



HCT CO., LTD.

Product Compliance Division

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CERTIFICATE OF COMPLIANCE

FCC PART 15.247 Certification

Applicant Name:
LG Electronics Inc.

Date of Issue:
April 03, 2009

Address:
60-39, Gasan-dong, Gumchon-gu,
Seoul 153-023, Korea

Test Site/Location:
HCT.CO., LTD., San 136-1 Ami-ri, Bubal-eup, Icheon-si,
Kyungki-do, Korea
Test Report No.: HCT-RF09-0409
HCT FRN: 0005866421

FCC ID: BEJGT500

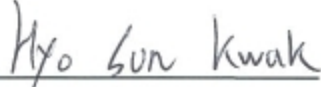
APPLICANT: LG Electronics Inc.

FCC Rule Part(s): Part 15.247
Application Type: Certification
EUT Type: Cellular/ PCS GSM/ EDGE Phone with Bluetooth and WLAN
Model(s): GT500
Tx Frequency: 2412-2462 MHz(DSSS/OFDM)
Rx Frequency: 2412-2462 MHz(DSSS/OFDM)
Max. RF Output Power: Wi-Fi 802.11b(24.03 dBm) / Wi-Fi 802.11g (24.04 dBm)

Engineering Statement:

The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them.

HCT.CO., LTD. Certifies that no party to this application has been denied FCC benefits pursuant to section 5301 of the Anti-Drug Abuse Act of 1998, 21 U.S. C.862


Report prepared by
: Hyo Sun Kwak
Test engineer of RF Part


Approved by
: Sang Jun Lee
Manager of RF Part

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1. GENERAL INFORMATION

Applicant: LG Electronics Inc.
Address: 60-39, Gasan-dong, Gumchon-gu,
Seoul 153-023, Korea
FCC ID: BEJGT500
EUT: Cellular/ PCS GSM/ EDGE Phone with Bluetooth and WLAN
Model: GT500
Date of Test: March 12, 2009 ~ March 20, 2009
Contact person: Name: Bong Hyo, Han
Phone #: +82-2-2033-1108
Fax #: +82-2-2033-1222

2. EUT DESCRIPTION

Product	Cellular/ PCS GSM/ EDGE Phone with Bluetooth and WLAN
Model Name	GT500
Power Supply	DC 3.7 V
Battery type	Standard
Frequency Range	TX: 2412 ~ 2462 MHz RX: 2412 ~ 2462 MHz
Max. RF Output Power	Wi-Fi 802.11b(24.03 dBm) / Wi-Fi 802.11g (24.04 dBm)
Modulation Type	DSSS/CCK(802.11b), OFDM(802.11g)
Antenna Specification	Manufacturer: Murata Manufacturing Co.,ltd. Antenna type: Chip Antenna Peak Gain : -3.00 dBi



3. TEST METHODOLOGY

The measurement procedure described in the American National Standard for Methods of Measurement of Radio-Noise Emission from Low-Voltage Electrical and Electronic Equipment in the Range of 9kHz to 40GHz(ANSI C63.4-2003)

3.1 EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

3.2 EUT EXERCISE

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. According to its specifications, the EUT must comply with the requirements of the Section 15.207, 15.209 and 15.247 under the FCC Rules Part 15 Subpart C.

3.3 GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4. (Version :2003) Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3 m away from the receiving antenna, which varied from 1 m to 4 m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. 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 13.1.4.1 of ANSI C63.4. (Version: 2003)

3.4 DESCRIPTION OF TEST MODES

The EUT has been tested under operating condition. Test program used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

Channel low, mid and high with highest data rate (worst case) is chosen for full testing.

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4. INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipments, which is traceable to recognized national standards.

5. FACILITIES AND ACCREDITATIONS

5.1 FACILITIES

The open area test site and conducted measurement facility used to collect the radiated data are located at the 254-1, Maekok-Ri, Hobup-Myun, Ichon-Si, Kyoungki-Do, 467-701, KOREA. The site is constructed in conformance with the requirements of ANSI C63.4. (Version :2003) and CISPR Publication 22. Detailed description of test facility was submitted to the Commission and accepted dated July 6, 2006(Registration Number: 90661)

5.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of Linearly polarized antennas: tuned dipole, bi-conical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements. Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers. Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

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6. ANTENNA REQUIREMENTS

According to FCC 47 CFR §15.203:

“An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.”

* The antennas of this E.U.T are permanently attached.

*The E.U.T Complies with the requirement of §15.203

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7. TEST RESULT

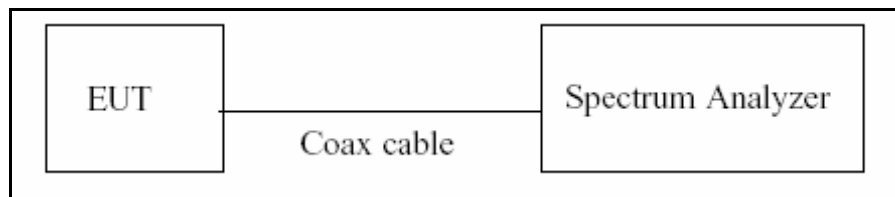
7.1 6dB Bandwidth Measurement (802.11b/g)

Test Requirements and limit, §15.247(d)

The bandwidth at 6dB down from the highest in-band spectral density is measured with a spectrum analyzer connected to the receive antenna while the EUT is operating in transmission mode at the appropriate frequencies.

The minimum permissible 6dB bandwidth is 500 kHz.

■ TEST CONFIGURATION



■ TEST PROCEDURE

The transmitter output is connected to the Spectrum Analyzer.

The Spectrum Analyzer is set to

RBW: 100 KHz

VBW: 100 KHz

SPAN: 40 MHz

■ TEST RESULTS

Conducted 6dB Bandwidth Measurements for 802.11b

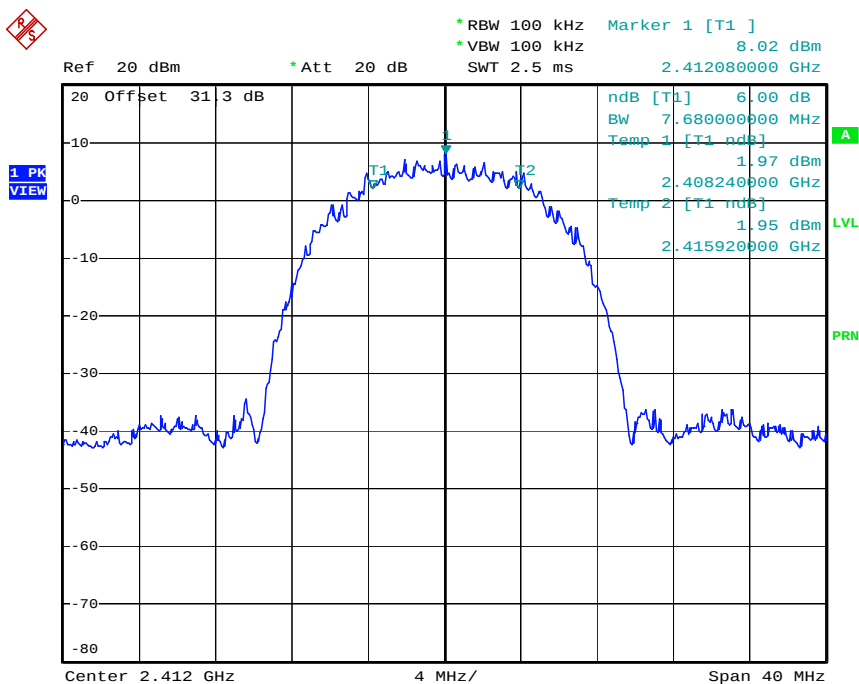
802.11b Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
2412	1	7.68	0.500	Pass
2437	6	7.92	0.500	Pass
2462	11	8.72	0.500	Pass

Conducted 6dB Bandwidth Measurements for 802.11g

802.11g Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
2412	1	16.56	0.500	Pass
2437	6	16.48	0.500	Pass
2462	11	16.48	0.500	Pass

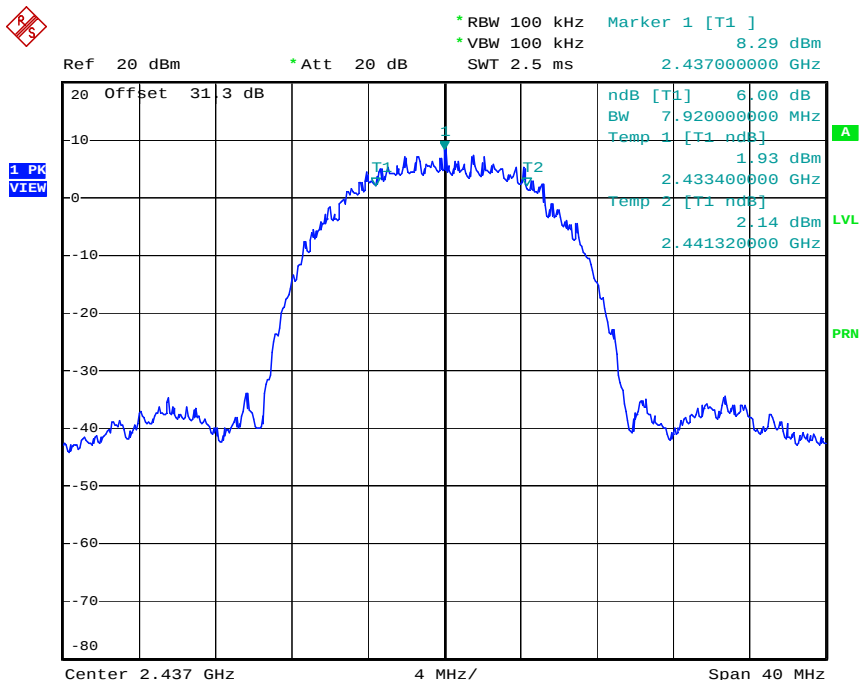
RESULT PLOTS

6dB Bandwidth plot (802.11b-CH 1)



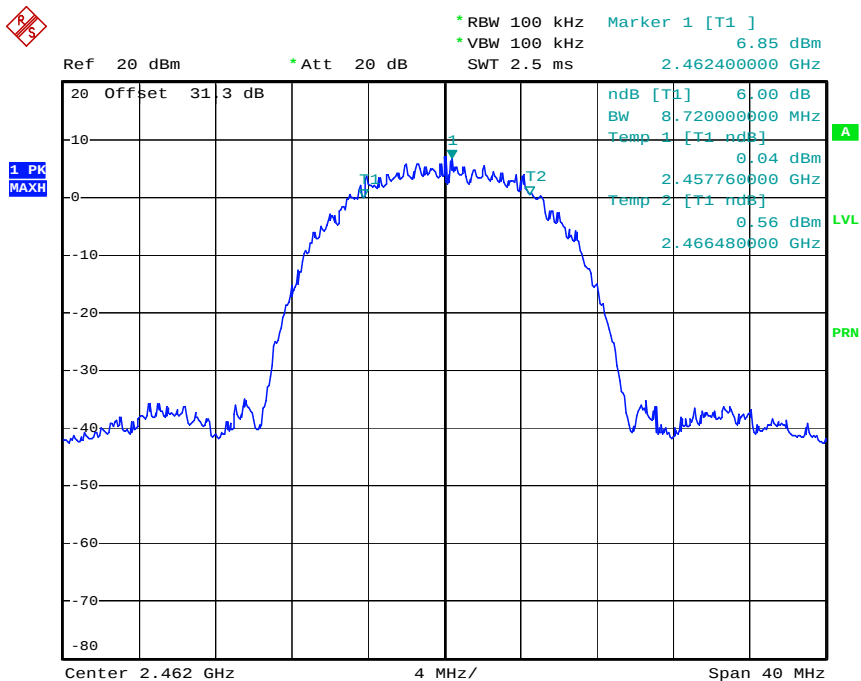
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6dB Bandwidth plot (802.11b-CH 6)



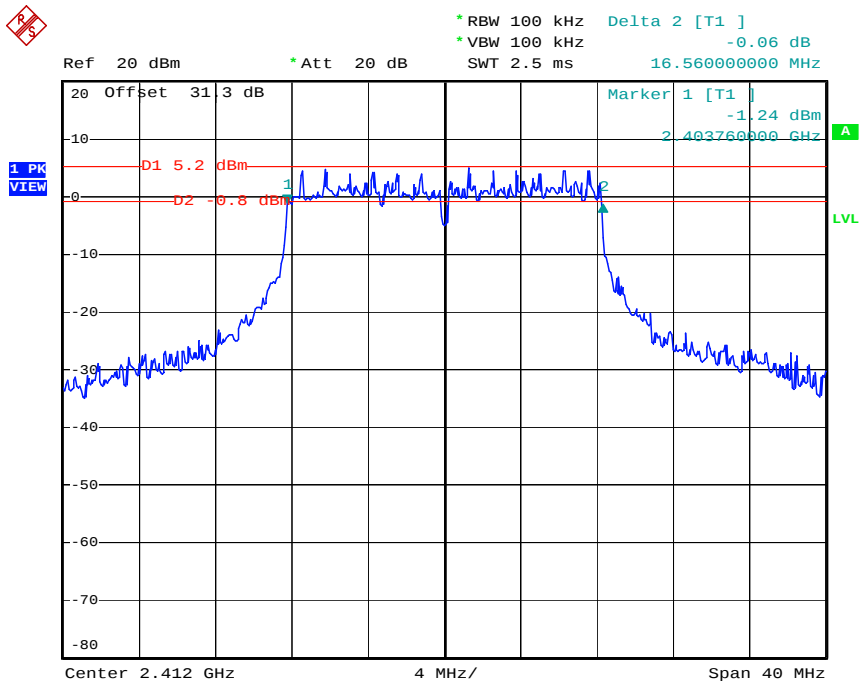
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6dB Bandwidth plot (802.11b-CH 11)



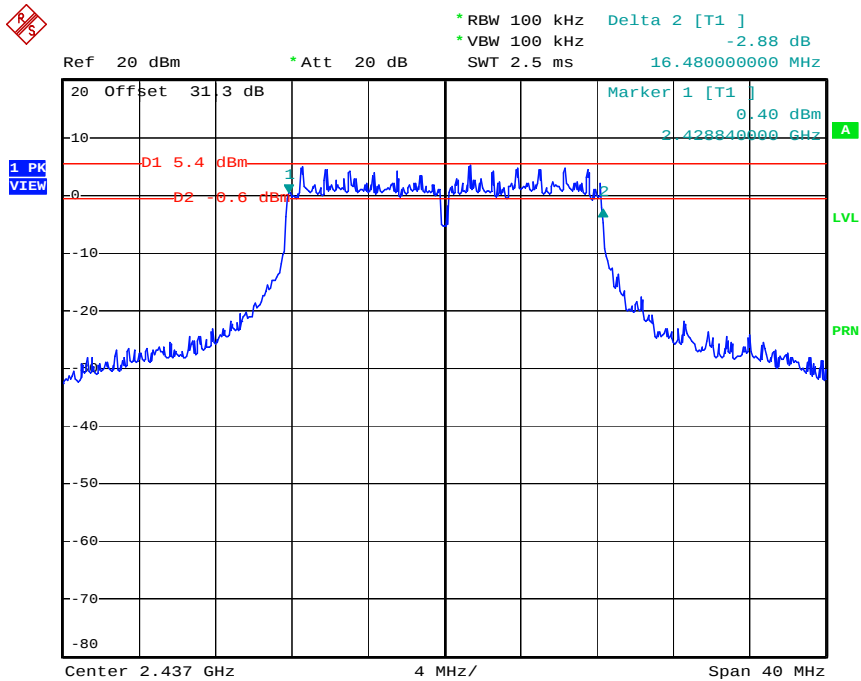
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6dB Bandwidth plot (802.11g-CH 1)



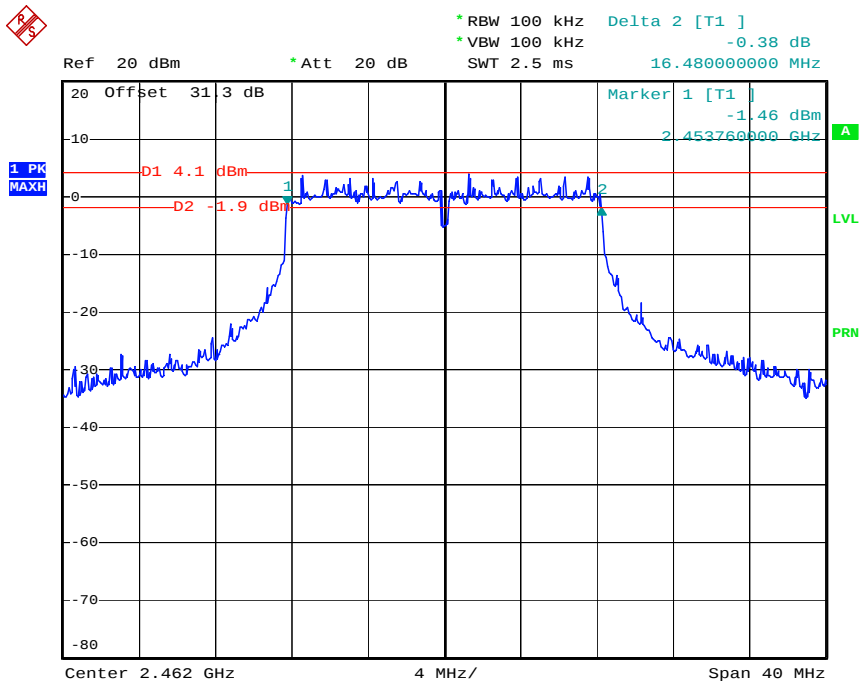
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6dB Bandwidth plot (802.11g-CH 6)



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6dB Bandwidth plot (802.11g-CH 11)



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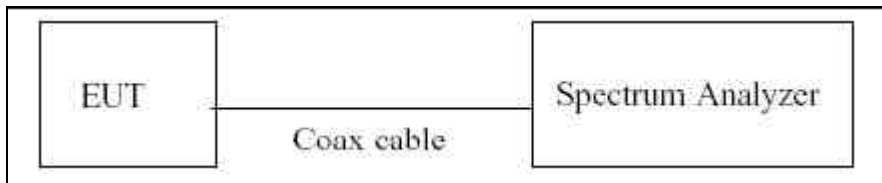
7.2 Output Power Measurement (802.11b/g)

Test Requirements and limit, §15.247(d)

A transmitter antenna terminal of EUT is connected to the input of a RF power sensor. Measurement is made while the EUT is operating in transmission mode at the appropriate frequencies.

The maximum permissible conducted output power is 1 Watt.

