

# **RADIO TEST REPORT**

## **FCC ID: 2ABYN140**

**Product :** TTL Li-ion Camera Flash

**Trade Mark :** 

**Model Name :** V480 C

**Family Model :** V480 N, V480 S, V480 F, V480 O

**Report No. :** S25042303702001

### **Prepared for**

**GODOX PHOTO EQUIPMENT CO.,LTD**

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### **Prepared by**

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**TEST RESULT CERTIFICATION**

**Applicant's name** ..... : GODOX PHOTO EQUIPMENT CO.,LTD  
**Address**..... : 1st to 4th Floor, Building 2/1st to 4th Floor, Building 4 ,Yaochuan Industrial Zone, Tangwei Community, Fuhai Street, Baoan District, Shenzhen, 518103 China  
**Manufacturer's Name** ..... : GODOX Photo Equipment Co.,Ltd.  
**Address**..... : 4th Floor of Building 1, 1st to 4 th Floor of Building 2, 4th Floor of Building 3,1st to 4th Floor of Building 4, Yaochuan Industrial Zone, Tangwei Community, Fuhai Street, Bao'an District, Shenzhen 518103, China

**Product description**

**Product name** ..... : TTL Li-ion Camera Flash  
**Model and/or type reference** : V480 C  
**Family Model** ..... : V480 N, V480 S, V480 F, V480 O  
**Rating(s)** ..... : DC 7.2V from Battery

**Standards** ..... : FCC Part15.249

**Test procedure** ..... ANSI C63.10-2013

This device described above has been tested by NTEK, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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**Test Sample Number** ..... : S250423037003

**Date of Test** ..... :

**Date (s) of performance of tests**..... : Apr. 25. 2025 ~ Jul. 09. 2025

**Date of Issue** ..... : Jul. 09. 2025

**Test Result** ..... : **Pass**

Prepared By : Kieron Luo  
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Reviewed By : Aaron Cheng  
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Alex Li  
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## 1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

| FCC Part15, Subpart C (15.249) |                            |          |        |
|--------------------------------|----------------------------|----------|--------|
| Standard Section               | Test Item                  | Judgment | Remark |
| 15.207                         | Conducted Emission         | N/A      |        |
| 15.203                         | Antenna Requirement        | Pass     |        |
| 15.249<br>15.209               | Radiated Spurious Emission | Pass     |        |
| 15.249(2)                      | Frequency Tolerance        | N/A      |        |
| 15.249(a)                      | Fundamental Measurement    | Pass     |        |
| 15.205                         | Band Edge Emission         | Pass     |        |
| 15.249                         | Occupied Bandwidth         | Pass     |        |

Note:

(1)When the product battery is charging, the product stops working

(2) The Type-C port of the product can only be used for data transmission and does not support charging

## 1.1 TEST FACILITY

Shenzhen NTEK Testing Technology Co., Ltd  
 Add. : No. 24 Xinfu East Road, Xiangshan Community, Xinqiao Street, Baoan District, Shenzhen, Guangdong, People's Republic of China  
 FCC FRN Registration No.:463705; IC Registration No.:9270A-1  
 CNAS Registration No.:L5516

## 1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement  $y \pm U$  · where expended uncertainty  $U$  is based on a standard uncertainty multiplied by a coverage factor of  $k=2$  · providing a level of confidence of approximately **95 %** .

| No. | Item                         | Uncertainty               |
|-----|------------------------------|---------------------------|
| 1   | Conducted Emission Test      | $\pm 1.38\text{dB}$       |
| 2   | RF power,conducted           | $\pm 0.16\text{dB}$       |
| 3   | Spurious emissions,conducted | $\pm 0.21\text{dB}$       |
| 4   | All emissions,radiated(<1G)  | $\pm 4.68\text{dB}$       |
| 5   | All emissions,radiated(>1G)  | $\pm 4.89\text{dB}$       |
| 6   | Temperature                  | $\pm 0.5^{\circ}\text{C}$ |
| 7   | Humidity                     | $\pm 2\%$                 |

## 2. GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF EUT

|                     |                                                                                                                                                                  |                            |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| Equipment           | TTL Li-ion Camera Flash                                                                                                                                          |                            |
| Trade Mark          |                                                                                 |                            |
| Model Name          | V480 C                                                                                                                                                           |                            |
| Family Model        | V480 N, V480 S, V480 F, V480 O                                                                                                                                   |                            |
| Model Difference    | All models have the same circuit, structure and material, except for the bottom hot shoe is different.                                                           |                            |
| Product Description | The EUT is a TTL Li-ion Camera Flash                                                                                                                             |                            |
|                     | Operation Frequency:                                                                                                                                             | 2412.999634-2464.499756MHz |
|                     | Modulation Type:                                                                                                                                                 | MSK                        |
|                     | Antenna Designation:                                                                                                                                             | PCB Antenna                |
|                     | Antenna Gain(Peak)                                                                                                                                               | -0.37dBi                   |
|                     | Based on the application, features, or specification exhibited in User's Manual. More details of EUT technical specification, please refer to the User's Manual. |                            |
| Channel List        | Please refer to the Note 2.                                                                                                                                      |                            |
| Adapter             | Model: A8A-050200U-US                                                                                                                                            |                            |
|                     | Input: 100-240V~ 50/60Hz 0.35A                                                                                                                                   |                            |
|                     | Output: 5.0V---2.0A 10.0W                                                                                                                                        |                            |
| Rating              | DC 7.2V from battery                                                                                                                                             |                            |
| Battery             | DC 7.2V, 2200mAh, 15.84Wh                                                                                                                                        |                            |
| Hardware version:   | 20240907E01                                                                                                                                                      |                            |
| Firmware version:   | N/A                                                                                                                                                              |                            |
| Software version:   | V1.0                                                                                                                                                             |                            |

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

2.

| RF Channel | Frequency (MHz) | RF Channel | Frequency (MHz) | RF Channel | Frequency (MHz) | RF Channel | Frequency (MHz) |
|------------|-----------------|------------|-----------------|------------|-----------------|------------|-----------------|
| 1          | 2412.999634     | 9          | 2425.999634     | 17         | 2439.499908     | 25         | 2452.999786     |
| 2          | 2414.499664     | 10         | 2427.999939     | 18         | 2440.999939     | 26         | 2454.499817     |
| 3          | 2415.999695     | 11         | 2429.499969     | 19         | 2442.999847     | 27         | 2455.999847     |
| 4          | 2418.000000     | 12         | 2431.000000     | 20         | 2444.499878     | 28         | 2457.999756     |
| 5          | 2419.499634     | 13         | 2432.999908     | 21         | 2445.999908     | 29         | 2459.499786     |
| 6          | 2420.999664     | 14         | 2434.499939     | 22         | 2447.999817     | 30         | 2460.999817     |
| 7          | 2422.999969     | 15         | 2435.999969     | 23         | 2449.499847     | 31         | 2462.999725     |
| 8          | 2424.500000     | 16         | 2437.999878     | 24         | 2450.999878     | 32         | 2464.499756     |

Note: 1. Channels 1-40 are all frequencies supported by the product, with the same modulation method and bandwidth. Channels 41-80 and 81-99 repeat channels 1-40. The channel allocation of this product is manually selected for better anti-interference performance when multiple machines are used together .

