



**RADIATED SPURIOUS EMISSIONS PORTIONS OF**

**FCC CFR47 PART 22 SUBPART H  
FCC CFR47 PART 24 SUBPART E  
INDUSTRY CANADA RSS-132 ISSUE 2  
INDUSTRY CANADA RSS-133 ISSUE 5**

**CERTIFICATION TEST REPORT**

**FOR**

**CDMA1x 850MHz/1900MHz MPERs BELT CLIP**

**MODEL: LC130**

**FCC ID: ZQR-LC130**

**REPORT NUMBER: 11U14009-1, Revision A**

**ISSUE DATE: OCTOBER 18, 2011**

*Prepared for*

**LIFECOMM, LLC  
2002 SUMMIT BLVD SUITE 1800  
ATLANTA, GEORGIA 30319, USA**

*Prepared by*

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**NVLAP LAB CODE 200065-0**

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Revision History

| <u>Rev.</u> | <u>Issue<br/>Date</u> | <u>Revisions</u>  | <u>Revised By</u> |
|-------------|-----------------------|---|-------------------|
| ---         | 10/10/11              | Initial Issue   | T. Chan           |
| A           | 10/18/11              | Updated ERP and EIRP Test Results Based On<br>Average Reading | Chin Pang         |

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## 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** Lifecomm, LLC  
2002 Summit Blvd Suite 1800  
Atlanta, Georgia 30319, USA

**EUT DESCRIPTION:** CDMA1x 850MHz/1900MHz MPERs BELT CLIP

**MODEL:** LC-130

**SERIAL NUMBER:** module 4

**DATE TESTED:** SEPTEMBER 28-29 and OCTOBER 03, 2011

| APPLICABLE STANDARDS                 |                         |
|--------------------------------------|-------------------------|
| STANDARD                             | TEST RESULTS            |
| FCC PART 22H & 24E                   | PASS (Radiated Portion) |
| IC RSS-132 ISSUE 2 & RSS-133 ISSUE 5 | PASS (Radiated Portion) |

Compliance Certification Services, Inc. (UL CCS) tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL CCS based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

**Note:** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL CCS and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL CCS will constitute fraud and shall nullify the document. No part of this report may be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any government agency.

Approved & Released For UL CCS By:

Tested By:



THU CHAN  
ENGINEERING MANAGER  
UL CCS

CHIN PANG  
EMC ENGINEER  
UL CCS

## 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with TIA-603-C, FCC CFR 47 Part 2, FCC CFR 47 Part 22, FCC CFR Part 24, RSS-132 Issue 2, and RSS-133 Issue 5.

## 3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA.

UL CCS is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <http://www.ccsemc.com>.

## 4. CALIBRATION AND UNCERTAINTY

### 4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

### 4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

$$\text{Field Strength (dBuV/m)} = \text{Measured Voltage (dBuV)} + \text{Antenna Factor (dB/m)} + \text{Cable Loss (dB)} - \text{Preamplifier Gain (dB)}$$

$$36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} = 28.9 \text{ dBuV/m}$$

### 4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

| PARAMETER                             | UNCERTAINTY |
|---------------------------------------|-------------|
| Conducted Disturbance, 0.15 to 30 MHz | 3.52 dB     |
| Radiated Disturbance, 30 to 1000 MHz  | 4.94 dB     |

Uncertainty figures are valid to a confidence level of 95%.

## 5. EQUIPMENT UNDER TEST

### 5.1. DESCRIPTION OF EUT

The EUT is a CDMA1x 850MHz/1900MHz MPERs BELT CLIP.

### 5.2. MAXIMUM OUTPUT POWER

The transmitter has maximum, peak ERP and EIRP output powers as follow:

#### 1xRTT CDMA MODE

824 to 849 MHz Authorized Band

| Frequency Range<br>(MHz) | Modulation     | ERP<br>Output Power<br>(dBm) | ERP<br>Output Power<br>(mW) |
|--------------------------|----------------|------------------------------|-----------------------------|
| Low CH - 824.70          | 1xRTT CDMA2000 | 23.70                        | 234.4                       |
| Mid CH - 836.52          |                | 23.95                        | 248.3                       |
| High CH - 848.31         |                | 23.45                        | 221.3                       |

1850 to 1910 MHz Authorized Band

| Frequency Range<br>(MHz) | Modulation     | EIRP<br>Output Power<br>(dBm) | EIRP<br>Output Power<br>(mW) |
|--------------------------|----------------|-------------------------------|------------------------------|
| Low CH - 1851.25         | 1xRTT CDMA2000 | 20.56                         | 113.8                        |
| Mid CH - 1880.00         |                | 19.42                         | 87.5                         |
| High CH - 1908.75        |                | 19.48                         | 88.7                         |

### 5.3. SOFTWARE AND FIRMWARE

The EUT is linked with Agilent Communication Test Set.

## 5.4. WORST-CASE CONFIGURATION AND MODE

For radiated tests, X, Y, and Z orientations were investigated and Y position turned out to be the worst case for Cell and PCS bands.

### PROCEDURE USED TO ESTABLISH TEST SIGNAL

#### **3G-CDMA2000 1xRTT**

This procedure assumes the Agilent 8960 Test Set has the following applications installed and with valid license.

| <u>Application</u>  | <u>Rev, License</u> |
|---------------------|---------------------|
| CDMA2000 Mobil Test | B.10.11, L          |

#### 1xRTT

- Call Setup > Shift & Preset
- Protocol Rev > 6 (IS-2000-0)
- Radio Config (RC) > RC2 (Fwd2, Rvs2)
- FCH Service Option (SO) Setup > 55
- Traffic Data Rate > Full
- TDSO SCH Info > F-SCH Parameters > F-SCH Data Rate > 153.6 kbps  
> R-SCH Parameters > R-SCH Data Rate > 153.6 kbps
- Cell Info > Cell Parameters > System ID (SID) > 331  
> Network ID (NID) > 1

Once "Active Cell" show "Connected " then change "Rvs Power Ctrl" from "Active bits" to "**All Up bits**" to get the maximum power.

Worst-case Measurement Result @ Low, Middle and High Channel

Worst-case Measurement Result for Low, Middle and High Channel under Radio Configuration RC2 and Service Option 55.

## 5.5. DESCRIPTION OF TEST SETUP

### SUPPORT EQUIPMENT

| PERIPHERAL SUPPORT EQUIPMENT LIST |              |              |                |        |
|-----------------------------------|--------------|--------------|----------------|--------|
| Description                       | Manufacturer | Model        | Serial Number  | FCC ID |
| Laptop                            | HP           | nc6400       | CND71753T      | DoC    |
| AC Adapter                        | HP           | PA-1900-18H2 | 597950DLLVADK1 | DoC    |
| Charger                           | Foxlink      | WS-227-40    | W1051557189    | DoC    |
| Charging base fixture             | Qualcomm     | NA           | NA             | NA     |

