

TEST REPORT

Product Name : WiFi LED Lamp

Brand Mark : NA

Model No. : 50284

Extension Model : 50466, 50069, 50467

FCC ID : 2AQUQGE50284

Report Number : BLA-EMC-202203-A5101

Date of Sample Receipt: 2021/4/16

Date of Test : 2021/4/16 to 2021/5/11

Date of Issue : 2022/3/14

Test Standard : 47 CFR Part 15, Subpart C 15.247

Test Result : Pass

Prepared for:

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Prepared by:

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Compiled by:

Approved by:

Review by:







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REPORT REVISE RECORD

| Version No. | Date | Description |
|-------------|-----------|-------------|
| 00 | 2022/3/14 | Original |





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1 TEST SUMMARY

| Test item | Test Requirement | Test Method | Class/Severity | Result |
|--|-------------------------------------|---|---|--------|
| Radiated Spurious Emissions | 47 CFR Part 15, Subpart C 15.247 | ANSI C63.10 (2013) Section 6.4&6.5&6.6 | 47 CFR Part 15, Subpart C 15.209 & 15.247(d) | Pass |
| Radiated Emissions which fall in the restricted bands | 47 CFR Part 15, Subpart C 15.247 | ANSI C63.10 (2013) Section 6.10.5 | 47 CFR Part 15, Subpart C 15.209 & 15.247(d) | Pass |
| Power Spectrum Density | 47 CFR Part 15, Subpart C 15.247 | ANSI C63.10 (2013) Section 11.10.2 | 47 CFR Part 15, Subpart C 15.247(e) | Pass |
| Conducted Peak Output Power | 47 CFR Part 15, Subpart C 15.247 | ANSI C63.10 (2013) Section 7.8.5 & Section 11.9.1 | 47 CFR Part 15, Subpart C 15.247(b)(1) | Pass |
| Minimum 6dB Bandwidth | 47 CFR Part 15, Subpart C 15.247 | ANSI C63.10 (2013) Section 11.8.1 | 47 CFR Part 15, Subpart C 15.247a(2) | Pass |
| Conducted Emissions at AC Power Line (150kHz-30MHz) | 47 CFR Part 15, Subpart C 15.247 | ANSI C63.10 (2013) Section 6.2 | 47 CFR Part 15, Subpart C 15.207 | Pass |
| Antenna Requirement | 47 CFR Part 15, Subpart C 15.247 | N/A | 47 CFR Part 15, Subpart C 15.203 & 15.247(c) | Pass |
| Conducted Spurious Emissions | 47 CFR Part 15, Subpart C 15.247 | ANSI C63.10 (2013) Section 7.8.6 & Section 11.11 | 47 CFR Part 15, Subpart C 15.247(d) | Pass |
| Conducted Band Edges Measurement | 47 CFR Part 15, Subpart C 15.247 | ANSI C63.10 (2013) Section7.8.8 & Section 11.13.3.2 | 47 CFR Part 15, Subpart C 15.247(d) | Pass |



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2 GENERAL INFORMATION

| Applicant | Globe Electric Company Inc. | |
|----------------|---|--|
| Address | 150 Oneida, Montreal, Quebec, Canada, H9R 1A8 | |
| Manufacturer | Globe Electric Company Inc. | |
| Address | 150 Oneida, Montreal, Quebec, Canada, H9R 1A8 | |
| Factory | Globe Electric Company Inc. | |
| Address | 150 Oneida, Montreal, Quebec, Canada, H9R 1A8 | |
| Product Name | WiFi LED Lamp | |
| Test Model No. | 50284 | |

3 GENERAL DESCRIPTION OF E.U.T.

| Hardware Version | V1.1 |
|----------------------|-----------------------------------|
| Software Version | V2.9.6 |
| engineer sample no. | BLA-EMC-202203-A51 |
| Operation Frequency: | 2402MHz-2480MHz |
| Modulation Type: | GFSK |
| Channel Spacing: | 2MHz |
| Number of Channels: | 40 |
| Antenna Type: | PCB Antenna |
| Antenna Gain: | 4.6dBi(Provided by the applicant) |



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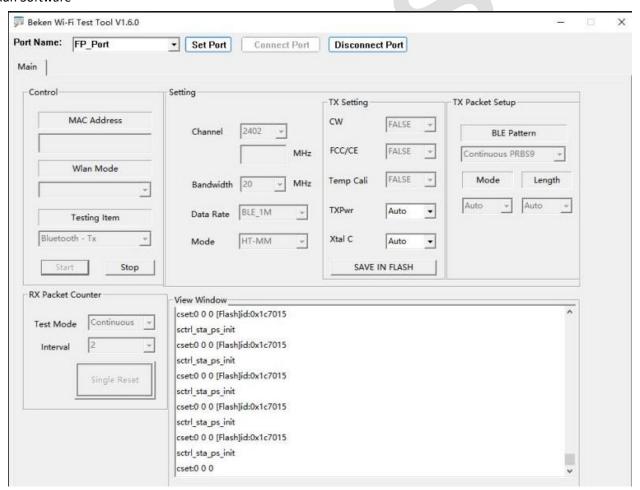
4 ADDITIONAL INSTRUCTIONS

EUT Software Settings:

| Mode | Special software is used. The software provided by client to enable the EUT under transmission condition |
|------|---|
| | continuously at specific channel frequencies individually. |

| Power level setup in software | | | | |
|-------------------------------|------------------------------------|------|--------------------|--|
| Test Software Name | Beken Wi-Fi Test Tool command mode | | | |
| Mode | Channel Frequency (MHz) Soft Set | | | |
| GFSK | CH00 | 2402 | | |
| | CH20 | 2442 | TX level : default | |
| | CH39 | 2480 | | |

Run Software





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5 TEST ENVIRONMENT

| Environment | Temperature | Voltage |
|-------------|-------------|---------|
| Normal | 25 °C | DC3.3V |

6 TEST MODE

| TEST MODE | TEST MODE DESCRIPTION | |
|--|--|--|
| TX | TX Keep the EUT in transmitting mode with modulation | |
| Remark:Only the data of the worst mode would be recorded in this report. | | |

7 MEASUREMENT UNCERTAINTY

| Parameter | Expanded Uncertainty (Confidence of 95%) | |
|--|--|--|
| Radiated Emission(9kHz-30MHz) | ±4.34dB | |
| Radiated Emission(30Mz-1000MHz) | ±4.24dB | |
| Radiated Emission(1GHz-18GHz) | ±4.68dB | |
| AC Power Line Conducted Emission(150kHz-30MHz) | ±3.45dB | |



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8 DESCRIPTION OF SUPPORT UNIT

| Device Type | Manufacturer | Model Name | Serial No. | Remark |
|-------------|--------------|------------|------------|--------|
| AC Adapter | UGREEN | CD112 | N/A | N/A |

9 LABORATORY LOCATION

All tests were performed at:

BlueAsia of Technical Services(Shenzhen) Co., Ltd.

Building C, No. 107, Shihuan Road, Shiyan Sub-District, Baoan District, Shenzhen, Guangdong Province,

China

Telephone: TEL: +86-755-28682673 FAX: +86-755-28682673

No tests were sub-contracted.