2. Three channels were tested, namely channel 1, channel 18, and channel 40.

3.

Table for Filed Antenna

| Ant. | Brand | Model Name | Antenna Type | Connector | Gain (dBi) | NOTE    |
|------|-------|------------|--------------|-----------|------------|---------|
| 1    | N/A   | N/A        | PCB Antenna  | N/A       | -0.37      | Antenna |

## 2.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

| Pretest Mode | Description       |
|--------------|-------------------|
| Mode 1       | TX 2412.999634MHz |
| Mode 2       | TX 2437.999878MHz |
| Mode 3       | TX 2464.499756MHz |

| For Radiated Spurious Emission |                   |
|--------------------------------|-------------------|
| Pretest Mode                   | Description       |
| Mode 1                         | TX 2412.999634MHz |
| Mode 2                         | TX 2437.999878MHz |
| Mode 3                         | TX 2464.499756MHz |

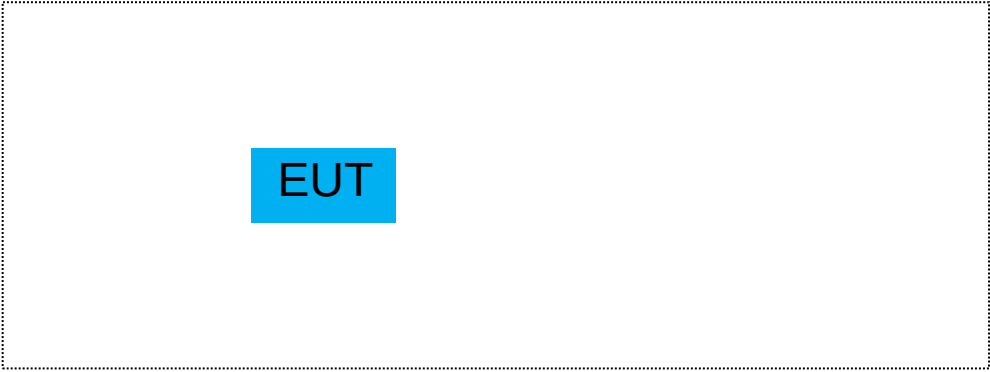
Note:

- (1) The measurements are performed at the highest, middle, lowest available channels.
- (2) All models have been tested and evaluated, but only the worst mode will be reflected in the report



## 2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Radiated Spurious Emission Test



EUT

## 2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

| Item | Equipment               | Model/Type No. | Series No. | Note |
|------|-------------------------|----------------|------------|------|
| EUT  | TTL Li-ion Camera Flash | V480 C         | N/A        | N/A  |
|      |                         |                |            |      |
|      |                         |                |            |      |
|      |                         |                |            |      |
|      |                         |                |            |      |
|      |                         |                |            |      |

| Item | Cable Type | Shielded Type | Ferrite Core | Length | Note |
|------|------------|---------------|--------------|--------|------|
|      |            |               |              |        |      |
|      |            |               |              |        |      |
|      |            |               |              |        |      |
|      |            |               |              |        |      |
|      |            |               |              |        |      |

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.

## 2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

### Radiation Test equipment

| Item | Kind of Equipment                  | Manufacturer | Type No.     | Serial No.     | Last calibration | Calibrated until | Calibration period |
|------|------------------------------------|--------------|--------------|----------------|------------------|------------------|--------------------|
| 1    | Spectrum Analyzer                  | Agilent      | E4440A       | MY41000130     | 2025.04.24       | 2026.04.23       | 1 year             |
| 2    | Spectrum Analyzer                  | Agilent      | N9020A       | MY49100060     | 2025.04.17       | 2026.04.16       | 1 year             |
| 3    | Spectrum Analyzer                  | R&S          | FSV40        | 101417         | 2025.04.17       | 2026.04.16       | 1 year             |
| 4    | Test Receiver                      | R&S          | ESPI7        | 101318         | 2025.04.17       | 2026.04.16       | 1 year             |
| 5    | Bilog Antenna                      | TESEQ        | CBL6111D     | 31216          | 2025.04.17       | 2026.04.16       | 1 year             |
| 6    | 50Ω Coaxial Switch                 | Anritsu      | MP59B        | 6200983705     | 2023.05.06       | 2026.05.05       | 3 year             |
| 7    | Horn Antenna                       | SCHWARZBECK  | BBHA 9120 D  | 2816           | 2024.05.18       | 2027.05.17       | 3 year             |
| 8    | Broadband Horn Antenna             | SCHWARZBECK  | BBHA 9170    | 803            | 2024.05.12       | 2027.05.11       | 3 year             |
| 9    | Amplifier                          | EMC          | EMC051835 SE | 980246         | 2025.04.17       | 2026.04.16       | 1 year             |
| 10   | Active Loop Antenna                | SCHWARZBECK  | FMZB 1519 B  | 055            | 2024.05.17       | 2027.05.16       | 3 year             |
| 11   | Power Meter                        | DARE         | RPR3006W     | 15I00041SN O84 | 2025.04.17       | 2026.04.16       | 1 year             |
| 12   | Test Cable (9KHz-30MHz)            | N/A          | R-01         | N/A            | 2023.06.17       | 2026.06.16       | 3 year             |
| 13   | Test Cable (30MHz-1GHz)            | N/A          | R-02         | N/A            | 2023.06.17       | 2026.06.16       | 3 year             |
| 14   | High Test Cable(1G-40G Hz)         | N/A          | R-03         | N/A            | 2023.06.17       | 2026.06.16       | 3 year             |
| 15   | Filter                             | TRILTHIC     | 2400MHz      | 29             | 2024.04.26       | 2027.04.25       | 3 year             |
| 16   | temporary antenna connector (Note) | NTS          | R001         | N/A            | N/A              | N/A              | N/A                |

Note:

We will use the temporary antenna connector (soldered on the PCB board) When conducted test  
And this temporary antenna connector is listed within the instrument list

Note: Each piece of equipment is scheduled for calibration once a year except the Test Cable which is scheduled for calibration every 3 years.

