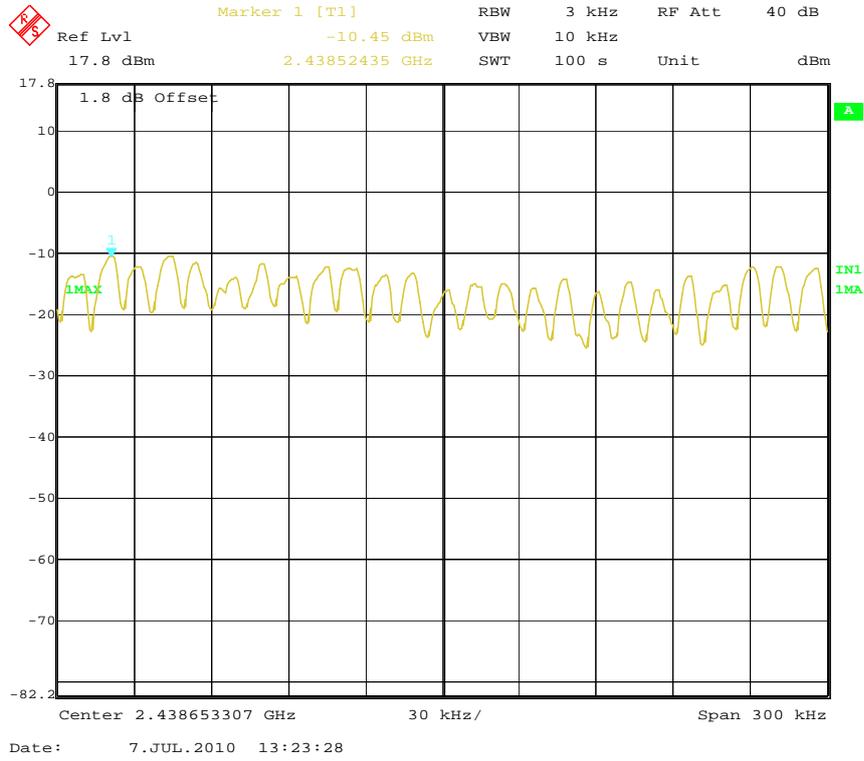


Note: For 802.11g Mode

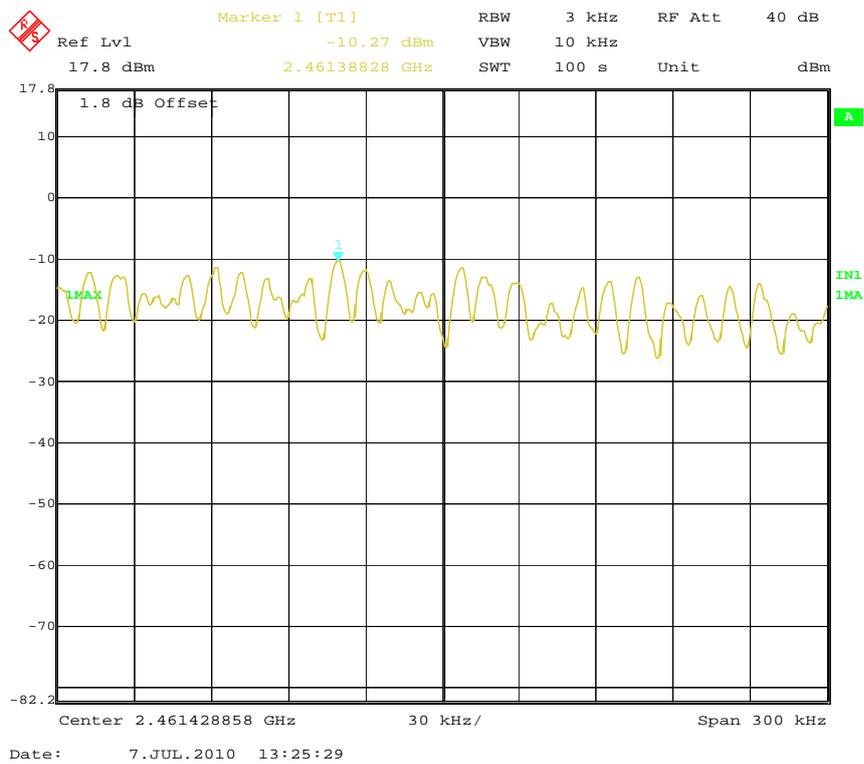
Channel 1



Channel 6

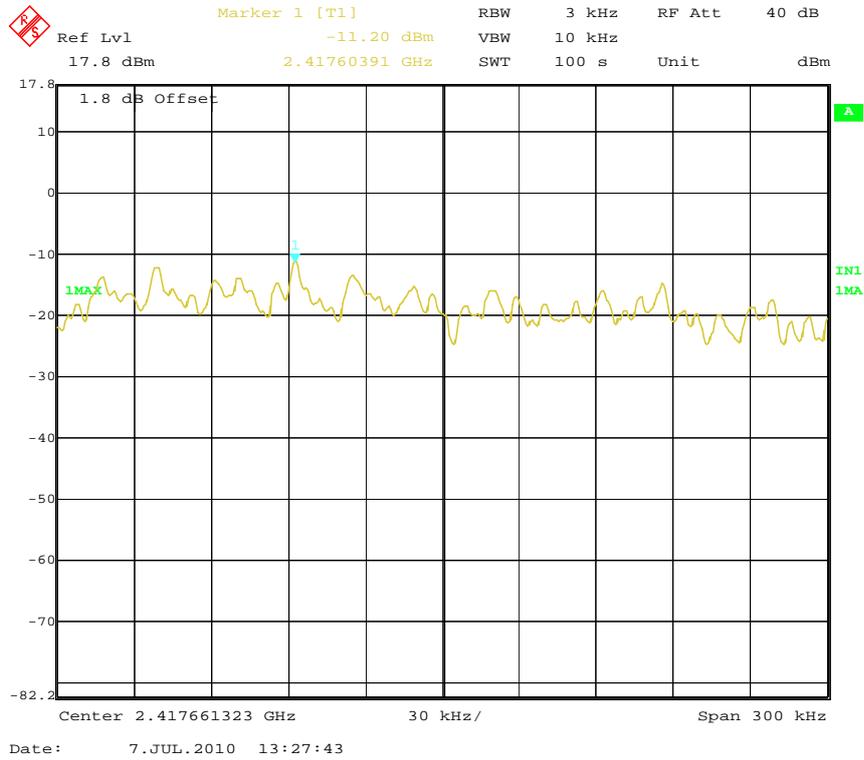


Channel 11

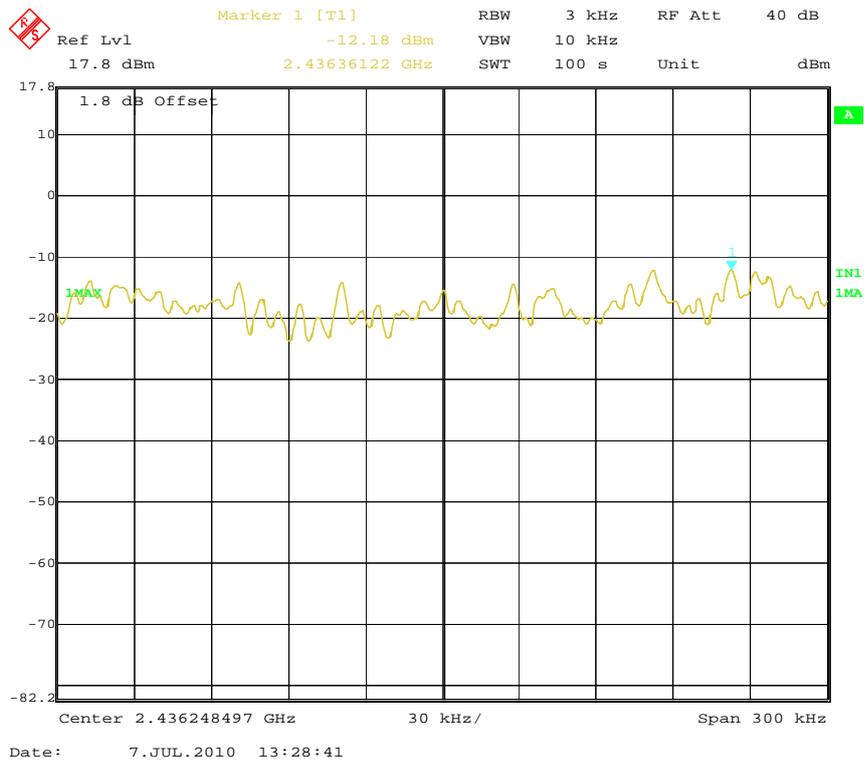


Note: For 802.11n (20MHz) Mode

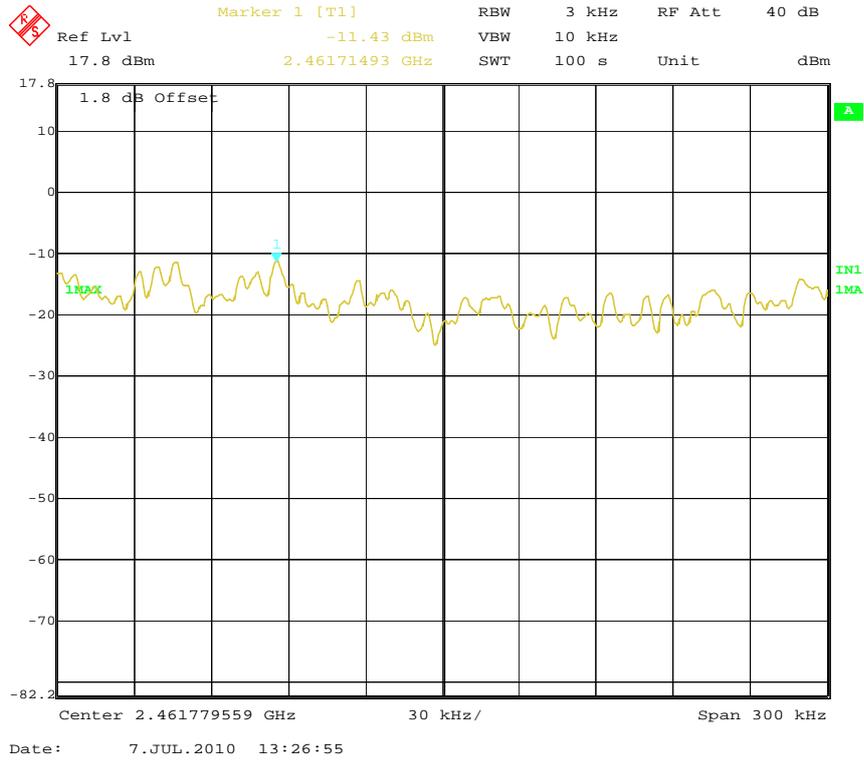
Channel 1



Channel 6

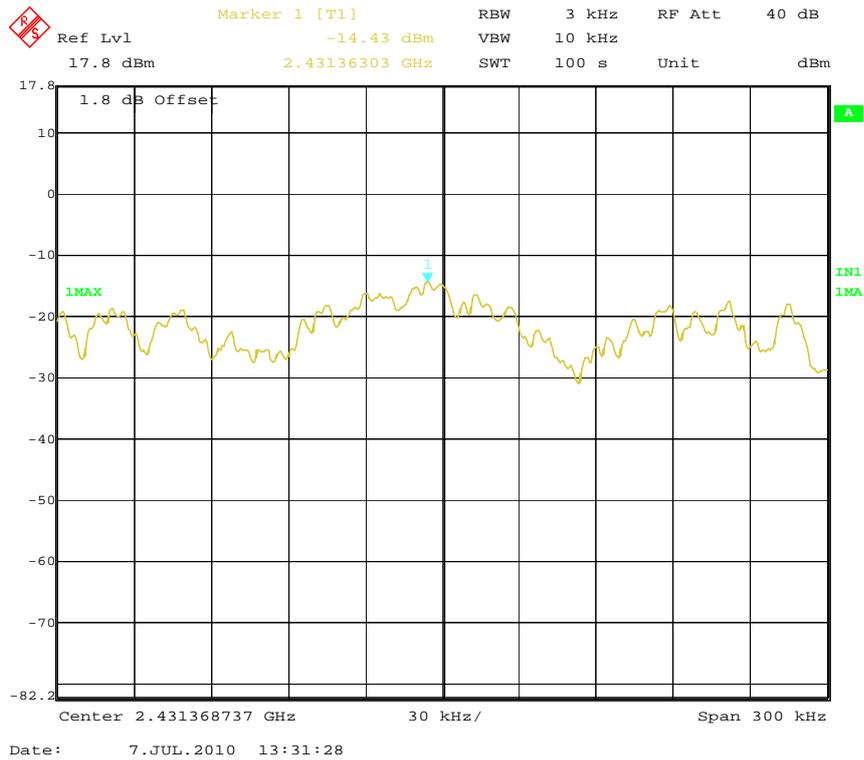


Channel 11



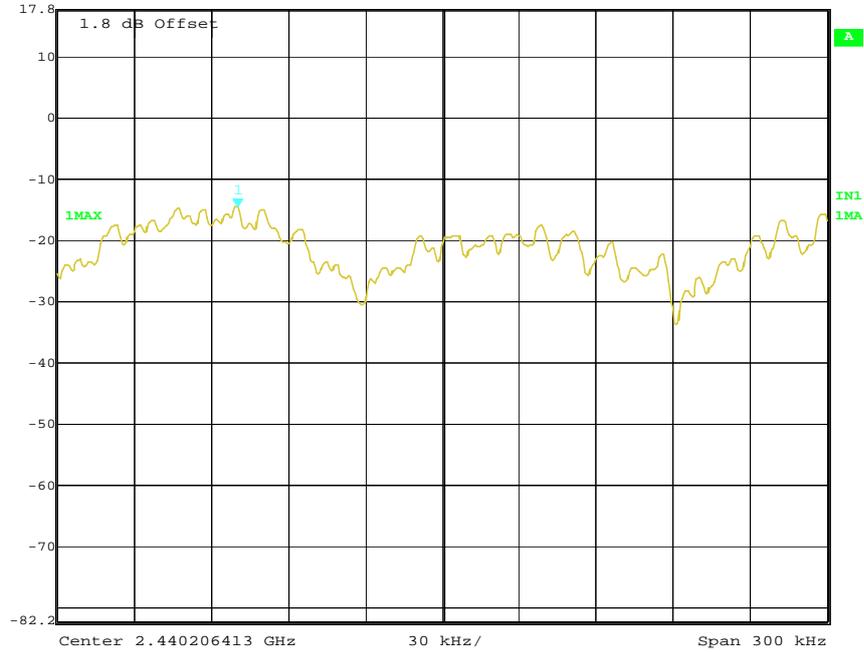
Note: For 802.11n (40MHz) Mode

Channel 3



Channel 6

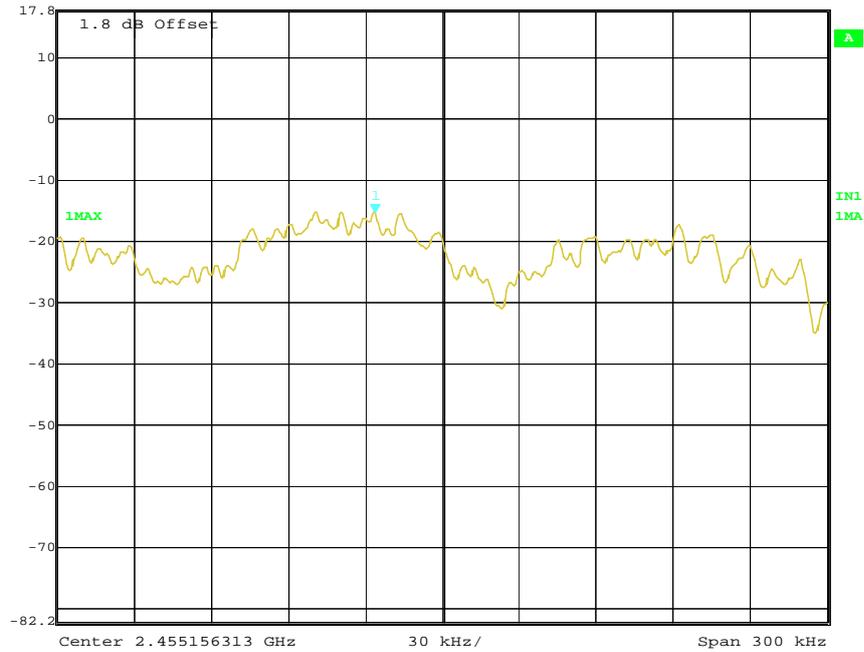
 Marker 1 [T1] RBW 3 kHz RF Att 40 dB
Ref Lvl -14.59 dBm VBW 10 kHz
17.8 dBm 2.44012675 GHz SWT 100 s Unit dBm



Date: 7.JUL.2010 13:30:40

Channel 9

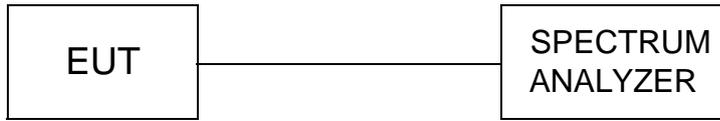
 Marker 1 [T1] RBW 3 kHz RF Att 40 dB
Ref Lvl -15.23 dBm VBW 10 kHz
17.8 dBm 2.45513016 GHz SWT 100 s Unit dBm



Date: 7.JUL.2010 13:33:03

4.5. Band Edge Compliance of RF Emission

TEST CONFIGURATION



TEST PROCEDURE

The band edge compliance of RF radiated emission should be measured by following the guidance in ANSI C63.4:2009 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization etc. Set RBW=100kHz and VBM= 300kHz to measure the peak field strength and set RBW to 1MHz and VBW to 10Hz to measure the average radiated field strength.