### I/O CABLES

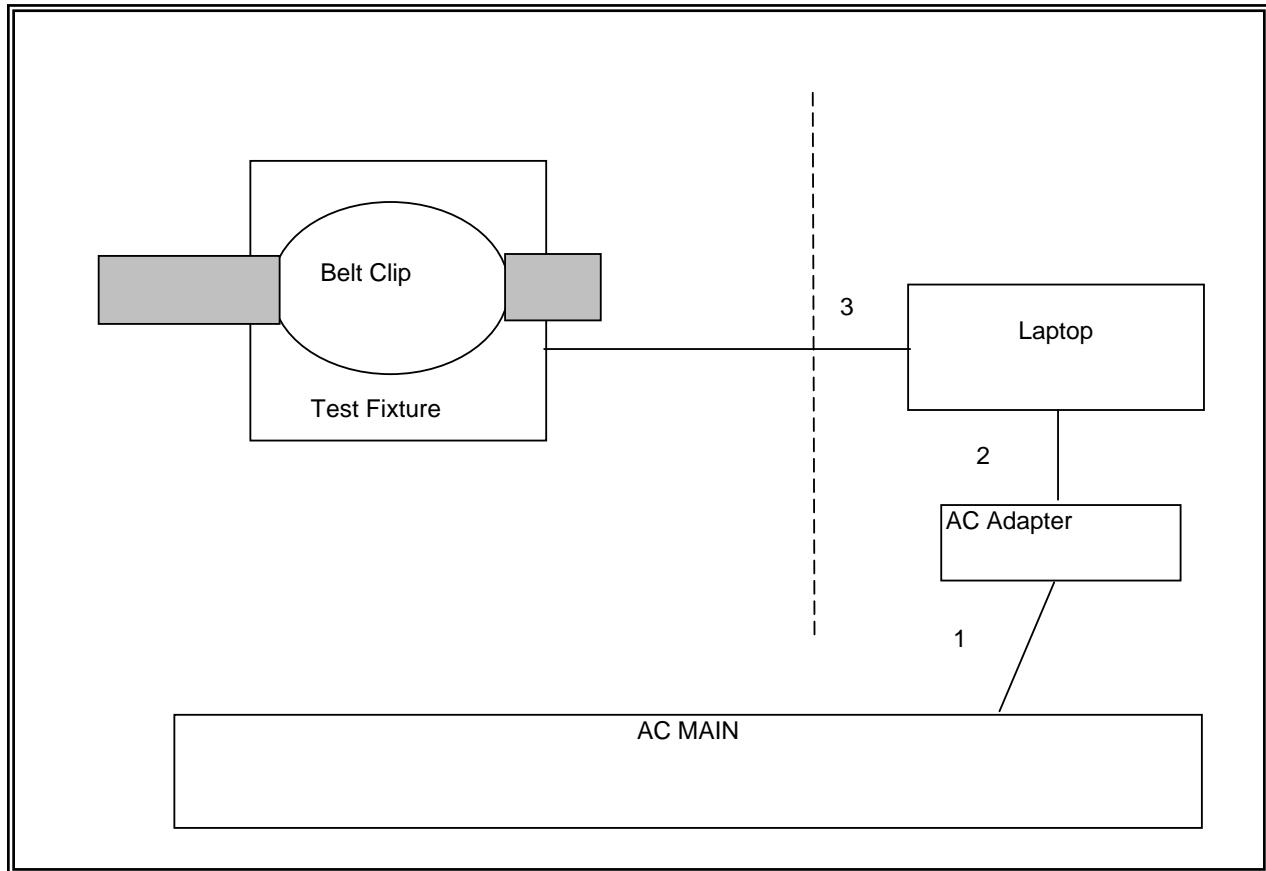
| I/O CABLE LIST |      |                      |                |             |              |                       |
|----------------|------|----------------------|----------------|-------------|--------------|-----------------------|
| Cable No.      | Port | # of Identical Ports | Connector Type | Cable Type  | Cable Length | Remarks               |
| 1              | AC   | 1                    | US 115V        | Un-shielded | 2m           | NA                    |
| 2              | DC   | 1                    | DC             | Un-shielded | 2m           | NA                    |
| 3              | USB  | 1                    | USB            | Un-shielded | 1m           | connect EUT to Laptop |

### TEST SETUP

The EUT is stand-alone unit. The laptop is for setup purpose.



**SETUP DIAGRAM FOR TESTS**



## 6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

| TEST EQUIPMENT LIST            |                |          |         |          |
|--------------------------------|----------------|----------|---------|----------|
| Description                    | Manufacturer   | Model    | Asset   | Cal Due  |
| Spectrum Analyzer, 26.5 GHz    | Agilent / HP   | E4440A   | C01178  | 08/15/12 |
| Communications Test Set        | Agilent / HP   | E5515C   | C01086  | 06/17/12 |
| Preamplifier, 1300 MHz         | Agilent / HP   | 8447D    | C00580  | 01/27/12 |
| Preamplifier, 26.5 GHz         | Agilent / HP   | 8449B    | C01063  | 07/12/12 |
| Dipole                         | Speag          | D900V2   | N/A     | 11/16/11 |
| Highpass Filter, 1.5 GHz       | Micro-Tronics  | HPM13193 | N02689` | CNR      |
| Highpass Filter, 2.7 GHz       | Micro-Tronics  | HPM13194 | N02687  | CNR      |
| Vector signal generator, 6 GHz | Agilent / HP   | E4438C   | N/A     | 06/09/12 |
| Antenna, Horn, 18 GHz          | EMCO           | 3115     | C00943  | CNR      |
| Antenna, Horn, 18 GHz          | EMCO           | 3115     | C00783  | 06/29/12 |
| Antenna, Bilog, 2 GHz          | Sunol Sciences | JB1      | C01016  | 07/16/12 |

## 7. LIMITS AND RESULTS

### 7.1. RADIATED OUTPUT POWER

#### LIMITS

22.913(a) The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

24.232(b) & RSS133 § 6.4 Mobile/portable stations are limited to 2 watts e.i.r.p. peak power and the equipment must employ means to limit the power to the minimum necessary for successful communications.

RSS-132 § 4.4 The maximum ERP shall be 6.3 Watts for mobile stations.

#### TEST PROCEDURE

ANSI / TIA / EIA 603 Clause 2.2.17, RSS-132 & RSS-133

This section reports the maximum instantaneous peak ERP of the intentional transmitter using a peak detector per Part 22 measurement detector settings, and the maximum average EIRP of the intentional transmitter using an average detector per Part 24 measurement detector settings. The maximum instantaneous peak ERP can be expected to be different from the maximum average conducted power plus the antenna gain in dBd.

#### RESULTS

| Mode             | Channel | f (MHz) | ERP / EIRP |        |
|------------------|---------|---------|------------|--------|
|                  |         |         | dBm        | mW     |
| CDMA2000<br>Cell | 1013    | 824.70  | 23.70      | 234.42 |
|                  | 384     | 836.52  | 23.95      | 248.31 |
|                  | 777     | 848.31  | 23.45      | 221.31 |
| CDMA2000<br>PCS  | 25      | 1851.25 | 20.56      | 113.76 |
|                  | 600     | 1880.00 | 19.42      | 87.50  |
|                  | 1175    | 1908.75 | 19.48      | 88.72  |