#### Measurement Software

| Item | Manufacturer | Software Name        | Software Version | Description       |
|------|--------------|----------------------|------------------|-------------------|
| 1    | MWRFTest     | MTS 8310 2.4GHz/5GHz | 2.0              | RF Conducted Test |
| 2    | Farad        | EZ-EMC_RE            | AIT-03A          | RadiatedTest      |
| 3    | raditeq      | RadiMation           | 2023.1.3         | RadiatedTest      |
| 4    | Farad        | EZ-EMC_CE            | AIT-03A          | AC Conducted Test |

### 3. ANTENNA REQUIREMENT

#### 3.1 STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 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.

#### 3.2 EUT ANTENNA

The EUT antenna is permanent attached PCB antenna(Gain:-0.37 dBi). It comply with the standard requirement.

### 3.3 CONDUCTED EMISSION MEASUREMENT

#### 3.3.1 POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

| Frequency(MHz) | Conducted Emission Limit |         |
|----------------|--------------------------|---------|
|                | Quasi-peak               | Average |
| 0.15-0.5       | 66-56*                   | 56-46*  |
| 0.5-5.0        | 56                       | 46      |
| 5.0-30.0       | 60                       | 50      |

Note: 1. \*Decreases with the logarithm of the frequency  
2. The lower limit shall apply at the transition frequencies  
3. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

The following table is the setting of the receiver

| Receiver Parameters | Setting  |
|---------------------|----------|
| Attenuation         | 10 dB    |
| Start Frequency     | 0.15 MHz |
| Stop Frequency      | 30 MHz   |
| IF Bandwidth        | 9 kHz    |

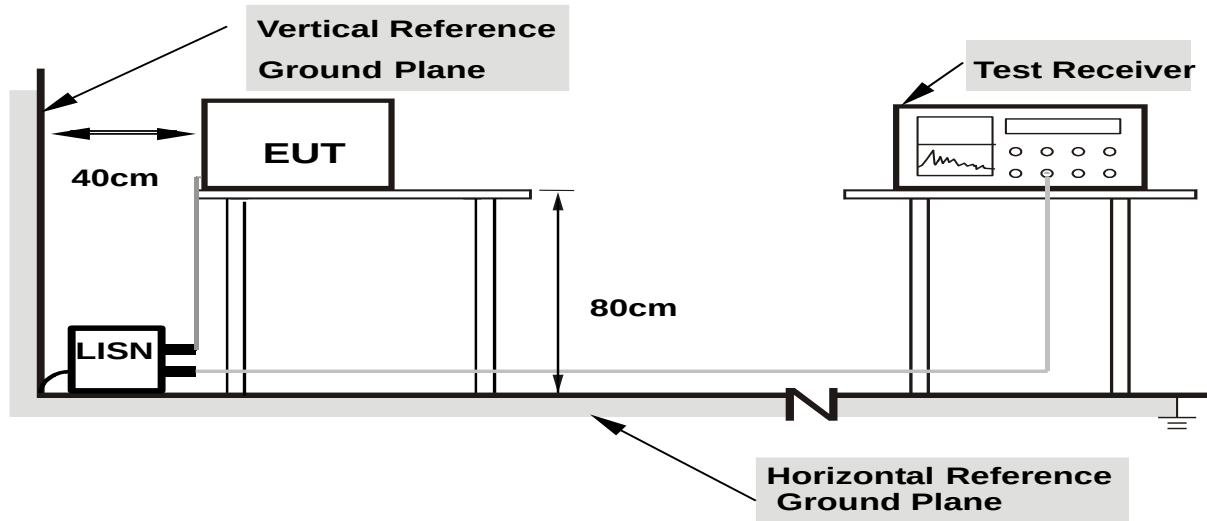
#### 3.3.2 TEST PROCEDURE

- The EUT was placed 0.4 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- LISN at least 80 cm from nearest part of EUT chassis.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.  
Margin=Measure-ment-Limits, Measure-ment=Reading level+Correct Factor

#### 3.3.3 DEVIATION FROM TEST STANDARD

No deviation

### 3.3.4 TEST SETUP



**Note:** 1.Support units were connected to second LISN.  
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

3.2.5 TEST RESULT

|                |                         |                     |        |
|----------------|-------------------------|---------------------|--------|
| EUT :          | TTL Li-ion Camera Flash | Model Name :        | V480 C |
| Temperature :  | 20.5 °C                 | Relative Humidity : | 52.4%  |
| Pressure :     | 1010hPa                 | Phase :             | N/A    |
| Test Voltage : | N/A                     | Test Mode :         | N/A    |

Note: Not Applicable.



### 3.4 RADIATED EMISSION MEASUREMENT

#### 3.4.1 Radiated Emission Limits (FCC 15.209)

| Frequencies (MHz) | Field Strength (micorvolts/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                            |
| Frequency (MHz)   | Limit (dBuV)                      |                               |
| 30~88             | 40                                | 3                             |
| 88~216            | 43.5                              | 3                             |
| 216~960           | 46                                | 3                             |
| 960 -10000        | 54.00                             | 3                             |
| *902 - 928        | 94.00                             | 3                             |

Note:

- (1) The tighter limit applies at the band edges.
- (2) Emission level (dBuV/m)=20log Emission level (uV/m).
- (3) \*Note: This is the limit for the fundamental frequency.

#### LIMITS OF RADIATED EMISSION MEASUREMENT (FCC 15.249)

| Frequency of Emission (MHz) | Field Strength of fundamental ((millivolts /meter) | Field Strength of Harmonics (microvolts/meter) |
|-----------------------------|----------------------------------------------------|------------------------------------------------|
| 2400-2483.5                 | 50                                                 | 500                                            |

Notes:

- (1) 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 Section 15.209, whichever is the lesser attenuation.

| Spectrum Parameter                    | Setting               |
|---------------------------------------|-----------------------|
| Attenuation                           | Auto                  |
| Start Frequency                       | 1000 MHz              |
| Stop Frequency                        | 10th carrier harmonic |
| RB / VB (emission in restricted band) | 1MHz / 1MHz for Peak  |

| Receiver Parameter     | Setting                          |
|------------------------|----------------------------------|
| Attenuation            | Auto                             |
| Start ~ Stop Frequency | 9kHz~150kHz / RB 200Hz for QP    |
| Start ~ Stop Frequency | 150kHz~30MHz / RB 9kHz for QP    |
| Start ~ Stop Frequency | 30MHz~1000MHz / RB 120kHz for QP |

**3.4.2 TEST PROCEDURE**

- a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b. The EUT was placed on the top of a rotating table 0.8 m for below 1GHz and 1.5m for above 1GHz the ground at a 3 meter. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8 m for below 1GHz and 1.5m for above 1GHz; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. 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.
- e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