■ TEST CONFIGURATION



■ TEST RESULTS

Conducted Output Power Measurements (802.11b Mode)

802.11b Mode		Rate (Mbps)	Measured Power(dBm)	Limit (dBm)
Frequency[MHz]	Channel No.			
2412	1	1 Mbps	19.89	30
		2 Mbps	20.02	30
		5.5 Mbps	24.03	30
		11 Mbps	22.54	30
2437	6	1 Mbps	19.62	30
		2 Mbps	20.08	30
		5.5 Mbps	23.71	30
		11 Mbps	22.08	30
2462	11	1 Mbps	18.38	30
		2 Mbps	18.47	30
		5.5 Mbps	22.56	30
		11 Mbps	21.32	30

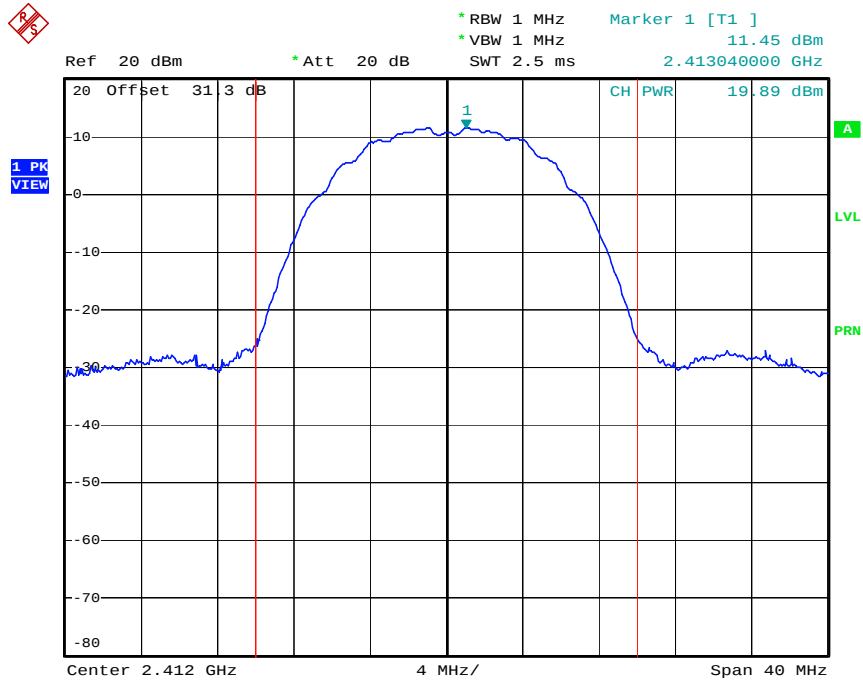


Conducted Output Power Measurements (802.11g Mode)

802.11g Mode		Rate (Mbps)	Measured Power(dBm)	Limit (dBm)
Frequency[MHz]	Channel No.			
2412	1	6 Mbps	23.40	30
		9 Mbps	23.50	30
		12 Mbps	23.18	30
		18 Mbps	23.44	30
		24 Mbps	23.47	30
		36 Mbps	23.05	30
		48 Mbps	23.84	30
		54 Mbps	24.04	30
2437	6	6 Mbps	23.81	30
		9 Mbps	23.77	30
		12 Mbps	23.54	30
		18 Mbps	23.55	30
		24 Mbps	23.70	30
		36 Mbps	23.97	30
		48 Mbps	23.52	30
		54 Mbps	24.03	30
2462	11	6 Mbps	22.58	30
		9 Mbps	22.29	30
		12 Mbps	22.23	30
		18 Mbps	22.33	30
		24 Mbps	22.48	30
		36 Mbps	22.23	30
		48 Mbps	22.60	30
		54 Mbps	22.78	30

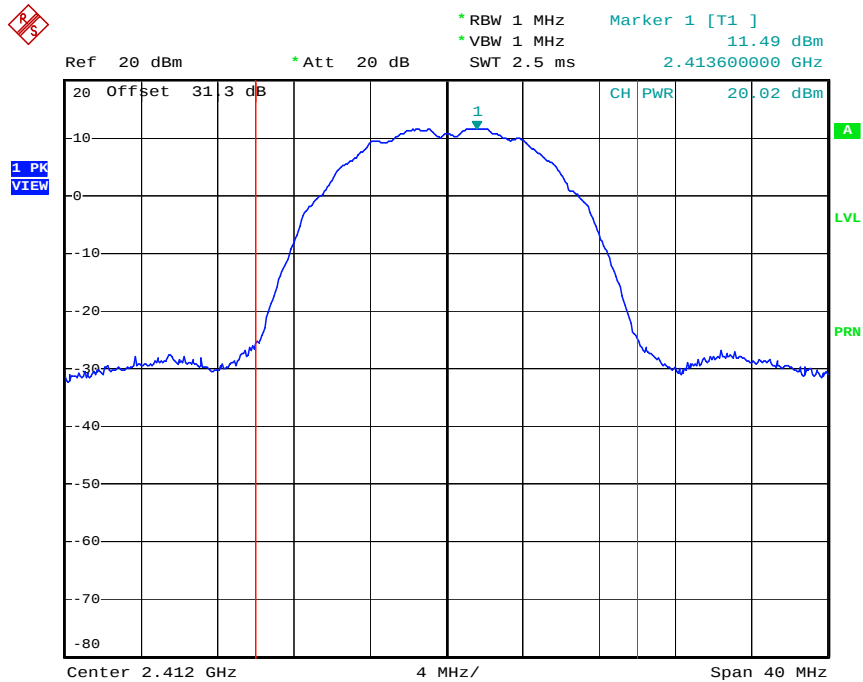
RESULT PLOTS

Conducted Output Power (802.11b-CH 1) 1Mbps



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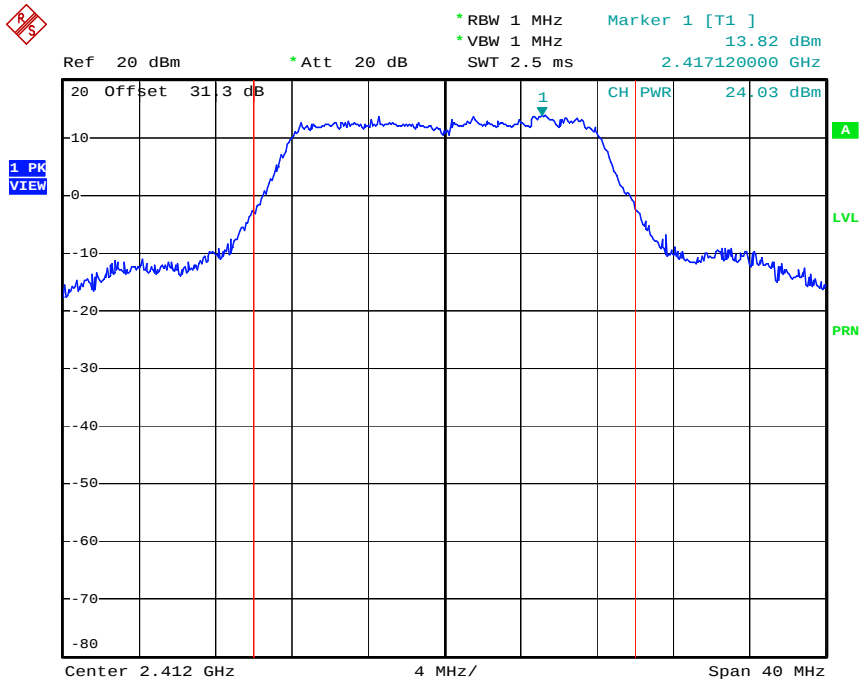
Conducted Output Power (802.11b-CH 1) 2Mbps



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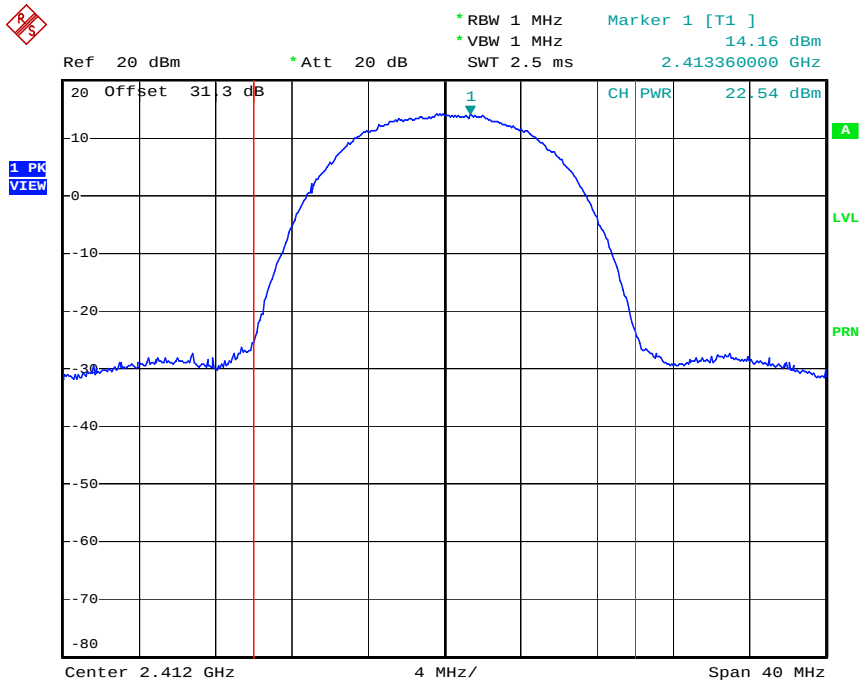


Conducted Output Power (802.11b-CH 1) 5.5Mbps



Date: 19.MAR.2009 08:55:06

Conducted Output Power (802.11b-CH 1) 11Mbps

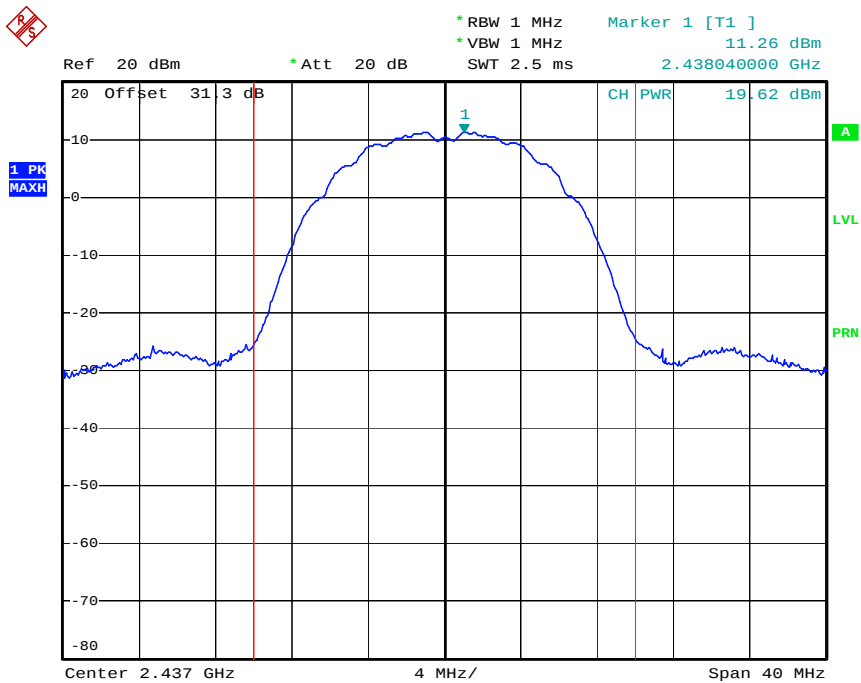


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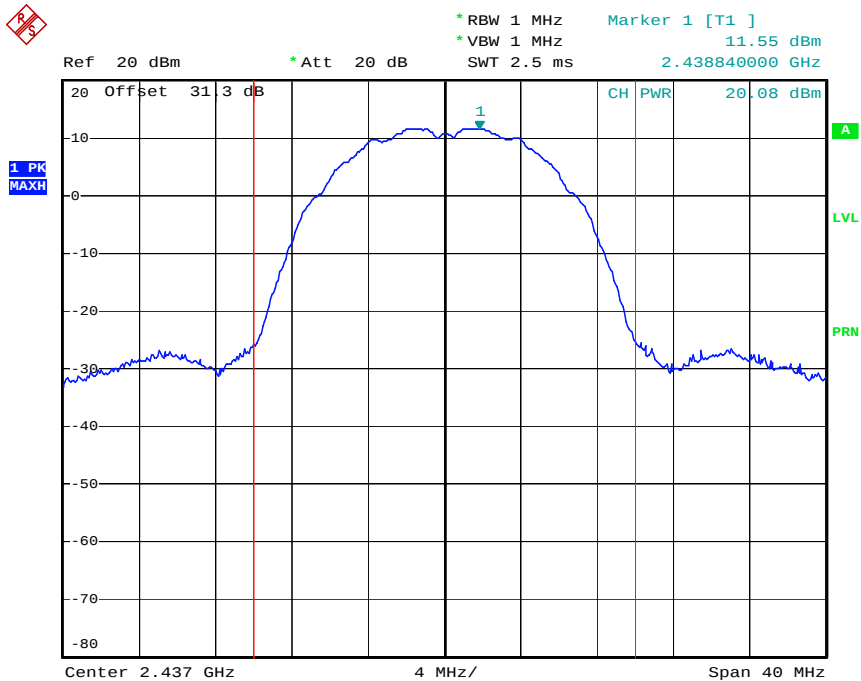


Conducted Output Power (802.11b-CH 6) 1Mbps



Date: 19.MAR.2009 09:40:19

Conducted Output Power (802.11b-CH 6) 2Mbps

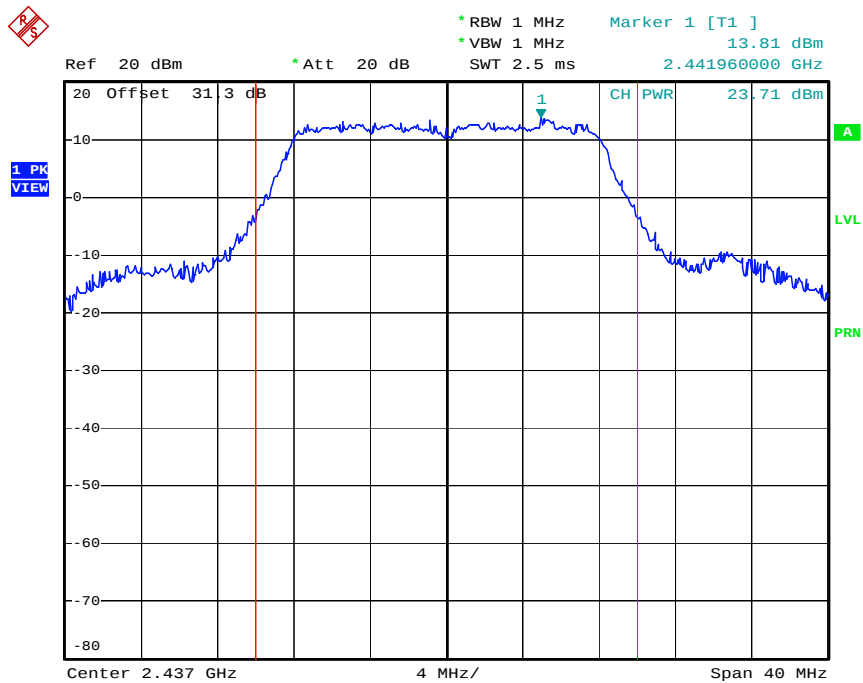


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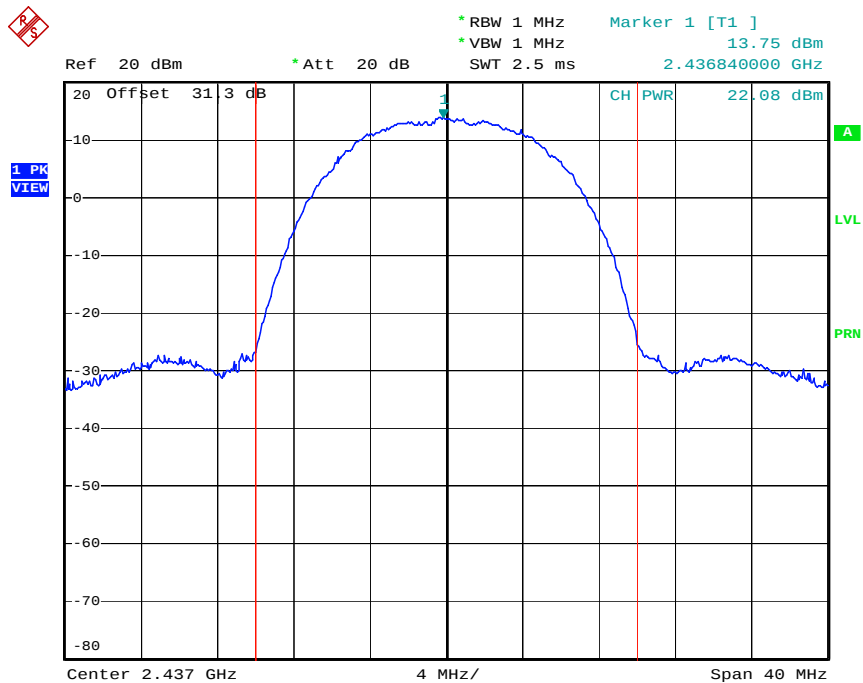


Conducted Output Power (802.11b-CH 6) 5.5Mbps



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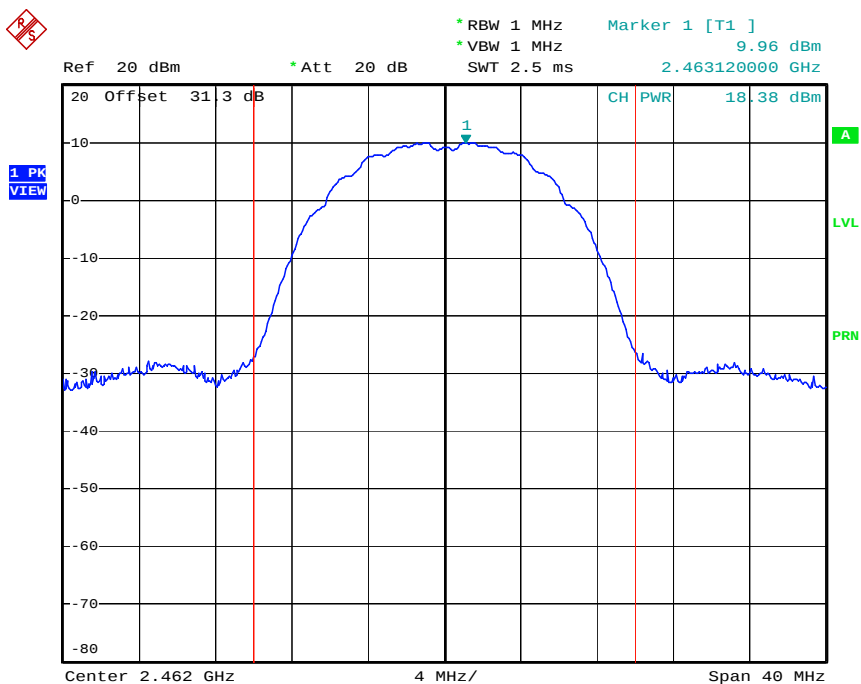
Conducted Output Power (802.11b-CH 6) 11Mbps