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10 TEST INSTRUMENTS LIST

| Test Equipment Of Radiated Spurious Emissions | | | | | | | | | |
|---|--------------|---------------|------------------|------------|------------|--|--|--|--|
| Equipment | Manufacturer | Model | S/N | Cal.Date | Cal.Due | | | | |
| Chamber | SKET | 966 | N/A | 2020/11/10 | 2023/11/9 | | | | |
| Spectrum | R&S | FSP40 | 100817 | 2020/10/12 | 2021/10/11 | | | | |
| Receiver | R&S | ESR7 | 101199 | 2020/10/12 | 2021/10/11 | | | | |
| broadband Antenna | Schwarzbeck | VULB9168 | 00836 P:00227 | 2020/9/26 | 2022/9/25 | | | | |
| Horn Antenna | Schwarzbeck | 9120D | 01892 P:00331 | 2020/9/26 | 2022/9/25 | | | | |
| Amplifier | SKET | PA-000318G-45 | N/A | 2020/10/16 | 2021/10/15 | | | | |
| EMI software | EZ | EZ-EMC | EEMC-3A1 | N/A | N/A | | | | |
| Loop antenna | SCHNARZBECK | FMZB1519B | 00102 | 2020/9/26 | 2022/9/25 | | | | |
| Controller | SKET | N/A | N/A | N/A | N/A | | | | |
| Coaxial Cable | BlueAsia | BLA-XC-02 | N/A | N/A | N/A | | | | |
| Coaxial Cable | BlueAsia | BLA-XC-03 | N/A | N/A | N/A | | | | |
| Coaxial Cable | BlueAsia | BLA-XC-01 | N/A | N/A | N/A | | | | |

| Test Equipment Of Radiated Emissions which fall in the restricted bands | | | | | | | | | |
|---|--------------|----------|------------------|------------|------------|--|--|--|--|
| Equipment | Manufacturer | Model | S/N | Cal.Date | Cal.Due | | | | |
| Chamber | SKET | 966 | N/A | 2020/11/10 | 2023/11/9 | | | | |
| Spectrum | R&S | FSP40 | 100817 | 2020/10/12 | 2021/10/11 | | | | |
| Receiver | R&S | ESR7 | 101199 | 2020/10/12 | 2021/10/11 | | | | |
| broadband Antenna | Schwarzbeck | VULB9168 | 00836 P:00227 | 2020/9/26 | 2022/9/25 | | | | |
| Horn Antenna | Schwarzbeck | 9120D | 01892 P:00331 | 2020/9/26 | 2022/9/25 | | | | |



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| Amplifier | SKET | PA-000318G-45 | N/A | 2020/10/16 | 2021/10/15 |
|---------------|-------------|---------------|----------|------------|------------|
| EMI software | EZ | EZ-EMC | EEMC-3A1 | N/A | N/A |
| Loop antenna | SCHNARZBECK | FMZB1519B | 00102 | 2020/9/26 | 2022/9/25 |
| Controller | SKET | N/A | N/A | N/A | N/A |
| Coaxial Cable | BlueAsia | BLA-XC-02 | N/A | N/A | N/A |
| Coaxial Cable | BlueAsia | BLA-XC-03 | N/A | N/A | N/A |
| Coaxial Cable | BlueAsia | BLA-XC-01 | N/A | N/A | N/A |

| Test Equipment Of Power Spectrum Density | | | | | | | | |
|--|--------------|--------|------------|------------|------------|--|--|--|
| Equipment | Manufacturer | Model | S/N | Cal.Date | Cal.Due | | | |
| Spectrum | R&S | FSP40 | 100817 | 2020/10/12 | 2021/10/11 | | | |
| Spectrum | Agilent | N9020A | MY49100060 | 2020/10/12 | 2021/10/11 | | | |
| Signal Generator | Agilent | N5182A | MY49060650 | 2020/10/12 | 2021/10/11 | | | |
| Signal Generator | Agilent | E8257D | MY44320250 | 2020/10/12 | 2021/10/11 | | | |

| Test Equipment Of Conducted Peak Output Power | | | | | | | | | |
|---|--------------|--------|------------|------------|------------|--|--|--|--|
| Equipment | Manufacturer | Model | S/N | Cal.Date | Cal.Due | | | | |
| Spectrum | R&S | FSP40 | 100817 | 2020/10/12 | 2021/10/11 | | | | |
| Spectrum | Agilent | N9020A | MY49100060 | 2020/10/12 | 2021/10/11 | | | | |
| Signal Generator | Agilent | N5182A | MY49060650 | 2020/10/12 | 2021/10/11 | | | | |
| Signal Generator | Agilent | E8257D | MY44320250 | 2020/10/12 | 2021/10/11 | | | | |

| Test Equipment Of Minimum 6dB Bandwidth | | | | | | | | | |
|---|--------------|--------|------------|------------|------------|--|--|--|--|
| Equipment | Manufacturer | Model | S/N | Cal.Date | Cal.Due | | | | |
| Spectrum | R&S | FSP40 | 100817 | 2020/10/12 | 2021/10/11 | | | | |
| Spectrum | Agilent | N9020A | MY49100060 | 2020/10/12 | 2021/10/11 | | | | |



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| Signal Generator | Agilent | N5182A | MY49060650 | 2020/10/12 | 2021/10/11 |
|------------------|---------|--------|------------|------------|------------|
| Signal Generator | Agilent | E8257D | MY44320250 | 2020/10/12 | 2021/10/11 |

| Test Equipment Of 99% Bandwidth | | | | | | | | | |
|---------------------------------|--------------|--------|------------|------------|------------|--|--|--|--|
| Equipment | Manufacturer | Model | S/N | Cal.Date | Cal.Due | | | | |
| Spectrum | R&S | FSP40 | 100817 | 2020/10/12 | 2021/10/11 | | | | |
| Spectrum | Agilent | N9020A | MY49100060 | 2020/10/12 | 2021/10/11 | | | | |
| Signal Generator | Agilent | N5182A | MY49060650 | 2020/10/12 | 2021/10/11 | | | | |
| Signal Generator | Agilent | E8257D | MY44320250 | 2020/10/12 | 2021/10/11 | | | | |

| Test Equipment Of Conducted Emissions at AC Power Line (150kHz-30MHz) | | | | | | | | |
|---|--------------|---------|---------------|------------|------------|--|--|--|
| Equipment | Manufacturer | Model | S/N | Cal.Date | Cal.Due | | | |
| Shield room | SKET | 833 | N/A | 2020/11/25 | 2023/11/24 | | | |
| Receiver | R&S | ESPI3 | 101082 | 2020/10/12 | 2021/10/11 | | | |
| LISN | R&S | ENV216 | 3560.6550.15 | 2020/10/12 | 2021/10/11 | | | |
| LISN | AT | AT166-2 | AKK1806000003 | 2020/10/12 | 2021/10/11 | | | |
| EMI software | EZ | EZ-EMC | EEMC-3A1 | N/A | N/A | | | |

| Test Equipment Of Antenna Requirement | | | | | | | | |
|---------------------------------------|--------------|-------|-----|----------|---------|--|--|--|
| Equipment | Manufacturer | Model | S/N | Cal.Date | Cal.Due | | | |

| Test Equipment Of Conducted Spurious Emissions | | | | | | | | |
|--|--------------|--------|------------|------------|------------|--|--|--|
| Equipment | Manufacturer | Model | S/N | Cal.Date | Cal.Due | | | |
| Spectrum | R&S | FSP40 | 100817 | 2020/10/12 | 2021/10/11 | | | |
| Spectrum | Agilent | N9020A | MY49100060 | 2020/10/12 | 2021/10/11 | | | |
| Signal Generator | Agilent | N5182A | MY49060650 | 2020/10/12 | 2021/10/11 | | | |