The conducted RF band edge was measured by using a spectrum analyzer. Set span wide enough to capture the highest in-band emission and the emission at the band edge. Set RBW and VBW to 100 kHz, to measure the conducted peak band edge.

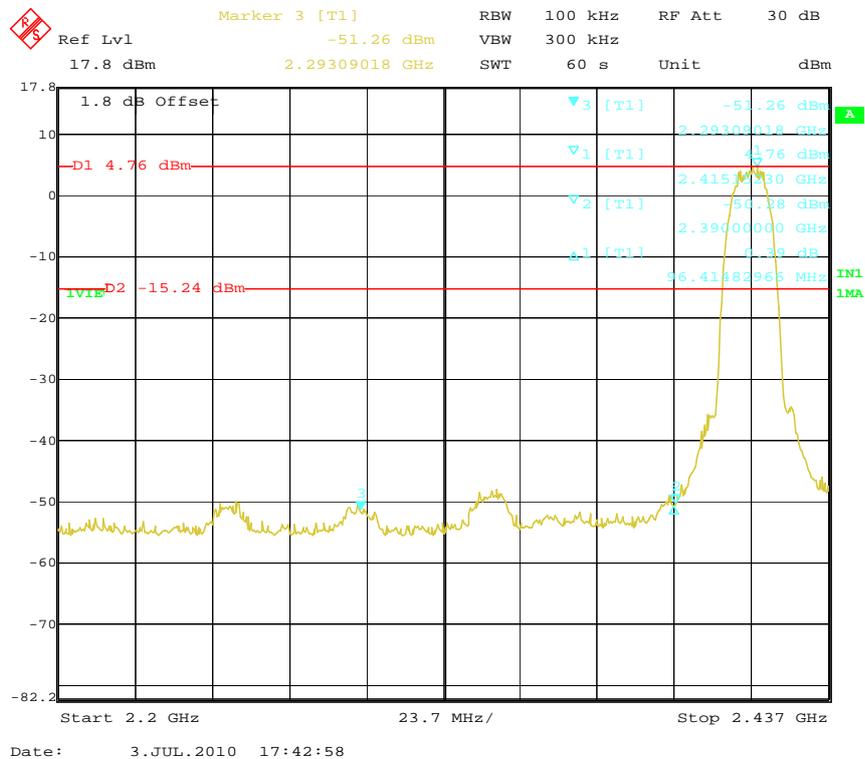
LIMIT

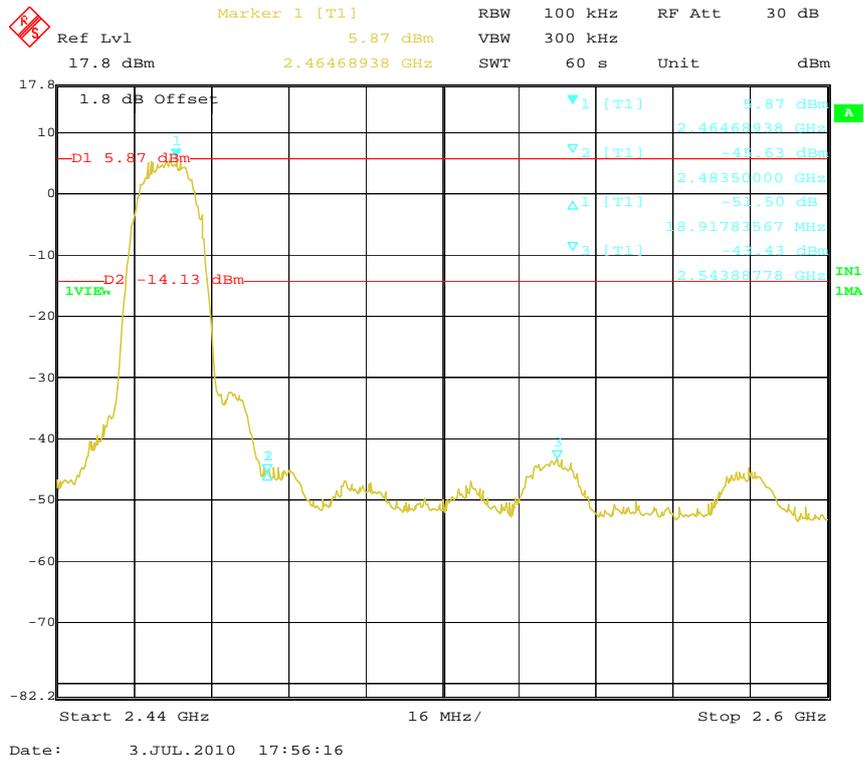
Below -20dB of the highest emission level in operating band.

