FCC PART 15 B

TEST REPORT

For

MAXWEST INTERNATIONAL LIMITED

No.1,Longgang Road,Buji,Longgang,ShenzhenCity,Guangdong Province, P.R. China

FCC ID: 2AEN3BLADE

Report Type:	**Product Type:**
Original Report	Mobile Phone

Test Engineer: Dean Liu

Report Number: RDG150601006-00C

Report Date: 2015-06-12

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RF Leader

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GENERAL INFORMATION

Product Description for Equipment Under Test (EUT)

The *MAXWEST INTERNATIONAL LIMITED*'s product, model number: *BLADE (FCC ID: 2AEN3BLADE)* (the "EUT") in this report was a *Mobile Phone (named BLADE by applicant),* which was measured approximately: 19.6 cm (L) x 5.5 cm (W) x 1.0 cm (H), rated input voltage: DC3.7V rechargeable Li-ion battery or DC5.0V charging from adapter.

Adapter information:
Model: MAXWEST
Input: AC110-240V, 50/60Hz 0.2A
Output: DC5.0V, 500 mA

All measurement and test data in this report was gathered from production sample serial number: 150601006 (Assigned by BACL, Dongguan). The EUT was received on 2015-06-02.

Objective

This test report is prepared on behalf of *MAXWEST INTERNATIONAL LIMITED.* in accordance with Part 2, Subpart J, and Part 15-Subparts A and B of the Federal Communications Commission's rules.

The objective of the manufacturer is to determine the compliance of EUT with FCC Part 15 B Class B.

Related Submittal(s)/Grant(s)

FCC Part 15C DSS submissions with FCC ID: 2AEN3BLADE.
FCC Part 22H, 24E PCE submissions with FCC ID: 2AEN3BLADE.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2009, 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 Laboratories Corp. (Dongguan).

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.69 Pulongcun, Puxinhu Industrial Zone, Tangxia, Dongguan, Guangdong, China

Test site at Bay Area Compliance Laboratories Corp. (Dongguan) has been fully described in reports submitted to the Federal Communications Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on February 06, 2015. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2009.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 273710. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in a typical fashion (as normally used by a typical user).

EUT Exercise Software

The software "winthrax.exe" was used during test.

Equipment Modifications

No modification was made to the EUT tested.

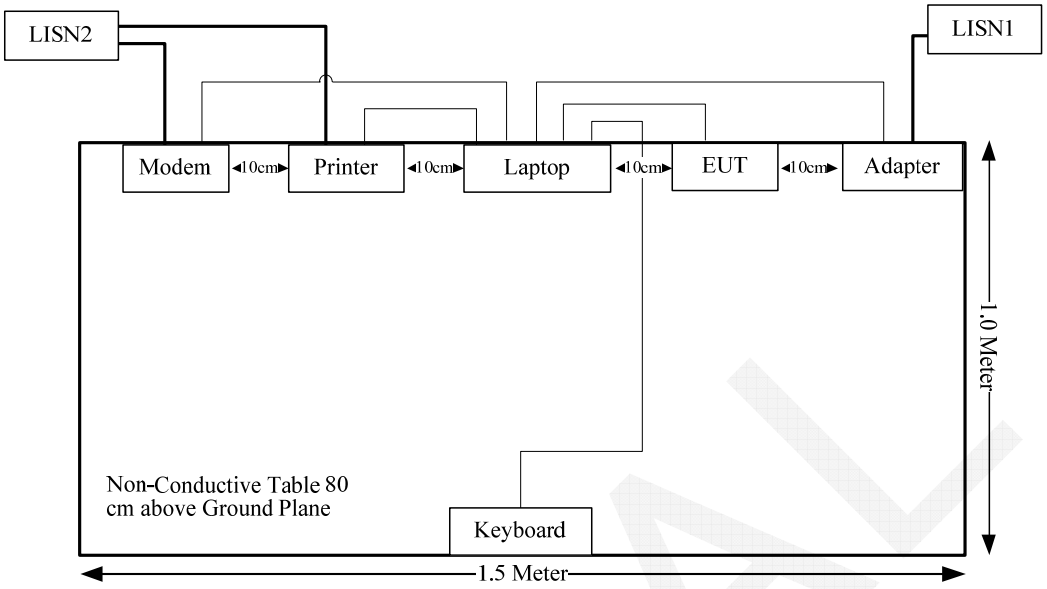
Local Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
HP	Printer	C3941A	JPTVOB2337
SAST	Modem	AEM-2100	0293
DELL	Keyboard	L100	CNORH656658907BL05DC
DELL	Laptop	PP11L	N/A
Kingston	TF Card	1GB	N/A

