



FCC PART 22H, PART 24E TEST REPORT

For

ITALCOM GROUP

1728 Coral Way, Coral Gables, Miami, Florida, United States

FCC ID: YPVITALCOMZENX2

Report Type: **Product Type:** Original Report Mobile Phone Henry . Ving **Test Engineer:** Henry Ding **Report Number:** RSZ120604003-00B **Report Date:** 2012-06-11 Alvin Huang **Reviewed By:** RF Leader **Test Laboratory:** Bay Area Compliance Laboratories Corp. (Shenzhen) 6/F, the 3rd Phase of WanLi Industrial Building ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China Tel: +86-755-33320018 Fax: +86-755-33320008 www.baclcorp.com.cn

Note: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. This report **must not** be used by the customer to claim product certification, approval, or endorsement by NVLAP*, or any agency of the Federal Government.

* This report contains data that are not covered by the NVLAP accreditation and are marked with an asterisk "★" (Rev.2)

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| TEST DATA | |

Report No.: RSZ120604003-00B

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *ITALCOM GROUP*'s product, model number: *zenx2 (FCC ID: YPVITALCOMZENX2)* or the "EUT" in this report was a *Mobile Phone*, which was measured approximately: 10.0 cm (L) x 4.5 cm (W) x 1.5 cm (H), rated input voltage: DC 3.7 V battery.

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Frequency Range:

Cellular Band: 824-849 MHz (Tx), 869-894 MHz (Rx) PCS Band: 1850-1910 MHz (Tx), 1930-1990 MHz (Rx)

Modulation Mode: GMSK (Cellular/PCS)

Transmitter Output Power:

Cellular Band: 32.20 dBm (Conducted Power) PCS Band: 29.35 dBm (Conducted Power)

Objective

This test report is prepared on behalf of *ITALCOM GROUP* in accordance with Part 2-Subpart J, Part 22-Subpart H, and Part 24-Subpart E of the Federal Communication Commissions rules.

The objective is to determine the compliance of the EUT with FCC rules for output power, modulation characteristic, occupied bandwidth, spurious emission at antenna terminal, spurious radiated emission, frequency stability and band edge.

Related Submittal(s)/Grant(s)

FCC Part 15B JBP submissions with FCC ID: YPVITALCOMZENX2

Test Methodology

All tests and measurements indicated in this document were performed in accordance with the Code of Federal Regulations Title 47 Part 2-Subpart J as well as the following parts:

Part 22 Subpart H - Public Mobile Services

Part 24 Subpart E - Personal Communication Services

Applicable Standards: TIA/EIA 603-D, ANSI C63.4-2009.

All radiated and conducted emissions measurements were performed at Bay Area Compliance Laboratories Corp. The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

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^{*} All measurement and test data in this report was gathered from production sample serial number: 1206006 (Assigned by BACL, Shenzhen). The EUT was received on 2012-06-04.

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp.(Shenzhen) to collect test data is located on the 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China.

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Test site at Bay Area Compliance Laboratories Corp. (Shenzhen) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on December 06, 2010. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2009.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 382179. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, Bay Area Compliance Laboratories Corp. (Shenzhen) is an ISO/IEC 17025 accredited laboratory, and is accredited by National Voluntary Laboratory Accredited Program (Lab Code 200707-0).



The current scope of accreditations can be found at http://ts.nist.gov/Standards/scopes/2007070.htm

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SYSTEM TEST CONFIGURATION

Description of Test Configuration

The EUT was configured for testing according to TIA/EIA-603-D.

The GSM/PCS item test was performed with the EUT operating at normal mode.

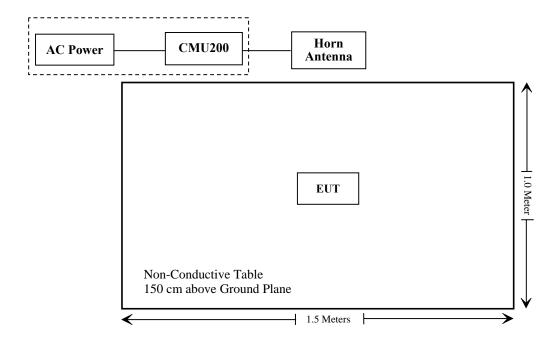
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The GPRS item test was performed with the EUT operating at testing mode.

Equipment Modifications

No modification was made to the EUT.

