
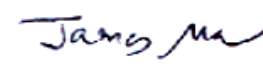


FCC PART 25
 MEASUREMENT AND TEST REPORT

For
Qualcomm Incorporated

5775 Morehouse Drive
 San Diego, CA 92121
 USA

FCC ID: J9CGSK2HFK

| | |
|---|---|
| <p>Report Type: <input checked="" type="checkbox"/> Supplemental Report: Class II Permissive Change</p> | <p>Product name: Hands-free Car kit</p> |
|  | |
| <p>Test Engineer: <u>Oscar Au</u></p> | |
| <p>Report Number: <u>R0702271-25</u></p> | |
| <p>Report Date: <u>2007-05-20</u></p> | |
|  | |
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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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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

This measurement and test report has been compiled on behalf of *Qualcomm Incorporated* and their product, *FCC ID: J9CGSK2HFK*, model number: GAT-17HX or the “EUT” as referred to in this report is a Hands-Free Car Kit (HFK) that operates in Globalstar mode only, communicating directly with overhead Globalstar satellites and via those satellites to the nearest Globalstar Gateway and through the Gateway the rest of the network. The service supports voice and data communications and provides user position location information. The User Terminal uses Code Division Multiple Access (CDMA) technology to provide service to the user. The EUT is powered by 12.5 VDC via standard car adapter plug.

Antenna Information:

| Antenna Type | Gain (1.6 GHz) |
|------------------------------------|----------------|
| Active Quadrafililar Helix antenna | 3.3 dBi |

EUT Photo



EUT View



Antenna View

Please see Exhibit C for additional EUT photos

Mechanical Description

The *Qualcomm Incorporated* product, *FCC ID: J9CGSK2HFK* or the “EUT” as referred to in this report is a *Hands-free Car Kit*, which measures approximately 270 mm L x 245 mm W x 130 mm H and weighs approximately 2 kg.

** The test data gathered are from production sample, serial number: AA000123,, provided by the manufacturer.*

Objective

This report is prepared on behalf of *Qualcomm Incorporated* in accordance with Part 2, Subpart J, and Part 25, Subparts C of the Federal Communication Commissions rules.

The objective of the manufacturer is to demonstrate continued compliance with FCC rules for Radiated Emission, Frequency Tolerance, Emission Limitation (out of band), Power Density, Emission Limitation (in band), and Power Limit after the addition of Globalstar external antenna model GAT-17HX with 4.5 dBi gain (please see antenna exhibit included with this project)

Related Submittal(s)/Grant(s)

Qualcomm Incorporated, FCC ID: J9CGSK2HFK, please refer to Nemko Canada Inc. report number 26-682-QUA for original measurements and testing.

Test Methodology

All measurements contained in this report were conducted with TIA/EIA 603-C.

All radiated and conducted emissions measurements were performed at Bay Area Compliance Laboratories Corp.

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.

Test Facility

The test site used by BACL Corp. to conduct and collect safety 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/htdocs/210/214/scopes/2001670.htm>.

SYSTEM TEST CONFIGURATION

Justification

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

The EUT was tested in the normal (native) operating mode to represent *worst*-case results during the final qualification test.

EUT Exercise Software

The EUT was operating in max power mode during radiated and conducted testing.

Special Accessories

NA

Equipment Modifications

No modifications were made to the EUT.

Local Support Equipment List and Details

| Manufacturer | Description | Model | Serial Number |
|--------------|---------------------------------|---------|----------------|
| IBM | Laptop | 560 | 78-HN065 97/04 |
| Anritsu | Globalstar User terminal tester | MT8803G | GS005306 |
| Anritsu | Globalstar User terminal tester | MT8803G | GS004646 |

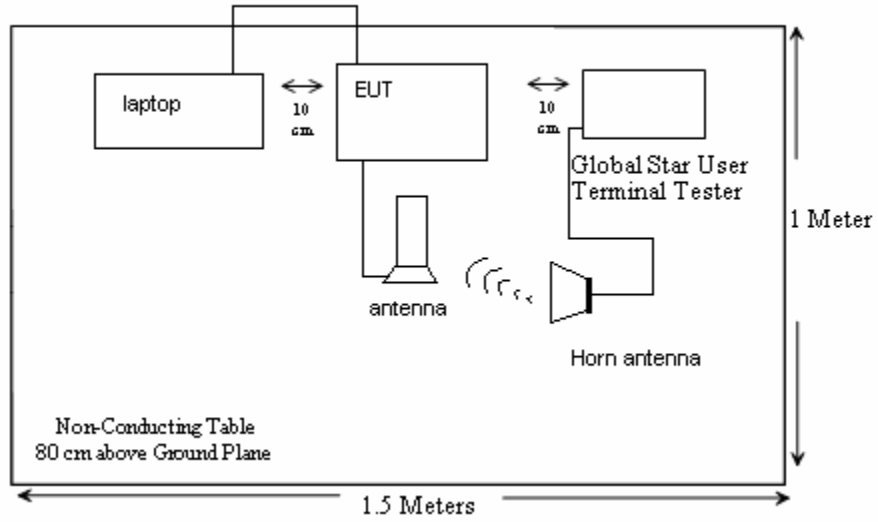
Power Supply Information

| Manufacturer | Description | Model | Serial Number |
|--------------|---------------------------------|-------|---------------|
| RadioShack | 13.8 VDC Regulated power supply | N/A | CCP04205 |
| BK Precision | DC Regulated power supply | 1740 | 26502000233 |

External I/O Cabling List and Details

| Cable Description | Length (M) | Port/From | To |
|-------------------|------------|--------------|-----|
| USB cable | 1.5 | Laptop (IBM) | EUT |

Test Setup Block Diagram



SUMMARY OF TEST RESULTS

Results reported relate only to the product tested.

