Lab Code: 200167-0

FCC PART 15.247 & 15.407
EMI MEASUREMENT AND TEST REPORT

For

Proxim Wireless Corporation

2115 O'Nel Drive
San Jose, CA 95131, USA

FCC ID: HZB-5054-LR

This Report Concerns: ☒ Original Report	**Product Type:** Tsunami 5054-R Outdoor Wireless Point To Multi Point System

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Report No.:	R0605231
Report Date:	2006-07-12
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GENERAL INFORMATION

Product Description for Equipment Under Test (EUT)

The *Proxim Wireless Corporation's*, FCC ID: *HZB-5054-LR*, model number: *5054R-LR;* or the "EUT" as referred to in this report is a Tsunami 5054R Outdoor Wireless Point To Multi Point System. The EUT is a NII device. For the NII part (802.11a), the frequency range is 5260.00 – 5320.00 MHz, maximum output power is 165.58 mW.

** The test data gathered are from production sample, serial number: Unit #1, provided by the manufacturer.*

Objective

This type approval report is prepared on behalf of *Proxim Wireless Corporation* 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

Part15.407 : Output Power, Antenna Requirements, - 26 dB Bandwidth, power spectral density, 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

Part15.247: Spurious emissions

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 measurements were 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 at its location in Sunnyvale, California, USA.

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

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

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

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

SYSTEM TEST CONFIGURATION

Justification

The host system was configured for testing according to ANSI C63.4-2003.

The EUT was tested in the Continuous Transmitting operating mode to represent *worst*-case results during the final qualification test.

EUT Exercise Software

The EUT exercise program used during radiated and conducted testing was designed to exercise the system components in a manner similar to a typical use. The test software, provided by the customer, is started the Windows terminal program under the Windows 98/2000/ME/XP operating system.

Once loaded, set the Tx channel to low, mid and high for 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.

Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
Dell	Laptop PC	PP05	N/A

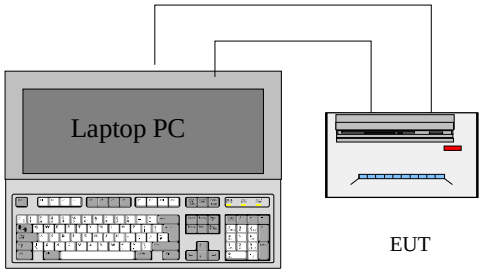
External I/O Cabling List and Details

Cable Description	Length (M)	Port/From	To
Shield Cable	1.0	RJ45 Port / EUT	RJ45 Port / Laptop PC
Shield Cable	1.0	RS232 Port / EUT	RS232 Port / Laptop PC
Shield RF Cable	1.0	RF Port / EUT	Antenna

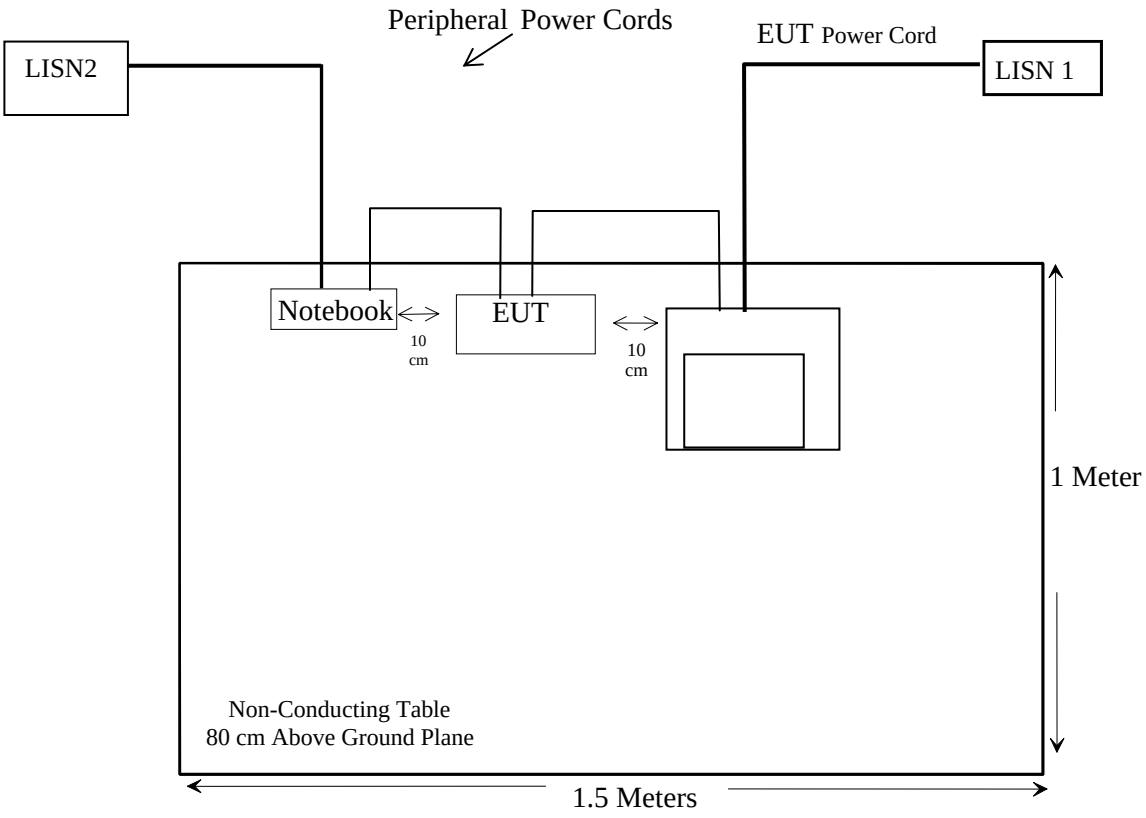
Power Supply Information

Manufacturer	Description	Model	Serial Number	FCC ID
Proxim	AC/DC Adaptor	DSA0151F	None	None

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
§2.1091, §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	Compliant*
§ 15.207(a)	AC Line Conduction	Compliant*
§ 2.1051	Spurious Emissions At Antenna Terminals	Compliant
§15.407	- 26 dB Bandwidth	Compliant
§15.407(a)(2)	RF Output Power	Compliant
§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

