



FCC EMI TEST REPORT

FCC ID : U8G-P1930LITER6

Equipment : PEPWAVE / peplink Wireless Product

Brand Name : PEPWAVE / peplink

Model Name : MAX BR1 Mini
 MAX BR1 Mini LTE
 MAX BR1 Mini LTEA
 Pepwave MAX BR1 Mini
 Pepwave MAX BR1 Mini LTE
 Pepwave MAX BR1 Mini LTEA
 Peplink MAX BR1 Mini
 Peplink MAX BR1 Mini LTE
 Peplink MAX BR1 Mini LTEA
 MAX-BR1-MINI-LTE-US-T
 MAX-BR1-MINI-LTEA-W-T

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 Class A

The product was received on Jan. 14, 2021 and testing was started from Feb. 09, 2021 and completed on Feb. 23, 2021. 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 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 333, 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 13.31 dB at 16.087 MHz |
| 3.2 | 15.109 | Radiated Emission | Pass | Under limit 9.01 dB at 54.220 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: Ruby Zou



1. General Description

1.1. Product Feature of Equipment Under Test

WCDMA/LTE, Wi-Fi 2.4GHz 802.11b/g/n, and GPS.

| Product Specification subjective to this standard | |
|---|--|
| Integrated WWAN Module 1 | Brand Name: Telit Model Name: LE910C4-NF FCC ID: RI7LE910CXNF |
| Integrated WWAN Module 2 | Brand Name: Sierra Model Name: MC7455 FCC ID: N7NMC7455 |
| Sample 1 | EUT with WWAN module 1 (LE910C4-NF) |
| Sample 2 | EUT with WWAN module 2 (MC7455) |
| Antenna Type | WWAN: Omni-directional Antenna WLAN: Omni-directional Antenna GPS: directional Antenna |

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to Comments and Explanations in report summary.
2. The product will integrate the cellular module (LE910C4-NF, MC7455). 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 test. Equipment authorization to integrate the cellular module will follow the FCC modular approval policy and procedures.

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 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 |

| | |
|---------------------------|--|
| Test Site | Sporton International Inc. EMC & Wireless Communications Laboratory |
| Test Site Location | No.30-2, Dingfu Vil., Linkou Dist., New Taipei City 244, Taiwan (R.O.C.) TEL: +886-2-2603-5367 / +886-2-2601-1640 FAX: +886-2-2601-1695 |
| Test Site No. | Sporton Site No. OS04-LK |

FCC designation No.: TW1093 and TW1095

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 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.

2. Test Configuration of Equipment Under Test

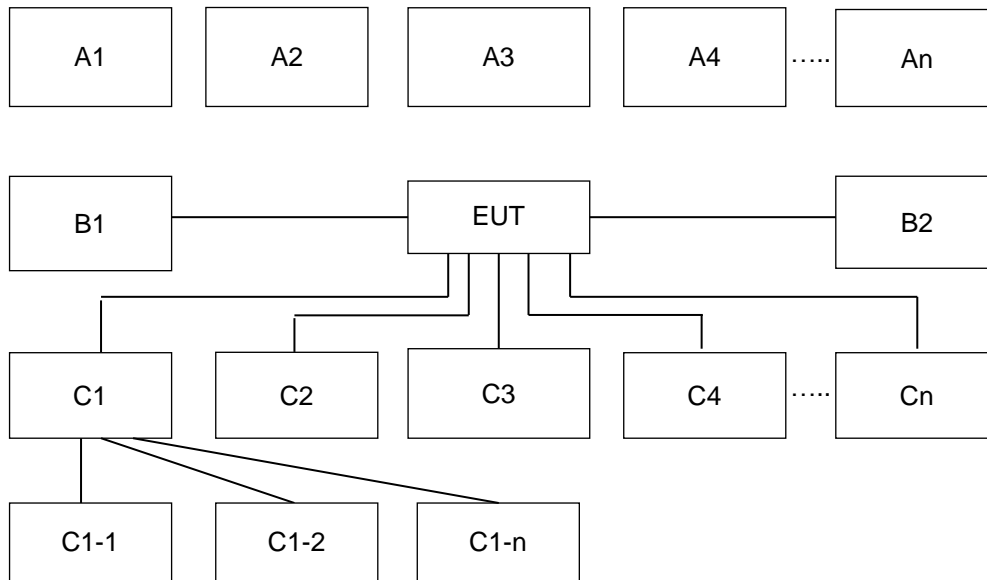
2.1. Test Mode

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 |
|--|--|
| AC Conducted Emission | Mode 1: LTE Band 5 Idle + WLAN (2.4GHz) Link + LAN Link + WAN Link + GPS Rx + Adapter + SIM A for Sample 1 Mode 2: LTE Band 12 Idle + WLAN (2.4GHz) Idle + LAN Link + WAN Link + GPS Rx + PoE + SIM B for Sample 1 Mode 3: LTE Band 5 Idle + WLAN (2.4GHz) Link + LAN Link + WAN Link + GPS Rx + Adapter + SIM A for Sample 2 |
| Radiated Emissions | Mode 1: LTE Band 5 Idle + WLAN (2.4GHz) Link + LAN Link + WAN Link + GPS Rx + Adapter + SIM A for Sample 1 Mode 2: LTE Band 12 Idle + WLAN (2.4GHz) Link + LAN Link + WAN Link + GPS Rx + DC 12V + SIM B for Sample 1 Mode 3: LTE Band 13 Idle + WLAN (2.4GHz) Idle + LAN Link + WAN Link + GPS Rx + DC 24V + SIM A for Sample 1 Mode 4: LTE Band 14 Idle + WLAN (2.4GHz) Idle + LAN Link + WAN Link + GPS Rx + PoE + SIM B for Sample 1 Mode 5: LTE Band 13 Idle + LAN Link + WAN Link + GPS Rx + DC 24V + SIM A for Sample 2 |
| Remark: 1. The worst case of AC is mode 1; only the test data of this mode was reported. 2. The worst case of RE is mode 3; only the test data of this mode was reported. 3. For radiation emission after pre-scanned the cellular band between 30MHz ~ 960MHz (LTE Band 5/12/13/14); only the worst case for cellular band test data of this mode was reported. | |

