FCC EMI TEST REPORT

FCC ID	:	**AK8XT0011**
Equipment	:	**IoT Network device**
Brand Name	:	**Sony**
Applicant	:	**Sony Corporation** **1-7-1 Konan Minato-ku, Tokyo,** **108-0075 Japan**
Manufacturer	:	**Sony Corporation** **1-7-1 Konan Minato-ku Tokyo,** **108-0075 Japan**
Standard	:	**FCC 47 CFR FCC Part 15 Subpart B**

The product was received on Jul. 10, 2019 and testing was started from Oct. 09, 2019 and completed on Nov. 06, 2019. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI C63.4-2014 and has been in compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Louis Wu

Approved by: Louis Wu

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)

Table of Contents

History of this test report

Report No.	Version	Description	Issued Date
FC971044-02	01	Initial issue of report	Jan. 16, 2020
FC971044-02	02	Add the test description in section 2.1.	Jan. 31, 2020

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.107	AC Conducted Emission	Pass	Under limit 16.47 dB at 0.155 MHz
3.2	15.109	Radiated Emission	Pass	Under limit 8.62 dB at 188.760 MHz

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Dara Chiu

Report Producer: Yvonne Cheng

1. General Description

1.1. Product Feature of Equipment Under Test

LTE, Bluetooth-LE, NFC, and GNSS.

Product Specification subjective to this standard	
Antenna Type	WWAN: PIFA Antenna Bluetooth: PIFA Antenna GPS/Glonass: PIFA Antenna NFC: Loop Antenna

EUT Information List			
HW Version	SW Version	S/N	Performed Test Item
A	00.039	2100164CBA	Conducted Emission Radiated Emission

Accessory List	
Battery	Model Name : AHB482331HPC
	S/N: N/A
USB Cable	Model Name.: W1001-ZZ-0107
	S/N : N/A
Cradle	Model Name.: CB403D-0000-202
	S/N : N/A

Note:

1. Above EUT list used are electrically identical per declared by manufacturer.
2. Above the accessories list are used to exercise the EUT during test, and the serial number of each type of accessories is listed in each section of this report. .
3. For other wireless features of this EUT, test report will be issued separately.

1.2. Modification of EUT

No modifications are made to the EUT during all test items.

1.3. Test Location

Test Site	SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory	
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978	
Test Site No.	**Sporton Site No.**	
	CO05-HY	03CH06-HY

FCC designation No.: TW1093

1.4. Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC 47 CFR FCC Part 15 Subpart B
- ANSI C63.4-2014

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.

2. Test Configuration of Equipment Under Test

2.1. Test Mode

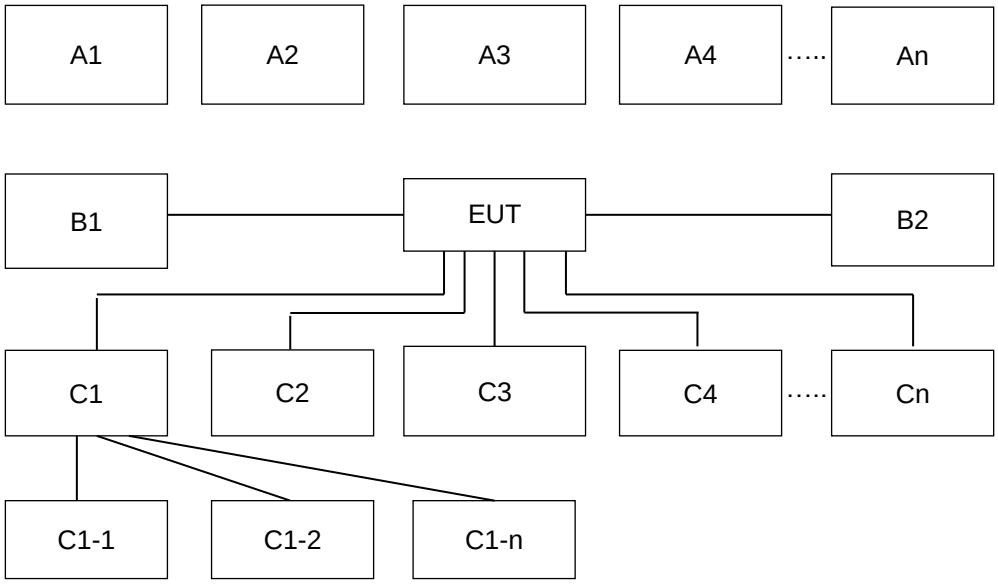
The EUT has been associated with peripherals pursuant to ANSI C63.4-2014 and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (30MHz to the 5th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

For radiated emission test, pre-scanned tests X, Y, Z, and Accessory (Adapter and Cradle) in three orthogonal panels to determine the final configuration (Cradle mode) from all possible combinations.

Test Items	Function Type
AC Conducted Emission	Mode 1: LTE M1 Band 4 Link + Bluetooth-LE Idle + NFC On + Cradle + USB Cable (Charging from Adapter) Mode 2: LTE M1 Band 13 Idle + Bluetooth-LE Idle + GPS Rx + Cradle + USB Cable (Charging from Adapter) Mode 3: LTE M1 Band 14 Link + Bluetooth-LE Idle + NFC On + Cradle + USB Cable (Charging from Adapter) Mode 4: LTE M1 Band 12 Link + Bluetooth-LE Idle + NFC On + Cradle + USB Cable (Charging from Adapter)
Radiated Emissions	Mode 1: LTE M1 Band 4 Link + Bluetooth-LE Idle + NFC On + Cradle + USB Cable (Charging from Adapter) Mode 2: LTE M1 Band 13 Idle + Bluetooth-LE Idle + GPS Rx + Cradle + USB Cable (Charging from Adapter) Mode 3: LTE M1 Band 14 Link + Bluetooth-LE Idle + NFC On + Cradle + USB Cable (Charging from Adapter) Mode 4: LTE M1 Band 12 Link + Bluetooth-LE Idle + NFC On + Cradle + USB Cable (Charging from Adapter)

2.2. Connection Diagram of Test System



Test Setup									
No.	**Wireless Station**	**Connection Type**	**Test Mode**						
			1	**2**	**3**	**4**	**-**	**-**	**-**
A1	Phone	Bluetooth	X	X	X	X			
A2	System Simulator	LTE	X	X	X	X			
A3	GPS Station	GPS	-	X	-	-			
No.	**Power Source**	**Connection Type**	**1**	**2**	**3**	**4**	**-**	**-**	**-**
C1-1	AC : 120V/60Hz	AC Power Cable	X	X	X	X			
No.	**Setup Peripherals**	**Connection Type**	**1**	**2**	**3**	**4**	**-**	**-**	**-**
C1	Cradle	EUT I/O interface without Cable	X	X	X	X			

2.3. Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	Anritsu	MT8821C	N/A	N/A	Unshielded, 1.8 m
2.	GPS Station	Pendulum	GSG-54	N/A	N/A	Unshielded, 1.8 m
3.	NFC Card	Metro Taipei	Easy Card	N/A	N/A	N/A
4.	Phone	Sony	H3113	FCC DoC	N/A	N/A
5.	Phone	Sony	Skywalker	N/A	N/A	N/A
6.	Adapter	Sony	AC0060-US	N/A	N/A	N/A

2.4. EUT Operation Test Setup

The EUT was in LTE link/idle mode during the testing. The EUT was synchronized with the BCCH, and had been continuous receiving mode by setting paging reorganization of the system simulator.

At the same time, the EUT was attached to the phone, and the following programs installed in the EUT were programmed during the test:

1. Execute “GPS Test” to make the EUT receive continuous signals from GPS station.
2. Turn on NFC function

3. Test Result

3.1. Test of AC Conducted Emission Measurement

3.1.1. Limits of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of emission (MHz)	Conducted limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

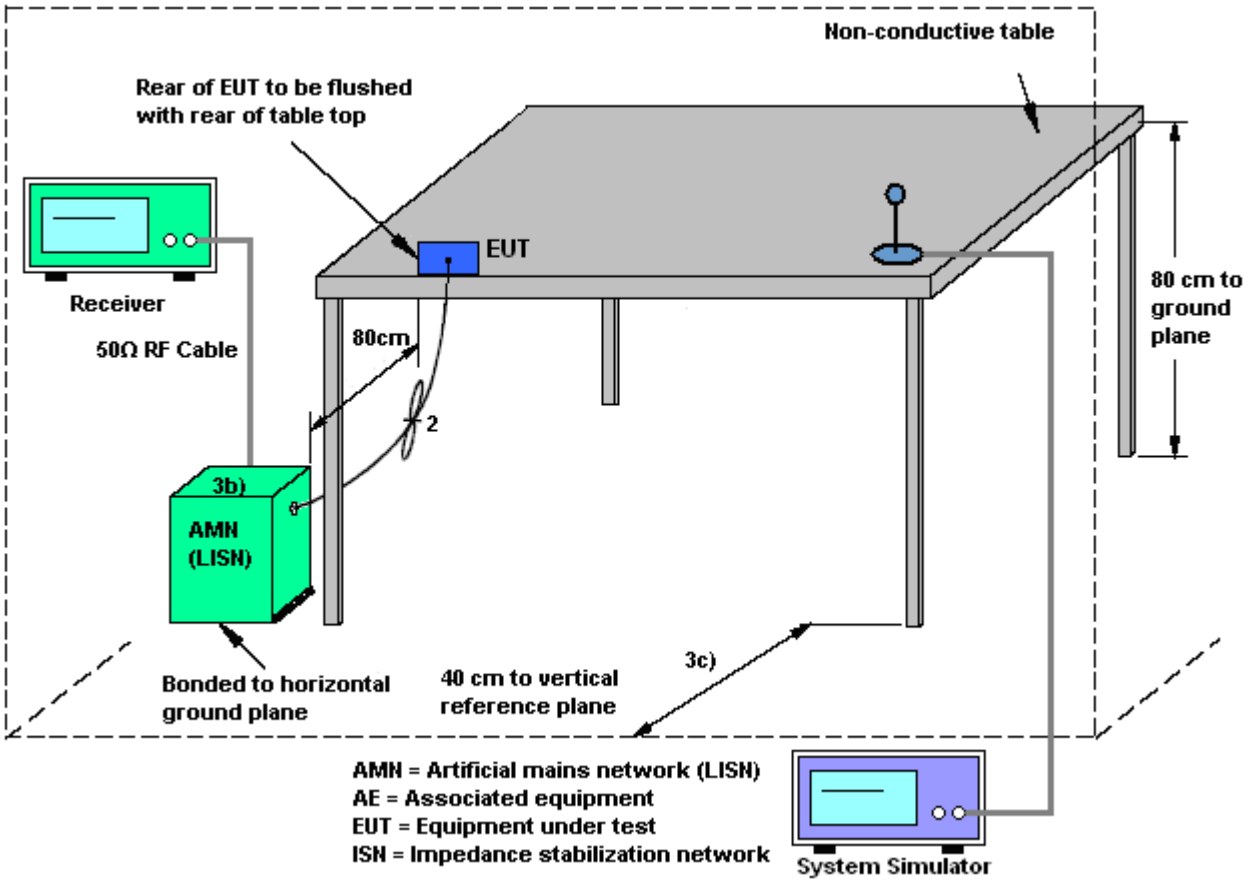
3.1.2. Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.1.3. Test Procedure

