



## HCT CO., LTD.

Product Compliance Division

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### FCC PART 15.247 Class II Permissive Change

**Applicant Name:**  
LG Electronics Inc.

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

**Date of Issue:**  
November 12, 2009  
**Test Site/Location:**  
HCT.CO., LTD., San 136-1 Ami-ri, Bubal-eup, Icheon-si,  
Kyungki-do, Korea  
**Test Report No.:** HCTR0911FR08  
**HCT FRN:** 0005866421  
**IC Recognition No.:** 5944A-1

**FCC ID:** BEJGW620

**APPLICANT:** LG Electronics Inc.

**Model(s):** GW620  
**EUT Type:** Cellular/ PCS GSM/ EDGE Phone with Bluetooth/ WLAN  
**Tx Frequency:** 2412-2462 MHz(DSSS/OFDM)  
**Rx Frequency:** 2412-2462 MHz(DSSS/OFDM)  
**Max. RF Output Power:** Wi-Fi 802.11b(21.72 dBm) / Wi-Fi 802.11g (20.82 dBm)  
**FCC Rule Part(s):** Part 15.247  
**Application Type:** FCC Class II Permissive Change

#### 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 Team**

  
**Approved by**

**: Sang Jun Lee**  
**Manager of RF Team**

|                                 |                                       |                                                                 |                     |                                                  |
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| HCT PT.15.247<br>TEST REPORT    | FCC Class II Permissive Change REPORT |                                                                 |                     | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR0911FR08 | Date of Issue:<br>November 12, 2009   | EUT Type:<br>Cellular/ PCS GSM/ EDGE Phone with Bluetooth/ WLAN | FCC ID:<br>BEJGW620 | Page 1 of 58                                     |



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## 1. GENERAL INFORMATION

**Applicant:** LG Electronics Inc.  
**Address:** 60-39, Gasan-dong, Gumchon-gu,  
Seoul 153-023, Korea  
**FCC ID:** BEJGW620  
**Application Type:** FCC Class II Permissive Change  
**EUT:** Cellular/ PCS GSM/ EDGE Phone with Bluetooth/ WLAN  
**Model:** GW620  
**Date of Test:** November 12, 2009  
**Contact person:** Name: Bong Hyo, Han  
Phone #: +82-2-2033-1108  
Fax #: +82-2-2033-1222

## 2. EUT DESCRIPTION

|                              |                                                                                       |
|------------------------------|---------------------------------------------------------------------------------------|
| <b>Product</b>               | Cellular/ PCS GSM/ EDGE Phone with Bluetooth/ WLAN                                    |
| <b>Model Name</b>            | GW620                                                                                 |
| <b>Power Supply</b>          | DC 3.7 V                                                                              |
| <b>Battery type</b>          | Standard                                                                              |
| <b>Frequency Range</b>       | TX: 2412 ~ 2462 MHz<br>RX: 2412 ~ 2462 MHz                                            |
| <b>Max. RF Output Power</b>  | Wi-Fi 802.11b(21.72 dBm) / Wi-Fi 802.11g (20.82 dBm)                                  |
| <b>Modulation Type</b>       | DSSS/CCK(802.11b), OFDM(802.11g)                                                      |
| <b>Antenna Specification</b> | Manufacturer: ace antennaA<br>Antenna type: Built-in antenna<br>Peak Gain : -2.18 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 June 10, 2009 (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

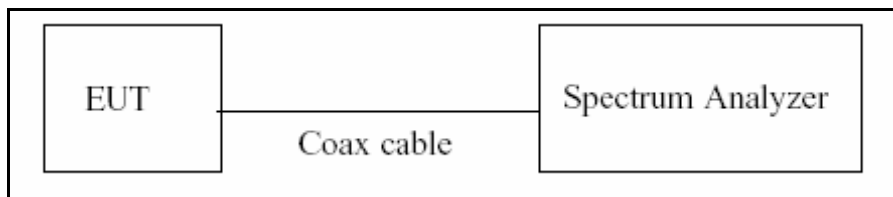
### 7.1 6dB Bandwidth Measurement (802.11b/g)

#### 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<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 2412            | 1           | 5.44                        | 0.500                      | Pass        |
| 2437            | 6           | 6.00                        | 0.500                      | Pass        |
| 2462            | 11          | 6.80                        | 0.500                      | Pass        |

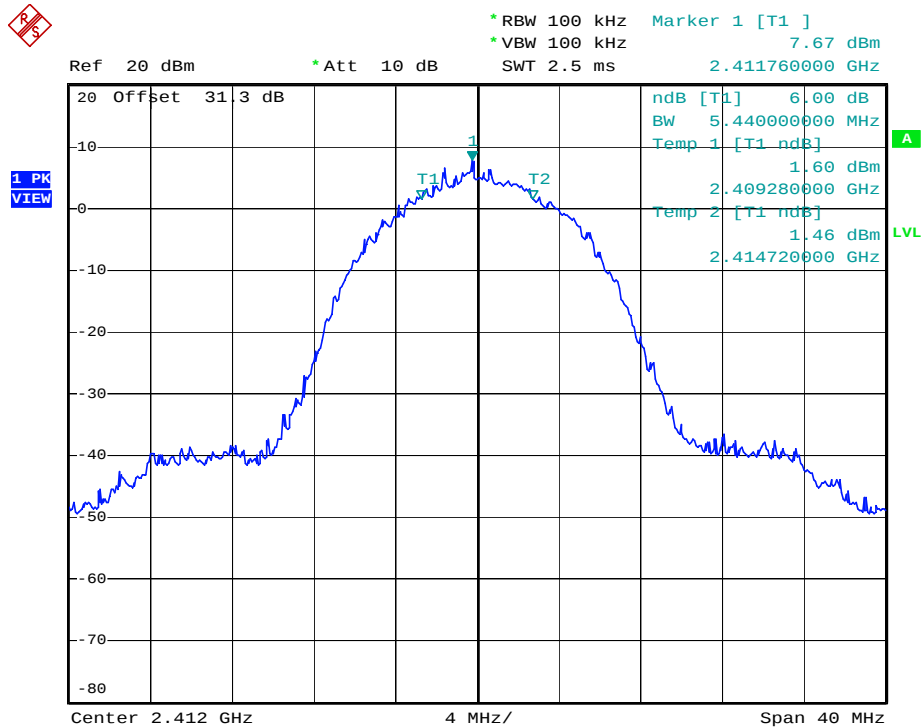
Conducted 6dB Bandwidth Measurements for 802.11g

| 802.11g Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 2412            | 1           | 16.88                       | 0.500                      | Pass        |
| 2437            | 6           | 16.88                       | 0.500                      | Pass        |
| 2462            | 11          | 16.88                       | 0.500                      | Pass        |



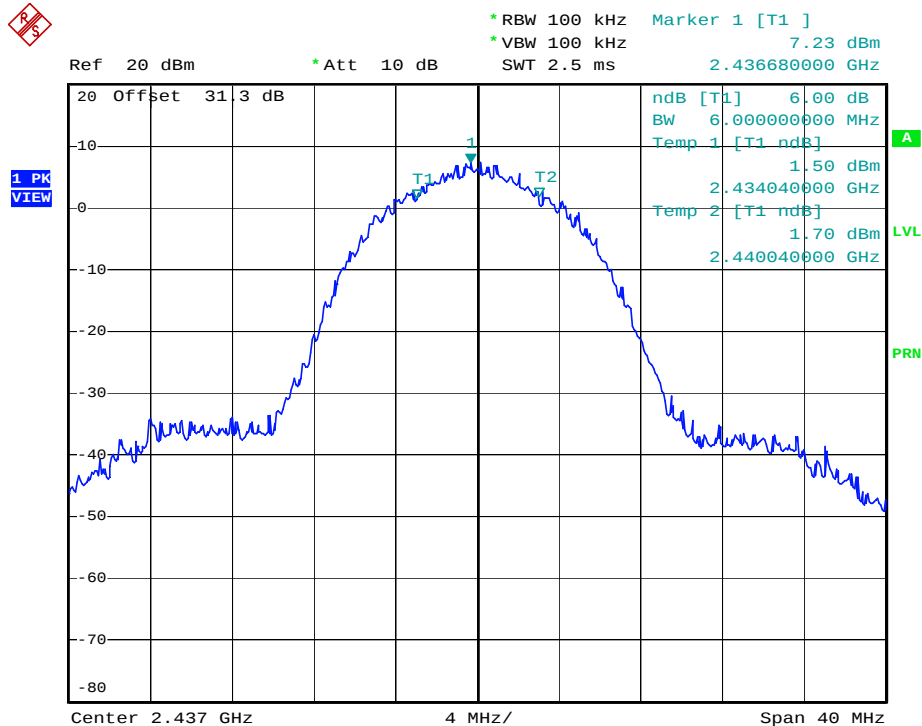
## RESULT PLOTS

### 6dB Bandwidth plot (802.11b-CH 1)



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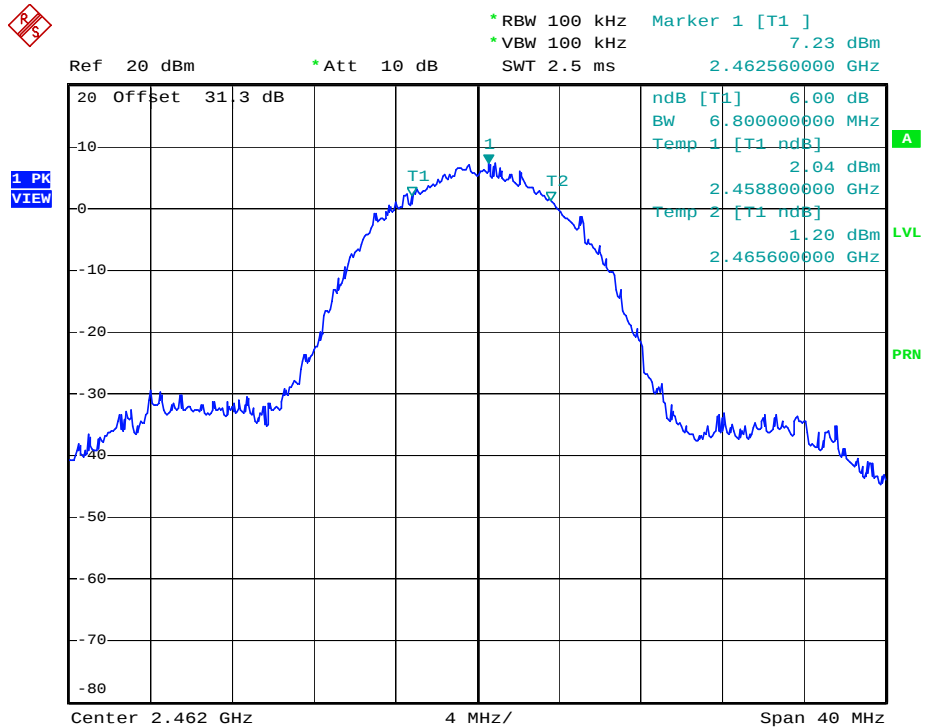
### 6dB Bandwidth plot (802.11b-CH 6)



Date: 19.AUG.2009 20:23:46

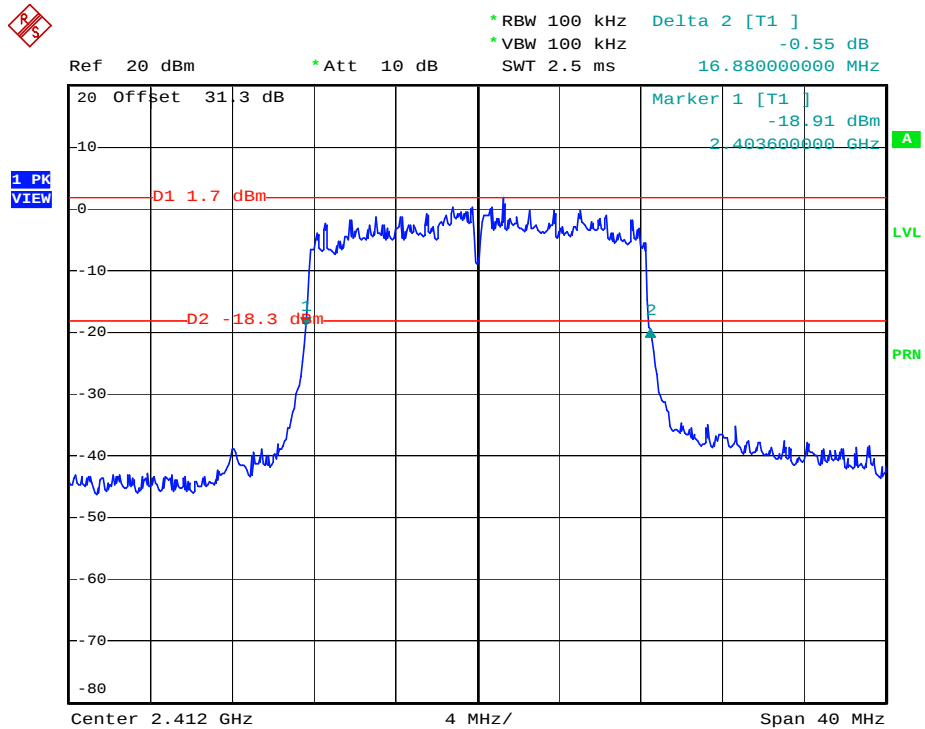
|                                 |                                       |                                                                 |                     |                                                  |
|---------------------------------|---------------------------------------|-----------------------------------------------------------------|---------------------|--------------------------------------------------|
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## 6dB Bandwidth plot (802.11b-CH 11)



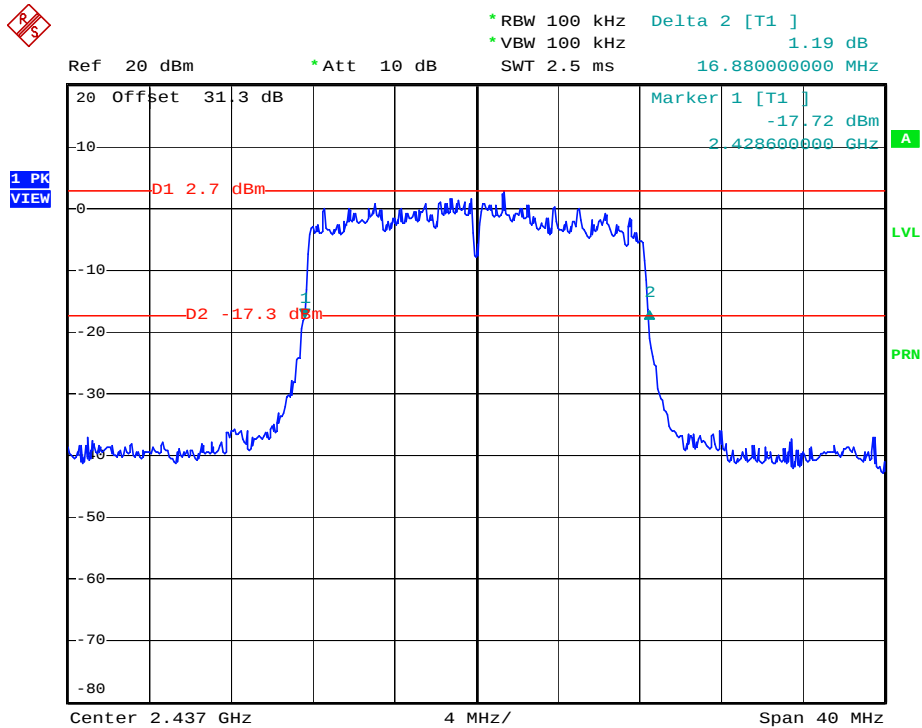
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## 6dB Bandwidth plot (802.11g-CH 1)



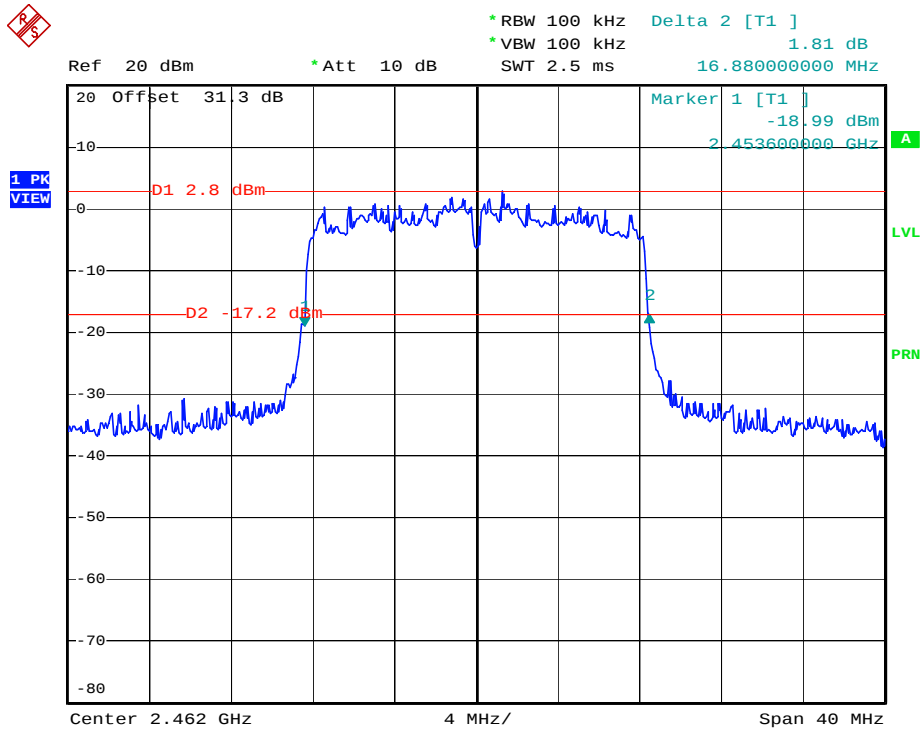
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### 6dB Bandwidth plot (802.11g-CH 6)



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### 6dB Bandwidth plot (802.11g-CH 11)



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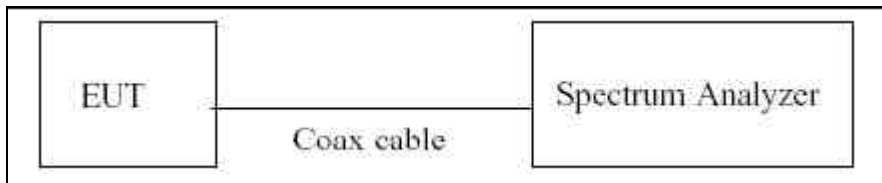
## 7.2 Output Power Measurement (802.11b/g)

### Test Requirements and limit, §15.247(d)

A transmitter antenna terminal of EUT is connected to the input of a Spectrum Analyzer. 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 PROCEDURE

The transmitter output is connected to the Spectrum Analyzer.

The Spectrum Analyzer is set to

RBW: 1 MHz

VBW: 1 MHz

SPAN: 40 MHz

Detector Mode = Peak

#### ■ TEST RESULTS

##### Conducted Output Power Measurements (802.11b Mode)

| 802.11b Mode   |             | Rate<br>(Mbps) | Measured<br>Power(dBm) | Limit<br>(dBm) |
|----------------|-------------|----------------|------------------------|----------------|
| Frequency[MHz] | Channel No. |                |                        |                |
| 2412           | 1           | 1 Mbps         | 16.99                  | 30             |
|                |             | 2 Mbps         | 17.28                  | 30             |
|                |             | 5.5 Mbps       | 19.26                  | 30             |
|                |             | 11 Mbps        | 20.22                  | 30             |
| 2437           | 6           | 1 Mbps         | 18.38                  | 30             |
|                |             | 2 Mbps         | 18.65                  | 30             |
|                |             | 5.5 Mbps       | 20.36                  | 30             |
|                |             | 11 Mbps        | 21.72                  | 30             |
| 2462           | 11          | 1 Mbps         | 18.50                  | 30             |
|                |             | 2 Mbps         | 18.62                  | 30             |
|                |             | 5.5 Mbps       | 20.28                  | 30             |
|                |             | 11 Mbps        | 21.64                  | 30             |



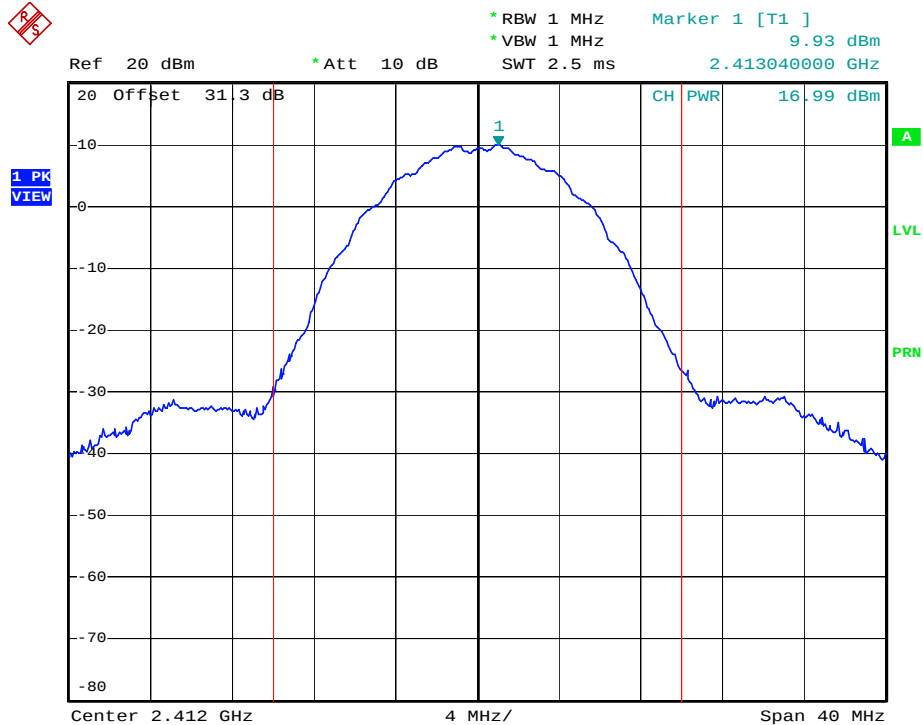
## Conducted Output Power Measurements (802.11g Mode)

| 802.11g Mode   |             | Rate<br>(Mbps) | Measured<br>Power(dBm) | Limit<br>(dBm) |
|----------------|-------------|----------------|------------------------|----------------|
| Frequency[MHz] | Channel No. |                |                        |                |
| 2412           | 1           | 6 Mbps         | 18.84                  | 30             |
|                |             | 9 Mbps         | 18.69                  | 30             |
|                |             | 12 Mbps        | 18.95                  | 30             |
|                |             | 18 Mbps        | 18.71                  | 30             |
|                |             | 24 Mbps        | 19.18                  | 30             |
|                |             | 36 Mbps        | 18.93                  | 30             |
|                |             | 48 Mbps        | 19.09                  | 30             |
|                |             | 54 Mbps        | 19.06                  | 30             |
| 2437           | 6           | 6 Mbps         | 20.08                  | 30             |
|                |             | 9 Mbps         | 20.35                  | 30             |
|                |             | 12 Mbps        | 20.19                  | 30             |
|                |             | 18 Mbps        | 20.26                  | 30             |
|                |             | 24 Mbps        | 20.71                  | 30             |
|                |             | 36 Mbps        | 20.41                  | 30             |
|                |             | 48 Mbps        | 20.32                  | 30             |
|                |             | 54 Mbps        | 20.35                  | 30             |
| 2462           | 11          | 6 Mbps         | 20.28                  | 30             |
|                |             | 9 Mbps         | 20.13                  | 30             |
|                |             | 12 Mbps        | 20.51                  | 30             |
|                |             | 18 Mbps        | 19.88                  | 30             |
|                |             | 24 Mbps        | 20.82                  | 30             |
|                |             | 36 Mbps        | 20.46                  | 30             |
|                |             | 48 Mbps        | 20.34                  | 30             |
|                |             | 54 Mbps        | 20.41                  | 30             |