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| Signal Generator | Agilent | E8257D | MY44320250 | 2020/10/12 | 2021/10/11 |
|------------------|---------|--------|------------|------------|------------|
|------------------|---------|--------|------------|------------|------------|

| Test Equipment Of | Conducted Band | Edges Measurer | nent | | |
|-------------------|----------------|----------------|------------|------------|------------|
| Equipment | Manufacturer | Model | S/N | Cal.Date | Cal.Due |
| Spectrum | R&S | FSP40 | 100817 | 2020/10/12 | 2021/10/11 |
| Spectrum | Agilent | N9020A | MY49100060 | 2020/10/12 | 2021/10/11 |
| Signal Generator | Agilent | N5182A | MY49060650 | 2020/10/12 | 2021/10/11 |
| Signal Generator | Agilent | E8257D | MY44320250 | 2020/10/12 | 2021/10/11 |



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1 RADIATED SPURIOUS EMISSIONS

| Test Standard | 47 CFR Part 15, Subpart C 15.247 |
|------------------------|--|
| Test Method | ANSI C63.10 (2013) Section 6.4&6.5&6.6 |
| Test Mode (Pre-Scan) | TX below 1GHz; TX above 1GHz |
| Test Mode (Final Test) | TX below 1GHz; TX above 1GHz |
| Tester | Sven |
| Temperature | 25℃ |
| Humidity | 52% |

1.1 LIMITS

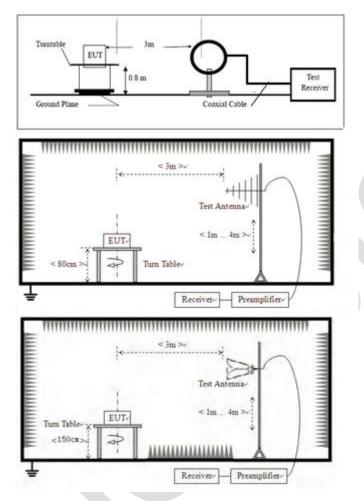
| Frequency(MHz) | Field strength(microvolts/meter) | Measurement distance(meters) |
|----------------|----------------------------------|------------------------------|
| 0.009-0.490 | 2400/F(kHz) | 300 |
| 0.490-1.705 | 24000/F(kHz) | 30 |
| 1.705-30.0 | 30 | 30 |
| 30-88 | 100 | 3 |
| 88-216 | 150 | 3 |
| 216-960 | 200 | 3 |
| Above 960 | 500 | 3 |

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.



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1.2 BLOCK DIAGRAM OF TEST SETUP



1.3 PROCEDURE

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.



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h. Test the EUT in the lowest channel, the middle channel, the Highest channel.

- i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- j. Repeat above procedures until all frequencies measured was complete.

Remark:

- 1) For emission below 1GHz, through pre-scan found the worst case is the lowest channel. Only the worst case is recorded in the report.
- 2) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor

- 3) Scan from 9kHz to 25GHz, the disturbance above 12.75GHz and below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported. fundamental frequency is blocked by filter, and only spurious emission is shown.
- 4) For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

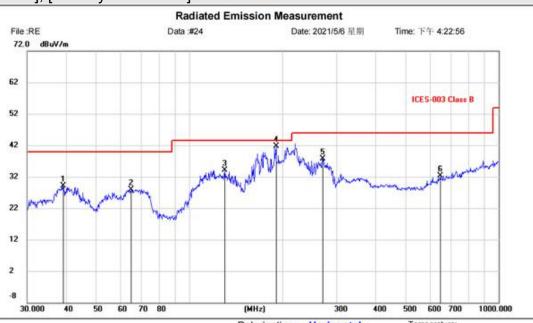


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1.4 TEST DATA

Below 1GHz:

[TestMode: TX]; [Polarity: Horizontal]



Site Limit: ICES-003 Class B

EUT: WIFI LED Lamp

M/N: 50284 Mode: TX Note: Polarization: Horizontal Temperature:
Power: Humidity:

Distance: 3m

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | | Antenna Height | Table Degree | |
|-----|-----|----------|------------------|-------------------|------------------|--------|--------|----------|-------------------|-----------------|---------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | cm | degree | Comment |
| 1 | | 39.0245 | 5.31 | 23.71 | 29.02 | 40.00 | -10.98 | QP | 100 | 0 | |
| 2 | | 64.8863 | 5.70 | 22.23 | 27.93 | 40.00 | -12.07 | QP | 100 | 0 | |
| 3 | | 130.3788 | 11.19 | 22.89 | 34.08 | 43.50 | -9.42 | QP | 100 | 0 | |
| 4 | ٠ | 191.0738 | 20.79 | 20.92 | 41.71 | 43.50 | -1.79 | QP | 100 | 0 | |
| 5 | | 269.4284 | 14.63 | 23.01 | 37.64 | 46.00 | -8.36 | QP | 100 | 0 | |
| 6 | | 647.3854 | 0.49 | 31.76 | 32.25 | 46.00 | -13.75 | QP | 100 | 0 | |

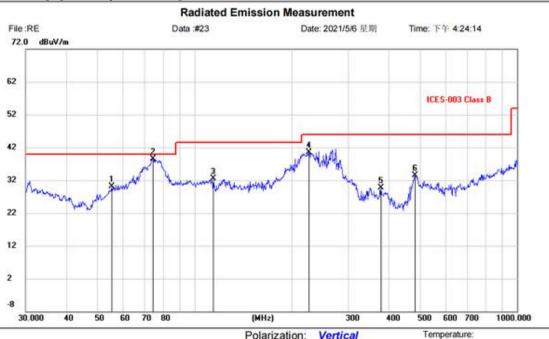
*:Maximum data x:Over limit !:over margin (Reference Only



Humidity:

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[TestMode: TX]; [Polarity: Vertical]



Site Limit: ICES-003 Class B

EUT: WIFI LED Lamp

M/N: 50284 Mode: TX Note:

Polarization: Vertical

Power:

Distance: 3m

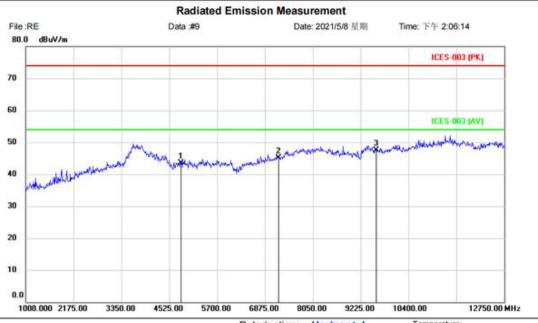
| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | | Antenna Height | Table Degree | |
|-----|-----|----------|------------------|-------------------|------------------|-------|----------|----|-------------------|-----------------|--|
| | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | cm | degree | Comment | |
| 1 | | 55.4147 | 6.75 | 23.40 | 30.15 | 40.00 | -9.85 | QP | 100 | 0 | |
| 2 | * | 74.3953 | 18.07 | 20.46 | 38.53 | 40.00 | -1.47 | QP | 100 | 0 | |
| 3 | | 114.5146 | 10.64 | 21.88 | 32.52 | 43.50 | -10.98 | QP | 100 | 0 | |
| 4 | 1 | 226.0994 | 18.52 | 22.07 | 40.59 | 46.00 | -5.41 | QP | 100 | 0 | |
| 5 | ă. | 378.5842 | 3.14 | 26.58 | 29.72 | 46.00 | -16.28 | QP | 100 | 0 | |
| 6 | l' | 483.9094 | 5.52 | 28.04 | 33.56 | 46.00 | -12.44 | QP | 100 | 0 | |

*:Maximum data x:Over limit (Reference Only !:over margin



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[TestMode: TX lowest channel]; [Polarity: Horizontal]



Site

Limit: ICES-003 (PK)

EUT: WIFI LED Lamp

M/N: 50284 Mode: TX-L Note: Polarization: Horizontal Temperature:

Power: Humidity:

Distance: 3m

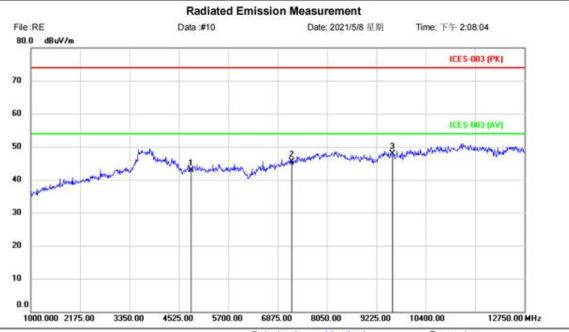
| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | | Antenna Height | Table Degree | |
|-----|-----|----------|------------------|-------------------|------------------|--------|--------|----------|-------------------|-----------------|---------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | cm | degree | Comment |
| 1 | | 4804.000 | 39.70 | 3.71 | 43.41 | 74.00 | -30.59 | peak | 150 | 0 | |
| 2 | | 7206.000 | 39.06 | 5.96 | 45.02 | 74.00 | -28.98 | peak | 150 | 0 | |
| 3 | * | 9608.000 | 38.26 | 9.29 | 47.55 | 74.00 | -26.45 | peak | 150 | 0 | |

*:Maximum data x:Over limit !:over margin (Reference Only



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[TestMode: TX lowest channel]; [Polarity: Vertical]



Site Limit: ICES-003 (PK)

EUT: WIFI LED Lamp

M/N: 50284 Mode: TX-L Note: Polarization: Vertical

Power:

Distance: 3m

Temperature: Humidity:

Humidity

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | | Antenna Height | Table Degree | |
|-----|-----|----------|------------------|-------------------|------------------|--------|--------|----------|-------------------|-----------------|---------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | cm | degree | Comment |
| 1 | | 4804.000 | 39.19 | 3.71 | 42.90 | 74.00 | -31.10 | peak | 150 | 0 | |
| 2 | | 7206.000 | 39.64 | 5.96 | 45.60 | 74.00 | -28.40 | peak | 150 | 0 | |
| 3 | | 9608.000 | 38.61 | 9.29 | 47.90 | 74.00 | -26.10 | peak | 150 | 0 | |

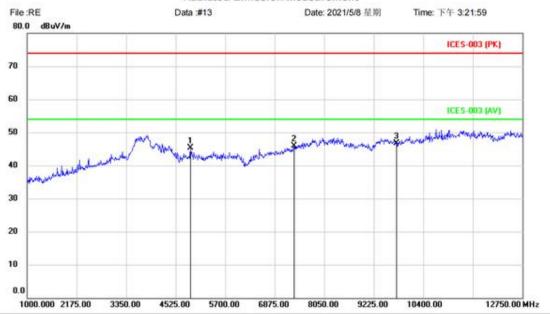
*:Maximum data x:Over limit !:over margin (Reference Only



Temperature: Humidity: Page 21 of65

[TestMode: TX middle channel]; [Polarity: Horizontal]

Radiated Emission Measurement



Site

Limit: ICES-003 (PK)

EUT: WIFI LED Lamp

M/N: 50284 Mode: TX-M Note: Polarization: Horizontal

Power:

Distance: 3m

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | | Antenna Height | Table Degree | |
|-----|-----|----------|------------------|-------------------|------------------|--------|--------|----------|-------------------|-----------------|---------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | cm | degree | Comment |
| 1 | | 4877.500 | 41.87 | 3.37 | 45.24 | 74.00 | -28.76 | peak | 150 | 0 | |
| 2 | | 7323.000 | 39.50 | 6.43 | 45.93 | 74.00 | -28.07 | peak | 150 | 0 | |
| 3 | * | 9764.000 | 37.09 | 9.63 | 46.72 | 74.00 | -27.28 | peak | 150 | 0 | |

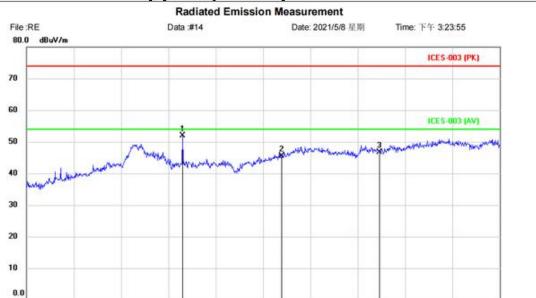
*:Maximum data x:Over limit !:over margin (Reference Only



12750.00 MHz

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[TestMode: TX middle channel]; [Polarity: Vertical]



Site

Limit: ICES-003 (PK)

1000.000 2175.00

3350.00

4525.00

5700.00

EUT: WIFI LED Lamp

M/N: 50284 Mode: TX-M Note:

Polarization: Vertical Temperature: Humidity:

9225.00

Power:

Distance: 3m

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | | Antenna Height | Table Degree | |
|-----|-----|----------|------------------|-------------------|------------------|--------|--------|----------|-------------------|-----------------|---------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | cm | degree | Comment |
| 1 | ٠ | 4877.500 | 48.61 | 3.37 | 51.98 | 74.00 | -22.02 | peak | 150 | 0 | |
| 2 | | 7323.000 | 39.09 | 6.43 | 45.52 | 74.00 | -28.48 | peak | 150 | 0 | |
| 3 | | 9764.000 | 37.15 | 9.63 | 46.78 | 74.00 | -27.22 | peak | 150 | 0 | |

*:Maximum data x:Over limit !:over margin (Reference Only

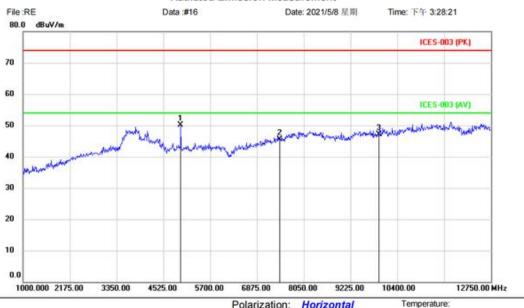


Humidity:

Page 23 of 65

[TestMode: TX highest channel]; [Polarity: Horizontal]

Radiated Emission Measurement



Site

Limit: ICES-003 (PK)

EUT: WIFI LED Lamp

M/N: 50284 Mode: TX-H Note:

Polarization: Horizontal

Power:

Distance: 3m

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | | Antenna Height | Table Degree | |
|-----|-----|----------|------------------|-------------------|------------------|--------|--------|----------|-------------------|-----------------|---------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | cm | degree | Comment |
| 1 | * | 4959.750 | 46.28 | 3.75 | 50.03 | 74.00 | -23.97 | peak | 150 | 0 | |
| 2 | | 7440.000 | 38.61 | 6.86 | 45.47 | 74.00 | -28.53 | peak | 150 | 0 | |
| 3 | | 9920.000 | 37.02 | 10.16 | 47.18 | 74.00 | -26.82 | peak | 150 | 0 | |

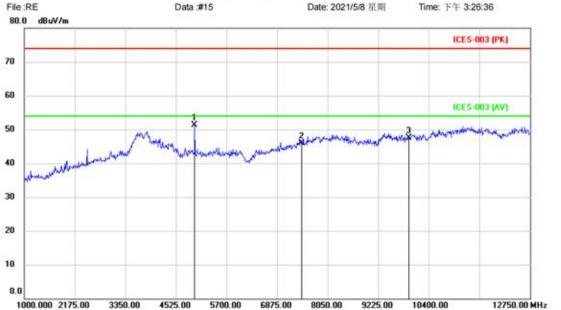
*:Maximum data (Reference Only x:Over limit !:over margin



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[TestMode: TX highest channel]; [Polarity: Vertical]