## 1xRTT CDMA

### CELL OUTPUT POWER (ERP)

| High Frequency Substitution Measurement<br>Compliance Certification Services Chamber B |                                    |                    |                    |                       |              |                |                |       |
|--|------------------------------------|--------------------|--------------------|-----------------------|--------------|----------------|----------------|-------|
| <b>Company:</b>  | Qualcomm                           |                    |                    |                       |              |                |                |       |
| <b>Project #:</b>  | 11U14009                           |                    |                    |                       |              |                |                |       |
| <b>Date:</b>   | 10/03/11                           |                    |                    |                       |              |                |                |       |
| <b>Test Engineer:</b>  | Chin Pang                          |                    |                    |                       |              |                |                |       |
| <b>Configuration:</b>  | EUT ALONE                          |                    |                    |                       |              |                |                |       |
| <b>Mode:</b>   | TX, CELL BAND CDMA2000, 1xRTT MODE |                    |                    |                       |              |                |                |       |
| <b>EUT:</b>  | Belt Clip                          |                    |                    |                       |              |                |                |       |
| <b>Test Equipment:</b>   |                                    |                    |                    |                       |              |                |                |       |
| Receiving: Sunol T130, and 3m Chamber N-type Cable (Setup this one for testing EUT)    |                                    |                    |                    |                       |              |                |                |       |
| Substitution: Dipole S/N: 00022117, 6ft SMA Cable (SN # 208947003) Warehouse.          |                                    |                    |                    |                       |              |                |                |       |
| f<br>MHz   | SG reading<br>(dBm)                | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBd) | ERP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes |
| 824.70   | 17.27                              | V                  | 0.5                | 0.0                   | 16.77        | 38.5           | -21.7          |       |
| 824.70   | 24.20                              | H                  | 0.5                | 0.0                   | 23.70        | 38.5           | -14.7          |       |
| 836.52   | 16.17                              | V                  | 0.5                | 0.0                   | 15.67        | 38.5           | -22.8          |       |
| 836.52   | 24.45                              | H                  | 0.5                | 0.0                   | 23.95        | 38.5           | -14.5          |       |
| 848.31   | 16.22                              | V                  | 0.5                | 0.0                   | 15.72        | 38.5           | -22.7          |       |
| 848.31   | 23.95                              | H                  | 0.5                | 0.0                   | 23.45        | 38.5           | -15.0          |       |
| Rev. 3.17.11   |                                    |                    |                    |                       |              |                |                |       |

### PCS OUTPUT POWER (EIRP)

| High Frequency Fundamental Measurement<br>Compliance Certification Services Chamber B |                                   |                    |                    |                       |               |                |               |       |
|---|-----------------------------------|--------------------|--------------------|-----------------------|---------------|----------------|---------------|-------|
| <b>Company:</b>   | Qualcomm                          |                    |                    |                       |               |                |               |       |
| <b>Project #:</b>   | 11U1409                           |                    |                    |                       |               |                |               |       |
| <b>Date:</b>  | 10/03/11                          |                    |                    |                       |               |                |               |       |
| <b>Test Engineer:</b>   | Chin Pang                         |                    |                    |                       |               |                |               |       |
| <b>Configuration:</b>   | EUTALONE                          |                    |                    |                       |               |                |               |       |
| <b>Mode:</b>  | TX, PCS BAND CDMA2000, 1xRTT MODE |                    |                    |                       |               |                |               |       |
|   | Belt Clip                         |                    |                    |                       |               |                |               |       |
| <b>Test Equipment:</b>  |                                   |                    |                    |                       |               |                |               |       |
| Receiving: Horn T59, and Camber B SMA Cables  |                                   |                    |                    |                       |               |                |               |       |
| Substitution: Horn T60 Substitution, 6ft SMA Cable (208947003) Warehouse              |                                   |                    |                    |                       |               |                |               |       |
| f<br>GHz  | SG reading<br>(dBm)               | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBi) | EIRP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |
| 1.851   | 9.5                               | V                  | 0.85               | 8.01                  | 16.66         | 33.0           | -16.3         |       |
| 1.851   | 13.4                              | H                  | 0.85               | 8.01                  | 20.56         | 33.0           | -12.4         |       |
| 1.880   | 11.6                              | V                  | 0.85               | 8.13                  | 18.83         | 33.0           | -14.2         |       |
| 1.880   | 12.1                              | H                  | 0.85               | 8.13                  | 19.42         | 33.0           | -13.6         |       |
| 1.909   | 11.2                              | V                  | 0.85               | 8.13                  | 18.48         | 33.0           | -14.5         |       |
| 1.909   | 12.2                              | H                  | 0.85               | 8.13                  | 19.48         | 33.0           | -13.5         |       |
| Rev. 3.17.11  |                                   |                    |                    |                       |               |                |               |       |

## **7.2. FIELD STRENGTH OF SPURIOUS RADIATION**

### **LIMIT**

§22.917 (e) and §24.238 (a), RSS-132 § 4.5.1, & RSS-133 § 6.5.1 (a) (i) & (b): Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log (P)$  dB.

### **TEST PROCEDURE**

ANSI / TIA / EIA 603 Clause 3.2.12 & FCC 22.917 (b) & FCC 24.238 (b), (g)(1)(2)(3), RSS-132 & RSS-133

### **RESULTS**

## 1xRTT CDMA

### CELL SPURIOUS & HARMONIC (ERP)

| Compliance Certification Services<br>Above 1GHz High Frequency Substitution Measurement |                     |                                    |                 |                |                |              |                |               |       |
|---|---------------------|------------------------------------|-----------------|----------------|----------------|--------------|----------------|---------------|-------|
| <b>Company:</b>   |                     | Qualcomm                           |                 |                |                |              |                |               |       |
| <b>Project #:</b>   |                     | 11114009                           |                 |                |                |              |                |               |       |
| <b>Date:</b>  |                     | 10/03/11                           |                 |                |                |              |                |               |       |
| <b>Test Engineer:</b>   |                     | Chin Pang                          |                 |                |                |              |                |               |       |
| <b>Configuration:</b>   |                     | EUT only                           |                 |                |                |              |                |               |       |
| <b>Mode:</b>  |                     | TX, CELL BAND CDMA2000, 1xRTT MODE |                 |                |                |              |                |               |       |
| <b>Chamber</b>  |                     | <b>Pre-amplifier</b>               |                 | <b>Filter</b>  |                | <b>Limit</b> |                |               |       |
| 5m Chamber B  |                     | T144 8449B                         |                 | Filter 1       |                | Part 22      |                |               |       |
| f<br>GHz  | SG reading<br>(dBm) | Ant. Pol.<br>(H/V)                 | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | ERP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |
| <b>Low Ch, (824.7MHz)</b>   |                     |                                    |                 |                |                |              |                |               |       |
| 1.649   | -10.5               | V                                  | 3.0             | 38.2           | 1.0            | 47.7         | -13.0          | -34.7         |       |
| 2.474   | -18.3               | V                                  | 3.0             | 37.5           | 1.0            | 54.8         | -13.0          | -41.8         |       |
| 1.649   | -8.6                | H                                  | 3.0             | 38.2           | 1.0            | 45.7         | -13.0          | -32.7         |       |
| 2.474   | -20.2               | H                                  | 3.0             | 37.5           | 1.0            | 56.6         | -13.0          | -43.6         |       |
| <b>Mid Ch, (836.52MHz)</b>  |                     |                                    |                 |                |                |              |                |               |       |
| 1.673   | -16.7               | V                                  | 3.0             | 38.1           | 1.0            | 53.8         | -13.0          | -40.8         |       |
| 2.510   | -14.2               | V                                  | 3.0             | 37.5           | 1.0            | 50.6         | -13.0          | -37.6         |       |
| 1.673   | -16.3               | H                                  | 3.0             | 38.1           | 1.0            | 53.5         | -13.0          | -40.5         |       |
| 2.510   | -18.0               | H                                  | 3.0             | 37.5           | 1.0            | 54.5         | -13.0          | -41.5         |       |
| <b>High Ch, (848.31MHz)</b>   |                     |                                    |                 |                |                |              |                |               |       |
| 1.697   | -17.4               | V                                  | 3.0             | 38.1           | 1.0            | 54.5         | -13.0          | -41.5         |       |
| 2.545   | -17.4               | V                                  | 3.0             | 37.5           | 1.0            | 53.9         | -13.0          | -40.9         |       |
| 1.697   | -18.3               | H                                  | 3.0             | 38.1           | 1.0            | 55.4         | -13.0          | -42.4         |       |
| 2.545   | -20.4               | H                                  | 3.0             | 37.5           | 1.0            | 56.8         | -13.0          | -43.8         |       |
| Rev. 03.03.09   |                     |                                    |                 |                |                |              |                |               |       |
| Note: No other emissions were detected above the system noise floor.                    |                     |                                    |                 |                |                |              |                |               |       |