| FCC Rules | Description of Test | Result | Notes |
|-------------------------|---|----------------|--|
| §2.1046 & §25.204 | Power Output | Compliant | - |
| §2.1047 (d) | Modulation Characteristics | N/A | - |
| §2.1049 | Occupied Bandwidth | Compliant | - |
| §1.1307(b)(1) & §2.1091 | RF Exposure | Compliant | - |
| §2.1051 | Spurious Emission at Antenna Terminals | Compliant | - |
| §15.207 | AC Line Conducted Emission | N/A | - |
| §2.1053 | Field Strength of Spurious Radiation | Compliant | - |
| §2.1055 & §25.202(d) | Frequency Stability/ Tolerance | Compliant | Refer to Original submission FCC ID: J9CGSK2HFK |
| §2.1057 | Spectrum Investigated | Compliant | - |
| §25.202(a)(4)(i) | 1610 – 1626.5 GHz Authorized Frequency | NA | - |
| §25.202(f) | Emission Limitations (Emission Mask) | Compliant | Refer to Original submission FCC ID: J9CGSK2HFK |
| §25.204(a) | Power Limits | Compliant | - |
| §25.209 | Antenna Performance | Compliant | - |
| §25.213 | Protection of Radio astronomy | site dependent | - |
| §25.216 (c) &/or (f) | Emission from Mobile Earth Station for Protection of Aeronautical Radio navigation-Satellite Service (e.i.r.p. density) | Compliant | Refer to Original submission FCC ID: J9CGSK2HFK |

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

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

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

MPE Prediction

Prediction 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

4.5 dBi antenna

Maximum peak output power at antenna input terminal (dBm): 29.20

Maximum peak output power at antenna input terminal (mW): 831.76

Prediction distance (cm): 25.0

Prediction frequency (MHz): 1615.65

Maximum Antenna Gain, typical (dBi): 4.5

Maximum Antenna Gain (numeric): 2.818

Power density of predication frequency at 25.0 cm (mW/cm²): 0.2984

MPE limit for uncontrolled exposure at predication frequency (mW/cm²): 1.00

Test Result

The power density of predication frequency at 25.0 cm is 0.2984 mW/cm² for the 4.5 dBi antenna which is according to calculation under the MPE limit for uncontrolled exposure of 1.00 mW/cm².

§2.1047 – MODULATION CHARACTERISTICS

The EUT uses digital modulation techniques only which were employed during the tests for occupied bandwidth. Part 25 does not have a modulation characteristics requirement for digital modulation thus this section is not applicable.

§2.1051 – SPURIOUS EMISSIONS AT ANTENNA TERMINALS

Standard Applicable

§2.1051: The radio frequency voltage or powers generated within the equipment and appearing on a spurious frequency shall be checked at the equipment output terminals when properly loaded with a suitable artificial antenna. Curves or equivalent data shall show the magnitude of each harmonic and other spurious emission that can be detected when the equipment is operated under the conditions specified in §2.1049 as appropriate. The magnitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be specified.

For out-of-band emissions for frequencies removed from the midpoint of the assigned frequency segment by more than 250% of the authorized bandwidth (1.23MHz), at least

$43 + 10 \log (P_{\text{watts}})$ attenuation below the mean power of the transmitter.

For Middle Channel = $43 + 10 \log (0.831 \text{ W}) = 42.2 \text{ dBc}$

Measurement Procedure

Spurious emissions appearing at the antenna terminals were measured with a spectrum analyzer by connecting the spectrum analyzer directly via a short cable to the antenna output terminals or across the antenna leads on the PCB as specified by the manufacturer.

Equipment Lists

| Manufacturer | Description | Model | Serial Number | Cal. Date |
|--------------|--------------------|--------|---------------|------------|
| Agilent | Analyzer, Spectrum | E4446A | US44300386 | 2006-03-06 |

