



# FCC EMI TEST REPORT

**FCC ID** : U8G-P1X03  
**Equipment** : PEPWAVE / peplink Wireless Product  
**Brand Name** : PEPWAVE / peplink  
**Model Name** : Peplink Balance SDX  
SDX Main Chassis (BPL-SDX)  
SDX Main Chassis (BPL-SDX-LR1)  
SDX Main Chassis (BPL-SDX-F1)  
SDX Main Chassis (BPL-SDX-C1)  
BPL-SDX  
BPL-SDX-LR1  
BPL-SDX-F1  
BPL-SDX-C1  
EBX  
PismoX03  
EXM-3LTEA-R  
**Applicant** : PISMO LABS TECHNOLOGY LIMITED  
A8, 5/F, HK Spinners Industrial Building, Phase 6, 481 Castle Peak Road, Cheung Sha Wan, Hong Kong  
**Manufacturer** : PISMO LABS TECHNOLOGY LIMITED  
A8, 5/F, HK Spinners Industrial Building, Phase 6, 481 Castle Peak Road, Cheung Sha Wan, Hong Kong  
**Standard** : FCC 47 CFR FCC Part 15 Subpart B

The product was received on May 31, 2019 and testing was started from Jul. 05, 2019 and completed on Jul. 17, 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.



*Jones Tsai*

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**Approved by: Jones Tsai**

***SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory***

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



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### 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 9.12 dB at 4.776 MHz
3.2	15.109	Radiated Emission	Pass	Under limit 4.93 dB at 32.420 MHz

<b>Declaration of Conformity:</b>
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
<b>Comments and Explanations:</b>
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: Louis Wu

Report Producer: Jessie Ho



# 1. General Description

## 1.1. Product Feature of Equipment Under Test

WCDMA, LTE, and GNSS

Product Specification subjective to this standard	
Sample 1	SDX Main Chassis with 3x LTE-A Module EM7511 (BPL-SDX-LR1)
Sample 2	SDX Main Chassis with 4x SFP+ Module (BPL-SDX-F1)
Sample 3	SDX Main Chassis with 8x GE PoE module (BPL-SDX-C1)
Sample 4	SDX Main Chassis(BPL-SDX)
Antenna Type	WWAN: Replacement Antenna GPS : Replacement Antenna

## 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.	<b>Sporton Site No.</b> CO05-HY

Test Site	SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	<b>Sporton Site No.</b> 03CH10-HY

Test Site	SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
Test Site Location	No. 3, Lane 238, Kangle St., Neihu Chiu, Taipei, Taiwan 114, R.O.C. TEL : +886-2-2631-5551 FAX: +886-2-2631-9740
Test Site No.	<b>Sporton Site No.</b> OS02-NH

FCC Designation No.: TW1093, TW1098, and TW1094



## **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

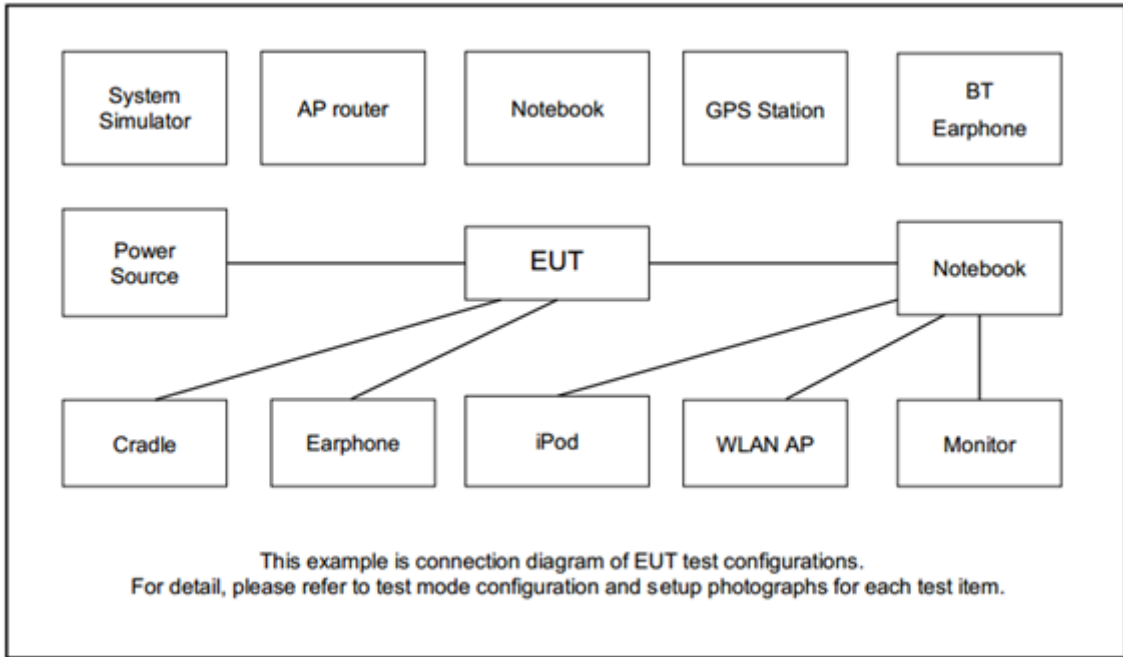
The EUT has been associated with peripherals pursuant to ANSI C63.4-2014 and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

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).

