



# FCC EMI TEST REPORT

**FCC ID** : APYHRO00309  
**Equipment** : Smart phone  
**Brand Name** : SHARP  
**Model Name** : APYHRO00309  
**Applicant** : SHARP CORPORATION  
1 Takumi-cho, Sakai-ku, Sakai City Osaka, Japan 590-8522  
**Manufacturer** : SHARP CORPORATION  
1 Takumi-Cho, Sakai-Ku, Sakai-Shi, Osaka 590-8522, Japan  
**Standard** : FCC 47 CFR FCC Part 15 Subpart B Class B

The product was received on Jan. 17, 2022 and testing was performed from Jan. 29, 2022 to Feb. 07, 2022. 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 test results in this report apply exclusively to the tested model / sample. Without written approval from Sporton International Inc. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Approved by: Louis Wu

**Sporton International Inc. EMC & Wireless Communications Laboratory**

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)



## Table of Contents

<b>History of this test report.....</b>	<b>3</b>
<b>Summary of Test Result.....</b>	<b>4</b>
<b>1. General Description .....</b>	<b>5</b>
1.1. Product Feature of Equipment Under Test .....	5
1.2. Modification of EUT .....	5
1.3. Test Location .....	5
1.4. Applicable Standards .....	5
<b>2. Test Configuration of Equipment Under Test .....</b>	<b>6</b>
2.1. Test Mode .....	6
2.2. Connection Diagram of Test System .....	8
2.3. Support Unit used in test configuration and system .....	8
2.4. EUT Operation Test Setup .....	8
<b>3. Test Result .....</b>	<b>9</b>
3.1. Test of AC Conducted Emission Measurement .....	9
3.2. Test of Radiated Emission Measurement .....	11
<b>4. List of Measuring Equipment.....</b>	<b>14</b>
<b>5. Uncertainty of Evaluation .....</b>	<b>15</b>
<b>Appendix A. AC Conducted Emission Test Result</b>	
<b>Appendix B. Radiated Emission Test Result</b>	
<b>Appendix C. Setup Photographs</b>	



### History of this test report

Report No.	Version	Description	Issue Date
FC211502	01	Initial issue of report	Mar. 14, 2022
FC211502	02	Revise Applicant Address	Mar. 18, 2022



### Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.107	AC Conducted Emission	Pass	7.28 dB under the limit at 0.188 MHz
3.2	15.109	Radiated Emission	Pass	9.67 dB under the limit at 194.700 MHz for Quasi-Peak

**Declaration of Conformity:**

1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.  
It's means measurement values may risk exceeding the limit of regulation standards, if measurement uncertainty is include in test results.
2. The measurement uncertainty please refer to this report "Uncertainty of Evaluation".

**Comments and Explanations:**

The product specifications of the EUT presented in the report are declared by the manufacturer who shall take full responsibility for the authenticity.

**Reviewed by: Keven Cheng**

**Report Producer: Clio Lo**

# 1. General Description

## 1.1. Product Feature of Equipment Under Test

GSM/WCDMA/LTE, Bluetooth, Wi-Fi 2.4GHz 802.11b/g/n/ac, Wi-Fi 5GHz 802.11a/n/ac, NFC, FM Receiver and GNSS.

Product Feature	
<b>Antenna Type</b>	WWAN <Ant. 0>: Monopole Antenna <Ant. 1>: PIFA Antenna <Ant. 2>: Monopole Antenna WLAN: Loop Antenna Bluetooth: Loop Antenna GPS / Glonass / BDS / Galileo: PIFA Antenna NFC: Loop Antenna FM: Using earphone as antenna

**Remark:** The EUT's information above is declared by manufacturer. Please refer to Comments and Explanations in report summary.

## 1.2. Modification of EUT

No modifications made to the EUT during the testing.

## 1.3. Test Location

<b>Test Site</b>	Sporton International Inc. EMC & Wireless Communications Laboratory
<b>Test Site Location</b>	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978
<b>Test Site No.</b>	<b>Sporton Site No.</b> CO05-HY, 03CH06-HY

FCC designation No.: TW1093

## 1.4. Applicable Standards

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

- ♦ FCC 47 CFR FCC Part 15 Subpart B Class 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 is tested along with the peripherals, operating under possible configurations in compliant with normal operation. The maximum emissions can be identified by a pre-scan carried out in different orientations of placement pursuant to ANSI C63.4-2014. Frequency range covered: Conduction Emission (150 kHz to 30 MHz), Radiation Emission (30 MHz to the 5<sup>th</sup> harmonics of the highest fundamental frequency or to 40 GHz, whichever is lower).

Test Items	Functions Enabled
<b>AC Conducted Emission</b>	Mode 1: LTE Band 5 (Low Channel) Idle + Bluetooth Link + WLAN (2.4GHz) Link + Camera (Rear) + Earphone + USB Cable (Charging from Adapter Port) + SD Card + Battery
	Mode 2: LTE Band 5 (Middle Channel) Idle + Bluetooth Link + WLAN (5GHz) Link + Camera (Front) + Earphone + USB Cable (Charging from Adapter Port) + SD Card + Battery
	Mode 3: LTE Band 5 (High Channel) Idle + Bluetooth Link + WLAN (2.4GHz) Link + FM Rx + Earphone + USB Cable (Charging from Adapter Port) + SD Card + Battery
	Mode 4: LTE Band 12 (Low Channel) Idle + Bluetooth Link + WLAN (5GHz) Link + NFC On + Earphone + USB Cable (Charging from Adapter Port) + SD Card + Battery
	Mode 5: LTE Band 12 (Middle Channel) Idle + Bluetooth Link + WLAN (2.4GHz) Link + Fingerprint + Earphone + USB Cable (Data Link with Notebook) (Read) + SD Card + Battery
	Mode 6: LTE Band 12 (High Channel) Idle + Bluetooth Link + WLAN (5GHz) Link + GPS Rx + Earphone + USB Cable (Data Link with Notebook) (Write) + SD Card + Battery
	Mode 7: LTE Band 12 (Middle Channel) Idle + Bluetooth Idle + WLAN (2.4GHz) Idle + H-Patten + Earphone + USB Cable (Charging from Adapter Port) + SD Card + Battery