*: Within Measurement Uncertainty

§1.1307(b)(1) & §2.1091 - RF EXPOSURE

According to §15.247(e)(1) & 15.407 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
Prediction of MPE limit at a given distance
Equation from page 18 of OET Bulletin 65, Edition 97-01

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

Where: S = power density
P = power input to antenna
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna

802.11a
5250 – 5350 MHz:
Maximum peak output power at antenna input terminal: 22.19 (dBm)
Maximum peak output power at antenna input terminal: 165.58 (mW)
Prediction frequency: 5300 (MHz)
Antenna Gain (typical): 17.0 (dBi)
antenna gain: 50.12 (numeric)
Prediction distance: 26 (cm)
Power density at prediction frequency at 26 cm: 0.977 (mW/cm^2)

MPE limit for uncontrolled exposure at prediction frequency: 1.0 (mW/cm^2)

5745-5825 MHz:
Maximum peak output power at antenna input terminal: 7.8 (dBm)
Maximum peak output power at antenna input terminal: 6.026 (mW)
Prediction frequency: 5745 (MHz)
Antenna Gain (typical): 33.4 (dBi)
antenna gain: 2187.76 (numeric)
Prediction distance: 32.8(cm)
Power density at prediction frequency at 32.8 cm: 0.976 (mW/cm^2)

MPE limit for uncontrolled exposure at prediction frequency: 1.0 (mW/cm^2)

Test Result

The EUT is of fixed outdoor installation, point -to-point or point-to-multipoint. 1mW/ cm^2 limit applies. The prediction distance for the 5GHz antenna is 32.8 cm.

§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) & 15.407 (a), 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 antenna used with the EUT is an external antenna, for Part15.247, these antennas hereinafter are used:

Frequency	Type	Gain (dBi)	Model
5 GHz	Panel Antenna	7.0	Orinoco 5 GHz – 1086-PA50-7
	Omni	10.0	5054-OA-10
	Sector	17.0	5054-SA60-17
	Andrew Parabol	33.4	P3F-52-N7A

For Part15.407, these antennas hereinafter are used:

Frequency	Type	Gain (dBi)	Model
5 GHz	Panel Antenna	7.0	Orinoco 5 GHz – 1086-PA50-7
	Sector	17.0	5054-SA60-17

§15.205, §15.209(a), §15.407(b)(5), §15.407(b)(6), §15.247(c) - 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 BACL 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 (Microvolt/meter)	Field Strength (dBμV/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.

Receiver 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:

Frequency Range	***RBW***	***Video B/W***
Below 30MHz	10kHz	10kHz
30 – 1000MHz	100kHz	100kHz
Above 1000MHz	1MHz	1MHz

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Cal. Date
Sonoma	Amplifier, Pre	317	260407	2006-03-20
R&S	Receiver, EMI Test	ESCI 1166.5950K03	100044	2005-09-29
Sunol Science	30Mhz ~ 2 GHz Antenna	JB1	A03105-3	2006-03-15
A.R.A	Antenna, Horn, DRG	DRG-118/A	1132	2005-08-17
Agilent	Analyzer, Spectrum	E4446A	US44300386	2006-03-06
HP	Pre, Amplifier (1 ~ 26.5 GHz)	8449B	3147A00400	2005-08-10

*** 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 dBμV 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:

> Corrected Amplitude = Indicated Reading + Antenna Factor + Cable Factor - 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:

> Margin = Corrected Amplitude – Subpart C Limit

Summary of Test Results

Environmental Conditions

Temperature:	21° C
Relative Humidity:	78%
ATM Pressure:	1022 mbar

The testing was performed by James Ma on 2006-06-15.

According to the data in following tables, the EUT complied with the FCC Title 47, Part 15, Subpart C, section 15.205, 15.207, 15.247 and 15.407, and had the worst margin of:

802.11a, 15.247

For Panel Antenna 7.0 dBi

ERIP limit = 36 dBm	Setting = 18
Actual Output Power	5745 MHz = 25.00dBm
Cable loss = 3 dB	5785 MHz = 24.40dBm
	5825 MHz = 24.70dBm

-6.7 dB at **17235.00 MHz** in the **Vertical** polarization, for Low Channel

-3.2 dB at **11570.0 MHz** in the **Horizontal** polarization, for Middle Channel

-6.2 dB at **1165**0.0 MHz in the **Vertical** polarization, for High Channel

For Omni-Antenna 10.0 dBi

ERIP limit = 36 dBm	Setting = 18
Actual Output Power	5745 MHz = 25.00dBm
Cable loss = 3 dB	5785 MHz = 24.40dBm
	5825 MHz = 24.70dBm

-4.6 dB at **3413.00 MHz** in the **Vertical** polarization, for Low Channel

-3.5dB at **17355.0 MHz** in the **Horizontal** polarization, for Middle Channel

-6.9 dB at **17475**.0 MHz in the **Vertical** polarization, for High Channel

For Sector Antenna 17.0 dBi

ERIP limit = 36 dBm	Setting = 10
Actual Output Power	5745 MHz = 15.60dBm
Cable loss = 3 dB	5785 MHz = 16.20dBm
	5825 MHz = 15.90dBm

-3.7dB at **11490.00MHz** in the **Vertical** polarization, for Low Channel

-5.7 dB at **11570.0 MHz** in the **Vertical** polarization, for Middle Channel*

-0.4dB at **3883.0MHz** in the **Vertical** polarization, for High Channel*

For Andrew Parabolic Antenna 33.4 dBi

Actual Output Power	Setting = 0
	5745 MHz = 7.80dBm
Cable loss = 3 dB	5785 MHz = 7.40dBm
	5825 MHz = 7.10dBm
Use for Fixed, Point to Point	

-0.2 dB at **11490.00MHz** in the **Horizontal** polarization, for Low Channel

-0.2 dB at **11570.0 MHz** in the **Horizontal** polarization, for Middle Channel*

-4.8dB at **11650.0MHz** in the **Vertical** polarization, for High Channel*

802.11a, 15.407

For Panel Antenna 7.0 dBi

ERIP limit = 30 dBm	Setting = 16.0
Actual Output Power	5260 MHz = 21.80dBm
Cable loss = 2 dB	5300 MHz = 20.90dBm
	5320 MHz = 20.80dBm