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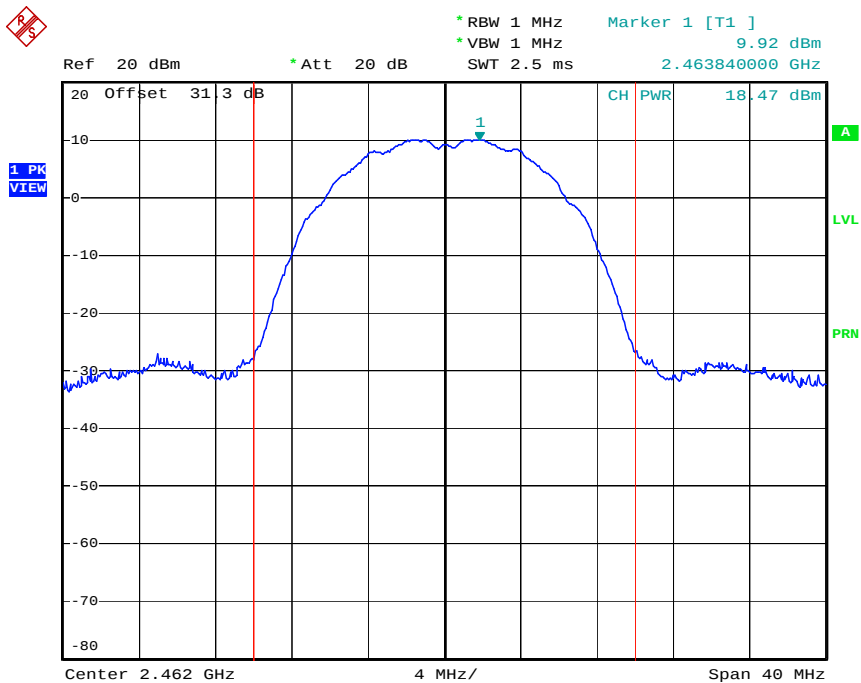
HCT PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT			www.hct.co.kr
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Conducted Output Power (802.11b-CH 11) 1Mbps



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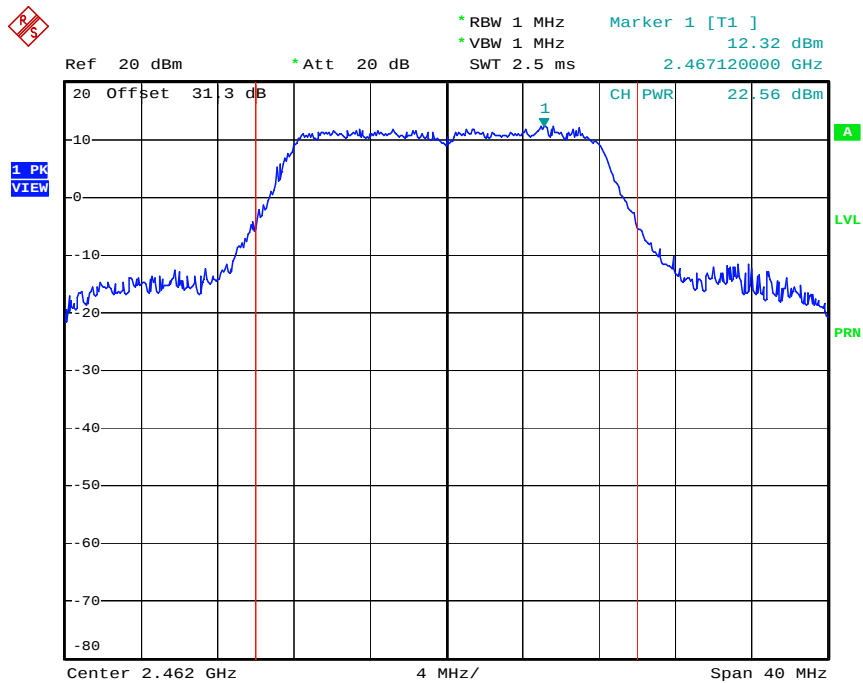
Conducted Output Power (802.11b-CH 11) 2Mbps



Date: 19.MAR.2009 12:08:55

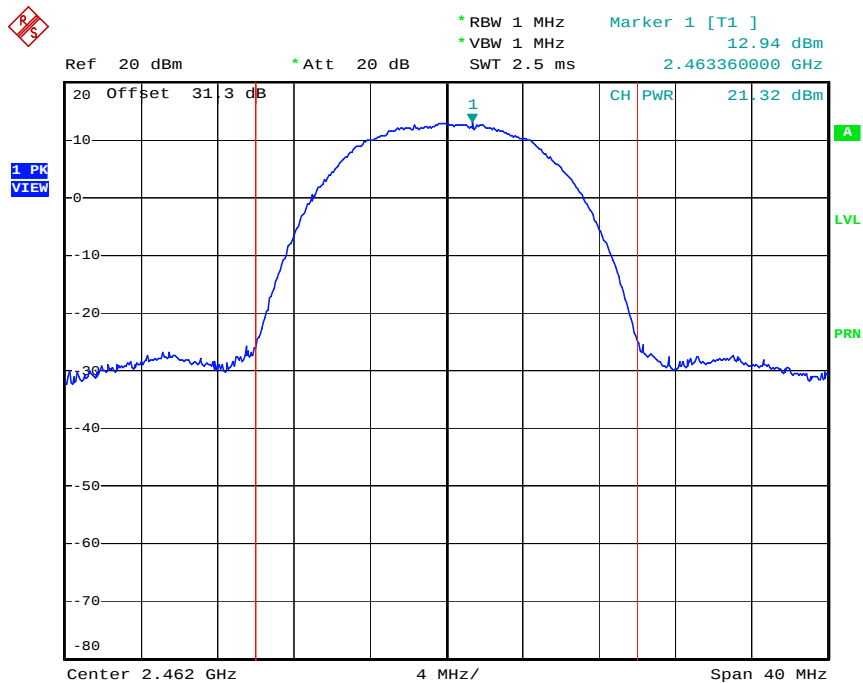


Conducted Output Power (802.11b-CH 11) 5.5Mbps



Date: 19.MAR.2009 12:17:54

Conducted Output Power (802.11b-CH 11) 11Mbps

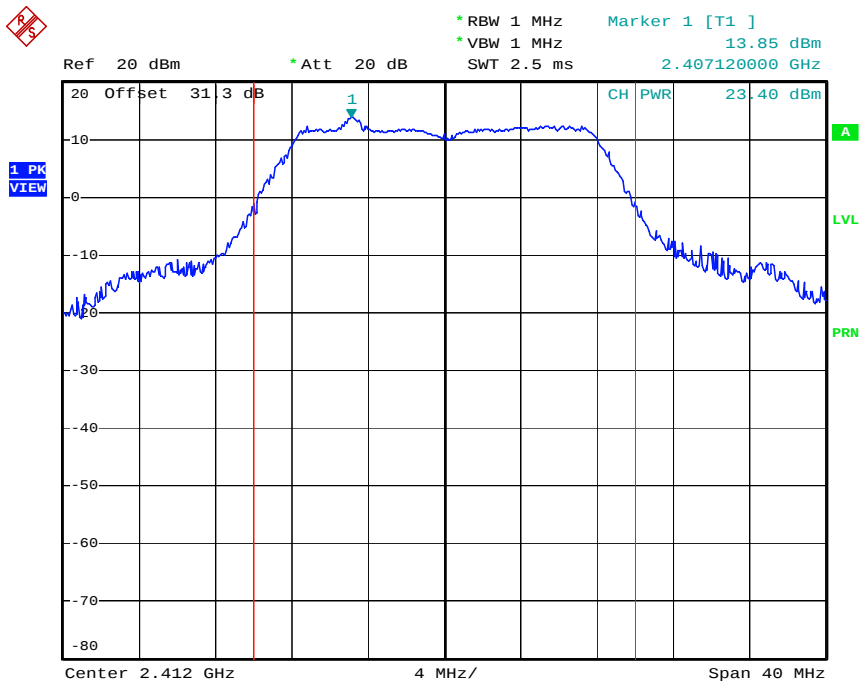


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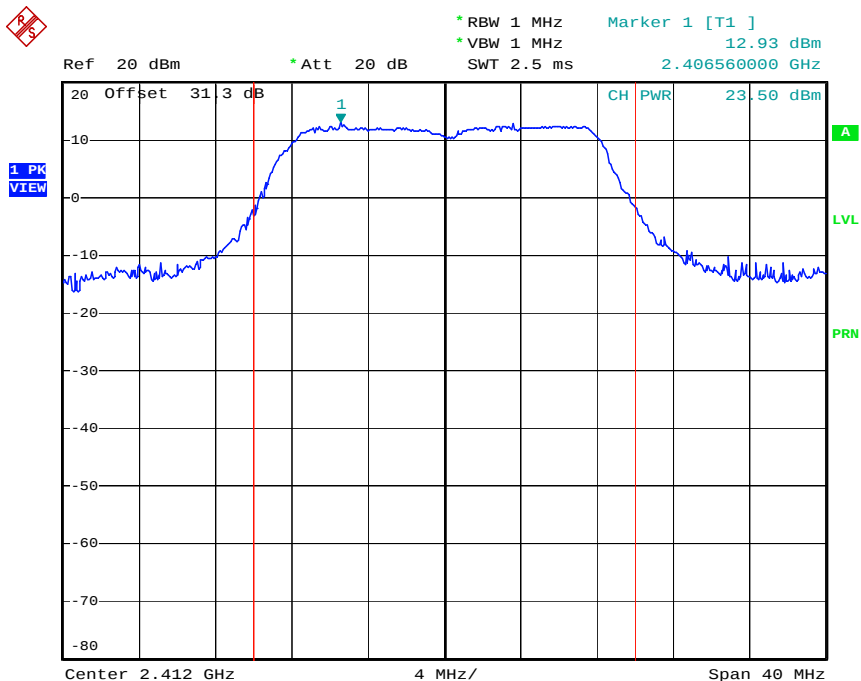


Conducted Output Power (802.11g-CH 1) 6Mbps



Date: 19.MAR.2009 12:25:54

Conducted Output Power (802.11g-CH 1) 9Mbps

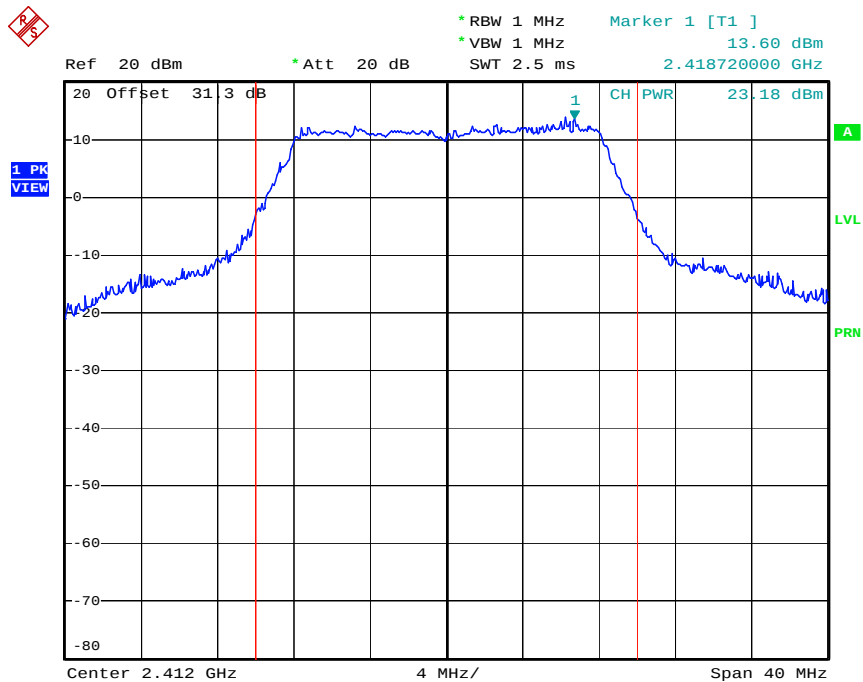


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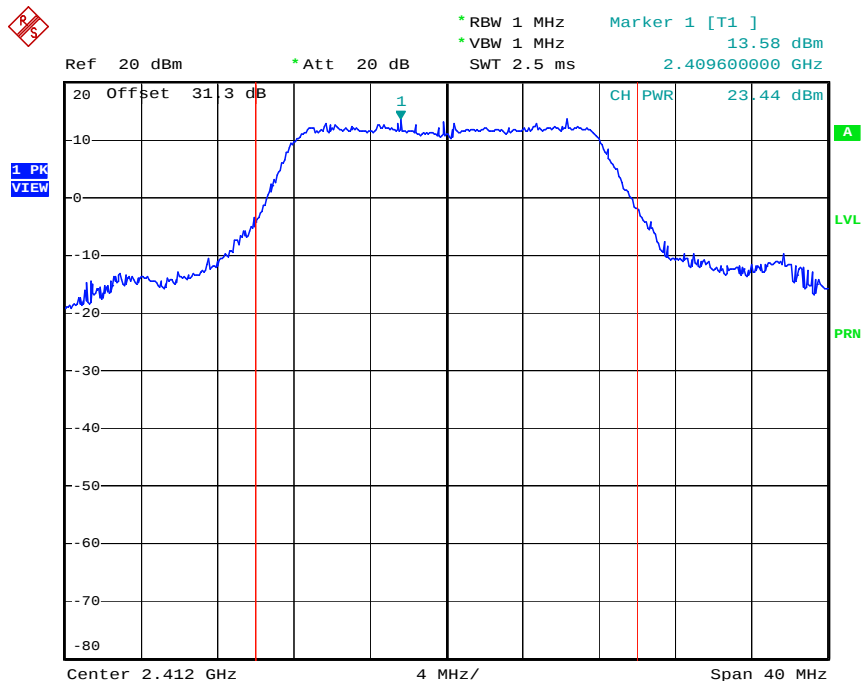


Conducted Output Power (802.11g-CH 1) 12Mbps



Date: 19.MAR.2009 12:29:38

Conducted Output Power (802.11g-CH 1) 18Mbps

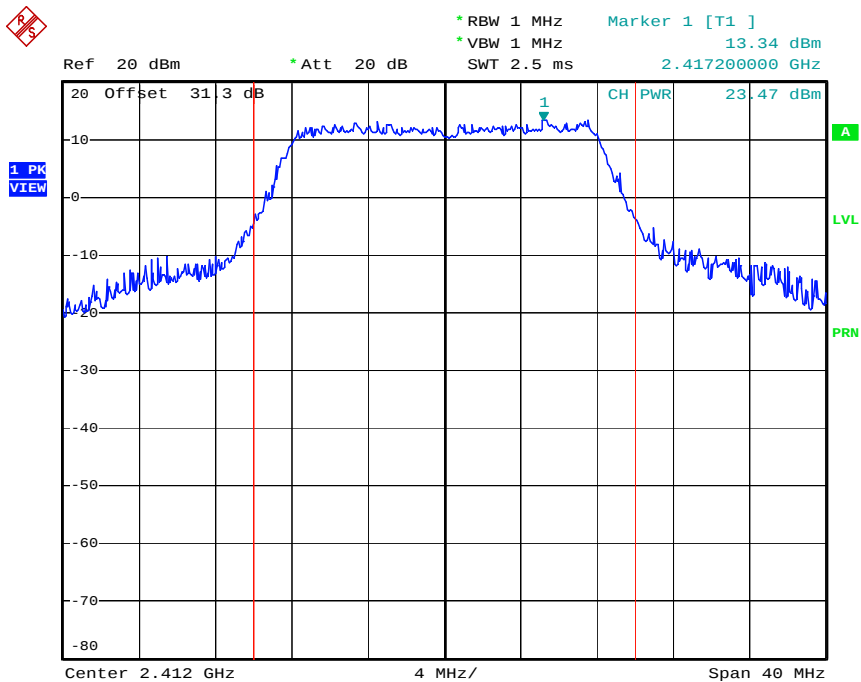


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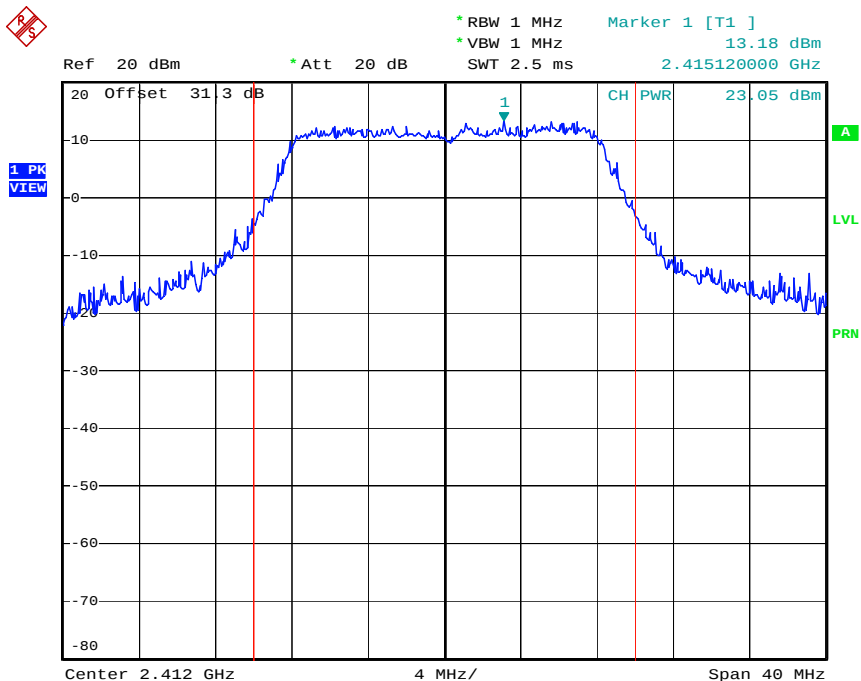


