

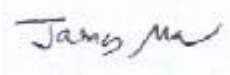

FCC PART 22, 24 TYPE APPROVALS EMI MEASUREMENT AND TEST REPORT

For

Sky Detective, Inc.

2976 E. State Street #120 Eagle, Idaho 83616 ,USA

FCC ID: VXTSD30TRACKER

| | |
|---|---|
| This Report Concerns: <input checked="" type="checkbox"/> Original Report | Product Type: CDMA 1X GPS ONE Module |
| Test Engineer: | James Ma  |
| Report No.: | R0801107-22 |
| Report Date: | 2008-01-29 |
| Reviewed By: | Boni Banique  |
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Note: This test report is for the customer shown above and their specific product only. 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, NIST, or any agency of the Federal Government

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1 - GENERAL INFORMATION

1.1 Product Description for Equipment under Test (EUT)

The *Sky Detective, Inc.*'s product, FCC ID: VXTSD30TRACKER or the "EUT" as referred to in this report is a CDMA 1X GPSONE Module. Sky Detective's SD30 Tracker uses Qualcomm's CDMA gpsOne technology. The SD30 provides tracking, security and recovery of high-value packages/assets in real time or on demand. Sky Detective's SD30 provides accurate location capability, even in impaired environments such as inside trailers and closed packages without the use of external antennas.

1.2 Mechanical Description

Approximate measurement is: 9cm (L) x 5cm (W) x 1.5cm (H).

** The test data gathered are from typical production sample, serial number: B1600, provided by the manufacturer.*

1.3 EUT Photo



Please see additional photos in Exhibit C

1.4 Objective

This type approval report is prepared on behalf of *Sky Detective, Inc.* 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 RF output power, modulation characteristic, occupied bandwidth, spurious emissions at antenna terminal, field strength of spurious radiation, frequency stability, band edge, and conducted and radiated margin.

1.5 Related Submittal(s)/Grant(s)

No Related Submittals

1.6 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 - PCS

Applicable Standards: TIA EIA 98-C, TIA/EIA603-C, ANSI C63.4-2003.

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

1.7 Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in the field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the values ranging from ± 2.0 dB for Conducted Emissions tests and ± 4.0 dB for Radiated Emissions tests are the most accurate estimates pertaining to uncertainty of EMC measurements at BACL Corp.

Detailed instrumentation measurement uncertainties can be found in BACL Corp. report QAP-018.

1.8 Test Facility

The test site used by BACL Corp. to collect radiated and conducted emissions measurement data is located at its facility in Sunnyvale, California, USA.

The test site at BACL Corp. has been fully described in reports submitted to the Federal Communication Commission (FCC) and Voluntary Control Council for Interference (VCCI). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on February 11, 1997 and December 10, 1997 and Article 8 of the VCCI regulations on December 25, 1997. The facility also complies with the test methods and procedures set forth in ANSI C63.4-2003 & TIA/EIA-603.

The Federal Communications Commission and Voluntary Control Council for Interference have the reports on file and they are listed under FCC registration number: 90464 and VCCI Registration No.: R-2463 and C-2698. The test site has been approved by the FCC and VCCI for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, BACL Corp. is a National Institute of Standards and Technology (NIST) accredited laboratory under the National Voluntary Laboratory Accredited Program (Lab Code 200167-0). The current scope of accreditations can be found at <http://ts.nist.gov/ts/hdocs/210/214/scopes/2001670.htm>.

2 - SYSTEM TEST CONFIGURATION

2.1 Justification

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

The final qualification test was performed with the EUT operating at normal mode.

2.2 Equipment Modifications

No modifications were made to the EUT.

2.3 Power Supply and Line Filters

| Manufacturer | Description | Model | Serial Number |
|---------------------------------|-------------|----------------|-----------------|
| Shenzhen Ruijing Industrial Co. | AC Adaptor | RJ-Z1000NHS5.0 | 500711170007931 |

2.4 Local Support Equipment List and Details

| Manufacturer | Description | Model | Serial Number |
|-------------------|----------------------------------|-----------------------|---------------|
| Agilent | Wireless Communications Test Set | 8960 Series 10 E5515C | GB44051221 |
| Mini-Circuits | Splitter | ZFRSC-42 | SF874700404 |
| Midwest Microwave | 10dB Attenuator Pad | ATT-0263-10-000-02 | N/A |

2.5 Interface Ports and Cabling

| Cable Description | Length (M) | From | To |
|-------------------|------------|-------------------------|----------|
| RF cable | 0.25 | Communications Test Set | Splitter |
| RF cable | 0.25 | Antenna Port on EUT | Splitter |

3 - SUMMARY OF TEST RESULTS

| FCC Rules | Description of Test | Result |
|--|--|-----------|
| § 2.1047 | Modulation Characteristics | Compliant |
| §2.1091 | RF Exposure | Compliant |
| § 2.1053 | Field Strength of Spurious Radiation | Compliant |
| § 2.1046, § 22.913(a) § 24.232 (b) | RF Output Power | Compliant |
| § 2.1049 § 22.917(a) § 22.905 § 24.238 (a) | Out of Band Emissions, Occupied Bandwidth | Compliant |
| § 2.1051, § 22.917 § 24.238(a) | Spurious Emissions at Antenna Terminals | Compliant |
| § 2.1055 (a) § 2.1055 (d) § 22.355 § 24.235 | Frequency stability vs. temperature Frequency stability vs. voltage | Compliant |
| § 22.917 §24.238 | Band Edge | Compliant |

4 - §2.1047 - MODULATION CHARACTERISTIC

4.1 Applicable Standard

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

5 - §1.1307(b) (1) & §2.1091 - RF EXPOSURE

5.1 Applicable Standard

According to §1.1310 and §2.1091 RF exposure is calculated.

Limits for General Population/Uncontrolled Exposure

| Frequency Range (MHz) | Electric Field Strength (V/m) | Magnetic Field Strength (A/m) | Power Density (mW/cm ²) | Averaging Time (minute) |
|--|-------------------------------|-------------------------------|-------------------------------------|-------------------------|
| Limits for General Population/Uncontrolled Exposure | | | | |
| 0.3-1.34 | 614 | 1.63 | *(100) | 30 |
| 1.34-30 | 824/f | 2.19/f | *(180/f ²) | 30 |
| 30-300 | 27.5 | 0.073 | 0.2 | 30 |
| 300-1500 | / | / | f/1500 | 30 |
| 1500-100,000 | / | / | 1.0 | 30 |

f = frequency in MHz

* = Plane-wave equivalent power density

5.2 MPE Prediction

Predication of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = PG/4\pi R^2$$

Where: S = power density

P = power input to antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna

Cellular band

Maximum peak output power at antenna input terminal: 24.78 (dBm)

Maximum peak output power at antenna input terminal: 300.61 (mW)

Prediction distance: 20 (cm)

Predication frequency: 836.52(MHz)

Antenna Gain (typical): 2.15 (dBi)

Antenna gain: 1.64 (numeric)

Power density at predication frequency at 20 cm: 0.098 (mW/cm²)

MPE limit for uncontrolled exposure at prediction frequency: 0.56 (mW/cm²)

PCS band

Maximum peak output power at antenna input terminal: 21.61 (dBm)

Maximum peak output power at antenna input terminal: 144.88 (mW)

Prediction distance: 20 (cm)

Predication frequency: 1880 (MHz)

Antenna Gain (typical): 2.15 (dBi)

Antenna gain: 1.64 (numeric)

Power density at predication frequency at 20 cm: 0.047 (mW/cm²)

MPE limit for uncontrolled exposure at prediction frequency: 1 (mW/cm²)

5.3 Test Result

The EUT is a mobile device. The power density level at 20 cm is 0.098 mW/cm², which is below the uncontrolled exposure limit of 0.550 mW/cm² at 836.4 MHz for Cellular band. The power density level at 20 cm is 0.047 mW/cm², which is below the uncontrolled exposure limit of 1mW/cm² at 1880 MHz for PCS band.

6 - §2.1053 - SPURIOUS RADIATED EMISSIONS

6.1 Applicable Standard

Requirements: CFR 47, § 2.1053, § 22.917, § 24.238.

6.2 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 = $10 \lg(\text{TXpwr in Watts}/0.001)$ – the absolute level

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

Environmental Conditions

| | |
|---------------------------|----------|
| Temperature: | 20° C |
| Relative Humidity: | 55% |
| ATM Pressure: | 1020mbar |

* The testing was performed by James Ma on 2008-01-25.