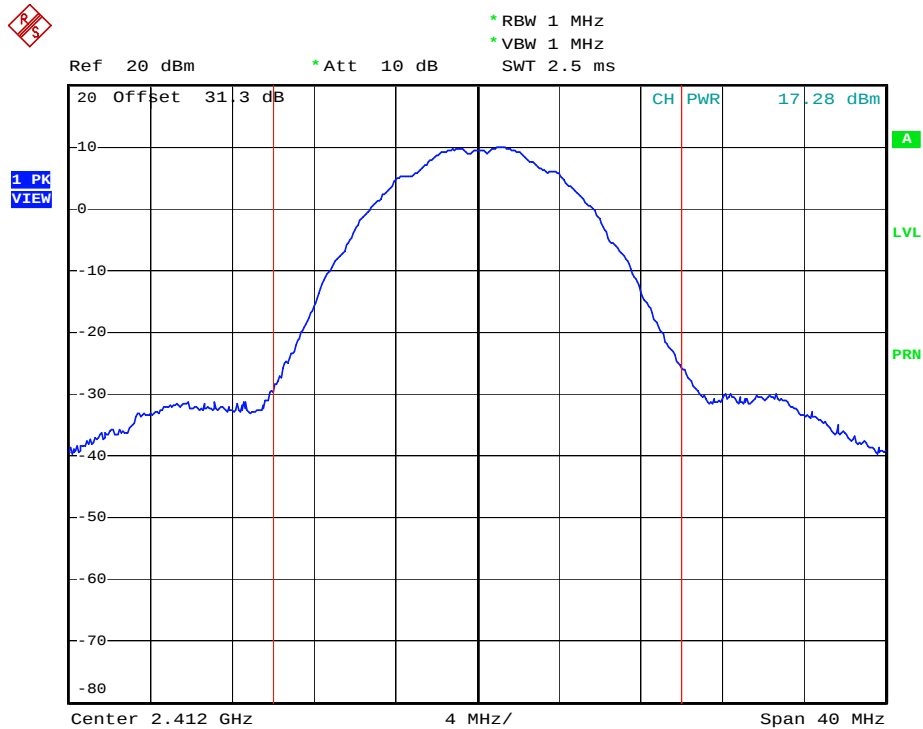
## RESULT PLOTS

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



Date: 19.AUG.2009 17:37:41

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

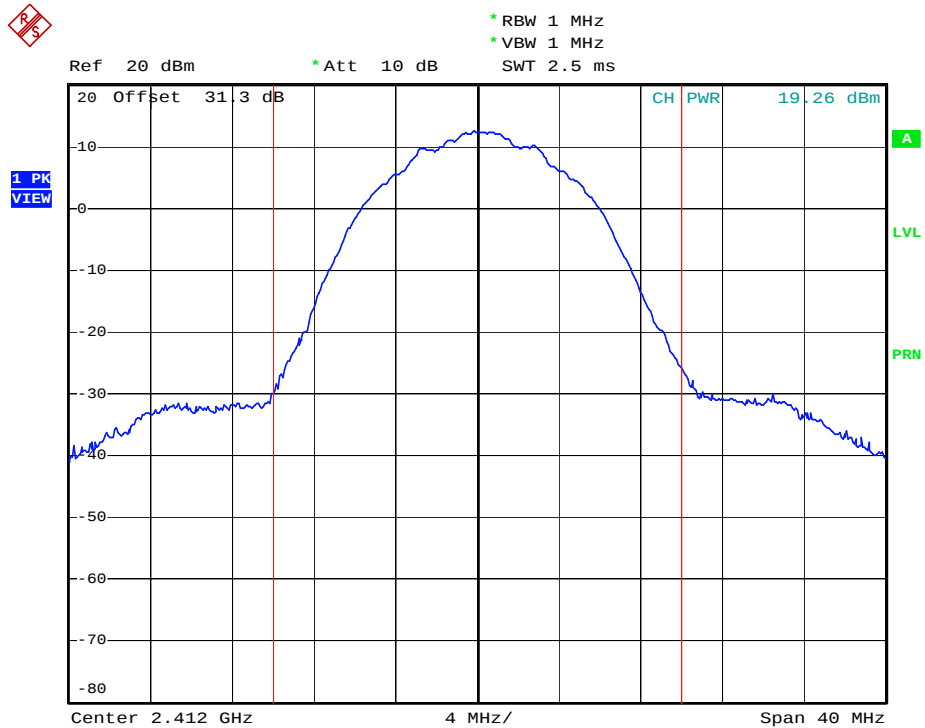


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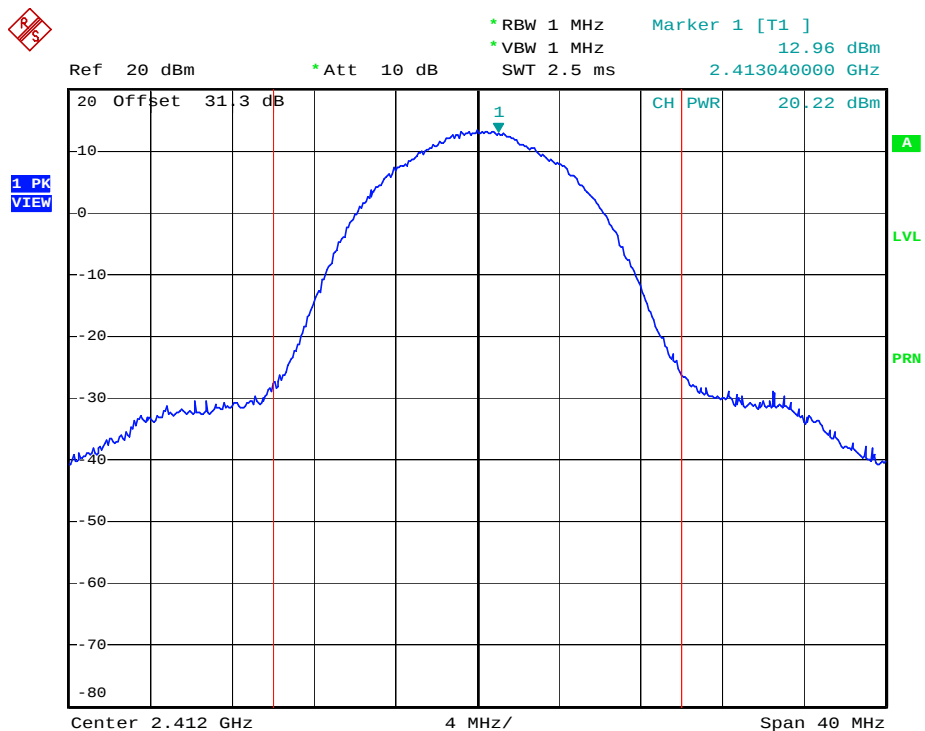


### Conducted Output Power (802.11b-CH 1) 5.5Mbps



Date: 19.AUG.2009 17:22:27

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

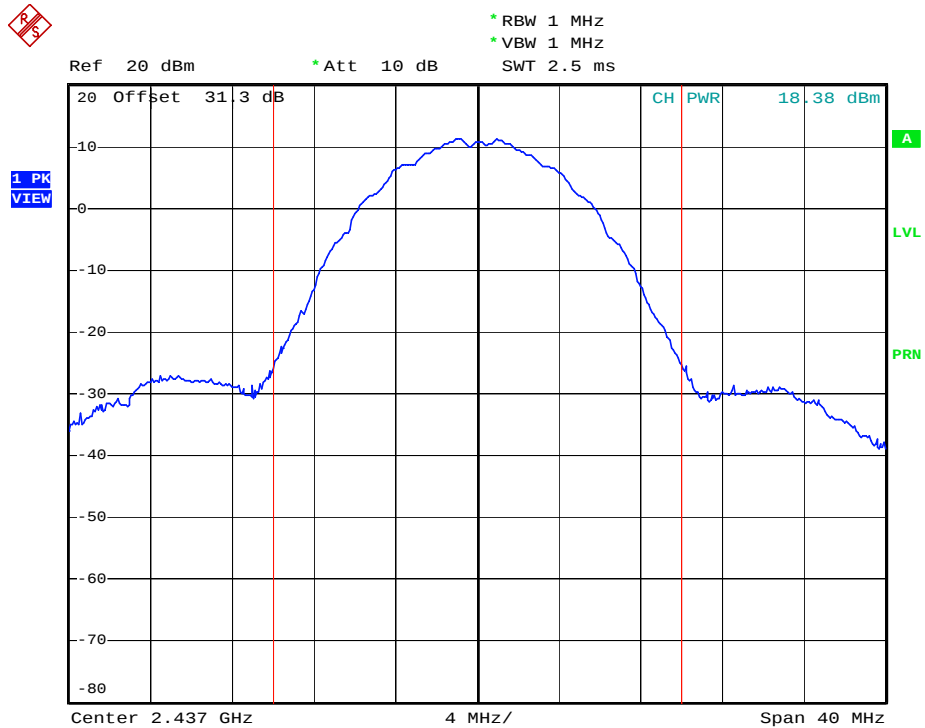


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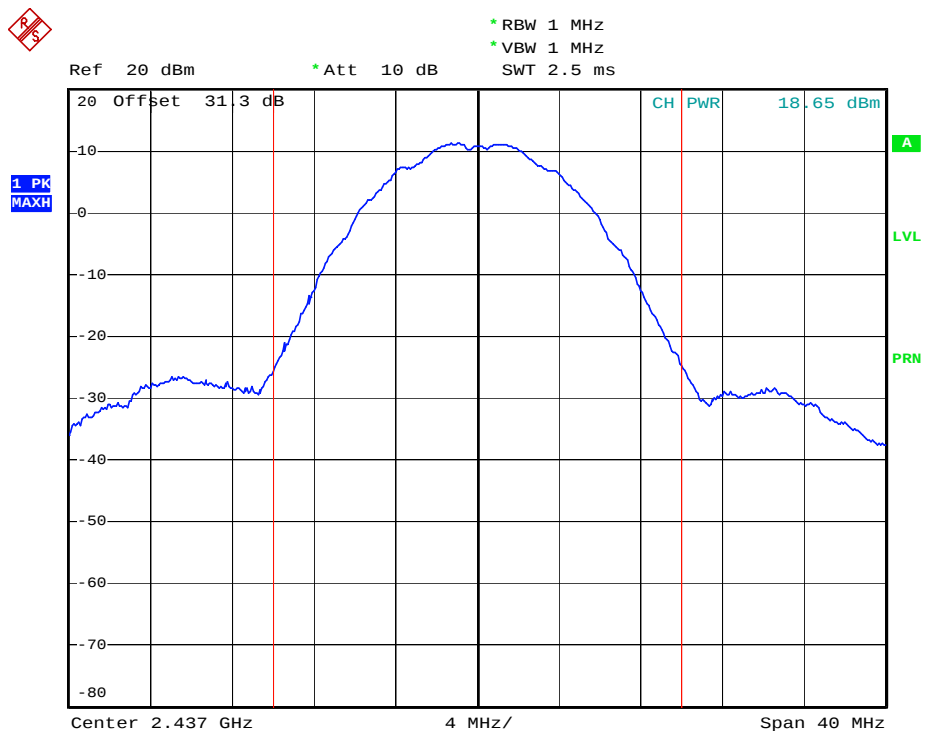


### Conducted Output Power (802.11b-CH 6) 1Mbps



Date: 19.AUG.2009 17:44:32

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

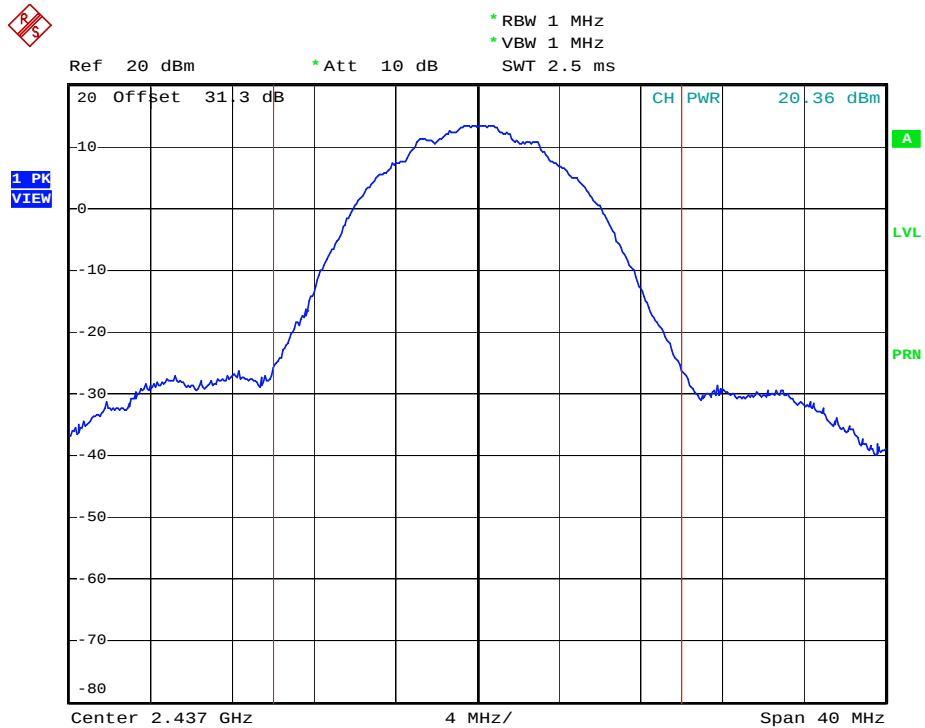


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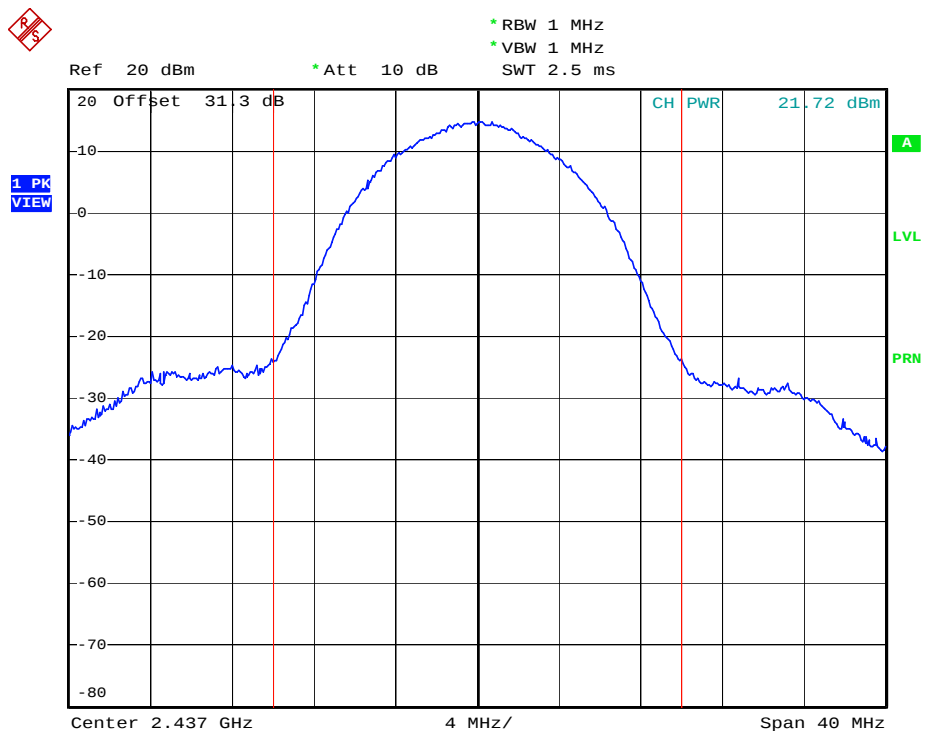


### Conducted Output Power (802.11b-CH 6) 5.5Mbps



Date: 19.AUG.2009 17:46:25

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

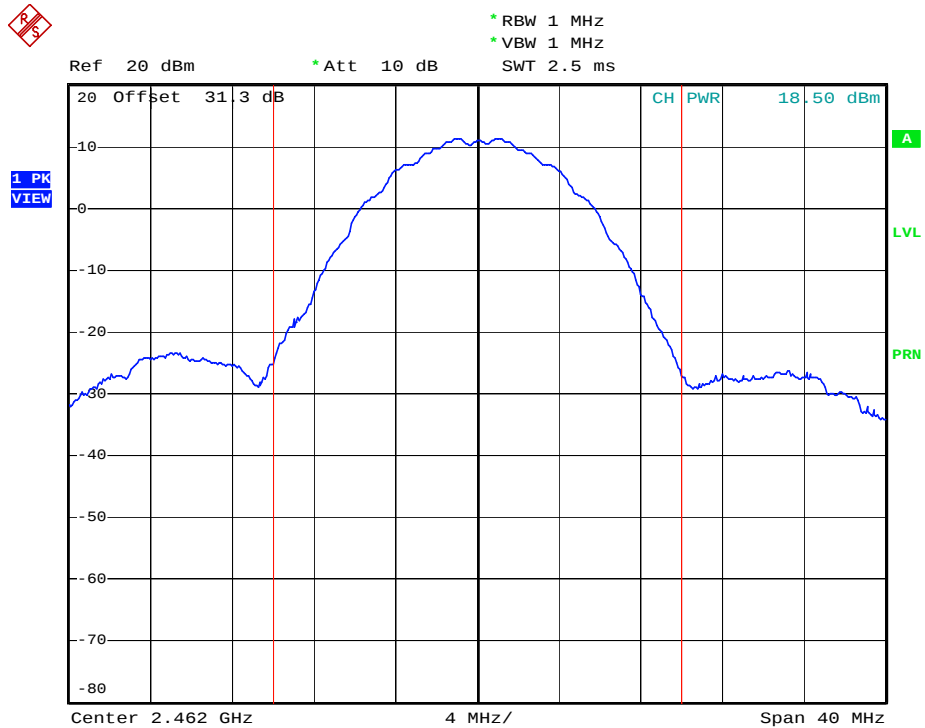


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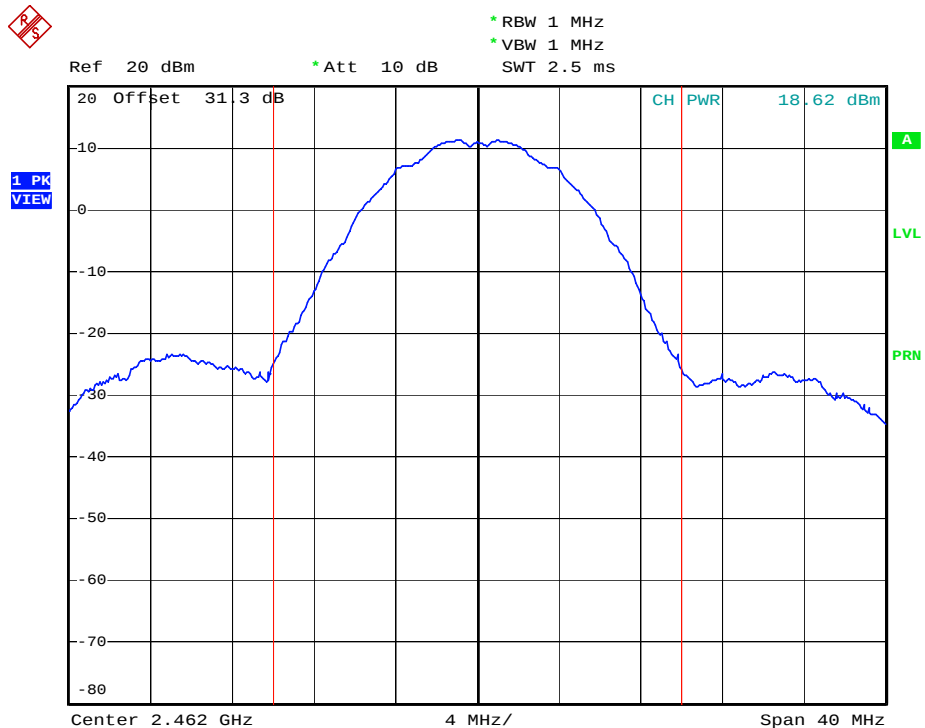


### Conducted Output Power (802.11b-CH 11) 1Mbps



Date: 19.AUG.2009 17:48:52

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

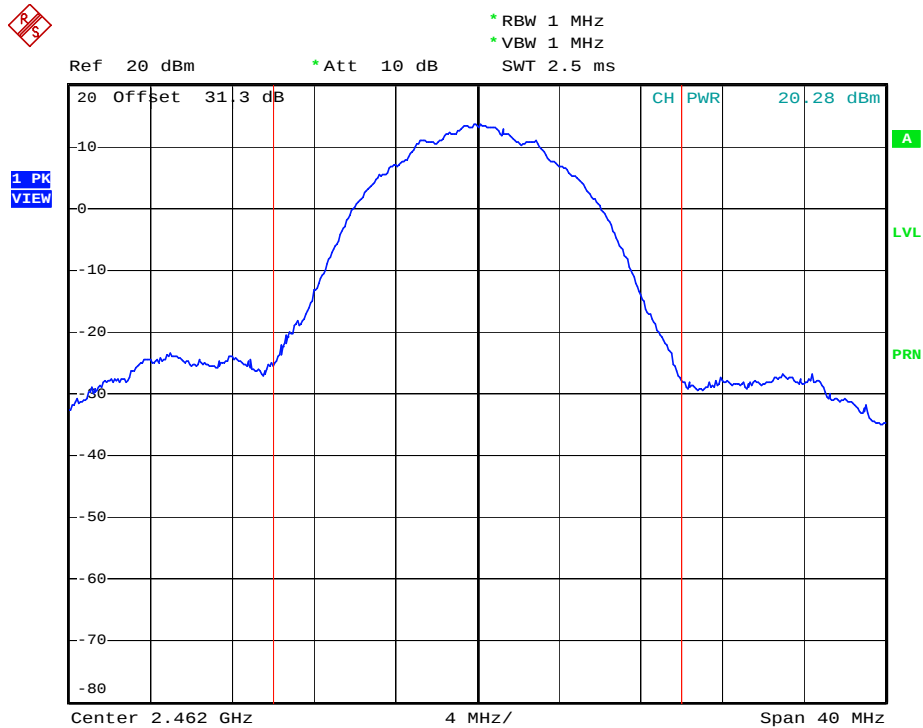


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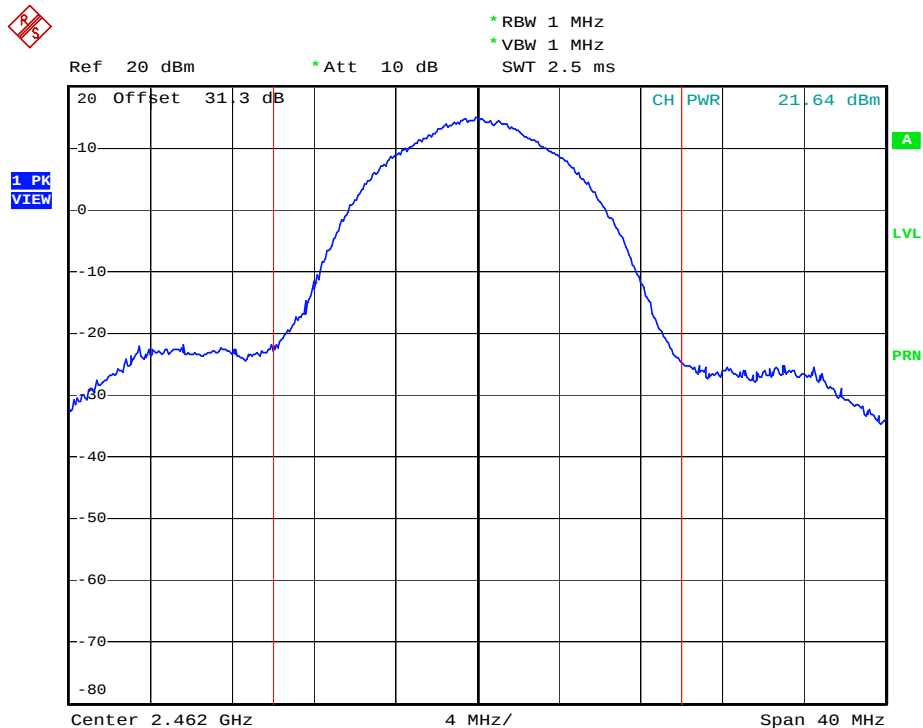