Test Items	Function Type
<b>AC Conducted Emission</b>	<p>Mode 1: WCDMA Band V Idle + RJ-45 (LAN) Link + RJ-45 (WAN) Link + GPS + Power Cable + USB Flash Device *2 + LAN Port with PoE Output + MGMT (LAN) Link + Fiber Link (SFP + Port) + Console Port Load + SIM 1 for Sample 1</p> <p>Mode 2: WCDMA Band V Idle + RJ-45 (LAN) Link + RJ-45 (WAN) Link + GPS + Power Cable + USB Flash Device *2 + LAN Port with PoE Output + MGMT(LAN) Link + Fiber Link (SFP + Port) + Console Port Load + SIM 2 for Sample 1</p> <p>Mode 3: RJ-45 (LAN) Link + RJ-45 (WAN) Link + Power Cable + USB Flash Device *2 + LAN Port with PoE Output + MGMT (LAN) Link + Fiber Link (SFP + Port) + Console Port Load + Expansion Module Fiber Link (SFP + Port) for Sample 2</p> <p>Mode 4: RJ-45 (LAN) Link + RJ-45 (WAN) Link + Power Cable + USB Flash Device *2 + LAN Port with PoE Output + MGMT (LAN) Link + Fiber Link (SFP + Port) + Console Port Load + Expansion Module RJ-45 (LAN) Link + Expansion Module LAN Port with PoE Output for Sample 3</p> <p>Mode 5: RJ-45 (LAN) Link + RJ-45 (WAN) Link + Power Cable + USB Flash Device *2 + LAN Port with PoE Output + MGMT (LAN) Link + Fiber Link (SFP + Port) + Console Port Load for Sample 4</p>
<b>Radiated Emissions</b>	<p>Mode 1: WCDMA Band V Idle + RJ-45 (LAN) Link + RJ-45 (WAN) Link + GPS + Power Cable + USB Flash Device *2 + LAN Port with PoE Output + MGMT (LAN) Link + Fiber Link (SFP + Port) + Console Port Load + SIM 1 for Sample 1</p> <p>Mode 2: WCDMA Band V Idle + RJ-45 (LAN) Link + RJ-45 (WAN) Link + GPS + Power Cable + USB Flash Device *2 + LAN Port with PoE Output + MGMT(LAN) Link + Fiber Link (SFP + Port) + Console Port Load + SIM 2 for Sample 1</p> <p>Mode 3: RJ-45 (LAN) Link + RJ-45 (WAN) Link + Power Cable + USB Flash Device *2 + LAN Port with PoE Output + MGMT (LAN) Link + Fiber Link (SFP+ Port) + Console Port Load + Expansion Module Fiber Link (SFP + Port) for Sample 2</p> <p>Mode 4: RJ-45 (LAN) Link + RJ-45 (WAN) Link + Power Cable + USB Flash Device *2 + LAN Port with PoE Output + MGMT (LAN) Link + Fiber Link (SFP + Port) + Console Port Load + Expansion Module RJ-45 (LAN) Link + Expansion Module LAN Port with PoE Output for Sample 3</p> <p>Mode 5: RJ-45 (LAN) Link + RJ-45 (WAN) Link + Power Cable + USB Flash Device *2 + LAN Port with PoE Output + MGMT (LAN) Link + Fiber Link (SFP + Port) + Console Port Load for Sample 4</p>
<p><b>Remark:</b></p> <ol style="list-style-type: none"> <li>1. The worst case of AC is mode 4; only the test data of this mode was reported.</li> <li>2. The worst case of RE is mode 1; only the test data of this mode was reported.</li> </ol>	



## 2.2. Connection Diagram of Test System



### 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	MT8820C	N/A	N/A	Unshielded, 1.8 m
2.	GPS Station	Pendulum	GSG-54	N/A	N/A	Unshielded, 1.8 m
3.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 1.8m
4.	WLAN AP	TP-Link	N750	TE7WDR4300	N/A	Unshielded, 1.8 m
5.	Notebook	DELL	P20G	FCC DoC/ Contains FCC ID: QDS-BRCM1051	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
6.	Notebook	DELL	Latitude E6320	FCC DoC/ Contains FCC ID: QDS-BRCM1054	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
7.	Notebook	DELL	Latitude E3340	FCC DoC/ Contains FCC ID: PD97260NGU	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
8.	Notebook	DELL	Latitude E5480	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
9.	USB HD	lenovo	F310S	FCC DoC	Shielded, 0.5m	N/A
10.	Peplink Switch	Pismo Lbs	1807068	FCC DoC	N/A	N/A
11.	SFP BOX	Peplink	Balance SDX	N/A	N/A	N/A
12.	PoE load	N/A	N/A	N/A	Unshielded, 2.0m	N/A
13.	HDD	Toshiba	DTD205	N/A	Shielded, 0.5m	N/A
14.	HDD	PQI	H568V	N/A	Shielded, 0.5m	N/A
15.	HDD	WD	WDBPGC5000A BK-PESN	N/A	Shielded, 0.5m	N/A

### 2.4. EUT Operation Test Setup

The EUT was in WCDMA idle mode during the testing. The EUT was synchronized to the BCCH, and is in continuous receiving mode by setting system simulator's paging reorganization.

The following programs installed in the EUT were programmed during the test.

1. Execute "GPS" to make the EUT receive continuous signals from GPS station.
2. EUT links with Notebook and execute ping via RJ-45



### 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	79	66
0.5-30	73	60

##### 3.1.2 Measuring Instruments

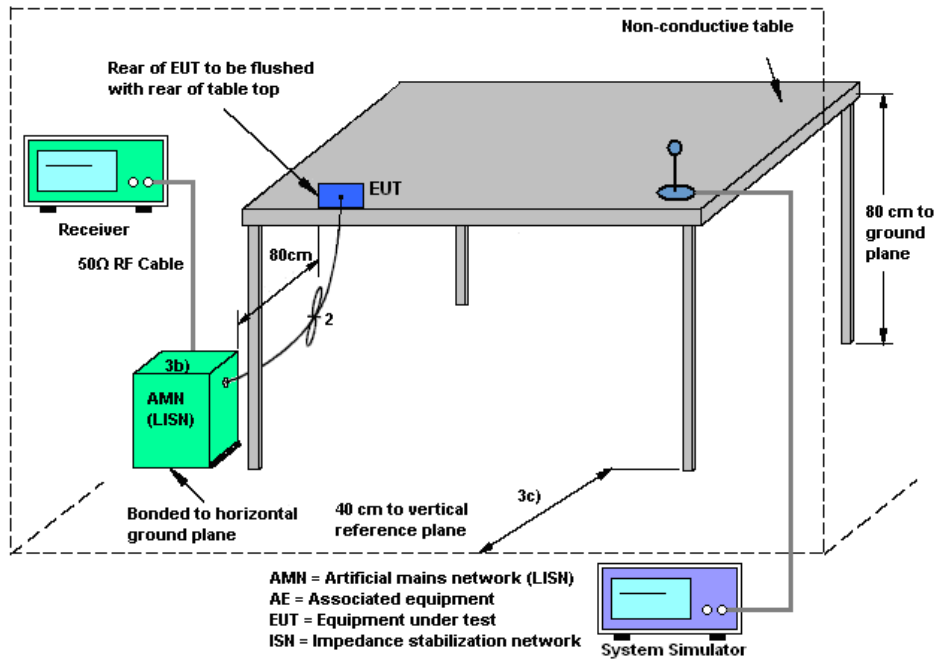
Refer a test equipment and calibration data table in this test report.

##### 3.1.3 Test Procedure

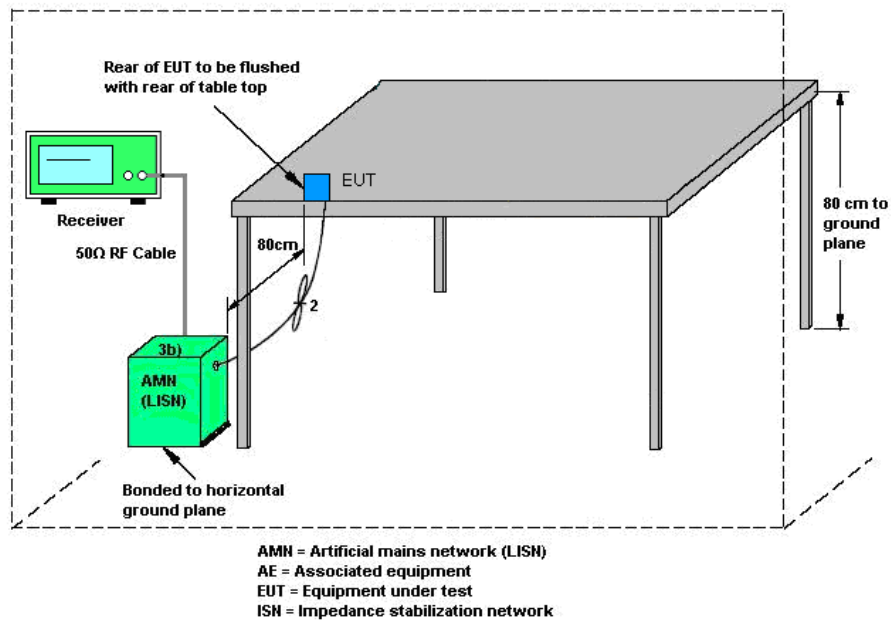
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
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

