



FCC PART 22H, PART 24E MEASUREMENT AND TEST REPORT

For

ITALCOM GROUP

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FCC ID: YPVITALCOMWAKIX2

Report Type: Product Type:

Original Report Mobile Phone

Test Engineer: Henry Ding

Report Number: RSZ120206001-00B

Report Date: 2012-03-02

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Reviewed By: EMC Engineer

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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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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *ITALCOM GROUP*'s product, model number: *WAKIX2 (FCC ID: YPVITALCOMWAKIX2)* or the "EUT" in this report was a *Mobile Phone*, which was measured approximately: 11.5 cm (L) x 6.0 cm (W) x 1.5 cm (H), rated input voltage: DC 3.7V 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) Bluetooth: 2402-2480 MHz (Tx/Rx)

Modulation Mode: GMSK (Cellular/PCS); GFSK, π/4-DQPSK, 8DPSK (Bluetooth)

Transmitter Output Power:

Cellular Band: 32.58 dBm (Conducted output power) PCS Band: 28.87 dBm (Conducted output power) Bluetooth: 3.68 dBm (Conducted output power)

Objective

This 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 compliance with FCC rules for output power, modulation characteristic, occupied bandwidth, and spurious emission at antenna terminal, spurious radiated emission, frequency stability, band edge and radiated margin.

Related Submittal(s)/Grant(s)

FCC Part 15.247 DSS and Part 15B JBP submission with FCC ID: YPVITALCOMWAKIX2.

Test Methodology

All tests and measurements indicated in this document were performed in accordance with the Code of Federal Regulations Title 47 Part 2, Sub-part 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-C, 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.

The uncertainty of any RF tests which use conducted method measurement is ± 0.96 dB, the uncertainty of any radiation on emissions measurement is ± 4.0 dB

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^{*} All measurement and test data in this report was gathered from production sample serial number: 1202013 (Assigned by BACL, Shenzhen). The EUT was received on 2012-02-06.

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

Justification

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

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

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

Equipment Modifications

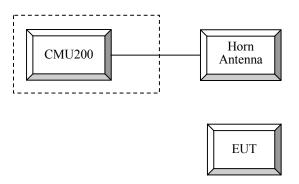
No modifications were made to the EUT.

Local Support Equipment List and Details

| Manufacturer | Description | Model | Serial Number | Calibration Date | Calibration Due Date | |
|-----------------|---|--------|------------------|---------------------|-------------------------|--|
| Rohde & Schwarz | Universal Radio Communication Tester | CMU200 | 109038 | 2011-04-11 | 2012-04-10 | |

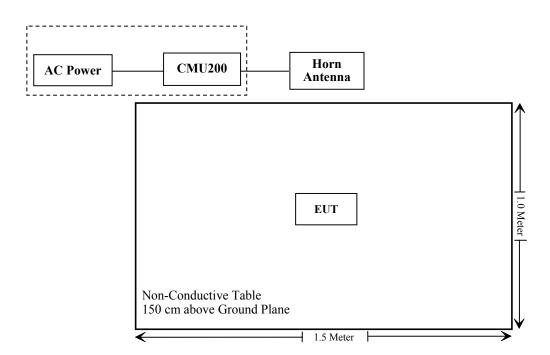
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Configuration of Test Setup



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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 | 26 dB 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: RSZ120206001-20

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FCC §1.1307 & §2.1093 - RF EXPOSURE

Report No.: RSZ120206001-00B

Applicable Standard

FCC§1.1307 and §2.1093.

Test Result

Compliance, please refer to the SAR report: RSZ120206001-20

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FCC §2.1047 - MODULATION CHARACTERISTIC

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

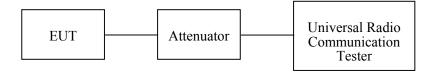
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According to FCC §2.1046 and §24.232 (C), mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications..