2.2. Connection Diagram of Test System



| Conduction Test Setup | | | | | | | | | |
|-----------------------|-------------------|-----------------|-----------|---|---|---|---|---|---|
| No. | Wireless Station | Connection Type | Test Mode | | | | | | |
| | | | 1 | 2 | 3 | - | - | - | - |
| A1 | System Simulator | LTE | X | X | X | - | - | - | - |
| A2 | GPS Station | GPS | X | X | X | - | - | - | - |
| A3 | Notebook | WiFi | X | X | X | - | - | - | - |
| No. | Power Source | Connection Type | 1 | 2 | 3 | - | - | - | - |
| B1 | AC : 120V/60Hz | AC Power Cable | X | - | X | - | - | - | - |
| B2 | POE | AC Power Cable | - | X | - | - | - | - | - |
| No. | Setup Peripherals | Connection Type | 1 | 2 | 3 | - | - | - | - |
| C1 | Notebook | RJ-45 Cable | X | X | X | - | - | - | - |
| C2 | Notebook | RJ-45 Cable | X | X | X | - | - | - | - |
| C3 | LTE Antenna*2 | N/A | X | X | X | - | - | - | - |
| C4 | GPS Antenna | N/A | X | X | X | - | - | - | - |
| C5 | Wifi Antenna | N/A | X | X | X | - | - | - | - |

| Radiation Test Setup | | | | | | | | | |
|----------------------|-------------------|-----------------|-----------|---|---|---|---|---|---|
| No. | Wireless Station | Connection Type | Test Mode | | | | | | |
| | | | 1 | 2 | 3 | 4 | 5 | - | - |
| A1 | System Simulator | LTE | X | X | X | X | X | - | - |
| A2 | GPS Station | GPS | X | X | X | X | X | - | - |
| A3 | Notebook | WiFi | X | X | X | X | X | - | - |
| No. | Power Source | Connection Type | 1 | 2 | 3 | 4 | 5 | - | - |
| B1 | AC : 120V/60Hz | AC Power Cable | X | - | - | - | - | - | - |
| B2 | DC : 12V | DC Power Cable | - | X | - | - | - | - | - |
| B3 | DC : 24V | DC Power Cable | - | - | X | - | X | - | - |
| B4 | POE | AC Power Cable | - | - | - | X | - | - | - |
| No. | Setup Peripherals | Connection Type | 1 | 2 | 3 | 4 | 5 | - | - |
| C1 | Notebook | RJ-45 Cable | X | X | X | X | X | - | - |
| C2 | Notebook | RJ-45 Cable | X | X | X | X | X | - | - |
| C3 | LTE Antenna*2 | N/A | X | X | X | X | X | - | - |
| C4 | GPS Antenna | N/A | X | X | X | X | X | - | - |
| C5 | Wifi Antenna | N/A | X | X | X | X | X | - | - |

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. | GPS Station | Pendulum | GSG-54 | N/A | N/A | Unshielded,1.8m |
| 3. | Notebook | Dell | Latitude 3400 | FCC DoC | N/A | AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m |
| 4. | POE | BILLION | BP035-560054QAX | FCC DoC | N/A | N/A |
| 5. | DC Power Supply | GW Instek | GPC-6030D | FCC DoC | N/A | N/A |
| 6. | DC Power Supply | GW Instek | GEU810960 | FCC DoC | N/A | N/A |

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 WLAN AP, and the following programs installed in the EUT were programmed during the test:

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



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 A>

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

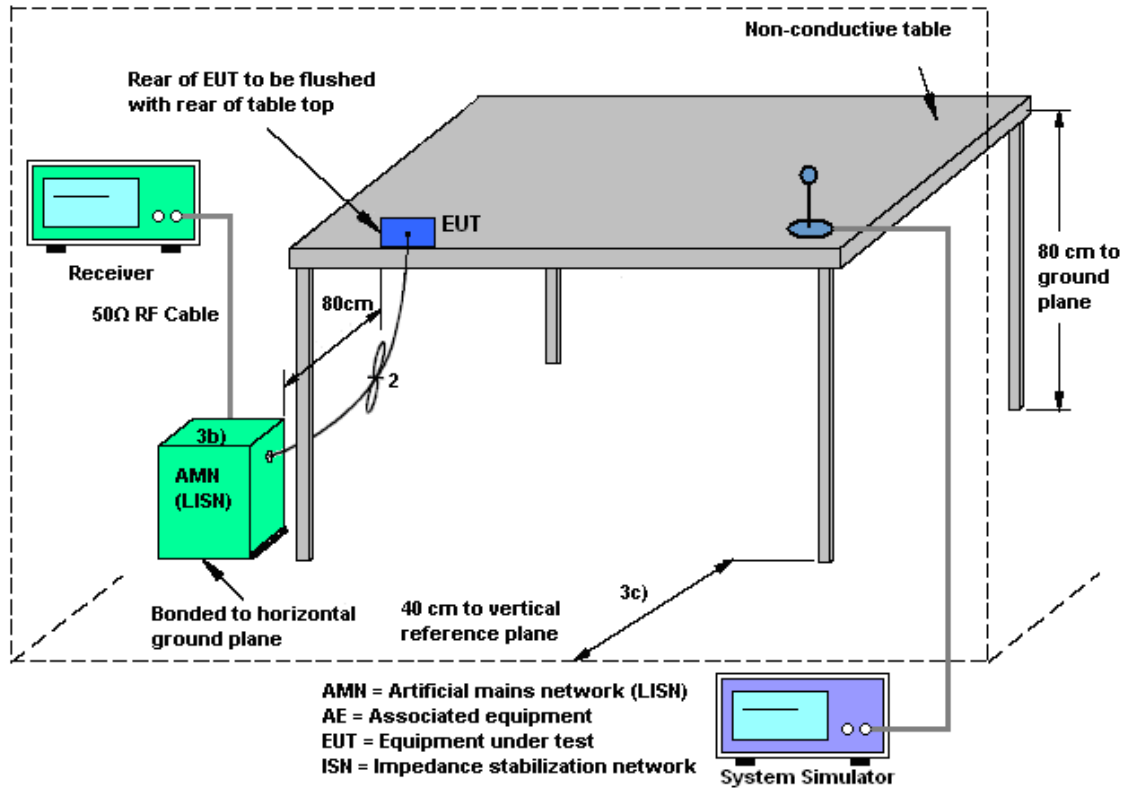
3.1.2. Measuring Instruments

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 shall 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:

<For FCC Class A>

| Frequency (MHz) | Field Strength (microvolts/meter) | Measurement Distance (meters) |
|-----------------|-----------------------------------|-------------------------------|
| 30 - 88 | 90 | 10 |
| 88 - 216 | 150 | 10 |
| 216 - 960 | 210 | 10 |
| Above 960 | 300 | 10 |

Remark:

1. A disclaimer from test lab., based on the FCC Part 15.31(f)(1) standard applicability, the results which are consents by manufacturer, are extrapolated to the specified 10m distance using an extrapolation factor of 20 dB/decade, an Aux factor corrected for the test result tested at 3m distance, and which are declared by manufacturer, are not impacted by near field effect due to the characteristic of EUT, when measurement between frequency 30MHz to 1GHz.
2. Follows the 15.109 (g) (2), measurements above 1000 MHz may be performed at the distance specified in the CISPR 22 publications is extrapolated to the new measurement distance using an inverse linear distance extrapolation factor (20 dB/decade).

