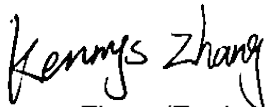




FCC CERTIFICATION TEST REPORT

| | |
|---|--|
| Applicant: | Sahara Presentation Systems Ltd |
| Address: | Europa House, Littlebrook DC1, Shield Road, Dartford, Kent DA1 5UR, United Kingdom |
| Manufacturer: | Sahara Presentation Systems Ltd |
| Address: | Europa House, Littlebrook DC1, Shield Road, Dartford, Kent DA1 5UR, United Kingdom |
| Product Description: | Clevershare Hub, CleverHub |
| Brand Name: | CLEVERTOUCH |
| Tested Model: | CleverHub |
| FCC ID: | 2APKO-WB05 |
| Report No.: | JCF230411201-003 |
| Received Date: | Apr. 11, 2023 |
| Tested Date: | Apr. 11, 2023 ~ Sep. 11, 2023 |
| Issued Date: | Sep. 11, 2023 |
| Test Standards: | FCC Rules and Regulations Part 15 Subpart C, |
| Test Procedure: | ANSI C63.10:2013 |
| Test Result: | Pass |
| Prepared By: | |
|  <u>Kennys Zhang/Engineer</u> | |
| Date: Sep. 11, 2023 | |
| Reviewed By: | |
|  <u>Roger Li/Engineer</u> | |
| Date: Sep. 11, 2023 | |
| Approved By: | |
|  <u>Talent Zhang/Engineer</u> | |
| Date: Sep. 11, 2023 | |

Note: The test results in this report apply exclusively to the tested model / sample. Without written approval of Guangzhou Jingce Testing Technology Co., Ltd. the test report shall not be reproduced except in full.

Report Revise Record

| Report Version | Revise Time | Issued Date | Valid Version | Notes |
|----------------|-------------|---------------|-----------------|-------|
| V1.0 | / | Sep. 11, 2023 | Original Report | / |

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1. Test Report Declare

| | |
|--------------------------------|--|
| Applicant: | Sahara Presentation Systems Ltd |
| Address: | Europa House, Littlebrook DC1, Shield Road, Dartford, Kent DA1 5UR, United Kingdom |
| Manufacturer: | Sahara Presentation Systems Ltd |
| Address: | Europa House, Littlebrook DC1, Shield Road, Dartford, Kent DA1 5UR, United Kingdom |
| Product Name: | Clevershare Hub, CleverHub |
| Brand Name: | CLEVERTOUCH |
| Model Name: | Clevershare Hub, CleverHub |
| Difference Description: | The products with all the models covered in this report are the same as each other, except for different model name. |

We Declare:

The equipment described above is tested by Guangzhou Jingce Testing Technology Co., Ltd. and in the configuration tested the equipment complied with the standards specified above. The test results are contained in this test report and Guangzhou Jingce Testing Technology Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

2. Summary of Test Results

| Summary of Test Results | | | |
|-------------------------|---|---|--------------|
| Clause | Test Items | FCC/ISED Rules | Test Results |
| 1 | 6dB Bandwidth and 99 % Occupied Bandwidth | FCC Part 15.247 (a) (2) | Pass |
| 2 | Peak Conducted Output Power | FCC Part 15.247 (b) (3) | Pass |
| 3 | Power Spectral Density | FCC Part 15.247 (e) | Pass |
| 4 | Conducted Bandedge and Spurious Emission | FCC Part 15.247 (d) | Pass |
| 5 | Radiated Bandedge and Spurious Emission | FCC Part 15.247 (d) FCC Part 15.209 FCC Part 15.205 | Pass |
| 6 | Conducted Emission Test For AC Power Port | FCC Part 15.207 | Pass |
| 7 | Antenna Requirement | FCC Part 15.203 | Pass |

Note: This report changes the client module's matching circuit and antenna gain on the basis of report DDT-R22112825-1E03 which does not affect RF function. So all above test items are reference report DDT-R2211285-1E03 except Clause 5 and Clause 6.

3. Test Laboratory

Guangzhou Jingce Testing Technology Co., Ltd.

Add.: No.192, Kezhu Road, Huangpu District, Guangzhou, Guangdong, China

Association for Laboratory Accreditation(A2LA). Certificate Number: 6594.01

FCC Designation Number: CN1331. Test Firm Registration Number: 360543

IC Test Firm Registration Number: 28796

Conformity Assessment Body identifier: CN0138

4. Equipment Under Test

4.1. Description of EUT

| | |
|----------------------------------|--|
| EUT Name: | Clevershare Hub, CleverHub |
| Model Number: | CleverHub |
| EUT Function Description: | Please refer the user's manual. |
| Power Supply: | Input: 100-240V ~ 50/60Hz 1.0A Max |
| Hardware Version: | NA |
| Software Version: | NA |
| Radio Specification: | IEEE802.11b/g/n/ax |
| Operation Frequency: | IEEE 802.11b: 2412MHz—2462MHz IEEE 802.11g: 2412MHz—2462MHz IEEE 802.11n HT20: 2412MHz—2462MHz IEEE 802.11n HT40: 2422MHz—2452MHz IEEE 802.11ax HEW20: 2412MHz—2462MHz IEEE 802.11ax HEW40: 2422MHz—2452MHz |
| Modulation: | IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n (HT20/40): OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ax (HEW20/40): OFDMA (1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK) |
| Data Rate: | IEEE 802.11b: 1, 2, 5.5, 11 Mbps IEEE 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps IEEE 802.11n HT20: 7.2, 14.4, 21.7, 28.9, 43.3, 57.8, 65.0, 72.2 Mbps IEEE 802.11n HT40: 15, 30, 45, 60, 90, 120, 135, 150 Mbps IEEE 802.11ax HEW20: 8.6, 17.2, 25.8, 34.4, 51.6, 68.8, 77.4, 86, 103.2, 114.7, 129, 143.4Mbps IEEE 802.11ax HEW40: 17.2, 34.4, 51.6, 68.8, 103.2, 137.6, 154.9, 172.1, 206.5, 229.4, 258.1, 286.8Mbps |
| Antenna Type: | FPC Antenna, MAX. Gain: 2.1 dBi |

Note 1: EUT is the ab. of equipment under test.

Note 2: The antenna gain is declared by the customer and the laboratory is not responsible for the accuracy of the antenna gain.

4.2. Channel List

| Channel List for 802.11b/g/n/ax (20 MHz) | | | | | | | |
|--|-----------------|---------|-----------------|---------|-----------------|---------|-----------------|
| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| 1 | 2412 | 4 | 2427 | 7 | 2442 | 10 | 2457 |
| 2 | 2417 | 5 | 2432 | 8 | 2447 | 11 | 2462 |
| 3 | 2422 | 6 | 2437 | 9 | 2452 | / | / |

| Channel List for 802.11n/ax (40 MHz) | | | | | |
|--------------------------------------|-----------------|---------|----------------|---------|-----------------|
| Channel | Frequency (MHz) | Channel | Frequency(MHz) | Channel | Frequency (MHz) |
| 3 | 2422 | 6 | 2437 | 9 | 2452 |
| 4 | 2427 | 7 | 2442 | / | / |
| 5 | 2432 | 8 | 2447 | / | / |

4.3. Test Channel Configuration

| Tested mode, channel and rand data rate information | | | |
|---|--------------------------------|-------------|--------------------|
| Mode | Data rate (Mbps) (see Note) | Channel | Frequency (MHz) |
| 802.11b | 1MHz | Low: CH1 | 2412 |
| | 1MHz | Middle: CH6 | 2437 |
| | 1MHz | High: CH11 | 2462 |
| 802.11g | 6 MHz | Low: CH1 | 2412 |
| | 6 MHz | Middle: CH6 | 2437 |
| | 6 MHz | High: CH11 | 2462 |
| 802.11n HT20 | MCS0 | Low: CH1 | 2412 |
| | MCS0 | Middle: CH6 | 2437 |
| | MCS0 | High: CH11 | 2462 |
| 802.11n HT40 | MCS0 | Low: CH3 | 2422 |
| | MCS0 | Middle: CH6 | 2437 |
| | MCS0 | High: CH9 | 2452 |
| 802.11ax HEW20 | MCS0 | Low: CH1 | 2412 |
| | MCS0 | Middle: CH6 | 2437 |
| | MCS0 | High: CH11 | 2462 |
| 802.11ax HEW40 | MCS0 | Low: CH3 | 2422 |
| | MCS0 | Middle: CH6 | 2437 |
| | MCS0 | High: CH9 | 2452 |

Note: According exploratory test, EUT will have maximum output power in those data rate, so those data rate were used for all test.

4.4. Test environment conditions

During the measurement the environmental conditions were within the listed ranges:

| | |
|--------------------|------------|
| Temperature range: | 21-25 °C |
| Humidity range: | 40-75% |
| Pressure range: | 86-106 kPa |

4.5. Description of Available Antennas

| The Worse Case Power Setting Parameter under 2400 ~ 2483.5MHz Band | | | |
|--|-------------------------|-----------------------------|---------|
| Test Software | | Secure CRT | |
| Modulation Mode | Transmit Antenna Number | Test Software Setting Value | |
| | | ANT1 | Channel |
| 802.11b | 1 | 1 4 5 | CH1 |
| | | 1 4 5 | CH6 |
| | | 1 4 5 | CH11 |
| 802.11g | 1 | 1 0 5 | CH1 |
| | | 1 0 4 | CH6 |
| | | 1 0 4 | CH11 |
| 802.11HT20 | 1 | 1 0 4 | CH1 |
| | | 1 0 4 | CH6 |
| | | 1 0 4 | CH11 |

| | | | |
|----------------|---|-------|------|
| 802.11n HT40 | 1 | 1 0 4 | CH3 |
| | | 1 0 4 | CH6 |
| | | 1 0 4 | CH9 |
| 802.11ax HEW20 | 1 | 1 0 3 | CH1 |
| | | 1 0 3 | CH6 |
| | | 1 0 3 | CH11 |
| 802.11ax HEW40 | 1 | 1 0 3 | CH3 |
| | | 1 0 3 | CH6 |
| | | 1 0 3 | CH9 |

4.6. Description of Available Antennas

| Test Mode | Transmit and Receive Mode | Description |
|---|--|--|
| IEEE 802.11b | <input checked="" type="checkbox"/> 1TX, 1RX | ANT 1 can be used as transmitting/receiving antenna. |
| IEEE 802.11g | <input checked="" type="checkbox"/> 1TX, 1RX | ANT 1 can be used as transmitting/receiving antenna. |
| IEEE 802.11n HT20 | <input checked="" type="checkbox"/> 1TX, 1RX | ANT 1 can be used as transmitting/receiving antenna. |
| IEEE 802.11n HT40 | <input checked="" type="checkbox"/> 1TX, 1RX | ANT 1 can be used as transmitting/receiving antenna. |
| IEEE 802.11ax HEW20 | <input checked="" type="checkbox"/> 1TX, 1RX | ANT 1 can be used as transmitting/receiving antenna. |
| IEEE 802.11ax HEW40 | <input checked="" type="checkbox"/> 1TX, 1RX | ANT 1 can be used as transmitting/receiving antenna. |
| Note: WLAN 2.4 GHz & WLAN 5G can't transmit simultaneously. (declared by client) | | |

5. Description of Test Setup

5.1. Accessory

| Description of Accessories | Manufacturer | Model Number | Description | Remark |
|----------------------------|--------------|----------------|---|--------|
| Switching adapter | GangQi | GQ36-120300-Ax | Input: 100-240V 50/60Hz 1.0A Max Output: DC 12V3A 36.0W | / |

5.2. Support Equipment

| Equipment | Brand Name | Model Name | P/N |
|-----------|------------|------------|-----|
| PC | Lenovo | T480 | / |

5.3. Test Setup

The EUT can work in Fixed Frequency mode.

5.4. Setup Diagram for Tests



6. Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

| Test Item | Uncertainty |
|------------------------------|-------------|
| AC Power Conduction emission | 1.37 dB |
| All Radiated emissions | 5.4dB |
| Conducted emissions | 3.09 dB |
| Occupied Channel Bandwidth | 1.1% |
| Conducted Output power | 0.82dB |
| Power Spectral Density | 0.82dB |

Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95 % confidence level using a coverage factor of k = 2.

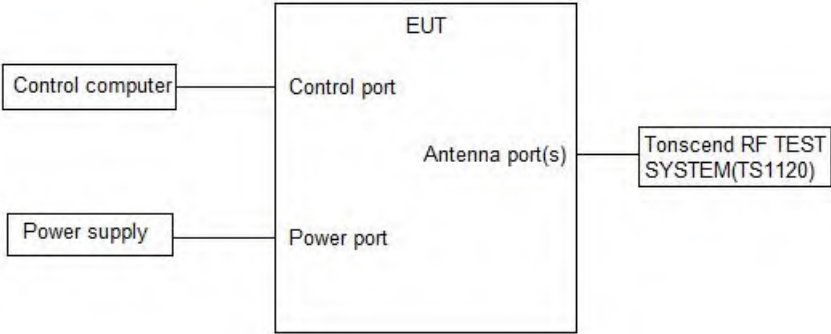
7. Measuring Instrument and Software Used

| TS Test System | | | | | | |
|-------------------------------------|-------------------------------------|--------------|-----------|----------------|---------------|---------------|
| Used | Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Due. Date |
| <input checked="" type="checkbox"/> | Spectrum Analyzer | Keysight | N9030B | MY563205 12 | Jul. 10, 2023 | Jul. 09, 2024 |
| <input checked="" type="checkbox"/> | Vector Signal Generator | Keysight | N5182B | MY573003 34 | Nov. 24, 2022 | Nov. 23, 2023 |
| <input checked="" type="checkbox"/> | Signal Generator | Keysight | N5171B | MY572806 39 | Nov. 24, 2022 | Nov. 23, 2023 |
| <input checked="" type="checkbox"/> | DC POWER | Keysight | E342A | MY590203 56 | Jul. 14, 2023 | Jul. 13, 2024 |
| <input checked="" type="checkbox"/> | Incubator thermometer | GWS | EL-02JA | 21107288 | Nov. 03, 2022 | Nov. 02, 2023 |
| <input checked="" type="checkbox"/> | Control unit(Power sensor) | Tonscend | JS0806-2 | / | Jul. 10, 2023 | Jul. 09, 2024 |
| <input checked="" type="checkbox"/> | Wideband radio communication tester | R&S | CMW500 | 163478 | Jul. 11, 2023 | Jul. 10, 2024 |
| <input checked="" type="checkbox"/> | Spectrum Analyzer | Keysight | N9020B | MY601122 06 | Nov. 24, 2022 | Nov. 23, 2023 |
| <input checked="" type="checkbox"/> | Control unit(Power sensor) | Tonscend | JS0806-2 | 21H806046 5 | Nov. 25, 2022 | Nov. 24, 2023 |
| Software | | | | | | |
| Used | Description | Manufacturer | Name | Version | | |
| <input checked="" type="checkbox"/> | Test software | TS+ | JS1120-3 | V3.3.10 | | |
| RSE Test System | | | | | | |

| Used | Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Due. Date |
|---|---------------------------|--------------|-------------|-----------------|---------------|---------------|
| <input checked="" type="checkbox"/> | EMI Receiver | R&S | ESW | 101685 | Jul. 12, 2023 | Jul. 11, 2024 |
| <input checked="" type="checkbox"/> | Bilog Antenna | Schwarzbeck | VULB 9163 | 01416 | Mar. 21, 2023 | Mar. 20, 2024 |
| <input checked="" type="checkbox"/> | Horn Antenna 1 | Schwarzbeck | BBHA 9120 D | 01673 | Nov. 23, 2022 | Nov. 22, 2023 |
| <input checked="" type="checkbox"/> | Horn Antenna 2 | ETS | 3116C | 00217677 | Sep. 19, 2022 | Sep. 18, 2023 |
| <input checked="" type="checkbox"/> | Signal Pre-Amplifier | Tonscend | TAP01018050 | AP21C806 122 | Jul. 10, 2023 | Jul. 09, 2024 |
| <input checked="" type="checkbox"/> | Signal Pre-Amplifier | Tonscend | TAP9K3G32 | AP20K806 104 | Jul. 10, 2023 | Jul. 09, 2024 |
| <input checked="" type="checkbox"/> | Signal Pre-Amplifier | ETS | 3116C-PA | 00217677 | Aug. 21, 2023 | Aug. 20, 2023 |
| <input checked="" type="checkbox"/> | 3m Fully-anechoic Chamber | ETS | RFD-100 | / | Apr. 24, 2021 | Apr. 23, 2024 |
| Software | | | | | | |
| Used | Description | Manufacturer | Name | | Version | |
| <input checked="" type="checkbox"/> | Test software | TS+ | TS+ | | V3.0.0.4 | |
| Conducted Emission Test For AC Power Port | | | | | | |
| Used | Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Due. Date |
| <input checked="" type="checkbox"/> | LISN | R&S | ENV216 | 102154 | Jul. 10, 2023 | Jul. 09, 2024 |
| <input checked="" type="checkbox"/> | EMI Receiver | R&S | ESR3 | 102509 | Jul. 12, 2023 | Jul. 11, 2024 |
| Software | | | | | | |
| Used | Description | Manufacturer | Name | | Version | |
| <input checked="" type="checkbox"/> | Test software | EZ | EZ-EMC | | EMEC-3A1 | |
| Other Instrument | | | | | | |
| Used | Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Due. Date |
| <input checked="" type="checkbox"/> | Temperature & Humidity | Temperature | HTC-1 | / | Nov. 25, 2022 | Nov. 24, 2023 |

8. On Time and Duty Cycle

8.1. Block diagram of test setup



8.2. Limits

None; for reporting purposes only

8.3. Procedure

Reference report DDT-R2212825-1E03

9. 6 dB DTS Bandwidth and 99 % Occupied Bandwidth

9.1. Block diagram of test setup

Same as section 8.1

9.2. Limits

| CFR 47 FCC Part15 (15.247) Subpart C | | | |
|--------------------------------------|----------------|----------------|-----------------------|
| Section | Test Item | Limit | Frequency Range (MHz) |
| CFR 47 FCC 15.247(a)(2) | 6 dB Bandwidth | ≥ 500 kHz | 2400-2483.5 |

9.3. Test Procedure

Connect the UUT to the spectrum analyzer and use the following settings:

| | |
|------------------|--|
| Center Frequency | The center frequency of the channel under test |
| Detector | Peak |
| RBW | For 6 dB Bandwidth :100 kHz For 99 % Occupied Bandwidth :1 % to 5 % of the occupied bandwidth |
| VBW | For 6 dB Bandwidth: $\geq 3 \times$ RBW For 99 % Occupied Bandwidth : $\geq 3 \times$ RBW |
| Trace | Max hold |
| Sweep | Auto couple |

Allow the trace to stabilize and measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB and 99 % relative to the maximum level measured in the fundamental emission.