Conducted Output Power (802.11g-CH 1) 24Mbps



Date: 19.MAR.2009 12:32:51

Conducted Output Power (802.11g-CH 1) 36Mbps

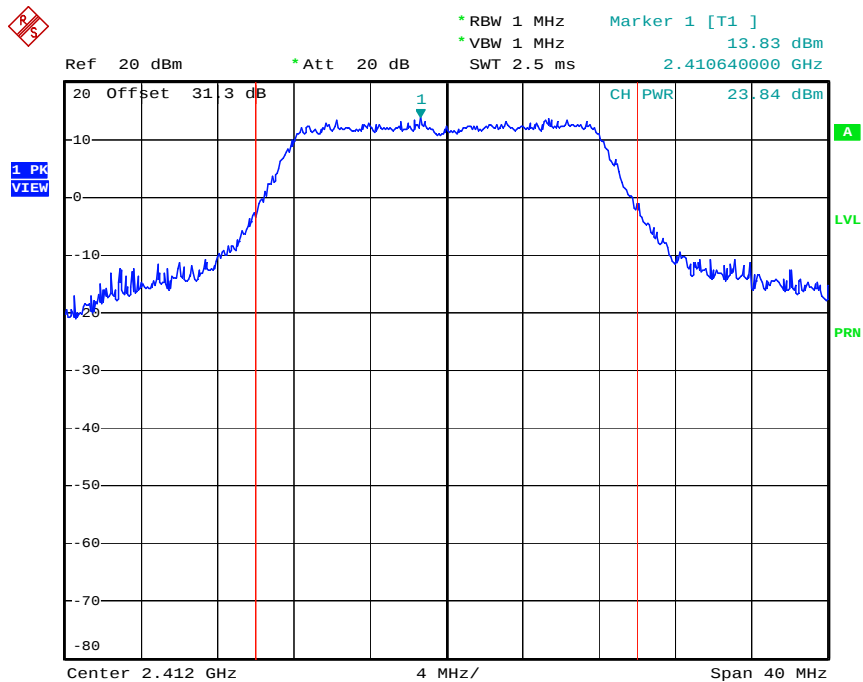


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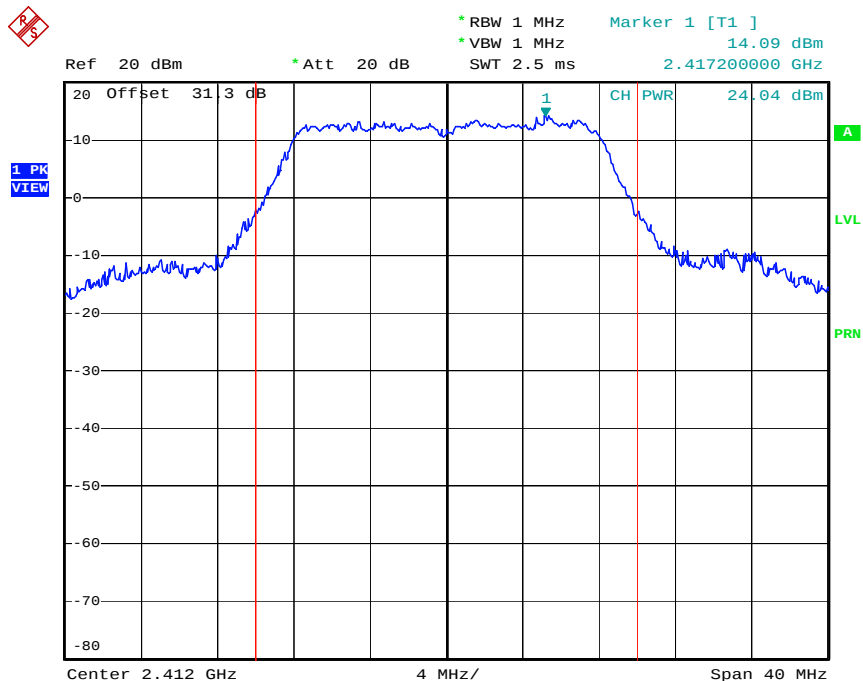


Conducted Output Power (802.11g-CH 1) 48Mbps



Date: 19.MAR.2009 13:40:32

Conducted Output Power (802.11g-CH 1) 54Mbps

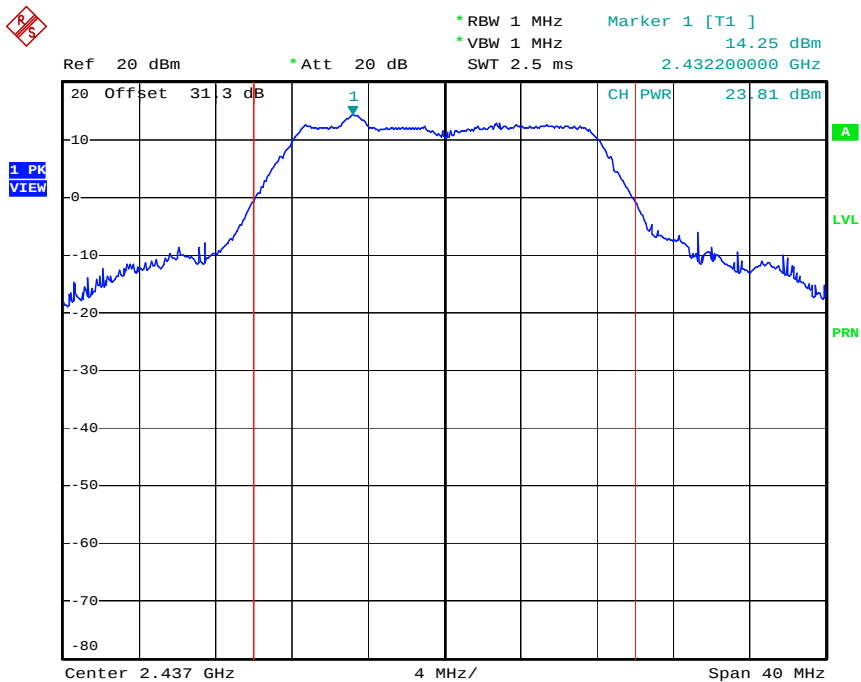


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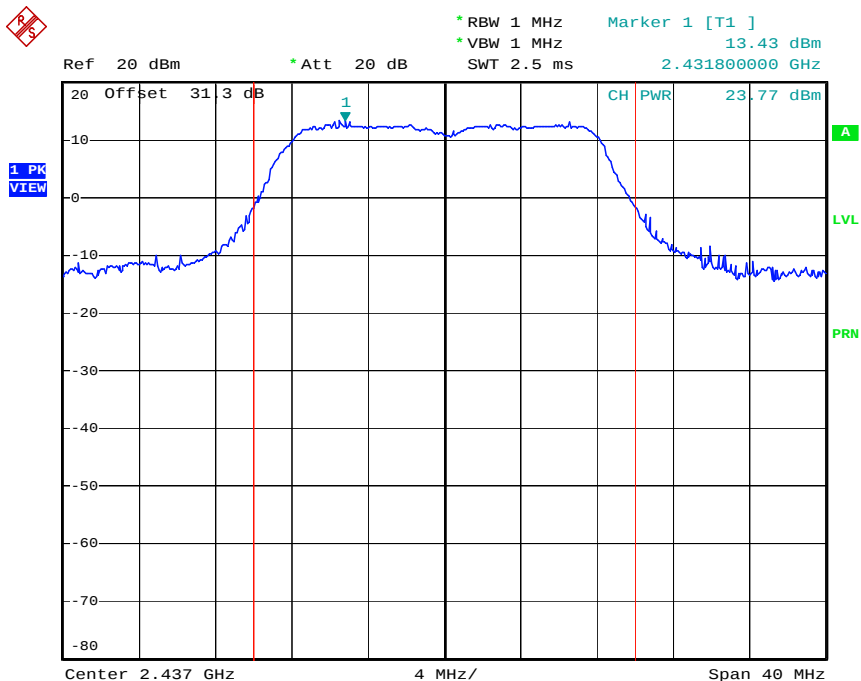


Conducted Output Power (802.11g-CH 6) 6Mbps



Date: 19.MAR.2009 13:48:23

Conducted Output Power (802.11g-CH 6) 9Mbps

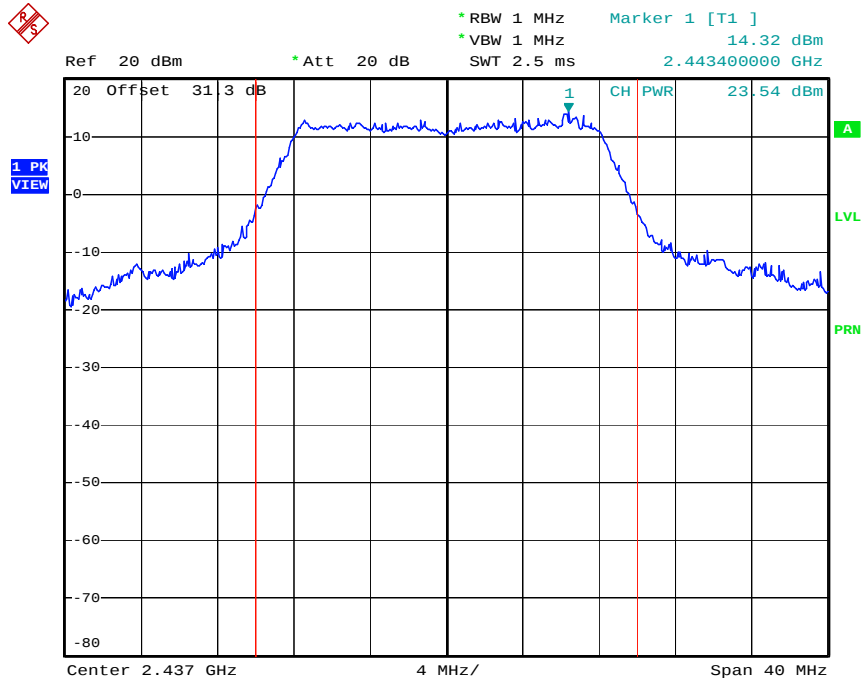


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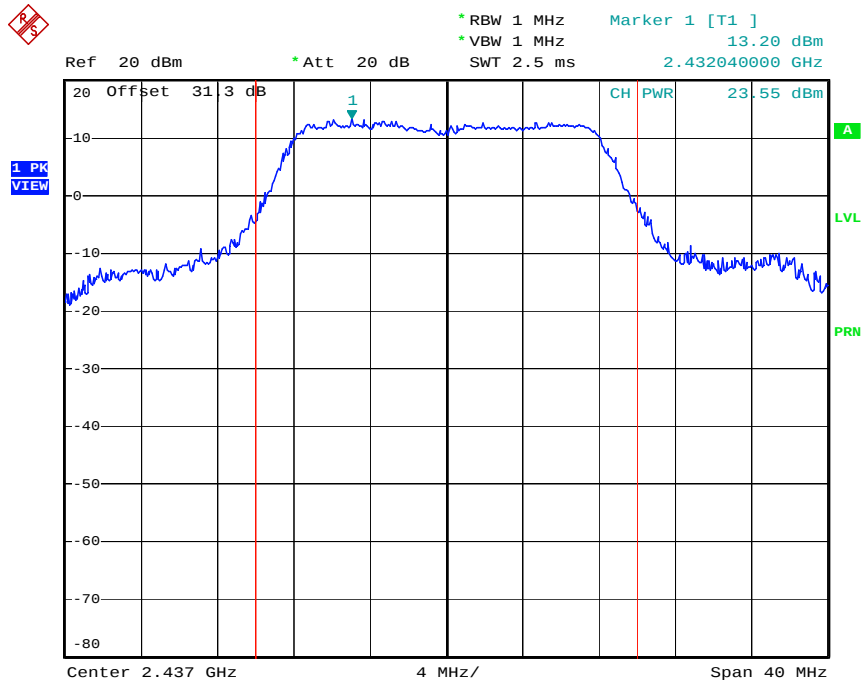


Conducted Output Power (802.11g-CH 6) 12Mbps



Date: 19.MAR.2009 13:51:27

Conducted Output Power (802.11g-CH 6) 18Mbps

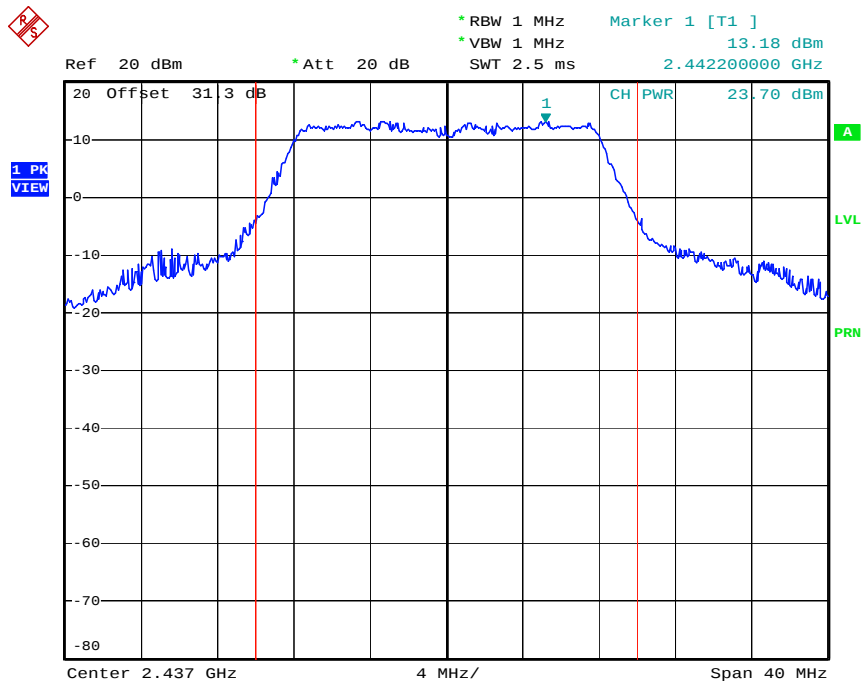


Date: 19.MAR.2009 13:52:59

HCT PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCT-RF09-0409	Date of Issue: April 03, 2009	EUT Type: Cellular/ PCS GSM/ EDGE Phone with Bluetooth and WLAN	FCC ID: BEJGT500	Page 2 4 of 55

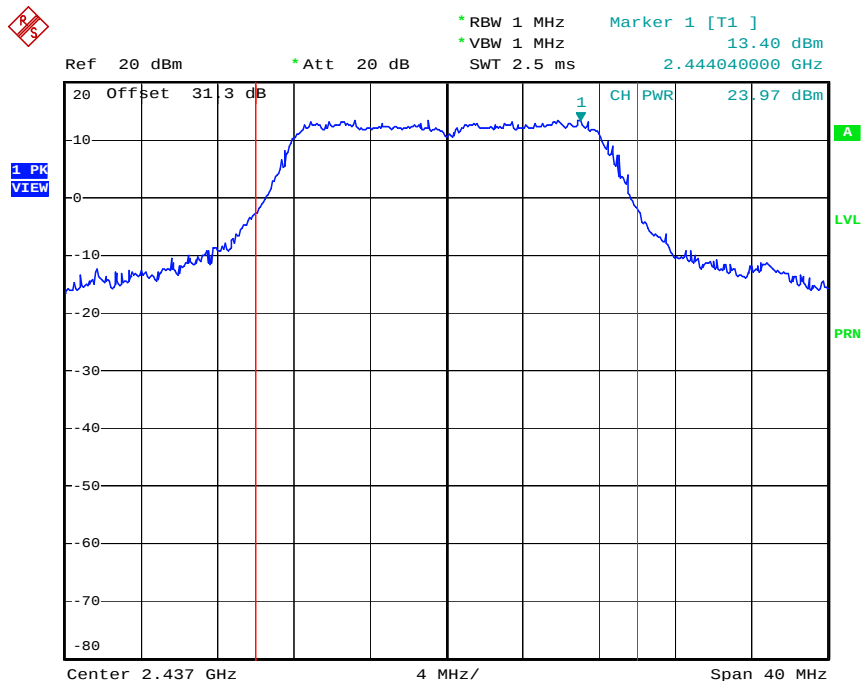


Conducted Output Power (802.11g-CH 6) 24Mbps



Date: 19.MAR.2009 13:54:19

Conducted Output Power (802.11g-CH 6) 36Mbps

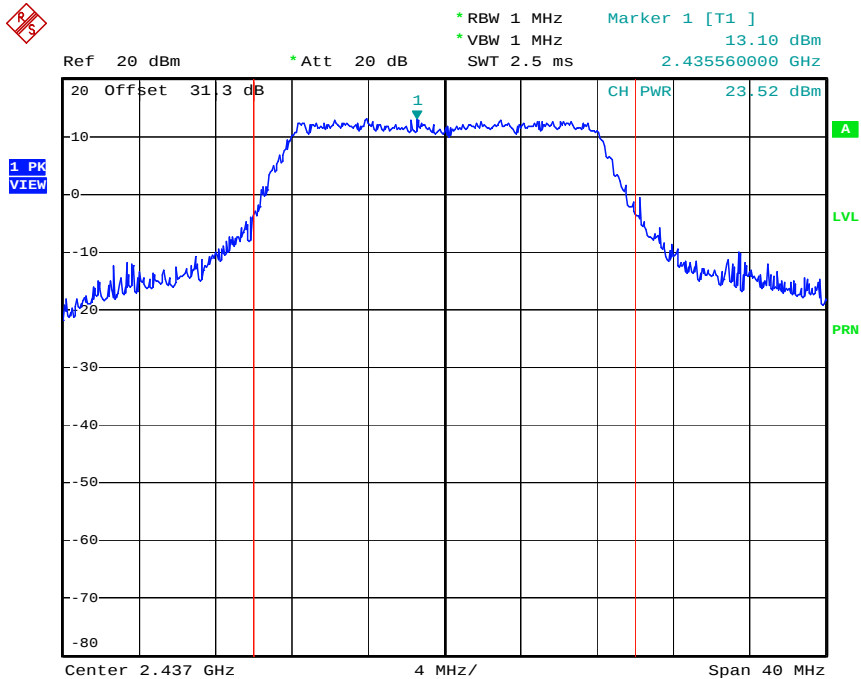


Date: 19.MAR.2009 13:57:40

HCT PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCT-RF09-0409	Date of Issue: April 03, 2009	EUT Type: Cellular/ PCS GSM/ EDGE Phone with Bluetooth and WLAN	FCC ID: BEJGT500	Page 25 of 55