6.3 Test Equipment List and Details

| Manufacturer | Description | Model | Serial Number | Calibration Date |
|---------------|---------------------------|-------------|---------------|------------------|
| Agilent | Analyzer, Spectrum | E4446A | US44300386 | 2007-04-26 |
| HP | Amplifier, Pre | 8447D | 2944A10198 | 2007-12-19 |
| HP | Amplifier, Pre, Microwave | 8449B | 3147A00400 | 2007-11-02 |
| A. H. Systems | Antenna, Horn, DRG | SAS-200/571 | 261 | 2007-06-07 |
| A.R.A. | Antenna, Horn | DRG-118/A | 1132 | 2007-06-18 |
| HP | Generator, Signal | 83650B | 3614A00276 | 2007-05-08 |

* **Statement of Traceability:** BACL Corp. attests that all calibrations have been performed per the NVLAP requirements, traceable to the NIST.

6.4 Test Result

Worst case reading as follows:

Cellular Band, Part22:

-22.4 dB at 2509.56 MHz in the Vertical Polarization

PCS Band, Part24:

-20.6 dB at 3760.00 MHz in the Vertical Polarization

Run # 1: 30 MHz -10GHz Cellular Band Middle Channel

| Indicated | | Table Angle Degree | Test Antenna | | Substituted | | | | Absolute Level (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-------------|--------------------|--------------|-------------|-------------|-------------|-----------------|-----------------|----------------------|-------------|-------------|
| Freq. (MHz) | Amp. (dBuV) | | Height (m) | Polar (H/V) | Freq. (MHz) | Level (dBm) | Ant. Correction | Cable Loss (dB) | | | |
| 2509.56 | 57.60 | 140 | 1.5 | V | 2509.56 | -43.30 | 9.50 | 1.60 | -35.40 | -13 | -22.40 |
| 1673.04 | 65.90 | 170 | 1.8 | V | 1673.04 | -43.40 | 8.70 | 1.30 | -36.00 | -13 | -23.00 |
| 2509.56 | 51.52 | 140 | 1.8 | H | 2509.56 | -49.82 | 9.50 | 1.60 | -41.92 | -13 | -28.92 |
| 1673.04 | 59.71 | 160 | 2.4 | H | 1673.04 | -49.86 | 8.70 | 1.30 | -42.46 | -13 | -29.46 |
| 3346.08 | 42.91 | 140 | 1.9 | H | 3346.08 | -55.30 | 10.20 | 2.20 | -47.30 | -13 | -34.30 |
| 3346.08 | 45.40 | 180 | 1.6 | V | 3346.08 | -58.60 | 10.20 | 2.20 | -50.60 | -13 | -37.60 |

Run # 2: 30 MHz -20GHz PCS Band Middle Channel

| Indicated | | Table Angle Degree | Test Antenna | | Substituted | | | | Absolute Level (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-------------|--------------------|--------------|-------------|-------------|-------------|-----------------|-----------------|----------------------|-------------|-------------|
| Freq. (MHz) | Amp. (dBuV) | | Height (m) | Polar (H/V) | Freq. (MHz) | Level (dBm) | Ant. Correction | Cable Loss (dB) | | | |
| 3760.00 | 58.40 | 170 | 1.8 | V | 3760.00 | -41.70 | 10.40 | 2.30 | -33.60 | -13 | -20.60 |
| 5640.00 | 45.32 | 140 | 1.5 | V | 5640.00 | -41.60 | 10.50 | 2.60 | -33.70 | -13 | -20.70 |
| 3760.00 | 55.10 | 160 | 2.4 | H | 3760.00 | -44.92 | 10.40 | 2.30 | -36.82 | -13 | -23.82 |
| 5640.00 | 41.90 | 140 | 1.8 | H | 5640.00 | -45.70 | 10.50 | 2.60 | -37.80 | -13 | -24.80 |
| 7520.00 | 42.91 | 140 | 1.9 | H | 7520.00 | -50.00 | 9.90 | 3.20 | -43.30 | -13 | -30.30 |
| 7520.00 | 45.40 | 180 | 1.6 | V | 7520.00 | -53.60 | 9.90 | 3.20 | -46.90 | -13 | -33.90 |

7 - §2.1046, §22.913(a), & §24.232(b) – RF OUTPUT POWER

7.1 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.

According to FCC §2.1046 and §24.232 (b), in no case may the peak output power of a Mobile / portable station transmitter exceed 2 watts EIRP.

7.2 Test Procedure

Conducted:

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

Environmental Conditions

| | |
|---------------------------|----------|
| Temperature: | 20° C |
| Relative Humidity: | 58% |
| ATM Pressure: | 1018mbar |

** The testing was performed by James Ma on 2008-01-25.*

7.3 Test Equipment List and Details

| Manufacturer | Description | Model | Serial Number | Calibration Date |
|---------------|---------------------------|-------------|---------------|------------------|
| Agilent | Analyzer, Spectrum | E4446A | US44300386 | 2007-04-26 |
| HP | Amplifier, Pre | 8447D | 2944A10198 | 2007-12-19 |
| HP | Amplifier, Pre, Microwave | 8449B | 3147A00400 | 2007-11-02 |
| A. H. Systems | Antenna, Horn, DRG | SAS-200/571 | 261 | 2007-06-07 |
| A.R.A. | Antenna, Horn | DRG-118/A | 1132 | 2007-06-18 |
| HP | Generator, Signal | 83650B | 3614A00276 | 2007-05-08 |

*** Statement of Traceability: BACL Corp.** attests that all calibrations have been performed per the NVLAP requirements, traceable to the NIST.

7.4 Test Results*Cellular band, Part 22H:*

| Indicated | | Table Angle Degree | Test Antenna | | Substituted | | | | Absolute Level (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-------------|--------------------|--------------|-------------|-------------|-------------|----------------------|-----------------|----------------------|-------------|-------------|
| Freq. (MHz) | Amp. (dBuV) | | Height (m) | Polar (H/V) | Freq. (MHz) | Level (dBm) | Ant. Gain Correction | Cable Loss (dB) | | | |
| 824.70 | 125.60 | 200 | 2.2 | V | 824.70 | 18.14 | 6.30 | 1.30 | 23.14 | 38.45 | -15.31 |
| 836.52 | 125.41 | 180 | 2.4 | V | 836.52 | 17.88 | 6.30 | 1.30 | 22.88 | 38.45 | -15.57 |
| 848.30 | 125.50 | 220 | 1.8 | V | 848.30 | 17.93 | 6.30 | 1.30 | 22.93 | 38.45 | -15.52 |

| Channel | Frequency (MHz) | Conducted Output Power (dBm) | ERP (dBm) | Limit (dBm) |
|---------|-----------------|------------------------------|-----------|-------------|
| Low | 824.70 | 24.78 | 23.14 | 38.45 |
| Mid | 836.52 | 24.61 | 22.88 | 38.45 |
| High | 848.30 | 24.65 | 22.93 | 38.45 |

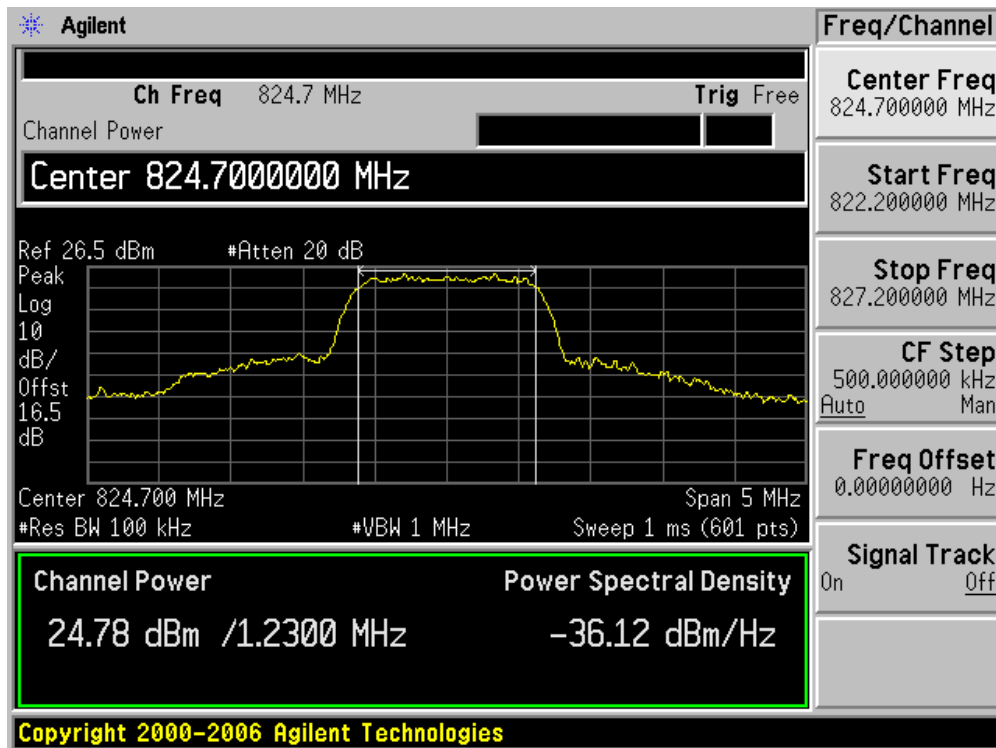
PCS band, Part 24E:

| Indicated | | Table Angle Degree | Test Antenna | | Substituted | | | | Absolute Level (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-------------|--------------------|--------------|-------------|-------------|-------------|----------------------|-----------------|----------------------|-------------|-------------|
| Freq. (MHz) | Amp. (dBuV) | | Height (m) | Polar (H/V) | Freq. (MHz) | Level (dBm) | Ant. Gain Correction | Cable Loss (dB) | | | |
| 1851.25 | 122.15 | 120 | 2.0 | V | 1851.25 | 14.15 | 8.20 | 1.50 | 20.85 | 33 | -12.15 |
| 1880.00 | 122.10 | 150 | 2.2 | V | 1880.00 | 14.07 | 8.20 | 1.50 | 20.77 | 33 | -12.23 |
| 1908.75 | 122.10 | 140 | 2.0 | V | 1908.75 | 14.10 | 8.20 | 1.50 | 20.80 | 33 | -12.20 |

