

# **FCC Test Report**

## **FCC ID: 2BKUO-MB-77A01**

**Product:** Portable Luminaires

**Trade Name:** N/A

**Model Number:** MB-77025

**Family Model:** N/A

**Report No.:** S24080803201001

**Prepared for**

Dongguan Checkson Enterprise Co.,Ltd  
Kong Yang Ind.Centre,Zhang MutouTown, Dongguan City,  
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**Prepared by**

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**TEST RESULT CERTIFICATION**

**Applicant's name** ..... : Dongguan Checkson Enterprise Co.,Ltd  
**Address** ..... : Kong Yang Ind.Centre,Zhang MutouTown, Dongguan City,  
GuangdongProvince 523000  
**Manufacturer's Name** ..... : Dongguan Checkson Enterprise Co.,Ltd  
**Address** ..... : Kong Yang Ind.Centre,Zhang MutouTown, Dongguan City,  
GuangdongProvince 523000  
**Product Name:** Portable Luminaires  
**Model and/or type reference** : MB-77025  
**Family Model:** N/A  
FCC part 15C  
**Standards** ..... : ANSI C63.10:2013  
KDB 680106 D01 RF Exposure Wireless Charging App v04

This device described above has been tested by ShenzhenNTEK Testing Technology Co., Ltd., 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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The test results of this report relate only to the tested sample identified in this report.

**TestSampleNumber**..... : S240808032001

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

**Date (s) of performance of tests** ..... : Aug. 09, 2024 ~ Sept. 05, 2024

**Date of Issue**..... : Sept. 05, 2024

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

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Gavan Zhang  
(Project Engineer)

Reviewed By : Aaron Cheng  
Aaron Cheng  
(Supervisor)

Approved By : Alex Li  
Alex Li  
(Manager)

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## 1. TEST SUMMARY

Test procedures according to the technical standards:

| EMC Emission                     |                     |           |       |          |        |
|----------------------------------|---------------------|-----------|-------|----------|--------|
| Standard                         | Test Item           | FCC Rules | Limit | Judgment | Remark |
| FCC part 15C<br>ANSI C63.10:2013 | Conducted Emission  | §15.207   | /     | PASS     |        |
|                                  | Radiated Emission   | §15.209   | /     | PASS     |        |
|                                  | ANTENNA APPLICATION | §15.203   | /     | PASS     |        |
|                                  | 20dB BANDWIDTH      | §15.215   | /     | PASS     |        |

NOTE:

- (1)'N/A' denotes test is not applicable in this Test Report
- (2) For client's request and manual description, the test will not be executed.

## 1.1 FACILITIES AND ACCREDITATIONS

All measurement facilities used to collect the measurement data are located at 1&5/F, Building C, 1&2/F, Building E, Fenda Science Park, Sanwei Community, Hangcheng Street, Baoan District, Shenzhen ,Guangdong, China.

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.10 and CISPR Publication 22.

## 1.2 LABORATORY ACCREDITATIONS AND LISTINGS

### Site Description

CNAS-Lab. : The Certificate Registration Number is L5516.

IC-Registration : The Certificate Registration Number is 9270A-1.

FCC- Accredited : Test Firm Registration Number:463705.

Designation Number: CN1184

A2LA-Lab. : The Certificate Registration Number is 4298.01  
This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories.  
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009).

Name of Firm : Shenzhen NTEK Testing Technology Co., Ltd.