### Conducted Output Power (802.11b-CH 11) 5.5Mbps



Date: 19.AUG.2009 17:50:58

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

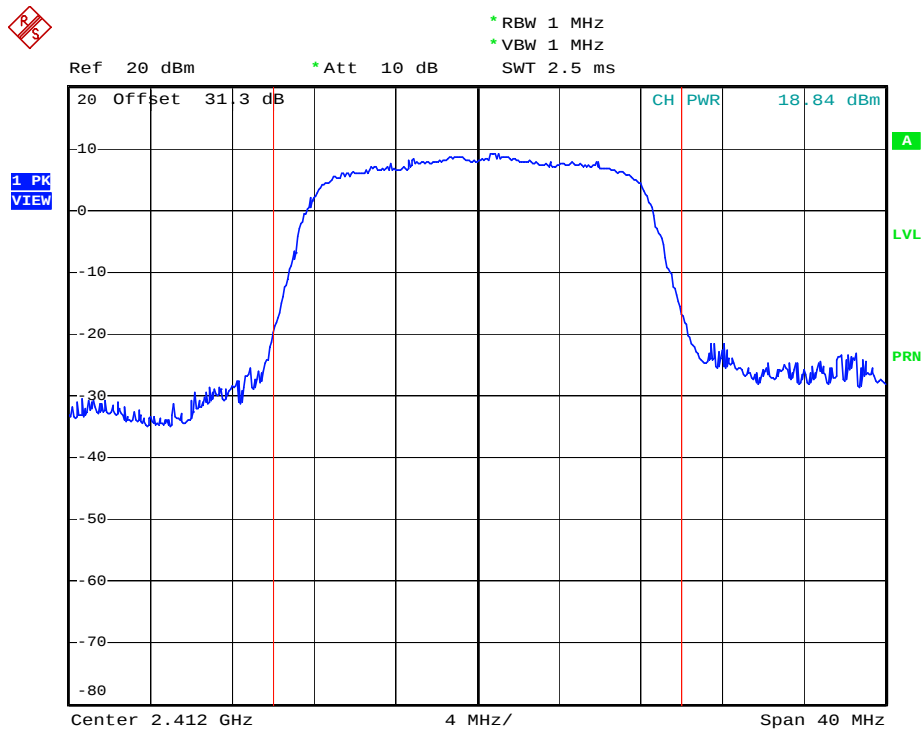


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|                                 |                                       |                                                                 |                     |                                                  |
|---------------------------------|---------------------------------------|-----------------------------------------------------------------|---------------------|--------------------------------------------------|
| HCT PT.15.247<br>TEST REPORT    | FCC Class II Permissive Change REPORT |                                                                 |                     | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR0911FR08 | Date of Issue:<br>November 12, 2009   | EUT Type:<br>Cellular/ PCS GSM/ EDGE Phone with Bluetooth/ WLAN | FCC ID:<br>BEJGW620 | Page 18 of 58                                    |

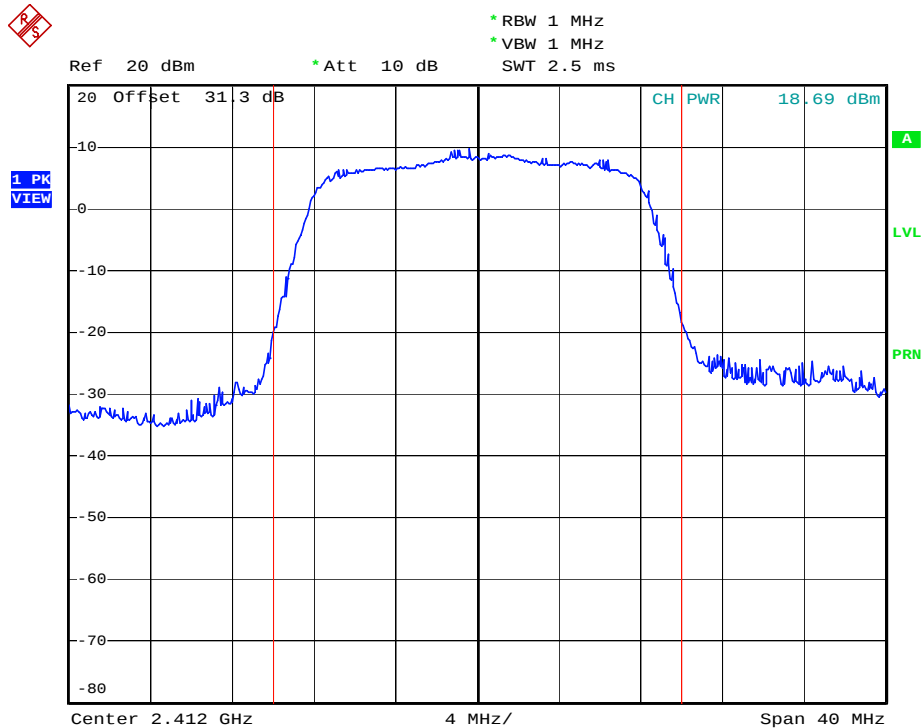


## Conducted Output Power (802.11g-CH 1) 6Mbps



Date: 19.AUG.2009 17:52:36

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

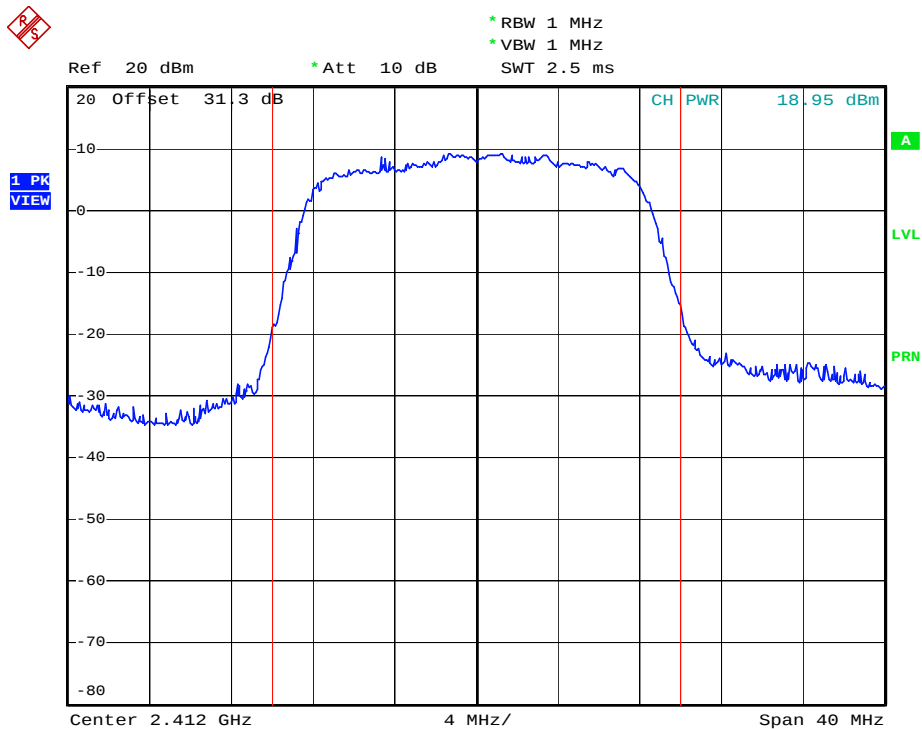


Date: 19.AUG.2009 17:53:20

|                                 |                                       |                                                                 |                     |                                                  |
|---------------------------------|---------------------------------------|-----------------------------------------------------------------|---------------------|--------------------------------------------------|
| HCT PT.15.247<br>TEST REPORT    | FCC Class II Permissive Change REPORT |                                                                 |                     | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR0911FR08 | Date of Issue:<br>November 12, 2009   | EUT Type:<br>Cellular/ PCS GSM/ EDGE Phone with Bluetooth/ WLAN | FCC ID:<br>BEJGW620 | Page 19 of 58                                    |

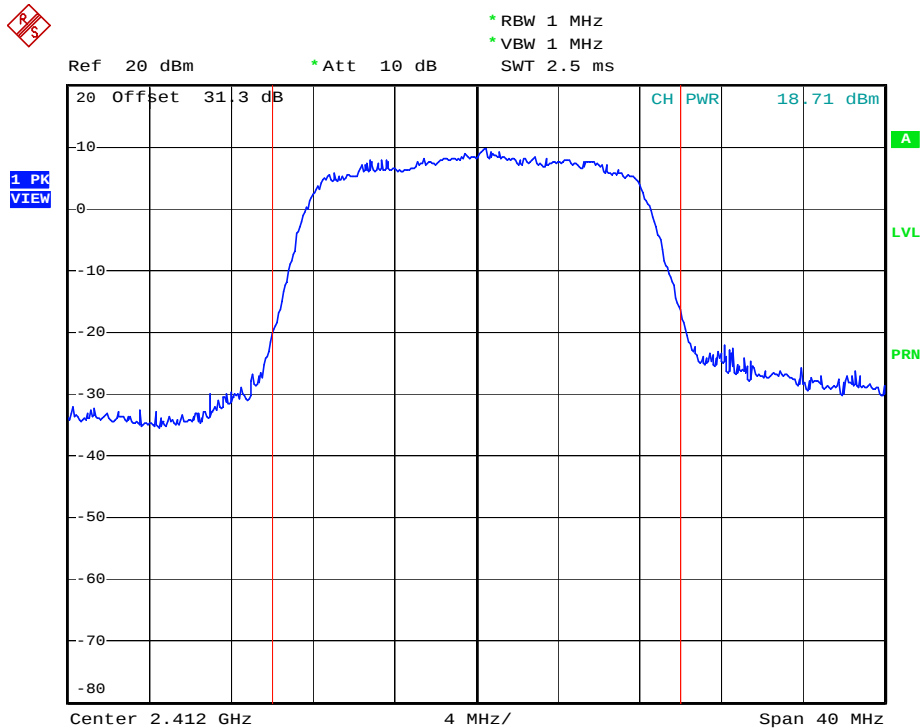


### Conducted Output Power (802.11g-CH 1) 12Mbps



Date: 19.AUG.2009 17:54:02

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

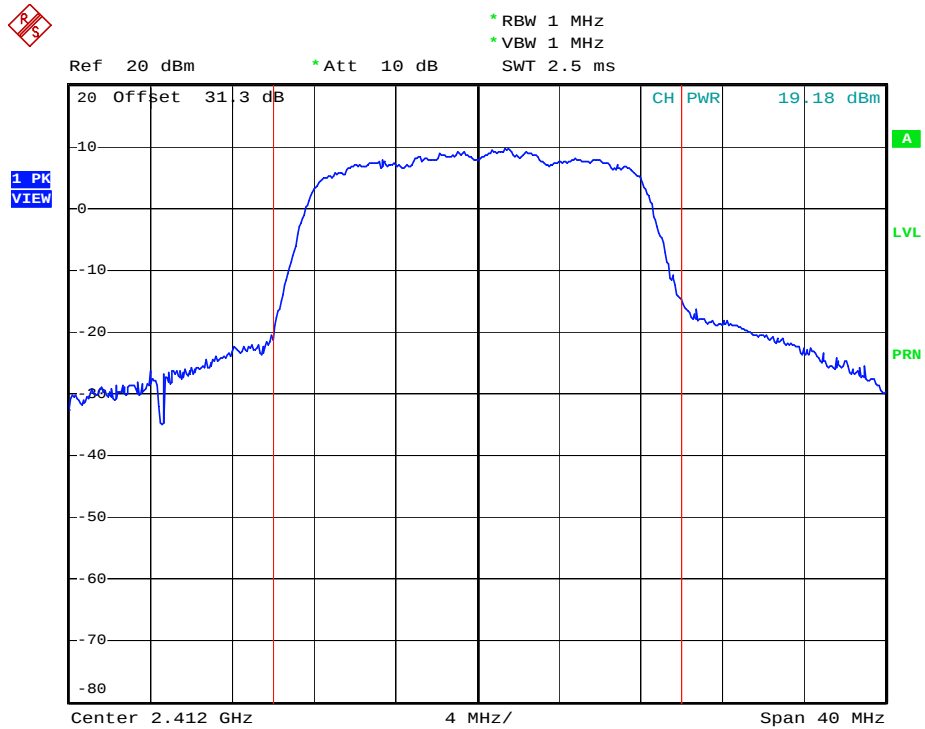


Date: 19.AUG.2009 17:56:25

|                                 |                                       |                                                                 |                     |                                                  |
|---------------------------------|---------------------------------------|-----------------------------------------------------------------|---------------------|--------------------------------------------------|
| HCT PT.15.247<br>TEST REPORT    | FCC Class II Permissive Change REPORT |                                                                 |                     | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR0911FR08 | Date of Issue:<br>November 12, 2009   | EUT Type:<br>Cellular/ PCS GSM/ EDGE Phone with Bluetooth/ WLAN | FCC ID:<br>BEJGW620 | Page 20 of 58                                    |

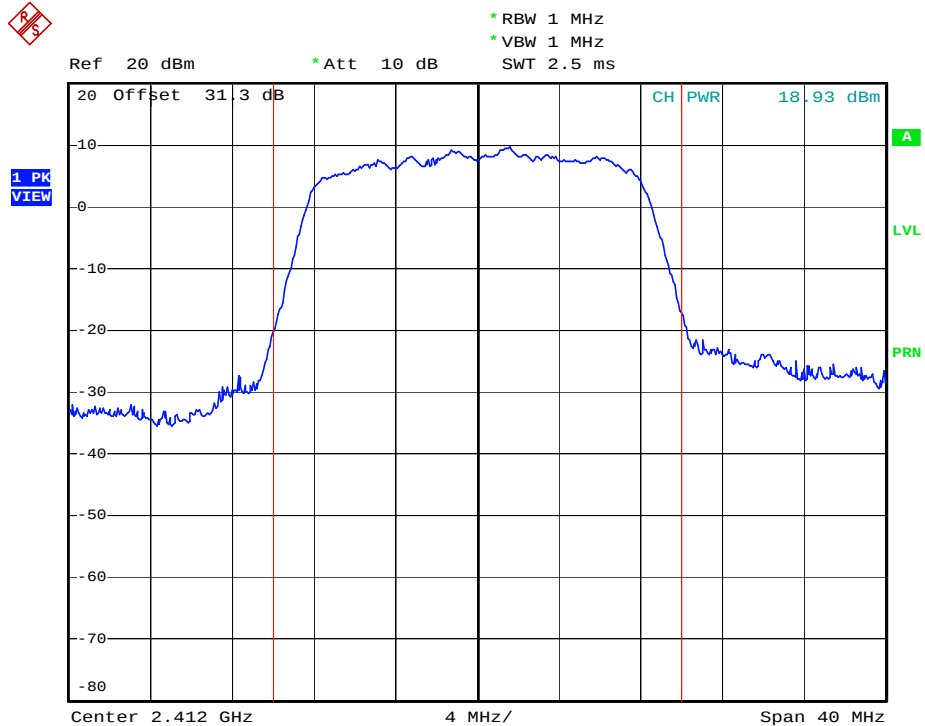


### Conducted Output Power (802.11g-CH 1) 24Mbps



Date: 19.AUG.2009 17:57:07

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

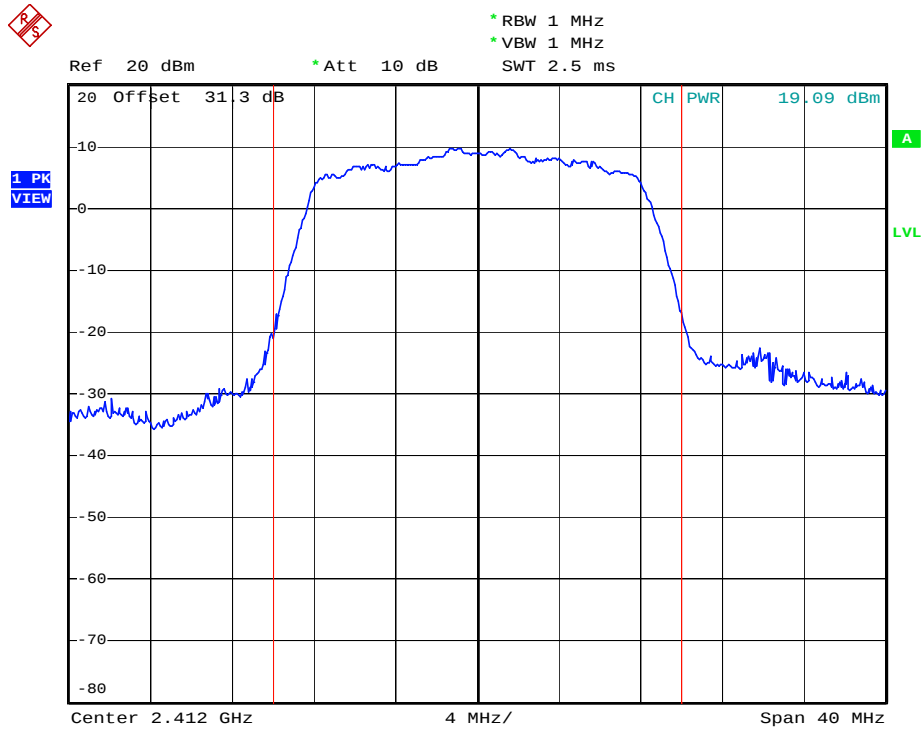


Date: 19.AUG.2009 17:57:55

|                                 |                                       |                                                                 |                     |                                                  |
|---------------------------------|---------------------------------------|-----------------------------------------------------------------|---------------------|--------------------------------------------------|
| HCT PT.15.247<br>TEST REPORT    | FCC Class II Permissive Change REPORT |                                                                 |                     | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR0911FR08 | Date of Issue:<br>November 12, 2009   | EUT Type:<br>Cellular/ PCS GSM/ EDGE Phone with Bluetooth/ WLAN | FCC ID:<br>BEJGW620 | Page 21 of 58                                    |

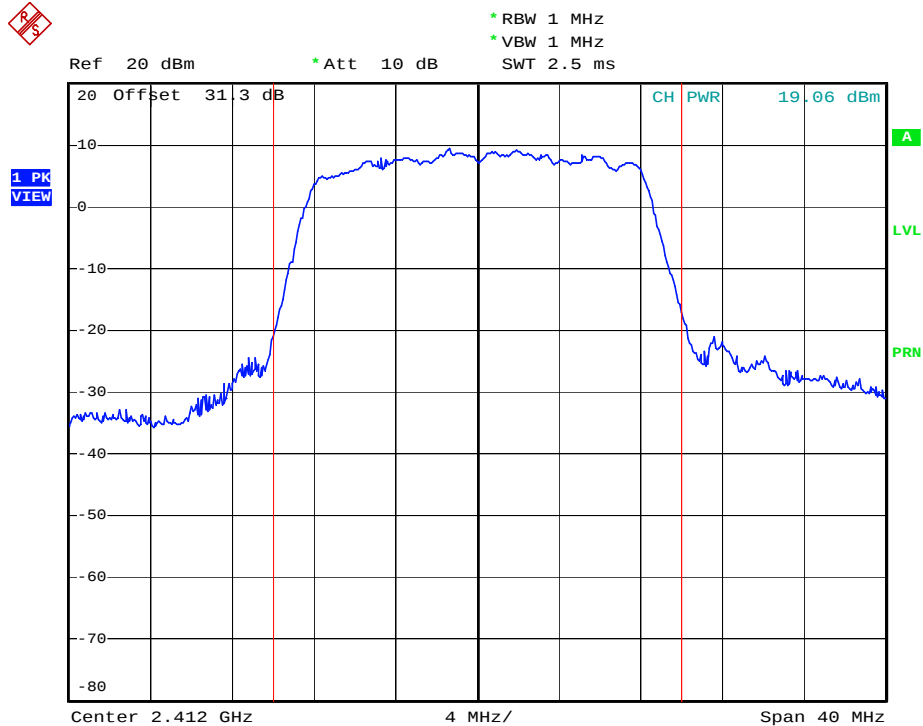


### Conducted Output Power (802.11g-CH 1) 48Mbps



Date: 19.AUG.2009 17:58:56

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

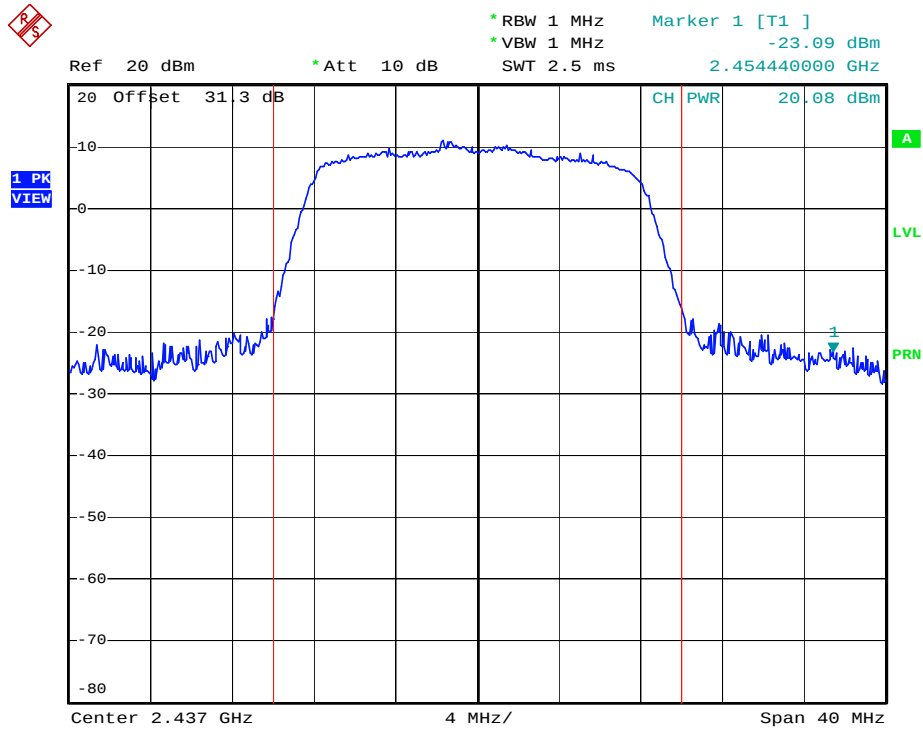


Date: 19.AUG.2009 18:04:45

|                                 |                                       |                                                                 |                     |                                                  |
|---------------------------------|---------------------------------------|-----------------------------------------------------------------|---------------------|--------------------------------------------------|
| HCT PT.15.247<br>TEST REPORT    | FCC Class II Permissive Change REPORT |                                                                 |                     | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR0911FR08 | Date of Issue:<br>November 12, 2009   | EUT Type:<br>Cellular/ PCS GSM/ EDGE Phone with Bluetooth/ WLAN | FCC ID:<br>BEJGW620 | Page 22 of 58                                    |

