

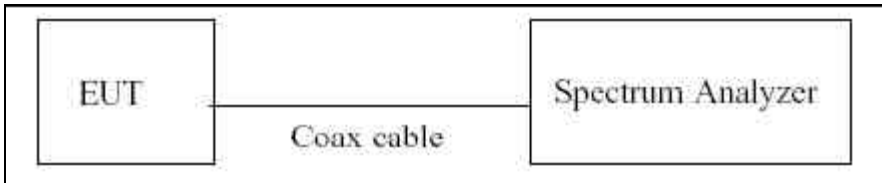
### 7.3 POWER SPECTRAL DENSITY (802.11b/g/n)

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

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
3. VBW = 3 kHz
4. Sweep = 100 sec
5. Detector Mode = Peak

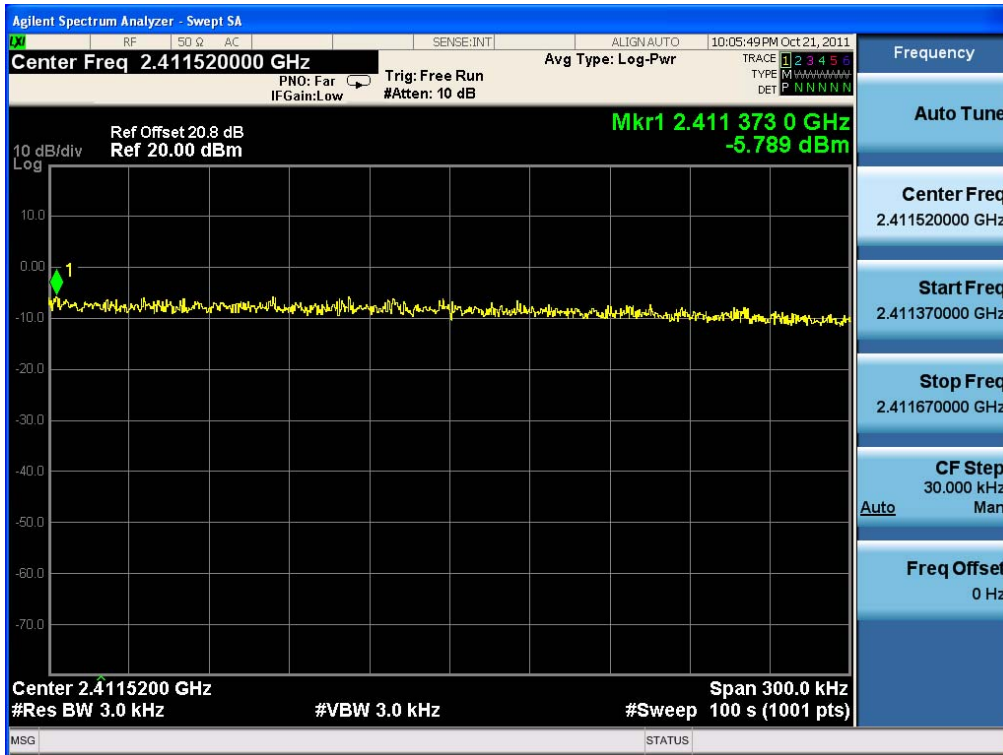
#### ■ TEST RESULTS

**Conducted Power Density Measurements**

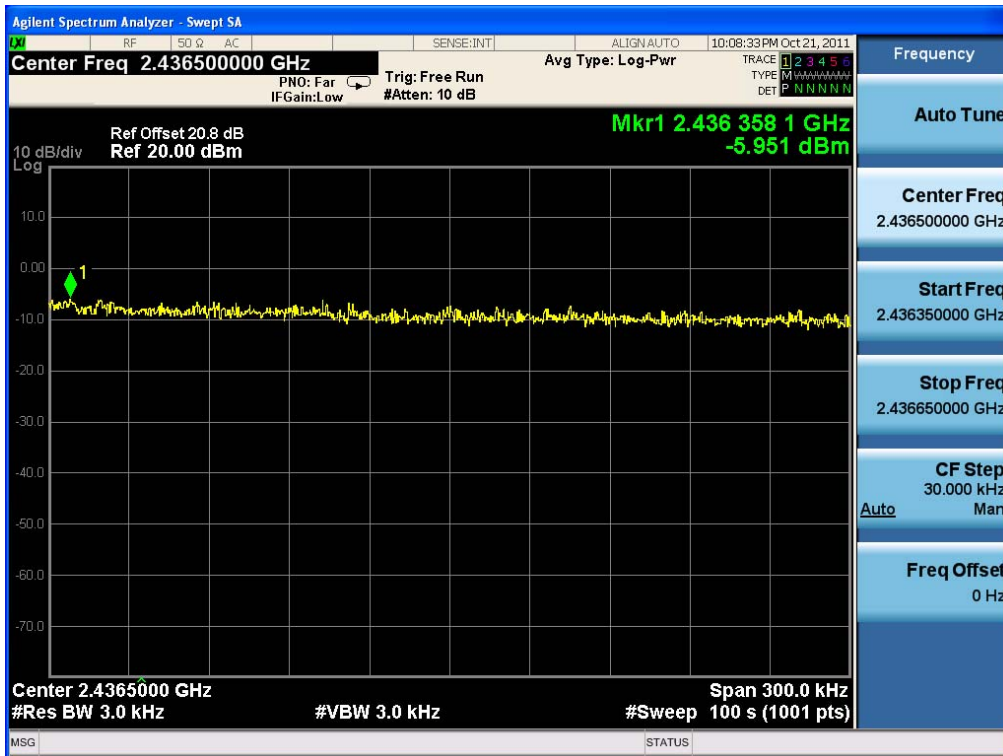
| Frequency (MHz) | Channel No. | Mode    | Test Result         |           |
|-----------------|-------------|---------|---------------------|-----------|
|                 |             |         | Power Density (dBm) | Pass/Fail |
| 2412            | 1           | 802.11b | -5.789              | Pass      |
| 2437            | 6           |         | -5.951              | Pass      |
| 2462            | 11          |         | -6.437              | Pass      |
| 2412            | 1           | 802.11g | -10.796             | Pass      |
| 2437            | 6           |         | -10.479             | Pass      |
| 2462            | 11          |         | -10.861             | Pass      |
| 2412            | 1           | 802.11n | -12.614             | Pass      |
| 2437            | 6           |         | -12.348             | Pass      |
| 2462            | 11          |         | -12.505             | Pass      |

RESULT PLOTS

Power Spectral Density (802.11b-CH 1)

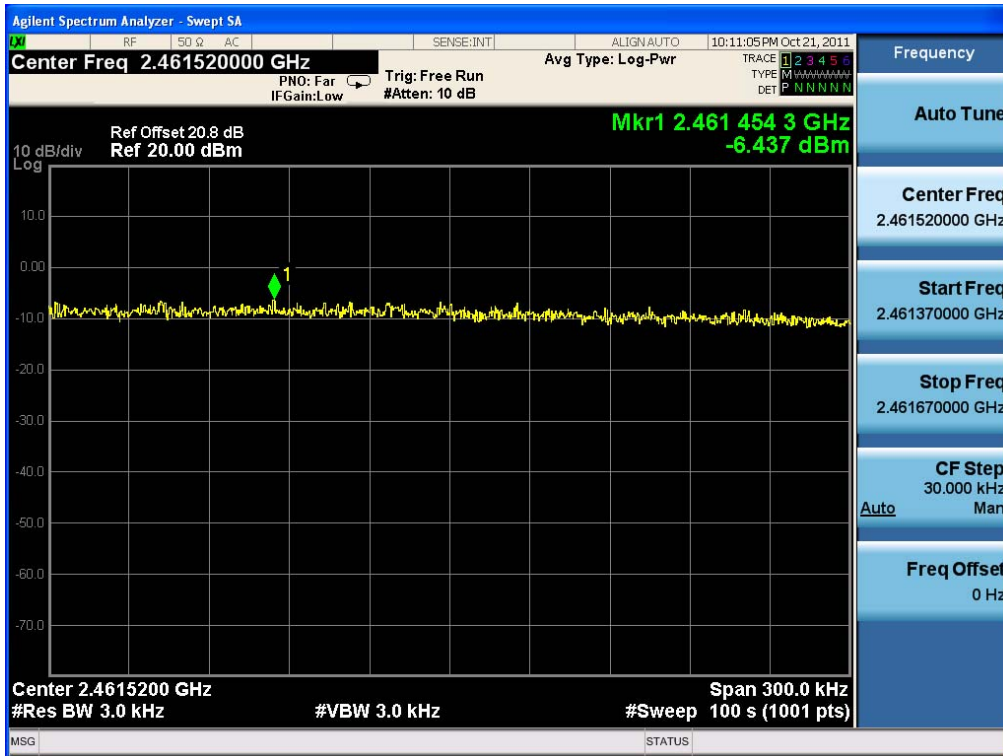


Power Spectral Density (802.11b-CH 6)

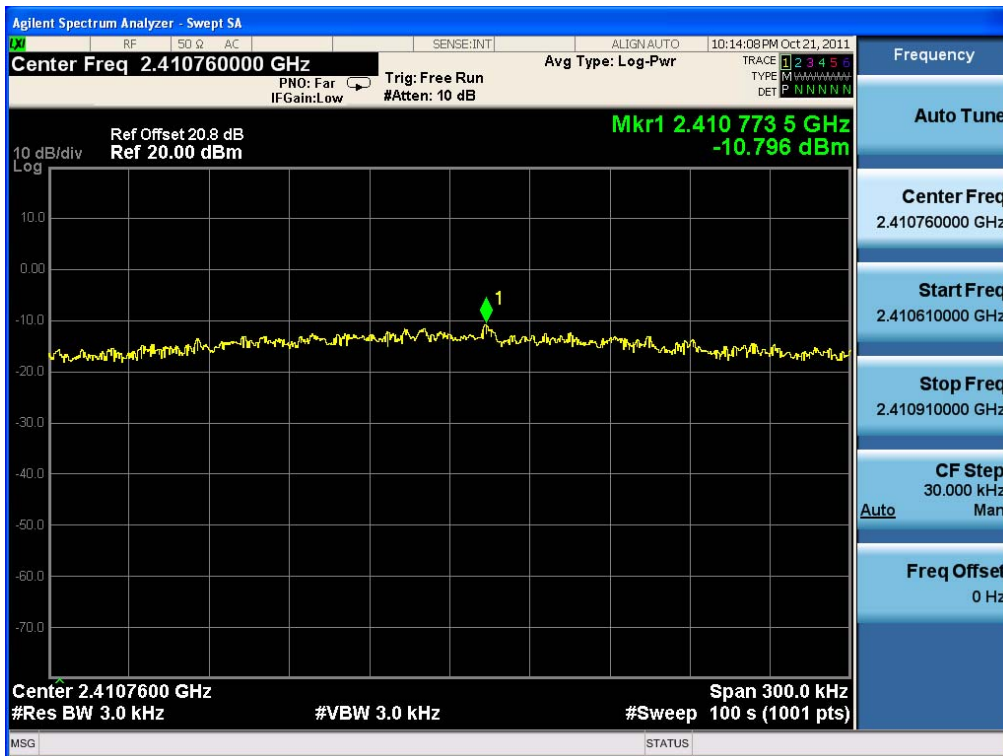


|                                   |                                     |  |  |
|-----------------------------------|-------------------------------------|--|--|
| FCC PT.15.247<br>TEST REPORT      | FCC CERTIFICATION REPORT            |  | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR1110FR12-2 | Date of Issue:<br>November 15, 2011 | EUT Type:<br>850/1900 GSM/GPRS Phone with Bluetooth, WLAN and EDGE Rx Only | FCC ID:<br>A3LGT5830I                            |