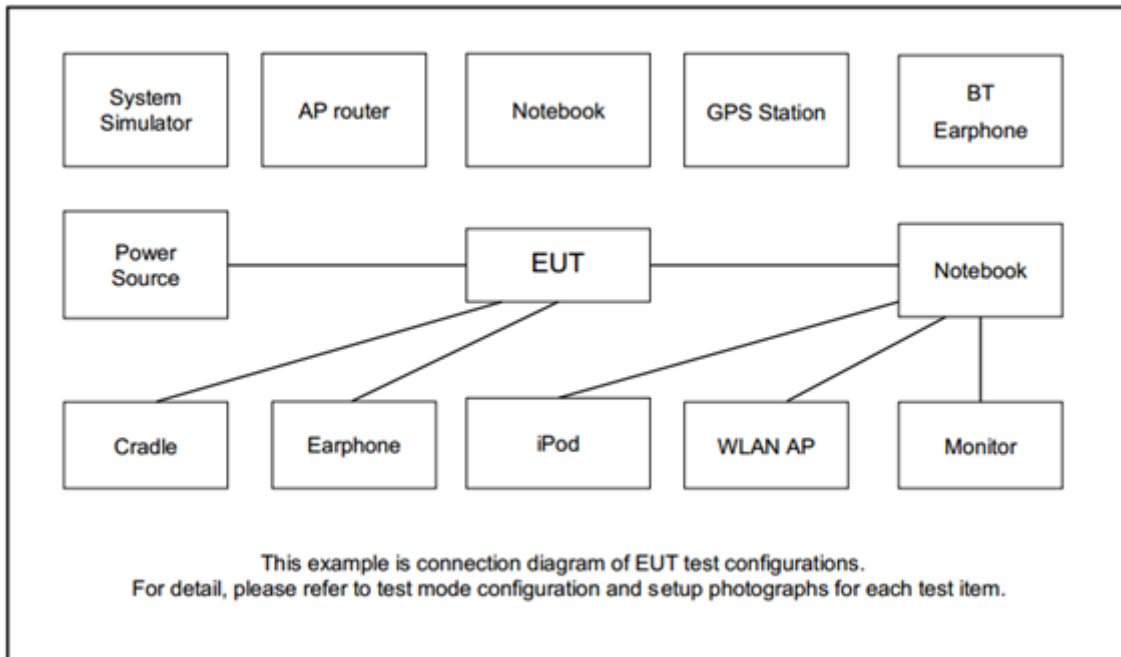


Test Items	Functions Enabled
<b>Radiated Emissions</b>	Mode 1: LTE Band 5 (Low Channel) Idle + Bluetooth Link + WLAN (2.4GHz) Link + Camera (Rear) + Earphone + USB Cable (Charging from Adapter Port) + SD Card + Battery
	Mode 2: LTE Band 5 (Middle Channel) Idle + Bluetooth Link + WLAN (5GHz) Link + Camera (Front) + Earphone + USB Cable (Charging from Adapter Port) + SD Card + Battery
	Mode 3: LTE Band 5 (High Channel) Idle + Bluetooth Link + WLAN (2.4GHz) Link + FM (Middle Channel) Rx + Earphone + USB Cable (Charging from Adapter Port) + SD Card + Battery
	Mode 4: LTE Band 12 (Low Channel) Idle + Bluetooth Link + WLAN (5GHz) Link + NFC On + Earphone + USB Cable (Charging from Adapter Port) + SD Card + Battery
	Mode 5: LTE Band 12 (Middle Channel) Idle + Bluetooth Link + WLAN (2.4GHz) Link + Fingerprint + Earphone + USB Cable (Data Link with Notebook) (Read) + SD Card + Battery
	Mode 6: LTE Band 12 (High Channel) Idle + Bluetooth Link + WLAN (5GHz) Link + GPS Rx + Earphone + USB Cable (Data Link with Notebook) (Write) + SD Card + Battery
	Mode 7: LTE Band 12 (High Channel) Idle + Bluetooth Idle + WLAN (2.4GHz) Idle + H-Patten + Earphone + USB Cable (Charging from Adapter Port) + SD Card + Battery

**Remark:**

1. The worst case of AC is mode 5; only the test data of this mode was reported.
2. The worst case of RE is mode 6; only the test data of this mode was reported.
3. For Radiation Emission after pre-scanned the cellular band between 30MHz ~ 960MHz (GSM850/WCDMA Band V/LTE Band 5/12/17); only the worst case for cellular band test data of this mode was reported.
4. Data Link with Notebook means data application transferred mode between EUT and Notebook.

## 2.2. Connection Diagram of Test System



## 2.3. Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8m
2.	System Simulator	R&S	CMU 200	N/A	N/A	Unshielded, 1.8m
3.	GPS Station	Pendulum	GSG-54	N/A	N/A	Unshielded, 1.8m
4.	Bluetooth Earphone	Sony Ericsson	MW600	PY700A2029	N/A	N/A
5.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 1.8m
6.	iPod	Apple	A1285	FCC DoC	Shielded, 1.0m	N/A
7.	Notebook	Dell	Latitude 3400	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
8.	SD Card	SanDisk	MicroSD HC	FCC DoC	N/A	N/A
9.	Earphone	Nokia	WH-108	FCC DoC	Unshielded, 1.5m	N/A

## 2.4. EUT Operation Test Setup

The EUT is in LTE idle mode during the test. The EUT is synchronized with the BCCH, and has been continuous receiving mode by setting paging reorganization of the system simulator.

At the same time, the EUT is attached to the Bluetooth earphone or WLAN AP, and the following programs installed in the EUT are programmed during the test:

1. Data application is transferred between Laptop and EUT via USB cable.
2. Execute "GPS Test" to make the EUT receive continuous signals from GPS station.
3. Turn on camera to capture images.
4. Turn on Fingerprint function.
5. Turn on NFC function.
6. Turn on "H" pattern apk, which generate a complete line of repeating "H" pattern.





### 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.

<Class B>

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.

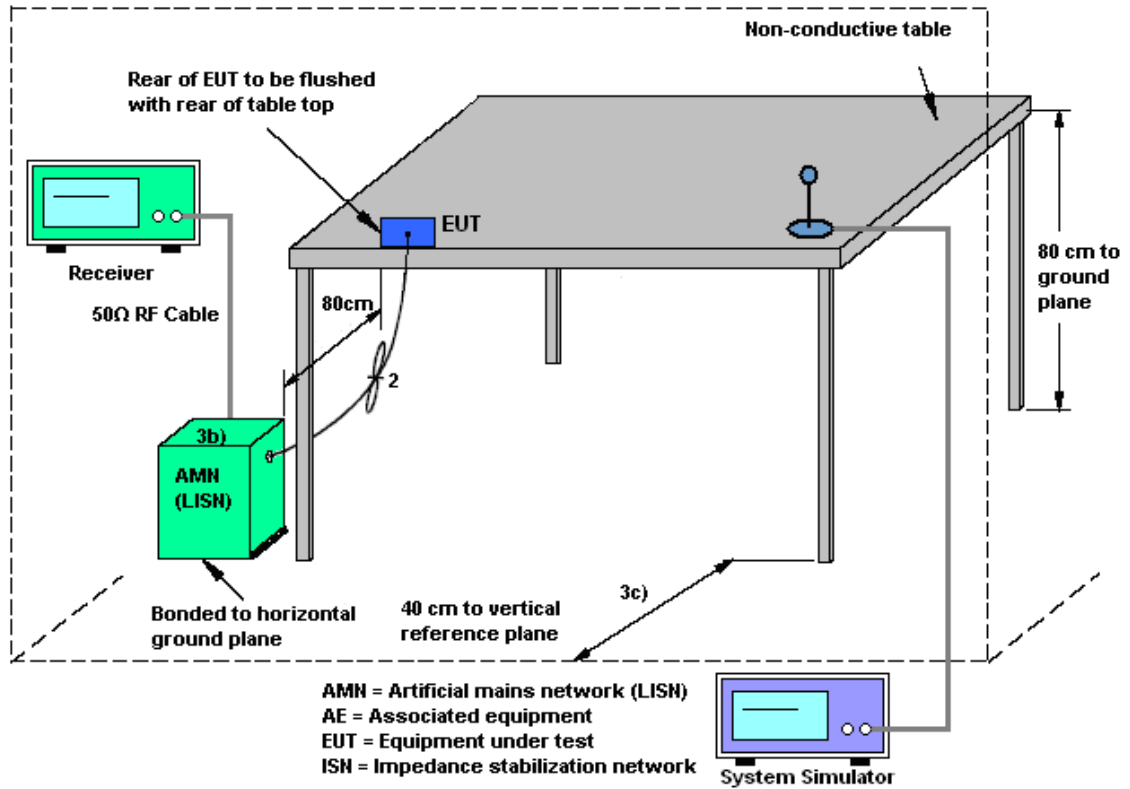
##### 3.1.2. Measuring Instruments

Please refer to the measuring equipment list in this test report.