UNII Band II
-8.4 dB at **21040.00 MHz** in the **Vertical** polarization, for Low Channel*

-8.2 dB at **15900.00 MHz** in the **Vertical** polarization, for Middle Channel*

-8.4 dB at **21280.00 MHz** in the **Vertical** polarization, for High Channel*

For Sector Antenna 17.0 dBi

ERIP limit = 30 dBm	
when use this antenna the conducted power must be reduced	
Actual Output Power	Setting = 15.5
	5260 MHz = 21.50dBm
Cable loss = 2 dB	5300 MHz = 20.20dBm
	5320 MHz = 20.50dBm

UNII Band II
-6.1 dB at **10520.00 MHz** in the **Vertical** polarization, for Low Channel

-0.2 dB at **15900.00 MHz** in the **Vertical** polarization, for Middle Channel*

-3.2 dB at **15960.00 MHz** in the **Vertical** polarization, for High Channel

**: Test data are within the measurement uncertainty ±4.0dB*

802.11a, 5725-5850MHZ (15.247)

For Run # 1 Radiated Harmonic and Spur Emission 802.11a (Panel Antenna 7.0 dBi)

Run # 1- 1 :Final scan 1GHz -40GHz , (Lowest channel. : 5745MHz)

Frequency	Reading	Azimuth	Height	Polar	Antenna Loss	Cable loss	Amplifier	Corrected Reading	15.247	15.247	Comments
MHz	dBuV/m	Degrees	Meter	H / V	dB	dB	dB	dBuV/m	Limit (dBuV/m)	Margin	
17235.00	30.3	180	2.0	V	43.6	4.4	31.0	47.3	54	-6.7	Ave
17235.00	30.1	90	2.0	H	43.6	4.4	31.0	47.1	54	-6.9	Ave
11490.00	33.6	90	2.3	H	39.3	4.3	33.0	44.2	54	-9.8	Ave
11490.00	32.9	120	2.4	V	39.3	4.3	33.0	43.5	54	-10.5	Ave
3410.00	44.2	100	2.0	H	29.8	1.4	35.2	40.3	54	-13.7	Ave
3410.00	43.5	100	2.0	V	29.8	1.4	35.2	39.6	54	-14.4	Ave
17235.00	33.6	90	2.0	V	43.6	4.4	31.0	50.6	74	-23.4	Peak
17235.00	32.8	180	2.0	H	43.6	4.4	31.0	49.8	74	-24.2	Peak
11490.00	38.2	120	2.0	V	39.3	4.3	33.0	48.8	74	-25.2	Peak
11490.00	36.6	90	1.2	H	39.3	4.3	33.0	47.2	74	-26.8	Peak
3410.00	50.4	100	2.0	H	29.8	1.4	35.2	46.5	74	-27.5	Peak
3410.00	48.7	100	2.6	V	29.8	1.4	35.2	44.8	74	-29.2	Peak

Run # 1- 2 :Final scan 1GHz -40GHz , (Middle channel. : 5785 MHz)

Frequency	Reading	Azimuth	Height	Polar	Antenna Loss	Cable loss	Amplifier	Corrected Reading	15.247	15.247	Comments
MHz	dBuV/m	Degrees	Meter	H / V	dB	dB	dB	dBuV/m	Limit (dBuV/m)	Margin	
11570.00	38.4	50	2.2	H	39.5	5.0	32.2	50.8	54	-3.2	Ave
11570.00	35.2	50	2.4	V	39.5	5.0	32.2	47.6	54	-6.4	Ave
17355.00	28.9	50	2.4	V	43.6	4.4	31.0	45.9	54	-8.1	Ave
17355.00	28.5	50	2.1	H	43.6	4.4	31.0	45.5	54	-8.5	Ave
11570.00	43.3	50	2.2	H	39.5	5.0	32.2	55.7	74	-18.3	Peak
11570.00	38.9	50	2.4	V	39.5	5.0	32.2	51.3	74	-22.7	Peak
17355.00	33.3	50	2.4	V	43.6	4.4	31.0	50.3	74	-23.7	Peak
17355.00	33.1	50	2.3	H	43.6	4.4	31.0	50.1	74	-23.9	Peak
3840.00	28.3	50	2.0	V	30.0	0.8	34.8	24.2	54	-29.8	Ave
3840.00	28.1	50	2.0	H	30.0	0.8	34.8	24.0	54	-30.0	Ave
3840.00	32.2	50	2.0	V	30.0	0.8	34.8	28.1	74	-45.9	Peak
3840.00	32.0	50	2.0	H	30.0	0.8	34.8	27.9	74	-46.1	Peak

Run # 1- 3 :Final scan 1GHz -40GHz , (Middle channel. : 5825 MHz)

Frequency	Reading	Azimuth	Height	Polar	Antenna Loss	Cable loss	Amplifier	Corrected Reading	15.247	15.247	Comments
MHz	dBuV/m	Degrees	Meter	H / V	dB	dB	dB	dBuV/m	Limit (dBuV/m)	Margin	
11650.00	35.4	80	2.4	V	39.5	5.0	32.2	47.8	54	-6.2	Ave
17475.00	28.8	80	2.4	V	43.6	4.4	31.0	45.8	54	-8.2	Ave
17475.00	28.2	80	2.1	H	43.6	4.4	31.0	45.2	54	-8.8	Ave
11650.00	31.3	50	2.1	H	39.5	5.0	32.2	43.7	54	-10.3	Ave
3463.00	44.7	150	2.0	H	29.8	1.4	35.2	40.8	54	-13.2	Ave
3463.00	39.4	100	2.0	V	29.8	1.4	35.2	35.5	54	-18.5	Ave
11650.00	42.5	80	2.4	V	39.5	5.0	32.2	54.9	74	-19.1	Peak
11650.00	37.8	50	2.1	H	39.5	5.0	32.2	50.2	74	-23.8	Peak
17475.00	31.5	80	2.4	V	43.6	4.4	31.0	48.5	74	-25.5	Peak
17475.00	31.2	80	2.1	H	43.6	4.4	31.0	48.2	74	-25.8	Peak
3463.00	51.5	150	2.0	H	29.8	1.4	35.2	47.6	74	-26.4	Peak
3463.00	46.5	100	2.0	V	29.8	1.4	35.2	42.6	74	-31.4	Peak