TEST RESULTS

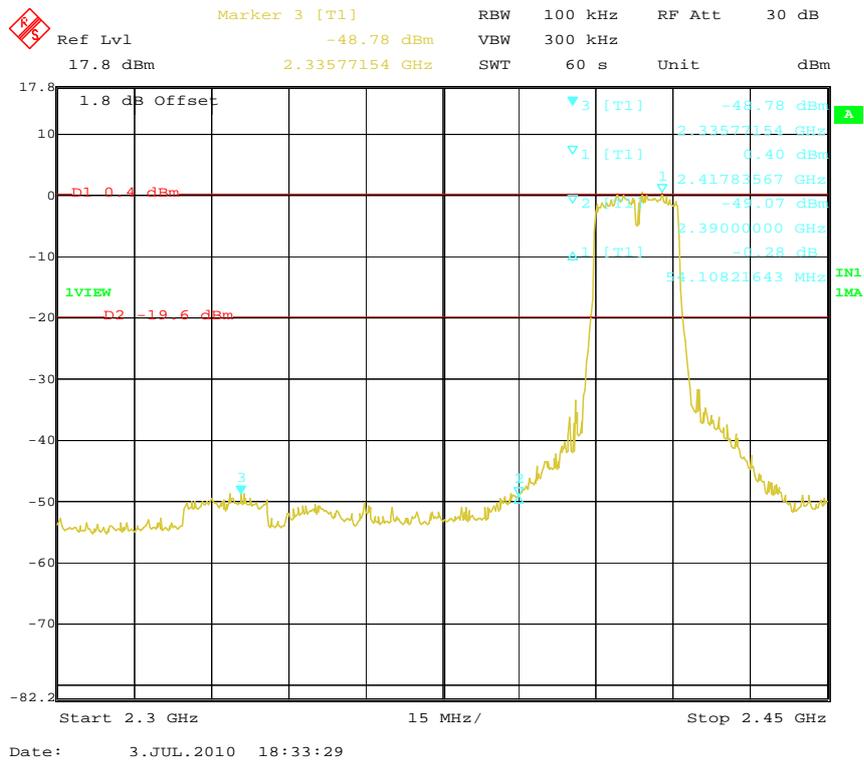
Photos of Band Edge Measurement

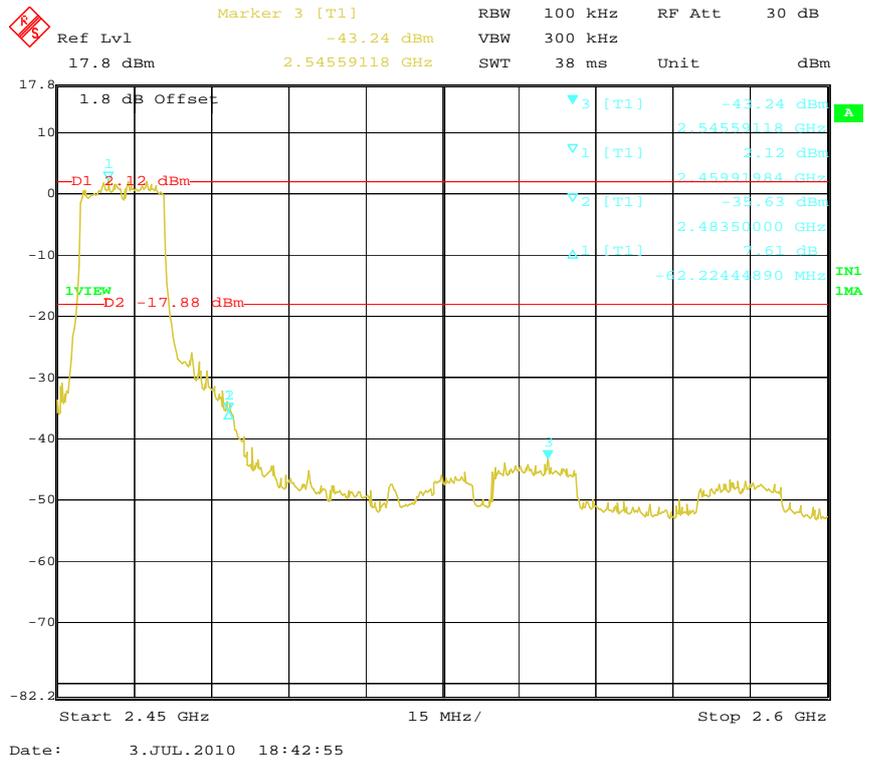
Note: For 802.11b Mode



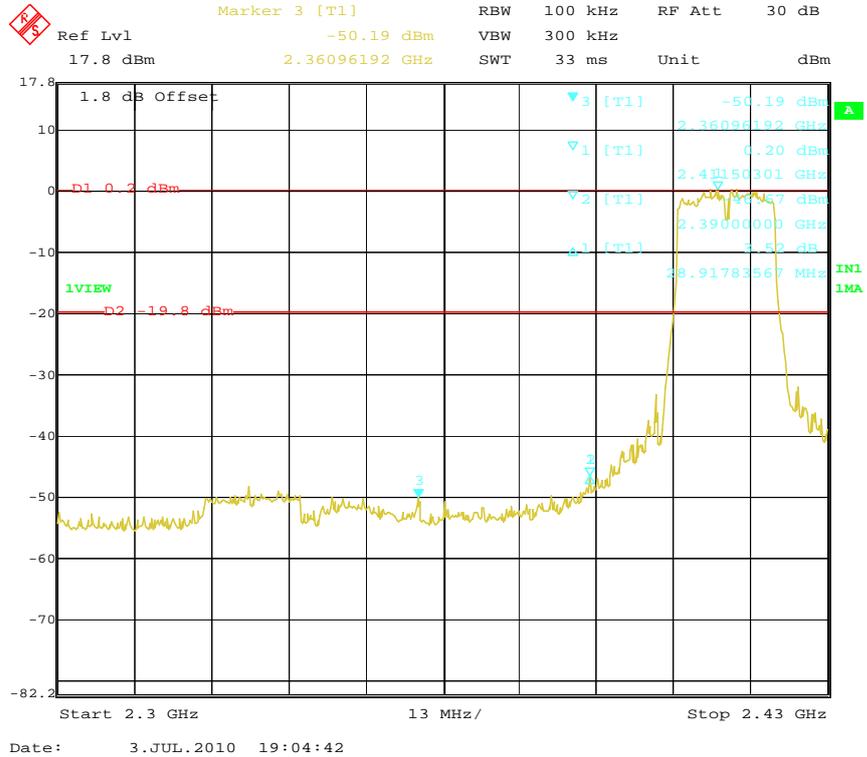


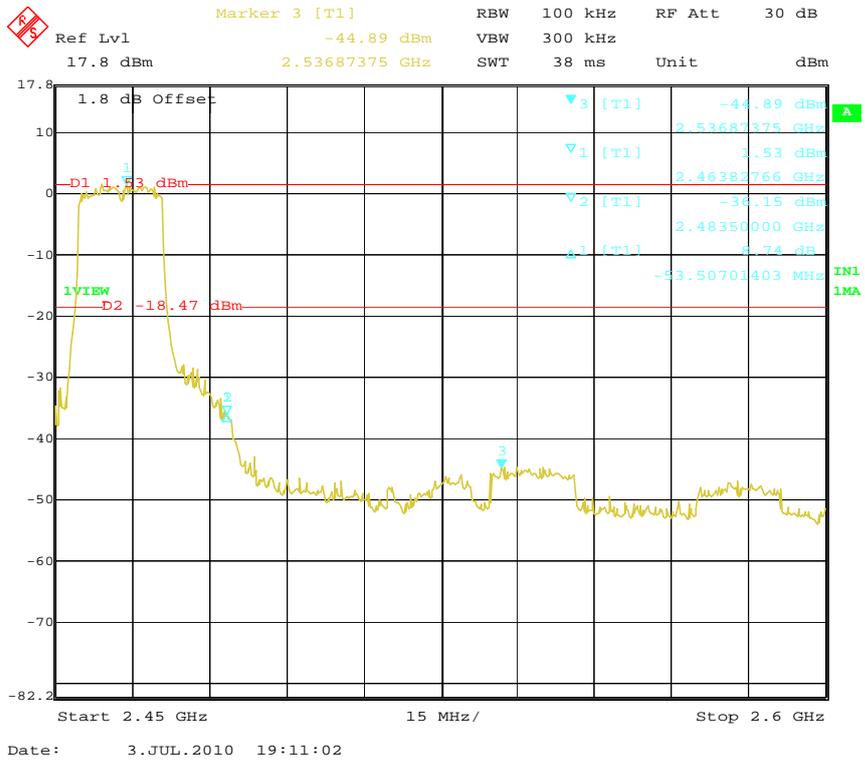
Note : For 802.11g Mode



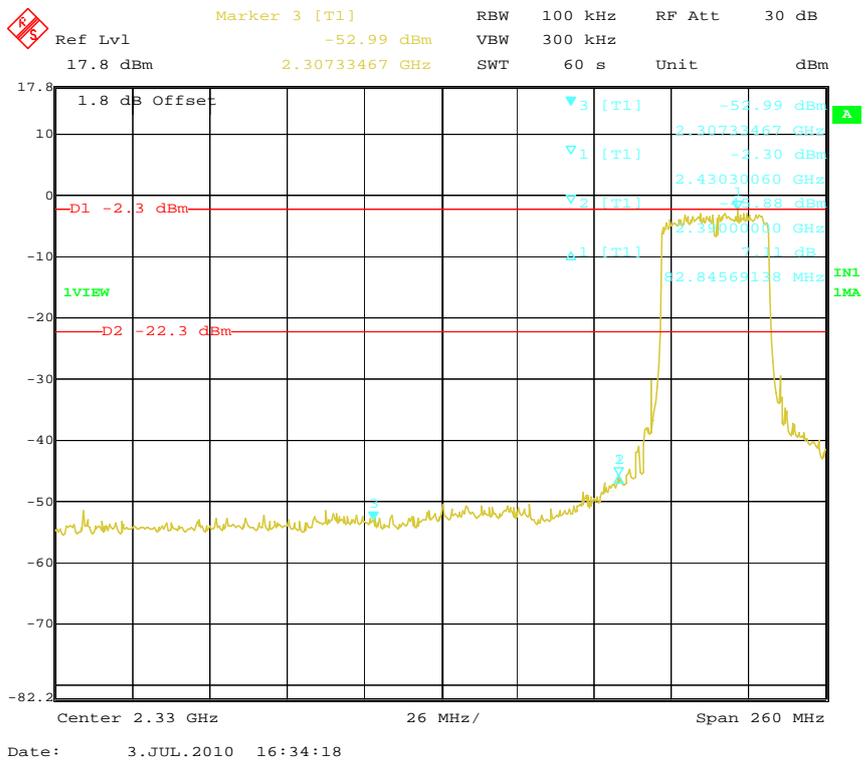


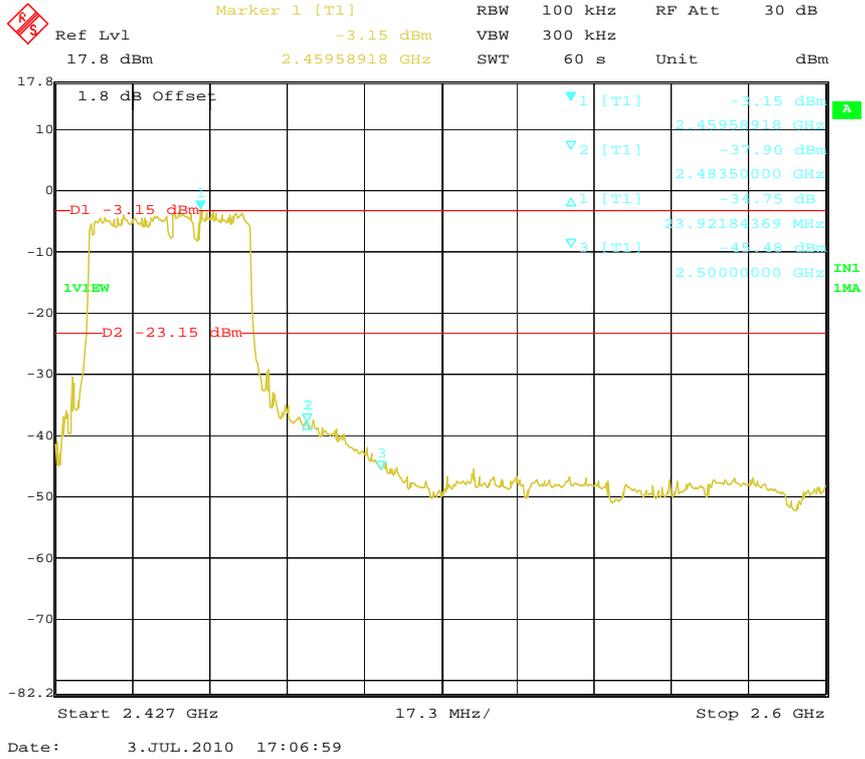
Note : For 802.11n (20MHz) Mode





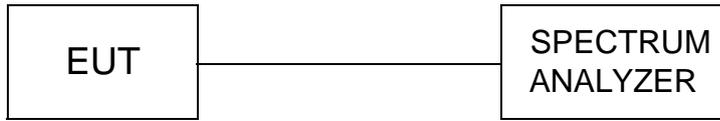
Note : For 802.11n (40MHz) Mode





4.6. Spurious RF Conducted Emission

TEST CONFIGURATION



TEST PROCEDURE

The Spurious RF conducted emissions compliance of RF radiated emission should be measured by following the guidance in ANSI C63.4-2009 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization etc. Set RBW=100kHz and VBM= 300KHz to measure the peak field strength , and mwasure frequeny range from 30MHz to 26.5GHz.

LIMIT

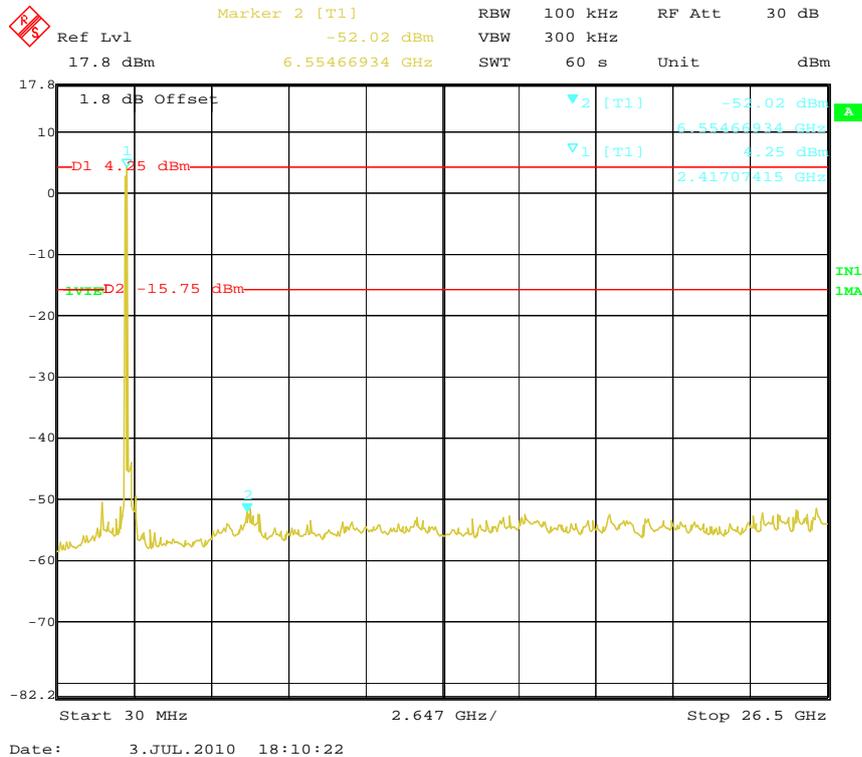
- 1. Below -20dB of the highest emission level in operating band.
- 2. Fall in the restricted bands listed in section 15.205. The maximum permitted average field strength is listed in section 15.209.

TEST RESULTS

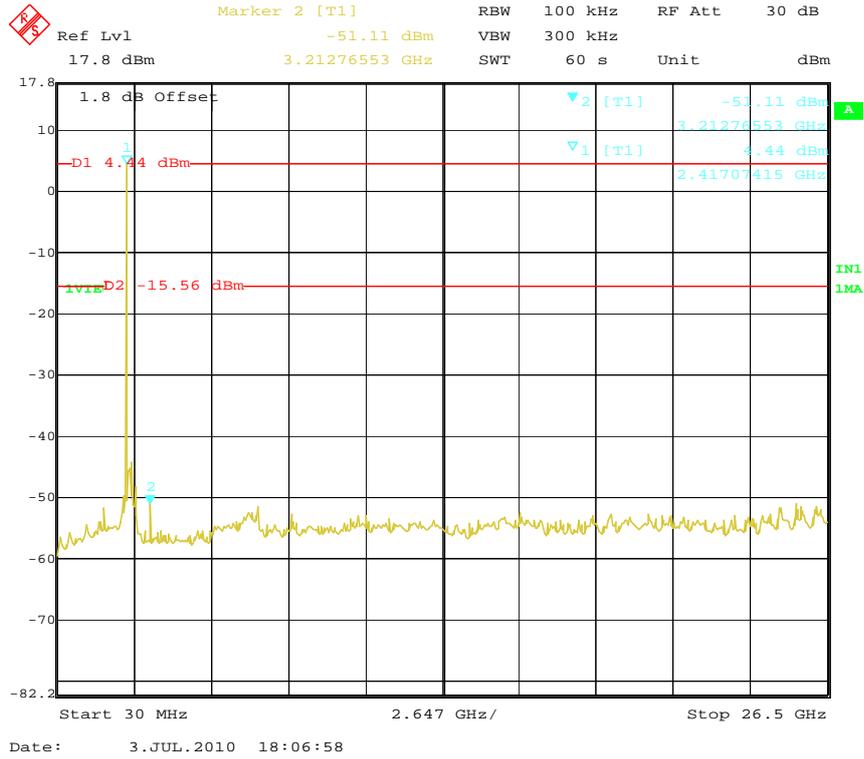
Photo of Spurious RF Conducted Emission Measurement