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



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



|                                   |                                     |  |  |
|-----------------------------------|-------------------------------------|--|--|
| FCC PT.15.247<br>TEST REPORT      | FCC CERTIFICATION REPORT            |  | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR1110FR12-2 | Date of Issue:<br>November 15, 2011 | EUT Type:<br>850/1900 GSM/GPRS Phone with Bluetooth, WLAN and EDGE Rx Only | FCC ID:<br>A3LGTS5830I                           |

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



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



|                                   |                                     |  |  |
|-----------------------------------|-------------------------------------|--|--|
| FCC PT.15.247<br>TEST REPORT      | FCC CERTIFICATION REPORT            |  | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR1110FR12-2 | Date of Issue:<br>November 15, 2011 | EUT Type:<br>850/1900 GSM/GPRS Phone with Bluetooth, WLAN and EDGE Rx Only | FCC ID:<br>A3LGTS5830I                           |

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



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



|                                   |                                     |  |  |
|-----------------------------------|-------------------------------------|--|--|
| FCC PT.15.247<br>TEST REPORT      | FCC CERTIFICATION REPORT            |  | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR1110FR12-2 | Date of Issue:<br>November 15, 2011 | EUT Type:<br>850/1900 GSM/GPRS Phone with Bluetooth, WLAN and EDGE Rx Only | FCC ID:<br>A3LGTS5830I                           |

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



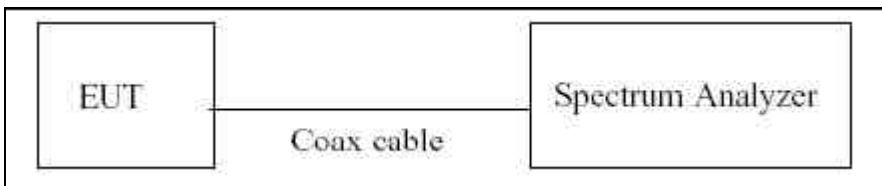
|                                   |                                     |  |  |
|-----------------------------------|-------------------------------------|--|--|
| FCC PT.15.247<br>TEST REPORT      | FCC CERTIFICATION REPORT            |  | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR1110FR12-2 | Date of Issue:<br>November 15, 2011 | EUT Type:<br>850/1900 GSM/GPRS Phone with Bluetooth, WLAN and EDGE Rx Only | FCC ID:<br>A3LGTS5830I                           |

**7.4 OUT OF BAND EMISSIONS AT THE BAND EDGE/ CONDUCTED SPURIOUS EMISSIONS**

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

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.

|  |  |   |  |
|--|--|---|--|
| <b>FCC PT.15.247<br/>TEST REPORT</b>     | <b>FCC CERTIFICATION REPORT</b>            |   | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| <b>Test Report No.</b><br>HCTR1110FR12-2 | <b>Date of Issue:</b><br>November 15, 2011 | <b>EUT Type:</b><br>850/1900 GSM/GPRS Phone with Bluetooth, WLAN and EDGE Rx Only | <b>FCC ID:</b><br>A3LGTS5830I                    |

RESULT PLOTS

BandEdge (802.11b-CH1)



BandEdge (802.11b-CH11)

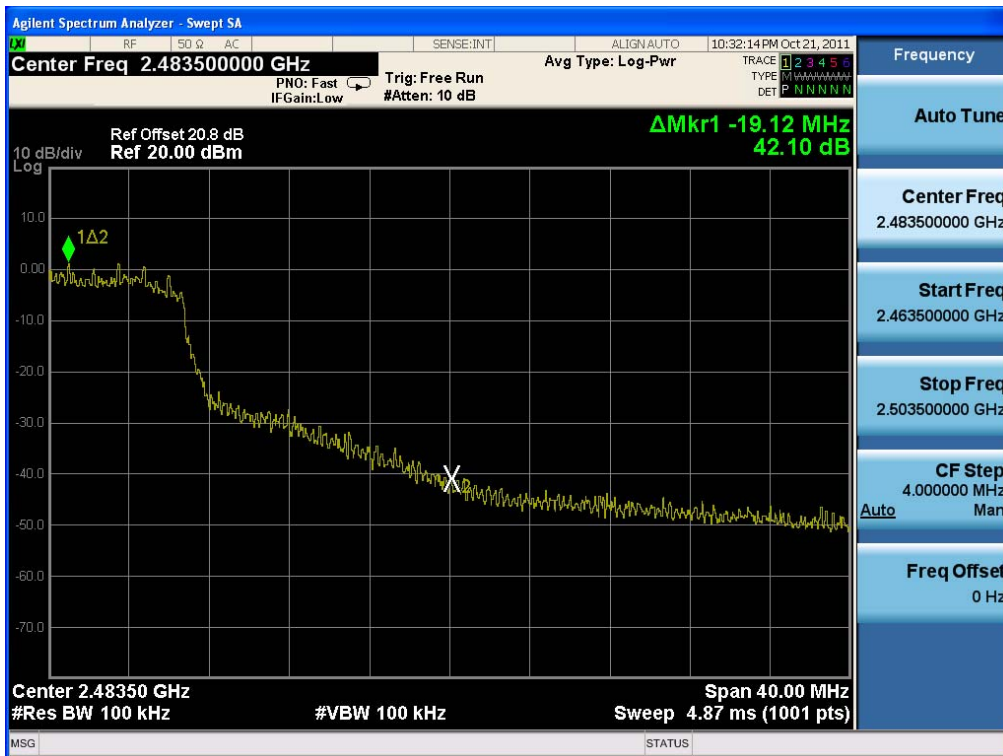


|                                   |                                     |  |  |
|-----------------------------------|-------------------------------------|--|--|
| FCC PT.15.247<br>TEST REPORT      | FCC CERTIFICATION REPORT            |  | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR1110FR12-2 | Date of Issue:<br>November 15, 2011 | EUT Type:<br>850/1900 GSM/GPRS Phone with Bluetooth, WLAN and EDGE Rx Only | FCC ID:<br>A3LGT5830I                            |

### BandEdge (802.11g-CH1)



### BandEdge (802.11g-CH11)

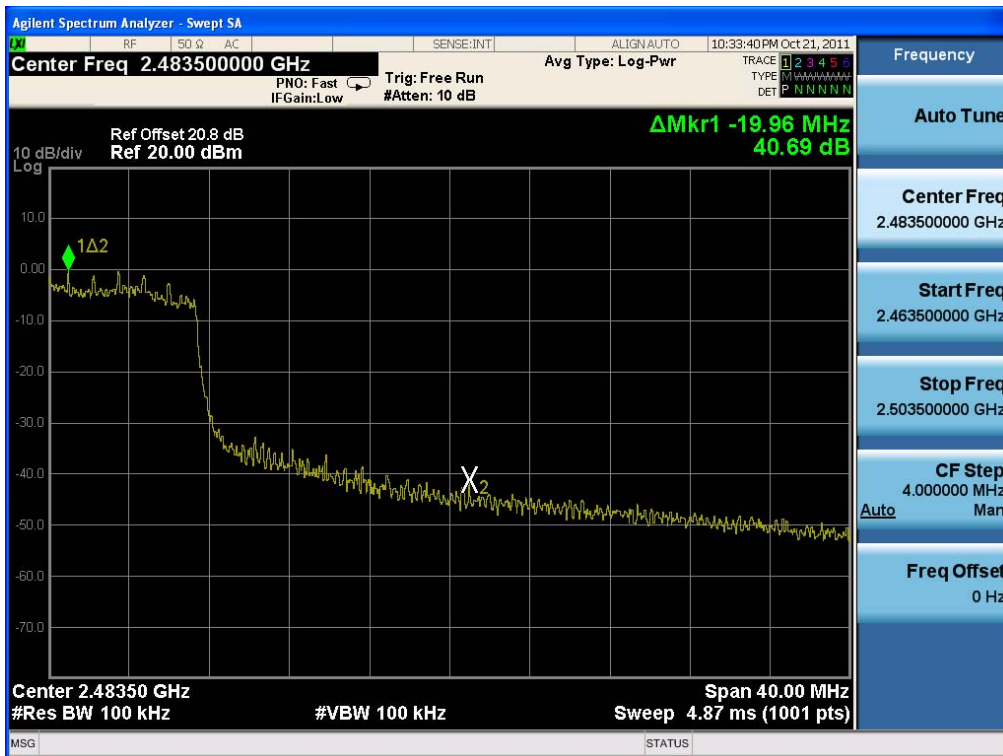


|                                   |                                     |  |  |
|-----------------------------------|-------------------------------------|--|--|
| FCC PT.15.247<br>TEST REPORT      | FCC CERTIFICATION REPORT            |  | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR1110FR12-2 | Date of Issue:<br>November 15, 2011 | EUT Type:<br>850/1900 GSM/GPRS Phone with Bluetooth, WLAN and EDGE Rx Only | FCC ID:<br>A3LGT5830I                            |