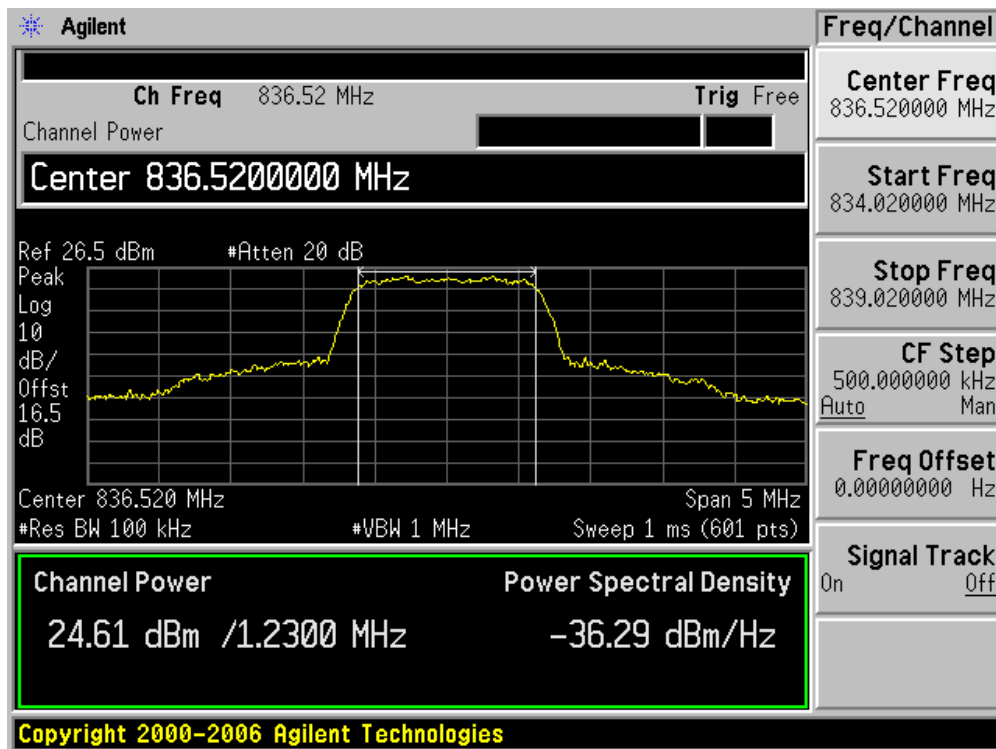
| Channel | Frequency (MHz) | Conducted Output Power (dBm) | EIRP (dBm) | Limit (dBm) |
|---------|-----------------|------------------------------|------------|-------------|
| Low | 1851.25 | 21.56 | 20.85 | 33 |
| Mid | 1880.00 | 21.61 | 20.77 | 33 |
| High | 1908.75 | 21.44 | 20.80 | 33 |

