

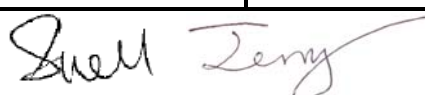

FCC PART 15.247 & 15.407
EMI MEASUREMENT AND TEST REPORT

For

SMARTBRIDGES PTE LTD

745, Toa Payoh Lorong 5, #04-01 HBM Building
Singapore 319455

FCC ID: PWGNEXUS2

| | |
|---|---|
| This Report Concerns: <input checked="" type="checkbox"/> Original Report | Equipment Type: 802.11a/b/g MiniPCI WLAN Card |
| Test Engineer:  Snell Leong / Jerry Wang | |
| Report No.: R0507013 | |
| Report Date: 2005-08-08 | |
| 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)

The *SMARTBRIDGES PTE LTD's* product, FCC ID: *PWGNEXUS2*, model number: *NEXUS2* or the "EUT" as referred to in this report is a 802.11a/b/g MiniPCI WLAN Card. The EUT is a composite device of DTS and UNII. For the DTS part (802.11b/g), the frequency range is 2412.00 – 2462.00 MHz (for 802.11b/g), maximum output power is 242.1mW. For the UNII part (802.11a), the frequency range is 5260.00 – 5320.00 MHz, maximum output power is 3.96mW & 5500.00 – 5700.00 MHz, maximum output power is 3.90mW.

** The test data gathered are from production sample, serial number: 0001, provided by the manufacturer.*

Objective

This type approval report is prepared on behalf of *SMARTBRIDGES PTE LTD* in accordance with Part 2, Subpart J, Part 15, Subparts A, C, and E of the Federal Communication Commissions rules.

The objective of the manufacturer is to demonstrate compliance with FCC rules for Output Power, Antenna Requirements, 6 dB Bandwidth and 26 dB Bandwidth, power spectral density, 100 kHz Bandwidth of Band Edges Measurement, Out of Band Emission, Spurious Emission, Conducted and Spurious Radiated Emission, Discontinue Transmitting with Absence of Data or Operational Failure, Peak Excursion to Average Ratio and Frequency Stability.

Related Submittal(s)/Grant(s)

No Related Submittals.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

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.

Test site at BACL has been fully described in reports submitted to the Federal Communication Commission (FCC) and Voluntary Control Council for Interference (VCCI). The detail of these reports has been found to be in compliance with the requirements of Section 2.948 of the FCC Rules and Article 8 of the VCCI regulations. The facility also complies with the test methods and procedures set forth in ANSI C63.4-2003.

The Federal Communications Commission and Voluntary Control Council for Interference has the reports on file and is listed under FCC file 31040/SIT 1300F2 and VCCI Registration No.: C-1298 and R-1234.

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 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 ANSI C63.4-2003.

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 operates in normal operation mode during radiated and conducted testing.

Special Accessories

As shown in following test setup block diagram, all interface cables used for compliance testing are shielded. The host PC and the peripherals featured shielded metal connectors.

Schematics / Block Diagram

Please refer to Appendix A.

Equipment Modifications

No modifications were made to the EUT.

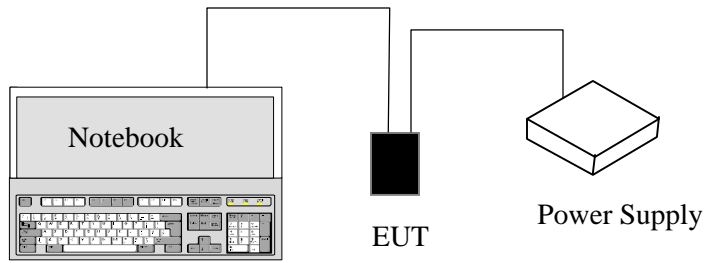
Local Support Equipment List and Details

| Manufacturer | Description | Model | Serial Number | FCC ID |
|-------------------|-----------------------|--------------|--------------------------|--------|
| Dell | Notebook PC | 300M | CN-0X0024-36521-377-0003 | None |
| SPI Sparkle Power | Ac to DC power supply | FSP 300-60GT | S01949987 | None |

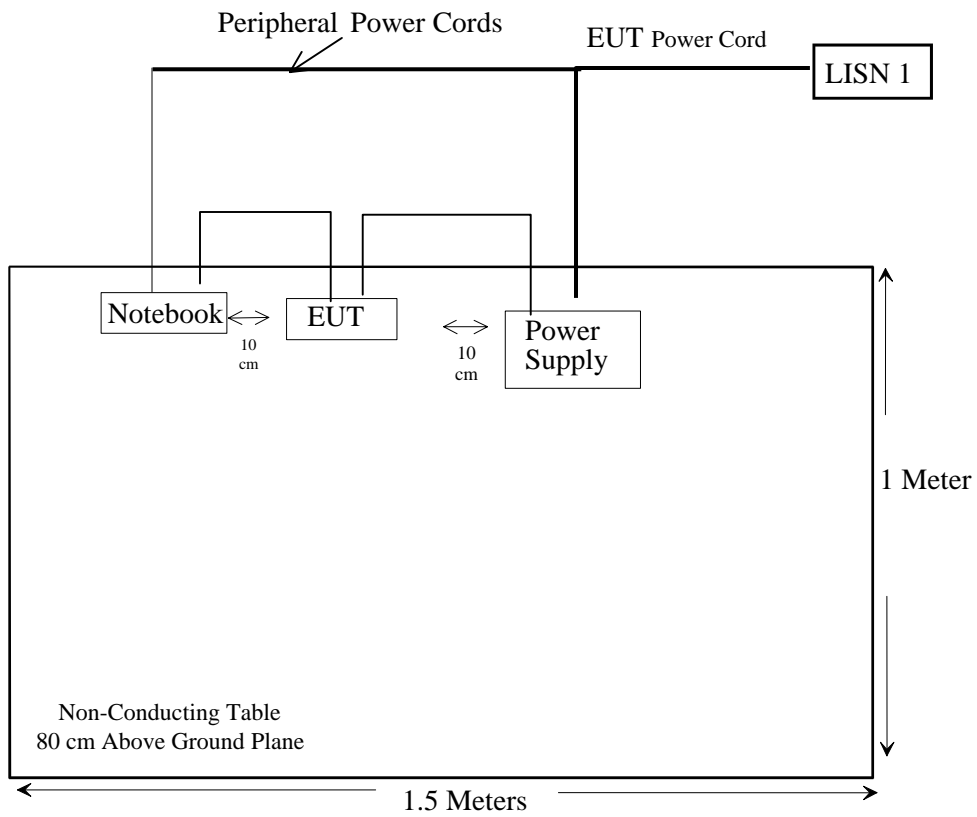
External I/O Cabling List and Details

| Cable Description | Length (M) | Port/From | To |
|------------------------|------------|---------------------|-----|
| 28 AWG DC power cables | 1.5m | Power supply | EUT |
| MiniPCI extender | 8cm | Laptop MiniPCI port | EUT |

Configuration of Test System



Test Setup Block Diagram



SUMMARY OF TEST RESULTS

Results reported relate only to the product tested.

| FCC RULES | DESCRIPTION OF TEST | RESULT |
|---|---|-----------------------------------|
| §2.1093, §15.247(b)(4), §15.407 (f) | RF Exposure Requirement | Compliant |
| §15.203 | Antenna Requirement | Compliant |
| § 15.205, §15.209(a), §15.407(b)(5), §15.407(b)(6) | Restricted Bands, Radiated Emission | Within Measurement Uncertainty |
| § 15.207(a) | AC Line Conduction | Within Measurement Uncertainty |
| §15.247(a)(2), §15.407 | 6 dB Bandwidth & 26 dB Bandwidth | Compliant |
| §15.247(b)(3), §15.407(a)(2) | RF Output Power | Compliant |
| § 15.247(d) | 100 kHz Bandwidth of Frequency Band Edge | Compliant |
| §15.247(e), §15.407(a)(2) | Peak Power Spectral Density | Compliant |
| §15.407(a)(6) | Peak Excursion | Compliant |
| §15.407(b) | Out of Band Emission | Compliant |
| §15.407(c) | Discontinue Transmitting with Absence of Data or Operational Failure | Compliant |
| § 15.407(g) | Frequency Stability | Compliant |

§1.1307(b)(1) & §2.1091 - RF EXPOSURE

According to §15.247(b)(4) and §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

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

2412 – 2462 MHz:

Maximum peak output power at antenna input terminal: 23.84(dBm)

Maximum peak output power at antenna input terminal: 242.10 (mW)

Predication frequency: 2400 (MHz)

Antenna Gain (typical): 24 (dBi)

antenna gain: 251.2 (numeric)

Prediction distance: 70(cm)

Power density at predication frequency at 70 cm: 0.99 (mW/cm²)

MPE limit for uncontrolled exposure at prediction frequency: 1.0 (mW/cm²)

5.2 – 5.3 GHz

Maximum peak output power at antenna input terminal: 5.98(dBm)

Maximum peak output power at antenna input terminal: 3.96 (mW)

Predication frequency: 5000 (MHz)

Antenna Gain (typical): 32 (dBi)

antenna gain: 1584.9 (numeric)

Prediction distance: 25 (cm)

Power density at predication frequency at 25 cm: 0.80 (mW/cm²)

MPE limit for uncontrolled exposure at prediction frequency: 1.0 (mW/cm²)

Test Result

The EUT is of fixed outdoor installation, point -to-point or point-to-multipoint. 1mW/cm² limit applies. The prediction distance for the 2.4G Hz antenna is 70cm. The prediction distance for the 5G Hz antenna is 25cm.

§15.203 - ANTENNA REQUIREMENT

Standard Applicable

For intentional device, according to § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

And according to § 15.247 (1), if transmitting antennas of directional gain greater than 6 dBi are used the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

The EUT was tested with 7 antennas as listed hereinafter:

| <i>Model:</i> | <i>Frequency:</i> | <i>Gain:</i> |
|---------------|-------------------|--------------|
| DC24HDPF1P | 2.4GHz | 24dBi |
| OD24-12 | 2.4GHz | 12dBi |
| SA24-90-17 | 2.4GHz | 17dBi |
| SAH24-16 | 2.4GHz | 16dBi |
| GA-57-32 | 5.8GHz | 32dBi |
| GD53-28 | 5.8GHz | 28dBi |
| PA58-24 | 5.8GHz | 24dBi |

§15.205, §15.209(a), §15.407(b)(5), §15.407(b)(6) - SPURIOUS RADIATED EMISSION

Measurement Uncertainty

All measurements involve certain levels of uncertainties. 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 best estimate of the uncertainty of a radiation emissions measurement at BAEL is ± 4.0 dB.

According to §15.205, except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

| MHz | MHz | MHz | GHz |
|----------------------------|-----------------------|-----------------|------------------|
| 0.090 – 0.110 | 16.42 – 16.423 | 399.9 – 410 | 4.5 – 5.15 |
| ¹ 0.495 – 0.505 | 16.69475 – 16.69525 | 608 – 614 | 5.35 – 5.46 |
| 2.1735 – 2.1905 | 16.80425 – 16.80475 | 960 – 1240 | 7.25 – 7.75 |
| 4.125 – 4.128 | 25.5 – 25.67 | 1300 – 1427 | 8.025 – 8.5 |
| 4.17725 – 4.17775 | 37.5 – 38.25 | 1435 – 1626.5 | 9.0 – 9.2 |
| 4.20725 – 4.20775 | 73 – 74.6 | 1645.5 – 1646.5 | 9.3 – 9.5 |
| 6.215 – 6.218 | 74.8 – 75.2 | 1660 – 1710 | 10.6 – 12.7 |
| 6.26775 – 6.26825 | 108 – 121.94 | 1718.8 – 1722.2 | 13.25 – 13.4 |
| 6.31175 – 6.31225 | 123 – 138 | 2200 – 2300 | 14.47 – 14.5 |
| 8.291 – 8.294 | 149.9 – 150.05 | 2310 – 2390 | 15.35 – 16.2 |
| 8.362 – 8.366 | 156.52475 – 156.52525 | 2483.5 – 2500 | 17.7 – 21.4 |
| 8.37625 – 8.38675 | 156.7 – 156.9 | 2655 – 2900 | 22.01 – 23.12 |
| 8.41425 – 8.41475 | 162.0125 – 167.17 | 3260 – 3267 | 23.6 – 24.0 |
| 12.29 – 12.293 | 167.72 – 173.2 | 3332 – 3339 | 31.2 – 31.8 |
| 12.51975 – 12.57725 | 240 – 285 | 3345.8 – 3358 | 36.43 – 36.5 |
| 13.36 – 13.41 | 322 – 335.4 | 3600 – 4400 | (²) |

¹ Until February 1, 1999, this restricted band shall be 0.490-0.510MHz

² Above 38.6

Except as provided in paragraph (d) and (e), the filed strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

According to §15.209, the device shall meet radiated emission general requirements.

Except for Class A device, the filed strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

| Frequency of Emission (MHz) | Field Strength (Microvolts/meter) | dB (dB μ V/meter) |
|--------------------------------|--------------------------------------|--------------------------|
| 30 - 88 | 100 | 40 |
| 88 - 216 | 150 | 43.5 |
| 216 - 960 | 200 | 46 |
| Above 960 | 500 | 54 |

EUT Setup

The radiated emission tests were performed in the open area 3-meter test site, using the setup in accordance with ANSI C63.4-2003. The specification used was the FCC 15 Subpart C limits.

The spacing between the peripherals was 10 centimeters.

External I/O cables were draped along the edge of the test table and bundle as required.

The EUT was connected with 120Vac/60Hz power source.

Spectrum Analyzer Setup

According to FCC CFR 47, Section 15.31, the EUT was tested to 25GHz for 15.247 and 40GHz for 15.407.

During the radiated emission test, the spectrum analyzer was set with the following configurations:

| <i>Frequency Range</i> | <i>RBW</i> | <i>Video B/W</i> |
|------------------------|------------|------------------|
| Below 30MHz | 10kHz | 10kHz |
| 30 – 1000MHz | 100kHz | 100kHz |
| Above 1000MHz | 1MHz | 1MHz |

Test Equipment List and Details

| Manufacturer | Description | Model | Serial Number | Cal. Date |
|---------------|-------------------------------|-------------|---------------|------------|
| HP | Amplifier, Pre (.1 ~1300MHz) | 8447D | 2944A10198 | 8/20/2004 |
| Agilent | Analyzer, Spectrum | E4446A | US44300386 | 11/10/2004 |
| HP | Pre, Amplifier (1 ~ 26.5 GHz) | 8449B | 3147A00400 | 07/05/2005 |
| Sunol Science | 30Mhz ~ 2 GHz Antenna | JB1 | A03105-3 | 02/11/2005 |
| A. H. Systems | Antenna, Horn, Std | SAS-200/571 | 261 | 4/20/2005 |

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

Test Procedure

For the radiated emissions test, the PC system power cord was connected to the AC floor outlet since the power supply used in the EUT did not provide an accessory power outlet.

Maximizing procedure was performed on the six (6) highest emissions to ensure EUT compliance is with all installation combinations. All data was recorded in the peak detection mode. Quasi-peak readings was performed only when an emission was found to be marginal (within -4 dB μ V of specification limits), and are distinguished with a "Qp" in the data table.

For average measurement, the spectrum analyzer was set as RBW = 1MHz, VBW = 10Hz.

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Antenna Factor} + \text{Cable Factor} - \text{Amplifier Gain}$$

The "Margin" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB means the emission is 7dB below the maximum limit for Subpart C. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{Subpart C Limit}$$

Summary of Test Results

Environmental Conditions

| | |
|--------------------|-----------|
| Temperature: | 22° C |
| Relative Humidity: | 58% |
| ATM Pressure: | 1024 mbar |

The testing was performed by Snell Leong on 2005-07-13.

| | |
|--------------------|-----------|
| Temperature: | 23° C |
| Relative Humidity: | 37% |
| ATM Pressure: | 1032 mbar |

The testing was performed by Jerry Wang on 2005-07-24.

According to the data in following tables, the EUT test data are within the measurement uncertainty of the worst margin reading of ± 4.0 dB:

802.11b, 15.247

SA24-90-17:

-1.8 dB at 4824.00 MHz in the **Horizontal** polarization, Low Channel

-1.2 dB at 4874.00 MHz in the **Horizontal** polarization, Middle Channel

-0.6 dB at 2004.00MHz in the **Vertical** polarization, High Channel

SAH24-90-16:

-4.6 dB at 4824.00 MHz in the Vertical polarization, Low Channel

-3.2 dB at 4874.00 MHz in the Horizontal polarization, Middle Channel

-0.5 dB at 2004.00MHz in the Horizontal polarization, High Channel

DC24HDPF1P:

-8.0 dB at 1657.00 MHz in the Horizontal polarization, Low Channel

-7.5 dB at 1905.00 MHz in the Horizontal polarization, Middle Channel

-2.3 dB at 2004.00MHz in the Vertical polarization, High Channel

OD24-12

-2.6 dB at 4824.00 MHz in the Horizontal polarization, Low Channel

-1.9 dB at 4874.00 MHz in the Horizontal polarization, Middle Channel

-1.2 dB at 4924.00MHz in the Horizontal polarization, High Channel

802.11g, 15.247**SA24-90-17**

-6.9 dB at 4824.00 MHz in the Horizontal polarization, Low Channel

-6.2 dB at 4874.00 MHz in the Horizontal polarization, Middle Channel

-1.3 dB at 2004.00 MHz in the Vertical polarization, High Channel

SAH24-90-16

-4.8 dB at 4824.00 MHz in the Horizontal polarization, Low Channel

-3.4 dB at 4874.00 MHz in the Vertical polarization, Middle Channel

-3.0 dB at 4924.00 MHz in the Horizontal polarization, High Channel

DC24HDPF1P

-4.5 dB at 4824.00 MHz in the Horizontal polarization, Low Channel

-4.0 dB at 4874.00 MHz in the Horizontal polarization, Middle Channel

-3.5 dB at 4924.00 MHz in the Horizontal polarization, High Channel

OD24-12

-6.7 dB at 4824.00 MHz in the Horizontal polarization, Low Channel

-6.1 dB at 4874.00 MHz in the Horizontal polarization, Middle Channel

-3.4 dB at 2004.00 MHz in the Vertical polarization, High Channel

802.11a, 15.407, 5.2 – 5.3GHz*GD 53-28 28dBi WIRE GRID*

-10.5 dB at **15780.00 MHz** in the **Horizontal** polarization, Low Channel

-8.6 dB at **15900.00 MHz** in the **Vertical** polarization, Middle Channel

-9.7 dB at **15960.00 MHz** in the **Vertical** polarization, High Channel

PA 58 - 24 , 24dBi FLAT PANEL

-10.7 dB at **15780.00 MHz** in the **Vertical** polarization, Low Channel

-10.7 dB at **15900.00 MHz** in the **Vertical** polarization, Middle Channel

-11.6 dB at **15960.00 MHz** in the **Vertical** polarization, High Channel

DA 57 - 32 , 32dBi SOLID DISH

-10.5 dB at **15780.00 MHz** in the **Horizontal** polarization, Low Channel

-9.6 dB at **15900.00 MHz** in the **Vertical** polarization, Middle Channel

-11.6 dB at **15960.00 MHz** in the **Vertical** polarization, High Channel

Unwanted Emission:

-1.3 dB at **366.00MHz** in the **Horizontal** polarization, High Channel

802.11b**SA24-90-17 , 2.4GHz 17 dBi Vertical , outpower = 17 dBm****Run # 1- 1 :Primary scan 1GHz -25GHz , (Lowest channel. : 2412 MHz)**

| Frequency MHz | Reading dBuV/m | Direction Degree | Height Meter | Polar H / V | Antenna Loss dB | Cable loss dB | Amplifier dB | Correction Factor dBuV/m | 15.247 Limit (dBuV/m) | 15.247 Margin | Comments |
|------------------|-------------------|---------------------|-----------------|----------------|-----------------------|---------------------|-----------------|--------------------------------|-----------------------------|------------------|----------|
| 4824.0000 | 71.4 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 72.2 | 74 | -1.8 | Peak |
| 1805.0000 | 58.0 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 48.3 | 54 | -5.7 | Ave |
| 1657.0000 | 54.7 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 45.0 | 54 | -9.0 | Ave |
| 4824.0000 | 63.9 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 64.7 | 74 | -9.3 | Peak |
| 1805.0000 | 74.2 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 64.5 | 74 | -9.5 | Peak |
| 7236.0000 | 38.0 | 90 | 2.0 | h | 36.7 | 4.3 | 34.7 | 44.3 | 54 | -9.7 | Ave |
| 4824.0000 | 41.9 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 42.7 | 54 | -11.3 | Ave |
| 7236.0000 | 32.3 | 180 | 2.0 | v | 36.7 | 4.3 | 34.7 | 38.6 | 54 | -15.4 | Ave |
| 1407.0000 | 49.7 | 0 | 2.0 | v | 23.3 | 1.3 | 36.8 | 37.4 | 54 | -16.6 | Ave |
| 4824.0000 | 36.3 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 37.1 | 54 | -16.9 | Ave |
| 1657.0000 | 46.7 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 37.0 | 54 | -17.0 | Ave |
| 7236.0000 | 47.9 | 180 | 2.0 | h | 36.7 | 4.3 | 34.7 | 54.2 | 74 | -19.8 | Peak |
| 1657.0000 | 62.7 | 0 | 2.0 | v | 24.8 | 1.9 | 36.3 | 53.0 | 74 | -21.0 | Peak |
| 1407.0000 | 42.9 | 0 | 2.0 | h | 23.3 | 1.3 | 36.8 | 30.6 | 54 | -23.4 | Ave |
| 7236.0000 | 40.4 | 90 | 2.0 | v | 36.7 | 4.3 | 34.7 | 46.7 | 74 | -27.3 | Peak |
| 1407.0000 | 58.4 | 0 | 2.4 | v | 23.3 | 1.3 | 36.8 | 46.1 | 74 | -27.9 | Peak |
| 1657.0000 | 55.1 | 0 | 2.0 | h | 24.8 | 1.9 | 36.3 | 45.4 | 74 | -28.6 | Peak |
| 1805.0000 | 34.7 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 25.0 | 54 | -29.0 | Ave |
| 1805.0000 | 54.6 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 44.9 | 74 | -29.1 | Peak |
| 1407.0000 | 51.5 | 0 | 2.3 | h | 23.3 | 1.3 | 36.8 | 39.2 | 74 | -34.8 | Peak |

Run # 1- 2 : Primary scan 1GHz -25GHz, (Middle channel. : 2437 MHz)

| Frequency MHz | Reading dBuV/m | Direction Degree | Height Meter | Polar H / V | Antenna Loss dB | Cable loss dB | Amplifier dB | Correction Factor dBuV/m | 15.247 Limit (dBuV/m) | 15.247 Margin | Comments |
|------------------|-------------------|---------------------|-----------------|----------------|-----------------------|---------------------|-----------------|--------------------------------|-----------------------------|------------------|----------|
| 4874.0000 | 72.0 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 72.8 | 74 | -1.2 | Peak |
| 1905.0000 | 58.5 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 48.8 | 54 | -5.2 | Ave |
| 1694.0000 | 55.2 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 45.5 | 54 | -8.5 | Ave |
| 4874.0000 | 64.4 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 65.2 | 74 | -8.8 | Peak |
| 1905.0000 | 74.8 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 65.1 | 74 | -8.9 | Peak |
| 7311.0000 | 38.3 | 90 | 2.0 | h | 36.7 | 4.3 | 34.7 | 44.6 | 54 | -9.4 | Ave |
| 4874.0000 | 42.2 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 43.0 | 54 | -11.0 | Ave |
| 7311.0000 | 32.5 | 180 | 2.0 | v | 36.7 | 4.3 | 34.7 | 38.8 | 54 | -15.2 | Ave |
| 1446.0000 | 50.1 | 0 | 2.0 | v | 23.3 | 1.3 | 36.8 | 37.8 | 54 | -16.2 | Ave |
| 1694.0000 | 47.1 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 37.4 | 54 | -16.6 | Ave |
| 4874.0000 | 36.6 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 37.4 | 54 | -16.6 | Ave |
| 7311.0000 | 48.3 | 180 | 2.0 | h | 36.7 | 4.3 | 34.7 | 54.6 | 74 | -19.4 | Peak |
| 1694.0000 | 63.2 | 0 | 2.0 | v | 24.8 | 1.9 | 36.3 | 53.5 | 74 | -20.5 | Peak |
| 1446.0000 | 43.3 | 0 | 2.0 | h | 23.3 | 1.3 | 36.8 | 31.0 | 54 | -23.0 | Ave |
| 7311.0000 | 40.7 | 90 | 2.0 | v | 36.7 | 4.3 | 34.7 | 47.0 | 74 | -27.0 | Peak |
| 1446.0000 | 58.9 | 0 | 2.4 | v | 23.3 | 1.3 | 36.8 | 46.6 | 74 | -27.4 | Peak |
| 1694.0000 | 55.6 | 0 | 2.0 | h | 24.8 | 1.9 | 36.3 | 45.9 | 74 | -28.1 | Peak |
| 1905.0000 | 55.1 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 45.4 | 74 | -28.6 | Peak |
| 1905.0000 | 35.0 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 25.3 | 54 | -28.7 | Ave |
| 1446.0000 | 51.9 | 0 | 2.3 | h | 23.3 | 1.3 | 36.8 | 39.6 | 74 | -34.4 | Peak |