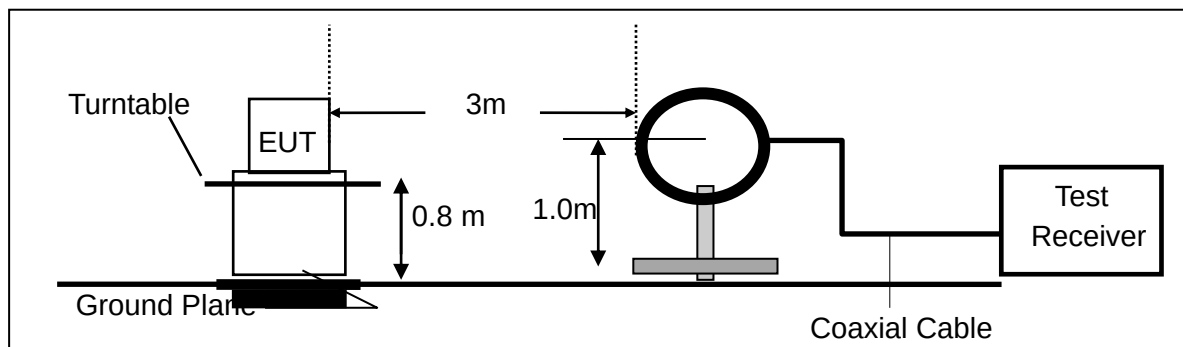
Both horizontal and vertical antenna polarities were tested  
and performed pretest to three orthogonal axis. The worst case emissions were reported

**3.4.3 DEVIATION FROM TEST STANDARD**

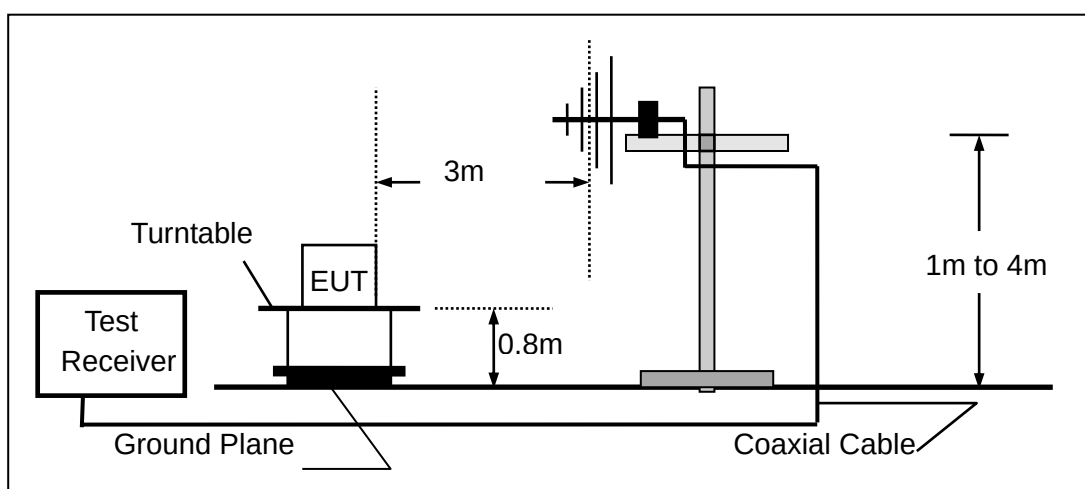
No deviation

(A) Radiated Emission Test-Up Frequency Below 30MHz

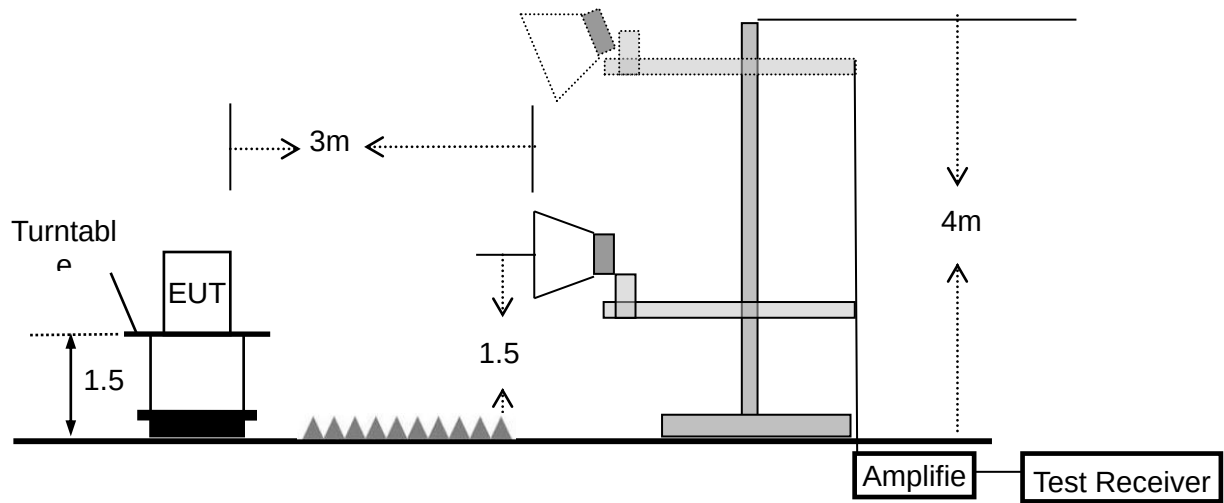
(a)



(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



(C) Radiated Emission Test-Up Frequency Above 1GHz



### 3.4.4 TEST RESULTS (BELOW 30MHz)

|               |                         |                     |         |
|---------------|-------------------------|---------------------|---------|
| EUT :         | TTL Li-ion Camera Flash | Model Name. :       | V480 C  |
| Temperature : | 20 °C                   | Relative Humidity : | 48%     |
| Pressure :    | 1010 hPa                | Test Voltage :      | DC 7.2V |
| Test Mode :   | TX                      | Polarization :      | --      |

| Freq. | Reading  | Limit    | Margin | State |
|-------|----------|----------|--------|-------|
| (MHz) | (dBuV/m) | (dBuV/m) | (dB)   | P/F   |
| --    | --       | --       | --     | PASS  |
| --    | --       | --       | --     | PASS  |

#### NOTE:

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Remark:1. Emission level in dBuV/m= $20 \log (\mu\text{V/m})$

2. Measurement was performed at an antenna to the closed point of EUT distance of meters.

3. For Frequency 9kHz~30MHz:

Distance extrapolation factor = $40 \log (\text{Specific distance/ test distance})(\text{dB})$ ;

Limit line=Specific limits(dBuV) + distance extrapolation factor.

For Frequency above 30MHz:

Distance extrapolation factor = $20 \log (\text{Specific distance/ test distance})(\text{dB})$ ;

Limit line=Specific limits(dBuV) + distance extrapolation factor.