Plots of Conducted Output Power for Part 22H

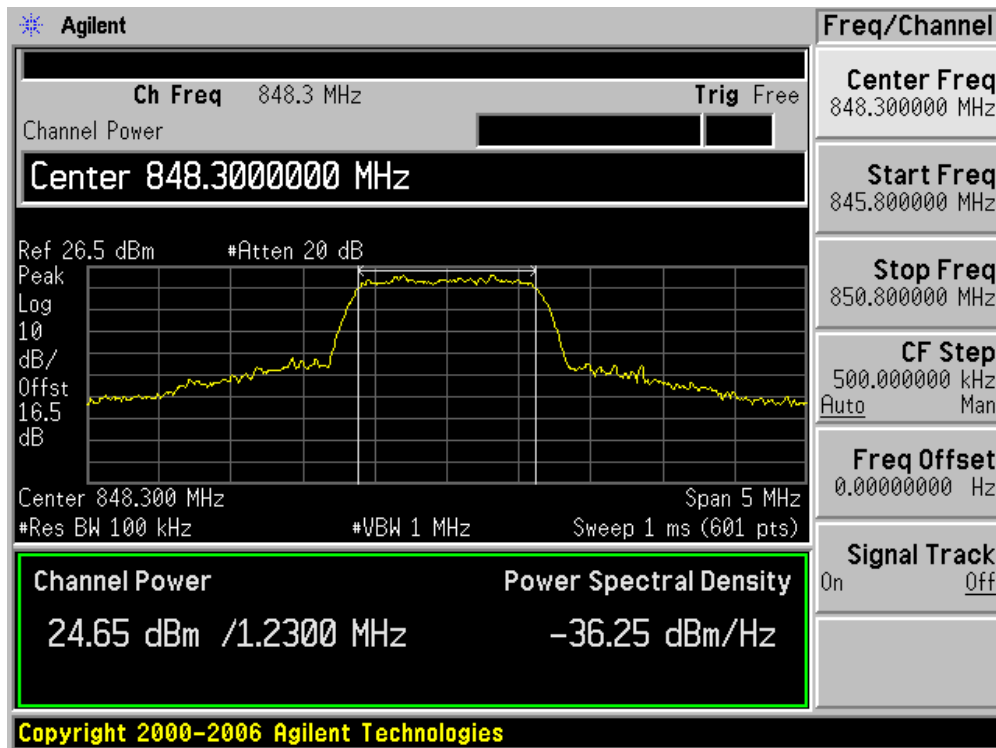
Low Channel



Middle Channel

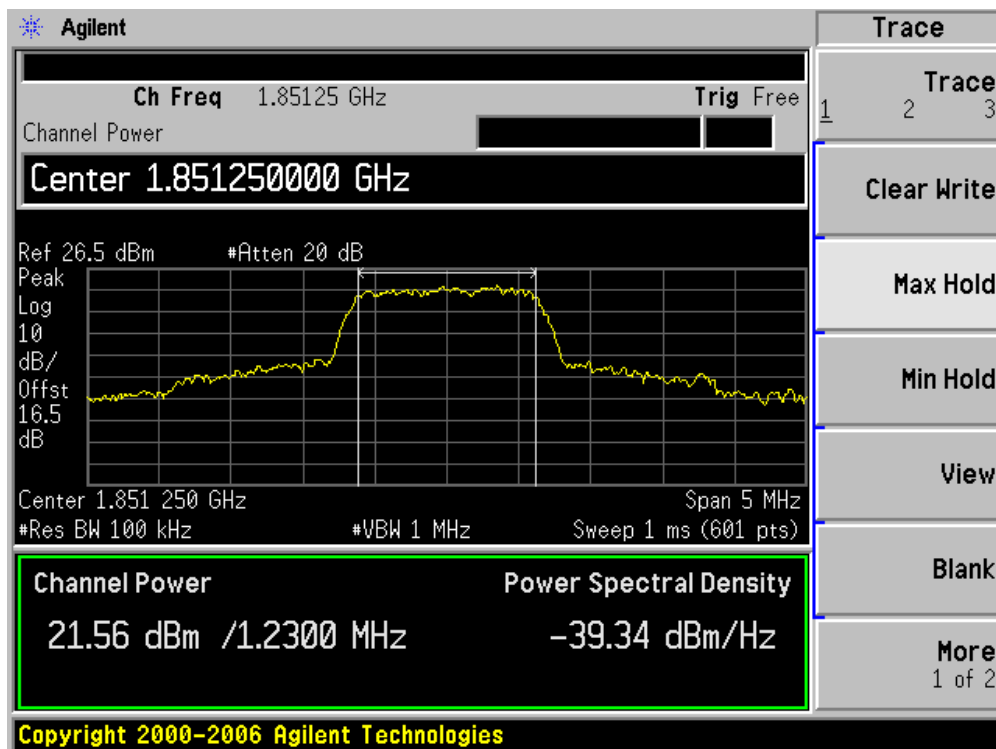


High Channel

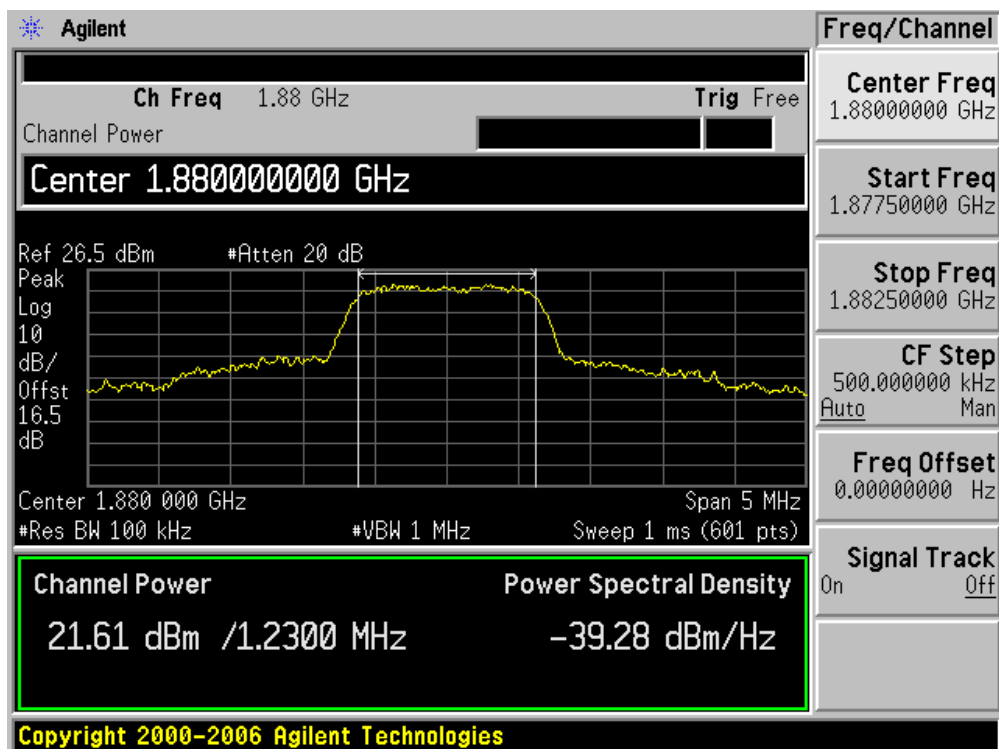


Plots of Conducted Output Power for Part 24E

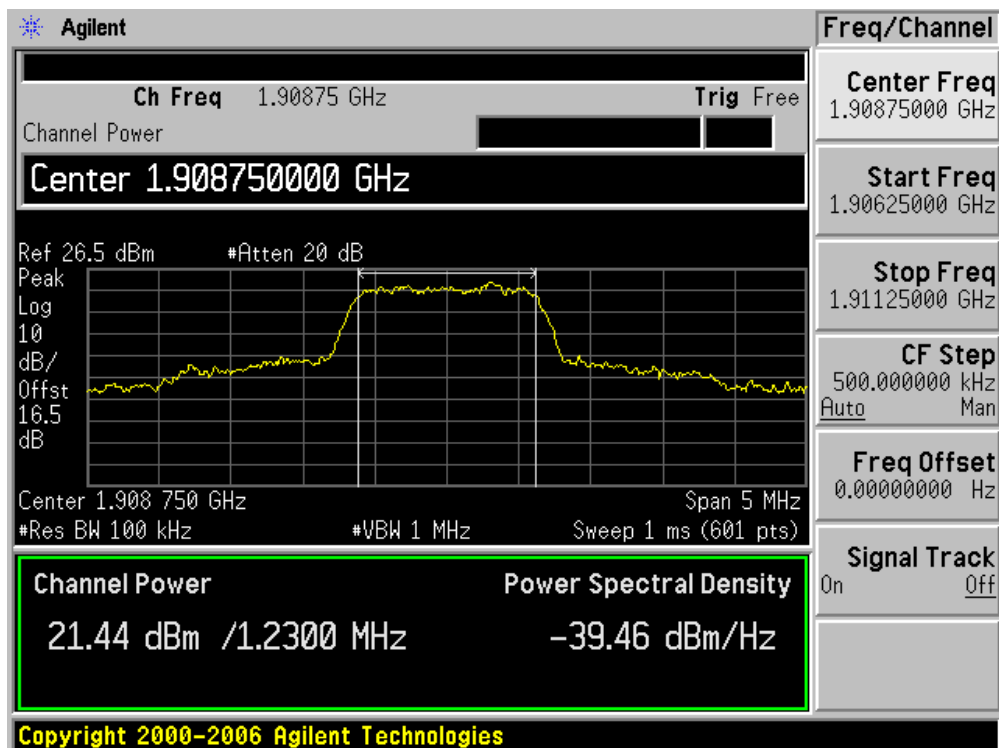
Low Channel



Middle Channel



High Channel



8 - §2.1049, §22.917, & §24.238 - OCCUPIED BANDWIDTH

8.1 Applicable Standard

Requirements: CFR 47, § 2.1049, § 22.917 and § 24.238.

8.2 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 30 kHz (Cellular /PCS) and the 26 dB & 99% bandwidth was recorded.

Environmental Conditions

| | |
|---------------------------|----------|
| Temperature: | 20° C |
| Relative Humidity: | 58% |
| ATM Pressure: | 1018mbar |

* The testing was performed by James Ma on 2008-01-26.

8.3 Test Equipment List and Details

| Manufacturer | Description | Model | Serial Number | Cal. Date |
|--------------|--------------------|--------|---------------|------------|
| Agilent | Analyzer, Spectrum | E4446A | US44300386 | 2007-04-26 |

* **Statement of Traceability: BACL Corp.** attests that all calibrations have been performed per the NVLAP requirements, traceable to the NIST.

8.4 Test Results

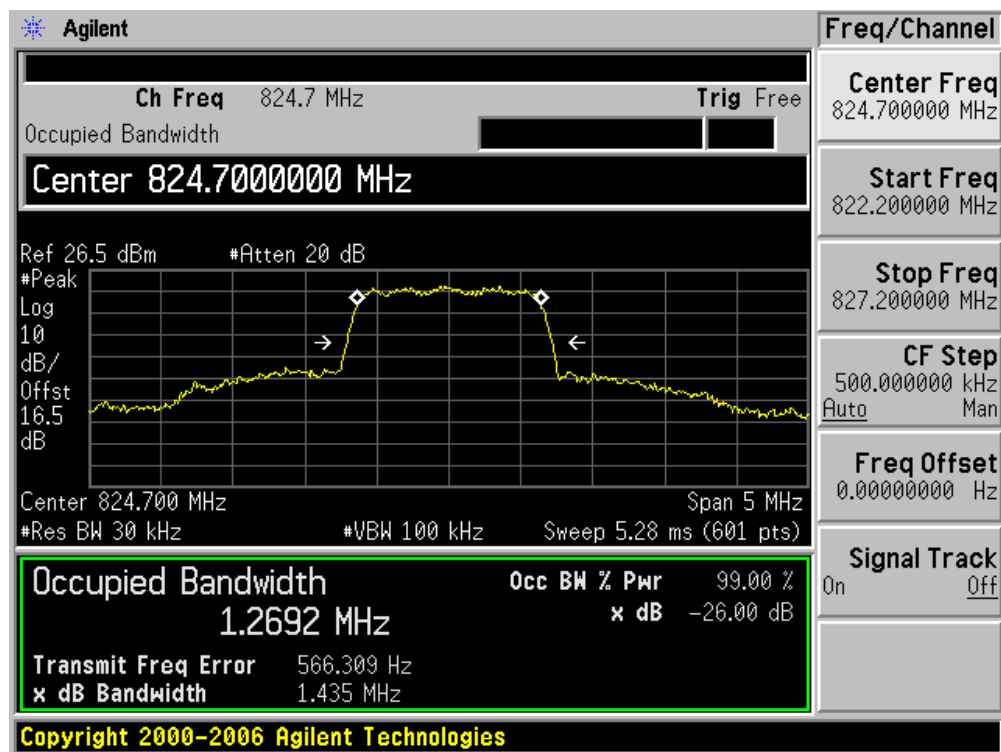
Cellular Band:

| Channel | Frequency (MHz) | Occupied Bandwidth (MHz) |
|---------|-----------------|--------------------------|
| Low | 824.70 | 1.2692 |
| Middle | 836.52 | 1.2700 |
| High | 848.30 | 1.2675 |