Site

Limit: ICES-003 (PK)

EUT: WIFI LED Lamp

M/N: 50284 Mode: TX-H

Note:

Temperature: Polarization: Vertical Power: Humidity:

Distance: 3m

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | | Antenna Height | Table Degree | |
|-----|-----|----------|------------------|-------------------|------------------|--------|--------|----------|-------------------|-----------------|---------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | cm | degree | Comment |
| 1 | * | 4959.750 | 47.54 | 3.75 | 51.29 | 74.00 | -22.71 | peak | 150 | 0 | |
| 2 | | 7440.000 | 38.96 | 6.86 | 45.82 | 74.00 | -28.18 | peak | 150 | 0 | |
| 3 | | 9920.000 | 37.33 | 10.16 | 47.49 | 74.00 | -26.51 | peak | 150 | 0 | |

*:Maximum data !:over margin (Reference Only x:Over limit



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2 RADIATED EMISSIONS WHICH FALL IN THE RESTRICTED BANDS

| Test Standard | 47 CFR Part 15, Subpart C 15.247 |
|------------------------|-----------------------------------|
| Test Method | ANSI C63.10 (2013) Section 6.10.5 |
| Test Mode (Pre-Scan) | TX Low channel;TX high channel |
| Test Mode (Final Test) | TX Low channel;TX high channel |
| Tester | Sven |
| Temperature | 25℃ |
| Humidity | 52% |

2.1 LIMITS

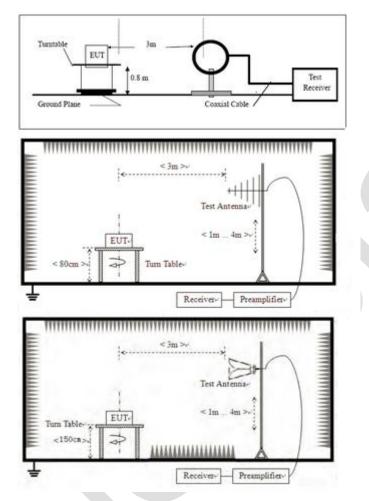
| Frequency(MHz) | Field strength(microvolts/meter) | Measurement distance(meters) |
|----------------|----------------------------------|------------------------------|
| 0.009-0.490 | 2400/F(kHz) | 300 |
| 0.490-1.705 | 24000/F(kHz) | 30 |
| 1.705-30.0 | 30 | 30 |
| 30-88 | 100 | 3 |
| 88-216 | 150 | 3 |
| 216-960 | 200 | 3 |
| Above 960 | 500 | 3 |

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.



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2.2 BLOCK DIAGRAM OF TEST SETUP



2.3 PROCEDURE

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.



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h. Test the EUT in the lowest channel, the middle channel, the Highest channel.

i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

j. Repeat above procedures until all frequencies measured was complete.

Remark 1: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

Remark 2: For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

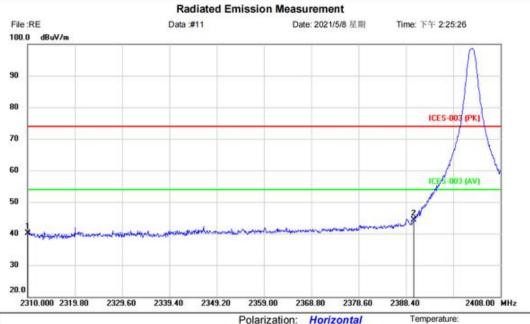


Humidity:

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TEST DATA

[TestMode: TX lowest channel]; [Polarity: Horizontal]



Site

Limit: ICES-003 (PK)

EUT: WIFI LED Lamp

M/N: 50284 Mode: TX-L Note:

Polarization: Horizontal

Power:

Distance: 3m

| No. I | Mk. | Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | | Antenna Height | Table Degree | |
|-------|-----|----------|------------------|-------------------|------------------|--------|--------|----------|-------------------|-----------------|---------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | cm | degree | Comment |
| 1 | | 2310.000 | 44.64 | -4.61 | 40.03 | 74.00 | -33.97 | peak | 150 | 68 | |
| 2 | * | 2390.000 | 48.57 | -4.27 | 44.30 | 74.00 | -29.70 | peak | 150 | 68 | |
| | | | | | | | | | | | |

*:Maximum data (Reference Only x:Over limit !:over margin



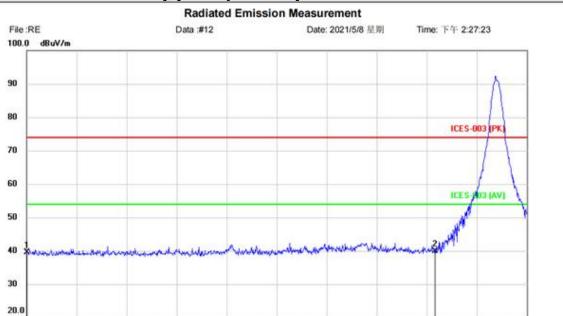
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[TestMode: TX lowest channel]; [Polarity: Vertical]

2329.60

2339.40

2349.20



Site

2

Limit: ICES-003 (PK)

2310.000 2319.80

EUT: WIFI LED Lamp

2390.000

44.11

-4.27

M/N: 50284 Mode: TX-L Note: Polarization: Vertical

-34.16

peak

2368.80

2378.60

100

Power: Distance: 3m

2359.00

Temperature: Humidity: 2408.00 MHz

numidity

49

2388.40

Reading Correct Measure-Antenna Table Limit Over No. Mk. Freq. Level Factor Height Degree ment MHz dBuV dB dBuV/m dBuV/m dB Detector cm degree 1 2310.000 44.11 -4.6139.50 74.00 -34.50 150 49 peak

74.00

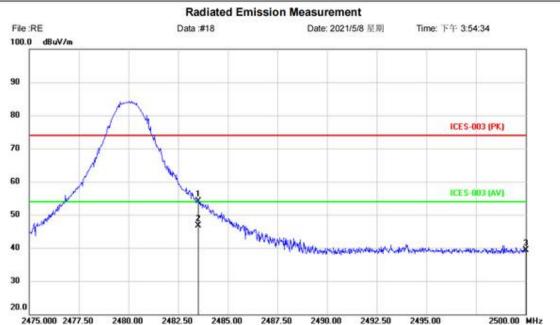
39.84

*:Maximum data x:Over limit !:over margin (Reference Only



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[TestMode: TX highest channel]; [Polarity: Horizontal]



Site Limit: ICES-003 (PK)

EUT: WIFI LED Lamp

M/N: 50284 Mode: TX-H

Note:

Polarization: Horizontal Temperature:

Power: Humidity: %

Distance: 3m

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | | Antenna Height | Table Degree | |
|-----|-----|----------|------------------|-------------------|------------------|--------|--------|----------|-------------------|-----------------|---------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | cm | degree | Comment |
| 1 | | 2483.500 | 58.00 | -3.84 | 54.16 | 74.00 | -19.84 | peak | 150 | 97 | |
| 2 | ٠ | 2483.500 | 50.55 | -3.84 | 46.71 | 54.00 | -7.29 | AVG | 150 | 97 | |
| 3 | | 2500.000 | 43.04 | -3.78 | 39.26 | 74.00 | -34.74 | peak | 150 | 97 | |

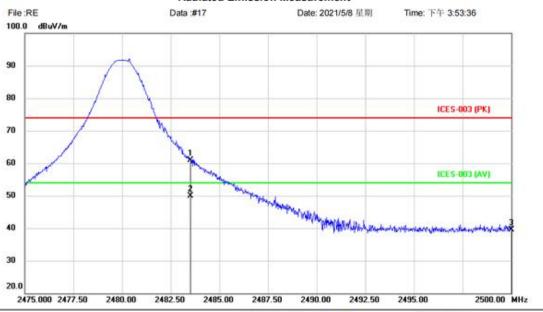
*:Maximum data x:Over limit !:over margin (Reference Only