9.4. Results

Reference report DDT-R2212825-1E03

10. Conducted Output Power

10.1. Block diagram of test setup

Same as section 8.1

10.2. Limits

| CFR 47 FCC Part15 (15.247) Subpart C | | | |
|--------------------------------------|-------------------|------------------|-----------------------|
| Section | Test Item | Limit | Frequency Range (MHz) |
| CFR 47 FCC 15.247(b)(3) | Peak Output Power | 1 watt or 30 dBm | 2400-2483.5 |

10.3. Test Procedure

Place the EUT on the table and set it in the transmitting mode.

Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the Power sensor.

Measure peak power each channel.

Peak Detector use for Peak result.

AVG Detector use for AVG result.

10.4. Results

Reference report DDT-R2212825-1E03

11. Power Spectral Density

11.1. Block diagram of test setup

Same as section 8.1

11.2. Limits

| CFR 47 FCC Part15 (15.247) Subpart C | | | |
|--------------------------------------|------------------------|-------------|-----------------------|
| Section | Test Item | Limit | Frequency Range (MHz) |
| CFR 47 FCC §15.247 (e) | Power Spectral Density | 8 dBm/3 kHz | 2400-2483.5 |

11.3. Test Procedure

Connect the UUT to the spectrum analyzer and use the following settings:

| | |
|------------------|--|
| Center Frequency | The centre frequency of the channel under test |
| Detector | Peak |
| RBW | $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$ |
| VBW | $\geq 3 \times \text{RBW}$ |
| Span | 1.5 x DTS bandwidth |
| Trace | Max hold |
| Sweep time | Auto couple. |

Allow trace to fully stabilize and use the peak marker function to determine the maximum amplitude level within the RBW.

If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

11.4. Results

Reference report DDT-R2212825-1E03

12. Conducted Band edge and Spurious Emissions

12.1. Block diagram of test setup

Same as section 8.1

12.2. Limits

| CFR 47 FCC Part15 (15.247) Subpart C | | |
|--------------------------------------|---|---|
| Section | Test Item | Limit |
| CFR 47 FCC §15.247 (d) | Conducted Bandedge and Spurious Emissions | at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power |

12.3. Test Procedure

| | |
|------------------|--|
| Center Frequency | The centre frequency of the channel under test |
| Detector | Peak |
| RBW | 100 kHz |
| VBW | $\geq 3 \times \text{RBW}$ |
| Span | 1.5 x DTS bandwidth |
| Trace | Max hold |
| Sweep time | Auto couple. |

Connect the UUT to the spectrum analyzer and use the following settings:

Use the peak marker function to determine the maximum PSD level.

| | |
|--------------------|---|
| Span | Set the center frequency and span to encompass frequency range to be measured |
| Detector | Peak |
| RBW | 100 kHz |
| VBW | $\geq 3 \times \text{RBW}$ |
| measurement points | $\geq \text{span}/\text{RBW}$ |
| Trace | Max hold |
| Sweep time | Auto couple. |

Use the peak marker function to determine the maximum amplitude level.

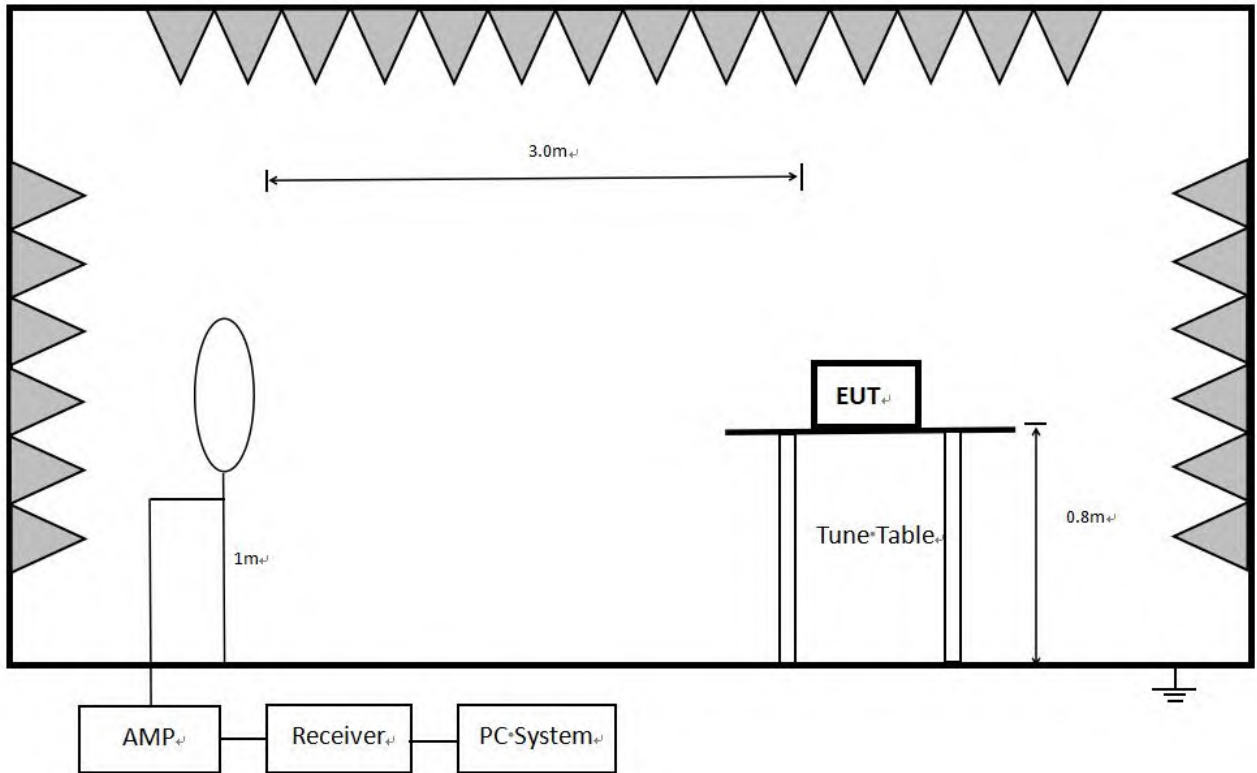
12.4. Test result

Reference report DDT-R2212825-1E03

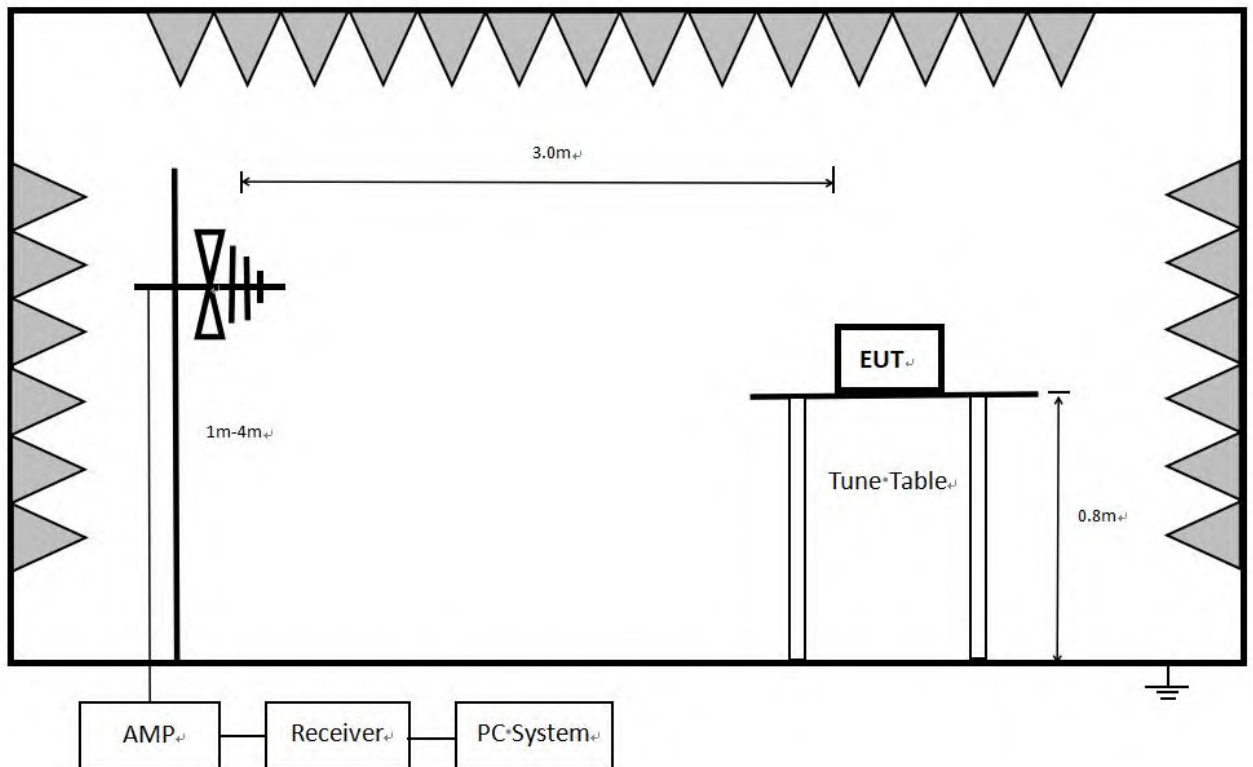
13. Radiated Emission

13.1. Block diagram of test setup

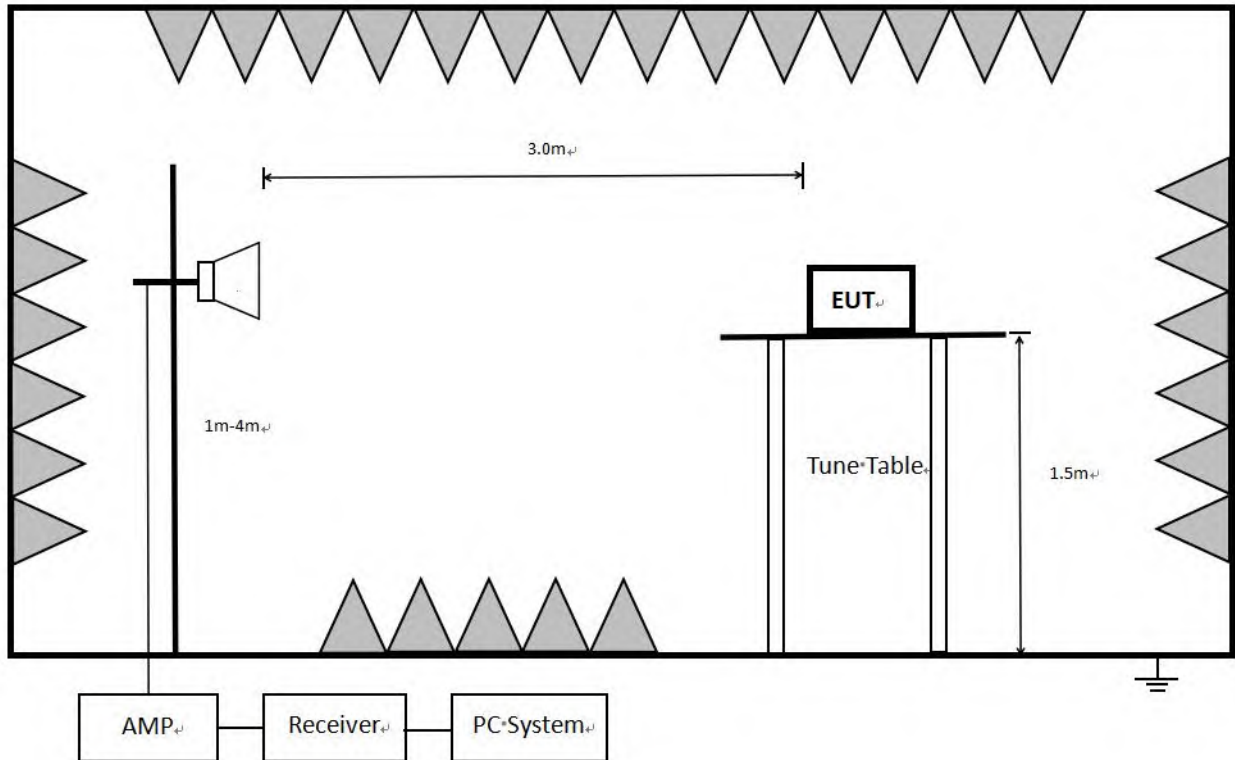
In 3 m Anechoic Chamber, test setup diagram for 9 kHz - 30 MHz:



In 3 m Anechoic Chamber, test setup diagram for 30 MHz - 1 GHz:



In 3 m Anechoic Chamber, test setup diagram for frequency above 1 GHz:



Note: For harmonic emissions test an appropriate high pass filter was inserted in the input port of AMP.

13.2. Limit

(1) FCC 15.205 Restricted frequency band

| MHz | MHz | MHz | GHz |
|--------------------------|---------------------|---------------|------------------|
| 0.090-0.110 | 16.42-16.423 | 399.9-410 | 4.5-5.15 |
| ¹ 0.495-0.505 | 16.69475-16.69525 | 608-614 | 5.35-5.46 |
| 2.1735-2.1905 | 16.80425-16.80475 | 960-1240 | 7.25-7.75 |
| 4.125-4.128 | 25.5-25.67 | 1300-1427 | 8.025-8.5 |
| 4.1772&4.17775 | 37.5-38.25 | 1435-1626.5 | 9.0-9.2 |
| 4.2072&4.20775 | 73-74.6 | 1645.5-1646.5 | 9.3-9.5 |
| 6.215-6.218 | 74.8-75.2 | 1660-1710 | 10.6-12.7 |
| 6.26775-6.26825 | 108-121.94 | 1718.8-1722.2 | 13.25-13.4 |
| 6.31175-6.31225 | 123-138 | 2200-2300 | 14.47-14.5 |
| 8.291-8.294 | 149.9-150.05 | 2310-2390 | 15.35-16.2 |
| 8.362-8.366 | 156.52475-156.52525 | 2483.5-2500 | 17.7-21.4 |
| 8.37625-8.38675 | 156.7-156.9 | 2690-2900 | 22.01-23.12 |
| 8.41425-8.41475 | 162.0125-167.17 | 3260-3267 | 23.6-24.0 |
| 12.29-12.293 | 167.72-173.2 | 3332-3339 | 31.2-31.8 |
| 12.51975-12.52025 | 240-285 | 3345.8-3358 | 36.43-36.5 |
| 12.57675-12.57725 | 322-335.4 | 3600-4400 | (²) |
| 13.36-13.41 | | | |

¹Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

²Above 38.6

(2) FCC 15.209 Limit.

| Frequency MHz | Distance Meters | Field Strengths Limit | |
|------------------|--------------------|---|-----------------------------------|
| | | $\mu\text{V}/\text{m}$ | $\text{dB}(\mu\text{V})/\text{m}$ |
| 0.009 ~ 0.490 | 300 | $2400/F(\text{kHz})$ | $67.6-20\log(F)$ |
| 0.490 ~ 1.705 | 30 | $24000/F(\text{kHz})$ | $87.6-20\log(F)$ |
| 1.705 ~ 30.0 | 30 | 30 | 29.54 |
| 30 ~ 88 | 3 | 100 | 40.0 |
| 88 ~ 216 | 3 | 150 | 43.5 |
| 216~960 | 3 | 200 | 46.0 |
| 960~1000 | 3 | 500 | 54.0 |
| Above 1000 | 3 | 74.0 $\text{dB}(\mu\text{V})/\text{m}$ (Peak) 54.0 $\text{dB}(\mu\text{V})/\text{m}$ (Average) | |

Note: (1) At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

(2) At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). This paragraph (f) shall not apply to Access BPL devices operating below 30 MHz.

About Restricted bands of operation please refer to FCC § 15.205(a).

13.3. Test Procedure

Below 30 MHz:

The setting of the spectrum Analyzer

| | |
|-------|---|
| RBW | 300 Hz (From 9 kHz to 0.15 MHz)/ 10 kHz (From 0.15 MHz to 30 MHz) |
| VBW | 1 kHz (From 9 kHz to 0.15 MHz)/ 30 kHz (From 0.15 MHz to 30 MHz) |
| Sweep | Auto |
| Trace | Max hold |

1. The testing follows the guidelines in ANSI C63.10-2013
2. The EUT was arranged to its worst case and then turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both Horizontal, Face-on and Face-off polarizations of the antenna are set to make the measurement.
3. The EUT was placed on a turntable with 80 cm meter above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of 1 meter height antenna tower.
5. The radiated emission limits are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.
6. For measurement below 1 GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
7. Although these tests were performed other than open field site, adequate comparison measurements were confirmed against 30m open field site. Therefore, sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field site based on KDB 414788.

Below 1 GHz and above 30 MHz:

The setting of the spectrum Analyzer

| | |
|-------|----------|
| RBW | 100 kHz |
| VBW | 300 kHz |
| Sweep | Auto |
| Trace | Max hold |

1. The testing follows the guidelines in ANSI C63.10-2013.
2. 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. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
3. The EUT was placed on a turntable with 80 cm above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. For measurement below 1GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

Above 1 GHz:

| | |
|----------|--------------------------------|
| RBW | 1 MHz |
| VBW | PEAK: 3 MHz AVG: see note 6 |
| Sweep | Auto |
| Detector | Peak |
| Trace | Max hold |

1. The testing follows the guidelines in ANSI C63.10-2013.

2. 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. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 1.5m above ground.

4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

5. For measurement above 1GHz, the emission measurement will be measured by the peak detector. This peak level, once corrected, must comply with the limit specified in Section 15.209.

6. For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with 1/T video bandwidth with peak detector for AVG measurements. For the Duty Cycle please refer to clause 8.1.ON TIME AND DUTY CYCLE.

7. Restriction band: Investigated frequency range from 2310 MHz to 2430 MHz and 2445 MHz to 2500 MHz, 2310 MHz to 2450 MHz and 2425 MHz to 2500MHz.

All restriction band should comply with 15.209, other emission should be at least 20 dB below the fundamental.

Note 1: For all radiated test, EUT in each of three orthogonal axis emissions had been tested, but only the worst case (X axis) data recorded in the report.

Note 2: The EUT does not support simultaneous transmission.

Note 3: The EUT was fully exercised with external accessories during the test. In the case of multiple accessory external ports, an external accessory shall be connected to one of each type of port.

13.4. Results

Pass. (See below detailed test result)

All the emissions except fundamental emission from 9 kHz to 25 GHz were comply with 15.209 limits.