Support Cable List and Details

Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
Printer Cable	Yes	No	1.2	Parallel Port of Laptop	Printer
Serial Cable	Yes	No	1.2	Serial Port of Laptop	Modem
Keyboard Cable	Yes	No	1.8	Keyboard Port of Laptop	Keyboard
USB Cable	Yes	No	1.0	USB Port of Laptop	EUT

Configuration of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Results
§15.107	Conducted Emissions	Compliance
§15.109	Radiated Emissions	Compliance

FCC§15.107 - CONDUCTED EMISSIONS

Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are Receiver, cable loss, and LISN.

Compliance or non- compliance with a disturbance limit shall be determined in the following manner：

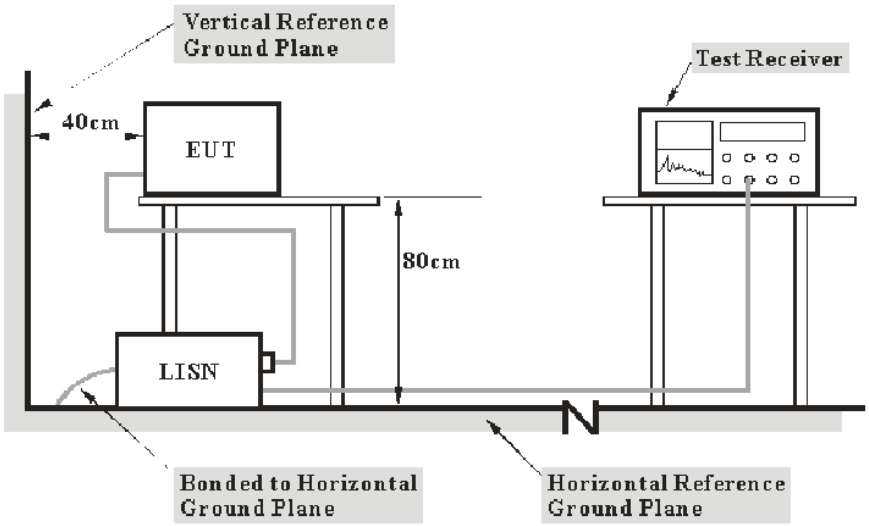
If U_{lab} is less than or equal to U_{cispr} of Table 1, then:
–compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
–non - compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.
If U_{lab} is greater than U_{cispr} of Table 1, then:
–compliance is deemed to occur if no measured disturbance level, increased by ($U_{lab} - U_{cispr}$), exceeds the disturbance limit;
–non - compliance is deemed to occur if any measured disturbance level, increased by ($U_{lab} - U_{cispr}$), exceeds the disturbance limit.

Based on CISPR 16-4-2: 2011, measurement uncertainty of conducted disturbance at mains port using AMN at Bay Area Compliance Laboratories Corp. (Dongguan) is 3.46 dB (150 kHz to 30 MHz).

Table 1 – Values of U_{cispr}

Measurement	U_{cispr}
Conducted disturbance at mains port using AMN (150 kHz to 30 MHz)	3.4 dB

EUT Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.4-2009 measurement procedure. The specification used was with the FCC Part 15 B Class B limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The adapter of laptop was connected to a 120V/60Hz AC power source.

EMI Test Receiver Setup

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

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	IF B/W
150 kHz – 30 MHz	9 kHz

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESCS 30	830245/006	2014-10-20	2015-10-20
R&S	L.I.S.N	ESH2-Z5	892107/021	2015-06-09	2016-06-09
R&S	Two-line V-network	ENV 216	3560.6550.12	2014-12-11	2015-12-11
R&S	Test Software	EMC32	Version8.53.0	N/A	N/A

* Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Procedure

During the conducted emission test, the adapter of laptop was connected to the outlet of the first LISN and the other support equipments were connected to the outlet of the second LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak and average detection mode.