### BandEdge (802.11n-CH1)

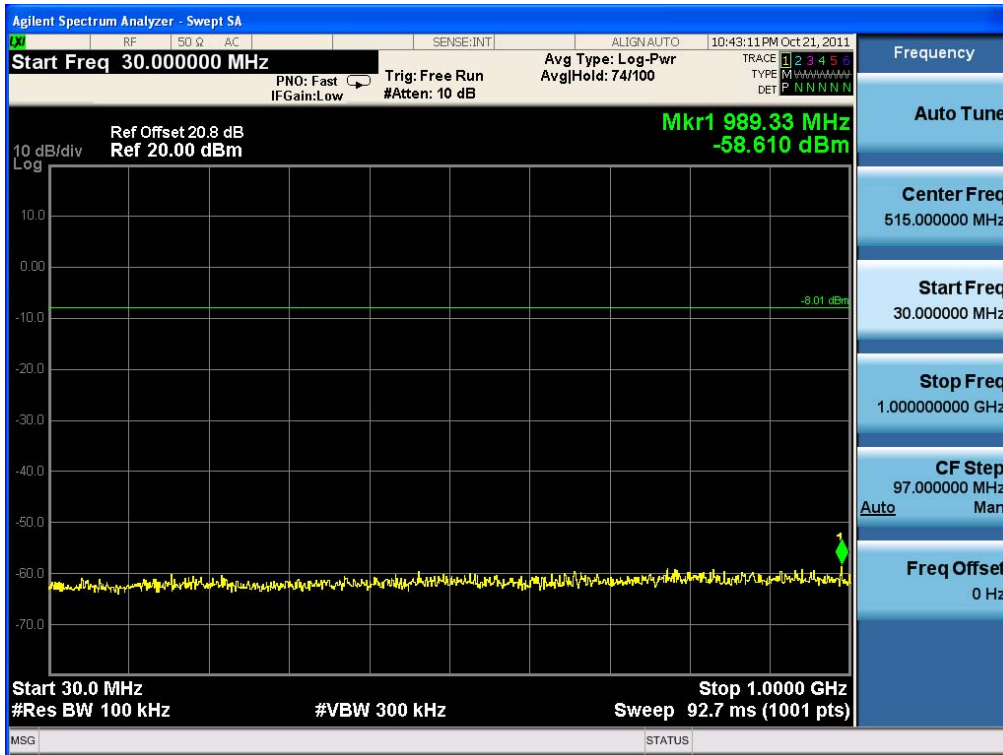


### BandEdge (802.11n-CH11)

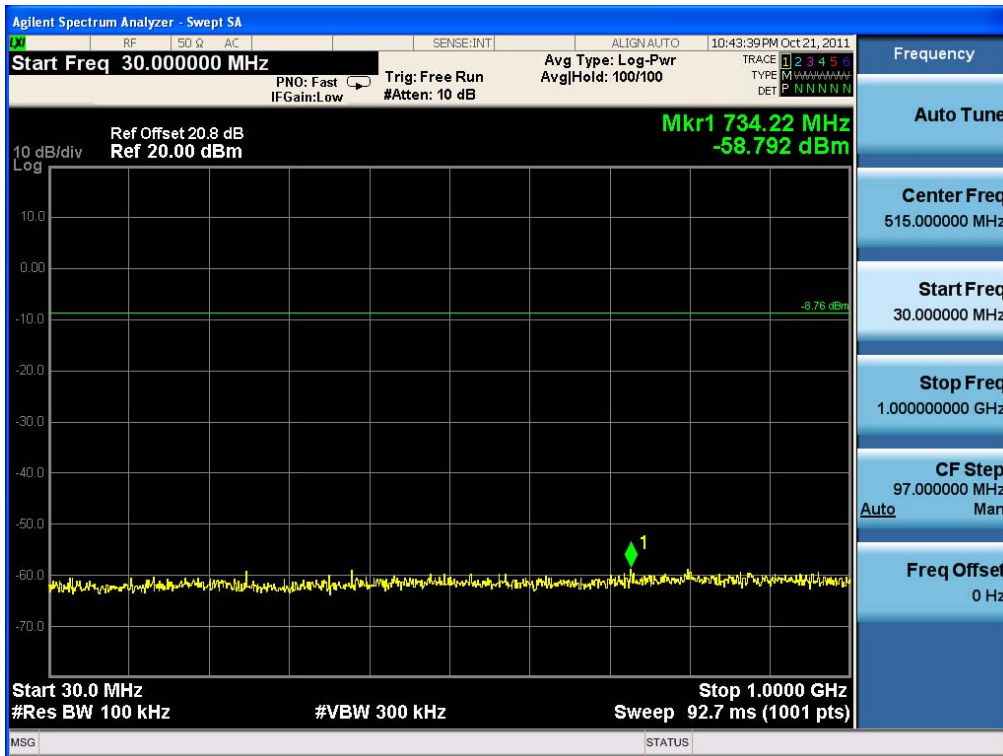


|                                   |                                     |  |  |
|-----------------------------------|-------------------------------------|--|--|
| FCC PT.15.247<br>TEST REPORT      | FCC CERTIFICATION REPORT            |  | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR1110FR12-2 | Date of Issue:<br>November 15, 2011 | EUT Type:<br>850/1900 GSM/GPRS Phone with Bluetooth, WLAN and EDGE Rx Only | FCC ID:<br>A3LGT5830I                            |

### Conducted Spurious Emission (802.11b-CH1)

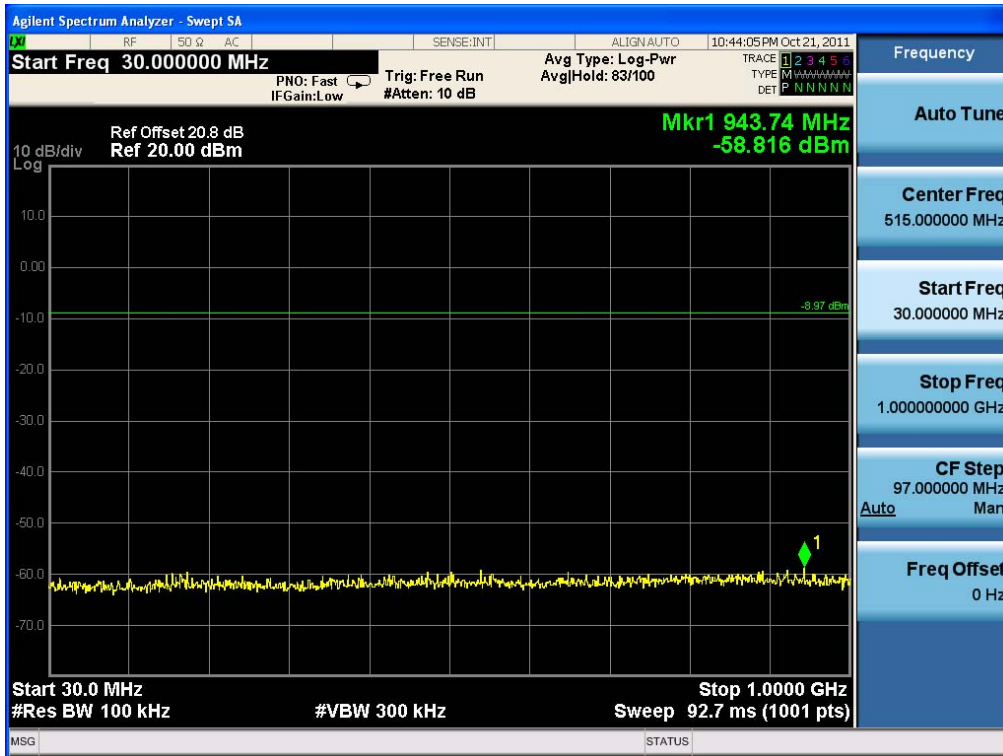


### Conducted Spurious Emission (802.11b-CH6)

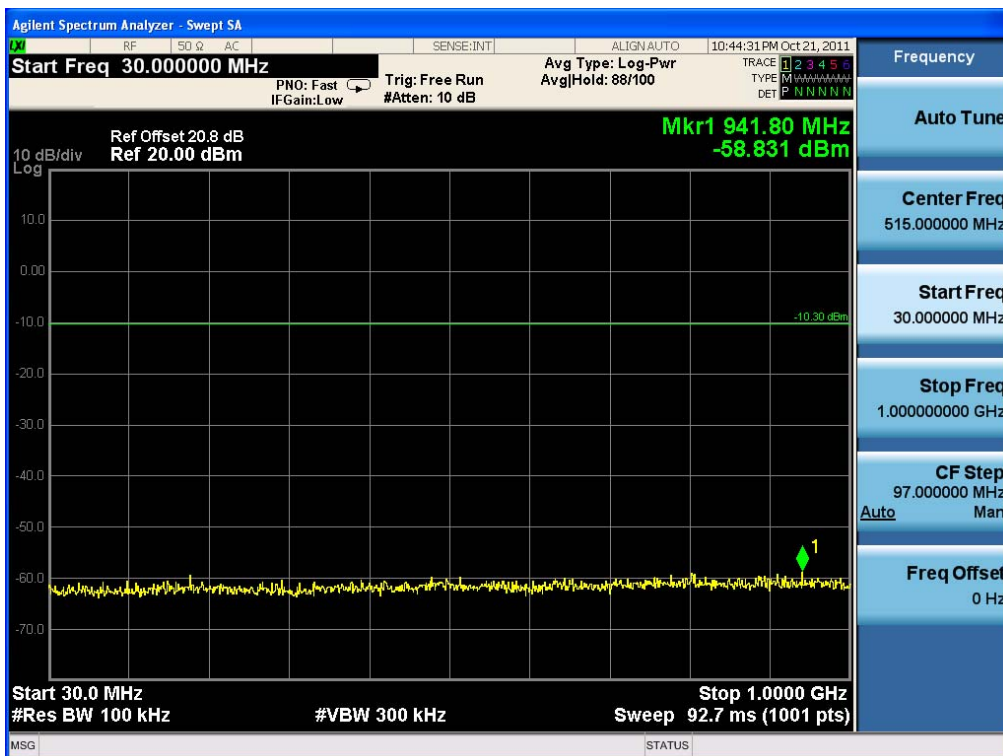


|                                   |                                     |  |  |
|-----------------------------------|-------------------------------------|--|--|
| FCC PT.15.247<br>TEST REPORT      | FCC CERTIFICATION REPORT            |  | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR1110FR12-2 | Date of Issue:<br>November 15, 2011 | EUT Type:<br>850/1900 GSM/GPRS Phone with Bluetooth, WLAN and EDGE Rx Only | FCC ID:<br>A3LGT5830I                            |

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

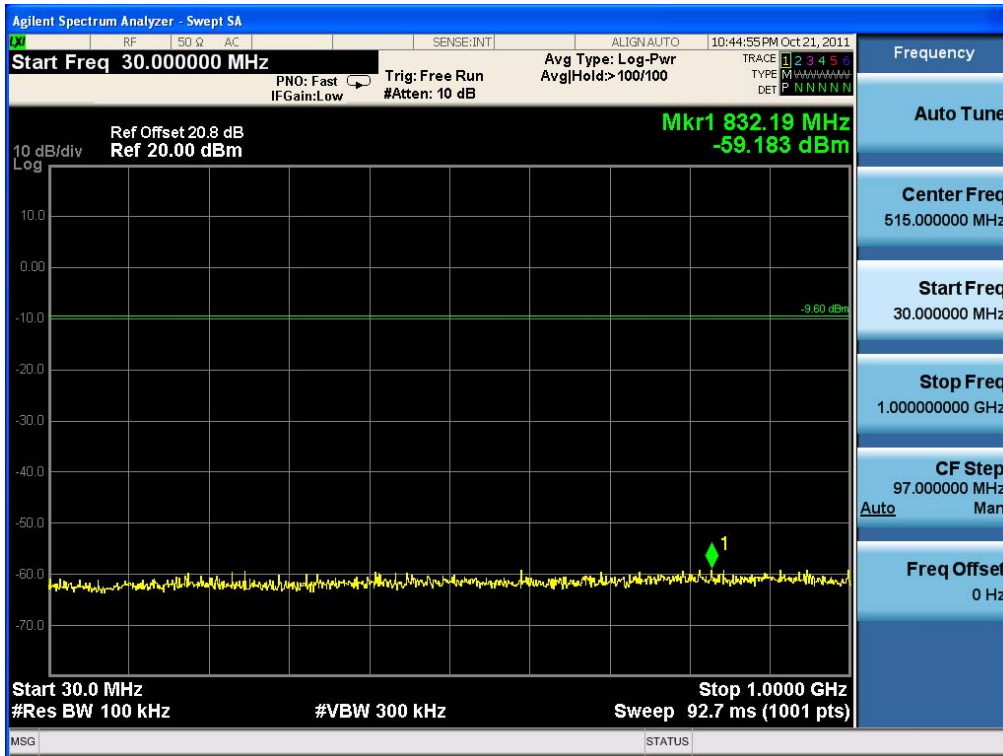


### Conducted Spurious Emission (802.11g-CH11)

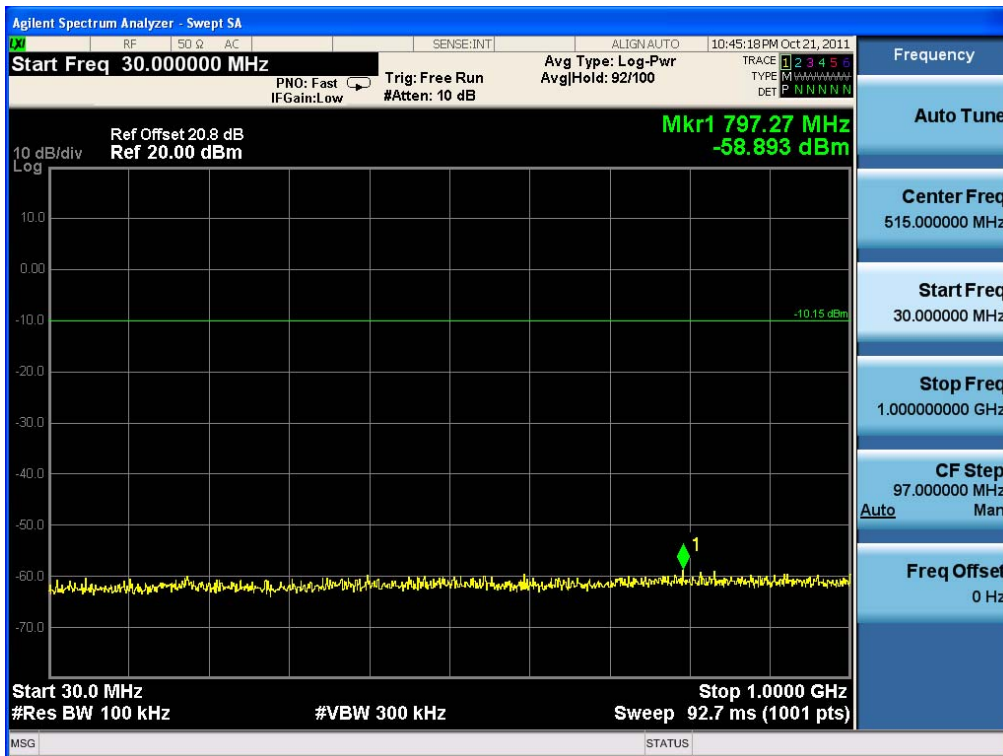


|                                   |                                     |  |  |
|-----------------------------------|-------------------------------------|--|--|
| FCC PT.15.247<br>TEST REPORT      | FCC CERTIFICATION REPORT            |  | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR1110FR12-2 | Date of Issue:<br>November 15, 2011 | EUT Type:<br>850/1900 GSM/GPRS Phone with Bluetooth, WLAN and EDGE Rx Only | FCC ID:<br>A3LGTS5830I                           |

