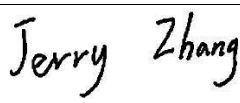# FCC PART 15 B

TEST REPORT

For

MAXWEST INTERNATIONAL LIMITED.

No.1,Longgang Road,Buji, Longgang, Shenzhen,China

FCC ID: 2AEN3UNOM6

Report Type:	Product Type:
Original Report	Mobile Phone
Report Number:	RDG170830001-00A
Report Date:	2017-09-21
Reviewed By:	Jerry Zhang EMC Manager *Jerry Zhang*
Test Laboratory:	Bay Area Compliance Laboratories Corp. (Dongguan) No.69 Pulongcun, Puxinhu Industry Area, Tangxia, Dongguan, Guangdong, China Tel: +86-769-86858888 Fax: +86-769-86858891 www.baclcorp.com.cn

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GENERAL INFORMATION

Product Description for Equipment Under Test (EUT)

The *MAXWEST INTERNATIONAL LIMITED.*'s product, model number: *UNO M6*
(FCC ID: 2AEN3UNOM6) (the "EUT") in this report was a *Mobile Phone,* which was measured approximately:
11.6 cm (L) x 4.8 cm (W) x 1.5 cm (H), rated input voltage: DC3.7V from Battery or DC 5V from adapter. The highest operation frequency is 2480MHz.

Adapter Information:
INPUT: AC 100-240V, 50/60Hz
OUTPUT: DC 5V±5%, 350mA

*All measurement and test data in this report was gathered from production sample serial number: 170830001 (Assigned by BACL,Dongguan). The EUT was received on 2017-08-30.

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: 2AEN3UNOM6
FCC Part 22H, 24E PCE submissions with FCC ID: 2AEN3UNOM6

Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2014, 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).

Measurement Uncertainty

Parameter	Measurement Uncertainty
Unwanted Emissions, radiated	30M~200MHz: 4.58 dB for Horizontal, 4.59 dB for Vertical 200M~1GHz: 4.83 dB for Horizontal, 5.85 dB for Vertical 1G~6GHz: 4.45 dB, 6G~26.5GHz: 5.23 dB
Temperature	±1℃
Humidity	**±5%**
AC Power Lines Conducted Emission	3.12 dB (150 kHz to 30 MHz)

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 Industry Area, Tangxia, Dongguan, Guangdong, China

Bay Area Compliance Laboratories Corp. (Dongguan) has been accredited to ISO 17025 by CNAS(Lab code: L5662). And accredited to ISO 17025 by NVLAP(Test Laboratory Accreditation Certificate Number 500069-0), the FCC Designation No. CN5002 under the KDB 974614 D01.

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.

Bay Area Compliance Laboratories Corp. (Dongguan) was registered with ISED Canada under ISED Canada Registration Number 3062D.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in operating and downloading mode.

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
DELL	Laptop	PP11L	QDS-BRCM1017
HP	Printer	C3941A	JPTVOB2337
DELL	Keyboard	L100	CNORH656658907BL05DC
SAST	Modem	AEM-2100	0293

Support Cable List and Details

Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
Parallel Serial Cable	yes	no	1.2	Parallel Port of Laptop	Printer
Serial Cable	yes	no	1.2	Serial Port of Laptop	Modem
USB Cable	yes	no	0.5	USB Port of Laptop	EUT
USB Cable	yes	no	1.2	USB Port of Laptop	Keyboard
Earphone Cable	no	no	1.2	EUT	Earphone

