



**Report No. : FC211326** 

: 1 of 17

# FCC EMITEST REPORT

**FCC ID** : U8G-P1AX11

: PEPWAVE / peplink Wireless Product **Equipment** 

**Brand Name** : PEPWAVE / peplink **Model Name** : MAX Transit Pro

**MAX Transit Pro LTEA** 

MAX-TST-PRO-DUO-LTEA-US-T-PRM MAX-TST-PRO-DUO-LTEA-R-T-PRM

**Applicant** PISMO LABS TECHNOLOGY LIMITED

> A8, 5/F, HK Spinners Industrial Building, Phase 6, 481 Castle Peak Road, Cheung Sha

Wan, Hong Kong

: PISMO LABS TECHNOLOGY LIMITED Manufacturer

> 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 Class A

The product was received on Jan. 18, 2022 and testing was performed from Feb. 16, 2022 to Mar. 08, 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

Lunis Win

Sporton International Inc. EMC & Wireless Communications Laboratory

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

TEL: 886-3-327-3456 Page Number FAX: 886-3-328-4978 : Jun. 24, 2022 Issue Date : 01

## **Table of Contents**

Report No.: FC211326

His	tory o	f this test report	3
Su	mmary	of Test Result	4
1.	Gene	ral Description	5
	1.1. 1.2. 1.3. 1.4.	Product Feature of Equipment Under Test	5 6
2.	Test (	Configuration of Equipment Under Test	7
	<ul><li>2.1.</li><li>2.2.</li><li>2.3.</li><li>2.4.</li></ul>	Test Mode	8 9
3.	Test F	Result	10
	3.1. 3.2.	Test of AC Conducted Emission Measurement	
4.	List o	f Measuring Equipment	15
5.	Unce	rtainty of Evaluation	17
Αp	pendix	x A. AC Conducted Emission Test Result x B. Radiated Emission Test Result x C. Setup Photographs	

TEL: 886-3-327-3456 Page Number : 2 of 17
FAX: 886-3-328-4978 Issue Date : Jun. 24, 2022

# History of this test report

Report No.: FC211326

Report No.	Version	Description	Issue Date
FC211326	01	Initial issue of report	Jun. 24, 2022

TEL: 886-3-327-3456 Page Number : 3 of 17
FAX: 886-3-328-4978 Issue Date : Jun. 24, 2022

## **Summary of Test Result**

Report No.: FC211326

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.107	AC Conducted Emission	Pass	21.86 dB under the limit at 0.152 MHz
3.2	15.109	Radiated Emission	Pass	15.96 dB under the limit at 125.000 MHz for Quasi-Peak

#### **Declaration of Conformity:**

- 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: Lewis Ho Report Producer: Vivian Hsu

TEL: 886-3-327-3456 Page Number : 4 of 17
FAX: 886-3-328-4978 Issue Date : Jun. 24, 2022

## 1. General Description

## 1.1. Product Feature of Equipment Under Test

WCDMA/LTE, Wi-Fi 2.4GHz 802.11b/g/n/ac/ax, WiFi 5GHz 802.11a/n/ac/ax, and GPS

Product Feature					
	Brand Name: Sierra				
Integrated WWAN Module 1	Model Name: EM7411				
	FCC ID: N7NEM74B				
	Brand Name: Sierra				
Integrated WWAN Module 2	Model Name: EM7511				
	FCC ID: N7NEM75S				
Sample 1	MAX-TST-PRO-DUO-LTEA-US-T-PRM with WWAN Module 1 (EM7411)				
Sample 2	MAX-TST-PRO-DUO-LTEA-R-T-PRM with WWAN Module 2 (EM7511)				
	WWAN				
	<for em7511="">: Omni-directional Antenna</for>				
Antenna Type	<for em7411="">: Omni-directional Antenna</for>				
	WLAN: Omni-directional Antenna				
	GPS: Directional Antenna				

Report No.: FC211326

#### Remark:

- 1. The EUT's information above is declared by manufacturer. Please refer to Comments and Explanations in report summary.
- 2. The product will integrate the cellular module (EM7511, EM7411). Among the 2 options, at a time only 1 cellular module will be installed), therefore the cellular module is incorporated into the host for Part 15B. Equipment authorization to integrate the cellular module will follow the FCC modular approval policy and procedures.

#### 1.2. Modification of EUT

No modifications made to the EUT during the testing.