Note: For 802.11b Mode

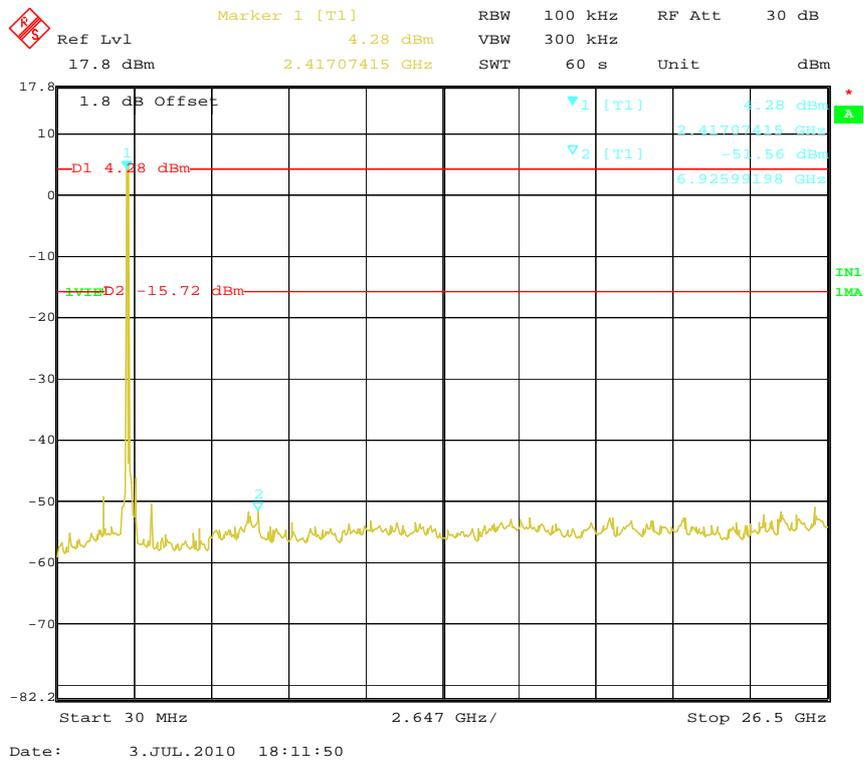
Channel 1



Channel 6

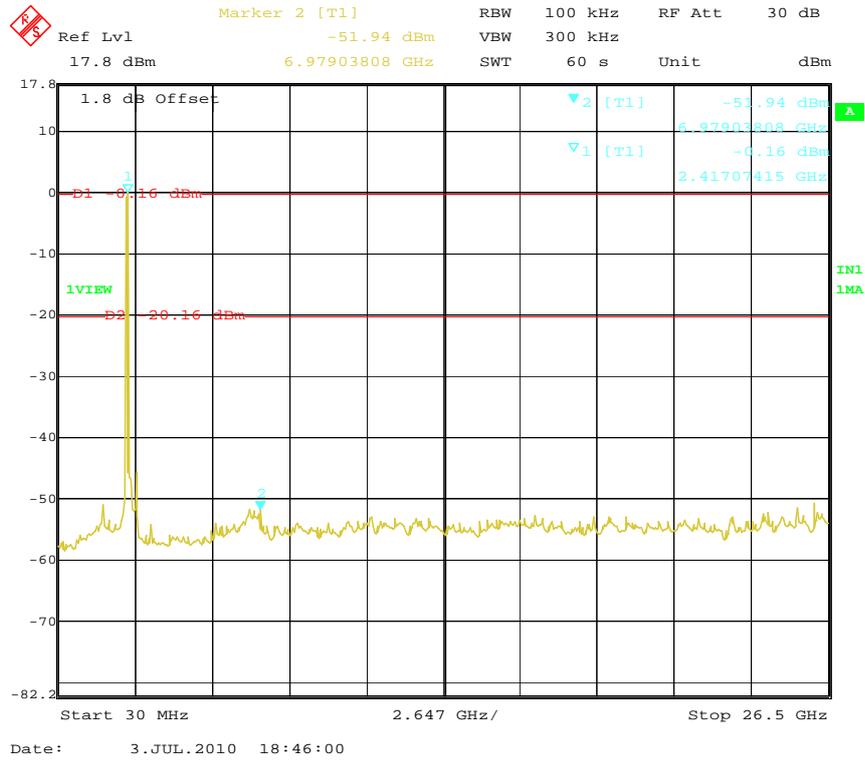


Channel 11

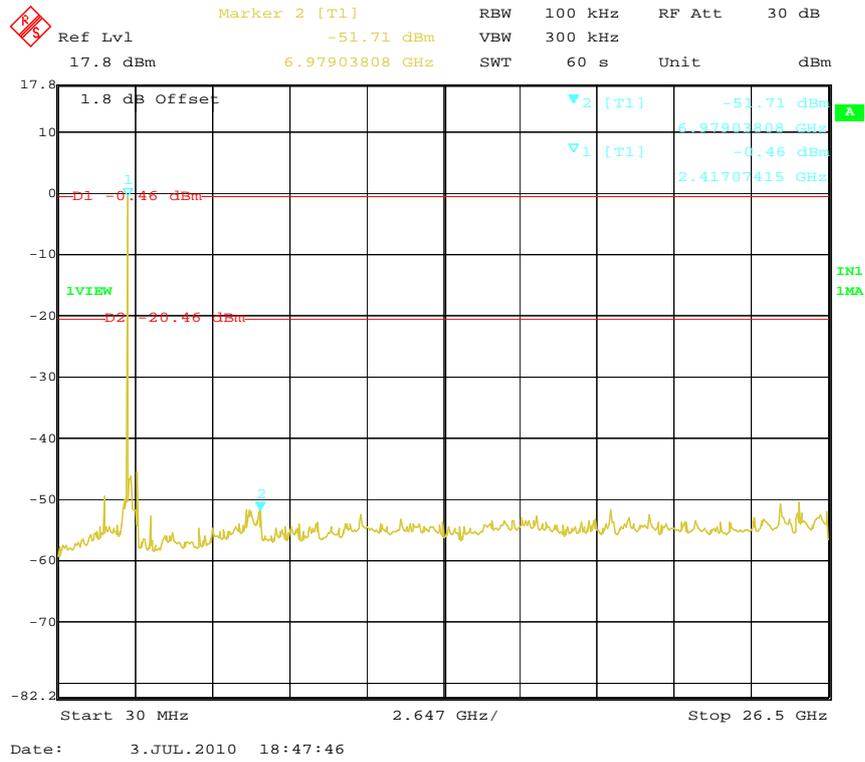


Note: For 802.11g Mode

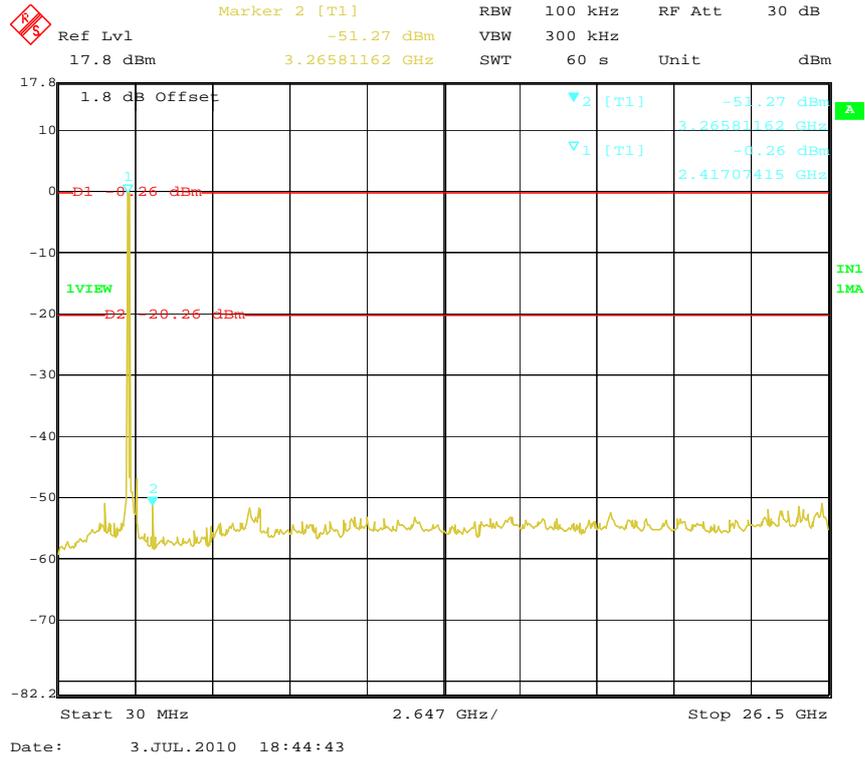
Channel 1



Channel 6

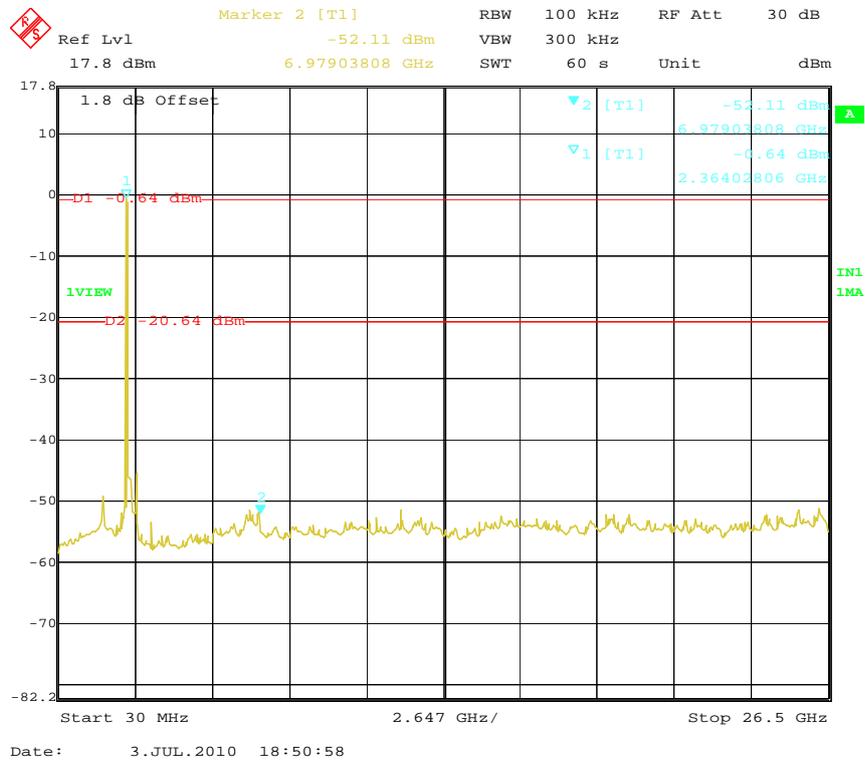


Channel 11

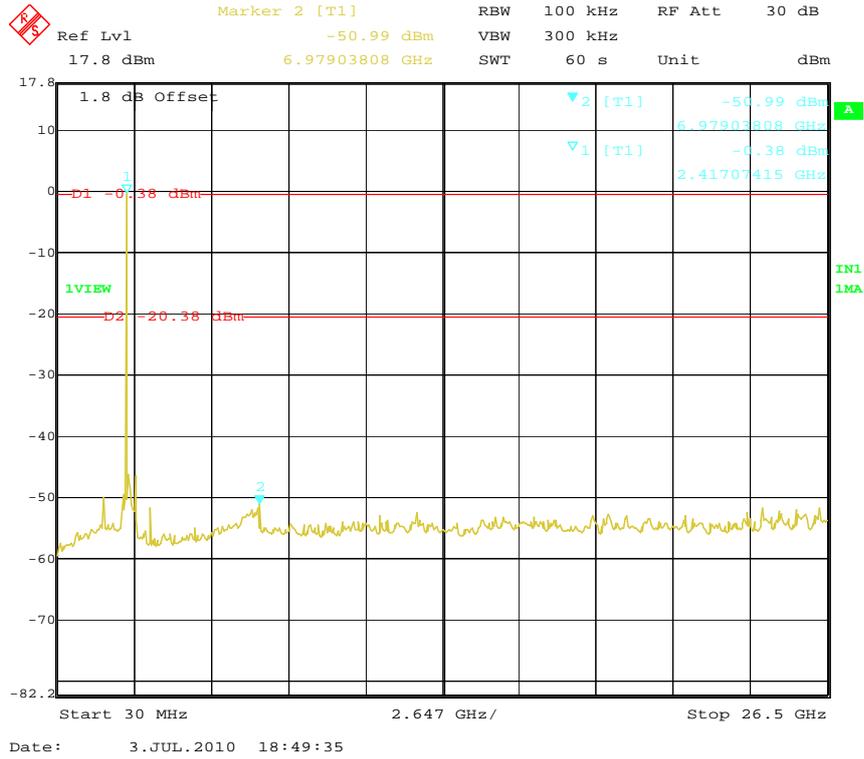


Note: For 802.11n (20MHz) Mode

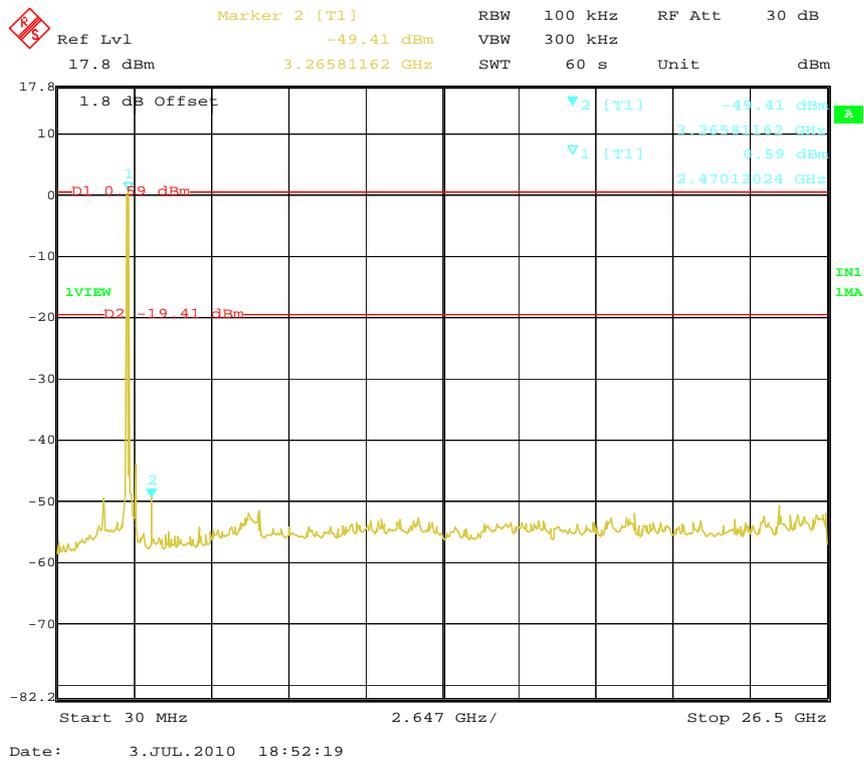
Channel 1



Channel 6

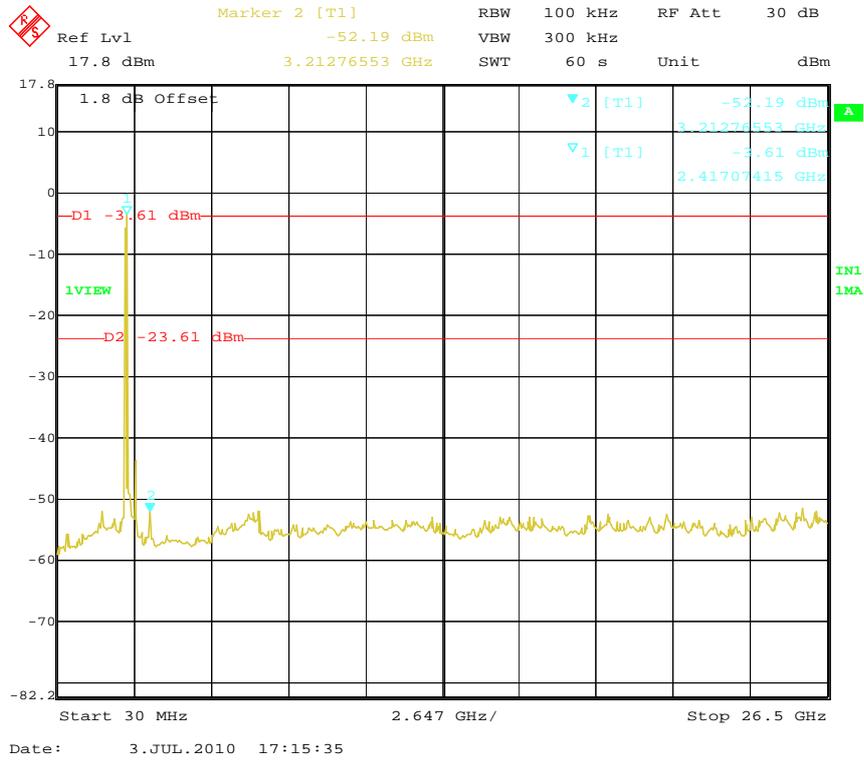


Channel 11

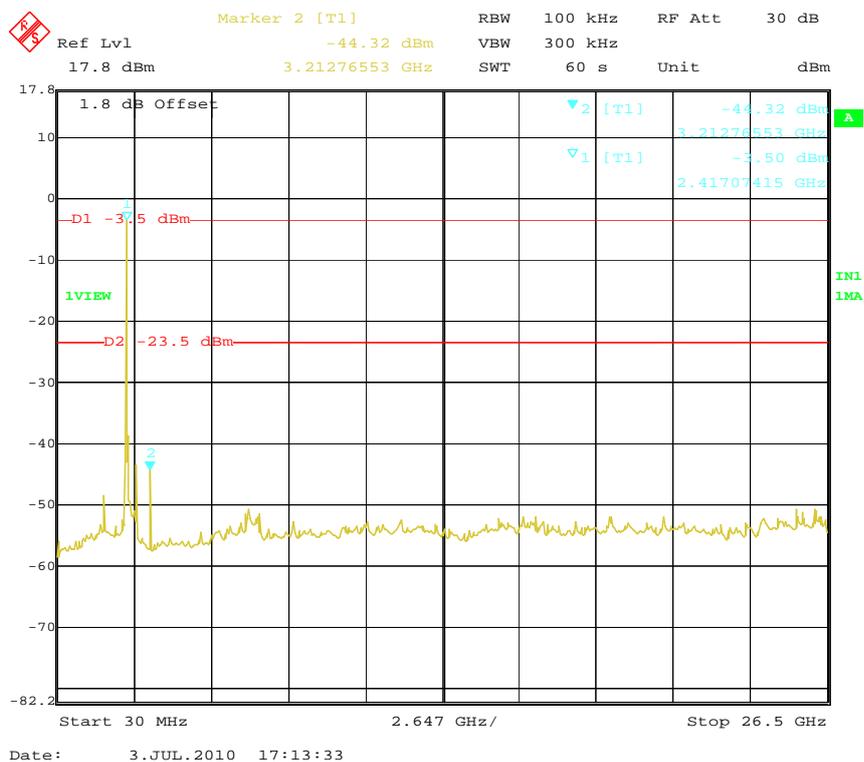


Note: For 802.11n (40MHz) Mode

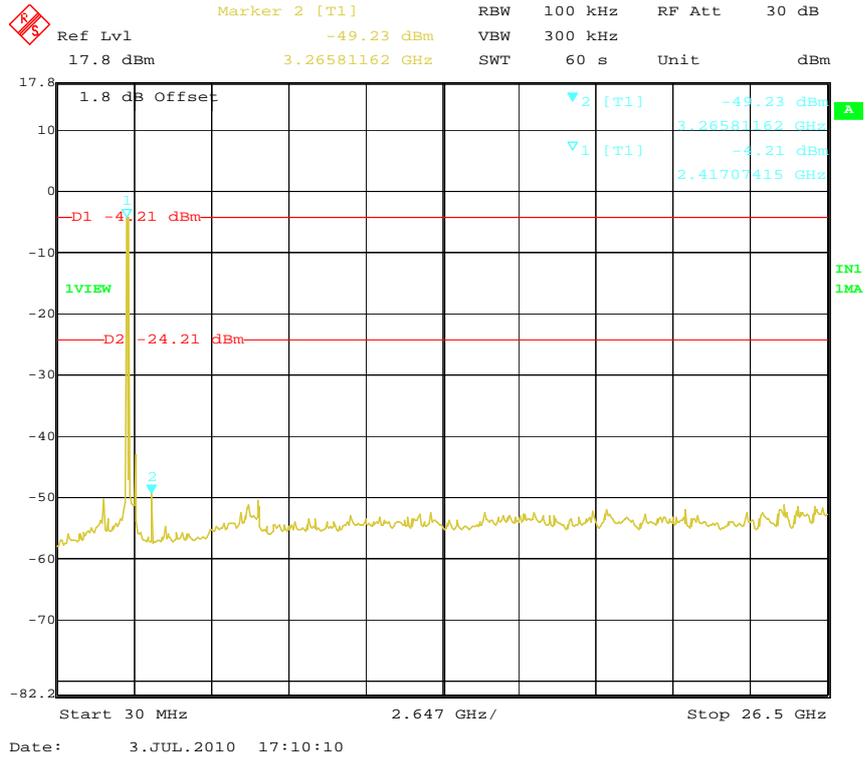
Channel 3



Channel 6

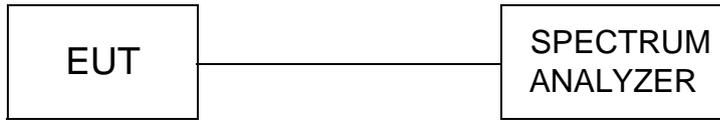


Channel 9



4.7. 6dB Bandwidth

TEST CONFIGURATION



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 100 KHz RBW and 300KHz VBW.

The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

LIMIT

For digital modulation systems, the minimum 6 dB bandwidth shall be at least 500 kHz.