3.2.2. Measuring Instruments

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

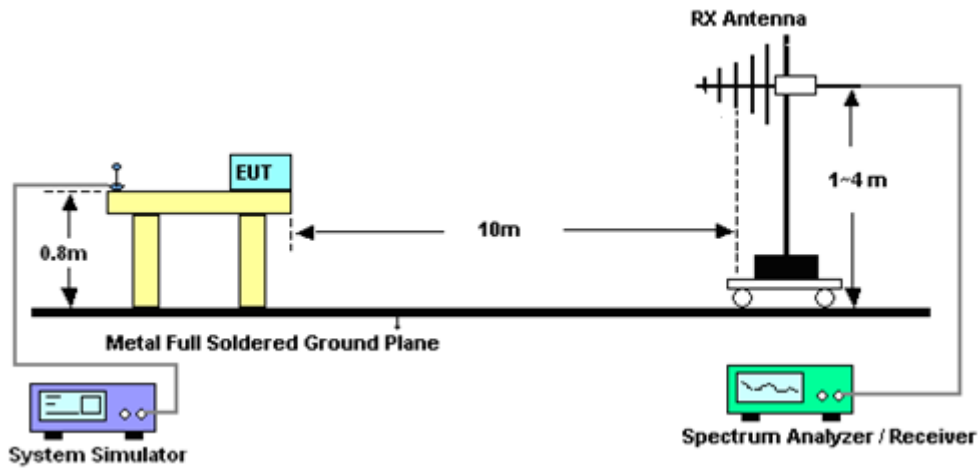


3.2.3. Test Procedures

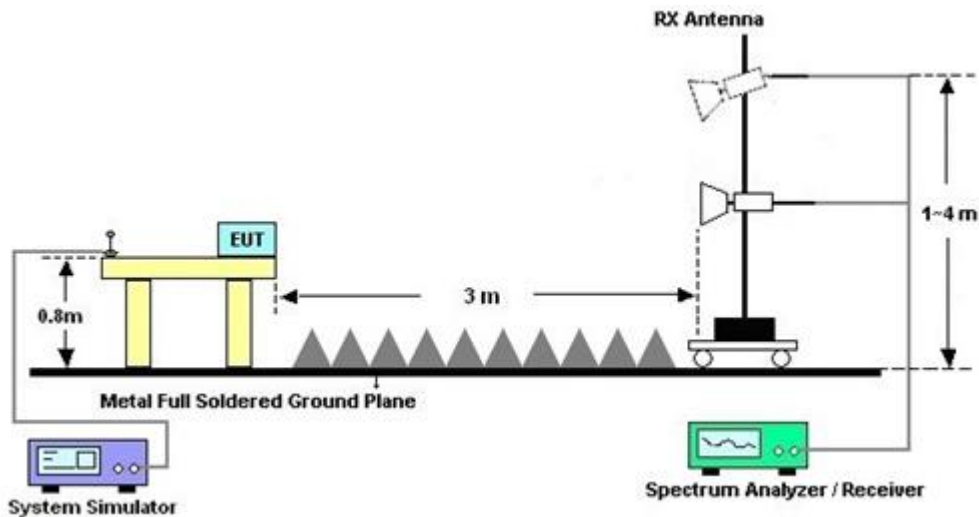
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 10 meters (30M~1G) and 3 meters (1G~ 13G) from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna 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 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=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 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 μ V/m) = 20 log Emission level (μ 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



For radiated emissions above 1GHz



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 |
|---|--------------------|----------------------------------|-----------------------------------|----------------------------------|------------------|---------------------------------|---------------|--------------------------|
| Amplifier | SONOMA | 310N | 186713 | 9kHz~1GHz | Apr. 30, 2020 | Feb. 10, 2021~ Feb. 20, 2021 | Apr. 29, 2021 | Radiation (03CH06-HY) |
| Bilog Antenna | Schaffner | CBL 6111C & N-6-06 | 2725 & AT-N0601 | 30MHz~1GHz | Jan. 08, 2021 | Feb. 10, 2021~ Feb. 20, 2021 | Jan. 07, 2022 | Radiation (03CH06-HY) |
| EMI Test Receiver | Rohde & Schwarz | ESU26 | 100390 | 20Hz~26.5GHz | Feb. 25, 2020 | Feb. 10, 2021~ Feb. 20, 2021 | Feb. 24, 2021 | Radiation (03CH06-HY) |
| Horn Antenna | SCHWARZBE CK | BBHA 9120 D | 9120D-1156 | 1GHz~18GHz | Sep. 15, 2020 | Feb. 10, 2021~ Feb. 20, 2021 | Sep. 14, 2021 | Radiation (03CH06-HY) |
| Preamplifier | Jet-Power | JPA00101800-3 0-10P | 1601180001 | 1GHz~18GHz | Jul. 21, 2020 | Feb. 10, 2021~ Feb. 20, 2021 | Jul. 20, 2021 | Radiation (03CH06-HY) |
| RF Cable | HUBER + SUHNER | SUCOFLEX 104 / STORM/LL142 | MY24966/4 / 00100A1O2A1 78T | 30MHz~18GHz | Nov. 20, 2020 | Feb. 10, 2021~ Feb. 20, 2021 | Nov. 19, 2021 | Radiation (03CH06-HY) |
| RF Cable | HUBER + SUHNER | SF104 | 802433/4 | 30Mhz to 18Ghz | Aug. 20, 2020 | Feb. 10, 2021~ Feb. 20, 2021 | Aug. 19, 2021 | Radiation (03CH06-HY) |
| Controller | INN-CO | EM1000 | 060782 | Control Turn table & Ant Mast | N/A | Feb. 10, 2021~ Feb. 20, 2021 | N/A | Radiation (03CH06-HY) |
| Antenna Mast | MF | MF-7802 | MF780208212 | 1m~4m | N/A | Feb. 10, 2021~ Feb. 20, 2021 | N/A | Radiation (03CH06-HY) |
| Turn Table | INN-CO | DS2000 | 420/650/00 | 0-360 degree | N/A | Feb. 10, 2021~ Feb. 20, 2021 | N/A | Radiation (03CH06-HY) |
| Software | Audix | E3 6.2009-8-24(k5) | N/A | N/A | N/A | Feb. 10, 2021~ Feb. 20, 2021 | N/A | Radiation (03CH06-HY) |
| Amplifier | Agilent | 8447D | 2944A07468 | 10 kHz ~ 1.3GHz | Dec. 01, 2020 | Feb. 23, 2021 | Nov. 30, 2021 | Radiation (OS04-LK) |
| Spectrum Analyzer | R&S | FSP 7 | 838858/037 | 9 kHz ~ 7 GHz | Jun. 04, 2020 | Feb. 23, 2021 | Jun. 03, 2021 | Radiation (OS04-LK) |
| Test Receiver | R&S | ESCS 30 | 838251/004 | 9 kHz ~ 2.75 GHz | Jul. 09, 2020 | Feb. 23, 2021 | Jul. 08, 2021 | Radiation (OS04-LK) |
| Bilog Antenna with 5dB Attenuator | TESEQ & EMCI | CBL6112D & N-6-05 | 35377 & AT-N0518 | 30 MHz ~ 2 GHz | Jul. 05, 2020 | Feb. 23, 2021 | Jul. 04, 2021 | Radiation (OS04-LK) |
| Turn Table | EMCO | 2080 | 9711-2021 | 0 ~ 360 degree | NCR | Feb. 23, 2021 | NCR | Radiation (OS04-LK) |
| Antenna Mast | EMCO | 2075 | 9711-2115 | 1 m ~ 4 m | NCR | Feb. 23, 2021 | NCR | Radiation (OS04-LK) |
| RF Cable-R10m | Woken | CFD400NL-LW | CB011 | 30 MHz ~ 1 GHz | Dec. 10, 2020 | Feb. 23, 2021 | Dec. 09, 2021 | Radiation (OS04-LK) |
| Software | Audix | E3 | Version:4 | - | NCR | Feb. 23, 2021 | NCR | Radiation (OS04-LK) |