Block Diagram of Test Setup



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SUMMARY OF TEST RESULTS

| FCC Rules | Description of Test | Result |
|---|--|----------------|
| §1.1307, §2.1093 | RF Exposure (SAR) | Compliance* |
| \$2.1046; \$ 22.913 (a); \$ 24.232 (c) | RF Output Power | Compliance |
| § 2.1047 | Modulation Characteristics | Not Applicable |
| § 2.1049; § 22.905 § 22.917; § 24.238 | Occupied Bandwidth | Compliance |
| § 2.1051, § 22.917 (a); § 24.238 (a) | Spurious Emissions at Antenna Terminal | Compliance |
| \$ 2.1053 \$ 22.917 (a); \$ 24.238 (a) | Field Strength of Spurious Radiation | Compliance |
| § 22.917 (a); § 24.238 (a) | Out of band emission, Band Edge | Compliance |
| § 2.1055 § 22.355; § 24.235 | Frequency stability vs. temperature Frequency stability vs. voltage | Compliance |

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Note: * Please refer to SAR report released by BACL, report number: RSZ120604003-20.

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FCC §1.1307 & §2.1093 - RF EXPOSURE

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Applicable Standard

FCC§1.1307 and §2.1093.

Test Result

Compliance, please refer to the SAR report: RSZ120604003-20.

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FCC §2.1047 - MODULATION CHARACTERISTIC

According to FCC $\S 2.1047(d)$, Part 22H & 24E there is no specific requirement for digital modulation, therefore modulation characteristic is not presented.

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FCC § 2.1046, § 22.913 (a) & § 24.232 (c) - RF OUTPUT POWER

Applicable Standard

According to FCC §2.1046 and §22.913 (a), the ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

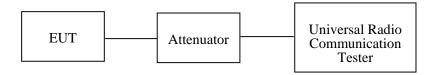
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According to FCC §2.1046 and §24.232 (C), mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications..

Test Procedure

Conducted method:

The RF output of the transmitter was connected to the wireless test set and the spectrum analyzer through sufficient attenuation.



Radiated method:

TIA 603-D section 2.2.17

Test Equipment List and Details

| Manufacturer | Description | Model | Serial Number | Calibration Date | Calibration Due Date |
|--------------------|---|-------------|------------------|---------------------|-------------------------|
| Sunol Sciences | Horn Antenna | DRH-118 | A052304 | 2011-12-01 | 2012-11-30 |
| Rohde & Schwarz | Signal Analyzer | FSIQ26 | 8386001028 | 2011-11-24 | 2012-11-23 |
| Sunol Sciences | Broadband Antenna | JB1 | A040904-2 | 2011-11-28 | 2012-11-27 |
| HP | Signal Generator | 8657A | 2849U00982 | 2011-10-21 | 2012-10-20 |
| HP | Synthesized Sweeper | 8341B | 2624A00116 | 2012-04-11 | 2013-04-10 |
| COM POWER | Dipole Antenna | AD-100 | 041000 | 2011-09-25 | 2012-09-25 |
| A.H. System | Horn Antenna | SAS-200/571 | 135 | 2012-02-11 | 2013-02-10 |
| Rohde & Schwarz | Universal Radio Communication Tester | CMU200 | 109038 | 2012-04-11 | 2013-04-10 |
| Amplifier Research | Attenuator | 6dB | 303282 | N/A | N/A |

^{*} Statement of Traceability: Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

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Test Data

Environmental Conditions

| Temperature: | 25 ℃ |
|--------------------|----------|
| Relative Humidity: | 56 % |
| ATM Pressure: | 100.0kPa |

The testing was performed by Henry Ding on 2012-06-07.

Conducted Power

Cellular Band (Part 22H)

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| Mode | Channel | Frequency (MHz) | Output Power (dBm) | Limit (dBm) |
|------|---------|--------------------|-----------------------|----------------|
| | 128 | 824.2 | 32.15 | 38.45 |
| GSM | 190 | 836.6 | 32.20 | 38.45 |
| | 251 | 848.8 | 32.19 | 38.45 |

| Mode | Channel No. | Frequency | - | RF Output l | Power (dBm) | |
|------|--------------|-----------|--------|-------------|-------------|-------------|
| Mode | Chamilei No. | (MHz) | 1 slot | 2 slot | 3 slots | 4 slots |
| | 128 | 824.2 | 32.03 | 31.86 | Not support | Not support |
| GPRS | 190 | 836.6 | 32.11 | 31.87 | Not support | Not support |
| | 251 | 848.8 | 32.11 | 31.91 | Not support | Not support |

PCS Band (Part 24E)

| Mode | Channel | Frequency (MHz) | Output Power (dBm) | Limit (dBm) |
|------|---------|--------------------|--------------------|----------------|
| | 512 | 1850.2 | 29.17 | 33 |
| GSM | 661 | 1880.0 | 29.30 | 33 |
| | 810 | 1909.8 | 29.35 | 33 |

| Mode | Channel No. | Frequency | | RF Out | put Power (dBm) | |
|------|-------------|-----------|--------|--------|-----------------|-------------|
| Mode | Channel No. | (MHz) | 1 slot | 2 slot | 3 slots | 4 slots |
| | 128 | 824.2 | 29.18 | 29.09 | Not support | Not support |
| GPRS | 190 | 836.6 | 29.33 | 29.23 | Not support | Not support |
| | 251 | 848.8 | 29.38 | 29.29 | Not support | Not support |