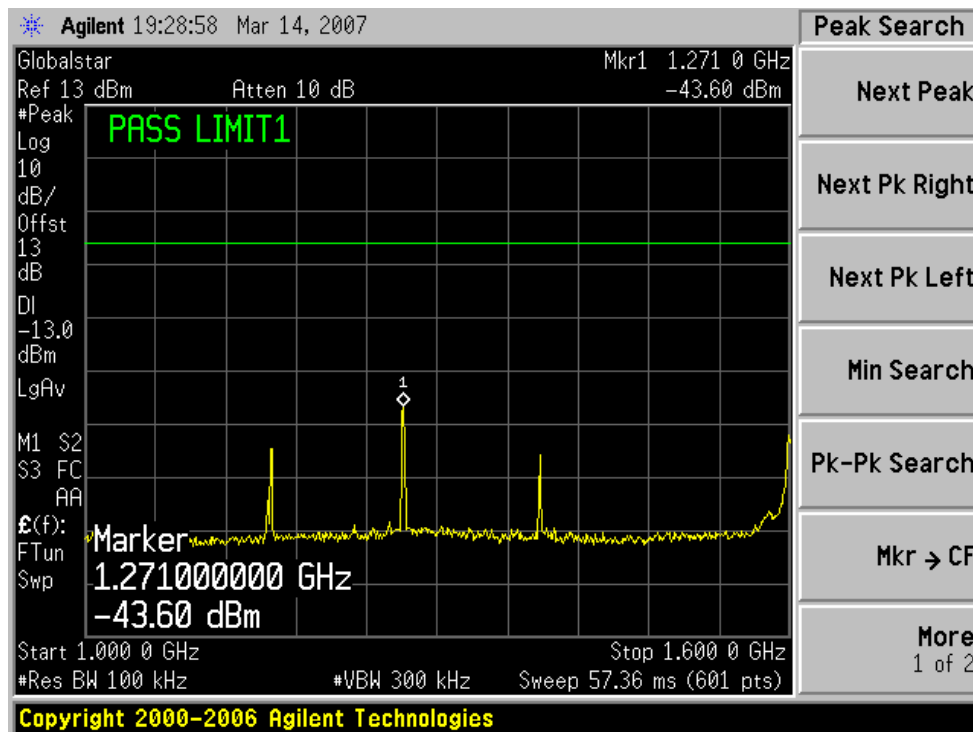
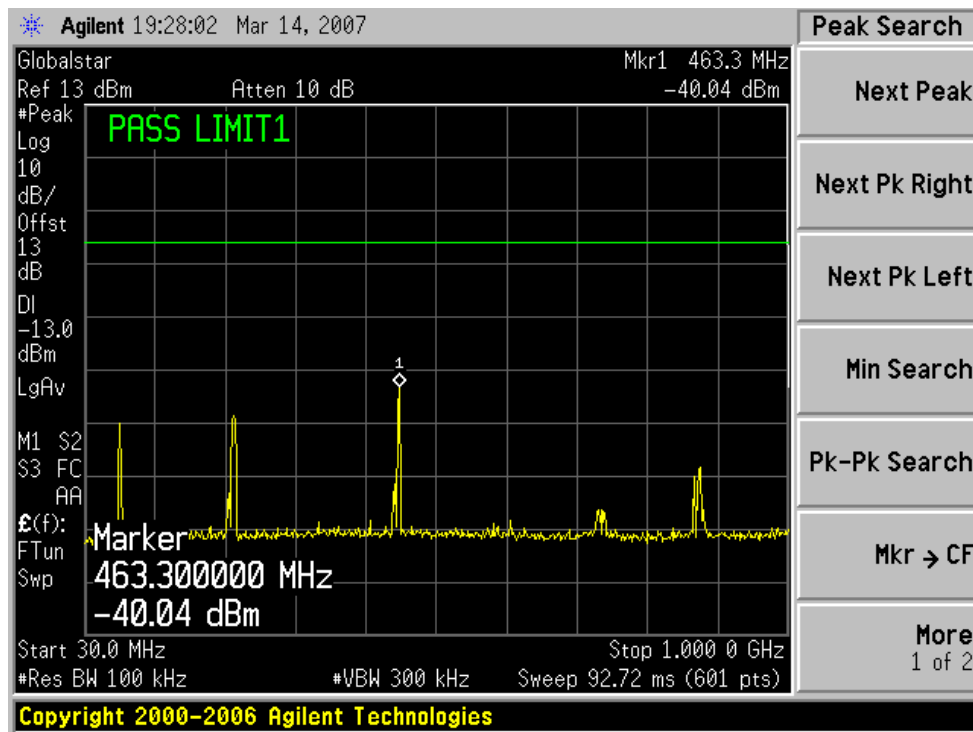
* **Statement of Traceability:** **BACL Corp.** attests that all calibrations have been performed per the NVLAP requirements, traceable to the NIST.

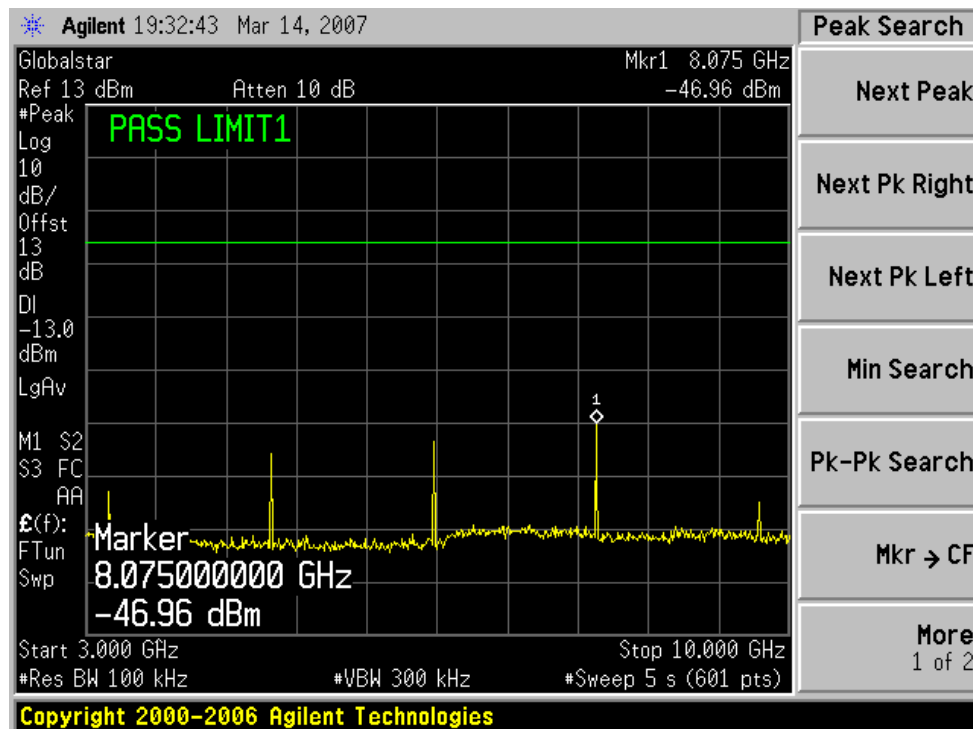
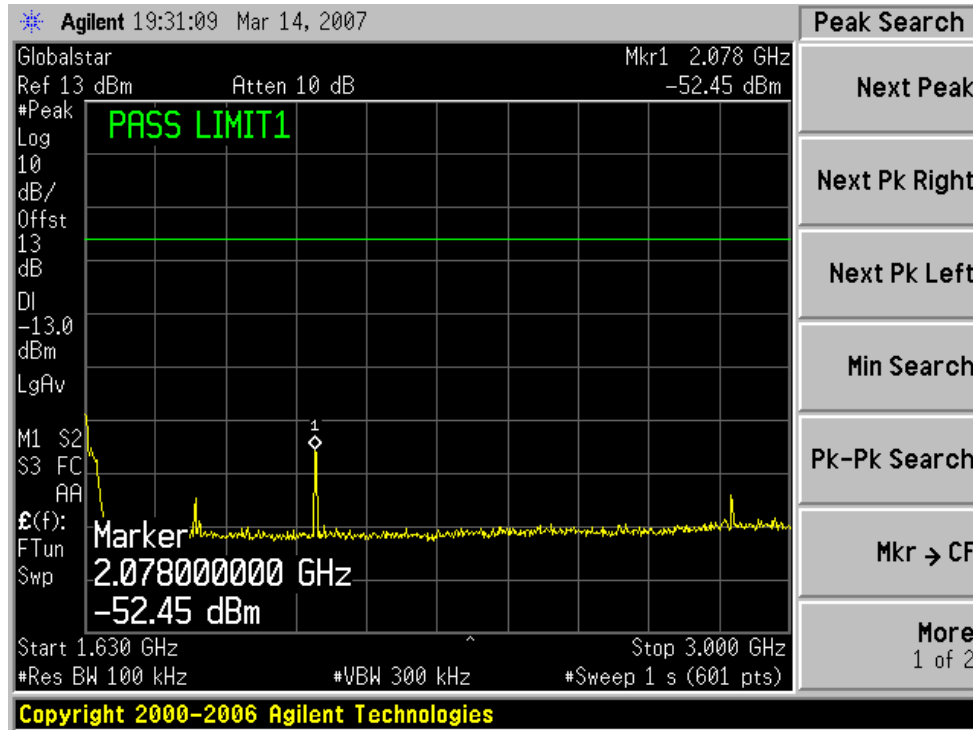
Measurement Result