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-C 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 | A052604 | 2011-05-05 | 2012-05-04 |
| Rohde & Schwarz | Signal Analyzer | FSIQ 26 | 609358 | 2011-07-08 | 2012-07-07 |
| Mini-Circuits | Amplifier | ZVA-213+ | T-E27H | 2011-03-08 | 2012-03-07 |
| HP | Signal Generator | HP8657A | 2849U00982 | 2011-10-28 | 2012-10-27 |
| HP | Amplifier | HP8447D | 2944A09795 | 2011-08-02 | 2012-08-02 |
| HP | Synthesized Sweeper | 8341B | 2624A00116 | 2011-11-07 | 2012-11-06 |
| COM POWER | Dipole Antenna | AD-100 | 041000 | 2011-09-25 | 2012-09-25 |
| A.H. System | Horn Antenna | SAS-200/571 | 135 | 2011-05-17 | 2012-05-17 |

^{*} 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 °C |
|--------------------|----------|
| Relative Humidity: | 56 % |
| ATM Pressure: | 100.0kPa |

The testing was performed by Henry Ding on 2012-02-09.

Conducted Power:

GSM

| Band | Frequency | Conducted O | utput Power |
|----------|-----------|-------------|-------------|
| Danu | (MHz) | GSM (dBm) | GSM (W) |
| | 824.2 | 32.51 | 1.782 |
| Cellular | 836.6 | 32.49 | 1.774 |
| | 848.8 | 32.43 | 1.750 |
| | 1850.2 | 29.12 | 0.817 |
| PCS | 1880.0 | 29.64 | 0.920 |
| | 1909.8 | 29.76 | 0.946 |

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GPRS

| Dond | Band Channel Frequency No. (MHz) | Frequency | | RF Output | Power (dBm) | |
|----------|----------------------------------|-----------|--------|-----------|-------------|-------|
| Dand | | 1 slot | 2 slot | 3 slots | 4 slots | |
| | 128 | 824.2 | 32.55 | 32.49 | 32.43 | 32.37 |
| Cellular | 190 | 836.6 | 32.52 | 32.45 | 32.40 | 32.30 |
| | 251 | 848.8 | 32.46 | 32.41 | 32.33 | 32.30 |
| | 512 | 1850.2 | 29.06 | 29.08 | 29.00 | 28.96 |
| PCS | 661 | 1880.0 | 29.60 | 29.74 | 29.63 | 29.43 |
| | 810 | 1909.8 | 29.78 | 29.85 | 29.74 | 29.68 |

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Radiated Power:

ERP for Cellular Band (Part 22H)

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GSM 850:

| Indic | cated | Table | Test Antenna | | able Test Antenna Substituted | | Antenna | 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 Channel | | | | | | | | | | |
| 824.2 | 103.15 | 47 | 1.5 | Н | 824.2 | 28.1 | Н | 0 | 0.7 | 27.4 | 38.45 |
| 824.2 | 104.63 | 125 | 1.4 | V | 824.2 | 29.6 | V | 0 | 0.7 | 28.9 | 38.45 |
| | | | | | Middle (| Channel | | | | | |
| 836.6 | 102.25 | 125 | 1.5 | Н | 836.6 | 27.2 | Н | 0 | 0.7 | 26.5 | 38.45 |
| 836.6 | 105.74 | 164 | 1.4 | V | 836.6 | 30.7 | V | 0 | 0.7 | 30.0 | 38.45 |
| | High Channel | | | | | | | - | | | |
| 848.8 | 103.52 | 154 | 1.7 | Н | 848.8 | 28.5 | Н | 0 | 0.7 | 27.8 | 38.45 |
| 848.8 | 104.74 | 256 | 1.4 | V | 848.8 | 29.7 | V | 0 | 0.7 | 29.0 | 38.45 |

EIRP for PCS Band (Part 24E)