**Run # 1- 3 :Primary scan 1GHz -25GHz,
(Highest channel. : 2462 MHz)**

| Frequency MHz | Reading dBuV/m | Direction Degree | Height Meter | Polar H / V | Antenna Loss dB | Cable loss dB | Amplifier dB | Correction Factor dBuV/m | 15.247 Limit (dBuV/m) | 15.247 Margin | Comments |
|------------------|-------------------|---------------------|-----------------|----------------|-----------------------|---------------------|-----------------|--------------------------------|-----------------------------|------------------|----------|
| 2004.0000 | 58.6 | 0 | 2.4 | v | 28.7 | 2.0 | 35.8 | 53.4 | 54 | -0.6 | Ave |
| 4924.0000 | 72.1 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 72.9 | 74 | -1.1 | Peak |
| 2004.0000 | 74.9 | 0 | 2.4 | v | 28.7 | 2.0 | 35.8 | 69.7 | 74 | -4.3 | Peak |
| 1733.0000 | 55.3 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 45.6 | 54 | -8.4 | Ave |
| 4924.0000 | 64.5 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 65.3 | 74 | -8.7 | Peak |
| 7386.0000 | 38.4 | 90 | 2.0 | h | 36.7 | 4.3 | 34.7 | 44.7 | 54 | -9.3 | Ave |
| 4924.0000 | 42.3 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 43.1 | 54 | -10.9 | Ave |
| 7386.0000 | 32.6 | 180 | 2.0 | v | 36.7 | 4.3 | 34.7 | 38.9 | 54 | -15.1 | Ave |
| 1493.0000 | 50.2 | 0 | 2.0 | v | 23.3 | 1.3 | 36.8 | 38.0 | 54 | -16.0 | Ave |
| 1733.0000 | 47.2 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 37.5 | 54 | -16.5 | Ave |
| 4924.0000 | 36.7 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 37.5 | 54 | -16.5 | Ave |
| 7386.0000 | 48.4 | 180 | 2.0 | h | 36.7 | 4.3 | 34.7 | 54.7 | 74 | -19.3 | Peak |
| 1733.0000 | 63.3 | 0 | 2.0 | v | 24.8 | 1.9 | 36.3 | 53.6 | 74 | -20.4 | Peak |
| 1493.0000 | 43.4 | 0 | 2.0 | h | 23.3 | 1.3 | 36.8 | 31.1 | 54 | -22.9 | Ave |
| 2004.0000 | 55.2 | 0 | 2.3 | h | 28.7 | 2.0 | 35.8 | 50.0 | 74 | -24.0 | Peak |
| 2004.0000 | 35.1 | 0 | 2.3 | h | 28.7 | 2.0 | 35.8 | 29.9 | 54 | -24.1 | Ave |
| 7386.0000 | 40.8 | 90 | 2.0 | v | 36.7 | 4.3 | 34.7 | 47.1 | 74 | -26.9 | Peak |
| 1493.0000 | 59.0 | 0 | 2.4 | v | 23.3 | 1.3 | 36.8 | 46.7 | 74 | -27.3 | Peak |
| 1733.0000 | 55.7 | 0 | 2.0 | h | 24.8 | 1.9 | 36.3 | 46.0 | 74 | -28.0 | Peak |
| 1493.0000 | 52.0 | 0 | 2.3 | h | 23.3 | 1.3 | 36.8 | 39.7 | 74 | -34.3 | Peak |

SAH24-90-16 , 2.4GHz 16 dBi Horizontal , output power = 20dBm

Run # 1-1 :Primary scan 1GHz -25GHz , (Lowest channel. : 2412 MHz)

| Frequency MHz | Reading dBuV/m | Direction Degree | Height Meter | Polar H / V | Antenna Loss dB | Cable loss dB | Amplifier dB | Correction Factor dBuV/m | 15.247 Limit (dBuV/m) | 15.247 Margin | Comments |
|------------------|-------------------|---------------------|-----------------|----------------|-----------------------|---------------------|-----------------|--------------------------------|-----------------------------|------------------|----------|
| 4824.0000 | 68.6 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 69.4 | 74 | -4.6 | Peak |
| 4824.0000 | 67.9 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 68.7 | 74 | -5.3 | Peak |
| 1407.0000 | 60.2 | 0 | 2.0 | h | 23.3 | 1.3 | 36.8 | 47.9 | 54 | -6.1 | Ave |
| 1805.0000 | 76.1 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 66.4 | 74 | -7.6 | Peak |
| 1657.0000 | 54.0 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 44.3 | 54 | -9.7 | Ave |
| 7236.0000 | 31.8 | 90 | 2.0 | h | 36.7 | 4.3 | 34.7 | 38.1 | 54 | -15.9 | Ave |
| 7236.0000 | 31.3 | 180 | 2.0 | v | 36.7 | 4.3 | 34.7 | 37.6 | 54 | -16.4 | Ave |
| 1407.0000 | 69.1 | 0 | 2.3 | h | 23.3 | 1.3 | 36.8 | 56.9 | 74 | -17.1 | Peak |
| 4824.0000 | 34.9 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 35.7 | 54 | -18.3 | Ave |
| 1805.0000 | 45.3 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 35.6 | 54 | -18.4 | Ave |
| 4824.0000 | 34.1 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 34.9 | 54 | -19.1 | Ave |
| 1657.0000 | 62.4 | 0 | 2.0 | h | 24.8 | 1.9 | 36.3 | 52.7 | 74 | -21.3 | Peak |
| 7236.0000 | 42.6 | 180 | 2.0 | h | 36.7 | 4.3 | 34.7 | 48.9 | 74 | -25.1 | Peak |
| 7236.0000 | 42.3 | 90 | 2.0 | v | 36.7 | 4.3 | 34.7 | 48.6 | 74 | -25.4 | Peak |
| 1657.0000 | 36.3 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 26.6 | 54 | -27.4 | Ave |
| 1805.0000 | 34.2 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 24.5 | 54 | -29.5 | Ave |
| 1407.0000 | 36.3 | 0 | 2.0 | v | 23.3 | 1.3 | 36.8 | 24.0 | 54 | -30.0 | Ave |
| 1657.0000 | 49.6 | 0 | 2.0 | v | 24.8 | 1.9 | 36.3 | 39.9 | 74 | -34.1 | Peak |
| 1805.0000 | 44.6 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 34.9 | 74 | -39.1 | Peak |
| 1407.0000 | 45.2 | 0 | 2.4 | v | 23.3 | 1.3 | 36.8 | 32.9 | 74 | -41.1 | Peak |

Run # 1- 2 :Primary scan 1GHz -25GHz , (Middle channel. : 2437 MHz)

| Frequency MHz | Reading dBuV/m | Direction Degree | Height Meter | Polar H / V | Antenna Loss dB | Cable loss dB | Amplifier dB | Correction Factor dBuV/m | 15.247 Limit (dBuV/m) | 15.247 Margin | Comments |
|------------------|-------------------|---------------------|-----------------|----------------|-----------------------|---------------------|-----------------|--------------------------------|-----------------------------|------------------|----------|
| 4874.0000 | 70.0 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 70.8 | 74 | -3.2 | Peak |
| 4874.0000 | 69.3 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 70.1 | 74 | -3.9 | Peak |
| 1446.0000 | 61.4 | 0 | 2.0 | h | 23.3 | 1.3 | 36.8 | 49.1 | 54 | -4.9 | Ave |
| 1905.0000 | 77.6 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 67.9 | 74 | -6.1 | Peak |
| 1694.0000 | 55.1 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 45.4 | 54 | -8.6 | Ave |
| 7311.0000 | 32.4 | 90 | 2.0 | h | 36.7 | 4.3 | 34.7 | 38.7 | 54 | -15.3 | Ave |
| 1446.0000 | 70.5 | 0 | 2.3 | h | 23.3 | 1.3 | 36.8 | 58.2 | 74 | -15.8 | Peak |
| 7311.0000 | 31.9 | 180 | 2.0 | v | 36.7 | 4.3 | 34.7 | 38.2 | 54 | -15.8 | Ave |
| 1905.0000 | 46.2 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 36.5 | 54 | -17.5 | Ave |
| 4874.0000 | 35.6 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 36.4 | 54 | -17.6 | Ave |
| 4874.0000 | 34.8 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 35.6 | 54 | -18.4 | Ave |
| 1694.0000 | 63.6 | 0 | 2.0 | h | 24.8 | 1.9 | 36.3 | 53.9 | 74 | -20.1 | Peak |
| 7311.0000 | 43.5 | 180 | 2.0 | h | 36.7 | 4.3 | 34.7 | 49.8 | 74 | -24.2 | Peak |
| 7311.0000 | 43.1 | 90 | 2.0 | v | 36.7 | 4.3 | 34.7 | 49.4 | 74 | -24.6 | Peak |
| 1694.0000 | 37.0 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 27.3 | 54 | -26.7 | Ave |
| 1905.0000 | 34.9 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 25.2 | 54 | -28.8 | Ave |
| 1446.0000 | 37.0 | 0 | 2.0 | v | 23.3 | 1.3 | 36.8 | 24.7 | 54 | -29.3 | Ave |
| 1694.0000 | 50.6 | 0 | 2.0 | v | 24.8 | 1.9 | 36.3 | 40.9 | 74 | -33.1 | Peak |
| 1905.0000 | 45.5 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 35.8 | 74 | -38.2 | Peak |
| 1446.0000 | 46.1 | 0 | 2.4 | v | 23.3 | 1.3 | 36.8 | 33.8 | 74 | -40.2 | Peak |

Run # 1- 3 :Primary scan 1GHz -25GHz, (Highest channel. : 2462 MHz)

| Frequency MHz | Reading dBuV/m | Direction Degree | Height Meter | Polar H / V | Antenna Loss dB | Cable loss dB | Amplifier dB | Correction Factor dBuV/m | 15.247 Limit (dBuV/m) | 15.247 Margin | Comments |
|------------------|-------------------|---------------------|-----------------|----------------|-----------------------|---------------------|-----------------|--------------------------------|-----------------------------|------------------|----------|
| 2004.0000 | 78.7 | 0 | 2.3 | h | 28.7 | 2.0 | 35.8 | 73.5 | 74 | -0.5 | Peak |
| 4924.0000 | 71.4 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 72.2 | 74 | -1.8 | Peak |
| 4924.0000 | 70.7 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 71.5 | 74 | -2.5 | Peak |
| 1493.0000 | 62.6 | 0 | 2.0 | h | 23.3 | 1.3 | 36.8 | 50.3 | 54 | -3.7 | Ave |
| 1733.0000 | 56.2 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 46.5 | 54 | -7.5 | Ave |
| 2004.0000 | 47.1 | 0 | 2.3 | h | 28.7 | 2.0 | 35.8 | 41.9 | 54 | -12.1 | Ave |
| 1493.0000 | 71.9 | 0 | 2.3 | h | 23.3 | 1.3 | 36.8 | 59.6 | 74 | -14.4 | Peak |
| 7386.0000 | 33.0 | 90 | 2.0 | h | 36.7 | 4.3 | 34.7 | 39.3 | 54 | -14.7 | Ave |
| 7386.0000 | 32.5 | 180 | 2.0 | v | 36.7 | 4.3 | 34.7 | 38.8 | 54 | -15.2 | Ave |
| 4924.0000 | 36.3 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 37.1 | 54 | -16.9 | Ave |
| 4924.0000 | 35.5 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 36.3 | 54 | -17.7 | Ave |
| 1733.0000 | 64.9 | 0 | 2.0 | h | 24.8 | 1.9 | 36.3 | 55.2 | 74 | -18.8 | Peak |
| 7386.0000 | 44.4 | 180 | 2.0 | h | 36.7 | 4.3 | 34.7 | 50.7 | 74 | -23.3 | Peak |
| 2004.0000 | 35.6 | 0 | 2.4 | v | 28.7 | 2.0 | 35.8 | 30.4 | 54 | -23.6 | Ave |
| 7386.0000 | 44.0 | 90 | 2.0 | v | 36.7 | 4.3 | 34.7 | 50.3 | 74 | -23.7 | Peak |
| 1733.0000 | 37.7 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 28.0 | 54 | -26.0 | Ave |
| 1493.0000 | 37.7 | 0 | 2.0 | v | 23.3 | 1.3 | 36.8 | 25.4 | 54 | -28.6 | Ave |
| 1733.0000 | 51.6 | 0 | 2.0 | v | 24.8 | 1.9 | 36.3 | 41.9 | 74 | -32.1 | Peak |
| 2004.0000 | 46.4 | 0 | 2.4 | v | 28.7 | 2.0 | 35.8 | 41.2 | 74 | -32.8 | Peak |
| 1493.0000 | 47.0 | 0 | 2.4 | v | 23.3 | 1.3 | 36.8 | 34.7 | 74 | -39.3 | Peak |

DC24HDPPF1P , 2.4GHz 24 dBi Horizontal , output power = 20dBm**Run # 1-1 :Primary scan 1GHz -25GHz , (Lowest channel. : 2412 MHz)**

| Frequency MHz | Reading dBuV/m | Direction Degree | Height Meter | Polar H / V | Antenna Loss dB | Cable loss dB | Amplifier dB | Correction Factor dBuV/m | 15.247 Limit (dBuV/m) | 15.247 Margin | Comments |
|------------------|-------------------|---------------------|-----------------|----------------|-----------------------|---------------------|-----------------|--------------------------------|-----------------------------|------------------|----------|
| 1657.0000 | 55.7 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 46.0 | 54 | -8.0 | Ave |
| 1805.0000 | 75.6 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 65.9 | 74 | -8.1 | Peak |
| 4824.0000 | 64.6 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 65.4 | 74 | -8.6 | Peak |
| 4824.0000 | 63.3 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 64.1 | 74 | -9.9 | Peak |
| 4824.0000 | 42.2 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 43.0 | 54 | -11.0 | Ave |
| 7236.0000 | 33.4 | 90 | 2.0 | h | 36.7 | 4.3 | 34.7 | 39.7 | 54 | -14.3 | Ave |
| 4824.0000 | 38.6 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 39.4 | 54 | -14.6 | Ave |
| 7236.0000 | 31.0 | 180 | 2.0 | v | 36.7 | 4.3 | 34.7 | 37.3 | 54 | -16.7 | Ave |
| 1657.0000 | 64.2 | 0 | 2.0 | v | 24.8 | 1.9 | 36.3 | 54.5 | 74 | -19.5 | Peak |
| 1407.0000 | 46.3 | 0 | 2.0 | v | 23.3 | 1.3 | 36.8 | 34.0 | 54 | -20.0 | Ave |
| 1805.0000 | 40.6 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 30.9 | 54 | -23.1 | Ave |
| 7236.0000 | 43.2 | 180 | 2.0 | h | 36.7 | 4.3 | 34.7 | 49.5 | 74 | -24.5 | Peak |
| 7236.0000 | 41.5 | 90 | 2.0 | v | 36.7 | 4.3 | 34.7 | 47.8 | 74 | -26.2 | Peak |
| 1805.0000 | 32.8 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 23.1 | 54 | -30.9 | Ave |
| 1407.0000 | 53.9 | 0 | 2.4 | v | 23.3 | 1.3 | 36.8 | 41.6 | 74 | -32.4 | Peak |
| 1657.0000 | 30.7 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 21.0 | 54 | -33.0 | Ave |
| 1407.0000 | 31.8 | 0 | 2.0 | h | 23.3 | 1.3 | 36.8 | 19.5 | 54 | -34.5 | Ave |
| 1805.0000 | 45.4 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 35.7 | 74 | -38.3 | Peak |
| 1657.0000 | 45.1 | 0 | 2.0 | h | 24.8 | 1.9 | 36.3 | 35.4 | 74 | -38.6 | Peak |
| 1407.0000 | 43.9 | 0 | 2.3 | h | 23.3 | 1.3 | 36.8 | 31.6 | 74 | -42.4 | Peak |

Run # 1- 2 :Primary scan 1GHz -25GHz, (Middle channel. : 2437 MHz)

| Frequency MHz | Reading dBuV/m | Direction Degree | Height Meter | Polar H / V | Antenna Loss dB | Cable loss dB | Amplifier dB | Correction Factor dBuV/m | 15.247 Limit (dBuV/m) | 15.247 Margin | Comments |
|------------------|-------------------|---------------------|-----------------|----------------|-----------------------|---------------------|-----------------|--------------------------------|-----------------------------|------------------|----------|
| 1905.0000 | 76.2 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 66.5 | 74 | -7.5 | Peak |
| 1694.0000 | 56.2 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 46.5 | 54 | -7.5 | Ave |
| 4874.0000 | 65.2 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 66.0 | 74 | -8.0 | Peak |
| 4874.0000 | 63.8 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 64.6 | 74 | -9.4 | Peak |
| 4874.0000 | 42.5 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 43.3 | 54 | -10.7 | Ave |
| 7311.0000 | 33.7 | 90 | 2.0 | h | 36.7 | 4.3 | 34.7 | 40.0 | 54 | -14.0 | Ave |
| 4874.0000 | 38.9 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 39.7 | 54 | -14.3 | Ave |
| 7311.0000 | 31.2 | 180 | 2.0 | v | 36.7 | 4.3 | 34.7 | 37.5 | 54 | -16.5 | Ave |
| 1694.0000 | 64.7 | 0 | 2.0 | v | 24.8 | 1.9 | 36.3 | 55.0 | 74 | -19.0 | Peak |
| 1446.0000 | 46.7 | 0 | 2.0 | v | 23.3 | 1.3 | 36.8 | 34.4 | 54 | -19.6 | Ave |
| 1905.0000 | 40.9 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 31.2 | 54 | -22.8 | Ave |
| 7311.0000 | 43.5 | 180 | 2.0 | h | 36.7 | 4.3 | 34.7 | 49.8 | 74 | -24.2 | Peak |
| 7311.0000 | 41.9 | 90 | 2.0 | v | 36.7 | 4.3 | 34.7 | 48.2 | 74 | -25.8 | Peak |
| 1905.0000 | 33.1 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 23.4 | 54 | -30.6 | Ave |
| 1446.0000 | 54.4 | 0 | 2.4 | v | 23.3 | 1.3 | 36.8 | 42.1 | 74 | -31.9 | Peak |
| 1694.0000 | 30.9 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 21.2 | 54 | -32.8 | Ave |
| 1446.0000 | 32.1 | 0 | 2.0 | h | 23.3 | 1.3 | 36.8 | 19.8 | 54 | -34.2 | Ave |
| 1905.0000 | 45.8 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 36.1 | 74 | -37.9 | Peak |
| 1694.0000 | 45.4 | 0 | 2.0 | h | 24.8 | 1.9 | 36.3 | 35.7 | 74 | -38.3 | Peak |
| 1446.0000 | 44.3 | 0 | 2.3 | h | 23.3 | 1.3 | 36.8 | 32.0 | 74 | -42.0 | Peak |

Run # 1- 3 :Primary scan 1GHz -25GHz, (Highest channel. : 2462 MHz)

| Frequency MHz | Reading dBuV/m | Direction Degree | Height Meter | Polar H / V | Antenna Loss dB | Cable loss dB | Amplifier dB | Correction Factor dBuV/m | 15.247 Limit (dBuV/m) | 15.247 Margin | Comments |
|------------------|-------------------|---------------------|-----------------|----------------|-----------------------|---------------------|-----------------|--------------------------------|-----------------------------|------------------|----------|
| 2004.0000 | 76.9 | 0 | 2.4 | v | 28.7 | 2.0 | 35.8 | 71.7 | 74 | -2.3 | Peak |
| 1733.0000 | 56.7 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 47.0 | 54 | -7.0 | Ave |
| 4924.0000 | 65.8 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 66.6 | 74 | -7.4 | Peak |
| 4924.0000 | 64.4 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 65.2 | 74 | -8.8 | Peak |
| 4924.0000 | 42.9 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 43.7 | 54 | -10.3 | Ave |
| 7386.0000 | 34.0 | 90 | 2.0 | h | 36.7 | 4.3 | 34.7 | 40.4 | 54 | -13.6 | Ave |
| 4924.0000 | 39.3 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 40.1 | 54 | -13.9 | Ave |
| 7386.0000 | 31.5 | 180 | 2.0 | v | 36.7 | 4.3 | 34.7 | 37.8 | 54 | -16.2 | Ave |
| 2004.0000 | 41.3 | 0 | 2.4 | v | 28.7 | 2.0 | 35.8 | 36.1 | 54 | -17.9 | Ave |
| 1733.0000 | 65.3 | 0 | 2.0 | v | 24.8 | 1.9 | 36.3 | 55.6 | 74 | -18.4 | Peak |
| 1493.0000 | 47.1 | 0 | 2.0 | v | 23.3 | 1.3 | 36.8 | 34.8 | 54 | -19.2 | Ave |
| 7386.0000 | 43.9 | 180 | 2.0 | h | 36.7 | 4.3 | 34.7 | 50.2 | 74 | -23.8 | Peak |
| 7386.0000 | 42.3 | 90 | 2.0 | v | 36.7 | 4.3 | 34.7 | 48.6 | 74 | -25.4 | Peak |
| 2004.0000 | 33.4 | 0 | 2.3 | h | 28.7 | 2.0 | 35.8 | 28.2 | 54 | -25.8 | Ave |
| 1493.0000 | 54.9 | 0 | 2.4 | v | 23.3 | 1.3 | 36.8 | 42.6 | 74 | -31.4 | Peak |
| 1733.0000 | 31.2 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 21.5 | 54 | -32.5 | Ave |
| 2004.0000 | 46.2 | 0 | 2.3 | h | 28.7 | 2.0 | 35.8 | 41.0 | 74 | -33.0 | Peak |
| 1493.0000 | 32.4 | 0 | 2.0 | h | 23.3 | 1.3 | 36.8 | 20.1 | 54 | -33.9 | Ave |
| 1733.0000 | 45.8 | 0 | 2.0 | h | 24.8 | 1.9 | 36.3 | 36.1 | 74 | -37.9 | Peak |
| 1493.0000 | 44.7 | 0 | 2.3 | h | 23.3 | 1.3 | 36.8 | 32.4 | 74 | -41.6 | Peak |

OD24-12 , 2.4GHz 12 dBi Vertical , output power = 20dBm**Run # 1- 1 :Primary scan 1GHz -25GHz , (Lowest channel. : 2412 MHz)**

| Frequency MHz | Reading dBuV/m | Direction Degree | Height Meter | Polar H / V | Antenna Loss dB | Cable loss dB | Amplifier dB | Correction Factor dBuV/m | 15.247 Limit (dBuV/m) | 15.247 Margin | Comments |
|------------------|-------------------|---------------------|-----------------|----------------|-----------------------|---------------------|-----------------|--------------------------------|-----------------------------|------------------|----------|
| 4824.0000 | 70.6 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 71.4 | 74 | -2.6 | Peak |
| 4824.0000 | 66.0 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 66.8 | 74 | -7.2 | Peak |
| 1657.0000 | 52.3 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 42.6 | 54 | -11.4 | Ave |
| 4824.0000 | 39.3 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 40.1 | 54 | -13.9 | Ave |
| 1805.0000 | 68.2 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 58.5 | 74 | -15.5 | Peak |
| 4824.0000 | 36.9 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 37.7 | 54 | -16.3 | Ave |
| 7236.0000 | 30.6 | 180 | 2.0 | v | 36.7 | 4.3 | 34.7 | 36.9 | 54 | -17.1 | Ave |
| 7236.0000 | 29.9 | 90 | 2.0 | h | 36.7 | 4.3 | 34.7 | 36.2 | 54 | -17.8 | Ave |
| 1407.0000 | 48.3 | 0 | 2.0 | v | 23.3 | 1.3 | 36.8 | 36.0 | 54 | -18.0 | Ave |
| 1657.0000 | 62.0 | 0 | 2.0 | v | 24.8 | 1.9 | 36.3 | 52.3 | 74 | -21.7 | Peak |
| 7236.0000 | 42.2 | 90 | 2.0 | v | 36.7 | 4.3 | 34.7 | 48.5 | 74 | -25.5 | Peak |
| 7236.0000 | 40.3 | 180 | 2.0 | h | 36.7 | 4.3 | 34.7 | 46.6 | 74 | -27.4 | Peak |
| 1407.0000 | 57.0 | 0 | 2.4 | v | 23.3 | 1.3 | 36.8 | 44.7 | 74 | -29.3 | Peak |
| 1805.0000 | 32.0 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 22.3 | 54 | -31.7 | Ave |
| 1805.0000 | 31.4 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 21.7 | 54 | -32.3 | Ave |
| 1657.0000 | 30.6 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 20.9 | 54 | -33.1 | Ave |
| 1407.0000 | 31.0 | 0 | 2.0 | h | 23.3 | 1.3 | 36.8 | 18.7 | 54 | -35.3 | Ave |
| 1805.0000 | 44.7 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 35.0 | 74 | -39.0 | Peak |
| 1657.0000 | 41.8 | 0 | 2.0 | h | 24.8 | 1.9 | 36.3 | 32.1 | 74 | -41.9 | Peak |
| 1407.0000 | 43.3 | 0 | 2.3 | h | 23.3 | 1.3 | 36.8 | 31.0 | 74 | -43.0 | Peak |

Run # 1- 2 :Primary scan 1GHz -25GHz, (Middle channel. : 2437 MHz)

| Frequency MHz | Reading dBuV/m | Direction Degree | Height Meter | Polar H / V | Antenna Loss dB | Cable loss dB | Amplifier dB | Correction Factor dBuV/m | 15.247 Limit (dBuV/m) | 15.247 Margin | Comments |
|------------------|-------------------|---------------------|-----------------|----------------|-----------------------|---------------------|-----------------|--------------------------------|-----------------------------|------------------|----------|
| 4874.0000 | 71.3 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 72.1 | 74 | -1.9 | Peak |
| 4874.0000 | 66.6 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 67.4 | 74 | -6.6 | Peak |
| 1694.0000 | 52.8 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 43.1 | 54 | -10.9 | Ave |
| 4874.0000 | 39.7 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 40.5 | 54 | -13.5 | Ave |
| 1905.0000 | 68.8 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 59.1 | 74 | -14.9 | Peak |
| 4874.0000 | 37.2 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 38.0 | 54 | -16.0 | Ave |
| 7311.0000 | 30.9 | 180 | 2.0 | v | 36.7 | 4.3 | 34.7 | 37.2 | 54 | -16.8 | Ave |
| 7311.0000 | 30.2 | 90 | 2.0 | h | 36.7 | 4.3 | 34.7 | 36.5 | 54 | -17.5 | Ave |
| 1446.0000 | 48.7 | 0 | 2.0 | v | 23.3 | 1.3 | 36.8 | 36.4 | 54 | -17.6 | Ave |
| 1694.0000 | 62.5 | 0 | 2.0 | v | 24.8 | 1.9 | 36.3 | 52.8 | 74 | -21.2 | Peak |
| 7311.0000 | 42.6 | 90 | 2.0 | v | 36.7 | 4.3 | 34.7 | 48.9 | 74 | -25.1 | Peak |
| 7311.0000 | 40.7 | 180 | 2.0 | h | 36.7 | 4.3 | 34.7 | 47.0 | 74 | -27.0 | Peak |
| 1446.0000 | 57.5 | 0 | 2.4 | v | 23.3 | 1.3 | 36.8 | 45.2 | 74 | -28.8 | Peak |
| 1905.0000 | 32.3 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 22.6 | 54 | -31.4 | Ave |
| 1905.0000 | 31.7 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 22.0 | 54 | -32.0 | Ave |
| 1694.0000 | 30.9 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 21.2 | 54 | -32.8 | Ave |
| 1446.0000 | 31.3 | 0 | 2.0 | h | 23.3 | 1.3 | 36.8 | 19.0 | 54 | -35.0 | Ave |
| 1905.0000 | 45.1 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 35.4 | 74 | -38.6 | Peak |
| 1694.0000 | 42.2 | 0 | 2.0 | h | 24.8 | 1.9 | 36.3 | 32.5 | 74 | -41.5 | Peak |
| 1446.0000 | 43.7 | 0 | 2.3 | h | 23.3 | 1.3 | 36.8 | 31.4 | 74 | -42.6 | Peak |