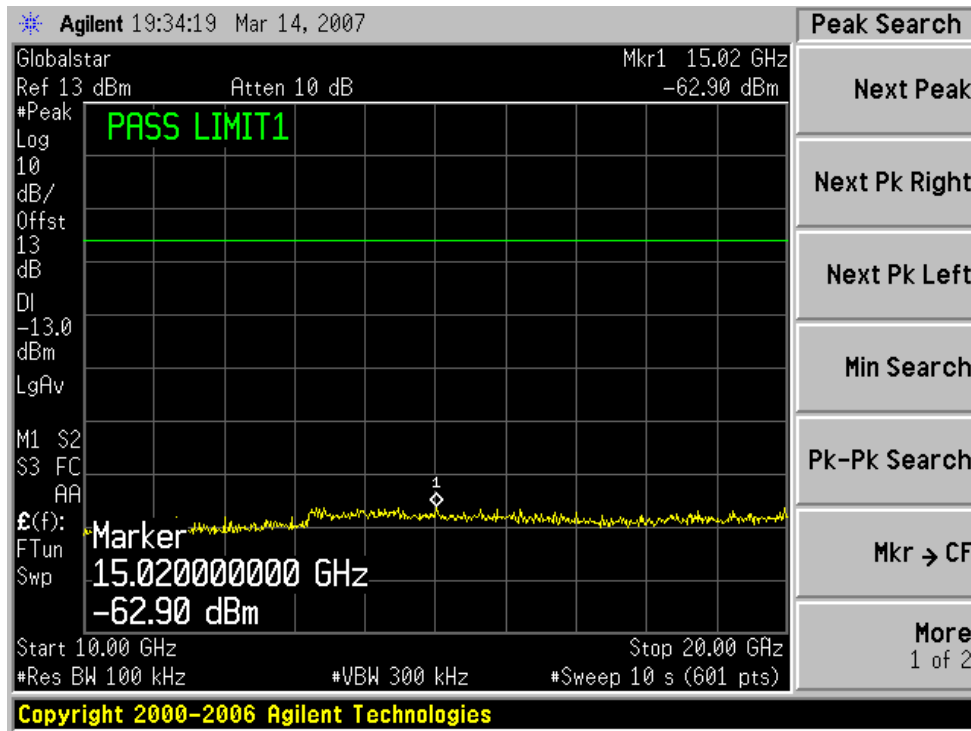
Environmental Conditions

| | |
|--------------------|-----------|
| Temperature: | 20 °C |
| Relative Humidity: | 46 % |
| ATM Pressure: | 101.4 kPa |

* *The testing was performed by Oscar Au on 2007-03-05.*







§15.207 - CONDUCTED EMISSIONS

Not applicable- EUT is connected to a 12 VDC source from a vehicle's power system when operated normally.

§2.1053 & §15.209 – FIELD STRENGTH OF SPURIOUS RADIATION

Standard Applicable

Requirements: CFR 47, § 25.202(f). The mean power of emission shall be attenuated below the mean output power of the transmitter in accordance with the following schedule:

In any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 250 percent of the authorized bandwidth: An amount equal to 43 dB plus 10 times the logarithm (to the base 10) of the transmitter power in watts;

In any event, when an emission outside of the authorized bandwidth causes harmful interference, the Commission may, at its discretion, require greater attenuation than specified in paragraphs (f) (1), (2) and (3) of this section.

§15.209(a) Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

| Frequency (MHz) | Field strength (microvolts/meter) | Measurement distance (meters) |
|------------------------|--|--------------------------------------|
| 0.009–0.490 | 2400/F(kHz) | 300 |
| 0.490–1.705 | 24000/F(kHz) | 30 |
| 1.705–30.0 | 30 | 30 |
| 30–88 | 100** | 3 |
| 88–216 | 150** | 3 |
| 216–960 | 200** | 3 |
| Above 960 | 500 | 3 |

***Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54–72 MHz, 76–88 MHz, 174–216 MHz or 470–806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§15.231 and 15.241.*

Optional: the EUT may be tested at the following limits provided by EN 55022

**Table 6 – Limits for radiated disturbance of class B ITE
at a measuring distance of 10 m**

| Frequency range MHz | Quasi-peak limits dB(μV/m) |
|---|---------------------------------------|
| 30 to 230 | 30 |
| 230 to 1 000 | 37 |
| NOTE 1 The lower limit shall apply at the transition frequency. | |
| NOTE 2 Additional provisions may be required for cases where interference occurs. | |

Measurement Procedure

The testing procedure was set according to TIA/EIA 603-C.