PCS 1900:

| Indic | cated | Table | Test Antenna | | Su | Substituted | | 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 Channel | | | | | | | | | | |
| 1850.2 | 92.39 | 0 | 1.5 | Н | 1850.2 | 19.7 | Н | 6.1 | 1 | 24.8 | 33 |
| 1850.2 | 95.15 | 14 | 1.6 | V | 1850.2 | 22.5 | V | 6.1 | 1 | 27.6 | 33 |
| | | | | | Middle (| Channel | | | | | |
| 1880 | 95.57 | 220 | 1.5 | Н | 1880 | 22.9 | Н | 6.1 | 1 | 28.0 | 33 |
| 1880 | 93.33 | 232 | 1.6 | V | 1880 | 20.7 | V | 6.1 | 1 | 25.8 | 33 |
| | High Channel | | | | | | | _ | | | |
| 1909.8 | 94.01 | 256 | 1.3 | Н | 1909.8 | 21.3 | Н | 6.1 | 1 | 26.4 | 33 |
| 1909.8 | 96.40 | 264 | 1.5 | V | 1909.8 | 21.8 | V | 6.1 | 1 | 26.9 | 33 |

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

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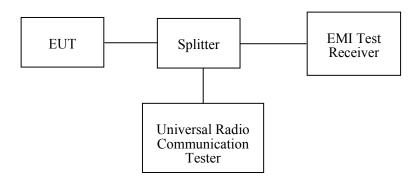
Applicable Standard

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.



Test Equipment List and Details

| Manufacturer | Description | Model | Serial Number | Calibration Date | Calibration Due Date |
|-----------------|---|--------|------------------|---------------------|-------------------------|
| Rohde & Schwarz | EMI Test Receiver | ESCI | 100035 | 2011-11-11 | 2012-11-10 |
| Rohde & Schwarz | Universal Radio Communication Tester | CMU200 | 109038 | 2011-04-11 | 2012-04-10 |

^{*} 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 °C |
|--------------------|----------|
| Relative Humidity: | 56 % |
| ATM Pressure: | 100.0kPa |

The testing was performed by Henry Ding on 2012-02-09.

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

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GMSK:

Cellular Band (Part 22H)

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| Channel | Frequency | 99% Bandwidth | 26 dB Bandwidth |
|---------|-----------|---------------|-----------------|
| No. | (MHz) | (kHz) | (kHz) |
| 190 | 836.6 | 246.49 | |

PCS Band (Part 24E)

| Channel | Frequency | 99% Bandwidth | 26 dB Bandwidth |
|---------|-----------|---------------|-----------------|
| No. | (MHz) | (kHz) | (kHz) |
| 661 | 1880.0 | 248.49 | 310.62 |

Please refer to the following plots.

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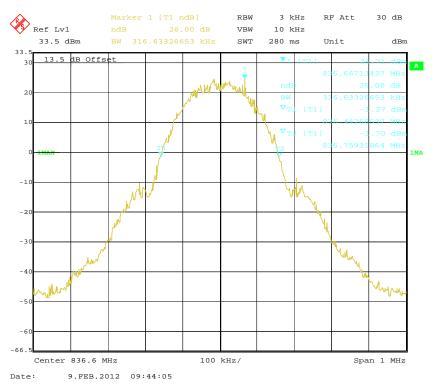
Cellular Band (Part 22H)

99% Bandwidth

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26 dB Bandwidth

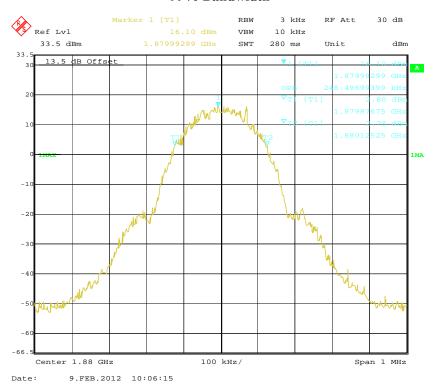


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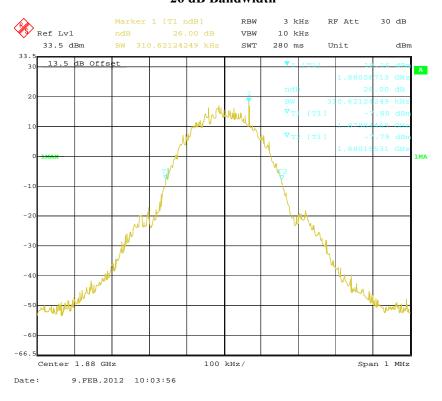
PCS Band (Part 24E)

