TESTING LABORATORY
CERTIFICATE # 4821.01

FCC PART 15B, CLASS B
TEST REPORT

For

BLU Products, Inc.

10814 NW 33rd St # 100 Doral, FL 33172, United States

FCC ID: YHLBLUG50MEGA

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

Report Number:	RSZ200603001-00A
Report Date:	2020-07-07
Reviewed By:	Jimmy Xiao RF Engineer
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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Product	Mobile Phone
Tested Model	G50 MEGA
Voltage Range	DC 3.85V from battery or DC 5.0V from adapter
Highest operating frequency	2480MHz
Date of Test	2020-06-10
Sample serial number	RSZ200603001-RF-S1 (Assigned by BACL, Shenzhen)
Received date	2020-06-03
Sample/EUT Status	Good condition
Adapter information	Model: US-WW-2000 Input: AC 100-240V, 50/60Hz, 0.4A Output: DC 5.0V, 2000mA

Objective

This test report is prepared on behalf of *BLU Products, Inc*. in accordance with Part 2-Subpart J, Part 15-Subparts A, B of the Federal Communication Commissions rules.

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

Related Submittal(s)/Grant(s)

FCC Part 15.247 DSS, Part 15.247 DTS and Part 22H&24E&27 PCE submissions with FCC ID: YHLBLUG50MEGA.

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 emissions measurement was performed at Bay Area Compliance Laboratories Corp. (Shenzhen). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. 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 CISPR 16-4-2:2011, the expended combined standard uncertainty of test at Bay Area Compliance Laboratories Corp. (Shenzhen) is shown as below. And the uncertainty will be taken into consideration for the test data recorded in the report

Parameter		uncertainty
Conducted Emissions		±1.95dB
Radiated Emissions	Below 1GHz	±4.75dB
	Above 1GHz	±4.88dB

Note: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located on the 6/F., West Wing, Third Phase of Wanli Industrial Building, Shihua Road, Futian Free Trade Zone, Shenzhen, Guangdong, China.

The test site has been approved by the FCC under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No.: 342867, the FCC Designation No.: CN1221.

The test site has been registered with ISED Canada under ISED Canada Registration Number 3062B.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in a manufacturer testing fashion.

EUT Exercise Software

"BurnIn test v5.3" exercise software was used.

Special Accessories

No special accessory.

Equipment Modifications

No modification was made to the EUT tested.