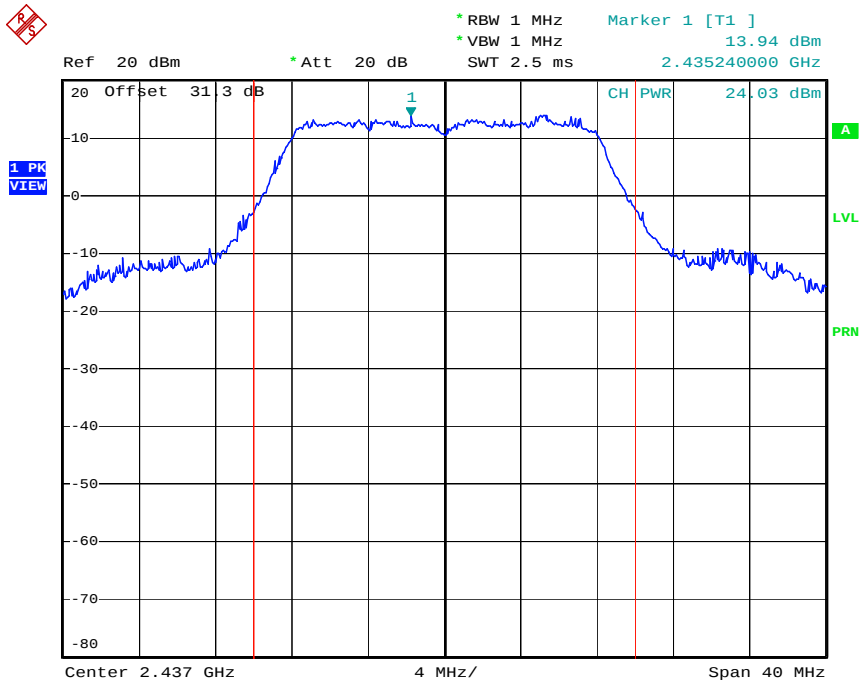


Conducted Output Power (802.11g-CH 6) 48Mbps



Date: 19.MAR.2009 13:59:26

Conducted Output Power (802.11g-CH 6) 54Mbps

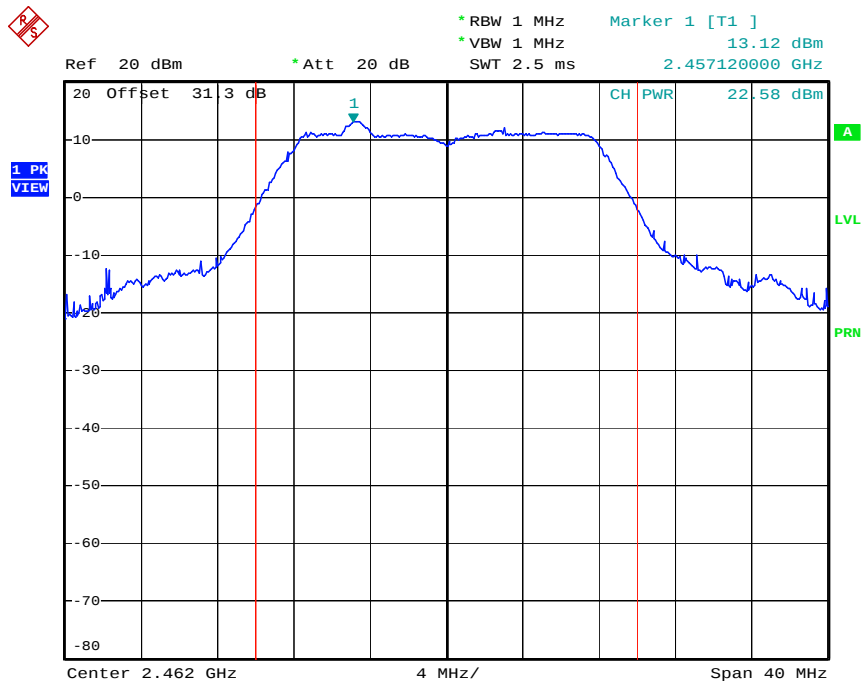


Date: 19.MAR.2009 14:01:29

HCT PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCT-RF09-0409	Date of Issue: April 03, 2009	EUT Type: Cellular/ PCS GSM/ EDGE Phone with Bluetooth and WLAN	FCC ID: BEJGT500	Page 26 of 55

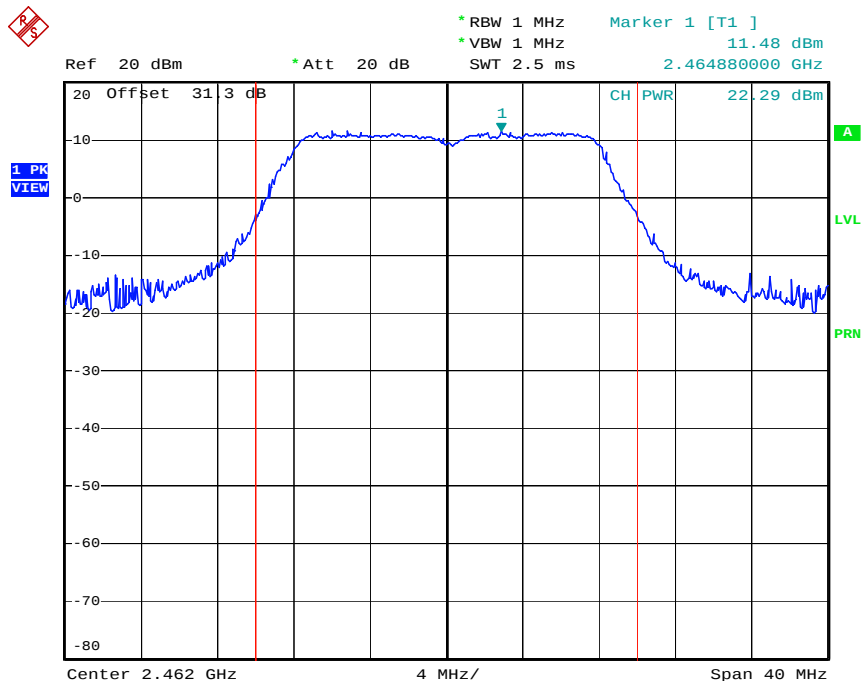


Conducted Output Power (802.11g-CH 11) 6Mbps



Date: 19.MAR.2009 14:03:44

Conducted Output Power (802.11g-CH 11) 9Mbps

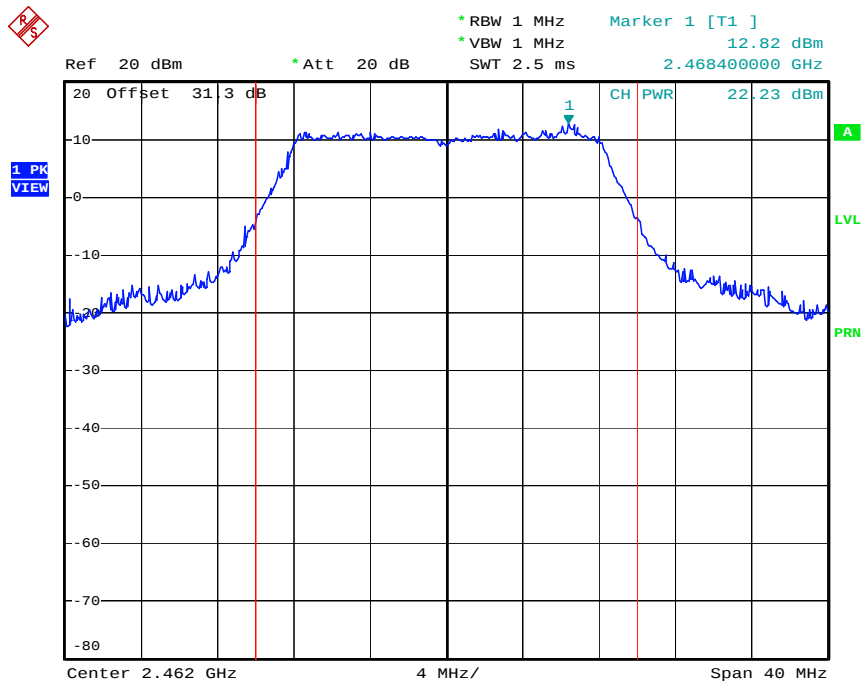


Date: 19.MAR.2009 14:05:21

HCT PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCT-RF09-0409	Date of Issue: April 03, 2009	EUT Type: Cellular/ PCS GSM/ EDGE Phone with Bluetooth and WLAN	FCC ID: BEJGT500	Page 27 of 55

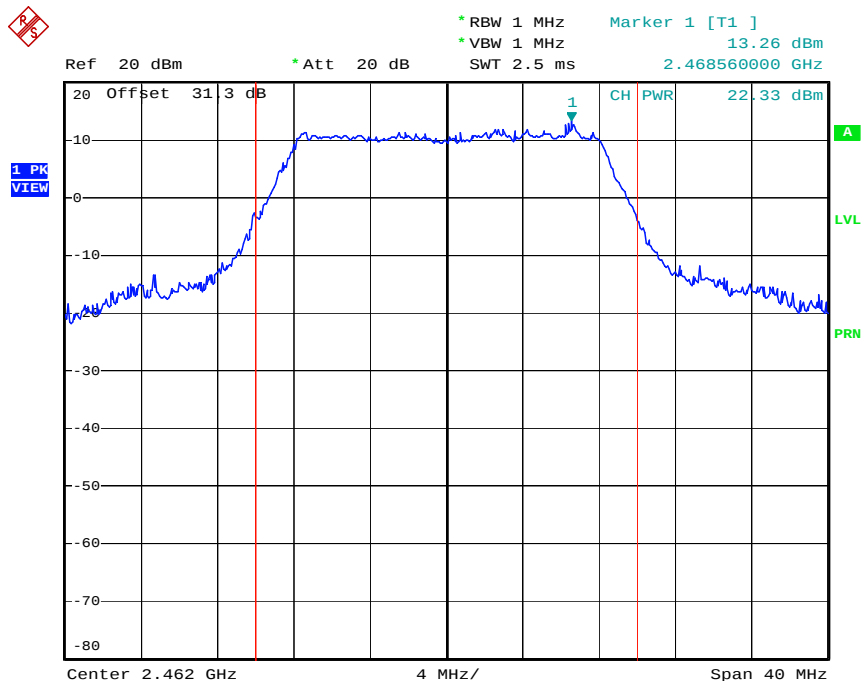


Conducted Output Power (802.11g-CH 11) 12Mbps



Date: 19.MAR.2009 14:09:18

Conducted Output Power (802.11g-CH 11) 18Mbps

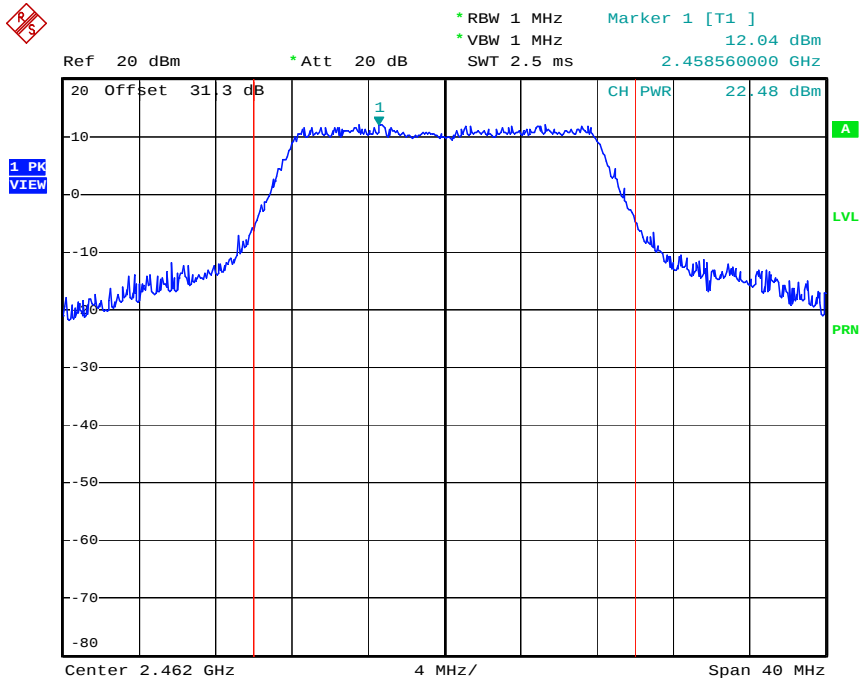


Date: 19.MAR.2009 14:10:34

HCT PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCT-RF09-0409	Date of Issue: April 03, 2009	EUT Type: Cellular/ PCS GSM/ EDGE Phone with Bluetooth and WLAN	FCC ID: BEJGT500	Page 28 of 55

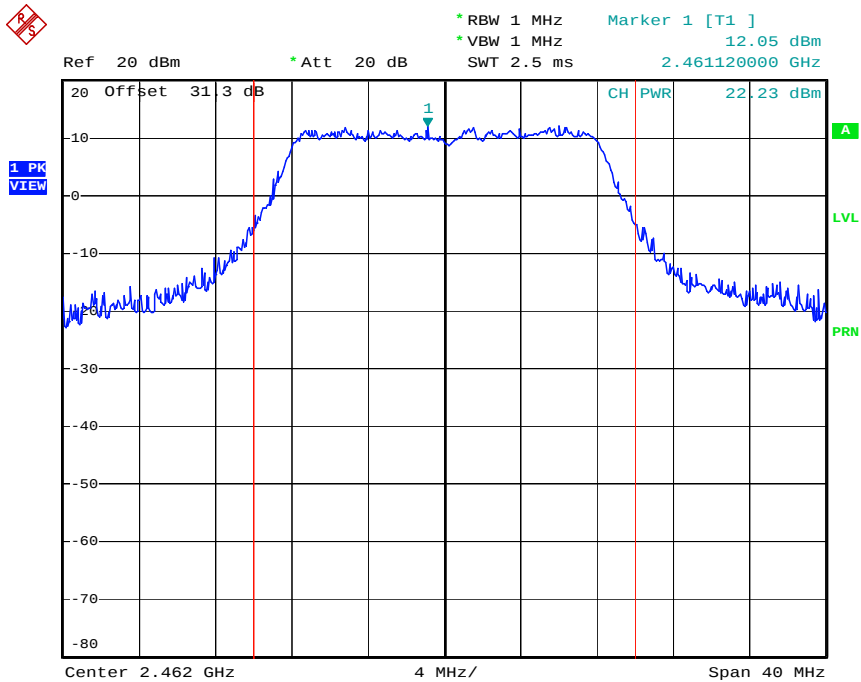


Conducted Output Power (802.11g-CH 11) 24Mbps



Date: 19.MAR.2009 14:38:06

Conducted Output Power (802.11g-CH 11) 36Mbps

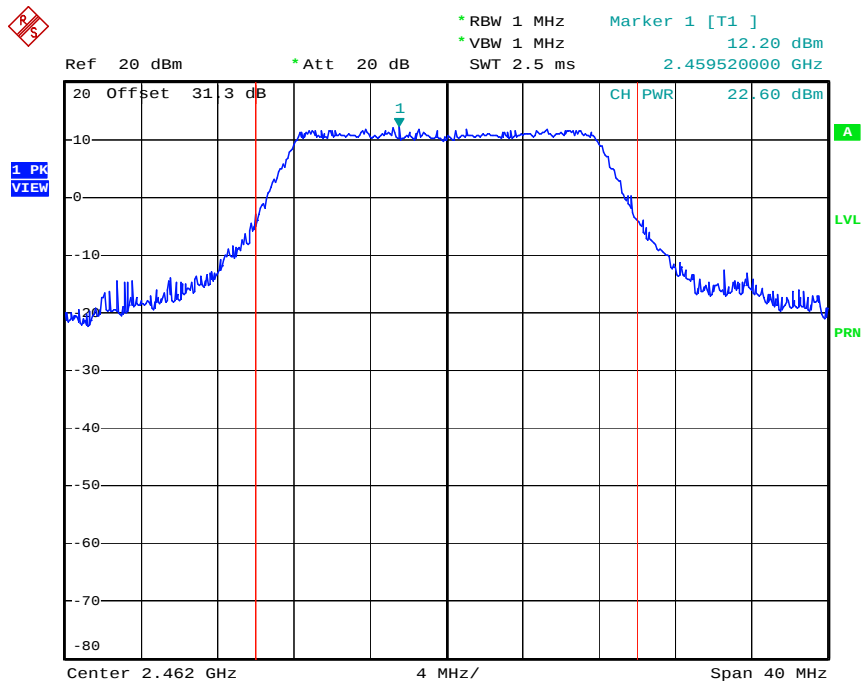


Date: 19.MAR.2009 14:39:23

HCT PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCT-RF09-0409	Date of Issue: April 03, 2009	EUT Type: Cellular/ PCS GSM/ EDGE Phone with Bluetooth and WLAN	FCC ID: BEJGT500	Page 29 of 55

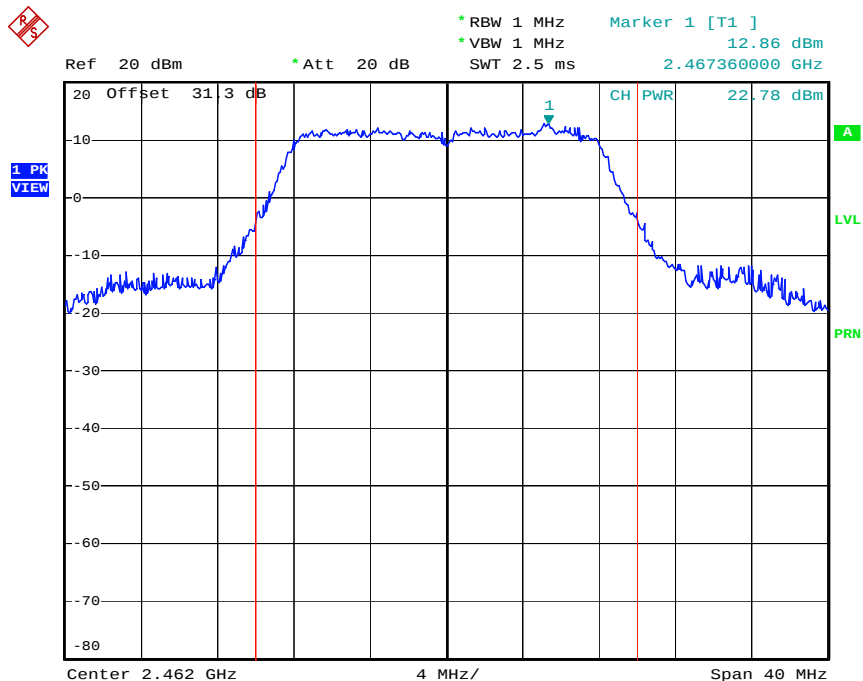


Conducted Output Power (802.11g-CH 11) 48Mbps



Date: 19.MAR.2009 14:40:52

Conducted Output Power (802.11g-CH 11) 54Mbps



Date: 19.MAR.2009 14:42:37

HCT PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCT-RF09-0409	Date of Issue: April 03, 2009	EUT Type: Cellular/ PCS GSM/ EDGE Phone with Bluetooth and WLAN	FCC ID: BEJGT500	Page 30 of 55

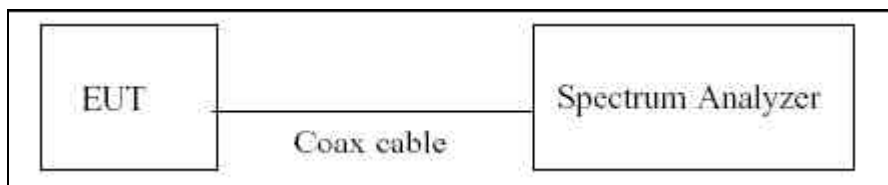
7.3 Power Spectral Density (802.11b/g)

Test Requirements and limit, §15.247(d)

The peak power density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating in transmission mode at the appropriate frequencies.