Site Location : 1&5/F, Building C, 1&2/F, Building E, Fenda Science Park, Sanwei Community, Hangcheng Street, Baoan District, Shenzhen ,Guangdong, China

## 1.3 MEASUREMENT UNCERTAINTY

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

### A. Conducted Measurement :

| Test Site | Method | Measurement Frequency Range | U, (dB) | NOTE |
|-----------|--------|-----------------------------|---------|------|
| NTEKC01   | ANSI   | 150 KHz ~ 30MHz             | 2.8     |      |

### B. Radiated Measurement :

| Test Site | Method | Measurement Frequency Range | U, (dB) | NOTE |
|-----------|--------|-----------------------------|---------|------|
| NTEKA01   | ANSI   | 9KHz ~1000MHz               | 2.64    |      |
|           |        | 1GHz ~12.4GHz               | 2.40    |      |

### C. Occupied Bandwidth: Uncertainty $\pm 3.7$ dB

Revision History

| Report No.      | Version | Description             | Issued Date    |
|-----------------|---------|-------------------------|----------------|
| S24080803201001 | Rev.01  | Initial issue of report | Sept. 05, 2024 |
|                 |         |                         |                |
|                 |         |                         |                |
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|                 |         |                         |                |
|                 |         |                         |                |
|                 |         |                         |                |

## 2. GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF EUT

| Product Feature and Specification |  |
|-----------------------------------|--|
| Equipment                         | Portable Luminaires  |
| Trade Name                        | N/A  |
| FCC ID                            | 2BKUO-MB-77A01   |
| Model No.                         | MB-77025   |
| Family Model                      | N/A  |
| Model Difference                  | N/A  |
| Operating Frequency               | 111kHz~205kHz  |
| Antenna Type                      | Induction coil   |
| Power Rating                      | Input: DC 12V 1.5A from adapter<br>Output: USB Output 1: DC 5 V 1A;<br>USB Output 2: DC 5V 1 A |
| Wireless Output                   | 15W  |
| Adapter                           | MODEL:GQ48-120400-AU<br>INPUT:100-240V~50/60Hz 1.5A Max<br>OUTPUT:12.0V 4.0A                   |
| Battery                           | N/A  |
| HW Version                        | N/A  |
| SW Version                        | N/A  |

### 2.1.1 DESCRIPTION OF TEST MODES

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

#### EUT Exercise

The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

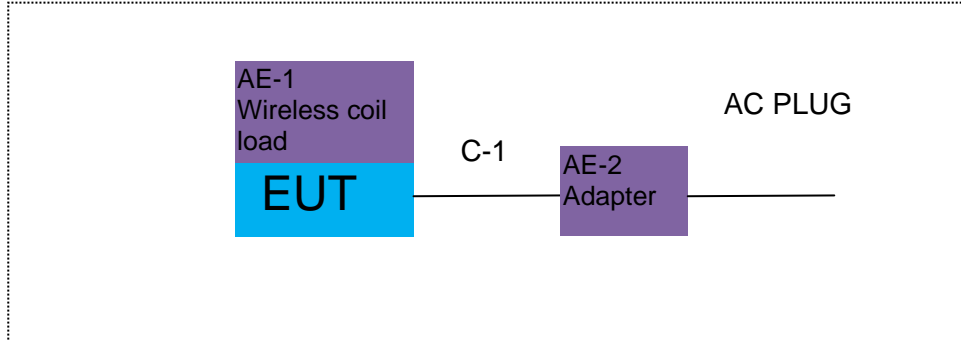
The following summary table is showing all test modes to demonstrate in compliance with the standard.

| Test Cases            |                       |
|-----------------------|-----------------------|
| Test Item             | Data Rate/ Modulation |
| AC Conducted Emission | Mode 1: Max load      |
| Radiated Test Cases   | Mode 1: Max load      |