For Run # 2 Radiated Harmonic and Spur Emission 802.11a (Omni - Antenna 10.0 dBi)

Run # 2- 1 :Final scan 1GHz -40GHz , (Lowest channel. : 5745 MHz)

Frequency	Reading	Azimuth	Height	Polar	Antenna Loss	Cable loss	Amplifier	Corrected Reading	15.247	15.247	Comments
MHz	dBuV/m	Degrees	Meter	H / V	dB	dB	dB	dBuV/m	Limit (dBuV/m)	Margin	
3413.00	53.3	180	2.0	V	29.8	1.4	35.2	49.4	54	-4.6	Ave
6822.00	44.6	180	2.0	V	35.4	4.1	35.0	49.1	54	-4.9	Ave
17235.00	29.2	180	2.0	V	43.6	4.4	31.0	46.2	54	-7.8	Ave
17235.00	28.6	90	2.0	H	43.6	4.4	31.0	45.6	54	-8.4	Ave
11490.00	33.7	100	2.3	H	39.3	4.3	33.0	44.3	54	-9.7	Ave
11490.00	33.4	30	2.4	V	39.3	4.3	33.0	44.0	54	-10.0	Ave
4493.00	45.2	180	2.0	V	31.8	0.8	34.7	43.1	54	-11.0	Ave
6822.00	36.2	90	2.0	H	35.4	4.1	35.0	40.7	54	-13.3	Ave
3413.00	60.5	90	2.0	V	29.8	1.4	35.2	56.6	74	-17.4	Peak
6822.00	50.3	90	2.0	V	35.4	4.1	35.0	54.8	74	-19.2	Peak
3413.00	38.2	90	2.0	H	29.8	1.4	35.2	34.3	54	-19.7	Ave
17235.00	35.5	90	2.0	V	43.6	4.4	31.0	52.5	74	-21.5	Peak
17235.00	34.8	180	2.0	H	43.6	4.4	31.0	51.8	74	-22.2	Peak
4493.00	33.6	90	2.0	H	31.8	0.8	34.7	31.5	54	-22.6	Ave
11490.00	38.0	100	2.3	H	39.3	4.3	33.0	48.6	74	-25.4	Peak
4493.00	50.7	90	2.0	V	31.8	0.8	34.7	48.6	74	-25.5	Peak
11490.00	37.5	30	2.4	V	39.3	4.3	33.0	48.1	74	-25.9	Peak
6822.00	41.4	180	2.0	H	35.4	4.1	35.0	45.9	74	-28.1	Peak
3413.00	45.6	180	2.0	H	29.8	1.4	35.2	41.7	74	-32.3	Peak
4493.00	38.3	180	2.0	H	31.8	0.8	34.7	36.2	74	-37.9	Peak

Run # 2- 2 :Final scan 1GHz -40GHz , (Middle channel. : 5785 MHz)

Frequency	Reading	Azimuth	Height	Polar	Antenna Loss	Cable loss	Amplifier	Corrected Reading	15.247	15.247	Comments
MHz	dBuV/m	Degrees	Meter	H / V	dB	dB	dB	dBuV/m	Limit (dBuV/m)	Margin	
17355.00	33.5	180	2.1	H	43.6	4.4	31.0	50.5	54	-3.5	Ave
17355.00	30.4	270	2.4	V	43.6	4.4	31.0	47.4	54	-6.6	Ave
4720.00	46.9	180	2.0	V	32.5	1.9	34.8	46.5	54	-7.5	Ave
11570.00	33.8	270	2.4	V	39.5	5.0	32.2	46.2	54	-7.8	Ave
11570.00	32.4	180	2.2	H	39.5	5.0	32.2	44.8	54	-9.2	Ave
3420.00	48.7	180	2.0	V	29.8	1.4	35.2	44.8	54	-9.2	Ave
6822.00	34.7	180	2.0	V	35.4	4.1	35.0	39.2	54	-14.8	Ave
6822.00	33.1	90	2.0	H	35.4	4.1	35.0	37.6	54	-16.4	Ave
17355.00	39.2	180	2.3	H	43.6	4.4	31.0	56.2	74	-17.8	Peak
3420.00	58.1	90	2.0	V	29.8	1.4	35.2	54.2	74	-19.8	Peak
4720.00	53.8	90	2.0	V	32.5	1.9	34.8	53.4	74	-20.6	Peak
17355.00	36.3	270	2.4	V	43.6	4.4	31.0	53.3	74	-20.7	Peak
11570.00	39.5	270	2.4	V	39.5	5.0	32.2	51.9	74	-22.1	Peak
4720.00	31.2	90	2.0	H	32.5	1.9	34.8	30.8	54	-23.2	Ave
3420.00	33.6	90	2.0	H	29.8	1.4	35.2	29.7	54	-24.3	Ave
11570.00	36.3	180	2.2	H	39.5	5.0	32.2	48.7	74	-25.3	Peak
6822.00	41.6	90	2.0	V	35.4	4.1	35.0	46.1	74	-27.9	Peak
6822.00	38.8	180	2.0	H	35.4	4.1	35.0	43.3	74	-30.7	Peak
4720.00	37.7	180	2.0	H	32.5	1.9	34.8	37.3	74	-36.7	Peak
3420.00	38.4	180	2.0	H	29.8	1.4	35.2	34.5	74	-39.5	Peak

Run # 2- 3 :Final scan 1GHz -40GHz , (Highest channel. : 5825 MHz)