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Radiated Power

ERP & EIRP

GSM Mode:

ERP for Cellular Band (Part 22H)

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| Indic | eated | Table | Table Test Antenna | | Sı | Substituted | | | Cable | Absolute | Part 22H |
|--------------------|---------------------------|-----------------|--------------------|----------------|--------------------|------------------------|------------------------|-----------------------------|--------------|----------------|----------------|
| Frequency (MHz) | S.A. Reading (dBµV) | Angle Degree | Height (m) | Polar (H/V) | Frequency (MHz) | S.G. Level (dBm) | Ant. Polar (H/V) | Gain Correction (dBd) | Loss (dB) | Level (dBm) | Limit (dBm) |
| | | | | | Low C | hannel | | | | | |
| 824.2 | 93.28 | 139 | 1.9 | Н | 824.2 | 26.8 | Н | 0 | 0.9 | 25.90 | 38.45 |
| 824.2 | 99.76 | 140 | 1.6 | V | 824.2 | 34.2 | V | 0 | 0.9 | 33.30 | 38.45 |
| | | | | | Middle | Channel | | | | | |
| 836.6 | 94.16 | 258 | 1.8 | Н | 836.6 | 27.7 | Н | 0 | 0.9 | 26.78 | 38.45 |
| 836.6 | 99.53 | 220 | 1.8 | V | 836.6 | 34.1 | V | 0 | 0.9 | 33.22 | 38.45 |
| | High Channel | | | | | | | | | | |
| 848.8 | 93.74 | 140 | 1.7 | Н | 848.8 | 27.2 | Н | 0 | 0.9 | 26.30 | 38.45 |
| 848.8 | 99.18 | 26 | 1.8 | V | 848.8 | 33.6 | V | 0 | 0.9 | 32.72 | 38.45 |

EIRP for PCS Band (Part 24E)

| Indic | ated | Table Test Antenna Substituted | | st Antenna S | | | Antenna | Cable | Absolute | Part 24E | |
|--------------------|---------------------------|--------------------------------|------------|----------------|--------------------|------------------------|------------------------|-----------------------------|--------------|----------------|----------------|
| Frequency (MHz) | S.A. Reading (dBµV) | Angle Degree | Height (m) | Polar (H/V) | Frequency (MHz) | S.G. Level (dBm) | Ant. Polar (H/V) | Gain Correction (dBi) | Loss (dB) | Level (dBm) | Limit (dBm) |
| | | | | | Low C | hannel | | | | | |
| 1850.2 | 88.64 | 142 | 1.6 | Н | 1850.2 | 14.9 | Н | 6.2 | 1.1 | 20.00 | 33 |
| 1850.2 | 93.43 | 212 | 1.8 | V | 1850.2 | 22.8 | V | 6.2 | 1.1 | 27.90 | 33 |
| | | | | | Middle | Channel | | | | | |
| 1880 | 88.92 | 260 | 1.8 | Н | 1880.02 | 15.2 | Н | 6.2 | 1.1 | 20.26 | 33 |
| 1880 | 94.39 | 231 | 1.6 | V | 1880.02 | 23.8 | V | 6.2 | 1.1 | 28.85 | 33 |
| | High Channel | | | | | | | | | | |
| 1909.8 | 88.51 | 45 | 1.7 | Н | 1909.8 | 14.8 | Н | 6.2 | 1.1 | 19.93 | 33 |
| 1909.8 | 94.06 | 178 | 1.9 | V | 1909.8 | 23.5 | V | 6.2 | 1.1 | 28.58 | 33 |

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FCC §2.1049, §22.917, §22.905 & §24.238 - BANDWIDTH

Applicable Standard

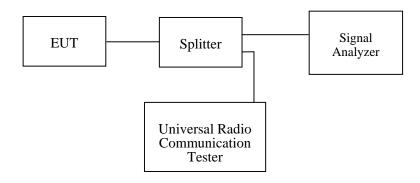
FCC §2.1049, §22.917, §22.905 and §24.238.

Test Procedure

The RF output of the transmitter was connected to the simulator and the spectrum analyzer through sufficient attenuation.

The resolution bandwidth of the spectrum analyzer was set at 3 kHz (Cellular /PCS) and the 26 dB & 99% bandwidth was recorded.