Configuration of Test Setup

| LISN2 | | | | | LISN1 |

| Modem | ◀10cm▶ | Printer | ◀10cm▶ | Laptop | ◀10cm▶ | EUT | ◀10cm▶ | Adapter |

Non-Conductive Table 80
cm above Ground Plane

| Keyboard | | earphone |

1.0 Meter

◀────── 1.5 Meter ──────▶
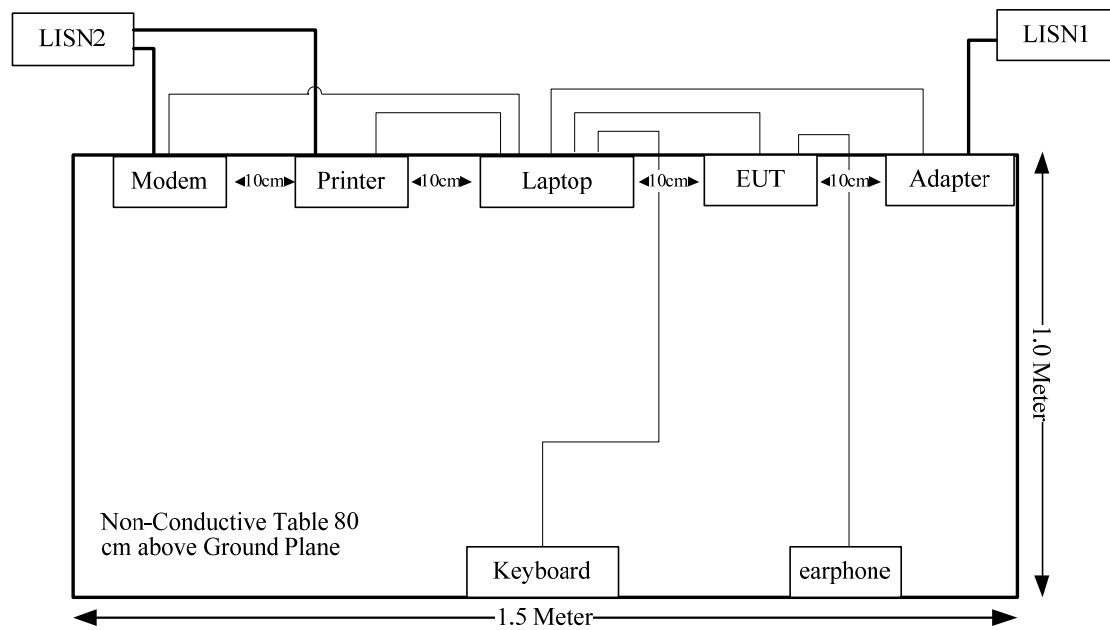
SUMMARY OF TEST RESULTS

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

FCC§15.107 - CONDUCTED EMISSIONS

EUT Setup
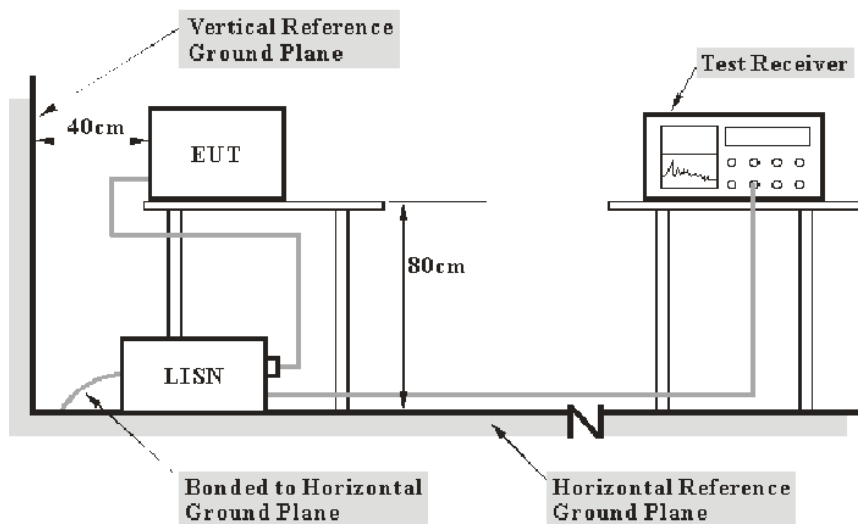
The setup of EUT is according with per ANSI C63.4-2014 measurement procedure. The specification used was with the FCC Part 15 B Class B limits.