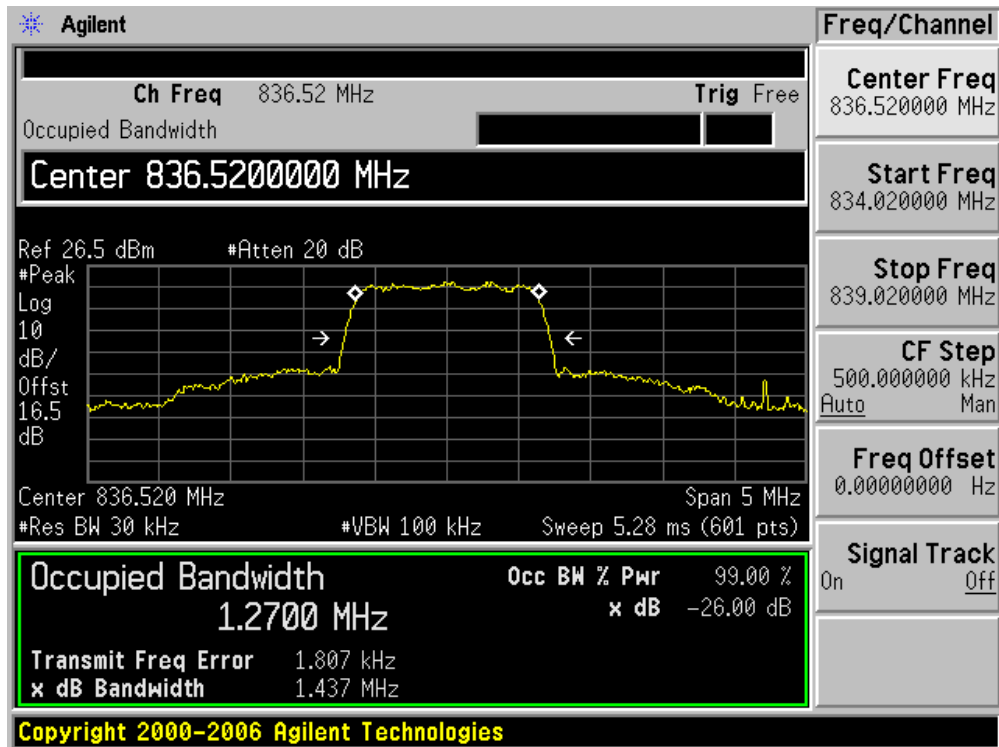
PCS Band:

| Channel | Frequency (MHz) | Occupied Bandwidth (MHz) |
|---------|-----------------|--------------------------|
| low | 1851.25 | 1.2661 |
| Middle | 1880.00 | 1.2675 |
| High | 1908.75 | 1.2704 |

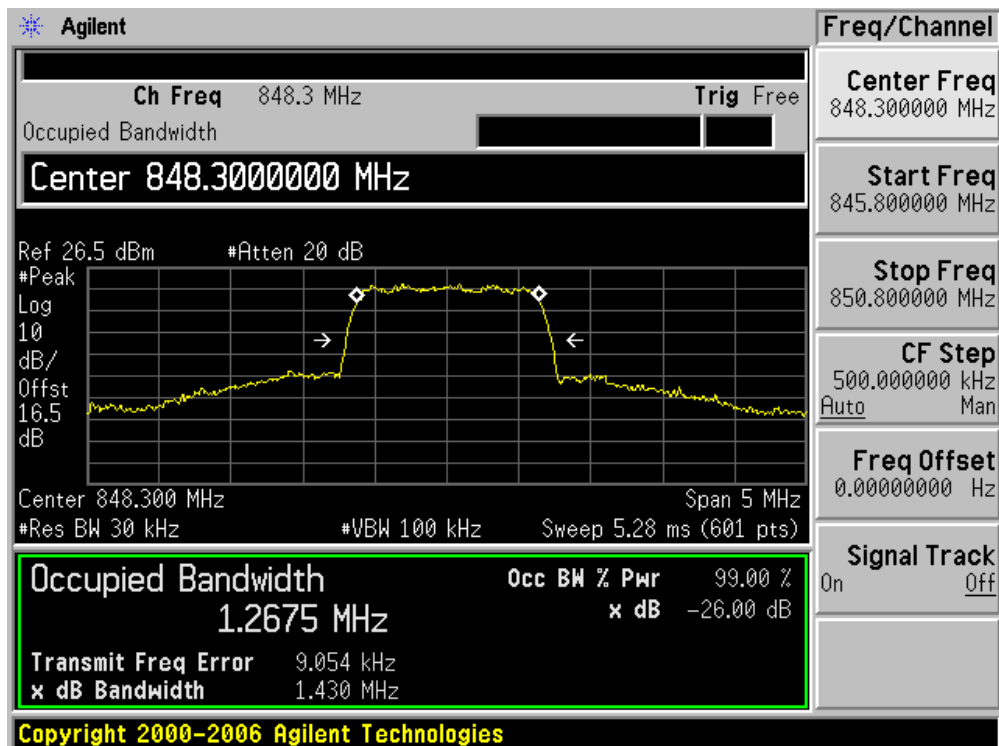
Please refer to the following plots.

Cellular Band:**Low Channel**

Middle Channel

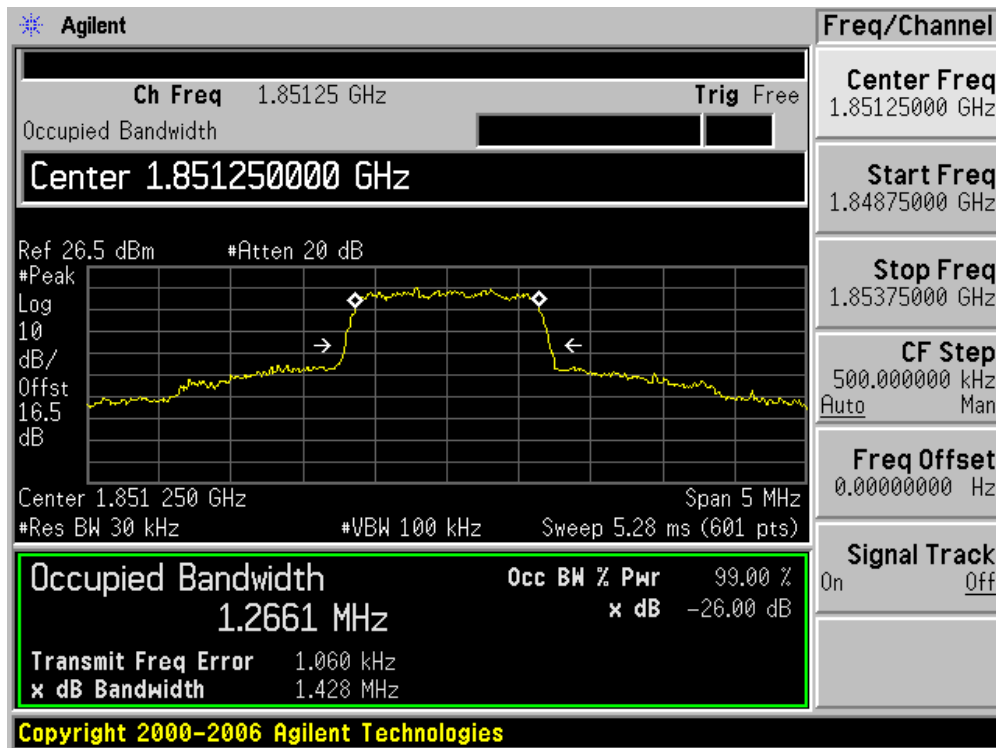


High Channel

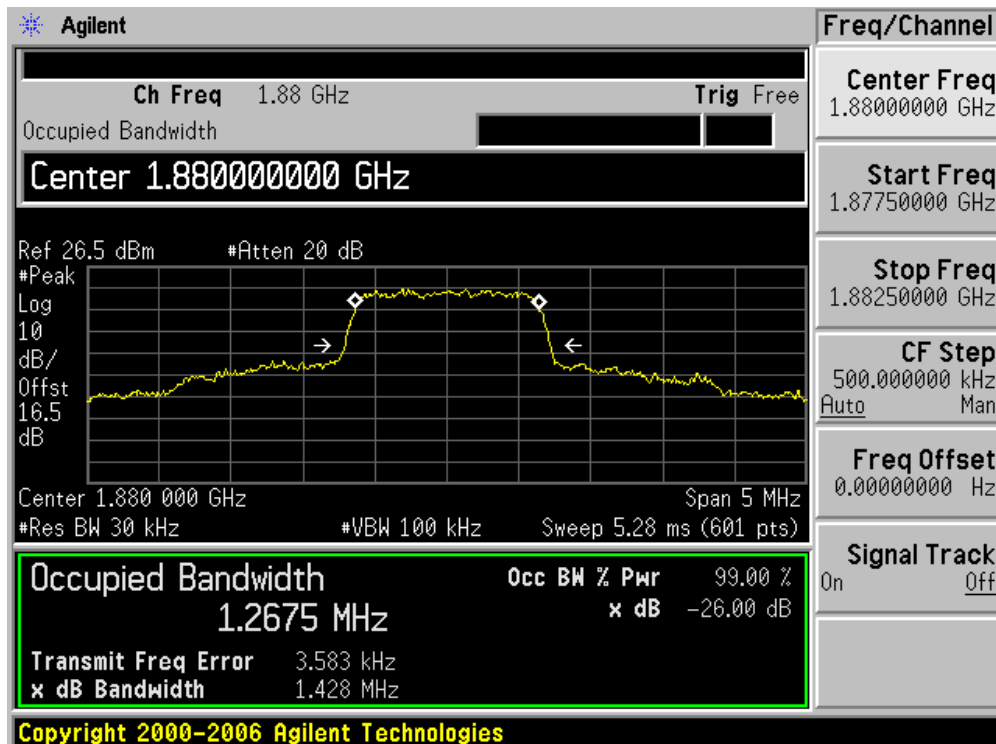


PCS Band:

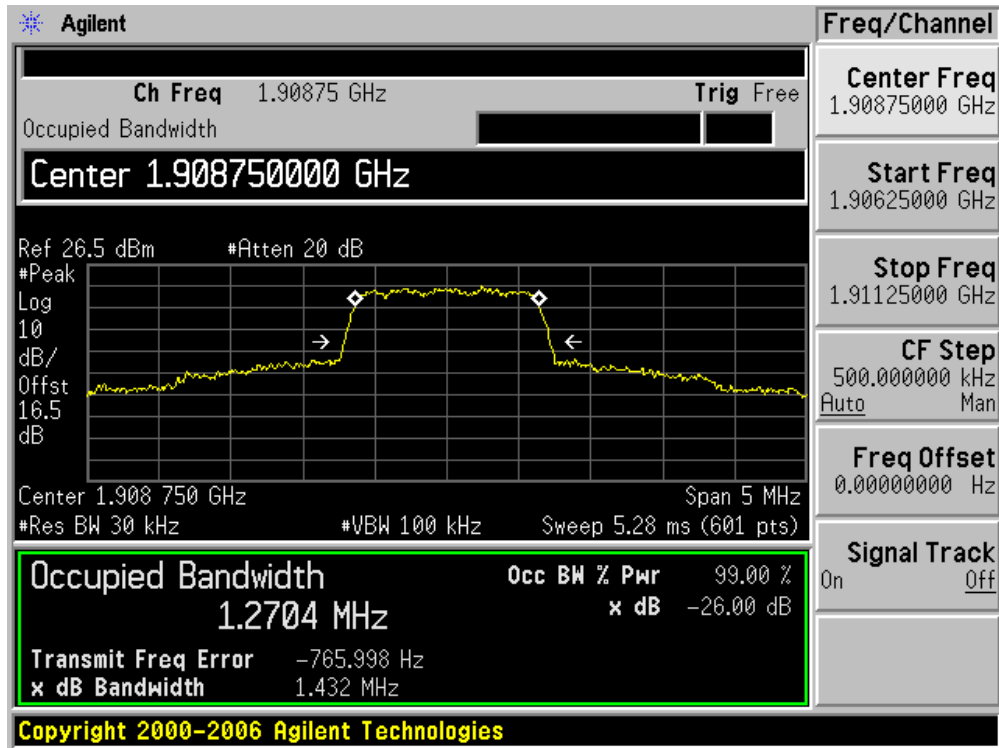
Low Channel



Middle Channel



High Channel



9 - §2.1051, §22.917, & §24.238(a) - SPURIOUS EMISSIONS AT ANTENNA TERMINALS

9.1 Applicable Standard

Requirements: CFR 47, § 2.1051. § 22.917 & §24.238(a).

The spectrum was to be investigated to the tenth harmonics of the highest fundamental frequency as specified in § 2.1057.

9.2 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.

Environmental Conditions

| | |
|--------------------|----------|
| Temperature: | 20° C |
| Relative Humidity: | 58% |
| ATM Pressure: | 1018mbar |

** The testing was performed by James Ma on 2008-01-26.*

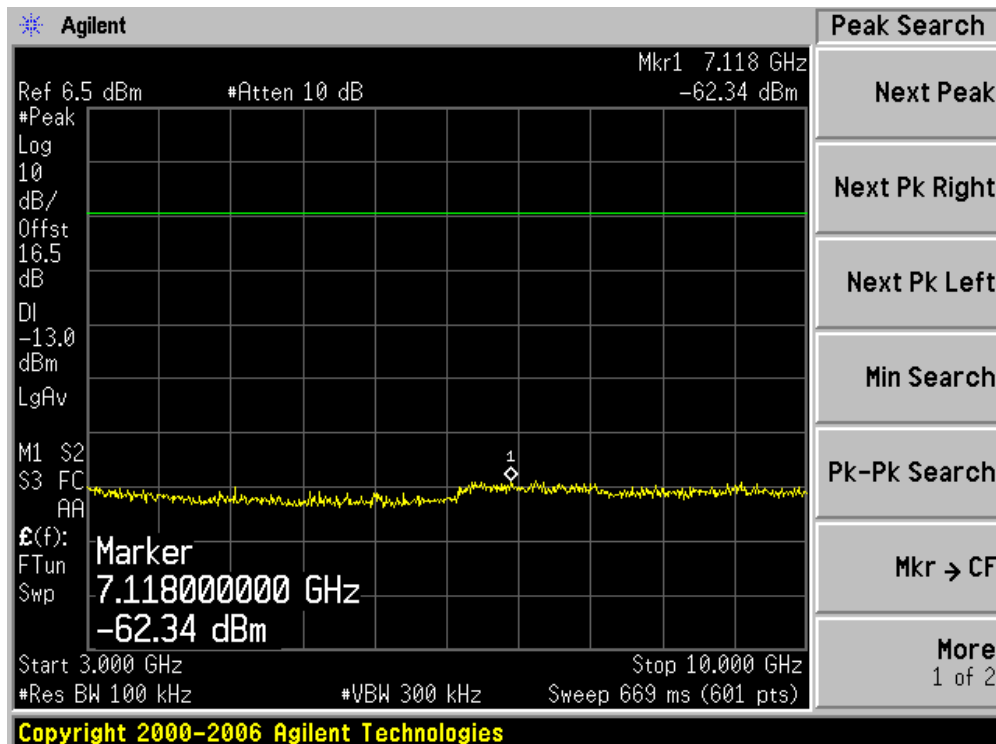
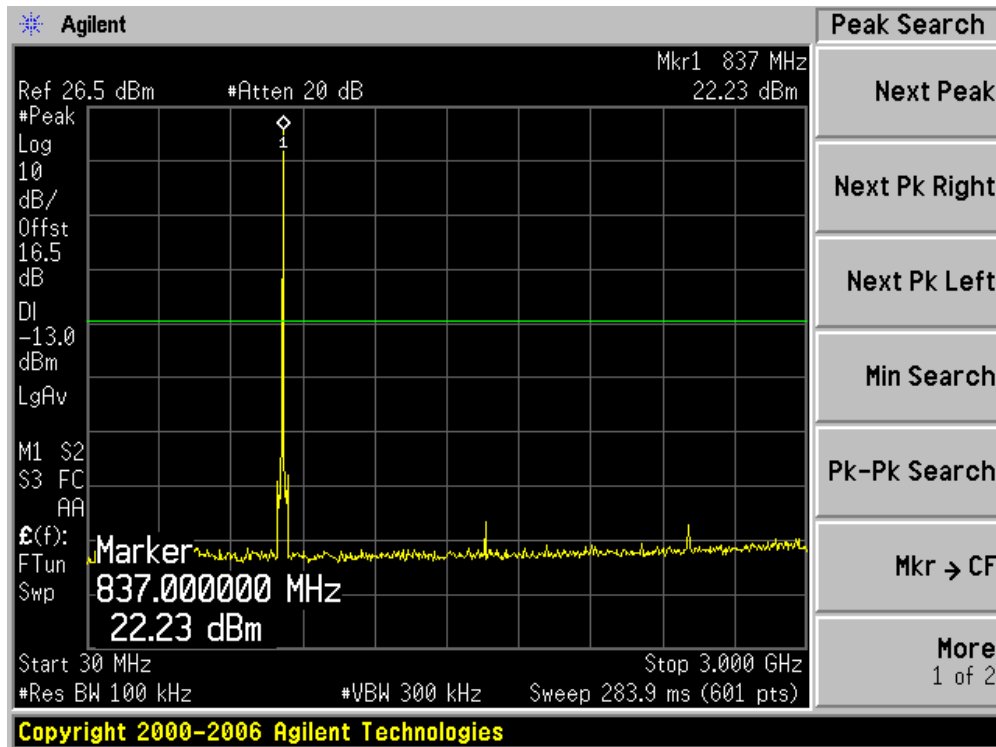
9.3 Test Equipment List and Details

| Manufacturer | Description | Model | Serial Number | Calibration Date |
|--------------|--------------------|--------|---------------|------------------|
| Agilent | Analyzer, Spectrum | E4446A | US44300386 | 2007-04-26 |

*** Statement of Traceability: BACL Corp.** attests that all calibrations have been performed per the NVLAP requirements, traceable to the NIST.