Run # 1- 3 :Primary scan 1GHz -25GHz, (Highest channel. : 2462 MHz)

| Frequency MHz | Reading dBuV/m | Direction Degree | Height Meter | Polar H / V | Antenna Loss dB | Cable loss dB | Amplifier dB | Correction Factor dBuV/m | 15.247 Limit (dBuV/m) | 15.247 Margin | Comments |
|------------------|-------------------|---------------------|-----------------|----------------|-----------------------|---------------------|-----------------|--------------------------------|-----------------------------|------------------|----------|
| 4924.0000 | 72.0 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 72.8 | 74 | -1.2 | Peak |
| 4924.0000 | 67.3 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 68.1 | 74 | -6.0 | Peak |
| 2004.0000 | 69.5 | 0 | 2.4 | v | 28.7 | 2.0 | 35.8 | 64.3 | 74 | -9.7 | Peak |
| 1733.0000 | 53.3 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 43.6 | 54 | -10.4 | Ave |
| 4924.0000 | 40.1 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 40.9 | 54 | -13.1 | Ave |
| 4924.0000 | 37.6 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 38.4 | 54 | -15.6 | Ave |
| 7386.0000 | 31.2 | 180 | 2.0 | v | 36.7 | 4.3 | 34.7 | 37.5 | 54 | -16.5 | Ave |
| 1493.0000 | 49.2 | 0 | 2.0 | v | 23.3 | 1.3 | 36.8 | 36.9 | 54 | -17.1 | Ave |
| 7386.0000 | 30.5 | 90 | 2.0 | h | 36.7 | 4.3 | 34.7 | 36.8 | 54 | -17.2 | Ave |
| 1733.0000 | 63.2 | 0 | 2.0 | v | 24.8 | 1.9 | 36.3 | 53.5 | 74 | -20.5 | Peak |
| 7386.0000 | 43.0 | 90 | 2.0 | v | 36.7 | 4.3 | 34.7 | 49.3 | 74 | -24.7 | Peak |
| 2004.0000 | 32.6 | 0 | 2.4 | v | 28.7 | 2.0 | 35.8 | 27.4 | 54 | -26.6 | Ave |
| 7386.0000 | 41.1 | 180 | 2.0 | h | 36.7 | 4.3 | 34.7 | 47.4 | 74 | -26.6 | Peak |
| 2004.0000 | 32.0 | 0 | 2.3 | h | 28.7 | 2.0 | 35.8 | 26.8 | 54 | -27.2 | Ave |
| 1493.0000 | 58.1 | 0 | 2.4 | v | 23.3 | 1.3 | 36.8 | 45.8 | 74 | -28.2 | Peak |
| 1733.0000 | 31.2 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 21.5 | 54 | -32.5 | Ave |
| 2004.0000 | 45.6 | 0 | 2.3 | h | 28.7 | 2.0 | 35.8 | 40.4 | 74 | -33.6 | Peak |
| 1493.0000 | 31.6 | 0 | 2.0 | h | 23.3 | 1.3 | 36.8 | 19.3 | 54 | -34.7 | Ave |
| 1733.0000 | 42.6 | 0 | 2.0 | h | 24.8 | 1.9 | 36.3 | 32.9 | 74 | -41.1 | Peak |
| 1493.0000 | 44.1 | 0 | 2.3 | h | 23.3 | 1.3 | 36.8 | 31.8 | 74 | -42.2 | Peak |

802.11g (15.247)**SA24-90-17, 2.4GHz 17 dBi Vertical, outpower = 22 dBm****Run # 1- 1 :Primary scan 1GHz -25GHz, (Lowest channel. : 2412 MHz)**

| Frequency MHz | Reading dBuV/m | Direction Degree | Height Meter | Polar H / V | Antenna Loss dB | Cable loss dB | Amplifier dB | Correction Factor dBuV/m | 15.247 Limit (dBuV/m) | 15.247 Margin | Comments |
|------------------|-------------------|---------------------|-----------------|----------------|-----------------------|---------------------|-----------------|--------------------------------|-----------------------------|------------------|----------|
| 4824.0000 | 66.3 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 67.1 | 74 | -6.9 | Peak |
| 1805.0000 | 56.7 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 47.0 | 54 | -7.0 | Ave |
| 7236.0000 | 37.5 | 180 | 2.0 | v | 36.7 | 4.3 | 34.7 | 43.8 | 54 | -10.2 | Ave |
| 7236.0000 | 36.5 | 90 | 2.0 | h | 36.7 | 4.3 | 34.7 | 42.8 | 54 | -11.2 | Ave |
| 4824.0000 | 61.9 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 62.7 | 74 | -11.3 | Peak |
| 1657.0000 | 52.0 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 42.3 | 54 | -11.7 | Ave |
| 1805.0000 | 68.3 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 58.6 | 74 | -15.4 | Peak |
| 4824.0000 | 36.2 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 37.0 | 54 | -17.0 | Ave |
| 4824.0000 | 34.9 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 35.7 | 54 | -18.3 | Ave |
| 7236.0000 | 48.0 | 180 | 2.0 | h | 36.7 | 4.3 | 34.7 | 54.3 | 74 | -19.7 | Peak |
| 7236.0000 | 47.8 | 90 | 2.0 | v | 36.7 | 4.3 | 34.7 | 54.1 | 74 | -19.9 | Peak |
| 1657.0000 | 62.1 | 0 | 2.0 | v | 24.8 | 1.9 | 36.3 | 52.4 | 74 | -21.6 | Peak |
| 1407.0000 | 41.6 | 0 | 2.0 | v | 23.3 | 1.3 | 36.8 | 29.3 | 54 | -24.7 | Ave |
| 1805.0000 | 32.8 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 23.1 | 54 | -30.9 | Ave |
| 1657.0000 | 32.1 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 22.4 | 54 | -31.6 | Ave |
| 1407.0000 | 53.4 | 0 | 2.4 | v | 23.3 | 1.3 | 36.8 | 41.1 | 74 | -32.9 | Peak |
| 1407.0000 | 32.4 | 0 | 2.0 | h | 23.3 | 1.3 | 36.8 | 20.1 | 54 | -33.9 | Ave |
| 1657.0000 | 42.7 | 0 | 2.0 | h | 24.8 | 1.9 | 36.3 | 33.0 | 74 | -41.0 | Peak |
| 1805.0000 | 41.6 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 31.9 | 74 | -42.1 | Peak |
| 1407.0000 | 42.3 | 0 | 2.3 | h | 23.3 | 1.3 | 36.8 | 30.0 | 74 | -44.0 | Peak |

Run # 1- 2 :Primary scan 1GHz -25GHz , (Middle channel. : 2437 MHz)

| Frequency MHz | Reading dBuV/m | Direction Degree | Height Meter | Polar H / V | Antenna Loss dB | Cable loss dB | Amplifier dB | Correction Factor dBuV/m | 15.247 Limit (dBuV/m) | 15.247 Margin | Comments |
|------------------|-------------------|---------------------|-----------------|----------------|-----------------------|---------------------|-----------------|--------------------------------|-----------------------------|------------------|----------|
| 4874.0000 | 67.0 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 67.8 | 74 | -6.2 | Peak |
| 1905.0000 | 57.3 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 47.6 | 54 | -6.4 | Ave |
| 7311.0000 | 37.9 | 180 | 2.0 | v | 36.7 | 4.3 | 34.7 | 44.2 | 54 | -9.8 | Ave |
| 4874.0000 | 62.6 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 63.4 | 74 | -10.6 | Peak |
| 7311.0000 | 36.9 | 90 | 2.0 | h | 36.7 | 4.3 | 34.7 | 43.2 | 54 | -10.8 | Ave |
| 1694.0000 | 52.6 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 42.9 | 54 | -11.1 | Ave |
| 1905.0000 | 69.0 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 59.3 | 74 | -14.7 | Peak |
| 4874.0000 | 36.5 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 37.3 | 54 | -16.7 | Ave |
| 4874.0000 | 35.2 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 36.0 | 54 | -18.0 | Ave |
| 7311.0000 | 48.5 | 180 | 2.0 | h | 36.7 | 4.3 | 34.7 | 54.8 | 74 | -19.2 | Peak |
| 7311.0000 | 48.3 | 90 | 2.0 | v | 36.7 | 4.3 | 34.7 | 54.6 | 74 | -19.4 | Peak |
| 1694.0000 | 62.8 | 0 | 2.0 | v | 24.8 | 1.9 | 36.3 | 53.1 | 74 | -20.9 | Peak |
| 1446.0000 | 42.0 | 0 | 2.0 | v | 23.3 | 1.3 | 36.8 | 29.7 | 54 | -24.3 | Ave |
| 1905.0000 | 33.2 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 23.5 | 54 | -30.5 | Ave |
| 1694.0000 | 32.5 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 22.8 | 54 | -31.2 | Ave |
| 1446.0000 | 54.0 | 0 | 2.4 | v | 23.3 | 1.3 | 36.8 | 41.7 | 74 | -32.3 | Peak |
| 1446.0000 | 32.8 | 0 | 2.0 | h | 23.3 | 1.3 | 36.8 | 20.5 | 54 | -33.5 | Ave |
| 1694.0000 | 43.2 | 0 | 2.0 | h | 24.8 | 1.9 | 36.3 | 33.5 | 74 | -40.5 | Peak |
| 1905.0000 | 42.0 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 32.3 | 74 | -41.7 | Peak |
| 1446.0000 | 42.8 | 0 | 2.3 | h | 23.3 | 1.3 | 36.8 | 30.5 | 74 | -43.5 | Peak |

Run # 1- 3 :Primary scan 1GHz -25GHz, (Highest channel. : 2462 MHz)

| Frequency MHz | Reading dBuV/m | Direction Degree | Height Meter | Polar H / V | Antenna Loss dB | Cable loss dB | Amplifier dB | Correction Factor dBuV/m | 15.247 Limit (dBuV/m) | 15.247 Margin | Comments |
|------------------|-------------------|---------------------|-----------------|----------------|-----------------------|---------------------|-----------------|--------------------------------|-----------------------------|------------------|----------|
| 2004.0000 | 57.9 | 0 | 2.4 | v | 28.7 | 2.0 | 35.8 | 52.7 | 54 | -1.3 | Ave |
| 4924.0000 | 67.7 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 68.5 | 74 | -5.5 | Peak |
| 7386.0000 | 38.3 | 180 | 2.0 | v | 36.7 | 4.3 | 34.7 | 44.6 | 54 | -9.4 | Ave |
| 2004.0000 | 69.7 | 0 | 2.4 | v | 28.7 | 2.0 | 35.8 | 64.6 | 74 | -9.5 | Peak |
| 4924.0000 | 63.2 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 64.0 | 74 | -10.0 | Peak |
| 7386.0000 | 37.2 | 90 | 2.0 | h | 36.7 | 4.3 | 34.7 | 43.6 | 54 | -10.4 | Ave |
| 1733.0000 | 53.1 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 43.4 | 54 | -10.6 | Ave |
| 4924.0000 | 36.9 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 37.7 | 54 | -16.3 | Ave |
| 4924.0000 | 35.6 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 36.4 | 54 | -17.6 | Ave |
| 7386.0000 | 49.0 | 180 | 2.0 | h | 36.7 | 4.3 | 34.7 | 55.3 | 74 | -18.7 | Peak |
| 7386.0000 | 48.8 | 90 | 2.0 | v | 36.7 | 4.3 | 34.7 | 55.1 | 74 | -18.9 | Peak |
| 1733.0000 | 63.4 | 0 | 2.0 | v | 24.8 | 1.9 | 36.3 | 53.7 | 74 | -20.3 | Peak |
| 1493.0000 | 42.4 | 0 | 2.0 | v | 23.3 | 1.3 | 36.8 | 30.2 | 54 | -23.8 | Ave |
| 2004.0000 | 33.5 | 0 | 2.3 | h | 28.7 | 2.0 | 35.8 | 28.3 | 54 | -25.7 | Ave |
| 1733.0000 | 32.8 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 23.1 | 54 | -30.9 | Ave |
| 1493.0000 | 54.5 | 0 | 2.4 | v | 23.3 | 1.3 | 36.8 | 42.2 | 74 | -31.8 | Peak |
| 1493.0000 | 33.1 | 0 | 2.0 | h | 23.3 | 1.3 | 36.8 | 20.8 | 54 | -33.2 | Ave |
| 2004.0000 | 42.4 | 0 | 2.3 | h | 28.7 | 2.0 | 35.8 | 37.2 | 74 | -36.8 | Peak |
| 1733.0000 | 43.6 | 0 | 2.0 | h | 24.8 | 1.9 | 36.3 | 33.9 | 74 | -40.1 | Peak |
| 1493.0000 | 43.2 | 0 | 2.3 | h | 23.3 | 1.3 | 36.8 | 30.9 | 74 | -43.1 | Peak |

SAH24-90-16 , 2.4GHz 16 dBi Horizontal , output power = 22dBm**Run # 1-1 :Primary scan 1GHz -25GHz , (Lowest channel. : 2412 MHz)**

| Frequency MHz | Reading dBuV/m | Direction Degree | Height Meter | Polar H / V | Antenna Loss dB | Cable loss dB | Amplifier dB | Correction Factor dBuV/m | 15.247 Limit (dBuV/m) | 15.247 Margin | Comments |
|------------------|-------------------|---------------------|-----------------|----------------|-----------------------|---------------------|-----------------|--------------------------------|-----------------------------|------------------|----------|
| 4824.0000 | 68.4 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 69.2 | 74 | -4.8 | Peak |
| 4824.0000 | 68.3 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 69.1 | 74 | -4.9 | Peak |
| 1407.0000 | 55.8 | 0 | 2.0 | h | 23.3 | 1.3 | 36.8 | 43.5 | 54 | -10.5 | Ave |
| 1657.0000 | 51.8 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 42.1 | 54 | -11.9 | Ave |
| 1805.0000 | 69.0 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 59.3 | 74 | -14.7 | Peak |
| 7236.0000 | 32.0 | 90 | 2.0 | h | 36.7 | 4.3 | 34.7 | 38.3 | 54 | -15.7 | Ave |
| 7236.0000 | 31.5 | 180 | 2.0 | v | 36.7 | 4.3 | 34.7 | 37.8 | 54 | -16.2 | Ave |
| 4824.0000 | 34.7 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 35.5 | 54 | -18.5 | Ave |
| 1407.0000 | 65.9 | 0 | 2.3 | h | 23.3 | 1.3 | 36.8 | 53.7 | 74 | -20.3 | Peak |
| 4824.0000 | 32.4 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 33.2 | 54 | -20.8 | Ave |
| 1657.0000 | 61.5 | 0 | 2.0 | h | 24.8 | 1.9 | 36.3 | 51.8 | 74 | -22.2 | Peak |
| 7236.0000 | 43.6 | 180 | 2.0 | h | 36.7 | 4.3 | 34.7 | 49.9 | 74 | -24.1 | Peak |
| 7236.0000 | 42.1 | 90 | 2.0 | v | 36.7 | 4.3 | 34.7 | 48.4 | 74 | -25.6 | Peak |
| 1657.0000 | 35.4 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 25.7 | 54 | -28.3 | Ave |
| 1805.0000 | 33.6 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 23.9 | 54 | -30.1 | Ave |
| 1407.0000 | 35.6 | 0 | 2.0 | v | 23.3 | 1.3 | 36.8 | 23.3 | 54 | -30.7 | Ave |
| 1805.0000 | 32.6 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 22.9 | 54 | -31.1 | Ave |
| 1657.0000 | 48.6 | 0 | 2.0 | v | 24.8 | 1.9 | 36.3 | 38.9 | 74 | -35.1 | Peak |
| 1805.0000 | 43.6 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 33.9 | 74 | -40.1 | Peak |
| 1407.0000 | 44.2 | 0 | 2.4 | v | 23.3 | 1.3 | 36.8 | 31.9 | 74 | -42.1 | Peak |

Run # 1- 2 :Primary scan 1GHz -25GHz , (Middle channel. : 2437 MHz)

| Frequency MHz | Reading dBuV/m | Direction Degree | Height Meter | Polar H / V | Antenna Loss dB | Cable loss dB | Amplifier dB | Correction Factor dBuV/m | 15.247 Limit (dBuV/m) | 15.247 Margin | Comments |
|------------------|-------------------|---------------------|-----------------|----------------|-----------------------|---------------------|-----------------|--------------------------------|-----------------------------|------------------|----------|
| 4874.0000 | 69.8 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 70.6 | 74 | -3.4 | Peak |
| 4874.0000 | 68.5 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 69.3 | 74 | -4.7 | Peak |
| 1446.0000 | 56.9 | 0 | 2.0 | h | 23.3 | 1.3 | 36.8 | 44.6 | 54 | -9.4 | Ave |
| 1694.0000 | 52.9 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 43.2 | 54 | -10.8 | Ave |
| 1905.0000 | 70.4 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 60.7 | 74 | -13.3 | Peak |
| 7311.0000 | 32.6 | 90 | 2.0 | h | 36.7 | 4.3 | 34.7 | 38.9 | 54 | -15.1 | Ave |
| 7311.0000 | 32.1 | 180 | 2.0 | v | 36.7 | 4.3 | 34.7 | 38.4 | 54 | -15.6 | Ave |
| 4874.0000 | 35.4 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 36.2 | 54 | -17.8 | Ave |
| 1446.0000 | 67.2 | 0 | 2.3 | h | 23.3 | 1.3 | 36.8 | 54.9 | 74 | -19.1 | Peak |
| 4874.0000 | 33.0 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 33.8 | 54 | -20.2 | Ave |
| 1694.0000 | 62.7 | 0 | 2.0 | h | 24.8 | 1.9 | 36.3 | 53.0 | 74 | -21.0 | Peak |
| 7311.0000 | 44.5 | 180 | 2.0 | h | 36.7 | 4.3 | 34.7 | 50.8 | 74 | -23.2 | Peak |
| 7311.0000 | 42.9 | 90 | 2.0 | v | 36.7 | 4.3 | 34.7 | 49.2 | 74 | -24.8 | Peak |
| 1905.0000 | 37.6 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 27.9 | 54 | -26.1 | Ave |
| 1694.0000 | 36.1 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 26.4 | 54 | -27.6 | Ave |
| 1905.0000 | 34.3 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 24.6 | 54 | -29.4 | Ave |
| 1446.0000 | 36.3 | 0 | 2.0 | v | 23.3 | 1.3 | 36.8 | 24.0 | 54 | -30.0 | Ave |
| 1694.0000 | 49.6 | 0 | 2.0 | v | 24.8 | 1.9 | 36.3 | 39.9 | 74 | -34.1 | Peak |
| 1905.0000 | 44.5 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 34.8 | 74 | -39.2 | Peak |
| 1446.0000 | 45.1 | 0 | 2.4 | v | 23.3 | 1.3 | 36.8 | 32.8 | 74 | -41.2 | Peak |

Run # 1- 3 :Primary scan 1GHz -25GHz, (Highest channel. : 2462 MHz)

| Frequency MHz | Reading dBuV/m | Direction Degree | Height Meter | Polar H / V | Antenna Loss dB | Cable loss dB | Amplifier Correction Factor | | 15.247 Limit (dBuV/m) | 15.247 Margin | Comments |
|------------------|-------------------|---------------------|-----------------|----------------|-----------------------|---------------------|--------------------------------|--------|-----------------------------|------------------|----------|
| | | | | | | | dB | dBuV/m | | | |
| 4924.0000 | 70.2 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 71.0 | 74 | -3.0 | Peak |
| 4924.0000 | 70.1 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 70.9 | 74 | -3.1 | Peak |
| 2004.0000 | 72.2 | 0 | 2.3 | h | 28.7 | 2.0 | 35.8 | 67.0 | 74 | -7.0 | Peak |
| 1493.0000 | 58.3 | 0 | 2.0 | h | 23.3 | 1.3 | 36.8 | 46.0 | 54 | -8.0 | Ave |
| 1733.0000 | 54.2 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 44.5 | 54 | -9.5 | Ave |
| 7386.0000 | 33.4 | 90 | 2.0 | h | 36.7 | 4.3 | 34.7 | 39.7 | 54 | -14.3 | Ave |
| 7386.0000 | 32.9 | 180 | 2.0 | v | 36.7 | 4.3 | 34.7 | 39.2 | 54 | -14.8 | Ave |
| 4924.0000 | 36.3 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 37.1 | 54 | -16.9 | Ave |
| 1493.0000 | 68.9 | 0 | 2.3 | h | 23.3 | 1.3 | 36.8 | 56.6 | 74 | -17.4 | Peak |
| 2004.0000 | 39.8 | 0 | 2.3 | h | 28.7 | 2.0 | 35.8 | 34.6 | 54 | -19.4 | Ave |
| 1733.0000 | 64.3 | 0 | 2.0 | h | 24.8 | 1.9 | 36.3 | 54.6 | 74 | -19.4 | Peak |
| 4924.0000 | 33.8 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 34.6 | 54 | -19.4 | Ave |
| 7386.0000 | 45.6 | 180 | 2.0 | h | 36.7 | 4.3 | 34.7 | 51.9 | 74 | -22.1 | Peak |
| 7386.0000 | 44.0 | 90 | 2.0 | v | 36.7 | 4.3 | 34.7 | 50.3 | 74 | -23.7 | Peak |
| 2004.0000 | 35.2 | 0 | 2.4 | v | 28.7 | 2.0 | 35.8 | 30.0 | 54 | -24.0 | Ave |
| 1733.0000 | 37.0 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 27.3 | 54 | -26.7 | Ave |
| 1493.0000 | 37.2 | 0 | 2.0 | v | 23.3 | 1.3 | 36.8 | 24.9 | 54 | -29.1 | Ave |
| 1733.0000 | 50.8 | 0 | 2.0 | v | 24.8 | 1.9 | 36.3 | 41.1 | 74 | -32.9 | Peak |
| 2004.0000 | 45.6 | 0 | 2.4 | v | 28.7 | 2.0 | 35.8 | 40.4 | 74 | -33.6 | Peak |
| 1493.0000 | 46.2 | 0 | 2.4 | v | 23.3 | 1.3 | 36.8 | 33.9 | 74 | -40.1 | Peak |

DC24HDPF1P , 2.4GHz 24 dBi , output power = 22dBm

Run # 1- 1 :Primary scan 1GHz -25GHz, (Lowest channel. : 2412 MHz)

| Frequency | Reading | Direction | Height | Polar | Antenna | Cable | Amplifier | Correctio | 15.247 | 15.247 | Comments |
|-----------|---------|-----------|--------|-------|---------|-------|-----------|-----------|----------|--------|----------|
| MHz | dBuV/m | Degree | Meter | H / V | Loss | loss | dB | n Factor | Limit | Margin | |
| | | | | | dB | dB | | dBuV/m | (dBuV/m) | | |
| 4824.0000 | 48.7 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 49.5 | 54 | -4.5 | Ave |
| 4824.0000 | 68.4 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 69.2 | 74 | -4.8 | Peak |
| 1657.0000 | 54.8 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 45.1 | 54 | -8.9 | Ave |
| 4824.0000 | 62.5 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 63.3 | 74 | -10.7 | Peak |
| 7236.0000 | 37.0 | 90 | 2.0 | h | 36.7 | 4.3 | 34.7 | 43.3 | 54 | -10.7 | Ave |
| 4824.0000 | 41.4 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 42.2 | 54 | -11.8 | Ave |
| 1805.0000 | 69.7 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 60.0 | 74 | -14.0 | Peak |
| 7236.0000 | 33.6 | 180 | 2.0 | v | 36.7 | 4.3 | 34.7 | 39.9 | 54 | -14.1 | Ave |
| 1805.0000 | 48.2 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 38.5 | 54 | -15.5 | Ave |
| 1657.0000 | 63.2 | 0 | 2.0 | v | 24.8 | 1.9 | 36.3 | 53.5 | 74 | -20.5 | Peak |
| 7236.0000 | 46.6 | 180 | 2.0 | h | 36.7 | 4.3 | 34.7 | 52.9 | 74 | -21.1 | Peak |
| 7236.0000 | 45.2 | 90 | 2.0 | v | 36.7 | 4.3 | 34.7 | 51.5 | 74 | -22.5 | Peak |
| 1407.0000 | 42.1 | 0 | 2.0 | v | 23.3 | 1.3 | 36.8 | 29.8 | 54 | -24.2 | Ave |
| 1657.0000 | 30.8 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 21.1 | 54 | -32.9 | Ave |
| 1805.0000 | 30.0 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 20.3 | 54 | -33.7 | Ave |
| 1407.0000 | 52.5 | 0 | 2.4 | v | 23.3 | 1.3 | 36.8 | 40.2 | 74 | -33.8 | Peak |
| 1407.0000 | 30.6 | 0 | 2.0 | h | 23.3 | 1.3 | 36.8 | 18.3 | 54 | -35.7 | Ave |
| 1657.0000 | 41.3 | 0 | 2.0 | h | 24.8 | 1.9 | 36.3 | 31.6 | 74 | -42.4 | Peak |
| 1407.0000 | 43.8 | 0 | 2.3 | h | 23.3 | 1.3 | 36.8 | 31.5 | 74 | -42.5 | Peak |
| 1805.0000 | 39.7 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 30.0 | 74 | -44.0 | Peak |