Support Equipment List and Details

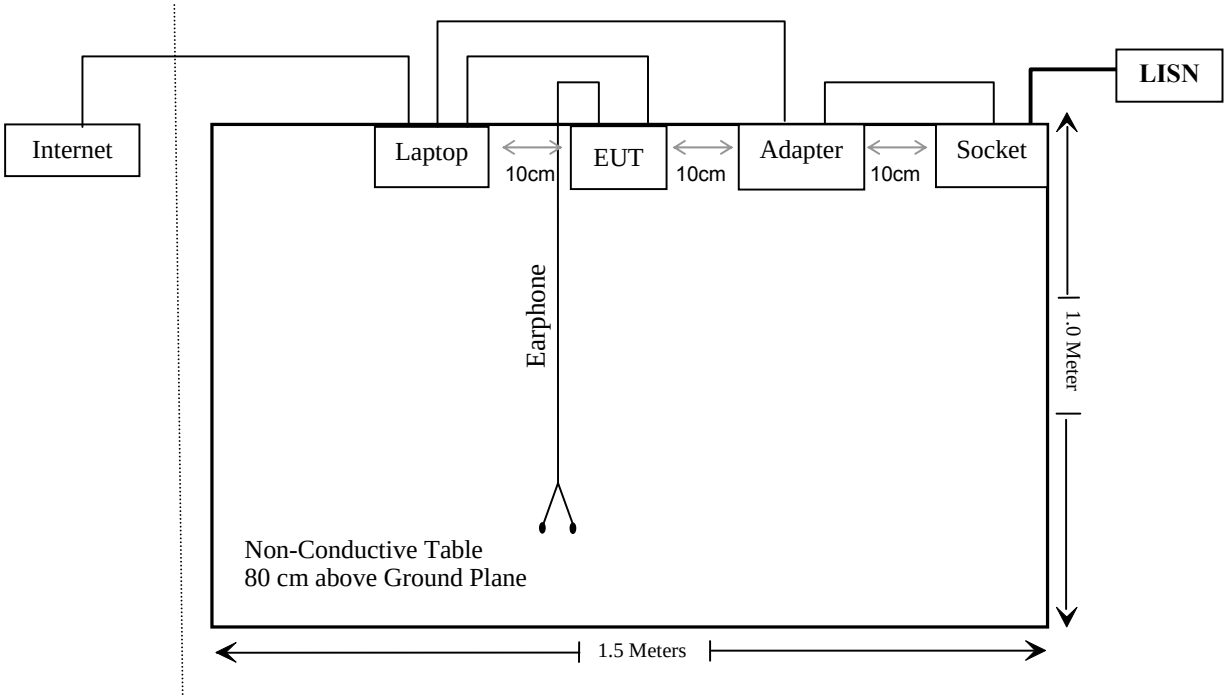
Manufacturer	Description	Model	Serial Number
DELL	Laptop 1	Latitude E5430	42332463469
DELL	Laptop 2	Inspiron 15-3543	30064495430
DELL	Adapter	Inspiron 15-3543	30064495431
Unknown	Earphone	Unknown	159425

External I/O Cable

Cable Description	Length (m)	From/Port	To
Un-shielding Detachable USB Cable	1.0	Laptop	EUT
Un-shielded Un-detachable AC cable	1.2	Socket	LISN
Un-shielded Detachable earphone cable	1.2	Earphone	EUT

Block Diagram of Test Setup

EUT Operation Mode: Downloading



SUMMARY OF TEST RESULTS

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

EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
AC Line Conducted Emission Test					
Rohde & Schwarz	EMI Test Receiver	ESCI	101120	2019/7/9	2020/7/8
Rohde & Schwarz	LISN	ENV216	101613	2020/1/22	2021/1/21
Rohde & Schwarz	Transient Limitor	ESH3Z2	DE25985	2019/11/29	2020/11/28
Unknow	CE Cable	CE Cable	UF A210B-1-0720-504504	2019/11/29	2020/11/28
Rohde & Schwarz	CE Test software	EMC 32	V8.53.0	NCR	NCR
Radiated Emission Test					
R&S	EMI Test Receiver	ESR3	102455	2019/7/9	2020/7/8
Sonoma instrument	Pre-amplifier	310 N	186238	2020/4/20	2021/4/20
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2017/12/22	2020/12/21
Unknow	Cable 2	RF Cable 2	F-03-EM197	2019/11/29	2020/11/28
Unknow	Cable	Chamber Cable 1	F-03-EM236	2019/11/29	2020/11/28
Rohde & Schwarz	Auto test software	EMC 32	V9.10	NCR	NCR
Rohde & Schwarz	Spectrum Analyzer	FSV40-N	102259	2019/7/22	2020/7/21
COM-POWER	Pre-amplifier	PA-122	181919	2019/11/29	2020/11/28
Sunol Sciences	Horn Antenna	DRH-118	A052604	2017/12/22	2020/12/21
Insulted Wire Inc.	RF Cable	SPS-2503-3150	02222010	2019/11/29	2020/11/28
Unknow	RF Cable	W1101-EQ1 OUT	F-19-EM005	2019/11/29	2020/11/28

