

FCC PART 25 TYPE SUPPLEMENT EMI MEASUREMENT AND TEST REPORT

For

QUALCOMM Incorporated

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U.S.A.

FCC ID: J9COVMCPSDM1

This Report Concerns: <input checked="" type="checkbox"/> Original Report	Equipment Type: Satellite Earth Station Equipment
Test Engineer: Snell Leong	
Report No.: N/A	
Report Date: 2006-04-07	
Reviewed By: Daniel Deng	
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Note: The test report is specially limited to the use of the above client company and this particular sample only. It may not be duplicated without prior written consent of Bay Area Compliance Laboratory Corporation. This report **must not** be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the U.S. Government.

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GENERAL INFORMATION

Product Description for Equipment Under Test (EUT)

Please see Main Test report.

Objective

This test report is used intended as supplement to main report.

Related Submittal(s)/Grant(s)

No Related Submittals.

Test Methodology

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

All radiated and conducted emissions measurement was performed at Bay Area Compliance Laboratory, Corp.

Test Facility

The Open Area Test site used by BACL to collect radiated and conducted emission measurement data is located in the back parking lot of the building at 230 Commercial Street, Sunnyvale, California, USA with registration number: 90464.

Test site at BACL has been fully described in reports submitted to the Federal Communication Commission (FCC), Industry Canada (IC), and Voluntary Control Council for Interference (VCCI).

The details of these reports has been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on February 11 and December 10, 1997, and Article 8 of the VCCI regulations on December 25, 1997. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2003.

The Federal Communications Commission, Industry Canada, and Voluntary Control Council for Interference has the reports on file and is listed under FCC file 31040/SIT 1300F2, IC registration number: 3062A, and VCCI Registration No.: C-1298 and R-1234. The test site has been approved by the FCC, IC, and VCCI for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, BACL 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 603-C.

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

Special Accessories

As shown in following test setup block diagram, all interface cables used for compliance testing are shielded.

Equipment Modifications

No modifications were made to the EUT.

Local Support Equipment List and Details

Manufacturer	Description	Model	Serial Number	FCC ID

Power Supply Information

Manufacturer	Description	Model	Serial Number	FCC ID
HP	ADC Power Supply	6236B	2003A05705	None

External I/O Cabling List and Details

Cable Description	Length (M)	Port/From	To

SUMMARY OF TEST RESULTS

Results reported relate only to the product tested.

FCC RULES	DESCRIPTION OF TEST	RESULT
§2.1053 & §25.202(f)	Field Strength of Spurious Radiation	Compliant
§25.202(f)	Emission Mask	Compliant

§ 2.1053 & §25.202 (f) – 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.

Measurement Procedure

Method of Measurement – According to TIA-603C, 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 = $43 + 10 \text{Log}_{10}(\text{power out in Watts})$

Equipment Lists

Manufacturer	Description	Model	Serial Number	Cal. Date
Agilent	Spectrum Analyzer	E4446A	US44300386	2006-03-06
ARH	Horn Antenna	ARH-1923-02	11648-01	2005-08-07
ARH	Horn Antenna	ARH-2823-02	10555-02	2005-08-07
ARH	Horn Antenna	ARH-4223-02	10555-01	2005-08-07
A.R.A	Horn Antenna	DRG-118/A	1132	2005-08-07
OML	Harmonic mixer	M12HW/A	E60120-1	2006-01-23

* **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:	23° C
Relative Humidity:	65%
ATM Pressure:	1025 mbar

The testing was performed by Snell Leong on 2006-03-17.

Radiated Spurious and harmonic emission at low-band (30 MHz ~ 73GHz)

Frequency (GHz)	Meas. reading (dBuV/m) / (polarization)	Cable Loss dB	AG (dB)	SG output level (dBm)	Corrected Substitute Level (dBm)	Limit (dBm)
28.010	19.4 (H)	15.6	21.4	-37.73	-31.93	-13
28.010	19.1 (V)	15.6	21.4	-38.03	-32.23	-13
42.02	15.2 (H)	23.2	23.2	-26.83	-26.83	-13
42.02	14.7 (V)	23.2	23.2	-27.33	-27.33	-13

Radiated Spurious and harmonic emission at high-band (30 MHz ~73GHz)

Frequency (GHz)	Meas. reading (dBuV/m) / (polarization)	Cable Loss dB	AG (dB)	SG Output level (dBm)	Corrected Substitute Level (dBm)	Limit (dBm)
28.99	11 (H)	15.4	21.4	-40.53	-46.53	-13
28.99	10.7 (V)	15.4	21.4	-40.83	-46.83	-13
43.49	10.5 (H)	21.5	23.2	-33.23	-34.93	-13
43.49	10.1 (V)	21.5	23.2	-33.63	-35.33	-13

§25.202(f) – EMISSION MASK

Standard Applicable

According to CFR 47, § 25.202. The mean power of emissions 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 including 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; which is equivalent to an absolute limit of -13 dBm.