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

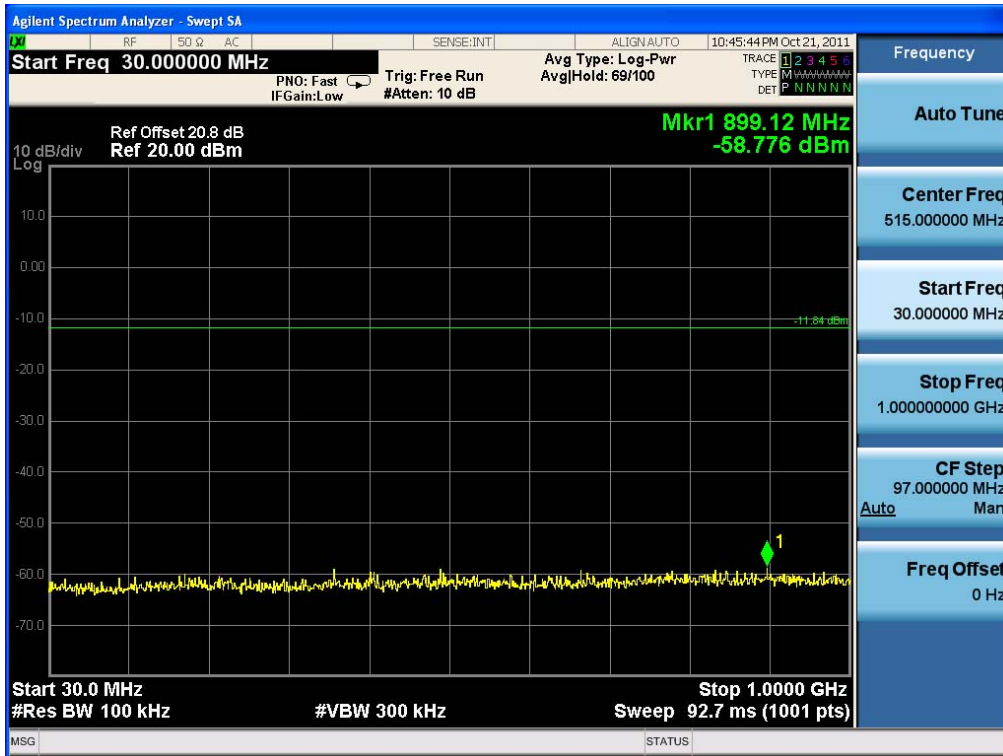


### Conducted Spurious Emission (802.11g-CH11)

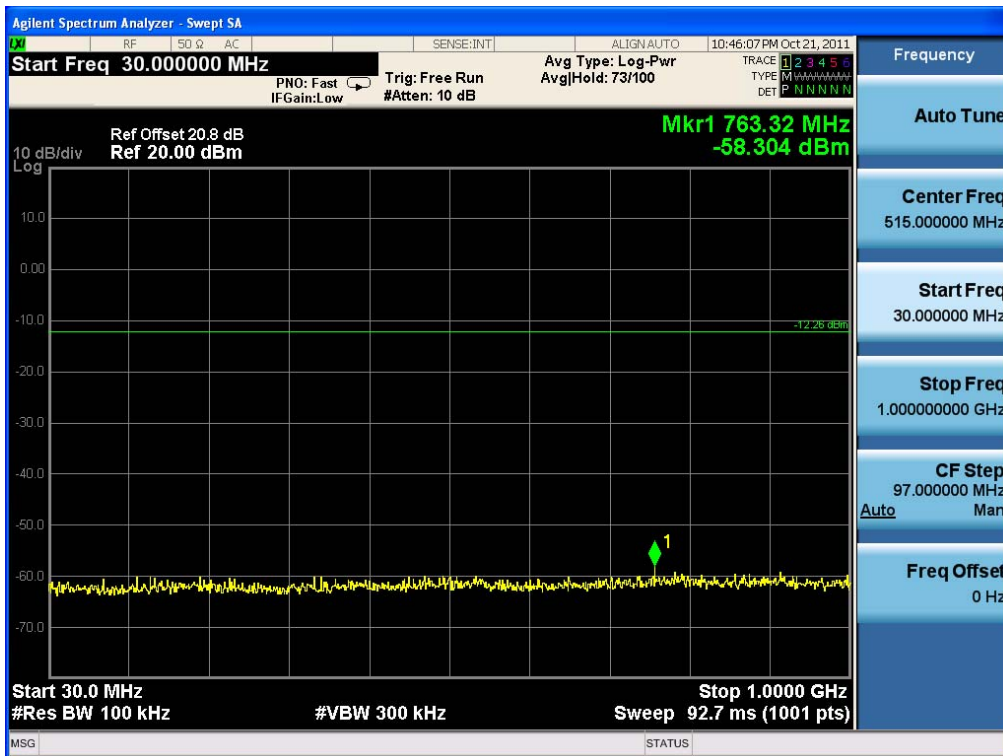


|                                   |                                     |  |  |
|-----------------------------------|-------------------------------------|--|--|
| FCC PT.15.247<br>TEST REPORT      | FCC CERTIFICATION REPORT            |  | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR1110FR12-2 | Date of Issue:<br>November 15, 2011 | EUT Type:<br>850/1900 GSM/GPRS Phone with Bluetooth, WLAN and EDGE Rx Only | FCC ID:<br>A3LGT5830I                            |

### Conducted Spurious Emission (802.11n-CH1)

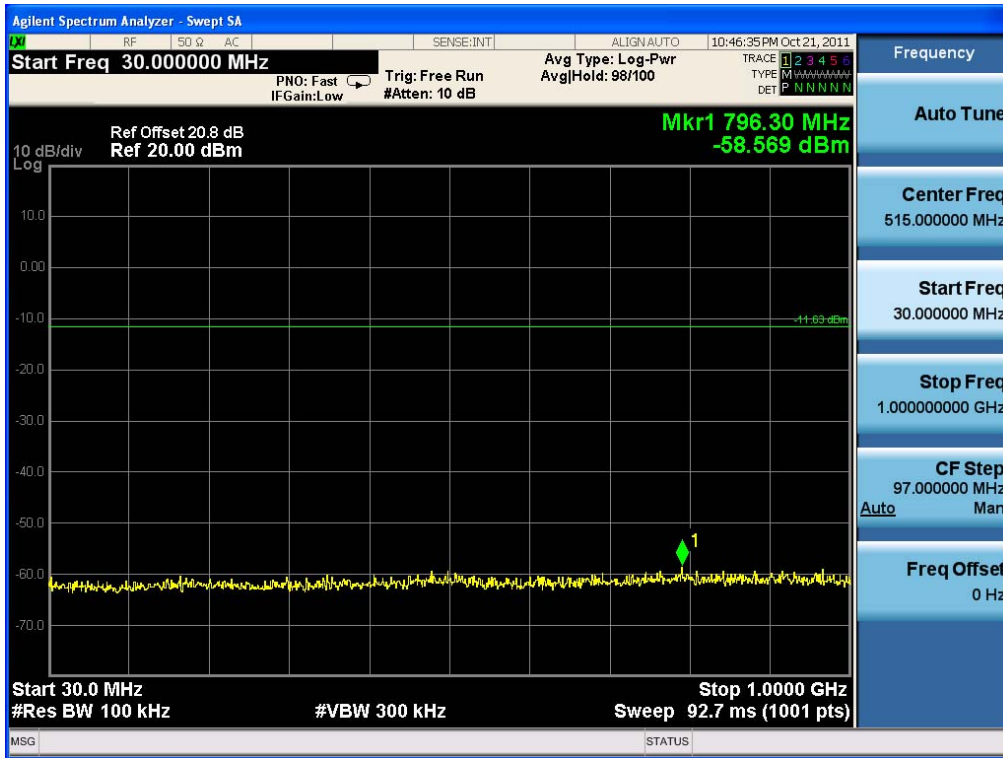


### Conducted Spurious Emission (802.11n-CH6)



|                                   |                                     |  |  |
|-----------------------------------|-------------------------------------|--|--|
| FCC PT.15.247<br>TEST REPORT      | FCC CERTIFICATION REPORT            |  | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR1110FR12-2 | Date of Issue:<br>November 15, 2011 | EUT Type:<br>850/1900 GSM/GPRS Phone with Bluetooth, WLAN and EDGE Rx Only | FCC ID:<br>A3LGT5830I                            |

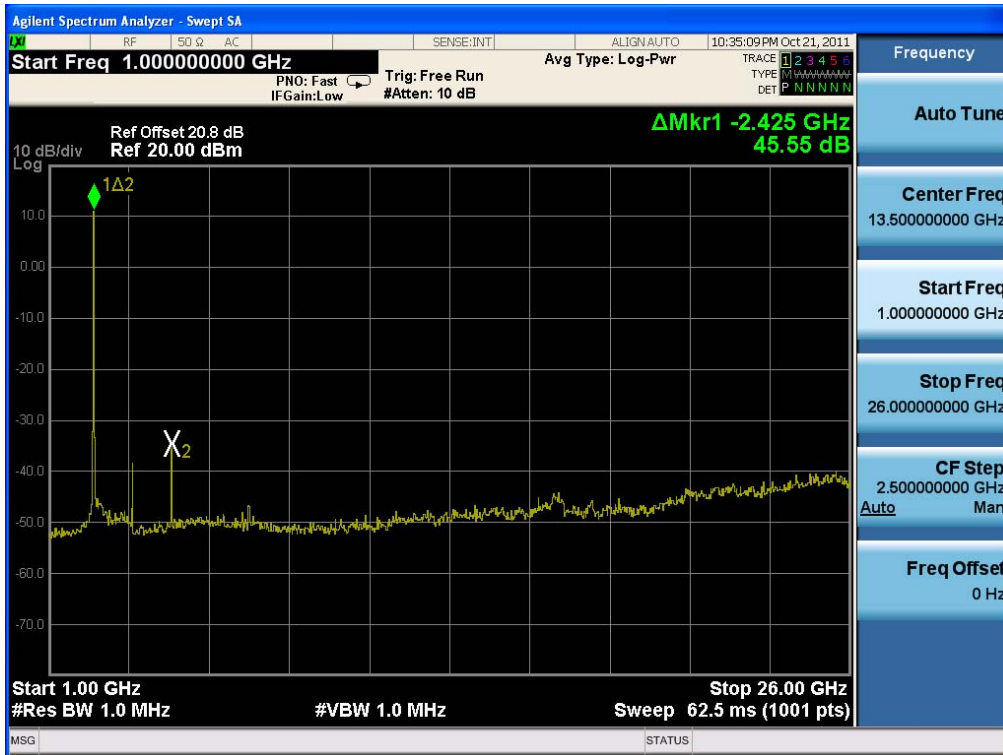
### Conducted Spurious Emission (802.11n-CH11)