Frequency	Reading	Azimuth	Height	Polar	Antenna Loss	Cable loss	Amplifier	Corrected Reading	15.247	15.247	Comments
MHz	dBuV/m	Degrees	Meter	H / V	dB	dB	dB	dBuV/m	Limit (dBuV/m)	Margin	
17475.00	30.1	270	2.4	V	43.6	4.4	31.0	47.1	54	-6.9	Ave
17475.00	29.3	90	2.1	H	43.6	4.4	31.0	46.3	54	-7.7	Ave
11650.00	32.4	100	2.4	V	39.5	5.0	32.2	44.8	54	-9.2	Ave
4720.00	44.1	180	1.4	V	32.5	1.9	34.8	43.7	54	-10.3	Ave
11650.00	31.1	90	2.1	H	39.5	5.0	32.2	43.5	54	-10.5	Ave
3467.00	47.4	180	1.4	V	29.8	1.4	35.2	43.5	54	-10.5	Ave
11650.00	39.5	100	2.4	V	39.5	5.0	32.2	51.9	74	-22.1	Peak
17475.00	34.4	270	2.4	V	43.6	4.4	31.0	51.4	74	-22.6	Peak
4720.00	30.2	90	1.4	H	32.5	1.9	34.8	29.8	54	-24.2	Ave
3467.00	53.2	90	1.4	V	29.8	1.4	35.2	49.3	74	-24.7	Peak
17475.00	32.2	90	2.1	H	43.6	4.4	31.0	49.2	74	-24.8	Peak
11650.00	35.6	90	2.1	H	39.5	5.0	32.2	48.0	74	-26.0	Peak
4720.00	48.2	90	1.4	V	32.5	1.9	34.8	47.8	74	-26.2	Peak
3467.00	31.4	90	1.4	H	29.8	1.4	35.2	27.5	54	-26.5	Ave
4720.00	35.6	180	1.4	H	32.5	1.9	34.8	35.2	74	-38.8	Peak
3467.00	38.6	180	1.4	H	29.8	1.4	35.2	34.7	74	-39.3	Peak

For Run # 3 Radiated Harmonic and Spur Emission 802.11a (Sector Antenna 17.0 dBi)

Run # 3- 1 :Final scan 1GHz -40GHz , (Lowest channel. : 5745 MHz)

Frequency	Reading	Azimuth	Height	Polar	Antenna Loss	Cable loss	Amplifier	Corrected Reading	15.247	15.247	Comments
MHz	dBuV/m	Degrees	Meter	H / V	dB	dB	dB	dBuV/m	Limit (dBuV/m)	Margin	
11490.00	39.7	5	2.4	V	39.3	4.3	33.0	50.3	54	-3.7	Ave
3830.00	51.7	5	2.0	V	30.0	0.8	34.8	47.6	54	-6.4	Ave
22980.00	28.3	5	2.0	V	43.4	4.3	30.7	45.4	54	-8.6	Ave
11490.00	34.7	50	2.3	H	39.3	4.3	33.0	45.3	54	-8.7	Ave
22980.00	28.1	5	2.0	H	43.4	4.3	30.7	45.2	54	-8.8	Ave
17235.00	27.8	5	2.0	V	43.6	4.4	31.0	44.8	54	-9.2	Ave
17235.00	27.3	5	2.0	H	43.6	4.4	31.0	44.3	54	-9.7	Ave
11490.00	42.8	5	2.4	V	39.3	4.3	33.0	53.4	74	-20.6	Peak
3830.00	34.5	5	2.0	H	30.0	0.8	34.8	30.4	54	-23.6	Ave
3830.00	52.2	5	2.0	V	30.0	0.8	34.8	48.1	74	-25.9	Peak
17235.00	30.3	5	2.0	V	43.6	4.4	31.0	47.3	74	-26.7	Peak
22980.00	30.1	5	2.0	V	43.4	4.3	30.7	47.2	74	-26.8	Peak
17235.00	30.1	5	2.0	H	43.6	4.4	31.0	47.1	74	-26.9	Peak
22980.00	30.0	5	2.0	H	43.4	4.3	30.7	47.1	74	-26.9	Peak
11490.00	35.1	50	2.3	H	39.3	4.3	33.0	45.7	74	-28.3	Peak
3830.00	37.2	5	2.0	H	30.0	0.8	34.8	33.1	74	-40.9	Peak

Run # 3- 2 :Final scan 1GHz -40GHz , (Middle channel. : 5785 MHz)

Frequency	Reading	Azimuth	Height	Polar	Antenna Loss	Cable loss	Amplifier	Corrected Reading	15.247	15.247	Comments
MHz	dBuV/m	Degrees	Meter	H / V	dB	dB	dB	dBuV/m	Limit (dBuV/m)	Margin	
11570.00	35.9	40	2.4	V	39.5	5.0	32.2	48.3	54	-5.7	Ave
3856.00	50.2	5	2.0	V	30.0	0.8	34.8	46.1	54	-7.9	Ave
23140.00	28.2	5	2.0	V	43.4	4.3	30.7	45.3	54	-8.7	Ave
17355.00	28.2	5	2.4	V	43.6	4.4	31.0	45.2	54	-8.8	Ave
17355.00	27.9	5	2.1	H	43.6	4.4	31.0	44.9	54	-9.1	Ave
23140.00	27.7	5	2.0	H	43.4	4.3	30.7	44.8	54	-9.2	Ave
11570.00	31.3	40	2.2	H	39.5	5.0	32.2	43.7	54	-10.3	Ave
11570.00	38.2	5	2.4	V	39.5	5.0	32.2	50.6	74	-23.4	Peak
3856.00	54.2	5	2.0	V	30.0	0.8	34.8	50.1	74	-23.9	Peak
11570.00	37.1	5	2.2	H	39.5	5.0	32.2	49.5	74	-24.5	Peak
3856.00	33.4	5	2.0	H	30.0	0.8	34.8	29.3	54	-24.7	Ave
23140.00	30.5	5	2.0	V	43.4	4.3	30.7	47.6	74	-26.4	Peak
17355.00	30.3	5	2.4	V	43.6	4.4	31.0	47.3	74	-26.7	Peak
23140.00	30.2	5	2.0	H	43.4	4.3	30.7	47.3	74	-26.7	Peak
17355.00	30.0	5	2.3	H	43.6	4.4	31.0	47.0	74	-27.0	Peak
3856.00	37.2	5	2.0	H	30.0	0.8	34.8	33.1	74	-40.9	Peak

Run # 3- 3 :Final scan 1GHz -40GHz , (Highest channel. : 5825 MHz)