TEST RESULTS

Company	HUAWEI TECHNOLOGIES CO.,LTD.	Test Date	03/07/2010
Product Name	Home Gateway	Test By	Eric Zhang
Model Name	HG530	TEMP&Humidity	25°C, 55%

Note: For 802.11b Mode

CHANNEL	CHANNEL FREQUENCY (MHz)	6 dB BANDWIDTH (MHz)	99%Bandwidth (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	2412	11.82	15.00	0.5	PASS
6	2437	11.72	15.00	0.5	PASS
11	2462	11.72	15.00	0.5	PASS

Note: For 802.11g Mode

CHANNEL	CHANNEL FREQUENCY (MHz)	6 dB BANDWIDTH (MHz)	99%Bandwidth (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	2412	16.53	16.50	0.5	PASS
6	2437	16.53	16.50	0.5	PASS
11	2462	16.63	16.60	0.5	PASS

Note: For 802.11n (20MHz) Mode

CHANNEL	CHANNEL FREQUENCY (MHz)	6 dB BANDWIDTH (MHz)	99%Bandwidth (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	2412	16.53	17.70	0.5	PASS
6	2437	16.53	17.70	0.5	PASS
11	2462	16.53	17.70	0.5	PASS

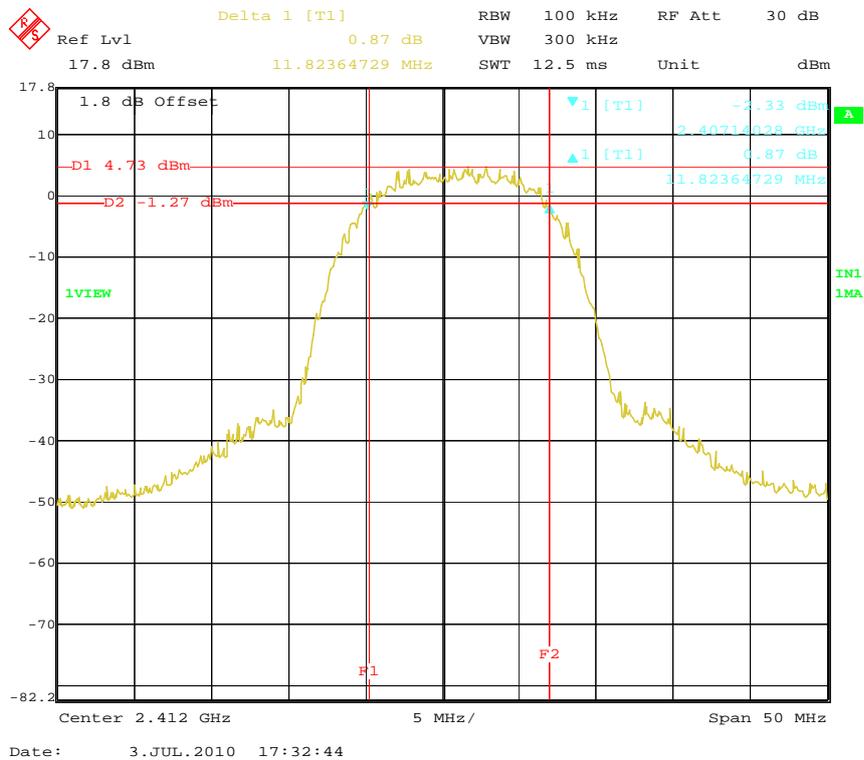
Note: 1. For 802.11n (40MHz) Mode

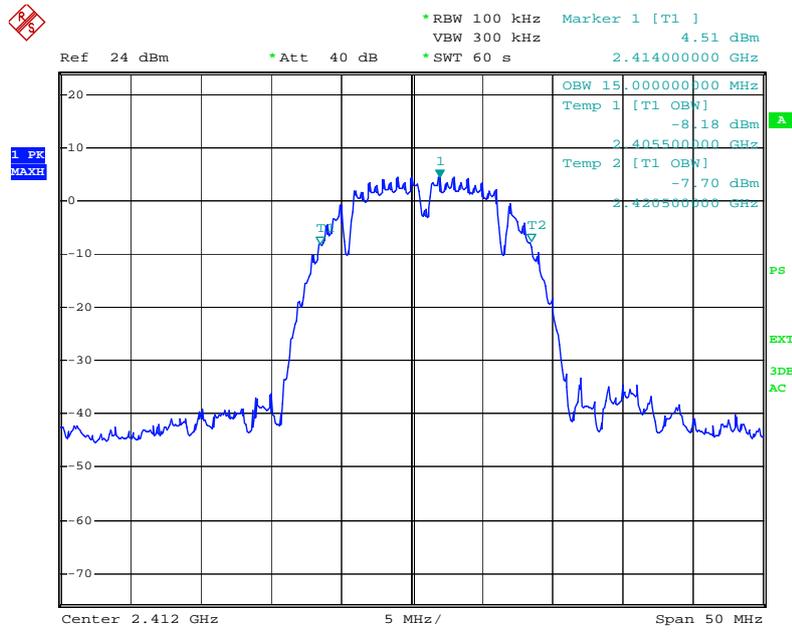
CHANNEL	CHANNEL FREQUENCY (MHz)	6 dB BANDWIDTH (MHz)	99%Bandwidth (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
3	2422	36.57	36.20	0.5	PASS
6	2437	36.57	36.20	0.5	PASS
9	2452	36.57	36.20	0.5	PASS