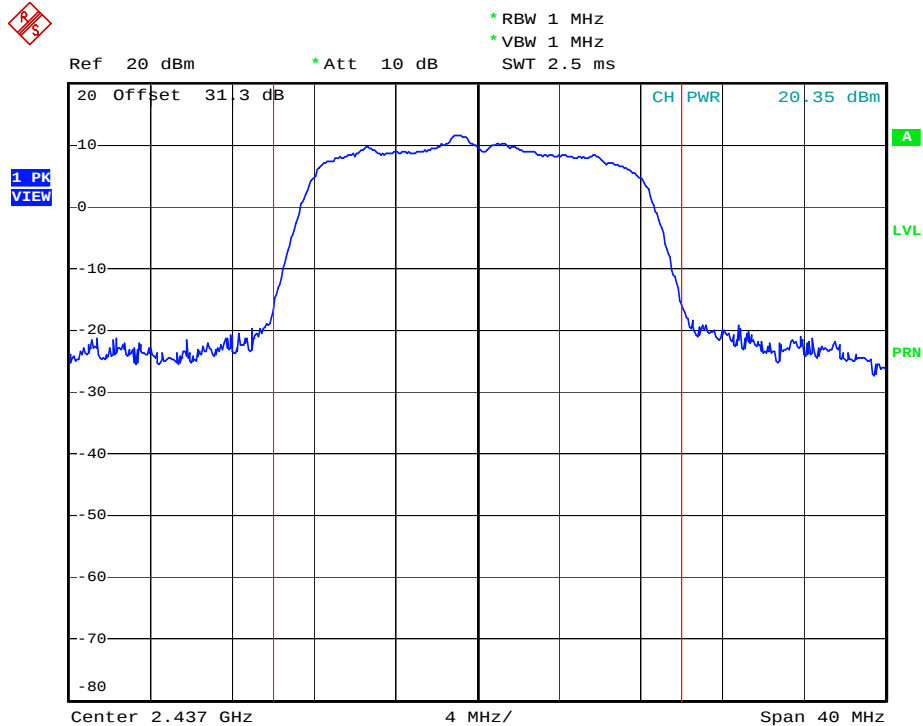


## Conducted Output Power (802.11g-CH 6) 6Mbps



Date: 19.AUG.2009 18:07:49

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

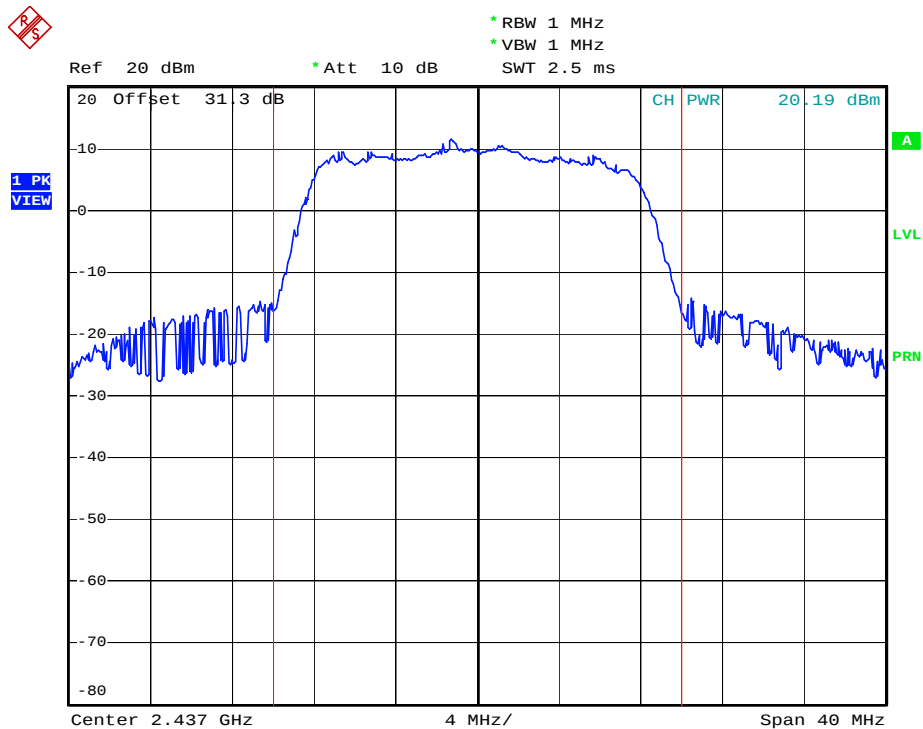


Date: 19.AUG.2009 18:09:26

|                                 |                                       |                                                                 |                     |                                                  |
|---------------------------------|---------------------------------------|-----------------------------------------------------------------|---------------------|--------------------------------------------------|
| HCT PT.15.247<br>TEST REPORT    | FCC Class II Permissive Change REPORT |                                                                 |                     | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR0911FR08 | Date of Issue:<br>November 12, 2009   | EUT Type:<br>Cellular/ PCS GSM/ EDGE Phone with Bluetooth/ WLAN | FCC ID:<br>BEJGW620 | Page 23 of 58                                    |

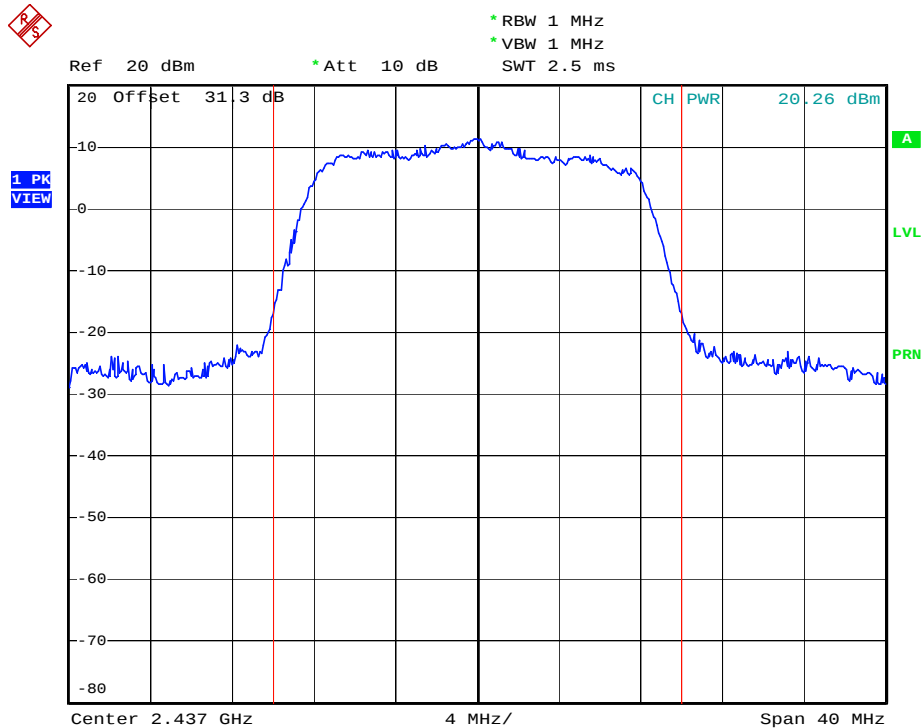


### Conducted Output Power (802.11g-CH 6) 12Mbps



Date: 19.AUG.2009 18:10:20

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

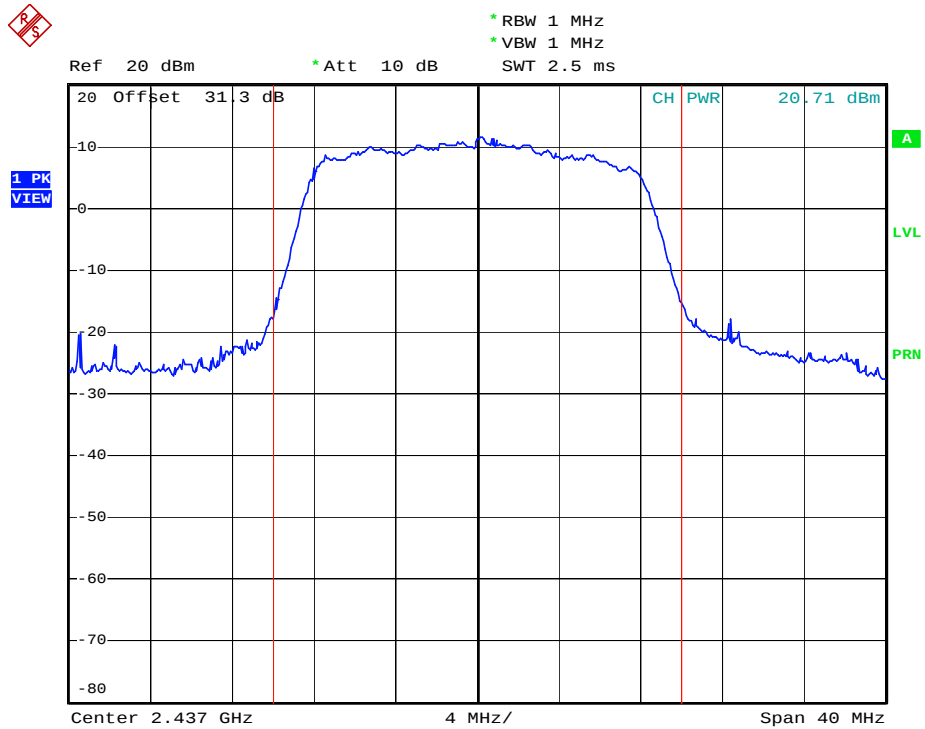


Date: 19.AUG.2009 18:11:31

|                                 |                                       |                                                                 |                     |                                                  |
|---------------------------------|---------------------------------------|-----------------------------------------------------------------|---------------------|--------------------------------------------------|
| HCT PT.15.247<br>TEST REPORT    | FCC Class II Permissive Change REPORT |                                                                 |                     | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR0911FR08 | Date of Issue:<br>November 12, 2009   | EUT Type:<br>Cellular/ PCS GSM/ EDGE Phone with Bluetooth/ WLAN | FCC ID:<br>BEJGW620 | Page 24 of 58                                    |

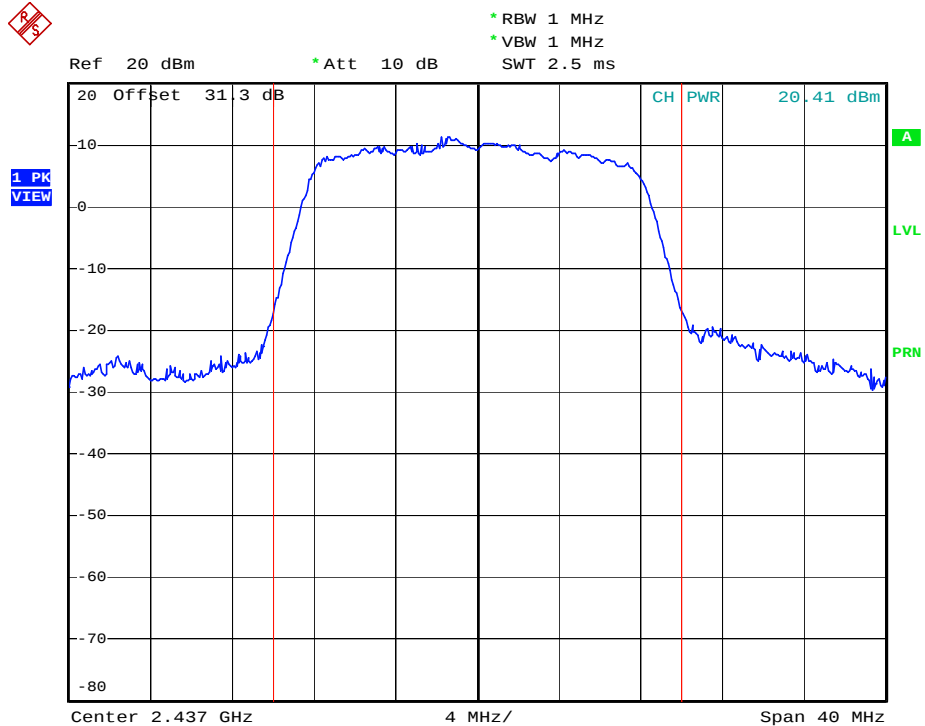


### Conducted Output Power (802.11g-CH 6) 24Mbps



Date: 19.AUG.2009 19:39:10

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

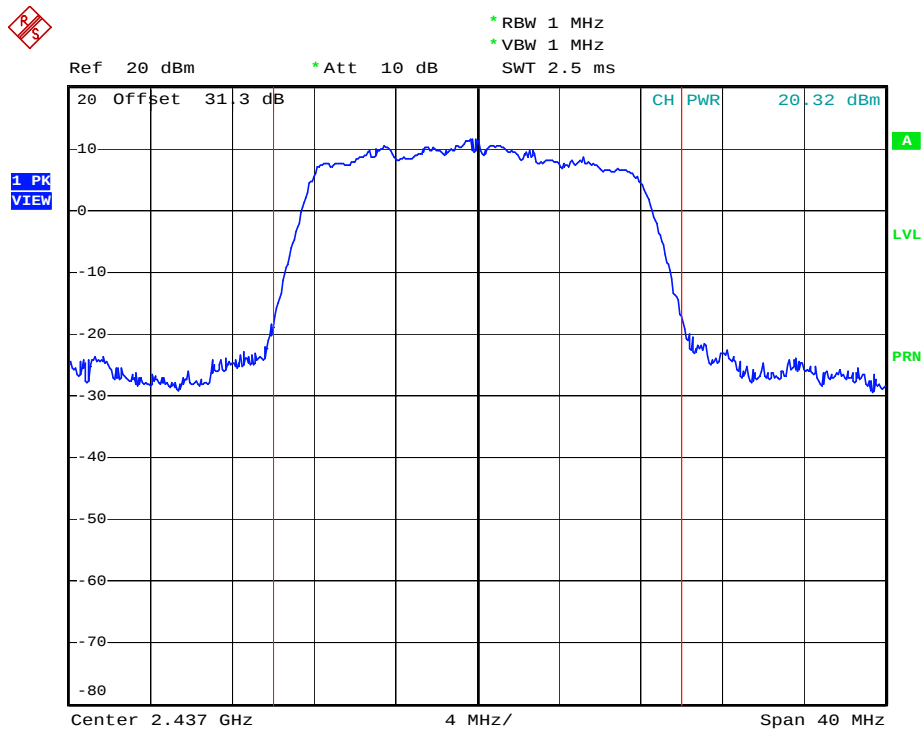


Date: 19.AUG.2009 19:47:20

|                                 |                                       |                                                                 |                     |                                                  |
|---------------------------------|---------------------------------------|-----------------------------------------------------------------|---------------------|--------------------------------------------------|
| HCT PT.15.247<br>TEST REPORT    | FCC Class II Permissive Change REPORT |                                                                 |                     | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR0911FR08 | Date of Issue:<br>November 12, 2009   | EUT Type:<br>Cellular/ PCS GSM/ EDGE Phone with Bluetooth/ WLAN | FCC ID:<br>BEJGW620 | Page 25 of 58                                    |

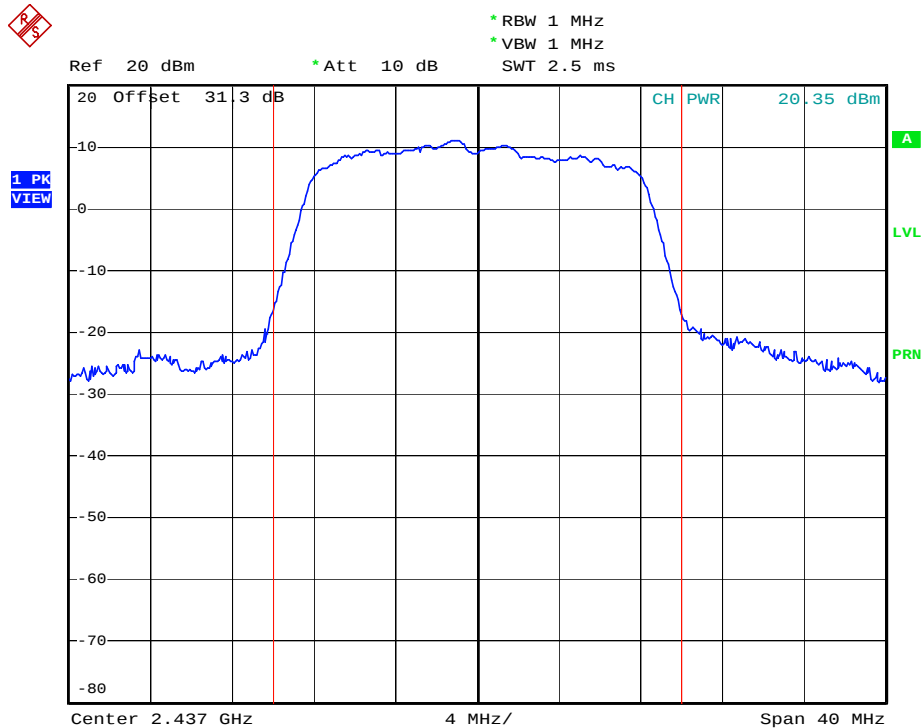


### Conducted Output Power (802.11g-CH 6) 48Mbps



Date: 19.AUG.2009 19:46:32

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

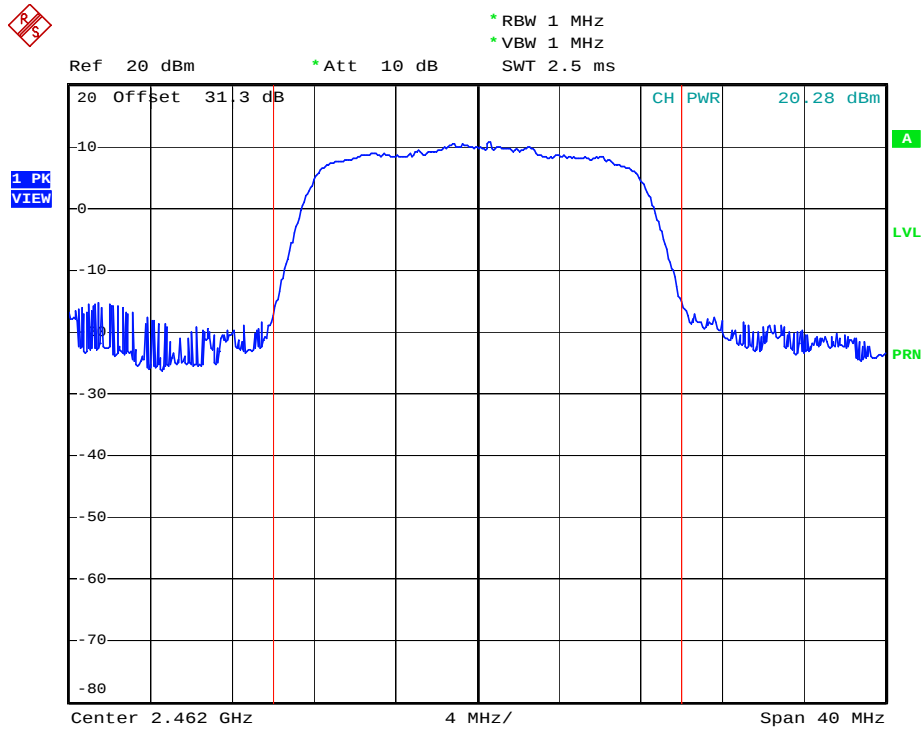


Date: 19.AUG.2009 19:48:23

|                                 |                                       |                                                                 |                     |                                                  |
|---------------------------------|---------------------------------------|-----------------------------------------------------------------|---------------------|--------------------------------------------------|
| HCT PT.15.247<br>TEST REPORT    | FCC Class II Permissive Change REPORT |                                                                 |                     | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR0911FR08 | Date of Issue:<br>November 12, 2009   | EUT Type:<br>Cellular/ PCS GSM/ EDGE Phone with Bluetooth/ WLAN | FCC ID:<br>BEJGW620 | Page 26 of 58                                    |

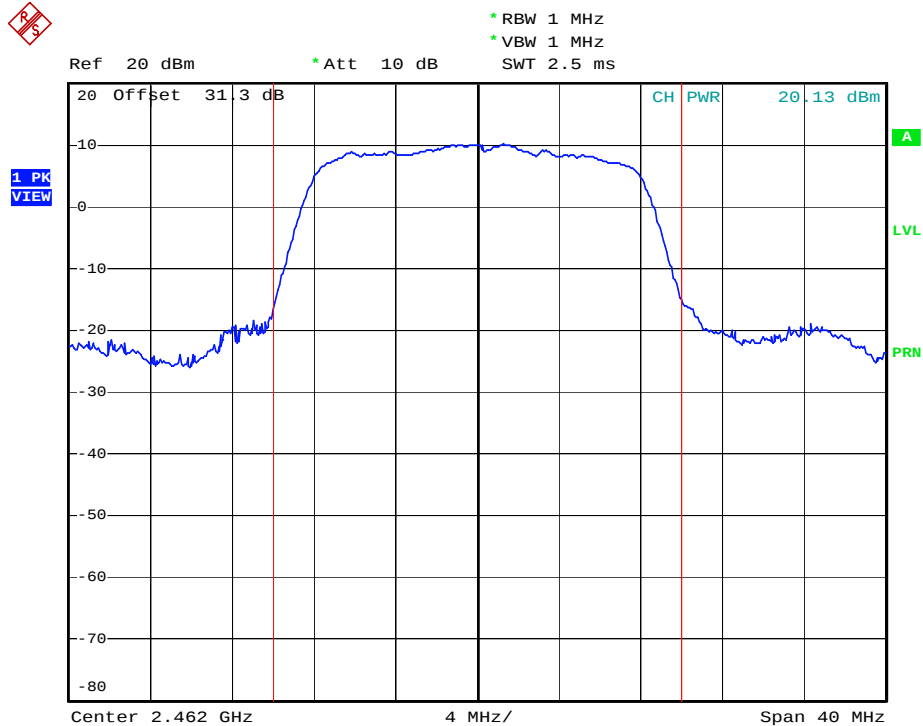


### Conducted Output Power (802.11g-CH 11) 6Mbps



Date: 19.AUG.2009 19:49:22

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

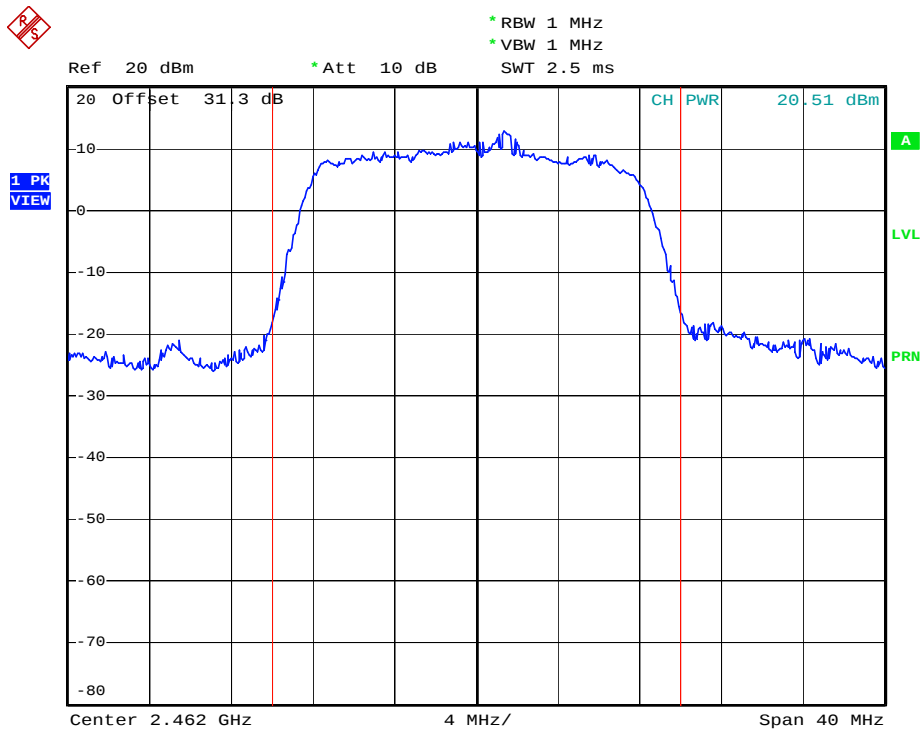


Date: 19.AUG.2009 19:50:46

|                                 |                                       |                                                                 |                     |                                                  |
|---------------------------------|---------------------------------------|-----------------------------------------------------------------|---------------------|--------------------------------------------------|
| HCT PT.15.247<br>TEST REPORT    | FCC Class II Permissive Change REPORT |                                                                 |                     | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR0911FR08 | Date of Issue:<br>November 12, 2009   | EUT Type:<br>Cellular/ PCS GSM/ EDGE Phone with Bluetooth/ WLAN | FCC ID:<br>BEJGW620 | Page 27 of 58                                    |