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 was connected to the Main LISN with 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	L.I.S.N	ESH2-Z5	892107/021	2017-09-01	2018-09-01
R&S	Two-line V-network	ENV 216	3560.6550.12	2016-12-08	2017-12-08
R&S	Test Software	EMC32	Version8.53.0	N/A	N/A
Unknown	Coaxial Cable	2m	Con-1	2016-09-05	2017-09-05
R&S	EMI Test Receiver	ESCS 30	830245/006	2016-12-08	2017-12-08

* 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 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.
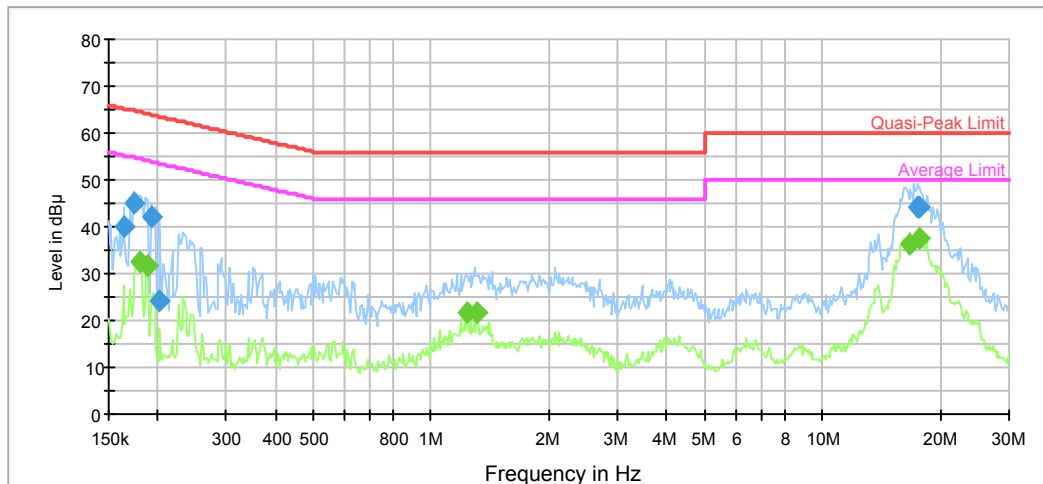
Test Data

Environmental Conditions

Temperature:	27.3 °C
Relative Humidity:	50 %
ATM Pressure:	99.8 kPa

*The testing was performed by Alex You on 2017-09-04.*

Test Mode: Downloading

AC120V, 60Hz, Line:

Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.163741	40.1	9.000	L1	11.0	25.2	65.3	Compliance
0.174519	45.1	9.000	L1	10.9	19.6	64.7	Compliance
0.192030	42.3	9.000	L1	10.7	21.6	63.9	Compliance
0.203045	24.2	9.000	L1	10.6	39.3	63.5	Compliance
17.599071	44.2	9.000	L1	10.0	15.8	60.0	Compliance
17.739864	44.0	9.000	L1	10.0	16.0	60.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.180171	32.4	9.000	L1	10.8	22.1	54.5	Compliance
0.188994	31.7	9.000	L1	10.7	22.4	54.1	Compliance
1.239175	21.7	9.000	L1	9.7	24.3	46.0	Compliance
1.310256	21.5	9.000	L1	9.7	24.5	46.0	Compliance
16.777473	36.4	9.000	L1	10.0	13.6	50.0	Compliance
17.739864	37.5	9.000	L1	10.0	12.5	50.0	Compliance