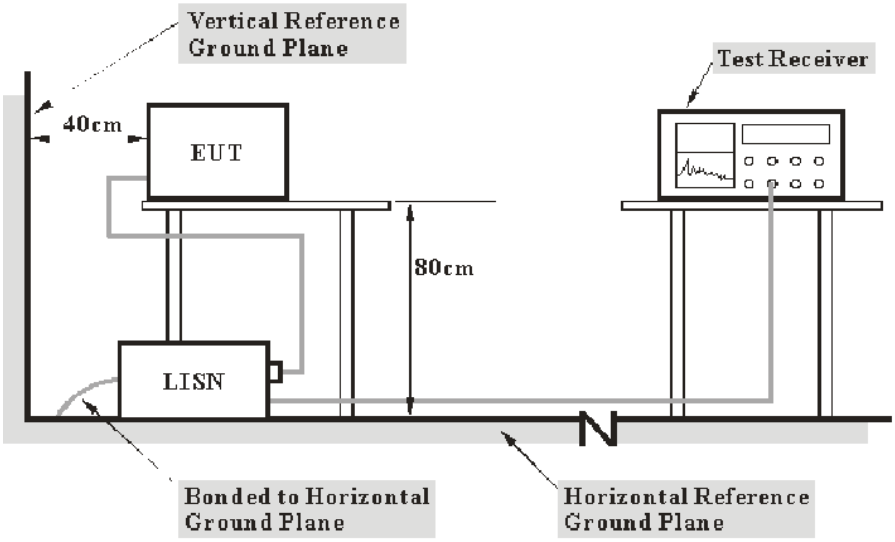
*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

FCC §15.107 – AC LINE CONDUCTED EMISSIONS

Applicable Standard

According to FCC §15.107

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 measurement procedure of EUT setup is according with per ANSI C63.4-2014. The related limit was specified in FCC Part 15.107 Class B.

The spacing between the peripherals was 10 cm.

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 Procedure

During the conducted emission test, the host PC was connected to the first LISN and the other relevant equipments were conncected to 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 Factor & Margin Calculation

The Corrected factor is calculated by adding LISN/ISN VDF (Voltage Division Factor), Cable Loss and Transient Limiter Attenuation. The basic equation is as follows:

Correction Factor = LISN VDF + Cable Loss + Transient Limiter Attenuation

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

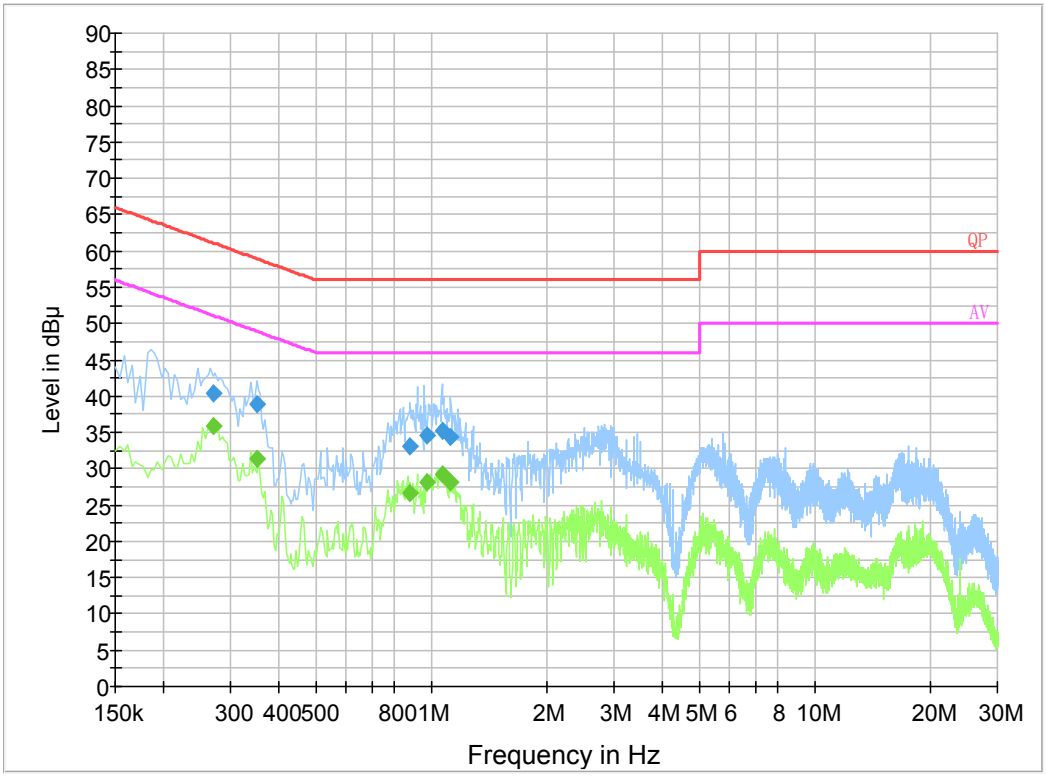
Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	65 %
ATM Pressure:	101.0 kPa