Note1: According exploratory test, the emission levels are 20 dB below the limit detected from 9 kHz to 30 MHz, so the final test was performed with frequency range from 30 MHz to 26 GHz and recorded in below.

Note2: For emissions below 1 GHz, according exploratory explorer test, when change Tx mode and channel, have no distinct influence on emissions level, so for emissions below 1 GHz, the final test was only performed with EUT working in 11B mode.

Note3: For emissions above 1 GHz. If peak results comply with AV limit, AV Result is deemed to comply with AV limit.

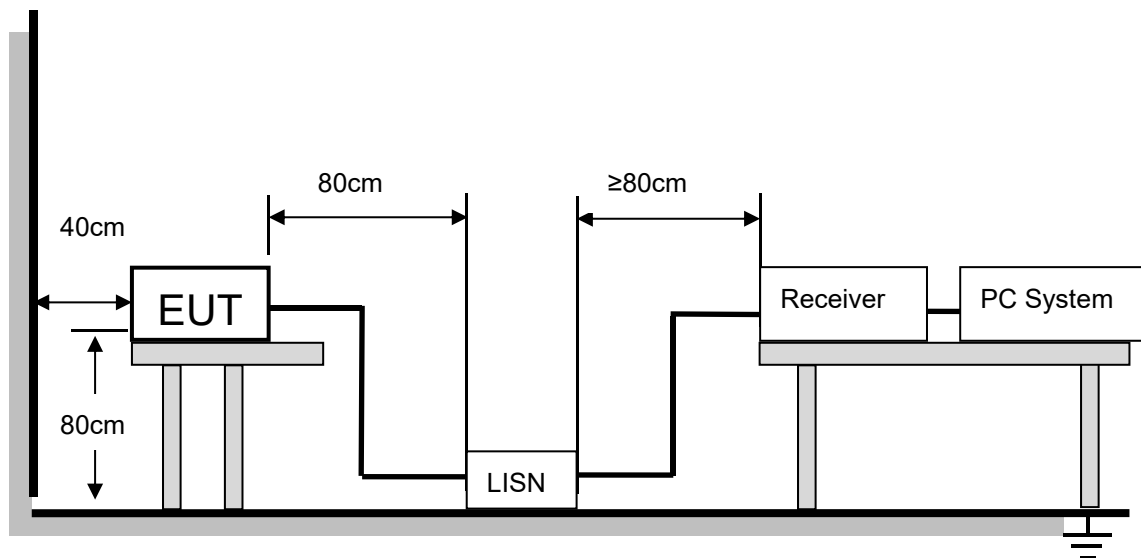
13.5. Original test data

Below 1 GHz and above 30 MHz test data Refer to appendix A

Above 1 GHz test data Refer to appendix B

14. AC Power Line Conducted Emissions

14.1. Block diagram of test setup



The EUT is put on a table of non-conducting material that is 80 cm high. The vertical conducting wall of shielding is located 40 cm to the rear of the EUT. The power line of the EUT is connected to the AC mains through an Artificial Mains Network (A.M.N.). A EMI Measurement Receiver (R&S Test Receiver ESR3) is used to test the emissions from both sides of AC line. According to the requirements in Section 6.2 of ANSI C63.10-2013. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode. The bandwidth of EMI test receiver is set at 9 kHz.

The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application.

14.2. Limits

Please refer to CFR 47 FCC § 15.207 (a).

| Frequency (MHz) | Quasi-peak | Average |
|-----------------|------------|-----------|
| 0.15 -0.5 | 66 - 56 * | 56 - 46 * |
| 0.50 -5.0 | 56.00 | 46.00 |
| 5.0 -30.0 | 60.00 | 50.00 |

Note 1: * Decreasing linearly with logarithm of frequency.

Note 2: The lower limit shall apply at the transition frequencies.

14.3. Test procedure

The EUT and Support equipment, if needed, were put placed on a non-metallic table, 80cm above the ground plane.

Configuration EUT to simulate typical usage as described in clause 2.4 and test equipment as described in clause 10.2 of this report.

All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.

All support equipment power received from a second LISN.

Emissions were measured on each current carrying line of the EUT using an EMI Test Receiver connected to the LISN powering the EUT.

The Receiver scanned from 150 kHz to 30 MHz for emissions in each of the test modes.

During the above scans, the emissions were maximized by cable manipulation.

The test mode(s) described in clause 2.4 were scanned during the preliminary test.

After the preliminary scan, we found the test mode producing the highest emission level.

The EUT configuration and worse cable configuration of the above highest emission levels were recorded for reference of the final test.

EUT and support equipment were set up on the test bench as per the configuration with highest emission level in the preliminary test.

A scan was taken on both power lines, Neutral and Line, recording at least the six highest emissions.

Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit.

The test data of the worst-case condition(s) was recorded.

The bandwidth of test receiver is set at 9 kHz.

14.4. Test result

Pass. (See below detailed test result)

Note1: All emissions not reported below are too low against the prescribed limits.

Note2: Pre-test AC conducted emission at both voltage AC 120V/60Hz and AC 240V/50Hz, recorded worse case.

14.5. Original test data

AC Power Line Conducted Emission Test Data Refer to appendix C

15. Antenna Requirements

15.1. Applicable Requirements

Please refer to FCC §15.203

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

Please refer to FCC §15.247(b)(4)

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

15.2. Result

The antenna used for this product is FPC antenna and that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is 2.1 dBi

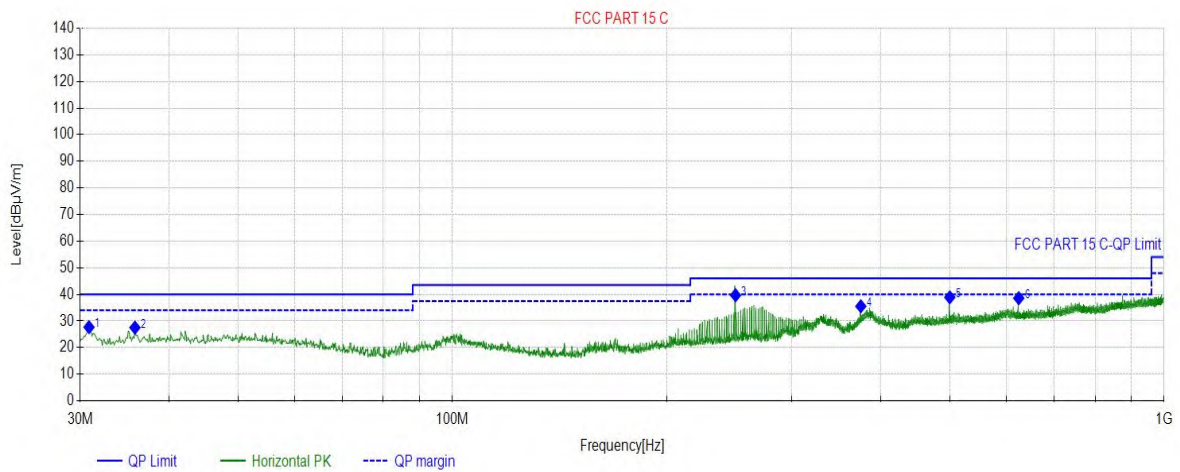
APPENDIX A – Radiated Emission Below 1GHz Test Data

Test Report

| Project Information | | | |
|---------------------|------------|-----------|------------------------|
| Customer: | | EUT: | Clevershare Hub Clever |
| Model: | CleverHub | SN: | |
| Mode: | 11B2412 | Voltage: | 120V 60Hz |
| Environment: | 24.2°C 54% | Engineer: | roger |
| Remark: | | | |
| Test Standard: | | | |

Start of Test: 2023-07-04 18:32:22

Test Graph



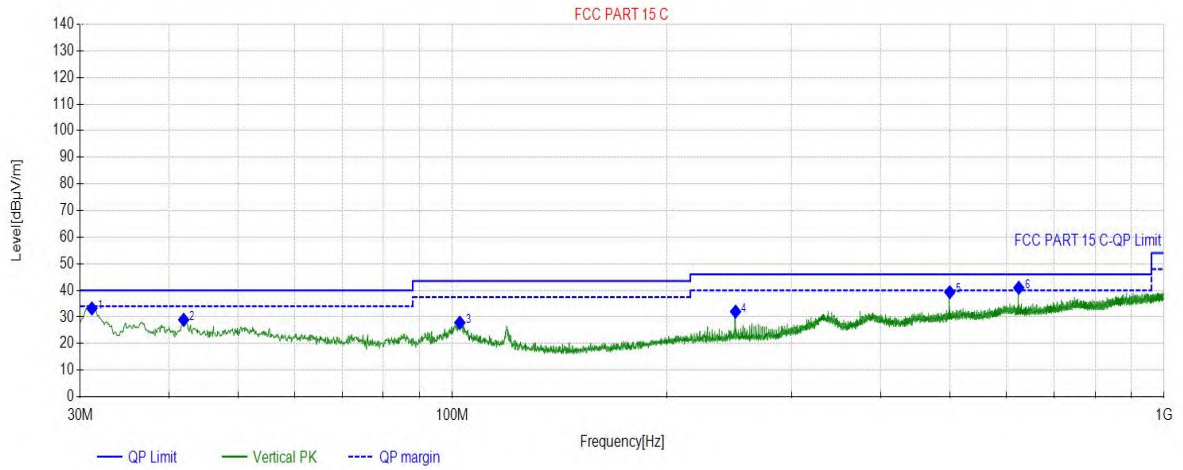
| QP Final Data List | | | | | | | | |
|--------------------|-------------|-------------|-------------------|-------------------|----------------|-------------|-----------|------------|
| NO. | Freq. (MHz) | Factor (dB) | QP Value (dBµV/m) | QP Limit (dBµV/m) | QP Margin (dB) | Height (cm) | Angle (°) | Polarity |
| 1 | 30.8731 | 19.03 | 27.71 | 40.00 | 12.29 | 100 | 26 | Horizontal |
| 2 | 35.8206 | 20.22 | 27.54 | 40.00 | 12.46 | 100 | 26 | Horizontal |
| 3 | 250.011 | 21.54 | 39.68 | 46.00 | 6.32 | 100 | 85.9 | Horizontal |
| 4 | 374.966 | 25.12 | 35.54 | 46.00 | 10.46 | 100 | 144 | Horizontal |
| 5 | 500.012 | 27.70 | 38.90 | 46.00 | 7.10 | 100 | 51 | Horizontal |
| 6 | 624.960 | 30.39 | 38.59 | 46.00 | 7.41 | 100 | 78 | Horizontal |

Test Report

| Project Information | | | |
|---------------------|------------|-----------|------------------------|
| Customer: | Hub | EUT: | Clevershare Hub Clever |
| Model: | CleverHub | SN: | |
| Mode: | 11B2412 | Voltage: | 120V 60Hz |
| Environment: | 24.2°C 54% | Engineer: | roger |
| Remark: | | | |
| Test Standard: | | | |

Start of Test: 2023-07-04 18:33:06

Test Graph



| QP Final Data List | | | | | | | | |
|--------------------|-------------|-------------|-------------------|-------------------|----------------|-------------|-----------|----------|
| NO. | Freq. (MHz) | Factor (dB) | QP Value (dBµV/m) | QP Limit (dBµV/m) | QP Margin (dB) | Height (cm) | Angle (°) | Polarity |
| 1 | 31.1641 | 19.10 | 33.23 | 40.00 | 6.77 | 100 | 55 | Vertical |
| 2 | 41.9322 | 21.47 | 28.97 | 40.00 | 11.03 | 100 | 88 | Vertical |
| 3 | 102.466 | 20.63 | 27.89 | 43.50 | 15.61 | 100 | 222 | Vertical |
| 4 | 250.018 | 21.54 | 32.02 | 46.00 | 13.98 | 100 | 334 | Vertical |
| 5 | 500.012 | 27.70 | 39.34 | 46.00 | 6.66 | 100 | 329 | Vertical |
| 6 | 625.067 | 30.39 | 40.99 | 46.00 | 5.01 | 100 | 6.5 | Vertical |

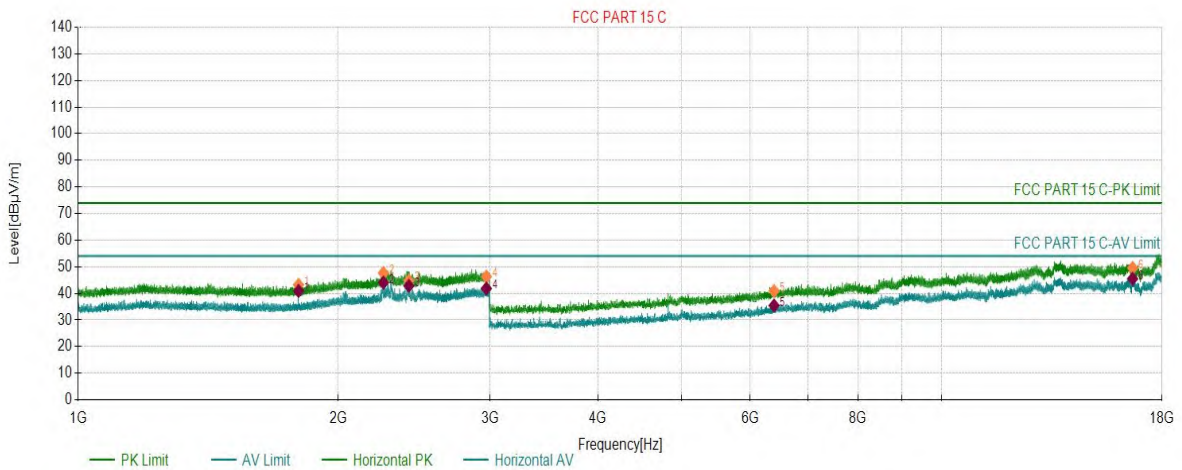
APPENDIX B – Radiated Emission Above 1GHz Test Data

Test Report

| Project Information | | | |
|---------------------|----------------------------|--------------|------------|
| EUT: | Clevershare Hub Clever Hub | Environment: | 24.2°C 54% |
| Model: | CleverHub | SN: | |
| Mode: | 11B_2412 | Voltage: | 120V 60Hz |
| Customer: | | Engineer: | Roger |
| Remark: | | | |

Start of Test: 2023-06-29 09:55:21

Test Graph



| PK Final Data List | | | | | | | | |
|--------------------|-------------|-------------|-------------------|-------------------|----------------|-------------|-----------|------------|
| NO. | Freq. (MHz) | Factor (dB) | PK Value (dBµV/m) | PK Limit (dBµV/m) | PK Margin (dB) | Height (cm) | Angle (°) | Polarity |
| 1 | 1799.8400 | 2.95 | 43.25 | 74.00 | 30.75 | 150 | 285 | Horizontal |
| 2 | 2256.8628 | 6.26 | 47.65 | 74.00 | 26.35 | 150 | 318 | Horizontal |
| 3 | 2415.6708 | 7.48 | 44.81 | 74.00 | 29.19 | 150 | 7 | Horizontal |
| 4 | 2970.0985 | 9.09 | 46.34 | 74.00 | 27.66 | 150 | 318 | Horizontal |
| 5 | 6396.1698 | -4.39 | 40.88 | 74.00 | 33.12 | 150 | 346 | Horizontal |
| 6 | 16641.6821 | 11.04 | 49.56 | 74.00 | 24.44 | 150 | 8 | Horizontal |

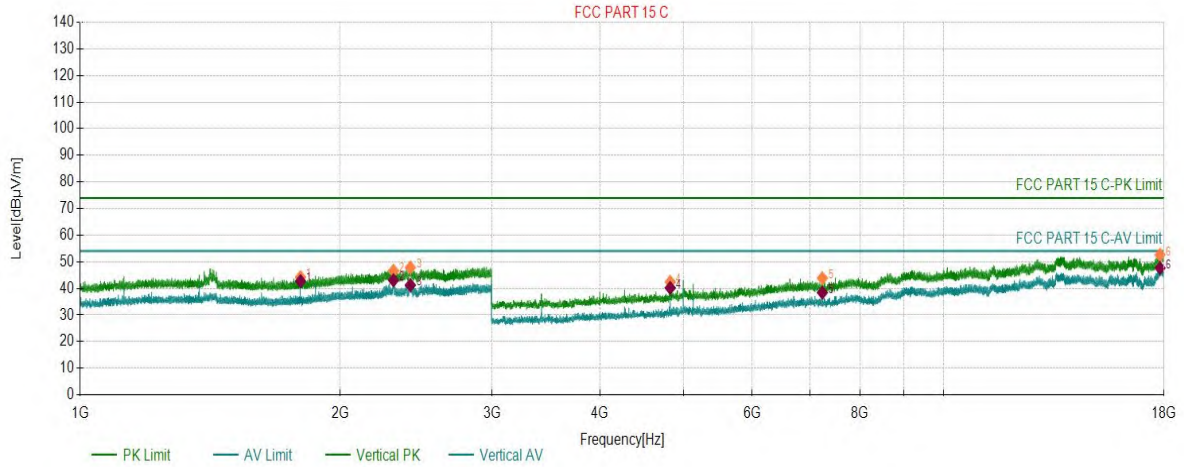
| AV Final Data List | | | | | | | | |
|--------------------|-------------|-------------|-------------------|-------------------|----------------|-------------|-----------|------------|
| NO. | Freq. (MHz) | Factor (dB) | AV Value (dBµV/m) | AV Limit (dBµV/m) | AV Margin (dB) | Height (cm) | Angle (°) | Polarity |
| 1 | 1799.8400 | 2.95 | 40.95 | 54.00 | 13.05 | 150 | 285 | Horizontal |
| 2 | 2256.8628 | 6.26 | 44.06 | 54.00 | 9.94 | 150 | 318 | Horizontal |
| 3 | 2415.6708 | 7.48 | 42.86 | 54.00 | 11.14 | 150 | 7 | Horizontal |
| 4 | 2970.0985 | 9.09 | 41.84 | 54.00 | 12.16 | 150 | 318 | Horizontal |
| 5 | 6396.1698 | -4.39 | 35.44 | 54.00 | 18.56 | 150 | 346 | Horizontal |
| 6 | 16641.6821 | 11.04 | 45.51 | 54.00 | 8.49 | 150 | 8 | Horizontal |

Test Report

| Project Information | | | |
|---------------------|----------------------------|--------------|------------|
| EUT: | Clevershare Hub Clever Hub | Environment: | 24.2°C 54% |
| Model: | CleverHub | SN: | |
| Mode: | 11B_2412 | Voltage: | 120V 60Hz |
| Customer: | | Engineer: | Roger |
| Remark: | | | |

