



FCC PART 15.249 TEST REPORT

On Behalf of
Feit Electric company Inc.

4901 Gregg Road Pico Rivera, Ca 90660

FCC ID: SYW-S9DFL850MMLS

Model: S9DFL/850/MMLS/WH,
USF1254/3000DM/850LEDF/P180MWG3-WT,
S9DFL/YZZZZ/MMLS/AAAA,
USF1254/XXXXDM/YZZZZLEDF/P180MWG3-AAAA
(AAAA represents finish color, Y represents CRI, ZZZZ
represents CCT, XXXX represents lumen)

May 21, 2025

| | |
|---|--|
| This Report Concerns: <input checked="" type="checkbox"/> Original Report | Equipment Type: LED Dual Lens Security Flood Light |
| Test Engineer: LBi Li / <u>LBi Li</u> | |
| Report Number: <u>QCT25ER-1545E-01</u> | |
| Test Date: <u>May 20, 2025</u> | |
| Test Result: <u>Pass</u> | |
| Reviewed By: <u>Vincent Yang / Vincent yang</u> | |
| Approved By: <u>Kendy Wang / kendy wang</u> | |
| Prepared By: Shenzhen QC Testing Laboratory Co., Ltd. East of 1/F., Building E, Xinghong Science Park, No.111, Shuiku Road, Fenghuanggang, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China Tel: 0755-23008269 Fax: 0755-23726780 | |





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Revision History of This Test Report



1. GENERAL INFORMATION

1.1 Product Description for Equipment under Test (EUT)

| | |
|------------------------------|---|
| EUT Description | LED Dual Lens Security Flood Light |
| Model No. | S9DFL/850/MMLS/WH, USF1254/3000DM/850LEDF/P180MWG3-WT, S9DFL/YZZZZ/MMLS/AAAA, USF1254/XXXXDM/YZZZZLEDF/P180MWG3-AAAA (AAAA represents finish color, Y represents CRI, ZZZZ represents CCT, XXXX represents lumen) |
| Model Difference: | All the models are electrical identical including the same software parameter and hardware design (i.e., circuit design, PCB Layout, RF module/circuit, antenna type and antenna location, components on PCB, etc.), same mechanical structure and design (including product enclosure, materials, etc.), the only differences are appearance colour. |
| Tested Model | S9DFL/850/MMLS/WH |
| Sample(s) Status | Engineer sample |
| Operation Frequency: | 5850MHz |
| Channel numbers: | 1 |
| Modulation type: | FSK |
| Antenna Type: | Microwave antenna |
| Antenna gain ^{*1} : | 5.22dBi |
| Power supply: | AC 120V/60Hz |
| Trade Mark: | FEIT Electric |
| Applicant | Feit Electric company Inc. |
| Address | 4901 Gregg Road Pico Rivera, Ca 90660 |
| Manufacturer | Feit Electric company Inc. |
| Address | 4901 Gregg Road Pico Rivera, Ca 90660 |
| Sample No. | Y25E1545E01WC |

Note: ^{*1}This information provided by Manufacturer, SZ QC Lab is not responsible for the accuracy of this information.

1.2 System Test Configuration

1.2.1 Support Equipment

N/A

1.2.2 Test mode and voltage

Transmitting mode: The manufacturer provides the engineering sample to set the continuously transmitting mode, and the power level is the default.

Test voltage: DC 4.5V

| | |
|------------------|--|
| RF power setting | Default power |
| Test software | Engineering sample to set the continuously transmitting mode |



1.3 Test Facility

Test Firm : Shenzhen QC Testing Laboratory Co., Ltd.

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19. The testing quality system of our laboratory meets with ISO/IEC-17025 requirements. This approval result is accepted by MRA of APLAC.

Our test facility is recognized, certified, or accredited by the following organizations:

CNAS – Registration No.: L8464

The EMC Laboratory has been accredited by CNAS, and in compliance with ISO/IEC 17025:2017 General Requirements for testing Laboratories.

A2LA Certificate Number: 6759.01

The EMC Laboratory has been accredited by A2LA, and in compliance with ISO/IEC 17025:2017 General Requirements for testing Laboratories.

FCC Registration Number: 561109

The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission.

IC Registration Number: 29628

CAB identifier: CN0141

The EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada.