AC120V, 60Hz, Neutral:
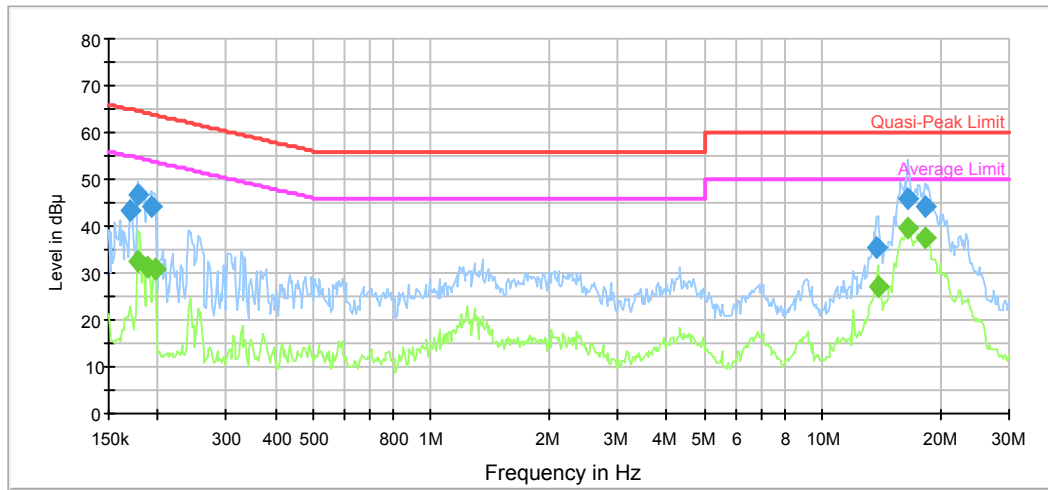
Frequency (MHz)	QuasiPeak (dBμV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.170396	43.2	9.000	N	10.9	21.7	64.9	Compliance
0.177322	46.5	9.000	N	10.8	18.1	64.6	Compliance
0.192030	44.2	9.000	N	10.7	19.7	63.9	Compliance
13.747168	35.2	9.000	N	9.9	24.8	60.0	Compliance
16.512221	45.7	9.000	N	10.0	14.3	60.0	Compliance
18.314388	44.3	9.000	N	10.0	15.7	60.0	Compliance

| Frequency (MHz)	Average (dBμV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.178741	32.6	9.000	N	10.8	21.9	54.5	Compliance
0.188994	31.0	9.000	N	10.7	23.1	54.1	Compliance
0.196675	31.0	9.000	N	10.6	22.7	53.7	Compliance
13.857146	27.2	9.000	N	9.9	22.8	50.0	Compliance
16.512221	39.8	9.000	N	10.0	10.2	50.0	Compliance
18.314388	37.6	9.000	N	10.0	12.4	50.0	Compliance

FCC §15.109 - RADIATED SPURIOUS EMISSIONS

EUT Setup

Below 1GHz:
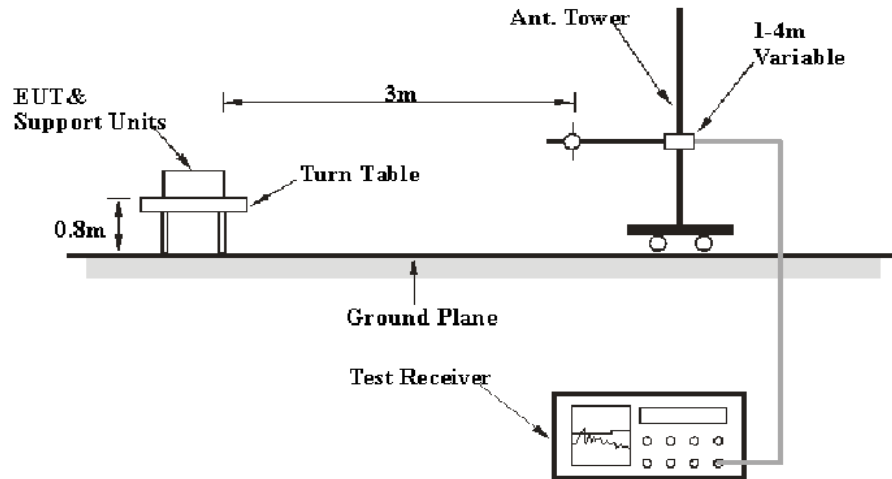
Above 1GHz:
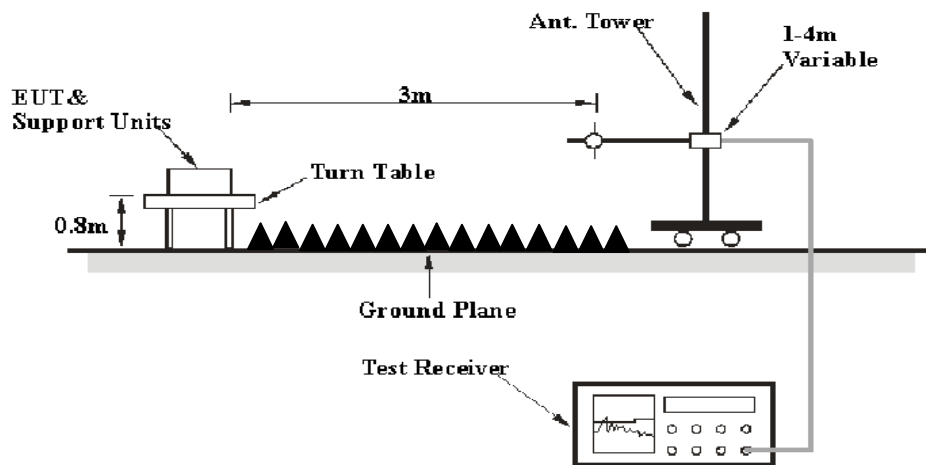
The radiated emission tests were performed in the 3 meters chamber test site for the range 30MHz to 1GHz and the 3 meters chamber test site for above 1GHz, using the setup accordance with the ANSI C63.4-2014. The specification used was the FCC Part 15.109 Class B limits.