Start of Test: 2023-06-29 09:56:52

Test Graph



| PK Final Data List | | | | | | | | |
|--------------------|-------------|-------------|-------------------|-------------------|----------------|-------------|-----------|----------|
| NO. | Freq. (MHz) | Factor (dB) | PK Value (dBµV/m) | PK Limit (dBµV/m) | PK Margin (dB) | Height (cm) | Angle (°) | Polarity |
| 1 | 1799.7400 | 3.35 | 44.21 | 74.00 | 29.79 | 150 | 7 | Vertical |
| 2 | 2306.0653 | 6.22 | 46.62 | 74.00 | 27.38 | 150 | 81 | Vertical |
| 3 | 2412.4706 | 7.20 | 47.83 | 74.00 | 26.17 | 150 | 220 | Vertical |
| 4 | 4823.3412 | -9.99 | 42.44 | 74.00 | 31.56 | 150 | 284 | Vertical |
| 5 | 7236.9618 | -2.36 | 43.83 | 74.00 | 30.17 | 150 | 36 | Vertical |
| 6 | 17808.7404 | 14.51 | 52.60 | 74.00 | 21.40 | 150 | 260 | Vertical |

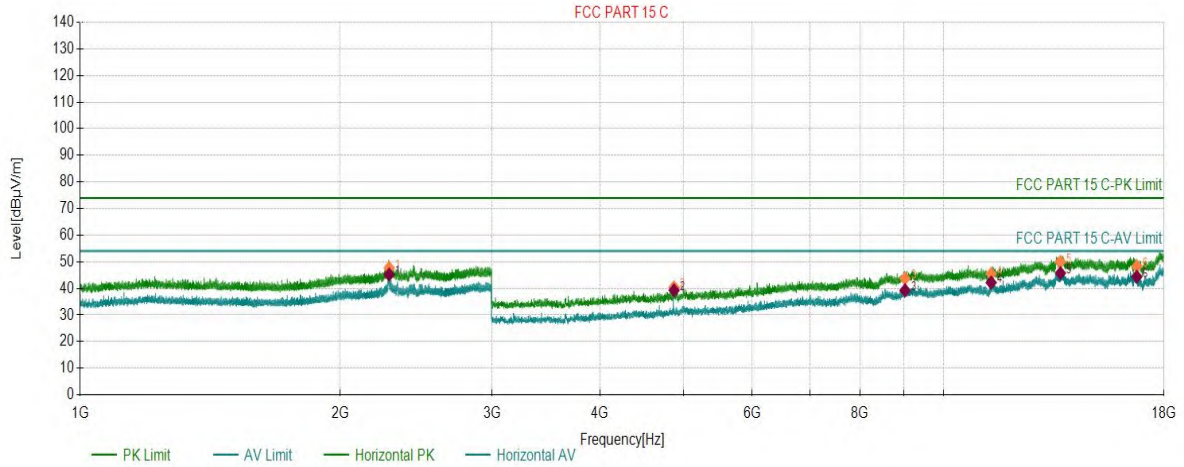
| AV Final Data List | | | | | | | | |
|--------------------|-------------|-------------|-------------------|-------------------|----------------|-------------|-----------|----------|
| NO. | Freq. (MHz) | Factor (dB) | AV Value (dBµV/m) | AV Limit (dBµV/m) | AV Margin (dB) | Height (cm) | Angle (°) | Polarity |
| 1 | 1799.7400 | 3.35 | 42.75 | 54.00 | 11.25 | 150 | 7 | Vertical |
| 2 | 2306.0653 | 6.22 | 43.06 | 54.00 | 10.94 | 150 | 81 | Vertical |
| 3 | 2412.4706 | 7.20 | 41.21 | 54.00 | 12.79 | 150 | 220 | Vertical |
| 4 | 4823.3412 | -9.99 | 40.19 | 54.00 | 13.81 | 150 | 284 | Vertical |
| 5 | 7236.9618 | -2.36 | 38.43 | 54.00 | 15.57 | 150 | 36 | Vertical |
| 6 | 17808.7404 | 14.51 | 47.66 | 54.00 | 6.34 | 150 | 260 | Vertical |

Test Report

| Project Information | | | |
|---------------------|----------------------------|--------------|------------|
| EUT: | Clevershare Hub Clever Hub | Environment: | 24.2°C 54% |
| Model: | CleverHub | SN: | |
| Mode: | 11B_2437 | Voltage: | 120V 60Hz |
| Customer: | | Engineer: | Roger |
| Remark: | | | |

Start of Test: 2023-06-29 10:05:59

Test Graph



| PK Final Data List | | | | | | | | |
|--------------------|-------------|-------------|-------------------|-------------------|----------------|-------------|-----------|------------|
| NO. | Freq. (MHz) | Factor (dB) | PK Value (dBµV/m) | PK Limit (dBµV/m) | PK Margin (dB) | Height (cm) | Angle (°) | Polarity |
| 1 | 2279.7640 | 6.33 | 47.71 | 74.00 | 26.29 | 150 | 353 | Horizontal |
| 2 | 4873.5937 | -9.54 | 40.43 | 74.00 | 33.57 | 150 | 57 | Horizontal |
| 3 | 9022.0511 | 2.46 | 43.71 | 74.00 | 30.29 | 150 | 240 | Horizontal |
| 4 | 11351.6676 | 5.16 | 45.46 | 74.00 | 28.54 | 150 | 46 | Horizontal |
| 5 | 13654.2827 | 11.14 | 49.99 | 74.00 | 24.01 | 150 | 163 | Horizontal |
| 6 | 16740.6870 | 10.90 | 48.30 | 74.00 | 25.70 | 150 | 163 | Horizontal |

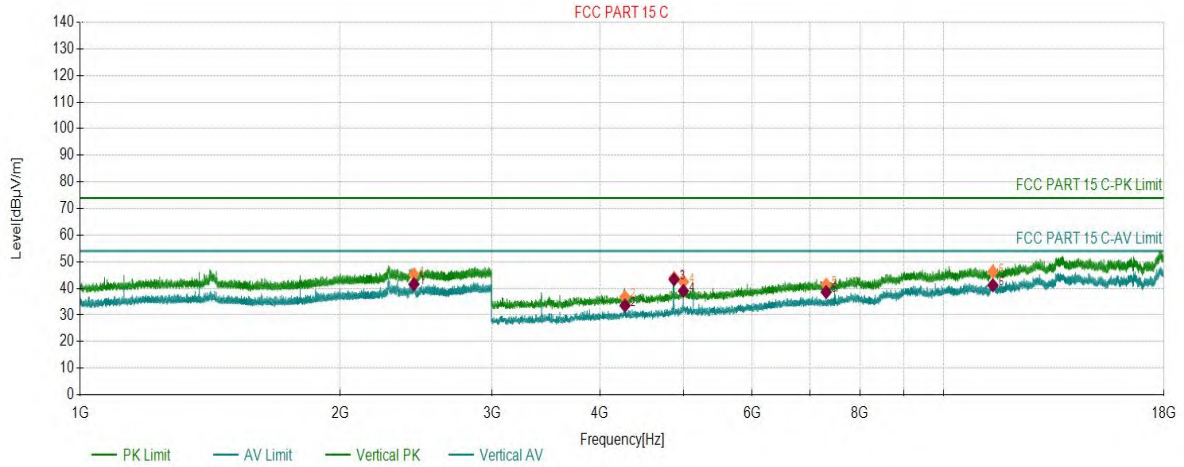
| AV Final Data List | | | | | | | | |
|--------------------|-------------|-------------|-------------------|-------------------|----------------|-------------|-----------|------------|
| NO. | Freq. (MHz) | Factor (dB) | AV Value (dBµV/m) | AV Limit (dBµV/m) | AV Margin (dB) | Height (cm) | Angle (°) | Polarity |
| 1 | 2279.7640 | 6.33 | 45.20 | 54.00 | 8.80 | 150 | 353 | Horizontal |
| 2 | 4873.5937 | -9.54 | 39.28 | 54.00 | 14.72 | 150 | 57 | Horizontal |
| 3 | 9022.0511 | 2.46 | 39.27 | 54.00 | 14.73 | 150 | 240 | Horizontal |
| 4 | 11351.6676 | 5.16 | 42.20 | 54.00 | 11.80 | 150 | 46 | Horizontal |
| 5 | 13654.2827 | 11.14 | 45.74 | 54.00 | 8.26 | 150 | 163 | Horizontal |
| 6 | 16740.6870 | 10.90 | 44.39 | 54.00 | 9.61 | 150 | 163 | Horizontal |

Test Report

| Project Information | | | |
|---------------------|----------------------------|--------------|------------|
| EUT: | Clevershare Hub Clever Hub | Environment: | 24.2°C 54% |
| Model: | CleverHub | SN: | |
| Mode: | 11B_2437 | Voltage: | 120V 60Hz |
| Customer: | | Engineer: | Roger |
| Remark: | | | |

Start of Test: 2023-06-29 10:07:38

Test Graph



| PK Final Data List | | | | | | | | |
|--------------------|-------------|-------------|-------------------|-------------------|----------------|-------------|-----------|----------|
| NO. | Freq. (MHz) | Factor (dB) | PK Value (dBµV/m) | PK Limit (dBµV/m) | PK Margin (dB) | Height (cm) | Angle (°) | Polarity |
| 1 | 2435.4718 | 7.35 | 45.16 | 74.00 | 28.84 | 150 | 120 | Vertical |
| 2 | 4275.8138 | -12.18 | 36.74 | 74.00 | 37.26 | 150 | 346 | Vertical |
| 3 | 4873.5937 | -9.59 | 43.93 | 74.00 | 30.07 | 150 | 317 | Vertical |
| 4 | 4996.5998 | -8.53 | 42.48 | 74.00 | 31.52 | 150 | 257 | Vertical |
| 5 | 7311.9656 | -1.89 | 41.37 | 74.00 | 32.63 | 150 | 3 | Vertical |
| 6 | 11404.9202 | 5.98 | 46.26 | 74.00 | 27.74 | 150 | 14 | Vertical |

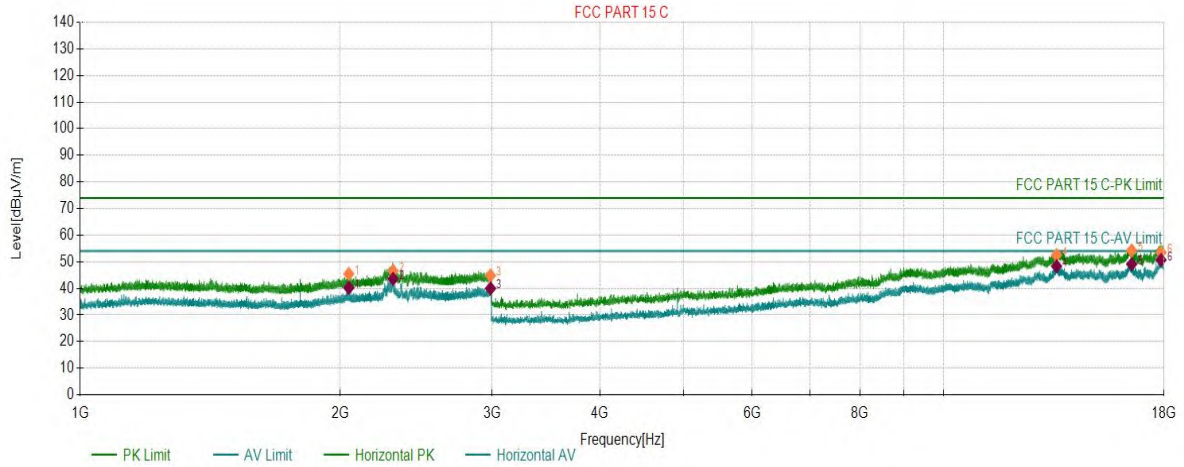
| AV Final Data List | | | | | | | | |
|--------------------|-------------|-------------|-------------------|-------------------|----------------|-------------|-----------|----------|
| NO. | Freq. (MHz) | Factor (dB) | AV Value (dBµV/m) | AV Limit (dBµV/m) | AV Margin (dB) | Height (cm) | Angle (°) | Polarity |
| 1 | 2435.4718 | 7.35 | 41.59 | 54.00 | 12.41 | 150 | 120 | Vertical |
| 2 | 4275.8138 | -12.18 | 33.57 | 54.00 | 20.43 | 150 | 346 | Vertical |
| 3 | 4873.5937 | -9.59 | 43.37 | 54.00 | 10.63 | 150 | 317 | Vertical |
| 4 | 4996.5998 | -8.53 | 39.04 | 54.00 | 14.96 | 150 | 257 | Vertical |
| 5 | 7311.9656 | -1.89 | 38.64 | 54.00 | 15.36 | 150 | 3 | Vertical |
| 6 | 11404.9202 | 5.98 | 41.19 | 54.00 | 12.81 | 150 | 14 | Vertical |

Test Report

| Project Information | | | |
|---------------------|----------------------------|--------------|------------|
| EUT: | Clevershare Hub Clever Hub | Environment: | 24.2°C 54% |
| Model: | CleverHub | SN: | |
| Mode: | 11B_2462 | Voltage: | 120V 60Hz |
| Customer: | | Engineer: | Roger |
| Remark: | | | |

Start of Test: 2023-06-29 10:33:10

Test Graph



| PK Final Data List | | | | | | | | |
|--------------------|-------------|-------------|-------------------|-------------------|----------------|-------------|-----------|------------|
| NO. | Freq. (MHz) | Factor (dB) | PK Value (dBµV/m) | PK Limit (dBµV/m) | PK Margin (dB) | Height (cm) | Angle (°) | Polarity |
| 1 | 2046.9523 | 5.32 | 45.43 | 74.00 | 28.57 | 150 | 358 | Horizontal |
| 2 | 2303.7652 | 6.41 | 46.54 | 74.00 | 27.46 | 150 | 309 | Horizontal |
| 3 | 2986.8993 | 9.19 | 44.83 | 74.00 | 29.17 | 150 | 358 | Horizontal |
| 4 | 13514.7757 | 10.72 | 52.56 | 74.00 | 21.44 | 150 | 164 | Horizontal |
| 5 | 16511.9256 | 11.79 | 54.26 | 74.00 | 19.74 | 150 | 346 | Horizontal |
| 6 | 17855.9928 | 14.92 | 53.49 | 74.00 | 20.51 | 150 | 195 | Horizontal |

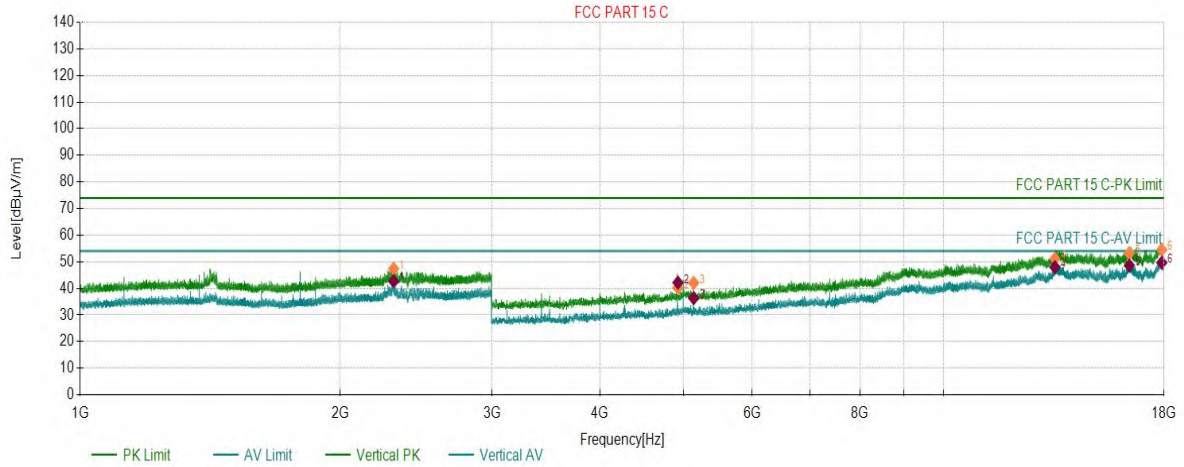
| AV Final Data List | | | | | | | | |
|--------------------|-------------|-------------|-------------------|-------------------|----------------|-------------|-----------|------------|
| NO. | Freq. (MHz) | Factor (dB) | AV Value (dBµV/m) | AV Limit (dBµV/m) | AV Margin (dB) | Height (cm) | Angle (°) | Polarity |
| 1 | 2046.9523 | 5.32 | 40.23 | 54.00 | 13.77 | 150 | 358 | Horizontal |
| 2 | 2303.7652 | 6.41 | 43.57 | 54.00 | 10.43 | 150 | 309 | Horizontal |
| 3 | 2986.8993 | 9.19 | 40.00 | 54.00 | 14.00 | 150 | 358 | Horizontal |
| 4 | 13514.7757 | 10.72 | 48.33 | 54.00 | 5.67 | 150 | 164 | Horizontal |
| 5 | 16511.9256 | 11.79 | 49.14 | 54.00 | 4.86 | 150 | 346 | Horizontal |
| 6 | 17855.9928 | 14.92 | 50.67 | 54.00 | 3.33 | 150 | 195 | Horizontal |

Test Report

| Project Information | | | |
|---------------------|----------------------------|--------------|------------|
| EUT: | Clevershare Hub Clever Hub | Environment: | 24.2°C 54% |
| Model: | CleverHub | SN: | |
| Mode: | 11B_2462 | Voltage: | 120V 60Hz |
| Customer: | | Engineer: | Roger |
| Remark: | | | |

Start of Test: 2023-06-29 10:34:49

Test Graph



| PK Final Data List | | | | | | | | |
|--------------------|-------------|-------------|-------------------|-------------------|----------------|-------------|-----------|----------|
| NO. | Freq. (MHz) | Factor (dB) | PK Value (dBµV/m) | PK Limit (dBµV/m) | PK Margin (dB) | Height (cm) | Angle (°) | Polarity |
| 1 | 2306.9653 | 6.23 | 47.41 | 74.00 | 26.59 | 150 | 86 | Vertical |
| 2 | 4923.8462 | -9.17 | 40.17 | 74.00 | 33.83 | 150 | 56 | Vertical |
| 3 | 5135.3568 | -8.50 | 42.09 | 74.00 | 31.91 | 150 | 7 | Vertical |
| 4 | 13454.7727 | 10.51 | 51.16 | 74.00 | 22.84 | 150 | 347 | Vertical |
| 5 | 16407.6704 | 12.03 | 53.22 | 74.00 | 20.78 | 150 | 155 | Vertical |
| 6 | 17892.7446 | 14.93 | 54.50 | 74.00 | 19.50 | 150 | 319 | Vertical |