TEL: 886-3-327-3456 Page Number : 5 of 17
FAX: 886-3-328-4978 Issue Date : Jun. 24, 2022

## 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 333, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978
Test Site No.	Sporton Site No. CO05-HY, 03CH06-HY

Report No.: FC211326

Test Site	Sporton International Inc. EMC & Wireless Communications Laboratory
	No.30-2, Dingfu Vil., Linkou Dist.,
Test Site Location	New Taipei City 244, Taiwan (R.O.C.) TEL: +886-3-327-3456
	FAX: +886-3-328-4978
Toot Site No.	Sporton Site No.
Test Site No.	OS04-LK

FCC designation No.: TW1093 and TW1095

## 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 A
- + ANSI C63.4-2014

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

TEL: 886-3-327-3456 Page Number : 6 of 17
FAX: 886-3-328-4978 Issue Date : Jun. 24, 2022

# 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).

Report No.: FC211326

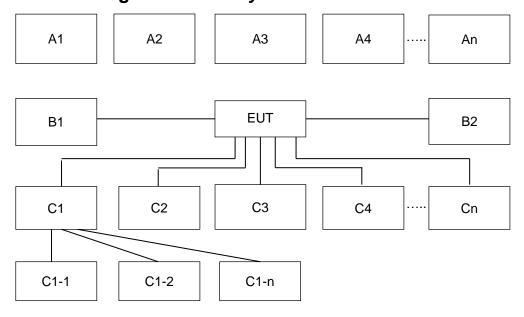
Test Items	Functions Enabled
	Mode 1: LTE Band 2 Idle + WLAN (2.4GHz) Link + LAN Link + WAN Link + GPS Rx + Adapter + SIM A for Sample 1
	Mode 2: LTE Band 5 Idle + WLAN (5GHz) Link + LAN Link + WAN Link + GPS Rx + Type C (Port 1) Cable with Adapter + SIM B for Sample 1
	Mode 3: LTE Band 12 Idle + WLAN (2.4GHz) Link + LAN Link + WAN Link + GPS Rx + Type C (Port 2) Cable with Adapter + SIM A for Sample 1
AC Conducted Emission	Mode 4: LTE Band 13 Idle + WLAN (5GHz) Link + LAN Link + WAN Link + GPS Rx + Type C (Port 1) Cable with Adapter + SIM B for Sample 1
	Mode 5: LTE Band 71 Idle + WLAN (2.4GHz) Link + LAN Link + WAN Link + GPS Rx + Type C (Port 1) Cable with Adapter + SIM A for Sample 1
	Mode 6: LTE Band 5 Idle + WLAN (5GHz) Idle + LAN Link + WAN Link + GPS Rx + Type C (Port 1) Cable with Adapter + SIM B for Sample 1
	Mode 7: LTE Band 5 Idle + WLAN (5GHz) Link + LAN Link + WAN Link + GPS Rx + Type C (Port 1) Cable with Adapter + SIM B for Sample 2
	Mode 1: LTE Band 2 Idle + WLAN (2.4GHz) Link + LAN Link + WAN Link + GPS Rx + Adapter + SIM A for Sample 1
	Mode 2: LTE Band 5 Idle + WLAN (5GHz) Link + LAN Link + WAN Link + GPS Rx + Type C (Port 1) Cable with Adapter + SIM B for Sample 1
	Mode 3: LTE Band 12 Idle + WLAN (2.4GHz) Link + LAN Link + WAN Link + GPS Rx + Type C (Port 2) Cable with Adapter + SIM A for Sample 1
Radiated Emissions	Mode 4: LTE Band 13 Idle + WLAN (5GHz) Link + LAN Link + WAN Link + GPS Rx + DC 12V (Terminal block) + SIM B for Sample 1
	Mode 5: LTE Band 71 Idle + WLAN (2.4GHz) Link + LAN Link + WAN Link + GPS Rx + DC 56V (Terminal block) + SIM A for Sample 1
	Mode 6: LTE Band 12 Idle + WLAN (2.4GHz) Idle + LAN Link + WAN Link + GPS Rx + Type C (Port 2) Cable with Adapter + SIM A for Sample 1
	Mode 7: LTE Band 12 Idle + WLAN (2.4GHz) Idle + LAN Link + WAN Link + GPS Rx + Type C (Port 2) Cable with Adapter + SIM A for Sample 2

#### Remark:

- 1. The worst case of AC is mode 2; only the test data of this mode was reported.
- 2. The worst case of RE is mode 7; only the test data of this mode was reported.
- 3. For radiation emission after pre-scanned the cellular band between 30MHz ~ 960MHz (WCDMA Band V/LTE Band 5/12/13/14/71/26); only the worst case for cellular band test data of this mode was reported.