1.4 Measurement Uncertainty

| Parameter | Uncertainty |
|--|-----------------------------|
| Occupied Channel Bandwidth | $\pm 1.42 \times 10^{-4}\%$ |
| RF output power, conducted | $\pm 1.06\text{dB}$ |
| Power Spectral Density, conducted | $\pm 1.06\text{dB}$ |
| Unwanted Emissions, conducted | $\pm 2.51\text{dB}$ |
| AC Power Line Conducted Emission | $\pm 1.80\text{dB}$ |
| Radiated Spurious Emission test (9kHz-30MHz) | $\pm 2.66\text{dB}$ |
| Radiated Spurious Emission test (30MHz-1000MHz) | $\pm 4.04\text{dB}$ |
| Radiated Spurious Emission test (1000MHz-18000MHz) | $\pm 4.70 \text{ dB}$ |
| Radiated Spurious Emission test (18GHz-40GHz) | $\pm 4.80\text{dB}$ |
| Temperature | $\pm 0.8^\circ\text{C}$ |
| Humidity | $\pm 3.2\%$ |
| DC and low frequency voltages | $\pm 0.1\%$ |
| Time | $\pm 5\%$ |
| Duty cycle | $\pm 5\%$ |

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



2. Summary of Test Results

| Test Item | Section | Result |
|---------------------|------------------------|--------|
| Antenna Requirement | 15.203 | Pass |
| Conduction Emission | 15.207 | Pass |
| Radiated Emissions | 15.205, 15.209, 15.249 | Pass |
| 20dB Bandwidth | 15.215 (c) | Pass |

Note: 1. In the configuration tested, the EUT complied with the standards specified above.
2. Test according to ANSI C63.10:2013
3. All indications of Pass/Fail in this report are opinions expressed by Shenzhen QC Testing Laboratory Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only.



3. List of Test and Measurement Instruments

3.1 Conducted Emission Test

| Item | Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Cal.Due |
|------|--------------------------|---------------|-----------|------------|------------|------------|
| 1 | EMI Test Receiver | Rohde&Schwarz | ESIB 7 | 2277573376 | 2025.03.17 | 2026.03.16 |
| 2 | EMI Test Receiver | Rohde&Schwarz | ESCI3 | 101820 | 2024.08.06 | 2025.08.05 |
| 3 | Artificial Mains Network | SCHWARZBECK | NSLK8126 | 8126200 | 2024.08.06 | 2025.08.05 |
| 4 | PULSE LIMITER | Rohde&Schwarz | ESH3-Z2 | 100058 | 2025.03.18 | 2026.03.17 |

Conducted Emission Measurement Software: TS+ JS32-CE Ver 5.0.0

3.2 Radiated Emission Test

| Item | Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Cal.Due |
|------|-------------------------------|---------------|---------------------|--------------|------------|------------|
| 1. | EMI Test Receiver | Rohde&Schwarz | ESIB 7 | 2277573376 | 2025.03.17 | 2026.03.16 |
| 2. | EMI Test Receiver | Rohde&Schwarz | ESPI3 | 101131 | 2025.03.17 | 2026.03.16 |
| 3. | Spectrum Analyzer | Rohde&Schwarz | FSV 40 | 101458 | 2025.03.18 | 2026.03.17 |
| 4. | TRILOG Broadband Test-Antenna | SCHWARZBECK | VULB9168 | VULB9168-588 | 2025.03.22 | 2026.03.21 |
| 5. | Loop Antenna | EMCO | 6502 | 2133 | 2025.03.19 | 2026.03.18 |
| 6. | horn antenna | SCHWARZBECK | BBHA9120D | 2069 | 2024.08.10 | 2025.08.09 |
| 7. | Horn Antenna | COM-MW | ZLB7-18-40G-950 | 12221225 | 2024.08.10 | 2026.08.09 |
| 8. | Pre-amplifier | MITEQ | TTA0001-18 | 2063645 | 2025.03.17 | 2026.03.16 |
| 9. | Pre-amplifier | MITEQ | TTA1800-30-HG | 2063644 | 2025.03.17 | 2026.03.16 |
| 10. | Pre-amplifier | COM-MW | DLAN-18000-40000-02 | 10229104 | 2025.03.22 | 2026.03.21 |
| 11. | 966 Camber | ZhongYU | 9*6*6 | / | 2023.05.08 | 2026.05.07 |