| 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 | Feb. 09, 2021 | N/A | Conduction (CO05-HY) |
| EMI Test Receiver | Rohde & Schwarz | ESR3 | 102388 | 9kHz~3.6GHz | Nov. 30, 2020 | Feb. 09, 2021 | Nov. 29, 2021 | Conduction (CO05-HY) |
| Hygrometer | Testo | 608-H1 | 34913912 | N/A | Nov. 18, 2020 | Feb. 09, 2021 | Nov. 17, 2021 | Conduction (CO05-HY) |
| LISN | Rohde & Schwarz | ENV216 | 100081 | 9kHz~30MHz | Nov. 16, 2020 | Feb. 09, 2021 | Nov. 15, 2021 | Conduction (CO05-HY) |
| Software | Rohde & Schwarz | EMC32 V10.30 | N/A | N/A | N/A | Feb. 09, 2021 | N/A | Conduction (CO05-HY) |
| LISN Cable | MVE | RG-400 | 260260 | N/A | Dec. 31, 2020 | Feb. 09, 2021 | Dec. 30, 2021 | Conduction (CO05-HY) |
| Pulse Limiter | SCHWARZBECK | ESHVTSD 9561-F N3-Z2 | 109561-F N003730851 | 9kHz-200MHz | Nov. 02, 2020 | Feb. 09, 2021 | Nov. 01, 2021 | Conduction (CO05-HY) |



5. Uncertainty of Evaluation

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

| | |
|---|-----|
| Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$) | 2.3 |
|---|-----|

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

| | |
|---|------|
| Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$) | 5.22 |
|---|------|

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

| | |
|---|-----|
| Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$) | 5.3 |
|---|-----|



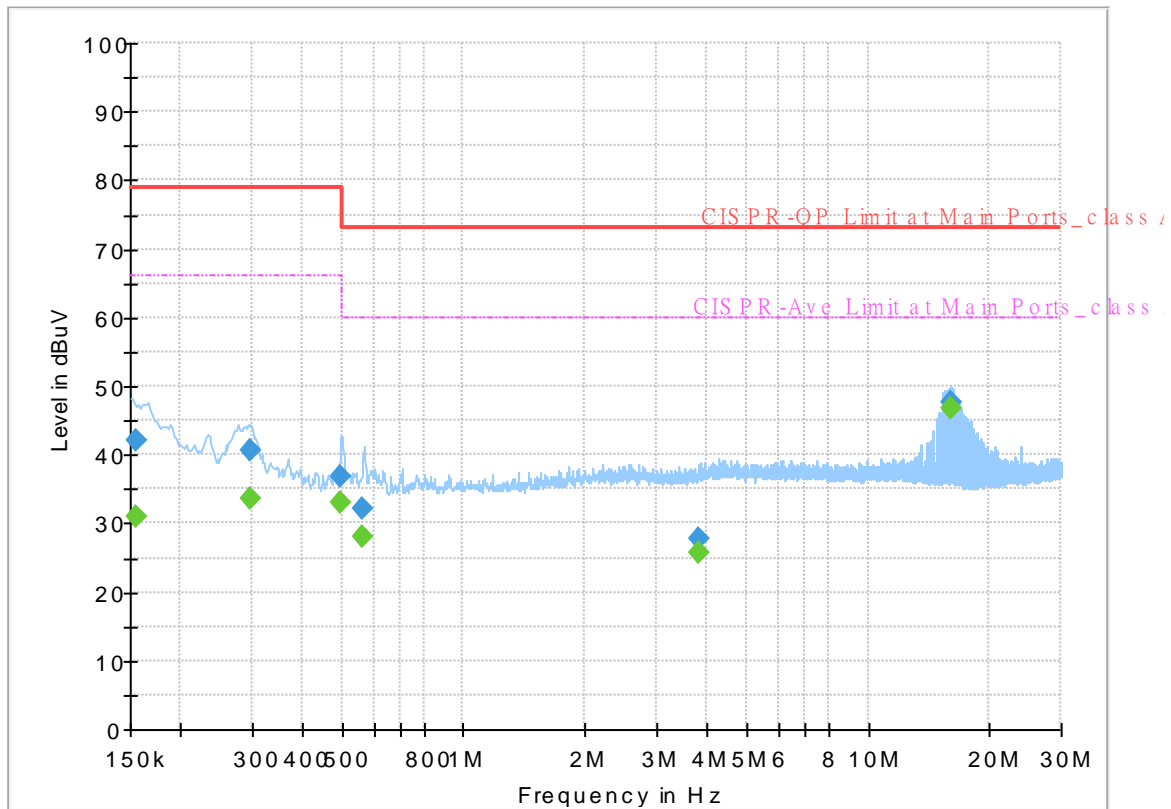
Appendix A. AC Conducted Emission Test Results

| | | | |
|-----------------|---------|---------------------|---------|
| Test Engineer : | Tom Lee | Temperature : | 23~26°C |
| | | Relative Humidity : | 40~50% |