TEL: 886-3-327-3456 Page Number : 7 of 17
FAX: 886-3-328-4978 Issue Date : Jun. 24, 2022

# 2.2. Connection Diagram of Test System



Report No. : FC211326

Conduction Test Setup									
No.	Wireless Station	Connection Type	Test Mode						
NO.	Wireless Station	Connection Type	1	2	3	4	5	6	7
A1	System Simulator	LTE	X	Χ	Χ	Χ	Χ	Χ	X
A2	GPS Station	GPS	X	Χ	Χ	Χ	Χ	Χ	Χ
А3	Notebook	WiFi	X	Χ	Χ	Χ	Χ	-	X
No.	Power Source	Connection Type	1	2	3	4	5	6	7
B1	AC : 120V/60Hz	AC Power Cable, USB Cable	Х	Х	Х	Х	Х	Х	Х
No.	Setup Peripherals	Connection Type	1	2	3	4	5	6	7
C1	Notebook	RJ45 Cable	Х	Χ	Χ	Χ	Χ	Χ	Х
C2	Notebook	RJ45 Cable	Х	Χ	Χ	Χ	Χ	Χ	Х
C3	LTE Antenna*4	Antenna Cable	Х	Χ	Χ	Χ	Χ	Χ	Χ
C4	WIFI Antenna*2	Antenna Cable	Х	Χ	Χ	Χ	Χ	Χ	Χ
C5	GPS Antenna	Antenna Cable	X	Χ	Χ	Χ	Χ	Χ	Χ

	Radiation Test Setup								
No.	Wireless Station	Composition Time	Test Mode						
NO.	wireless Station	Connection Type	1	2	3	4	5	6	7
A1	System Simulator	LTE	Х	Χ	Χ	Χ	Χ	Χ	Χ
A2	GPS Station	GPS	Х	Χ	Χ	Χ	Χ	Χ	Χ
A3	Notebook	WiFi	Х	Χ	Χ	Χ	Χ	-	-
No.	Power Source	Connection Type	1	2	3	4	5	6	7
B1	AC: 120V/60Hz	AC Power Cable	X	Χ	Χ	-	-	Χ	Χ
B2	DC : 12V	DC Power Cable	-	-	-	Χ	-	-	-
B3	DC : 56V	DC Power Cable	-	-	-	-	Χ	-	-
No.	Setup Peripherals	Connection Type	1	2	3	4	5	6	7
C1	Notebook	RJ45 Cable	X	Χ	Χ	Χ	Χ	Χ	Χ
C2	Notebook	RJ45 Cable	X	Χ	Χ	Χ	Χ	Χ	Χ
C3	WiFi Antenna*2	N/A	X	Χ	Χ	Χ	Χ	Χ	Χ
C4	GPS Antenna	N/A	Х	Χ	Χ	Χ	Χ	Χ	Χ
C5	LTE Antenna*4	N/A	X	Χ	Χ	Χ	Χ	Χ	Χ

TEL: 886-3-327-3456 Page Number : 8 of 17
FAX: 886-3-328-4978 Issue Date : Jun. 24, 2022

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	MT8821C	N/A	N/A	Unshielded, 1.8 m
2.	GPS Station	Pendulum	GSG-54	N/A	N/A	Unshielded, 1.8 m
3.	Notebook	Dell	Latitude 3400	FCC DoC	N/A	AC I/P: Unshielded, 1.2m DC O/P: Shielded, 1.8m
4.	DC Power Supply	GW Instek	GEU810960	FCC DoC	N/A	N/A
5.	USB 3.1 Cable	Pismo	E119932-Y	N/A	N/A	N/A
6.	Adapter	BILLION	DCTPD65WZZ-B1	FCC DoC	N/A	N/A

Report No.: FC211326

## 2.4. EUT Operation Test Setup

The EUT was in LTE idle mode during the test. 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 Notebook and executes ping via WLAN function and the following programs installed in the EUT were programmed during the test:

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

TEL: 886-3-327-3456 Page Number : 9 of 17
FAX: 886-3-328-4978 Issue Date : Jun. 24, 2022

### 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.

Report No.: FC211326

#### <Class A>

Frequency of emission	Conducted limit (dBuV)				
(MHz)	Quasi-peak	Average			
0.15-0.5	79	66			
0.5-30	73	60			

#### 3.1.2. Measuring Instruments

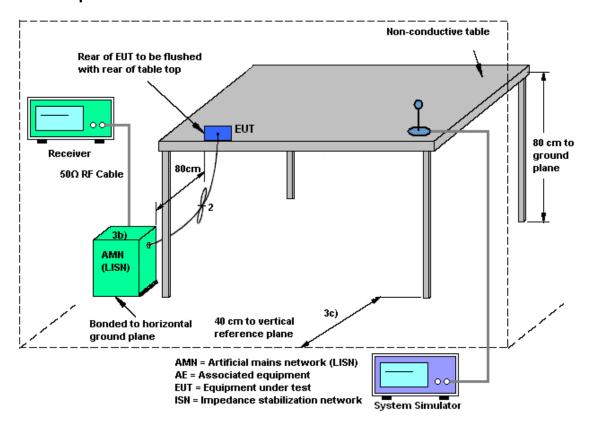
Please refer to the measuring equipment list in this test report.

#### 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.
- 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.

TEL: 886-3-327-3456 Page Number : 10 of 17
FAX: 886-3-328-4978 Issue Date : Jun. 24, 2022

#### 3.1.4. Test Setup



Report No.: FC211326

#### 3.1.5. Test Result of AC Conducted Emission

Please refer to Appendix A.