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Test Equipment List and Details

| Manufacturer | Description | Model | Serial Number | Calibration Date | Calibration Due Date | |
|-----------------|---|--------|------------------|---------------------|-------------------------|--|
| Rohde & Schwarz | Signal Analyzer | FSIQ26 | 8386001028 | 2011-11-24 | 2012-11-23 | |
| Rohde & Schwarz | Universal Radio Communication Tester | CMU200 | 109038 | 2012-04-11 | 2013-04-10 | |

^{*} Statement of Traceability: Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Data

Environmental Conditions

| Temperature: | 25 ℃ |
|--------------------|----------|
| Relative Humidity: | 56% |
| ATM Pressure: | 100.0kPa |

The testing was performed by Henry Ding on 2012-06-07.

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Test Mode: Transmitting

Test Result: Compliance. Please refer to the following tables and plots.

GMSK Modulation:

Cellular Band (Part 22H)

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| Channel | Frequency (MHz) | 99% Occupied Bandwidth (kHz) | 26 dB Bandwidth (kHz) |
|---------|--------------------|------------------------------|--------------------------|
| 190 | 836.6 | 242.48 | 314.63 |

PCS Band (Part 24E)

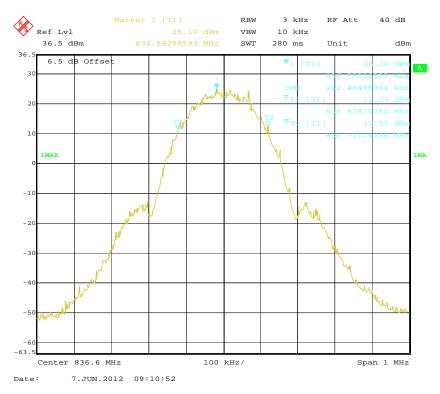
| Channel | Frequency (MHz) | 99% Occupied Bandwidth (kHz) | 26 dB Bandwidth (kHz) |
|---------|--------------------|------------------------------|--------------------------|
| 661 | 1880.0 | 242.48 | 316.63 |

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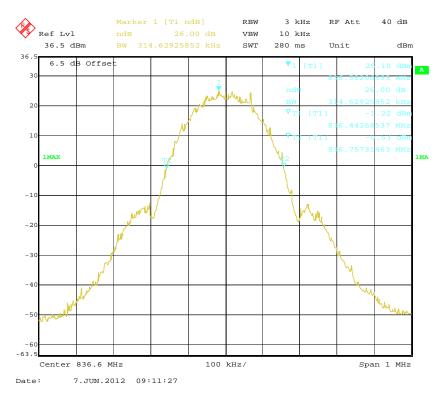
Cellular Band (Part 22H)

99% Occupied Bandwidth

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26 dB Bandwidth

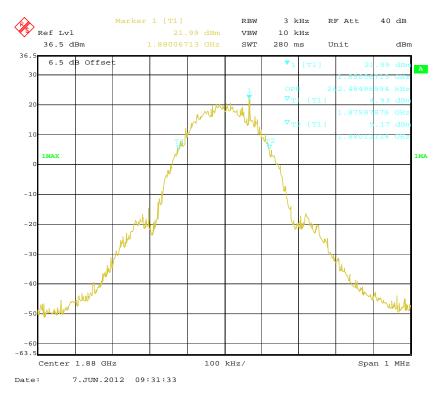


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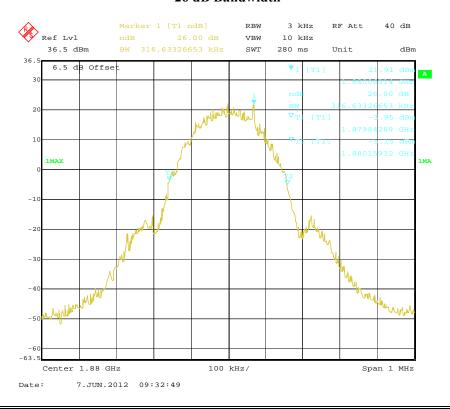
PCS Band (Part 24E)

99% Occupied Bandwidth

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26 dB Bandwidth



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FCC §2.1051, §22.917(a) & §24.238(a) - SPURIOUS EMISSIONS AT ANTENNA TERMINALS

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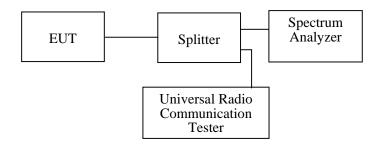
Applicable Standard

FCC §2.1051, §22.917(a) and §24.238(a).

The spectrum was to be investigated to the tenth harmonics of the highest fundamental frequency as specified in § 2.1051.

Test Procedure

The RF output of the transceiver was connected to a spectrum analyzer and simulator through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 100 kHz. Sufficient scans were taken to show any out of band emissions up to 10th harmonic.