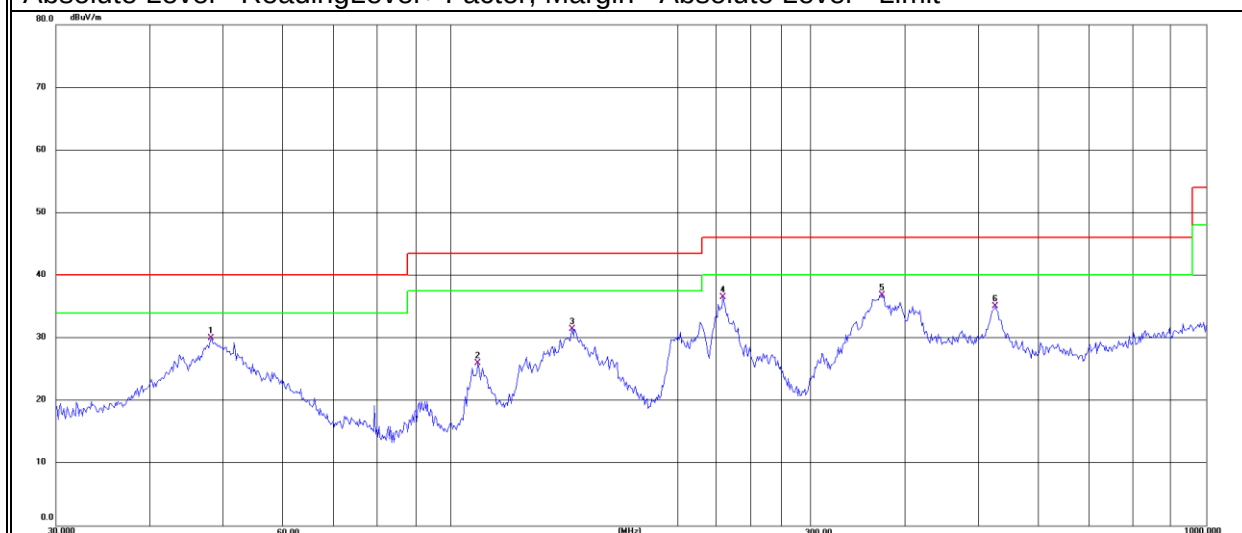
### 3.4.5 TEST RESULTS (BELOW 1000 MHz)

|               |                         |                     |          |
|---------------|-------------------------|---------------------|----------|
| EUT :         | TTL Li-ion Camera Flash | Model Name :        | V480 C   |
| Temperature : | 24.1 °C                 | Relative Humidity : | 51%      |
| Pressure :    | 1010 hPa                | Test Voltage :      | DC 7.2V  |
| Test Mode :   | Mode 1                  | Polarization :      | Vertical |

| Polar<br>(H/V) | Frequency | Meter<br>Reading | Factor | Emission<br>Level | Limits   | Margin | Remark |
|----------------|-----------|------------------|--------|-------------------|----------|--------|--------|
|                | (MHz)     | (dBuV)           | (dB)   | (dBuV/m)          | (dBuV/m) | (dB)   |        |
| V              | 48.1630   | 10.25            | 19.72  | 29.97             | 40.00    | -10.03 | QP     |
| V              | 108.6470  | 8.19             | 17.82  | 26.01             | 43.50    | -17.49 | QP     |
| V              | 144.8420  | 17.19            | 14.22  | 31.41             | 43.50    | -12.09 | QP     |
| V              | 229.2930  | 17.80            | 18.73  | 36.53             | 46.00    | -9.47  | QP     |
| V              | 372.0050  | 14.78            | 22.07  | 36.85             | 46.00    | -9.15  | QP     |
| V              | 526.3970  | 9.76             | 25.32  | 35.08             | 46.00    | -10.92 | QP     |

**Remark:**

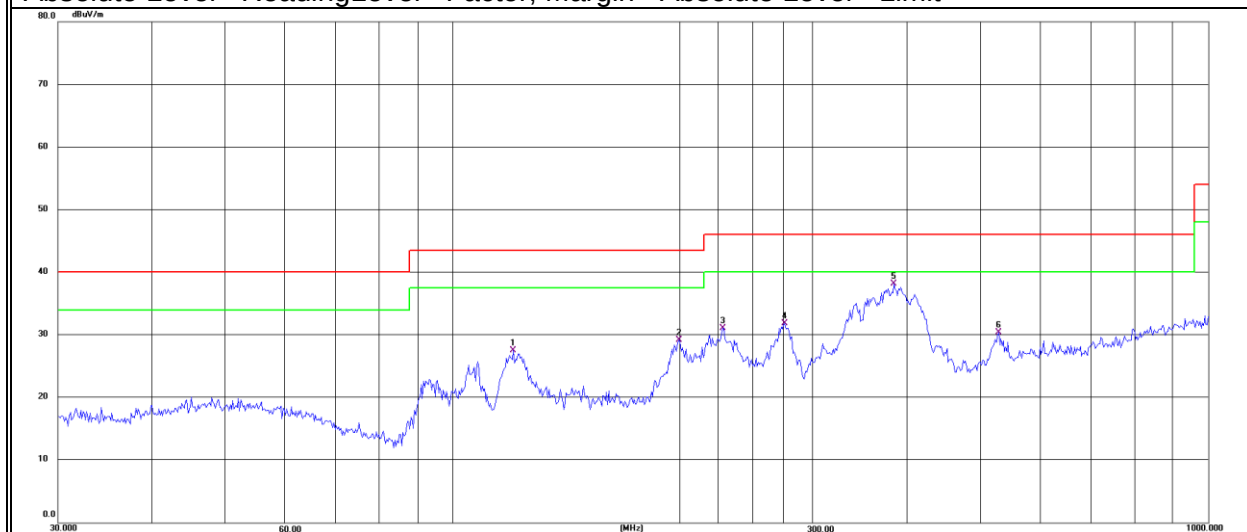
Absolute Level= ReadingLevel+ Factor, Margin= Absolute Level - Limit



| Polar<br>(H/V) | Frequency | Meter<br>Reading | Factor | Emission<br>Level | Limits   | Margin | Remark |
|----------------|-----------|------------------|--------|-------------------|----------|--------|--------|
|                | (MHz)     | (dBuV)           | (dB)   | (dBuV/m)          | (dBuV/m) | (dB)   |        |
| H              | 120.2770  | 11.25            | 16.34  | 27.59             | 43.50    | -15.91 | QP     |
| H              | 199.2860  | 11.86            | 17.39  | 29.25             | 43.50    | -14.25 | QP     |
| H              | 228.4900  | 12.32            | 18.76  | 31.08             | 46.00    | -14.92 | QP     |
| H              | 275.1570  | 12.48            | 19.38  | 31.86             | 46.00    | -14.14 | QP     |
| H              | 383.9320  | 16.05            | 22.08  | 38.13             | 46.00    | -7.87  | QP     |
| H              | 528.2460  | 5.06             | 25.35  | 30.41             | 46.00    | -15.59 | QP     |

**Remark:**

Absolute Level= ReadingLevel+ Factor, Margin= Absolute Level - Limit



Note: Only report the worst data, mode 1 is the worst, all other modes have been tested.