<Mode 1~Mode 2>



<Mode 3~Mode 5>



### 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)
Above 960	300	10

Frequency (MHz)	Field Strength (dBuV/meter)	Measurement Distance (meters)
30 – 230	40	10
230 – 1000	47	10

**Note:** Measurement follows the CISPR 22 limit line as below :

15.109 (g) As an alternative to the radiated emission limits shown in paragraphs (a) and (b) of this section, digital devices may be shown to comply with the standards contained in Third Edition of the International Special Committee on Radio Interference (CISPR), Pub. 22, "Information Technology Equipment - Radio Disturbance Characteristics - Limits and Methods of Measurement"

### 3.2.2. Measuring Instruments

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

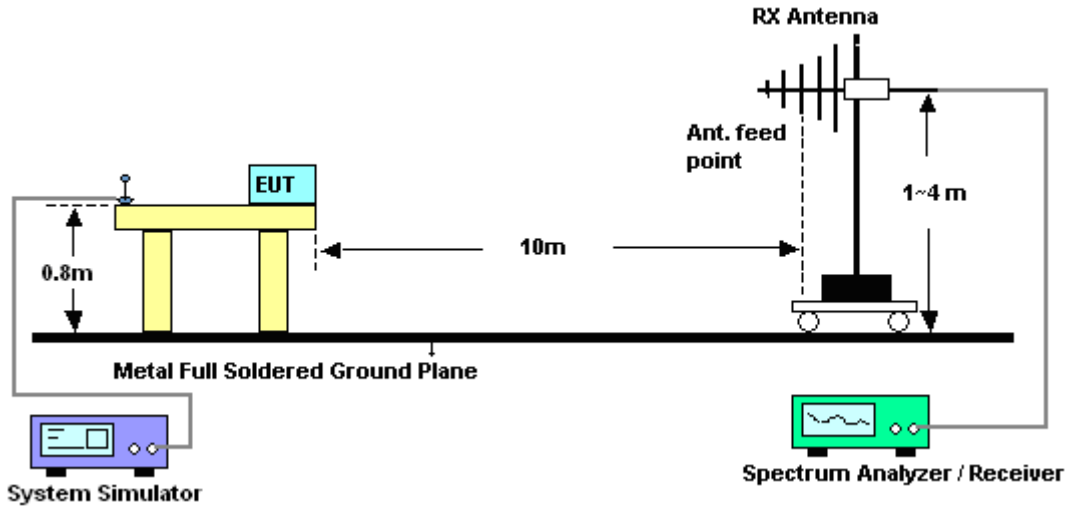
**3.2.3. Test Procedures**

1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 10 meters (30M~1G) and 3 meters (1G~ 13G) 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 (dB $\mu$ V/m) = 20 log Emission level ( $\mu$ V/m)
9. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

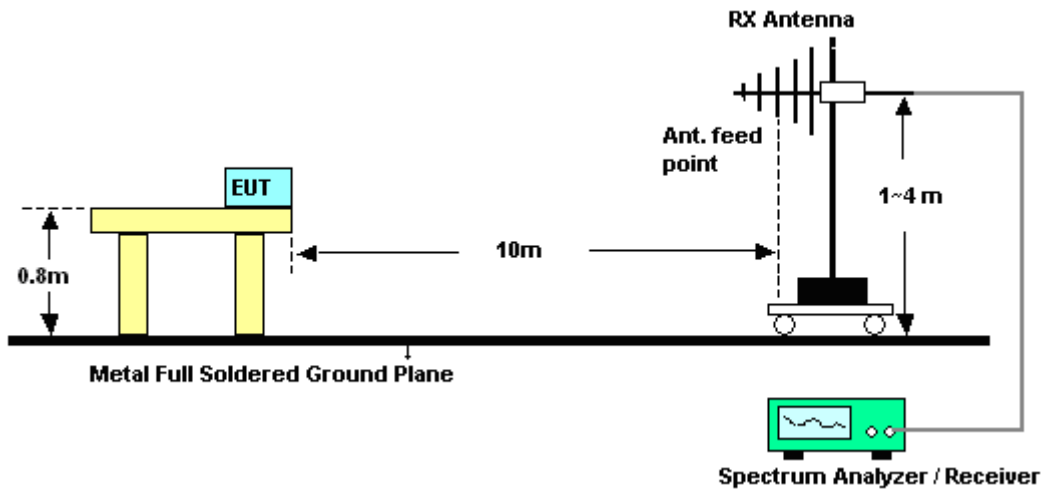
### 3.2.4. Test Setup of Radiated Emission