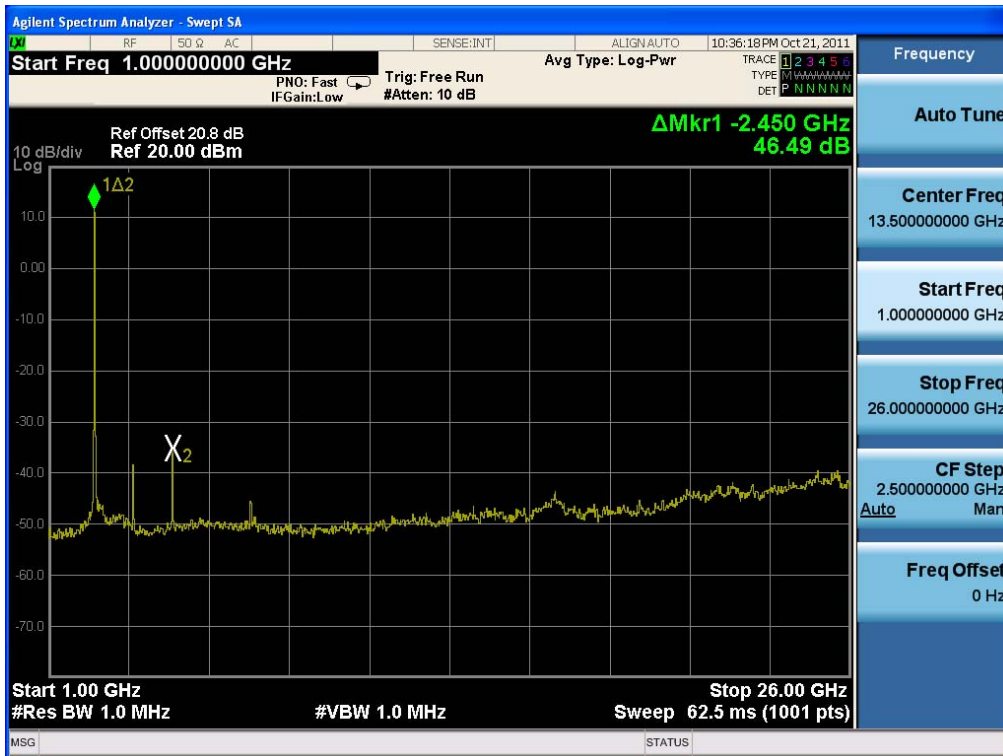
|  |  |   |  |  |
|--|--|---|--|--|
| <b>FCC PT.15.247 TEST REPORT</b>         |  | <b>FCC CERTIFICATION REPORT</b>   |  | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| <b>Test Report No.</b><br>HCTR1110FR12-2 | <b>Date of Issue:</b><br>November 15, 2011 | <b>EUT Type:</b><br>850/1900 GSM/GPRS Phone with Bluetooth, WLAN and EDGE Rx Only |  | <b>FCC ID:</b><br>A3LGT5830I                     |

1 GHz ~ 26 GHz

### Conducted Spurious Emission (802.11b-CH1)

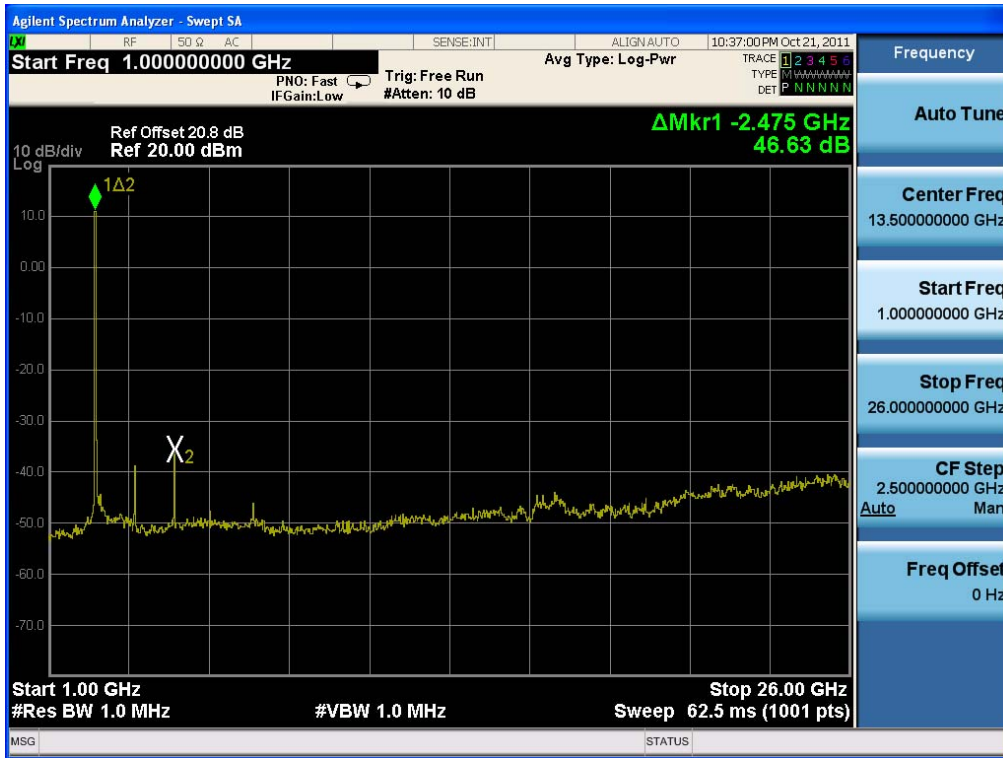


### Conducted Spurious Emission (802.11b-CH6)

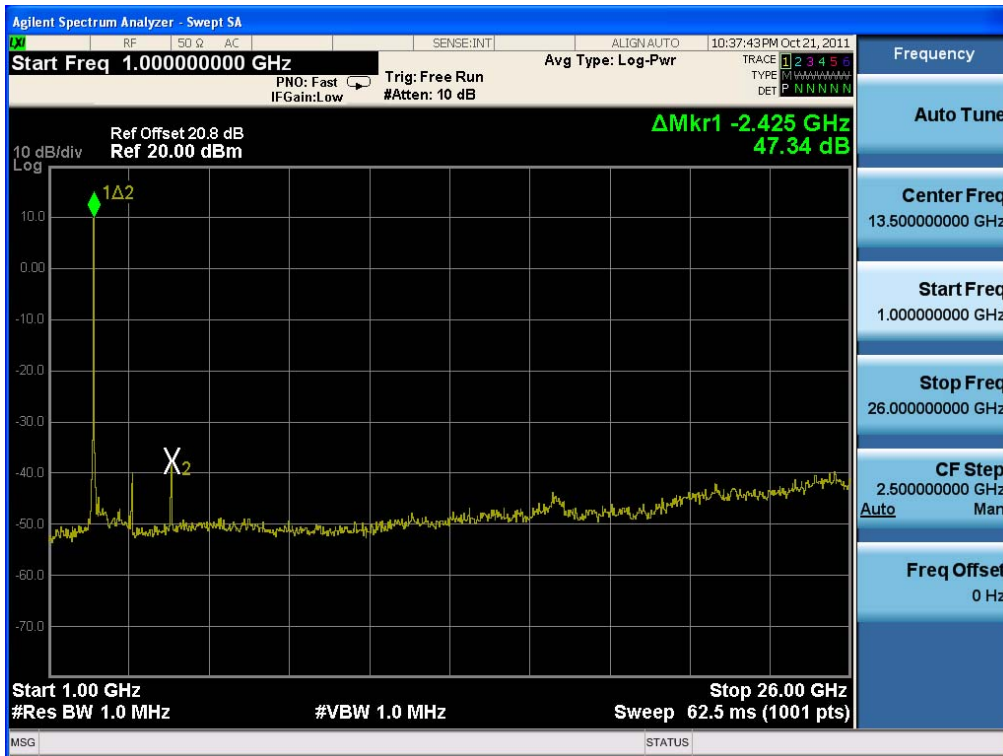


|                                   |                                     |  |  |
|-----------------------------------|-------------------------------------|--|--|
| FCC PT.15.247<br>TEST REPORT      | FCC CERTIFICATION REPORT            |  | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR1110FR12-2 | Date of Issue:<br>November 15, 2011 | EUT Type:<br>850/1900 GSM/GPRS Phone with Bluetooth, WLAN and EDGE Rx Only | FCC ID:<br>A3LGTS5830I                           |