EUT Information

Report NO : 111328
 Test Mode : Mode 1
 Test Voltage : 120Vac/60Hz
 Phase : Line

Full Spectrum



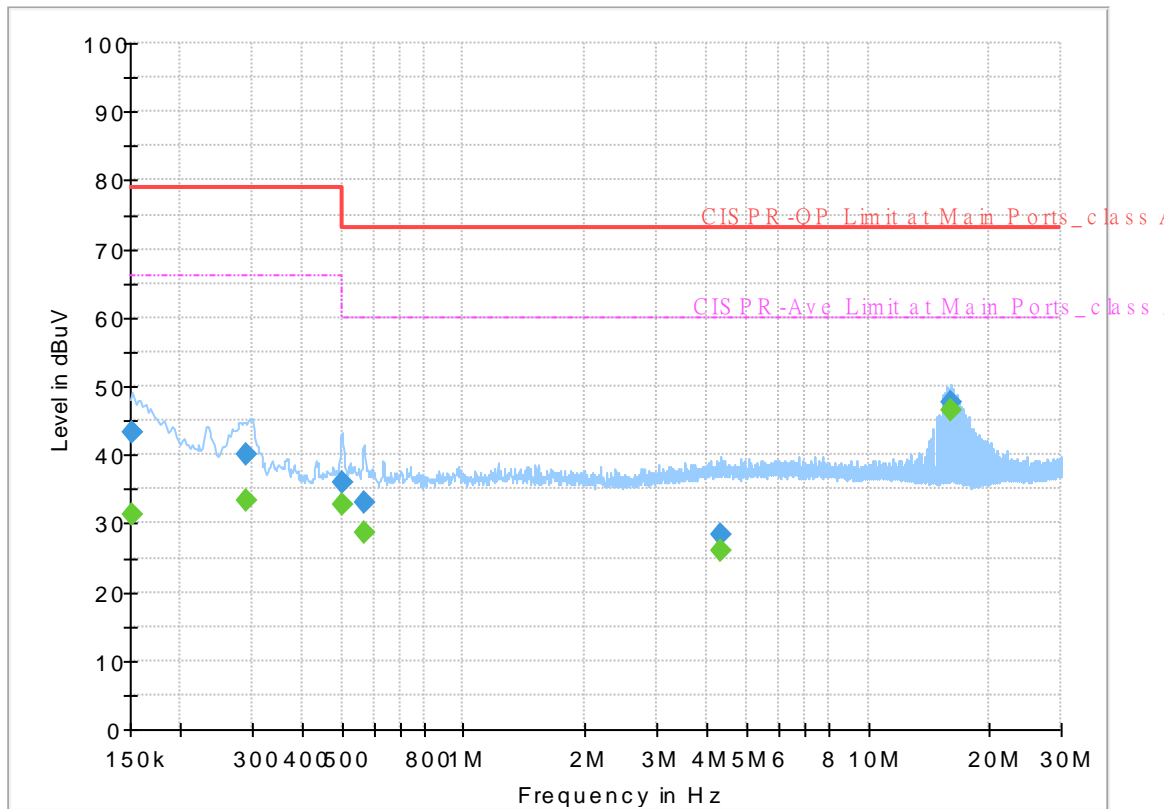
Final Result

| Frequency (MHz) | QuasiPeak (dBuV) | CAverage (dBuV) | Limit (dBuV) | Margin (dB) | Line | Filter | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|------|--------|------------|
| 0.154500 | --- | 30.96 | 66.00 | 35.04 | L1 | OFF | 19.7 |
| 0.154500 | 42.19 | --- | 79.00 | 36.81 | L1 | OFF | 19.7 |
| 0.295890 | --- | 33.77 | 66.00 | 32.23 | L1 | OFF | 19.7 |
| 0.295890 | 40.51 | --- | 79.00 | 38.49 | L1 | OFF | 19.7 |
| 0.499020 | --- | 32.91 | 66.00 | 33.09 | L1 | OFF | 19.9 |
| 0.499020 | 36.86 | --- | 79.00 | 42.14 | L1 | OFF | 19.9 |
| 0.564000 | --- | 28.15 | 60.00 | 31.85 | L1 | OFF | 19.9 |
| 0.564000 | 32.29 | --- | 73.00 | 40.71 | L1 | OFF | 19.9 |
| 3.826500 | --- | 25.75 | 60.00 | 34.25 | L1 | OFF | 20.1 |
| 3.826500 | 27.77 | --- | 73.00 | 45.23 | L1 | OFF | 20.1 |
| 16.087290 | --- | 46.69 | 60.00 | 13.31 | L1 | OFF | 20.4 |
| 16.087290 | 47.79 | --- | 73.00 | 25.21 | L1 | OFF | 20.4 |

EUT Information

Report NO : 111328
 Test Mode : Mode 1
 Test Voltage : 120Vac/60Hz
 Phase : Neutral

Full Spectrum



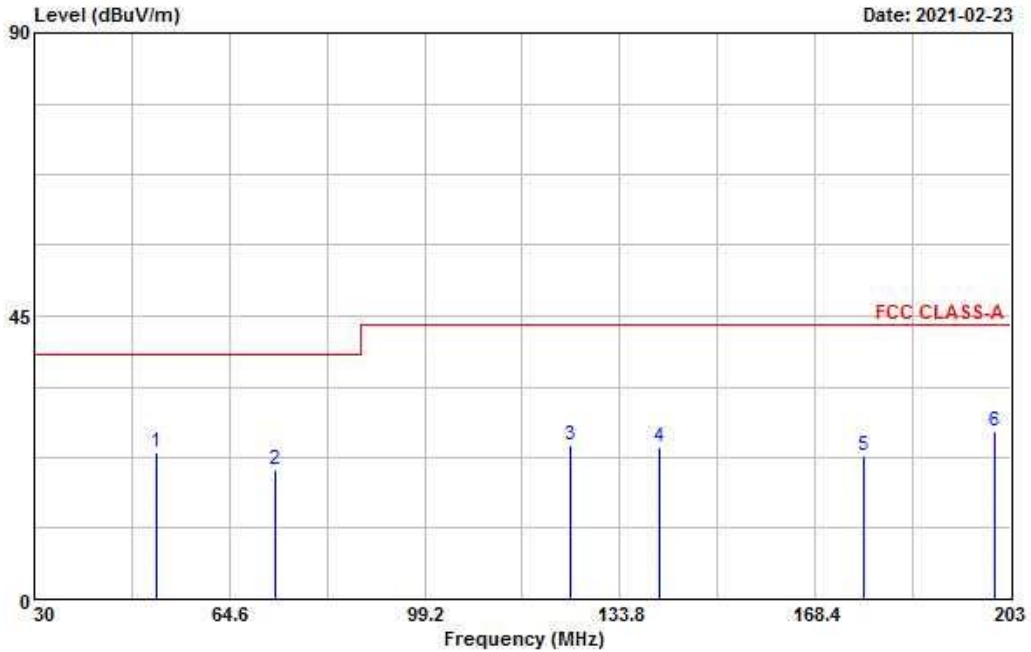
Final Result

| Frequency (MHz) | QuasiPeak (dBuV) | CAverage (dBuV) | Limit (dBuV) | Margin (dB) | Line | Filter | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|------|--------|------------|
| 0.152250 | --- | 31.29 | 66.00 | 34.71 | N | OFF | 19.7 |
| 0.152250 | 43.33 | --- | 79.00 | 35.67 | N | OFF | 19.7 |
| 0.291750 | --- | 33.46 | 66.00 | 32.54 | N | OFF | 19.8 |
| 0.291750 | 39.94 | --- | 79.00 | 39.06 | N | OFF | 19.8 |
| 0.502530 | --- | 32.73 | 60.00 | 27.27 | N | OFF | 19.9 |
| 0.502530 | 36.09 | --- | 73.00 | 36.91 | N | OFF | 19.9 |
| 0.569310 | --- | 28.70 | 60.00 | 31.30 | N | OFF | 20.0 |
| 0.569310 | 33.12 | --- | 73.00 | 39.88 | N | OFF | 20.0 |
| 4.335000 | --- | 25.99 | 60.00 | 34.01 | N | OFF | 20.1 |
| 4.335000 | 28.30 | --- | 73.00 | 44.70 | N | OFF | 20.1 |
| 16.089270 | --- | 46.61 | 60.00 | 13.39 | N | OFF | 20.5 |
| 16.089270 | 47.68 | --- | 73.00 | 25.32 | N | OFF | 20.5 |



Appendix B. Radiated Emission Test Result

| | | | |
|-----------------|------------|---------------------|------------|
| Test Engineer : | Giant Chen | Temperature : | 21~26°C |
| | | Relative Humidity : | 51~57% |
| Test Distance : | 10m | Polarization : | Horizontal |