Corrected Amplitude & Margin Calculation

The basic equation is as follows:

$V_C = V_R + A_C + VDF$

Herein,
V_C: corrected voltage amplitude

V_R: reading voltage amplitude

A_c: attenuation caused by cable loss

VDF: voltage division factor of AMN or ISN

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

Margin = Limit – Corrected Amplitude

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 15 B Class B, with the worst margin reading of:

15.1 dB at **1.310256 MHz** in the **Neutral** conducted mode

Test Data

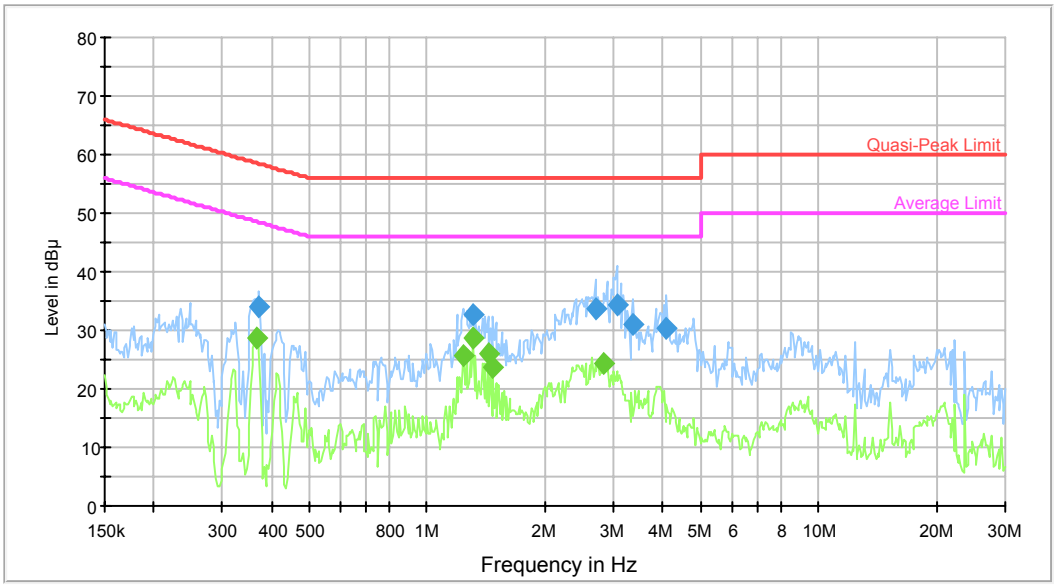
Environmental Conditions

Temperature:	26.4 °C
Relative Humidity:	55 %
ATM Pressure:	99.9 kPa

The testing was performed by Dean Liu on 2015-06-11.

Test Mode: Downloading

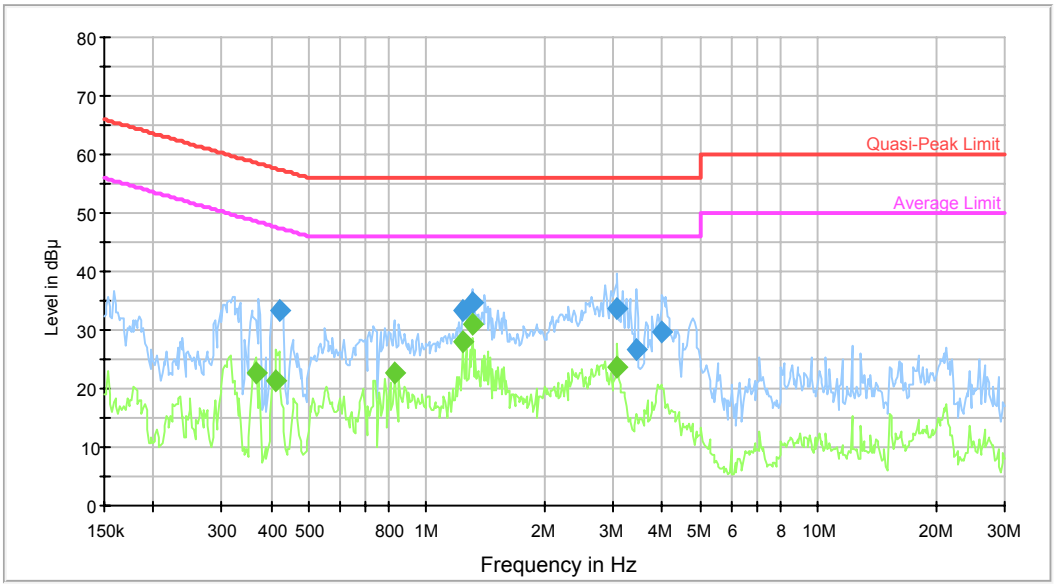
AC120V, 60Hz, Line:



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.372042	34.2	9.000	L1	10.3	24.3	58.5	Compliance
1.310256	32.5	9.000	L1	10.4	23.5	56.0	Compliance
2.684134	33.7	9.000	L1	10.5	22.3	56.0	Compliance
3.049107	34.2	9.000	L1	10.6	21.8	56.0	Compliance
3.355051	30.9	9.000	L1	10.6	25.1	56.0	Compliance
4.094608	30.2	9.000	L1	10.7	25.8	56.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.366160	28.7	9.000	L1	10.3	19.9	48.6	Compliance
1.239175	25.7	9.000	L1	10.4	20.3	46.0	Compliance
1.310256	28.7	9.000	L1	10.4	17.3	46.0	Compliance
1.430284	26.1	9.000	L1	10.4	19.9	46.0	Compliance
1.476605	23.8	9.000	L1	10.4	22.2	46.0	Compliance
2.815577	24.4	9.000	L1	10.5	21.6	46.0	Compliance

AC120V, 60Hz, Neutral:



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.419276	33.4	9.000	N	10.2	24.1	57.5	Compliance
1.239175	33.4	9.000	N	10.4	22.6	56.0	Compliance
1.310256	34.6	9.000	N	10.4	21.4	56.0	Compliance
3.073500	33.7	9.000	N	10.6	22.3	56.0	Compliance
3.436218	26.8	9.000	N	10.6	29.2	56.0	Compliance
3.997889	29.7	9.000	N	10.7	26.3	56.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.366160	22.6	9.000	N	10.3	26.0	48.6	Compliance
0.412647	21.4	9.000	N	10.2	26.2	47.6	Compliance
0.831967	22.7	9.000	N	10.4	23.3	46.0	Compliance
1.239175	27.9	9.000	N	10.4	18.1	46.0	Compliance
1.310256	30.9	9.000	N	10.4	15.1	46.0	Compliance
3.073500	23.7	9.000	N	10.6	22.3	46.0	Compliance

FCC §15.109 - RADIATED SPURIOUS EMISSIONS

Measurement Uncertainty

Compliance or non- compliance with a disturbance limit shall be determined in the following manner：

If U_{lab} is less than or equal to U_{cispr} of Table 1, then:
–compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
–non - compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.
If U_{lab} is greater than U_{cispr} of Table 1, then:
–compliance is deemed to occur if no measured disturbance level, increased by ($U_{lab} - U_{cispr}$), exceeds the disturbance limit;
–non - compliance is deemed to occur if any measured disturbance level, increased by ($U_{lab} - U_{cispr}$), exceeds the disturbance limit.