EMI Test Receiver Setup

The system was investigated from 30 MHz to 13 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
30 MHz – 1000 MHz	120 kHz	300 kHz	120 kHz	QP
Above 1 GHz	1 MHz	3 MHz	/	Peak
	1 MHz	10 Hz	/	AVG

Test Procedure

During the radiated emissions, the adapter of laptop was connected to the first AC floor outlet and the other support equipments were connected to the second AC floor outlet.

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	2017-09-01	2018-08-31
Sunol Sciences	Antenna	JB3	A060611-1	2014-11-06	2017-11-05
HP	Amplifier	8447E	2434A02181	2017-09-01	2018-09-01
R&S	Spectrum Analyzer	FSU 26	200256	2016-12-08	2017-12-08
ETS-Lindgren	Horn Antenna	3115	000 527 35	2016-01-05	2019-01-04
MITEQ	Amplifier	AFS42-00101800-25-S-42	2001271	2016-09-05	2017-09-05
Unknown	Coaxial Cable	Chamber A-1	4m	2016-09-05	2017-09-05
Unknown	Coaxial Cable	Chamber B-1	0.75m	2016-09-05	2017-09-05
Unknown	Coaxial Cable	Chamber A-2	10m	2016-09-05	2017-09-05
Unknown	Coaxial Cable	Chamber B-2	8m	2016-09-05	2017-09-05
Farad	Test Software	EZ-EMC	V1.1.4.2	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).

Corrected Amplitude & Margin Calculation

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

Corrected Amplitude = Meter Reading + Antenna Factor + 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 Data