Equipment Lists

| Manufacturer | Description | Model | Serial Number | Cal. Date |
|-------------------|---|-----------|-------------------|--------------|
| Agilent | Analyzer, Spectrum | E4446A | US44300386 | 2006-03-06 |
| HP | Pre, Amplifier (1 ~ 26.5 GHz) | 8449B | 3147A00400 | 2006-08-21 |
| Sonoma Instrument | Amplifier Broadband (10 KHz - 2500 MHz) | 317 | 260407 | 2006-03-20 |
| Sunol Science | 30Mhz ~ 3 GHz Antenna | JB3 | A020106-3/S006628 | 2006-02-14 |
| HP | Generator, Signal | 83650B | 3614A00276 | 2006-05-10 |
| A.R.A | Antenna, Horn, DRG | DRG-118/A | 1132 | Not required |

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

Measurement Result

Environmental Conditions

| | |
|--------------------|-----------|
| Temperature: | 21 °C |
| Relative Humidity: | 55 % |
| ATM Pressure: | 102.1 kPa |

* The testing was performed by Oscar Au on 2007-03-05.

Test Results Summary

According to the data in the following tables, the EUT was found compliant with the limits of FCC Standard §25.202 and §15.209, and had the worst margin reading(s) of:

- **4.5 dBi Antenna**
 - **-3.8 dB at 6443.84 MHz** at the Low Channel setting in the **Vertical** polarization
 - **-3.2 dB at 6462.88 MHz** at the Middle Channel setting in the **Vertical** polarization
 - **-4.6 dB at 6482.48 MHz** at the High Channel setting in the **Horizontal** polarization
- **Unintentional Radiated Emissions**
 - **-8.8 dB at 32.78875 MHz** in the **Vertical** polarization

Out of Band (Carrier On)**Antenna Gain = 4.5 dBi***Final Scan 1GHz – 16.5GHz (Lowest Channel: 1610.73 MHz)*

| Indicated Freq. (MHz) | Amplitude (dBuV) | Azimuth Degrees | Test Antenna Height Meter | Polar. H/V | Substituted | | | | | Limit (dBm) | Margin (dB) |
|-----------------------|------------------|-----------------|---------------------------|------------|-------------|-------------|-----------------|-----------------|----------------------|-------------|-------------|
| | | | | | Freq. (MHz) | Level (dBm) | Ant. Gain (dBi) | Cable Loss (dB) | Absolute Level (dBm) | | |
| 6443.84 | 41.0 | 340 | 1.8 | V | 6443.84 | -24.6 | 10.70 | 2.90 | -16.80 | -13.00 | -3.80 |
| 6443.84 | 37.8 | 280 | 1.8 | H | 6443.84 | -27.9 | 10.70 | 2.90 | -20.10 | -13.00 | -7.10 |
| 3221.92 | 38.7 | 338 | 2.3 | V | 3221.92 | -30.8 | 9.46 | 1.90 | -23.24 | -13.00 | -10.24 |
| 3221.92 | 37.9 | 322 | 1.5 | H | 3221.92 | -31.5 | 9.46 | 1.90 | -23.94 | -13.00 | -10.94 |
| 4832.88 | 28.5 | 200 | 1.8 | H | 4832.88 | -39.8 | 10.40 | 2.18 | -31.58 | -13.00 | -18.58 |
| 4832.88 | 28.8 | 350 | 1.5 | V | 4832.88 | -40.2 | 10.40 | 2.18 | -31.98 | -13.00 | -18.98 |

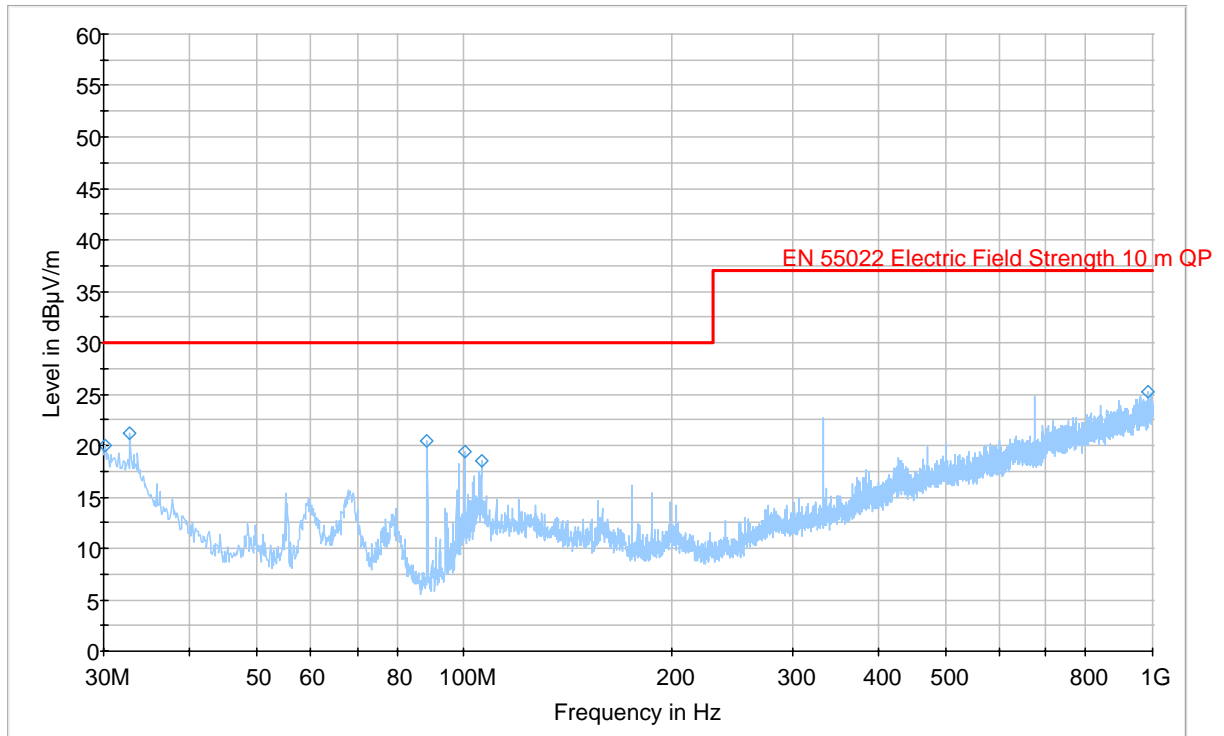
Final Scan 1GHz – 16.5GHz (Middle Channel: 1615.65 MHz)