##### 3.1.3. Test Procedure

1. The EUT is placed 0.4 meter away from the conducting wall of the shielding room, and is 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 shall be used.
6. Both Line and Neutral shall be tested in order to find out the maximum conducted emission.
7. The frequency range from 150 kHz to 30 MHz is scanned.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (If Bandwidth = 9 kHz) 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:

<Class B>

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

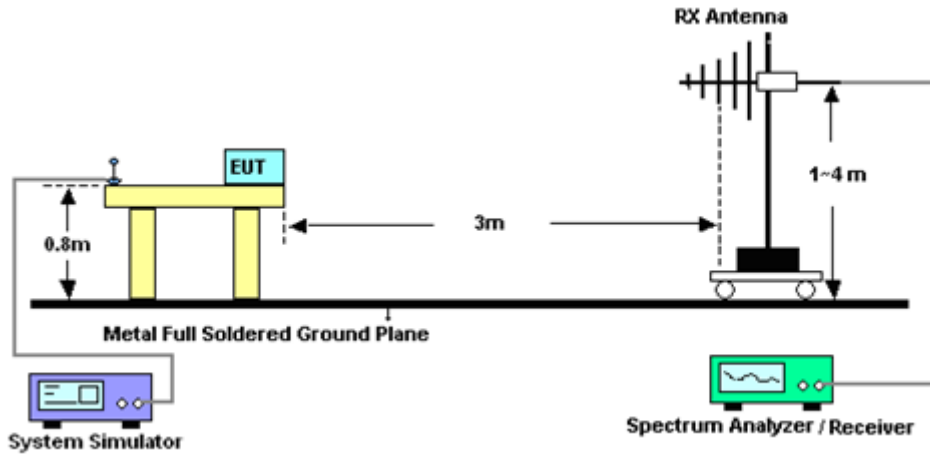
Please refer to the measuring equipment list in this test report.

#### 3.2.3. Test Procedures

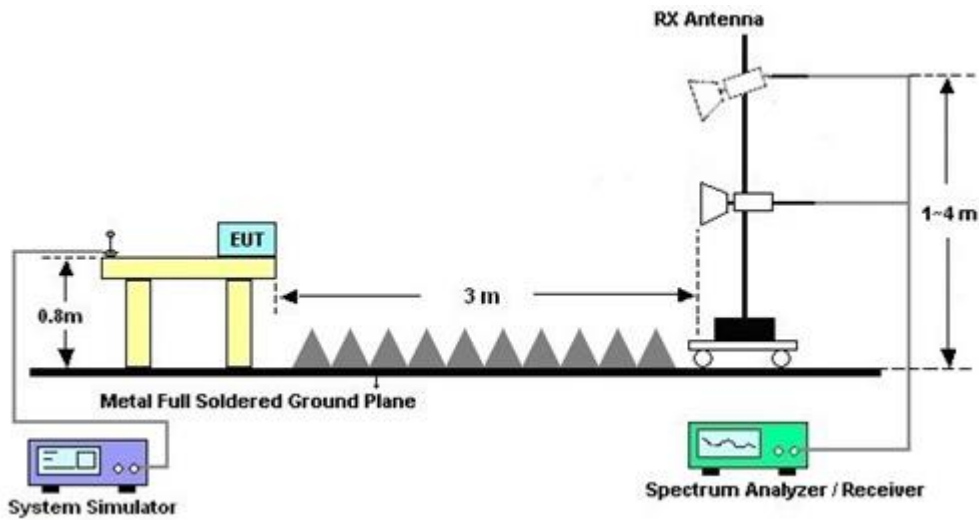
1. The EUT is placed on a turntable with 0.8 meter above ground.
2. The EUT is set 3 meters from the interference receiving antenna for measured frequency 30MHz~18GHz, which is mounted on the top of a variable height antenna tower.
3. The table is rotated 360 degrees to determine the position of the highest radiation.
4. The antenna is a Bi-Log antenna and its 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 is 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=120 kHz/VBW=300 kHz for frequency below 1 GHz; RBW=1 MHz VBW=3 MHz (Peak), RBW=1 MHz/VBW=10 Hz (Average) for frequency above 1 GHz).
7. If the emission level of the EUT in peak mode is 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. Distance extrapolation factor = 20 log (specific distance / test distance) (dB)
10. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor - Distance extrapolation factor = Level

### 3.2.4. Test Setup of Radiated Emission

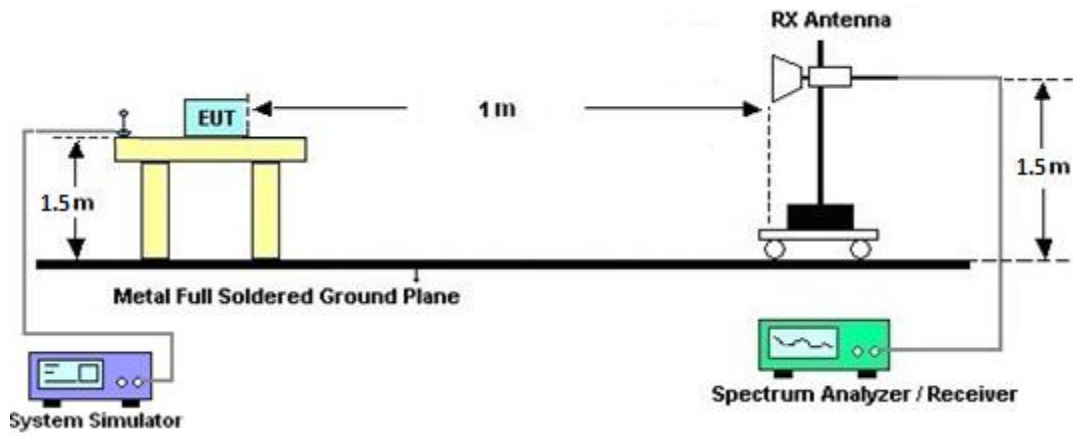
For Radiated Emissions from 30 MHz to 1 GHz



For radiated test from 1GHz to 18GHz



For radiated test above 18GHz



### 3.2.5. Test Result of Radiated Emission

Please refer to Appendix B.