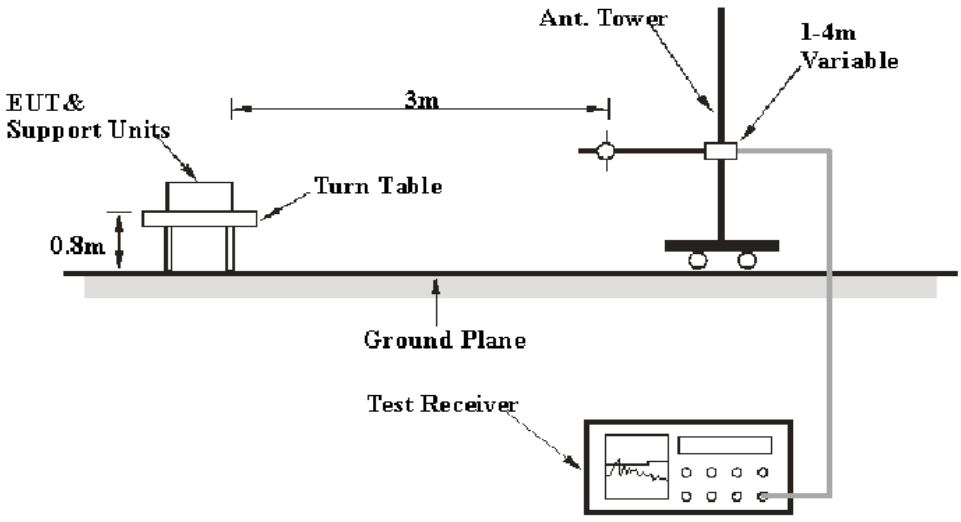
Based on CISPR 16-4-2: 2011, measurement uncertainty of radiated emission at a distance of 3m at Bay Area Compliance Laboratories Corp. (Dongguan) is:30M~200MHz: 5.0 dB; 200M~1GHz: 6.2 dB; 1G~6GHz: 4.45 dB, 6G~18GHz: 5.23 dB

Table 1 – Values of U_{cispr}

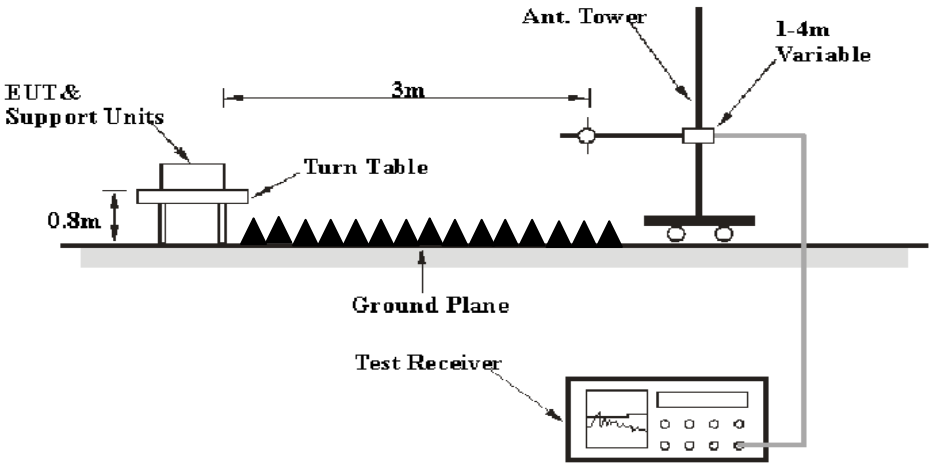
Measurement		U_{cispr}
Radiated disturbance (electric field strength at an OATS or in a SAC)	(30 MHz to 1000 MHz)	6.3 dB
Radiated disturbance (electric field strength in a FAR)	(1 GHz to 6 GHz)	5.2 dB
Radiated disturbance (electric field strength in a FAR)	(6 GHz to 18 GHz)	5.5 dB

EUT Setup

Below 1GHz:



Above 1GHz:



The radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.4-2009. The specification used was the FCC Part 15.109 Class B limits.

EMI Test Receiver Setup

The system was investigated from 30 MHz to 6 GHz.

During the radiated emission test, the EMI test receiver was set with the following configurations:

Frequency Range	RBW	Video B/W	IF B/W	Detector
30MHz – 1000 MHz	120 kHz	300 kHz	120 kHz	QP
Above 1 GHz	1 MHz	3 MHz	/	Peak
	1 MHz	10 Hz	/	Ave.

Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

The data was recorded in the Quasi-peak detection mode for below 1 GHz, peak and average detection mode above 1 GHz.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESCI	100224	2015-05-09	2016-05-09
Sunol Sciences	Antenna	JB3	A060611-3	2014-07-28	2017-07-27
HP	Amplifier	8447E	2434A02181	2014-09-01	2015-09-01
R&S	Spectrum Analyzer	FSEM	DE31388	2015-05-09	2016-05-09
ETS-Lindgren	Horn Antenna	3115	000 527 35	2012-09-06	2015-09-06
Mini-Circuit	Amplifier	ZVA-213-S+	054201245	2015-02-19	2016-02-19