99% 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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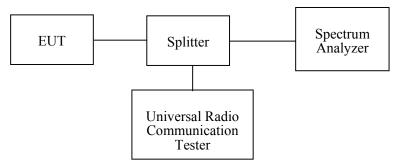
Applicable Standard

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 | EMI Test Receiver | ESCI | 100035 | 2011-11-11 | 2012-11-10 |
| Rohde & Schwarz | Signal Analyzer | FSIQ 26 | 609358 | 2011-07-08 | 2012-07-07 |

^{*} 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 °C |
|--------------------|----------|
| Relative Humidity: | 56 % |
| ATM Pressure: | 100.0kPa |

The testing was performed by Henry Ding on 2012-03-06.

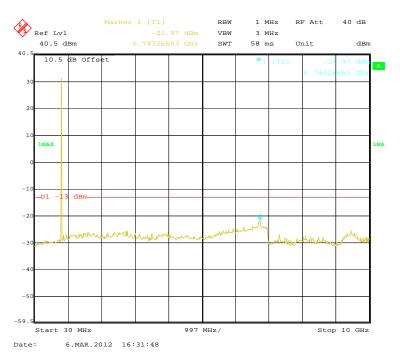
Test Result: Compliance. Please refer to the following plots.

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Cellular Band (Part 22H)

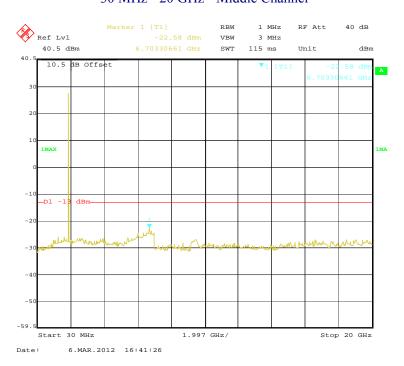
30 MHz-10 GHz - Middle Channel

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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 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 | A052604 | 2011-05-05 | 2012-05-04 |
| Sunol Sciences | Broadband Antenna | JB1 | A040904-1 | 2011-07-05 | 2012-07-04 |
| Rohde & Schwarz | Signal Analyzer | FSIQ 26 | 609358 | 2011-07-08 | 2012-07-07 |
| Mini-Circuits | Amplifier | ZVA-213+ | Т-Е27Н | 2011-03-08 | 2012-03-07 |
| НР | Signal Generator | HP8657A | 2849U00982 | 2011-10-28 | 2012-10-27 |
| HP | Amplifier | HP8447D | 2944A09795 | 2011-08-02 | 2012-08-02 |
| HP | Synthesized Sweeper | 8341B | 2624A00116 | 2011-11-07 | 2012-11-06 |
| COM POWER | Dipole Antenna | AD-100 | 041000 | 2011-09-25 | 2012-09-25 |
| A.H. System | Horn Antenna | SAS-200/571 | 135 | 2011-05-17 | 2012-05-17 |

^{*} 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 °C |
|--------------------|----------|
| Relative Humidity: | 56 % |
| ATM Pressure: | 100.0kPa |

The testing was performed by Henry Ding on 2012-02-12.