Minimum Standard – The transmitter power density average over 1-second interval shall not be greater than 8dBm in any 3kHz BW.

■ TEST CONFIGURATION



■ TEST PROCEDURE

The spectrum analyzer is set to :

1. Span = 300 KHz
2. RBW = 3 KHz (7dB/div)
3. VBW = 3 KHz
4. Sweep = 100 sec

■ TEST RESULTS

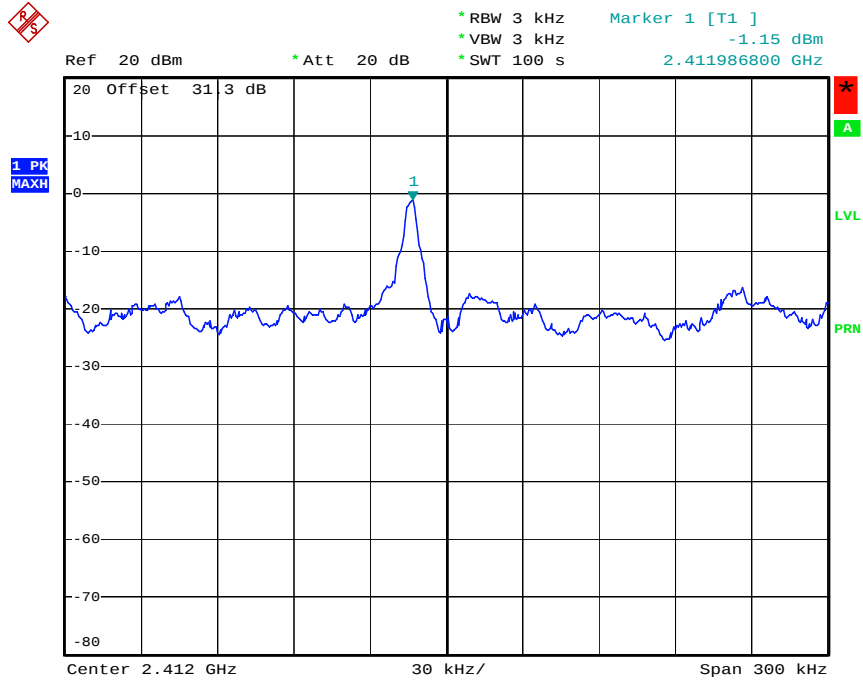
Conducted Power Density Measurements

Frequency (MHz)	Channel No.	Mode	Test Result	
			Power Density (dBm)	Pass/Fail
2412	1	802.11b	-1.15	Pass
2437	6		0.09	Pass
2462	11		-0.96	Pass
2412	1	802.11g	-17.04	Pass
2437	6		-17.57	Pass
2462	11		-17.54	Pass



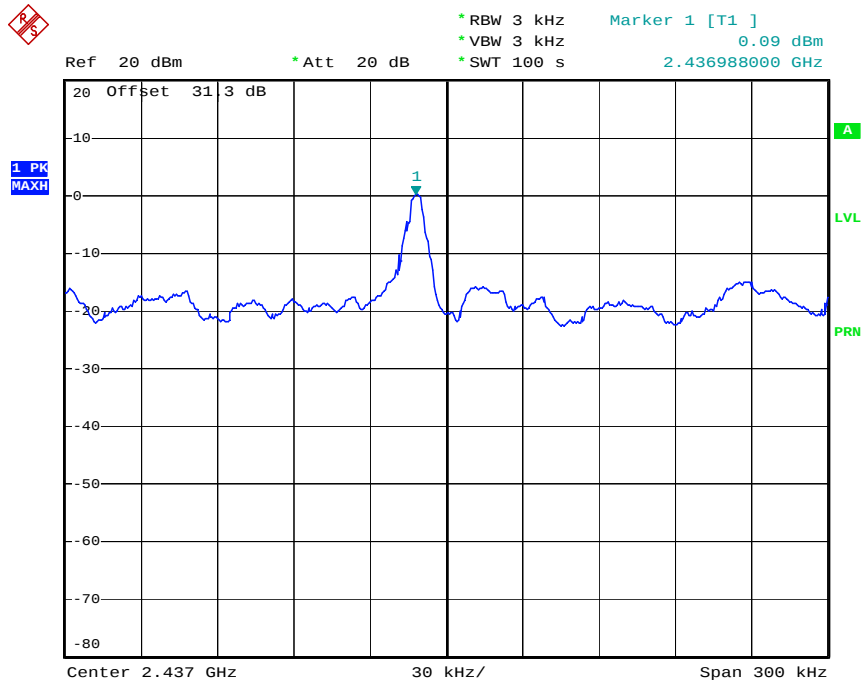
RESULT PLOTS

Power Spectral Density (802.11b-CH 1)



Date: 19.MAR.2009 14:47:54

Power Spectral Density (802.11b-CH 6)

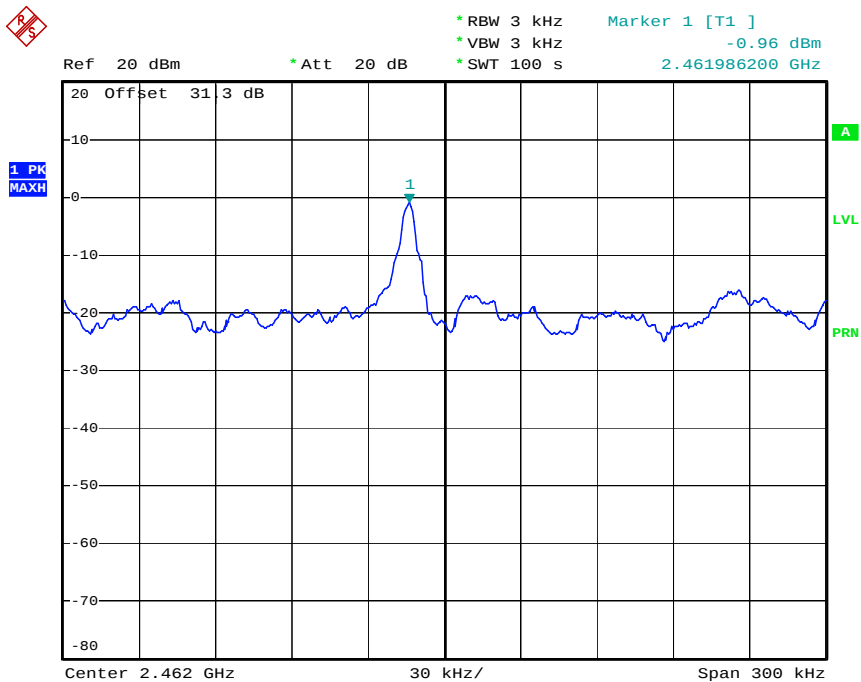


Date: 19.MAR.2009 15:33:30

HCT PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCT-RF09-0409	Date of Issue: April 03, 2009	EUT Type: Cellular/ PCS GSM/ EDGE Phone with Bluetooth and WLAN	FCC ID: BEJGT500	Page 3 2 of 55

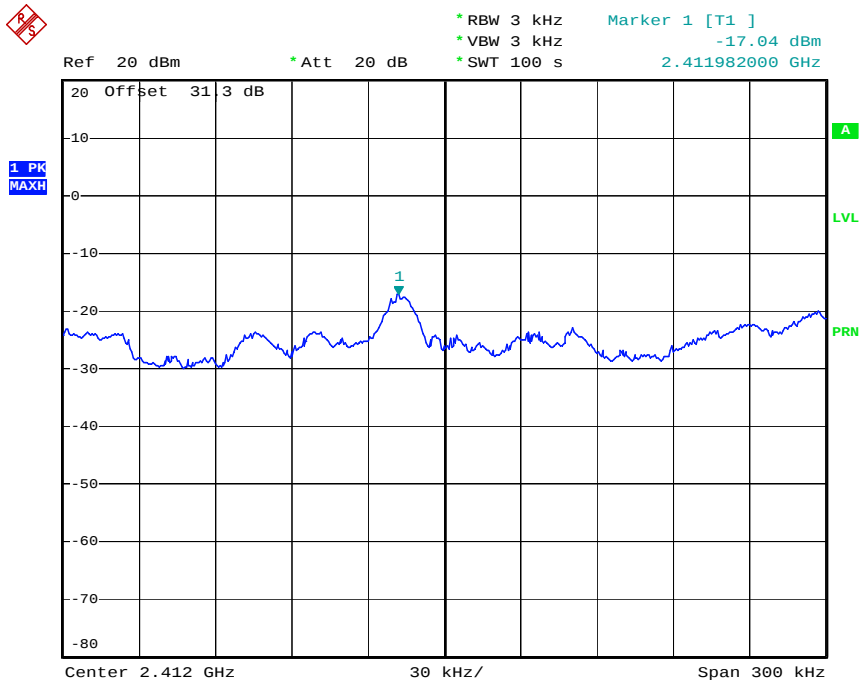


Power Spectral Density (802.11b-CH 11)



Date: 19.MAR.2009 15:59:10

Power Spectral Density (802.11g-CH 1)

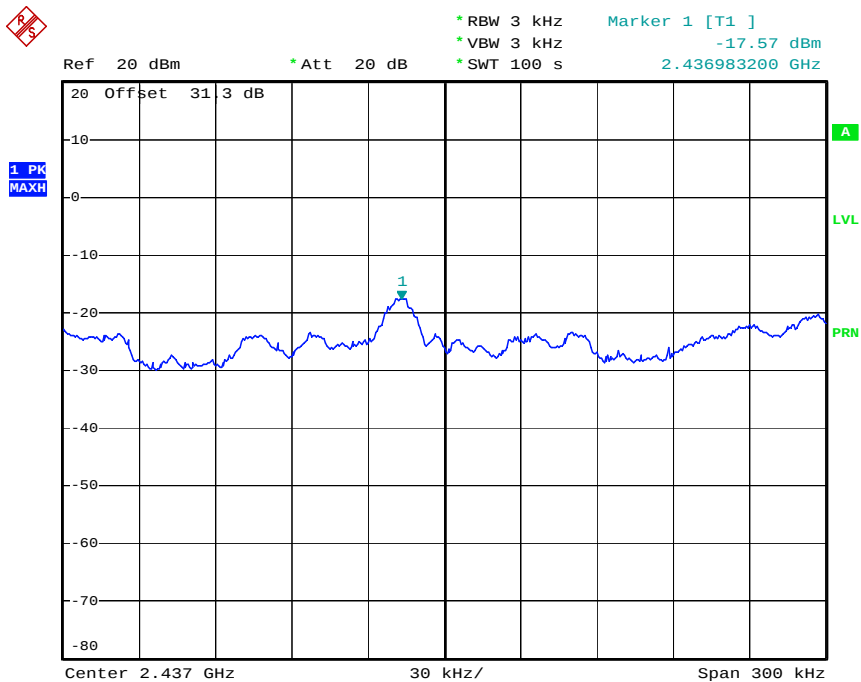


Date: 19.MAR.2009 16:10:20

HCT PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCT-RF09-0409	Date of Issue: April 03, 2009	EUT Type: Cellular/ PCS GSM/ EDGE Phone with Bluetooth and WLAN	FCC ID: BEJGT500	Page 33 of 55

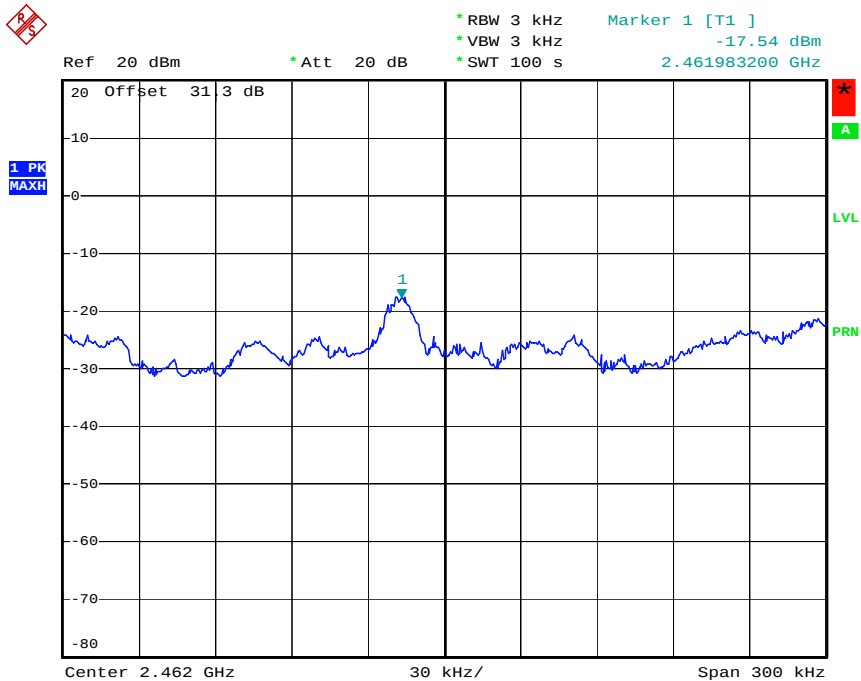


Power Spectral Density (802.11g-CH 6)



Date: 19.MAR.2009 16:15:30

Power Spectral Density (802.11g-CH11)



Date: 19.MAR.2009 16:19:25

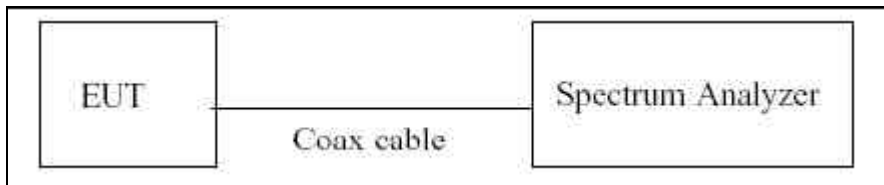
HCT PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCT-RF09-0409	Date of Issue: April 03, 2009	EUT Type: Cellular/ PCS GSM/ EDGE Phone with Bluetooth and WLAN	FCC ID: BEJGT500	Page 3 4 of 55

7.4 Out of Band Emissions at the Band Edge/ Conducted Spurious Emissions

Test Requirements and limit, §15.247(d)

§15.247 (c) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

■ TEST CONFIGURATION



■ TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer.

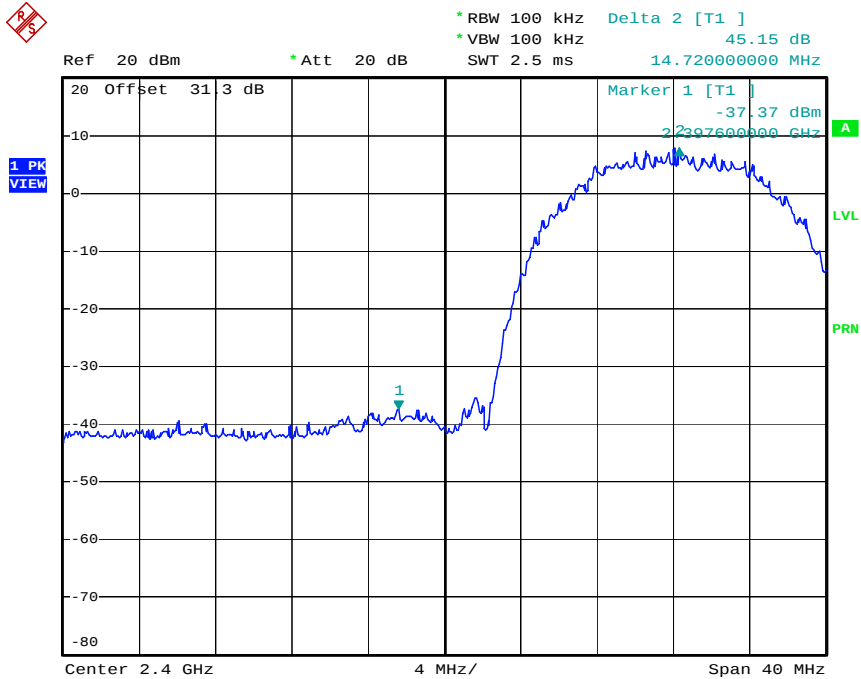
The resolution bandwidth is set to 100 kHz and the video bandwidth is set to 100 kHz.

The spectrum from 30 MHz to 10th harmonics is investigated with the transmitter set to the lowest, middle, and highest channels.