Photos of 6dB Bandwidth Measurement and 99% Occupied Bandwidth

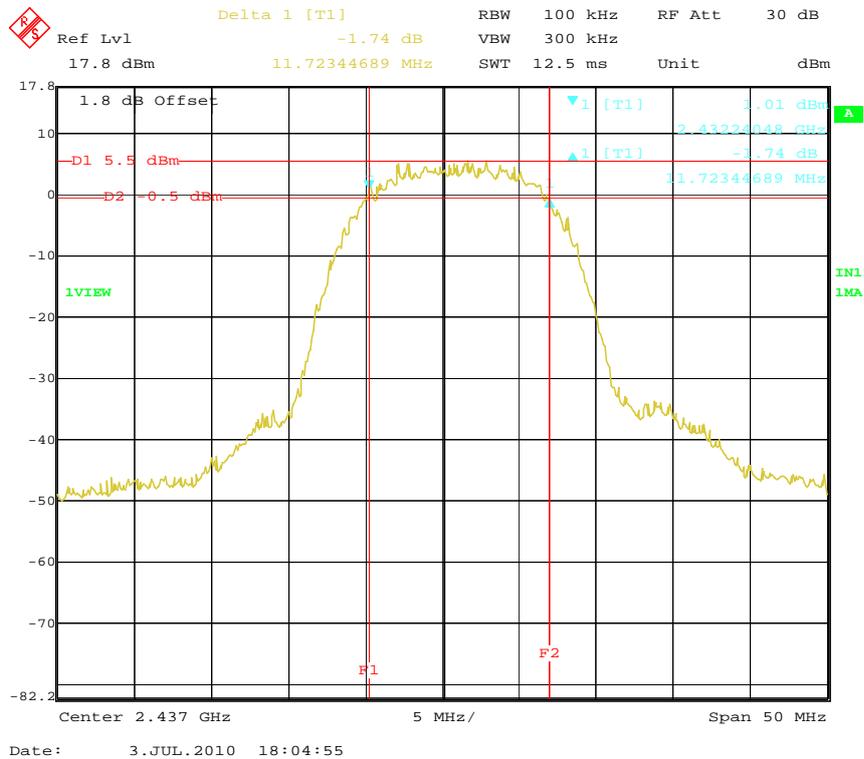
Note: For 802.11b Mode

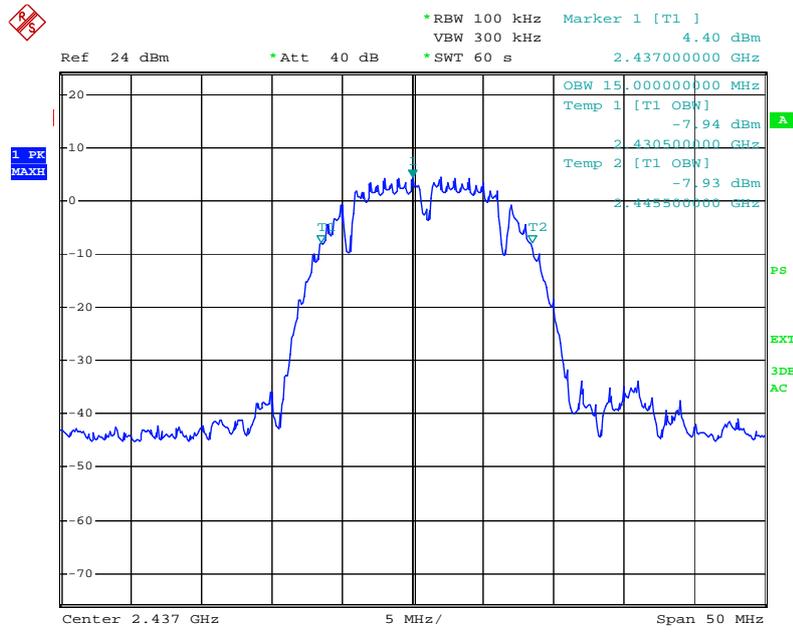
Channel 1



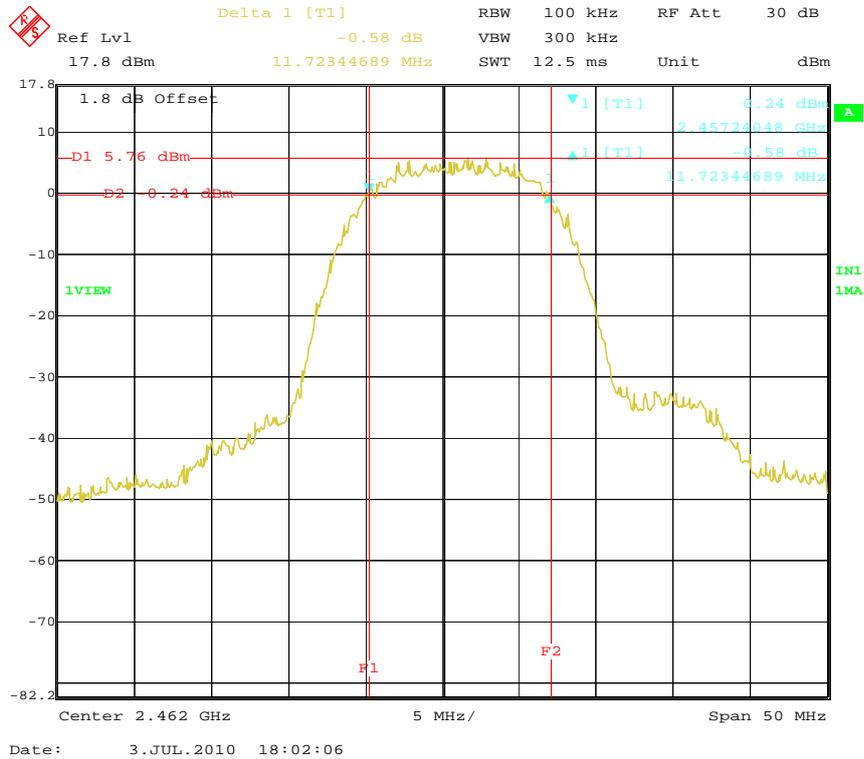


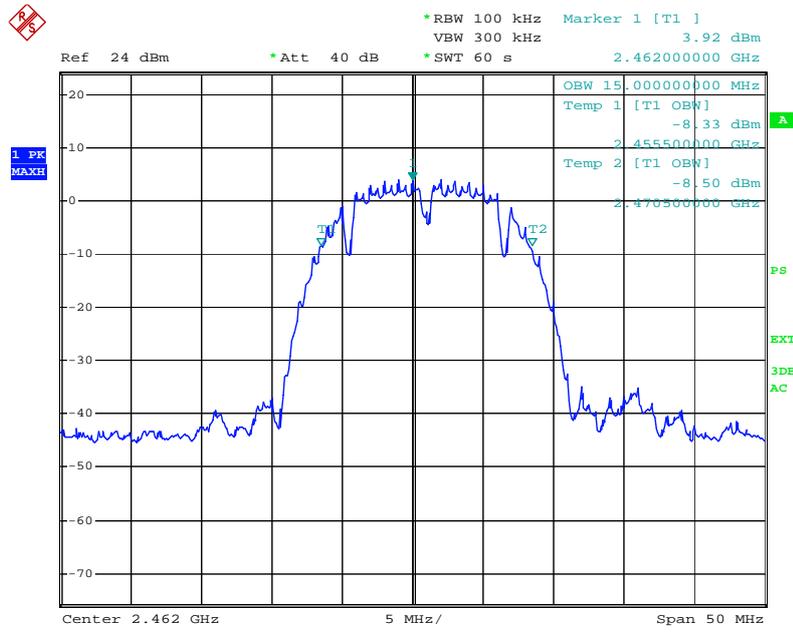
Channel 6





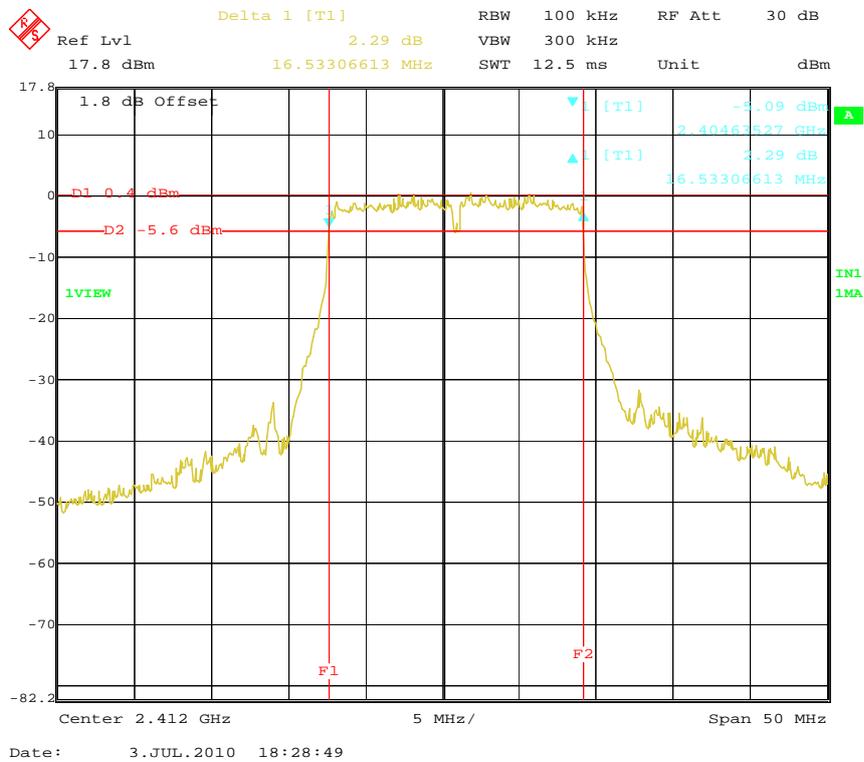
Channel 11

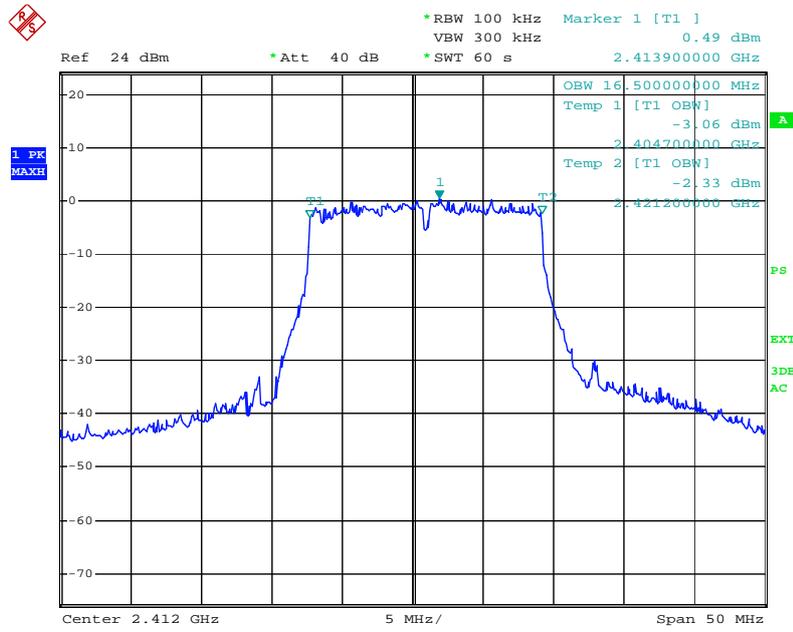




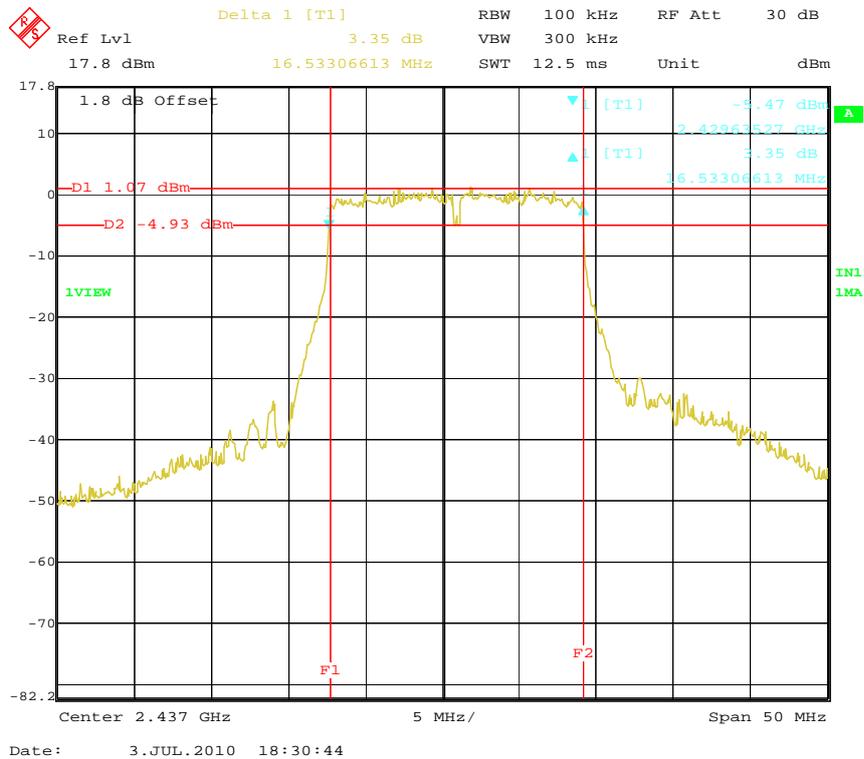
Note : For 802.11g Mode

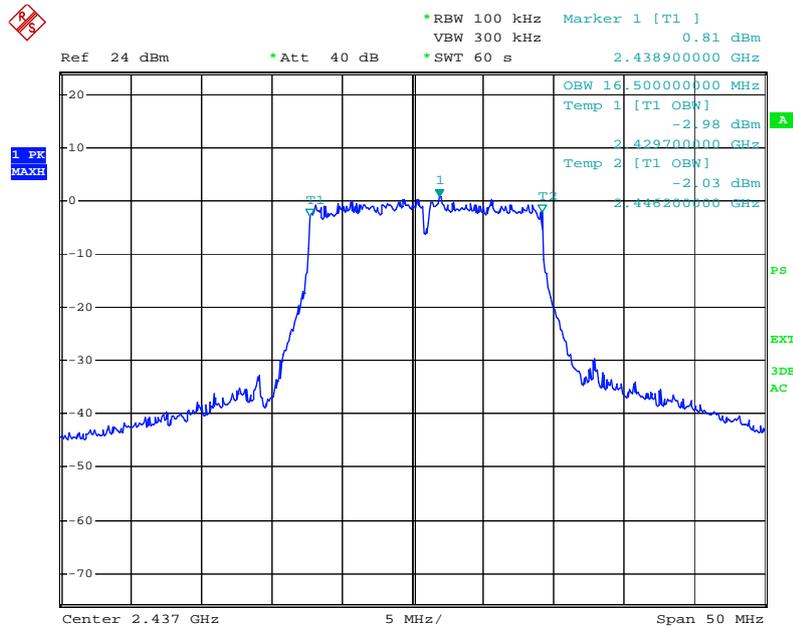
Channel 1



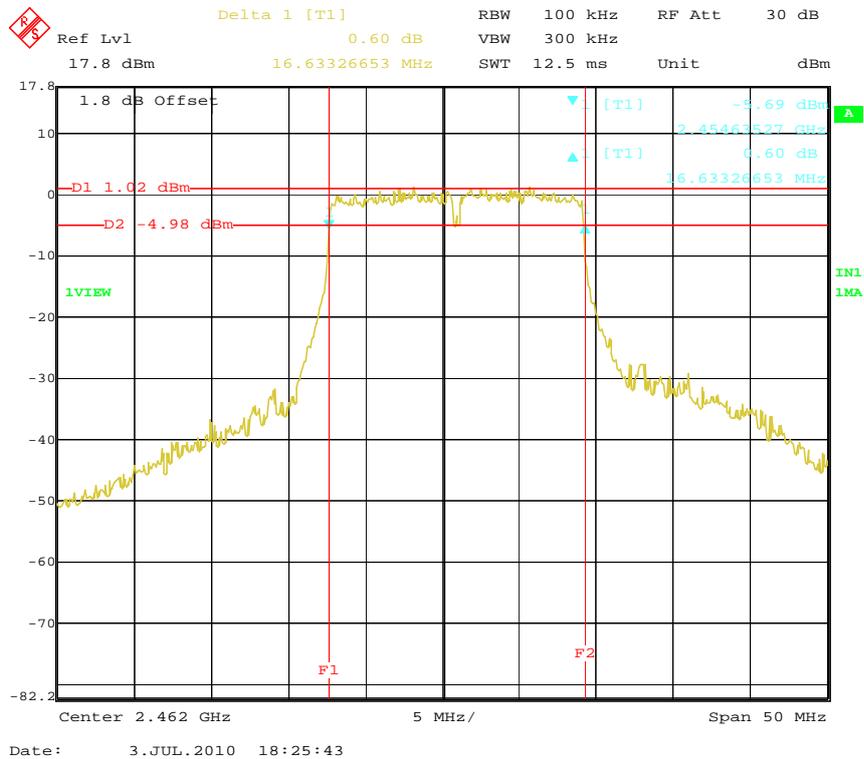


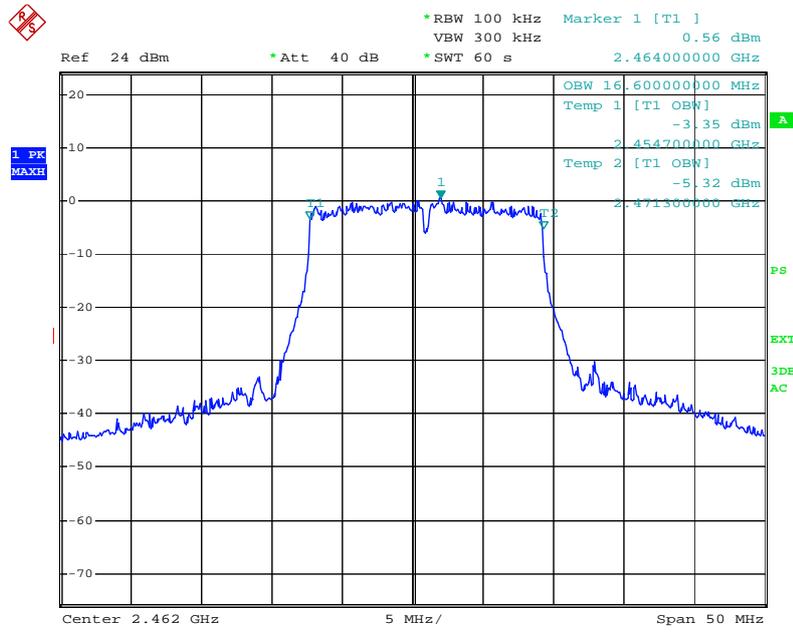
Channel 6





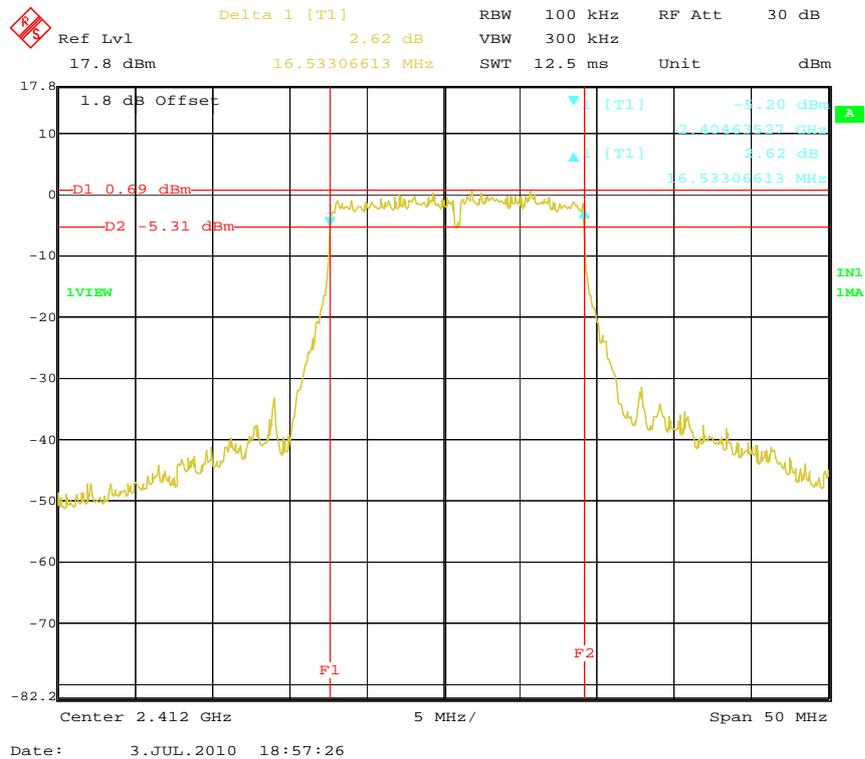
Channel 11

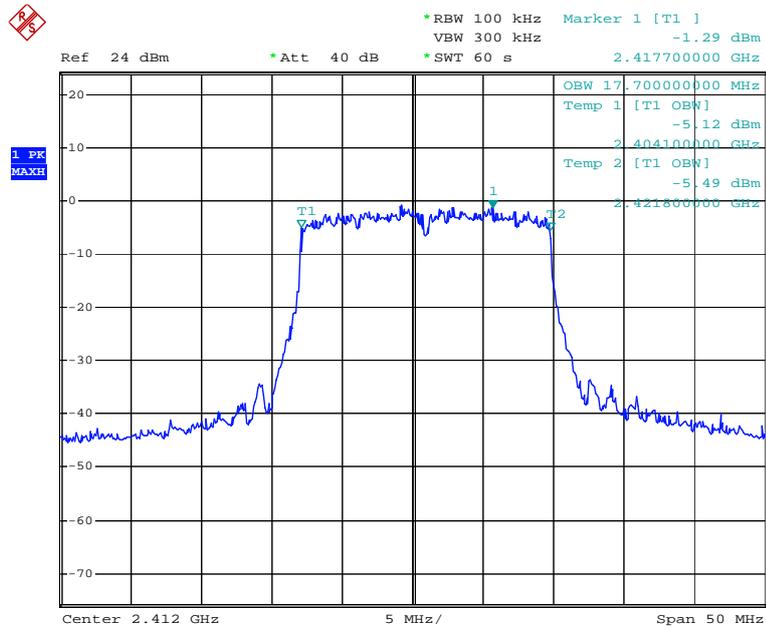