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

3.1.4. Test Setup



3.1.5. Test Result of AC Conducted Emission

Please refer to Appendix A.

3.2. Test of Radiated Emission Measurement

3.2.1. Limit of Radiated Emission

The emissions from an unintentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

3.2.2. Measuring Instruments

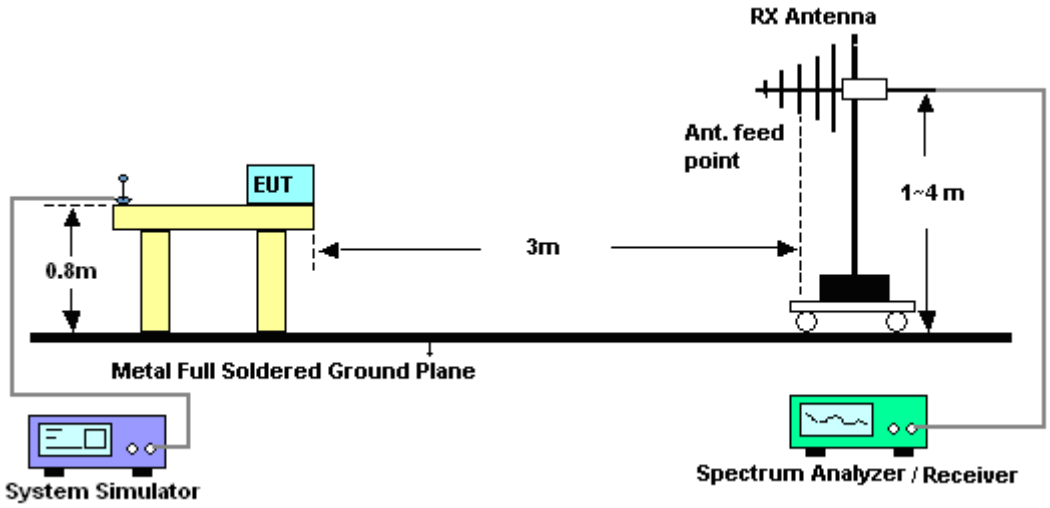
Refer a test equipment and calibration data table in this test report.

3.2.3. Test Procedures

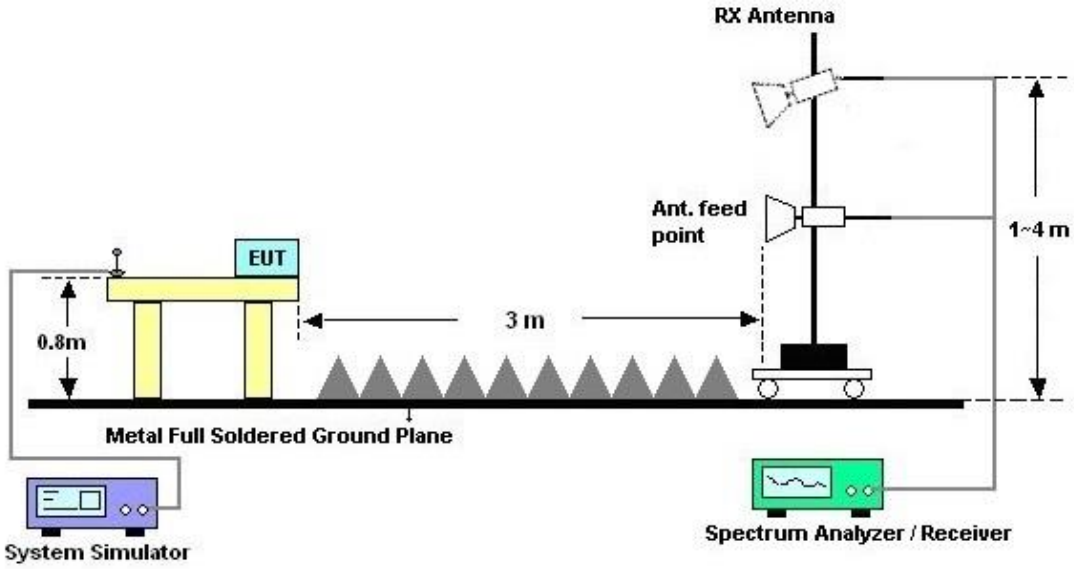
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna height is adjusted between one to four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode (RBW=120kHz/VBW=300kHz for frequency below 1GHz; RBW=1MHz VBW=3MHz (Peak), RBW=1MHz/VBW=10Hz (Average) for frequency above 1GHz).
7. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, peak values of EUT will be reported. Otherwise, the emission will be repeated by using the quasi-peak method and reported.
8. Emission level (dBμV/m) = 20 log Emission level (μV/m)
9. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

3.2.4. Test Setup of Radiated Emission

For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.2.5. Test Result of Radiated Emission

Please refer to Appendix B.

4. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Oct. 09, 2019~ Dec. 18, 2019	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	9kHz~3.6GHz	Nov. 12, 2018	Oct. 09, 2019~ Nov. 05, 2019	Nov. 11, 2019	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	9kHz~3.6GHz	Nov. 15, 2019	Dec. 18, 2019	Nov. 14, 2020	Conduction (CO05-HY)
Hygrometer	Testo	608-H1	34913912	N/A	Mar. 19, 2019	Oct. 09, 2019~ Dec. 18, 2019	Mar. 18, 2020	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Nov. 14, 2018	Oct. 09, 2019~ Nov. 05, 2019	Nov. 13, 2019	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Nov. 15, 2019	Dec. 18, 2019	Nov. 14, 2020	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	Oct. 09, 2019~ Dec. 18, 2019	N/A	Conduction (CO05-HY)
LF Cable	HUBER + SUHNER	RG-214/U	LF01	N/A	Dec. 31, 2018	Oct. 09, 2019~ Dec. 18, 2019	Dec. 30, 2019	Conduction (CO05-HY)
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100851	N/A	Dec. 31, 2018	Oct. 09, 2019~ Dec. 18, 2019	Dec. 30, 2019	Conduction (CO05-HY)
Amplifier	SONOMA	310N	186713	9kHz~1GHz	May 01, 2019	Nov. 05, 2019~ Dec. 18, 2019	Apr. 30, 2020	Radiation (03CH06-HY)
Bilog Antenna	Schaffner	CBL 6111C & N-6-06	2725 & AT-N0601	30MHz~1GHz	Jan. 10, 2019	Nov. 05, 2019~ Dec. 18, 2019	Jan. 09, 2020	Radiation (03CH06-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1156	1GHz~18GHz	Aug. 30, 2019	Nov. 05, 2019~ Dec. 18, 2019	Aug. 29, 2020	Radiation (03CH06-HY)
Preamplifier	MITEQ	00101800-30-10 P	1850117	1GHz~18GHz	May 23, 2019	Nov. 05, 2019~ Dec. 18, 2019	May 22, 2020	Radiation (03CH06-HY)
EMI Test Receiver	Rohde & Schwarz	ESU26	100472	20Hz~26.5GHz	Jan. 08, 2019	Nov. 05, 2019~ Dec. 18, 2019	Jan. 07, 2020	Radiation (03CH06-HY)
Controller	INN-CO	EM1000	060782	Control Turn table & Ant Mast	N/A	Nov. 05, 2019~ Dec. 18, 2019	N/A	Radiation (03CH06-HY)
Antenna Mast	MF	MF-7802	MF780208212	1m~4m	N/A	Nov. 05, 2019~ Dec. 18, 2019	N/A	Radiation (03CH06-HY)
Turn Table	INN-CO	DS2000	420/650/00	0-360 degree	N/A	Nov. 05, 2019~ Dec. 18, 2019	N/A	Radiation (03CH06-HY)
Test Software	AUDIX	e3	6.2009-8-24 (k5)	N/A	N/A	Nov. 05, 2019~ Dec. 18, 2019	N/A	Radiation (03CH06-HY)
RF Cable	HUBER+SUHNER/WOKEN/HARBOUR INDUSTRIES	SUCOFLEX 104 /STORM/LL142	MY24966/4/ 00100A1O2A 178T/ CA3601-3601 -1000	30MHz-26GHz	Nov. 22, 2018	Nov. 05, 2019~ Nov. 06, 2019	Nov. 21, 2019	Radiation (03CH06-HY)
RF Cable	HUBER+SUHNER/WOKEN/HARBOUR INDUSTRIES	SUCOFLEX 104 /STORM/LL142	MY24966/4/ 00100A1O2A 178T/ CA3601-3601 -1000	30MHz-26GHz	Nov. 21, 2019	Dec. 18, 2019	Nov. 20, 2020	Radiation (03CH06-HY)
Filter	Microwave	H1G013G1	SN477215	1.0G High Pass	Nov. 01, 2019	Nov. 05, 2019~ Dec. 18, 2019	Oct. 31, 2020	Radiation (03CH06-HY)
Filter	Wainwright	WLKS1200-8SS	SN3	1.2G Low Pass	Nov. 01, 2019	Nov. 05, 2019~ Dec. 18, 2019	Oct. 31, 2020	Radiation (03CH06-HY)