Run # 1- 2 :Primary scan 1GHz -25GHz , (Middle channel. : 2437 MHz)

| Frequency | Reading | Direction | Height | Polar | Antenna | Cable | Amplifier | Correction | 15.247 | 15.247 | Comments |
|-----------|---------|-----------|--------|-------|---------|-------|-----------|------------|----------|--------|----------|
| MHz | dBuV/m | Degree | Meter | H / V | Loss | loss | dB | Factor | Limit | Margin | |
| | | | | | dB | dB | | dBuV/m | (dBuV/m) | | |
| 4874.0000 | 49.2 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 50.0 | 54 | -4.0 | Ave |
| 4874.0000 | 69.1 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 69.9 | 74 | -4.1 | Peak |
| 1694.0000 | 55.4 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 45.7 | 54 | -8.3 | Ave |
| 4874.0000 | 63.2 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 64.0 | 74 | -10.0 | Peak |
| 7311.0000 | 37.4 | 90 | 2.0 | h | 36.7 | 4.3 | 34.7 | 43.7 | 54 | -10.3 | Ave |
| 4874.0000 | 41.8 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 42.6 | 54 | -11.4 | Ave |
| 1905.0000 | 70.4 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 60.7 | 74 | -13.3 | Peak |
| 7311.0000 | 34.0 | 180 | 2.0 | v | 36.7 | 4.3 | 34.7 | 40.3 | 54 | -13.7 | Ave |
| 1905.0000 | 48.7 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 39.0 | 54 | -15.0 | Ave |
| 1694.0000 | 63.8 | 0 | 2.0 | v | 24.8 | 1.9 | 36.3 | 54.1 | 74 | -19.9 | Peak |
| 7311.0000 | 47.1 | 180 | 2.0 | h | 36.7 | 4.3 | 34.7 | 53.4 | 74 | -20.6 | Peak |
| 7311.0000 | 45.7 | 90 | 2.0 | v | 36.7 | 4.3 | 34.7 | 52.0 | 74 | -22.0 | Peak |
| 1446.0000 | 42.5 | 0 | 2.0 | v | 23.3 | 1.3 | 36.8 | 30.2 | 54 | -23.8 | Ave |
| 1694.0000 | 31.1 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 21.4 | 54 | -32.6 | Ave |
| 1446.0000 | 53.0 | 0 | 2.4 | v | 23.3 | 1.3 | 36.8 | 40.7 | 74 | -33.3 | Peak |
| 1905.0000 | 30.3 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 20.6 | 54 | -33.4 | Ave |
| 1446.0000 | 30.9 | 0 | 2.0 | h | 23.3 | 1.3 | 36.8 | 18.6 | 54 | -35.4 | Ave |
| 1694.0000 | 41.7 | 0 | 2.0 | h | 24.8 | 1.9 | 36.3 | 32.0 | 74 | -42.0 | Peak |
| 1446.0000 | 44.2 | 0 | 2.3 | h | 23.3 | 1.3 | 36.8 | 31.9 | 74 | -42.1 | Peak |
| 1905.0000 | 40.1 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 30.4 | 74 | -43.6 | Peak |

Run # 1- 3 :Primary scan 1GHz -25GHz , (Highest channel. : 2462 MHz)

| Frequency | Reading | Direction | Height | Polar | Antenna | Cable | Amplifier | Correction | 15.247 | 15.247 | Comments |
|-----------|---------|-----------|--------|-------|---------|-------|-----------|------------|--------|--------|----------|
| MHz | dBuV/m | Degree | Meter | H / V | Loss | loss | dB | Factor | Limit | Margin | |
| 4924.0000 | 69.7 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 70.5 | 74 | -3.5 | Peak |
| 4924.0000 | 49.6 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 50.4 | 54 | -3.6 | Ave |
| 1733.0000 | 55.9 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 46.2 | 54 | -7.8 | Ave |
| 2004.0000 | 71.0 | 0 | 2.4 | v | 28.7 | 2.0 | 35.8 | 65.8 | 74 | -8.2 | Peak |
| 4924.0000 | 63.7 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 64.5 | 74 | -9.5 | Peak |
| 7386.0000 | 37.7 | 90 | 2.0 | h | 36.7 | 4.3 | 34.7 | 44.0 | 54 | -10.0 | Ave |
| 2004.0000 | 49.1 | 0 | 2.4 | v | 28.7 | 2.0 | 35.8 | 43.9 | 54 | -10.1 | Ave |
| 4924.0000 | 42.2 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 43.0 | 54 | -11.0 | Ave |
| 7386.0000 | 34.3 | 180 | 2.0 | v | 36.7 | 4.3 | 34.7 | 40.6 | 54 | -13.4 | Ave |
| 1733.0000 | 64.4 | 0 | 2.0 | v | 24.8 | 1.9 | 36.3 | 54.7 | 74 | -19.3 | Peak |
| 7386.0000 | 47.5 | 180 | 2.0 | h | 36.7 | 4.3 | 34.7 | 53.8 | 74 | -20.2 | Peak |
| 7386.0000 | 46.1 | 90 | 2.0 | v | 36.7 | 4.3 | 34.7 | 52.4 | 74 | -21.6 | Peak |
| 1493.0000 | 42.9 | 0 | 2.0 | v | 23.3 | 1.3 | 36.8 | 30.7 | 54 | -23.3 | Ave |
| 2004.0000 | 30.6 | 0 | 2.3 | h | 28.7 | 2.0 | 35.8 | 25.4 | 54 | -28.6 | Ave |
| 1733.0000 | 31.4 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 21.7 | 54 | -32.3 | Ave |
| 1493.0000 | 53.5 | 0 | 2.4 | v | 23.3 | 1.3 | 36.8 | 41.3 | 74 | -32.8 | Peak |
| 1493.0000 | 31.2 | 0 | 2.0 | h | 23.3 | 1.3 | 36.8 | 18.9 | 54 | -35.1 | Ave |
| 2004.0000 | 40.5 | 0 | 2.3 | h | 28.7 | 2.0 | 35.8 | 35.3 | 74 | -38.7 | Peak |
| 1733.0000 | 42.1 | 0 | 2.0 | h | 24.8 | 1.9 | 36.3 | 32.4 | 74 | -41.6 | Peak |
| 1493.0000 | 44.6 | 0 | 2.3 | h | 23.3 | 1.3 | 36.8 | 32.3 | 74 | -41.7 | Peak |

OD24-12 , 2.4GHz 12 dBi Vertical , output power = 22dBm**Run # 1- 1 :Primary scan 1GHz -25GHz, (Lowest channel. : 2412 MHz)**

| Frequency MHz | Reading dBuV/m | Direction Degree | Height Meter | Polar H / V | Antenna Loss dB | Cable loss dB | Amplifier dB | Correction Factor dBuV/m | 15.247 Limit (dBuV/m) | 15.247 Margin | Comments |
|------------------|-------------------|---------------------|-----------------|----------------|-----------------------|---------------------|-----------------|--------------------------------|-----------------------------|------------------|----------|
| 4824.0000 | 66.5 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 67.3 | 74 | -6.7 | Peak |
| 1805.0000 | 54.7 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 45.0 | 54 | -9.0 | Ave |
| 4824.0000 | 62.9 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 63.7 | 74 | -10.3 | Peak |
| 7236.0000 | 37.3 | 180 | 2.0 | v | 36.7 | 4.3 | 34.7 | 43.6 | 54 | -10.4 | Ave |
| 7236.0000 | 36.0 | 90 | 2.0 | h | 36.7 | 4.3 | 34.7 | 42.3 | 54 | -11.7 | Ave |
| 1657.0000 | 51.6 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 41.9 | 54 | -12.1 | Ave |
| 4824.0000 | 39.1 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 39.9 | 54 | -14.1 | Ave |
| 4824.0000 | 37.8 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 38.6 | 54 | -15.4 | Ave |
| 1805.0000 | 64.3 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 54.6 | 74 | -19.4 | Peak |
| 1657.0000 | 62.1 | 0 | 2.0 | v | 24.8 | 1.9 | 36.3 | 52.4 | 74 | -21.6 | Peak |
| 7236.0000 | 42.7 | 90 | 2.0 | v | 36.7 | 4.3 | 34.7 | 49.0 | 74 | -25.0 | Peak |
| 1407.0000 | 40.8 | 0 | 2.0 | v | 23.3 | 1.3 | 36.8 | 28.5 | 54 | -25.5 | Ave |
| 7236.0000 | 39.8 | 180 | 2.0 | h | 36.7 | 4.3 | 34.7 | 46.1 | 74 | -27.9 | Peak |
| 1805.0000 | 31.9 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 22.2 | 54 | -31.8 | Ave |
| 1657.0000 | 30.1 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 20.4 | 54 | -33.6 | Ave |
| 1407.0000 | 51.5 | 0 | 2.4 | v | 23.3 | 1.3 | 36.8 | 39.2 | 74 | -34.8 | Peak |
| 1407.0000 | 30.9 | 0 | 2.0 | h | 23.3 | 1.3 | 36.8 | 18.6 | 54 | -35.4 | Ave |
| 1805.0000 | 45.4 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 35.7 | 74 | -38.3 | Peak |
| 1657.0000 | 43.0 | 0 | 2.0 | h | 24.8 | 1.9 | 36.3 | 33.3 | 74 | -40.7 | Peak |
| 1407.0000 | 43.5 | 0 | 2.3 | h | 23.3 | 1.3 | 36.8 | 31.2 | 74 | -42.8 | Peak |

Run # 1- 2 :Primary scan 1GHz -25GHz, (Middle channel. : 2437 MHz)

| Frequency MHz | Reading dBuV/m | Direction Degree | Height Meter | Polar H / V | Antenna Loss dB | Cable loss dB | Amplifier dB | Correction Factor dBuV/m | 15.247 Limit (dBuV/m) | 15.247 Margin | Comments |
|------------------|-------------------|---------------------|-----------------|----------------|-----------------------|---------------------|-----------------|--------------------------------|-----------------------------|------------------|----------|
| 4874.0000 | 67.1 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 67.9 | 74 | -6.1 | Peak |
| 1905.0000 | 55.2 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 45.5 | 54 | -8.5 | Ave |
| 4874.0000 | 63.5 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 64.3 | 74 | -9.7 | Peak |
| 7311.0000 | 37.7 | 180 | 2.0 | v | 36.7 | 4.3 | 34.7 | 44.0 | 54 | -10.0 | Ave |
| 7311.0000 | 36.4 | 90 | 2.0 | h | 36.7 | 4.3 | 34.7 | 42.7 | 54 | -11.3 | Ave |
| 1694.0000 | 52.0 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 42.3 | 54 | -11.7 | Ave |
| 4874.0000 | 39.4 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 40.2 | 54 | -13.8 | Ave |
| 4874.0000 | 38.2 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 39.0 | 54 | -15.0 | Ave |
| 1905.0000 | 64.9 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 55.2 | 74 | -18.8 | Peak |
| 1694.0000 | 62.6 | 0 | 2.0 | v | 24.8 | 1.9 | 36.3 | 52.9 | 74 | -21.1 | Peak |
| 7311.0000 | 43.1 | 90 | 2.0 | v | 36.7 | 4.3 | 34.7 | 49.4 | 74 | -24.6 | Peak |
| 1446.0000 | 41.1 | 0 | 2.0 | v | 23.3 | 1.3 | 36.8 | 28.8 | 54 | -25.2 | Ave |
| 7311.0000 | 40.1 | 180 | 2.0 | h | 36.7 | 4.3 | 34.7 | 46.4 | 74 | -27.6 | Peak |
| 1905.0000 | 32.2 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 22.5 | 54 | -31.5 | Ave |
| 1694.0000 | 30.4 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 20.7 | 54 | -33.3 | Ave |
| 1446.0000 | 51.9 | 0 | 2.4 | v | 23.3 | 1.3 | 36.8 | 39.6 | 74 | -34.4 | Peak |
| 1446.0000 | 31.2 | 0 | 2.0 | h | 23.3 | 1.3 | 36.8 | 18.9 | 54 | -35.1 | Ave |
| 1905.0000 | 45.8 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 36.1 | 74 | -37.9 | Peak |
| 1694.0000 | 43.4 | 0 | 2.0 | h | 24.8 | 1.9 | 36.3 | 33.7 | 74 | -40.3 | Peak |
| 1446.0000 | 43.9 | 0 | 2.3 | h | 23.3 | 1.3 | 36.8 | 31.6 | 74 | -42.4 | Peak |

Run # 1- 3 :Primary scan 1GHz -25GHz, (Highest channel. : 2462 MHz)

| Frequency MHz | Reading dBuV/m | Direction Degree | Height Meter | Polar H / V | Antenna Loss dB | Cable loss dB | Amplifier dB | Correction Factor dBuV/m | 15.247 Limit (dBuV/m) | 15.247 Margin | Comments |
|------------------|-------------------|---------------------|-----------------|----------------|-----------------------|---------------------|-----------------|--------------------------------|-----------------------------|------------------|----------|
| 2004.0000 | 55.7 | 0 | 2.4 | v | 28.7 | 2.0 | 35.8 | 50.6 | 54 | -3.4 | Ave |
| 4924.0000 | 67.8 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 68.6 | 74 | -5.5 | Peak |
| 4924.0000 | 64.0 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 64.8 | 74 | -9.2 | Peak |
| 7386.0000 | 38.0 | 180 | 2.0 | v | 36.7 | 4.3 | 34.7 | 44.3 | 54 | -9.7 | Ave |
| 7386.0000 | 36.7 | 90 | 2.0 | h | 36.7 | 4.3 | 34.7 | 43.0 | 54 | -11.0 | Ave |
| 1733.0000 | 52.5 | 0 | 2.4 | v | 24.8 | 1.9 | 36.3 | 42.8 | 54 | -11.2 | Ave |
| 4924.0000 | 39.8 | 180 | 2.3 | h | 32.5 | 3.1 | 34.8 | 40.6 | 54 | -13.4 | Ave |
| 2004.0000 | 65.5 | 0 | 2.4 | v | 28.7 | 2.0 | 35.8 | 60.3 | 74 | -13.7 | Peak |
| 4924.0000 | 38.5 | 270 | 2.4 | v | 32.5 | 3.1 | 34.8 | 39.3 | 54 | -14.7 | Ave |
| 1733.0000 | 63.2 | 0 | 2.0 | v | 24.8 | 1.9 | 36.3 | 53.5 | 74 | -20.5 | Peak |
| 7386.0000 | 43.5 | 90 | 2.0 | v | 36.7 | 4.3 | 34.7 | 49.8 | 74 | -24.2 | Peak |
| 1493.0000 | 41.5 | 0 | 2.0 | v | 23.3 | 1.3 | 36.8 | 29.2 | 54 | -24.8 | Ave |
| 2004.0000 | 32.5 | 0 | 2.3 | h | 28.7 | 2.0 | 35.8 | 27.3 | 54 | -26.7 | Ave |
| 7386.0000 | 40.5 | 180 | 2.0 | h | 36.7 | 4.3 | 34.7 | 46.8 | 74 | -27.2 | Peak |
| 2004.0000 | 46.2 | 0 | 2.3 | h | 28.7 | 2.0 | 35.8 | 41.0 | 74 | -33.0 | Peak |
| 1733.0000 | 30.7 | 0 | 2.3 | h | 24.8 | 1.9 | 36.3 | 21.0 | 54 | -33.0 | Ave |
| 1493.0000 | 52.4 | 0 | 2.4 | v | 23.3 | 1.3 | 36.8 | 40.2 | 74 | -33.8 | Peak |
| 1493.0000 | 31.5 | 0 | 2.0 | h | 23.3 | 1.3 | 36.8 | 19.2 | 54 | -34.8 | Ave |
| 1733.0000 | 43.8 | 0 | 2.0 | h | 24.8 | 1.9 | 36.3 | 34.1 | 74 | -39.9 | Peak |
| 1493.0000 | 44.3 | 0 | 2.3 | h | 23.3 | 1.3 | 36.8 | 32.0 | 74 | -42.0 | Peak |

802.11a, (15.407)**GD 53-28 28dBi WIRE GRID, Power Output = 6dBm****Run # 1- 1 :Primary scan 1GHz -40GHz , (Lowest channel. : 5260 MHz)**

| Frequency MHz | Reading dBuV/m | Direction Degree | Height Meter | Polar H / V | Antenna Loss dB | Cable loss dB | Amplifier dB | Correction Factor dBuV/m | 15.407 Limit (dBuV/m) | 15.407 Margin | Comments |
|------------------|-------------------|---------------------|-----------------|----------------|-----------------------|---------------------|-----------------|--------------------------------|-----------------------------|------------------|----------|
| 10520.0000 | 46.8 | 0 | 2.3 | h | 38.7 | 5.4 | 33.2 | 57.8 | 68.3 | -10.5 | Ave |
| 15780.0000 | 42.3 | 0 | 2.0 | v | 40.4 | 7.0 | 31.8 | 57.8 | 68.3 | -10.5 | Ave |
| 15780.0000 | 40.8 | 0 | 2.0 | h | 40.4 | 7.0 | 31.8 | 56.3 | 68.3 | -12.0 | Ave |
| 10520.0000 | 43.8 | 0 | 2.4 | v | 38.7 | 5.4 | 33.2 | 54.8 | 68.3 | -13.5 | Ave |
| 10520.0000 | 59.3 | 0 | 2.0 | h | 38.7 | 5.4 | 33.2 | 70.3 | 88.3 | -18.0 | Peak |
| 10520.0000 | 58.9 | 0 | 2.4 | v | 38.7 | 5.4 | 33.2 | 69.9 | 88.3 | -18.4 | Peak |
| 15780.0000 | 54.2 | 0 | 2.0 | v | 40.4 | 7.0 | 31.8 | 69.7 | 88.3 | -18.6 | Peak |
| 15780.0000 | 50.8 | 10 | 2.0 | h | 40.4 | 7.0 | 31.8 | 66.3 | 88.3 | -22.0 | Peak |

Run # 1- 2 :Primary scan 1GHz -40GHz , (Middle channel. : 5300 MHz)

| Frequency MHz | Reading dBuV/m | Direction Degree | Height Meter | Polar H / V | Antenna Loss dB | Cable loss dB | Amplifier dB | Correction Factor dBuV/m | 15.407 Limit (dBuV/m) | 15.407 Margin | Comments |
|------------------|-------------------|---------------------|-----------------|----------------|-----------------------|---------------------|-----------------|--------------------------------|-----------------------------|------------------|----------|
| 15900.0000 | 44.2 | 0 | 2.0 | v | 40.4 | 7.0 | 31.8 | 59.7 | 68.3 | -8.6 | Ave |
| 10600.0000 | 48.3 | 10 | 2.0 | h | 38.7 | 5.4 | 33.2 | 59.3 | 68.3 | -9.0 | Ave |
| 15900.0000 | 41.7 | 0 | 2.2 | h | 40.4 | 7.0 | 31.8 | 57.2 | 68.3 | -11.1 | Ave |
| 10600.0000 | 43.6 | 0 | 2.4 | v | 38.7 | 5.4 | 33.2 | 54.6 | 68.3 | -13.7 | Ave |
| 10600.0000 | 61.2 | 0 | 2.1 | h | 38.7 | 5.4 | 33.2 | 72.2 | 88.3 | -16.1 | Peak |
| 15900.0000 | 53.8 | 0 | 2.3 | v | 40.4 | 7.0 | 31.8 | 69.3 | 88.3 | -19.0 | Peak |
| 15900.0000 | 51.8 | 0 | 2.0 | h | 40.4 | 7.0 | 31.8 | 67.3 | 88.3 | -21.0 | Peak |
| 10600.0000 | 55.7 | 8 | 2.0 | v | 38.7 | 5.4 | 33.2 | 66.7 | 88.3 | -21.6 | Peak |

Run # 1- 3 :Primary scan 1GHz -40GHz , (Highest channel. : 5320 MHz)

| Frequency MHz | Reading dBuV/m | Direction Degree | Height Meter | Polar H / V | Antenna Loss dB | Cable loss dB | Amplifier dB | Correction Factor dBuV/m | 15.407 Limit (dBuV/m) | 15.407 Margin | Comments |
|------------------|-------------------|---------------------|-----------------|----------------|-----------------------|---------------------|-----------------|--------------------------------|-----------------------------|------------------|----------|
| 15960.0000 | 43.1 | 0 | 2.4 | v | 40.4 | 7.0 | 31.8 | 58.6 | 68.3 | -9.7 | Ave |
| 15960.0000 | 40.9 | 0 | 2.0 | h | 40.4 | 7.0 | 31.8 | 56.4 | 68.3 | -11.9 | Ave |
| 10640.0000 | 45.1 | 0 | 2.4 | v | 38.7 | 5.4 | 33.2 | 56.1 | 68.3 | -12.2 | Ave |
| 10640.0000 | 44.2 | 0 | 2.0 | h | 38.7 | 5.4 | 33.2 | 55.2 | 68.3 | -13.1 | Ave |
| 15960.0000 | 53.5 | 350 | 2.0 | v | 40.4 | 7.0 | 31.8 | 69.0 | 88.3 | -19.3 | Peak |
| 10640.0000 | 56.5 | 0 | 1.8 | h | 38.7 | 5.4 | 33.2 | 67.5 | 88.3 | -20.8 | Peak |
| 15960.0000 | 51.7 | 0 | 2.0 | h | 40.4 | 7.0 | 31.8 | 67.2 | 88.3 | -21.1 | Peak |
| 10640.0000 | 55.8 | 0 | 2.0 | v | 38.7 | 5.4 | 33.2 | 66.8 | 88.3 | -21.5 | Peak |

PA 58 - 24 , 24dBi FLAT PANEL, Power Output = 6dBm**Run # 1- 1 :Primary scan 1GHz -40GHz , (Lowest channel. : 5260 MHz)**

| Frequency MHz | Reading dBuV/m | Direction Degree | Height Meter | Polar H / V | Antenna Loss dB | Cable loss dB | Amplifier dB | Correction Factor dBuV/m | 15.407 Limit (dBuV/m) | 15.407 Margin | Comments |
|------------------|-------------------|---------------------|-----------------|----------------|-----------------------|---------------------|-----------------|--------------------------------|-----------------------------|------------------|----------|
| 15780.0000 | 42.1 | 0 | 2.0 | v | 40.4 | 7.0 | 31.8 | 57.6 | 68.3 | -10.7 | Ave |
| 15780.0000 | 40.5 | 0 | 1.2 | h | 40.4 | 7.0 | 31.8 | 56.0 | 68.3 | -12.3 | Ave |
| 10520.0000 | 43.2 | 0 | 2.0 | v | 38.7 | 5.4 | 33.2 | 54.2 | 68.3 | -14.1 | Ave |
| 10520.0000 | 42.6 | 0 | 1.2 | h | 38.7 | 5.4 | 33.2 | 53.6 | 68.3 | -14.7 | Ave |
| 15780.0000 | 54.2 | 0 | 2.0 | v | 40.4 | 7.0 | 31.8 | 69.7 | 88.3 | -18.6 | Peak |
| 15780.0000 | 52.4 | 0 | 1.1 | h | 40.4 | 7.0 | 31.8 | 67.9 | 88.3 | -20.4 | Peak |
| 10520.0000 | 53.2 | 0 | 1.3 | h | 38.7 | 5.4 | 33.2 | 64.2 | 88.3 | -24.1 | Peak |
| 10520.0000 | 52.8 | 0 | 2.0 | v | 38.7 | 5.4 | 33.2 | 63.8 | 88.3 | -24.5 | Peak |

Run # 1- 2 :Primary scan 1GHz -40GHz , (Middle channel. : 5300 MHz)

| Frequency MHz | Reading dBuV/m | Direction Degree | Height Meter | Polar H / V | Antenna Loss dB | Cable loss dB | Amplifier dB | Correction Factor dBuV/m | 15.407 Limit (dBuV/m) | 15.407 Margin | Comments |
|------------------|-------------------|---------------------|-----------------|----------------|-----------------------|---------------------|-----------------|--------------------------------|-----------------------------|------------------|----------|
| 15900.0000 | 42.1 | 350 | 2.4 | v | 40.4 | 7.0 | 31.8 | 57.6 | 68.3 | -10.7 | Ave |
| 15900.0000 | 40.6 | 0 | 1.3 | h | 40.4 | 7.0 | 31.8 | 56.1 | 68.3 | -12.2 | Ave |
| 10600.0000 | 44.3 | 0 | 1.6 | h | 38.7 | 5.4 | 33.2 | 55.3 | 68.3 | -13.0 | Ave |
| 10600.0000 | 44.2 | 0 | 2.4 | v | 38.7 | 5.4 | 33.2 | 55.2 | 68.3 | -13.1 | Ave |
| 15900.0000 | 51.3 | 0 | 2.4 | v | 40.4 | 7.0 | 31.8 | 66.8 | 88.3 | -21.5 | Peak |
| 15900.0000 | 50.4 | 0 | 1.2 | h | 40.4 | 7.0 | 31.8 | 65.9 | 88.3 | -22.4 | Peak |
| 10600.0000 | 54.3 | 0 | 2.4 | v | 38.7 | 5.4 | 33.2 | 65.3 | 88.3 | -23.0 | Peak |
| 10600.0000 | 52.1 | 10 | 1.5 | h | 38.7 | 5.4 | 33.2 | 63.1 | 88.3 | -25.2 | Peak |

Run # 1- 3 :Primary scan 1GHz -40GHz , (Highest channel. : 5320 MHz)

| Frequency MHz | Reading dBuV/m | Direction Degree | Height Meter | Polar H / V | Antenna Loss dB | Cable loss dB | Amplifier dB | Correction Factor dBuV/m | 15.407 Limit (dBuV/m) | 15.407 Margin | Comments |
|------------------|-------------------|---------------------|-----------------|----------------|-----------------------|---------------------|-----------------|--------------------------------|-----------------------------|------------------|----------|
| 15960.0000 | 41.2 | 0 | 2.4 | v | 40.4 | 7.0 | 31.8 | 56.7 | 68.3 | -11.6 | Ave |
| 15960.0000 | 39.7 | 10 | 1.5 | h | 40.4 | 7.0 | 31.8 | 55.2 | 68.3 | -13.1 | Ave |
| 10640.0000 | 43.9 | 10 | 1.6 | h | 38.7 | 5.4 | 33.2 | 54.9 | 68.3 | -13.4 | Ave |
| 10640.0000 | 43.6 | 0 | 2.4 | v | 38.7 | 5.4 | 33.2 | 54.6 | 68.3 | -13.7 | Ave |
| 15960.0000 | 50.8 | 0 | 2.4 | v | 40.4 | 7.0 | 31.8 | 66.3 | 88.3 | -22.0 | Peak |
| 10640.0000 | 54.8 | 0 | 2.0 | v | 38.7 | 5.4 | 33.2 | 65.8 | 88.3 | -22.5 | Peak |
| 10640.0000 | 54.7 | 8 | 1.8 | h | 38.7 | 5.4 | 33.2 | 65.7 | 88.3 | -22.6 | Peak |
| 15960.0000 | 49.3 | 10 | 1.8 | h | 40.4 | 7.0 | 31.8 | 64.8 | 88.3 | -23.5 | Peak |