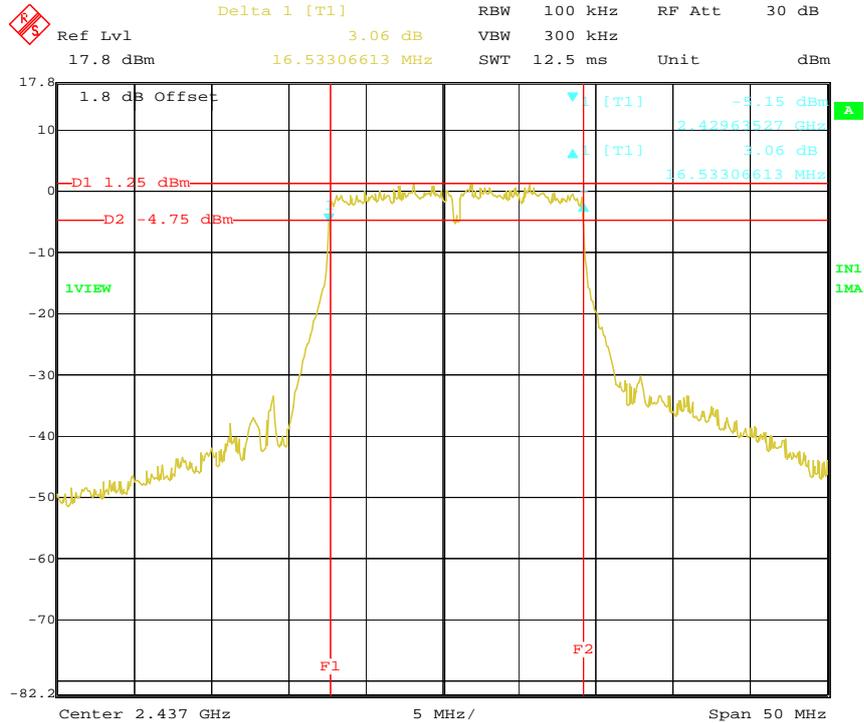
Note : For 802.11n (20MHz) Mode

Channel 1

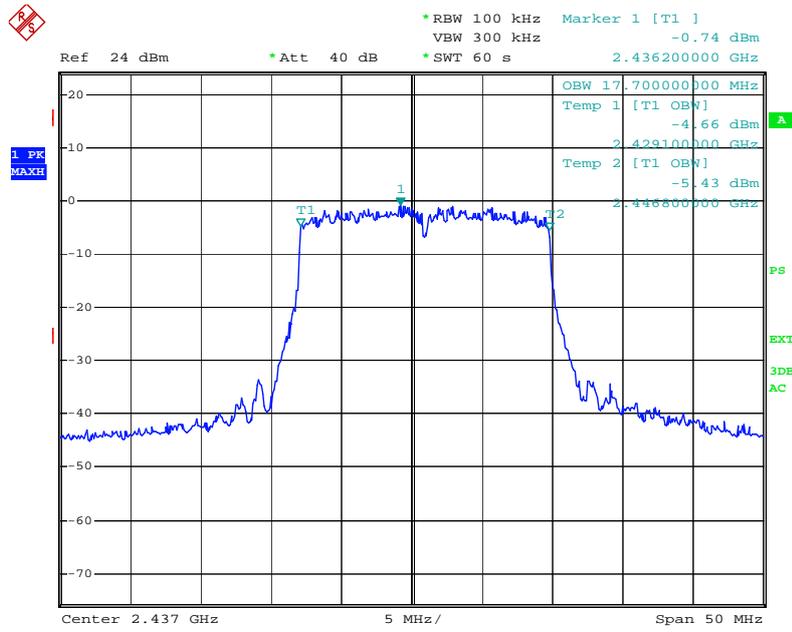




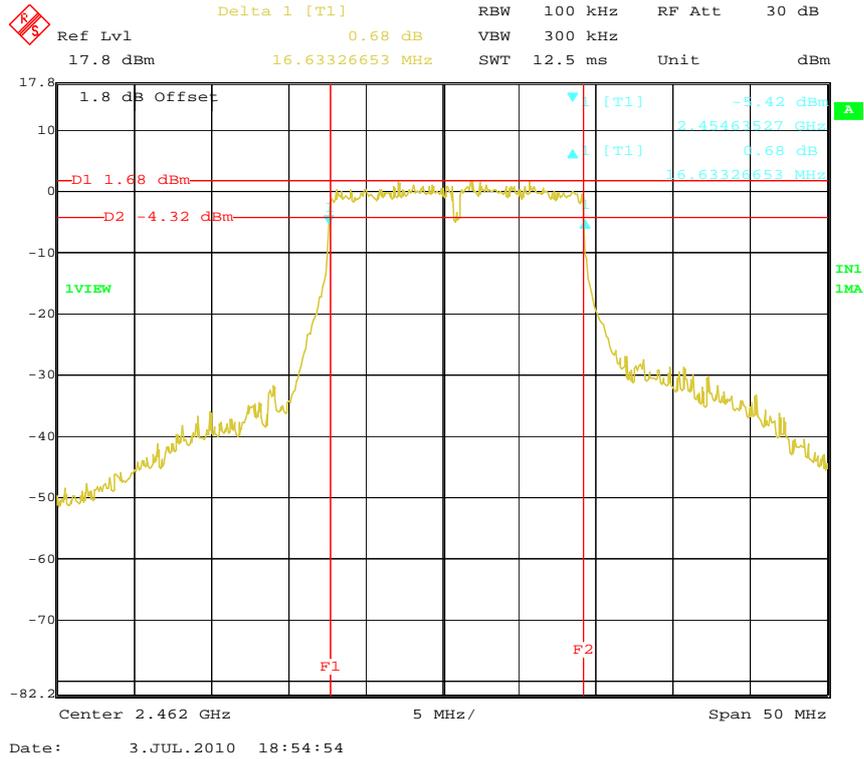
Channel 6

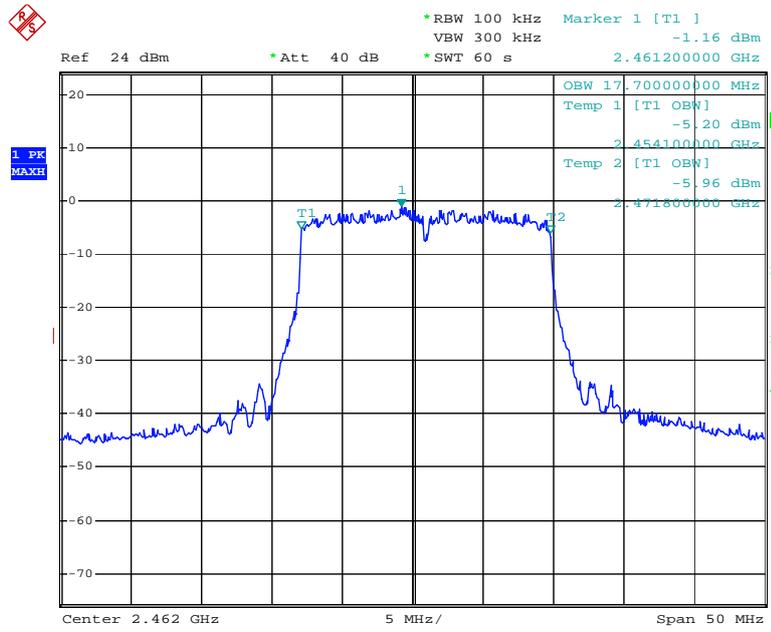


Date: 3.JUL.2010 18:59:28



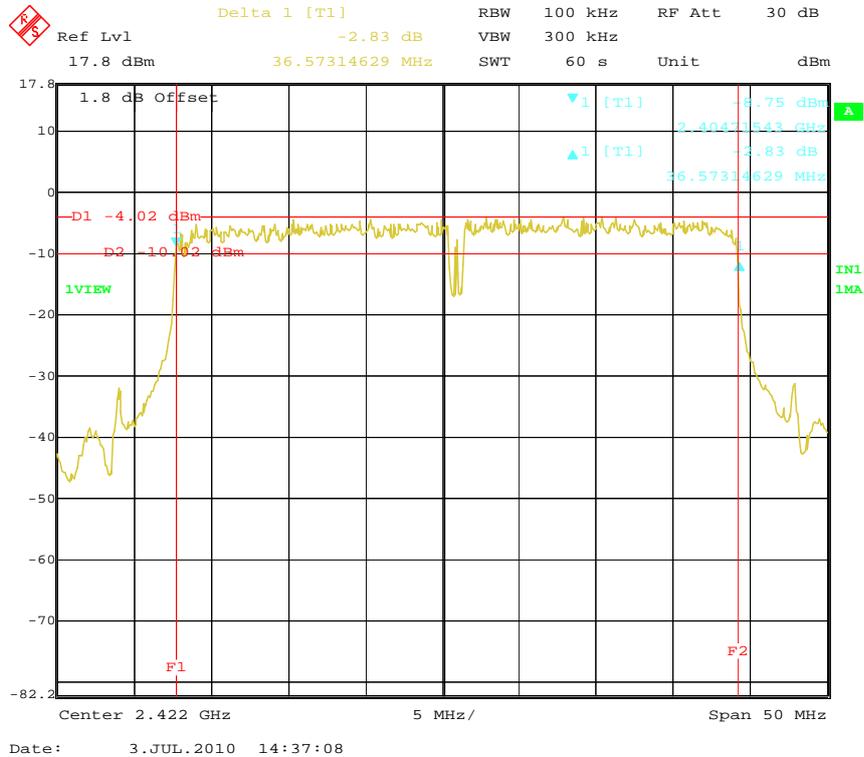
Channel 11

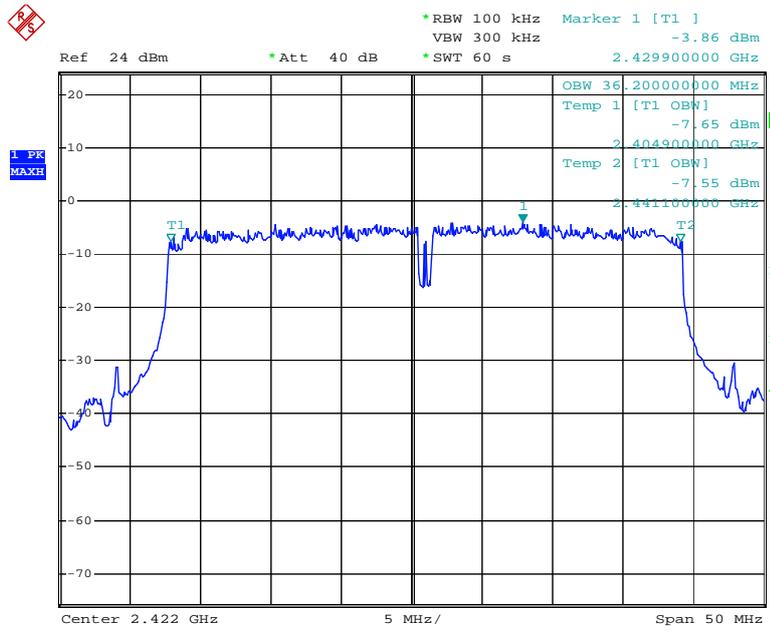




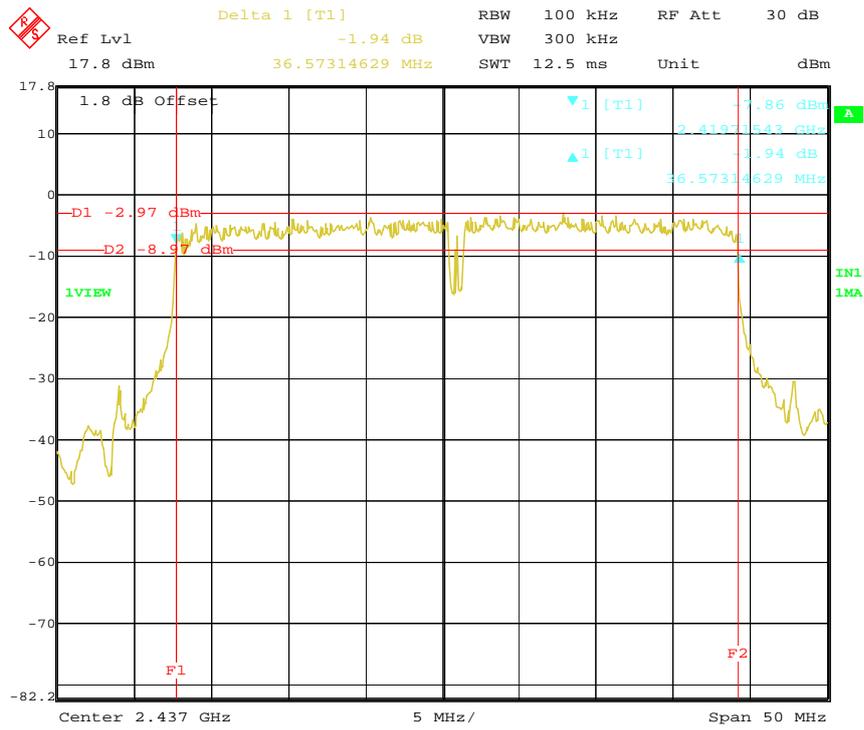
Note : For 802.11n (40MHz) Mode

Channel 3

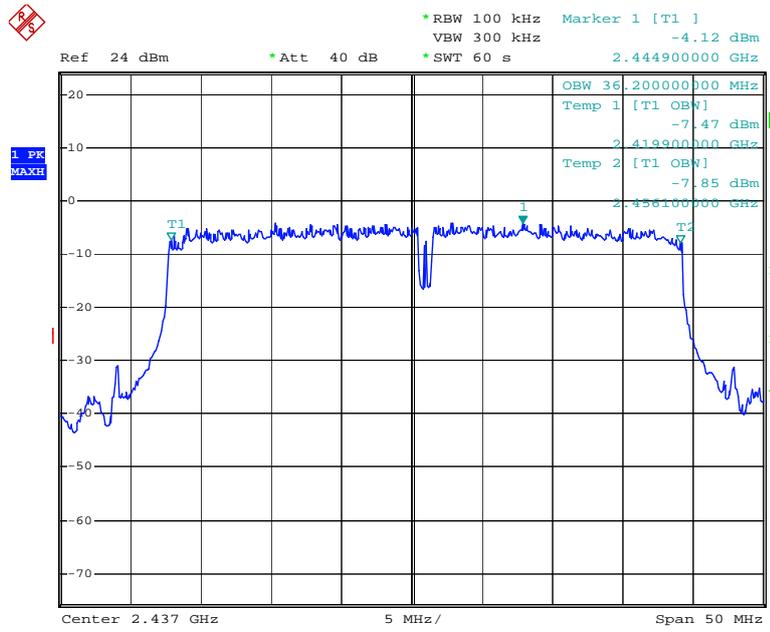




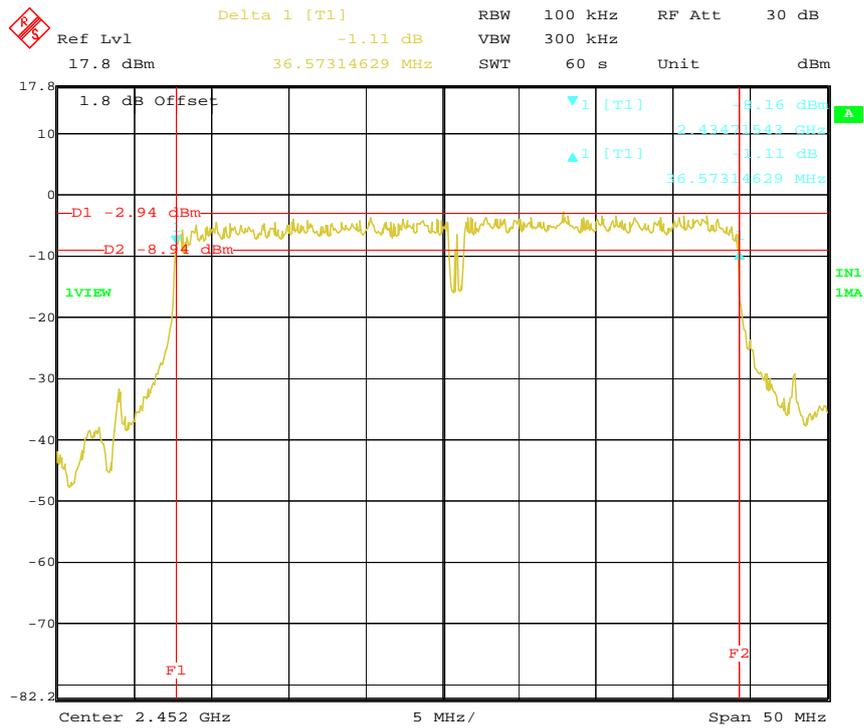
Channel 6



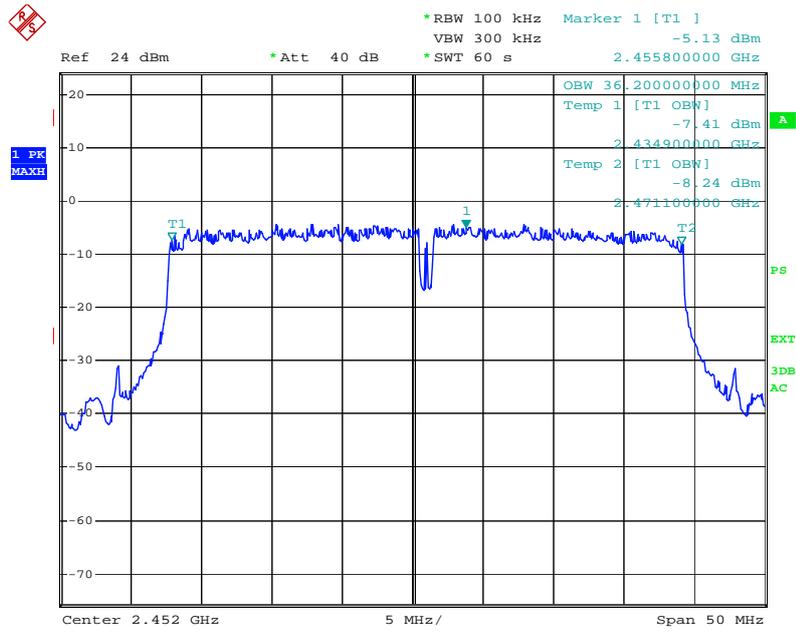
Date: 3.JUL.2010 14:40:01



Channel 9



Date: 3.JUL.2010 14:41:58



4.8. Antenna Requirement

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.