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Corrected Amplitude & Margin Calculation

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

Corrected Amplitude = Meter Reading + Antenna Loss + Cable Loss - Amplifier Gain

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

Margin = Limit – Corrected Amplitude

Test Results Summary

According to the data in the following table, the EUT complied with the FCC Part 15 B Class B, with the worst margin reading of:

0.90 dB at **47.4600 MHz** in the **Vertical** polarization

Test Data

Environmental Conditions

Temperature:	27.3 °C
Relative Humidity:	56 %
ATM Pressure:	99.9 kPa

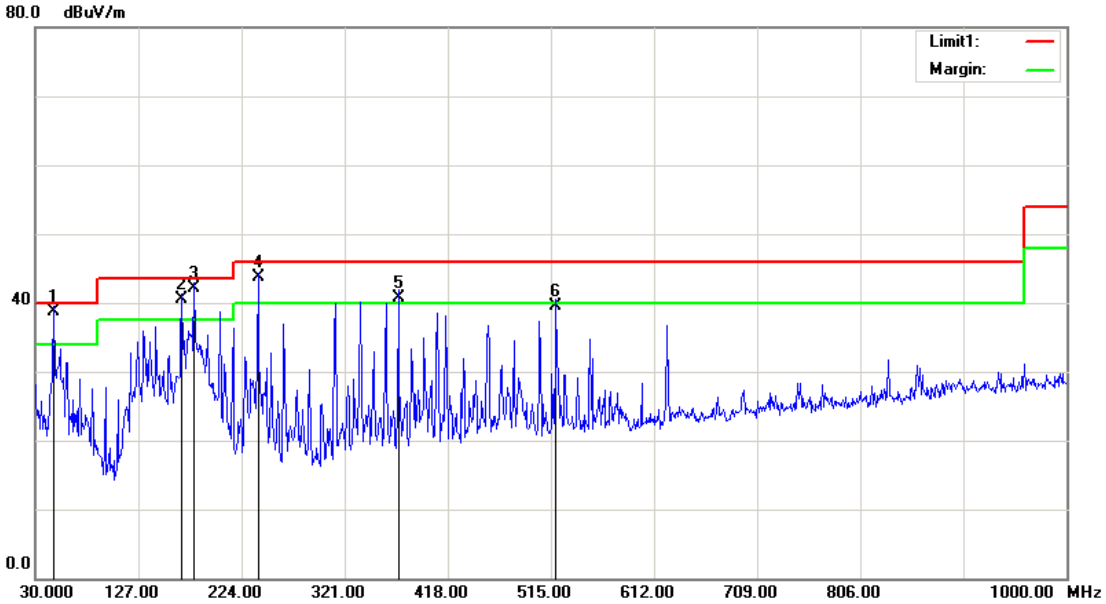
The testing was performed by Dean Liu on 2015-06-11.

Test Result: Compliance

Test Mode: Downloading

1) Below 1GHz:

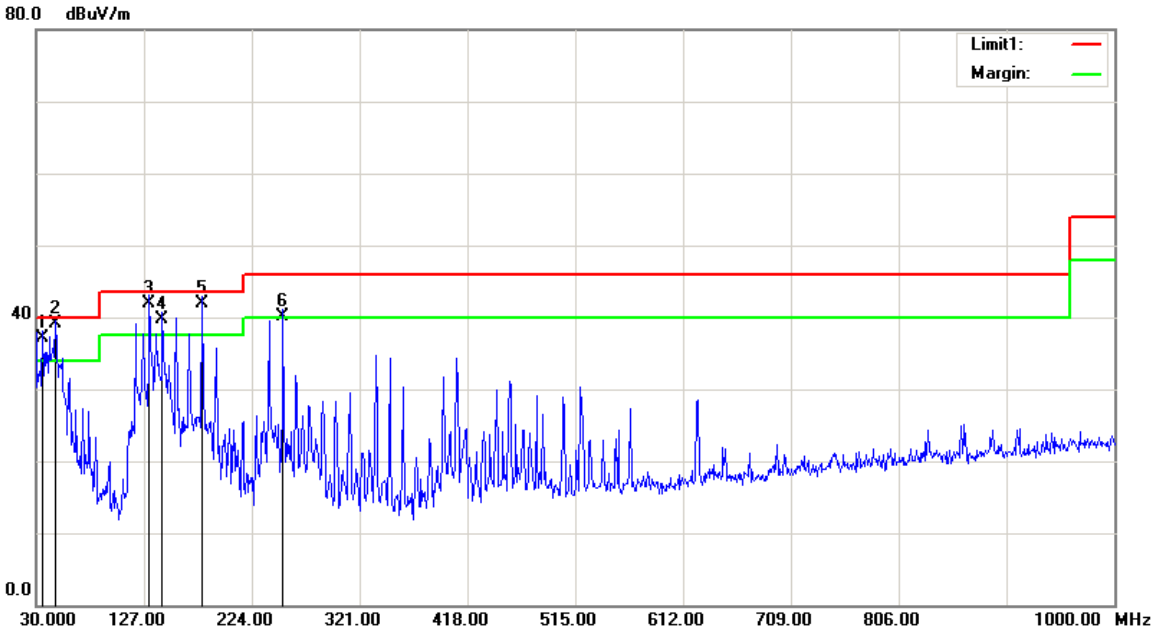
Horizontal



Frequency (MHz)	Receiver Reading (dBµV)	Detector (PK/QP/Ave)	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
47.4600	49.97	QP	-11.27	38.70	40.00	1.30*
167.7400	48.36	QP	-7.86	40.50	43.50	3.00*
179.3800	50.71	QP	-8.61	42.10	43.50	1.40*
239.5200	51.77	QP	-8.07	43.70	46.00	2.30*
371.4400	45.36	QP	-4.56	40.80	46.00	5.20
519.8500	40.91	QP	-1.41	39.50	46.00	6.50

**Within measurement uncertainty!*

Vertical

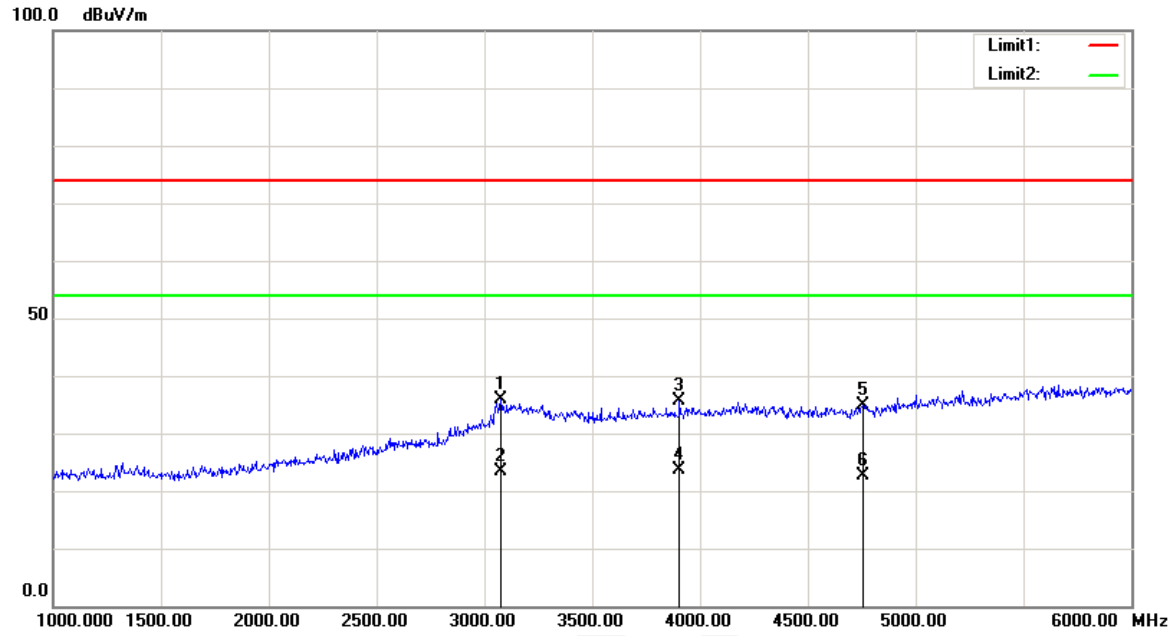


Frequency (MHz)	Receiver Reading (dBµV)	Detector (PK/QP/Ave)	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
35.8200	40.47	QP	-3.37	37.10	40.00	2.90*
47.4600	50.37	QP	-11.27	39.10	40.00	0.90*
131.8500	48.11	QP	-6.11	42.00	43.50	1.50*
143.4900	46.99	QP	-7.19	39.80	43.50	3.70*
179.3800	50.51	QP	-8.61	41.90	43.50	1.60*
252.1300	48.27	QP	-8.07	40.20	46.00	5.80