Test Equipment List and Details

| Manufacturer | Description | Model | Serial Number | Calibration Date | Calibration Due Date |
|-----------------|---|--------|------------------|---------------------|-------------------------|
| Rohde & Schwarz | Universal Radio Communication Tester | CMU200 | 109038 | 2012-04-11 | 2013-04-10 |
| Rohde & Schwarz | Signal Analyzer | FSIQ26 | 8386001028 | 2011-11-24 | 2012-11-23 |

^{*} Statement of Traceability: Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Data

Environmental Conditions

| Temperature: | 25 ℃ |
|--------------------|----------|
| Relative Humidity: | 56 % |
| ATM Pressure: | 100.0kPa |

The testing was performed by Henry Ding on 2012-06-07.

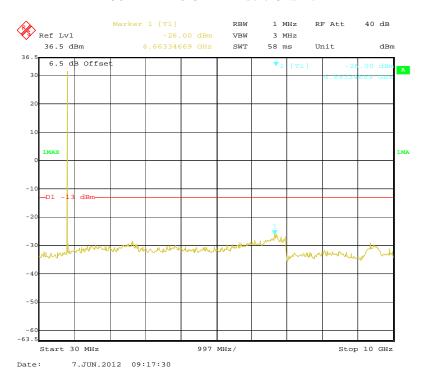
Please refer to the following plots.

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Cellular Band (Part 22H)

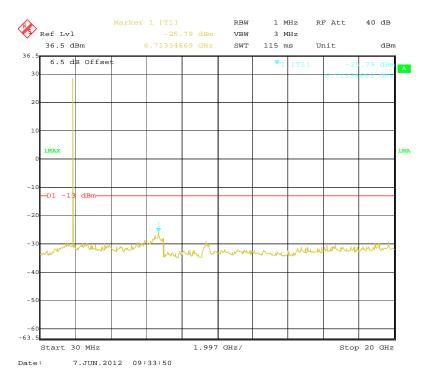
30 MHz - 10 GHz - Middle Channel

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PCS Band (Part 24E)

30 MHz - 20 GHz - Middle Channel



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FCC §2.1053, §22.917 & §24.238 - SPURIOUS RADIATED EMISSIONS

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Applicable Standard

FCC § 2.1053, §22.917 and § 24.238.

Test Procedure

The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load which was also placed on the turntable.

The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the receiving antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis

The frequency range up to tenth harmonic of the fundamental frequency was investigated.

Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

Spurious emissions in $dB = 10 \lg (TXpwr in Watts/0.001) - the absolute level$

Spurious attenuation limit in $dB = 43 + 10 \text{ Log}_{10}$ (power out in Watts)

Test Equipment List and Details

| Manufacturer | Description | Model | Serial Number | Calibration Date | Calibration Due Date |
|-------------------|---|-------------|------------------|---------------------|-------------------------|
| Sunol Sciences | Horn Antenna | DRH-118 | A052304 | 2011-12-01 | 2012-11-30 |
| Sunol Sciences | Broadband Antenna | JB1 | A040904-2 | 2011-11-28 | 2012-11-27 |
| Rohde & Schwarz | Signal Analyzer | FSIQ26 | 8386001028 | 2011-11-24 | 2012-11-23 |
| Mini-Circuits | Amplifier | ZVA-213+ | N/A | 2011-11-24 | 2012-11-23 |
| HP | Signal Generator | 8657A | 3217A04699 | 2011-12-19 | 2012-12-18 |
| HP | Amplifier | 8447E | 1937A01046 | 2011-11-24 | 2012-11-23 |
| HP | Synthesized Sweeper | 8341B | 2624A00116 | 2012-05-17 | 2013-05-16 |
| COM POWER | Dipole Antenna | AD-100 | 041000 | N/A | N/A |
| A.H. System | Horn Antenna | SAS-200/571 | 135 | 2012-02-11 | 2013-02-10 |
| Electro-Mechanics | Horn Antenna | 3116 | 9510-2270 | 2011-10-14 | 2012-10-13 |
| Rohde & Schwarz | Universal Radio Communication Tester | CMU200 | 109038 | 2012-04-11 | 2013-04-10 |

^{*} Statement of Traceability: Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

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Test Data

Environmental Conditions

| Temperature: | 25 ℃ |
|--------------------|----------|
| Relative Humidity: | 56 % |
| ATM Pressure: | 100.0kPa |

The testing was performed by Henry Ding on 2012-06-07.