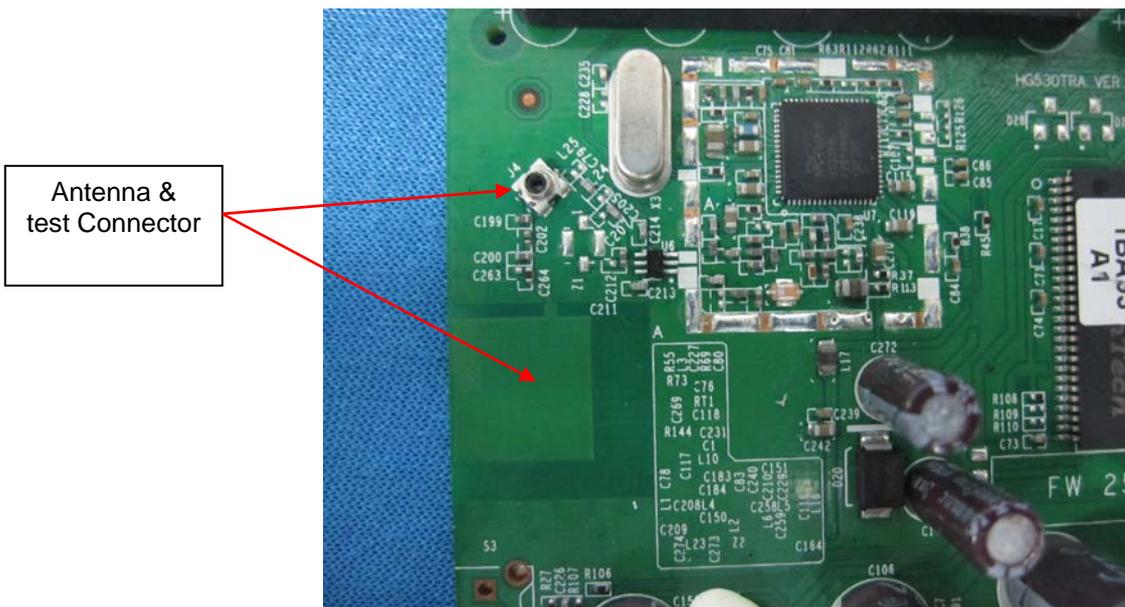
And according to FCC 47 CFR Section 15.247 (c), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

Refer to statement below for compliance.

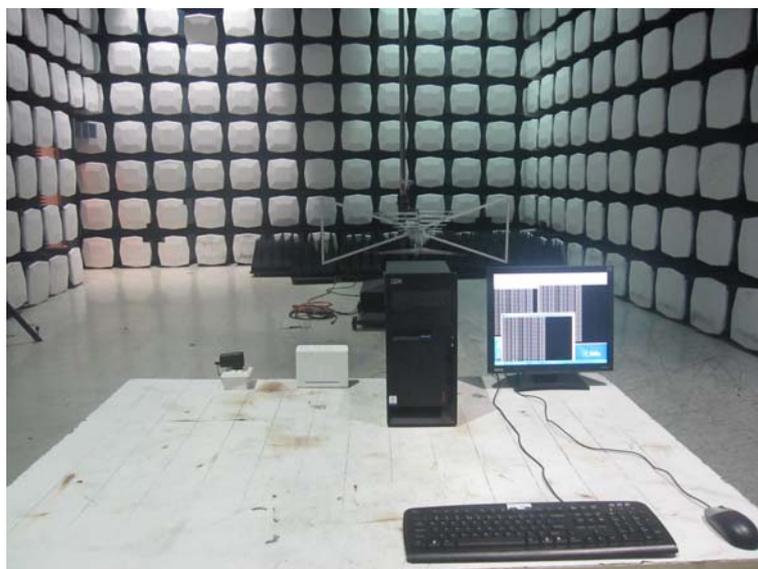
The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

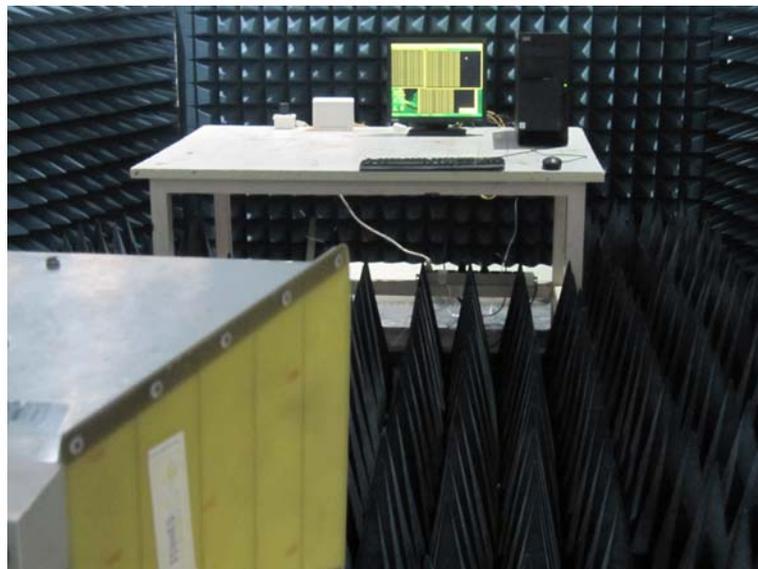
Antenna Connected Construction

The antenna used in this product is a PCB Antenna .The maximum Gain of the antenna only 2dBi. Detial please see the photos as following:



5. Test Setup Photos of the EUT





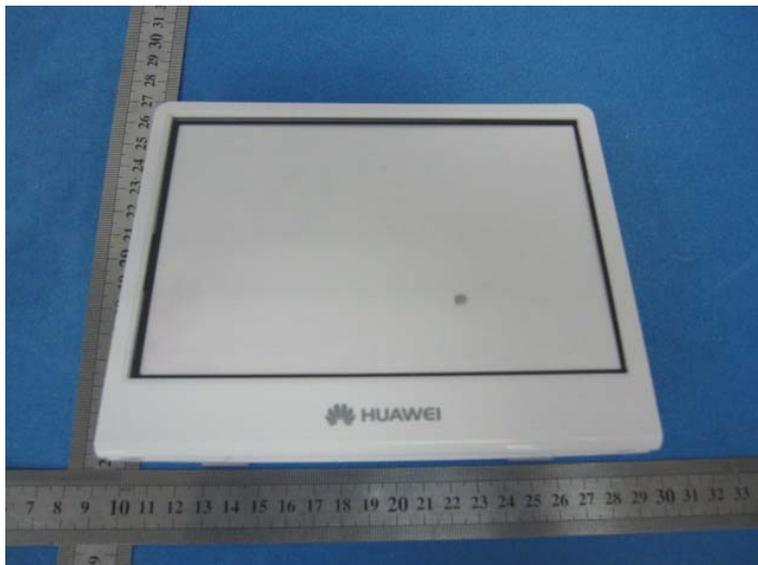
6. External and Internal Photos of the EUT

External Photos

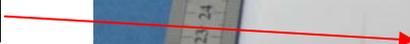


Label location

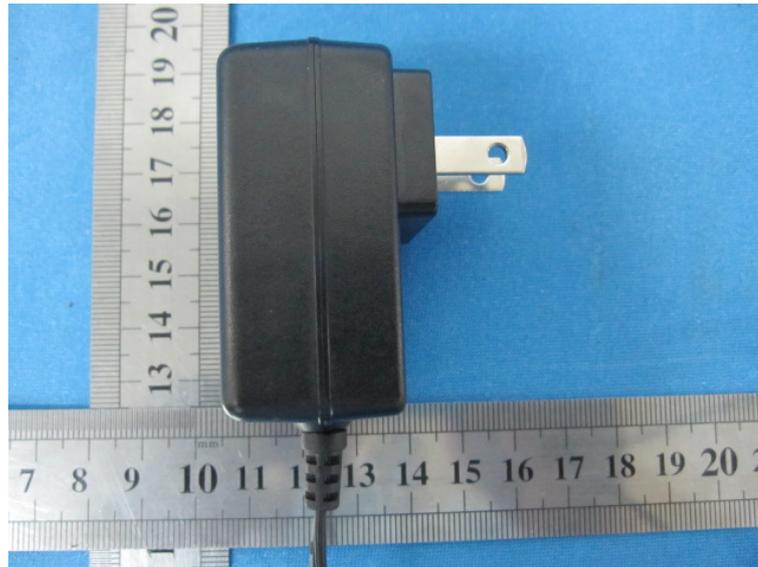




Label location



#1 AC Adapter

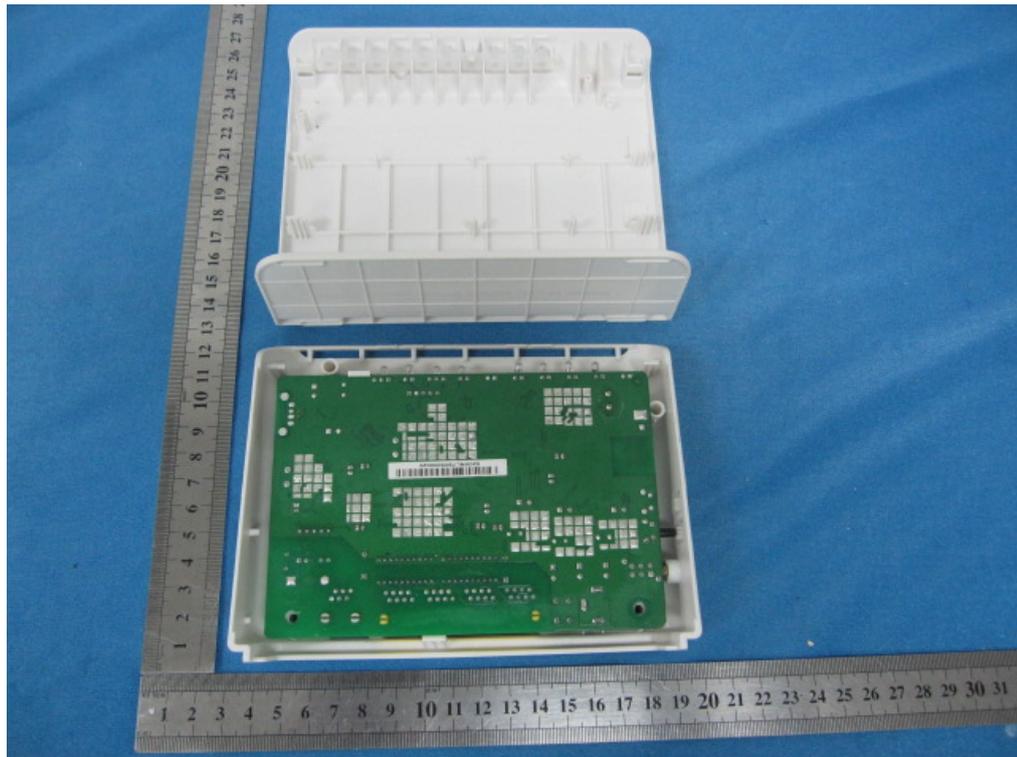


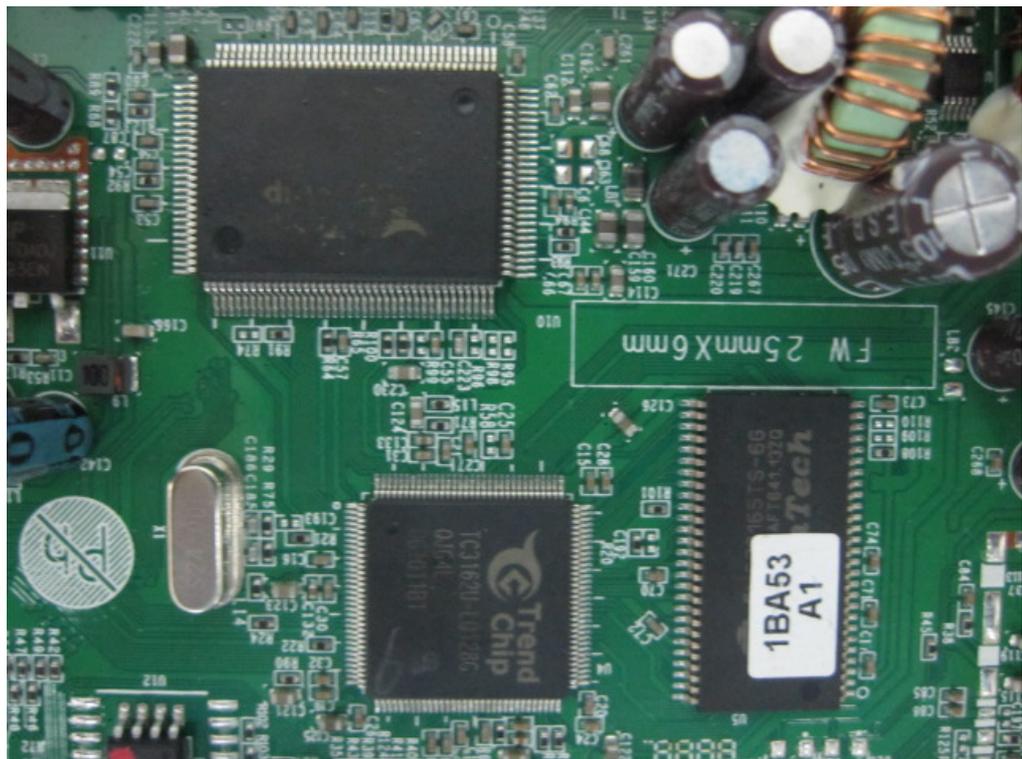
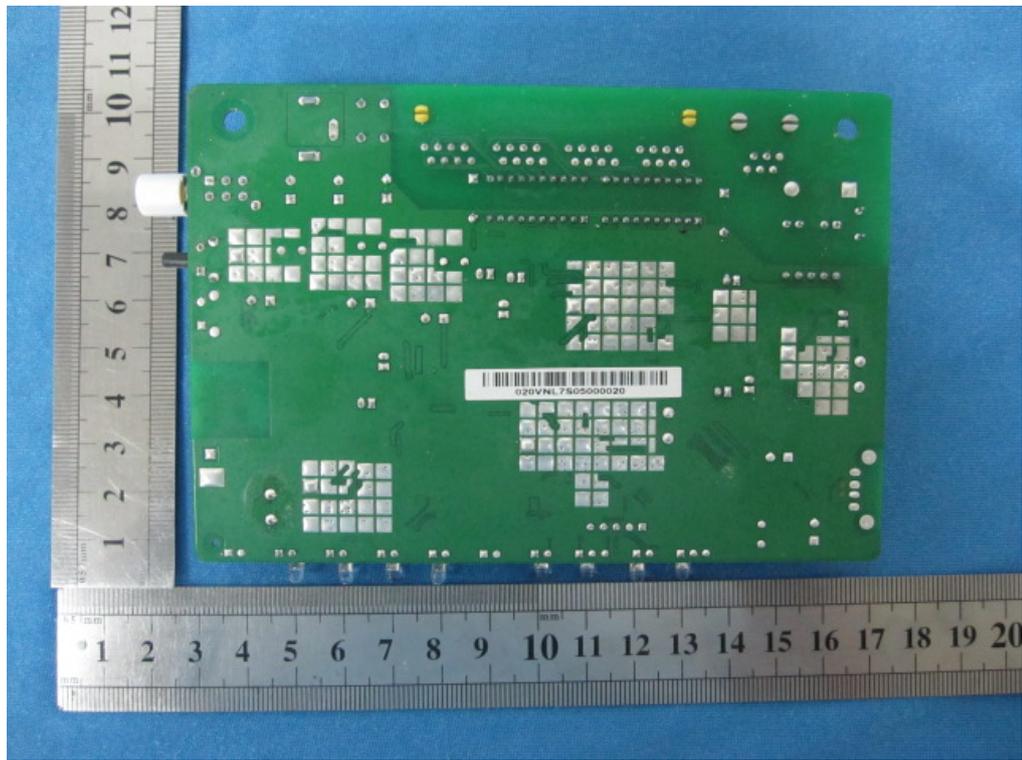
#2 AC Adapter





Internal Photos





.....End of Report.....