For radiated emissions from 30MHz to 1GHz

<Mode 1~Mode 2>

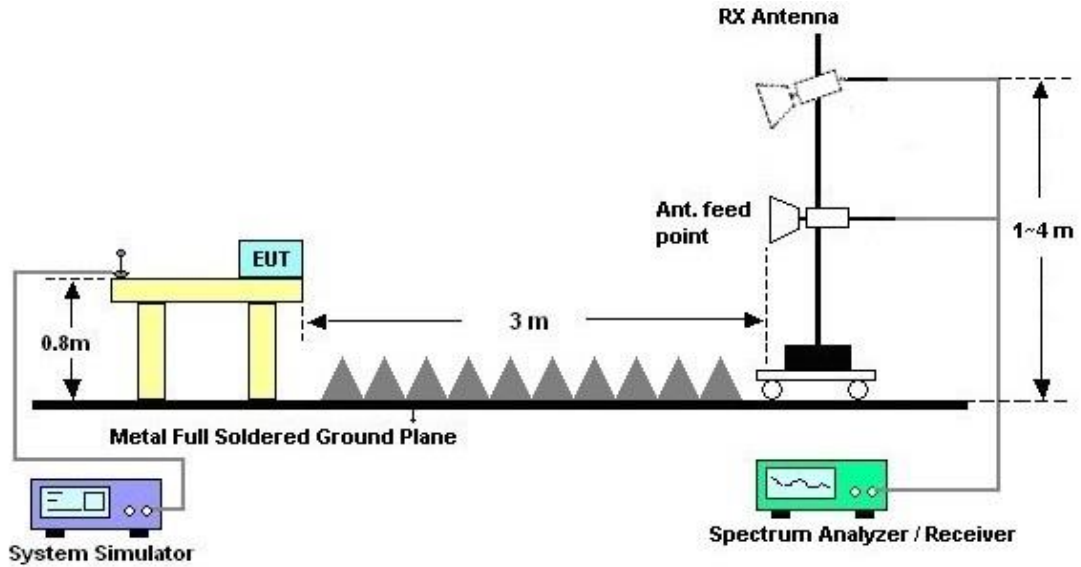


<Mode 3~Mode 5>

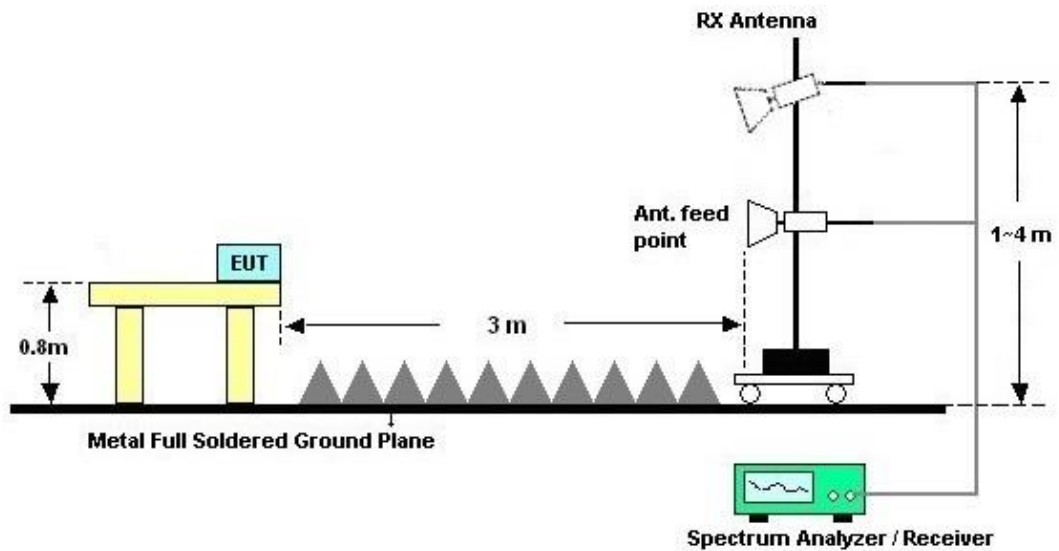


For radiated emissions above 1GHz

<Mode 1~Mode 2>



<Mode 3~Mode 5>



### 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	Jul. 16, 2019~ Jul. 17, 2019	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	9kHz~3.6GHz	Nov. 12, 2018	Jul. 16, 2019~ Jul. 17, 2019	Nov. 11, 2019	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Nov. 14, 2018	Jul. 16, 2019~ Jul. 17, 2019	Nov. 13, 2019	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Nov. 09, 2018	Jul. 16, 2019~ Jul. 17, 2019	Nov. 08, 2019	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	Jul. 16, 2019~ Jul. 17, 2019	N/A	Conduction (CO05-HY)
LF Cable	HUBER + SUHNER	RG-214/U	LF01	N/A	Dec. 31, 2018	Jul. 16, 2019~ Jul. 17, 2019	Dec. 30, 2019	Conduction (CO05-HY)
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100851	N/A	Dec. 31, 2018	Jul. 16, 2019~ Jul. 17, 2019	Dec. 30, 2019	Conduction (CO05-HY)
Amplifier	HP	8447D	2944A06292	0.1 MHz - 1.3 GHz	May 07, 2019	Jul. 05, 2019~ Jul. 10, 2019	May 06, 2020	Radiation (OS02-NH)
Receiver	R&S	ESCI	100497	9 kHz – 3 GHz	May 10, 2019	Jul. 05, 2019~ Jul. 10, 2019	May 09, 2020	Radiation (OS02-NH)
Bilog Antenna With 5dB Attenuator	TESEO	CBL6112D	35376	30 MHz - 2 GHz	Apr. 27, 2019	Jul. 05, 2019~ Jul. 10, 2019	Apr. 26, 2020	Radiation (OS02-NH)
Turn Table	EMCO	2080	9508-1805	0 - 360 degree	NCR	Jul. 05, 2019~ Jul. 10, 2019	NCR	Radiation (OS02-NH)
Antenna Mast	ETS	2075-2	2385	1 m - 4 m	NCR	Jul. 05, 2019~ Jul. 10, 2019	NCR	Radiation (OS02-NH)
RF Cable-R10m	MIYAZAKI	5DFB	CB044	30 MHz - 1 GHz	Aug. 24, 2018	Jul. 05, 2019~ Jul. 10, 2019	Aug. 23, 2019	Radiation (OS02-NH)
Software	Audix	E3	Ver.4	-	NCR	Jul. 05, 2019~ Jul. 10, 2019	NCR	Radiation (OS02-NH)
AVR	ACPOWER	AFC-1KV	F103030011	-	NCR	Jul. 05, 2019~ Jul. 10, 2019	NCR	Radiation (OS02-NH)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1325	1GHz ~ 18GHz	Oct. 02, 2018	Jul. 12, 2019	Oct. 01, 2019	Radiation (03CH10-HY)
Preamplifier	Jet-Power	JAP00101800-30-10P	160118550004	1GHz~18GHz	Apr. 16, 2019	Jul. 12, 2019	Apr. 15, 2020	Radiation (03CH10-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200485	10Hz ~ 44GHz	Nov. 02, 2018	Jul. 12, 2019	Nov. 01, 2019	Radiation (03CH10-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	Jul. 12, 2019	N/A	Radiation (03CH10-HY)
Turn Table	EMEC	TT 2200	N/A	0~360 Degree	N/A	Jul. 12, 2019	N/A	Radiation (03CH10-HY)
Software	Audix	E3 6.2009-8-24	RK-001042	N/A	N/A	Jul. 12, 2019	N/A	Radiation (03CH10-HY)
EMI Test Receiver	Keysight	N9038A(MXE)	MY54130085	20Hz ~ 8.4GHz	Nov. 01, 2019	Jul. 12, 2019	Oct. 31, 2020	Radiation (03CH10-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104 / 102	MY11692/4P E,MY11693/4 PE,MY2855/2	30M-1G	Nov. 08, 2018	Jul. 12, 2019	Nov. 07, 2019	Radiation (03CH10-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104 / 102	MY11692/4P E,MY11693/4 PE,MY2855/2	1G-18G	Nov. 08, 2018	Jul. 12, 2019	Nov. 07, 2019	Radiation (03CH10-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30M~18GHz	Feb. 26, 2019	Jul. 12, 2019	Feb. 25, 2020	Radiation (03CH10-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	800740/2	30M~18GHz	Feb. 26, 2019	Jul. 12, 2019	Feb. 25, 2020	Radiation (03CH10-HY)



Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Base Station	Anritsu	MT8820C	6201432817	GSM / GPRS /WCDMA / LTE FDD/TDD with 44)	Dec. 12, 2018	Jul. 12, 2019	Dec. 11, 2020	Radiation (03CH10-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1325	1GHz ~ 18GHz	Oct. 02, 2018	Jul. 12, 2019	Oct. 01, 2019	Radiation (03CH10-HY)
Preamplifier	Jet-Power	JAP00101800-30-10P	160118550004	1GHz~18GHz	Apr. 16, 2019	Jul. 12, 2019	Apr. 15, 2020	Radiation (03CH10-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
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### Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	5.8
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### Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	5.9
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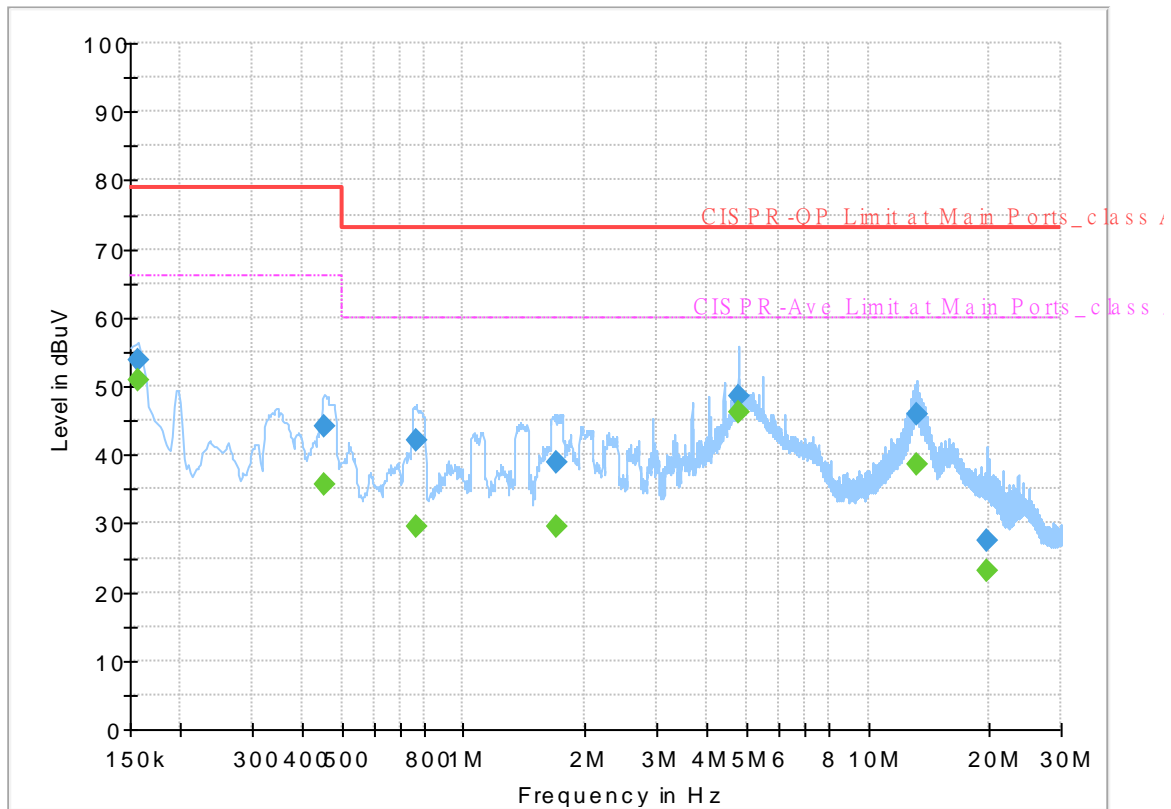
## Appendix A. AC Conducted Emission Test Results

Test Engineer :	Jimmy Chang	Temperature :	24.6~25.0°C
		Relative Humidity :	56.3~56.8%

# EUT Information

Report NO : 953106  
 Test Mode : Mode 4  
 Test Voltage : 120Vac/60Hz  
 Phase : Line

Full Spectrum



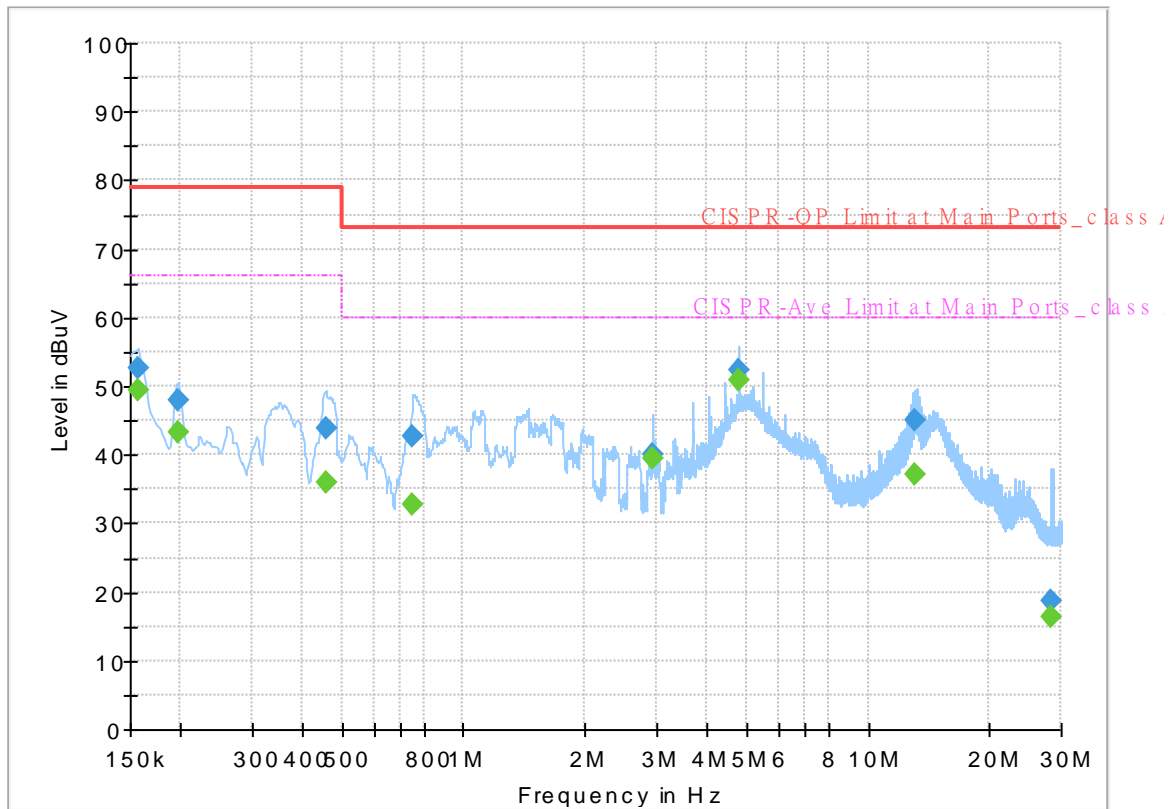
## Final\_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.156750	---	50.84	66.00	15.16	L1	OFF	19.4
0.156750	53.88	---	79.00	25.12	L1	OFF	19.4
0.453750	---	35.71	66.00	30.29	L1	OFF	19.4
0.453750	44.12	---	79.00	34.88	L1	OFF	19.4
0.766500	---	29.66	60.00	30.34	L1	OFF	19.4
0.766500	42.10	---	73.00	30.90	L1	OFF	19.4
1.698000	---	29.57	60.00	30.43	L1	OFF	19.5
1.698000	38.76	---	73.00	34.24	L1	OFF	19.5
4.769250	---	46.16	60.00	13.84	L1	OFF	19.5
4.769250	48.43	---	73.00	24.57	L1	OFF	19.5
13.206750	---	38.54	60.00	21.46	L1	OFF	19.6
13.206750	45.99	---	73.00	27.01	L1	OFF	19.6
19.738500	---	22.97	60.00	37.03	L1	OFF	19.7
19.738500	27.51	---	73.00	45.49	L1	OFF	19.7