Radiated Emission Measurement Software: EZ_EMC Ver QCT03A2 RE+



3.3 RF Conducted test

| Item | Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Cal.Due |
|------|-------------------------------------|-----------------|----------------------|------------|------------|------------|
| 1. | Wideband Radio Communication Tester | Rohde & Schwarz | CW500 | 151583 | 2025.03.18 | 2026.03.17 |
| 2. | Spectrum Analyzer | ROHDE & SCHWARZ | FSV 40 | 101458 | 2025.03.18 | 2026.03.17 |
| 3. | Signal Generator | Agilent | N5182A | MY50141563 | 2025.03.18 | 2026.03.17 |
| 4. | RF Automatic Test System | MW | MW100-RFCB/MW100-PSB | MW2007004 | 2025.03.18 | 2026.03.17 |

RF Conducted Measurement Software: MTS 8310 Ver 2.0.0.0



4. Antenna requirement

Standard requirement: FCC Part15 C Section 15.203

15.203 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 permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, 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.

EUT Antenna: The antenna is Microwave antenna, reference to the Internal Photos for details.

5. Conducted Emissions

5.1 Applicable Standard

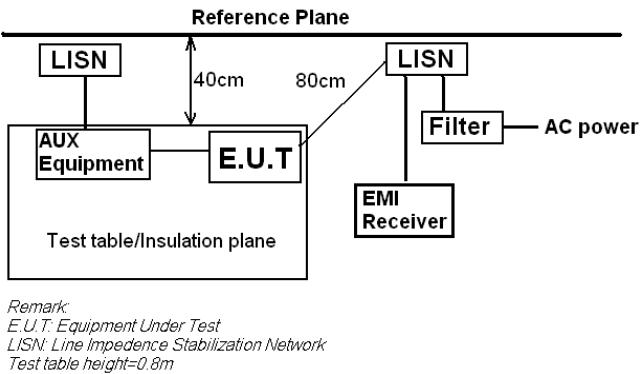
FCC Part15 C Section 15.207

5.2 Limit

| Frequency range (MHz) | Limit (dB μ V) | |
|-----------------------|--------------------|-----------|
| | Quasi-peak | Average |
| 0.15-0.5 | 66 to 56* | 56 to 46* |
| 0.5-5 | 56 | 46 |
| 5-30 | 60 | 50 |

Note *: The level decreases linearly with the logarithm of the frequency.

5.3 Test setup



5.4 EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.
RBW=9 kHz, VBW=30 kHz, Sweep time=auto

5.5 Test procedure

1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment.
2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs).
3. Both sides of A.C. line are checked for maximum conducted interference. 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.

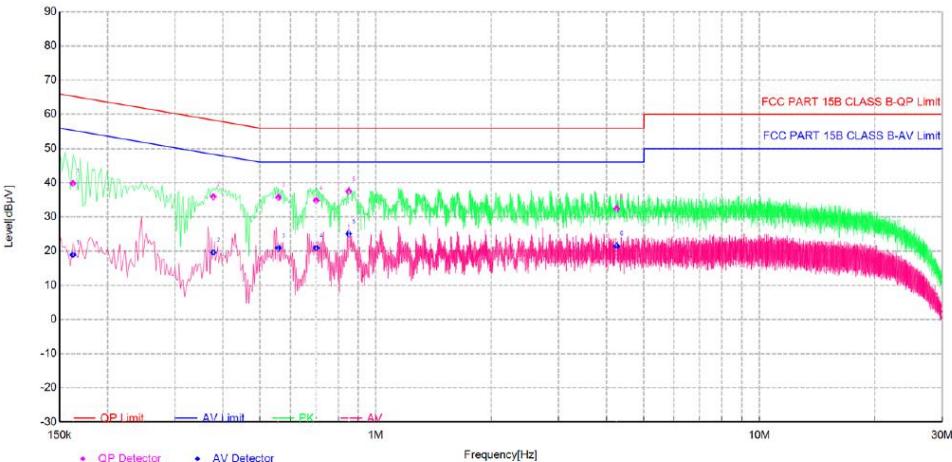
5.6 Test Data

| | | | |
|--------------|----------|--------------|---------|
| Temperature | 25°C | Humidity | 59% |
| ATM Pressure | 101.1kPa | Antenna Gain | 5.22dBi |
| Test by | LBi Li | Test result | PASS |



Measurement data:

Line:

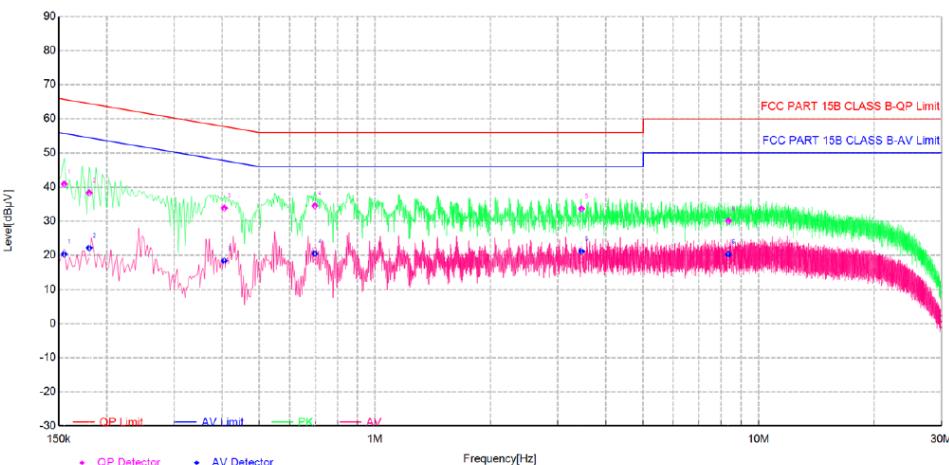


Final Data List

| NO. | Freq. [MHz] | Factor[dB] | QP Value [dB μ V] | QP Limit [dB μ V] | QP Margin [dB] | AV Value [dB μ V] | AV Limit [dB μ V] | AV Margin [dB] | Phase | Verdict |
|-----|----------------|------------|-----------------------------|-----------------------------|----------------------|-----------------------------|-----------------------------|----------------------|-------|---------|
| 1 | 0.1625 | 10.60 | 39.84 | 65.34 | 25.50 | 18.91 | 55.34 | 36.43 | L | PASS |
| 2 | 0.3775 | 10.75 | 35.94 | 58.33 | 22.39 | 19.59 | 48.33 | 28.74 | L | PASS |
| 3 | 0.5575 | 10.75 | 35.75 | 56.00 | 20.25 | 20.95 | 46.00 | 25.05 | L | PASS |
| 4 | 0.7000 | 10.77 | 34.84 | 56.00 | 21.16 | 20.96 | 46.00 | 25.04 | L | PASS |
| 5 | 0.8500 | 10.71 | 37.49 | 56.00 | 18.51 | 25.07 | 46.00 | 20.93 | L | PASS |
| 6 | 4.2500 | 10.73 | 32.43 | 56.00 | 23.57 | 21.49 | 46.00 | 24.51 | L | PASS |



Neutral:



Final Data List

| NO. | Freq. [MHz] | Factor[dB] | QP Value [dBuV] | QP Limit [dBuV] | QP Margin [dB] | AV Value [dBuV] | AV Limit [dBuV] | AV Margin [dB] | Phase | Verdict |
|-----|-------------|------------|-----------------|-----------------|----------------|-----------------|-----------------|----------------|-------|---------|
| 1 | 0.1550 | 10.47 | 40.92 | 65.73 | 24.81 | 20.41 | 55.73 | 35.32 | N | PASS |
| 2 | 0.1800 | 10.48 | 38.31 | 64.49 | 26.18 | 22.20 | 54.49 | 32.29 | N | PASS |
| 3 | 0.4050 | 10.60 | 33.88 | 57.75 | 23.87 | 18.36 | 47.75 | 29.39 | N | PASS |
| 4 | 0.6975 | 10.77 | 34.54 | 56.00 | 21.46 | 20.55 | 46.00 | 25.45 | N | PASS |
| 5 | 3.4535 | 10.66 | 33.67 | 56.00 | 22.33 | 21.24 | 46.00 | 24.76 | N | PASS |
| 6 | 8.3450 | 10.57 | 30.08 | 60.00 | 29.92 | 20.31 | 50.00 | 29.69 | N | PASS |

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.

6. Radiated Emission Method

6.1 Applicable Standard

FCC Part15 C Section 15.249

6.2 Limit

| Fundamental frequency | Field strength of fundamental (millivolts/meter) | Field strength of harmonics (microvolts/meter) |
|-----------------------|--|--|
| 902-928 MHz | 50 | 500 |
| 2400-2483.5 MHz | 50 | 500 |
| 5725-5875 MHz | 50 | 500 |
| 24.0-24.25 GHz | 250 | 2500 |

As per FCC Section 15.249

(c) Field strength limits are specified at a distance of 3 meters.