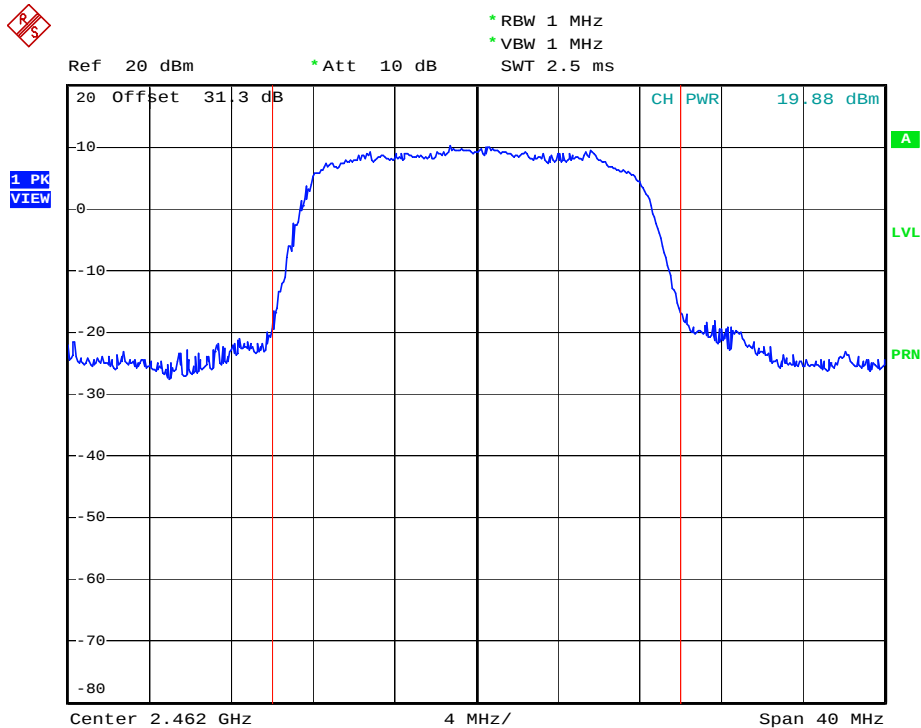


### Conducted Output Power (802.11g-CH 11) 12Mbps



Date: 19.AUG.2009 19:54:14

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

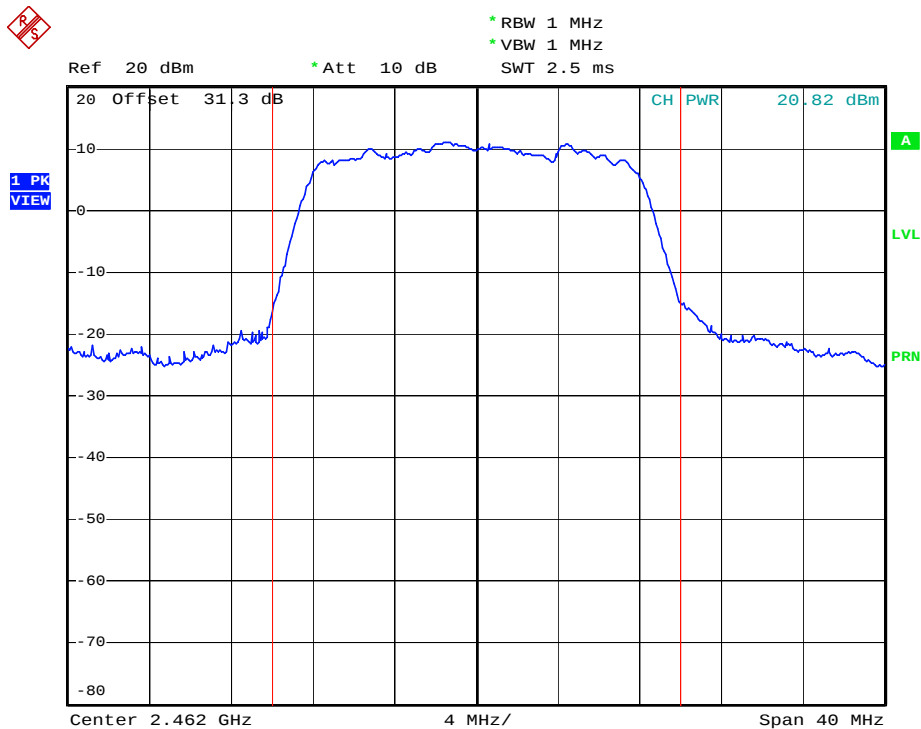


Date: 19.AUG.2009 19:54:52

|                                 |                                       |                                                                 |                     |                                                  |
|---------------------------------|---------------------------------------|-----------------------------------------------------------------|---------------------|--------------------------------------------------|
| HCT PT.15.247<br>TEST REPORT    | FCC Class II Permissive Change REPORT |                                                                 |                     | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR0911FR08 | Date of Issue:<br>November 12, 2009   | EUT Type:<br>Cellular/ PCS GSM/ EDGE Phone with Bluetooth/ WLAN | FCC ID:<br>BEJGW620 | Page 28 of 58                                    |

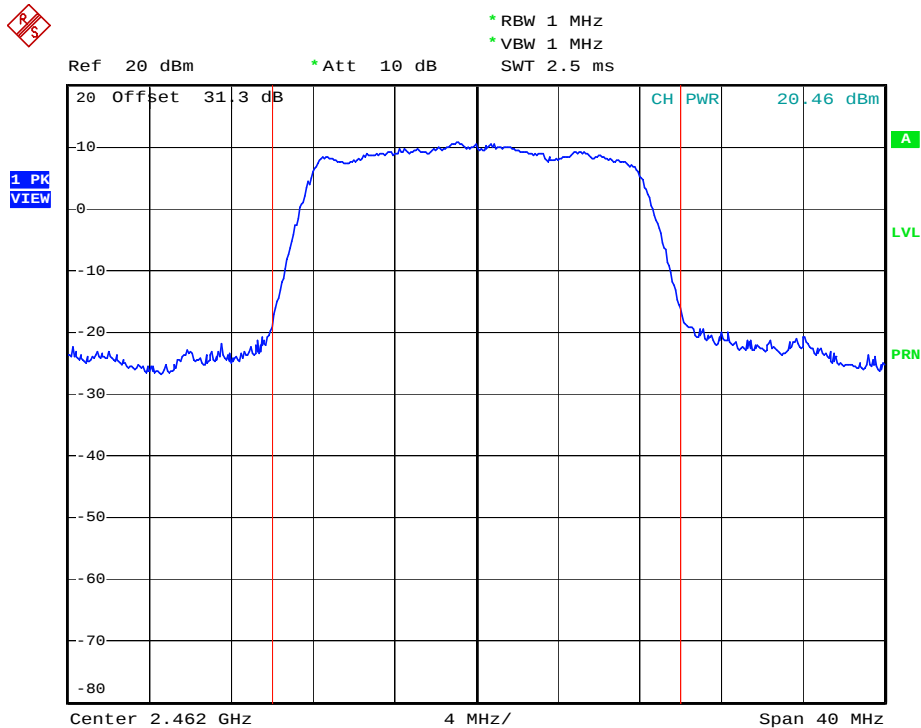


### Conducted Output Power (802.11g-CH 11) 24Mbps



Date: 19.AUG.2009 20:01:59

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

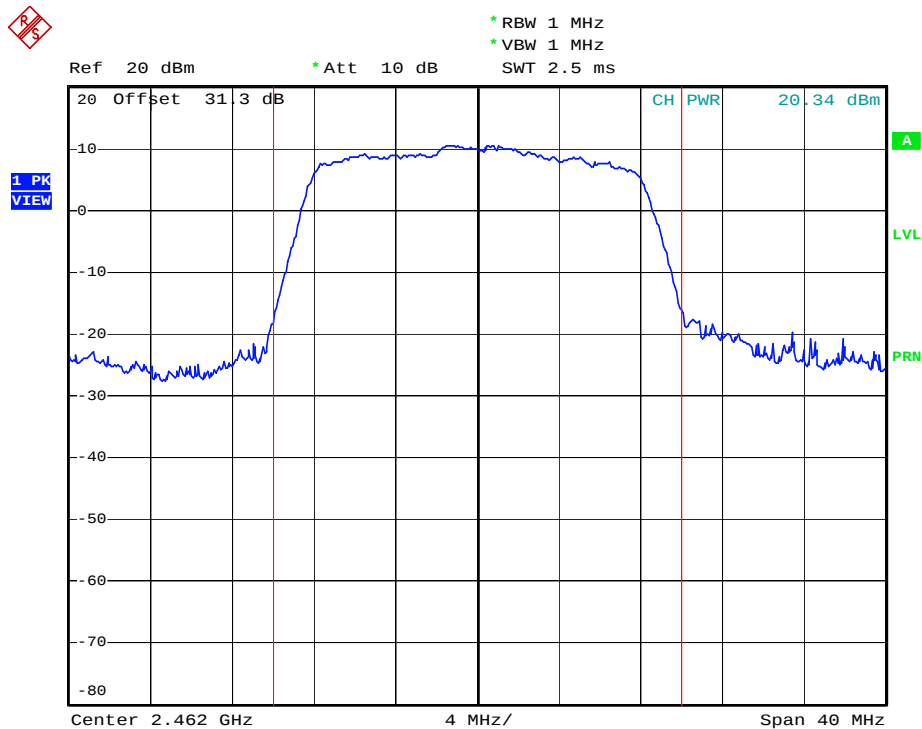


Date: 19.AUG.2009 20:07:45

|                                 |                                       |                                                                 |                     |                                                  |
|---------------------------------|---------------------------------------|-----------------------------------------------------------------|---------------------|--------------------------------------------------|
| HCT PT.15.247<br>TEST REPORT    | FCC Class II Permissive Change REPORT |                                                                 |                     | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR0911FR08 | Date of Issue:<br>November 12, 2009   | EUT Type:<br>Cellular/ PCS GSM/ EDGE Phone with Bluetooth/ WLAN | FCC ID:<br>BEJGW620 | Page 29 of 58                                    |

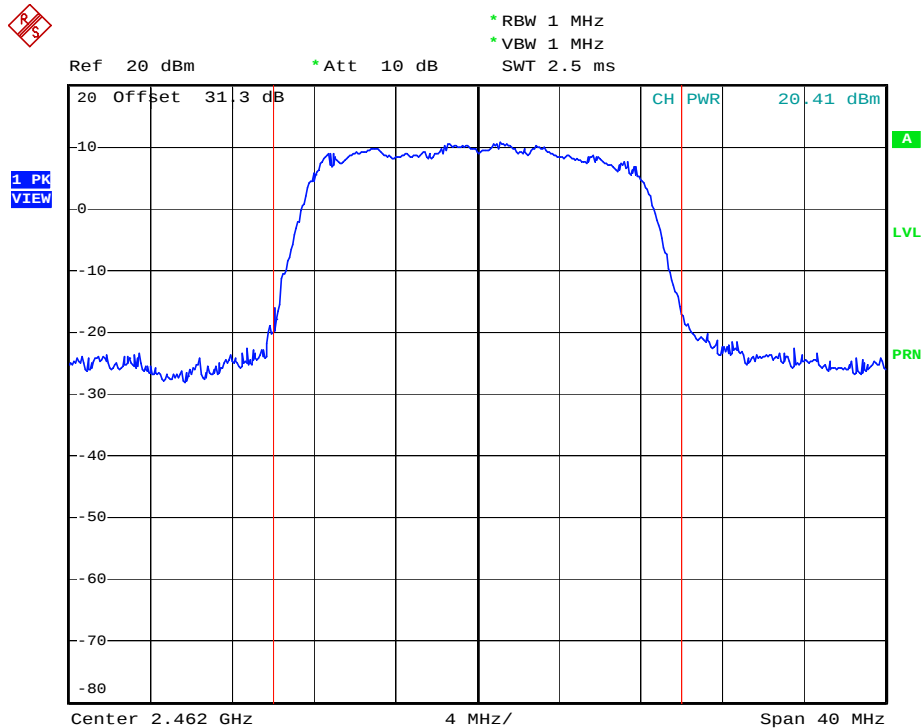


### Conducted Output Power (802.11g-CH 11) 48Mbps



Date: 19.AUG.2009 20:10:18

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



Date: 19.AUG.2009 20:14:08

|                                 |                                       |                                                                 |                     |                                                  |
|---------------------------------|---------------------------------------|-----------------------------------------------------------------|---------------------|--------------------------------------------------|
| HCT PT.15.247<br>TEST REPORT    | FCC Class II Permissive Change REPORT |                                                                 |                     | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR0911FR08 | Date of Issue:<br>November 12, 2009   | EUT Type:<br>Cellular/ PCS GSM/ EDGE Phone with Bluetooth/ WLAN | FCC ID:<br>BEJGW620 | Page 3 0 of 58                                   |

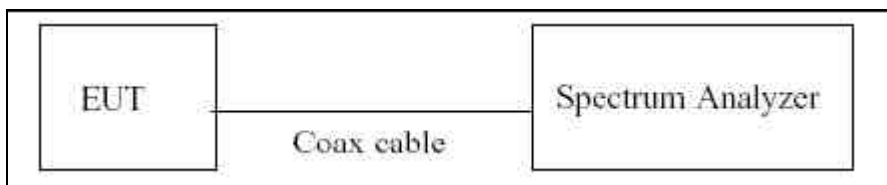
### 7.3 Power Spectral Density (802.11b/g)

#### 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

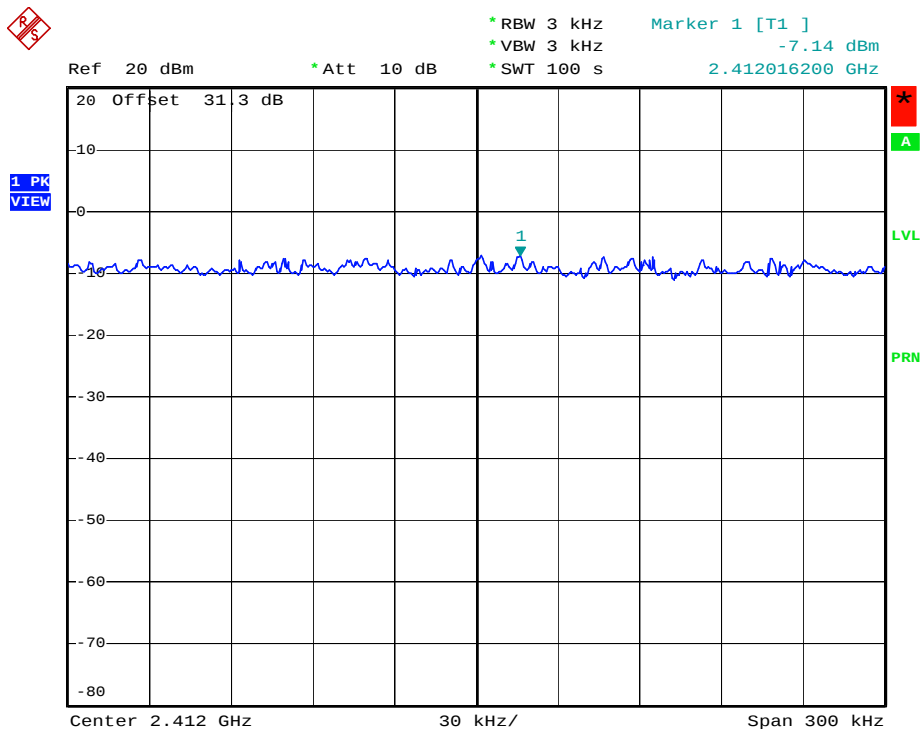
Conducted Power Density Measurements

| Frequency (MHz) | Channel No. | Mode    | Test Result         |           |
|-----------------|-------------|---------|---------------------|-----------|
|                 |             |         | Power Density (dBm) | Pass/Fail |
| 2412            | 1           | 802.11b | -7.14               | Pass      |
| 2437            | 6           |         | -5.01               | Pass      |
| 2462            | 11          |         | -4.65               | Pass      |
| 2412            | 1           | 802.11g | -21.87              | Pass      |
| 2437            | 6           |         | -21.19              | Pass      |
| 2462            | 11          |         | -20.48              | Pass      |



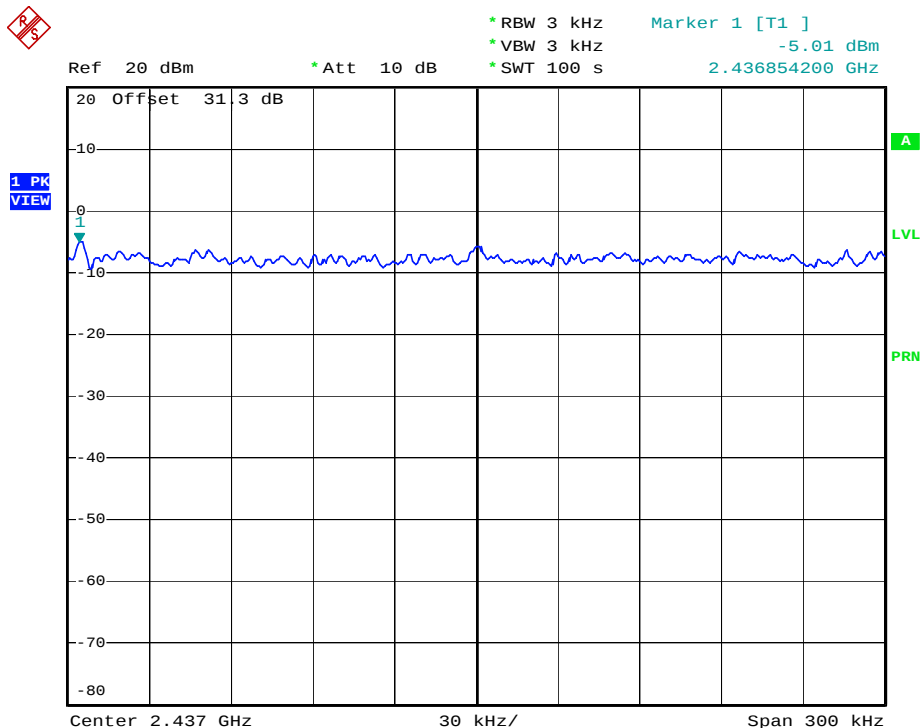
## RESULT PLOTS

### Power Spectral Density (802.11b-CH 1)



Date: 19.AUG.2009 20:36:11

### Power Spectral Density (802.11b-CH 6)

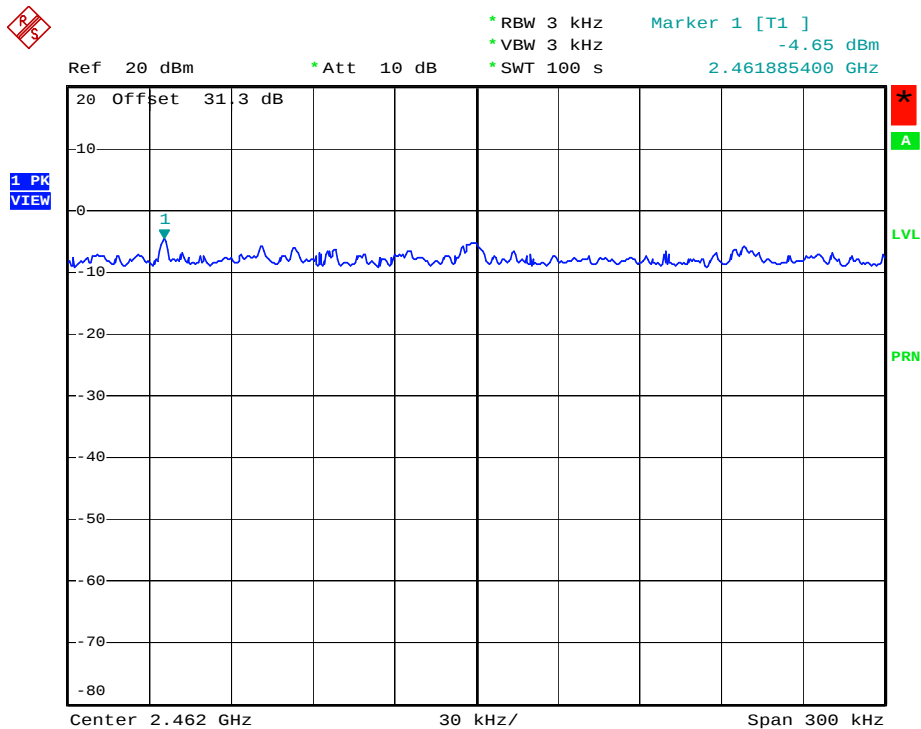


Date: 19.AUG.2009 20:47:04

|                                 |                                       |                                                                 |                     |                                                  |
|---------------------------------|---------------------------------------|-----------------------------------------------------------------|---------------------|--------------------------------------------------|
| HCT PT.15.247<br>TEST REPORT    | FCC Class II Permissive Change REPORT |                                                                 |                     | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR0911FR08 | Date of Issue:<br>November 12, 2009   | EUT Type:<br>Cellular/ PCS GSM/ EDGE Phone with Bluetooth/ WLAN | FCC ID:<br>BEJGW620 | Page 32 of 58                                    |