## 4. List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Jan. 29, 2022	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	9kHz~3.6GHz	Dec. 01, 2021	Jan. 29, 2022	Nov. 30, 2022	Conduction (CO05-HY)
Hygrometer	Testo	608-H1	34913912	N/A	Nov. 17, 2021	Jan. 29, 2022	Nov. 16, 2022	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Dec. 03, 2021	Jan. 29, 2022	Dec. 02, 2022	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Nov. 16, 2021	Jan. 29, 2022	Nov. 15, 2022	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32	N/A	N/A	N/A	Jan. 29, 2022	N/A	Conduction (CO05-HY)
Pulse Limiter	SCHWARZBECK	VTSD 9561-F N	00691	N/A	Jul. 28, 2021	Jan. 29, 2022	Jul. 27, 2022	Conduction (CO05-HY)
LISN Cable	MVE	RG-400	260260	N/A	Dec. 30, 2021	Jan. 29, 2022	Dec. 29, 2022	Conduction (CO05-HY)
Amplifier	SONOMA	310N	186713	9kHz~1GHz	Apr. 29, 2021	Feb. 04, 2022~ Feb. 07, 2022	Apr. 28, 2022	Radiation (03CH06-HY)
Bilog Antenna	Schaffner	CBL 6111C & N-6-06	2725 & AT-N0601	30MHz~1GHz	Nov. 11, 2021	Feb. 04, 2022~ Feb. 07, 2022	Nov. 10, 2022	Radiation (03CH06-HY)
EMI Test Receiver	Rohde & Schwarz	ESU26	100390	20Hz~26.5GHz	May. 22, 2021	Feb. 04, 2022~ Feb. 07, 2022	May. 21, 2022	Radiation (03CH06-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1156	1GHz~18GHz	Sep. 27, 2021	Feb. 04, 2022~ Feb. 07, 2022	Sep. 26, 2022	Radiation (03CH06-HY)
Preamplifier	Jet-Power	JPA00101800-30-10P	1601180001	1GHz~18GHz	Jul. 19, 2021	Feb. 04, 2022~ Feb. 07, 2022	Jul. 18, 2022	Radiation (03CH06-HY)
RF Cable	HUBER + SUHNER	SF102_7000mm	532299/2	30MHz to 40GHz	Jul. 05, 2021	Feb. 04, 2022~ Feb. 07, 2022	Jul. 04, 2022	Radiation (03CH06-HY)
RF Cable	HUBER + SUHNER	SF102_3000mm	532422/2	30MHz to 40GHz	Jul. 05, 2021	Feb. 04, 2022~ Feb. 07, 2022	Jul. 04, 2022	Radiation (03CH06-HY)
RF Cable	HUBER + SUHNER	SF102_2000mm	532421/2	30MHz to 40GHz	Jul. 05, 2021	Feb. 04, 2022~ Feb. 07, 2022	Jul. 04, 2022	Radiation (03CH06-HY)
RF Cable	HUBER + SUHNER	SF104	802433/4	30Mhz to 18Ghz	Aug. 19, 2021	Feb. 04, 2022~ Feb. 07, 2022	Aug. 18, 2022	Radiation (03CH06-HY)
Controller	INN-CO	EM1000	060782	Control Turn table & Ant Mast	N/A	Feb. 04, 2022~ Feb. 07, 2022	N/A	Radiation (03CH06-HY)
Antenna Mast	MF	MF-7802	MF780208212	1m~4m	N/A	Feb. 04, 2022~ Feb. 07, 2022	N/A	Radiation (03CH06-HY)
Turn Table	INN-CO	DS2000	420/650/00	0-360 degree	N/A	Feb. 04, 2022~ Feb. 07, 2022	N/A	Radiation (03CH06-HY)
Software	Audix	E3 6.2009-8-24(k5)	N/A	N/A	N/A	Feb. 04, 2022~ Feb. 07, 2022	N/A	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% ( $U = 2Uc(y)$ )	3.1 dB
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### Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	5.2 dB
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### Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	5.4 dB
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### Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	4.3 dB
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## **Appendix A. AC Conducted Emission Test Results**

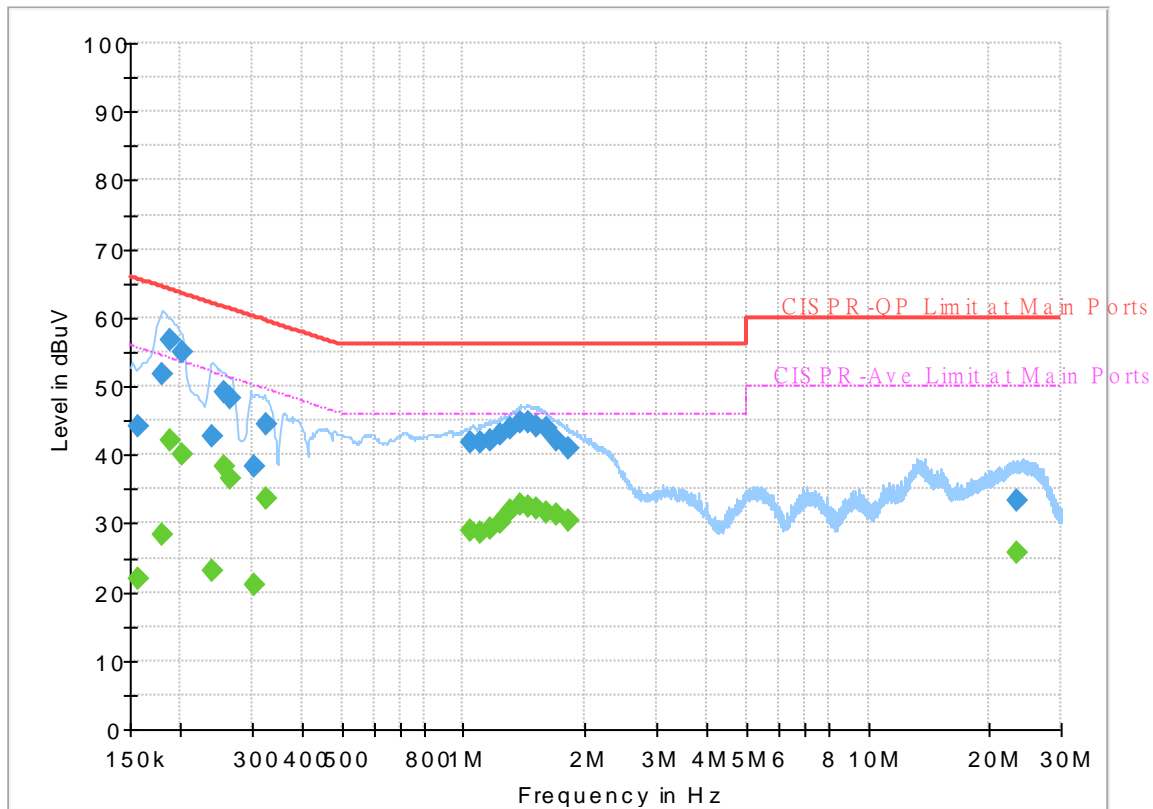
<b>Test Engineer :</b> Calvin Wang	<b>Temperature :</b> 23~26°C
	<b>Relative Humidity :</b> 45~55%