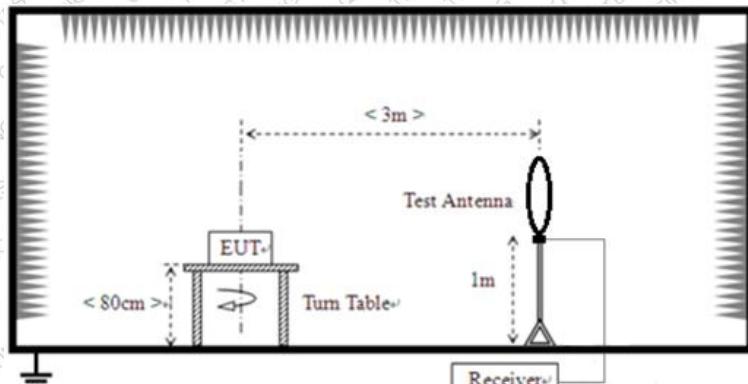
(d) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

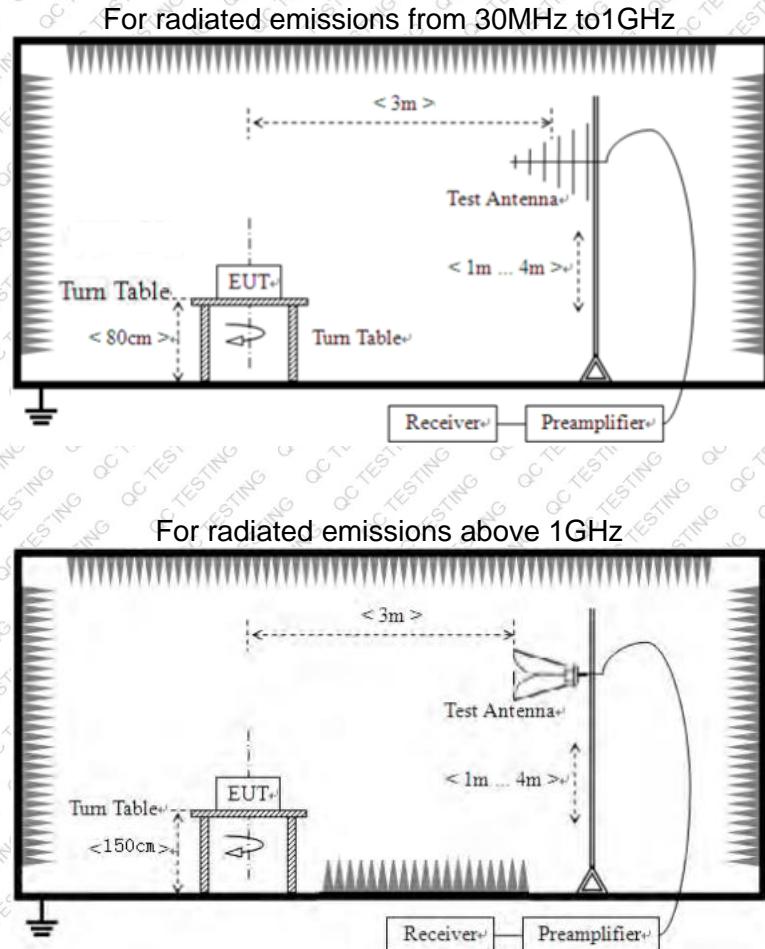
6.3 Receiver setup

| Frequency | Detector | RBW | VBW | Value |
|--------------|------------|--------|--------|------------|
| 9KHz-150KHz | Quasi-peak | 200Hz | 600Hz | Quasi-peak |
| 150KHz-30MHz | Quasi-peak | 9KHz | 30KHz | Quasi-peak |
| 30MHz-1GHz | Quasi-peak | 100KHz | 300KHz | Quasi-peak |
| Above 1GHz | Peak | 1MHz | 3MHz | Peak |
| | Peak | 1MHz | 10Hz | Average |

6.4 Test setup

For radiated emissions from 9kHz to 30MHz





6.5 Test Procedure

1. The EUT was placed on the top of a rotating table (0.8 meters for below 1GHz and 1.5 meters for above 1GHz) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. 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.
4. 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 and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. 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.