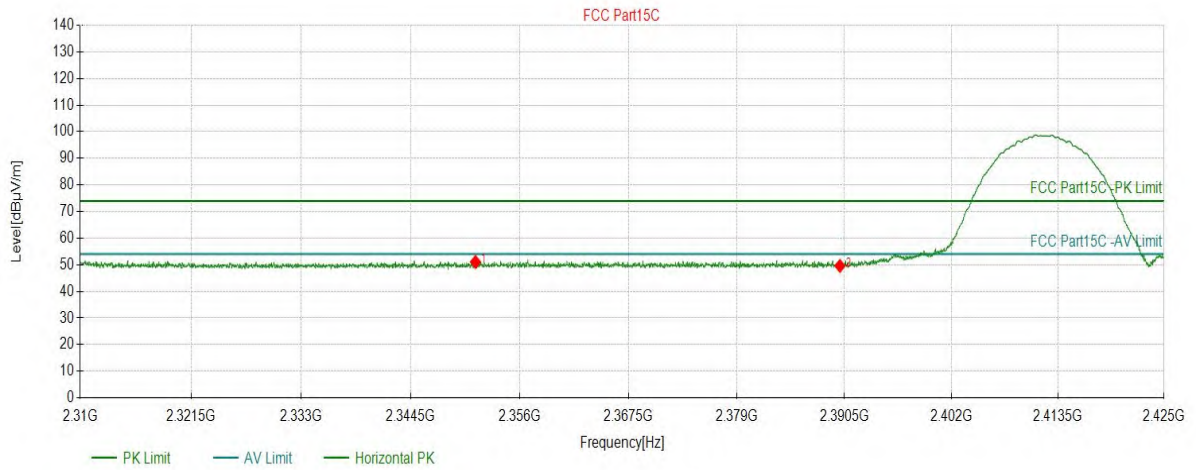
| AV Final Data List | | | | | | | | |
|--------------------|-------------|-------------|-------------------|-------------------|----------------|-------------|-----------|----------|
| NO. | Freq. (MHz) | Factor (dB) | AV Value (dBµV/m) | AV Limit (dBµV/m) | AV Margin (dB) | Height (cm) | Angle (°) | Polarity |
| 1 | 2306.9653 | 6.23 | 42.71 | 54.00 | 11.29 | 150 | 86 | Vertical |
| 2 | 4923.8462 | -9.17 | 42.17 | 54.00 | 11.83 | 150 | 56 | Vertical |
| 3 | 5135.3568 | -8.50 | 36.36 | 54.00 | 17.64 | 150 | 7 | Vertical |
| 4 | 13454.7727 | 10.51 | 47.99 | 54.00 | 6.01 | 150 | 347 | Vertical |
| 5 | 16407.6704 | 12.03 | 48.63 | 54.00 | 5.37 | 150 | 155 | Vertical |
| 6 | 17892.7446 | 14.93 | 49.70 | 54.00 | 4.30 | 150 | 319 | Vertical |

Test Report

| Project Information | | | |
|---------------------|----------------------------|--------------|------------|
| EUT: | Clevershare Hub Clever Hub | Environment: | 24.2°C 54% |
| Model: | CleverHub | SN: | |
| Mode: | 11B_2412 | Voltage: | 120V 60Hz |
| Customer: | | Engineer: | Roger |
| Remark: | | | |

Start of Test: 2023-06-29 09:59:55

Test Graph



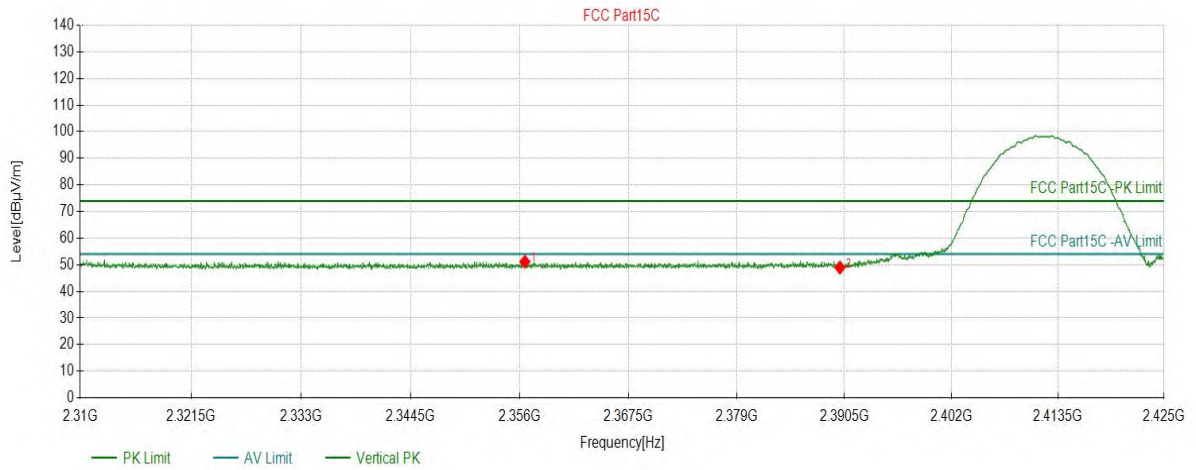
| Suspected Data List | | | | | | | | | |
|---------------------|-------------|----------------|-------------|----------------|-------------|-------------|-----------|----------|----------|
| NO. | Freq. (MHz) | Level (dBµV/m) | Factor (dB) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Angle (°) | Detector | Polarity |
| 1 | 2351.2988 | 51.06 | 5.96 | 74.00 | 22.94 | 150 | 357 | PK | Horizont |
| 2 | 2390.0283 | 49.57 | 5.94 | 74.00 | 24.43 | 150 | 319 | PK | Horizont |

Test Report

| Project Information | | | |
|---------------------|----------------------------|--------------|------------|
| EUT: | Clevershare Hub Clever Hub | Environment: | 24.2°C 54% |
| Model: | CleverHub | SN: | |
| Mode: | 11B_2412 | Voltage: | 120V 60Hz |
| Customer: | | Engineer: | Roger |
| Remark: | | | |

Start of Test: 2023-06-29 10:00:48

Test Graph



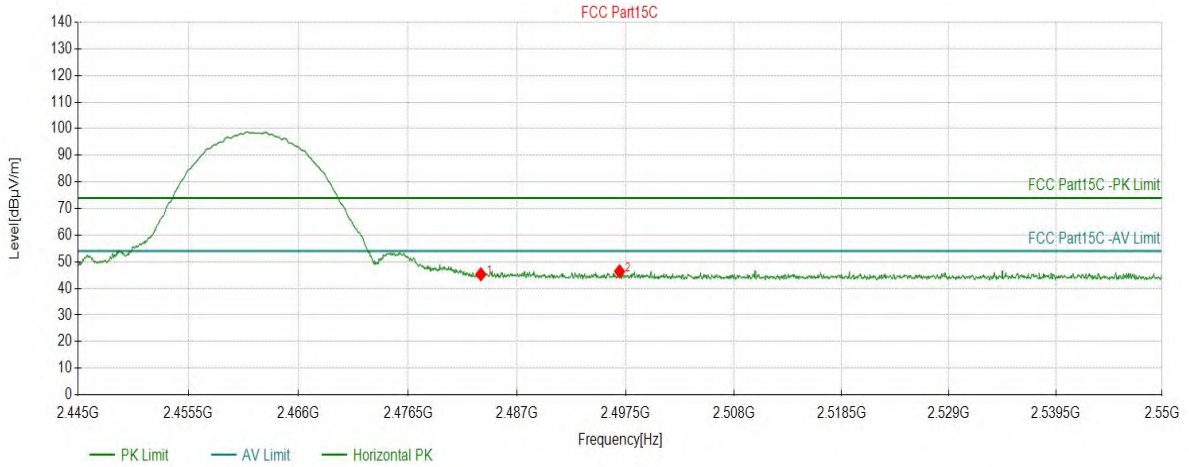
| Suspected Data List | | | | | | | | | |
|---------------------|-------------|----------------|-------------|----------------|-------------|-------------|-----------|----------|----------|
| NO. | Freq. (MHz) | Level (dBµV/m) | Factor (dB) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Angle (°) | Detector | Polarity |
| 1 | 2356.5138 | 51.15 | 5.71 | 74.00 | 22.85 | 150 | 234 | PK | Vertical |
| 2 | 2390.0283 | 48.96 | 5.65 | 74.00 | 25.04 | 150 | 272 | PK | Vertical |

Test Report

| Project Information | | | |
|---------------------|----------------------------|--------------|------------|
| EUT: | Clevershare Hub Clever Hub | Environment: | 24.2°C 54% |
| Model: | CleverHub | SN: | |
| Mode: | 11B_2462 | Voltage: | 120V 60Hz |
| Customer: | | Engineer: | Roger |
| Remark: | | | |

Start of Test: 2023-06-29 10:31:25

Test Graph



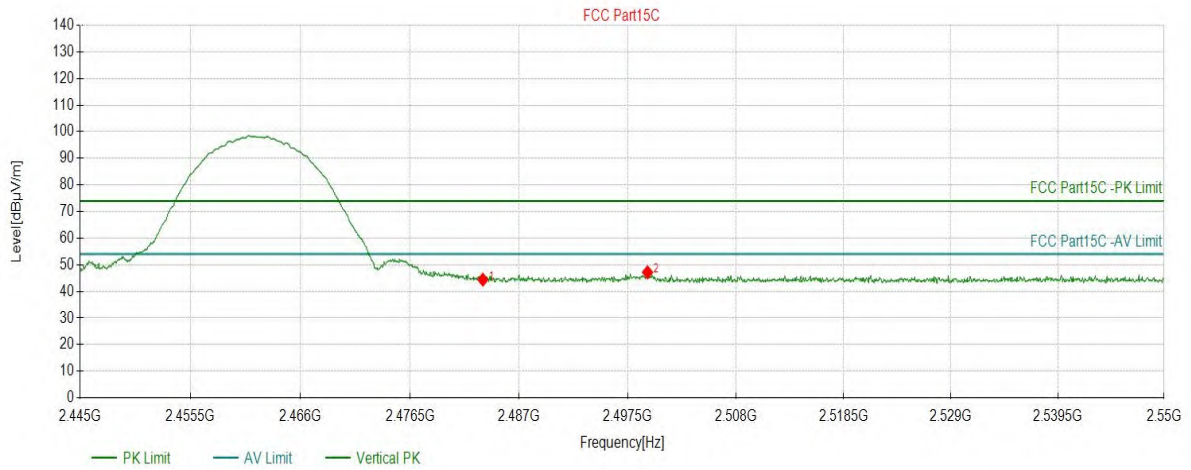
| Suspected Data List | | | | | | | | | |
|---------------------|-------------|----------------|-------------|----------------|-------------|-------------|-----------|----------|----------|
| NO. | Freq. (MHz) | Level (dBµV/m) | Factor (dB) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Angle (°) | Detector | Polarity |
| 1 | 2483.5018 | 45.28 | 6.37 | 74.00 | 28.72 | 150 | 78 | PK | Horizont |
| 2 | 2496.8959 | 46.40 | 6.44 | 74.00 | 27.60 | 150 | 282 | PK | Horizont |

Test Report

| Project Information | | | |
|---------------------|----------------------------|--------------|------------|
| EUT: | Clevershare Hub Clever Hub | Environment: | 24.2°C 54% |
| Model: | CleverHub | SN: | |
| Mode: | 11B_2462 | Voltage: | 120V 60Hz |
| Customer: | | Engineer: | Roger |
| Remark: | | | |

Start of Test: 2023-06-29 10:32:09

Test Graph



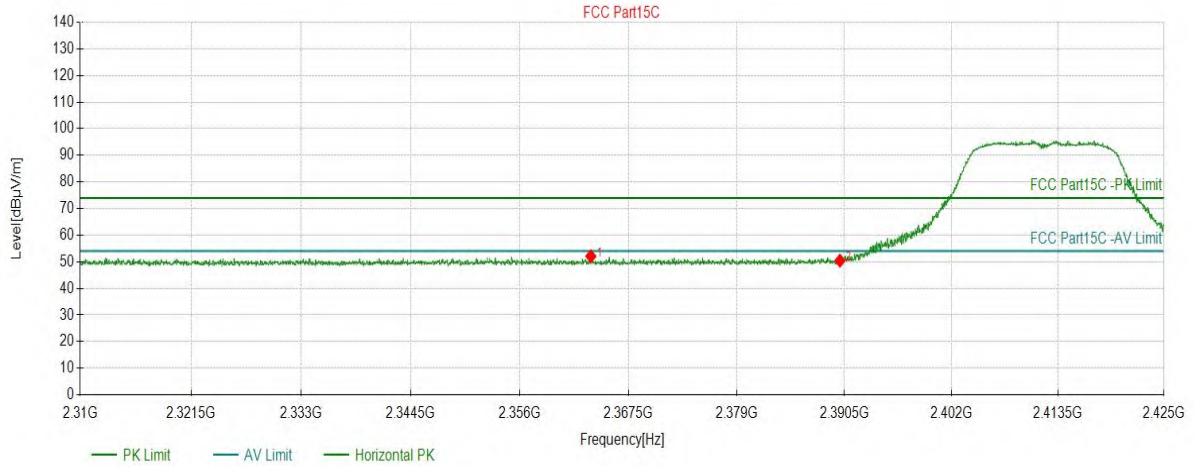
| Suspected Data List | | | | | | | | | |
|---------------------|-------------|----------------|-------------|----------------|-------------|-------------|-----------|----------|----------|
| NO. | Freq. (MHz) | Level (dBµV/m) | Factor (dB) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Angle (°) | Detector | Polarity |
| 1 | 2483.5018 | 44.43 | 6.28 | 74.00 | 29.57 | 150 | 69 | PK | Vertical |
| 2 | 2499.4172 | 47.17 | 6.41 | 74.00 | 26.83 | 150 | 146 | PK | Vertical |

Test Report

| Project Information | | | |
|---------------------|----------------------------|--------------|------------|
| EUT: | Clevershare Hub Clever Hub | Environment: | 24.2°C 54% |
| Model: | CleverHub | SN: | |
| Mode: | 11G_2412 | Voltage: | 120V 60Hz |
| Customer: | | Engineer: | Roger |
| Remark: | | | |

Start of Test: 2023-06-29 10:38:24

Test Graph



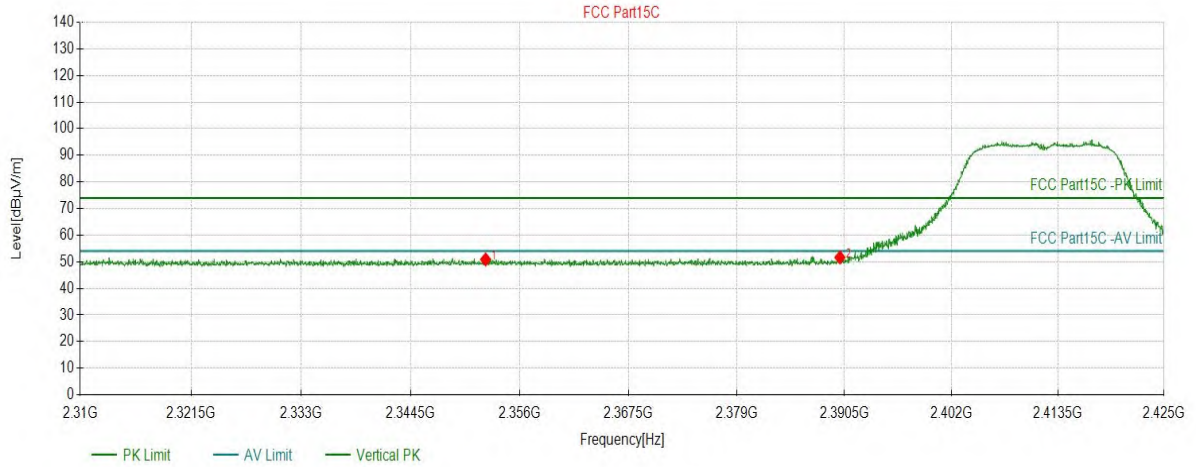
| Suspected Data List | | | | | | | | | |
|---------------------|-------------|----------------|-------------|----------------|-------------|-------------|-----------|----------|----------|
| NO. | Freq. (MHz) | Level (dBµV/m) | Factor (dB) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Angle (°) | Detector | Polarity |
| 1 | 2363.4928 | 52.08 | 5.96 | 74.00 | 21.92 | 150 | 67 | PK | Horizont |
| 2 | 2390.0283 | 50.42 | 5.94 | 74.00 | 23.58 | 150 | 331 | PK | Horizont |

Test Report

| Project Information | | | |
|---------------------|----------------------------|--------------|------------|
| EUT: | Clevershare Hub Clever Hub | Environment: | 24.2°C 54% |
| Model: | CleverHub | SN: | |
| Mode: | 11G_2412 | Voltage: | 120V 60Hz |
| Customer: | | Engineer: | Roger |
| Remark: | | | |

Start of Test: 2023-06-29 10:39:17

Test Graph



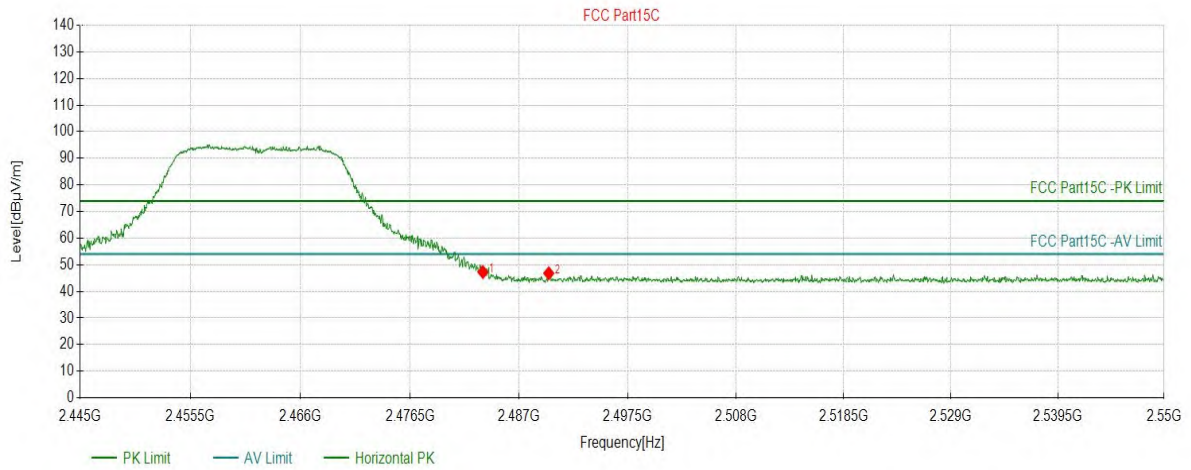
| Suspected Data List | | | | | | | | | |
|---------------------|-------------|----------------|-------------|----------------|-------------|-------------|-----------|----------|----------|
| NO. | Freq. (MHz) | Level (dBµV/m) | Factor (dB) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Angle (°) | Detector | Polarity |
| 1 | 2352.3725 | 50.90 | 5.71 | 74.00 | 23.10 | 150 | 307 | PK | Vertical |
| 2 | 2390.0283 | 51.65 | 5.65 | 74.00 | 22.35 | 150 | 350 | PK | Vertical |