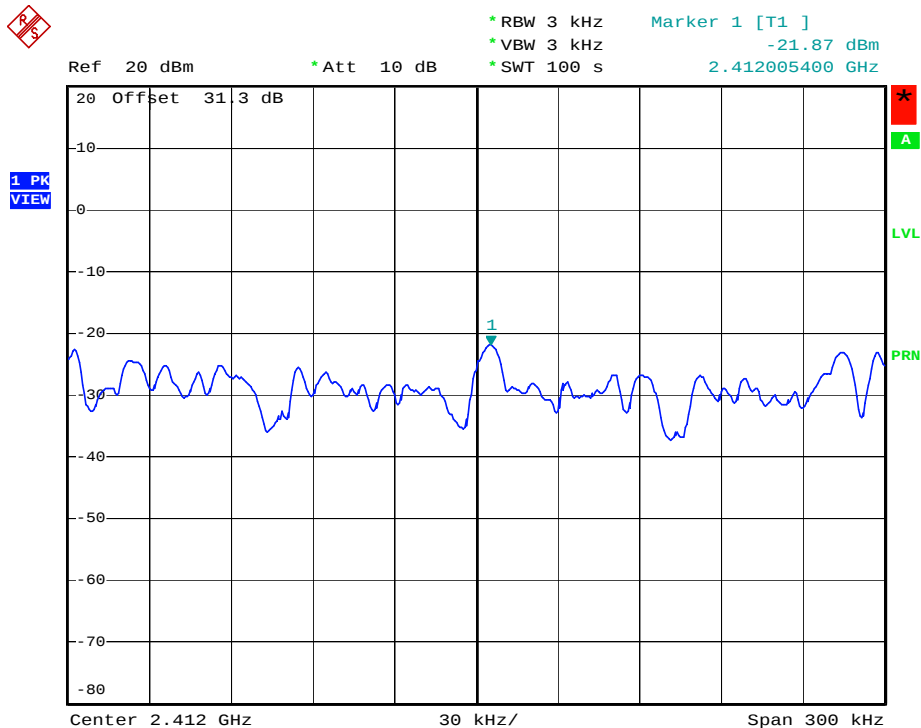


### Power Spectral Density (802.11b-CH 11)



Date: 19.AUG.2009 20:49:16

### Power Spectral Density (802.11g-CH 1)

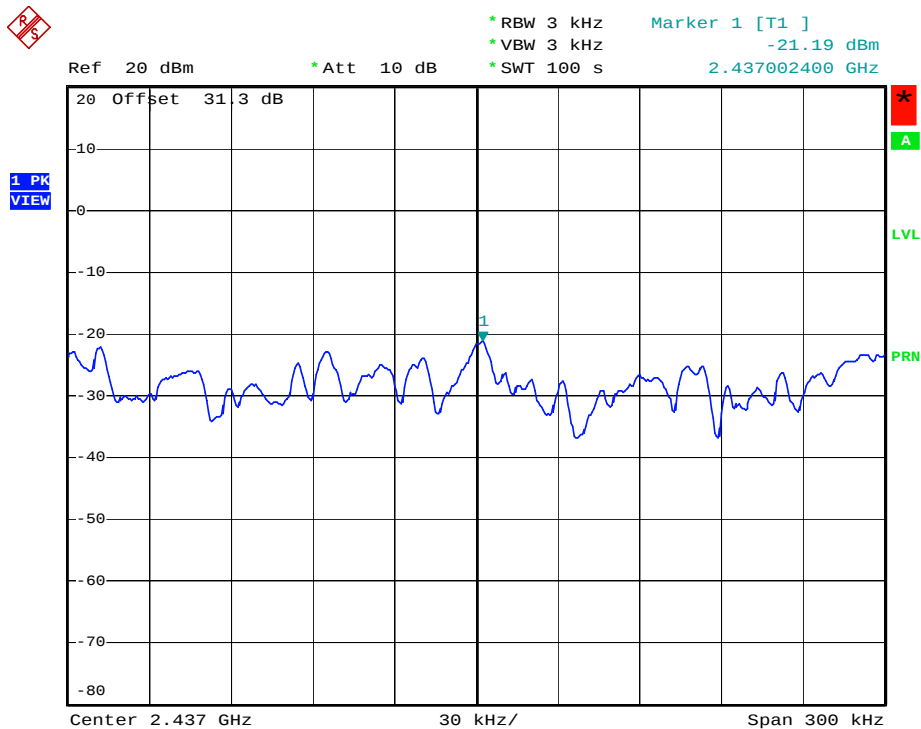


Date: 19.AUG.2009 20:52:26

|                                 |                                       |                                                                 |                     |                                                  |
|---------------------------------|---------------------------------------|-----------------------------------------------------------------|---------------------|--------------------------------------------------|
| HCT PT.15.247<br>TEST REPORT    | FCC Class II Permissive Change REPORT |                                                                 |                     | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR0911FR08 | Date of Issue:<br>November 12, 2009   | EUT Type:<br>Cellular/ PCS GSM/ EDGE Phone with Bluetooth/ WLAN | FCC ID:<br>BEJGW620 | Page 33 of 58                                    |

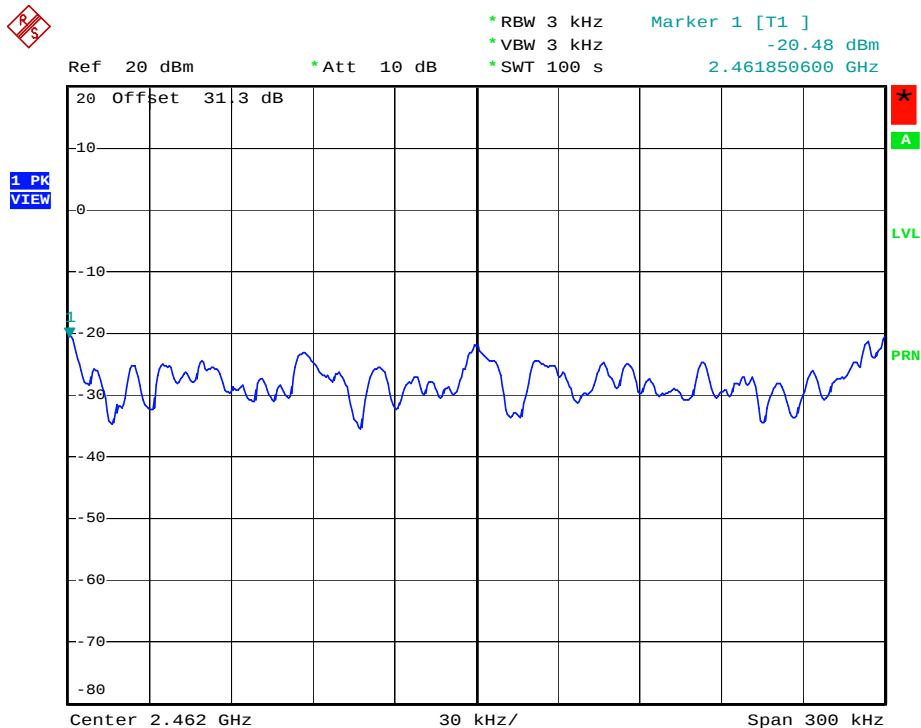


### Power Spectral Density (802.11g-CH 6)



Date: 19.AUG.2009 20:55:09

### Power Spectral Density (802.11g-CH11)



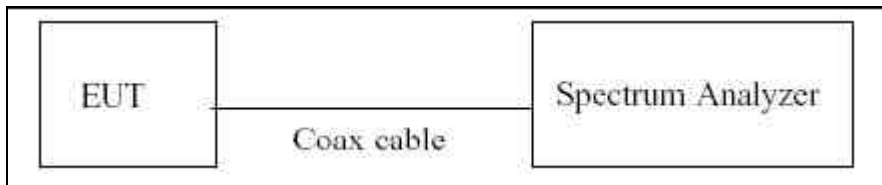
Date: 19.AUG.2009 20:57:33

|                                 |                                       |                                                                 |                     |                                                  |
|---------------------------------|---------------------------------------|-----------------------------------------------------------------|---------------------|--------------------------------------------------|
| HCT PT.15.247<br>TEST REPORT    | FCC Class II Permissive Change REPORT |                                                                 |                     | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR0911FR08 | Date of Issue:<br>November 12, 2009   | EUT Type:<br>Cellular/ PCS GSM/ EDGE Phone with Bluetooth/ WLAN | FCC ID:<br>BEJGW620 | Page 34 of 58                                    |

## 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 the spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

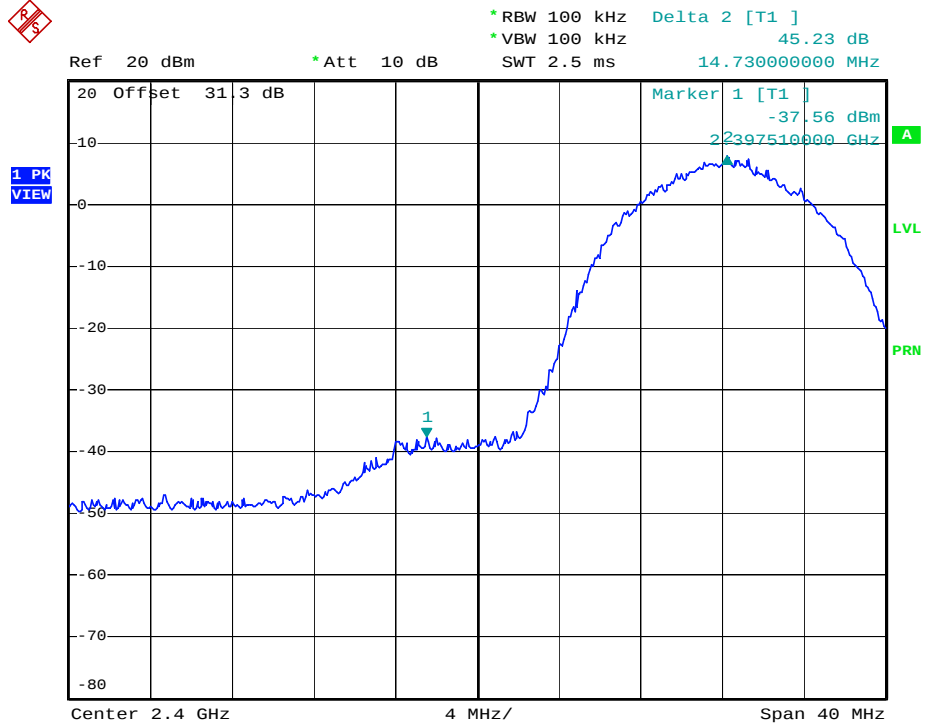
Detector Mode is set to a peak detector Mode.

Measurements are made over the 30 MHz to 26 GHz range with the transmitter set to the lowest, middle, and highest channels.



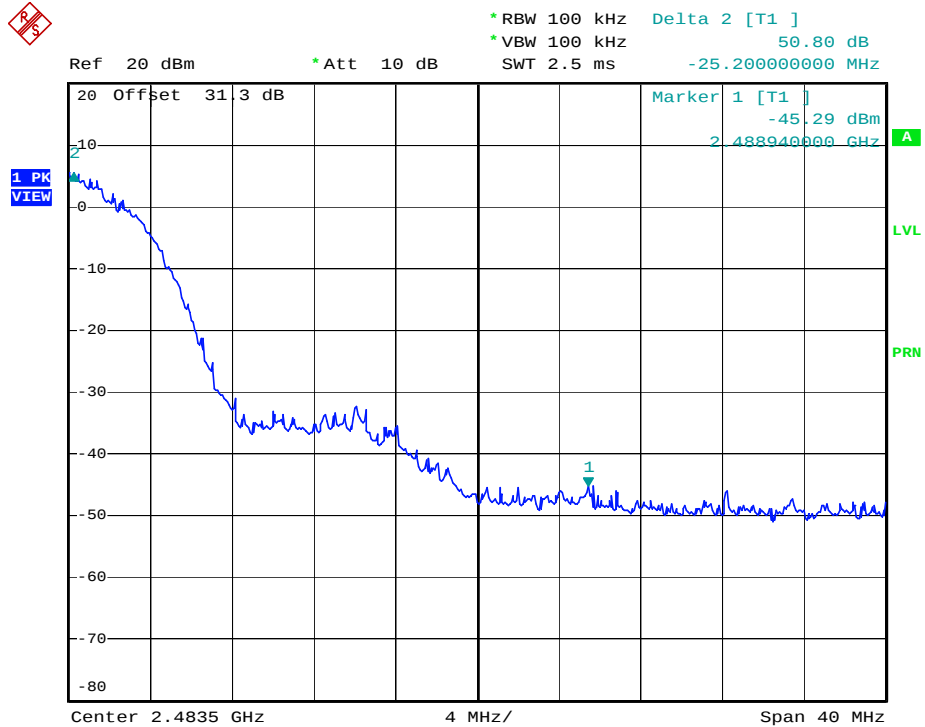
## RESULT PLOTS

### BandEdge (802.11b-CH1)



Date: 19.AUG.2009 21:01:25

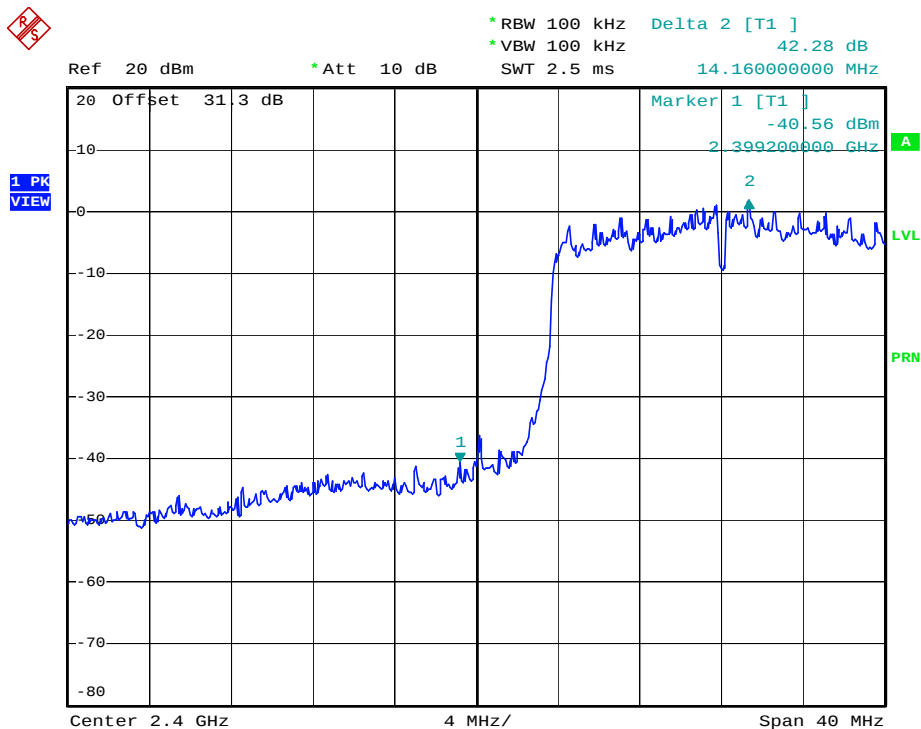
### BandEdge (802.11b-CH11)



Date: 19.AUG.2009 21:02:50

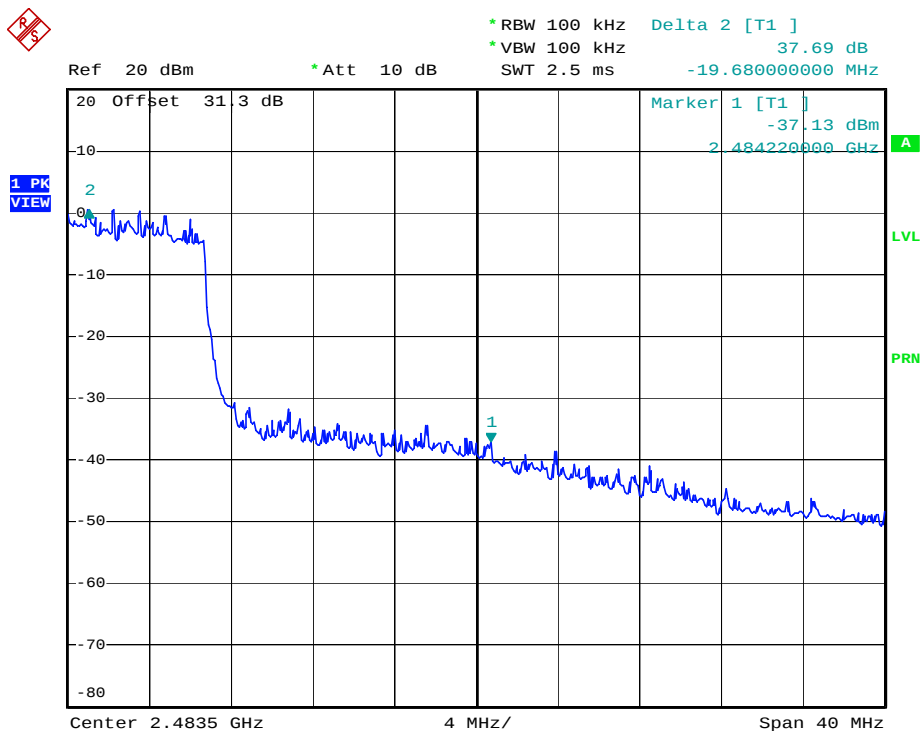
|                                 |                                       |                                                                 |                     |                                                  |
|---------------------------------|---------------------------------------|-----------------------------------------------------------------|---------------------|--------------------------------------------------|
| HCT PT.15.247<br>TEST REPORT    | FCC Class II Permissive Change REPORT |                                                                 |                     | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR0911FR08 | Date of Issue:<br>November 12, 2009   | EUT Type:<br>Cellular/ PCS GSM/ EDGE Phone with Bluetooth/ WLAN | FCC ID:<br>BEJGW620 | Page 36 of 58                                    |

## BandEdge (802.11g-CH1)



Date: 19.AUG.2009 21:04:07

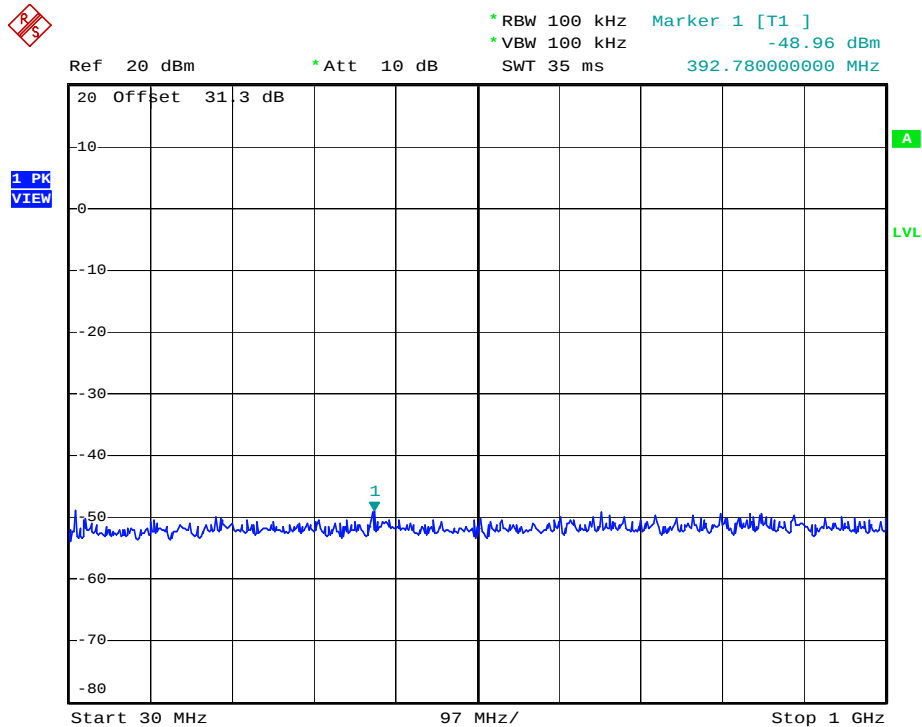
## BandEdge (802.11g-CH11)



Date: 19.AUG.2009 21:05:04

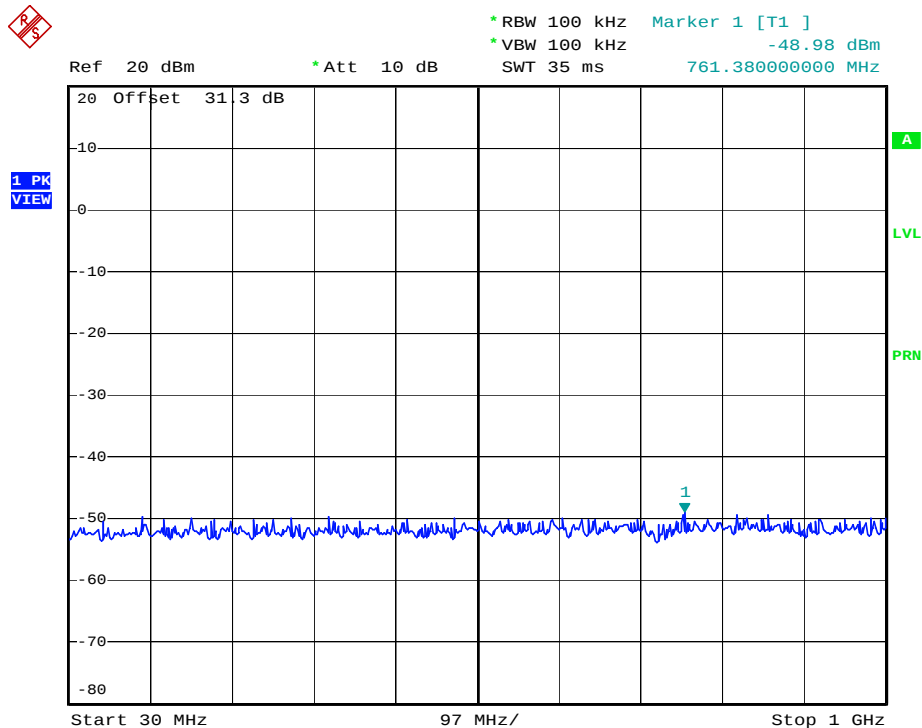


## Conducted Spurious Emission (802.11b-CH1) – 30 MHz ~ 1 GHz



Date: 19.AUG.2009 21:06:13

## Conducted Spurious Emission (802.11b-CH6)

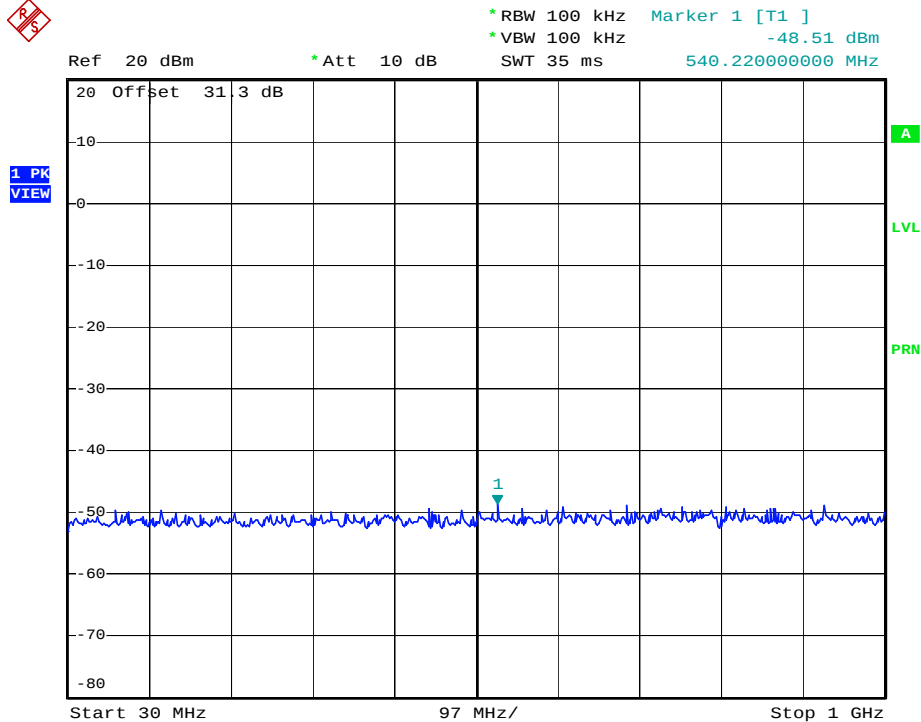


Date: 19.AUG.2009 22:10:33

|                                 |                                       |                                                                 |                     |                                                  |
|---------------------------------|---------------------------------------|-----------------------------------------------------------------|---------------------|--------------------------------------------------|
| HCT PT.15.247<br>TEST REPORT    | FCC Class II Permissive Change REPORT |                                                                 |                     | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR0911FR08 | Date of Issue:<br>November 12, 2009   | EUT Type:<br>Cellular/ PCS GSM/ EDGE Phone with Bluetooth/ WLAN | FCC ID:<br>BEJGW620 | Page 38 of 58                                    |