DA 57 - 32 , 32dBi SOLID DISH, Power Output = 6dBm**Run # 1- 1 :Primary scan 1GHz -40GHz, (Lowest channel. : 5260 MHz)**

| Frequency MHz | Reading dBuV/m | Direction Degree | Height Meter | Polar H / V | Antenna Loss dB | Cable loss dB | Amplifier dB | Correction Factor dBuV/m | 15.407 Limit (dBuV/m) | 15.407 Margin | Comments |
|------------------|-------------------|---------------------|-----------------|----------------|-----------------------|---------------------|-----------------|--------------------------------|-----------------------------|------------------|----------|
| 15780.0000 | 42.3 | 0 | 2.2 | h | 40.4 | 7.0 | 31.8 | 57.8 | 68.3 | -10.5 | Ave |
| 10520.0000 | 45.9 | 6 | 2.4 | v | 38.7 | 5.4 | 33.2 | 56.9 | 68.3 | -11.4 | Ave |
| 15780.0000 | 40.3 | 0 | 2.0 | v | 40.4 | 7.0 | 31.8 | 55.8 | 68.3 | -12.5 | Ave |
| 10520.0000 | 43.2 | 0 | 2.3 | h | 38.7 | 5.4 | 33.2 | 54.2 | 68.3 | -14.1 | Ave |
| 15780.0000 | 53.2 | 5 | 2.3 | h | 40.4 | 7.0 | 31.8 | 68.7 | 88.3 | -19.6 | Peak |
| 15780.0000 | 52.1 | 0 | 2.0 | v | 40.4 | 7.0 | 31.8 | 67.6 | 88.3 | -20.7 | Peak |
| 10520.0000 | 55.8 | 0 | 2.4 | v | 38.7 | 5.4 | 33.2 | 66.8 | 88.3 | -21.5 | Peak |
| 10520.0000 | 55.3 | 0 | 2.3 | h | 38.7 | 5.4 | 33.2 | 66.3 | 88.3 | -22.0 | Peak |

Run # 1- 2 :Primary scan 1GHz -40GHz, (Middle channel. : 5300 MHz)

| Frequency MHz | Reading dBuV/m | Direction Degree | Height Meter | Polar H / V | Antenna Loss dB | Cable loss dB | Amplifier dB | Correction Factor dBuV/m | 15.407 Limit (dBuV/m) | 15.407 Margin | Comments |
|------------------|-------------------|---------------------|-----------------|----------------|-----------------------|---------------------|-----------------|--------------------------------|-----------------------------|------------------|----------|
| 15900.0000 | 43.2 | 6 | 2.4 | v | 40.4 | 7.0 | 31.8 | 58.7 | 68.3 | -9.6 | Ave |
| 15900.0000 | 42.3 | 0 | 2.1 | h | 40.4 | 7.0 | 31.8 | 57.8 | 68.3 | -10.5 | Ave |
| 10600.0000 | 44.2 | 10 | 2.2 | h | 38.7 | 5.4 | 33.2 | 55.2 | 68.3 | -13.1 | Ave |
| 10600.0000 | 43.8 | 0 | 2.4 | v | 38.7 | 5.4 | 33.2 | 54.8 | 68.3 | -13.5 | Ave |
| 15900.0000 | 52.3 | 0 | 2.4 | v | 40.4 | 7.0 | 31.8 | 67.8 | 88.3 | -20.5 | Peak |
| 15900.0000 | 50.2 | 0 | 2.3 | h | 40.4 | 7.0 | 31.8 | 65.7 | 88.3 | -22.6 | Peak |
| 10600.0000 | 54.1 | 5 | 2.0 | v | 38.7 | 5.4 | 33.2 | 65.1 | 88.3 | -23.2 | Peak |
| 10600.0000 | 53.8 | 0 | 2.2 | h | 38.7 | 5.4 | 33.2 | 64.8 | 88.3 | -23.5 | Peak |

Run # 1- 3 :Primary scan 1GHz -40GHz, (Highest channel. : 5320 MHz)

| Frequency MHz | Reading dBuV/m | Direction Degree | Height Meter | Polar H / V | Antenna Loss dB | Cable loss dB | Amplifier dB | Correction Factor dBuV/m | 15.407 Limit (dBuV/m) | 15.407 Margin | Comments |
|------------------|-------------------|---------------------|-----------------|----------------|-----------------------|---------------------|-----------------|--------------------------------|-----------------------------|------------------|----------|
| 15960.0000 | 41.2 | 0 | 2.0 | v | 40.4 | 7.0 | 31.8 | 56.7 | 68.3 | -11.6 | Ave |
| 10640.0000 | 44.9 | 0 | 2.4 | v | 38.7 | 5.4 | 33.2 | 55.9 | 68.3 | -12.4 | Ave |
| 15960.0000 | 40.3 | 0 | 2.1 | h | 40.4 | 7.0 | 31.8 | 55.8 | 68.3 | -12.5 | Ave |
| 10640.0000 | 42.3 | 0 | 2.1 | h | 38.7 | 5.4 | 33.2 | 53.3 | 68.3 | -15.0 | Ave |
| 10640.0000 | 56.9 | 0 | 2.4 | v | 38.7 | 5.4 | 33.2 | 67.9 | 88.3 | -20.4 | Peak |
| 15960.0000 | 50.3 | 10 | 2.0 | v | 40.4 | 7.0 | 31.8 | 65.8 | 88.3 | -22.5 | Peak |
| 10640.0000 | 54.3 | 8 | 2.1 | h | 38.7 | 5.4 | 33.2 | 65.3 | 88.3 | -23.0 | Peak |
| 15960.0000 | 49.8 | 0 | 2.1 | h | 40.4 | 7.0 | 31.8 | 65.3 | 88.3 | -23.0 | Peak |

Unintentional Emission, Primary scan. 30 - 1000MHz

| Frequency | Reading | Direction | Height | Polar | Antenna Loss | Cable loss | Amplifier | Correction Factor | 15B | 15B | Comments |
|-----------|---------|-----------|--------|-------|--------------|------------|-----------|-------------------|-------|--------|----------|
| MHz | dBuV | Degree | Meter | H / V | dB | dB | dB | dBuV | Limit | Margin | Peak |
| 366.00 | 53.6 | 280 | 2.8 | H | 14.8 | 4.1 | 27.8 | 44.7 | 46 | -1.3 | Peak |
| 298.00 | 54.8 | 250 | 1.0 | V | 13.5 | 3.7 | 27.4 | 44.6 | 46 | -1.4 | Peak |
| 366.00 | 53.2 | 250 | 1.0 | V | 14.8 | 4.1 | 27.8 | 44.3 | 46 | -1.7 | Peak |
| 166.00 | 56.8 | 270 | 3.2 | H | 12.1 | 2.7 | 27.9 | 43.7 | 46 | -2.3 | Peak |
| 431.00 | 49.7 | 240 | 3.1 | H | 16.5 | 4.4 | 28.2 | 42.4 | 46 | -3.7 | Peak |
| 258.00 | 51.1 | 270 | 2.1 | H | 11.9 | 3.4 | 27.4 | 39.0 | 43.5 | -4.5 | Peak |
| 258.00 | 46.8 | 330 | 1.2 | V | 11.9 | 3.4 | 27.4 | 34.7 | 43.5 | -8.8 | Peak |
| 166.00 | 49.8 | 75 | 1.8 | V | 12.1 | 2.7 | 27.9 | 36.7 | 46 | -9.3 | Peak |
| 431.00 | 42.8 | 270 | 1.0 | V | 16.5 | 4.4 | 28.2 | 35.5 | 46 | -10.5 | Peak |

§15.207(a) - CONDUCTED EMISSIONS

Measurement Uncertainty

All measurements involve certain levels of uncertainties. The factors contributing to uncertainties are spectrum analyzer, cable loss, and LISN.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement at BAEL is ± 2.4 dB.

EUT Setup

The measurement was performed in the shield room, using the same setup per ANSI C63.4-2003 measurement procedure. The specification used was FCC 15 Subpart B limits.

The spacing between the peripherals was 10 centimeters.

External I/O cables were draped along the edge of the test table and bundled when necessary.

The Host System was connected with 120Vac/60Hz power source.

Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30Mhz.

Test Equipment List and Details

| Manufacturer | Description | Model | Serial Number | Cal. Date |
|-----------------|-------------------|---------|---------------|------------|
| Rohde & Schwarz | Artificial LISN | ESH2-Z5 | 871884/039 | 2004-08-16 |
| Rohde & Schwarz | EMI Test Receiver | ESCS30 | 100176 | 2004-09-15 |

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

Test Procedure

During the conducted emission test, the power cord of the host system was connected to the auxiliary outlet of the first LISN.

Maximizing procedure was performed on the six (6) highest emissions of each modes tested to ensure EUT is compliant with all installation combination.

All data was recorded in the peak detection mode. Quasi-peak readings were only performed when an emission was found to be marginal (within -4 dB of specification limits). Quasi-peak readings are distinguished with a "Qp".

Summary of Test Results

According to the data in following table, the EUT complies with the FCC Conducted margin for a Class B device, with the *worst* margin reading of:

-5.6 dB at 0.231 MHz in the Line mode

Conducted Emissions Test Data

Environmental Conditions

| | |
|--------------------|-----------|
| Temperature: | 22° C |
| Relative Humidity: | 58% |
| ATM Pressure: | 1024 mbar |

The testing was performed by Snell Leong on 2005-07-14.

| LINE CONDUCTED EMISSIONS | | | | FCC PART 15 CLASS B | |
|--------------------------|-------------------------|-------------------------|-----------------------|---------------------|--------------|
| Frequency MHz | Amplitude dB μ V | Detector Qp/Ave/Peak | Phase Line/Neutral | Limit dB μ V | Margin dB |
| 0.231 | 46.8 | Ave | Line | 52.41 | -5.6 |
| 0.540 | 35.2 | Ave | Neutral | 46.00 | -10.8 |
| 0.600 | 34.9 | Ave | Line | 46.00 | -11.1 |
| 0.540 | 34.2 | Ave | Line | 46.00 | -11.8 |
| 0.600 | 33.8 | Ave | Neutral | 46.00 | -12.2 |
| 0.210 | 40.1 | Ave | Neutral | 53.21 | -13.1 |
| 0.231 | 46.3 | QP | Line | 62.41 | -16.1 |
| 0.540 | 36.7 | QP | Line | 56.00 | -19.3 |
| 0.540 | 36.2 | QP | Neutral | 56.00 | -19.8 |
| 0.600 | 35.2 | QP | Line | 56.00 | -20.8 |
| 0.210 | 42.2 | QP | Neutral | 63.21 | -21.0 |
| 0.600 | 34.0 | QP | Neutral | 56.00 | -22.0 |

Plot of Conducted Emissions Test Data

Plot(s) of Conducted Emissions Test Data is presented hereinafter as reference.

Bay Area Compliance Laboratory Corp
Class B

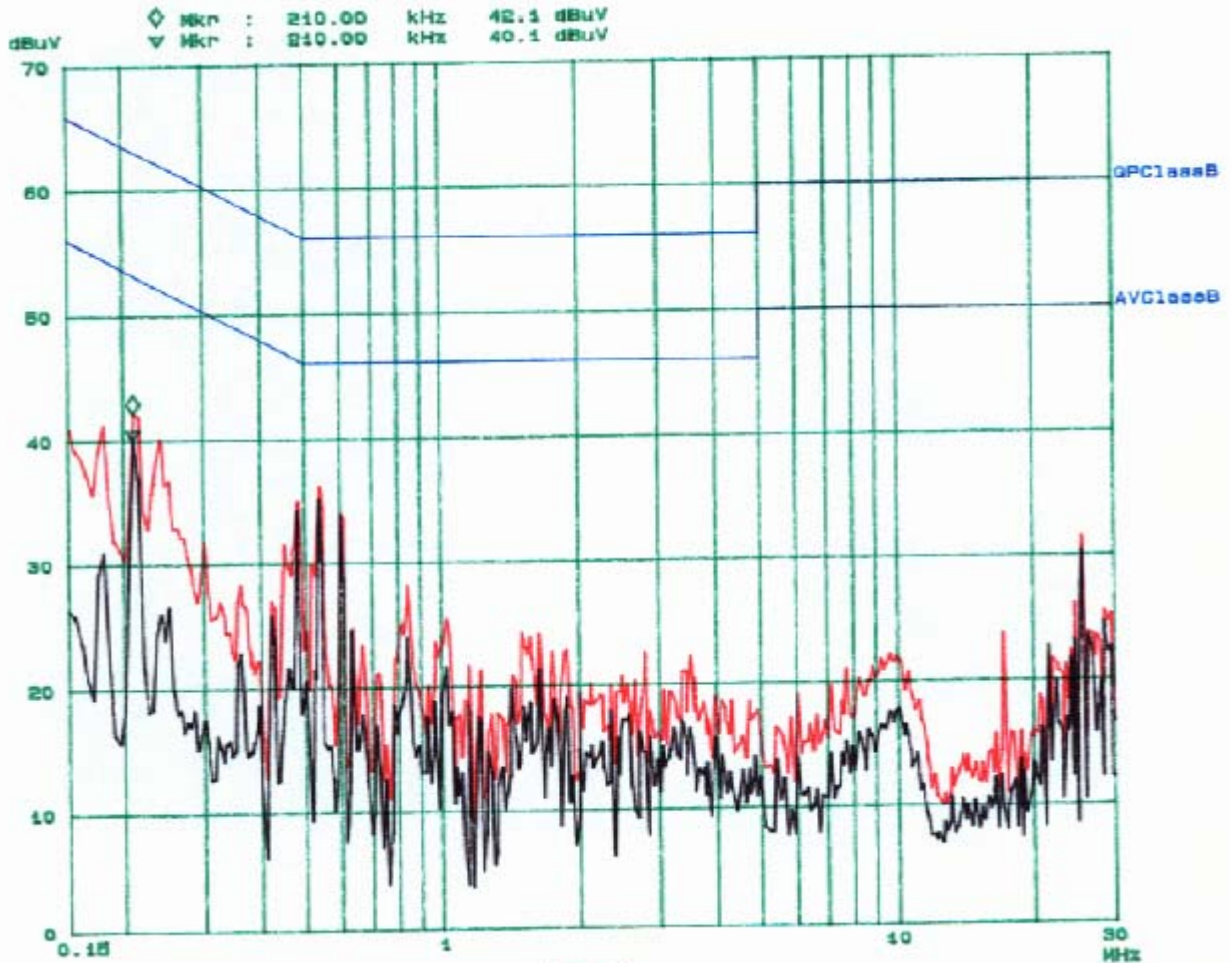
14 Jul 05 09:44

14 July 05
Snell

EUT: 802.11 a/b/g module
Manuf: SMARTBRIDGE
Op Cond: Normal
Operator: SNELL
Comment: N
120 VAC

Scan Settings (3 Ranges)

| Frequencies | | | Receiver Settings | | | | |
|-------------|------|------|-------------------|----------|--------|---------|--------|
| Start | Stop | Step | IF BW | Detector | M-Time | Atten | Preamp |
| 150k | 1M | 5k | 9k | QP+AV | 20ms | 15dB LN | OFF |
| 1M | 5M | 10k | 9k | QP+AV | 1ms | 15dB LN | OFF |
| 5M | 30M | 100k | 9k | QP+AV | 1ms | 15dB LN | OFF |



Bay Area Compliance Laboratory Corp Class B

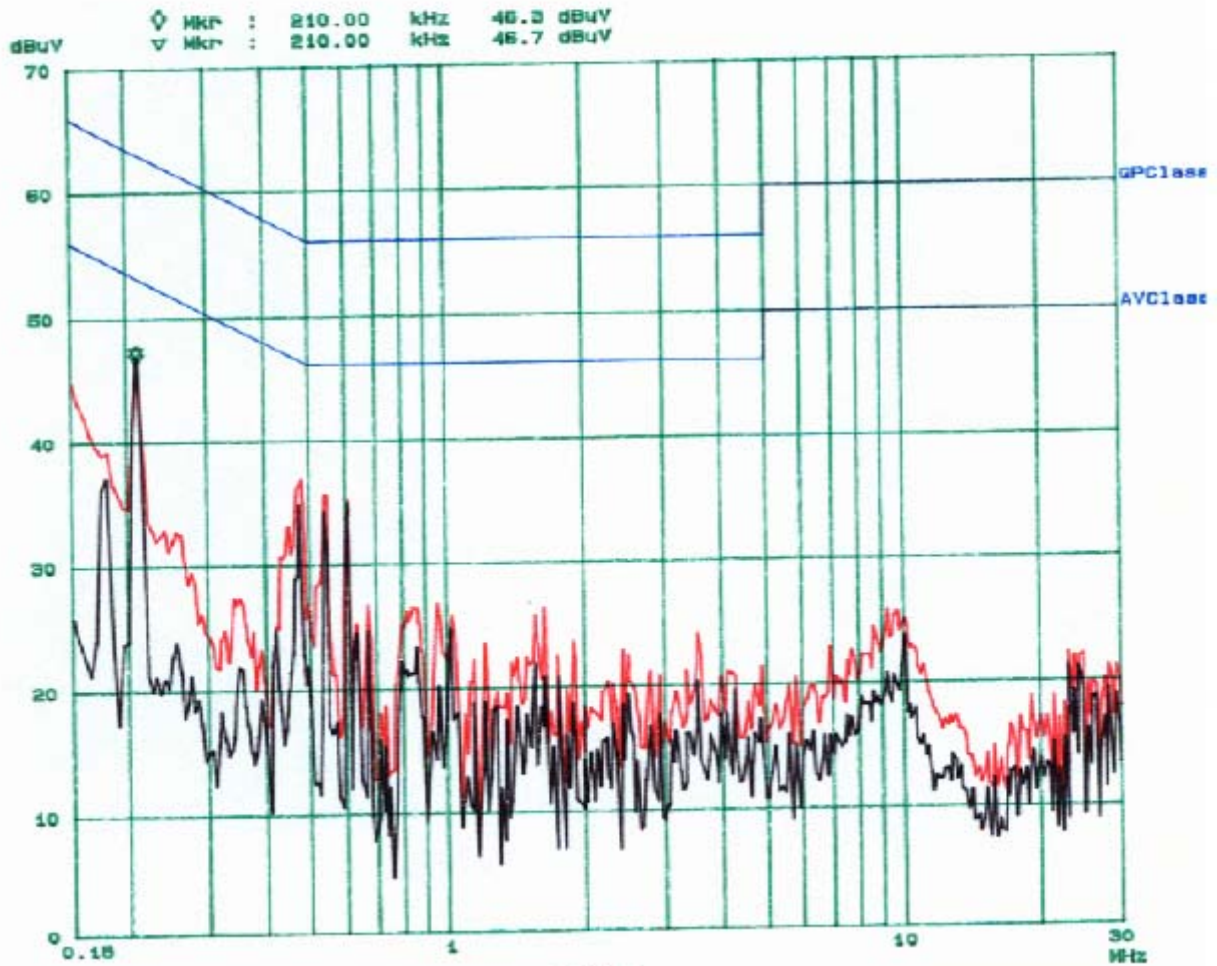
13. Jul 05 16:26

14 / July / 05
Snell

EUT: 802.11 a/b/g module
Manuf: SMARTBRIDGE
Op Cond: Normal
Operator: SNELL
Comment: L
120 VAC

Scan Settings (3 Ranges)

| Frequencies | | | Receiver Settings | | | | |
|-------------|------|------|-------------------|----------|--------|---------|--------|
| Start | Stop | Step | IF BW | Detector | M-Time | Attch | Preamp |
| 180k | 1M | 5k | 9k | QP+AV | 20ms | 15dB LN | OFF |
| 1M | 5M | 10k | 9k | QP+AV | 1ms | 15dB LN | OFF |
| 5M | 30M | 100k | 9k | QP+AV | 1ms | 15dB LN | OFF |



§2.1051 - SPURIOUS EMISSIONS AT ANTENNA TERMINALS

Standard Applicable

Requirements: CFR 47, § 2.1051.

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

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 100 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 | 2004-11-10 |

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

Measurement Result

Environmental Conditions

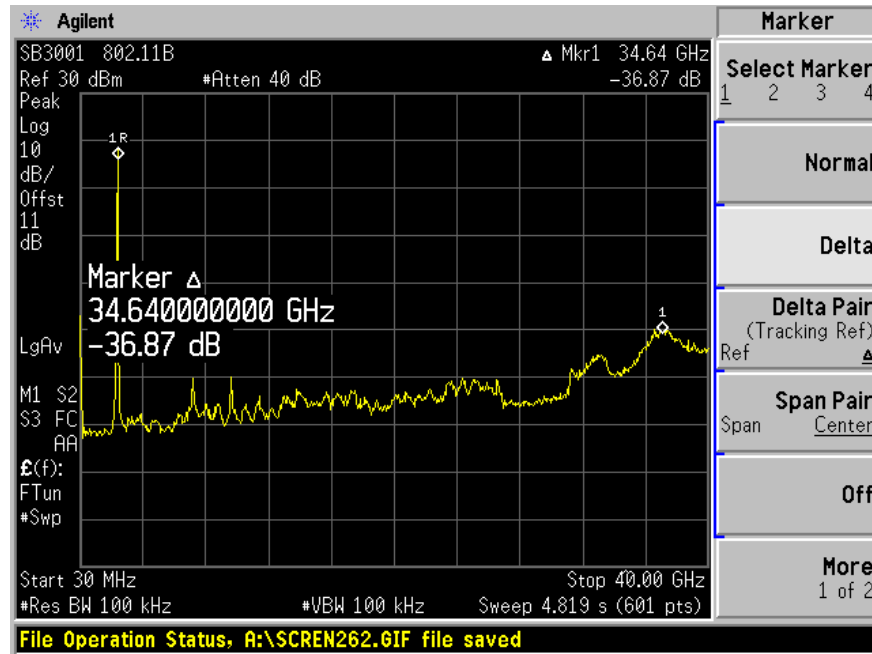
| | |
|--------------------|-----------|
| Temperature: | 22° C |
| Relative Humidity: | 58% |
| ATM Pressure: | 1024 mbar |

The testing was performed by Snell Leong on 2005-07-23.

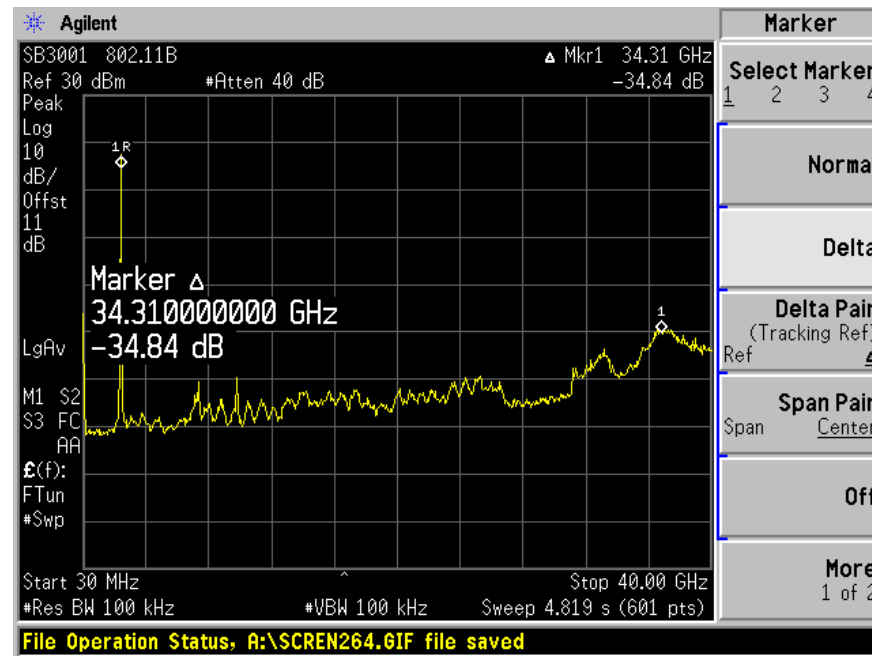
Please refer to following pages for plots of spurious emission.