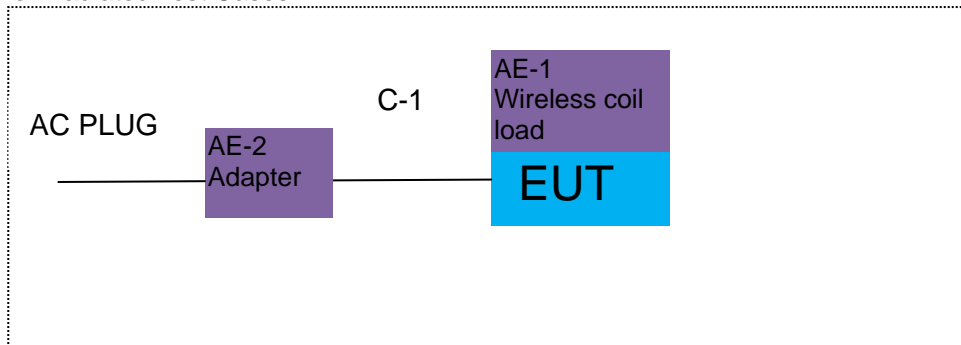
Wireless output 15W(Max) full load, half load and no load mode has been tested. But the Max Load mode is the worst mode, and only this mode was presented in this report.

## 2.2 DESCRIPTION OF TEST SETUP

For AC Conducted Emission Mode



For Radiated Test Cases



### 2.3 DESCRIPTION TEST PERIPHERAL AND EUT PERIPHERAL

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           | Brand | Model/Type No. | Series No. | Note        |
|------|---------------------|-------|----------------|------------|-------------|
|      | Portable Luminaires | N/A   | MB-77025       | N/A        | EUT         |
| AE-1 | Wireless coil load  | N/A   | 15W            | N/A        | Peripherals |
| AE-2 | Adapter             | N/A   | GQ48-120400-AU | N/A        | Peripherals |
|      |                     |       |                |            |             |
|      |                     |       |                |            |             |
|      |                     |       |                |            |             |
|      |                     |       |                |            |             |
|      |                     |       |                |            |             |
|      |                     |       |                |            |             |
|      |                     |       |                |            |             |

| Item | Cable Type  | Shielded Type | Ferrite Core | Length | Note |
|------|-------------|---------------|--------------|--------|------|
| C-1  | Power Cable | NO            | NO           | 1.0m   |      |
|      |             |               |              |        |      |
|      |             |               |              |        |      |
|      |             |               |              |        |      |
|      |             |               |              |        |      |
|      |             |               |              |        |      |
|      |             |               |              |        |      |
|      |             |               |              |        |      |

**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.
- (3) “YES” means “shielded”“with core”; “NO” means “unshielded”“without core”.

## 2.4 MEASUREMENT INSTRUMENTS LIST

### Radiation Test equipment

|    | Kind of Equipment       | Manufacturer | Type No.      | Serial No. | Last calibration | Calibrated until | Calibration period |
|----|-------------------------|--------------|---------------|------------|------------------|------------------|--------------------|
| 1  | Spectrum Analyzer       | Agilent      | E4440A        | MY41000130 | 2024.03.12       | 2025.03.11       | 1 year             |
| 2  | Spectrum Analyzer       | Agilent      | N9020A        | MY49100060 | 2024.04.25       | 2025.04.24       | 1 year             |
| 4  | Test Receiver           | R&S          | ESPI7         | 101318     | 2024.03.12       | 2025.03.11       | 1 year             |
| 5  | Bilog Antenna           | TESEQ        | CBL6111D      | 31216      | 2024.03.11       | 2025.03.10       | 1 year             |
| 6  | 50Ω Coaxial Switch      | Anritsu      | MP59B         | 6200983705 | 2023.05.06       | 2026.05.05       | 3 year             |
| 7  | Amplifier               | EMC          | EMC051835 SE  | 980246     | 2024.01.23       | 2025.01.22       | 1 year             |
| 8  | Amplifier               | MITEQ        | TTA1840-35-HG | 177156     | 2024.04.25       | 2025.04.24       | 1 year             |
| 9  | ACTIVE LOOP ANTENNA     | SCHWARZBECK  | FMZB 1519 B   | 055        | 2024.05.17       | 2027.05.16       | 3 YEAR             |
| 10 | Test Cable (9KHz-30MHz) | N/A          | R-01          | N/A        | 2022.06.17       | 2025.06.16       | 3 year             |
| 11 | Test Cable (30MHz-1GHz) | N/A          | R-02          | N/A        | 2022.06.17       | 2025.06.16       | 3 year             |