5. Uncertainty of Evaluation

Uncertainty of Conducted Emission Measurement (150 kHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.2**

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.9**

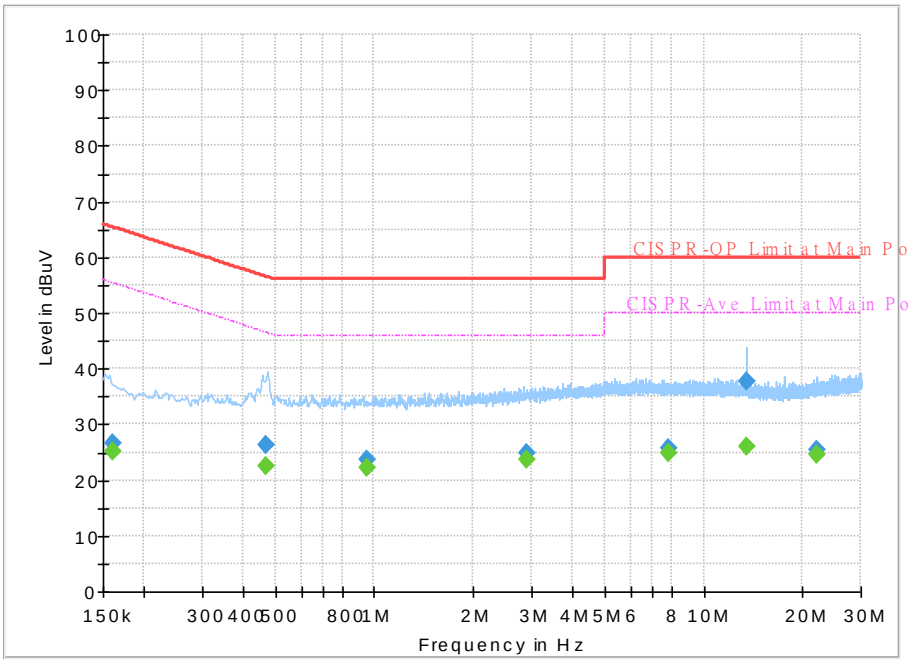
Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.7**

Appendix A. AC Conducted Emission Test Results

Test Mode :	Mode 1	**Temperature :**	24~27℃
Test Engineer :	Tom Lee and Howard Huang	**Relative Humidity :**	45~55%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		

Full Spectrum

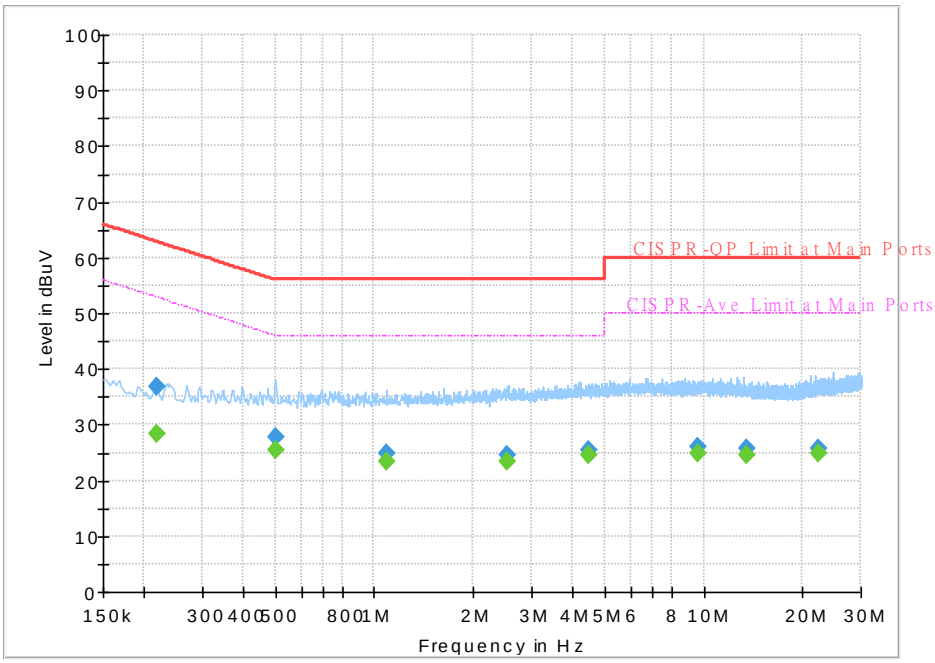


Final Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.161250	---	25.01	55.40	30.39	L1	OFF	19.4
0.161250	26.61	---	65.40	38.79	L1	OFF	19.4
0.469500	---	22.60	46.52	23.92	L1	OFF	19.4
0.469500	26.33	---	56.52	30.19	L1	OFF	19.4
0.948750	---	22.31	46.00	23.69	L1	OFF	19.5
0.948750	23.68	---	56.00	32.32	L1	OFF	19.5
2.904000	---	23.72	46.00	22.28	L1	OFF	19.5
2.904000	24.90	---	56.00	31.10	L1	OFF	19.5
7.809000	---	24.81	50.00	25.19	L1	OFF	19.7
7.809000	25.70	---	60.00	34.30	L1	OFF	19.7
13.560000	---	25.91	50.00	24.09	L1	OFF	19.9
13.560000	37.66	---	60.00	22.34	L1	OFF	19.9
21.986250	---	24.53	50.00	25.47	L1	OFF	20.2
21.986250	25.46	---	60.00	34.54	L1	OFF	20.2

Test Mode :	Mode 1	Temperature :	24~27℃
Test Engineer :	Tom Lee and Howard Huang	Relative Humidity :	45~55%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		

Full Spectrum

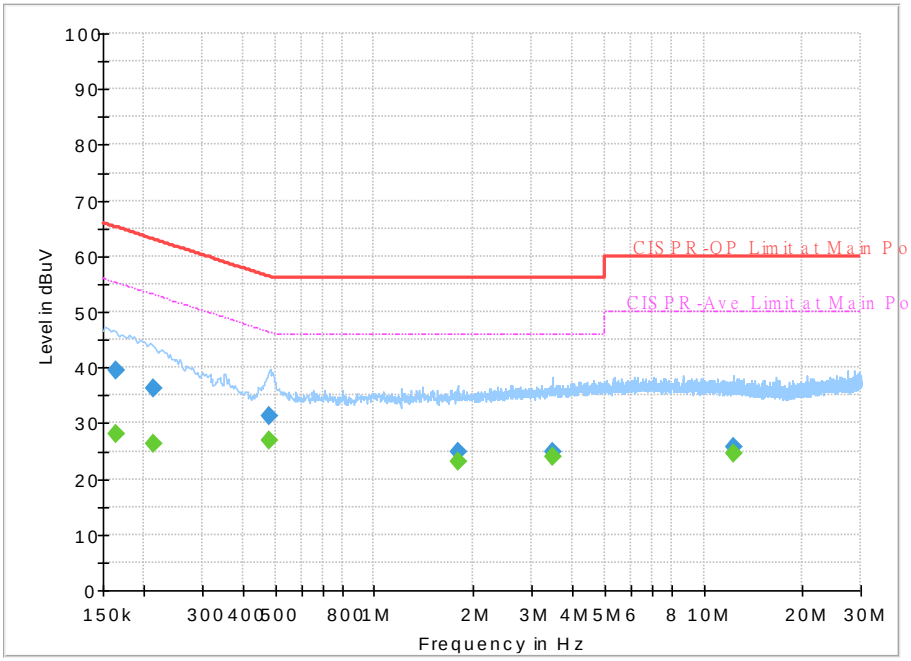


Final Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.217500	---	28.30	52.91	24.61	N	OFF	19.5
0.217500	36.82	---	62.91	26.09	N	OFF	19.5
0.501000	---	25.45	46.00	20.55	N	OFF	19.5
0.501000	27.86	---	56.00	28.14	N	OFF	19.5
1.088250	---	23.27	46.00	22.73	N	OFF	19.5
1.088250	24.95	---	56.00	31.05	N	OFF	19.5
2.526000	---	23.39	46.00	22.61	N	OFF	19.6
2.526000	24.54	---	56.00	31.46	N	OFF	19.6
4.456500	---	24.43	46.00	21.57	N	OFF	19.6
4.456500	25.36	---	56.00	30.64	N	OFF	19.6
9.649500	---	24.87	50.00	25.13	N	OFF	19.9
9.649500	25.91	---	60.00	34.09	N	OFF	19.9
13.560000	---	24.70	50.00	25.30	N	OFF	20.0
13.560000	25.69	---	60.00	34.31	N	OFF	20.0
22.215750	---	24.83	50.00	25.17	N	OFF	20.3
22.215750	25.79	---	60.00	34.21	N	OFF	20.3