**PCS Spurious & Harmonic (EIRP)**

| Compliance Certification Services<br>Above 1GHz High Frequency Substitution Measurement |                     |  |                 |                |                |               |                |               |       |
|---|---------------------|--|-----------------|----------------|----------------|---------------|----------------|---------------|-------|
| <b>Company:</b>   |                     | Qualcomm                                       |                 |                |                |               |                |               |       |
| <b>Project #:</b>   |                     | 11114009                                       |                 |                |                |               |                |               |       |
| <b>Date:</b>  |                     | 10/03/11                                       |                 |                |                |               |                |               |       |
| <b>Test Engineer:</b>   |                     | Chin Pang                                      |                 |                |                |               |                |               |       |
| <b>Configuration:</b>   |                     | EUT onlyne                                     |                 |                |                |               |                |               |       |
| <b>Mode:</b>  |                     | TX, PCS BAND CDMA2000, 1xRTT MODE<br>Belt Clip |                 |                |                |               |                |               |       |
| <b>Chamber</b>  |                     | <b>Pre-amplifier</b>                           |                 | <b>Filter</b>  |                | <b>Limit</b>  |                |               |       |
| 5m Chamber B  |                     | T144 8449B                                     |                 | Filter 1       |                | Part 24       |                |               |       |
| f<br>GHz  | SG reading<br>(dBm) | Ant. Pol.<br>(H/V)                             | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | EIRP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |
| <b>Low Ch, (1850.2MHz)</b>  |                     |  |                 |                |                |               |                |               |       |
| 3.703   | -1.3                | V  | 3.0             | 36.8           | 1.0            | -37.1         | -13.0          | -24.1         |       |
| 5.554   | 9.6                 | V  | 3.0             | 36.3           | 1.0            | 44.9          | -13.0          | -31.9         |       |
| 3.703   | -3.0                | H  | 3.0             | 36.8           | 1.0            | -38.8         | -13.0          | -25.8         |       |
| 5.554   | 9.2                 | H  | 3.0             | 36.3           | 1.0            | 44.5          | -13.0          | -31.5         |       |
|   |                     | H  |                 |                |                |               |                |               |       |
| <b>Mid Ch, (1880.0MHz)</b>  |                     |  |                 |                |                |               |                |               |       |
| 3.760   | -1.9                | V  | 3.0             | 36.8           | 1.0            | -37.7         | -13.0          | -24.7         |       |
| 5.640   | -7.3                | V  | 3.0             | 36.3           | 1.0            | 42.6          | -13.0          | -29.6         |       |
| 3.760   | -0.7                | H  | 3.0             | 36.8           | 1.0            | -36.4         | -13.0          | -23.4         |       |
| 5.640   | -6.3                | H  | 3.0             | 36.3           | 1.0            | 41.6          | -13.0          | -28.6         |       |
|   |                     |  |                 |                |                |               |                |               |       |
| <b>High Ch, (1909.8MHz)</b>   |                     |  |                 |                |                |               |                |               |       |
| 3.818   | 1.6                 | V  | 3.0             | 36.7           | 1.0            | -34.1         | -13.0          | -21.1         |       |
| 5.726   | -6.9                | V  | 3.0             | 36.3           | 1.0            | 42.2          | -13.0          | -29.2         |       |
| 3.818   | 0.0                 | H  | 3.0             | 36.7           | 1.0            | -35.7         | -13.0          | -22.7         |       |
| 5.726   | -7.9                | H  | 3.0             | 36.3           | 1.0            | 43.2          | -13.0          | -30.2         |       |
|   |                     |  |                 |                |                |               |                |               |       |
| Rev. 03.03.09   |                     |  |                 |                |                |               |                |               |       |
| Note: No other emissions were detected above the system noise floor.                    |                     |  |                 |                |                |               |                |               |       |

### 7.3. RECEIVER SPURIOUS EMISSIONS

#### LIMIT

RSS-Gen 7.2.2

Spurious Emission Limits for Receivers:

| Spurious Frequency<br>(MHz) | Field Strength<br>(microvolts/m at<br>3 metres) |
|-----------------------------|---|
| 30-88                       | 100   |
| 88-216                      | 150   |
| 216-960                     | 200   |
| Above 960                   | 500   |