The testing was performed by Haiguo Li on 2020-06-10.

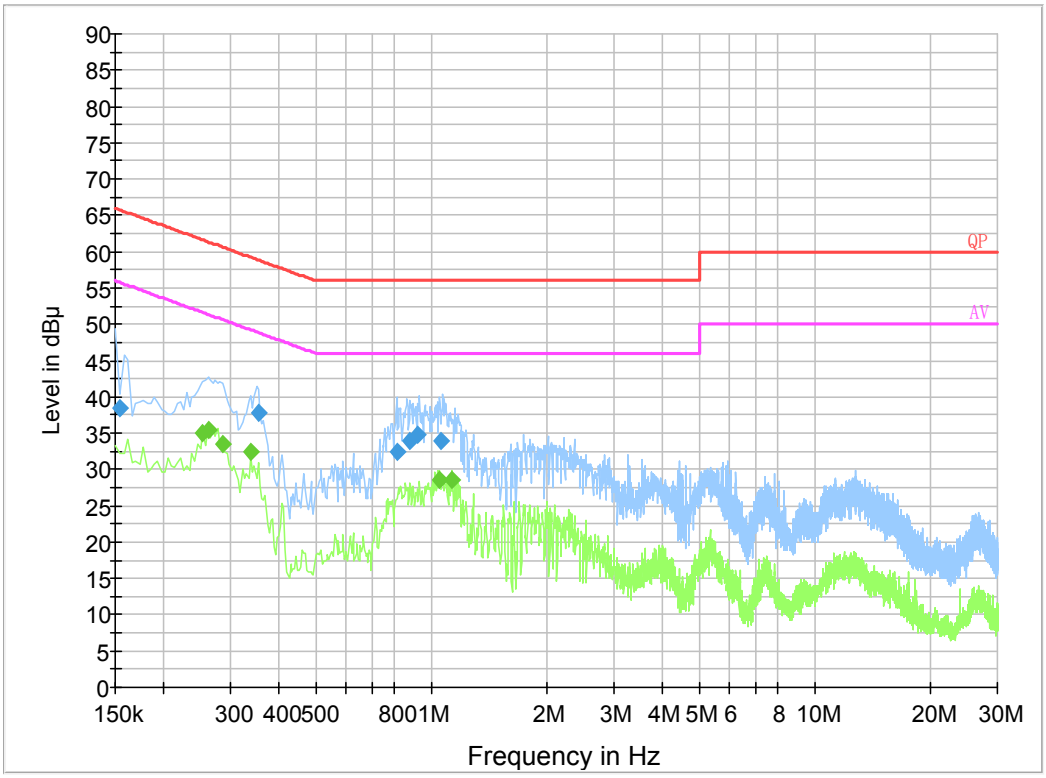
EUT Operation Mode: Downloading

AC 120V/60 Hz, Line



Frequency (MHz)	Corrected Amplitude (dBµV)	Correction Factor (dB)	Limit (dBµV)	Margin (dB)	Detector (PK/Ave./QP)
0.270500	40.3	19.8	61.1	20.8	QP
0.352750	38.8	19.9	58.9	20.1	QP
0.876770	33.1	19.8	56.0	22.9	QP
0.971630	34.7	19.9	56.0	21.3	QP
1.069950	35.3	19.9	56.0	20.7	QP
1.125110	34.4	19.8	56.0	21.6	QP
0.270500	35.9	19.8	51.1	15.2	Ave.
0.352750	31.3	19.9	48.9	17.6	Ave.
0.876770	26.5	19.8	46.0	19.5	Ave.
0.971630	28.1	19.9	46.0	17.9	Ave.
1.069950	29.1	19.9	46.0	16.9	Ave.
1.125110	28.1	19.8	46.0	17.9	Ave.

AC 120V/60 Hz, Neutral