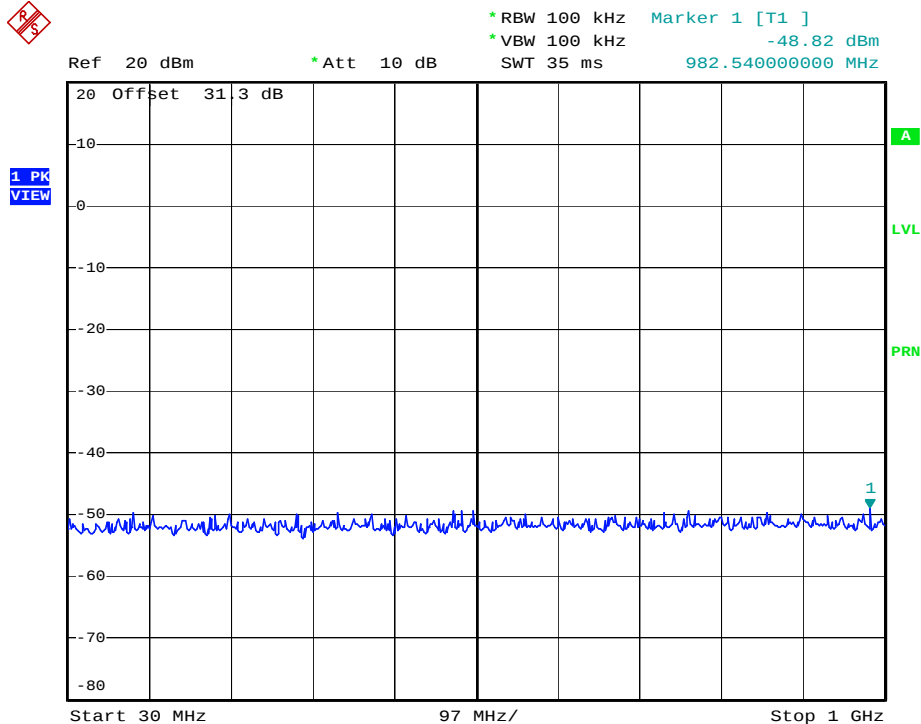


## Conducted Spurious Emission (802.11b-CH11)



Date: 19.AUG.2009 22:11:36

## Conducted Spurious Emission (802.11g-CH1) – 30 MHz ~ 1 GHz



Date: 19.AUG.2009 22:12:25

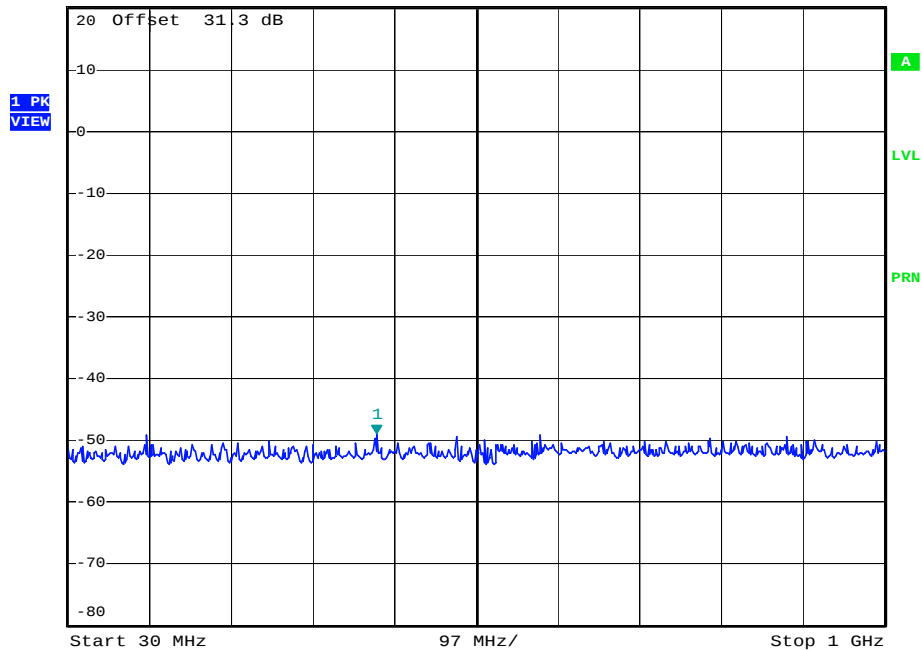
|                                 |                                       |                                                                 |                     |                                                  |
|---------------------------------|---------------------------------------|-----------------------------------------------------------------|---------------------|--------------------------------------------------|
| HCT PT.15.247<br>TEST REPORT    | FCC Class II Permissive Change REPORT |                                                                 |                     | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR0911FR08 | Date of Issue:<br>November 12, 2009   | EUT Type:<br>Cellular/ PCS GSM/ EDGE Phone with Bluetooth/ WLAN | FCC ID:<br>BEJGW620 | Page 39 of 58                                    |



### Conducted Spurious Emission (802.11g-CH6)



Ref 20 dBm \*Att 10 dB \*RBW 100 kHz Marker 1 [T1] -48.98 dBm  
\*VBW 100 kHz 396.660000000 MHz  
SWT 35 ms

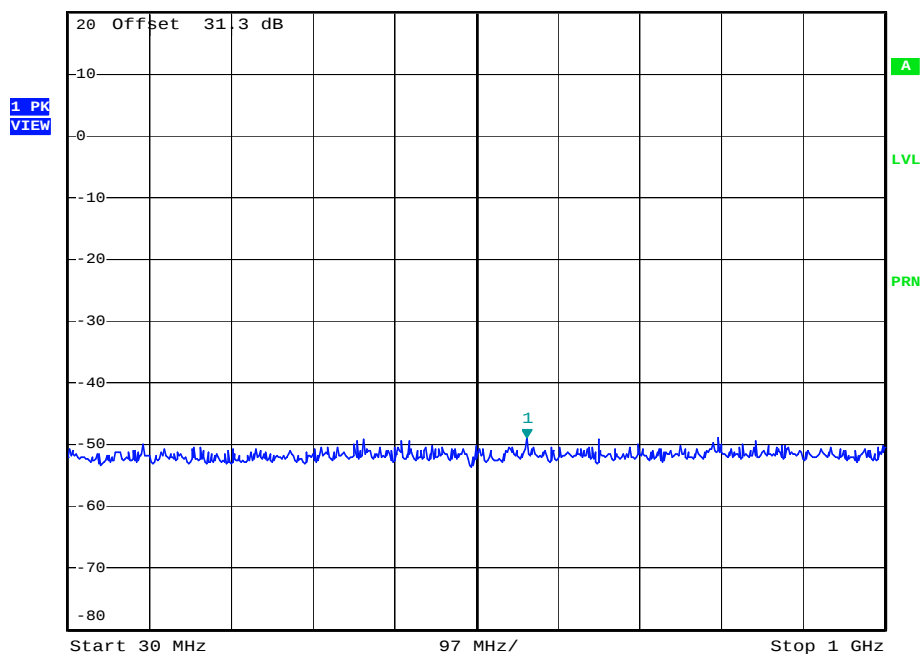


Date: 19.AUG.2009 22:12:58

### Conducted Spurious Emission (802.11g-CH11)



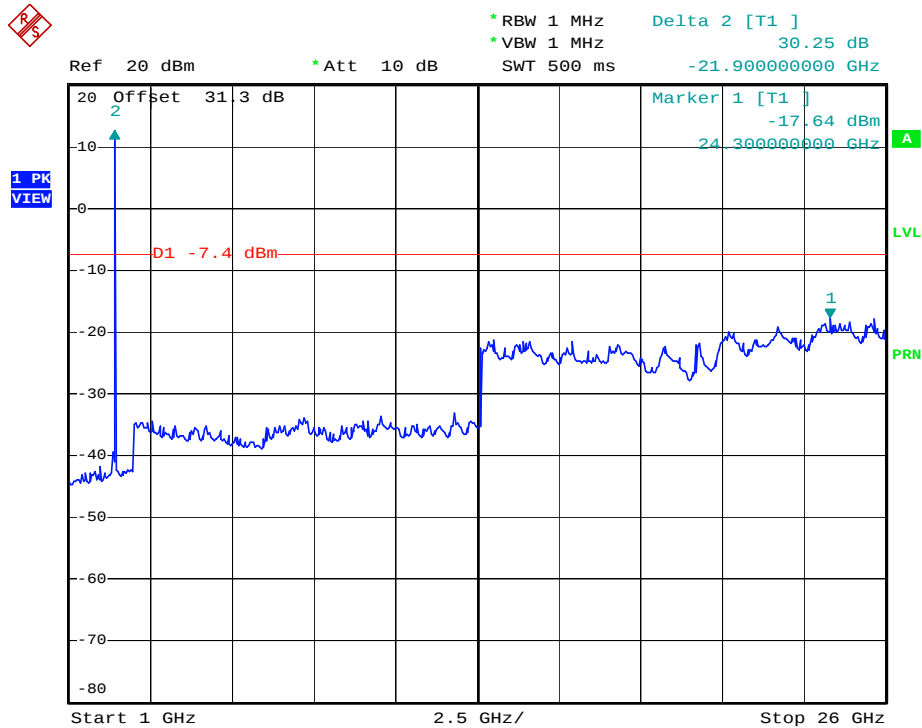
Ref 20 dBm \*Att 10 dB \*RBW 100 kHz Marker 1 [T1] -48.97 dBm  
\*VBW 100 kHz 575.140000000 MHz  
SWT 35 ms



Date: 19.AUG.2009 22:13:35

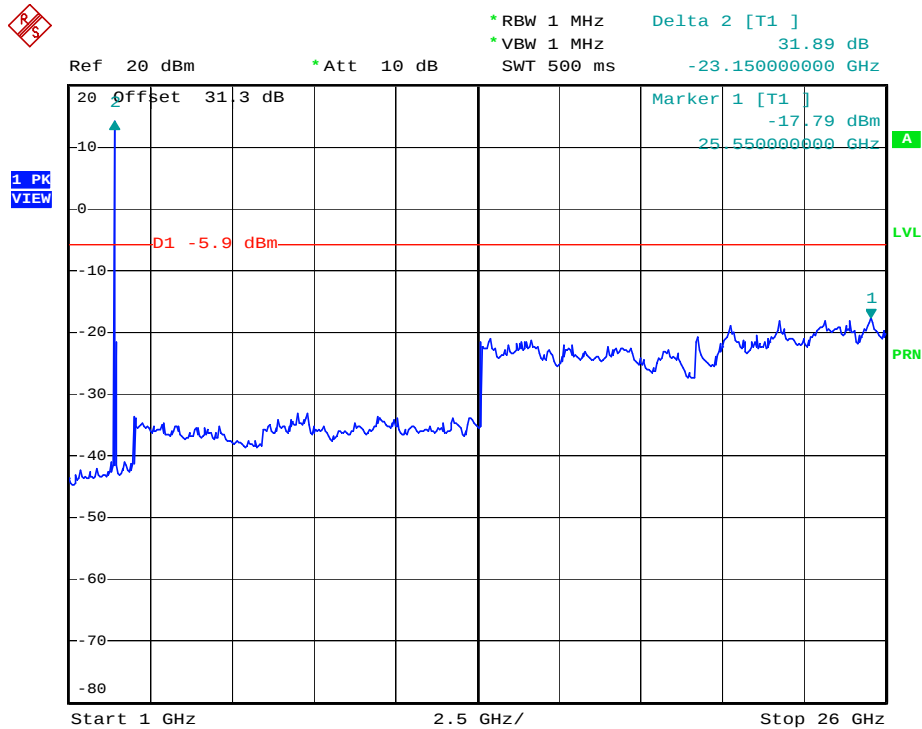
|                                 |                                       |                                                                 |                     |                                                  |
|---------------------------------|---------------------------------------|-----------------------------------------------------------------|---------------------|--------------------------------------------------|
| HCT PT.15.247<br>TEST REPORT    | FCC Class II Permissive Change REPORT |                                                                 |                     | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR0911FR08 | Date of Issue:<br>November 12, 2009   | EUT Type:<br>Cellular/ PCS GSM/ EDGE Phone with Bluetooth/ WLAN | FCC ID:<br>BEJGW620 | Page 40 of 58                                    |

## Conducted Spurious Emission (802.11b-CH1) -1 GHz ~ 26 GHz



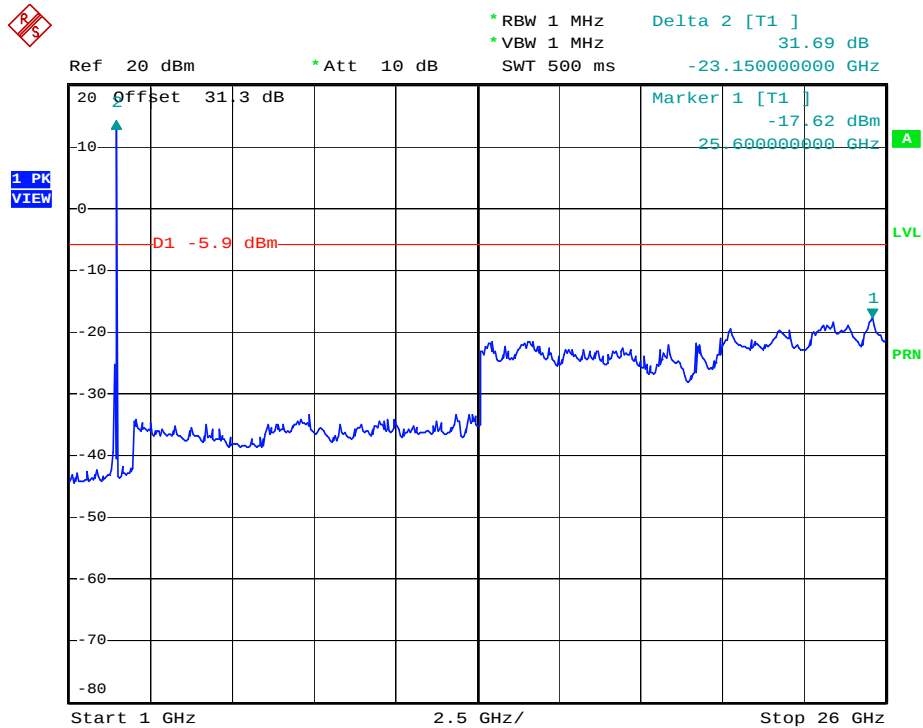
Date: 19.AUG.2009 22:14:35

## Conducted Spurious Emission (802.11b-CH6)



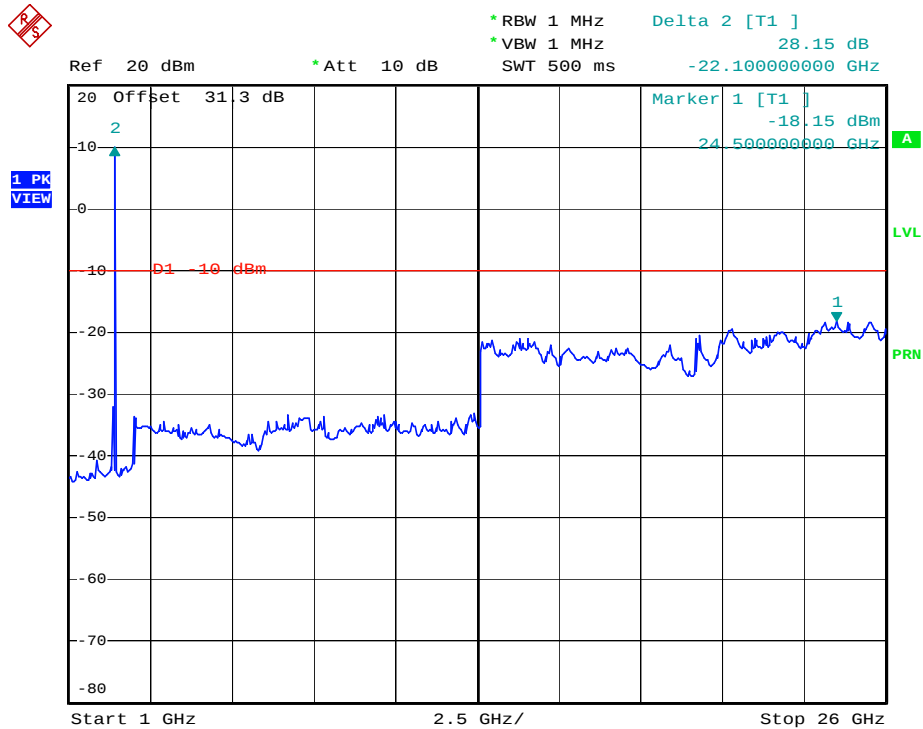
Date: 19.AUG.2009 22:15:35

## Conducted Spurious Emission (802.11b-CH11)



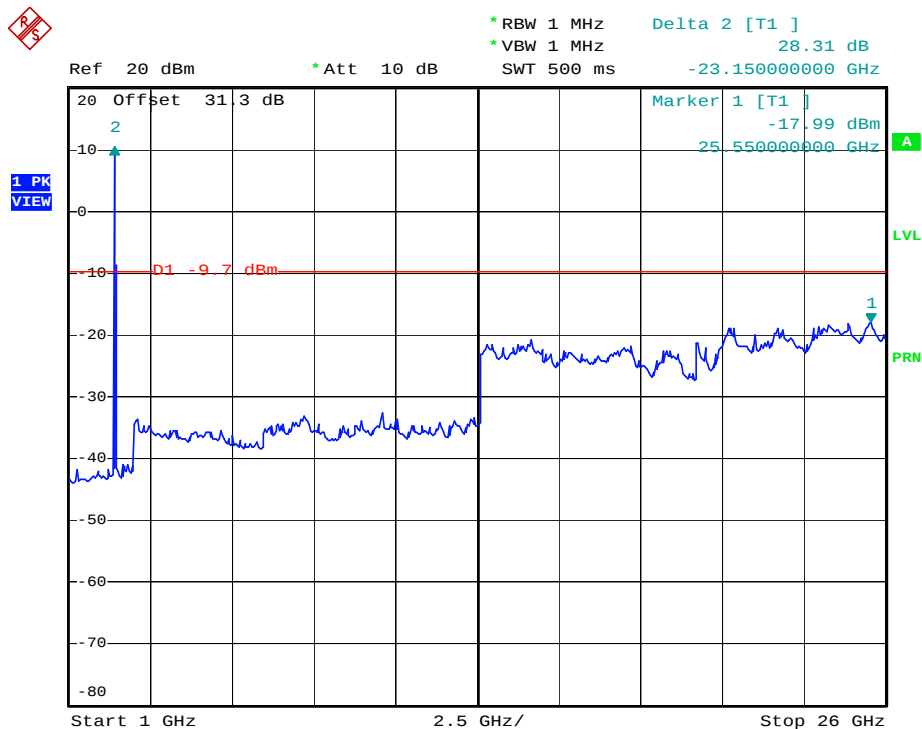
Date: 19.AUG.2009 22:16:28

## Conducted Spurious Emission (802.11g-CH1) -1 GHz ~ 26 GHz



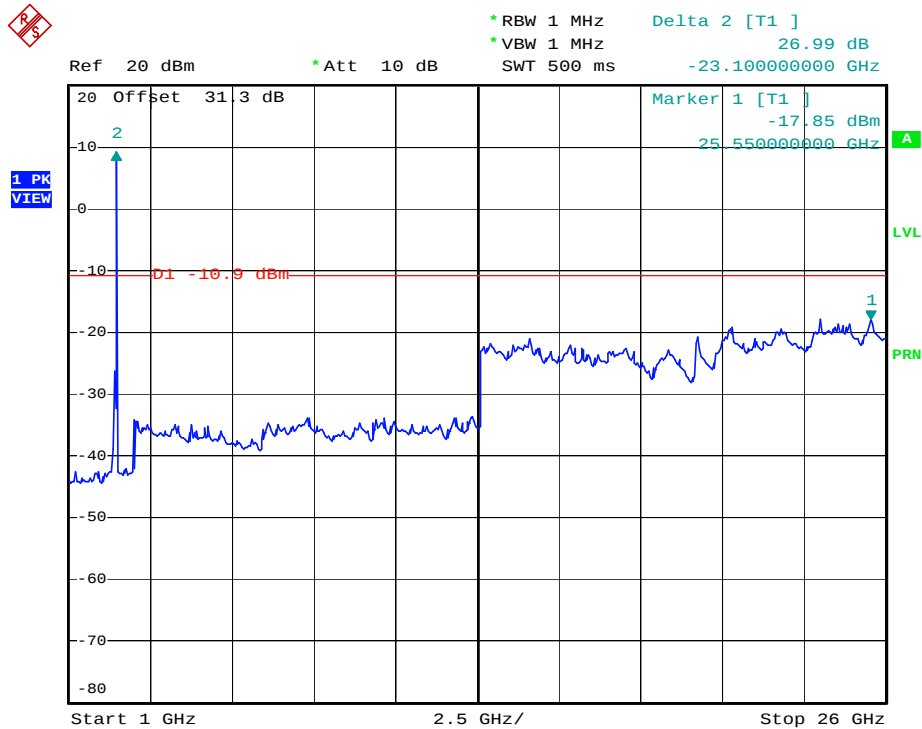
Date: 19.AUG.2009 22:17:30

## Conducted Spurious Emission (802.11g-CH6)



Date: 19.AUG.2009 22:18:32

## Conducted Spurious Emission (802.11g-CH11)



Date: 19.AUG.2009 22:19:29



## 7.5 Radiated Measurement.

### 7.5.1 Radiated Spurious Emissions.

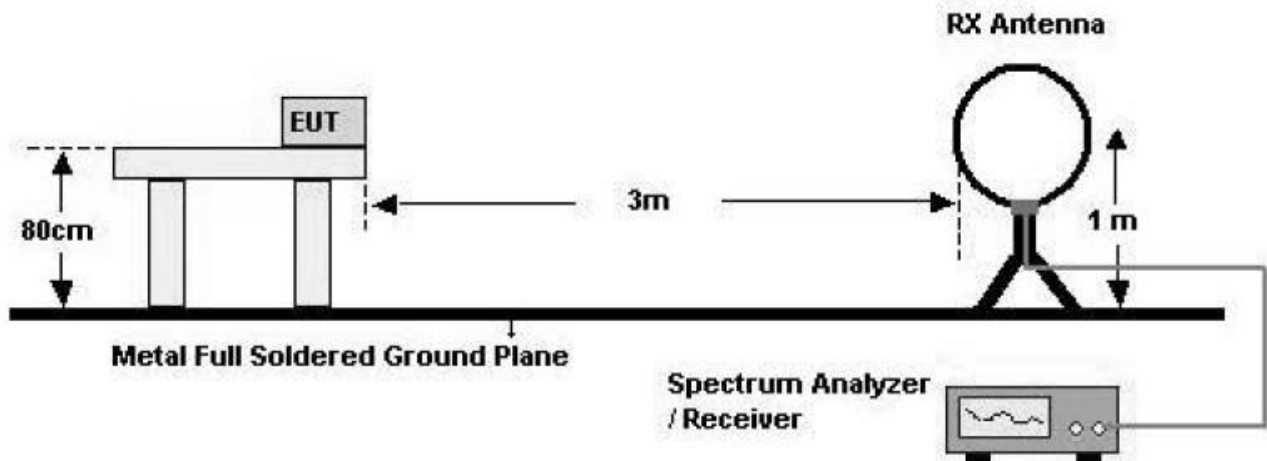
#### Test Requirements and limit, §15.247(d)