Test mode: Transmitting (worst case)

30 MHz ~ **10 GHz**:

Cellular Band (Part 22H)

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| Indica | ted | Table | Test A | ntenna | | Substitu | ted | | Absolute | | |
|--------------------|---------------------------|-----------------|------------|----------------|--------------------|-------------|----------------------|-----------------------|----------------|----------------|----------------|
| Frequency (MHz) | S.A. Reading (dBµV) | Angle Degree | Height (m) | Polar (H/V) | Frequency (MHz) | Level (dBm) | Ant. Gain (dB) | Cable Loss (dB) | Level (dBm) | Limit (dBm) | Margin (dB) |
| | | | | | Middle Cha | annel | | | | | |
| 2509.8 | 41.56 | 8 | 1.9 | V | 2509.8 | -54.8 | 10.2 | 1.46 | -46.06 | -13 | 33.06 |
| 1673.2 | 42.77 | 66 | 1.8 | V | 1673.2 | -57.7 | 9.0 | 0.97 | -49.67 | -13 | 36.67 |
| 3346.4 | 33.67 | 13 | 1.8 | V | 3346.4 | -59.9 | 11.5 | 2.08 | -50.48 | -13 | 37.48 |
| 470.86 | 46.77 | 213 | 1.6 | V | 470.86 | -50.8 | 0 | 0.65 | -51.45 | -13 | 38.45 |
| 3346.4 | 33.29 | 49 | 1.7 | Н | 3346.4 | -61.1 | 11.5 | 2.08 | -51.68 | -13 | 38.68 |
| 249.22 | 45.66 | 152 | 1.5 | V | 249.22 | -51.8 | 0 | 0.55 | -52.35 | -13 | 39.35 |
| 470.86 | 44.36 | 249 | 1.2 | Н | 470.86 | -52.4 | 0 | 0.65 | -53.05 | -13 | 40.05 |
| 2509.8 | 38.12 | 43 | 1.6 | Н | 2509.8 | -62.6 | 10.2 | 1.46 | -53.86 | -13 | 40.86 |
| 249.22 | 43.13 | 171 | 1.3 | Н | 249.22 | -53.5 | 0 | 0.55 | -54.05 | -13 | 41.05 |
| 1673.2 | 39.56 | 68 | 1.6 | Н | 1673.2 | -63.5 | 9.0 | 0.97 | -55.47 | -13 | 42.47 |

30 MHz ~ 20 GHz:

PCS Band (Part 24E)

| Indica | ted | Table | Test Aı | itenna | | Substitu | ted | | Absolute | | |
|--------------------|---------------------------|-----------------|------------|----------------|--------------------|-------------|----------------------|-----------------------|----------------|----------------|----------------|
| Frequency (MHz) | S.A. Reading (dBµV) | Angle Degree | Height (m) | Polar (H/V) | Frequency (MHz) | Level (dBm) | Ant. Gain (dB) | Cable Loss (dB) | Level (dBm) | Limit (dBm) | Margin (dB) |
| | | | | | Middle Ch | annel | | | | | |
| 9400.0 | 41.36 | 255 | 1.7 | Н | 9400.0 | -42.2 | 11.9 | 3.34 | -33.64 | -13 | 20.64 |
| 9400.0 | 38.44 | 23 | 1.8 | V | 9400.0 | -44.9 | 11.9 | 3.34 | -36.34 | -13 | 23.34 |
| 5640.0 | 35.83 | 274 | 1.9 | V | 5640.0 | -55.3 | 12.4 | 3.94 | -46.84 | -13 | 33.84 |
| 5640.0 | 36.34 | 47 | 1.7 | Н | 5640.0 | -56 | 12.4 | 3.94 | -47.54 | -13 | 34.54 |
| 3760.0 | 40.13 | 43 | 1.8 | Н | 3760.0 | -56.8 | 12.0 | 2.96 | -47.76 | -13 | 34.76 |
| 3760.0 | 39.01 | 135 | 1.9 | V | 3760.0 | -57.2 | 12.0 | 2.96 | -48.16 | -13 | 35.16 |
| 415.33 | 44.37 | 243 | 1.2 | V | 415.33 | -55.2 | 0 | 0.63 | -55.83 | -13 | 42.83 |
| 199.26 | 45.79 | 122 | 1.5 | V | 199.26 | -55.7 | 0 | 0.50 | -56.20 | -13 | 43.20 |
| 199.26 | 43.24 | 187 | 1.4 | Н | 199.26 | -57.9 | 0 | 0.50 | -58.40 | -13 | 45.40 |
| 415.33 | 42.62 | 72 | 1.5 | Н | 415.33 | -57.9 | 0 | 0.63 | -58.53 | -13 | 45.53 |

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FCC §22.917(a) & §24.238(a) - BAND EDGES

Applicable Standard

According to § 22.917(a), the power of any emissions 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.