802.11b

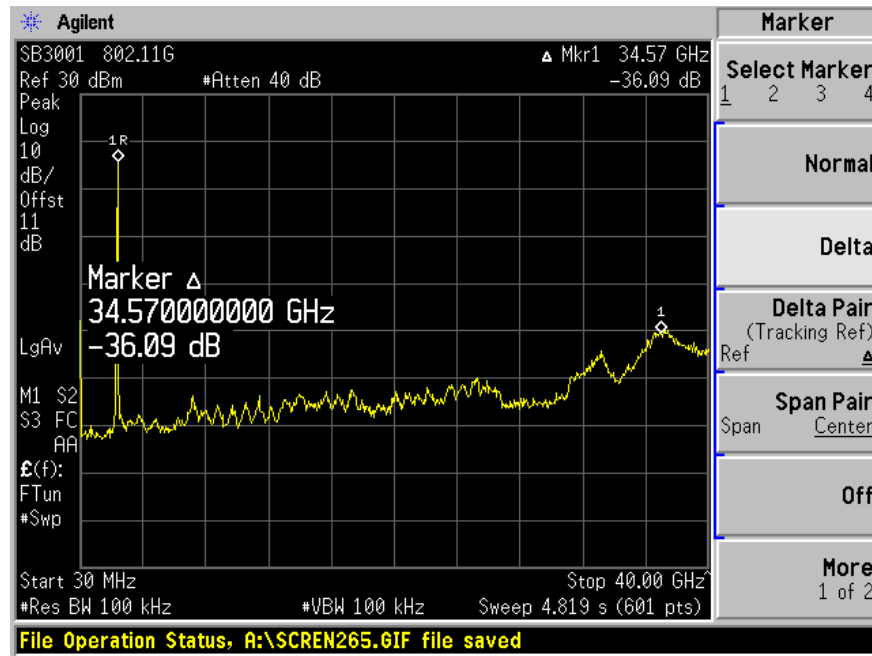
Low Channel



Mid Channel

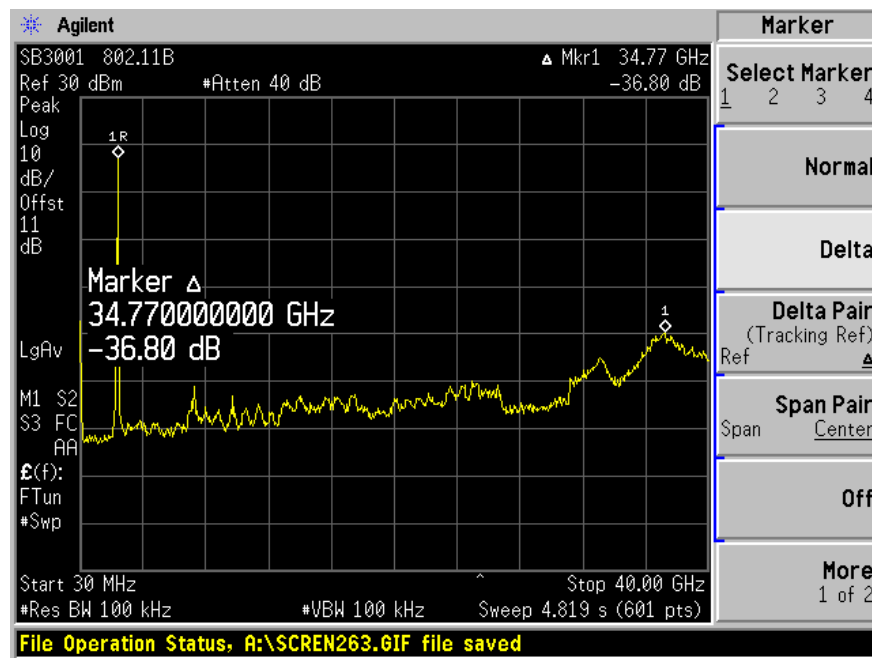


High Channel

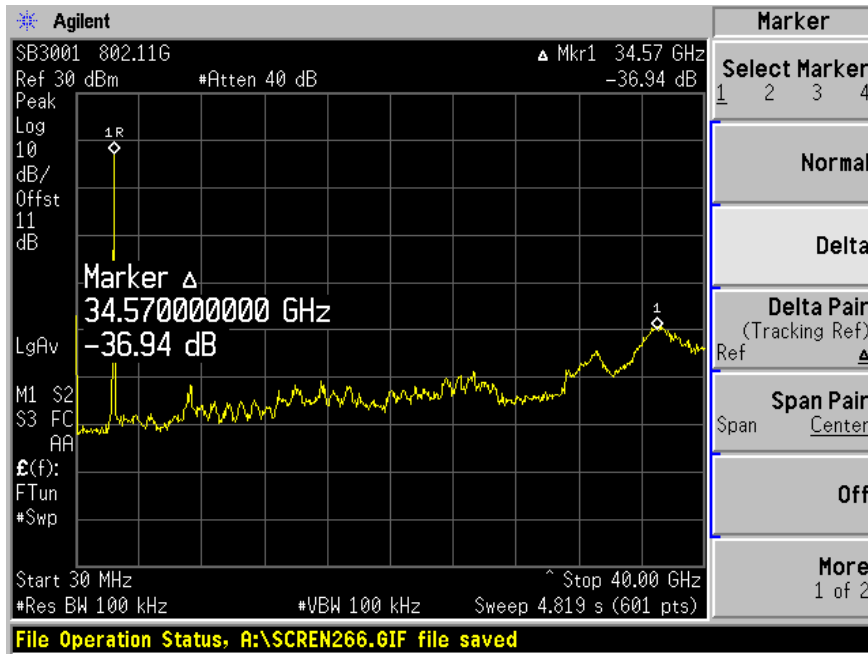


802.11g

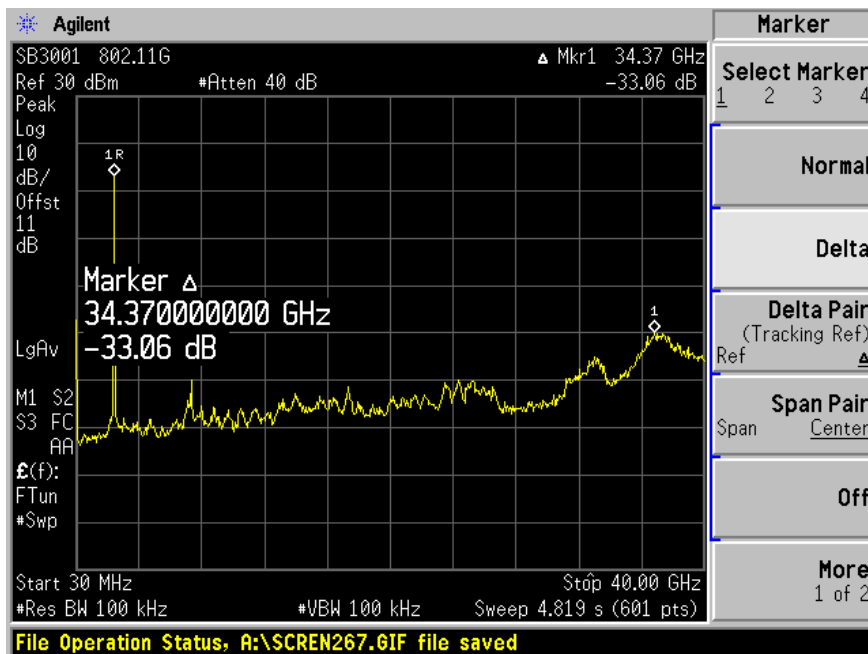
Low Channel



Mid Channel

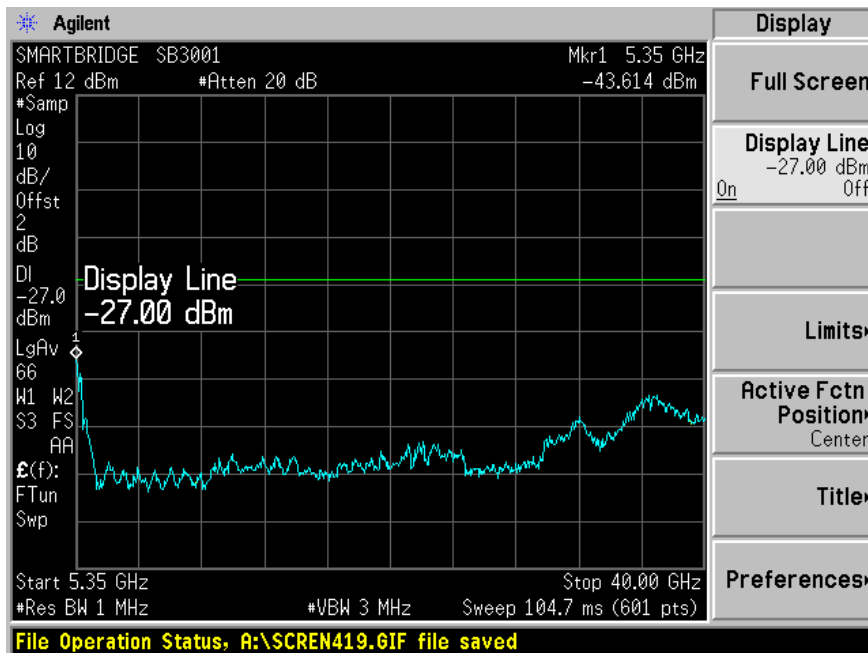
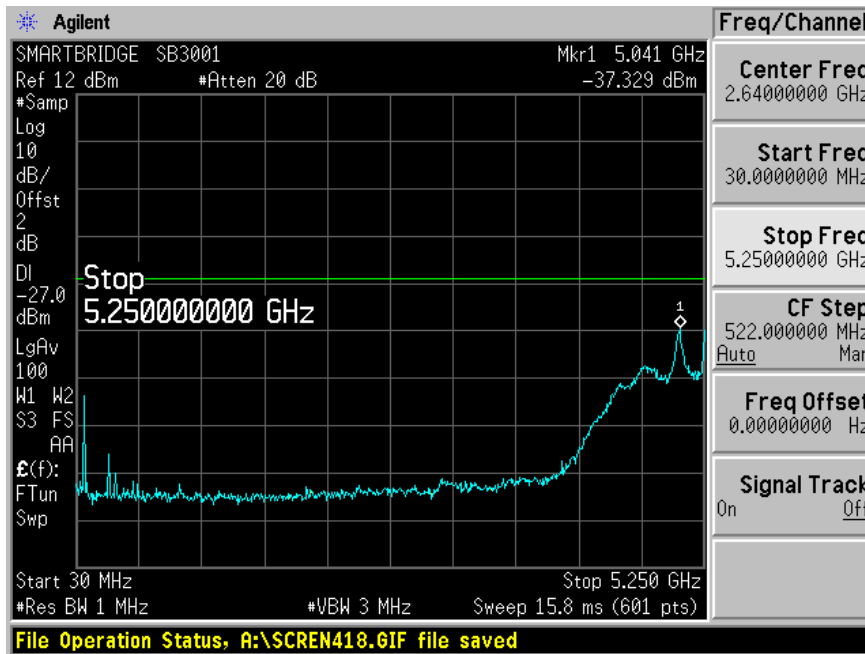


High Channel

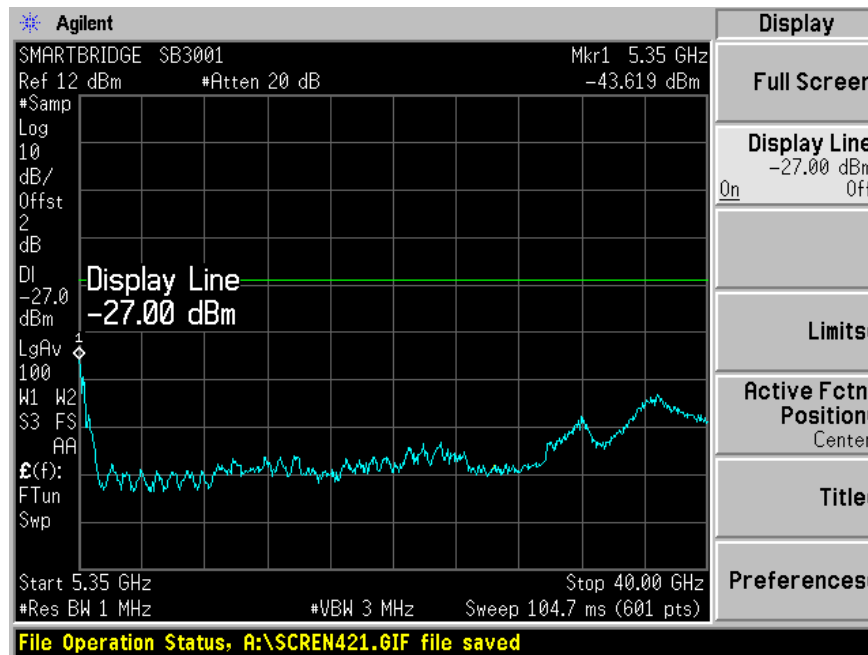
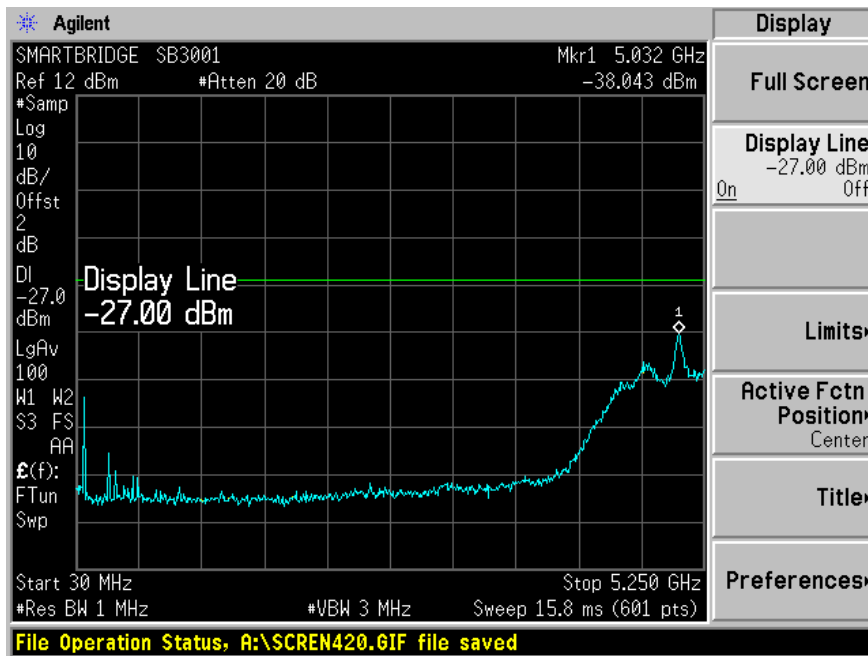


802.11a Mid Band:

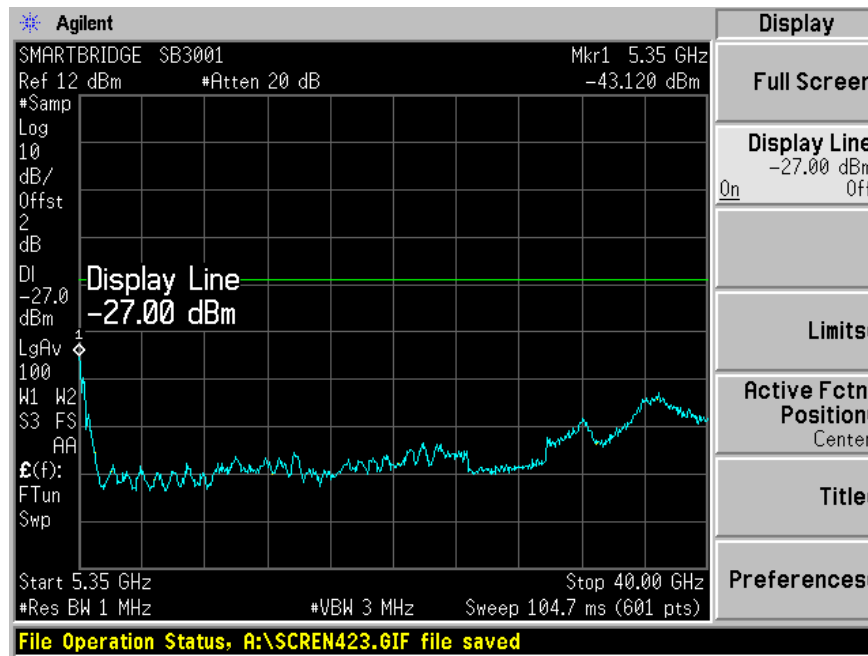
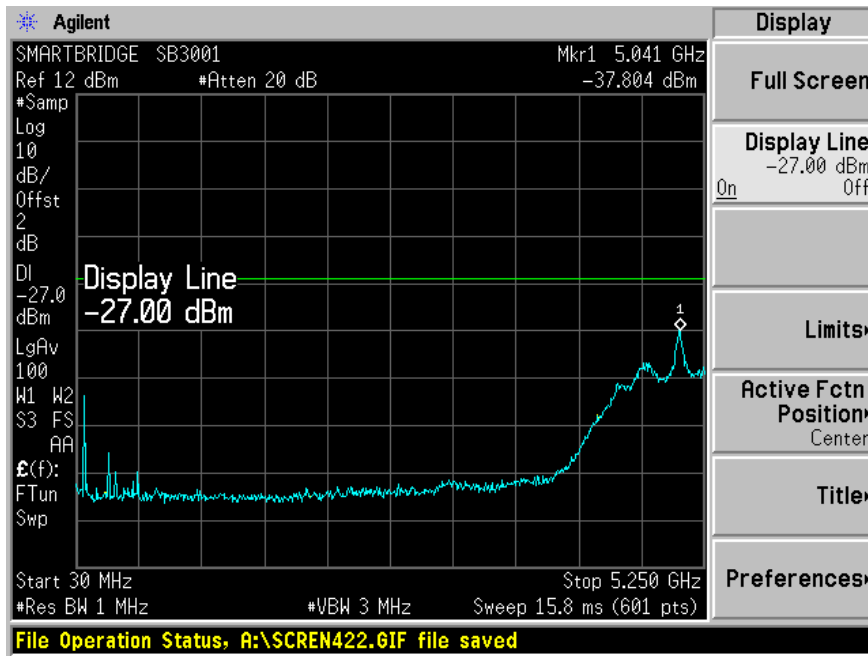
Low Channel



Mid Channel



High Channel



§15.247(a)(2) & §15.407 – 6 dB BANDWIDTH and 26 dB BANDWIDTH

Standard Applicable

According to §15.247(a)(2), for direct sequence systems, the minimum 6dB bandwidth shall be at least 500 kHz. According to §15.407, 26dB Bandwidth should be shown.

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 without connection to measurement instrument. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
3. Measure the frequency difference of two frequencies that were attenuated 6 dB from the reference level. Record the frequency difference as the emission bandwidth. (6 dB bandwidth for DTS)
4. Same as (3) except 26 dB. (26dB bandwidth for UNII)
5. Repeat above procedures until all frequencies measured were complete.

Equipment Lists

| Manufacturer | Description | Model | Serial Number | Cal. Date |
|--------------|-------------------|--------|---------------|------------|
| Agilent | Spectrum Analyzer | E4446A | US44300386 | 2004-11-10 |

* **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: | 22° C |
| Relative Humidity: | 58% |
| ATM Pressure: | 1024 mbar |

The testing was performed by Snell Leong on 2005-07-23.

Test Result for 802.11b (15.247)

| Channel | Frequency MHz | Channel Bandwidth (MHz) | Limit KHz |
|---------|------------------|----------------------------|--------------|
| Low | 2412 | 11.05 | >500 |
| Mid | 2437 | 11.44 | >500 |
| High | 2462 | 10.22 | >500 |

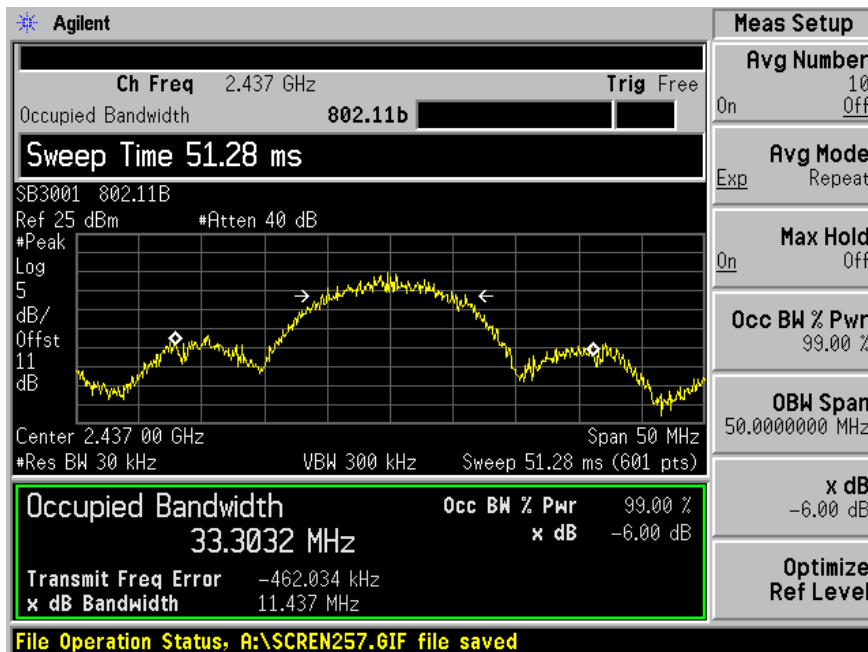
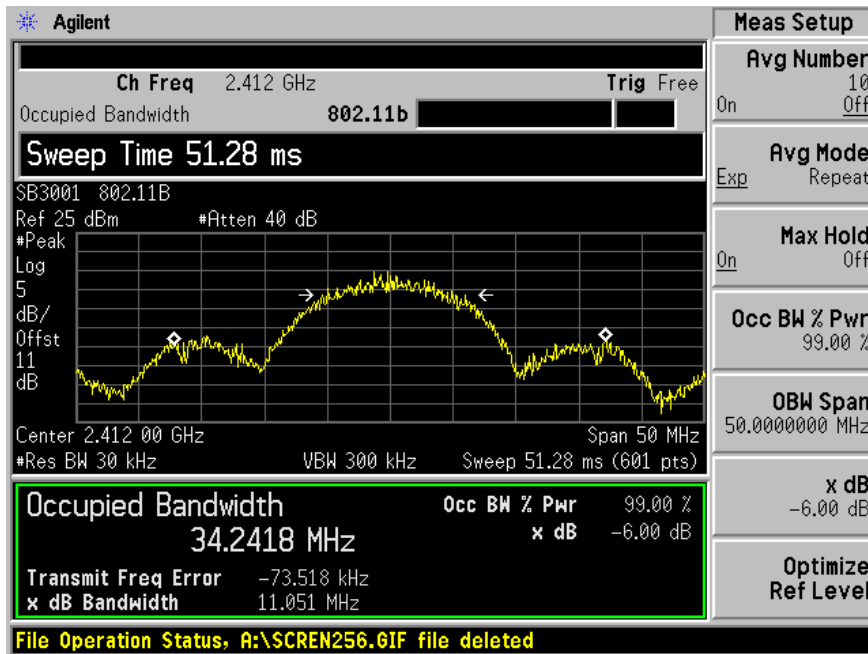
Test Result for 802.11g (15.247)

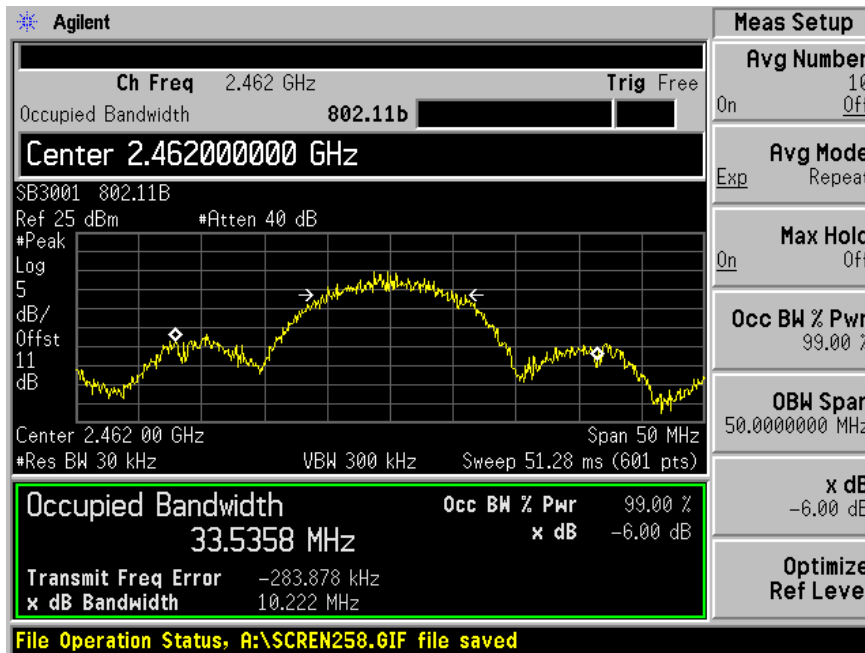
| Channel | Frequency MHz | Channel Bandwidth (MHz) | Limit KHz |
|---------|------------------|----------------------------|--------------|
| Low | 2412 | 16.4 | >500 |
| Mid | 2437 | 16.37 | >500 |
| High | 2462 | 16.34 | >500 |

Test Result for 802.11a**Mid Band**

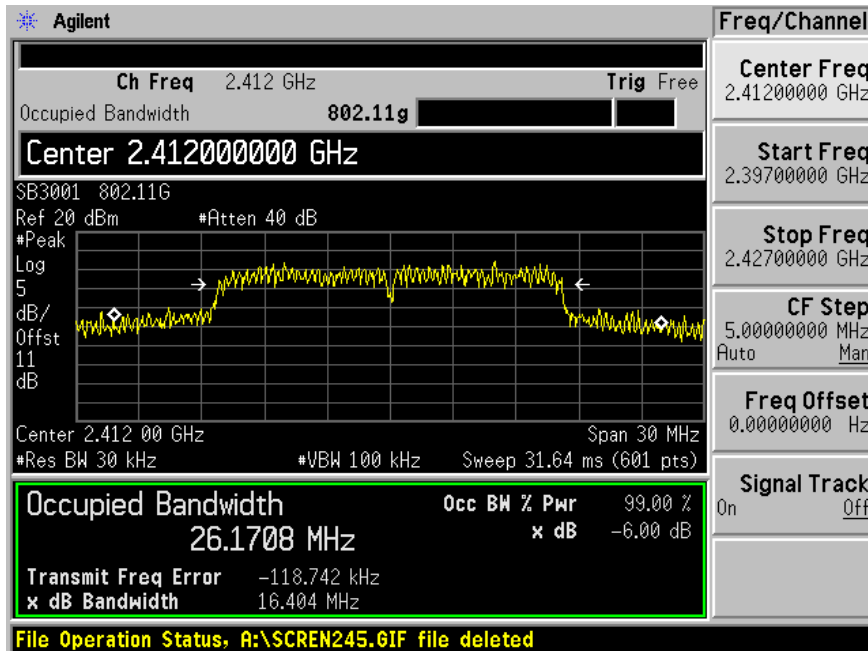
| Channel | Frequency MHz | Channel 26dB Bandwidth (MHz) |
|---------|------------------|---------------------------------|
| Low | 5260 | 19.49 |
| Mid | 5300 | 19.38 |
| High | 5320 | 19.62 |