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

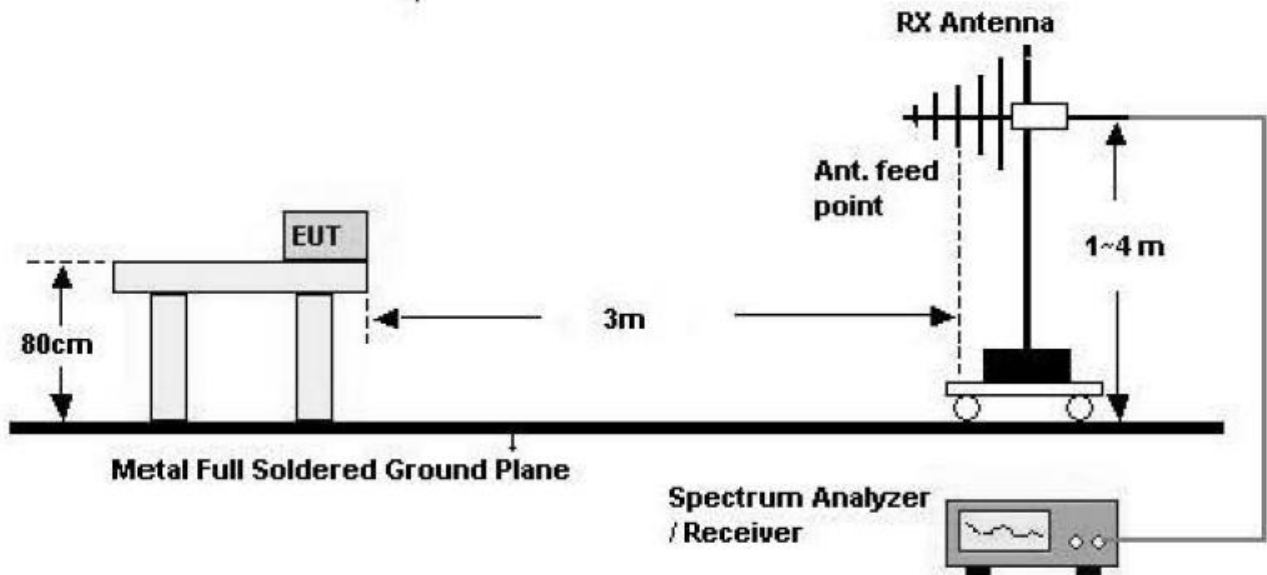
| Frequency (MHz) | Field Strength (uV/m) | Measurement Distance (m) |
|-----------------|-----------------------|--------------------------|
| 0.009 – 0.490   | 2400/F(kHz)           | 300                      |
| 0.490 – 1.705   | 24000/F(kHz)          | 30                       |
| 1.705 – 30    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

## Test Configuration

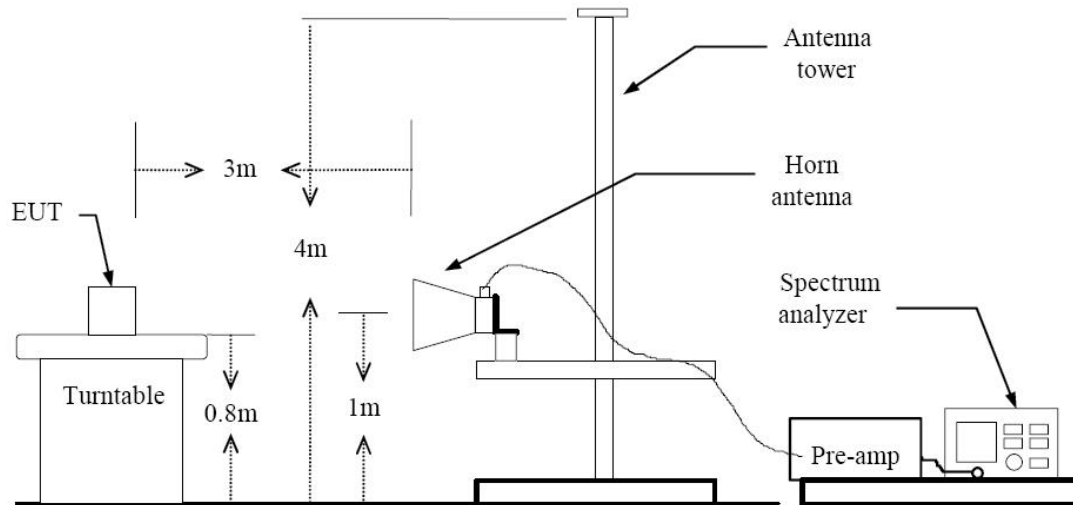
### Below 30 MHz



### 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<br>TEST REPORT    | FCC Class II Permissive Change REPORT |                                                                 |                     | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR0911FR08 | Date of Issue:<br>November 12, 2009   | EUT Type:<br>Cellular/ PCS GSM/ EDGE Phone with Bluetooth/ WLAN | FCC ID:<br>BEJGW620 | Page 47 of 58                                    |



## TEST RESULTS

Below 1 GHz

Operation Mode: Normal Link

| Frequency | Reading    | Ant. Factor | Cable Loss | ANT POL | Total        | Limit        | Margin |
|-----------|------------|-------------|------------|---------|--------------|--------------|--------|
| MHz       | dB $\mu$ V | dB /m       | dB         | (H/V)   | dB $\mu$ V/m | dB $\mu$ V/m | dB     |
| 86.0      | 16.8       | 8.3         | 1.0        | V       | 26.05        | 40.0         | 14.0   |
| 91.0      | 10.7       | 8.3         | 1.0        | H       | 19.97        | 43.5         | 23.5   |
| 100.0     | 11.0       | 9.2         | 1.1        | H       | 21.25        | 43.5         | 22.3   |
| 115.0     | 11.7       | 10.3        | 1.2        | H       | 23.16        | 43.5         | 20.3   |
| 115.0     | 13.7       | 10.3        | 1.2        | V       | 25.23        | 43.5         | 18.3   |

### 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 b |
| Transfer Rate:      | 11 Mbps  |
| Operating Frequency | 2412     |
| Channel No.         | 01 Ch    |

| Frequency<br>[MHz] | Reading<br>dBuV | AN.+CL-AMP G<br>[dB] | ANT. POL<br>[H/V] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Detect |
|--------------------|-----------------|----------------------|-------------------|-------------------|-------------------|----------------|--------|
| 4824               | 52.32           | -4.75                | V                 | 47.57             | 74                | 26.43          | PK     |
| 4824               | 39.69           | -4.75                | V                 | 34.94             | 54                | 19.06          | AV     |
| 7236               | 53.65           | 1.31                 | V                 | 54.96             | 74                | 19.04          | PK     |
| 7236               | 40.82           | 1.31                 | V                 | 42.13             | 54                | 11.87          | AV     |
| 4824               | 52.34           | -4.75                | H                 | 47.59             | 74                | 26.41          | PK     |
| 4824               | 39.69           | -4.75                | H                 | 34.94             | 54                | 19.06          | AV     |
| 7236               | 53.65           | 1.31                 | H                 | 54.96             | 74                | 19.04          | PK     |
| 7236               | 40.86           | 1.31                 | H                 | 42.17             | 54                | 11.83          | 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 b |
| Transfer Rate:      | 11 Mbps  |
| Operating Frequency | 2437     |
| Channel No.         | 06 Ch    |

| Frequency<br>[MHz] | Reading<br>dBuV | AN.+CL-AMP G<br>[dB] | ANT. POL<br>[H/V] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Detect |
|--------------------|-----------------|----------------------|-------------------|-------------------|-------------------|----------------|--------|
| 4874               | 53.31           | -4.62                | V                 | 48.69             | 74                | 25.31          | PK     |
| 4874               | 39.92           | -4.62                | V                 | 35.30             | 54                | 18.70          | AV     |
| 7311               | 53.93           | 1.58                 | V                 | 55.51             | 74                | 18.49          | PK     |
| 7311               | 40.86           | 1.58                 | V                 | 42.44             | 54                | 11.56          | AV     |
| 4874               | 53.55           | -4.62                | H                 | 48.93             | 74                | 25.07          | PK     |
| 4874               | 39.94           | -4.62                | H                 | 35.32             | 54                | 18.68          | AV     |
| 7311               | 53.82           | 1.58                 | H                 | 55.40             | 74                | 18.60          | PK     |
| 7311               | 40.86           | 1.58                 | H                 | 42.44             | 54                | 11.56          | AV     |

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 b |
| Transfer Rate:      | 11 Mbps  |
| Operating Frequency | 2462     |
| Channel No.         | 11 Ch    |

| Frequency<br>[MHz] | Reading<br>dBuV | AN.+CL-AMP G<br>[dB] | ANT. POL<br>[H/V] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Detect |
|--------------------|-----------------|----------------------|-------------------|-------------------|-------------------|----------------|--------|
| 4924               | 52.63           | -4.50                | V                 | 48.13             | 74                | 25.87          | PK     |
| 4924               | 39.90           | -4.50                | V                 | 35.40             | 54                | 18.60          | AV     |
| 7386               | 54.71           | 1.85                 | V                 | 56.56             | 74                | 17.44          | PK     |
| 7386               | 41.16           | 1.85                 | V                 | 43.01             | 54                | 10.99          | AV     |
| 4924               | 53.03           | -4.50                | H                 | 48.53             | 74                | 25.47          | PK     |
| 4924               | 39.81           | -4.50                | H                 | 35.31             | 54                | 18.69          | AV     |
| 7386               | 54.00           | 1.85                 | H                 | 55.85             | 74                | 18.15          | PK     |
| 7386               | 41.18           | 1.85                 | H                 | 43.03             | 54                | 10.97          | 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 g           |
| Transfer Rate:      | 24 Mbps            |
| Operating Frequency | 2412 MHz, 2462 MHz |
| Channel No.         | 1 Ch, 11 Ch        |

| Frequency<br>[MHz] | Reading<br>dBuV | AN.+CL-AMP G<br>[dB] | ANT. POL<br>[H/V] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Detect |
|--------------------|-----------------|----------------------|-------------------|-------------------|-------------------|----------------|--------|
| 2380.24            | 50.69           | -10.20               | H                 | 40.49             | 74                | 33.51          | PK     |
| 2380.24            | 37.29           | -10.20               | H                 | 27.09             | 54                | 26.91          | AV     |
| 2338.32            | 50.32           | -10.38               | V                 | 39.94             | 74                | 34.06          | PK     |
| 2338.32            | 37.67           | -10.38               | V                 | 27.29             | 54                | 26.71          | AV     |
| 2491.62            | 49.61           | -9.73                | H                 | 39.88             | 74                | 34.12          | PK     |
| 2491.62            | 37.12           | -9.73                | H                 | 27.39             | 54                | 26.61          | AV     |
| 2489.57            | 49.82           | -9.74                | V                 | 40.08             | 74                | 33.92          | PK     |
| 2489.57            | 37.25           | -9.74                | V                 | 27.51             | 54                | 26.49          | 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 $\mu$ 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

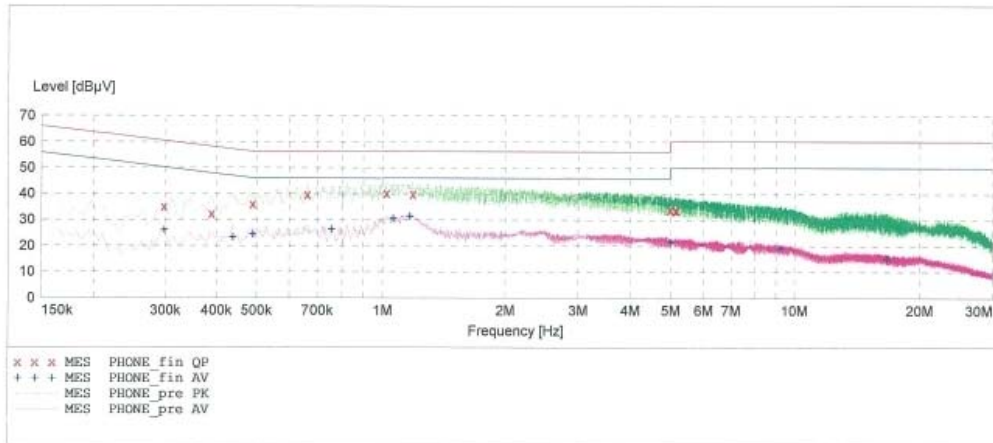
**HCT**

**EMC**

EUT: GW620  
Manufacturer: LG  
Operating Condition: WiFi  
Test Site: SHIELD ROOM  
Operator: HS-KWAK  
Test Specification: CISPR22 Class B  
Comment: H

### SCAN TABLE: "CISPR22 CLASS B"

| Short Description: |                |            | KN22 CLASS B |            |           |            |
|--------------------|----------------|------------|--------------|------------|-----------|------------|
| Start Frequency    | Stop Frequency | Step Width | Detector     | Meas. Time | IF Bandw. | Transducer |
| 150.0 kHz          | 500.0 kHz      | 4.0 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       |
|                    |                |            | Average      |            |           |            |



### MEASUREMENT RESULT: "PHONE\_fin QP"

8/27/2009 10:27AM

| Frequency MHz | Level dBuV | Transd dB | Limit dBuV | Margin dB | Line | PE  |
|---------------|------------|-----------|------------|-----------|------|-----|
| 0.298000      | 35.10      | 10.1      | 60         | 25.2      | ---  | --- |
| 0.390000      | 32.50      | 10.1      | 58         | 25.5      | ---  | --- |
| 0.490000      | 36.10      | 10.1      | 56         | 20.0      | ---  | --- |
| 0.664000      | 39.80      | 10.1      | 56         | 16.2      | ---  | --- |
| 1.024000      | 40.20      | 10.1      | 56         | 15.8      | ---  | --- |
| 1.188000      | 39.90      | 10.1      | 56         | 16.1      | ---  | --- |
| 5.000000      | 34.00      | 10.3      | 56         | 22.0      | ---  | --- |
| 5.144000      | 33.70      | 10.4      | 60         | 26.3      | ---  | --- |
| 5.180000      | 33.70      | 10.4      | 60         | 26.3      | ---  | --- |

### MEASUREMENT RESULT: "PHONE\_fin AV"

8/27/2009 10:27AM

| Frequency MHz | Level dBuV | Transd dB | Limit dBuV | Margin dB | Line | PE  |
|---------------|------------|-----------|------------|-----------|------|-----|
| 0.298000      | 26.30      | 10.1      | 50         | 24.0      | ---  | --- |
| 0.438000      | 23.50      | 10.1      | 47         | 23.6      | ---  | --- |



**MEASUREMENT RESULT: "PHONE\_fin AV"**

(continued)

| Frequency<br>MHz | Level<br>dBμV | Transd<br>dB | Limit<br>dBμV | Margin<br>dB | Line | PE  |
|------------------|---------------|--------------|---------------|--------------|------|-----|
| 0.490000         | 24.60         | 10.1         | 46            | 21.5         | ---  | --- |
| 0.756000         | 26.70         | 10.1         | 46            | 19.3         | ---  | --- |
| 1.060000         | 30.80         | 10.1         | 46            | 15.2         | ---  | --- |
| 1.164000         | 31.60         | 10.1         | 46            | 14.4         | ---  | --- |
| 5.000000         | 21.60         | 10.3         | 46            | 24.4         | ---  | --- |
| 9.220000         | 19.30         | 10.6         | 50            | 30.7         | ---  | --- |
| 16.712000        | 15.50         | 11.2         | 50            | 34.5         | ---  | --- |

|                                 |                                       |                                                                 |                     |                                                  |
|---------------------------------|---------------------------------------|-----------------------------------------------------------------|---------------------|--------------------------------------------------|
| HCT PT.15.247<br>TEST REPORT    | FCC Class II Permissive Change REPORT |                                                                 |                     | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR0911FR08 | Date of Issue:<br>November 12, 2009   | EUT Type:<br>Cellular/ PCS GSM/ EDGE Phone with Bluetooth/ WLAN | FCC ID:<br>BEJGW620 | Page 55 of 58                                    |



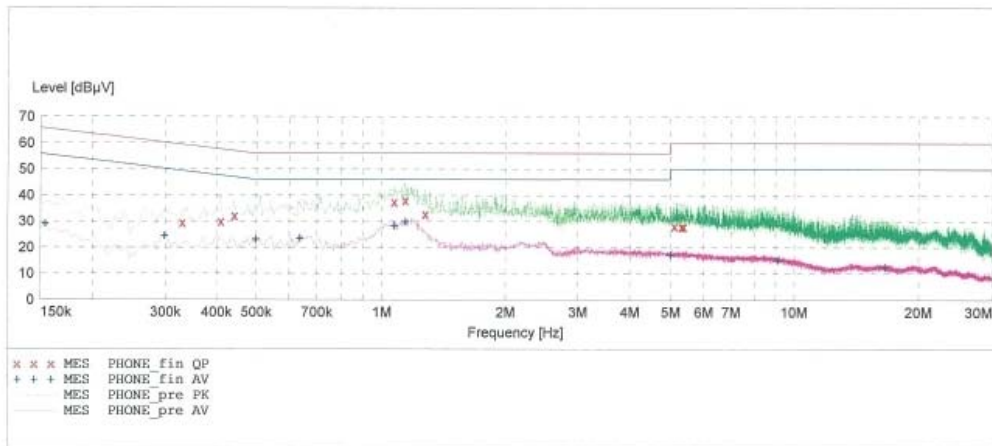
# HCT

## EMC

EUT: GW620  
Manufacturer: LG  
Operating Condition: WiFi  
Test Site: SHIELD ROOM  
Operator: HS-KWAK  
Test Specification: CISPR22 Class B  
Comment: N

### SCAN TABLE: "CISPR22 CLASS B"

| Short Description: |           |         | KN22 CLASS B |            |           |            |
|--------------------|-----------|---------|--------------|------------|-----------|------------|
| Start              | Stop      | Step    | Detector     | Meas. Time | IF Bandw. | Transducer |
| Frequency          | Frequency | Width   |              |            |           |            |
| 150.0 kHz          | 500.0 kHz | 4.0 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       |
|                    |           |         | Average      |            |           |            |



### MEASUREMENT RESULT: "PHONE\_fin QP"

8/27/2009 10:31AM

| Frequency MHz | Level dBuV | Transd dB | Limit dBuV | Margin dB | Line | PE  |
|---------------|------------|-----------|------------|-----------|------|-----|
| 0.330000      | 29.40      | 10.1      | 60         | 30.0      | ---  | --- |
| 0.410000      | 29.80      | 10.1      | 58         | 27.9      | ---  | --- |
| 0.442000      | 32.00      | 10.1      | 57         | 25.0      | ---  | --- |
| 1.072000      | 37.30      | 10.1      | 56         | 18.7      | ---  | --- |
| 1.140000      | 37.90      | 10.1      | 56         | 18.1      | ---  | --- |
| 1.276000      | 32.60      | 10.1      | 56         | 23.4      | ---  | --- |
| 5.108000      | 28.20      | 10.3      | 60         | 31.8      | ---  | --- |
| 5.312000      | 27.80      | 10.4      | 60         | 32.2      | ---  | --- |
| 5.376000      | 27.80      | 10.4      | 60         | 32.2      | ---  | --- |

### MEASUREMENT RESULT: "PHONE\_fin AV"

8/27/2009 10:31AM

| Frequency MHz | Level dBuV | Transd dB | Limit dBuV | Margin dB | Line | PE  |
|---------------|------------|-----------|------------|-----------|------|-----|
| 0.154000      | 29.10      | 10.1      | 56         | 26.7      | ---  | --- |
| 0.298000      | 24.60      | 10.1      | 50         | 25.7      | ---  | --- |



**MEASUREMENT RESULT: "PHONE\_fin AV"**

(continued)

| Frequency<br>MHz | Level<br>dBμV | Transd<br>dB | Limit<br>dBμV | Margin<br>dB | Line | PE  |
|------------------|---------------|--------------|---------------|--------------|------|-----|
| 0.498000         | 23.20         | 10.1         | 46            | 22.9         | ---  | --- |
| 0.636000         | 23.60         | 10.1         | 46            | 22.4         | ---  | --- |
| 1.072000         | 28.40         | 10.1         | 46            | 17.6         | ---  | --- |
| 1.140000         | 29.90         | 10.1         | 46            | 16.1         | ---  | --- |
| 5.000000         | 17.40         | 10.3         | 46            | 28.6         | ---  | --- |
| 9.124000         | 15.30         | 10.6         | 50            | 34.7         | ---  | --- |
| 16.592000        | 12.60         | 11.2         | 50            | 37.4         | ---  | --- |

|                                 |                                       |                                                                 |                     |                                                  |
|---------------------------------|---------------------------------------|-----------------------------------------------------------------|---------------------|--------------------------------------------------|
| HCT PT.15.247<br>TEST REPORT    | FCC Class II Permissive Change REPORT |                                                                 |                     | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR0911FR08 | Date of Issue:<br>November 12, 2009   | EUT Type:<br>Cellular/ PCS GSM/ EDGE Phone with Bluetooth/ WLAN | FCC ID:<br>BEJGW620 | Page 57 of 58                                    |



## 8. LIST OF TEST EQUIPMENT

| Manufacturer          | Model / Equipment                  | Cal Interval | Calibration Due | Serial No.   |
|-----------------------|------------------------------------|--------------|-----------------|--------------|
| Rohde & Schwarz       | ESH2-Z5/ LISN                      | Annual       | 04/10/2010      | 861741/013   |
| Rohde & Schwarz       | ESH3-Z6/ LISN                      | Annual       | 06/13/2010      | 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       | 10/30/2010      | 375.8810.352 |
| MITEQ                 | AMF-60-0010 1800-35-20P/AMP        | Annual       | 05/20/2010      | 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       | 07/31/2010      | 839117/011   |
| Agilent               | E4416A /Power Meter                | Annual       | 01/21/2010      | GB41291412   |
| Wainwright Instrument | WHF3.3/18G-10EF / High Pass Filter | Annual       | 06/29/2010      | 1            |
| Hewlett Packard       | 11636B/Power Divider               | Annual       | 12/24/2009      | 11377        |
| DIGITAL               | EP-3010 /DC POWER SUPPLY           | Annual       | 01/07/2010      | 3110117      |