Test Mode :	Mode 2	Temperature :	24~27℃
Test Engineer :	Tom Lee and Howard Huang	Relative Humidity :	45~55%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		

Full Spectrum

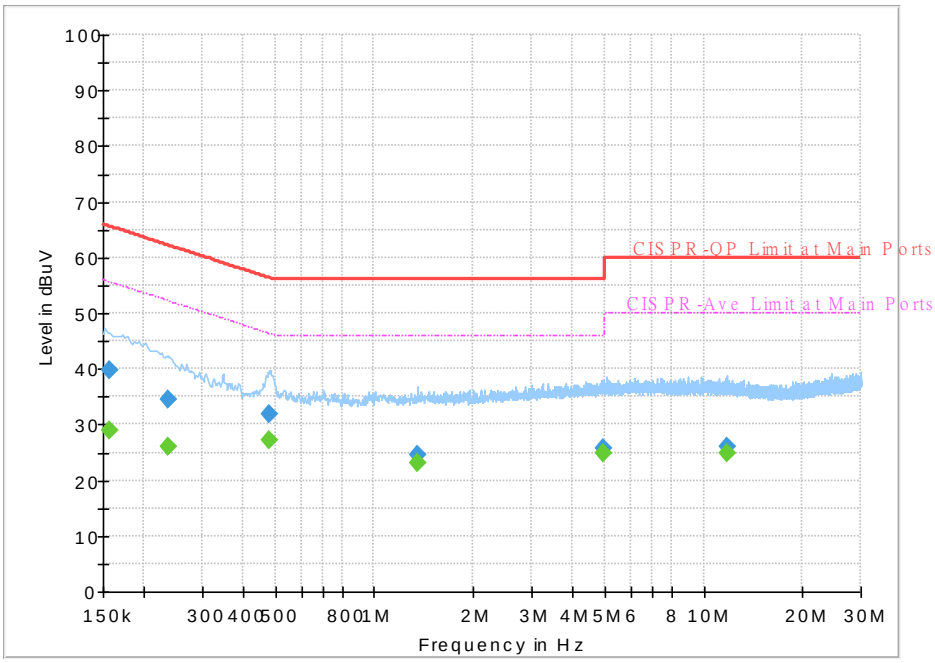


Final Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.163500	---	28.10	55.28	27.18	L1	OFF	19.4
0.163500	39.41	---	65.28	25.87	L1	OFF	19.4
0.213000	---	26.37	53.09	26.72	L1	OFF	19.4
0.213000	36.33	---	63.09	26.76	L1	OFF	19.4
0.478500	---	26.76	46.37	19.61	L1	OFF	19.4
0.478500	31.39	---	56.37	24.98	L1	OFF	19.4
1.790250	---	23.23	46.00	22.77	L1	OFF	19.5
1.790250	24.82	---	56.00	31.18	L1	OFF	19.5
3.491250	---	24.02	46.00	21.98	L1	OFF	19.6
3.491250	24.99	---	56.00	31.01	L1	OFF	19.6
12.338250	---	24.59	50.00	25.41	L1	OFF	19.9
12.338250	25.63	---	60.00	34.37	L1	OFF	19.9

Test Mode :	Mode 2	Temperature :	24~27℃
Test Engineer :	Tom Lee and Howard Huang	Relative Humidity :	45~55%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		

Full Spectrum

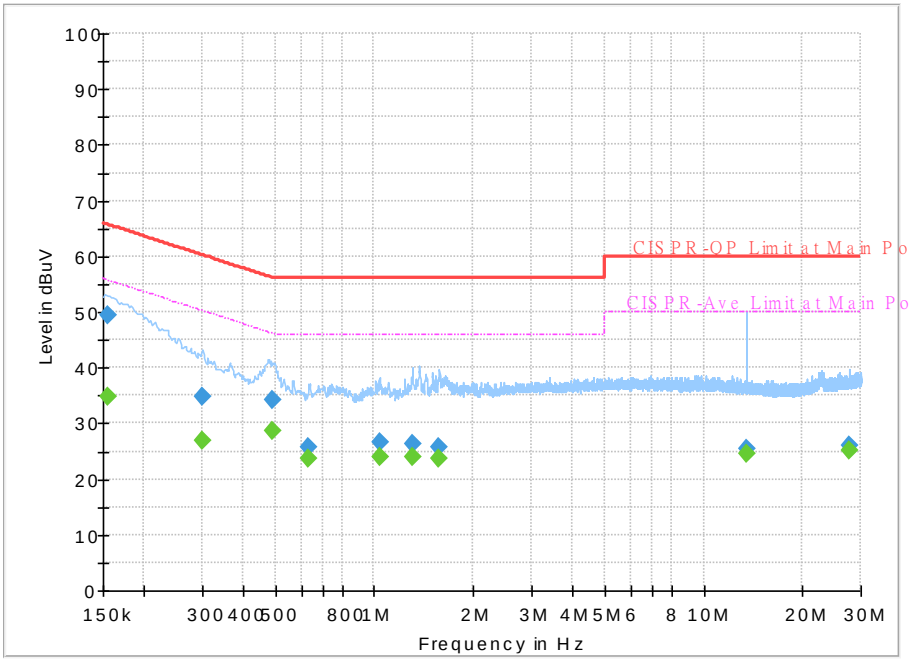


Final Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.156750	---	28.89	55.63	26.74	N	OFF	19.5
0.156750	39.86	---	65.63	25.77	N	OFF	19.5
0.237750	---	25.88	52.17	26.29	N	OFF	19.5
0.237750	34.37	---	62.17	27.80	N	OFF	19.5
0.480750	---	27.14	46.33	19.19	N	OFF	19.5
0.480750	31.81	---	56.33	24.52	N	OFF	19.5
1.356000	---	23.07	46.00	22.93	N	OFF	19.5
1.356000	24.61	---	56.00	31.39	N	OFF	19.5
4.960500	---	24.72	46.00	21.28	N	OFF	19.7
4.960500	25.73	---	56.00	30.27	N	OFF	19.7
11.719500	---	24.81	50.00	25.19	N	OFF	20.0
11.719500	25.98	---	60.00	34.02	N	OFF	20.0

Test Mode :	Mode 3	Temperature :	24~27℃
Test Engineer :	Tom Lee and Howard Huang	Relative Humidity :	45~55%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		

Full Spectrum

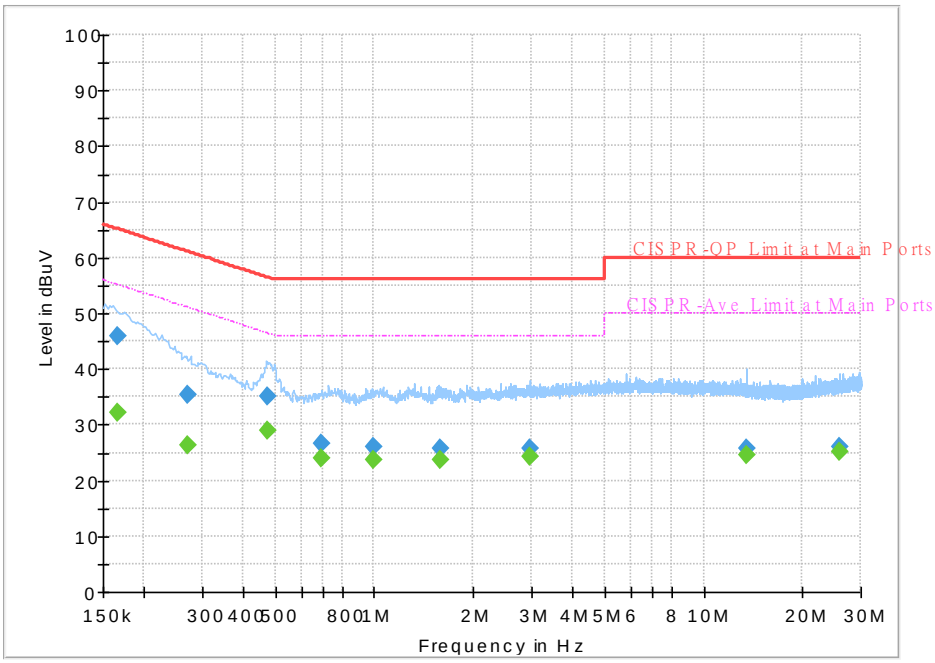


Final Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.154500	---	34.80	55.75	20.95	L1	OFF	19.5
0.154500	49.28	---	65.75	16.47	L1	OFF	19.5
0.300750	---	26.82	50.22	23.40	L1	OFF	19.5
0.300750	34.80	---	60.22	25.42	L1	OFF	19.5
0.489750	---	28.56	46.17	17.61	L1	OFF	19.5
0.489750	34.07	---	56.17	22.10	L1	OFF	19.5
0.633750	---	23.70	46.00	22.30	L1	OFF	19.5
0.633750	25.78	---	56.00	30.22	L1	OFF	19.5
1.039740	---	23.97	46.00	22.03	L1	OFF	19.6
1.039740	26.54	---	56.00	29.46	L1	OFF	19.6
1.306500	---	24.05	46.00	21.95	L1	OFF	19.6
1.306500	26.36	---	56.00	29.64	L1	OFF	19.6
1.569750	---	23.72	46.00	22.28	L1	OFF	19.6
1.569750	25.78	---	56.00	30.22	L1	OFF	19.6
13.560000	---	24.46	50.00	25.54	L1	OFF	20.0
13.560000	25.48	---	60.00	34.52	L1	OFF	20.0
27.736350	---	25.25	50.00	24.75	L1	OFF	20.4
27.736350	25.99	---	60.00	34.01	L1	OFF	20.4