Environmental Conditions

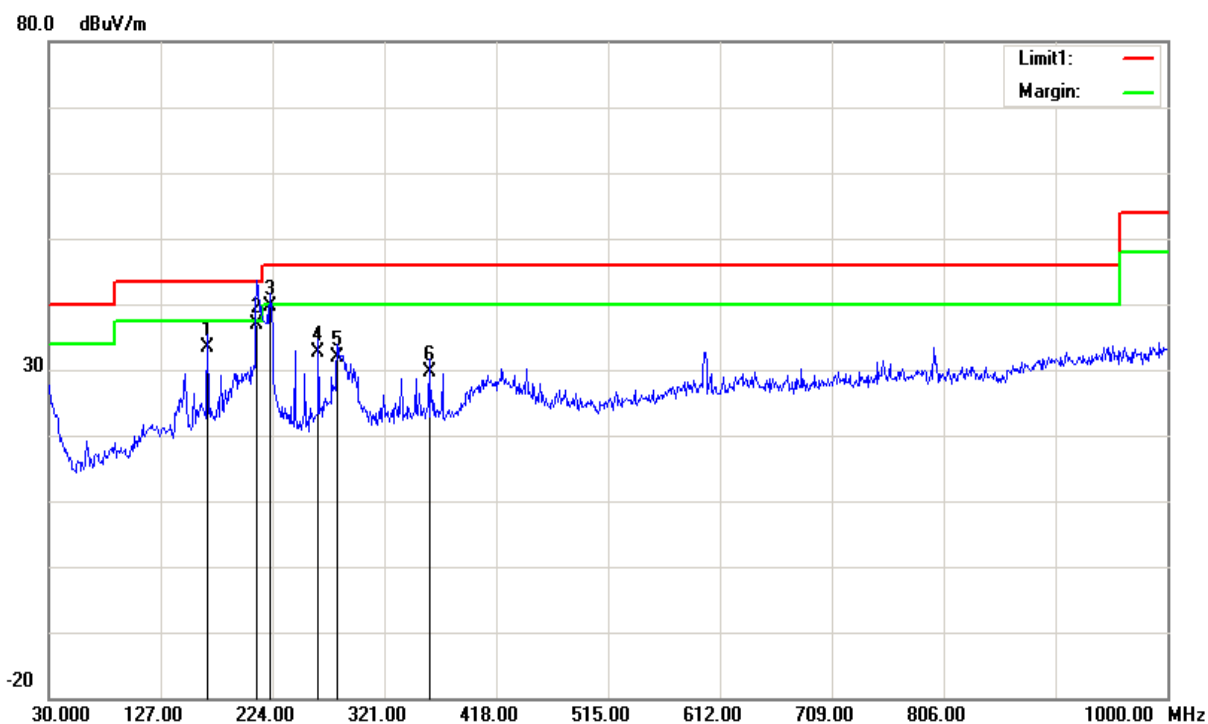|	
Temperature:	29.1 °C
Relative Humidity:	44 %
ATM Pressure:	99.8 kPa

* The testing was performed by Gavin Xu on 2017-09-04.

Test Result: Compliance
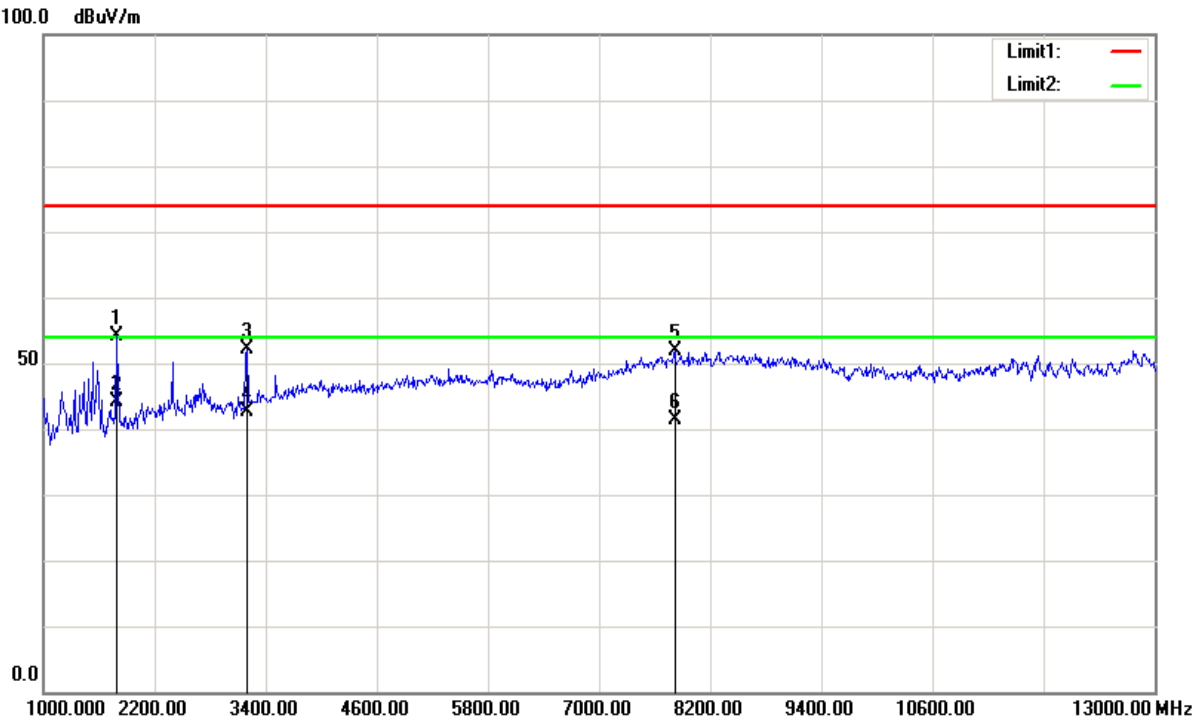
Test Mode: Downloading