### 3.4.6 TEST RESULTS (ABOVE 1000 MHZ)

Note: For above 18GHz, the amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

|               |                         |                     |            |
|---------------|-------------------------|---------------------|------------|
| EUT :         | TTL Li-ion Camera Flash | Model Name :        | V480 C     |
| Temperature : | 26.2 °C                 | Relative Humidity : | 48%        |
| Pressure :    | 1010 hPa                | Test Voltage :      | DC 7.2V    |
| Test Mode :   | TX 2412.999634MHz       | Polarization :      | Horizontal |

| Frequency<br>(MHz) | Meter Reading<br>(dBμV) | Factor<br>(dB) | Emission Level<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) | Detector Type |
|--------------------|-------------------------|----------------|----------------------------|--------------------|----------------|---------------|
| 2412.999634        | 96.3                    | -13.15         | 83.15                      | 94                 | -10.85         | Peak          |
| 4825.999268        | 54.82                   | -6.94          | 47.88                      | 54                 | -6.12          | Peak          |
| 7238.998902        | 45.67                   | -4.58          | 41.09                      | 54                 | -12.91         | Peak          |

Remark:

- Factor = Antenna Factor + Cable Loss – Pre-amplifier.
- Since the Peak value is less than the limit of Average, the report does not need to record the Average value.



|               |                         |                     |          |
|---------------|-------------------------|---------------------|----------|
| EUT :         | TTL Li-ion Camera Flash | Model Name :        | V480 C   |
| Temperature : | 26.2 °C                 | Relative Humidity : | 48%      |
| Pressure :    | 1010 hPa                | Test Voltage :      | DC 7.2V  |
| Test Mode :   | TX 2412.999634MHz       | Polarization :      | Vertical |

| Frequency<br>(MHz) | Meter Reading<br>(dBμV) | Factor<br>(dB) | Emission Level<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) | Detector Type |
|--------------------|-------------------------|----------------|----------------------------|--------------------|----------------|---------------|
| 2412.999634        | 96.29                   | -13.15         | 83.14                      | 94                 | -10.86         | Peak          |
| 4825.999268        | 53.22                   | -6.94          | 46.28                      | 54                 | -7.72          | Peak          |
| 7238.998902        | 43.28                   | -4.58          | 38.7                       | 54                 | -15.3          | Peak          |

Remark:

- Factor = Antenna Factor + Cable Loss – Pre-amplifier.
- Since the Peak value is less than the limit of Average, the report does not need to record the Average value.

|               |                         |                     |            |
|---------------|-------------------------|---------------------|------------|
| EUT :         | TTL Li-ion Camera Flash | Model Name :        | V480 C     |
| Temperature : | 26.2 °C                 | Relative Humidity : | 48%        |
| Pressure :    | 1010 hPa                | Test Voltage :      | DC 7.2V    |
| Test Mode :   | TX 2437.999878MHz       | Polarization :      | Horizontal |

| Frequency<br>(MHz) | Meter Reading<br>(dBμV) | Factor<br>(dB) | Emission Level<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) | Detector Type |
|--------------------|-------------------------|----------------|----------------------------|--------------------|----------------|---------------|
| 2437.999878        | 96.15                   | -13.04         | 83.11                      | 94                 | -10.89         | Peak          |
| 4875.999756        | 53.49                   | -7.19          | 46.3                       | 54                 | -7.7           | Peak          |
| 7313.999634        | 44.88                   | -4.21          | 40.67                      | 54                 | -13.33         | Peak          |

Remark:

- Factor = Antenna Factor + Cable Loss – Pre-amplifier.
- Since the Peak value is less than the limit of Average, the report does not need to record the Average value.

|               |                         |                     |          |
|---------------|-------------------------|---------------------|----------|
| EUT :         | TTL Li-ion Camera Flash | Model Name :        | V480 C   |
| Temperature : | 26.2 °C                 | Relative Humidity : | 48%      |
| Pressure :    | 1010 hPa                | Test Voltage :      | DC 7.2V  |
| Test Mode :   | TX 2437.999878MHz       | Polarization :      | Vertical |

| Frequency<br>(MHz) | Meter Reading<br>(dBμV) | Factor<br>(dB) | Emission Level<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) | Detector Type |
|--------------------|-------------------------|----------------|----------------------------|--------------------|----------------|---------------|
| 2437.999878        | 96.38                   | -13.04         | 83.34                      | 94                 | -10.66         | Peak          |
| 4875.999756        | 55.44                   | -7.19          | 48.25                      | 54                 | -5.75          | Peak          |
| 7313.999634        | 46.31                   | -4.21          | 42.1                       | 54                 | -11.9          | Peak          |

Remark:

- Factor = Antenna Factor + Cable Loss – Pre-amplifier.
- Since the Peak value is less than the limit of Average, the report does not need to record the Average value.

|               |                         |                     |            |
|---------------|-------------------------|---------------------|------------|
| EUT :         | TTL Li-ion Camera Flash | Model Name :        | V480 C     |
| Temperature : | 26.2 °C                 | Relative Humidity : | 48%        |
| Pressure :    | 1010 hPa                | Test Voltage :      | DC 7.2V    |
| Test Mode :   | TX 2464.499756MHz       | Polarization :      | Horizontal |

| Frequency<br>(MHz) | Meter Reading<br>(dBμV) | Factor<br>(dB) | Emission Level<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) | Detector Type |
|--------------------|-------------------------|----------------|----------------------------|--------------------|----------------|---------------|
| 2464.499756        | 96.08                   | -12.73         | 83.35                      | 94                 | -10.65         | Peak          |
| 4928.999512        | 51.74                   | -6.6           | 45.14                      | 54                 | -8.86          | Peak          |
| 7393.499268        | 42.37                   | -4.05          | 38.32                      | 54                 | -15.68         | Peak          |

Remark:

- Factor = Antenna Factor + Cable Loss – Pre-amplifier.
- Since the Peak value is less than the limit of Average, the report does not need to record the Average value.

|               |                         |                     |          |
|---------------|-------------------------|---------------------|----------|
| EUT :         | TTL Li-ion Camera Flash | Model Name :        | V480 C   |
| Temperature : | 26.2 °C                 | Relative Humidity : | 48%      |
| Pressure :    | 1010 hPa                | Test Voltage :      | DC 7.2V  |
| Test Mode :   | TX 2464.499756MHz       | Polarization :      | Vertical |

| Frequency<br>(MHz) | Meter Reading<br>(dBμV) | Factor<br>(dB) | Emission Level<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) | Detector Type |
|--------------------|-------------------------|----------------|----------------------------|--------------------|----------------|---------------|
| 2464.499756        | 96.21                   | -12.73         | 83.48                      | 94                 | -10.52         | Peak          |
| 4928.999512        | 52.66                   | -6.6           | 46.06                      | 54                 | -7.94          | Peak          |
| 7393.499268        | 45.92                   | -4.05          | 41.87                      | 54                 | -12.13         | Peak          |

Remark:

- Factor = Antenna Factor + Cable Loss – Pre-amplifier.
- Since the Peak value is less than the limit of Average, the report does not need to record the Average value.