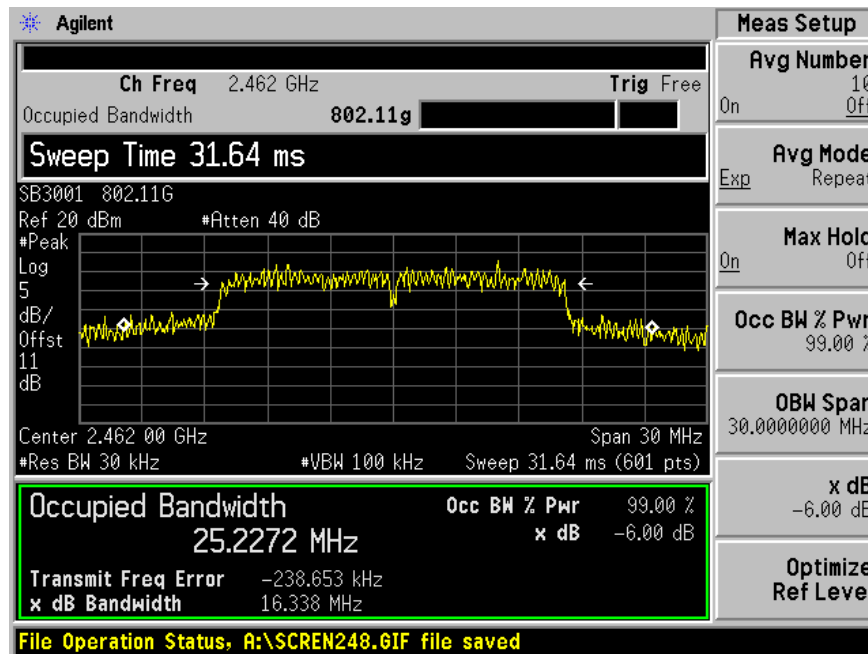
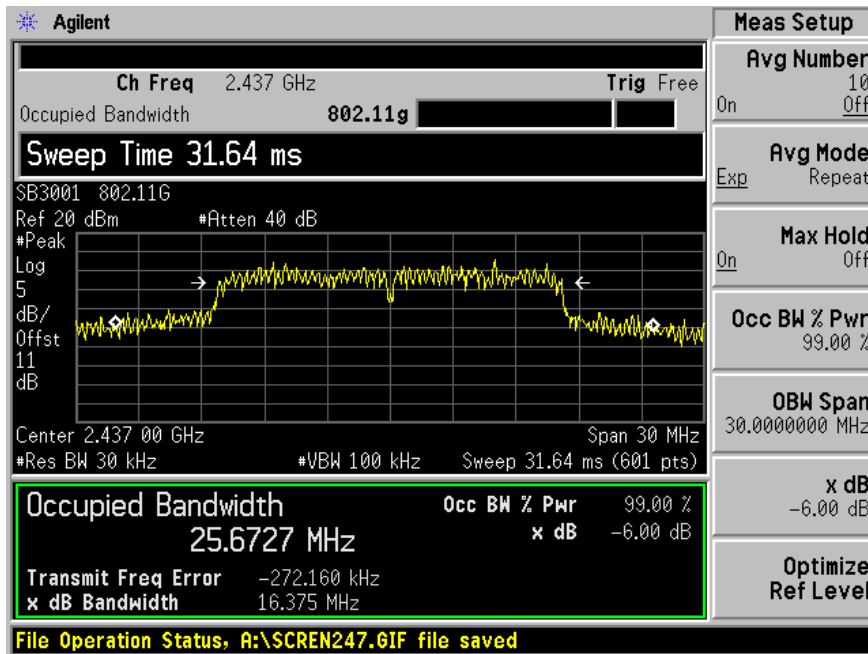
802.11b



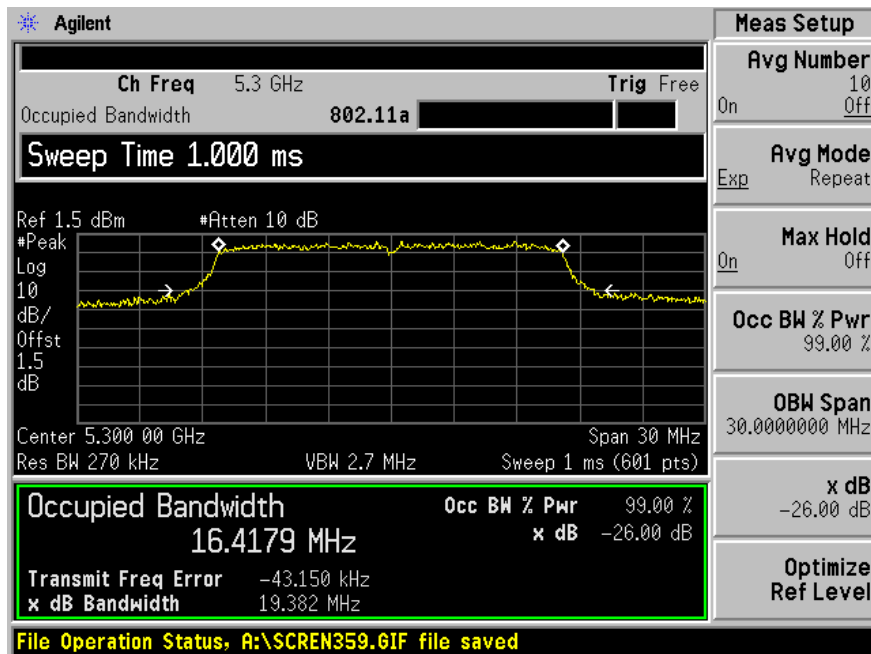
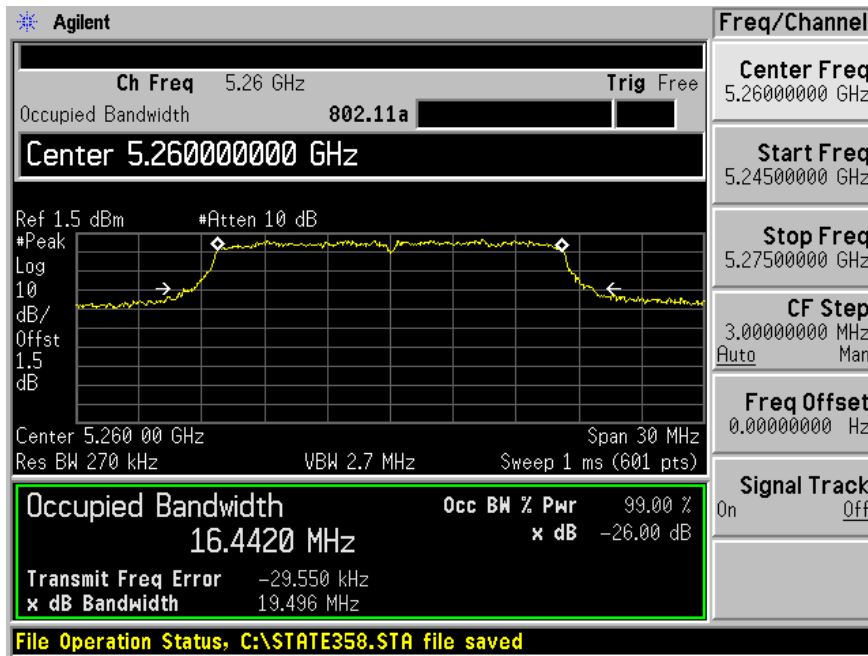


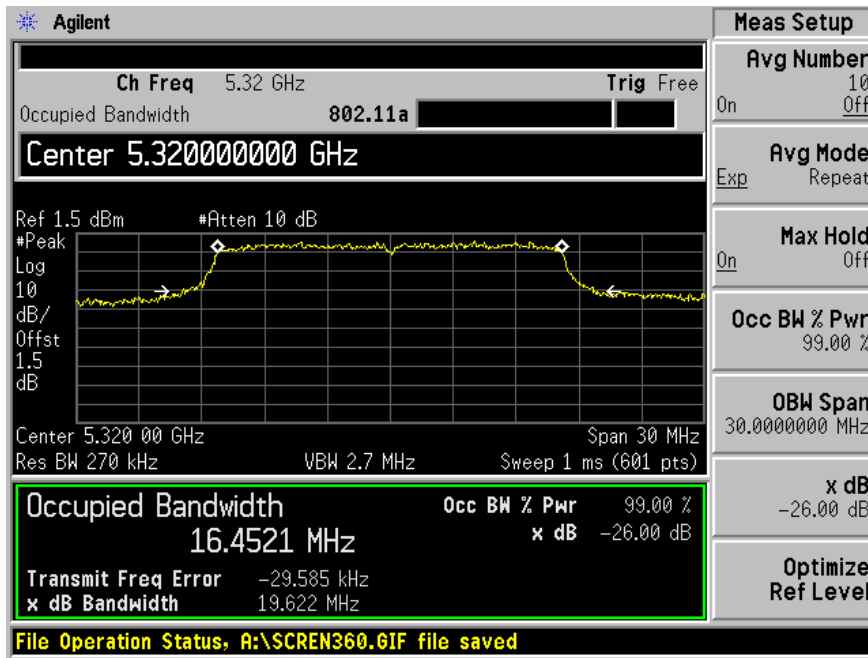
802.11g





802.11a Mid Band





§15.247(b)(3), §15.407(a)(2) - PEAK OUTPUT POWER MEASUREMENT

Standard Applicable

According to §15.247(b) (3), for systems using digital modulation in 2400-2483.5 MHz: 1 Watt. Systems operating in the 2400-2483.5 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum peak output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

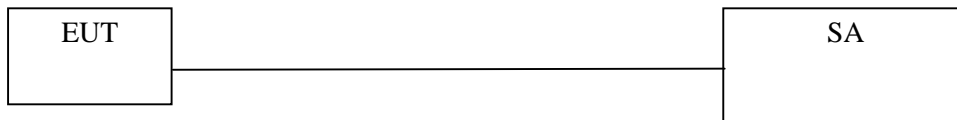
According to §15.407(a)(1), for the band 5.15-5.25 GHz, the peak transmit power over the frequency band of operation shall not exceed the lesser of 50 mW or $4 \text{ dBm} + 10\log B$, where B is the 26-dB emission bandwidth in MHz.

According to §15.407(a)(2), For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz.

According to §15.407(a)(3), for the band 5.725-5.825 GHz, the peak transmit power over the frequency band of operation shall not exceed the lesser of 1 W or $17 \text{ dBm} + 10\log B$, where B is the 26-dB emission bandwidth in MHz.

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 | Spectrum Analyzer | E4446A | US44300386 | 2004-11-10 |

* **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: | 22° C |
| Relative Humidity: | 58% |
| ATM Pressure: | 1024 mbar |

The testing was performed by Snell Leong on 2005-07-23.

802.11b

| Channel | Frequency MHz | Max Peak Output Power | | Limit (mW) | Result |
|---------|------------------|--------------------------|-------|---------------|--------|
| | | (dBm) | (mW) | | |
| Low | 2412 | 19.24 | 83.95 | 631 | pass |
| Mid | 2437 | 19.38 | 86.70 | 631 | pass |
| High | 2462 | 19.89 | 97.50 | 631 | pass |

802.11g

| Channel | Frequency MHz | Max Peak Output Power | | Limit (mW) | Result |
|---------|------------------|--------------------------|--------|---------------|--------|
| | | (dBm) | (mW) | | |
| Low | 2412 | 23.33 | 215.28 | 631 | pass |
| Mid | 2437 | 23.47 | 222.33 | 631 | pass |
| High | 2462 | 23.84 | 242.10 | 631 | pass |

802.11a, Mid Band

| Channel | Frequency MHz | Max Peak Output Power | | Limit (mW) | Result |
|---------|------------------|-----------------------|------|---------------|--------|
| | | (dBm) | (mW) | | |
| Low | 5260 | 5.83 | 3.83 | 4 | pass |
| Mid | 5300 | 5.95 | 3.94 | 4 | pass |
| High | 5320 | 5.98 | 3.96 | 4 | pass |

§15.247(d) - 100 KHZ BANDWIDTH OF BAND EDGES

Standard Applicable

According to §15.247(d), in *any* 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) see §15.205(c).

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 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.
3. Set both RBW and VBW of spectrum analyzer to 100 kHz with a convenient frequency span including 100kHz bandwidth from band edge.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

Equipment Lists

| Manufacturer | Description | Model | Serial Number | Cal. Date |
|--------------|-------------------|--------|---------------|------------|
| Agilent | Spectrum Analyzer | E4446A | US44300386 | 2004-11-10 |

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

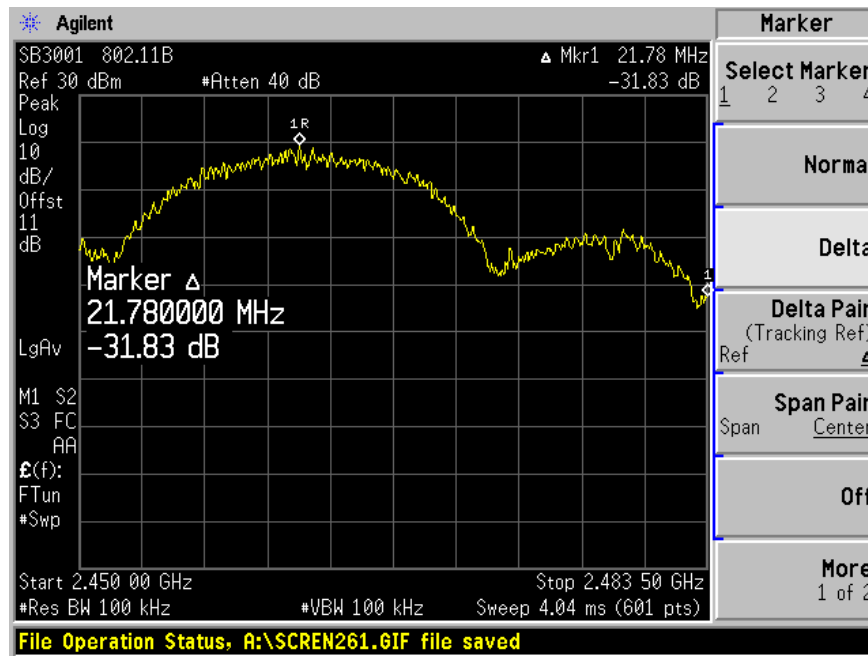
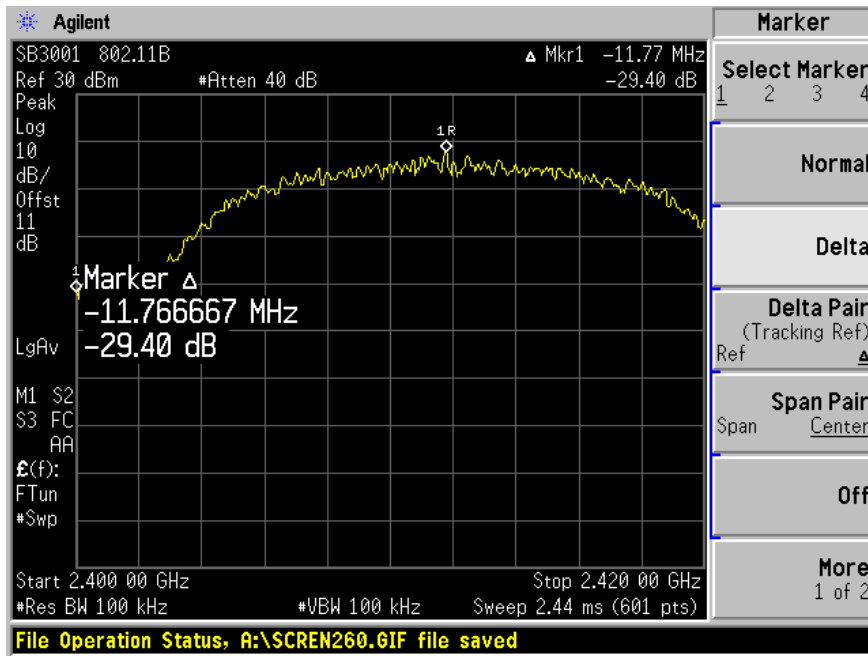
Measurement Result

Environmental Conditions

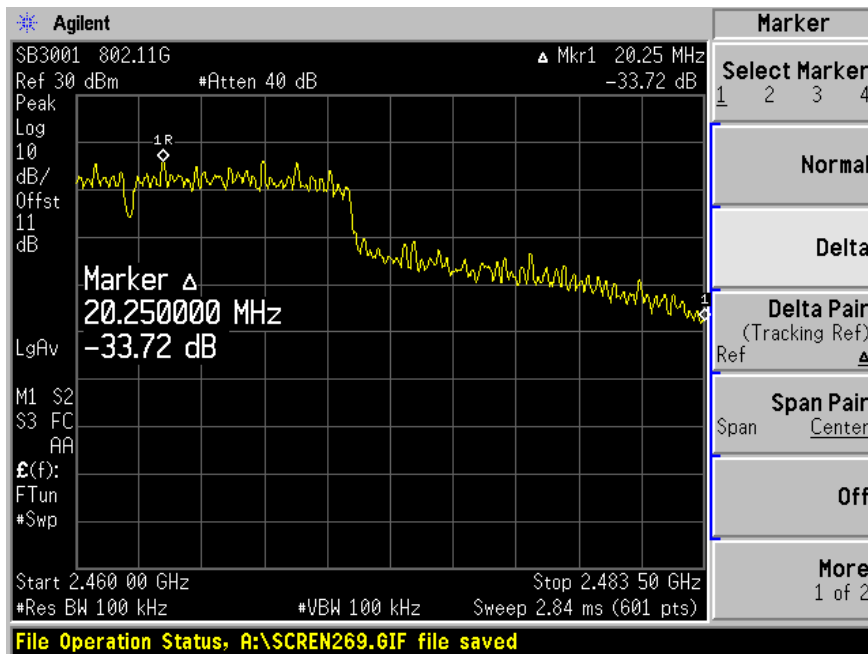
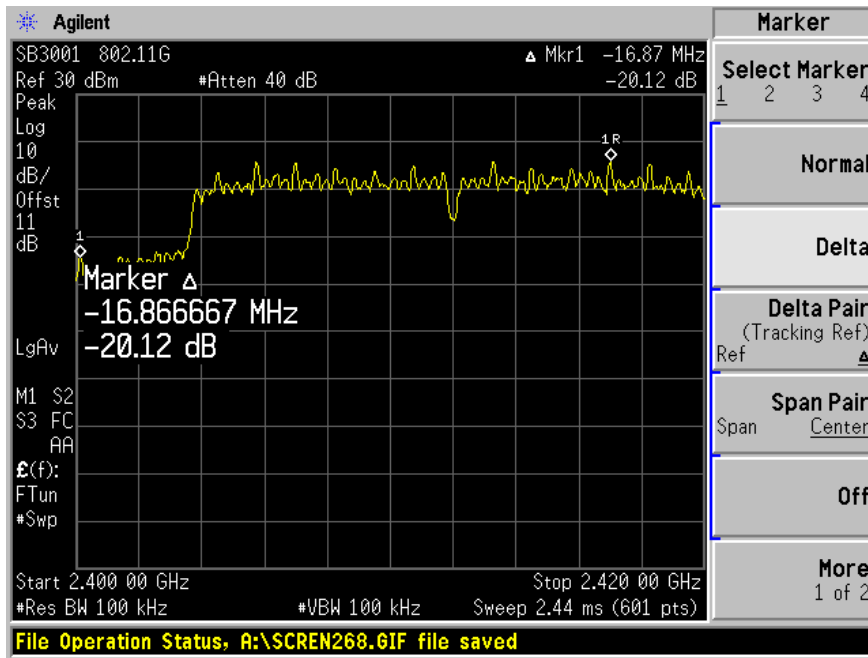
| | |
|--------------------|-----------|
| Temperature: | 22° C |
| Relative Humidity: | 58% |
| ATM Pressure: | 1024 mbar |

The testing was performed by Snell Leong on 2005-07-23.

802.11b



802.11g



§15.247(e) & §15.407(a)(2) - POWER SPECTRAL DENSITY

Standard Applicable

According to §15.247 (e), for direct sequence systems, the peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

According to §15.407(a) (2), for the band 5.25-5.35 GHz, 5.47-5.725GHz, the peak power spectral density shall not exceed 11 dBm in any 1-MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceed 6 dBi.

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.
3. Adjust the center frequency of SA on any frequency be measured and set SA to 6MHz span mode. And then, set RBW and VBW of spectrum analyzer to proper value. (DTS)
4. Adjust the center frequency of SA on any frequency be measured and set SA to 50MHz span mode. And then, set RBW and VBW of spectrum analyzer to proper value. (UNII)
5. Repeat above procedures until all frequencies measured were complete.

Equipment Lists

| Manufacturer | Description | Model | Serial Number | Cal. Date |
|--------------|-------------------|--------|---------------|------------|
| Agilent | Spectrum Analyzer | E4446A | US44300386 | 2004-11-10 |

* **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: | 22° C |
| Relative Humidity: | 58% |
| ATM Pressure: | 1024 mbar |

The testing was performed by Snell Leong on 2005-07-23.

Test Result for 802.11b (15.247)

| Channel | Frequency MHz | PSD dBm | Limit dBm |
|---------|------------------|------------|--------------|
| Low | 2412 | -9.97 | 8 |
| Mid | 2437 | -8.29 | 8 |
| High | 2462 | -7.57 | 8 |

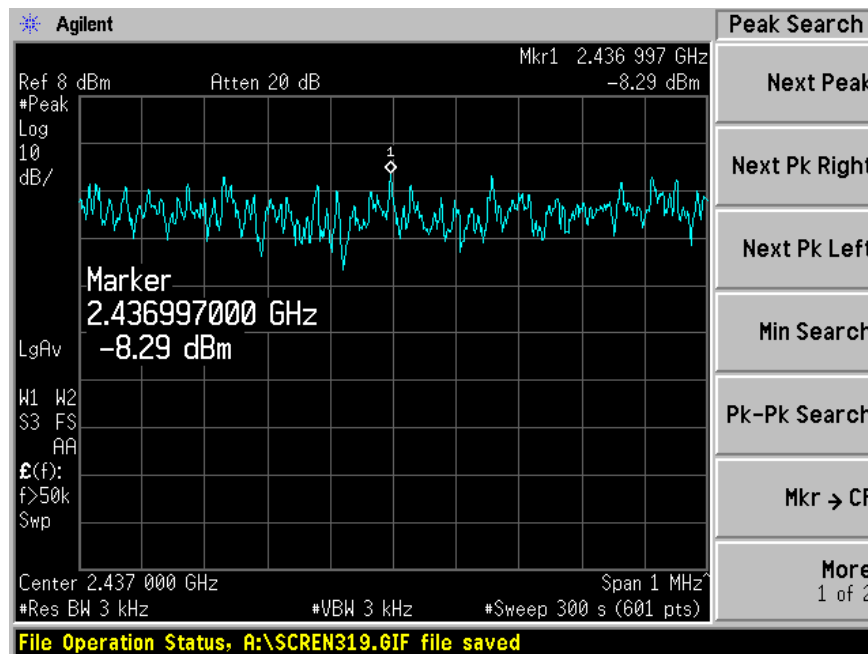
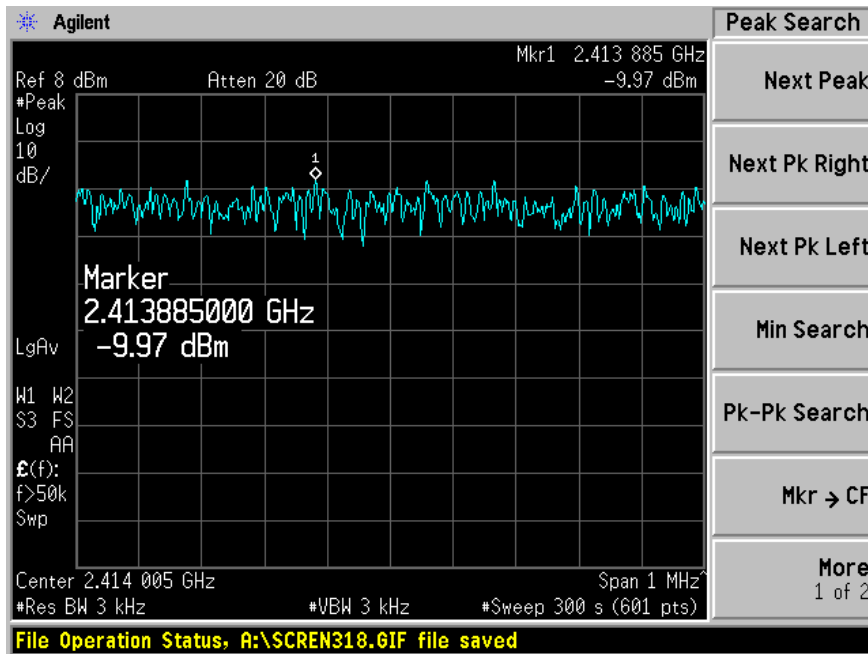
Test Result for 802.11g (15.247)

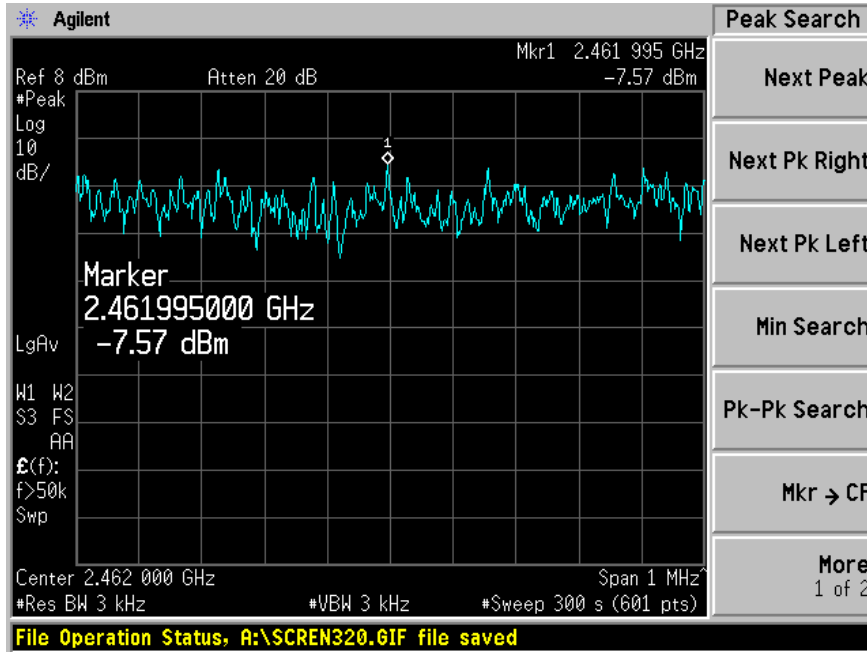
| Channel | Frequency MHz | PSD dBm | Limit dBm |
|---------|------------------|------------|--------------|
| Low | 2412 | -7.16 | 8 |
| Mid | 2437 | -4.56 | 8 |
| High | 2462 | -5.57 | 8 |

Test Result for 802.11a, Low Band (15.407)