1) Below 1GHz:

Horizontal

Frequency (MHz)	Receiver Reading (dBμV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBμV/m)	Limit (dBμV/m)	Margin (dB)
167.7400	40.56	QP	-7.16	33.40	43.50	10.10
210.4200	44.52	QP	-7.62	36.90	43.50	6.60
222.0600	46.63	QP	-7.03	39.60	46.00	6.40
263.7700	37.29	QP	-4.59	32.70	46.00	13.30
280.2600	35.68	QP	-3.78	31.90	46.00	14.10
359.8000	32.75	QP	-3.05	29.70	46.00	16.30

Vertical
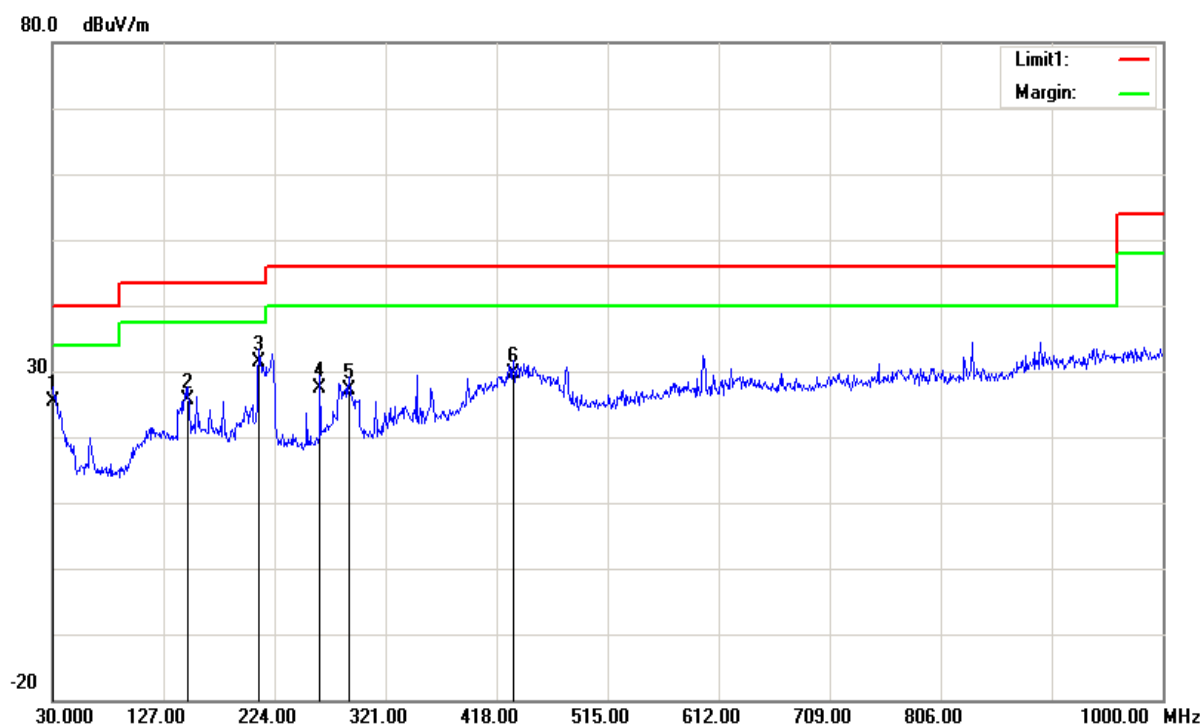
Frequency (MHz)	Receiver Reading (dBμV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBμV/m)	Limit (dBμV/m)	Margin (dB)
30.0000	24.43	QP	1.07	25.50	40.00	14.50
148.3400	32.39	QP	-6.69	25.70	43.50	17.80
210.4200	39.02	QP	-7.62	31.40	43.50	12.10
263.7700	31.99	QP	-4.59	27.40	46.00	18.60
288.9900	31.18	QP	-4.08	27.10	46.00	18.90
432.5500	31.55	QP	-1.95	29.60	46.00	16.40