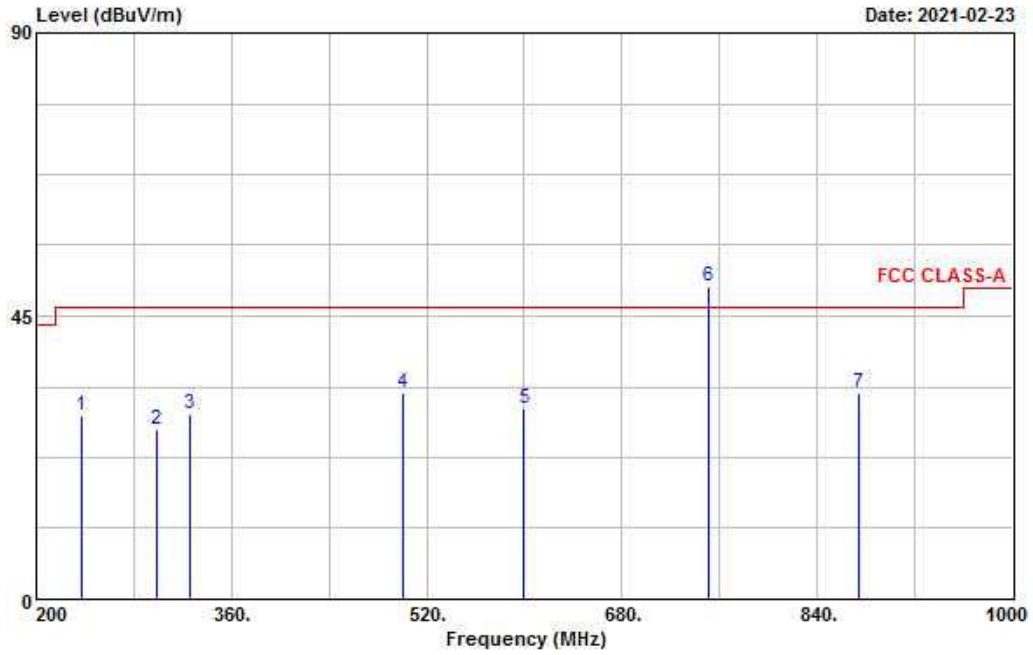


Site : OS04-LK
 Condition : FCC CLASS-A 10m HORIZONTAL
 Project : 111328
 Power : DC 24V
 Mode : Mode 3

| Peak | Freq MHz | Level dBuV/m | Over Limit dB | Limit Line dBuV/m | ReadAntenna Level dBuV | Preamp Factor dB/m | Cable Loss dB | Remark | Table Pos deg | Ant Pos cm |
|------|-------------|-----------------|---------------------|-------------------------|------------------------------|--------------------------|---------------------|-----------|---------------------|------------------|
| 1 | 51.630 | 23.44 | -15.56 | 39.00 | 36.83 | 13.05 | 27.52 | 1.08 Peak | --- | --- |
| 2 | 72.730 | 20.64 | -18.36 | 39.00 | 35.27 | 11.52 | 27.46 | 1.31 Peak | --- | --- |
| 3 | 124.980 | 24.41 | -19.09 | 43.50 | 32.82 | 17.19 | 27.25 | 1.65 Peak | --- | --- |
| 4 | 140.720 | 24.30 | -19.20 | 43.50 | 33.30 | 16.42 | 27.19 | 1.77 Peak | --- | --- |
| 5 | 177.050 | 22.86 | -20.64 | 43.50 | 33.26 | 14.59 | 26.98 | 1.99 Peak | --- | --- |
| 6 | 200.060 | 26.62 | -16.88 | 43.50 | 36.78 | 14.55 | 26.85 | 2.14 Peak | --- | --- |



| | | | |
|-----------------|---|---------------------|------------|
| Test Engineer : | Giant Chen | Temperature : | 21~26°C |
| | | Relative Humidity : | 51~57% |
| Test Distance : | 10m | Polarization : | Horizontal |
| Remark : | #6 is system simulator signal which can be ignored. | | |

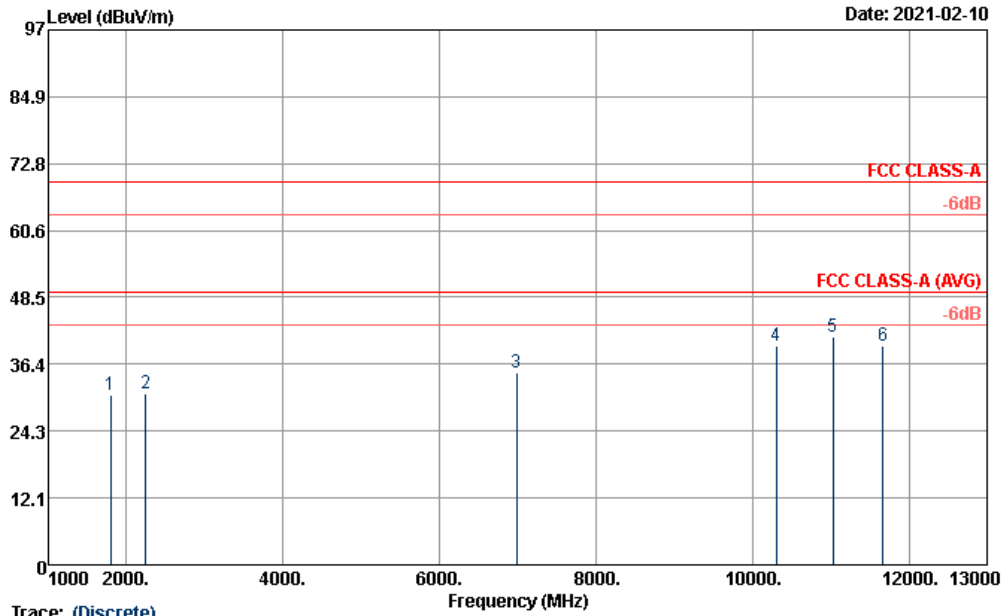


Site : OS04-LK
 Condition : FCC CLASS-A 10m HORIZONTAL
 Project : 111328
 Power : DC 24V
 Mode : Mode 3

| Peak | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Preamp Factor | Cable Loss | Remark | Table Pos | Ant Pos |
|------|---------|--------|------------|------------|------------|----------------|---------------|------------|--------|-----------|---------|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | deg | cm |
| 1 | 236.800 | 29.06 | -17.34 | 46.40 | 37.22 | 16.17 | 26.70 | 2.37 | Peak | --- | --- |
| 2 | 298.400 | 26.90 | -19.50 | 46.40 | 32.66 | 18.45 | 26.70 | 2.49 | Peak | --- | --- |
| 3 | 325.600 | 29.48 | -16.92 | 46.40 | 34.78 | 18.90 | 26.89 | 2.69 | Peak | --- | --- |
| 4 | 500.000 | 32.83 | -13.57 | 46.40 | 34.55 | 22.72 | 27.93 | 3.49 | Peak | --- | --- |
| 5 | 600.000 | 30.26 | -16.14 | 46.40 | 30.50 | 23.80 | 28.10 | 4.06 | Peak | --- | --- |
| 6 | 751.000 | 49.80 | | | 48.15 | 24.93 | 27.97 | 4.69 | Peak | --- | --- |
| 7 | 874.400 | 32.85 | -13.55 | 46.40 | 29.66 | 25.69 | 27.62 | 5.12 | Peak | 0 | 100 |



| | | | |
|-----------------|---------|---------------------|------------|
| Test Engineer : | Nick Yu | Temperature : | 24~26°C |
| | | Relative Humidity : | 40~42% |
| Test Distance : | 3m | Polarization : | Horizontal |