## EUT Information

Report NO : 953106  
 Test Mode : Mode 4  
 Test Voltage : 120Vac/60Hz  
 Phase : Neutral

Full Spectrum



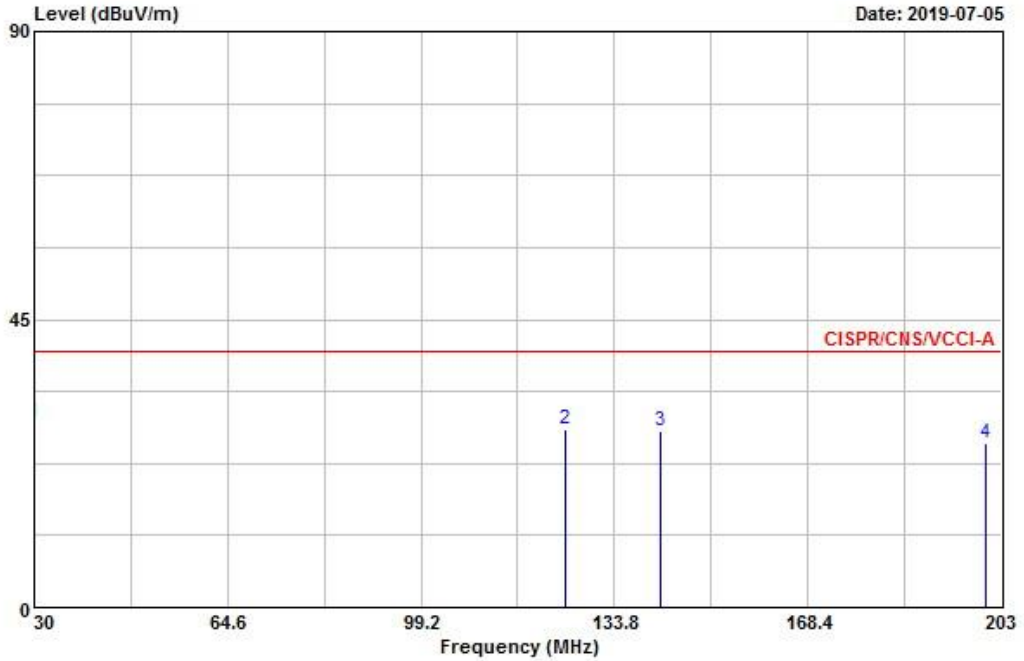
## Final\_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.156750	---	49.51	66.00	16.49	N	OFF	19.4
0.156750	52.61	---	79.00	26.39	N	OFF	19.4
0.197250	---	43.35	66.00	22.65	N	OFF	19.4
0.197250	47.87	---	79.00	31.13	N	OFF	19.4
0.456000	---	36.10	66.00	29.90	N	OFF	19.5
0.456000	43.88	---	79.00	35.12	N	OFF	19.5
0.750750	---	32.73	60.00	27.27	N	OFF	19.5
0.750750	42.79	---	73.00	30.21	N	OFF	19.5
2.937750	---	39.56	60.00	20.44	N	OFF	19.5
2.937750	40.11	---	73.00	32.89	N	OFF	19.5
4.776000	---	50.88	60.00	9.12	N	OFF	19.6
4.776000	52.38	---	73.00	20.62	N	OFF	19.6
13.013250	---	37.14	60.00	22.86	N	OFF	19.7
13.013250	45.06	---	73.00	27.94	N	OFF	19.7
28.241250	---	16.38	60.00	43.62	N	OFF	20.0
28.241250	18.63	---	73.00	54.37	N	OFF	20.0



## Appendix B. Radiated Emission Test Result

Test Engineer :	Chas Yeh	Temperature :	27~28°C
		Relative Humidity :	50~51%
Test Distance :	10m	Polarization :	Horizontal



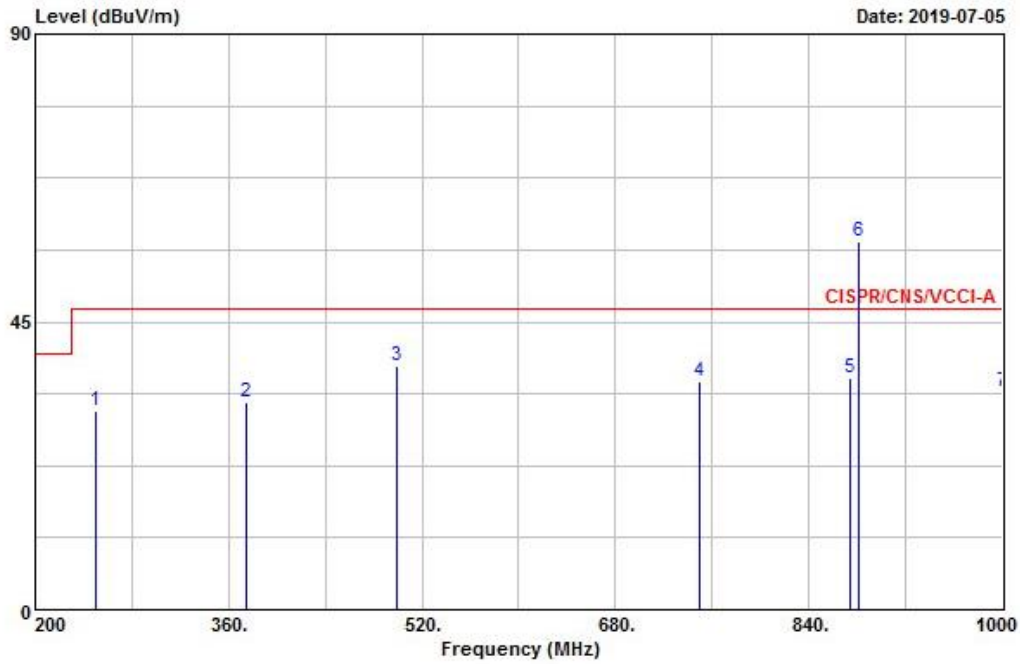
Site : OS02-NH  
 Condition : CISPR/CNS/VCCI-A 10m OS02-ANT-04-27-2019 HORIZONTAL

POWER : 120VAC  
 MEMO : Mode 1

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	30.000	28.82	-11.18	40.00	31.90	23.79	0.50	27.37	Peak	---	---
2	125.150	27.97	-12.03	40.00	36.91	17.14	1.11	27.19	Peak	---	---
3	142.100	27.59	-12.41	40.00	37.15	16.12	1.23	26.91	Peak	---	---
4	200.060	25.56	-14.44	40.00	36.42	14.52	1.51	26.89	Peak	---	---



Test Engineer :	Chas Yeh	Temperature :	27~28°C
		Relative Humidity :	50~51%
Test Distance :	10m	Polarization :	Horizontal
Remark :	#6 is system simulator signal which can be ignored.		



