

## **Radiated Restricted Band Measurements**

§15.205 / §15.209

Special attention is made for the EUT's harmonic and spurious radiated emission in the restricted bands of operations. The EUT was tested from 9kHz and up to the tenth harmonic of the fundamental frequency of the transmitter using CISPR quasi peak detector below 1GHz. Above 1 GHz, average measurement was used, using RBW 1MHz – VBW 10Hz and linearly polarized horn antennas. All harmonics/spurs are at least 20dB below the highest emission in the authorized band using RBW = 100kHz. In addition, peak measurements were taken to ensure that the peak levels are not more than 20dB above the average limit. All out of band emissions, other than those created by the spreading sequence, data sequence, and the carrier modulation must not exceed the limits show in Table G-1 per Section 15.209.

| Frequency         | F/S (μV/m)    | Measured Distance (Meters) |
|-------------------|---------------|----------------------------|
| 0.009 – 0.490 MHz | 2400/F (kHz)  | 300                        |
| 0.490 – 1.705 MHz | 24000/F (kHz) | 30                         |
| 1.705 – 30.00 MHz | 30            | 30                         |
| 30.00 – 88.00 MHz | 100           | 3                          |
| 88.00 – 216.0 MHz | 150           | 3                          |
| 216.0 – 960.0 MHz | 200           | 3                          |
| Above 960.0 MHz   | 500           | 3                          |

**Table A-1. Restricted Band Limits**

### **TEST MEASUREMENT EQUIPMENT**

|                  |                                              |
|------------------|----------------------------------------------|
| Agilent E4448A   | PSA Spectrum Analyzer 3 Hz - 50GHz           |
| HP 8566B         | Spectrum Analyzer 100Hz – 22GHz              |
| HP 83017A        | Microwave Analyzer 40dB Gain (0.5 – 26.5GHz) |
| HP 3784A         | Digital Transmission Analyzer                |
| EMCO 3115        | Horn Antenna (1 – 18GHz)                     |
| HP 8495A         | 20dB Attenuator (DC-40GHz) 0 –70dB           |
| HP 8493B         | 10dB Attenuator                              |
| MicroCoax Cables | Low Loss Microwave Cables (1 – 26.5GHz)      |
| CDI Dipoles      | Dipole Antennas (30 – 1000MHz)               |
| EMCO 3116        | Horn Antenna (18 – 40GHz)                    |

|                                         |                                                                                     |                                                                    |                                                                                       |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| <b>PCTEST LAB TEST REPORT</b><br>15.247 |  | <b>FCC SUPPLEMENTAL REPORT</b>                                     |  | Reviewed by:<br>Quality Manager |
| <b>Filename:</b><br>0504140282          | <b>Test Dates:</b><br>April 26, 2005                                                | <b>EUT Type:</b> Samsung Single-Band PCS GSM<br>Phone w/ Bluetooth | <b>FCC ID:</b><br>A3LSGHE730                                                          | Page 1 of 3                     |

## Radiated Restricted Band Measurements (Cont.)

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Operating Frequency: 2480 MHz  
Number of Channels: 79

| FREQ<br>(MHz) | Level<br>(dBm) | AFCL<br>(dB/m) | POL<br>(H/V) | F/S<br>(dB $\mu$ V/m) | F/S<br>( $\mu$ V/M) | Margin<br>(dB) |
|---------------|----------------|----------------|--------------|-----------------------|---------------------|----------------|
| 2483.8        | -95.6          | 33.0           | V            | 44.4                  | 166.0               | -9.6           |
| 2484.7        | -100.0         | 33.0           | V            | 40.0                  | 100.0               | -14.0          |
| 2485.0        | -104.7         | 33.1           | V            | 35.4                  | 58.9                | -18.6          |
| 2485.5        | -111.0         | 33.1           | V            | 29.1                  | 28.5                | -24.9          |
| 2490.4        | -114.5         | 33.2           | V            | 25.7                  | 19.3                | -28.3          |
| 2490.8        | -105.3         | 33.2           | V            | 34.9                  | 55.6                | -23.1          |