Test Mode :	Mode 3	Temperature :	24~27℃
Test Engineer :	Tom Lee and Howard Huang	Relative Humidity :	45~55%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		

Full Spectrum

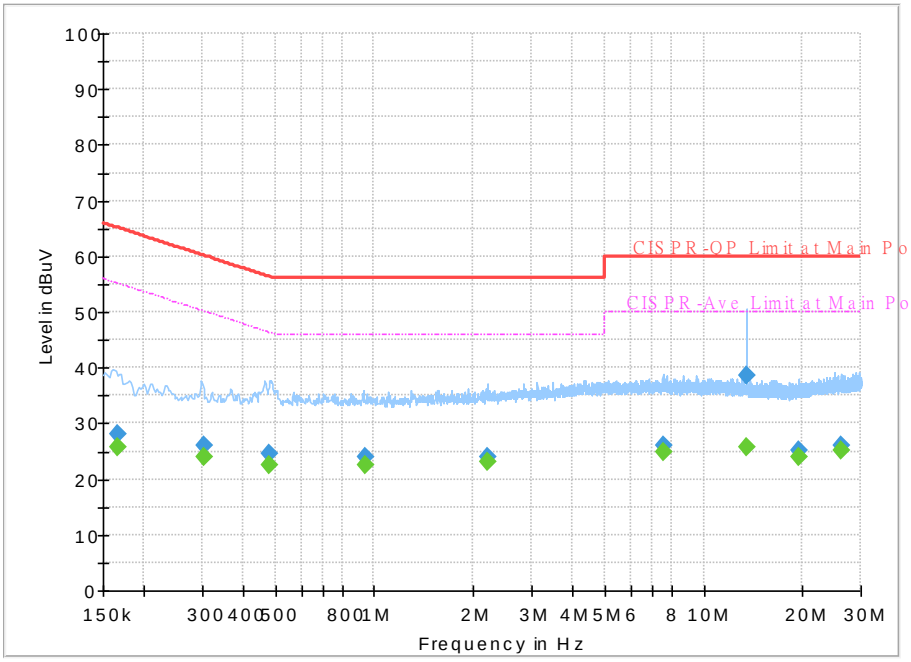


Final Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.165750	---	32.03	55.17	23.14	N	OFF	19.5
0.165750	45.97	---	65.17	19.20	N	OFF	19.5
0.271500	---	26.26	51.07	24.81	N	OFF	19.5
0.271500	35.42	---	61.07	25.65	N	OFF	19.5
0.472470	---	28.81	46.47	17.66	N	OFF	19.6
0.472470	35.10	---	56.47	21.37	N	OFF	19.6
0.688020	---	23.99	46.00	22.01	N	OFF	19.6
0.688020	26.55	---	56.00	29.45	N	OFF	19.6
0.991500	---	23.65	46.00	22.35	N	OFF	19.6
0.991500	26.02	---	56.00	29.98	N	OFF	19.6
1.581000	---	23.78	46.00	22.22	N	OFF	19.6
1.581000	25.72	---	56.00	30.28	N	OFF	19.6
2.982750	---	24.22	46.00	21.78	N	OFF	19.6
2.982750	25.73	---	56.00	30.27	N	OFF	19.6
13.564500	---	24.58	50.00	25.42	N	OFF	20.1
13.564500	25.75	---	60.00	34.25	N	OFF	20.1
25.836000	---	25.20	50.00	24.80	N	OFF	20.5
25.836000	26.00	---	60.00	34.00	N	OFF	20.5

Test Mode :	Mode 4	Temperature :	24~27℃
Test Engineer :	Tom Lee and Howard Huang	Relative Humidity :	45~55%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		

Full Spectrum

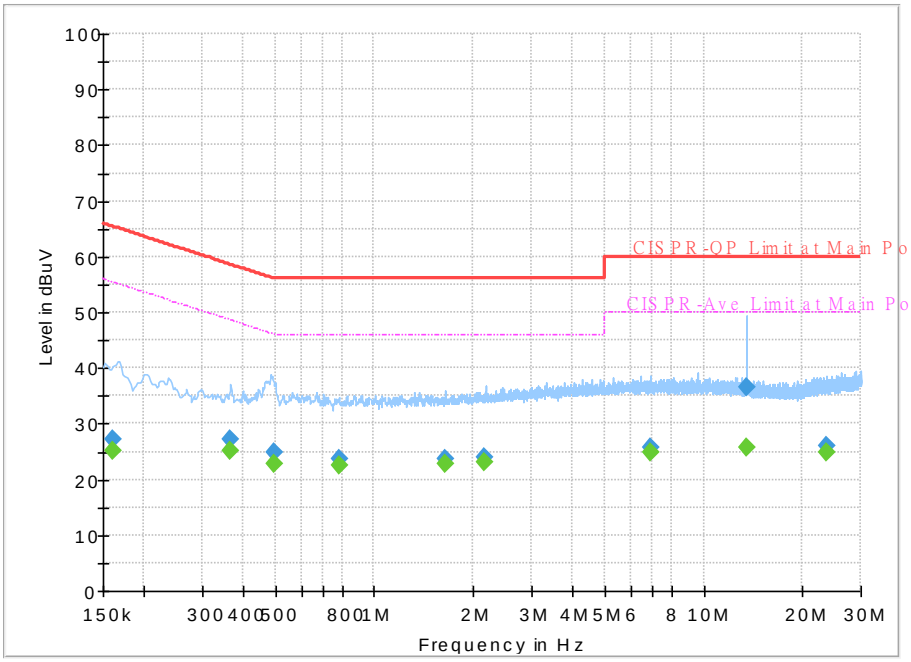


Final Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.166560	---	25.79	55.13	29.34	L1	OFF	19.5
0.166560	28.11	---	65.13	37.02	L1	OFF	19.5
0.303000	---	24.05	50.16	26.11	L1	OFF	19.5
0.303000	25.98	---	60.16	34.18	L1	OFF	19.5
0.480840	---	22.56	46.33	23.77	L1	OFF	19.5
0.480840	24.62	---	56.33	31.71	L1	OFF	19.5
0.935250	---	22.56	46.00	23.44	L1	OFF	19.5
0.935250	23.91	---	56.00	32.09	L1	OFF	19.5
2.202810	---	23.09	46.00	22.91	L1	OFF	19.6
2.202810	23.98	---	56.00	32.02	L1	OFF	19.6
7.518750	---	24.94	50.00	25.06	L1	OFF	19.8
7.518750	26.03	---	60.00	33.97	L1	OFF	19.8
13.560000	---	25.79	50.00	24.21	L1	OFF	20.0
13.560000	38.67	---	60.00	21.33	L1	OFF	20.0
19.358250	---	24.02	50.00	25.98	L1	OFF	20.2
19.358250	25.09	---	60.00	34.91	L1	OFF	20.2
26.151810	---	25.17	50.00	24.83	L1	OFF	20.3
26.151810	26.15	---	60.00	33.85	L1	OFF	20.3

Test Mode :	Mode 4	Temperature :	24~27℃
Test Engineer :	Tom Lee and Howard Huang	Relative Humidity :	45~55%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		

Full Spectrum

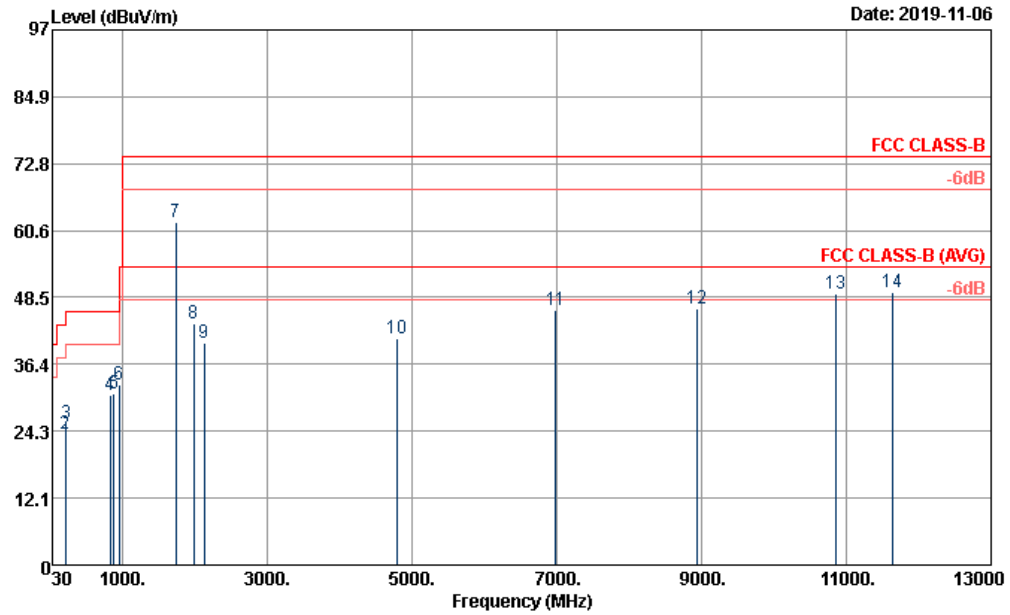


Final Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.161250	---	25.25	55.40	30.15	N	OFF	19.5
0.161250	27.09	---	65.40	38.31	N	OFF	19.5
0.364470	---	25.17	48.63	23.46	N	OFF	19.5
0.364470	27.33	---	58.63	31.30	N	OFF	19.5
0.494250	---	22.91	46.10	23.19	N	OFF	19.6
0.494250	24.79	---	56.10	31.31	N	OFF	19.6
0.784500	---	22.44	46.00	23.56	N	OFF	19.6
0.784500	23.63	---	56.00	32.37	N	OFF	19.6
1.641390	---	22.75	46.00	23.25	N	OFF	19.6
1.641390	23.82	---	56.00	32.18	N	OFF	19.6
2.168250	---	23.04	46.00	22.96	N	OFF	19.6
2.168250	24.02	---	56.00	31.98	N	OFF	19.6
6.916920	---	24.99	50.00	25.01	N	OFF	19.8
6.916920	25.79	---	60.00	34.21	N	OFF	19.8
13.560000	---	25.72	50.00	24.28	N	OFF	20.1
13.560000	36.50	---	60.00	23.50	N	OFF	20.1
23.601030	---	24.99	50.00	25.01	N	OFF	20.4
23.601030	25.92	---	60.00	34.08	N	OFF	20.4