### 3.4.7 TEST RESULTS (RESTRICTED BANDS REQUIREMENTS)

|               |                         |                     |            |
|---------------|-------------------------|---------------------|------------|
| EUT :         | TTL Li-ion Camera Flash | Model Name :        | V480 C     |
| Temperature : | 26.2 °C                 | Relative Humidity : | 48%        |
| Pressure :    | 1010 hPa                | Test Voltage :      | DC 7.2V    |
| Test Mode :   | TX 2412.999634MHz       | Polarization :      | Horizontal |

| Frequency<br>(MHz) | Meter Reading<br>(dBμV) | Factor<br>(dB) | Emission Level<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) | Detector Type |
|--------------------|-------------------------|----------------|----------------------------|--------------------|----------------|---------------|
| 2310.00            | 52.23                   | -13.03         | 39.20                      | 74                 | -34.80         | Pk            |
| 2310.00            | 42.11                   | -13.03         | 29.08                      | 54                 | -24.92         | AV            |
| 2390.00            | 54.64                   | -13.45         | 41.19                      | 74                 | -32.81         | Pk            |
| 2390.00            | 42.83                   | -13.45         | 29.38                      | 54                 | -24.62         | AV            |

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

|               |                         |                     |          |
|---------------|-------------------------|---------------------|----------|
| EUT :         | TTL Li-ion Camera Flash | Model Name :        | V480 C   |
| Temperature : | 26.2 °C                 | Relative Humidity : | 48%      |
| Pressure :    | 1010 hPa                | Test Voltage :      | DC 7.2V  |
| Test Mode :   | TX 2412.999634MHz       | Polarization :      | Vertical |

| Frequency<br>(MHz) | Meter Reading<br>(dBμV) | Factor<br>(dB) | Emission Level<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) | Detector Type |
|--------------------|-------------------------|----------------|----------------------------|--------------------|----------------|---------------|
| 2310.00            | 50.95                   | -13.03         | 37.92                      | 74                 | -36.08         | Pk            |
| 2310.00            | 42.32                   | -13.03         | 29.29                      | 54                 | -24.71         | AV            |
| 2390.00            | 53.19                   | -13.45         | 39.74                      | 74                 | -34.26         | Pk            |
| 2390.00            | 42.21                   | -13.45         | 28.76                      | 54                 | -25.24         | AV            |

Remark:  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

|               |                         |                     |            |
|---------------|-------------------------|---------------------|------------|
| EUT :         | TTL Li-ion Camera Flash | Model Name :        | V480 C     |
| Temperature : | 26.2 °C                 | Relative Humidity : | 48%        |
| Pressure :    | 1010 hPa                | Test Voltage :      | DC 7.2V    |
| Test Mode :   | TX 2464.499756MHz       | Polarization :      | Horizontal |

| Frequency<br>(MHz) | Meter Reading<br>(dBμV) | Factor<br>(dB) | Emission Level<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) | Detector Type |
|--------------------|-------------------------|----------------|----------------------------|--------------------|----------------|---------------|
| 2483.50            | 52.42                   | -12.72         | 39.70                      | 74                 | -34.30         | Pk            |
| 2483.50            | 41.38                   | -12.72         | 28.66                      | 54                 | -25.34         | AV            |
| 2500.00            | 47.31                   | -11.50         | 35.81                      | 74                 | -38.19         | Pk            |
| 2500.00            | 36.03                   | -11.50         | 24.53                      | 54                 | -29.47         | AV            |

Remark:  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



|               |                         |                     |          |
|---------------|-------------------------|---------------------|----------|
| EUT :         | TTL Li-ion Camera Flash | Model Name :        | V480 C   |
| Temperature : | 26.2 °C                 | Relative Humidity : | 48%      |
| Pressure :    | 1010 hPa                | Test Voltage :      | DC 7.2V  |
| Test Mode :   | TX 2464.499756MHz       | Polarization :      | Vertical |

| Frequency | Meter Reading | Factor | Emission Level | Limits   | Margin | Detector Type |
|-----------|---------------|--------|----------------|----------|--------|---------------|
| (MHz)     | (dBμV)        | (dB)   | (dBμV/m)       | (dBμV/m) | (dB)   |               |
| 2483.50   | 50.54         | -12.72 | 37.82          | 74       | -36.18 | Pk            |
| 2483.50   | 42.53         | -12.72 | 29.81          | 54       | -24.19 | AV            |
| 2500.00   | 46.77         | -11.50 | 35.27          | 74       | -38.73 | Pk            |
| 2500.00   | 39.64         | -11.50 | 28.14          | 54       | -25.86 | AV            |

Remark:  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

## 4. BANDWIDTH TEST

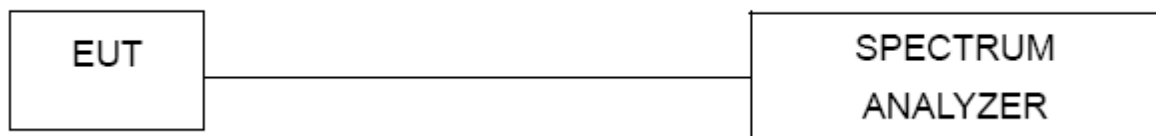
### 4.1 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- b. Spectrum Setting : RBW= 10KHz, VBW $\geq$ 3RBW, Sweep time = Auto.

### 4.2 DEVIATION FROM STANDARD

No deviation.