Frequency	Reading	Azimuth	Height	Polar	Antenna Loss	Cable loss	Amplifier	Corrected Reading	15.247	15.247	Comments
MHz	dBuV/m	Degrees	Meter	H / V	dB	dB	dB	dBuV/m	Limit (dBuV/m)	Margin	
3883.00	57.7	5	2.0	V	30.0	0.8	34.8	53.6	54	-0.4	Ave
11650.00	34.5	60	2.1	H	39.5	5.0	32.2	46.9	54	-7.1	Ave
11650.00	34.2	5	2.4	V	39.5	5.0	32.2	46.6	54	-7.4	Ave
17475.00	28.6	5	2.4	V	43.6	4.4	31.0	45.6	54	-8.4	Ave
23300.00	28.4	5	2.0	V	43.4	4.3	30.7	45.5	54	-8.5	Ave
17475.00	28.2	5	2.1	H	43.6	4.4	31.0	45.2	54	-8.8	Ave
23300.00	28.1	5	2.0	H	43.4	4.3	30.7	45.2	54	-8.8	Ave
3883.00	59.0	5	2.0	V	30.0	0.8	34.8	54.9	74	-19.1	Peak
3883.00	38.7	5	2.0	H	30.0	0.8	34.8	34.6	54	-19.4	Ave
11650.00	41.7	5	2.4	V	39.5	5.0	32.2	54.1	74	-19.9	Peak
11650.00	39.4	60	2.1	H	39.5	5.0	32.2	51.8	74	-22.2	Peak
17475.00	30.4	5	2.4	V	43.6	4.4	31.0	47.4	74	-26.6	Peak
23300.00	30.3	5	2.0	V	43.4	4.3	30.7	47.4	74	-26.6	Peak
23300.00	30.2	5	2.0	H	43.4	4.3	30.7	47.3	74	-26.7	Peak
17475.00	30.0	5	2.1	H	43.6	4.4	31.0	47.0	74	-27.0	Peak
3883.00	41.7	5	2.0	H	30.0	0.8	34.8	37.6	74	-36.4	Peak

For Run # 4 Radiated Harmonic and Spur Emission 802.11a (Andrew Parabolic Antenna 33.4 dBi)

Run # 4 - 1 :Final scan 1GHz -40GHz , (Lowest channel. : 5745 MHz)

Frequency	Reading	Azimuth	Height	Polar	Antenna Loss	Cable loss	Amplifier	Corrected Reading	15.247	15.247	Comments
MHz	dBuV/m	Degrees	Meter	H / V	dB	dB	dB	dBuV/m	Limit (dBuV/m)	Margin	
11490.00	43.2	5	2.3	H	39.3	4.3	33.0	53.8	54	-0.2	Ave
11490.00	43.1	5	2.4	V	39.3	4.3	33.0	53.7	54	-0.3	Ave
17235.00	32.4	5	2.0	V	43.6	4.4	31.0	49.4	54	-4.6	Ave
17235.00	32.3	5	2.0	H	43.6	4.4	31.0	49.3	54	-4.7	Ave
22980.00	29.8	5	2.0	V	43.4	4.3	30.7	46.9	54	-7.1	Ave
22980.00	29.6	5	2.0	H	43.4	4.3	30.7	46.7	54	-7.3	Ave
11490.00	45.8	5	2.4	V	39.3	4.3	33.0	56.4	74	-17.6	Peak
1976.00	46.2	5	2.0	V	24.8	1.2	36.3	35.8	54	-18.2	Ave
11490.00	44.7	5	2.3	H	39.3	4.3	33.0	55.3	74	-18.7	Peak
17235.00	34.6	5	2.0	V	43.6	4.4	31.0	51.6	74	-22.4	Peak
17235.00	34.3	5	2.0	H	43.6	4.4	31.0	51.3	74	-22.7	Peak
22980.00	32.7	5	2.0	V	43.4	4.3	30.7	49.8	74	-24.2	Peak
1976.00	40.1	5	2.0	H	24.8	1.2	36.3	29.7	54	-24.3	Ave
22980.00	32.3	5	2.0	H	43.4	4.3	30.7	49.4	74	-24.6	Peak
1976.00	50.5	5	2.0	V	24.8	1.2	36.3	40.1	74	-33.9	Peak
1976.00	48.8	5	2.0	H	24.8	1.2	36.3	38.4	74	-35.6	Peak

Run # 4- 2 :Final scan 1GHz -40GHz , (Middle channel. : 5785 MHz)

Frequency	Reading	Azimuth	Height	Polar	Antenna Loss	Cable loss	Amplifier	Corrected Reading	15.247	15.247	Comments
MHz	dBuV/m	Degrees	Meter	H / V	dB	dB	dB	dBuV/m	Limit (dBuV/m)	Margin	
11570.00	41.4	5	2.2	H	39.5	5.0	32.2	53.8	54	-0.2	Ave
11570.00	41.2	5	2.4	V	39.5	5.0	32.2	53.6	54	-0.4	Ave
23140.00	27.8	5	2.0	V	43.4	4.3	30.7	44.9	54	-9.1	Ave
17355.00	26.9	5	2.4	V	43.6	4.4	31.0	43.9	54	-10.1	Ave
17355.00	26.7	5	2.1	H	43.6	4.4	31.0	43.7	54	-10.3	Ave
23140.00	25.2	5	2.0	H	43.4	4.3	30.7	42.3	54	-11.7	Ave
11570.00	47.4	5	2.4	V	39.5	5.0	32.2	59.8	74	-14.2	Peak
11570.00	43.4	5	2.2	H	39.5	5.0	32.2	55.8	74	-18.2	Peak
17355.00	31.9	5	2.4	V	43.6	4.4	31.0	48.9	74	-25.1	Peak
17355.00	31.2	5	2.3	H	43.6	4.4	31.0	48.2	74	-25.8	Peak
23140.00	30.0	5	2.0	V	43.4	4.3	30.7	47.1	74	-26.9	Peak
23140.00	29.7	5	2.0	H	43.4	4.3	30.7	46.8	74	-27.2	Peak

Run # 4 - 3 :Final scan 1GHz -40GHz , (Highest channel. : 5825 MHz)