Test Mode: Transmitting

Cellular Band (Part 22H)

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30MHz~10GHz:

| Indic | ated | Table | Test Aı | ntenna | | Substitu | ted | | Absolute | | |
|-----------------|-----------------------------|-----------------|------------|----------------|--------------------|-------------|-----------------------|-----------------------|----------------|----------------|----------------|
| Frequency (MHz) | S.A. Reading (dBµV/m) | Angle Degree | Height (m) | Polar (H/V) | Frequency (MHz) | Level (dBm) | Ant. Gain (dBi) | Cable Loss (dB) | Level (dBm) | Limit (dBm) | Margin (dB) |
| | Middle Channel | | | | | | | | | | |
| 1673.2 | 48.72 | 315 | 1.5 | V | 1673.2 | -51.7 | 6.2 | 0.8 | -46.3 | -13 | 33.3 |
| 1673.2 | 44.51 | 190 | 1.3 | Н | 1673.2 | -58.3 | 6.2 | 0.8 | -52.9 | -13 | 39.9 |
| 2509.8 | 45.45 | 320 | 2.5 | V | 2509.8 | -57.6 | 7.3 | 1.2 | -51.5 | -13 | 38.5 |
| 2509.8 | 43.41 | 180 | 2.5 | Н | 2509.8 | -60.2 | 7.3 | 1.2 | -54.1 | -13 | 41.1 |

PCS Band (Part 24E)

30MHz~ 20GHz:

| Indica | Indicated Table | | Test A | ntenna | | Substitu | ted | | Absolute | | |
|-----------------|-----------------------------|-----------------|------------|----------------|--------------------|-------------|-----------------------|-----------------------|----------------|----------------|----------------|
| Frequency (MHz) | S.A. Reading (dBµV/m) | Angle Degree | Height (m) | Polar (H/V) | Frequency (MHz) | Level (dBm) | Ant. Gain (dBi) | Cable Loss (dB) | Level (dBm) | Limit (dBm) | Margin (dB) |
| | Middle Channel | | | | | | | | | | |
| 3760 | 43.34 | 320 | 2.0 | Н | 3760 | -33.5 | 6.9 | 1.5 | -28.1 | -13 | 15.1 |
| 5640 | 44.06 | 320 | 2.2 | Н | 5640 | -35.3 | 8.3 | 1.8 | -28.8 | -13 | 15.8 |
| 3760 | 40.05 | 20 | 1.8 | V | 3760 | -38.2 | 6.9 | 1.5 | -32.8 | -13 | 19.8 |
| 5640 | 39.70 | 120 | 2.0 | V | 5640 | -43.2 | 8.3 | 1.8 | -36.7 | -13 | 23.7 |

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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.

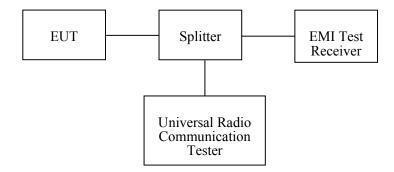
Report No.: RSZ120206001-00B

According to $\S24.238(a)$, 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 | EMI Test Receiver | ESCI | 100035 | 2011-11-11 | 2012-11-10 |

^{*} 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 °C |
|--------------------|----------|
| Relative Humidity: | 56 % |
| ATM Pressure: | 100.0kPa |

The testing was performed by Henry Ding on 2012-02-10.

Please refer to the following tables and plots.

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Cellular Band (Part 22H)

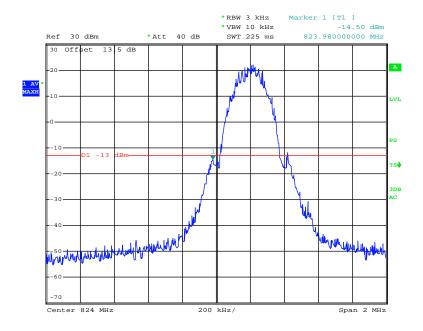
Report No.: RSZ120206001-00B

| Frequency (MHz) | Emission (dBm) | Limit (dBm) |
|--------------------|-------------------|----------------|
| 823.980 | -14.50 | -13 |
| 849.024 | -14.01 | -13 |