### 4.3 TEST SETUP

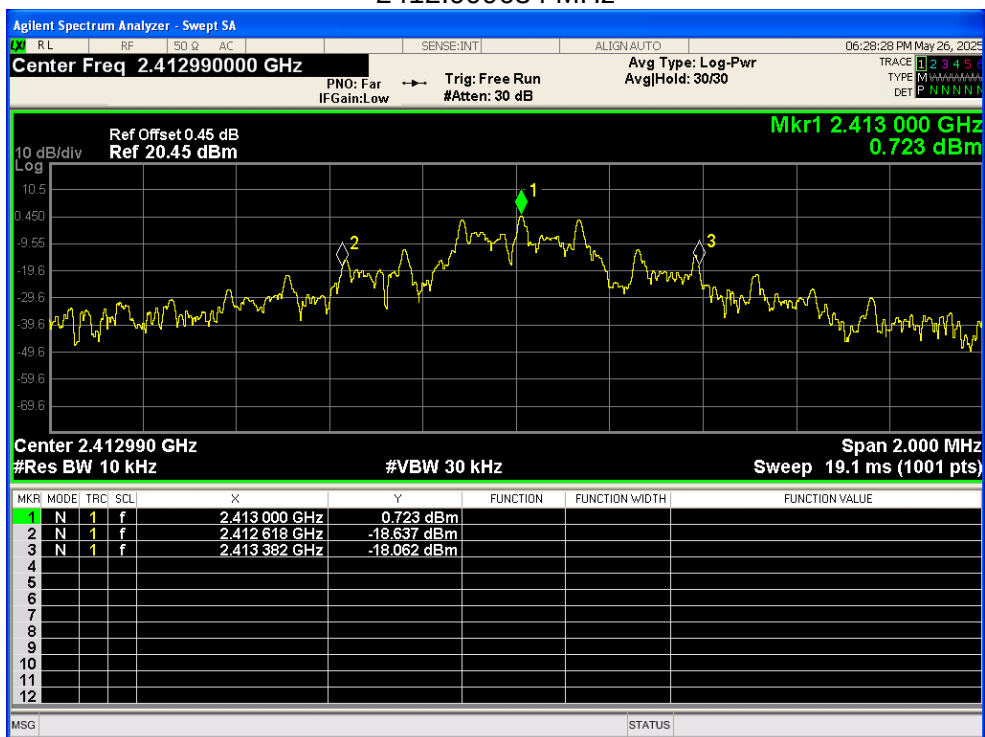


## 5. TEST RESULTS

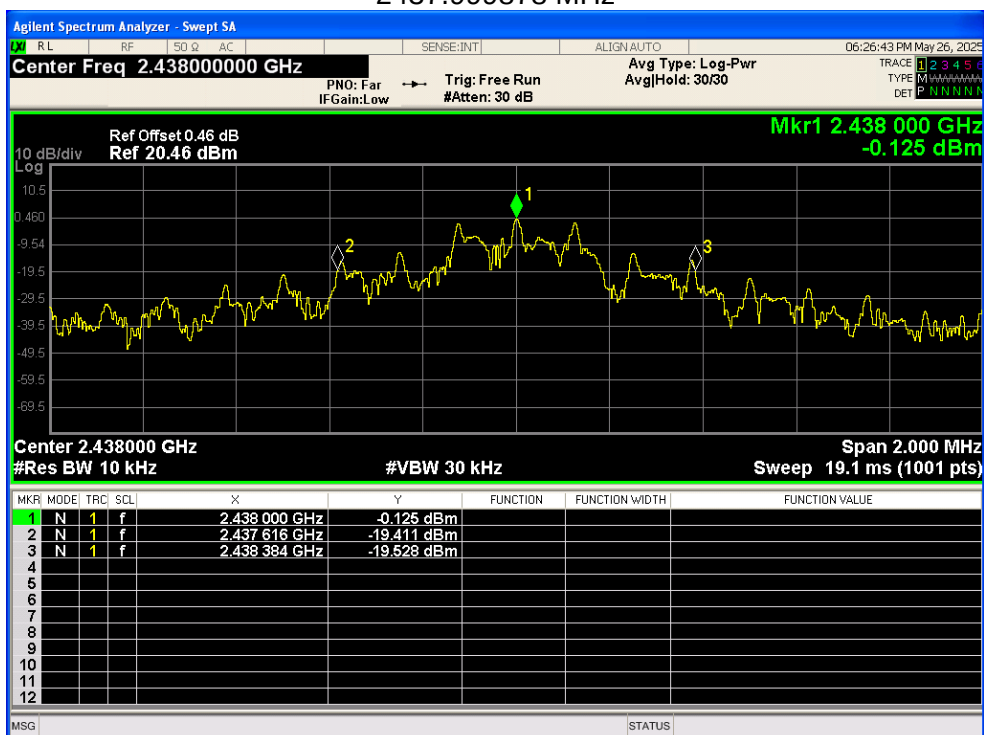
|               |                         |                     |         |
|---------------|-------------------------|---------------------|---------|
| EUT :         | TTL Li-ion Camera Flash | Model Name :        | V480 C  |
| Temperature : | 26 °C                   | Relative Humidity : | 53%     |
| Pressure :    | 1020 hPa                | Test Power :        | DC 7.2V |
| Test Mode :   | Mode 1/2/3              |                     |         |

| Test Frequency (MHz) | 20 dBc Bandwidth (MHz) |
|----------------------|------------------------|
| 2412.999634          | 0.764                  |
| 2437.999878          | 0.768                  |
| 2464.499756          | 0.766                  |

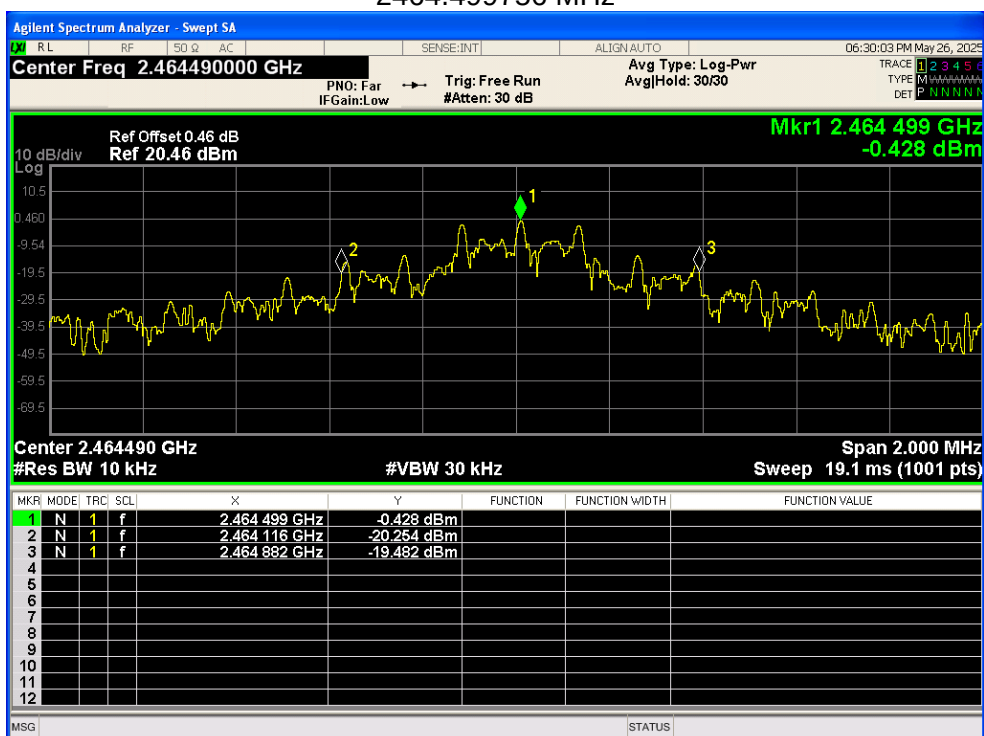
2412.999634 MHz



2437.999878 MHz



2464.499756 MHz



END OF REPORT