

**FCC CFR47 PART 15 SUBPART C  
CERTIFICATION  
TEST REPORT**

**FOR**

**EVDO Mini-PCI Express card CDMA modem module**

**MODEL NUMBER: MC5727**

**FCC ID: N7N-MC5725**

**REPORT NUMBER: 09U12368-2**

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Revision History

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# 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** SIERRA WIRELESS, INC.  
3159 CORPORATE PLACE  
HAYWARD, CA 94545, U.S.A.

**EUT DESCRIPTION:** EVDO Mini-PCI Express card CDMA modem module

**MODEL:** MC5727

| APPLICABLE STANDARDS     |              |
|--------------------------|--------------|
| STANDARD                 | TEST RESULTS |
| FCC CFR 47 PARTS 1 AND 2 | Pass         |
| OET BULLETIN 65          | Pass         |
| Industry Canada RSS-102  | Pass         |

Compliance Certification Services, Inc. (CCS) calculated the MPE of 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 CCS based on interpretations and/or observations of test results. 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 Compliance Certification Services and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by Compliance Certification Services 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 CCS By:

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## 2. TEST METHODOLOGY

The calculations documented in this report were performed in accordance with FCC CFR 47 Parts 1, and 2, OET Bulletin 65, and RSS-102.

## 3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect 800 MHz Cell band and 1900 MHz PCS band data for the WWAN radio are located at 47173 Benicia Street, Fremont, California, USA.

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

The test sites and measurement facilities used to collect 2.4 GHz band data for the WLAN radio are operated by Max Light Technology Co., Ltd. These measurements were made at an unaccredited facility.

## 4. REFERENCES

All 800 MHz Cell band and 1900 MHz PCS band measurements were made as documented in test report CCS Document 06U10171.

All 2.4 GHz band measurements were made as documented in test report number MLT0504P15006.

Duty cycle data is excerpted from the applicable test reports.

Antenna gain data is excerpted from product documentation provided by the applicant.

## 5. CALIBRATION AND UNCERTAINTY

### 5.1. 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.

### 5.2. MEASUREMENT UNCERTAINTY

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

| PARAMETER                     | UNCERTAINTY |
|-------------------------------|-------------|
| Power Line Conducted Emission | +/- 2.3 dB  |
| Radiated Emission             | +/- 3.4 dB  |

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

## **6. EQUIPMENT UNDER TEST**

### **6.1. DESCRIPTION OF EUT**

The EUT is a dual band, 800/1900MHz, PCA EVDO Mini-PCI Express Card CDMA Modem. The module manufactured by Sierra Wireless, Inc.

### **6.2. RADIO MODULE APPROVAL CONDITIONS**

The Cellular / PCS radio module is manufactured by Sierra Wireless (FCC ID: N7N-MC5725), and the WLAN radio module is manufactured by Compex Inc (FCC ID: MK8CPX-05-WLM54G).

## 7. LIMITS AND RESULTS

### 7.1. CO-LOCATED MAXIMUM PERMISSIBLE EXPOSURE

#### LIMITS

Per OTE Bulletin 65, for frequency bands with the same MPE limits, the Power Densities produced by each transmitter are summed. The summation must be under the limit for the band.

Per OTE Bulletin 65, for frequency bands with different limits the Power Densities are calculated separately for each band, divided by the limit for the band and the results are then summed. The summation must be less than 1.

#### RESULTS

| Mode             | MPE Distance (cm) | Output Power (dBm) | Antenna Gain (dBi) | FCC Power Density (mW/cm <sup>2</sup> ) | FCC Limit (mW/cm <sup>2</sup> ) | FCC Fraction of Limit Dimensionless |
|------------------|-------------------|--------------------|--------------------|---|---------------------------------|-------------------------------------|
| 802.11b          | 20.0              | 16.02              | 3.00               | 0.02                                    | 1.00                            | 0.02                                |
| 800 MHz Cellular | 20.0              | 29.23              | 2.00               | 0.26                                    | 0.55                            | 0.48                                |
| Colocated        |                   |                    |                    |   |                                 | 0.50                                |

| Mode         | MPE Distance (cm) | Output Power (dBm) | Antenna Gain (dBi) | FCC Power Density (mW/cm <sup>2</sup> ) | FCC Limit (mW/cm <sup>2</sup> ) |
|--------------|-------------------|--------------------|--------------------|---|---------------------------------|
| 802.11b      | 20.0              | 16.02              | 3.00               | 0.02                                    | 1.00                            |
| 1900 MHz PCS | 20.0              | 28.83              | 2.00               | 0.24                                    | 1.00                            |
| Colocated    |                   |                    |                    | 0.26                                    | 1.00                            |

**END OF REPORT**