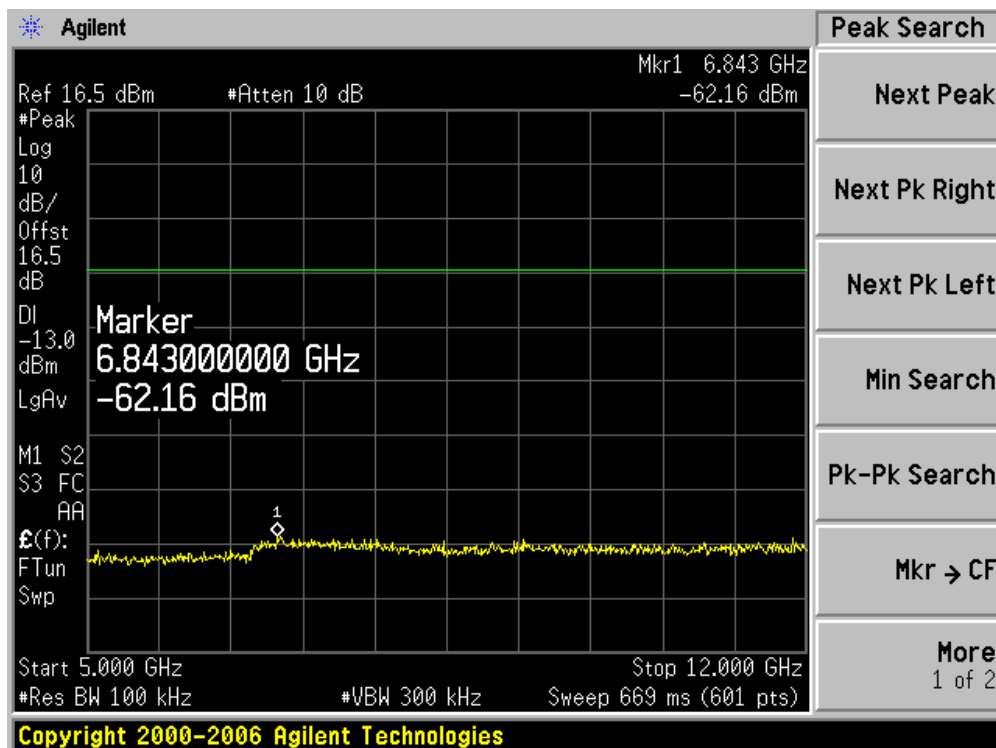
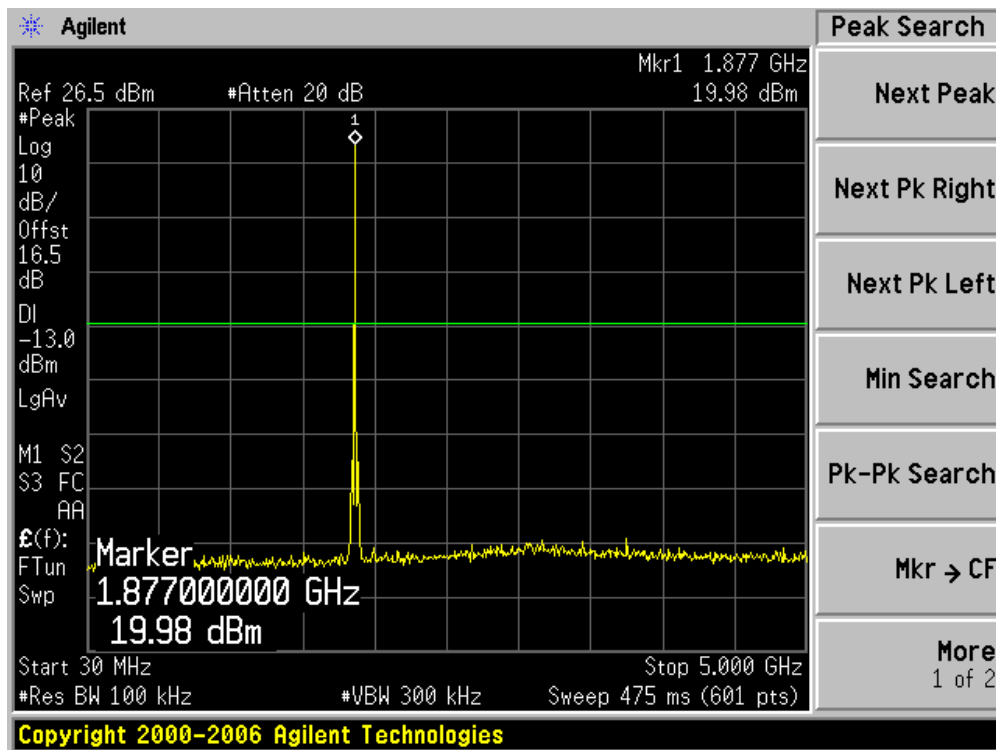
9.4 Test Results

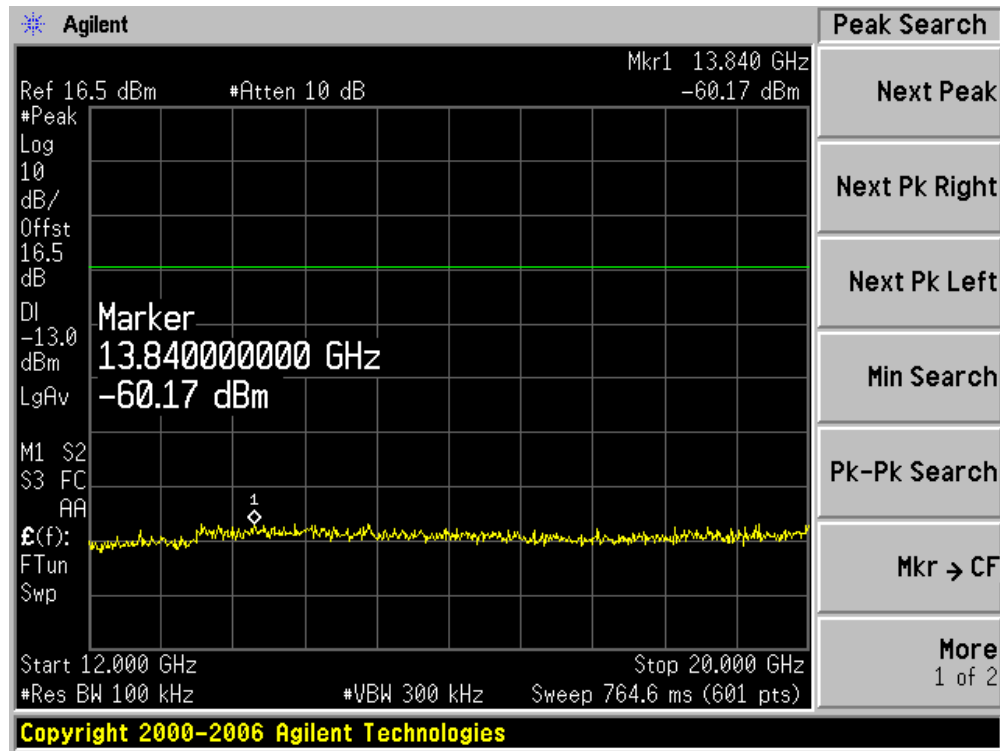
Please refer to the hereinafter plots.

Plots of Spurious Emissions:**Cellular Band Part 22:****Mid Channel**

PCS Band Part 24

Middle Channel





10 - §2.1055 (a), §2.1055 (d), §22.355, & §24.235 - FREQUENCY STABILITY

10.1 Applicable Standard

Requirements: FCC § 2.1055 (a), § 2.1055 (d) & following:

According to §22.355, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table C-1 of this section.

Table C-1_Frequency Tolerance for Transmitters in the Public Mobile Services

Table C-1_Frequency Tolerance for Transmitters in the Public Mobile Services

| Frequency range (MHz) | Base, fixed (ppm) | Mobile [le]3 watts (ppm) | Mobile [le]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.

10.2 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.

Environmental Conditions

| | |
|---------------------------|----------|
| Temperature: | 20° C |
| Relative Humidity: | 58% |
| ATM Pressure: | 1018mbar |

* The testing was performed by James Ma on 2008-01-26.