TEL: 886-3-327-3456 Page Number : 11 of 17
FAX: 886-3-328-4978 Issue Date : Jun. 24, 2022

#### 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:

Report No.: FC211326

#### <Class A>

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
Above 960	300	3

Frequency (MHz)	Field Strength (microvolts/meter)	Field strength (dBuV/m)	Measurement Distance (meters)		
30-88	90	39.08	10		
88-216	150	43.52	10		
216-960	210	46.44	10		
Above 960	300	49.54	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

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

TEL: 886-3-327-3456 Page Number : 12 of 17
FAX: 886-3-328-4978 Issue Date : Jun. 24, 2022

#### 3.2.3. Test Procedures

- 1. The EUT is placed on a turntable with 0.8 meter above ground.
- 2. The EUT is set 10 meters (30 M~1 G) and 3 meters (1 G~ 13 G) from the interference receiving antenna, which is mounted on the top of a variable height antenna tower.

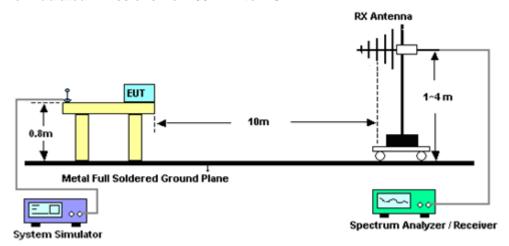
**Report No. : FC211326** 

- 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.
- 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 (dB $\mu$ V/m) = 20 log Emission level ( $\mu$ V/m)
- 9. Corrected Reading: Antenna Factor + Cable Loss + Read Level Preamp Factor = Level

TEL: 886-3-327-3456 Page Number : 13 of 17
FAX: 886-3-328-4978 Issue Date : Jun. 24, 2022

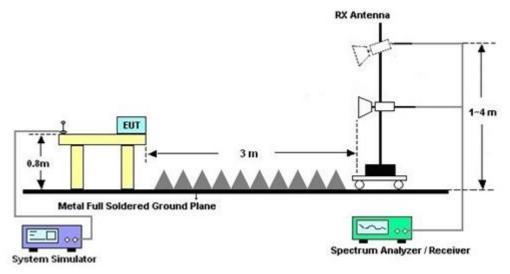
### 3.2.4. Test Setup of Radiated Emission

#### For Radiated Emissions from 30 MHz to 1 GHz



Report No.: FC211326

#### For Radiated Emissions above 1 GHz



#### 3.2.5. Test Result of Radiated Emission

Please refer to Appendix B.

TEL: 886-3-327-3456 Page Number : 14 of 17
FAX: 886-3-328-4978 Issue Date : Jun. 24, 2022

# 4. List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Test Receiver	Rohde & Schwarz	ESU26	100390	20Hz~26.5GHz	May 22, 2021	Feb. 16, 2022~ Feb. 18, 2022	May 21, 2022	Radiation (03CH06-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120 D	9120D-1156	1GHz~18GHz	Sep. 27, 2021	Feb. 16, 2022~ Feb. 18, 2022	Sep. 26, 2022	Radiation (03CH06-HY)
Preamplifier	Jet-Power	JPA00101800- 30-10P	1601180001	1GHz~18GHz	Jul. 19, 2021	Feb. 16, 2022~ Feb. 18, 2022	Jul. 18, 2022	Radiation (03CH06-HY)
RF Cable	HUBER + SUHNER	SF102_7000m m	532299/2	30MHz to 40GHz	Jul. 05, 2021	Feb. 16, 2022~ Feb. 18, 2022	Jul. 04, 2022	Radiation (03CH06-HY)
RF Cable	HUBER + SUHNER	SF102_3000m m	532422/2	30MHz to 40GHz	Jul. 05, 2021	Feb. 16, 2022~ Feb. 18, 2022	Jul. 04, 2022	Radiation (03CH06-HY)
RF Cable	HUBER + SUHNER	SF102_2000m m	532421/2	30MHz to 40GHz	Jul. 05, 2021	Feb. 16, 2022~ Feb. 18, 2022	Jul. 04, 2022	Radiation (03CH06-HY)
RF Cable	HUBER + SUHNER	SF104	802433/4	30Mhz to 18Ghz	Aug. 19, 2021	Feb. 16, 2022~ Feb. 18, 2022	Aug. 18, 2022	Radiation (03CH06-HY)
Controller	INN-CO	EM1000	060782	Control Turn table & Ant Mast	N/A	Feb. 16, 2022~ Feb. 18, 2022	N/A	Radiation (03CH06-HY)
Antenna Mast	MF	MF-7802	MF780208212	1m~4m	N/A	Feb. 16, 2022~ Feb. 18, 2022	N/A	Radiation (03CH06-HY)
Turn Table	INN-CO	DS2000	420/650/00	0-360 degree	N/A	Feb. 16, 2022~ Feb. 18, 2022	N/A	Radiation (03CH06-HY)
Software	Audix	E3 6.2009-8-24(k 5)	N/A	N/A	N/A	Feb. 16, 2022~ Feb. 18, 2022	N/A	Radiation (03CH06-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Feb. 19, 2022	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	9kHz~3.6GHz	Dec. 01, 2021	Feb. 19, 2022	Nov. 30, 2022	Conduction (CO05-HY)
Hygrometer	Testo	608-H1	34913912	N/A	Nov. 17, 2021	Feb. 19, 2022	Nov. 16, 2022	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Dec. 03, 2021	Feb. 19, 2022	Dec. 02, 2022	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32	N/A	N/A	N/A	Feb. 19, 2022	N/A	Conduction (CO05-HY)
Pulse Limiter	SCHWARZBE CK	VTSD 9561-F N	00691	N/A	Jul. 28, 2021	Feb. 19, 2022	Jul. 27, 2022	Conduction (CO05-HY)
LISN Cable	MVE	RG-400	260260	N/A	Dec. 30, 2021	Feb. 19, 2022	Dec. 29, 2022	Conduction (CO05-HY)