Test Report

| Project Information | | | |
|---------------------|----------------------------|--------------|------------|
| EUT: | Clevershare Hub Clever Hub | Environment: | 24.2°C 54% |
| Model: | CleverHub | SN: | |
| Mode: | 11G_2462 | Voltage: | 120V 60Hz |
| Customer: | | Engineer: | Roger |
| Remark: | | | |

Start of Test: 2023-06-29 10:41:33

Test Graph



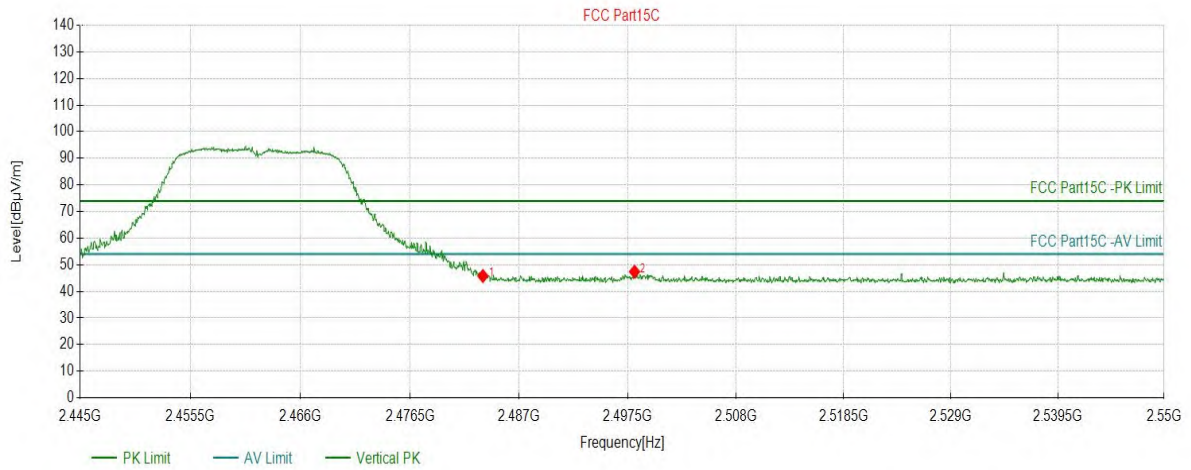
| Suspected Data List | | | | | | | | | |
|---------------------|-------------|----------------|-------------|----------------|-------------|-------------|-----------|----------|----------|
| NO. | Freq. (MHz) | Level (dBµV/m) | Factor (dB) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Angle (°) | Detector | Polarity |
| 1 | 2483.5018 | 47.26 | 6.37 | 74.00 | 26.74 | 150 | 3 | PK | Horizont |
| 2 | 2489.8574 | 46.80 | 6.41 | 74.00 | 27.20 | 150 | 47 | PK | Horizont |

Test Report

| Project Information | | | |
|---------------------|----------------------------|--------------|------------|
| EUT: | Clevershare Hub Clever Hub | Environment: | 24.2°C 54% |
| Model: | CleverHub | SN: | |
| Mode: | 11G_2462 | Voltage: | 120V 60Hz |
| Customer: | | Engineer: | Roger |
| Remark: | | | |

Start of Test: 2023-06-29 10:42:17

Test Graph



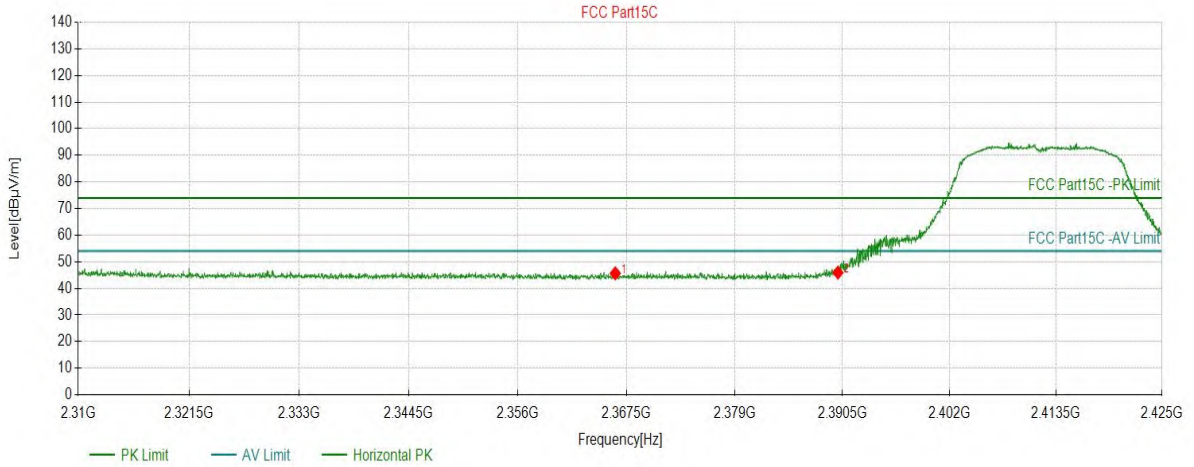
| Suspected Data List | | | | | | | | | |
|---------------------|-------------|----------------|-------------|----------------|-------------|-------------|-----------|----------|----------|
| NO. | Freq. (MHz) | Level (dBµV/m) | Factor (dB) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Angle (°) | Detector | Polarity |
| 1 | 2483.5018 | 45.79 | 6.28 | 74.00 | 28.21 | 150 | 133 | PK | Vertical |
| 2 | 2498.1566 | 47.40 | 6.40 | 74.00 | 26.60 | 150 | 194 | PK | Vertical |

Test Report

| Project Information | | | |
|---------------------|----------------------------|--------------|------------|
| EUT: | Clevershare Hub Clever Hub | Environment: | 24.2°C 54% |
| Model: | CleverHub | SN: | |
| Mode: | 11N20_2412 | Voltage: | 120V 60Hz |
| Customer: | | Engineer: | Roger |
| Remark: | | | |

Start of Test: 2023-06-29 10:44:33

Test Graph



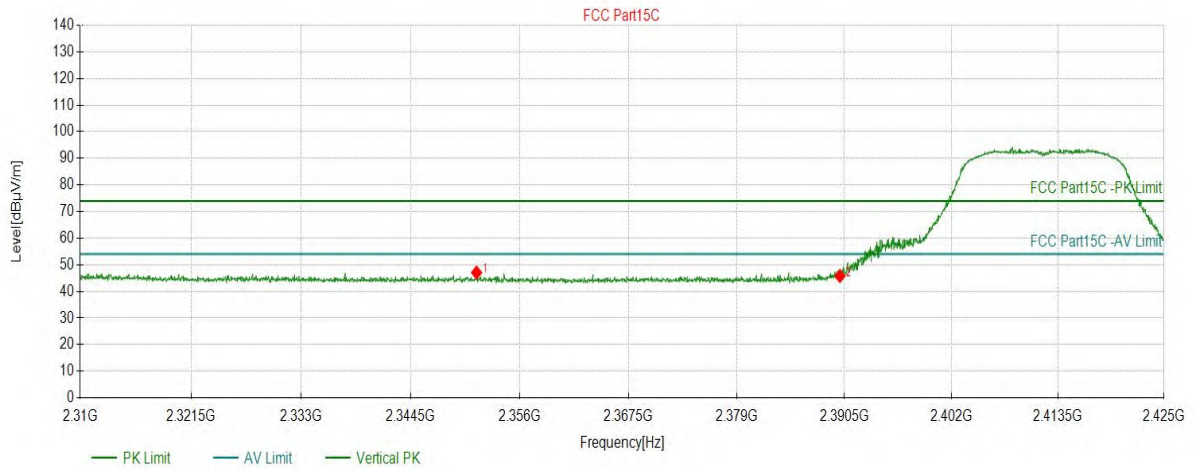
| Suspected Data List | | | | | | | | | |
|---------------------|-------------|----------------|-------------|----------------|-------------|-------------|-----------|----------|----------|
| NO. | Freq. (MHz) | Level (dBµV/m) | Factor (dB) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Angle (°) | Detector | Polarity |
| 1 | 2366.2921 | 45.65 | 5.96 | 74.00 | 28.35 | 150 | 240 | PK | Horizont |
| 2 | 2390.0283 | 45.94 | 5.94 | 74.00 | 28.06 | 150 | 350 | PK | Horizont |

Test Report

| Project Information | | | |
|---------------------|----------------------------|--------------|------------|
| EUT: | Clevershare Hub Clever Hub | Environment: | 24.2°C 54% |
| Model: | CleverHub | SN: | |
| Mode: | 11N20_2412 | Voltage: | 120V 60Hz |
| Customer: | | Engineer: | Roger |
| Remark: | | | |

Start of Test: 2023-06-29 10:45:26

Test Graph



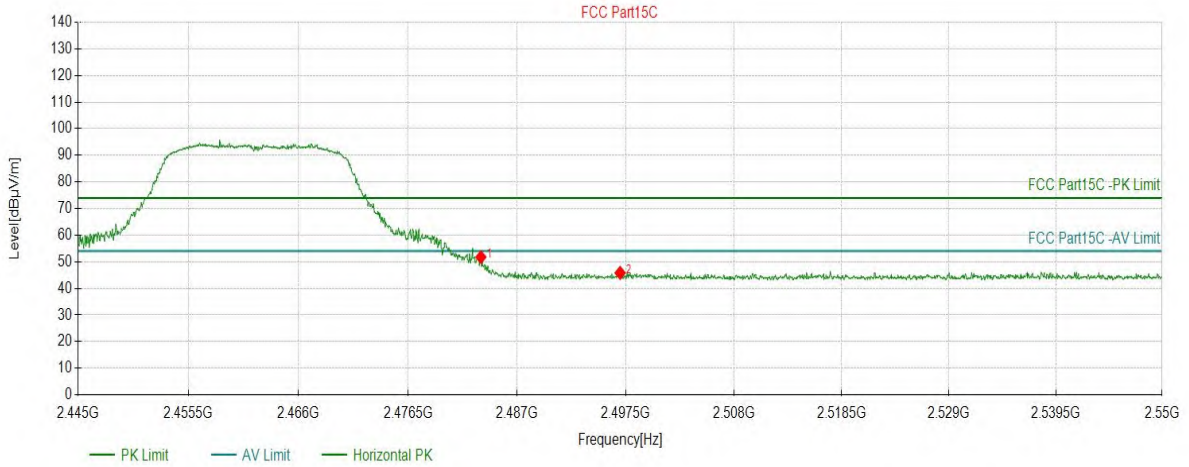
| Suspected Data List | | | | | | | | | |
|---------------------|-------------|----------------|-------------|----------------|-------------|-------------|-----------|----------|----------|
| NO. | Freq. (MHz) | Level (dBµV/m) | Factor (dB) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Angle (°) | Detector | Polarity |
| 1 | 2351.4138 | 47.08 | 5.71 | 74.00 | 26.92 | 150 | 250 | PK | Vertical |
| 2 | 2390.0283 | 45.79 | 5.65 | 74.00 | 28.21 | 150 | 350 | PK | Vertical |

Test Report

| Project Information | | | |
|---------------------|----------------------------|--------------|------------|
| EUT: | Clevershare Hub Clever Hub | Environment: | 24.2°C 54% |
| Model: | CleverHub | SN: | |
| Mode: | 11N20_2462 | Voltage: | 120V 60Hz |
| Customer: | | Engineer: | Roger |
| Remark: | | | |

Start of Test: 2023-06-29 10:47:52

Test Graph



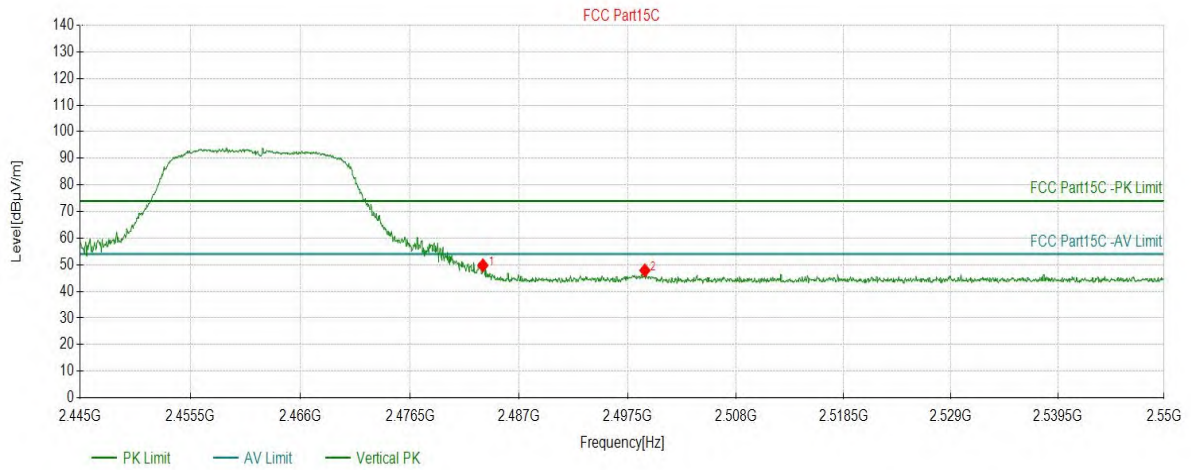
| Suspected Data List | | | | | | | | | |
|---------------------|-------------|----------------|-------------|----------------|-------------|-------------|-----------|----------|----------|
| NO. | Freq. (MHz) | Level (dBµV/m) | Factor (dB) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Angle (°) | Detector | Polarity |
| 1 | 2483.5018 | 51.78 | 6.37 | 74.00 | 22.22 | 150 | 13 | PK | Horizont |
| 2 | 2496.9485 | 45.82 | 6.44 | 74.00 | 28.18 | 150 | 2 | PK | Horizont |

Test Report

| Project Information | | | |
|---------------------|----------------------------|--------------|------------|
| EUT: | Clevershare Hub Clever Hub | Environment: | 24.2°C 54% |
| Model: | CleverHub | SN: | |
| Mode: | 11N20_2462 | Voltage: | 120V 60Hz |
| Customer: | | Engineer: | Roger |
| Remark: | | | |

Start of Test: 2023-06-29 10:48:36

Test Graph



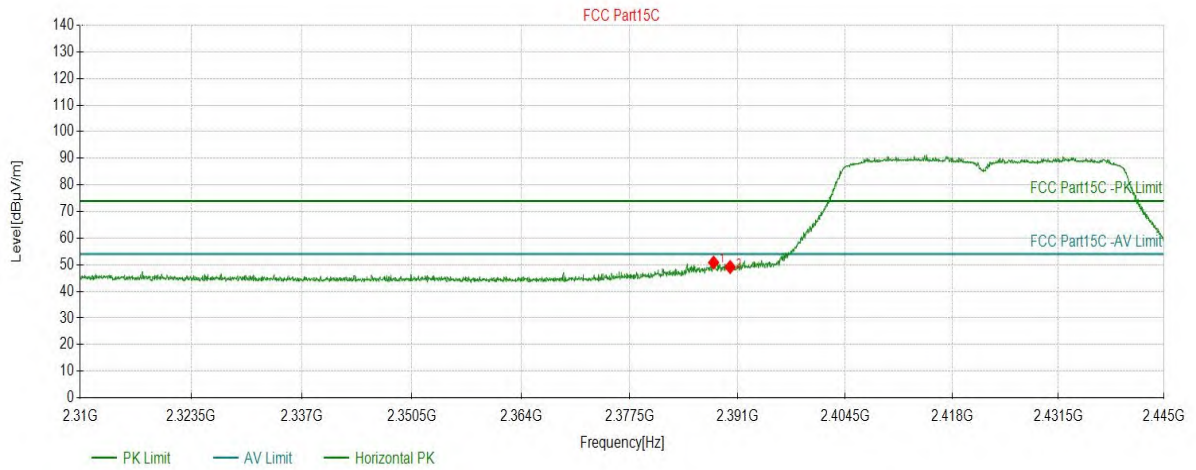
| Suspected Data List | | | | | | | | | |
|---------------------|-------------|----------------|-------------|----------------|-------------|-------------|-----------|----------|----------|
| NO. | Freq. (MHz) | Level (dBµV/m) | Factor (dB) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Angle (°) | Detector | Polarity |
| 1 | 2483.5018 | 49.77 | 6.28 | 74.00 | 24.23 | 150 | 230 | PK | Vertical |
| 2 | 2499.1546 | 47.90 | 6.40 | 74.00 | 26.10 | 150 | 138 | PK | Vertical |

Test Report

| Project Information | | | |
|---------------------|----------------------------|--------------|------------|
| EUT: | Clevershare Hub Clever Hub | Environment: | 24.2°C 54% |
| Model: | CleverHub | SN: | |
| Mode: | 11N40_2422 | Voltage: | 120V 60Hz |
| Customer: | | Engineer: | Roger |
| Remark: | | | |

Start of Test: 2023-06-29 10:56:49

Test Graph



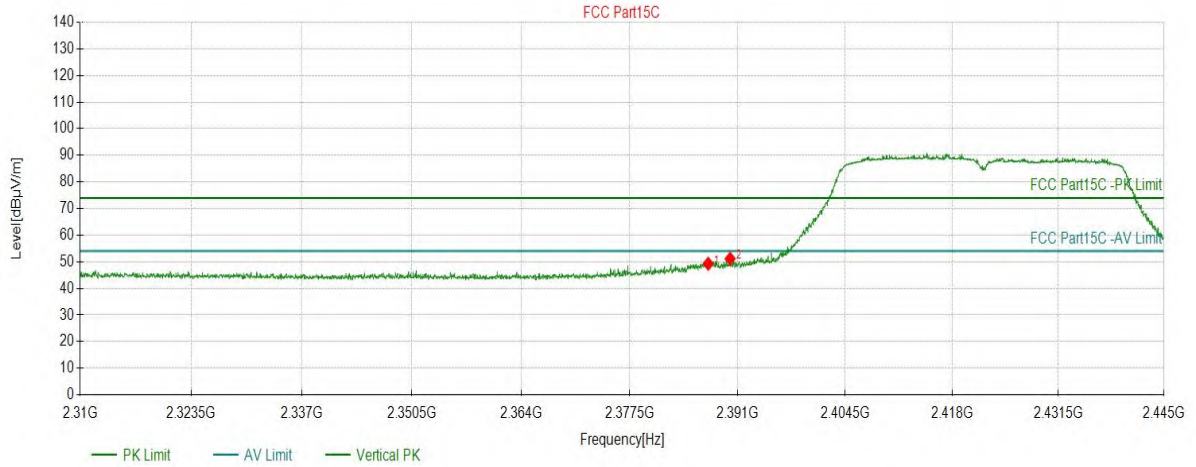
| Suspected Data List | | | | | | | | | |
|---------------------|-------------|----------------|-------------|----------------|-------------|-------------|-----------|----------|----------|
| NO. | Freq. (MHz) | Level (dBµV/m) | Factor (dB) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Angle (°) | Detector | Polarity |
| 1 | 2387.9660 | 50.85 | 5.95 | 74.00 | 23.15 | 150 | 14 | PK | Horizont |
| 2 | 2390.0367 | 49.17 | 5.94 | 74.00 | 24.83 | 150 | 14 | PK | Horizont |