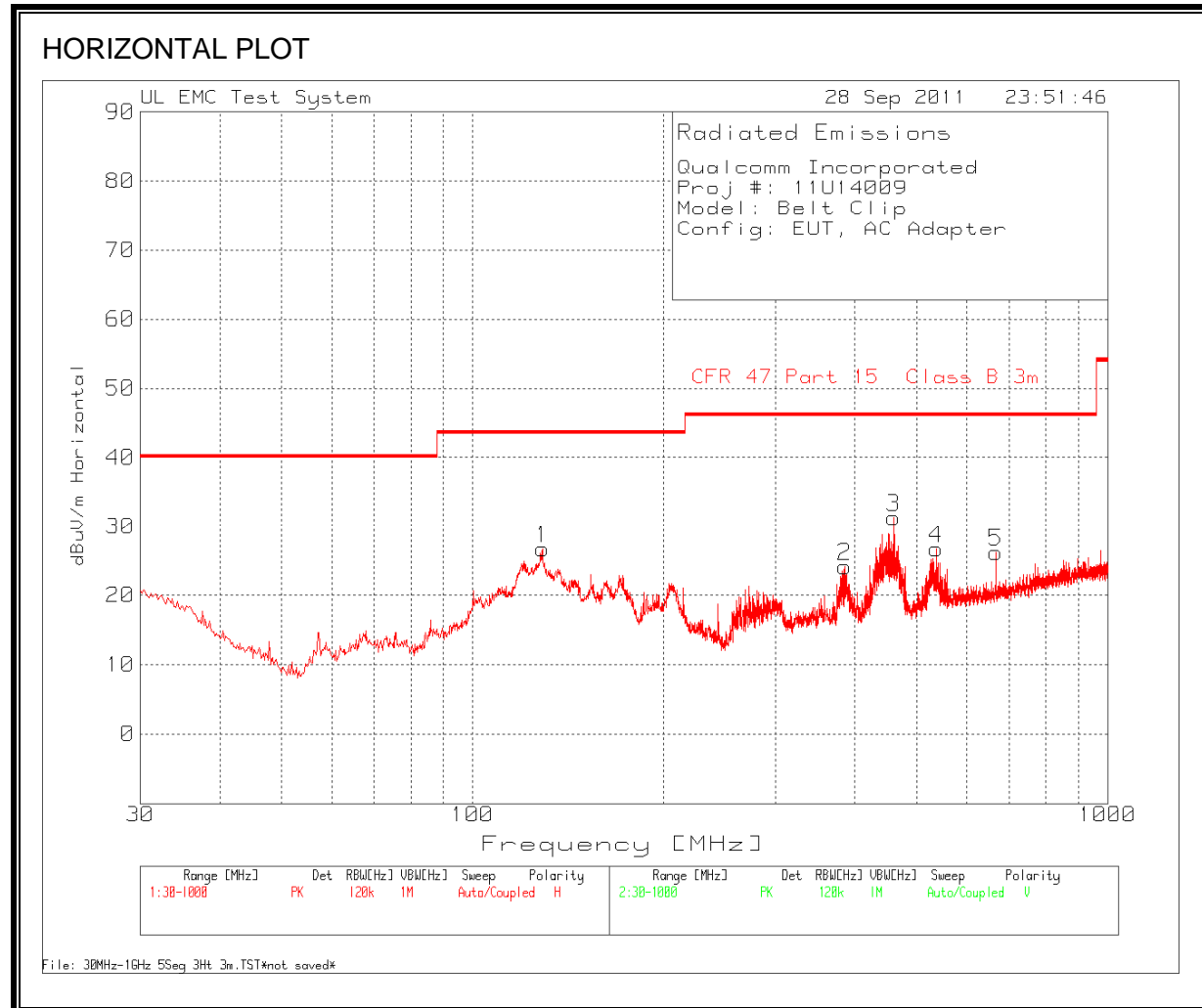
#### TEST PROCEDURE

The search for spurious emissions shall be from the lowest frequency internally generated or used in the receiver (local oscillator frequency, intermediate frequency or carrier frequency), or 30 MHz, whichever is the higher, to at least 3 times the highest tunable and local oscillator frequencies.

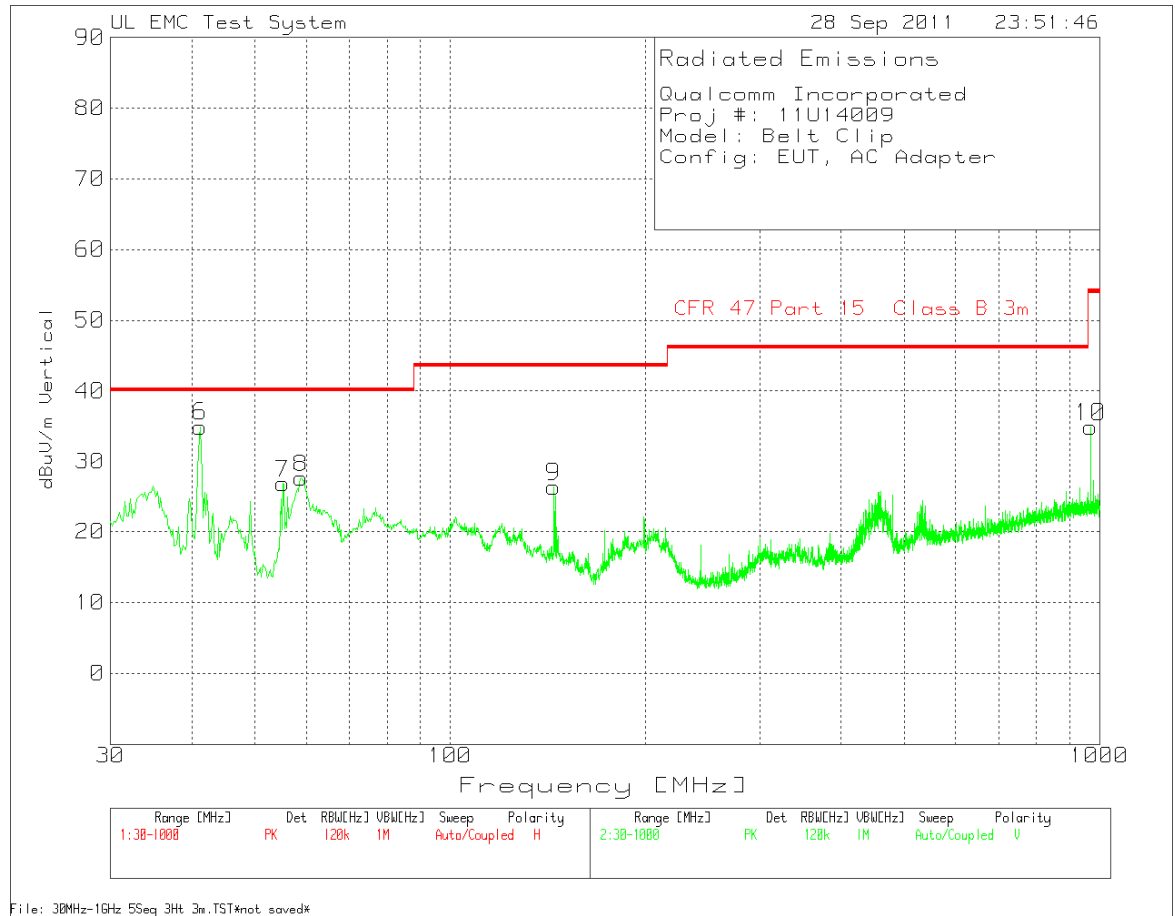
#### RESULTS



**SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION)**



## VERTICAL PLOT



## HORIZONTAL AND VERTICAL DATA

| Qualcomm Incorporated   |         |          |               |             |                    |             |        |          |      |
|-------------------------|---------|----------|---------------|-------------|--------------------|-------------|--------|----------|------|
| Proj #: 11U14009        |         |          |               |             |                    |             |        |          |      |
| Model: Belt Clip        |         |          |               |             |                    |             |        |          |      |
| Config: EUT, AC Adapter |         |          |               |             |                    |             |        |          |      |
| Range 1 30 - 1000MHz    |         |          |               |             |                    |             |        |          |      |
| Frequency               | Reading | Detector | 5A Cable [dB] | PreAmp [dB] | Bilog.TXT [dBuV/m] | Part 15B 3m | Margin | Polarity |      |
| 128.8609                | 40.03   | PK       | 1.2           | -28.2       | 13.6               | 26.63       | 43.5   | -16.87   | Horz |
| 385.8993                | 35.09   | PK       | 2.2           | -27.9       | 14.7               | 24.09       | 46     | -21.91   | Horz |
| 460.7234                | 40.62   | PK       | 2.4           | -27.7       | 16                 | 31.32       | 46     | -14.68   | Horz |
| 537.6799                | 34.22   | PK       | 2.6           | -27.5       | 17.4               | 26.72       | 46     | -19.28   | Horz |
| 666.7806                | 31.12   | PK       | 2.9           | -27.1       | 19.2               | 26.12       | 46     | -19.88   | Horz |
| Range 2 30 - 1000MHz    |         |          |               |             |                    |             |        |          |      |
| Frequency               | Reading | Detector | 5A Cable [dB] | PreAmp [dB] | Bilog.TXT [dBuV/m] | Part 15B 3m | Margin | Polarity |      |
| 41.243                  | 49.47   | PK       | 0.7           | -28.3       | 13.1               | 34.97       | 40     | -5.03    | Vert |
| 55.1998                 | 46.22   | PK       | 0.8           | -28.3       | 8.1                | 26.82       | 40     | -13.18   | Vert |
| 58.8829                 | 47.06   | PK       | 0.8           | -28.3       | 8                  | 27.56       | 40     | -12.44   | Vert |
| 144.5624                | 40.13   | PK       | 1.3           | -28.1       | 13                 | 26.33       | 43.5   | -17.17   | Vert |
| 969.954                 | 36.66   | PK       | 3.5           | -27.6       | 22.3               | 34.86       | 54     | -19.14   | Vert |

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**SPURIOUS EMISSIONS ABOVE 1000 MHz (WORST-CASE CONFIGURATION)**

Note: No emissions were detected above the system noise floor.