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.

Equipment Lists

Manufacturer	Description	Model	Serial Number	Cal. Date
Agilent	Spectrum Analyzer	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.

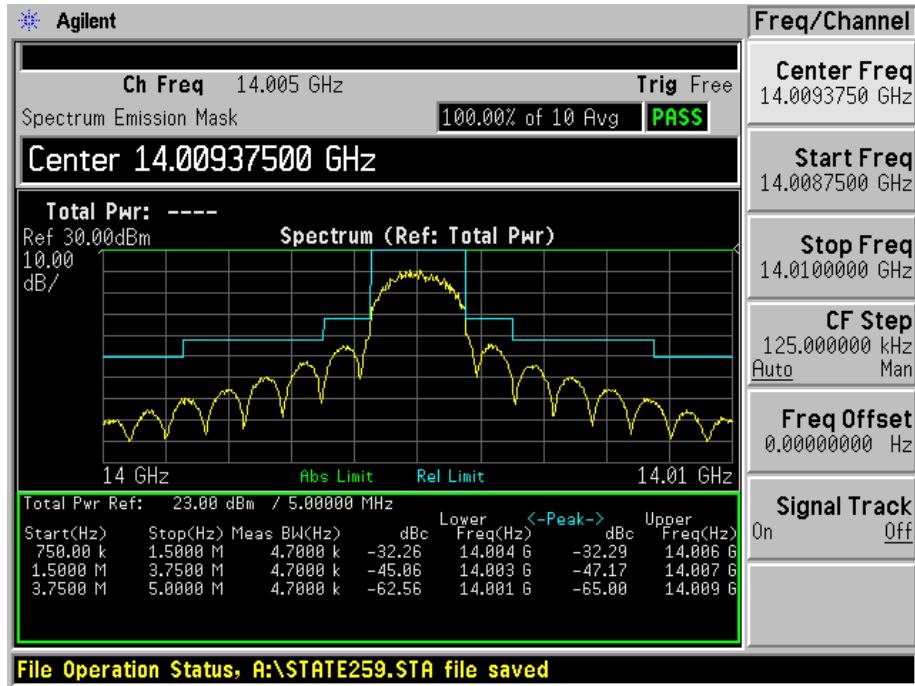
Measurement Result

Environmental Conditions

Temperature:	20° C
Relative Humidity:	58%
ATM Pressure:	1010 mbar

The testing was performed by Snell Leong on 2006-03-17.

Low Channel



High Channel

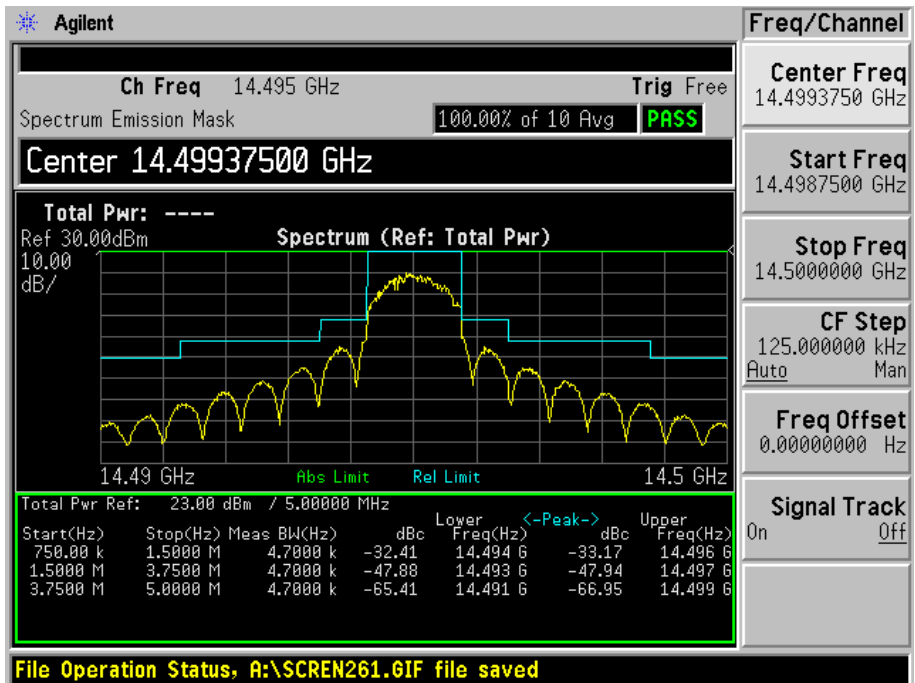


EXHIBIT B - TEST SETUP PHOTOGRAPHS

Radiated Setup – View 1



Radiated Setup – View 2