Frequency	Reading	Azimuth	Height	Polar	Antenna Loss	Cable loss	Amplifier	Corrected Reading	15.247	15.247	Comments
MHz	dBuV/m	Degrees	Meter	H / V	dB	dB	dB	dBuV/m	Limit (dBuV/m)	Margin	
11650.00	36.8	8	2.4	V	39.5	5.0	32.2	49.2	54	-4.8	Ave
11650.00	36.7	8	2.1	H	39.5	5.0	32.2	49.1	54	-4.9	Ave
17475.00	27.1	8	2.4	V	43.6	4.4	31.0	44.1	54	-9.9	Ave
17475.00	27.0	8	2.1	H	43.6	4.4	31.0	44.0	54	-10.0	Ave
23300.00	26.5	8	2.0	V	43.4	4.3	30.7	43.6	54	-10.4	Ave
23300.00	26.2	8	2.0	H	43.4	4.3	30.7	43.3	54	-10.7	Ave
11650.00	40.0	8	2.4	V	39.5	5.0	32.2	52.4	74	-21.6	Peak
11650.00	39.2	8	2.1	H	39.5	5.0	32.2	51.6	74	-22.4	Peak
23300.00	34.4	8	2.0	V	43.4	4.3	30.7	51.5	74	-22.5	Peak
23300.00	33.9	8	2.0	H	43.4	4.3	30.7	51.0	74	-23.0	Peak
17475.00	30.2	8	2.4	V	43.6	4.4	31.0	47.2	74	-26.8	Peak
17475.00	30.0	8	2.1	H	43.6	4.4	31.0	47.0	74	-27.0	Peak

802.11a (15.407)

Run # 1 Radiated Harmonic and Spur Emission 802.11a (Panel Antenna 7.0 dBi)

Run # 1- 1 :Final scan 1GHz -40GHz , (Lowest channel. : 5260 MHz)

Frequency	Reading	Azimuth	Height	Polar	Antenna Loss	Cable loss	Amplifier	Corrected Reading	15.209	15.209	Comments
MHz	dBuV/m	Degrees	Meter	H / V	dB	dB	dB	dBuV/m	Limit (dBuV/m)	Margin	
21040.00	28.5	10	2.0	V	43.4	4.3	30.7	45.6	54	-8.4	Ave
21040.00	28.2	0	2.0	H	43.4	4.3	30.7	45.3	54	-8.7	Ave
10520.00	33.1	10	1.2	V	38.7	3.9	33.2	42.6	54	-11.4	Ave
10520.00	32.9	0	2.3	H	38.7	3.9	33.2	42.4	54	-11.6	Ave
15780.00	28.7	10	2.0	V	40.4	5.1	31.8	42.3	54	-11.7	Ave
15780.00	28.5	0	2.0	H	40.4	5.1	31.8	42.1	54	-11.9	Ave
10520.00	39.6	0	2.3	H	38.7	3.9	33.2	49.1	74	-24.9	Peak
10520.00	39.2	10	1.2	V	38.7	3.9	33.2	48.7	74	-25.3	Peak
21040.00	30.4	10	2.0	V	43.4	4.3	30.7	47.5	74	-26.5	Peak
21040.00	30.2	0	2.0	H	43.4	4.3	30.7	47.3	74	-26.7	Peak
15780.00	30.5	10	2.0	V	40.4	5.1	31.8	44.1	74	-29.9	Peak
15780.00	30.3	0	2.0	H	40.4	5.1	31.8	43.9	74	-30.1	Peak

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

Frequency	Reading	Azimuth	Height	Polar	Antenna Loss	Cable loss	Amplifier	Corrected Reading	15.209	15.209	Comments
MHz	dBuV/m	Degrees	Meter	H / V	dB	dB	dB	dBuV/m	Limit (dBuV/m)	Margin	
15900.00	32.2	30	2.4	V	40.4	5.1	31.8	45.8	54	-8.2	Ave
21200.00	28.6	30	2.0	V	43.4	4.3	30.7	45.7	54	-8.3	Ave
21200.00	28.5	30	2.0	H	43.4	4.3	30.7	45.6	54	-8.4	Ave
15900.00	31.3	30	2.1	H	40.4	5.1	31.8	44.9	54	-9.1	Ave
10600.00	31.3	30	2.2	H	38.7	3.9	33.2	40.8	54	-13.2	Ave
10600.00	31.2	30	2.4	V	38.7	3.9	33.2	40.7	54	-13.3	Ave
15900.00	36.6	30	2.4	V	40.4	5.1	31.8	50.2	74	-23.8	Peak
15900.00	35.9	30	2.3	H	40.4	5.1	31.8	49.5	74	-24.5	Peak
10600.00	38.5	30	2.4	V	38.7	3.9	33.2	48.0	74	-26.0	Peak
10600.00	38.3	30	2.2	H	38.7	3.9	33.2	47.8	74	-26.2	Peak
21200.00	30.3	30	2.0	V	43.4	4.3	30.7	47.4	74	-26.6	Peak
21200.00	30.1	30	2.0	H	43.4	4.3	30.7	47.2	74	-26.8	Peak

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

Frequency	Reading	Azimuth	Height	Polar	Antenna Loss	Cable loss	Amplifier	Corrected Reading	15.209	15.209	Comments
MHz	dBuV/m	Degrees	Meter	H / V	dB	dB	dB	dBuV/m	Limit (dBuV/m)	Margin	
21280.00	28.5	50	2.0	V	43.4	4.3	30.7	45.6	54	-8.4	Ave
21280.00	28.2	50	2.0	H	43.4	4.3	30.7	45.3	54	-8.7	Ave
15960.00	30.3	50	2.4	V	40.4	5.1	31.8	43.9	54	-10.1	Ave
15960.00	30.2	50	2.1	H	40.4	5.1	31.8	43.8	54	-10.2	Ave
10640.00	30.3	50	2.4	V	38.7	3.9	33.2	39.8	54	-14.2	Ave
10640.00	30.1	50	2.1	H	38.7	3.9	33.2	39.6	54	-14.4	Ave
15960.00	35.5	50	2.4	V	40.4	5.1	31.8	49.1	74	-24.9	Peak
15960.00	35.3	50	2.1	H	40.4	5.1	31.8	48.9	74	-25.1	Peak
21280.00	30.4	50	2.0	V	43.4	4.3	30.7	47.5	74	-26.5	Peak
21280.00	30.2	50	2.0	H	43.4	4.3	30.7	47.3	74	-26.7	Peak
10640.00	36.5	50	2.4	V	38.7	3.9	33.2	46.0	74	-28.0	Peak
10640.00	36.2	50	2.1	H	38.7	3.9	33.2	45.7	74	-28.3	Peak