Appendix B. Radiated Emission Test Result

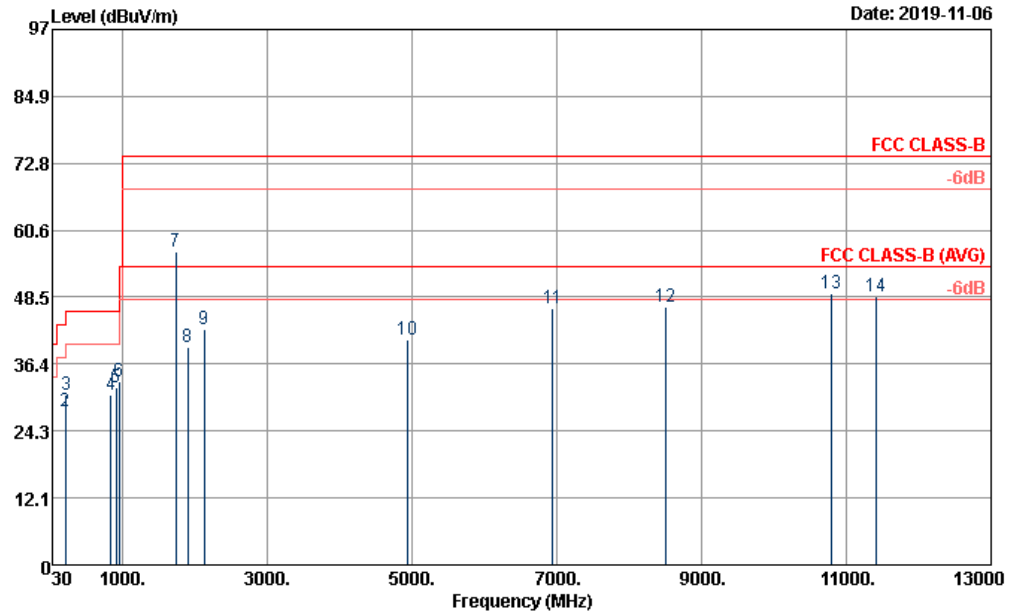
Mode :	Mode 1	Temperature :	26~28°C
Test Engineer :	Yuan Lee	Relative Humidity :	39~40%
Test Distance :	3m	Polarization :	Horizontal
Remark :	#7 is system simulator signal which can be ignored. #9 is base station signal which can be ignored.		



Site : 03CH06-HY
Condition : FCC CLASS-B 3m 9120D_1156 HORIZONTAL

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	30.00	23.94	-16.06	40.00	29.16	25.80	0.61	31.64	---	---	Peak
2	213.87	23.74	-19.76	43.50	37.67	15.86	1.69	31.56	---	---	Peak
3	219.00	25.59	-20.41	46.00	39.24	16.12	1.71	31.56	---	---	Peak
4	833.40	30.85	-15.15	46.00	30.37	28.16	3.57	31.57	---	---	Peak
5	882.40	31.16	-14.84	46.00	30.06	28.46	3.69	31.39	---	---	Peak
6	951.00	32.81	-13.19	46.00	30.06	29.40	3.80	30.86	100	0	Peak
7	1732.00	62.06			92.54	25.13	5.49	61.10	---	---	Peak
8	1988.00	43.73	-30.27	74.00	72.79	26.20	5.84	61.10	---	---	Peak
9	2132.50	40.38			67.84	27.50	6.11	61.07	---	---	Peak
10	4788.00	40.94	-33.06	74.00	59.05	31.13	9.79	59.03	---	---	Peak
11	6986.00	46.16	-27.84	74.00	55.62	35.30	13.65	58.41	---	---	Peak
12	8928.00	46.39	-27.61	74.00	52.60	37.60	13.90	57.71	---	---	Peak
13	10856.00	49.29	-24.71	74.00	50.56	40.37	15.07	56.71	---	---	Peak
14	11646.00	49.54	-24.46	74.00	50.48	39.80	15.58	56.32	100	0	Peak

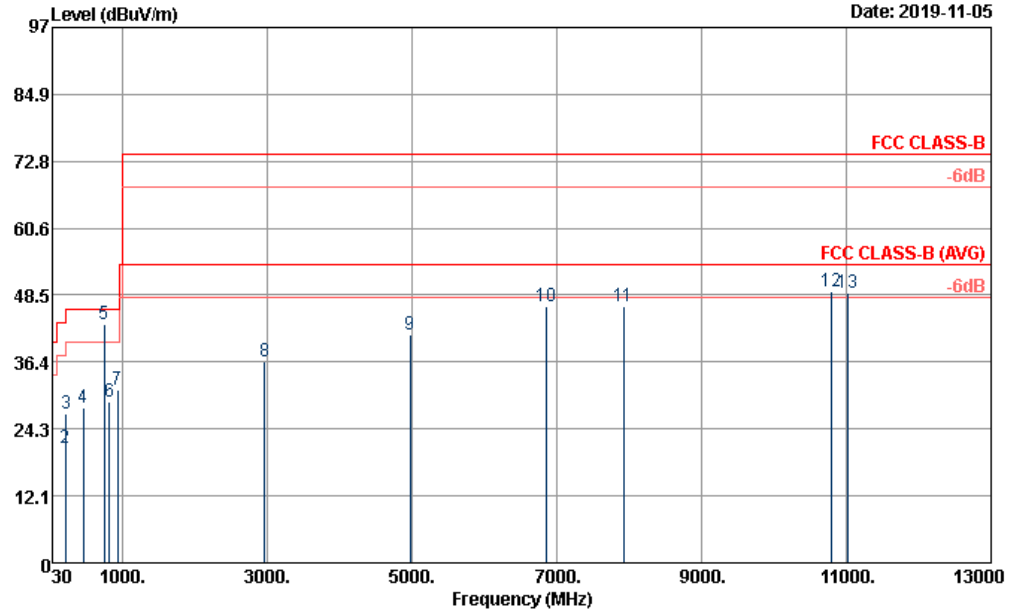
Mode :	Mode 1	Temperature :	26~28°C
Test Engineer :	Yuan Lee	Relative Humidity :	39~40%
Test Distance :	3m	Polarization :	Vertical
Remark :	#7 is system simulator signal which can be ignored. #9 is base station signal which can be ignored.		



Site : 03CH06-HY
Condition : FCC CLASS-B 3m 9120D_1156 VERTICAL

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	30.27	25.06	-14.94	40.00	30.28	25.80	0.61	31.64	---	---	Peak
2	213.87	27.80	-15.70	43.50	41.73	15.86	1.69	31.56	---	---	Peak
3	219.00	30.92	-15.08	46.00	44.57	16.12	1.71	31.56	---	---	Peak
4	834.80	30.76	-15.24	46.00	30.22	28.20	3.58	31.56	---	---	Peak
5	913.20	32.19	-13.81	46.00	30.21	29.08	3.75	31.21	---	---	Peak
6	957.30	33.21	-12.79	46.00	30.28	29.44	3.85	30.81	100	0	Peak
7	1732.00	56.63			87.11	25.13	5.49	61.10	---	---	Peak
8	1902.00	39.43	-34.57	74.00	69.10	25.70	5.73	61.10	---	---	Peak
9	2132.00	42.57			70.03	27.50	6.11	61.07	---	---	Peak
10	4934.00	40.67	-33.33	74.00	58.52	31.30	9.13	58.28	---	---	Peak
11	6946.00	46.61	-27.39	74.00	56.23	35.10	13.70	58.42	---	---	Peak
12	8512.00	46.72	-27.28	74.00	53.20	37.00	13.74	57.22	---	---	Peak
13	10790.00	49.26	-24.74	74.00	50.79	40.30	15.04	56.87	100	0	Peak
14	11422.00	48.76	-25.24	74.00	49.27	40.20	15.44	56.15	---	---	Peak

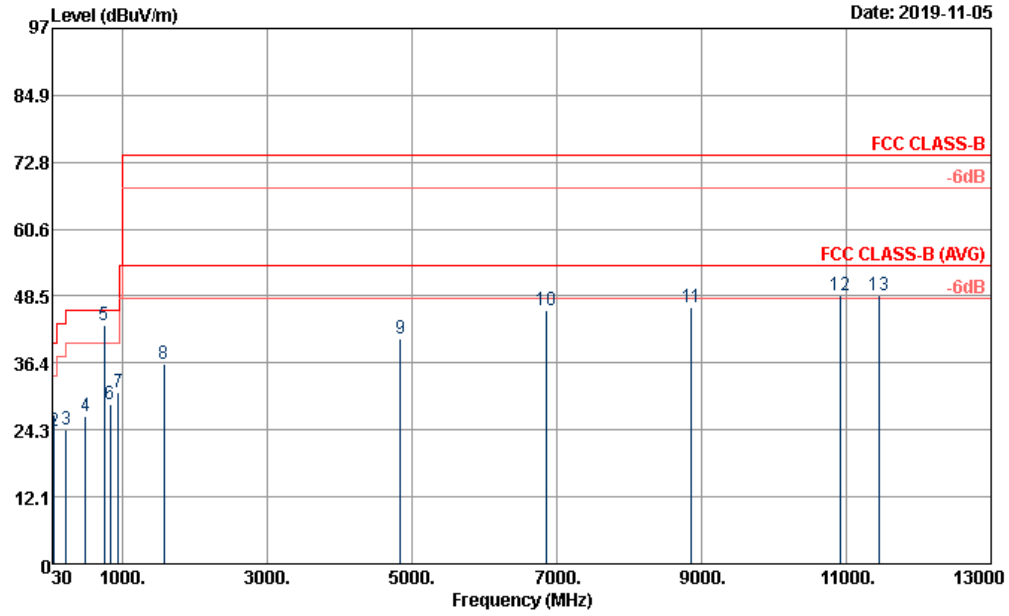
Mode :	Mode 2	Temperature :	26~28℃
Test Engineer :	Yuan Lee	Relative Humidity :	39~40%
Test Distance :	3m	Polarization :	Horizontal
Remark :	#5 is system simulator signal which can be ignored.		