## 7.4. POWER LINE CONDUCTED EMISSION

### LIMIT

#### RSS-Gen 7.2.2

Except when the requirements applicable to a given device state otherwise, for any licence-exempt radio communication device equipped to operate from the public utility AC power supply, either directly or indirectly, the radio frequency voltage that is conducted back onto the AC power lines in the frequency range of 0.15 MHz to 30 MHz shall not exceed the limits shown in Table 2. The tighter limit applies at the frequency range boundaries.

Table 2 – AC Power Lines Conducted Emission Limits

| Frequency of Emission (MHz) | Conducted Limit (dBuV) |                       |
|-----------------------------|------------------------|-----------------------|
|                             | Quasi-peak             | Average               |
| 0.15-0.5                    | 66 to 56 <sup>*</sup>  | 56 to 46 <sup>*</sup> |
| 0.5-5                       | 56                     | 46                    |
| 5-30                        | 60                     | 50                    |

<sup>\*</sup> Decreases with the logarithm of the frequency.

### RESULTS

## 6 WORST EMISSIONS

### AC ADAPTER

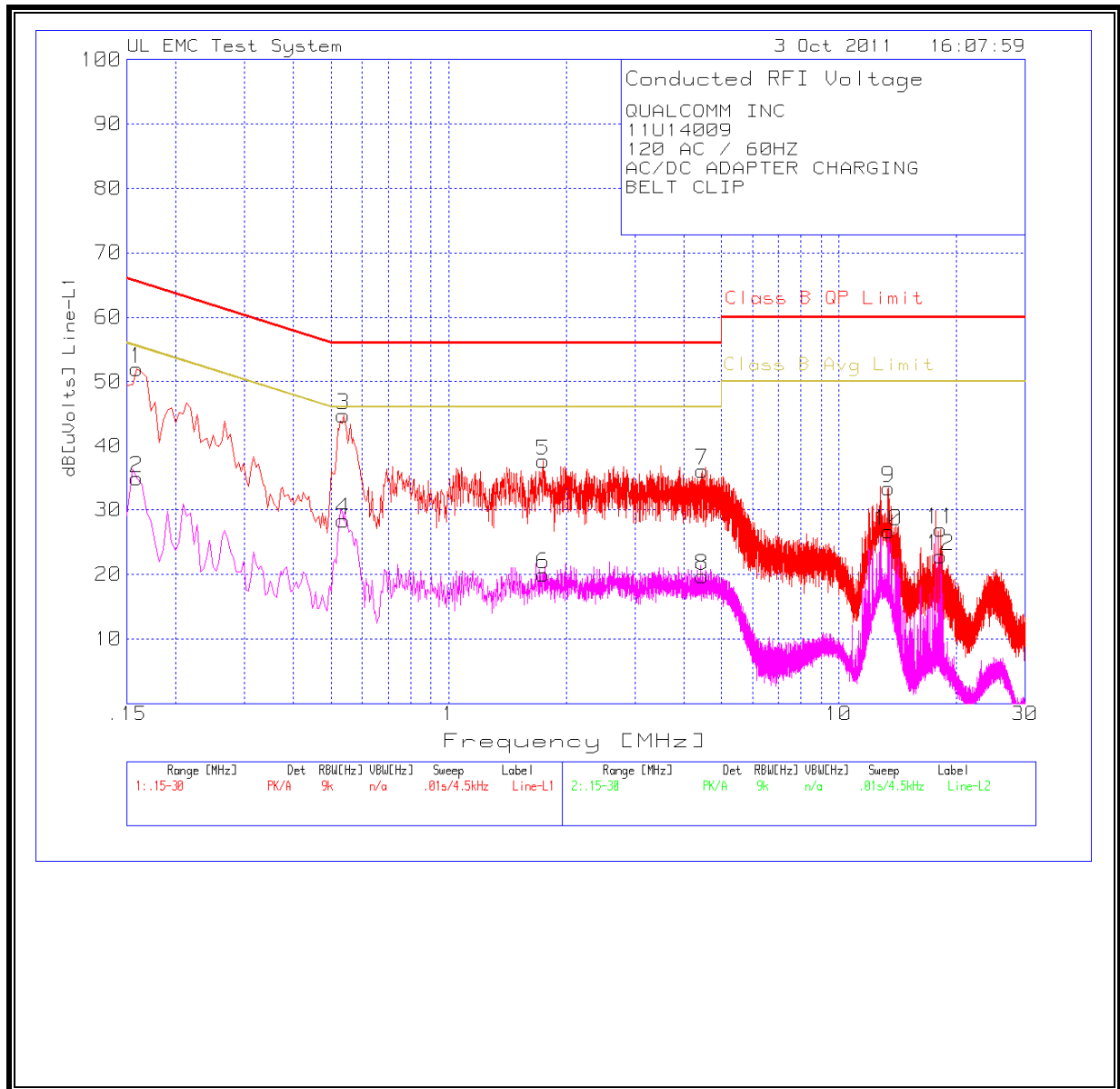
| QUALCOMM INC           |           |          |           |           |            |           |        |           |        |
|------------------------|-----------|----------|-----------|-----------|------------|-----------|--------|-----------|--------|
| 11U14009               |           |          |           |           |            |           |        |           |        |
| 120 AC / 60HZ          |           |          |           |           |            |           |        |           |        |
| AC/DC ADAPTER CHARGING |           |          |           |           |            |           |        |           |        |
| BELT CLIP              |           |          |           |           |            |           |        |           |        |
| Line-L1 .15 - 30MHz    |           |          |           |           |            |           |        |           |        |
| Test Freq              | Meter Rea | Detector | LISN [dB] | Conducted | dB[uVolts] | Class B Q | Margin | Class B A | Margin |
| 0.159                  | 51.92     | PK       | 0         | 0         | 51.92      | 65.5      | -13.58 | 55.5      | -3.58  |
| 0.159                  | 34.9      | Av       | 0         | 0         | 34.9       | 65.5      | -30.6  | 55.5      | -20.6  |
| 0.537                  | 44.75     | PK       | 0         | 0         | 44.75      | 56        | -11.25 | 46        | -1.25  |
| 0.537                  | 28.39     | Av       | 0         | 0         | 28.39      | 56        | -27.61 | 46        | -17.61 |
| 1.7475                 | 37.55     | PK       | 0         | 0         | 37.55      | 56        | -18.45 | 46        | -8.45  |
| 1.7475                 | 19.96     | Av       | 0         | 0         | 19.96      | 56        | -36.04 | 46        | -26.04 |
| 4.4745                 | 36.03     | PK       | 0         | 0         | 36.03      | 56        | -19.97 | 46        | -9.97  |
| 4.4745                 | 19.67     | Av       | 0         | 0         | 19.67      | 56        | -36.33 | 46        | -26.33 |
| 13.4205                | 33.3      | PK       | 0         | 0         | 33.3       | 60        | -26.7  | 50        | -16.7  |
| 13.4205                | 26.61     | Av       | 0         | 0         | 26.61      | 60        | -33.39 | 50        | -23.39 |
| 18.2445                | 26.94     | PK       | 0         | 0         | 26.94      | 60        | -33.06 | 50        | -23.06 |
| 18.2445                | 22.84     | Av       | 0         | 0         | 22.84      | 60        | -37.16 | 50        | -27.16 |
| Line-L2 .15 - 30MHz    |           |          |           |           |            |           |        |           |        |
| Test Freq              | Meter Rea | Detector | LISN [dB] | Conducted | dB[uVolts] | Class B Q | Margin | Class B A | Margin |
| 0.159                  | 50.71     | PK       | 0         | 0         | 50.71      | 65.5      | -14.79 | 55.5      | -4.79  |
| 0.159                  | 36.91     | Av       | 0         | 0         | 36.91      | 65.5      | -28.59 | 55.5      | -18.59 |
| 0.528                  | 40.32     | PK       | 0         | 0         | 40.32      | 56        | -15.68 | 46        | -5.68  |
| 0.528                  | 29.98     | Av       | 0         | 0         | 29.98      | 56        | -26.02 | 46        | -16.02 |
| 2.5935                 | 31.29     | PK       | 0         | 0         | 31.29      | 56        | -24.71 | 46        | -14.71 |
| 2.5935                 | 18.32     | Av       | 0         | 0         | 18.32      | 56        | -37.68 | 46        | -27.68 |
| 12.75                  | 34.01     | PK       | 0         | 0         | 34.01      | 60        | -25.99 | 50        | -15.99 |
| 12.75                  | 26.22     | Av       | 0         | 0         | 26.22      | 60        | -33.78 | 50        | -23.78 |
| 17.6955                | 29.4      | PK       | 0         | 0         | 29.4       | 60        | -30.6  | 50        | -20.6  |
| 17.6955                | 25.74     | Av       | 0         | 0         | 25.74      | 60        | -34.26 | 50        | -24.26 |
| 26.574                 | 20.37     | PK       | 0         | 0         | 20.37      | 60        | -39.63 | 50        | -29.63 |
| 26.574                 | 6.15      | Av       | 0         | 0         | 6.15       | 60        | -53.85 | 50        | -43.85 |