Frequency (MHz)	Corrected Amplitude (dBµV)	Correction Factor (dB)	Limit (dBµV)	Margin (dB)	Detector (PK/Ave./QP)
0.154500	38.5	19.8	65.8	27.2	QP
0.355250	37.8	19.9	58.8	21.0	QP
0.813790	32.4	19.8	56.0	23.6	QP
0.877010	33.9	19.7	56.0	22.1	QP
0.919990	34.8	19.8	56.0	21.2	QP
1.057890	33.9	19.8	56.0	22.1	QP
0.254000	35.1	19.8	51.6	16.6	Ave.
0.262000	35.5	19.8	51.4	15.8	Ave.
0.286000	33.6	19.7	50.6	17.0	Ave.
0.338000	32.4	19.8	49.3	16.9	Ave.
1.054000	28.6	19.8	46.0	17.4	Ave.
1.138000	28.6	19.8	46.0	17.4	Ave.

Note:
1) Correction Factor =LISN VDF (Voltage Division Factor) + Cable Loss + Transient Limiter Attenuation
2) Corrected Amplitude = Reading + Correction Factor
3) Margin = Limit – Corrected Amplitude

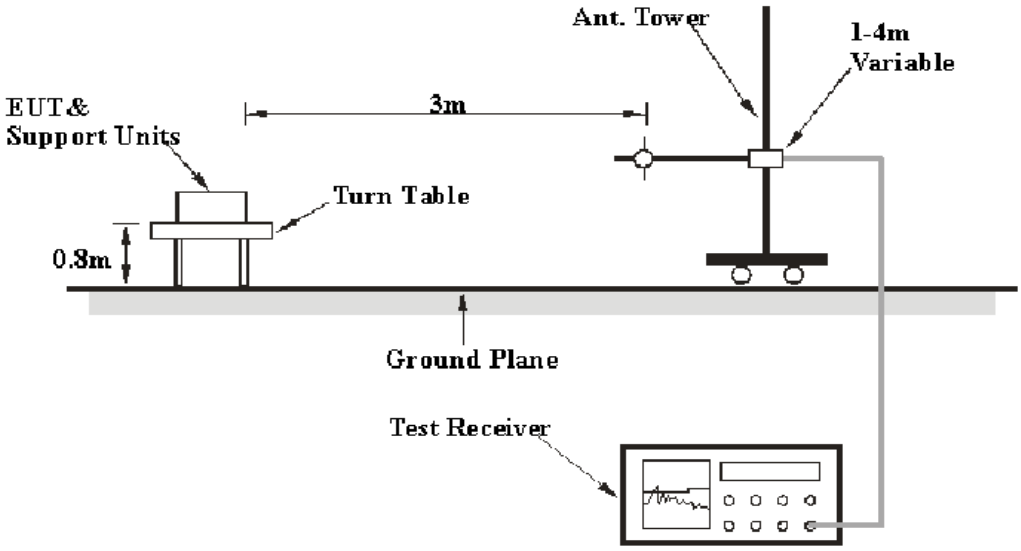
FCC §15.109 - RADIATED SPURIOUS EMISSIONS