# EUT Information

Report NO : 211502  
 Test Mode : Mode 5  
 Test Voltage : Power From System  
 Phase : Line

Full Spectrum



## Final\_Result

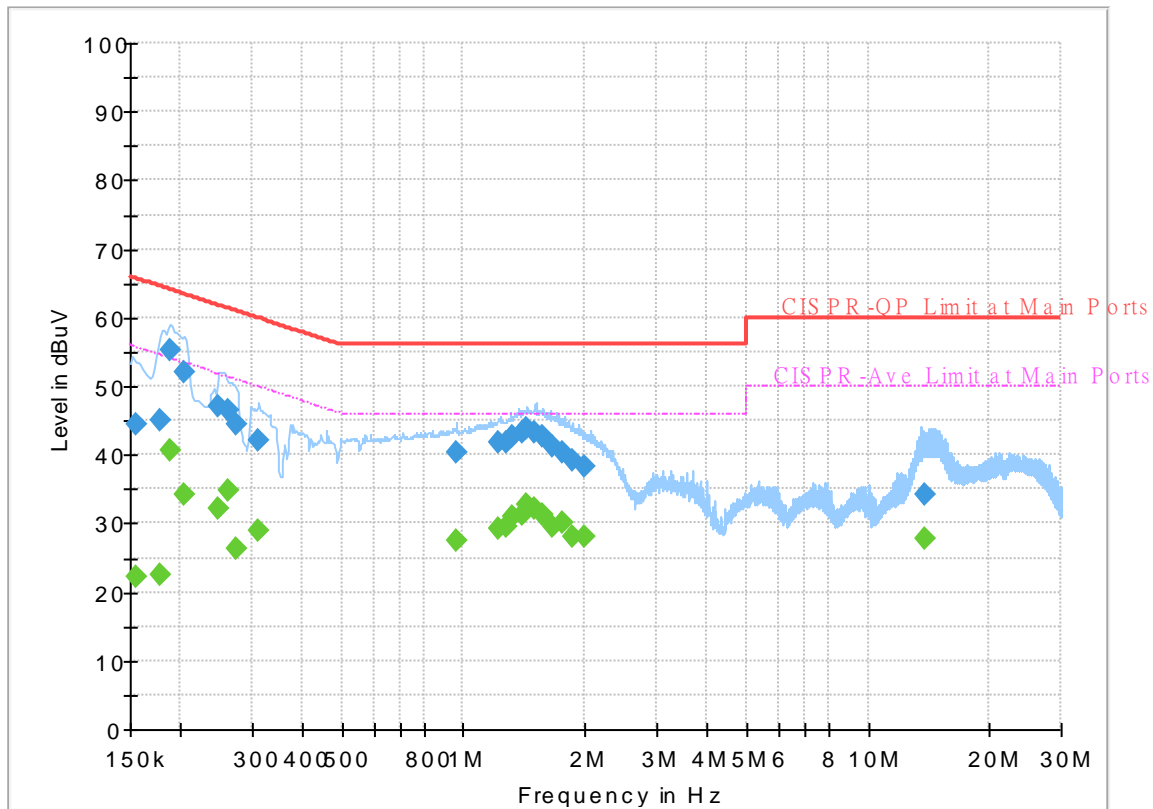
Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.156750	44.29	---	65.63	21.34	L1	OFF	19.6
0.156750	---	21.89	55.63	33.74	L1	OFF	19.6
0.179250	51.70	---	64.52	12.82	L1	OFF	19.6
0.179250	---	28.31	54.52	26.21	L1	OFF	19.6
0.188250	56.83	---	64.11	7.28	L1	OFF	19.6
0.188250	---	42.11	54.11	12.00	L1	OFF	19.6
0.201750	55.01	---	63.54	8.53	L1	OFF	19.6
0.201750	---	40.16	53.54	13.38	L1	OFF	19.6
0.240000	42.63	---	62.10	19.47	L1	OFF	19.6
0.240000	---	23.21	52.10	28.89	L1	OFF	19.6
0.255750	49.03	---	61.57	12.54	L1	OFF	19.6
0.255750	---	38.17	51.57	13.40	L1	OFF	19.6
0.264750	48.37	---	61.28	12.91	L1	OFF	19.6
0.264750	---	36.42	51.28	14.86	L1	OFF	19.6
0.303000	38.19	---	60.16	21.97	L1	OFF	19.6
0.303000	---	20.98	50.16	29.18	L1	OFF	19.6
0.325500	44.49	---	59.57	15.08	L1	OFF	19.6
0.325500	---	33.59	49.57	15.98	L1	OFF	19.6
1.041000	41.75	---	56.00	14.25	L1	OFF	19.6
1.041000	---	28.89	46.00	17.11	L1	OFF	19.6
1.099500	41.70	---	56.00	14.30	L1	OFF	19.6

1.099500	---	28.56	46.00	17.44	L1	OFF	19.6
1.164750	42.12	---	56.00	13.88	L1	OFF	19.6
1.164750	---	29.11	46.00	16.89	L1	OFF	19.6
1.227750	43.08	---	56.00	12.92	L1	OFF	19.6
1.227750	---	30.00	46.00	16.00	L1	OFF	19.6
1.304250	43.94	---	56.00	12.06	L1	OFF	19.6
1.304250	---	31.92	46.00	14.08	L1	OFF	19.6
1.387500	44.66	---	56.00	11.34	L1	OFF	19.6
1.387500	---	32.82	46.00	13.18	L1	OFF	19.6
1.455000	44.61	---	56.00	11.39	L1	OFF	19.6
1.455000	---	32.57	46.00	13.43	L1	OFF	19.6
1.518000	44.22	---	56.00	11.78	L1	OFF	19.6
1.518000	---	32.18	46.00	13.82	L1	OFF	19.6
1.601250	43.89	---	56.00	12.11	L1	OFF	19.6
1.601250	---	31.64	46.00	14.36	L1	OFF	19.6
1.700250	42.17	---	56.00	13.83	L1	OFF	19.6
1.700250	---	31.39	46.00	14.61	L1	OFF	19.6
1.819500	40.88	---	56.00	15.12	L1	OFF	19.6
1.819500	---	30.33	46.00	15.67	L1	OFF	19.6
23.385750	33.24	---	60.00	26.76	L1	OFF	19.8
23.385750	---	25.78	50.00	24.22	L1	OFF	19.8

# EUT Information

Report NO : 211502  
 Test Mode : Mode 5  
 Test Voltage : Power From System  
 Phase : Neutral