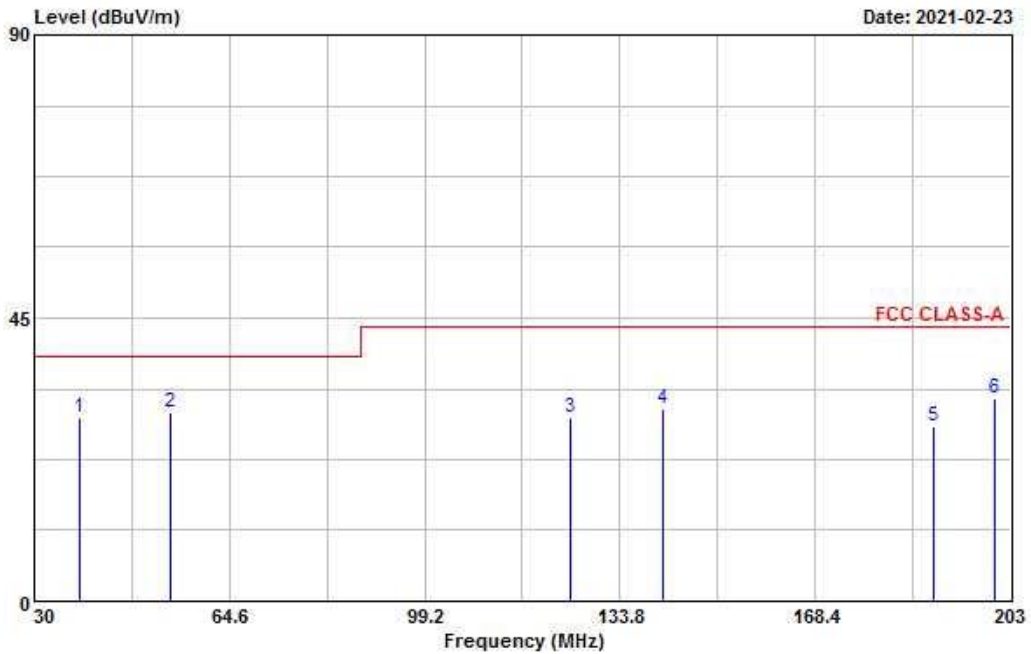
Trace: (Discrete)

Site : 03CH06-HY
 Condition : FCC CLASS-A 3m 9120D_1156_200915 HORIZONTAL
 Project : 111328
 Power : DC 24V

| Frequency | Level | Distance extrapolation | Over | Limit | Read | Antenna | Path | Preamp | Ant | Table | Peak |
|-----------|------------|------------------------|--------|------------|----------|----------|--------|--------|--------|---------|---------|
| (MHz) | (dBμV/m) | (dB) | (dB) | (dBμV/m) | (dBμV) | (dB/m) | (dB) | (dB) | (cm) | (deg) | (P/A) |
| 1798 | 30.77 | 10.45 | -38.77 | 69.54 | 73.44 | 25.2 | 6.31 | 63.73 | - | - | P |
| 2248 | 31.03 | 10.45 | -38.51 | 69.54 | 69.91 | 27.93 | 7.31 | 63.67 | - | - | P |
| 6988 | 34.95 | 10.45 | -34.59 | 69.54 | 60.26 | 35.17 | 14.07 | 64.1 | - | - | P |
| 10306 | 39.77 | 10.45 | -29.77 | 69.54 | 57.49 | 39.6 | 17.05 | 63.92 | - | - | P |
| 11026 | 41.47 | 10.45 | -28.07 | 69.54 | 57.01 | 40.43 | 17.91 | 63.43 | 100 | 0 | P |
| 11668 | 39.82 | 10.45 | -29.72 | 69.54 | 55.93 | 39.26 | 18.52 | 63.44 | - | - | P |



| | | | |
|-----------------|------------|---------------------|----------|
| Test Engineer : | Giant Chen | Temperature : | 21~26°C |
| | | Relative Humidity : | 51~57% |
| Test Distance : | 10m | Polarization : | Vertical |

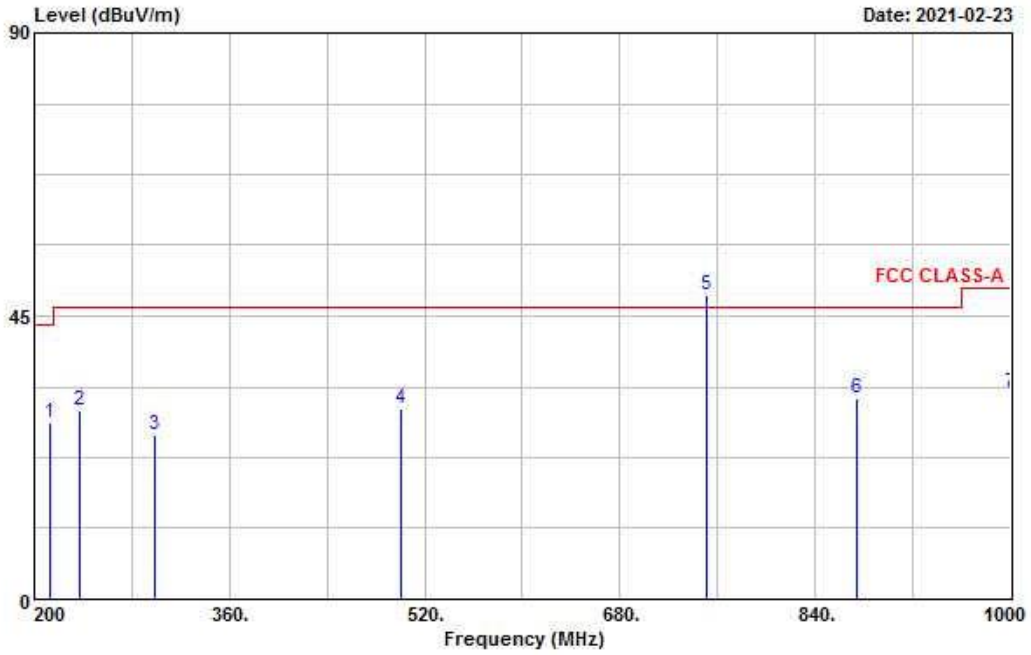


Site : OS04-LK
 Condition : FCC CLASS-A 10m VERTICAL
 Project : 111328
 Power : DC 24V
 Mode : Mode 3