Site : OS02-NH  
 Condition : CISPR/CNS/VCCI-A 10m OS02-ANT-04-27-2019 HORIZONTAL

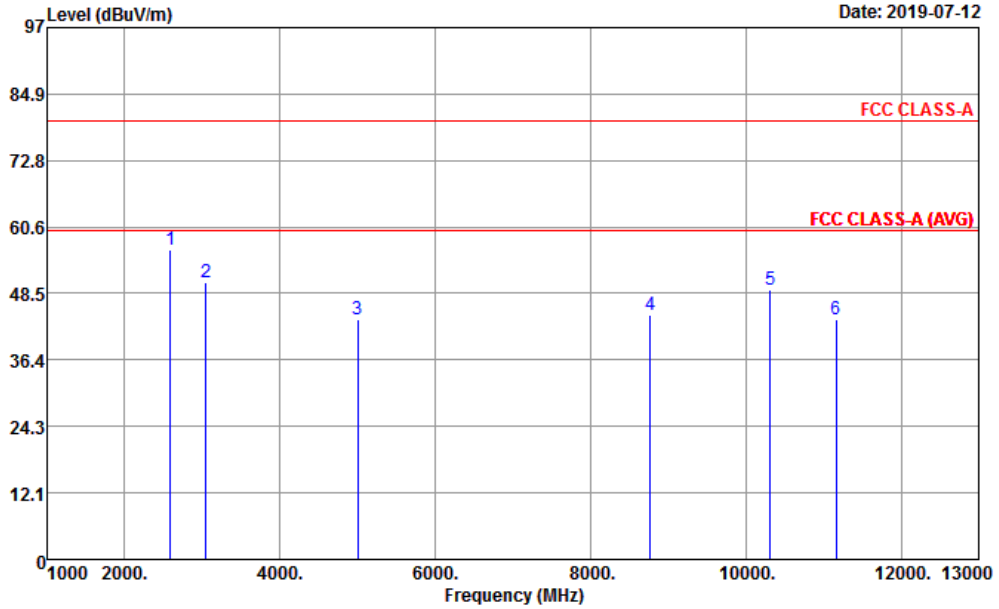
POWER : 120VAC  
 MEMO : Mode 1  
 : Freq.881.6MHz is WCDMA Band V Signal

Peak	Freq	Level	Limit	Over	Limit	ReadAntenna	Cable	Preamp	Remark	Ant	Table
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	Loss	Factor		Pos	Pos
							dB	dB		cm	deg
1	249.600	31.19	-15.81	47.00	38.67	17.51	1.76	26.75	Peak	---	---
2	374.400	32.30	-14.70	47.00	36.89	20.38	2.41	27.38	Peak	---	---
3	499.200	37.98	-9.02	47.00	41.00	22.56	2.86	28.44	Peak	200	166
4	749.600	35.77	-11.23	47.00	35.80	24.67	3.61	28.31	Peak	---	---
5	874.400	36.24	-10.76	47.00	34.66	25.69	3.88	27.99	Peak	---	---
6	881.600	57.48			55.80	25.73	3.89	27.94	Peak	---	---
7	1000.000	34.16	-12.84	47.00	30.75	26.66	4.20	27.45	Peak	---	---





<b>Test Engineer :</b>	Yu Wang	<b>Temperature :</b>	20~22°C
		<b>Relative Humidity :</b>	65~70%
<b>Test Distance :</b>	3m	<b>Polarization :</b>	Horizontal

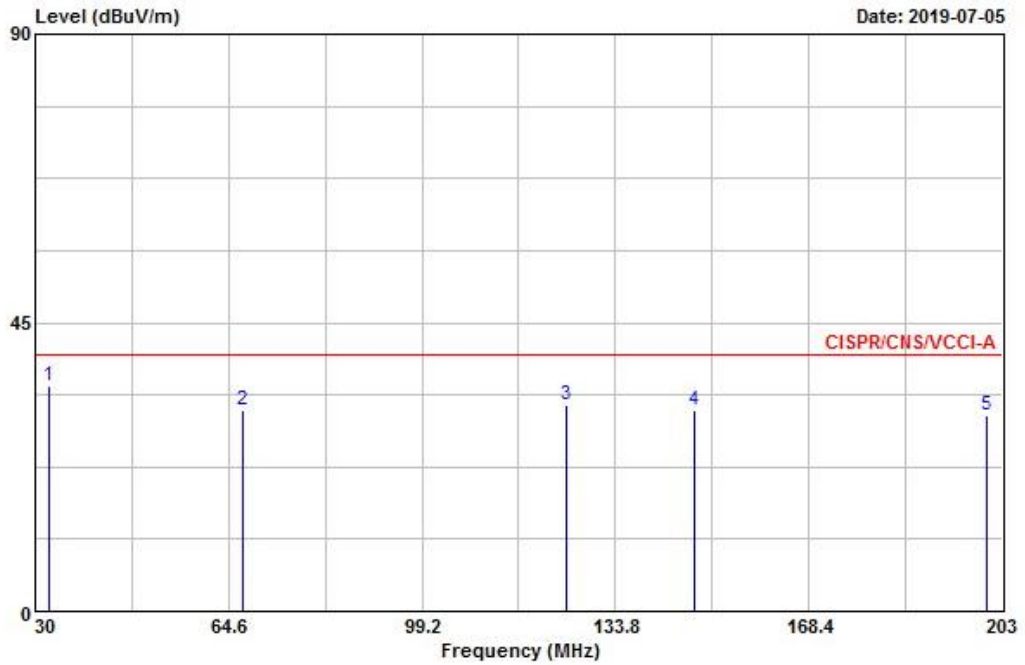


Site : 03CH10-HY  
 Condition : FCC CLASS-A 3m HORN 9120D-HF HORIZONTAL  
 Project : 953106  
 Power : 120Vac/60Hz  
 Mode : 1

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	2588.00	56.44	-23.56	80.00	83.80	27.30	7.16	61.82	100	0 Peak
2	3042.00	50.43	-29.57	80.00	76.09	28.48	7.79	61.93	---	---
3	5000.00	43.74	-36.26	80.00	65.68	31.30	9.06	62.30	---	---
4	8774.00	44.62	-35.38	80.00	59.65	37.65	11.75	64.43	---	---
5	10312.00	49.13	-30.87	80.00	61.73	39.25	12.70	64.55	---	---
6	11168.00	43.78	-36.22	80.00	54.80	39.46	13.35	63.83	---	---



Test Engineer :	Chas Yeh	Temperature :	27~28°C
		Relative Humidity :	50~51%
Test Distance :	10m	Polarization :	Vertical