6.6 Test Data

| | | | |
|--------------|----------|--------------|---------|
| Temperature | 25-26°C | Humidity | 49-54% |
| ATM Pressure | 101.1kPa | Antenna Gain | 5.22dBi |
| Test by | LBi Li | Test result | PASS |

Remarks:

Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis which is worse case.

Measurement data:

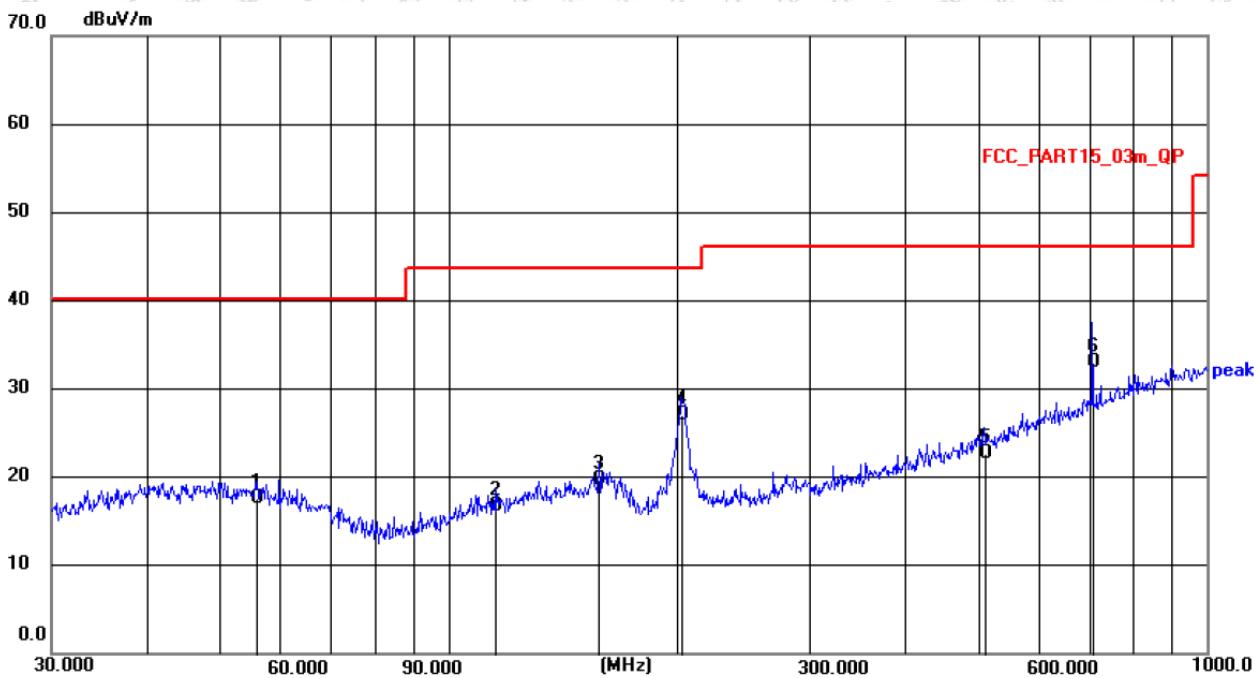
9 kHz ~ 30 MHz

The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.



Below 1GHz:

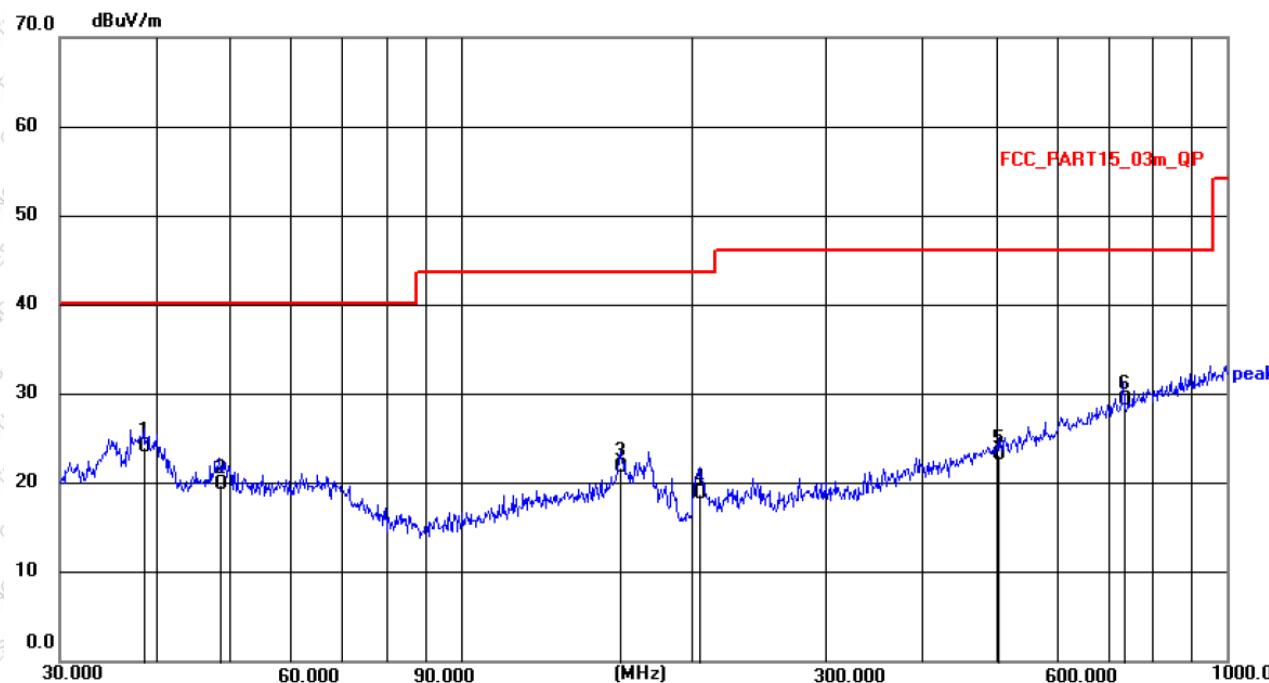
Horizontal



| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|-----|-----------------|----------------|---------------|----------------|----------------|-------------|----------|
| 1 | 56.0007 | 3.62 | 13.93 | 17.55 | 40.00 | 22.45 | QP |
| 2 | 115.3205 | 3.95 | 12.68 | 16.63 | 43.50 | 26.87 | QP |
| 3 | 158.1123 | 5.19 | 14.41 | 19.60 | 43.50 | 23.90 | QP |
| 4 | 202.8104 | 15.90 | 11.18 | 27.08 | 43.50 | 16.42 | QP |
| 5 | 508.2582 | 3.05 | 19.70 | 22.75 | 46.00 | 23.25 | QP |
| 6 * | 706.6999 | 10.04 | 22.92 | 32.96 | 46.00 | 13.04 | QP |



Vertical



| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|-----|-----------------|----------------|---------------|----------------|----------------|-------------|----------|
| 1 * | 38.6160 | 9.86 | 14.27 | 24.13 | 40.00 | 15.87 | QP |
| 2 | 48.5016 | 5.36 | 14.46 | 19.82 | 40.00 | 20.18 | QP |
| 3 | 161.4742 | 7.48 | 14.25 | 21.73 | 43.50 | 21.77 | QP |
| 4 | 204.9551 | 7.58 | 11.30 | 18.88 | 43.50 | 24.62 | QP |
| 5 | 504.7062 | 3.54 | 19.63 | 23.17 | 46.00 | 22.83 | QP |
| 6 | 731.9203 | 5.93 | 23.42 | 29.35 | 46.00 | 16.65 | QP |



Above 1G:

| Frequency (MHz) | Read Level (dB μ V) | polarization | Factor (dB/m) | Level (dB μ V/m) | Limit Line (dB μ V/m) | Margin (dB) | Detector |
|-----------------|-------------------------|--------------|---------------|----------------------|---------------------------|-------------|----------|
| 5725 | 63.35 | H | -17.13 | 46.22 | 74 | 27.78 | peak |
| 5725 | 63.77 | V | -17.13 | 46.64 | 74 | 27.36 | peak |
| 5875 | 63.48 | H | -17.08 | 46.4 | 74 | 27.6 | peak |
| 5875 | 64.11 | V | -17.08 | 47.03 | 74 | 26.97 | peak |
| 11700 | 46.02 | H | -3.07 | 42.95 | 74 | 31.05 | peak |
| 11700 | 45.78 | V | -3.07 | 42.71 | 74 | 31.29 | peak |

| Frequency (MHz) | Read Level (dB μ V) | polarization | Factor (dB/m) | Peak value (dB μ V/m) | Average Limit (dB μ V/m) | Margin (dB) |
|-----------------|-------------------------|--------------|---------------|---------------------------|------------------------------|-------------|
| 5850 | 89.47 | H | -17.09 | 72.38 | 93.98 | 21.6 |
| 5850 | 92.63 | V | -17.09 | 75.54 | 93.98 | 18.44 |

Remarks:

1. Level =Receiver Read level + Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.
3. If the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement, so AV emission value did not show in above table if the peak value complies with average limit.