**SUPPORT LAPTOP**

| QUALCOMM INC        |           |          |           |           |            |           |        |           |        |
|---------------------|-----------|----------|-----------|-----------|------------|-----------|--------|-----------|--------|
| 11U14009            |           |          |           |           |            |           |        |           |        |
| 120 AC / 60HZ       |           |          |           |           |            |           |        |           |        |
| USB CABLE TO LAPTOP |           |          |           |           |            |           |        |           |        |
| BELT CLIP           |           |          |           |           |            |           |        |           |        |
| Line-L1 .15 - 30MHz |           |          |           |           |            |           |        |           |        |
| Test Freq           | Meter Rea | Detector | LISN [dB] | Conducted | dB[uVolts] | Class B Q | Margin | Class B A | Margin |
| 0.1635              | 54.89     | PK       | 0         | 0         | 54.89      | 65.3      | -10.41 | 55.3      | -0.41  |
| 0.1635              | 18.23     | Av       | 0         | 0         | 18.23      | 65.3      | -47.07 | 55.3      | -37.07 |
| 0.276               | 45.97     | PK       | 0         | 0         | 45.97      | 60.9      | -14.93 | 50.9      | -4.93  |
| 0.276               | 30.58     | Av       | 0         | 0         | 30.58      | 60.9      | -30.32 | 50.9      | -20.32 |
| 1.9815              | 39.56     | PK       | 0         | 0         | 39.56      | 56        | -16.44 | 46        | -6.44  |
| 1.9815              | 30.74     | Av       | 0         | 0         | 30.74      | 56        | -25.26 | 46        | -15.26 |
| 3.8265              | 41.1      | PK       | 0         | 0         | 41.1       | 56        | -14.9  | 46        | -4.9   |
| 3.8265              | 27.92     | Av       | 0         | 0         | 27.92      | 56        | -28.08 | 46        | -18.08 |
| 14.1045             | 43.73     | PK       | 0         | 0         | 43.73      | 60        | -16.27 | 50        | -6.27  |
| 14.1045             | 26.6      | Av       | 0         | 0         | 26.6       | 60        | -33.4  | 50        | -23.4  |
| 24                  | 44.55     | PK       | 0         | 0         | 44.55      | 60        | -15.45 | 50        | -5.45  |
| 24                  | 26.73     | Av       | 0         | 0         | 26.73      | 60        | -33.27 | 50        | -23.27 |
| Line-L2 .15 - 30MHz |           |          |           |           |            |           |        |           |        |
| Test Freq           | Meter Rea | Detector | LISN [dB] | Conducted | dB[uVolts] | Class B Q | Margin | Class B A | Margin |
| 0.1905              | 52.66     | PK       | 0         | 0         | 52.66      | 64        | -11.34 | 54        | -1.34  |
| 0.1905              | 35.48     | Av       | 0         | 0         | 35.48      | 64        | -28.52 | 54        | -18.52 |
| 0.4065              | 39.47     | PK       | 0         | 0         | 39.47      | 57.7      | -18.23 | 47.7      | -8.23  |
| 0.4065              | 20.72     | Av       | 0         | 0         | 20.72      | 57.7      | -36.98 | 47.7      | -26.98 |
| 3.363               | 35.27     | PK       | 0         | 0         | 35.27      | 56        | -20.73 | 46        | -10.73 |
| 3.363               | 17.17     | Av       | 0         | 0         | 17.17      | 56        | -38.83 | 46        | -28.83 |
| 3.9705              | 34.84     | PK       | 0         | 0         | 34.84      | 56        | -21.16 | 46        | -11.16 |
| 3.9705              | 21.69     | Av       | 0         | 0         | 21.69      | 56        | -34.31 | 46        | -24.31 |
| 13.821              | 44.2      | PK       | 0         | 0         | 44.2       | 60        | -15.8  | 50        | -5.8   |
| 13.821              | 30.09     | Av       | 0         | 0         | 30.09      | 60        | -29.91 | 50        | -19.91 |
| 24.0045             | 39.02     | PK       | 0         | 0         | 39.02      | 60        | -20.98 | 50        | -10.98 |
| 24.0045             | 24.51     | Av       | 0         | 0         | 24.51      | 60        | -35.49 | 50        | -25.49 |