Applicable Standard

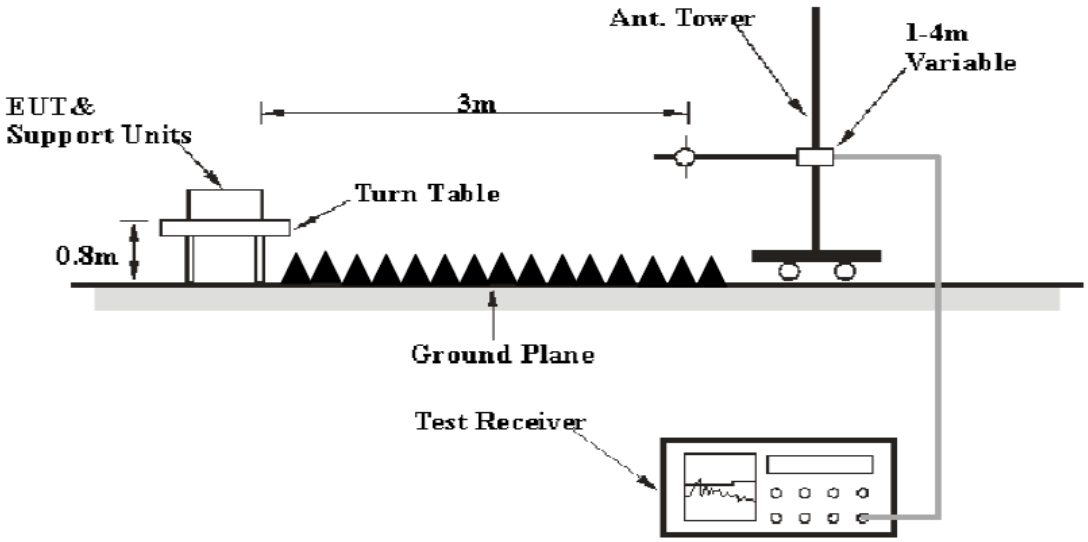
FCC §15.109

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 C63.4-2014. The specification used was the FCC Part 15.109 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 spacing between the peripherals was 10 cm.

EMI Test Receiver Setup

The system was investigated from 30 MHz to 12.4GHz.

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

Frequency Range	RBW	Video B/W	IF B/W	Measurment
30 MHz – 1000 MHz	100 kHz	300 kHz	120 kHz	QP
Above 1 GHz	1MHz	3 MHz	/	PK
	1MHz	10 Hz	/	Ave.

Test Procedure

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

All data was recorded in the Quasi-peak detector mode from 30 MHz to 1 GHz and PK and average detector modes for frequencies above 1 GHz.