**Table A-2. Radiated Restricted Band Measurements at 3-meters**

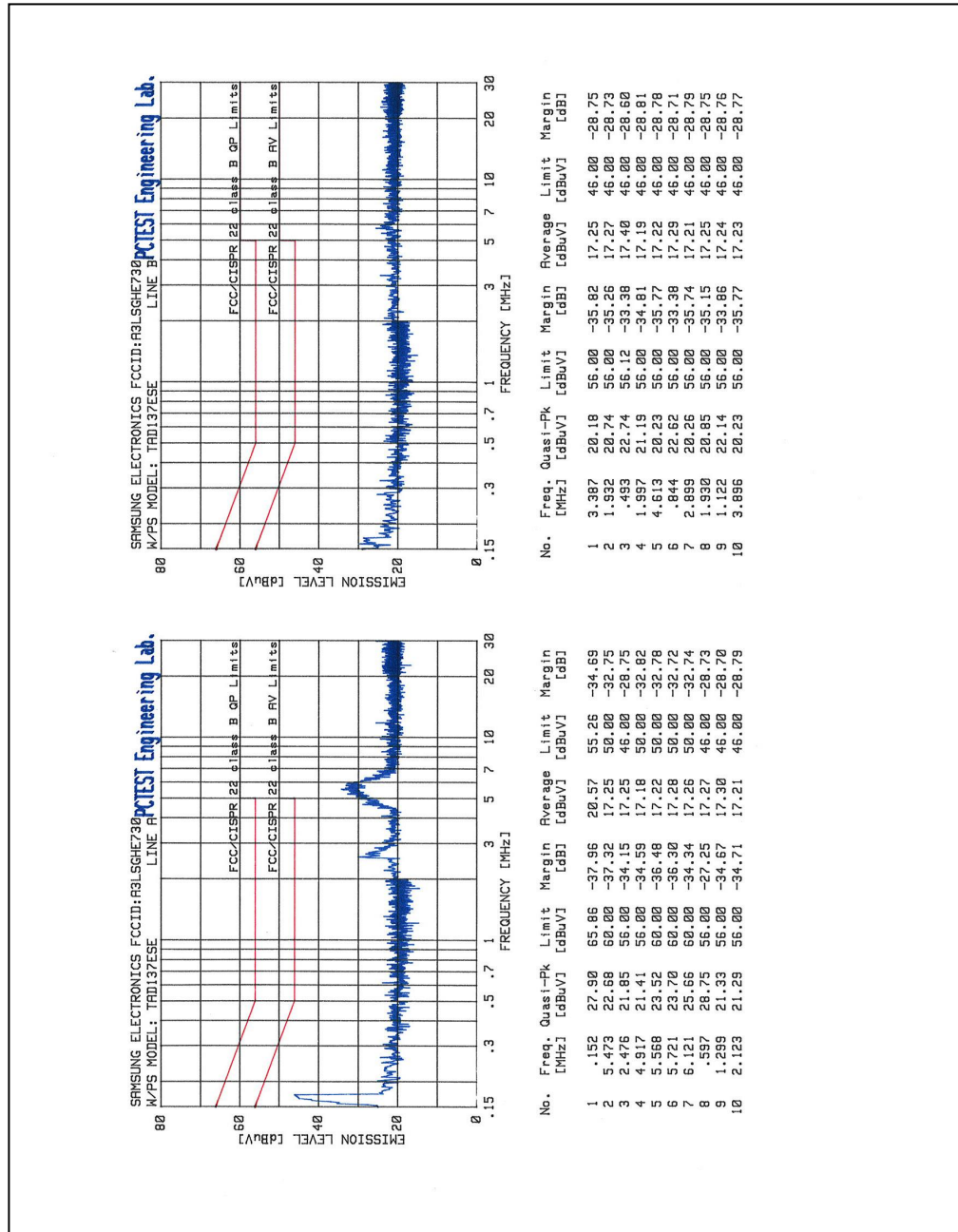
### NOTES:

1. The antenna is manipulated through typical positions, polarity and length during the testing.
2. The EUT is supplied with the minimal AC voltage or/and a new/fully re-charged battery.
3. The spectrum is measured from 9kHz up to the 10<sup>th</sup> harmonic and the worst-case emissions are reported.
4. The conducted limits are shown on Figure A-14. Above 1 GHz the limit is 500 $\mu$ V/m.
5. < -135 dBm is below the analyzer measurement floor level.
6. The peak emissions above 1 GHz are not more than 20 dB above average limit.

|                                         |                                                                                     |                                                                    |                                                                                       |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
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## Line-Conducted Test Data

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### Notes:

- All Modes of operation were investigated and the worst-case emissions are reported.
- The limit for Class B device(s) from 150kHz to 30MHz are Specified in EN55022.
- Line A = Phase; Line B = Neutral
- Deviations to the Specifications: *None.*

|                                  |                                                                                     |                                                             |                       |                                                                                       |                                 |
|----------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------|-----------------------|---------------------------------------------------------------------------------------|---------------------------------|
| PCTEST LAB TEST REPORT<br>15.247 |  | FCC SUPPLEMENTAL REPORT                                     |                       |  | Reviewed by:<br>Quality Manager |
| Filename:<br>0504140282          | Test Dates:<br>April 26, 2005                                                       | EUT Type: Samsung Single-Band PCS GSM<br>Phone w/ Bluetooth | FCC ID:<br>A3LSGHE730 | Page 3 of 3                                                                           |                                 |