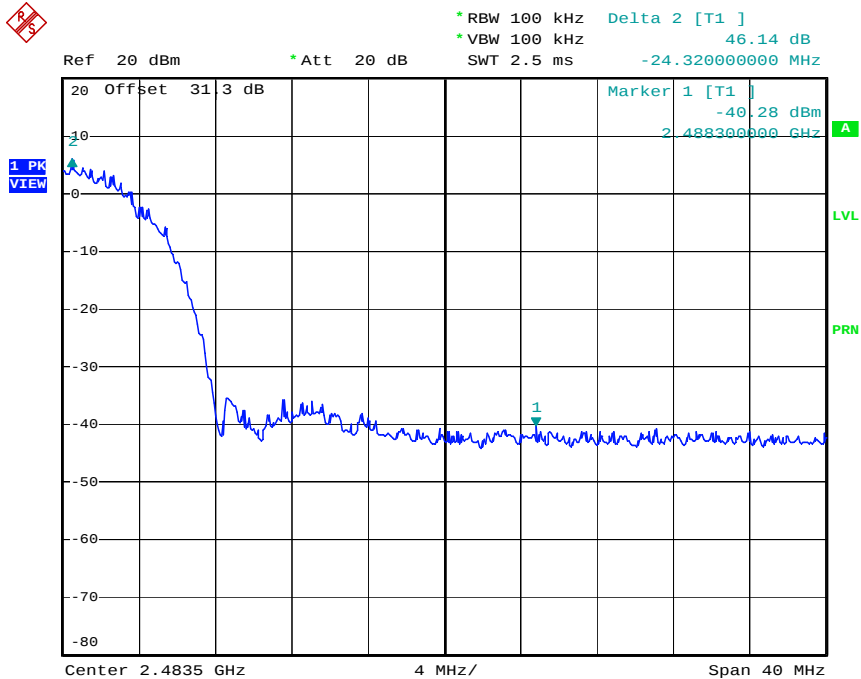
RESULT PLOTS

BandEdge (802.11b-CH1)



Date: 20.MAR.2009 08:03:34

BandEdge (802.11b-CH11)

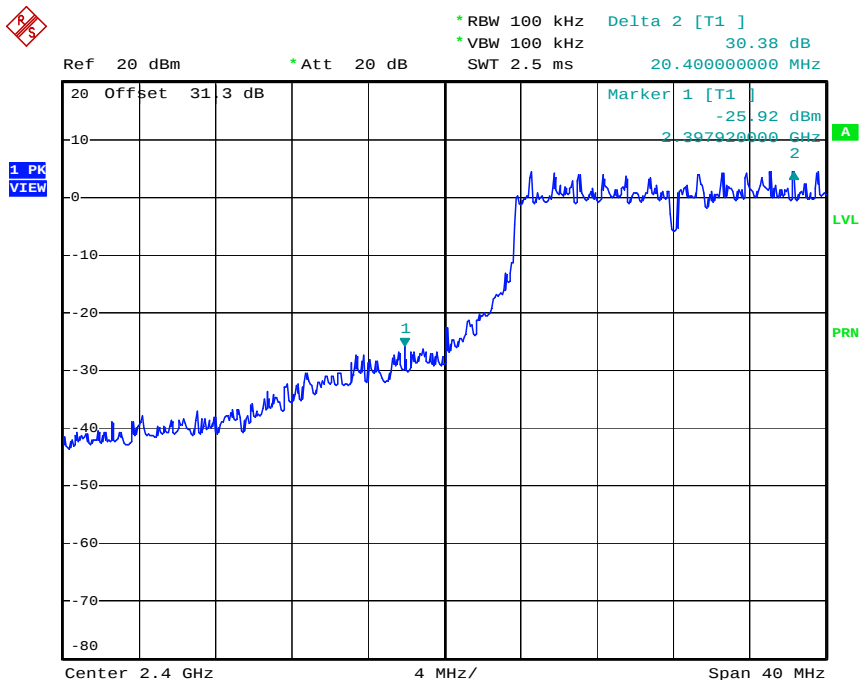


Date: 20.MAR.2009 08:06:05

HCT PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCT-RF09-0409	Date of Issue: April 03, 2009	EUT Type: Cellular/ PCS GSM/ EDGE Phone with Bluetooth and WLAN	FCC ID: BEJGT500	Page 36 of 55

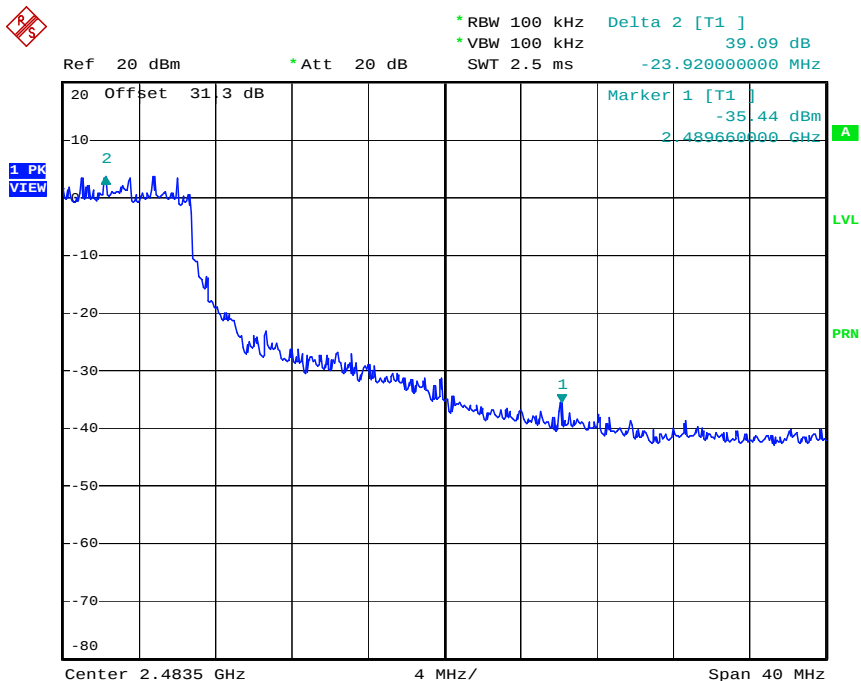


BandEdge (802.11g-CH1)



Date: 20.MAR.2009 08:07:43

BandEdge (802.11g-CH11)

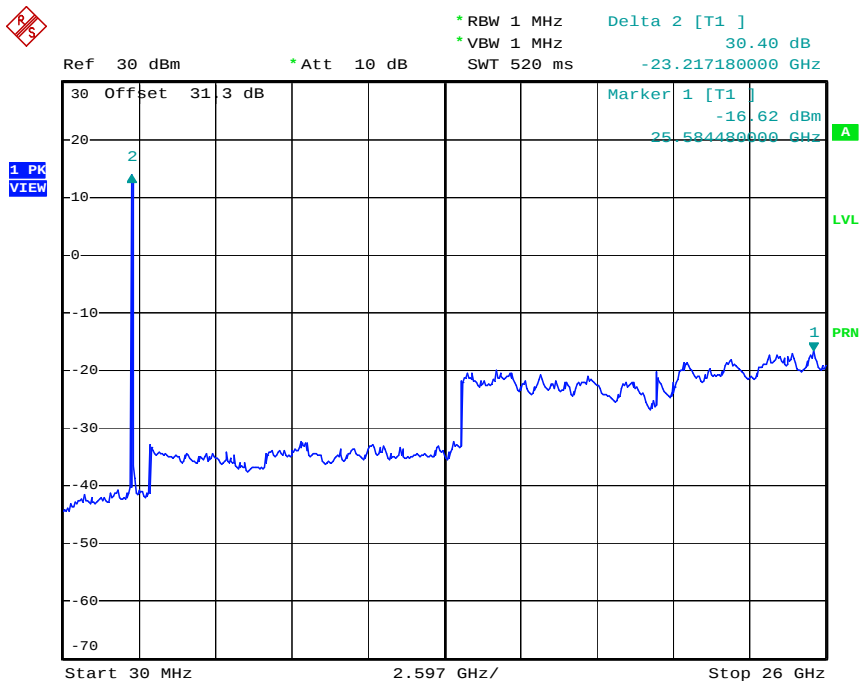


Date: 20.MAR.2009 08:10:45

HCT PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCT-RF09-0409	Date of Issue: April 03, 2009	EUT Type: Cellular/ PCS GSM/ EDGE Phone with Bluetooth and WLAN	FCC ID: BEJGT500	Page 37 of 55

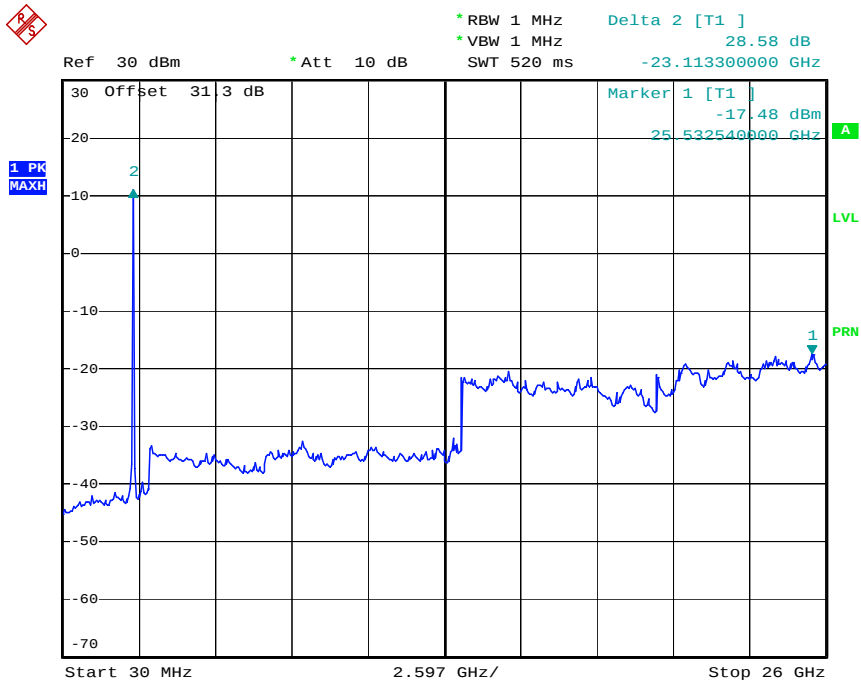


Conducted Spurious Emission (802.11b-CH1)



Date: 20.MAR.2009 08:13:43

Conducted Spurious Emission (802.11b-CH6)

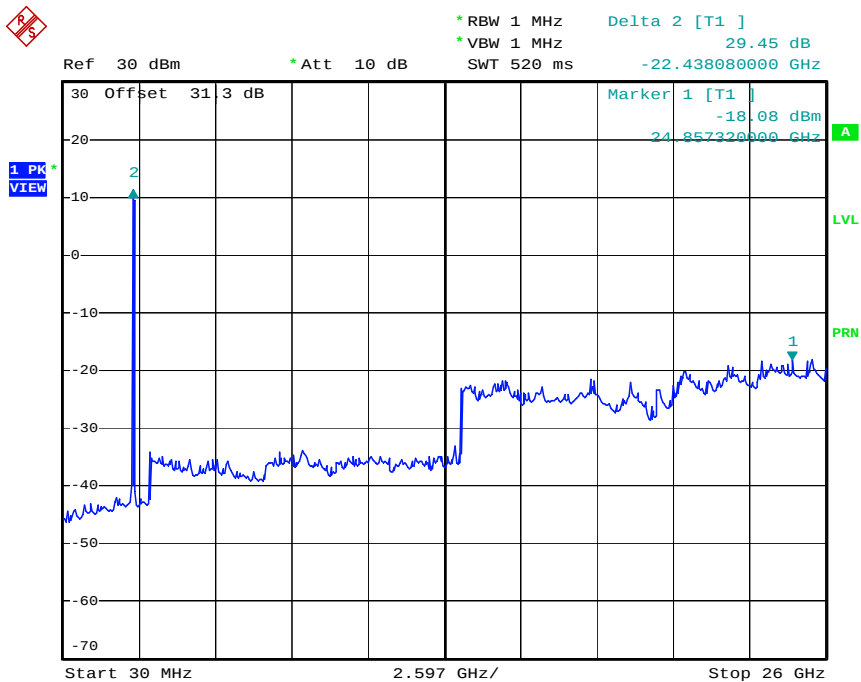


Date: 20.MAR.2009 08:15:02

HCT PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCT-RF09-0409	Date of Issue: April 03, 2009	EUT Type: Cellular/ PCS GSM/ EDGE Phone with Bluetooth and WLAN	FCC ID: BEJGT500	Page 38 of 55

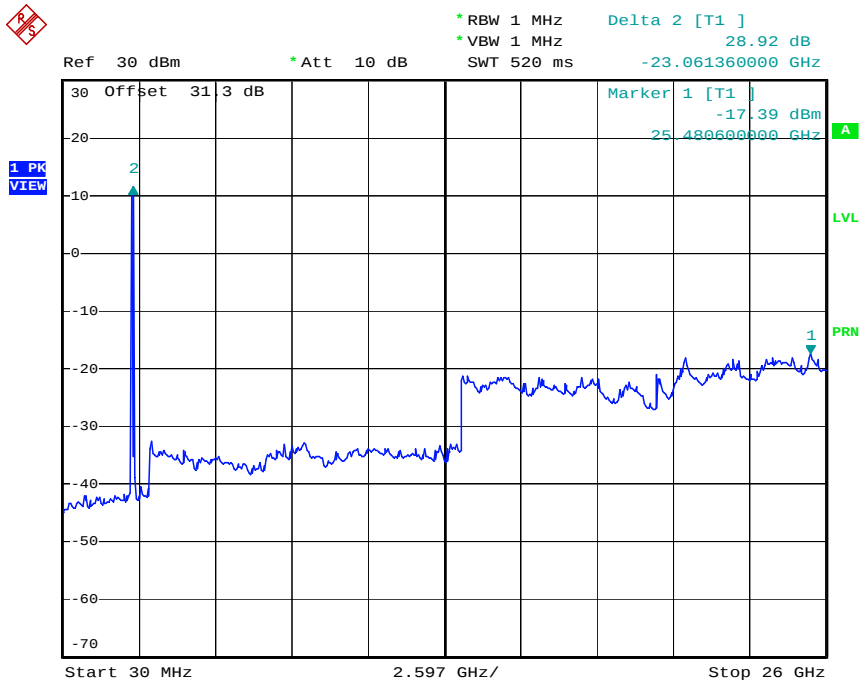


Conducted Spurious Emission (802.11b-CH11)



Date: 20.MAR.2009 08:16:19

Conducted Spurious Emission (802.11g-CH1)

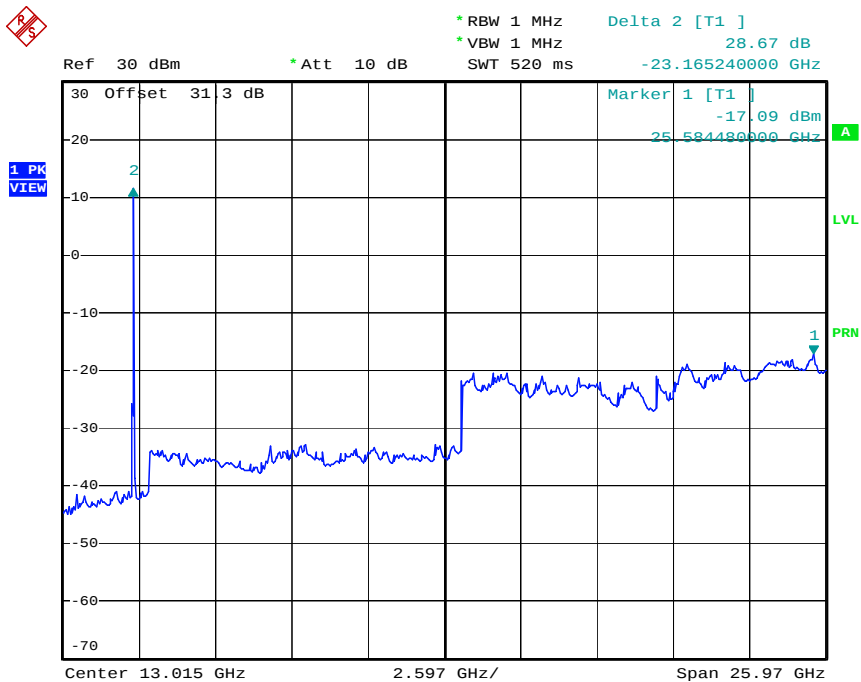


Date: 20.MAR.2009 08:17:37

HCT PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCT-RF09-0409	Date of Issue: April 03, 2009	EUT Type: Cellular/ PCS GSM/ EDGE Phone with Bluetooth and WLAN	FCC ID: BEJGT500	Page 39 of 55

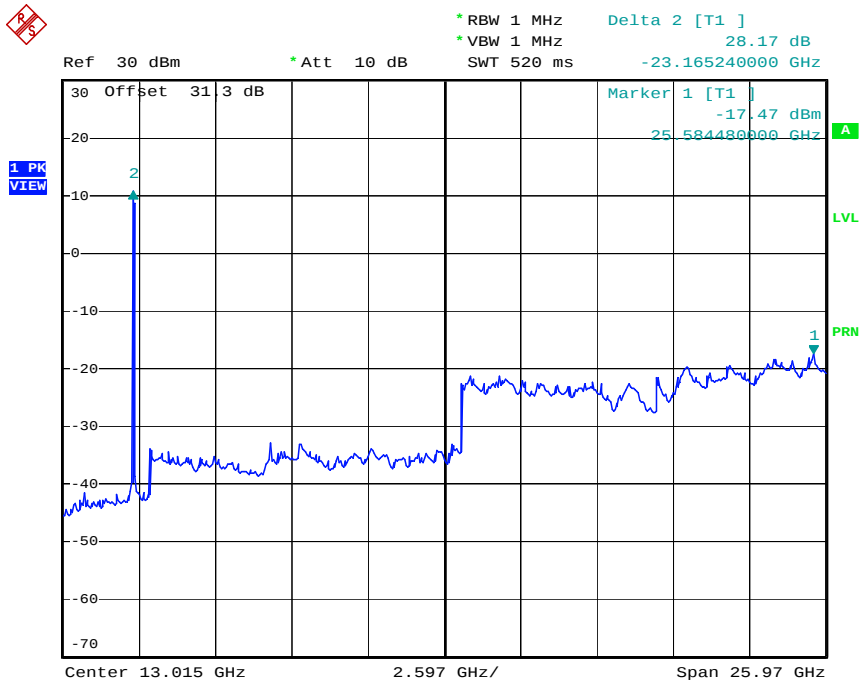


Conducted Spurious Emission (802.11g-CH6)



Date: 20.MAR.2009 08:19:11

Conducted Spurious Emission (802.11g-CH11)



Date: 20.MAR.2009 08:20:28

HCT PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCT-RF09-0409	Date of Issue: April 03, 2009	EUT Type: Cellular/ PCS GSM/ EDGE Phone with Bluetooth and WLAN	FCC ID: BEJGT500	Page 40 of 55



7.5 Radiated Measurement.

7.5.1 Radiated Spurious Emissions.

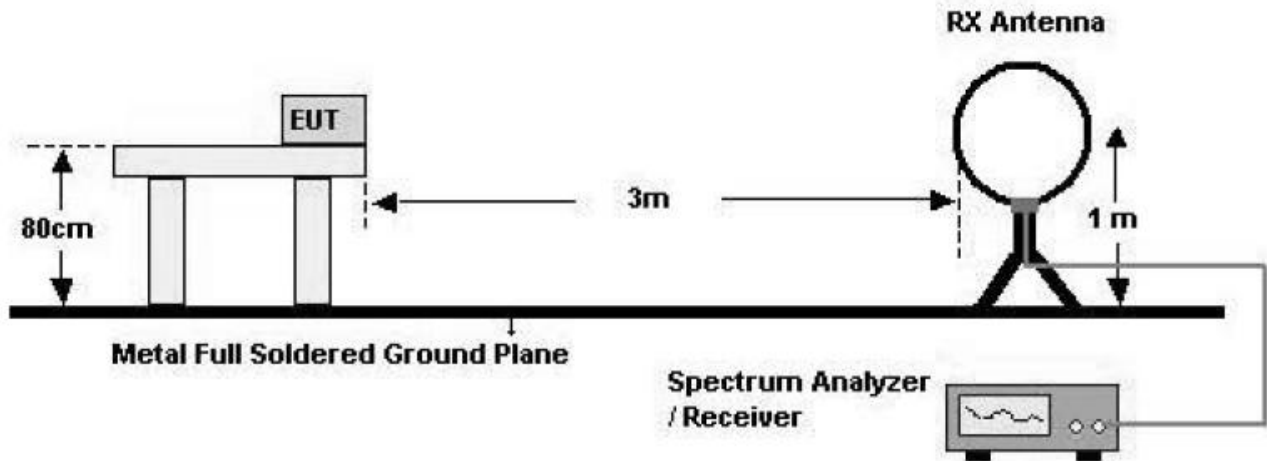
Test Requirements and limit, §15.247(d)