7. 20dB Occupy Bandwidth

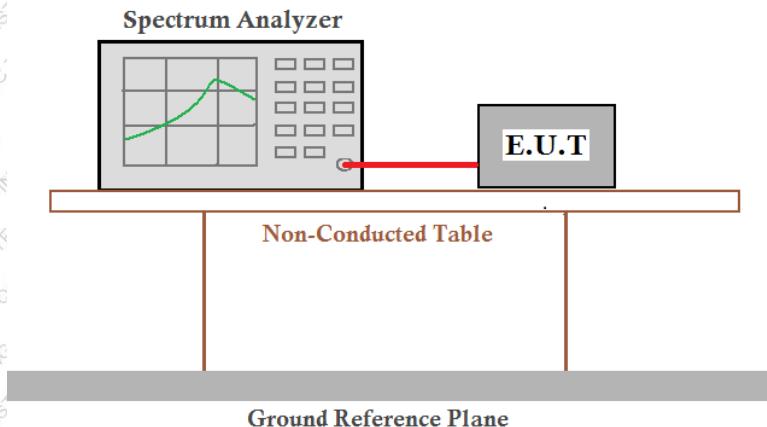
7.1 Applicable Standard

FCC Part15 C Section 15.215

7.2 Limit

N/A

7.3 Test setup



7.4 Test Data

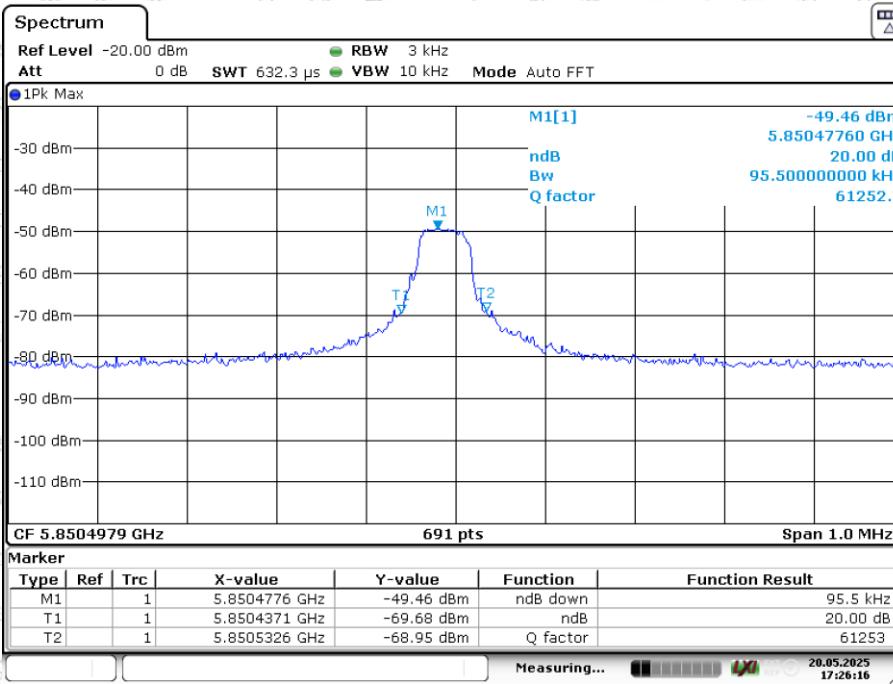
| | | | |
|--------------|----------|--------------|--------|
| Temperature | 23.5 °C | Humidity | 49% |
| ATM Pressure | 101.1kPa | Antenna Gain | 5.22dB |
| Test by | LBi Li | Test result | PASS |

Please refer to following table and plots.



| Test Frequency (MHz) | -20dB bandwidth (MHz) |
|----------------------|-----------------------|
| 5850 | 0.096 |

Test plot as follows:



----- THE END OF TEST REPORT -----