Site : 03CH06-HY
Condition : FCC CLASS-B 3m 9120D_1156 HORIZONTAL

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	30.27	22.57	-17.43	40.00	27.79	25.80	0.61	31.64	---	---	Peak
2	213.87	20.85	-22.65	43.50	34.78	15.86	1.69	31.56	---	---	Peak
3	223.86	27.13	-18.87	46.00	40.36	16.52	1.73	31.56	---	---	Peak
4	455.40	28.02	-17.98	46.00	34.07	23.02	2.55	31.75	---	---	Peak
5 !	751.00	43.31			43.95	27.50	3.37	31.78	---	---	Peak
6	816.60	29.13	-16.87	46.00	29.09	27.84	3.54	31.63	---	---	Peak
7	934.20	31.23	-14.77	46.00	28.52	29.58	3.77	31.02	100	0	Peak
8	2964.00	36.59	-37.41	74.00	62.31	28.50	7.15	61.37	---	---	Peak
9	4976.00	41.47	-32.53	74.00	59.19	31.47	8.86	58.05	---	---	Peak
10	6852.00	46.45	-27.55	74.00	56.49	34.50	13.92	58.46	---	---	Peak
11	7922.00	46.58	-27.42	74.00	54.31	36.93	13.19	57.85	---	---	Peak
12	10800.00	49.09	-24.91	74.00	50.59	40.30	15.04	56.84	100	0	Peak
13	11030.00	48.80	-25.20	74.00	49.70	40.30	15.18	56.38	---	---	Peak

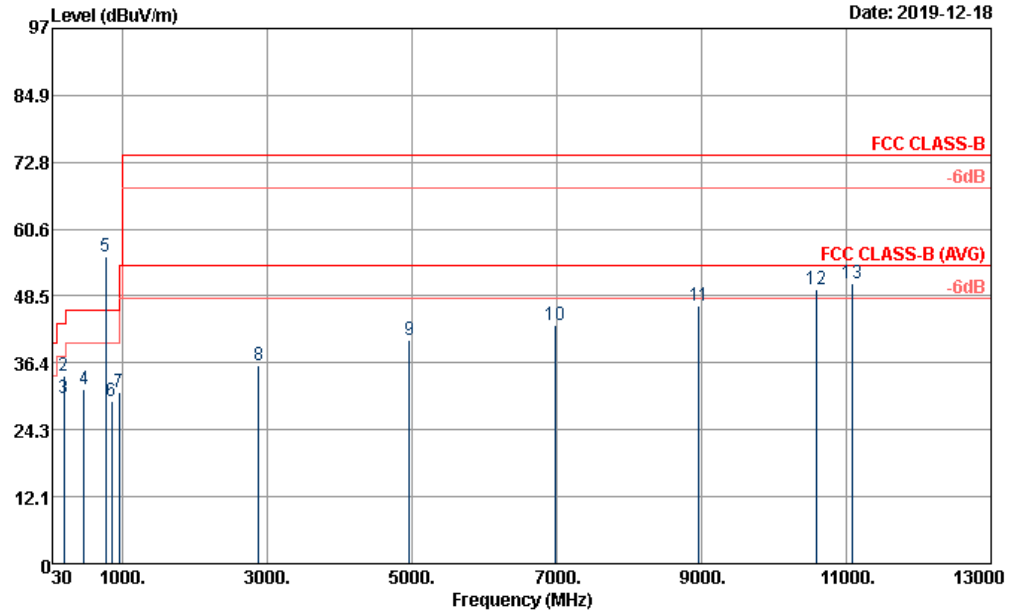
Mode :	Mode 2	**Temperature :**	26~28°C
Test Engineer :	Yuan Lee	**Relative Humidity :**	39~40%
Test Distance :	3m	**Polarization :**	Vertical
Remark :	#5 is system simulator signal which can be ignored.		



Site : 03CH06-HY
Condition : FCC CLASS-B 3m 9120D_1156 VERTICAL

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		43.77	26.99	-13.01	40.00	40.03	17.90	0.67	31.63	100	0	Peak
2		57.00	24.06	-15.94	40.00	42.90	12.00	0.77	31.63	---	---	Peak
3		223.86	24.34	-21.66	46.00	37.57	16.52	1.73	31.56	---	---	Peak
4		485.50	26.78	-19.22	46.00	32.21	23.62	2.62	31.80	---	---	Peak
5	!	751.00	43.20			43.84	27.50	3.37	31.78	---	---	Peak
6		827.80	28.90	-17.10	46.00	28.52	28.10	3.56	31.59	---	---	Peak
7		946.80	31.19	-14.81	46.00	28.44	29.46	3.79	30.90	---	---	Peak
8		1576.00	36.33	-37.67	74.00	66.81	25.40	5.22	61.10	---	---	Peak
9		4838.00	40.71	-33.29	74.00	58.79	31.20	9.52	58.80	---	---	Peak
10		6848.00	45.98	-28.02	74.00	56.02	34.50	13.92	58.46	---	---	Peak
11		8858.00	46.59	-27.41	74.00	52.66	37.80	13.76	57.63	---	---	Peak
12		10914.00	48.76	-25.24	74.00	49.83	40.40	15.12	56.59	100	0	Peak
13		11462.00	48.64	-25.36	74.00	49.10	40.20	15.46	56.12	---	---	Peak

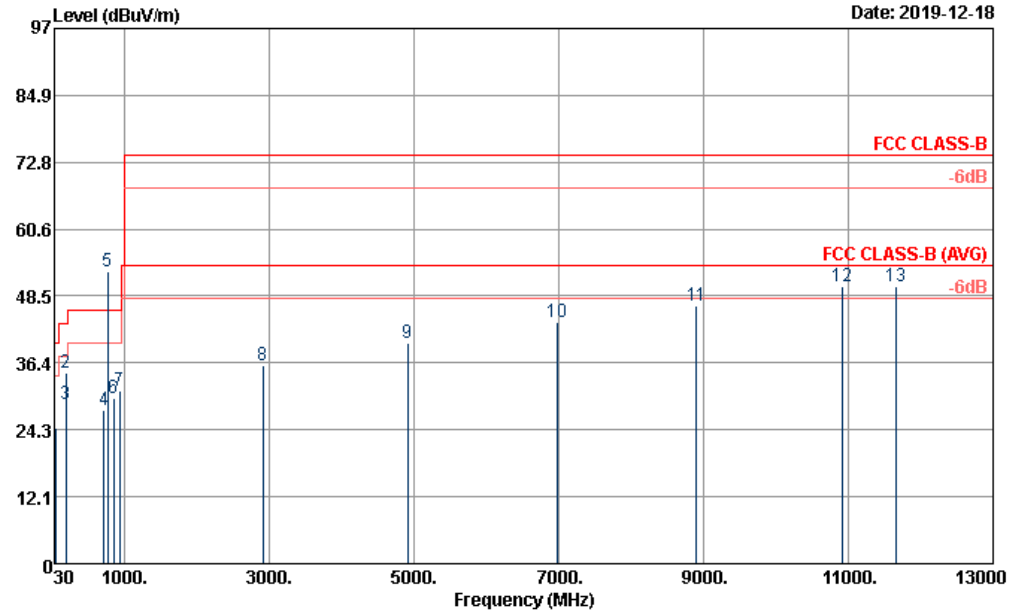
Mode :	Mode 3	Temperature :	26~28℃
Test Engineer :	Yuan Lee	Relative Humidity :	39~40%
Test Distance :	3m	Polarization :	Horizontal
Remark :	#5 is system simulator signal which can be ignored.		