**Within measurement uncertainty!*

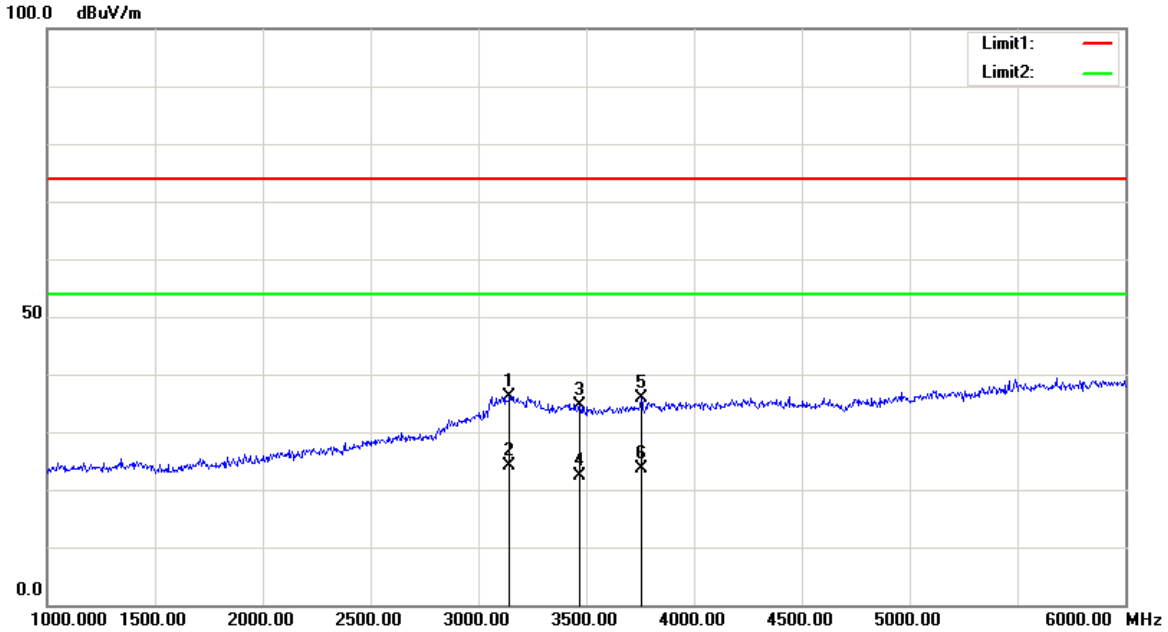
2) Above 1GHz:

Horizontal



Frequency (MHz)	Receiver Reading (dBµV)	Detector (PK/QP/Ave)	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
3077.500	29.06	peak	6.73	35.79	74.00	38.21
3077.500	16.75	AVG	6.73	23.48	54.00	30.52
3907.500	28.79	peak	6.83	35.62	74.00	38.38
3907.500	16.73	AVG	6.83	23.56	54.00	30.44
4757.500	26.27	peak	8.51	34.78	74.00	39.22
4757.500	14.13	AVG	8.51	22.64	54.00	31.36

Vertical



Frequency (MHz)	Receiver Reading (dBµV)	Detector (PK/QP/Ave)	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
3145.000	28.97	peak	7.22	36.19	74.00	37.81
3145.000	16.91	AVG	7.22	24.13	54.00	29.87
3470.000	28.36	peak	6.25	34.61	74.00	39.39
3470.000	16.22	AVG	6.25	22.47	54.00	31.53
3757.500	29.34	peak	6.57	35.91	74.00	38.09
3757.500	17.10	AVG	6.57	23.67	54.00	30.33

*******END OF REPORT*******