Test Report

| Project Information | | | |
|---------------------|----------------------------|--------------|------------|
| EUT: | Clevershare Hub Clever Hub | Environment: | 24.2°C 54% |
| Model: | CleverHub | SN: | |
| Mode: | 11N40_2422 | Voltage: | 120V 60Hz |
| Customer: | | Engineer: | Roger |
| Remark: | | | |

Start of Test: 2023-06-29 10:57:42

Test Graph



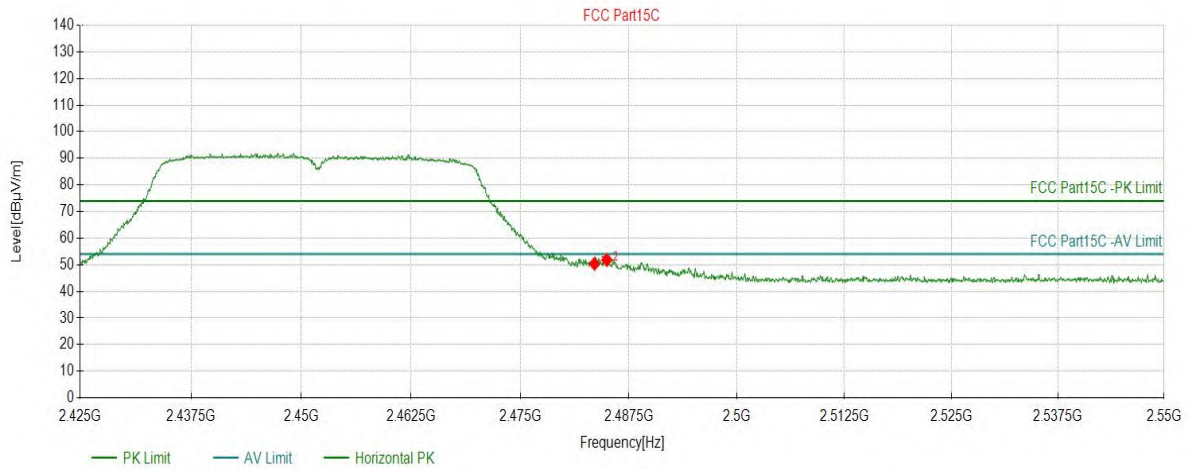
| Suspected Data List | | | | | | | | | |
|---------------------|-------------|----------------|-------------|----------------|-------------|-------------|-----------|----------|----------|
| NO. | Freq. (MHz) | Level (dBµV/m) | Factor (dB) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Angle (°) | Detector | Polarity |
| 1 | 2387.2908 | 49.27 | 5.66 | 74.00 | 24.73 | 150 | 219 | PK | Vertical |
| 2 | 2390.0367 | 51.14 | 5.65 | 74.00 | 22.86 | 150 | 235 | PK | Vertical |

Test Report

| Project Information | | | |
|---------------------|----------------------------|--------------|------------|
| EUT: | Clevershare Hub Clever Hub | Environment: | 24.2°C 54% |
| Model: | CleverHub | SN: | |
| Mode: | 11N40_2452 | Voltage: | 120V 60Hz |
| Customer: | | Engineer: | Roger |
| Remark: | | | |

Start of Test: 2023-06-29 11:00:55

Test Graph



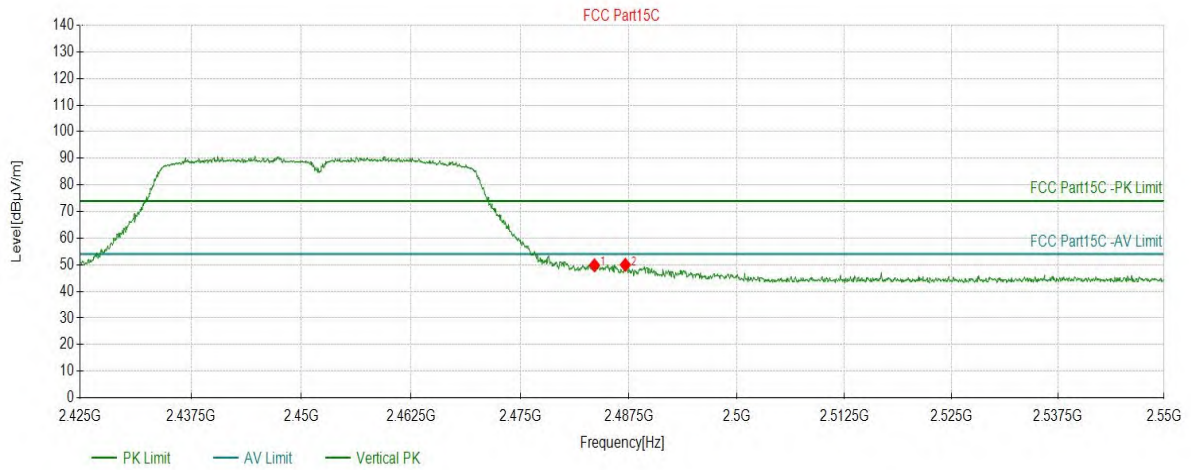
| Suspected Data List | | | | | | | | | |
|---------------------|-------------|----------------|-------------|----------------|-------------|-------------|-----------|----------|----------|
| NO. | Freq. (MHz) | Level (dBµV/m) | Factor (dB) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Angle (°) | Detector | Polarity |
| 1 | 2483.5293 | 50.36 | 6.37 | 74.00 | 23.64 | 150 | 344 | PK | Horizont |
| 2 | 2484.9675 | 51.79 | 6.38 | 74.00 | 22.21 | 150 | 9 | PK | Horizont |

Test Report

| Project Information | | | |
|---------------------|----------------------------|--------------|------------|
| EUT: | Clevershare Hub Clever Hub | Environment: | 24.2°C 54% |
| Model: | CleverHub | SN: | |
| Mode: | 11N40_2452 | Voltage: | 120V 60Hz |
| Customer: | | Engineer: | Roger |
| Remark: | | | |

Start of Test: 2023-06-29 11:01:32

Test Graph



Suspected Data List

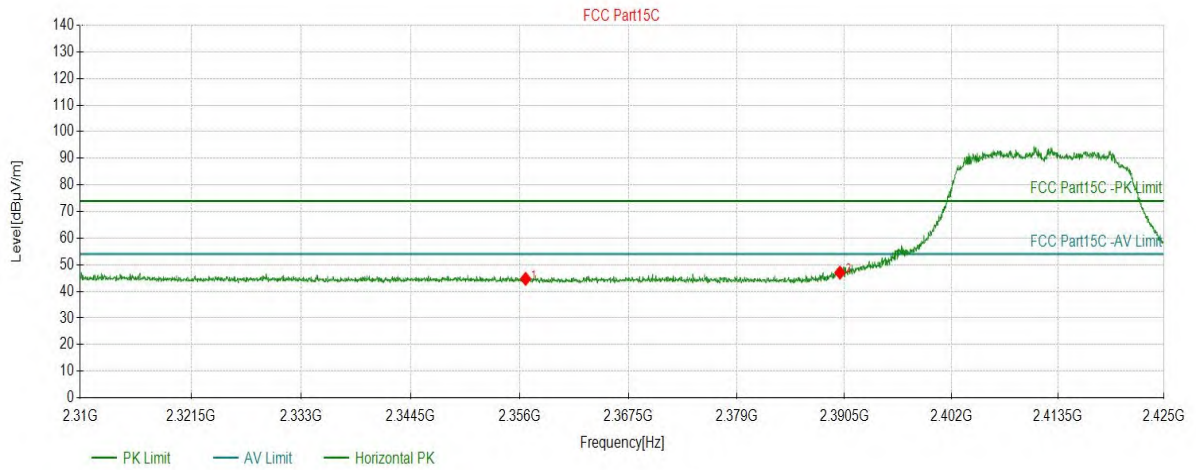
| NO. | Freq. (MHz) | Level (dBµV/m) | Factor (dB) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Angle (°) | Detector | Polarity |
|-----|-------------|----------------|-------------|----------------|-------------|-------------|-----------|----------|----------|
| 1 | 2483.5293 | 49.83 | 6.28 | 74.00 | 24.17 | 150 | 124 | PK | Vertical |
| 2 | 2487.0935 | 49.98 | 6.31 | 74.00 | 24.02 | 150 | 128 | PK | Vertical |

Test Report

| Project Information | | | |
|---------------------|----------------------------|--------------|------------|
| EUT: | Clevershare Hub Clever Hub | Environment: | 24.2°C 54% |
| Model: | CleverHub | SN: | |
| Mode: | 11AX20_2412 | Voltage: | 120V 60Hz |
| Customer: | | Engineer: | Roger |
| Remark: | | | |

Start of Test: 2023-06-29 11:04:22

Test Graph



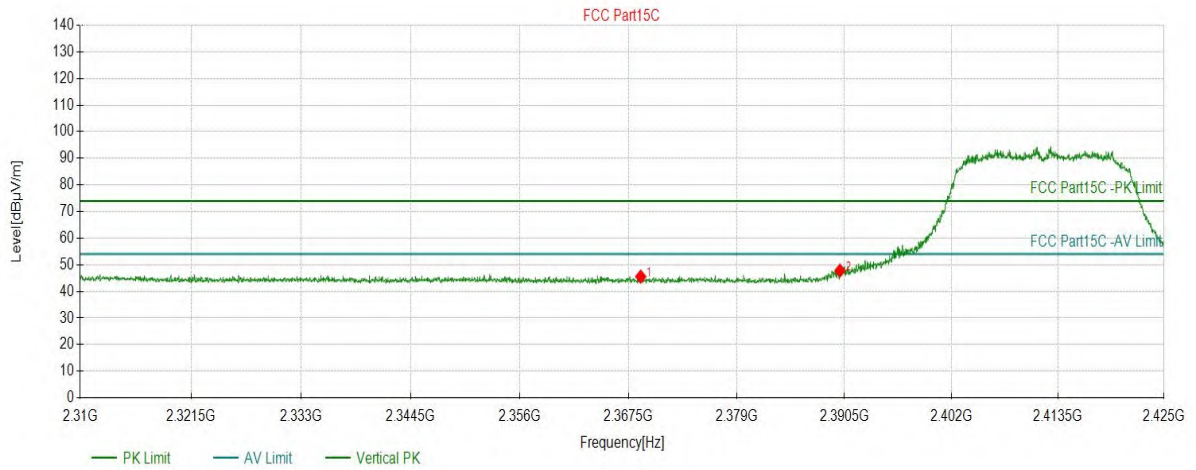
| Suspected Data List | | | | | | | | | |
|---------------------|-------------|----------------|-------------|----------------|-------------|-------------|-----------|----------|----------|
| NO. | Freq. (MHz) | Level (dBµV/m) | Factor (dB) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Angle (°) | Detector | Polarity |
| 1 | 2356.5905 | 44.73 | 5.96 | 74.00 | 29.27 | 150 | 2 | PK | Horizont |
| 2 | 2390.0283 | 47.05 | 5.94 | 74.00 | 26.95 | 150 | 0 | PK | Horizont |

Test Report

| Project Information | | | |
|---------------------|----------------------------|--------------|------------|
| EUT: | Clevershare Hub Clever Hub | Environment: | 24.2°C 54% |
| Model: | CleverHub | SN: | |
| Mode: | 11AX20_2412 | Voltage: | 120V 60Hz |
| Customer: | | Engineer: | Roger |
| Remark: | | | |

Start of Test: 2023-06-29 11:05:15

Test Graph



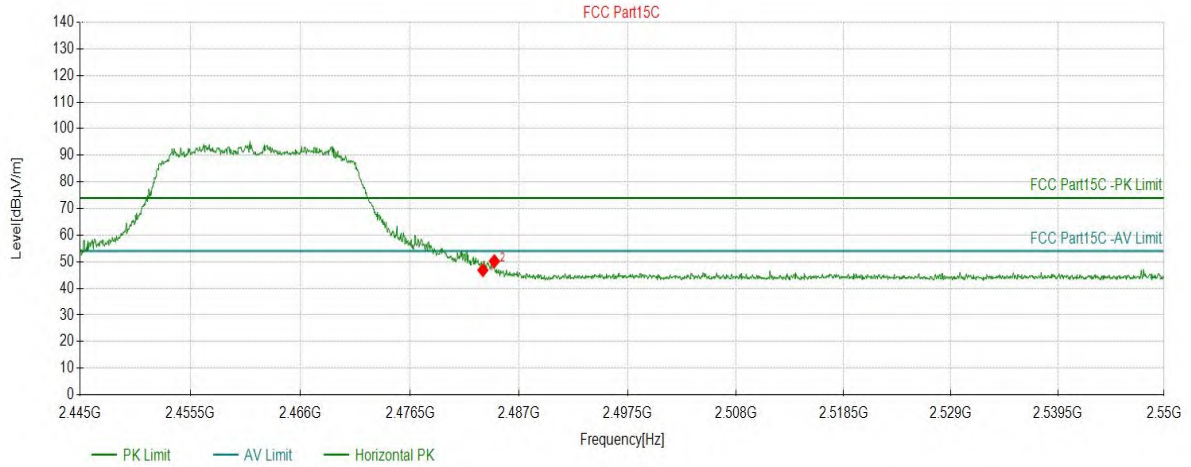
| Suspected Data List | | | | | | | | | |
|---------------------|-------------|----------------|-------------|----------------|-------------|-------------|-----------|----------|----------|
| NO. | Freq. (MHz) | Level (dBµV/m) | Factor (dB) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Angle (°) | Detector | Polarity |
| 1 | 2368.7846 | 45.56 | 5.69 | 74.00 | 28.44 | 150 | 314 | PK | Vertical |
| 2 | 2390.0283 | 47.81 | 5.65 | 74.00 | 26.19 | 150 | 351 | PK | Vertical |

Test Report

| Project Information | | | |
|---------------------|----------------------------|--------------|------------|
| EUT: | Clevershare Hub Clever Hub | Environment: | 24.2°C 54% |
| Model: | CleverHub | SN: | |
| Mode: | 11AX20_2462 | Voltage: | 120V 60Hz |
| Customer: | | Engineer: | Roger |
| Remark: | | | |

Start of Test: 2023-06-29 11:07:25

Test Graph



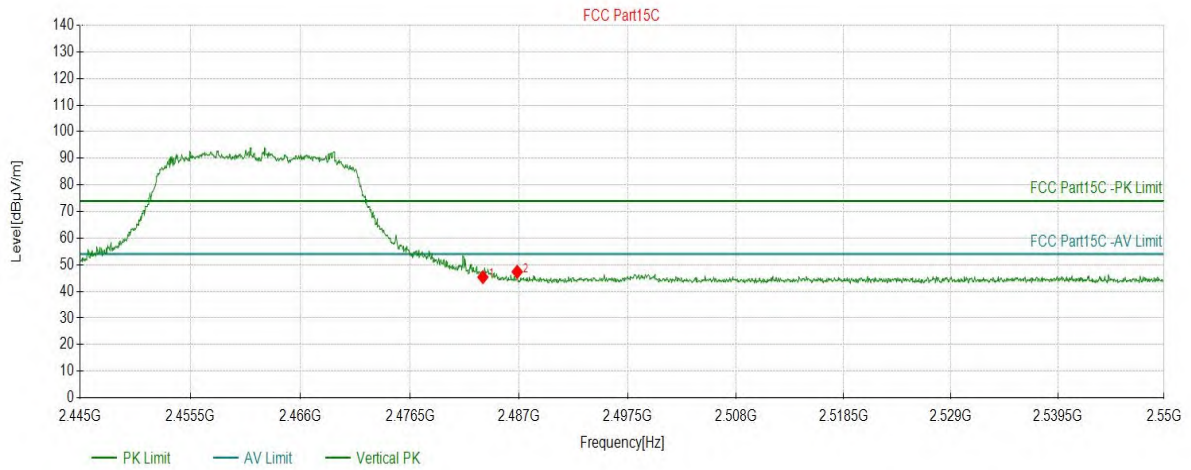
| Suspected Data List | | | | | | | | | |
|---------------------|-------------|----------------|-------------|----------------|-------------|-------------|-----------|----------|----------|
| NO. | Freq. (MHz) | Level (dBµV/m) | Factor (dB) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Angle (°) | Detector | Polarity |
| 1 | 2483.5018 | 46.84 | 6.37 | 74.00 | 27.16 | 150 | 8 | PK | Horizont |
| 2 | 2484.6048 | 50.22 | 6.38 | 74.00 | 23.78 | 150 | 10 | PK | Horizont |

Test Report

| Project Information | | | |
|---------------------|----------------------------|--------------|------------|
| EUT: | Clevershare Hub Clever Hub | Environment: | 24.2°C 54% |
| Model: | CleverHub | SN: | |
| Mode: | 11AX20_2462 | Voltage: | 120V 60Hz |
| Customer: | | Engineer: | Roger |
| Remark: | | | |