Site : 03CH06-HY
Condition : FCC CLASS-B 3m 9120D_1156 HORIZONTAL

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		31.08	22.58	-17.42	40.00	28.25	25.30	0.66	31.64	---	---	Peak
2		188.76	34.08	-9.42	43.50	48.73	15.10	1.76	31.57	100	0	Peak
3		193.62	30.10	-13.40	43.50	44.40	15.40	1.80	31.57	---	---	Peak
4		465.20	31.53	-14.47	46.00	37.11	23.22	2.84	31.77	---	---	Peak
5	*	763.00	55.60			55.94	27.46	3.69	31.76	---	---	Peak
6		846.70	29.43	-16.57	46.00	28.26	28.44	3.91	31.52	---	---	Peak
7		952.40	30.98	-15.02	46.00	27.95	29.40	4.06	30.85	---	---	Peak
8		2884.00	36.04	-37.96	74.00	61.68	28.47	7.20	61.31	---	---	Peak
9		4966.00	40.41	-33.59	74.00	57.25	31.43	9.85	58.12	---	---	Peak
10		6988.00	43.27	-30.73	74.00	53.64	35.30	12.74	58.41	---	---	Peak
11		8962.00	46.66	-27.34	74.00	52.13	37.60	14.70	57.77	---	---	Peak
12		10582.00	49.67	-24.33	74.00	50.69	40.02	16.30	57.34	---	---	Peak
13		11074.00	50.93	-23.07	74.00	50.42	40.15	16.71	56.35	100	0	Peak

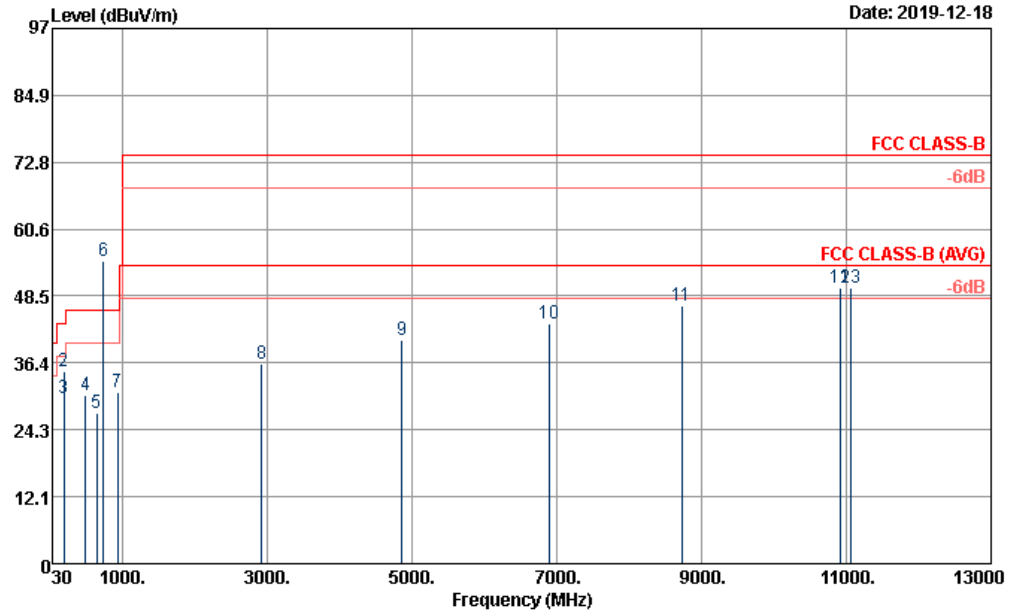
Mode :	Mode 3	Temperature :	26~28°C
Test Engineer :	Yuan Lee	Relative Humidity :	39~40%
Test Distance :	3m	Polarization :	Vertical
Remark :	#5 is system simulator signal which can be ignored.		



Site : 03CH06-HY
Condition : FCC CLASS-B 3m 9120D_1156 VERTICAL

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		47.28	24.49	-15.51	40.00	39.01	16.20	0.88	31.62	---	---	Peak
2		188.76	34.64	-8.86	43.50	49.29	15.10	1.76	31.57	100	0	Peak
3		193.62	28.92	-14.58	43.50	43.22	15.40	1.80	31.57	---	---	Peak
4		715.10	27.75	-18.25	46.00	29.22	26.60	3.56	31.84	---	---	Peak
5	*	763.00	52.92			53.26	27.46	3.69	31.76	---	---	Peak
6		849.50	30.12	-15.88	46.00	28.87	28.50	3.92	31.51	---	---	Peak
7		934.20	31.45	-14.55	46.00	28.48	29.58	4.03	31.02	---	---	Peak
8		2914.00	35.97	-38.03	74.00	61.56	28.50	7.24	61.33	---	---	Peak
9		4910.00	39.96	-34.04	74.00	57.50	31.20	9.68	58.42	---	---	Peak
10		6984.00	43.89	-30.11	74.00	54.36	35.30	12.64	58.41	---	---	Peak
11		8898.00	46.63	-27.37	74.00	52.02	37.60	14.69	57.68	---	---	Peak
12		10922.00	50.26	-23.74	74.00	49.83	40.40	16.59	56.56	---	---	Peak
13		11664.00	50.38	-23.62	74.00	49.85	39.70	17.20	56.37	100	0	Peak

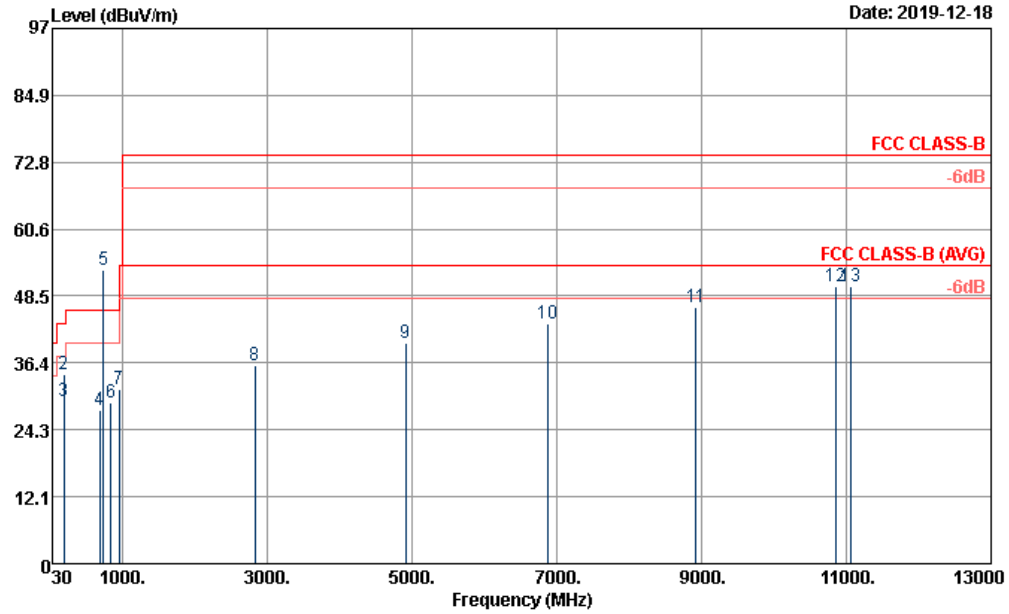
Mode :	Mode 4	Temperature :	26~28℃
Test Engineer :	Yuan Lee	Relative Humidity :	39~40%
Test Distance :	3m	Polarization :	Horizontal
Remark :	#6 is system simulator signal which can be ignored.		



Site : 03CH06-HY
Condition : FCC CLASS-B 3m 9120D_1156 HORIZONTAL

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		30.54	22.10	-17.90	40.00	27.77	25.30	0.66	31.64	---	---	Peak
2		188.76	34.88	-8.62	43.50	49.53	15.10	1.76	31.57	100	0	Peak
3		193.62	30.00	-13.50	43.50	44.30	15.40	1.80	31.57	---	---	Peak
4		490.40	30.53	-15.47	46.00	35.60	23.72	2.89	31.81	---	---	Peak
5		641.60	27.21	-18.79	46.00	29.56	25.96	3.38	31.85	---	---	Peak
6	*	737.50	54.82			55.34	27.40	3.63	31.80	---	---	Peak
7		932.80	30.95	-15.05	46.00	28.01	29.56	4.03	31.03	---	---	Peak
8		2922.00	36.31	-37.69	74.00	61.90	28.50	7.24	61.33	---	---	Peak
9		4856.00	40.54	-33.46	74.00	58.54	31.17	9.56	58.73	---	---	Peak
10		6894.00	43.43	-30.57	74.00	54.55	35.00	12.32	58.44	---	---	Peak
11		8728.00	46.74	-27.26	74.00	52.03	37.53	14.65	57.47	---	---	Peak
12		10924.00	49.97	-24.03	74.00	49.54	40.40	16.59	56.56	100	0	Peak
13		11054.00	49.91	-24.09	74.00	49.34	40.25	16.69	56.37	---	---	Peak

Mode :	Mode 4	Temperature :	26~28°C
Test Engineer :	Yuan Lee	Relative Humidity :	39~40%
Test Distance :	3m	Polarization :	Vertical
Remark :	#5 is system simulator signal which can be ignored.		



Site : 03CH06-HY
Condition : FCC CLASS-B 3m 9120D_1156 VERTICAL

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		30.54	23.92	-16.08	40.00	29.59	25.30	0.66	31.64	---	---	Peak
2		188.76	34.44	-9.06	43.50	49.09	15.10	1.76	31.57	100	0	Peak
3		193.89	29.42	-14.08	43.50	43.72	15.40	1.80	31.57	---	---	Peak
4		687.10	27.76	-18.24	46.00	29.66	26.30	3.48	31.86	---	---	Peak
5	*	737.50	53.26			53.78	27.40	3.63	31.80	---	---	Peak
6		836.90	29.11	-16.89	46.00	28.24	28.24	3.87	31.56	---	---	Peak
7		955.20	31.48	-14.52	46.00	28.39	29.40	4.07	30.82	---	---	Peak
8		2834.00	36.03	-37.97	74.00	61.82	28.33	7.15	61.27	---	---	Peak
9		4910.00	40.02	-33.98	74.00	57.56	31.20	9.68	58.42	---	---	Peak
10		6872.00	43.60	-30.40	74.00	55.17	34.67	12.22	58.46	---	---	Peak
11		8922.00	46.48	-27.52	74.00	51.89	37.60	14.70	57.71	---	---	Peak
12		10856.00	50.28	-23.72	74.00	50.09	40.37	16.53	56.71	---	---	Peak
13		11060.00	50.34	-23.66	74.00	49.81	40.20	16.69	56.36	100	0	Peak

THE END