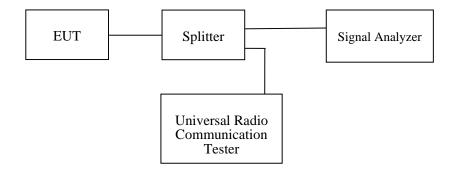
Report No.: RSZ120604003-00B

According to \$24.238(a), the power of any emissions 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

The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.

The center of the spectrum analyzer was set to block edge frequency, RBW set to 3 kHz.



Test Equipment List and Details

| Manufacturer | Description | Model | Serial Number | Calibration Date | Calibration Due Date |
|-----------------|---|--------|------------------|---------------------|-------------------------|
| Rohde & Schwarz | Signal Analyzer | FSIQ26 | 8386001028 | 2011-11-24 | 2012-11-23 |
| Rohde & Schwarz | Universal Radio Communication Tester | CMU200 | 109038 | 2012-04-11 | 2013-04-10 |

^{*} Statement of Traceability: Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Data

Environmental Conditions

| Temperature: | 25 ℃ |
|--------------------|----------|
| Relative Humidity: | 56 % |
| ATM Pressure: | 100.0kPa |

The testing was performed by Henry Ding on 2012-06-07.

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Test Mode: Transmitting

Test Result: Compliance. Please refer to the following tables and plots.

Cellular Band (Part 22H)

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| Frequency (MHz) | Emission (dBm) | Limit (dBm) |
|--------------------|-------------------|----------------|
| 823.988 | -13.83 | <-13 |
| 849.024 | -14.09 | <-13 |

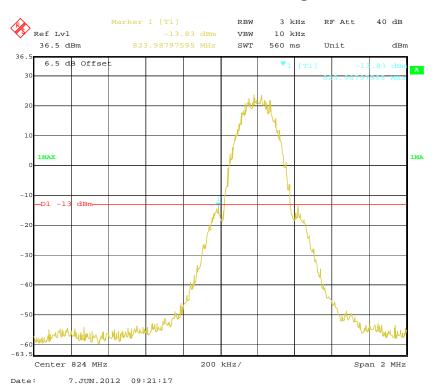
PCS Band (Part 24E)

| Frequency (MHz) | Emission (dBm) | Limit (dBm) |
|--------------------|-------------------|----------------|
| 1849.978 | -16.90 | <-13 |
| 1910.022 | -16.54 | <-13 |

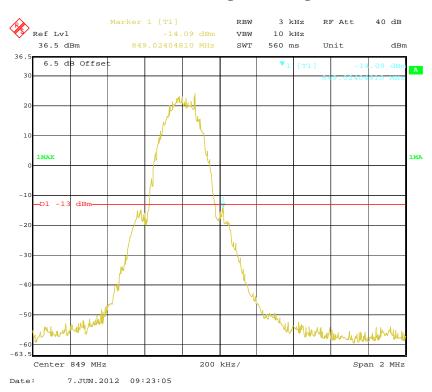
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Cellular Band, Left Band Edge

Report No.: RSZ120604003-00B



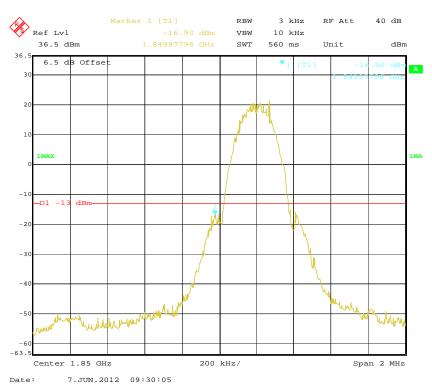
Cellular Band, Right Band Edge



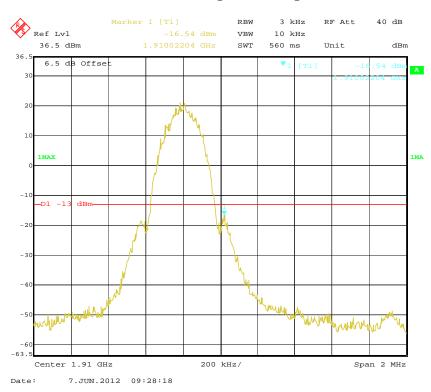
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PCS Band, Left Band Edge

Report No.: RSZ120604003-00B



PCS Band, Right Band Edge



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FCC §2.1055, §22.355 & §24.235 - FREQUENCY STABILITY

Applicable Standard

FCC § 2.1055 (a), § 2.1055 (d), §22.355, §24.235

According to §22.355, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table below:

| Eroguanov | Toloropoo | for Trans | mittare in | the Dubli | c Mobile Serv | iooc |
|-----------|-----------|------------|------------|-----------|----------------|-------|
| rrequency | Toterance | Tor Transi | mitters in | the Publi | c ivionne serv | /ices |