| Indicated Freq. (MHz) | Amplitude (dBuV) | Azimuth Degrees | Test Antenna Height Meter | Polar. H/V | Substituted | | | | | Limit (dBm) | Margin (dB) |
|-----------------------|------------------|-----------------|---------------------------|------------|-------------|-------------|-----------------|-----------------|----------------------|-------------|-------------|
| | | | | | Freq. (MHz) | Level (dBm) | Ant. Gain (dBi) | Cable Loss (dB) | Absolute Level (dBm) | | |
| 6462.88 | 41.5 | 170 | 2.1 | V | 6462.88 | -24.2 | 10.9 | 2.90 | -16.20 | -13.00 | -3.20 |
| 6462.88 | 41.1 | 180 | 1.9 | H | 6462.88 | -24.6 | 10.9 | 2.90 | -16.60 | -13.00 | -3.60 |
| 3231.44 | 38.5 | 35 | 1.5 | V | 3231.44 | -31 | 9.48 | 1.90 | -23.42 | -13.00 | -10.42 |
| 3231.44 | 37.8 | 45 | 1.6 | H | 3231.44 | -31.6 | 9.48 | 1.90 | -24.02 | -13.00 | -11.02 |
| 4847.16 | 28.4 | 335 | 1.6 | V | 4847.16 | -40.7 | 10.4 | 2.18 | -32.48 | -13.00 | -19.48 |
| 4847.16 | 28.1 | 320 | 1.8 | H | 4847.16 | -41 | 10.4 | 2.18 | -32.78 | -13.00 | -19.78 |

Final Scan 1GHz – 16.5GHz (Highest Channel: 1620.57 MHz)

| Indicated Freq. (MHz) | Amplitude (dBuV) | Azimuth Degrees | Test Antenna Height Meter | Polar. H/V | Substituted | | | | | Limit (dBm) | Margin (dB) |
|-----------------------|------------------|-----------------|---------------------------|------------|-------------|-------------|-----------------|-----------------|----------------------|-------------|-------------|
| | | | | | Freq. (MHz) | Level (dBm) | Ant. Gain (dBi) | Cable Loss (dB) | Absolute Level (dBm) | | |
| 6482.48 | 39.5 | 125 | 2.0 | H | 6482.48 | -25.6 | 10.9 | 2.90 | -17.60 | -13.00 | -4.60 |
| 6482.48 | 40.1 | 250 | 1.9 | V | 6482.48 | -25.7 | 10.9 | 2.90 | -17.70 | -13.00 | -4.70 |
| 3241.24 | 36.8 | 320 | 1.8 | V | 3241.24 | -31.6 | 9.48 | 1.90 | -24.02 | -13.00 | -11.02 |
| 3241.24 | 35.6 | 280 | 1.9 | H | 3241.24 | -32.7 | 9.48 | 1.90 | -25.12 | -13.00 | -12.12 |
| 4861.86 | 28.2 | 160 | 2.0 | V | 4861.86 | -40.6 | 10.4 | 2.18 | -32.38 | -13.00 | -19.38 |
| 4861.86 | 28.0 | 190 | 1.8 | H | 4861.86 | -40.8 | 10.4 | 2.18 | -32.58 | -13.00 | -19.58 |

Final Scan 30 MHz – 1000 MHz



| Frequency (MHz) | Max Peak (dBµV/m) | Antenna height (cm) | Polarity | Turntable position (deg) | Corrected Reading (dB) | Limit (dBµV/m) | Margin (dB) |
|-----------------|-------------------|---------------------|----------|--------------------------|------------------------|----------------|-------------|
| 32.788750 | 21.2 | 100.0 | V | 2.0 | -18.5 | 30.0 | -8.8 |
| 88.442500 | 20.4 | 393.0 | H | 136.0 | -29.2 | 30.0 | -9.6 |
| 30.121250 | 20.0 | 198.0 | H | 26.0 | -16.3 | 30.0 | -10.0 |
| 100.203750 | 19.5 | 393.0 | H | 187.0 | -26.3 | 30.0 | -10.5 |
| 106.145000 | 18.5 | 393.0 | V | -2.0 | -24.7 | 30.0 | -11.5 |
| 986.177500 | 25.3 | 393.0 | V | 211.0 | -11.0 | 37.0 | -11.7 |

§25.202 (f) (1)..(3) – EMISSION LIMITATIONS

Standard Applicable

According to CFR 47, § 25.202 (f) (1) through (3), the mean power of emission shall be attenuated below the mean output power of the transmitter in accordance with the following schedule:

- (1) In any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth: 25 dB;
- (2) In any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 100 percent up to and include 250 percent of the authorized bandwidth: 35 dB;
- (3) In any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 250 percent of the authorized bandwidth: An amount equal to 43 dB plus 10 times the logarithm (to the base 10) of the transmitter power in watts

Measurement Procedure

The RF output of the EUT was connected to a spectrum analyzer through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 4 kHz. Sufficient scans were taken to show any out of band emissions up to 10th harmonic.