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[TestMode: TX highest channel]; [Polarity: Vertical]





Limit: ICES-003 (PK)

EUT: WIFI LED Lamp

M/N: 50284 Mode: TX-H Note:

Site

Polarization: Vertical

Power:

Temperature: Humidity: 9

Distance: 3m

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | | Antenna Height | Table Degree | |
|-----|-----|----------|------------------|-------------------|------------------|--------|--------|----------|-------------------|-----------------|---------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | cm | degree | Comment |
| 1 | | 2483.500 | 64.77 | -3.84 | 60.93 | 74.00 | -13.07 | peak | 150 | 19 | |
| 2 | • | 2483.500 | 53.75 | -3.84 | 49.91 | 54.00 | -4.09 | AVG | 150 | 19 | |
| 3 | | 2500.000 | 43.37 | -3.78 | 39.59 | 74.00 | -34.41 | peak | 150 | 19 | |

*:Maximum data x:Over limit !:over margin (Reference Only



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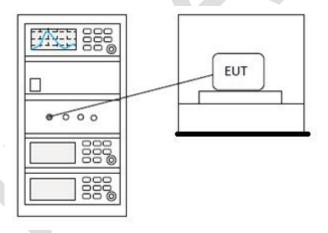
3 POWER SPECTRUM DENSITY

| Test Standard | 47 CFR Part 15, Subpart C 15.247 | | | | |
|------------------------|------------------------------------|--|--|--|--|
| Test Method | ANSI C63.10 (2013) Section 11.10.2 | | | | |
| Test Mode (Pre-Scan) | TX | | | | |
| Test Mode (Final Test) | TX | | | | |
| Tester | Sven | | | | |
| Temperature | 25℃ | | | | |
| Humidity | 52% | | | | |

3.1 LIMITS

Limit: | ≤8dBm in any 3 kHz band during any time interval of continuous transmission

3.2 BLOCK DIAGRAM OF TEST SETUP



3.3 TEST DATA

Pass: Please Refer To Appendix: For Details



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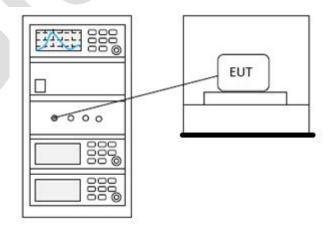
4 CONDUCTED PEAK OUTPUT POWER

| Test Standard | 47 CFR Part 15, Subpart C 15.247 | | | | |
|------------------------|---|--|--|--|--|
| Test Method | ANSI C63.10 (2013) Section 7.8.5 & Section 11.9.1 | | | | |
| Test Mode (Pre-Scan) | TX | | | | |
| Test Mode (Final Test) | TX | | | | |
| Tester | Sven | | | | |
| Temperature | 25℃ | | | | |
| Humidity | 52% | | | | |

4.1 LIMITS

| Frequency range(MHz) | Output power of the intentional radiator(watt) | | | |
|----------------------|--|--|--|--|
| | 1 for ≥50 hopping channels | | | |
| 902-928 | 0.25 for 25 ≤ hopping channels < 50 | | | |
| | 1 for digital modulation | | | |
| | 1 for ≥75 non-overlapping hopping channels | | | |
| 2400-2483.5 | 0.125 for all other frequency hopping systems | | | |
| | 1 for digital modulation | | | |
| 5505 5050 | 1 for frequency hopping systems and digital | | | |
| 5725-5850 | modulation | | | |

4.2 BLOCK DIAGRAM OF TEST SETUP





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4.3 EST DATA

Pass: Please Refer To Appendix: For Details





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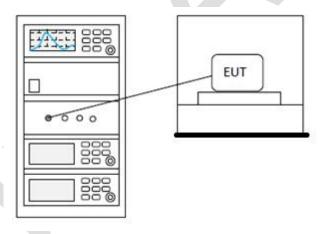
5 MINIMUM 6DB BANDWIDTH

| Test Standard | 47 CFR Part 15, Subpart C 15.247 | | | | |
|------------------------|-----------------------------------|--|--|--|--|
| Test Method | ANSI C63.10 (2013) Section 11.8.1 | | | | |
| Test Mode (Pre-Scan) | TX | | | | |
| Test Mode (Final Test) | TX | | | | |
| Tester | Sven | | | | |
| Temperature | 25℃ | | | | |
| Humidity | 52% | | | | |

5.1 LIMITS

| Limit: | ≥500 kHz | |
|------------|-----------|--|
| imaita | 2500 kHz | |
| | | |
| L/IIIII to | > 500 KHZ | |
| | | |

5.2 BLOCK DIAGRAM OF TEST SETUP



5.3 TEST DATA

Pass: Please Refer To Appendix: For Details



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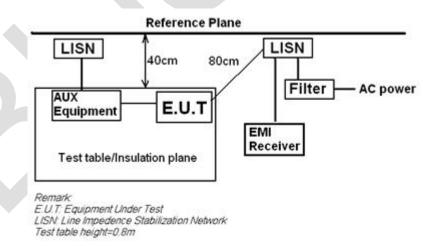
6 CONDUCTED EMISSIONS AT AC POWER LINE (150KHZ-30MHZ)

| Test Standard | 47 CFR Part 15, Subpart C 15.247 |
|------------------------|----------------------------------|
| Test Method | ANSI C63.10 (2013) Section 6.2 |
| Test Mode (Pre-Scan) | TX |
| Test Mode (Final Test) | TX |
| Tester | Sven |
| Temperature | 25℃ |
| Humidity | 52% |

6.1 LIMITS

| Frequency of | Conducted limit(dBµV) | | | | | |
|---|-----------------------|-----------|--|--|--|--|
| emission(MHz) | Quasi-peak | Average | | | | |
| 0.15-0.5 | 66 to 56* | 56 to 46* | | | | |
| 0.5-5 | 56 | 46 | | | | |
| 5-30 | 60 | 50 | | | | |
| *Decreases with the logarithm of the frequency. | | | | | | |

6.2 BLOCK DIAGRAM OF TEST SETUP



6.3 PROCEDURE

- 1) The mains terminal disturbance voltage test was conducted in a shielded room.
- 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50ohm/50H + 5ohm linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.



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3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,

4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.

5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

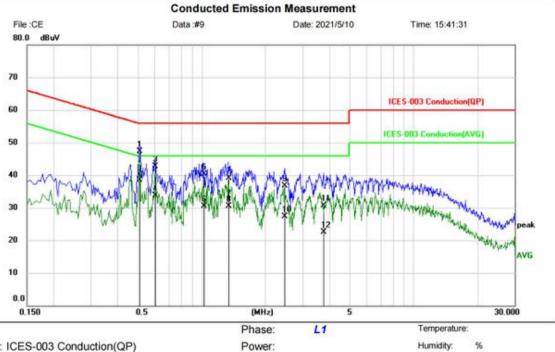
Remark: LISN=Read Level+ Cable Loss+ LISN Factor



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TEST DATA 6.4

[TestMode: TX]; [Line: Neutral];[Power:AC120V/60Hz]



Limit: ICES-003 Conduction(QP)

EUT: WiFi LED Lamp

M/N: 50284 Mode: BLE mode

Note:

Site

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | | |
|-----|-----|--------|------------------|-------------------|------------------|-------|--------|----------|---------|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | | 0.5100 | 37.51 | 9.87 | 47.38 | 56.00 | -8.62 | QP | |
| 2 | ٠ | 0.5100 | 28.54 | 9.87 | 38.41 | 46.00 | -7.59 | AVG | |
| 3 | | 0.6020 | 32.88 | 9.88 | 42.76 | 56.00 | -13.24 | QP | |
| 4 | | 0.6020 | 23.76 | 9.88 | 33.64 | 46.00 | -12.36 | AVG | |
| 5 | | 1.0220 | 30.32 | 9.92 | 40.24 | 56.00 | -15.76 | QP | |
| 6 | 5 | 1.0220 | 20.59 | 9.92 | 30.51 | 46.00 | -15.49 | AVG | |
| 7 | | 1.3420 | 29.19 | 9.93 | 39.12 | 56.00 | -16.88 | QP | |
| 8 | | 1.3420 | 20.60 | 9.93 | 30.53 | 46.00 | -15.47 | AVG | |
| 9 | | 2.4620 | 26.73 | 9.95 | 36.68 | 56.00 | -19.32 | QP | |
| 10 | | 2.4620 | 17.36 | 9.95 | 27.31 | 46.00 | -18.69 | AVG | |
| 11 | | 3.7780 | 20.83 | 9.97 | 30.80 | 56.00 | -25.20 | QP | |
| 12 | | 3.7780 | 12.53 | 9.97 | 22.50 | 46.00 | -23.50 | AVG | |

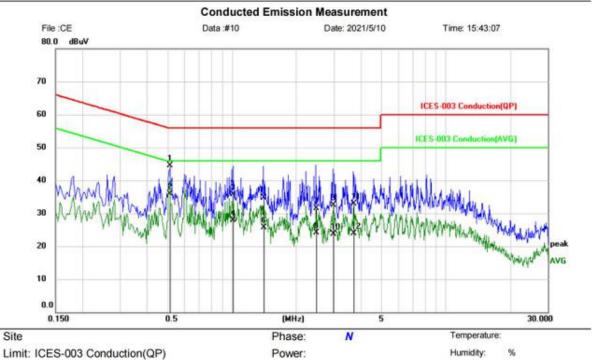
*: Maximum data (Reference Only x:Over limit !:over margin

Test Result:



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[TestMode:TX]; [Line: Line] ;[Power:AC120V/60Hz]



EUT: WiFi LED Lamp

M/N: 50284 Mode: BLE mode

Note:

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure- ment | Limit | Over | | |
|-----|-----|--------|------------------|-------------------|------------------|-------|--------|----------|---------|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | | 0.5140 | 34.62 | 9.79 | 44.41 | 56.00 | -11.59 | QP | |
| 2 | * | 0.5140 | 26.16 | 9.79 | 35.95 | 46.00 | -10.05 | AVG | |
| 3 | | 1.0140 | 25.77 | 9.84 | 35.61 | 56.00 | -20.39 | QP | |
| 4 | | 1.0140 | 18.01 | 9.84 | 27.85 | 46.00 | -18.15 | AVG | |
| 5 | | 1.4060 | 24.90 | 9.85 | 34.75 | 56.00 | -21.25 | QP | |
| 6 | | 1.4060 | 15.88 | 9.85 | 25.73 | 46.00 | -20.27 | AVG | |
| 7 | | 2.4860 | 21.64 | 9.87 | 31.51 | 56.00 | -24.49 | QP | |
| 8 | | 2.4860 | 14.18 | 9.87 | 24.05 | 46.00 | -21.95 | AVG | |
| 9 | | 2.9700 | 22.69 | 9.90 | 32.59 | 56.00 | -23.41 | QP | |
| 10 | | 2.9700 | 13.80 | 9.90 | 23.70 | 46.00 | -22.30 | AVG | |
| 11 | | 3.7180 | 23.00 | 9.91 | 32.91 | 56.00 | -23.09 | QP | |
| 12 | | 3.7180 | 14.00 | 9.91 | 23.91 | 46.00 | -22.09 | AVG | |

*:Maximum data x:Over limit !:over margin (Reference Only

Test Result:



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7 ANTENNA REQUIREMENT

| Test Standard | 47 CFR Part 15, Subpart C 15.247 |
|---------------|----------------------------------|
| Test Method | N/A |

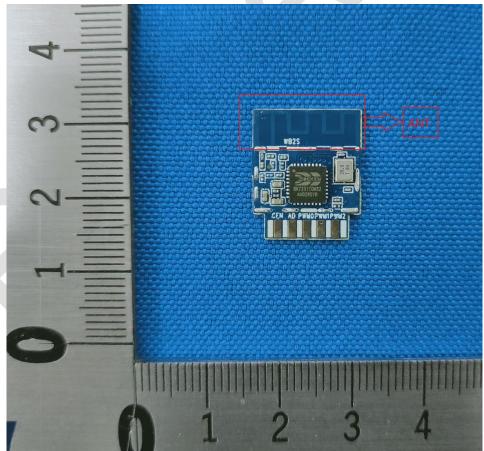
7.1 CONCLUSION

Standard Requirement:

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 antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit permanently attached antenna or of an so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT Antenna:

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 4.6dBi.





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8 CONDUCTED SPURIOUS EMISSIONS

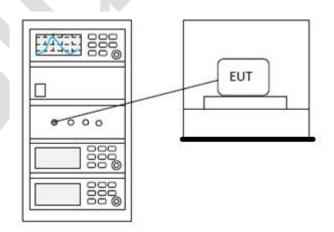
| Test Standard | 47 CFR Part 15, Subpart C 15.247 | | | | |
|------------------------|--|--|--|--|--|
| Test Method | ANSI C63.10 (2013) Section 7.8.6 & Section 11.11 | | | | |
| Test Mode (Pre-Scan) | TX | | | | |
| Test Mode (Final Test) | TX | | | | |
| Tester | Sven | | | | |
| Temperature | 25℃ | | | | |
| Humidity | 52% | | | | |

8.1 LIMITS

Limit:

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under section 5.4(d), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in RSS-Gen is not required.

8.2 BLOCK DIAGRAM OF TEST SETUP



8.3 TEST DATA

Pass: Please Refer To Appendix: For Details



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9 CONDUCTED BAND EDGES MEASUREMENT

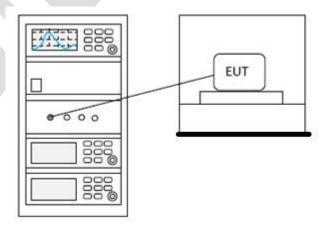
| Test Standard | 47 CFR Part 15, Subpart C 15.247 | | | | | |
|------------------------|---|--|--|--|--|--|
| Test Method | ANSI C63.10 (2013) Section7.8.8 & Section 11.13.3.2 | | | | | |
| Test Mode (Pre-Scan) | TX | | | | | |
| Test Mode (Final Test) | TX | | | | | |
| Tester | Sven | | | | | |
| Temperature | 25℃ | | | | | |
| Humidity | 52% | | | | | |

9.1 LIMITS

Limit:

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under section 5.4(d), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in RSS-Gen is not required.