Report No.: FC211326

TEL: 886-3-327-3456 Page Number : 15 of 17
FAX: 886-3-328-4978 Issue Date : Jun. 24, 2022

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Amplifier	Agilent	8447D	2944A07468	10 kHz ~ 1.3GHz	Nov. 30, 2021	Mar. 08, 2022	Nov. 29, 2022	Radiation (OS04-LK)
Spectrum Analyzer	R&S	FSP 7	838858/037	9 kHz ~ 7 GHz	May 26, 2021	Mar. 08, 2022	May 25, 2022	Radiation (OS04-LK)
Test Receiver	R&S	ESCS 30	838251/003	9 kHz ~ 2.75 GHz	Aug. 11, 2021	Mar. 08, 2022	Aug. 10, 2022	Radiation (OS04-LK)
Bilog Antenna with 5dB Attenuator	TESEQ & EMCI	CBL6112D & N-6-05	35377 & AT-N0518	30 MHz ~ 2 GHz	Jul. 03, 2021	Mar. 08, 2022	Jul. 02, 2022	Radiation (OS04-LK)
Turn Table	EMCO	2080	9711-2021	0 ~ 360 degree	NCR	Mar. 08, 2022	NCR	Radiation (OS04-LK)
Antenna Mast	EMCO	2075	9711-2115	1 m ~ 4 m	NCR	Mar. 08, 2022	NCR	Radiation (OS04-LK)
RF Cable-R10m	Woken	CFD400NL-L W	CB011	30 MHz ~ 1 GHz	Dec. 08, 2021	Mar. 08, 2022	Dec. 07, 2022	Radiation (OS04-LK)
Software	Audix	E3	Version:4	-	NCR	Mar. 08, 2022	NCR	Radiation (OS04-LK)

Report No.: FC211326

TEL: 886-3-327-3456 Page Number : 16 of 17
FAX: 886-3-328-4978 Issue Date : Jun. 24, 2022

# 5. Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence	2.4.40
of 95% (U = 2Uc(y))	3.1 dB

Report No.: FC211326

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

Measuring Uncertainty for a Level of Confidence	4.74 dB
of 95% (U = 2Uc(y))	4.74 ab

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

Measuring Uncertainty for a Level of Confidence	5.4 dB
of 95% (U = 2Uc(y))	3.4 ub

TEL: 886-3-327-3456 Page Number : 17 of 17
FAX: 886-3-328-4978 Issue Date : Jun. 24, 2022

# **Appendix A. AC Conducted Emission Test Results**

Toot Engineer	Calvin Wong	Temperature :	23~26℃
Test Engineer :	Calvin wang	Relative Humidity :	45~55%