Run # 2 Radiated Harmonic and Spur Emission 802.11a (Sector Antenna 17.0 dBi)

Run # 2- 1 :Final scan 1GHz -40GHz , (Lowest channel. : 5260 MHz)

Frequency	Reading	Azimuth	Height	Polar	Antenna Loss	Cable loss	Amplifier	Corrected Reading	15.209	15.209	Comments
MHz	dBuV/m	Degrees	Meter	H / V	dB	dB	dB	dBuV/m	Limit (dBuV/m)	Margin	
10520.00	38.4	80	2.4	V	38.7	3.9	33.2	47.9	54	-6.1	Ave
15780.00	33.5	40	2.0	V	40.4	5.1	31.8	47.1	54	-6.9	Ave
21040.00	28.8	180	2.0	V	43.4	4.3	30.7	45.9	54	-8.1	Ave
21040.00	28.5	90	2.0	H	43.4	4.3	30.7	45.6	54	-8.4	Ave
4906.00	45.2	50	2.0	V	32.5	1.9	34.8	44.8	54	-9.2	Ave
10520.00	34.8	50	2.3	H	38.7	3.9	33.2	44.3	54	-9.7	Ave
15780.00	28.7	90	2.0	H	40.4	5.1	31.8	42.3	54	-11.7	Ave
10520.00	43.2	80	2.4	V	38.7	3.9	33.2	52.7	74	-21.3	Peak
15780.00	36.7	40	2.0	V	40.4	5.1	31.8	50.3	74	-23.7	Peak
4906.00	49.3	50	2.0	V	32.5	1.9	34.8	48.9	74	-25.1	Peak
21040.00	30.4	90	2.0	V	43.4	4.3	30.7	47.5	74	-26.5	Peak
15780.00	33.6	180	2.0	H	40.4	5.1	31.8	47.2	74	-26.8	Peak
21040.00	30.1	180	2.0	H	43.4	4.3	30.7	47.2	74	-26.8	Peak
10520.00	37.2	50	2.3	H	38.7	3.9	33.2	46.7	74	-27.3	Peak
4906.00	39.4	50	2.0	H	32.5	1.9	34.8	39.0	74	-35.0	Peak

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

Frequency	Reading	Azimuth	Height	Polar	Antenna Loss	Cable loss	Amplifier	Corrected Reading	15.209	15.209	Comments
MHz	dBuV/m	Degrees	Meter	H / V	dB	dB	dB	dBuV/m	Limit (dBuV/m)	Margin	
15900.00	40.2	40	2.4	V	40.4	5.1	31.8	53.8	54	-0.2	Ave
10600.00	40.8	15	2.4	V	38.7	3.9	33.2	50.3	54	-3.7	Ave
15900.00	35.5	15	2.1	H	40.4	5.1	31.8	49.1	54	-4.9	Ave
21200.00	29.2	15	2.0	V	43.4	4.3	30.7	46.3	54	-7.7	Ave
21200.00	28.7	15	2.0	H	43.4	4.3	30.7	45.8	54	-8.2	Ave
4873.00	46.1	30	2.0	V	32.5	1.9	34.8	45.7	54	-8.3	Ave
10600.00	31.5	15	2.2	H	38.7	3.9	33.2	41.0	54	-13.0	Ave
15900.00	46.1	40	2.4	V	40.4	5.1	31.8	59.7	74	-14.3	Peak
10600.00	45.4	15	2.4	V	38.7	3.9	33.2	54.9	74	-19.1	Peak
15900.00	40.3	15	2.3	H	40.4	5.1	31.8	53.9	74	-20.1	Peak
4873.00	53.2	30	2.0	V	32.5	1.9	34.8	52.8	74	-21.2	Peak
21200.00	30.8	15	2.0	V	43.4	4.3	30.7	47.9	74	-26.1	Peak
21200.00	30.4	15	2.0	H	43.4	4.3	30.7	47.5	74	-26.5	Peak
10600.00	33.2	15	2.2	H	38.7	3.9	33.2	42.7	74	-31.3	Peak
4873.00	36.6	30	2.0	H	32.5	1.9	34.8	36.2	74	-37.8	Peak

Run # 2- 3 :Final scan 1GHz -40GHz , (Highest channel. : 5320 MHz)

Frequency	Reading	Azimuth	Height	Polar	Antenna Loss	Cable loss	Amplifier	Corrected Reading	15.209	15.209	Comments
MHz	dBuV/m	Degrees	Meter	H / V	dB	dB	dB	dBuV/m	Limit (dBuV/m)	Margin	
15960.00	37.2	50	2.4	V	40.4	5.1	31.8	50.8	54	-3.2	Ave
15960.00	34.1	10	2.1	H	40.4	5.1	31.8	47.7	54	-6.3	Ave
21280.00	30.2	10	2.0	V	43.4	4.3	30.7	47.3	54	-6.7	Ave
21280.00	29.5	10	2.0	H	43.4	4.3	30.7	46.6	54	-7.4	Ave
10640.00	33.3	10	2.4	V	38.7	3.9	33.2	42.8	54	-11.2	Ave
4930.00	41.2	30	2.0	V	32.5	1.9	34.8	40.8	54	-13.2	Ave
10640.00	31.2	10	2.1	H	38.7	3.9	33.2	40.7	54	-13.3	Ave
15960.00	40.1	50	2.4	V	40.4	5.1	31.8	53.7	74	-20.3	Peak
15960.00	38.6	10	2.1	H	40.4	5.1	31.8	52.2	74	-21.8	Peak
21280.00	32.2	10	2.0	V	43.4	4.3	30.7	49.3	74	-24.7	Peak
4930.00	49.5	30	2.0	V	32.5	1.9	34.8	49.1	74	-24.9	Peak
21280.00	30.4	10	2.0	H	43.4	4.3	30.7	47.5	74	-26.5	Peak
10640.00	36.3	10	2.4	V	38.7	3.9	33.2	45.8	74	-28.2	Peak
10640.00	35.7	10	2.1	H	38.7	3.9	33.2	45.2	74	-28.8	Peak
4930.00	37.7	30	2.0	H	32.5	1.9	34.8	37.3	74	-36.7	Peak