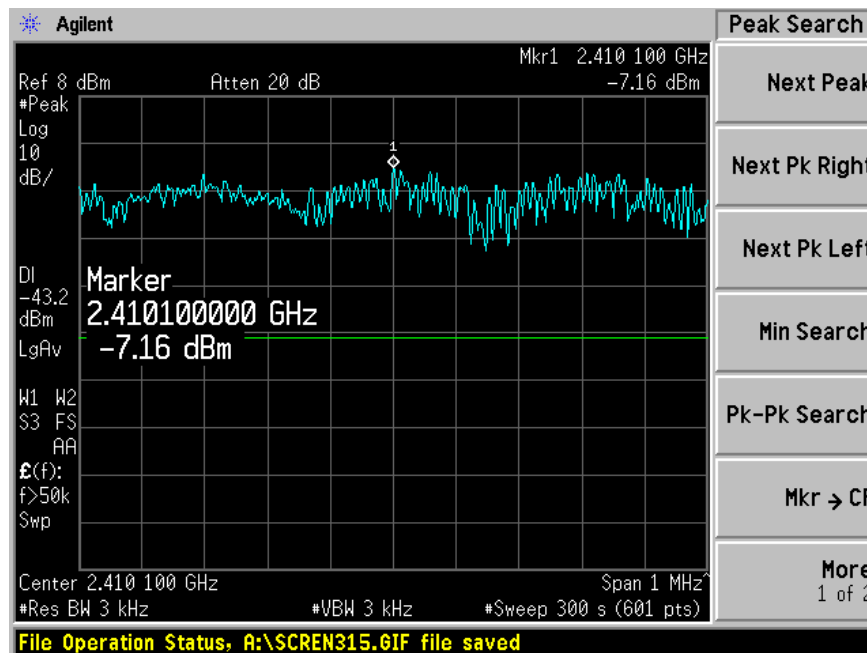
| Channel | Frequency MHz | PSD dBm / 1 MHz | Limit dBm/MHz |
|---------|------------------|--------------------|------------------|
| Low | 5260 | -9.09 | -7 |
| Mid | 5300 | -9.25 | -7 |
| High | 5320 | -9.01 | -7 |

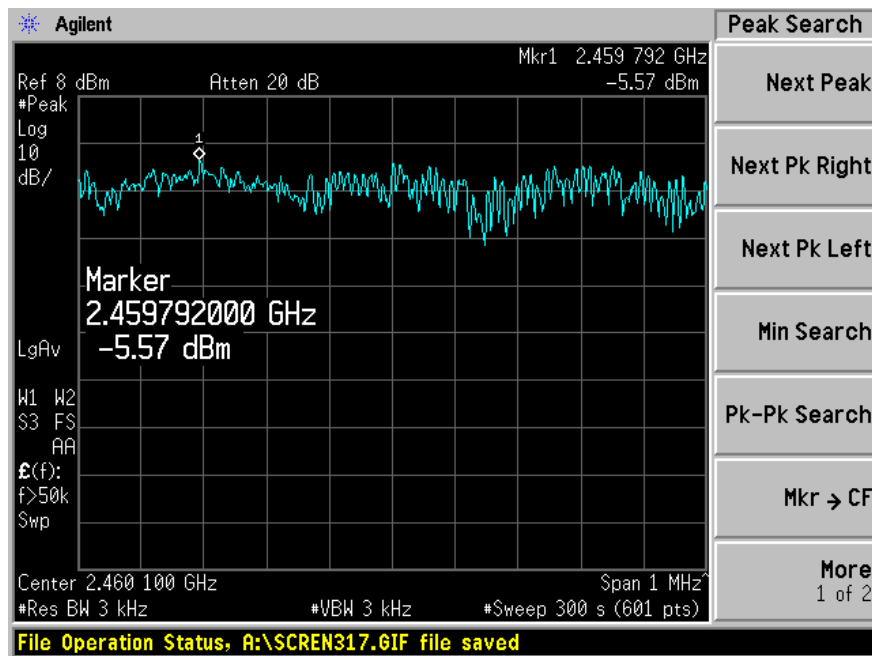
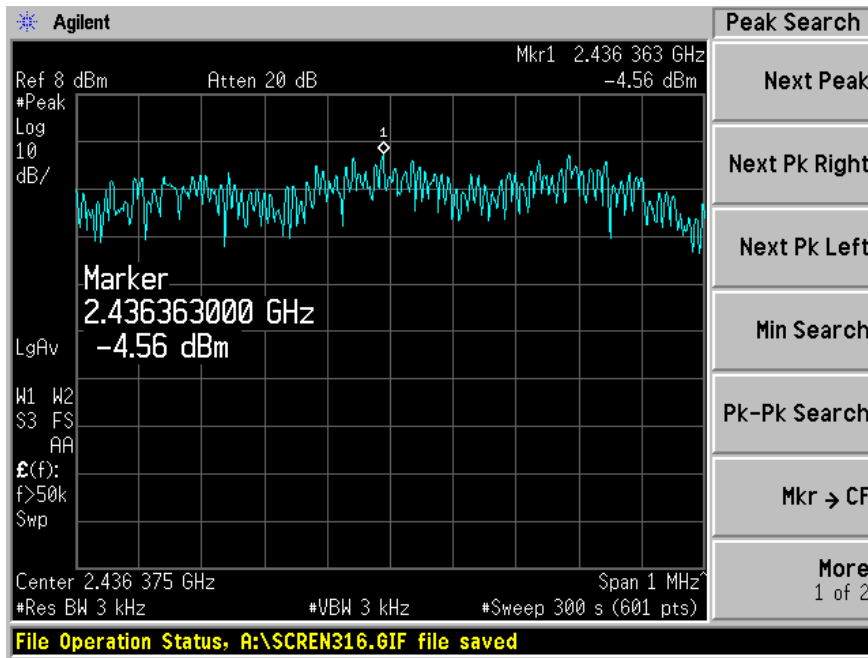
802.11b



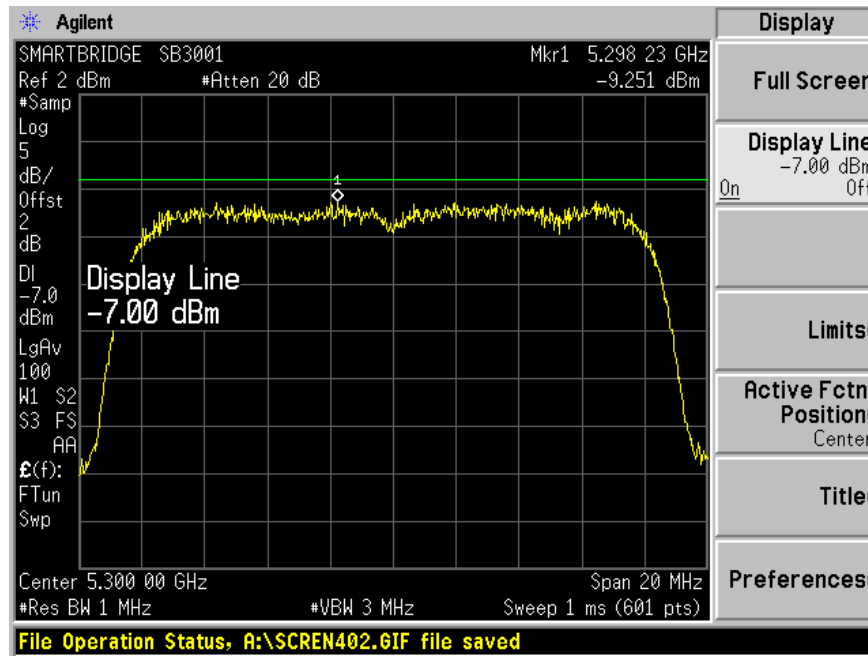
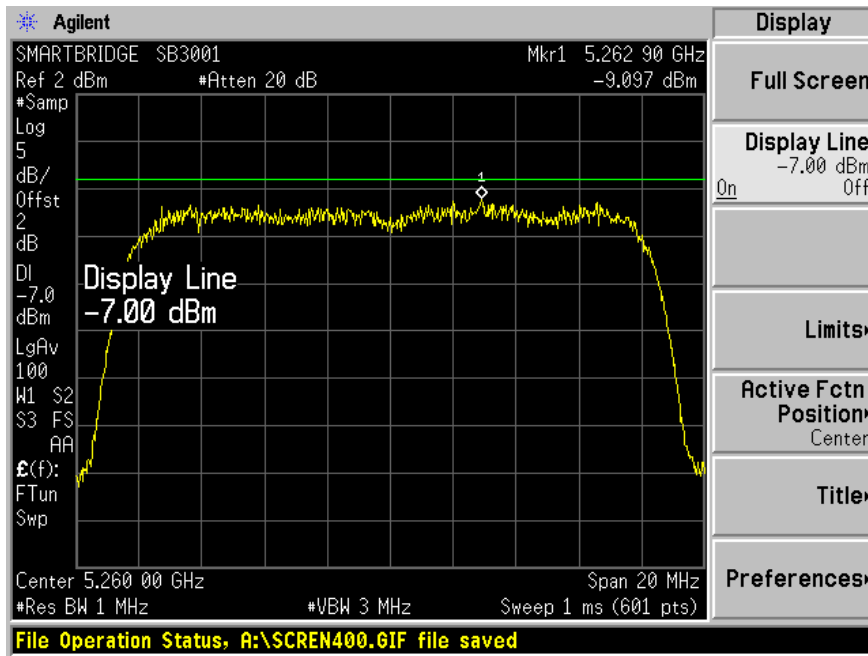


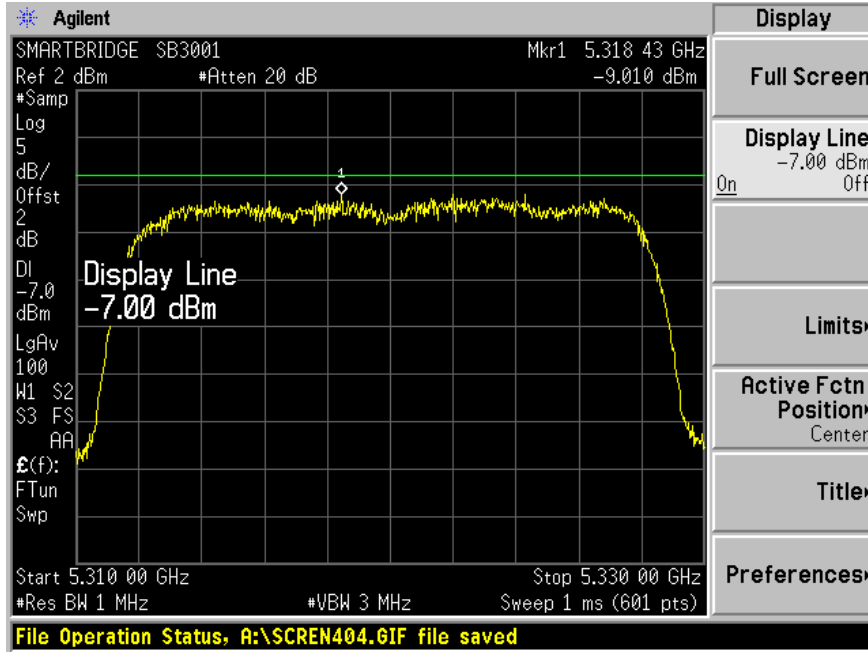
802.11g





802.11a Mid Band





§15.407(a)(6) - Peak Excursion To Average Ratio

Standard Applicable

According to §15.407(a)(6), the ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the peak transmit power (measured as specified above) shall not exceed 13dB across any 1MHz bandwidth or the emission bandwidth whichever is less.

Test Procedure

For this test, the EUT's antenna was removed and replaced with a SMA jack to UMP2.0 plug test cable, so output power levels were calculated from conducted emission levels.

The analyzer center frequency was set to the EUT carrier frequency. For the peak value trace A, the analyzer resolution and video bandwidth were set to 1MHz. Do a MAX HOLD, then VIEW. For the average value trace B, the analyzer resolution bandwidth was set to 1MHz, the video bandwidth was set to 30kHz. MAX HOLD then VIEW trace B also.

The delta from the peak value trace and the Average should not exceed 13dBm across any 1MHz bandwidth.

Equipment Lists

| Manufacturer | Description | Model | Serial Number | Cal. Date |
|--------------|-------------------|--------|---------------|------------|
| Agilent | Spectrum Analyzer | E4446A | US44300386 | 2004-11-10 |

* **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: | 22° C |
| Relative Humidity: | 58% |
| ATM Pressure: | 1024 mbar |

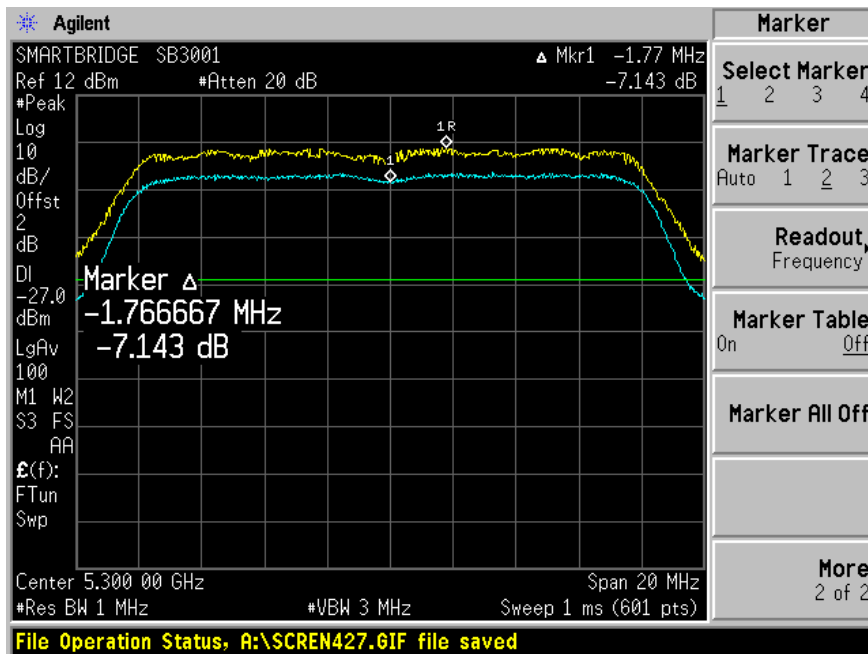
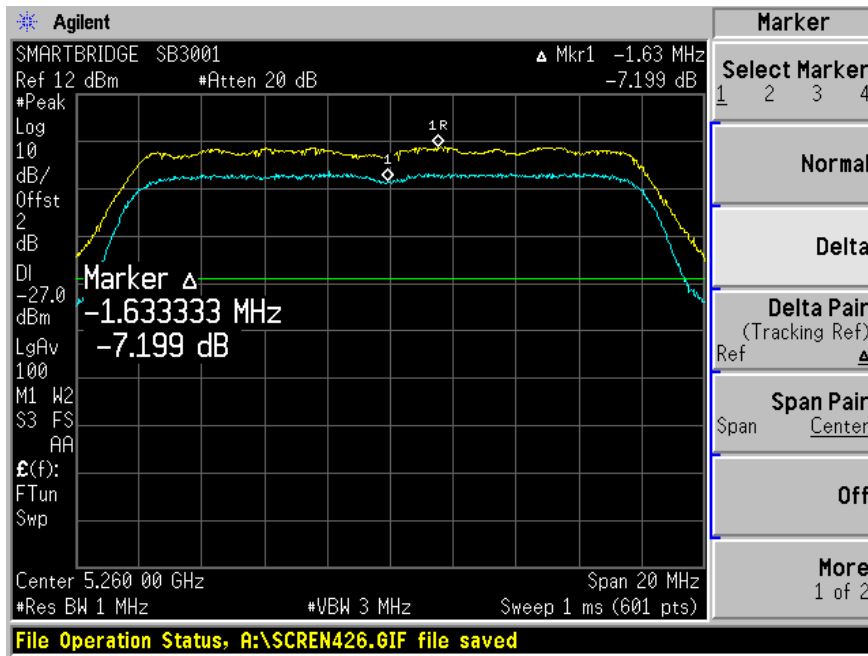
The testing was performed by Snell Leong on 2005-07-23.

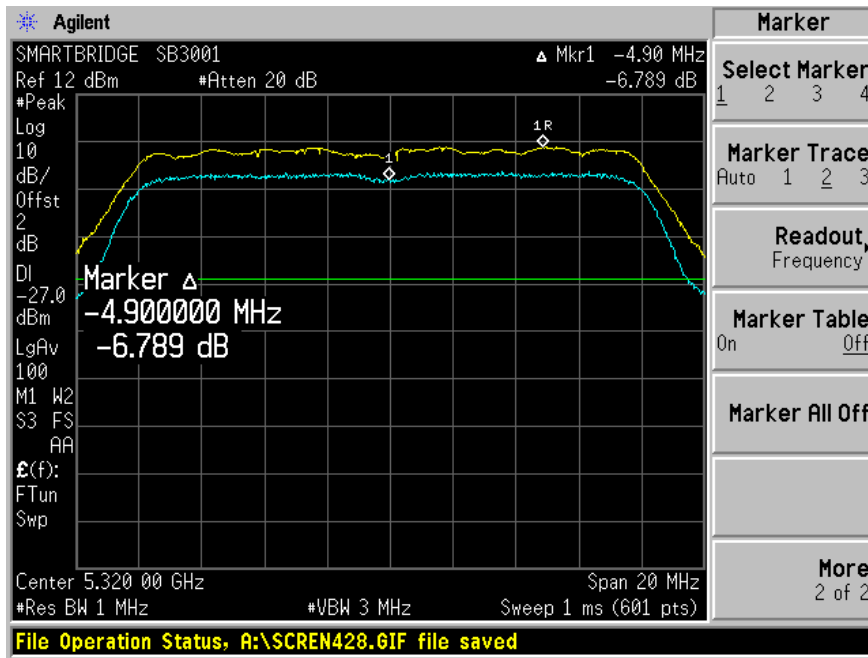
802.11a Mid Band

| Channel | Frequency MHz | Measured dB | Limit |
|---------|------------------|----------------|-------|
| Low | 5260 | -7.20 | <13dB |
| Mid | 5300 | -7.14 | <13dB |
| High | 5320 | -6.79 | <13dB |

Please see the hereinafter plots for more detail.

802.11a Mid Band





§15.407(b) - Out Of Band Emission

Standard Applicable

§15.407 (b), undesirable emission limits: except as shown in paragraph (b)(6) of this section, the peak emission outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

§15.407 (b)(2), for transmitters operating in the 5.25 – 5.35 GHz & 5.4 – 5.725 GHz band: all emissions outside of the 5.15 – 5.25 GHz band shall not exceed an EIRP of –27 dBm/MHz. Devices operating in the 5.25 – 5.35 GHz band that generate emissions in the 5.15 – 5.25 GHz band must meet all applicable technical requirements for operation in the 5.15 – 5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of –27 dBm/MHz in the 5.15 – 5.25 GHz band.

Test Procedure

For this test, the EUT's antenna was removed and replaced with a low loss cable, so output power levels were calculated from conducted emission levels.

The analyzer center frequency was set to the EUT carrier frequency. The analyzer resolution and video bandwidth were set to 1MHz. The entire band from 30kHz to 40GHz was investigated.

Every suspected signal was also investigated through radiated emission. Refer to section 15.205 restricted bands of operation.

Equipment Lists

| Manufacturer | Description | Model | Serial Number | Cal. Date |
|--------------|-------------------|--------|---------------|------------|
| Agilent | Spectrum Analyzer | E4446A | US44300386 | 2004-11-10 |

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

Measurement Result

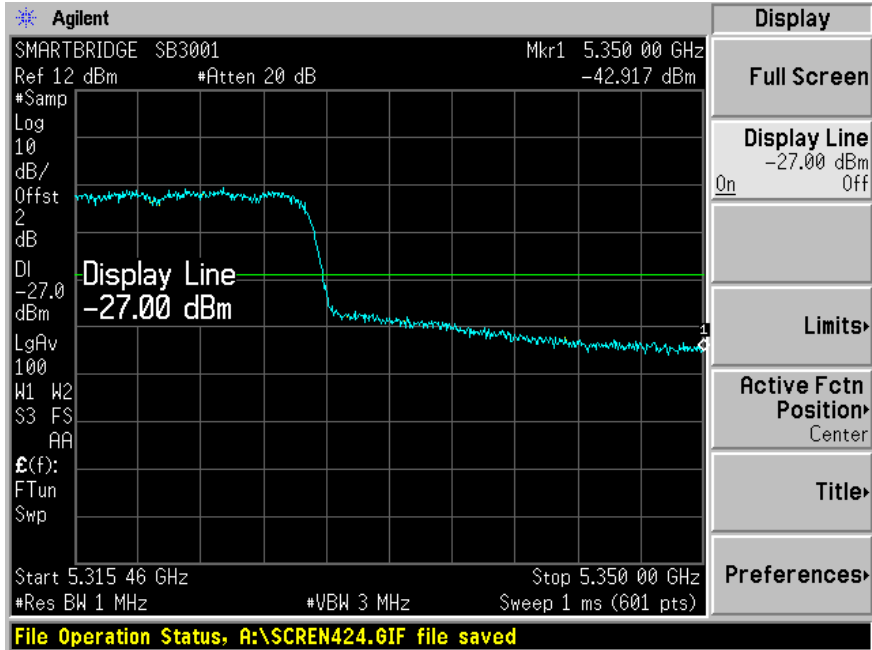
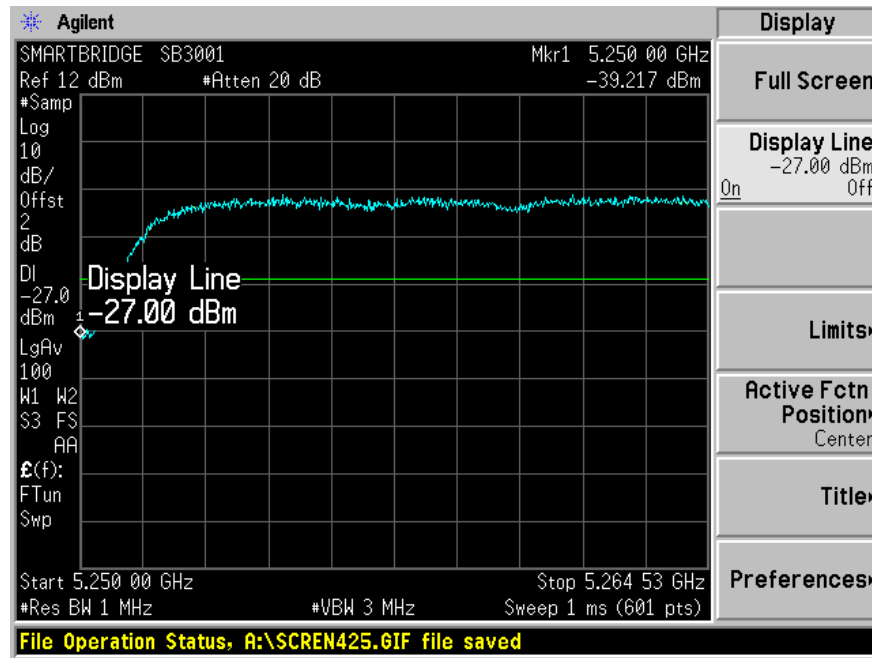
Environmental Conditions

| | |
|--------------------|-----------|
| Temperature: | 22° C |
| Relative Humidity: | 58% |
| ATM Pressure: | 1024 mbar |

The testing was performed by Snell Leong on 2005-07-23.

Please refer to the following plots.

802.11a Mid Band



15.407(c) - Discontinue Transmitting With Absence Of Data Or Operational Failure

According to § 15.407 (c), the device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the user of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application a description of how this requirement is met.

Please refer to modular approval request letter.

§15.407(g) - Frequency Stability

Standard Applicable

According to §15.407 (g), manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation .

Test Equipment List and Details

| Manufacturer | Description | Model | Serial Number | Cal. Date |
|--------------|-------------------|-----------|---------------|------------|
| Agilent | Spectrum Analyzer | E4446A | US44300386 | 2004-11-10 |
| Tenney | Oven, Temperature | VersaTenn | 12222-193 | 2005-06-27 |

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

Measurement Result

Environmental Conditions

| | |
|--------------------|-----------|
| Temperature: | 22° C |
| Relative Humidity: | 58% |
| ATM Pressure: | 1024 mbar |

The testing was performed by Snell Leong on 2005-07-23.

802.11a Mid Band

| Reference Frequency: 5300MHz, Limit: 2.5ppm | | | |
|---|------------|-------------|--------|
| Environment | Power | Measured | ppm |
| Temperature(C) | Supply (V) | Freq (MHz) | |
| 50 | 110 | 5299.995000 | -0.943 |
| 40 | 110 | 5299.995230 | -0.900 |
| 30 | 110 | 5299.995110 | -0.923 |
| 20 | 110 | 5299.997200 | -0.528 |
| 10 | 110 | 5299.999150 | -0.160 |
| 0 | 110 | 5300.000250 | 0.047 |
| -10 | 110 | 5300.000360 | 0.068 |
| -20 | 110 | 5300.000550 | 0.104 |
| -30 | 110 | 5300.000665 | 0.125 |

Frequency Stability vs Extrema Voltage

| Reference Frequency: 5300MHz, Limit: 2.5ppm | | | |
|---|------------|-------------|--------|
| Environment | Power | Measured | ppm |
| Temperature(C) | Supply (V) | Freq (MHz) | |
| 20 | 126.5 | 5299.996850 | -0.594 |
| 20 | 110 | 5299.996800 | -0.604 |
| 20 | 93.5 | 5299.997550 | -0.462 |

802.11a High Band

| Reference Frequency: 5600MHz, Limit: 2.5ppm | | | |
|---|------------|-------------|--------|
| Environment | Power | Measured | ppm |
| Temperature(C) | Supply (V) | Freq (MHz) | |
| 50 | 110 | 5600.000120 | 0.021 |
| 40 | 110 | 5599.998900 | -0.196 |
| 30 | 110 | 5599.997500 | -0.446 |
| 20 | 110 | 5599.995600 | -0.786 |
| 10 | 110 | 5599.994500 | -0.982 |
| 0 | 110 | 5599.993800 | -1.107 |
| -10 | 110 | 5599.993500 | -1.161 |
| -20 | 110 | 5599.993800 | -1.107 |
| -30 | 110 | 5599.993200 | -1.214 |

Frequency Stability vs Extrema Voltage

| Reference Frequency: 5600MHz, Limit: 2.5ppm | | | |
|---|-----------------|-------------|--------|
| Power | Environment | Measured | ppm |
| Supply (V) | Temperature(C) | Freq (MHz) | |
| 126.5 | 20 | 5599.995500 | -0.804 |
| 110 | 20 | 5599.995600 | -0.786 |
| 93.5 | 20 | 5599.993420 | -1.175 |