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

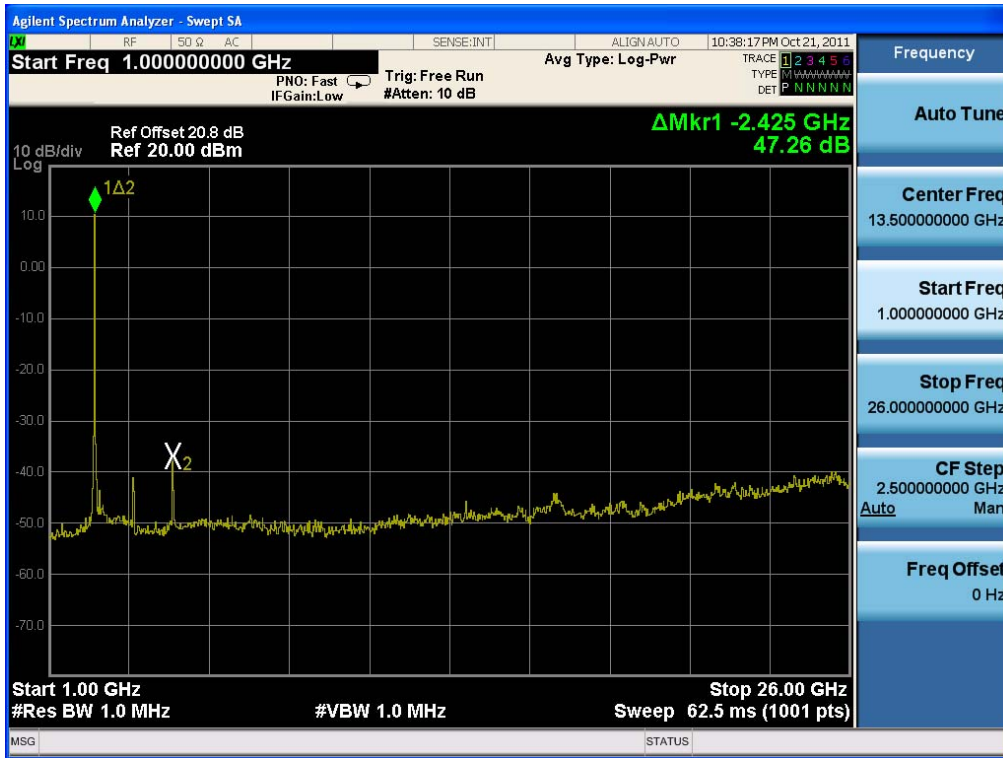


### Conducted Spurious Emission (802.11g-CH1)

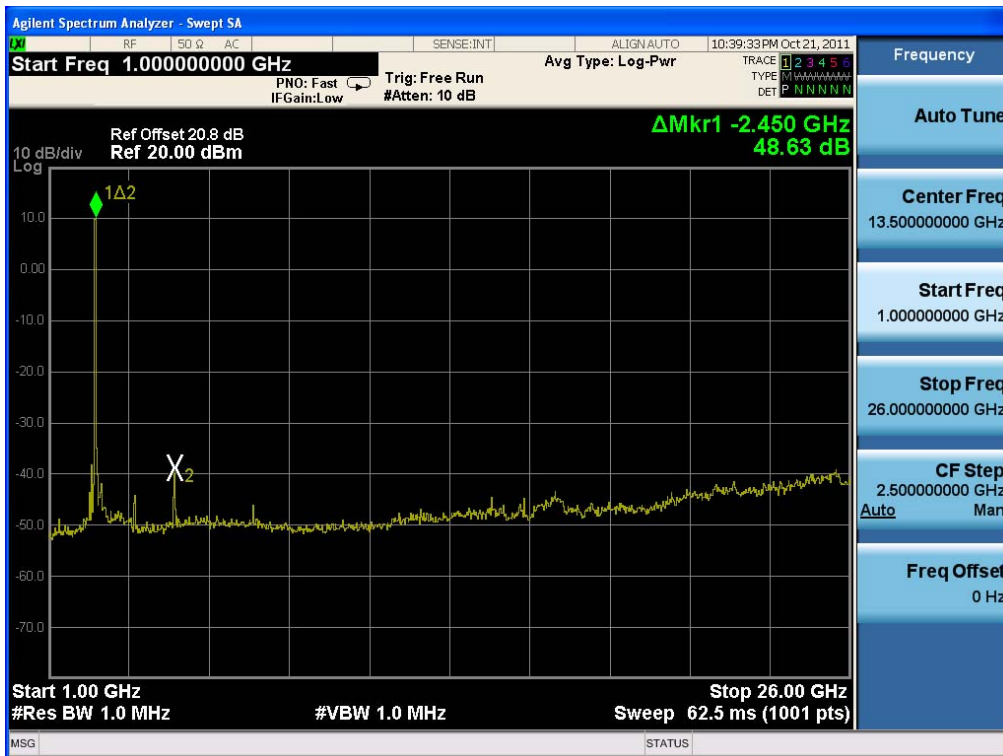


|                                   |                                     |  |  |
|-----------------------------------|-------------------------------------|--|--|
| FCC PT.15.247<br>TEST REPORT      | FCC CERTIFICATION REPORT            |  | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR1110FR12-2 | Date of Issue:<br>November 15, 2011 | EUT Type:<br>850/1900 GSM/GPRS Phone with Bluetooth, WLAN and EDGE Rx Only | FCC ID:<br>A3LGTS5830I                           |

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



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

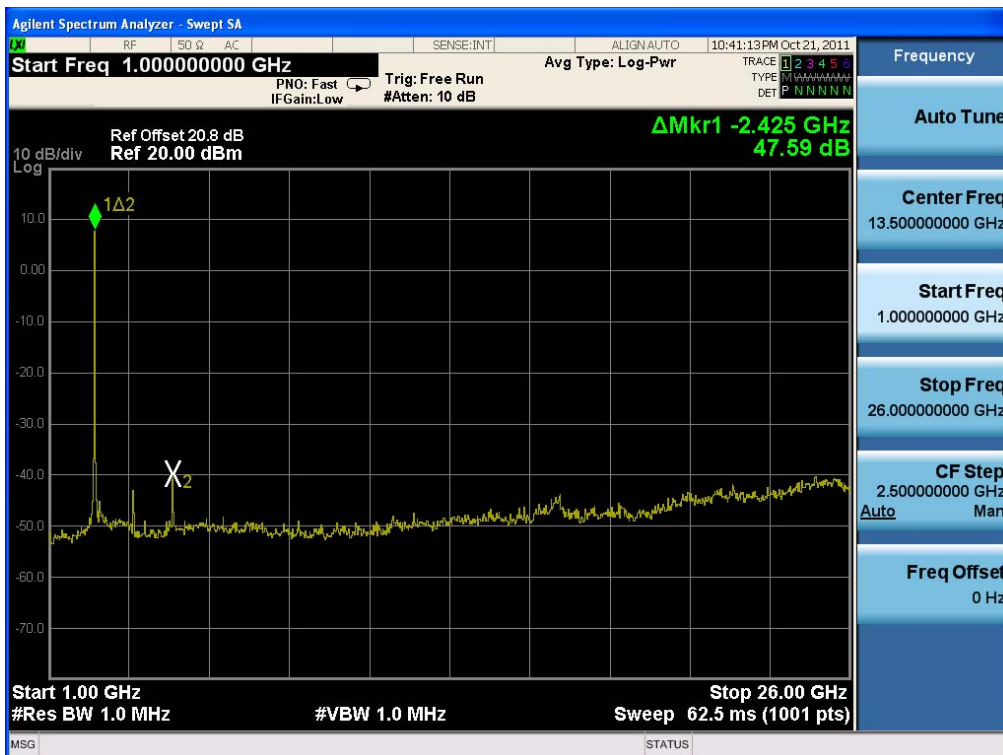


|                                   |                                     |  |  |
|-----------------------------------|-------------------------------------|--|--|
| FCC PT.15.247<br>TEST REPORT      | FCC CERTIFICATION REPORT            |  | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR1110FR12-2 | Date of Issue:<br>November 15, 2011 | EUT Type:<br>850/1900 GSM/GPRS Phone with Bluetooth, WLAN and EDGE Rx Only | FCC ID:<br>A3LGTS5830I                           |

### Conducted Spurious Emission (802.11n-CH1)

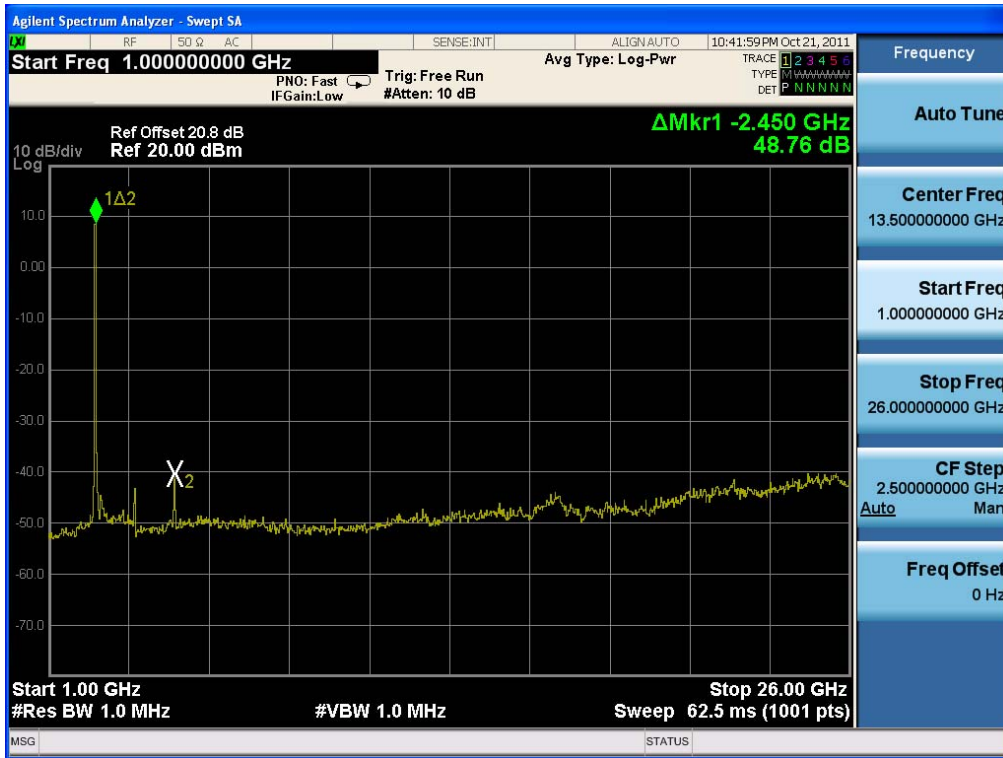


### Conducted Spurious Emission (802.11n-CH6)



|                                   |                                     |  |  |
|-----------------------------------|-------------------------------------|--|--|
| FCC PT.15.247<br>TEST REPORT      | FCC CERTIFICATION REPORT            |  | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR1110FR12-2 | Date of Issue:<br>November 15, 2011 | EUT Type:<br>850/1900 GSM/GPRS Phone with Bluetooth, WLAN and EDGE Rx Only | FCC ID:<br>A3LGTS5830I                           |

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



|                                   |                                     |  |                        |  |
|-----------------------------------|-------------------------------------|--|------------------------|--|
| FCC PT.15.247 TEST REPORT         |                                     | FCC CERTIFICATION REPORT   |                        | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR1110FR12-2 | Date of Issue:<br>November 15, 2011 | EUT Type:<br>850/1900 GSM/GPRS Phone with Bluetooth, WLAN and EDGE Rx Only | FCC ID:<br>A3LGTS5830I |  |

**7.5 RADIATED MEASUREMENT.**

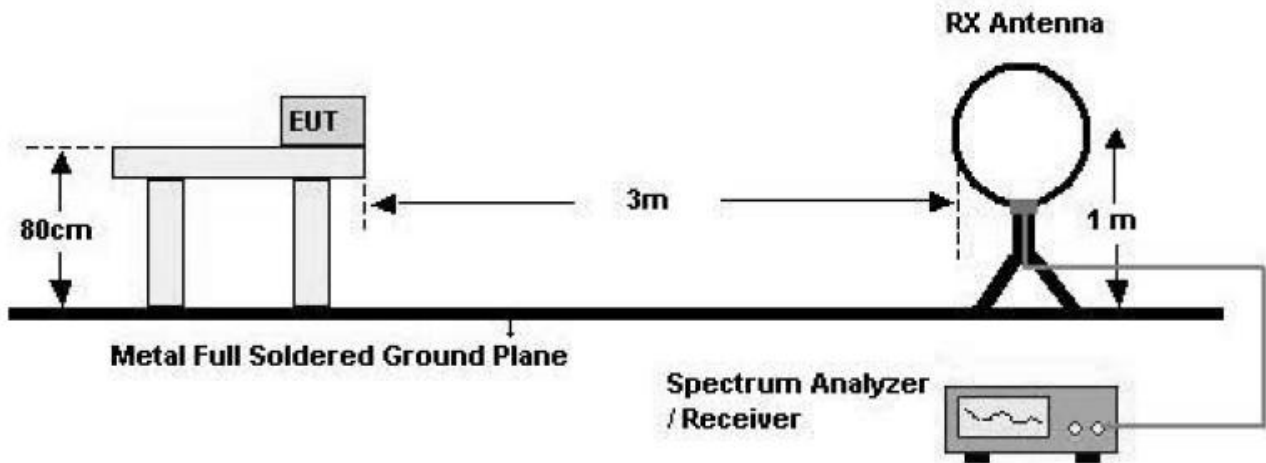
**7.5.1 RADIATED SPURIOUS EMISSIONS.**

Test Requirements and limit, §15.205, §15.209

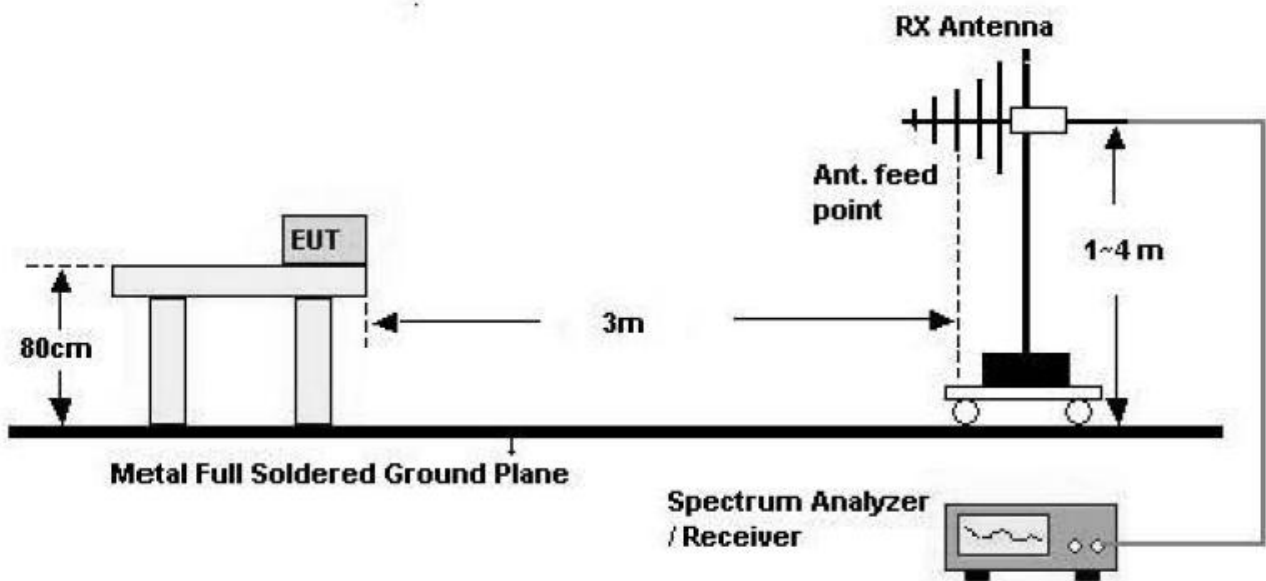
| Frequency (MHz) | Field Strength (uV/m) | Measurement Distance (m) |
|-----------------|-----------------------|--------------------------|
| 0.009 – 0.490   | 2400/F(kHz)           | 300                      |
| 0.490 – 1.705   | 24000/F(kHz)          | 30                       |
| 1.705 – 30    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