Full Spectrum



## Final\_Result

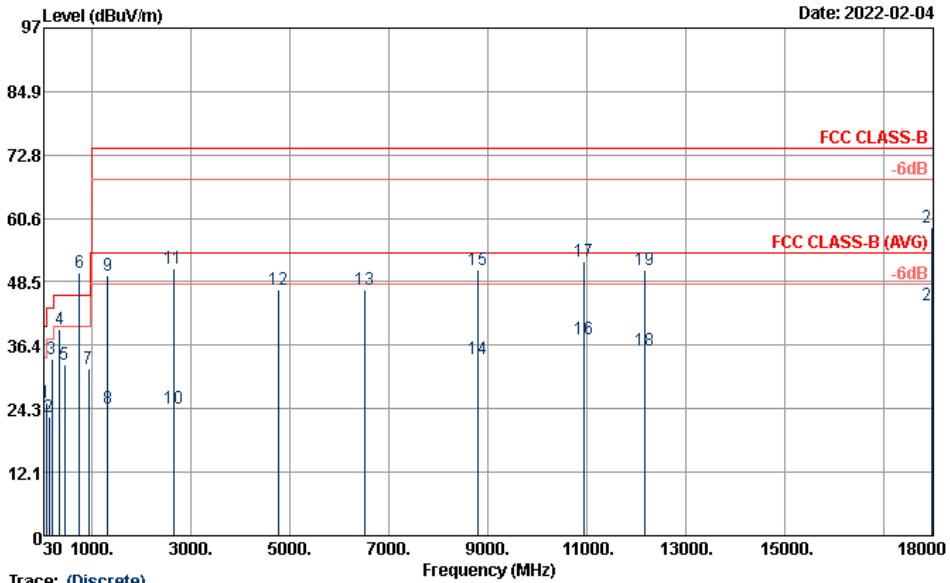
Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.154500	---	22.34	55.75	33.41	N	OFF	19.6
0.154500	44.36	---	65.75	21.39	N	OFF	19.6
0.177000	---	22.46	54.63	32.17	N	OFF	19.6
0.177000	45.04	---	64.63	19.59	N	OFF	19.6
0.188250	---	40.75	54.11	13.36	N	OFF	19.6
0.188250	55.23	---	64.11	8.88	N	OFF	19.6
0.204000	---	34.13	53.45	19.32	N	OFF	19.6
0.204000	52.18	---	63.45	11.27	N	OFF	19.6
0.249000	---	32.06	51.79	19.73	N	OFF	19.6
0.249000	47.20	---	61.79	14.59	N	OFF	19.6
0.262500	---	34.90	51.35	16.45	N	OFF	19.6
0.262500	46.60	---	61.35	14.75	N	OFF	19.6
0.273750	---	26.23	51.00	24.77	N	OFF	19.6
0.273750	44.54	---	61.00	16.46	N	OFF	19.6
0.309750	---	28.96	49.98	21.02	N	OFF	19.6
0.309750	41.96	---	59.98	18.02	N	OFF	19.6
0.960000	---	27.46	46.00	18.54	N	OFF	19.6
0.960000	40.21	---	56.00	15.79	N	OFF	19.6
1.221000	---	29.21	46.00	16.79	N	OFF	19.6
1.221000	41.96	---	56.00	14.04	N	OFF	19.6
1.277250	---	29.39	46.00	16.61	N	OFF	19.6

1.277250	41.90	---	56.00	14.10	N	OFF	19.6
1.324500	---	31.02	46.00	14.98	N	OFF	19.6
1.324500	42.74	---	56.00	13.26	N	OFF	19.6
1.401000	---	31.18	46.00	14.82	N	OFF	19.6
1.401000	43.37	---	56.00	12.63	N	OFF	19.6
1.439250	---	32.76	46.00	13.24	N	OFF	19.6
1.439250	43.73	---	56.00	12.27	N	OFF	19.6
1.506750	---	32.10	46.00	13.90	N	OFF	19.6
1.506750	43.34	---	56.00	12.66	N	OFF	19.6
1.576500	---	31.31	46.00	14.69	N	OFF	19.6
1.576500	42.56	---	56.00	13.44	N	OFF	19.6
1.657500	---	29.44	46.00	16.56	N	OFF	19.6
1.657500	41.09	---	56.00	14.91	N	OFF	19.6
1.761000	---	30.02	46.00	15.98	N	OFF	19.6
1.761000	40.28	---	56.00	15.72	N	OFF	19.6
1.851000	---	27.93	46.00	18.07	N	OFF	19.6
1.851000	39.04	---	56.00	16.96	N	OFF	19.6
1.988250	---	28.05	46.00	17.95	N	OFF	19.6
1.988250	38.19	---	56.00	17.81	N	OFF	19.6
13.778250	---	27.79	50.00	22.21	N	OFF	19.9
13.778250	34.21	---	60.00	25.79	N	OFF	19.9



## Appendix B. Radiated Emission Test Result

Test Engineer :	Howard Huang	Temperature :	24~29°C
		Relative Humidity :	39~44%
Test Distance :	3m	Polarization :	Horizontal
Remark :	#6 is system simulator signal which can be ignored.		



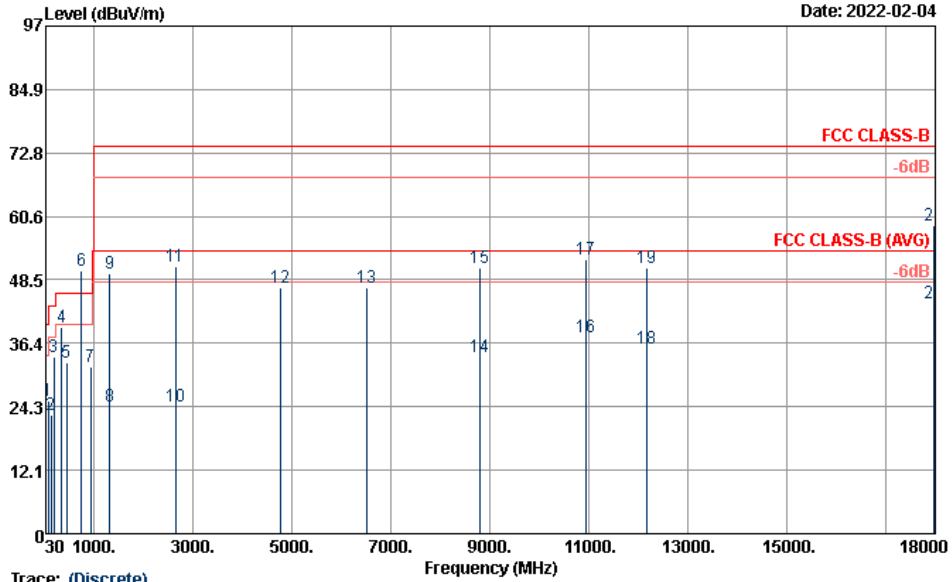
Trace: (Discrete)

Site : 03CH06-HY  
 Condition : FCC CLASS-B 3m 9120b\_1156 HORIZONTAL  
 Project : 211502  
 Power : From System  
 Memo : Mode 6  
 : NB to SD