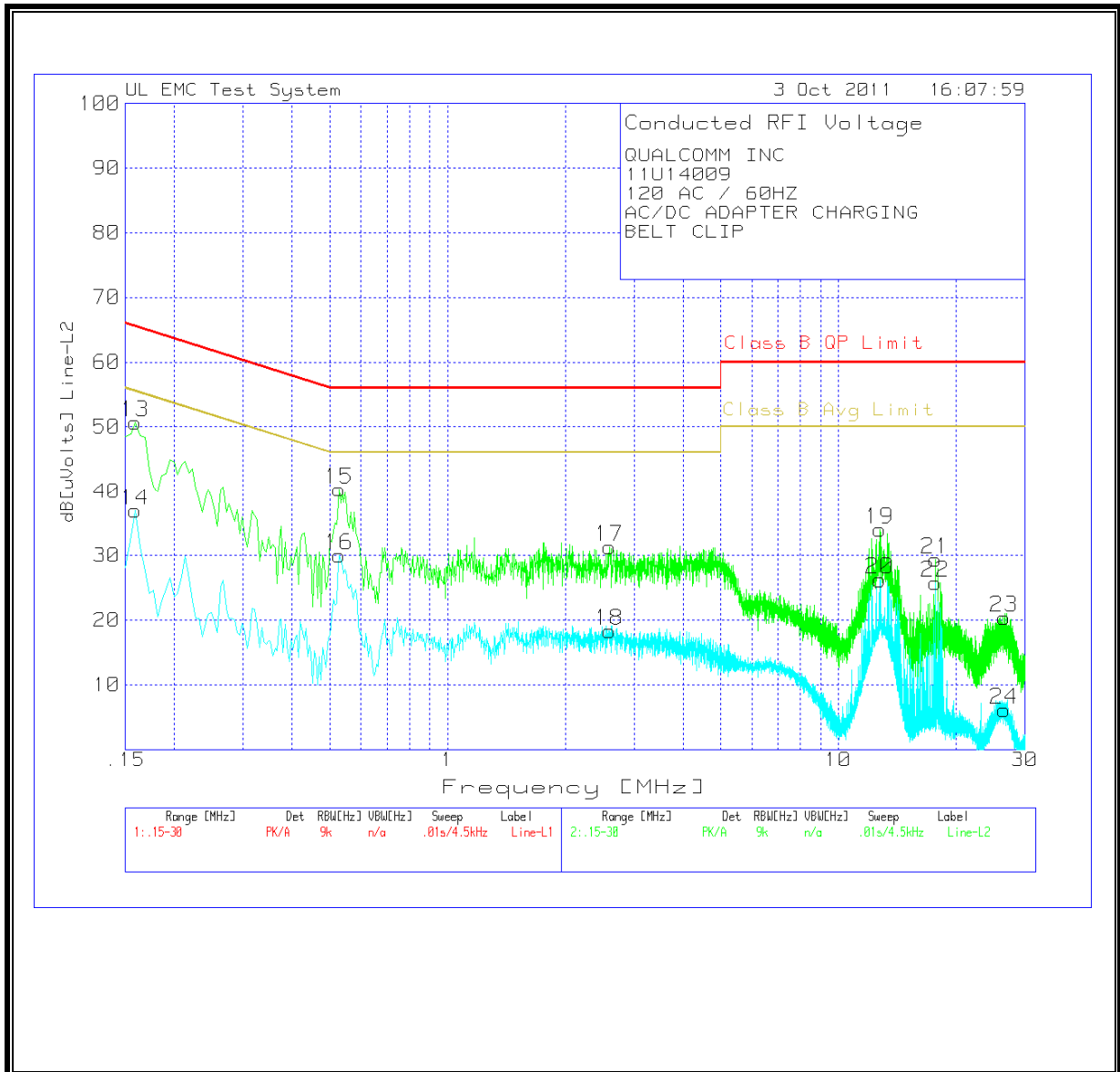
**AC ADAPTER**

**LINE 1 RESULTS**



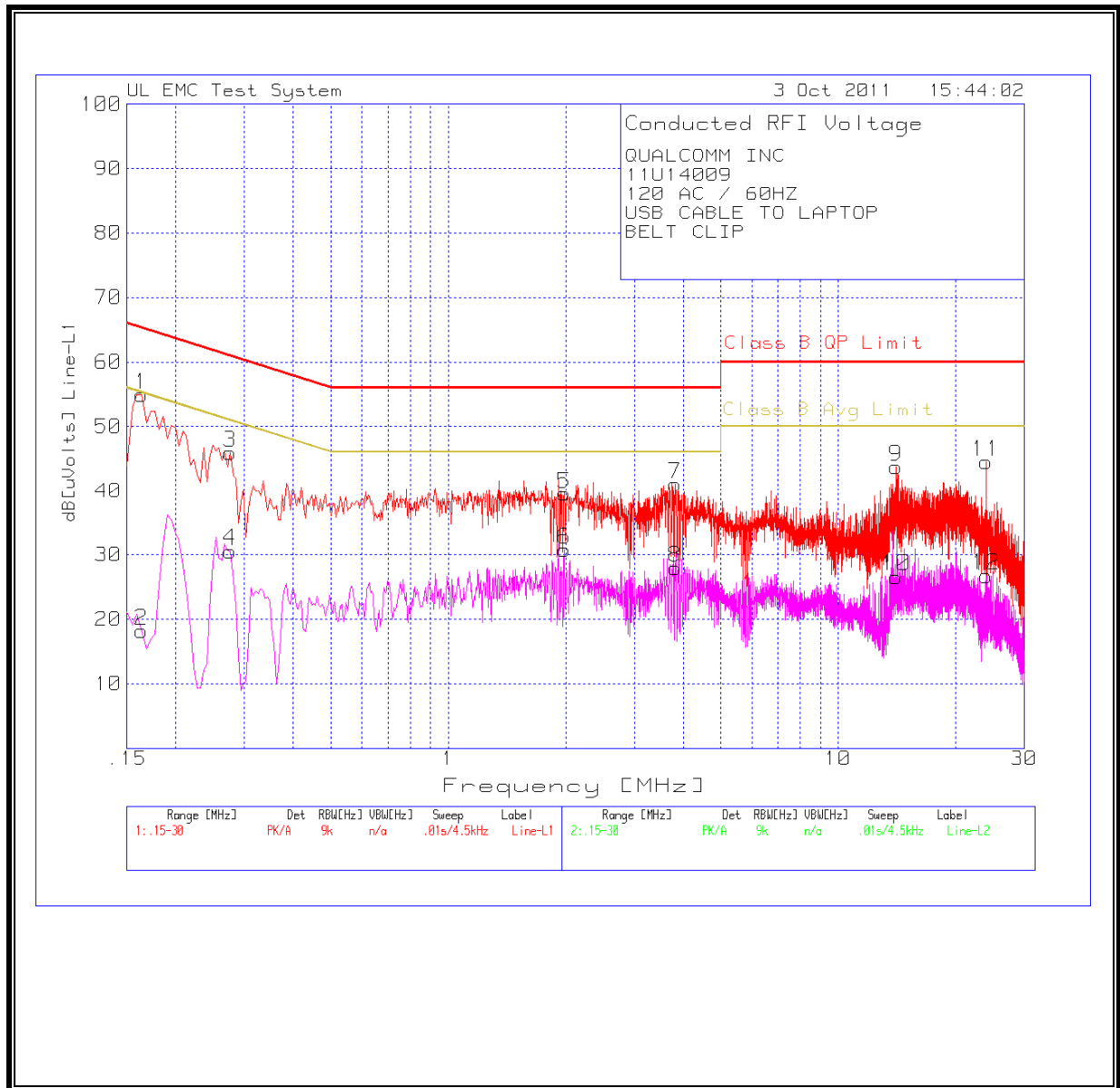


**LINE 2 RESULTS**



**EUT WITH LAPTOP**

**LINE 1 RESULTS**



**LINE 2 RESULTS**