Report No.: FC211326

TEL: 886-3-327-3456 Page Number : A1 of A1

### **EUT Information**

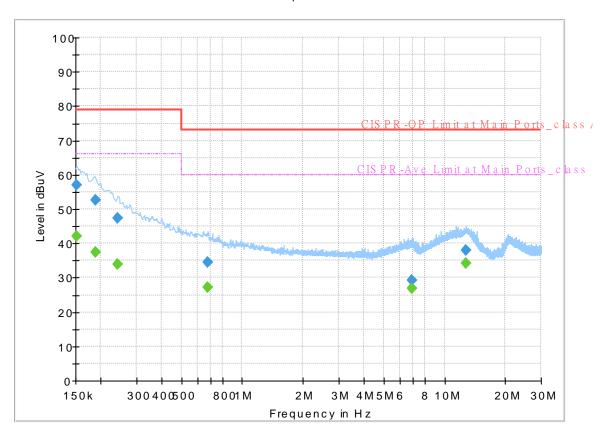
 Report NO :
 211326

 Test Mode :
 Mode 2

 Test Voltage :
 120Vac/60Hz

Phase: Line

#### FullSpectrum



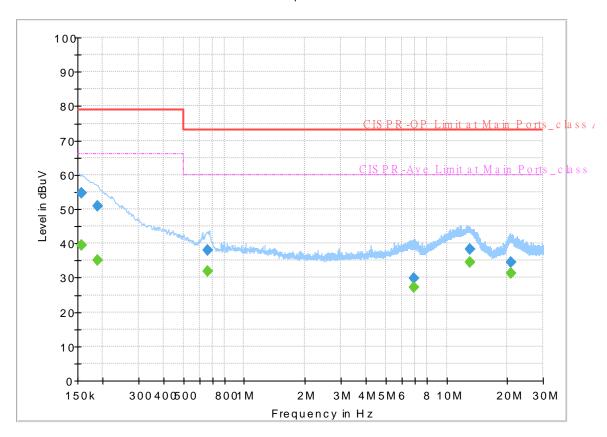
## Final\_Result

Frequency	QuasiPeak	CAverage	Limit	Margin	Line	Filter	Corr.
(MHz)	(dBuV)	(dBuV)	(dBuV)	(dB)			(dB)
0.152250		42.12	66.00	23.88	L1	OFF	19.6
0.152250	57.14		79.00	21.86	L1	OFF	19.6
0.188250		37.51	66.00	28.49	L1	OFF	19.6
0.188250	52.67		79.00	26.33	L1	OFF	19.6
0.242250		33.89	66.00	32.11	L1	OFF	19.6
0.242250	47.47		79.00	31.53	L1	OFF	19.6
0.678750		27.18	60.00	32.82	L1	OFF	19.6
0.678750	34.48	-	73.00	38.52	L1	OFF	19.6
6.933750		26.78	60.00	33.22	L1	OFF	19.9
6.933750	29.30	-	73.00	43.70	L1	OFF	19.9
12.772500		34.25	60.00	25.75	L1	OFF	20.1
12.772500	37.99		73.00	35.01	L1	OFF	20.1

### **EUT Information**

Report NO: 211326
Test Mode: Mode 2
Test Voltage: 120Vac/60Hz
Phase: Neutral

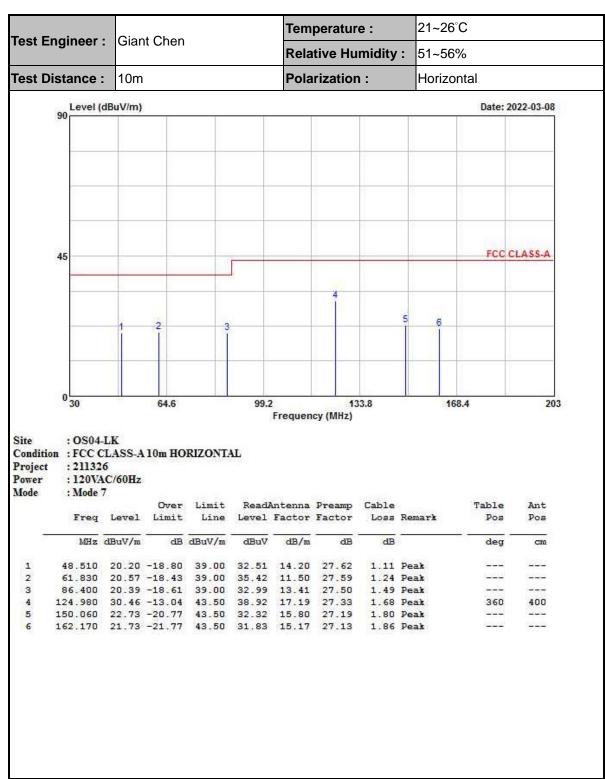
FullSpectrum



### **Final Result**

Frequency	QuasiPeak	CAverage	Limit	Margin	Line	Filter	Corr.
(MHz)	(dBuV)	(dBuV)	(dBuV)	(dB)			(dB)
0.156750		39.45	66.00	26.55	N	OFF	19.6
0.156750	54.58		79.00	24.42	N	OFF	19.6
0.188250	-	35.09	66.00	30.91	N	OFF	19.6
0.188250	50.89		79.00	28.11	N	OFF	19.6
0.663000	-	31.82	60.00	28.18	N	OFF	19.6
0.663000	37.99		73.00	35.01	N	OFF	19.6
6.866250		27.29	60.00	32.71	N	OFF	19.9
6.866250	29.83		73.00	43.17	N	OFF	19.9
12.995250		34.53	60.00	25.47	N	OFF	20.2
12.995250	38.37		73.00	34.63	N	OFF	20.2
20.739750	-	31.36	60.00	28.64	N	OFF	20.5
20.739750	34.49		73.00	38.51	N	OFF	20.5