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	cm	deg	
1	85.35	25.46	-14.54	40.00	41.28	-15.82	---	---	Peak
2	139.35	22.59	-20.91	43.50	34.58	-11.99	---	---	Peak
3	194.70	33.83	-9.67	43.50	48.10	-14.27	175	0	QP
4	354.60	39.42	-6.58	46.00	47.27	-7.85	---	---	Peak
5	449.10	32.66	-13.34	46.00	37.39	-4.73	---	---	Peak
6 *	746.00	50.31			49.37	0.94	---	---	Peak
7	931.40	31.78	-14.22	46.00	27.55	4.23	---	---	Peak
8	1328.00	24.38	-29.62	54.00	55.20	-30.82	100	33	Average
9	1328.00	49.81	-24.19	74.00	80.63	-30.82	100	33	Peak
10	2656.00	24.26	-29.74	54.00	50.31	-26.05	170	133	Average
11	2656.00	51.13	-22.87	74.00	77.18	-26.05	170	133	Peak
12	4778.00	47.10	-26.90	74.00	65.60	-18.50	---	---	Peak
13	6520.00	46.92	-27.08	74.00	60.93	-14.01	---	---	Peak
14	8800.00	33.88	-20.12	54.00	44.00	-10.12	---	---	Average
15	8800.00	50.68	-23.32	74.00	60.80	-10.12	---	---	Peak
16	10944.00	37.55	-16.45	54.00	41.91	-4.36	---	---	Average
17	10944.00	52.47	-21.53	74.00	56.83	-4.36	---	---	Peak
18	12172.00	35.41	-18.59	54.00	40.40	-4.99	---	---	Average
19	12172.00	50.73	-23.27	74.00	55.72	-4.99	---	---	Peak
20	17975.00	44.15	-9.85	54.00	32.39	11.76	---	---	Average



Test Engineer :	Howard Huang	Temperature :	24~29°C
		Relative Humidity :	39~44%
Test Distance :	3m	Polarization :	Horizontal

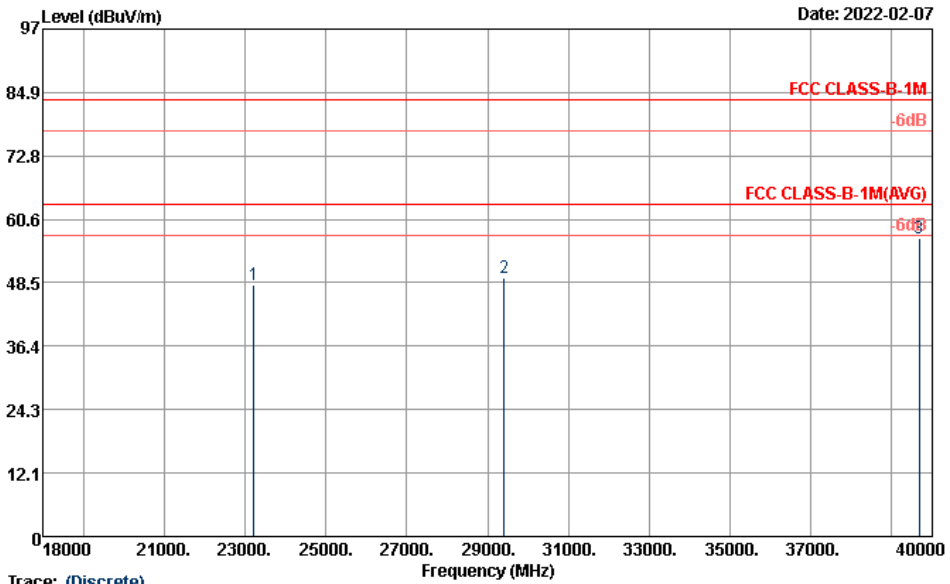


Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : FCC CLASS-B 3m 9120b\_1156 HORIZONTAL  
 Project : 211502  
 Power : From System  
 Memo : Mode 6  
       : NB to SB

Freq	Level	Over Limit	Limit Line	Read Level	Factor	A/Pos	T/Pos	Remark
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	cm	deg	
21	17975.00	58.87	-15.13	74.00	47.11	11.76	---	Peak



Test Engineer :	Howard Huang	Temperature :	24~29°C
		Relative Humidity :	39~44%
Test Distance :	3m	Polarization :	Horizontal



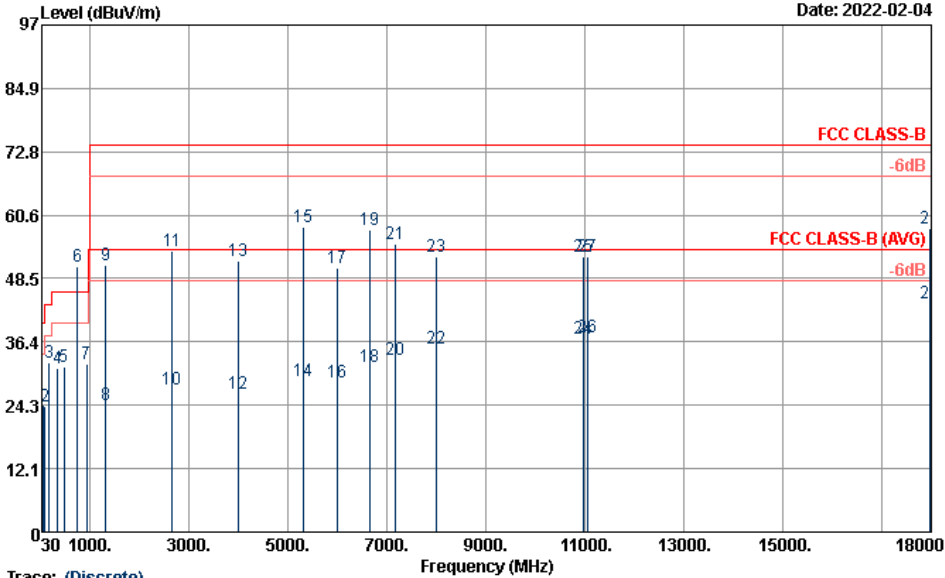
Trace: (Discrete)

Site : 03CH06-HY  
 Condition : FCC CLASS-B-1M 1m BBHA\_9170251\_211130 HORIZONTAL  
 Project : 211502  
 Power : From System  
 Memo : Mode 6  
 : NB to SB

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	cm	deg	
1	23214.00	48.13	-35.41	83.54	42.53	5.60	---	---	Peak
2	29418.00	49.56	-33.98	83.54	40.44	9.12	---	---	Peak
3	39670.00	56.90	-26.64	83.54	37.40	19.50	---	---	Peak



Test Engineer :	Howard Huang	Temperature :	24~29°C
		Relative Humidity :	39~44%
Test Distance :	3m	Polarization :	Vertical
Remark :	#6 is system simulator signal which can be ignored.		