1. 20dBc in any 100kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed

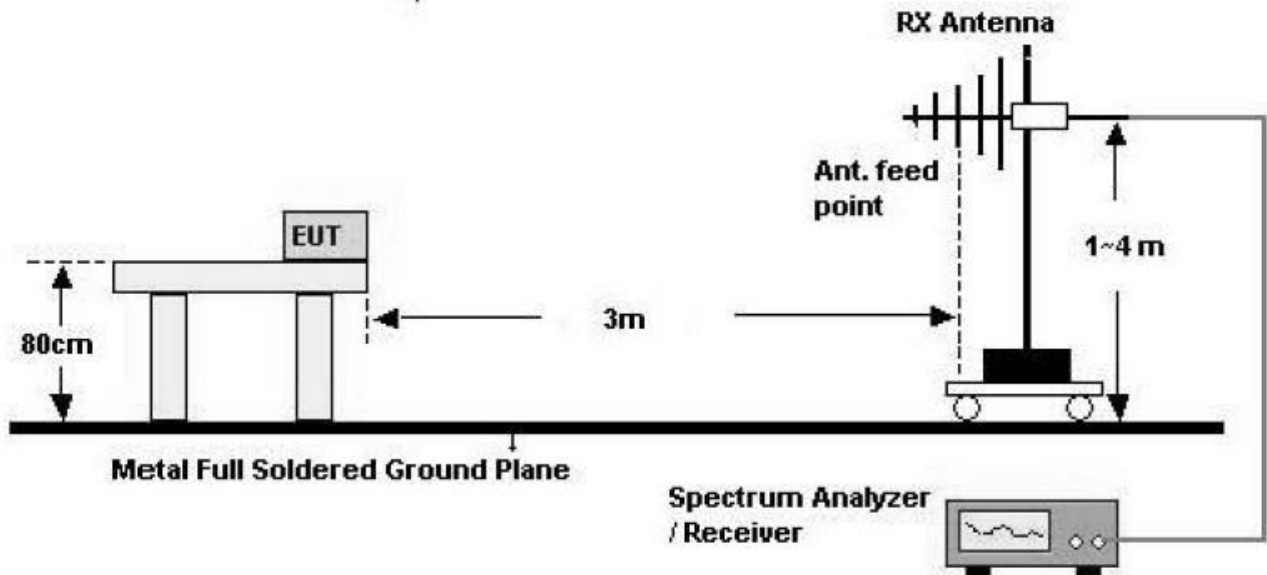
Frequency (MHz)	Field Strength (mV/m)	Measurement Distance (m)
0.009 – 0.490	2400/F(KHz)	300
0.490 – 1.705	24000/F(KHz)	30
1.705 – 30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Test Configuration

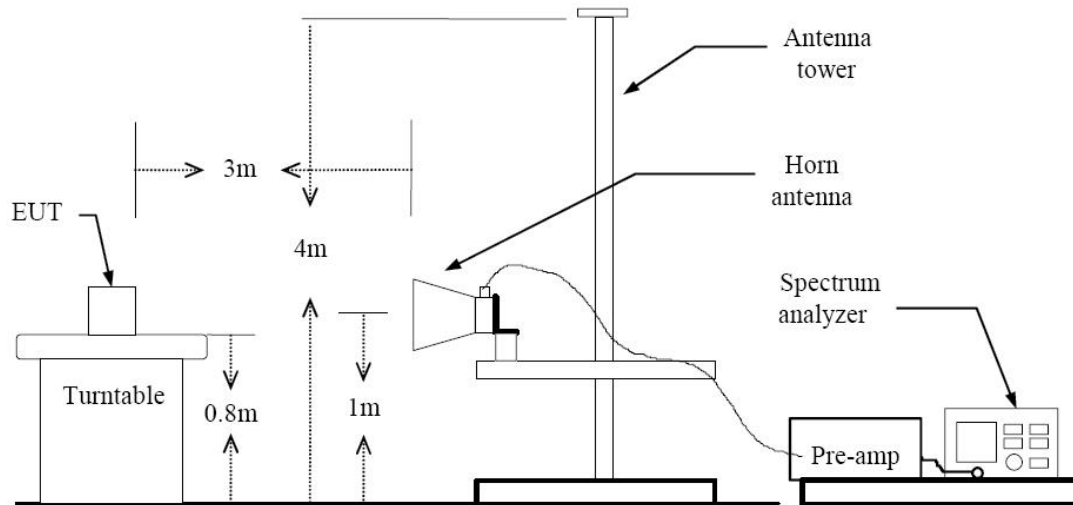
Below 30 MHz



30 MHz - 1 GHz



Above 1 GHz



TEST PROCEDURE

1. The EUT is placed on a turntable, which is 0.8 m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3 m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.



TEST RESULTS

9 kHz – 30MHz

Operation Mode: Normal Link

The reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.

Notes:

1. Measuring frequencies from 9 kHz to the 30MHz.
2. Distance extrapolation factor = $40 \log (\text{specific distance} / \text{test distance})$ (dB)
3. Limit line = specific Limits (dBuV) + Distance extrapolation factor

HCT PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT			www.hct.co.kr
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TEST RESULTS

Below 1 GHz

Operation Mode: Normal Link

Frequency	Reading	Ant. Factor	Cable Loss	Ant. POL	Total	Limit	Margin
MHz	dB μ V	dB /m	dB	(H/V)	dB μ V/m	dB μ V/m	dB
334.1	15.3	13.8	4.4	H	33.5	46.0	12.5
336.0	16.6	13.8	4.4	H	34.8	46.0	11.2

Notes:

1. Measuring frequencies from 30 MHz to the 1 GHz.
2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Quasi peak detector mode.



Above 1 GHz

Operation Mode:	802.11 g
Transfer Rate:	54 Mbps
Operating Frequency	2412
Channel No.	01 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-AMP G [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4804	44.04	-4.79	V	39.25	74	34.75	PK
4804	31.16	-4.79	V	26.37	54	27.63	AV
7206	45.88	1.21	V	47.09	74	26.91	PK
7206	33.43	1.21	V	34.64	54	19.36	AV
4804	43.71	-4.79	H	38.92	74	35.08	PK
4804	31.50	-4.79	H	26.71	54	27.29	AV
7206	46.56	1.21	H	47.77	74	26.23	PK
7206	33.67	1.21	H	34.88	54	19.12	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Spectrum setting:
 - a. Peak Setting 1 GHz – 26 GHz, RBW = 1 MHz, VBW = 1 MHz.
 - b. AV Setting 1 GHz – 26 GHz, RBW = 1 MHz, VBW = 10 Hz.



Operation Mode:	802.11 g
Transfer Rate:	54 Mbps
Operating Frequency	2437
Channel No.	06 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-AMP G [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4882	44.09	-4.61	V	39.48	74	34.52	PK
4882	31.69	-4.61	V	27.08	54	26.92	AV
7323	42.89	1.62	V	44.51	74	29.49	PK
7323	31.24	1.62	V	32.86	54	21.14	AV
4882	44.50	-4.61	H	39.89	74	34.11	PK
4882	31.66	-4.61	H	27.05	54	26.95	AV
7323	44.03	1.62	H	45.65	74	28.35	PK
7323	31.26	1.62	H	32.88	54	21.12	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Spectrum setting:
 - a. Peak Setting 1 GHz – 26 GHz, RBW = 1 MHz, VBW = 1 MHz.
 - b. AV Setting 1 GHz – 26 GHz, RBW = 1 MHz, VBW = 10 Hz.



Operation Mode:	802.11 g
Transfer Rate:	54 Mbps
Operating Frequency	2462
Channel No.	11 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-AMP G [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4960	46.19	-4.42	V	41.77	74	32.23	PK
4960	33.74	-4.42	V	29.32	54	24.68	AV
7440	46.94	2.04	V	48.98	74	25.02	PK
7440	33.72	2.04	V	35.76	54	18.24	AV
4960	44.77	-4.42	H	40.35	74	33.65	PK
4960	31.61	-4.42	H	27.19	54	26.81	AV
7440	45.94	2.04	H	47.98	74	26.02	PK
7440	33.74	2.04	H	35.78	54	18.22	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Spectrum setting:
 - a. Peak Setting 1 GHz – 26 GHz, RBW = 1 MHz, VBW = 1 MH.
 - b. AV Setting 1 GHz – 26 GHz, RBW = 1 MHz, VBW = 10 Hz.



7.5.2 Radiated Restricted Band Edge Measurements

Test Requirements and limit, §15.247(d)

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in section 15.209(a) (See section 15.205(c)).

Operation Mode:	802.11 b
Transfer Rate:	5.5 Mbps
Operating Frequency	2412 MHz, 2462 MHz
Channel No.	1 Ch, 11 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-AMP G [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
2362.00	42.72	-10.28	H	32.44	74	41.56	PK
2362.00	29.82	-10.28	H	19.54	54	34.46	AV
2362.84	41.48	-10.27	V	31.21	74	42.79	PK
2362.84	29.85	-10.27	V	19.58	54	34.42	AV
2493.50	41.82	-9.72	H	32.10	74	41.90	PK
2493.50	29.29	-9.72	H	19.57	54	34.43	AV
2498.02	41.35	-9.70	V	31.65	74	42.35	PK
2498.02	29.47	-9.70	V	19.77	54	34.23	AV

Notes:

1. Spectrum setting:
 - a. Peak Setting 1 GHz – 26 GHz, RBW = 1 MHz, VBW = 1 MHz.
 - b. AV Setting 1 GHz – 26 GHz, RBW = 1 MHz, VBW = 10 Hz.



7.6 POWERLINE CONDUCTED EMISSIONS

Test Requirements and limit, §15.247(d)

For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range is listed as follows:

Frequency Range (MHz)	Limits (dB μ V)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

Test Configuration

See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

TEST PROCEDURE

1. The EUT is placed on a wooden table 80 cm above the reference groundplane.
2. The EUT is connected via LISN to a test power supply.
3. The measurement results are obtained as described below:
4. Detectors – Quasi Peak and Average Detector.



■ RESULT PLOTS

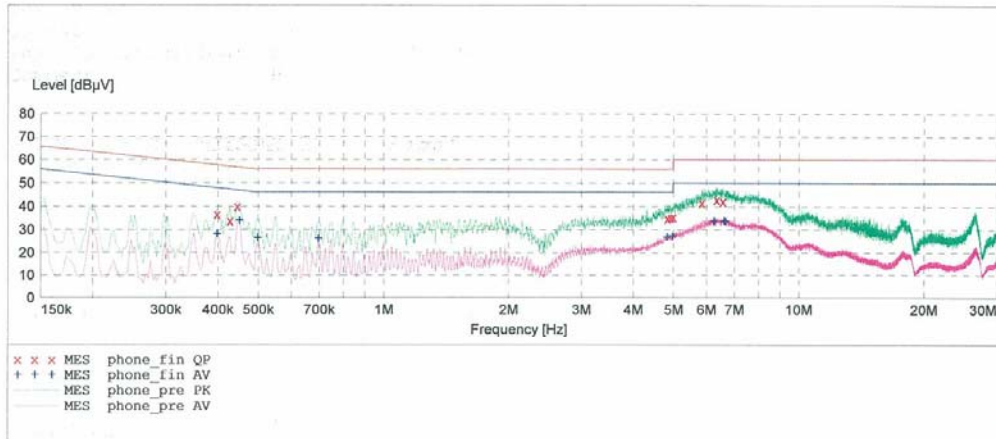
HCT

EMC TEST LAB.

EUT: GT500
Manufacturer: LG
Operating Condition: WLAN Mode
Test Site: SHIELD ROOM
Operator: YH, LEE
Test Specification: CISPR 22 CLASS B
Comment: H

SCAN TABLE: "CISPR 22 Voltage"

Short Description:		CISPR 22 Voltage				
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
Frequency	Frequency	Width				
150.1 kHz	500.0 kHz	2.5 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			
500.0 kHz	5.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			
5.0 MHz	30.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None



MEASUREMENT RESULT: "phone_fin QP"

3/12/2009 5:49PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.397600	36.70	10.1	58	21.2	---	---
0.427600	33.80	10.1	57	23.5	---	---
0.445100	40.10	10.1	57	16.8	---	---
4.836000	34.90	10.7	56	21.1	---	---
4.924000	35.20	10.7	56	20.8	---	---
5.000000	35.40	10.7	56	20.6	---	---
5.856000	41.60	10.8	60	18.4	---	---
6.352000	42.90	10.8	60	17.1	---	---
6.568000	42.20	10.9	60	17.8	---	---

MEASUREMENT RESULT: "phone_fin AV"

3/12/2009 5:49PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.397600	28.20	10.1	48	19.7	---	---
0.450100	34.00	10.2	47	12.9	---	---
0.497600	26.60	10.2	46	19.4	---	---



MEASUREMENT RESULT: "phone_fin AV"

(continued)

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.696000	26.10	10.2	46	19.9	---	---
4.824000	27.00	10.7	46	19.0	---	---
4.968000	27.10	10.7	46	18.9	---	---
6.264000	33.90	10.8	50	16.1	---	---
6.608000	33.90	10.9	50	16.1	---	---
6.668000	33.70	10.9	50	16.3	---	---

HCT PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCT-RF09-0409	Date of Issue: April 03, 2009	EUT Type: Cellular/ PCS GSM/ EDGE Phone with Bluetooth and WLAN	FCC ID: BEJGT500	Page 52 of 55



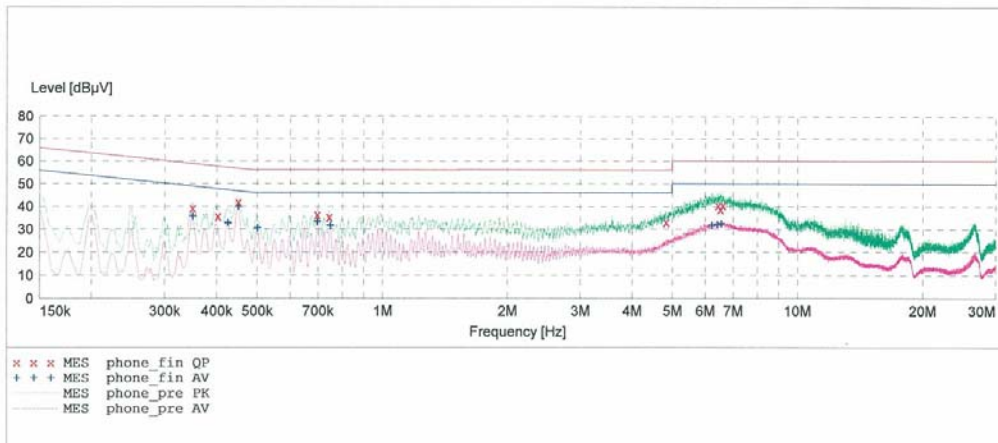
HCT

EMC TEST LAB.

EUT: GT500
Manufacturer: LG
Operating Condition: WLAN Mode
Test Site: SHIELD ROOM
Operator: YH, LEE
Test Specification: CISPR 22 CLASS B
Comment: N

SCAN TABLE: "CISPR 22 Voltage"

Short Description:		CISPR 22 Voltage					
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer	
Frequency	Frequency	Width					
150.1 kHz	500.0 kHz	2.5 kHz	MaxPeak	10.0 ms	9 kHz	None	
			Average				
500.0 kHz	5.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None	
			Average				
5.0 MHz	30.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None	



MEASUREMENT RESULT: "phone_fin QP"

3/12/2009 5:27PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.350100	39.20	10.1	59	19.7	---	---
0.402600	35.70	10.1	58	22.1	---	---
0.450100	42.00	10.2	57	14.8	---	---
0.696000	36.30	10.2	56	19.7	---	---
0.744000	35.30	10.2	56	20.7	---	---
4.828000	33.20	10.7	56	22.8	---	---
6.444000	40.50	10.8	60	19.5	---	---
6.528000	38.80	10.9	60	21.2	---	---
6.608000	40.60	10.9	60	19.4	---	---

MEASUREMENT RESULT: "phone_fin AV"

3/12/2009 5:27PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.350100	35.80	10.1	49	13.1	---	---
0.425100	32.90	10.1	47	14.5	---	---
0.450100	40.00	10.2	47	6.9	---	---



MEASUREMENT RESULT: "phone_fin AV"

(continued)

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.500000	30.70	10.2	46	15.3	---	---
0.696000	33.30	10.2	46	12.7	---	---
0.748000	31.60	10.2	46	14.4	---	---
6.216000	31.80	10.8	50	18.2	---	---
6.408000	32.20	10.8	50	17.8	---	---
6.552000	32.60	10.9	50	17.4	---	---

HCT PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT			www.hct.co.kr
Test Report No. HCT-RF09-0409	Date of Issue: April 03, 2009	EUT Type: Cellular/ PCS GSM/ EDGE Phone with Bluetooth and WLAN	FCC ID: BEJGT500	Page 54 of 55



8. LIST OF TEST EQUIPMENT

Manufacturer	Model / Equipment	Cal Interval	Calibration Due	Serial No.
Rohde & Schwarz	ESH2-Z5/ LISN	Annual	04/20/2009	861741/013
Rohde & Schwarz	ESH3-Z6/ LISN	Annual	06/13/2009	100329
Schwarzbeck	VULB 9160/ TRILOG Antenna	Biennial	12/18/2010	9160-3150
HD	MA240/ Antenna Position Tower	N/A	N/A	556
EMCO	1050/ Turn Table	N/A	N/A	114
HD GmbH	HD 100/ Controller	N/A	N/A	13
HD GmbH	KMS 560/ SlideBar	N/A	N/A	12
Rohde & Schwarz	ESH3-Z2/ PULSE LIMITER	Annual	10/30/2009	375.8810.352
MITEQ	AMF-60-0010 1800-35-20P	Annual	05/20/2009	1200937
Schwarzbeck	BBHA 9120D/ Horn Antenna	Biennial	03/26/2010	147
Rohde & Schwarz	6502/Loop Antenna	Biennial	12/26/2009	9009-2536
Rohde & Schwarz	FSP30/Spectrum Analyzer	Annual	07/31/2009	839117/011
Agilent	E4416A /Power Meter	Annual	01/21/2010	GB41291412
Wainwright Instrument	WHF3.3/18G-10EF / High Pass Filter	Annual	06/28/2009	1
Hewlett Packard	11636B/Power Divider	Annual	12/24/2009	11377
DIGITAL	EP-3010 /DC POWER SUPPLY	Annual	01/07/2010	3110117