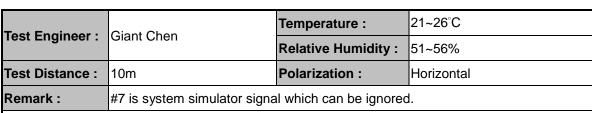
## **Appendix B. Radiated Emission Test Result**



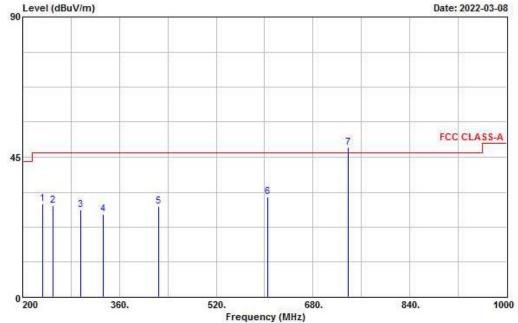
Report No.: FC211326

TEL: 886-3-327-3456 Page Number : B1 of B6

SPORTON LAB. FCC EMI TEST REPORT



Report No.: FC211326



Site : OS04-LK

Condition : FCC CLASS-A 10m HORIZONTAL

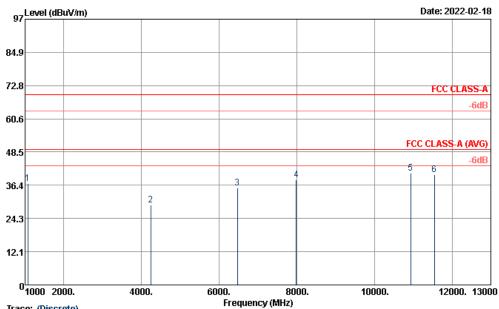
Project : 211326 Power : 120VAC/60Hz Mode : Mode 7

Tout	. Mout										
			Over	Limit	Read	Antenna	Preamp	Cable		Table	Ant
	Freq	Level	Limit	Line	Level	Factor	Factor	Loss	Remark	Pos	Pos
-	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	H	deg	cm
1	233.600	29.92	-16.48	46.40	38.42	15.88	26.74	2.36	Peak		
2	249.600	29.50	-16.90	46.40	36.15	17.57	26.66	2.44	Peak		
3	295.200	27.98	-18.42	46.40	33.71	18.40	26.68	2.55	Peak		
4	332.800	26.76	-19.64	46.40	31.83	19.01	26.90	2.82	Peak		
5	424.000	29.19	-17.21	46.40	31.67	21.89	27.55	3.18	Peak		
6	604.800	32.34	-14.06	46.40	32.46	23.80	27.99	4.07	Peak		
7 X	737.500	48.14	1.74			24.79	27.80	4.74	Peak		

TEL: 886-3-327-3456 Page Number : B2 of B6

22~24°C Temperature : Test Engineer: You Xian Chen Relative Humidity: 48~55% Test Distance: 3m Polarization: Horizontal

Report No.: FC211326



Trace: (Discrete)

:03CH06-HY Site

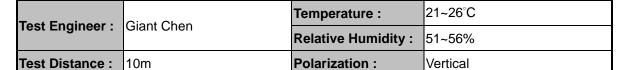
Condition :FCC CLASS-A 3m 9120D\_1156 HORIZONTAL

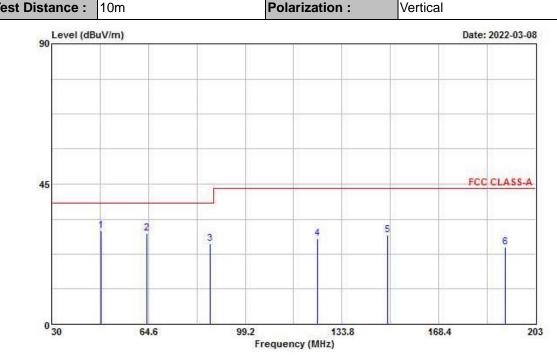
Project :211326 Power :120Vac/60Hz Memo :Mode7

	Freq	Level	Over Limit	Limit Line	Read Level		A/Pos	T/Pos	Remark
	MHz	dBu∀/m	dB	dBu∀/m	dBuV	dB/m	⊂m	deg	
1	1070.00	37.06	-32.48	69.54	80.46	-43.40			Peak
2	4240.00	29.25	-40.29	69.54	61.42	-32.17			Peak
3	6474.00	35.40	-34.14	69.54	61.04	-25.64			Peak
4	7992.00	38.28	-31.26	69.54	59.97	-21.69			Peak
5	10938.00	40.92	-28.62	69.54	56.55	-15.63			Peak
6	11550.00	40.17	-29.37	69.54	55.92	-15.75			Peak