9.2 BLOCK DIAGRAM OF TEST SETUP





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9.3 TEST DATA

Pass: Please Refer To Appendix: For Details





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11 APPENDIX

11.1 Maximum Conducted Output Power

| Condition | Mode | Frequency | Antenna | Conducted | Total Power | Limit | Verdict |
|-----------|------|-----------|---------|-------------|-------------|-------|---------|
| | | (MHz) | | Power (dBm) | (dBm) | (dBm) | |
| NVNT | BLE | 2402 | Ant1 | -1.168 | -1.168 | 30 | Pass |
| | 1M | | | | | | |
| NVNT | BLE | 2442 | Ant1 | -1.135 | -1.135 | 30 | Pass |
| | 1M | | | | | | |
| NVNT | BLE | 2480 | Ant1 | -1.505 | -1.505 | 30 | Pass |
| | 1M | | | | | | |

Power NVNT BLE 1M 2402MHz Ant1





Power NVNT BLE 1M 2442MHz Ant1



Power NVNT BLE 1M 2480MHz Ant1



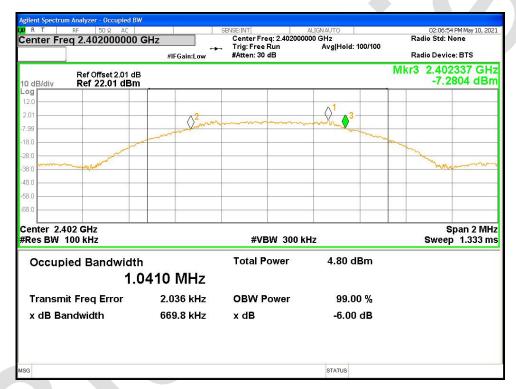


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11.2 -6dB Bandwidth

| Condition | Mode | Frequency | Antenna | -6 dB Bandwidth | Limit -6 dB | Verdict |
|-----------|------|-----------|---------|-----------------|-----------------|---------|
| | | (MHz) | | (MHz) | Bandwidth (MHz) | |
| NVNT | BLE | 2402 | Ant1 | 0.67 | 0.5 | Pass |
| | 1M | | | | | |
| NVNT | BLE | 2442 | Ant1 | 0.664 | 0.5 | Pass |
| | 1M | | | | | |
| NVNT | BLE | 2480 | Ant1 | 0.649 | 0.5 | Pass |
| | 1M | | | | | |

-6dB Bandwidth NVNT BLE 1M 2402MHz Ant1





-6dB Bandwidth NVNT BLE 1M 2442MHz Ant1



-6dB Bandwidth NVNT BLE 1M 2480MHz Ant1



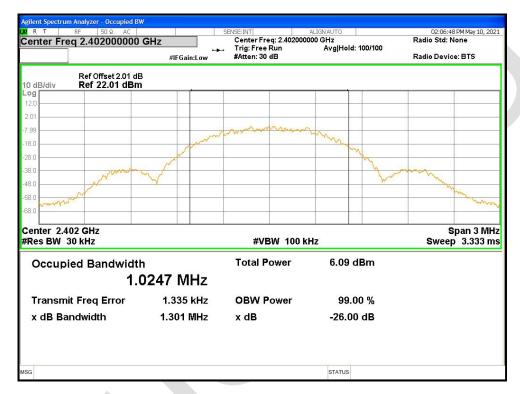


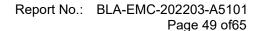
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11.3 Occupied Channel Bandwidth

| Condition | Mode | Frequency (MHz) | Antenna | 99% OBW (MHz) |
|-----------|--------|-----------------|---------|---------------|
| NVNT | BLE 1M | 2402 | Ant1 | 1.024736714 |
| NVNT | BLE 1M | 2442 | Ant1 | 1.01803574 |
| NVNT | BLE 1M | 2480 | Ant1 | 1.033532786 |

OBW NVNT BLE 1M 2402MHz Ant1



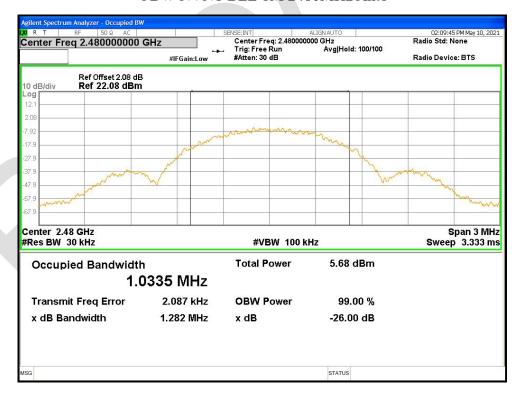




OBW NVNT BLE 1M 2442MHz Ant1



OBW NVNT BLE 1M 2480MHz Ant1





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11.4 Maximum Power Spectral Density Level

| Condition | Mode | Frequency (MHz) | Antenna | Max PSD (dBm) | Limit (dBm) | Verdict |
|-----------|--------|-----------------|---------|---------------|-------------|---------|
| NVNT | BLE 1M | 2402 | Ant1 | -6.257 | 8 | Pass |
| NVNT | BLE 1M | 2442 | Ant1 | -6.569 | 8 | Pass |
| NVNT | BLE 1M | 2480 | Ant1 | -7.843 | 8 | Pass |

PSD NVNT BLE 1M 2402MHz Ant1

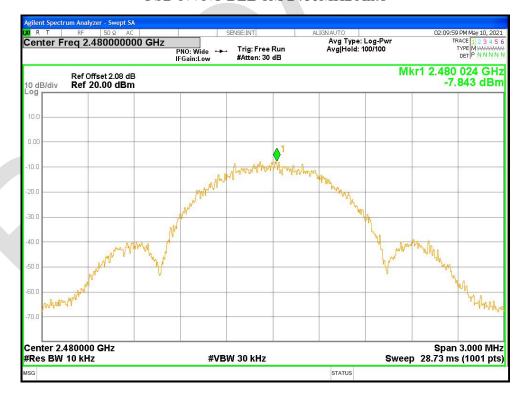




PSD NVNT BLE 1M 2442MHz Ant1



PSD NVNT BLE 1M 2480MHz Ant1



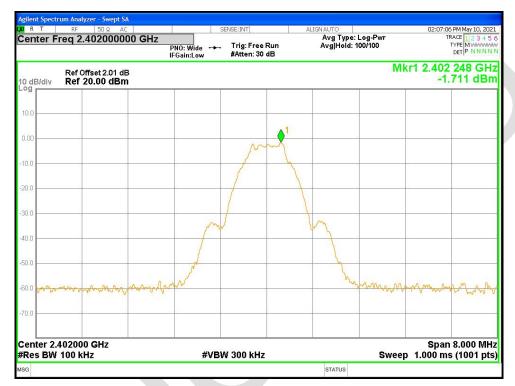


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11.5 Band Edge

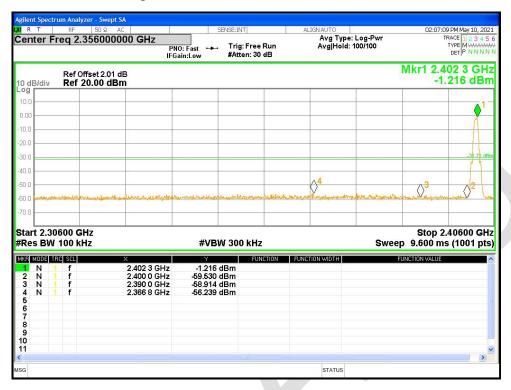
| Condition | Mode | Frequency (MHz) | Antenna | Max Value (dBc) | Limit (dBc) | Verdict |
|-----------|--------|-----------------|---------|-----------------|-------------|---------|
| NVNT | BLE 1M | 2402 | Ant1 | -54.52 | -30 | Pass |
| NVNT | BLE 1M | 2480 | Ant1 | -53.82 | -30 | Pass |

Band Edge NVNT BLE 1M 2402MHz Ant1 Ref



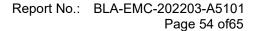


Band Edge NVNT BLE 1M 2402MHz Ant1 Emission



Band Edge NVNT BLE 1M 2480MHz Ant1 Ref







Band Edge NVNT BLE 1M 2480MHz Ant1 Emission