Measurement Result

Please refer to Qualcomm Incorporated report TL80-C6445-1 Rev. B, with FCC ID: J9CGSK2HFK

§2.1046 & §25.204 – POWER OUTPUT

Standard Applicable

According to §25.204 (a): in bands shared coequally with terrestrial radio communication services, the equivalent isotropically radiated power transmitted in any direction towards the horizon by an earth station, other than an ESV, operating in frequency bands between 1 and 15 GHz, shall not exceed the following limits except as provided for in paragraph (c) of this section:

+40 dBW in any 4 kHz band for $\Theta \leq 0^\circ$

+40 + 3 Θ dBW in any 4 kHz band for $0^\circ < \Theta \leq 5^\circ$

where Θ is the angle of elevation of the horizon viewed from the center of radiation of the antenna of the earth station and measured in degrees as positive above the horizontal plane and negative below it.

Measurement Procedure

1. Place the EUT on a bench and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to a spectrum analyzer.



Equipment Lists

| Manufacturer | Description | Model | Serial Number | Cal. Date |
|--------------|--------------------|--------|---------------|------------|
| Agilent | Analyzer, Spectrum | E4446A | US44300386 | 2006-03-06 |

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

Measurement Result

Environmental Conditions

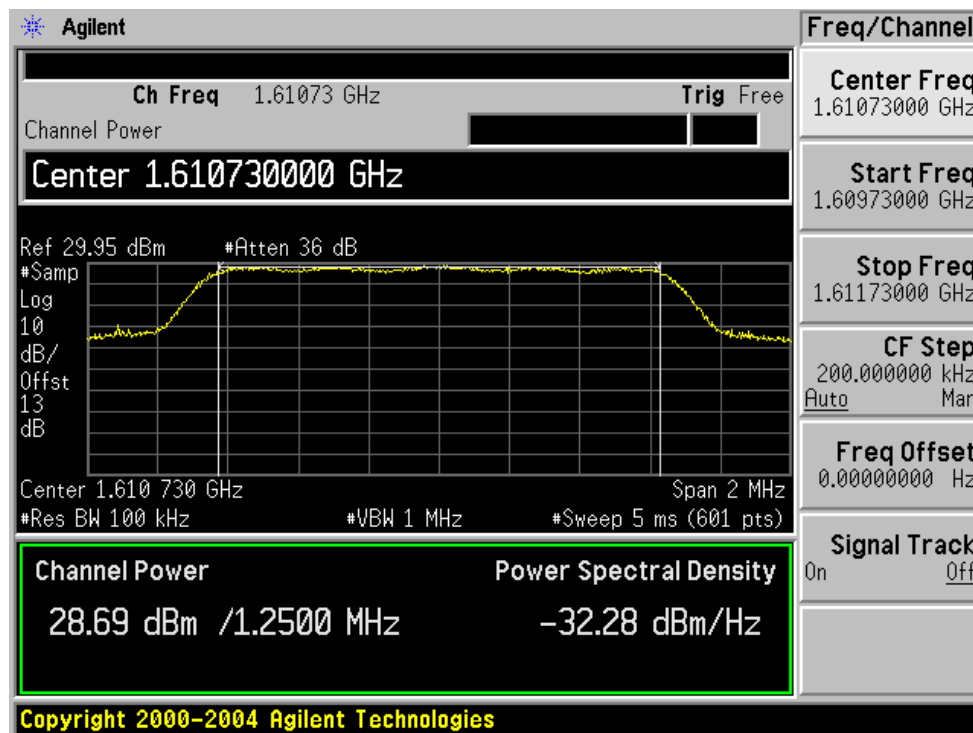
| | |
|--------------------|-----------|
| Temperature: | 20 °C |
| Relative Humidity: | 60 % |
| ATM Pressure: | 102.0 kPa |