Report No.: RSZ120604003-00B

| Frequency Range (MHz) | Base, fixed (ppm) | Mobile ≤3 watts (ppm) | Mobile ≤ 3 watts (ppm) |
|--------------------------|-------------------|-----------------------|------------------------|
| 25 to 50 | 20.0 | 20.0 | 50.0 |
| 50 to 450 | 5.0 | 5.0 | 50.0 |
| 450 to 512 | 2.5 | 5.0 | 5.0 |
| 821 to 896 | 1.5 | 2.5 | 2.5 |
| 928 to 929. | 5.0 | N/A | N/A |
| 929 to 960. | 1.5 | N/A | N/A |
| 2110 to 2220 | 10.0 | N/A | N/A |

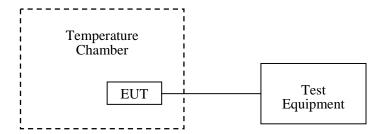
According to §24.235, the frequency stability shall be sufficient to ensure that the fundamental emissions stays within the authorized frequency block.

Test Procedure

Frequency Stability vs. Temperature: The equipment under test was connected to an external DC power supply and the RF output was connected to communication test set via feed-through attenuators. The EUT was placed inside the temperature chamber. The DC leads and RF output cable exited the chamber through an opening made for the purpose.

After the temperature stabilized for approximately 20 minutes, the frequency output was recorded from the communication test set.

Frequency Stability vs. Voltage: An external variable DC power supply was connected to the battery terminals of the equipment under test. The voltage was set to 115% of the nominal value and was then decreased until the transmitter light no longer illuminated; i.e., the battery end point. The output frequency was recorded for each battery voltage.



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Test Equipment List and Details

| Manufacturer | Description | Model | Serial Number | Calibration Date | Calibration Due Date |
|-----------------|---|---------|------------------|---------------------|-------------------------|
| ESPEC | Temperature & Humidity Chamber | EL-10KA | 09107726 | 2011-11-24 | 2012-11-23 |
| Rohde & Schwarz | Universal Radio Communication Tester | CMU200 | 109038 | 2012-04-11 | 2013-04-10 |

Report No.: RSZ120604003-00B

Test Data

Environmental Conditions

| Temperature: | 20 ℃ |
|--------------------|----------|
| Relative Humidity: | 56 % |
| ATM Pressure: | 100.0kPa |

The testing was performed by Henry Ding on 2012-06-07.

Test Mode: Transmitting

Test Result: Compliance. Please refer to the following tables.

Cellular Band (Part 22H)

| Middle Channel, f ₀ =836.6 MHz | | | | |
|---|-----------------------------------|----------------------------|-----------------------------|----------------|
| Temperature (°C) | Power Supplied (V _{DC}) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50 | | -13 | -0.0155 | 2.5 |
| 40 | | -20 | -0.0239 | 2.5 |
| 30 | | -16 | -0.0191 | 2.5 |
| 20 | | -22 | -0.0263 | 2.5 |
| 10 | 3.7 | -26 | -0.0311 | 2.5 |
| 0 | | -30 | -0.0359 | 2.5 |
| -10 | | -8 | -0.0096 | 2.5 |
| -20 | | -5 | -0.0060 | 2.5 |
| -30 | | -7 | -0.0084 | 2.5 |
| 25 | V _{max.} =4.2 | -6 | -0.0072 | 2.5 |
| 25 | V mor.=3.7 | -12 | -0.0143 | 2.5 |
| 25 | V _{min.} = 3.5 | -15 | -0.0179 | 2.5 |

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^{*} Statement of Traceability: Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

PCS Band (Part 24E)

Report No.: RSZ120604003-00B

| Middle Channel, f _o =1880.0 MHz | | | | |
|--|-----------------------------------|----------------------------|-----------------------------|--------|
| Temperature (°C) | Power Supplied (V _{DC}) | Frequency Error (Hz) | Frequency Error (ppm) | Result |
| 50 | | -11 | -0.0059 | Pass |
| 40 | | -13 | -0.0069 | Pass |
| 30 | | -15 | -0.0080 | Pass |
| 20 | | -20 | -0.0106 | Pass |
| 10 | 3.7 | -17 | -0.0090 | Pass |
| 0 | | -21 | -0.0112 | Pass |
| -10 | | -18 | -0.0096 | Pass |
| -20 | | -22 | -0.0117 | Pass |
| -30 | | -19 | -0.0101 | Pass |
| 25 | V _{max.} =4.2 | -8 | -0.0043 | Pass |
| 25 | V mor.=3.7 | -12 | -0.0064 | Pass |
| 25 | V _{min.} =3.5 | -9 | -0.0048 | Pass |

***** END OF REPORT *****

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