## Test Configuration

### Below 30 MHz

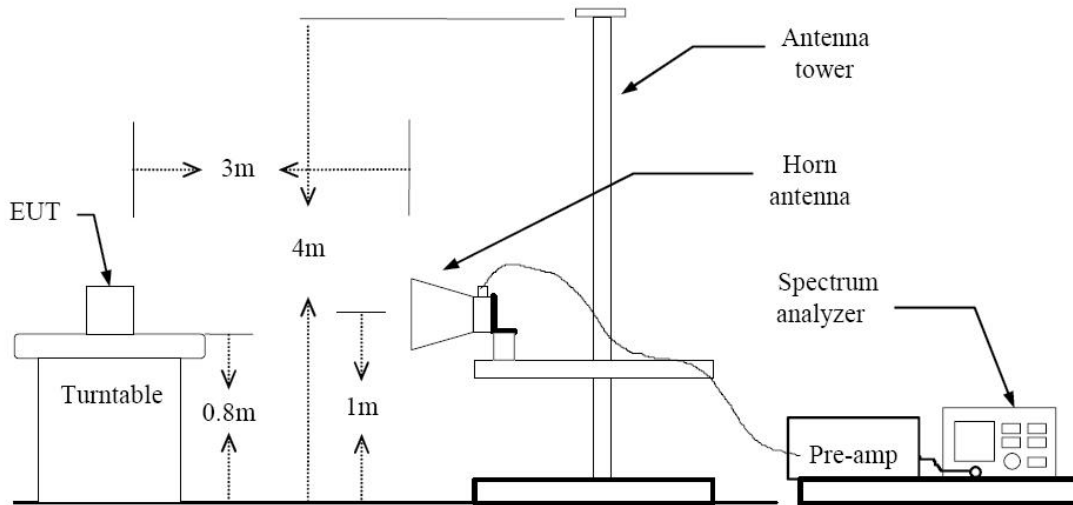


### 30 MHz - 1 GHz



|                                   |                                     |  |  |
|-----------------------------------|-------------------------------------|--|--|
| FCC PT.15.247<br>TEST REPORT      | FCC CERTIFICATION REPORT            |  | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCTR1110FR12-2 | Date of Issue:<br>November 15, 2011 | EUT Type:<br>850/1900 GSM/GPRS Phone with Bluetooth, WLAN and EDGE Rx Only | FCC ID:<br>A3LGT5830I                            |

**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.

|  |  |   |                               |  |
|--|--|---|-------------------------------|--|
| <b>FCC PT.15.247<br/>TEST REPORT</b>     |  | <b>FCC CERTIFICATION REPORT</b>   |                               | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| <b>Test Report No.</b><br>HCTR1110FR12-2 | <b>Date of Issue:</b><br>November 15, 2011 | <b>EUT Type:</b><br>850/1900 GSM/GPRS Phone with Bluetooth, WLAN and EDGE Rx Only | <b>FCC ID:</b><br>A3LGTS5830I |  |



**TEST RESULTS**

**9 kHz – 30MHz**

**Operation Mode:** Normal Mode

| 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     |
| No Critical peaks found |            |             |            |          |              |              |        |

**Notes:**

1. Measuring frequencies from 9 kHz to the 30MHz.
2. The reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
3. Distance extrapolation factor = 40 log (specific distance / test distance) (dB)
4. Limit line = specific Limits (dBuV) + Distance extrapolation factor

|  |  |   |  |
|--|--|---|--|
| <b>FCC PT.15.247<br/>TEST REPORT</b>     | <b>FCC CERTIFICATION REPORT</b>            |   | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| <b>Test Report No.</b><br>HCTR1110FR12-2 | <b>Date of Issue:</b><br>November 15, 2011 | <b>EUT Type:</b><br>850/1900 GSM/GPRS Phone with Bluetooth, WLAN and EDGE Rx Only | <b>FCC ID:</b><br>A3LGTS5830I                    |

**TEST RESULTS**

**Below 1 GHz**

**Operation Mode:** Normal Mode

| 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     |
| No Critical peaks found |            |             |            |          |              |              |        |

**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:      | 1 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               | 58.25           | -3.81                | V                 | 54.44             | 74                | 19.56          | PK     |
| 4824               | 53.62           | -3.81                | V                 | 49.81             | 54                | 4.19           | AV     |
| 7236               | 49.60           | 5.17                 | V                 | 54.77             | 74                | 19.23          | PK     |
| 7236               | 36.55           | 5.17                 | V                 | 41.72             | 54                | 12.28          | AV     |
| 4824               | 57.79           | -3.81                | H                 | 53.98             | 74                | 20.02          | PK     |
| 4824               | 52.28           | -3.81                | H                 | 48.47             | 54                | 5.53           | AV     |
| 7236               | 49.13           | 5.17                 | H                 | 54.30             | 74                | 19.70          | PK     |
| 7236               | 36.49           | 5.17                 | H                 | 41.66             | 54                | 12.34          | 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.
5. We have done 802.11b/g/n mode test. Worst case of EUT is 1 Mbps in 802.11b.

Operation Mode: 802.11 b  
 Transfer Rate: 1 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 |
|-----------------|--------------|-------------------|----------------|----------------|----------------|-------------|--------|
| 4874            | 56.45        | -3.72             | V              | 52.73          | 74             | 21.27       | PK     |
| 4874            | 51.11        | -3.72             | V              | 47.39          | 54             | 6.61        | AV     |
| 7311            | 49.28        | 5.53              | V              | 54.81          | 74             | 19.19       | PK     |
| 7311            | 35.57        | 5.53              | V              | 41.10          | 54             | 12.90       | AV     |
| 4874            | 56.64        | -3.72             | H              | 52.92          | 74             | 21.08       | PK     |
| 4874            | 51.30        | -3.72             | H              | 47.58          | 54             | 6.42        | AV     |
| 7311            | 49.31        | 5.53              | H              | 54.84          | 74             | 19.16       | PK     |
| 7311            | 35.46        | 5.53              | H              | 40.99          | 54             | 13.01       | 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.
5. We have done 802.11b/g/n mode test. Worst case of EUT is 1 Mbps in 802.11b.

Operation Mode: 802.11 b  
 Transfer Rate: 1 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 |
|-----------------|--------------|-------------------|----------------|----------------|----------------|-------------|--------|
| 4924            | 56.70        | -3.58             | V              | 53.12          | 74             | 20.88       | PK     |
| 4924            | 51.77        | -3.58             | V              | 48.19          | 54             | 5.81        | AV     |
| 7386            | 49.71        | 6.15              | V              | 55.86          | 74             | 18.14       | PK     |
| 7386            | 35.76        | 6.15              | V              | 41.91          | 54             | 12.09       | AV     |
| 4924            | 55.58        | -3.58             | H              | 52.00          | 74             | 22.00       | PK     |
| 4924            | 49.28        | -3.58             | H              | 45.70          | 54             | 8.30        | AV     |
| 7386            | 49.65        | 6.15              | H              | 55.80          | 74             | 18.20       | PK     |
| 7386            | 35.71        | 6.15              | H              | 41.86          | 54             | 12.14       | 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.
5. We have done 802.11b/g/n mode test. Worst case of EUT is 1 Mbps in 802.11b.

## 7.5.2 RADIATED RESTRICTED BAND EDGE MEASUREMENTS

### Test Requirements and limit, §15.247(d) §15.205, §15.209

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:      | 6 Mbps             |
| Operating Frequency | 2412 MHz, 2462 MHz |
| Channel No.         | 01 Ch, 11 Ch       |

| Frequency [MHz] | Reading [dBuV] | AN.+CL [dB] | ANT. POL [H/V] | Total [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Detect |
|-----------------|----------------|-------------|----------------|----------------|----------------|-------------|--------|
| 2390.0          | 30.68          | 33.25       | H              | 63.93          | 74             | 10.07       | PK     |
| 2390.0          | 14.03          | 33.25       | H              | 47.28          | 54             | 6.72        | AV     |
| 2390.0          | 28.66          | 33.25       | V              | 61.91          | 74             | 12.09       | PK     |
| 2390.0          | 13.64          | 33.25       | V              | 46.89          | 54             | 7.11        | AV     |
| 2483.5          | 37.33          | 33.73       | H              | 71.06          | 74             | 2.94        | PK     |
| 2483.5          | 17.36          | 33.73       | H              | 51.09          | 54             | 2.91        | AV     |
| 2483.5          | 36.01          | 33.73       | V              | 69.74          | 74             | 4.26        | PK     |
| 2483.5          | 17.04          | 33.73       | V              | 50.77          | 54             | 3.23        | 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.
2. Radiated Restricted Band Edge measures by marker-delta method according to FCC guideline.
3. We have done 802.11b/g/n mode test. Worst case of EUT is 6 Mbps in 802.11g.

## 7.6 POWERLINE CONDUCTED EMISSIONS

### Test Requirements and limit, §15.207

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

Conducted Emissions (Line 1)

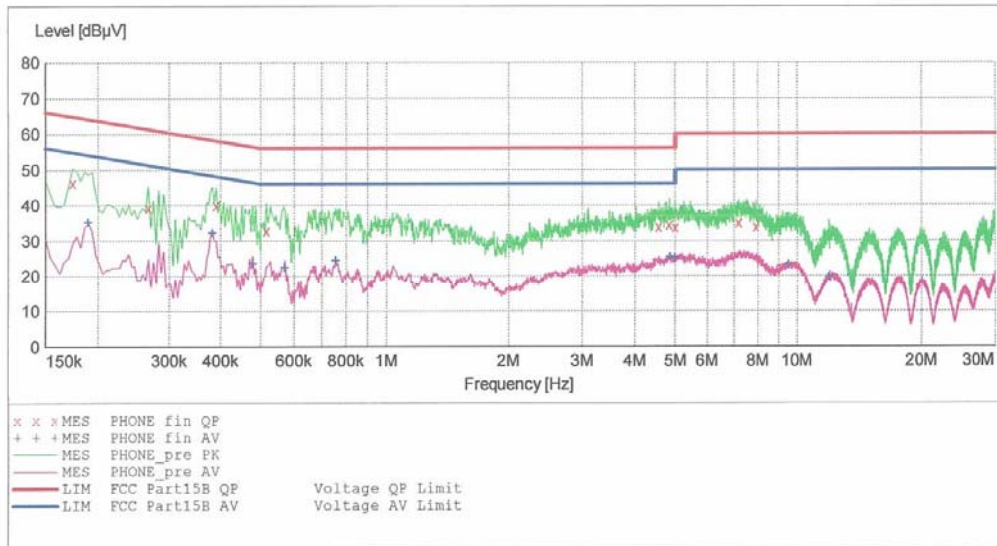
HCT

EMC

EUT: GT-S5830i  
 Manufacturer: SAMSUNG  
 Operating Condition: WLAN MODE  
 Test Site: SHIELD ROOM  
 Operator: JS LEE  
 Test Specification: FCC PART15 CLASS C  
 Comment: N