TEL: 886-3-327-3456 Page Number : B3 of B6

CC EMI TEST REPORT Report No. : FC211326





Site : OS04-LK

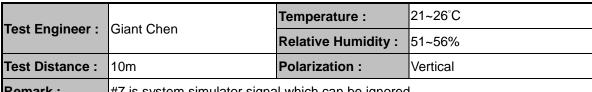
Condition : FCC CLASS-A 10m VERTICAL

Project : 211326 Power : 120VAC/60Hz Mode : Mode 7

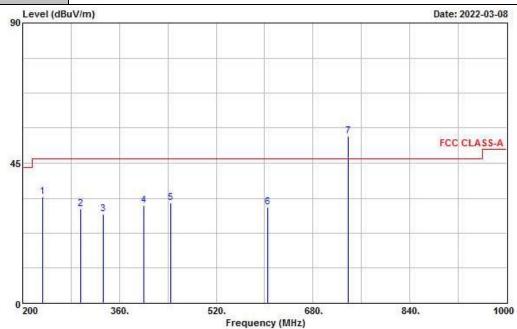
			Over	Limit	Read	Antenna	Preamp	Cable		Table	Ant
	Freq	Level	Limit	Line	Level	Factor	Factor	Loss	Remark	Pos	Pos
-	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	3	deg	cm
1	47.650	30.03	-8.97	39.00	41.87	14.68	27.62	1.10	Peak		-
2	64.080	29.18	-9.82	39.00	44.02	11.49	27.58	1.25	Peak		
3	86.570	25.80	-13.20	39.00	38.40	13.41	27.50	1.49	Peak		
4	125.000	27.54	-15.96	43.50	36.00	17.19	27.33	1.68	QP	186	100
5	150.060	28.61	-14.89	43.50	38.20	15.80	27.19	1.80	Peak		
6	192.100	24.68	-18.82	43.50	35.25	14.24	26.95	2.14	Peak		

TEL: 886-3-327-3456 Page Number: B4 of B6

Report No.: FC211326



Remark: #7 is system simulator signal which can be ignored.



: OS04-LK Site

Condition : FCC CLASS-A 10m VERTICAL

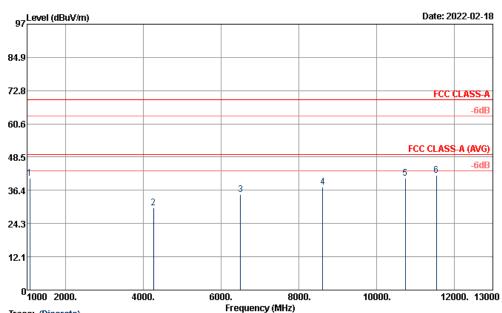
: 211326 Project Power : 120VAC/60Hz Mode : Mode 7

Touc	. Mode /										
			Over	Limit	ReadAntenna		Preamp	Cable		Table	Ant
	Freq	Level	Limit	Line	Level	Factor	Factor	Loss	Remark	Pos	Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		deg	cm
1	233.600	34.23	-12.17	46.40	42.73	15.88	26.74	2.36	Peak		
2	295.200	30.27	-16.13	46.40	36.00	18.40	26.68	2.55	Peak	-222	
3	332.800	28.61	-17.79	46.40	33.68	19.01	26.90	2.82	Peak		
4	400.800	31.44	-14.96	46.40	34.68	21.12	27.43	3.07	Peak		
5	444.800	32.19	-14.21	46.40	34.57	21.98	27.65	3.29	Peak		
6	604.800	30.79	-15.61	46.40	30.91	23.80	27.99	4.07	Peak	12000	
7 6	737.500	53.63	7.23			24.79	27.80	4.74	Peak		

TEL: 886-3-327-3456 Page Number : B5 of B6

22~24°C Temperature : Test Engineer: You Xian Chen **Relative Humidity:** 48~55% **Test Distance: Polarization:** Vertical 3m

Report No.: FC211326



Trace: (Discrete)

:03CH06-HY Site

Condition :FCC CLASS-A 3m 9120D\_1156 VERTICAL

Project :211326 Power :120Vac/60Hz Memo :Mode7

Over Limit Read A/Pos T/Pos Freq Level Limit Line Level Factor Remark MHz dBuV/m dB dBuV/m dBuV dB/m deg ⊂m 1070.00 40.89 -28.65 69.54 84.29 -43.40 --- Peak 4262.00 29.87 -39.67 69.54 61.96 -32.09 --- Peak 3 6498.00 34.87 -34.67 69.54 60.33 -25.46 ------ Peak 8614.00 37.65 -31.89 69.54 58.83 -21.18 10742.00 40.68 -28.86 69.54 57.15 -16.47 ------ Peak ------ Peak 11550.00 41.97 -27.57 69.54 57.72 -15.75 --- Peak

TEL: 886-3-327-3456 : B6 of B6 Page Number