10.3 Test Equipment List and Details

| Manufacturer | Description | Model | Serial Number | Cal. Date |
|--------------|--------------------|---------|---------------|------------|
| Agilent | Analyzer, Spectrum | E4446A | US44300386 | 2007-04-26 |
| ESPEC | Oven, Temperature | ESL-4CA | 18010 | N/R |

* **Statement of Traceability:** BACL Corp. attests that all calibrations have been performed per the NVLAP requirements, traceable to the NIST.

10.4 Test Results

Cellular Band:

Frequency Stability versus Temperature

| Reference Frequency: 836.52 MHz, Limit: 2.5 PPM | | | | |
|---|----------------------|---------------------------|-------------------------------------|-------------|
| Environment | | Frequency Measured (MHz) | Frequency Measure with Time Elapsed | |
| Temperature (°C) | Power Supplied (VDC) | | Error (ppm) | Limit (ppm) |
| 50 | 5.0 | 836.52073 | 0.872663 | 2.5 |
| 30 | 5.0 | 836.52044 | 0.525989 | 2.5 |
| 20 | 5.0 | 836.52030 | 0.358629 | 2.5 |
| 0 | 5.0 | 836.52037 | 0.442309 | 2.5 |
| -20 | 5.0 | 836.52027 | 0.322766 | 2.5 |
| -30 | 5.0 | 836.52049 | 0.585760 | 2.5 |

Frequency Stability versus Voltage

| Reference Frequency: 836.52 MHz, Limit: 2.5 PPM | | | | |
|---|----------------------|---------------------------|-------------------------------------|-------------|
| Environment | | Frequency Measured (MHz) | Frequency Measure with Time Elapsed | |
| Temperature (°C) | Power Supplied (VDC) | | Error (ppm) | Limit (ppm) |
| 20 | 4.25 | 836.52034 | 0.406446 | 2.5 |

PCS Band:

Frequency Stability versus Temperature

| Reference Frequency: 836.52 MHz, Limit: 2.5 PPM | | | | |
|---|----------------------|---------------------------|-------------------------------------|-------------|
| Environment | | Frequency Measured (MHz) | Frequency Measure with Time Elapsed | |
| Temperature (°C) | Power Supplied (VDC) | | Error (ppm) | Limit (ppm) |
| 50 | 5.0 | 1880.00310 | 1.648936 | 2.5 |
| 30 | 5.0 | 1880.00181 | 0.962766 | 2.5 |
| 20 | 5.0 | 1880.00105 | 0.558511 | 2.5 |
| 0 | 5.0 | 1880.00113 | 0.601064 | 2.5 |
| -20 | 5.0 | 1880.00193 | 1.026596 | 2.5 |
| -30 | 5.0 | 1880.00247 | 1.313830 | 2.5 |

Frequency Stability versus Voltage

| Reference Frequency: 836.52 MHz, Limit: 2.5 PPM | | | | |
|---|----------------------|---------------------------|-------------------------------------|-------------|
| Environment | | Frequency Measured (MHz) | Frequency Measure with Time Elapsed | |
| Temperature (°C) | Power Supplied (VDC) | | Error (ppm) | Limit (ppm) |
| 20 | 4.25 | 1880.00100 | 0.531915 | 2.5 |

11 – §22.917 & §24.238 – BAND EDGE

11.1 Applicable Standard

According to § 22.917, 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.

According to §24.238, 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.

11.2 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 10 kHz.

Environmental Conditions

| | |
|--------------------|-----------|
| Temperature: | 19° C |
| Relative Humidity: | 58% |
| ATM Pressure: | 1018 mbar |

** The testing was performed by James Ma on 2008-01-26.*

11.3 Test Equipment List and Details

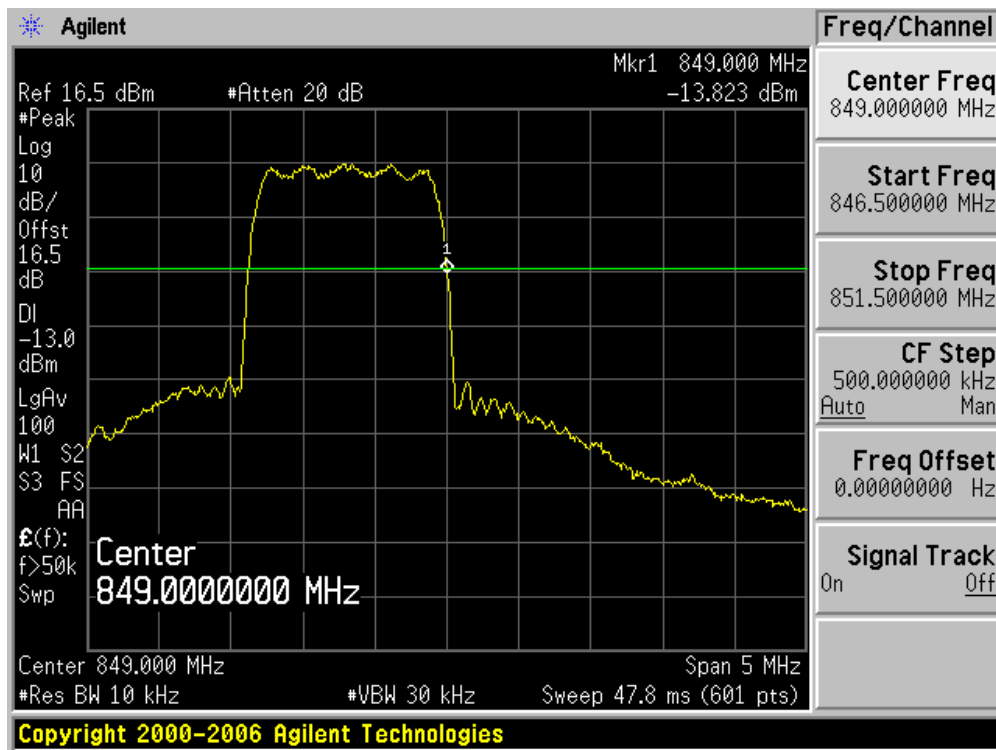
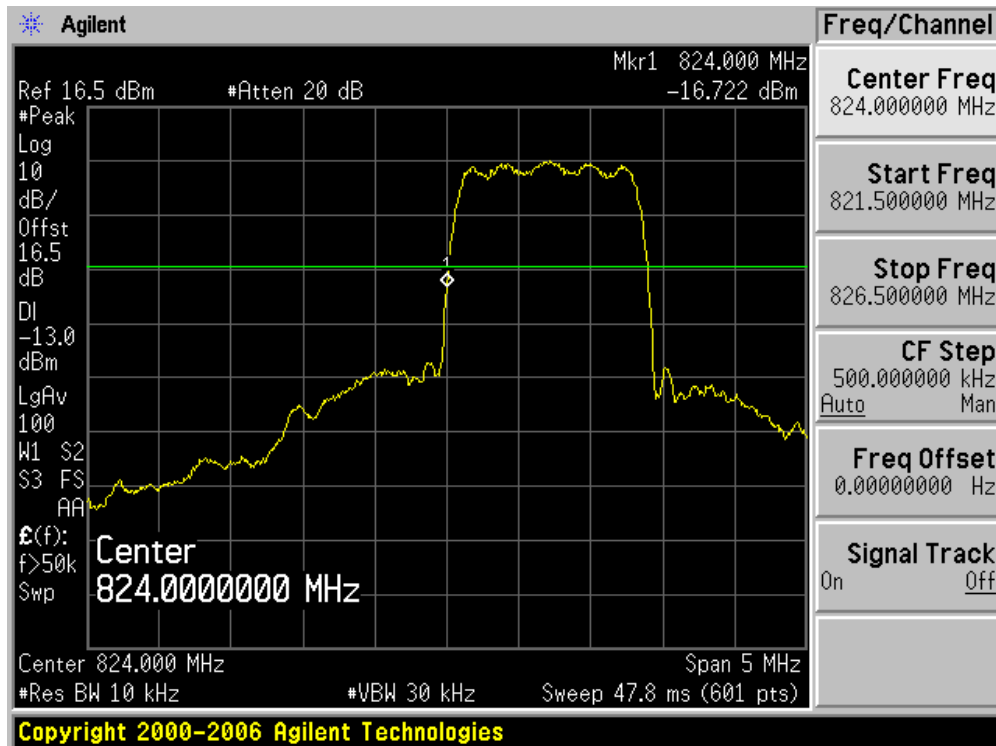
| Manufacturer | Description | Model | Serial Number | Calibration Date |
|--------------|--------------------|--------|---------------|------------------|
| Agilent | Analyzer, Spectrum | E4446A | US44300386 | 2007-04-26 |

*** Statement of Traceability: BACL Corp.** attests that all calibrations have been performed per the NVLAP requirements, traceable to the NIST.

11.4 Test Results

Please refer to the following plots.

Plots of Band Edge for Part 22



Plots of Band Edge for Part 24