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

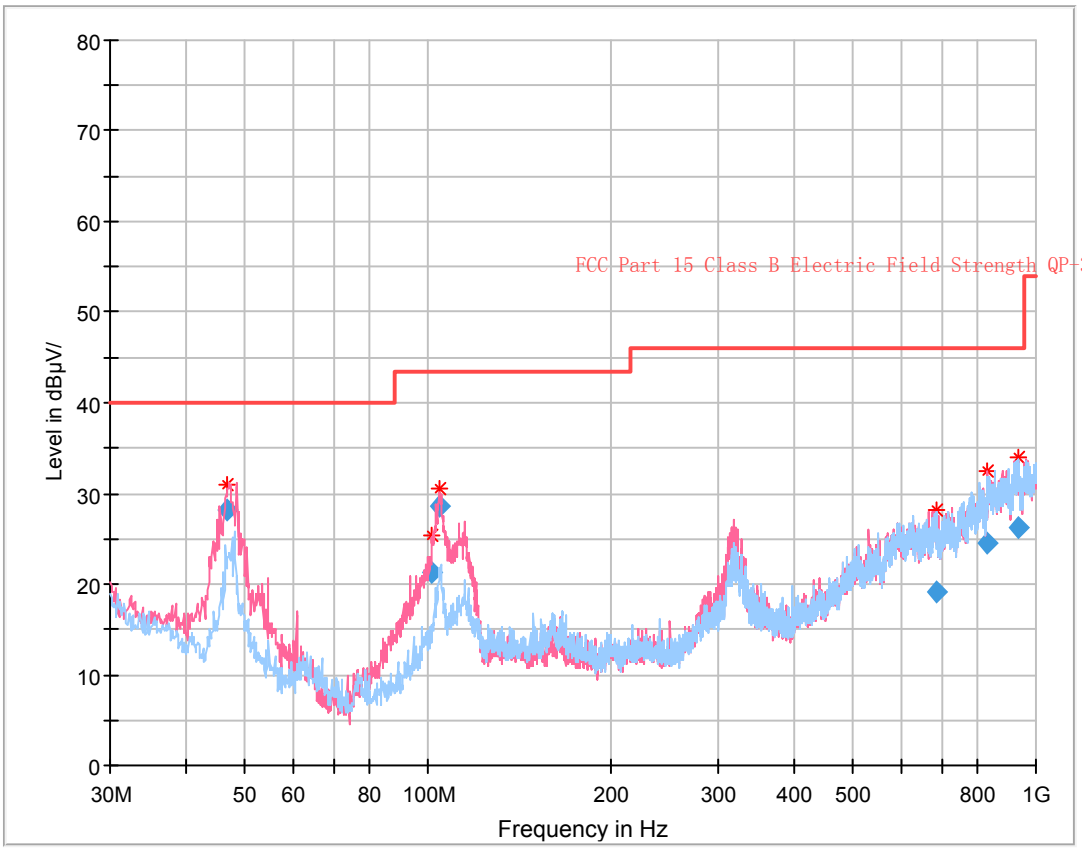
Environmental Conditions

Temperature:	23~25 ℃
Relative Humidity:	64~66 %
ATM Pressure:	101.0 kPa

The testing was performed by Holland Yang on 2020-06-10 for below 1GHz and Charlie Cha and Leo Huang on 2020-06-10 for above 1GHz.

EUT Operation Mode: Downloading

30 MHz~1 GHz:



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna height (cm)	Antenna Polarity	Turntable position (degree)	Correction Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
46.798375	28.08	147.0	V	335.0	-18.1	40.00	11.92
101.696875	21.21	119.0	V	257.0	-16.9	43.50	22.29
104.347500	28.55	110.0	V	275.0	-16.4	43.50	14.95
687.445125	19.21	175.0	H	307.0	-1.3	46.00	26.79
834.150625	24.49	114.0	V	289.0	2.7	46.00	21.51
934.547375	26.19	237.0	H	194.0	4.8	46.00	19.81

Above 1GHz:

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBuV/m)	FCC Part 15B	
	Reading (dBμV)	PK/QP/Ave.		Height (m)	Polar (H / V)			Limit (dBuV/m)	Margin (dB)
1278.60	43.90	PK	346	1.7	H	-4.51	39.39	74	34.61
1278.60	28.32	Ave.	346	1.7	H	-4.51	23.81	54	30.19
1278.60	44.16	PK	78	2.0	V	-4.51	39.65	74	34.35
1278.60	28.72	Ave.	78	2.0	V	-4.51	24.21	54	29.79
1614.97	46.92	PK	333	2.4	H	-2.61	44.31	74	29.69
1614.97	28.37	Ave.	333	2.4	H	-2.61	25.76	54	28.24
1614.97	54.01	PK	186	1.9	V	-2.61	51.40	74	22.60
1614.97	33.04	Ave.	186	1.9	V	-2.61	30.43	54	23.57

Note:
1) Correction Factor=Antenna factor (RX) + cable loss – amplifier factor
2) Corrected Amplitude = Correction Factor + Reading
3) Margin = Limit - Corrected Amplitude

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