* *The testing was performed by Oscar Au on 2007-03-05.*

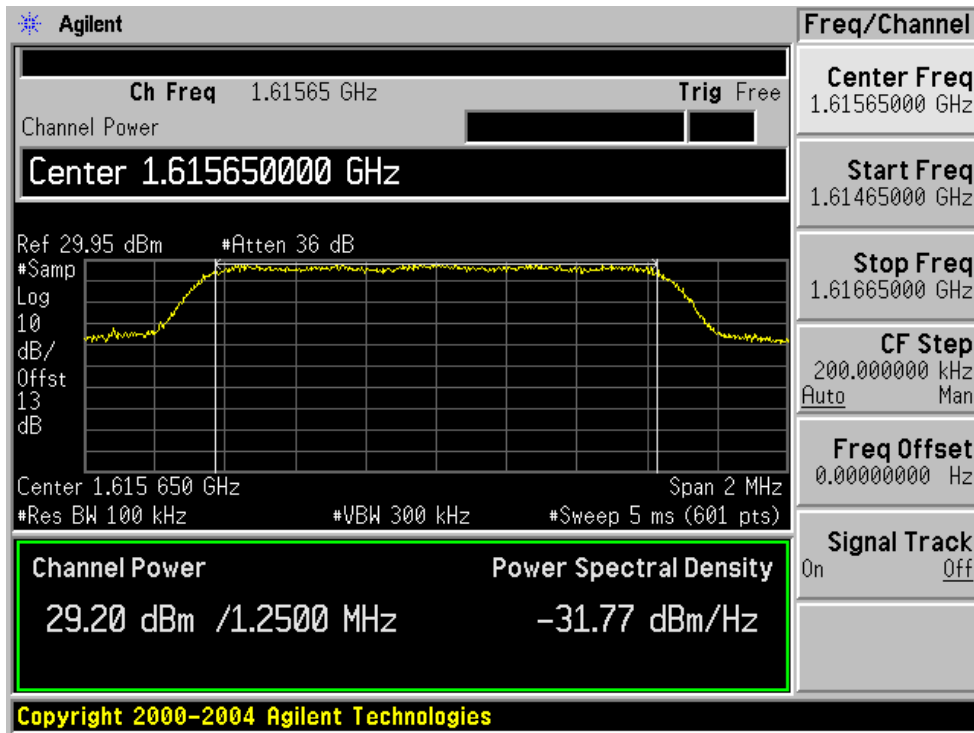
Antenna Gain = 4.5 dBi

| Channel | Frequency (MHz) | Conducted Output Power (dBm) | Antenna Gain (dBi) | e.i.r.p (dBm) | Limit (dBW) |
|---------|-----------------|------------------------------|--------------------|---------------|-------------|
| Low | 1610.73 | 28.69 | 4.50 | 33.19 | 40 |
| Mid | 1618.11 | 29.20 | 4.50 | 33.70 | |
| High | 1620.57 | 28.56 | 4.50 | 33.06 | |

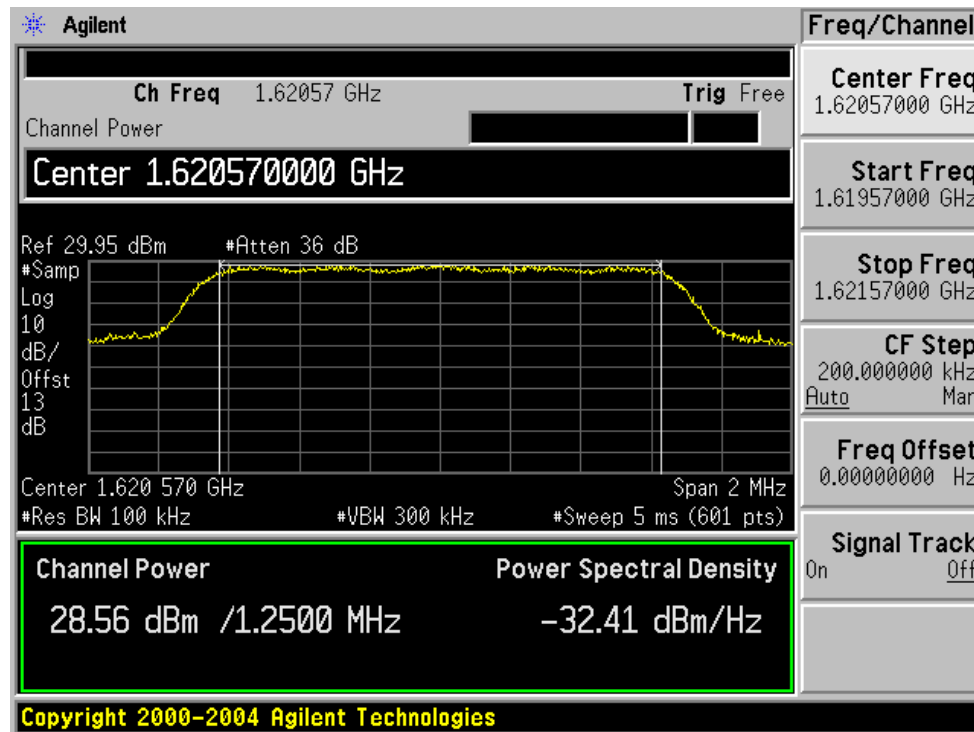
Low Channel



Middle Channel



High Channel



§25.216(b) & §25.216(g) – EMISSIONS FROM MOBILE EARTH STATIONS FOR PROTECTION OF AERONAUTICAL RADIONAVIGATION-SATELLITE SERVICE

Applicable Standard

According to §25.216(b), the e.i.r.p. density of emissions from mobile earth stations placed in service on or before July 21, 2002 with assigned uplink frequencies between 1610 MHz and 1626.5 MHz shall not exceed -64 dBW/MHz, averaged over any 2 millisecond active transmission interval, in the band 1587.42–1605 MHz. The e.i.r.p. of discrete emissions of less than 700 Hz bandwidth generated by such stations shall not exceed -74 dBW, averaged over any 2 millisecond active transmission interval, in the 1587.42–1605 MHz band.

According to §25.216(g), mobile earth stations manufactured more than six months after Federal Register publication of the rule changes adopted in FCC 03–283 with assigned uplink frequencies in the 1610–1626.5 MHz band shall suppress the power density of emissions in the 1605–1610 MHz band-segment to an extent determined by linear interpolation from -70 dBW/MHz at 1605 MHz to -10 dBW/MHz at 1610 MHz averaged over any 2 millisecond active transmission interval. The e.i.r.p. of discrete emissions of less than 700 Hz bandwidth from such stations shall not exceed a level determined by linear interpolation from -80 dBW at 1605 MHz to -20 dBW at 1610 MHz, averaged over any 2 millisecond active transmission interval.

Measurement Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT was set without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.

Measurement Result

Please refer to Qualcomm Incorporated report TL80-C6445-1 Rev. B, with FCC ID: J9CGSK2HFK

§2.1055 – FREQUENCY STABILITY & §25.202(d) – FREQUENCY TOLERANCE

Standard Applicable

According to §25.202(d) *Frequency tolerance, Earth stations*. The carrier frequency of each earth station transmitter authorized in these services shall be maintained within 0.001 percent of the reference frequency.

Measurement Result

Please refer to Qualcomm Incorporated report TL80-C6445-1 Rev. B, with FCC ID: J9CGSK2HFK