SCAN TABLE: "FCC PART 15 B(N)"

| Short Description: |           | FCC PART 15 CLASS B |          |            |           |            |  |
|--------------------|-----------|---------------------|----------|------------|-----------|------------|--|
| Start              | Stop      | Step                | 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"

| Frequency MHz | Level dBµV | Transd dB | Limit dBµV | Margin dB | Line | PE  |
|---------------|------------|-----------|------------|-----------|------|-----|
| 0.174010      | 46.20      | 10.3      | 65         | 18.6      | ---  | --- |
| 0.266010      | 39.20      | 10.3      | 61         | 22.0      | ---  | --- |
| 0.390010      | 40.00      | 10.3      | 58         | 18.0      | ---  | --- |
| 0.516000      | 33.00      | 10.3      | 56         | 23.0      | ---  | --- |
| 4.560000      | 33.90      | 10.7      | 56         | 22.1      | ---  | --- |
| 4.844000      | 34.50      | 10.7      | 56         | 21.5      | ---  | --- |
| 5.008000      | 33.70      | 10.7      | 60         | 26.3      | ---  | --- |
| 7.192000      | 35.00      | 11.0      | 60         | 25.0      | ---  | --- |
| 7.912000      | 33.90      | 11.0      | 60         | 26.1      | ---  | --- |

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

10/25/2011 3:33PM

| Frequency<br>MHz | Level<br>dBuV | Transd<br>dB | Limit<br>dBuV | Margin<br>dB | Line | PE  |
|------------------|---------------|--------------|---------------|--------------|------|-----|
| 0.190010         | 35.10         | 10.3         | 54            | 18.9         | ---  | --- |
| 0.382010         | 32.20         | 10.3         | 48            | 16.0         | ---  | --- |
| 0.478010         | 23.60         | 10.3         | 46            | 22.7         | ---  | --- |
| 0.572000         | 22.40         | 10.3         | 46            | 23.6         | ---  | --- |
| 0.756000         | 24.40         | 10.4         | 46            | 21.6         | ---  | --- |
| 4.868000         | 25.40         | 10.7         | 46            | 20.6         | ---  | --- |
| 5.000000         | 25.10         | 10.7         | 46            | 20.9         | ---  | --- |
| 9.552000         | 23.30         | 11.0         | 50            | 26.7         | ---  | --- |
| 12.032000        | 19.80         | 11.2         | 50            | 30.2         | ---  | --- |

|  |  |   |  |
|--|--|---|--|
| <b>FCC PT.15.247<br/>TEST REPORT</b>     | <b>FCC CERTIFICATION REPORT</b>            |   | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| <b>Test Report No.</b><br>HCTR1110FR12-2 | <b>Date of Issue:</b><br>November 15, 2011 | <b>EUT Type:</b><br>850/1900 GSM/GPRS Phone with Bluetooth, WLAN and EDGE Rx Only | <b>FCC ID:</b><br>A3LGTS5830I                    |

## Conducted Emissions (Line 2)

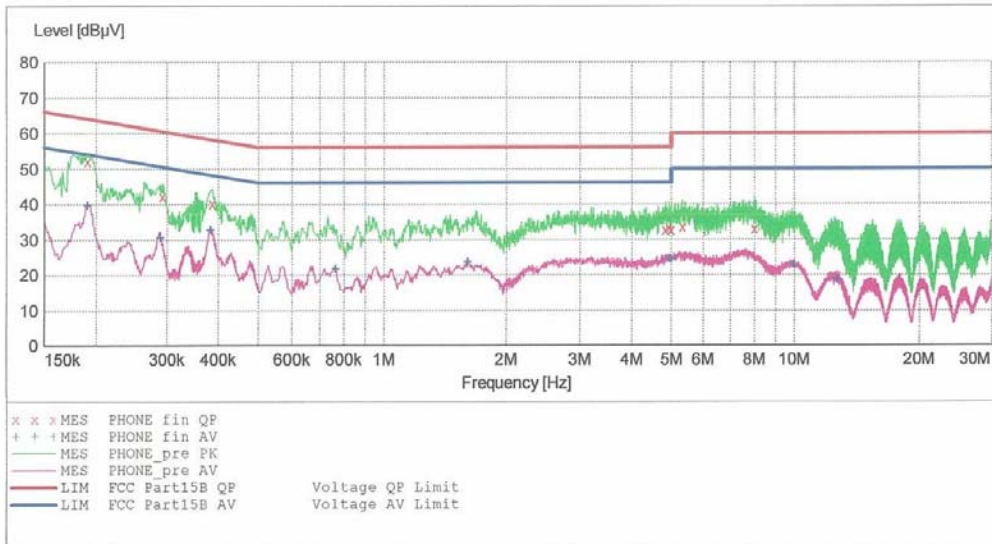
HCT

EMC

EUT: GT-S5830i  
 Manufacturer: SAMSUNG  
 Operating Condition: WLAN MODE  
 Test Site: SHIELD ROOM  
 Operator: JS LEE  
 Test Specification: FCC PART15 CLASS C  
 Comment: H

**SCAN TABLE: "FCC PART 15 B(H)"**

| Short Description: |           |         | FCC PART 15 CLASS B |            |           |            |
|--------------------|-----------|---------|---------------------|------------|-----------|------------|
| Start              | Stop      | Step    | Detector            | Meas. Time | IF Bandw. | Transducer |
| 150.0 kHz          | 500.0 kHz | 1.0 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"**

10/25/2011 3:30PM

| Frequency MHz | Level dBµV | Transd dB | Limit dBµV | Margin dB | Line | PE  |
|---------------|------------|-----------|------------|-----------|------|-----|
| 0.191010      | 52.10      | 10.1      | 64         | 11.9      | ---  | --- |
| 0.292010      | 42.20      | 10.1      | 61         | 18.3      | ---  | --- |
| 0.387010      | 40.20      | 10.1      | 58         | 17.9      | ---  | --- |
| 4.840000      | 32.80      | 10.5      | 56         | 23.2      | ---  | --- |
| 4.940000      | 33.40      | 10.5      | 56         | 22.6      | ---  | --- |
| 4.996000      | 32.80      | 10.5      | 56         | 23.2      | ---  | --- |
| 5.000000      | 32.80      | 10.5      | 56         | 23.2      | ---  | --- |
| 5.336000      | 33.60      | 10.6      | 60         | 26.4      | ---  | --- |
| 8.036000      | 33.10      | 10.8      | 60         | 26.9      | ---  | --- |

|  |  |   |  |
|--|--|---|--|
| <b>FCC PT.15.247 TEST REPORT</b>         | <b>FCC CERTIFICATION REPORT</b>            |   | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| <b>Test Report No.</b><br>HCTR1110FR12-2 | <b>Date of Issue:</b><br>November 15, 2011 | <b>EUT Type:</b><br>850/1900 GSM/GPRS Phone with Bluetooth, WLAN and EDGE Rx Only | <b>FCC ID:</b><br>A3LGTS5830I                    |

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

10/25/2011 3:30PM

| Frequency<br>MHz | Level<br>dBuV | Transd<br>dB | Limit<br>dBuV | Margin<br>dB | Line | PE  |
|------------------|---------------|--------------|---------------|--------------|------|-----|
| 0.191010         | 39.60         | 10.1         | 54            | 14.4         | ---  | --- |
| 0.288010         | 30.60         | 10.1         | 51            | 20.0         | ---  | --- |
| 0.383010         | 32.80         | 10.1         | 48            | 15.4         | ---  | --- |
| 0.764000         | 21.70         | 10.1         | 46            | 24.3         | ---  | --- |
| 1.612000         | 23.70         | 10.2         | 46            | 22.3         | ---  | --- |
| 4.952000         | 24.60         | 10.5         | 46            | 21.4         | ---  | --- |
| 5.000000         | 24.40         | 10.5         | 46            | 21.6         | ---  | --- |
| 10.012000        | 23.00         | 10.9         | 50            | 27.0         | ---  | --- |
| 12.708000        | 18.80         | 11.2         | 50            | 31.2         | ---  | --- |

|  |  |   |  |
|--|--|---|--|
| <b>FCC PT.15.247<br/>TEST REPORT</b>     | <b>FCC CERTIFICATION REPORT</b>            |   | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| <b>Test Report No.</b><br>HCTR1110FR12-2 | <b>Date of Issue:</b><br>November 15, 2011 | <b>EUT Type:</b><br>850/1900 GSM/GPRS Phone with Bluetooth, WLAN and EDGE Rx Only | <b>FCC ID:</b><br>A3LGTS5830I                    |

## 8. LIST OF TEST EQUIPMENT

| Manufacturer          | Model / Equipment                                      | Calibration Interval | Calibration Due | Serial No.         |
|-----------------------|--|----------------------|-----------------|--------------------|
| Rohde & Schwarz       | ESH2-Z5/ LISN  | Annual               | 02/01/2012      | 861741/013         |
| Schwarzbeck           | VULB 9168/ TRILOG Antenna                              | Biennial             | 02/09/2013      | 200                |
| Rohde & Schwarz       | ESI 40 / EMI TEST RECEIVER                             | Annual               | 05/26/2012      | 831564103          |
| Agilent               | E4440A/ Spectrum Analyzer                              | Annual               | 05/02/2012      | US45303008         |
| Agilent               | N9020A/ SIGNAL ANALYZER                                | Annual               | 09/23/2012      | MY51110020         |
| 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               | 08/01/2012      | 375.8810.352       |
| Rohde & Schwarz       | SCU-18/ Signal Conditioning Unit                       | Annual               | 09/19/2012      | 10094              |
| MITEQ                 | AFS44-00102650-42-10P-44-PS/ POWER AMP                 | Annual               | 09/23/2012      | 1532439            |
| Schwarzbeck           | BBHA 9120D/ Horn Antenna                               | Biennial             | 04/13/2012      | 147                |
| Rohde & Schwarz       | FSP / Spectrum Analyzer                                | Annual               | 03/23/2012      | 839117/011         |
| Agilent               | E4440A / Spectrum Analyzer                             | Annual               | 05/02/2012      | US45303008         |
| Agilent               | E4416A /Power Meter                                    | Annual               | 01/04/2012      | GB41291412         |
| Agilent               | E9327A /POWER SENSOR                                   | Annual               | 05/02/2012      | MY4442009          |
| Wainwright Instrument | WHF3.3/18G-10EF / High Pass Filter                     | Annual               | 05/02/2012      | 1                  |
| Wainwright Instrument | WRCJ2400/2483.5-2370/2520-60/14SS / Band Reject Filter | Annual               | 05/02/2012      | 1                  |
| Hewlett Packard       | 11636B/Power Divider                                   | Annual               | 12/29/2011      | 11377              |
| Hewlett Packard       | 11667B / Power Splitter                                | Annual               | 11/04/2012      | 10126              |
| DIGITAL               | EP-3010 /DC POWER SUPPLY                               | Annual               | 01/04/2012      | 3110117            |
| ITECH                 | IT6720 / DC POWER SUPPLY                               | Annual               | 12/01/2011      | 010002156287001199 |
| TESCOM                | TC-3000C / BLUETOOTH TESTER                            | Annual               | 04/01/2012      | 3000C000276        |
| Rohde & Schwarz       | CBT / BLUETOOTH TESTER                                 | Annual               | 05/02/2012      | 100422             |
| EMCO                  | 6502.LOOP ANTENNA                                      | Biennial             | 01/13/2012      | 9009-2536          |