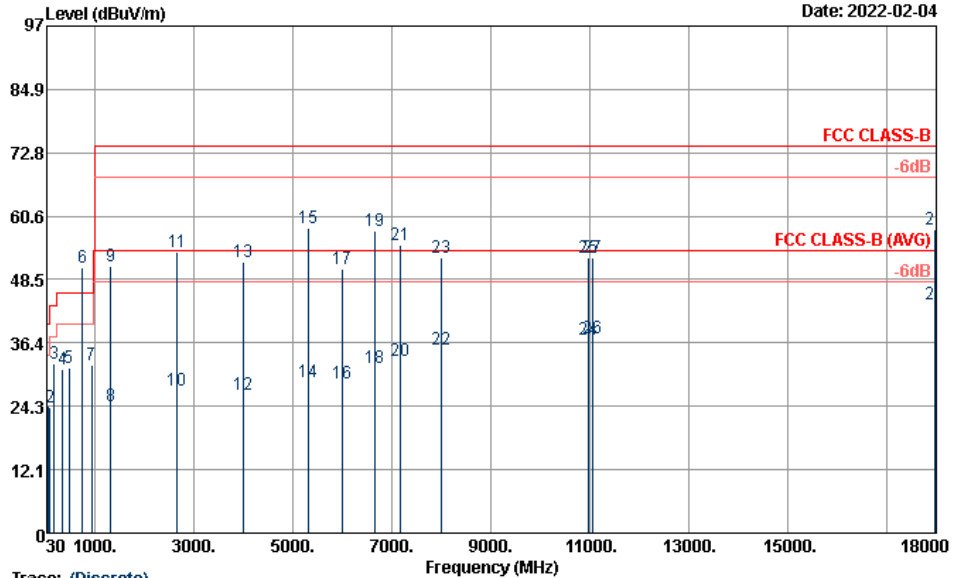
Trace: (Discrete)  
 Site : 03CHO6-HY  
 Condition : FCC CLASS-B 3m 9120B\_1156 VERTICAL  
 Project : 211502  
 Power : From System  
 Memo : Mode 6  
 : NB to SB

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	cm	deg	
1	55.38	24.19	-15.81	40.00	42.09	-17.90	---	---	Peak
2	96.69	23.96	-19.54	43.50	38.01	-14.05	---	---	Peak
3	186.33	32.42	-11.08	43.50	46.80	-14.38	100	155	QP
4	351.10	31.32	-14.68	46.00	39.33	-8.01	---	---	Peak
5	480.60	31.52	-14.48	46.00	35.65	-4.13	---	---	Peak
6 *	746.00	50.83			49.89	0.94	---	---	Peak
7	943.30	32.12	-13.88	46.00	27.11	5.01	---	---	Peak
8	1328.00	24.38	-29.62	54.00	55.20	-30.82	100	82	Average
9	1328.00	50.98	-23.02	74.00	81.80	-30.82	100	82	Peak
10	2662.00	27.22	-26.78	54.00	53.21	-25.99	100	105	Average
11	2662.00	53.79	-20.21	74.00	79.78	-25.99	100	105	Peak
12	3996.00	26.53	-27.47	54.00	47.90	-21.37	100	237	Average
13	3996.00	51.83	-22.17	74.00	73.20	-21.37	100	237	Peak
14	5316.00	28.99	-25.01	54.00	47.80	-18.81	100	360	Average
15	5316.00	58.29	-15.71	74.00	77.10	-18.81	100	360	Peak
16	6000.00	28.77	-25.23	54.00	45.80	-17.03	100	341	Average
17	6000.00	50.54	-23.46	74.00	67.57	-17.03	100	341	Peak
18	6644.00	31.66	-22.34	54.00	45.90	-14.24	100	351	Average
19	6644.00	57.92	-16.08	74.00	72.16	-14.24	100	351	Peak
20	7184.00	33.00	-21.00	54.00	45.60	-12.60	100	193	Average





Test Engineer :	Howard Huang	Temperature :	24~29°C
		Relative Humidity :	39~44%
Test Distance :	3m	Polarization :	Vertical

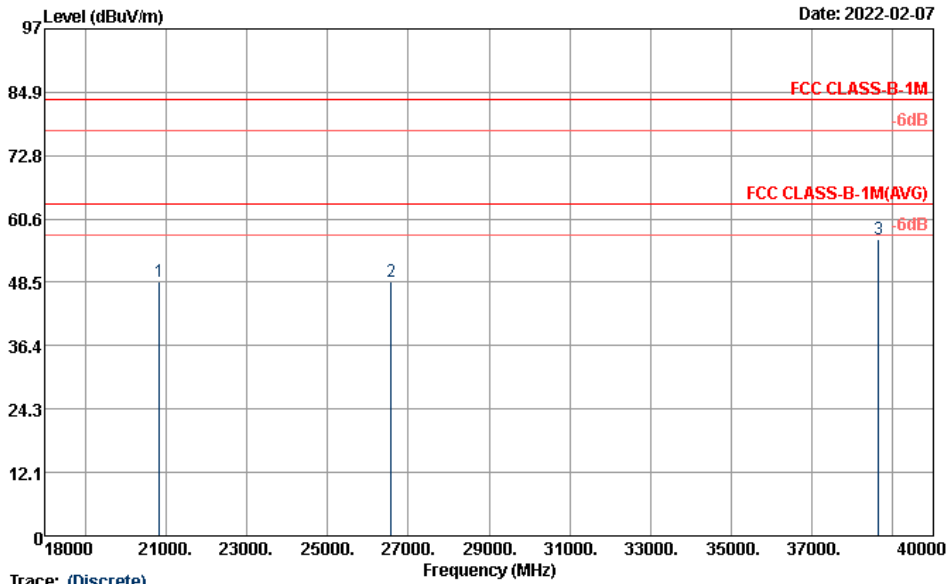


Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : FCC CLASS-B 3m 9120b\_1156 VERTICAL  
 Project : 211502  
 Power : From System  
 Memo : Mode 6  
 : NB to SD

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	cm	deg	
21	7184.00	55.00	-19.00	74.00	67.60	-12.60	100	193	Peak
22	7994.00	35.16	-18.84	54.00	46.30	-11.14	100	93	Average
23	7994.00	52.66	-21.34	74.00	63.80	-11.14	100	93	Peak
24	10968.00	37.01	-16.99	54.00	41.30	-4.29	---	---	Average
25	10968.00	52.59	-21.41	74.00	56.88	-4.29	---	---	Peak
26	11056.00	37.17	-16.83	54.00	41.59	-4.42	---	---	Average
27	11056.00	52.80	-21.20	74.00	57.22	-4.42	---	---	Peak
28	17965.00	43.78	-10.22	54.00	32.30	11.48	---	---	Average
29	17965.00	57.97	-16.03	74.00	46.49	11.48	---	---	Peak



Test Engineer :	Howard Huang	Temperature :	24~29°C
		Relative Humidity :	39~44%
Test Distance :	3m	Polarization :	Vertical



Trace: (Discrete)

Site : 03CH06-HY  
 Condition : FCC CLASS-B-1M 1m BBHA\_9170251\_211130 VERTICAL  
 Project : 211502  
 Power : From System  
 Memo : Mode 6  
 : NB to SD

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	cm	deg	
1	20838.00	48.68	-34.86	83.54	46.62	2.06	---	---	Peak
2	26580.00	48.76	-34.78	83.54	39.66	9.10	---	---	Peak
3	38636.00	56.68	-26.86	83.54	38.97	17.71	---	---	Peak