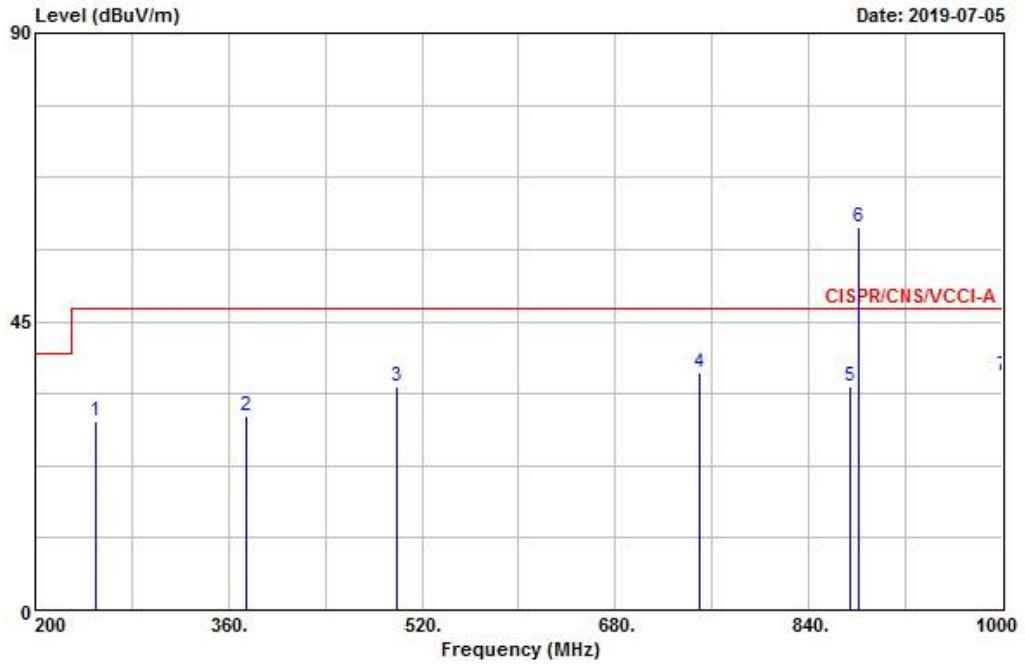
Site : OS02-NH  
 Condition : CISPR/CNS/VCCI-A 10m OS02-ANT-04-27-2019 VERTICAL

POWER : 120VAC  
 MEMO : Mode 1

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	32.420	35.07	-4.93	40.00	39.31	22.61	0.52	27.37	Peak	100	222
2	67.200	31.44	-8.56	40.00	46.64	11.40	0.79	27.39	Peak	---	---
3	124.980	32.16	-7.84	40.00	41.10	17.14	1.11	27.19	Peak	---	---
4	147.990	31.25	-8.75	40.00	41.05	15.77	1.27	26.84	Peak	---	---
5	200.060	30.52	-9.48	40.00	41.38	14.52	1.51	26.89	Peak	---	---



Test Engineer :	Chas Yeh	Temperature :	27~28°C
		Relative Humidity :	50~51%
Test Distance :	10m	Polarization :	Vertical
Remark :	#6 is system simulator signal which can be ignored.		



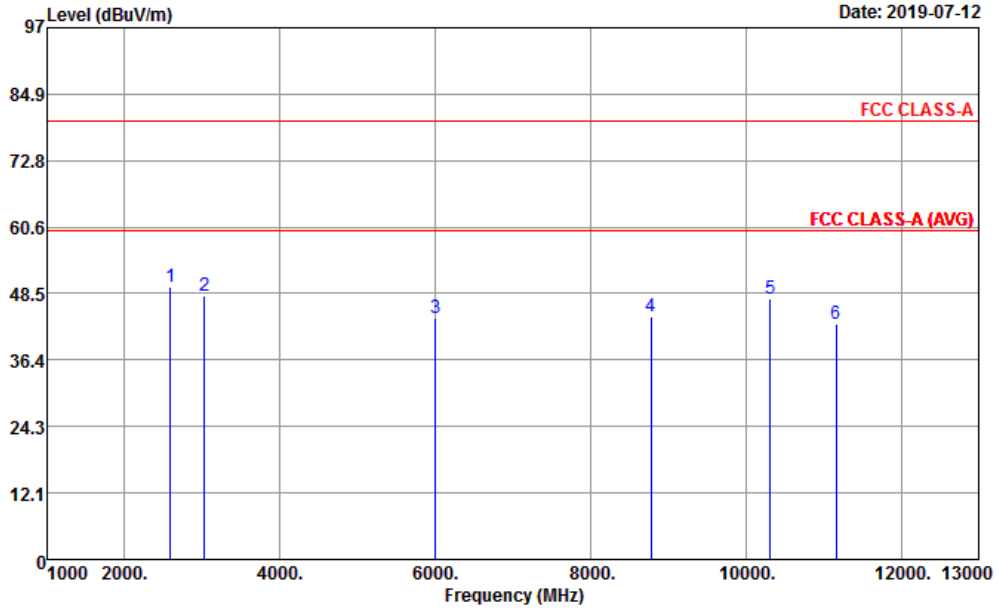
Site : OS02-NH  
 Condition : CISPR/CNS/VCCI-A 10m OS02-ANT-04-27-2019 VERTICAL

POWER : 120VAC  
 MEMO : Mode 1  
 : Freq.881.6MHz is WCDMA Band V Signal

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	249.600	29.48	-17.52	47.00	36.96	17.51	1.76	26.75	Peak	---	---
2	374.400	30.27	-16.73	47.00	34.86	20.38	2.41	27.38	Peak	---	---
3	499.200	34.96	-12.04	47.00	37.98	22.56	2.86	28.44	Peak	---	---
4	749.600	36.95	-10.05	47.00	36.98	24.67	3.61	28.31	Peak	---	---
5	874.400	34.80	-12.20	47.00	33.22	25.69	3.88	27.99	Peak	---	---
6	881.600	59.80			58.12	25.73	3.89	27.94	Peak	---	---
7	1000.000	36.36	-10.64	47.00	32.95	26.66	4.20	27.45	Peak	---	---



Test Engineer :	Yu Wang	Temperature :	20~22°C
		Relative Humidity :	65~70%
Test Distance :	3m	Polarization :	Vertical



Site : 03CH10-HY  
 Condition : FCC CLASS-A 3m HORN 9120D-HF VERTICAL  
 Project : 953106  
 Power : 120Vac/60Hz  
 Mode : 1

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2588.00	49.77	-30.23	80.00	77.13	27.30	7.16	61.82	100	0 Peak	
2	3028.00	48.19	-31.81	80.00	73.87	28.46	7.78	61.92	---	---	Peak
3	6000.00	44.14	-35.86	80.00	64.80	32.50	9.74	62.90	---	---	Peak
4	8778.00	44.44	-35.56	80.00	59.46	37.66	11.75	64.43	---	---	Peak
5	10312.00	47.68	-32.32	80.00	60.28	39.25	12.70	64.55	---	---	Peak
6	11164.00	42.87	-37.13	80.00	53.88	39.47	13.35	63.83	---	---	Peak

————THE END————