2) Above 1GHz:

Horizontal

Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
1798.000	59.53	peak	-5.49	54.04	74.00	19.96
1798.000	49.63	AVG	-5.49	44.14	54.00	9.86
3196.000	53.01	peak	-0.96	52.05	74.00	21.95
3196.000	43.52	AVG	-0.96	42.56	54.00	11.44
7822.000	45.22	peak	6.64	51.86	74.00	22.14
7822.000	34.72	AVG	6.64	41.36	54.00	12.64

Vertical
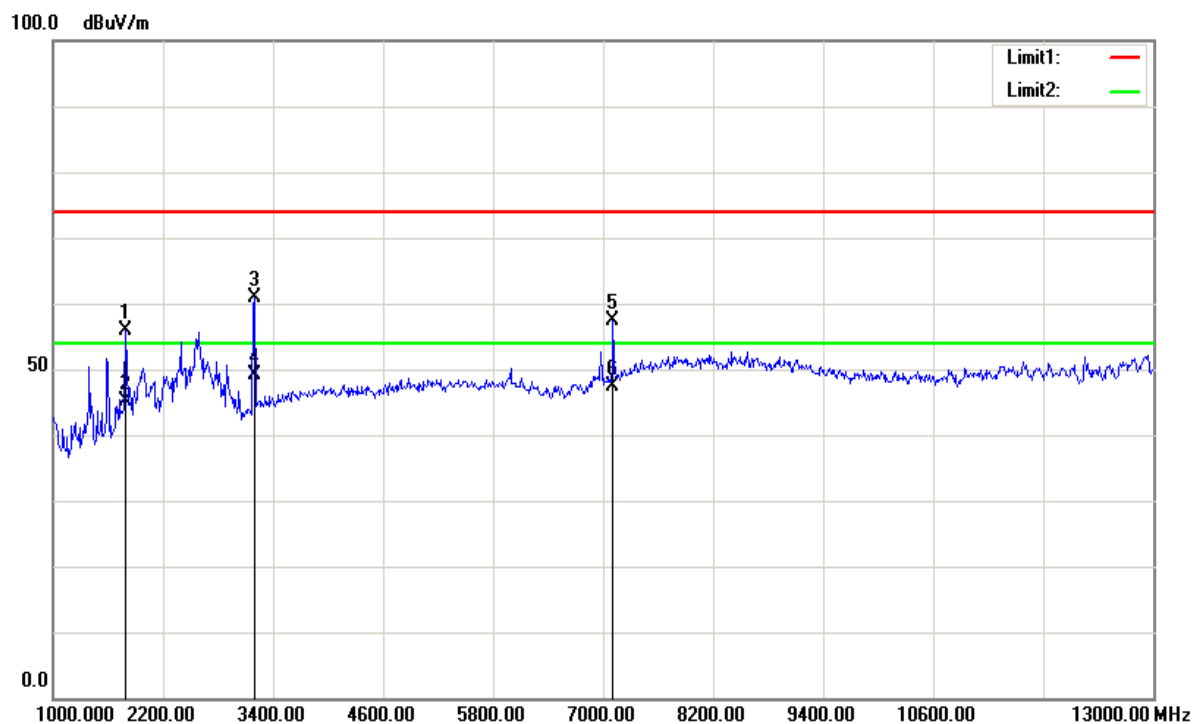
Frequency (MHz)	Receiver Reading (dBμV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1798.000	61.44	peak	-5.49	55.95	74.00	18.05
1798.000	50.70	AVG	-5.49	45.21	54.00	8.79
3196.000	61.91	peak	-0.96	60.95	74.00	13.05
3196.000	50.12	AVG	-0.96	49.16	54.00	4.84
7114.000	52.43	peak	4.84	57.27	74.00	16.73
7114.000	42.42	AVG	4.84	47.26	54.00	6.74

****END OF REPORT****