Start of Test: 2023-06-29 11:08:09

Test Graph



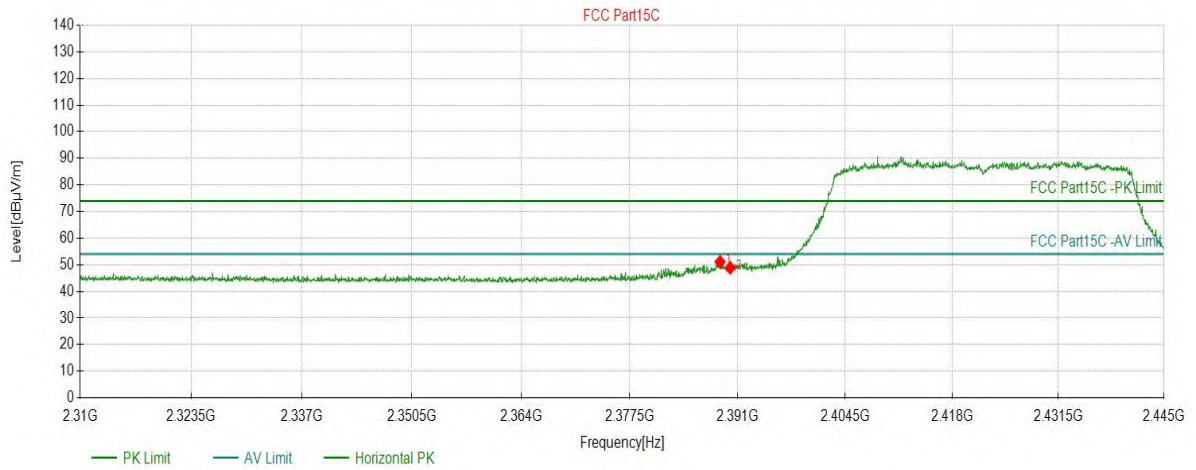
| Suspected Data List | | | | | | | | | |
|---------------------|-------------|----------------|-------------|----------------|-------------|-------------|-----------|----------|----------|
| NO. | Freq. (MHz) | Level (dBµV/m) | Factor (dB) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Angle (°) | Detector | Polarity |
| 1 | 2483.5018 | 45.36 | 6.28 | 74.00 | 28.64 | 150 | 128 | PK | Vertical |
| 2 | 2486.8109 | 47.36 | 6.31 | 74.00 | 26.64 | 150 | 242 | PK | Vertical |

Test Report

| Project Information | | | |
|---------------------|----------------------------|--------------|------------|
| EUT: | Clevershare Hub Clever Hub | Environment: | 24.2°C 54% |
| Model: | CleverHub | SN: | |
| Mode: | 11AX40_2422 | Voltage: | 120V 60Hz |
| Customer: | | Engineer: | Roger |
| Remark: | | | |

Start of Test: 2023-06-29 11:10:51

Test Graph



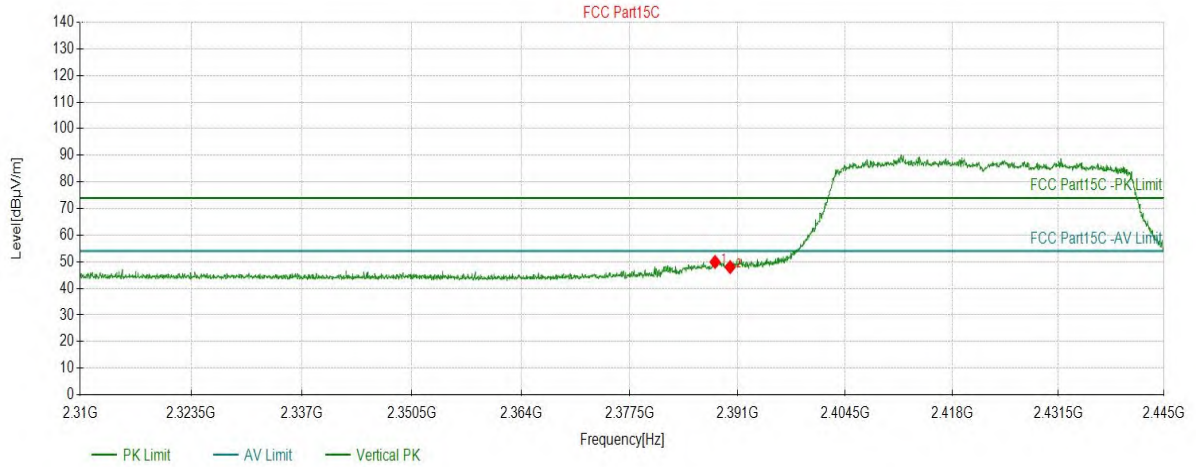
| Suspected Data List | | | | | | | | | |
|---------------------|-------------|----------------|-------------|----------------|-------------|-------------|-----------|----------|----------|
| NO. | Freq. (MHz) | Level (dBµV/m) | Factor (dB) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Angle (°) | Detector | Polarity |
| 1 | 2388.7763 | 51.13 | 5.95 | 74.00 | 22.87 | 150 | 14 | PK | Horizont |
| 2 | 2390.0367 | 48.86 | 5.94 | 74.00 | 25.14 | 150 | 14 | PK | Horizont |

Test Report

| Project Information | | | |
|---------------------|----------------------------|--------------|------------|
| EUT: | Clevershare Hub Clever Hub | Environment: | 24.2°C 54% |
| Model: | CleverHub | SN: | |
| Mode: | 11AX40_2422 | Voltage: | 120V 60Hz |
| Customer: | | Engineer: | Roger |
| Remark: | | | |

Start of Test: 2023-06-29 11:11:43

Test Graph



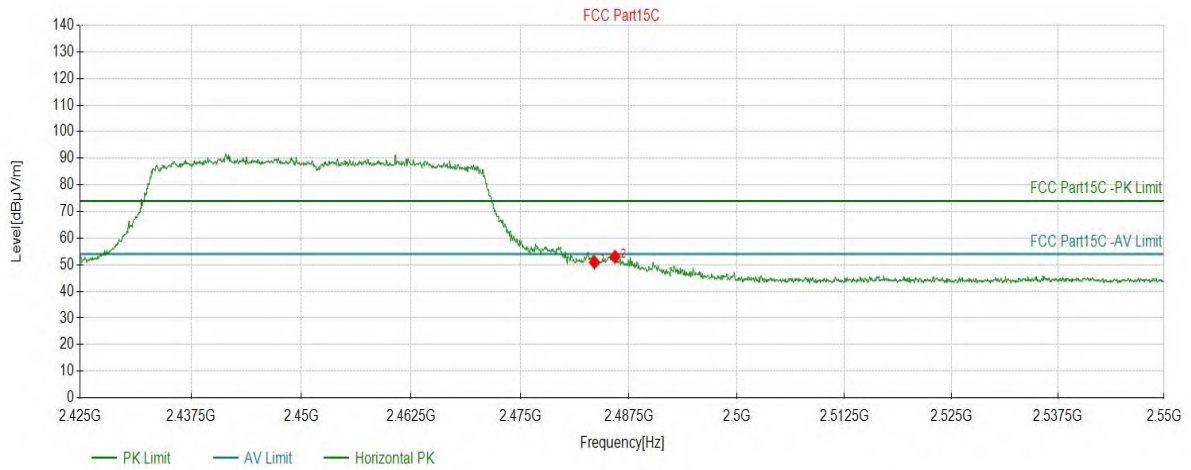
| Suspected Data List | | | | | | | | | |
|---------------------|-------------|----------------|-------------|----------------|-------------|-------------|-----------|----------|----------|
| NO. | Freq. (MHz) | Level (dBµV/m) | Factor (dB) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Angle (°) | Detector | Polarity |
| 1 | 2388.1460 | 49.94 | 5.66 | 74.00 | 24.06 | 150 | 227 | PK | Vertical |
| 2 | 2390.0367 | 48.01 | 5.65 | 74.00 | 25.99 | 150 | 80 | PK | Vertical |

Test Report

| Project Information | | | |
|---------------------|----------------------------|--------------|------------|
| EUT: | Clevershare Hub Clever Hub | Environment: | 24.2°C 54% |
| Model: | CleverHub | SN: | |
| Mode: | 11AX40_2452 | Voltage: | 120V 60Hz |
| Customer: | | Engineer: | Roger |
| Remark: | | | |

Start of Test: 2023-06-29 11:13:53

Test Graph



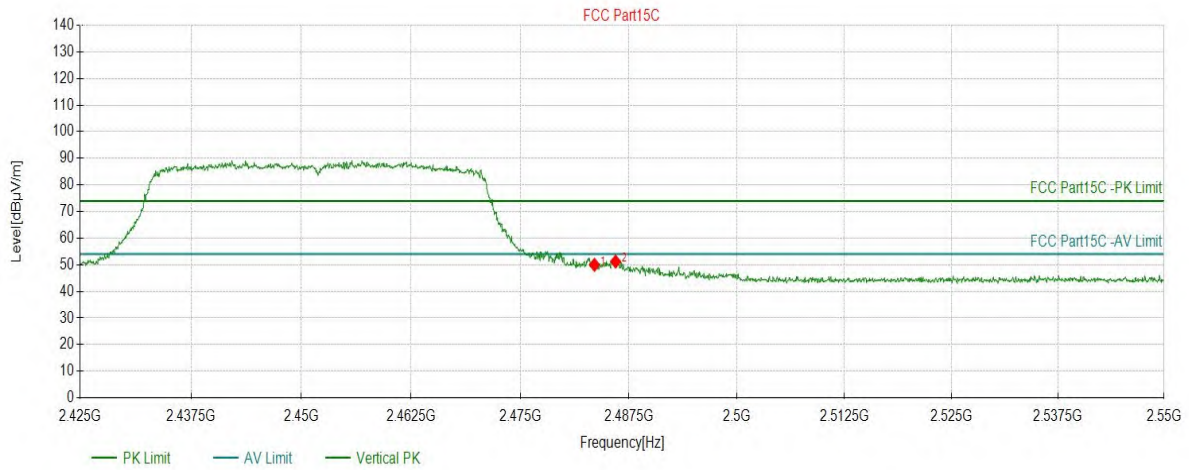
| Suspected Data List | | | | | | | | | |
|---------------------|-------------|----------------|-------------|----------------|-------------|-------------|-----------|----------|----------|
| NO. | Freq. (MHz) | Level (dBµV/m) | Factor (dB) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Angle (°) | Detector | Polarity |
| 1 | 2483.5293 | 50.94 | 6.37 | 74.00 | 23.06 | 150 | 354 | PK | Horizont |
| 2 | 2485.9055 | 52.98 | 6.39 | 74.00 | 21.02 | 150 | 6 | PK | Horizont |

Test Report

| Project Information | | | |
|---------------------|----------------------------|--------------|------------|
| EUT: | Clevershare Hub Clever Hub | Environment: | 24.2°C 54% |
| Model: | CleverHub | SN: | |
| Mode: | 11AX40_2452 | Voltage: | 120V 60Hz |
| Customer: | | Engineer: | Roger |
| Remark: | | | |

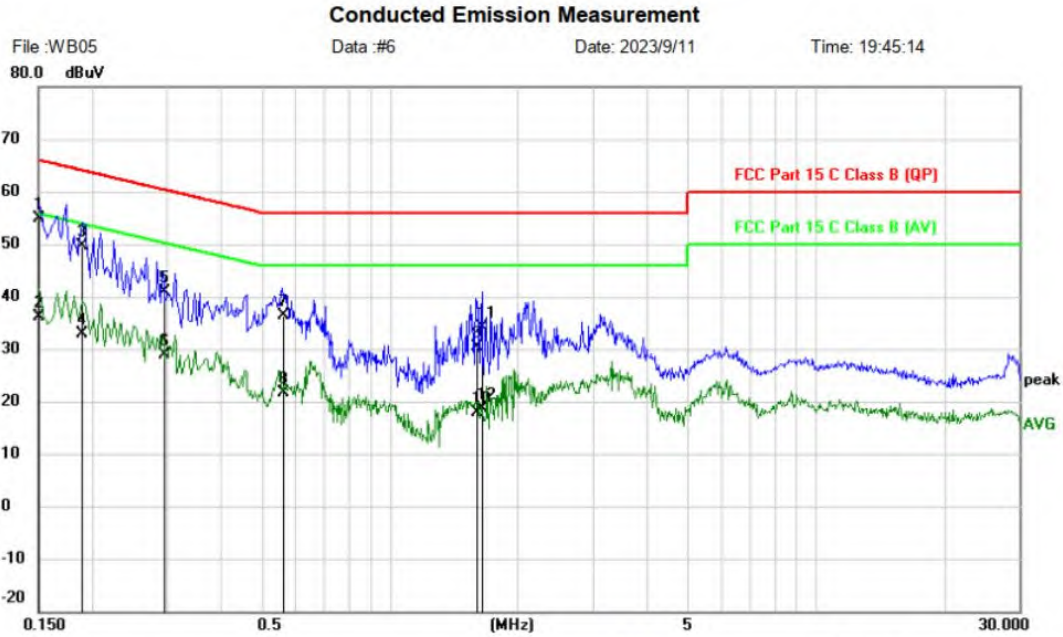
Start of Test: 2023-06-29 11:14:37

Test Graph



| Suspected Data List | | | | | | | | | |
|---------------------|-------------|----------------|-------------|----------------|-------------|-------------|-----------|----------|----------|
| NO. | Freq. (MHz) | Level (dBµV/m) | Factor (dB) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Angle (°) | Detector | Polarity |
| 1 | 2483.5293 | 50.00 | 6.28 | 74.00 | 24.00 | 150 | 124 | PK | Vertical |
| 2 | 2485.9680 | 51.20 | 6.30 | 74.00 | 22.80 | 150 | 228 | PK | Vertical |

APPENDIX C – AC Power Line Conducted Emission Test Data



Site: _____ Phase: **L1** Temperature: 26
 Limit: FCC Part 15 C Class B (QP) Power: AC 120V/60Hz Humidity: 60 %
 EUT: Clever Hub CleverHub
 M/N: CleverHub
 Mode: 2.4G WIFI Mode
 Note:

| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV | Limit dBuV | Over dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|--------------------------|---------------|------------|----------|---------|
| 1 | * | 0.1500 | 45.22 | 9.64 | 54.86 | 66.00 | -11.14 | QP | |
| 2 | | 0.1500 | 26.58 | 9.64 | 36.22 | 56.00 | -19.78 | AVG | |
| 3 | | 0.1900 | 39.93 | 9.65 | 49.58 | 64.04 | -14.46 | QP | |
| 4 | | 0.1900 | 23.19 | 9.65 | 32.84 | 54.04 | -21.20 | AVG | |
| 5 | | 0.2940 | 31.25 | 9.67 | 40.92 | 60.41 | -19.49 | QP | |
| 6 | | 0.2940 | 19.27 | 9.67 | 28.94 | 50.41 | -21.47 | AVG | |
| 7 | | 0.5620 | 26.50 | 9.77 | 36.27 | 56.00 | -19.73 | QP | |
| 8 | | 0.5620 | 11.74 | 9.77 | 21.51 | 46.00 | -24.49 | AVG | |
| 9 | | 1.5980 | 20.66 | 9.76 | 30.42 | 56.00 | -25.58 | QP | |
| 10 | | 1.5980 | 8.21 | 9.76 | 17.97 | 46.00 | -28.03 | AVG | |
| 11 | | 1.6460 | 24.42 | 9.76 | 34.18 | 56.00 | -21.82 | QP | |
| 12 | | 1.6460 | 8.78 | 9.76 | 18.54 | 46.00 | -27.46 | AVG | |

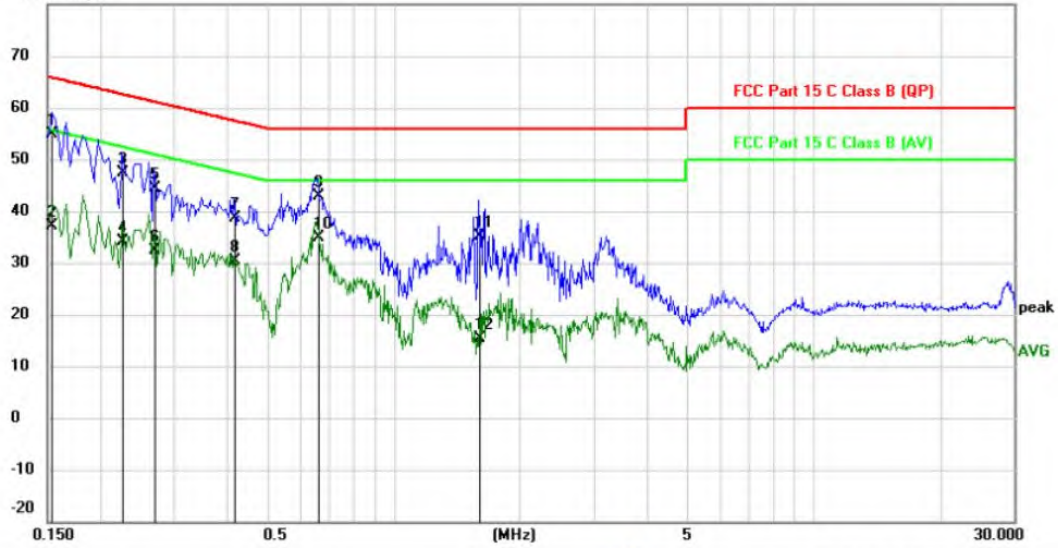
Conducted Emission Measurement

File :WB05
80.0 dBuV

Data :#5

Date: 2023/9/11

Time: 19:42:25



Site: _____ Phase: **N** Temperature: 26
 Limit: FCC Part 15 C Class B (QP) Power: AC 120V/60Hz Humidity: 60 %
 EUT: Clever Hub CleverHub
 M/N: CleverHub
 Mode: 2.4G WIFI Mode
 Note:

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measurement | Limit | Over | Detector | Comment |
|-----|-----|--------|---------------|----------------|-------------|-------|--------|----------|---------|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | | |
| 1 | * | 0.1539 | 45.31 | 9.65 | 54.96 | 65.79 | -10.83 | QP | |
| 2 | | 0.1539 | 27.38 | 9.65 | 37.03 | 55.79 | -18.76 | AVG | |
| 3 | | 0.2260 | 37.80 | 9.66 | 47.46 | 62.60 | -15.14 | QP | |
| 4 | | 0.2260 | 24.39 | 9.66 | 34.05 | 52.60 | -18.55 | AVG | |
| 5 | | 0.2700 | 34.65 | 9.66 | 44.31 | 61.12 | -16.81 | QP | |
| 6 | | 0.2700 | 22.82 | 9.66 | 32.48 | 51.12 | -18.64 | AVG | |
| 7 | | 0.4180 | 28.97 | 9.68 | 38.65 | 57.49 | -18.84 | QP | |
| 8 | | 0.4180 | 20.63 | 9.68 | 30.31 | 47.49 | -17.18 | AVG | |
| 9 | | 0.6580 | 33.05 | 9.76 | 42.81 | 56.00 | -13.19 | QP | |
| 10 | | 0.6580 | 25.00 | 9.76 | 34.76 | 46.00 | -11.24 | AVG | |
| 11 | | 1.5980 | 25.49 | 9.75 | 35.24 | 56.00 | -20.76 | QP | |
| 12 | | 1.5980 | 5.75 | 9.75 | 15.50 | 46.00 | -30.50 | AVG | |

END OF REPORT