PCS Band (Part 24E)

| Frequency (MHz) | Emission (dBm) | Limit (dBm) |
|--------------------|-------------------|----------------|
| 1849.996 | -15.19 | -13 |
| 1910.020 | -17.64 | -13 |

Cellular Band, Left Band Edge

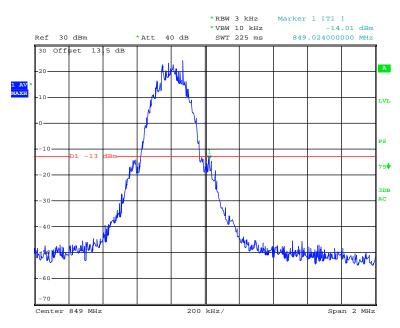


Date: 10.FEB.2012 11:57:32

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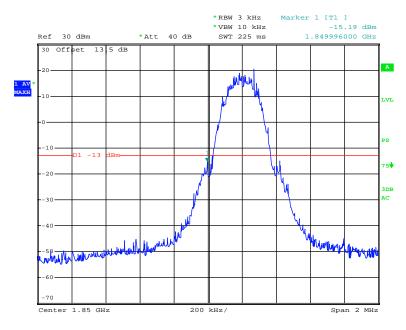
Cellular Band, Right Band Edge

Report No.: RSZ120206001-00B



Date: 10.FEB.2012 13:13:39

PCS Band, Left Band Edge

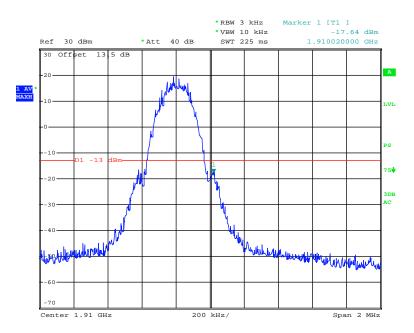


Date: 10.FEB.2012 13:21:51

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PCS Band, Right Band Edge

Report No.: RSZ120206001-00B



Date: 10.FEB.2012 13:23:12

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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:

| Frequency Tolerance for Transmitters in the Publ | i wiodile service | SS. |
|--|-------------------|-----|

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| 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 |

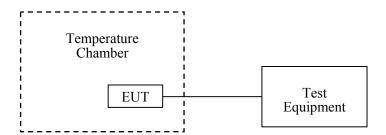
According to §24.235, the frequency stability shall be sufficient to ensure that the fundamental emissions stays within the authorized frequency block.

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 |
|---------------|---|--------|------------------|---------------------|-------------------------|
| WUHUAN | Temperature & Humidity Chamber | HTP205 | 20021115 | 2011-06-04 | 2012-06-03 |
| Rohde&Schwarz | Universal Radio Communication Tester | CMU200 | 109038 | 2011-04-11 | 2012-04-10 |

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Test Data

Environmental Conditions

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

The testing was performed by Henry Ding on 2012-02-12.

Cellular Band (Part 22H)

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

| Middle Channel, f ₀ =1880.0MHz | | | | | |
|---|-----------------------------------|----------------------------|-----------------------------|--------|--|
| Temperature (°C) | Power Supplied (V _{DC}) | Frequency Error (Hz) | Frequency Error (ppm) | Result | |
| -30 | | -15 | -0.0080 | pass | |
| -20 | | -12 | -0.0064 | pass | |
| -10 | | -10 | -0.0053 | pass | |
| 0 | | -11 | -0.0059 | pass | |
| 10 | 3.7 | -9 | -0.0048 | pass | |
| 20 | | -12 | -0.0064 | pass | |
| 30 | | -7 | -0.0037 | pass | |
| 40 | | -8 | -0.0043 | pass | |
| 50 | | -6 | -0.0032 | pass | |
| 25 | V max.=4.2 | -7 | -0.0037 | pass | |
| 25 | V min.= 3.5 | -9 | -0.0048 | pass | |

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

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