| | Freq | Level | Over | Limit | ReadAntenna | Preamp | Cable | | Table | Ant |
|---|---------|--------|--------|--------|-------------|--------|--------|------|-------|-----|
| | MHz | dBuV/m | Limit | Line | Level | Factor | Factor | Loss | Pos | Pos |
| | | | dB | dBuV/m | dBuV | dB/m | dB | dB | deg | cm |
| 1 | 38.130 | 29.15 | -9.85 | 39.00 | 36.25 | 19.44 | 27.56 | 1.02 | Peak | --- |
| 2 | 54.220 | 29.99 | -9.01 | 39.00 | 44.28 | 12.09 | 27.51 | 1.13 | Peak | 0 |
| 3 | 124.980 | 29.30 | -14.20 | 43.50 | 37.71 | 17.19 | 27.25 | 1.65 | Peak | --- |
| 4 | 141.410 | 30.47 | -13.03 | 43.50 | 39.48 | 16.40 | 27.19 | 1.78 | Peak | --- |
| 5 | 189.330 | 27.77 | -15.73 | 43.50 | 38.39 | 14.22 | 26.91 | 2.07 | Peak | --- |
| 6 | 200.060 | 32.09 | -11.41 | 43.50 | 42.25 | 14.55 | 26.85 | 2.14 | Peak | --- |



| | | | |
|-----------------|---|---------------------|----------|
| Test Engineer : | Giant Chen | Temperature : | 21~26°C |
| | | Relative Humidity : | 51~57% |
| Test Distance : | 10m | Polarization : | Vertical |
| Remark : | #5 is system simulator signal which can be ignored. | | |

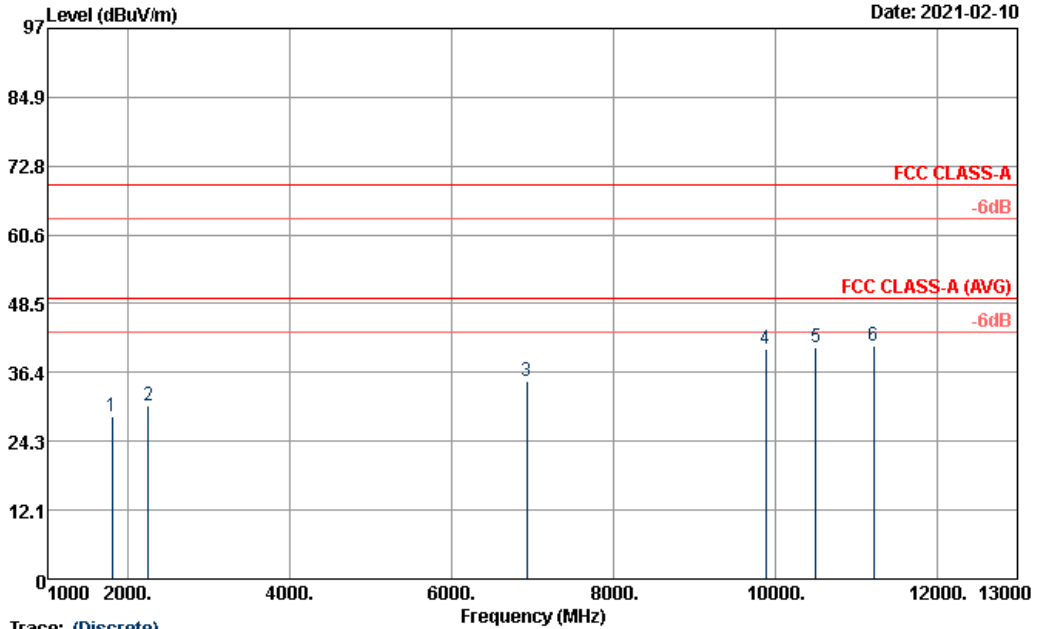


Site : OS04-LK
 Condition : FCC CLASS-A 10m VERTICAL
 Project : 111328
 Power : DC 24V
 Mode : Mode 3

| Peak | Freq | Level | Over Limit | Limit Line | ReadAntenna | Preamp | Cable | Table | Ant | | |
|------|----------|--------|------------|------------|-------------|--------|-------|-------|------|-----|-----|
| | MHz | dBuV/m | dB | dBuV/m | Level | Factor | Loss | Pos | Pos | | |
| | | | | | dBuV | dB/m | dB | deg | cm | | |
| 1 | 213.330 | 27.93 | -15.57 | 43.50 | 38.15 | 14.34 | 26.79 | 2.23 | Peak | --- | --- |
| 2 | 237.600 | 30.10 | -16.30 | 46.40 | 38.11 | 16.30 | 26.69 | 2.38 | Peak | --- | --- |
| 3 | 298.400 | 26.16 | -20.24 | 46.40 | 31.92 | 18.45 | 26.70 | 2.49 | Peak | --- | --- |
| 4 | 500.000 | 30.32 | -16.08 | 46.40 | 32.04 | 22.72 | 27.93 | 3.49 | Peak | --- | --- |
| 5 | 751.000 | 48.24 | | | 46.59 | 24.93 | 27.97 | 4.69 | Peak | --- | --- |
| 6 | 874.400 | 31.92 | -14.48 | 46.40 | 28.73 | 25.69 | 27.62 | 5.12 | Peak | --- | --- |
| 7 | 1000.000 | 32.76 | -16.74 | 49.50 | 27.57 | 26.48 | 27.05 | 5.76 | Peak | --- | --- |



| | | | |
|-----------------|---------|---------------------|----------|
| Test Engineer : | Nick Yu | Temperature : | 24~26°C |
| | | Relative Humidity : | 40~42% |
| Test Distance : | 3m | Polarization : | Vertical |



Trace: (Discrete)
 Site : 03CH06-HY
 Condition : FCC CLASS-A 3m 9120D_1156_200915 VERTICAL
 Project : 111328
 Power : DC 24V
 Memo : Mode 3

| Frequency | Level | Distance extrapolation | Over | Limit | Read | Antenna | Path | Preamp | Ant | Table | Peak |
|-----------|------------|------------------------|--------|------------|----------|----------|--------|--------|--------|---------|---------|
| (MHz) | (dBμV/m) | (dB) | (dB) | (dBμV/m) | (dBμV) | (dB/m) | (dB) | (dB) | (cm) | (deg) | (P/A) |
| 1798 | 28.69 | 10.45 | -40.85 | 69.54 | 71.36 | 25.2 | 6.31 | 63.73 | - | - | P |
| 2248 | 30.5 | 10.45 | -39.04 | 69.54 | 69.38 | 27.93 | 7.31 | 63.67 | - | - | P |
| 6928 | 34.79 | 10.45 | -34.75 | 69.54 | 60.47 | 35.07 | 13.79 | 64.09 | - | - | P |
| 9886 | 40.43 | 10.45 | -29.11 | 69.54 | 59.22 | 39.4 | 16.59 | 64.33 | - | - | P |
| 10504 | 40.74 | 10.45 | -28.8 | 69.54 | 57.43 | 40.1 | 17.3 | 63.64 | - | - | P |
| 11218 | 41.07 | 10.45 | -28.47 | 69.54 | 57.15 | 39.7 | 18.09 | 63.42 | 100 | 0 | P |

————THE END————