### Conduction Test equipment

| Item | Kind of Equipment       | Manufacturer | Type No.  | Serial No. | Last calibration | Calibrated until | Calibration period |
|------|-------------------------|--------------|-----------|------------|------------------|------------------|--------------------|
| 1    | Test Receiver           | R&S          | ESCI      | 101160     | 2024.03.12       | 2025.03.11       | 1 year             |
| 2    | LISN                    | R&S          | ENV216    | 101313     | 2024.03.12       | 2025.03.11       | 1 year             |
| 3    | LISN                    | SCHWARZBECK  | NNLK 8129 | 8129245    | 2024.03.12       | 2025.03.11       | 1 year             |
| 4    | 50Ω Coaxial Switch      | ANRITSU CORP | MP59B     | 6200983704 | 2023.05.06       | 2026.05.05       | 3 year             |
| 5    | Test Cable (9KHz-30MHz) | N/A          | C01       | N/A        | 2023.05.06       | 2026.05.05       | 3 year             |
| 6    | Test Cable (9KHz-30MHz) | N/A          | C02       | N/A        | 2023.05.06       | 2026.05.05       | 3 year             |
| 7    | Test Cable (9KHz-30MHz) | N/A          | C03       | N/A        | 2023.05.06       | 2026.05.05       | 3 year             |

### 3. EMC EMISSION TEST

#### 3.1 CONDUCTED EMISSION MEASUREMENT

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

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

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " \* " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

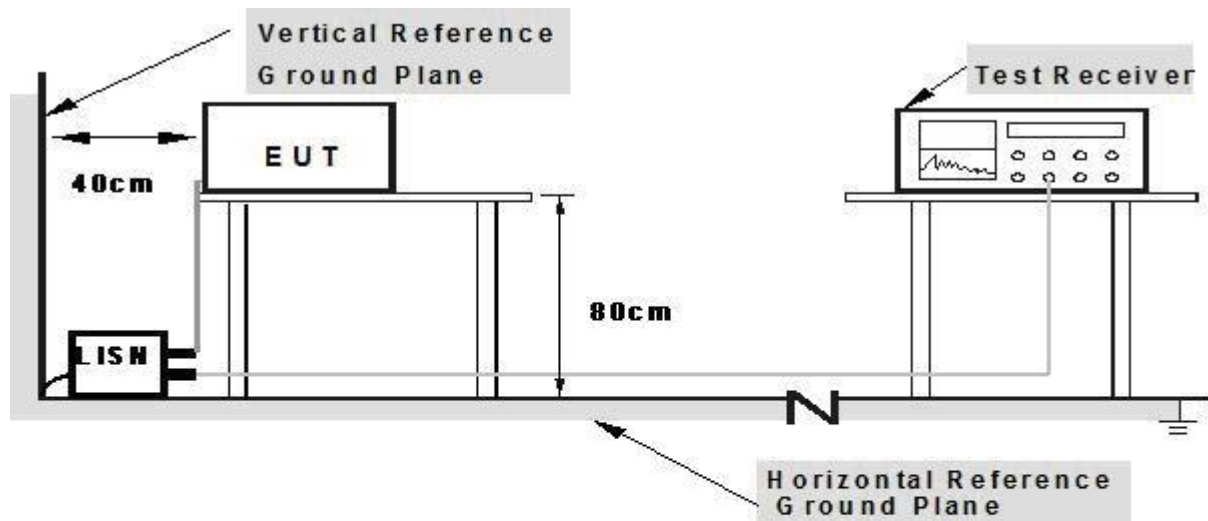
The following table is the setting of the receiver

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

### 3.1.2 TEST PROCEDURE

- The EUT was placed 0.8 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.

### 3.1.3 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 cm from other units and other metal planes**

### 3.1.4 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

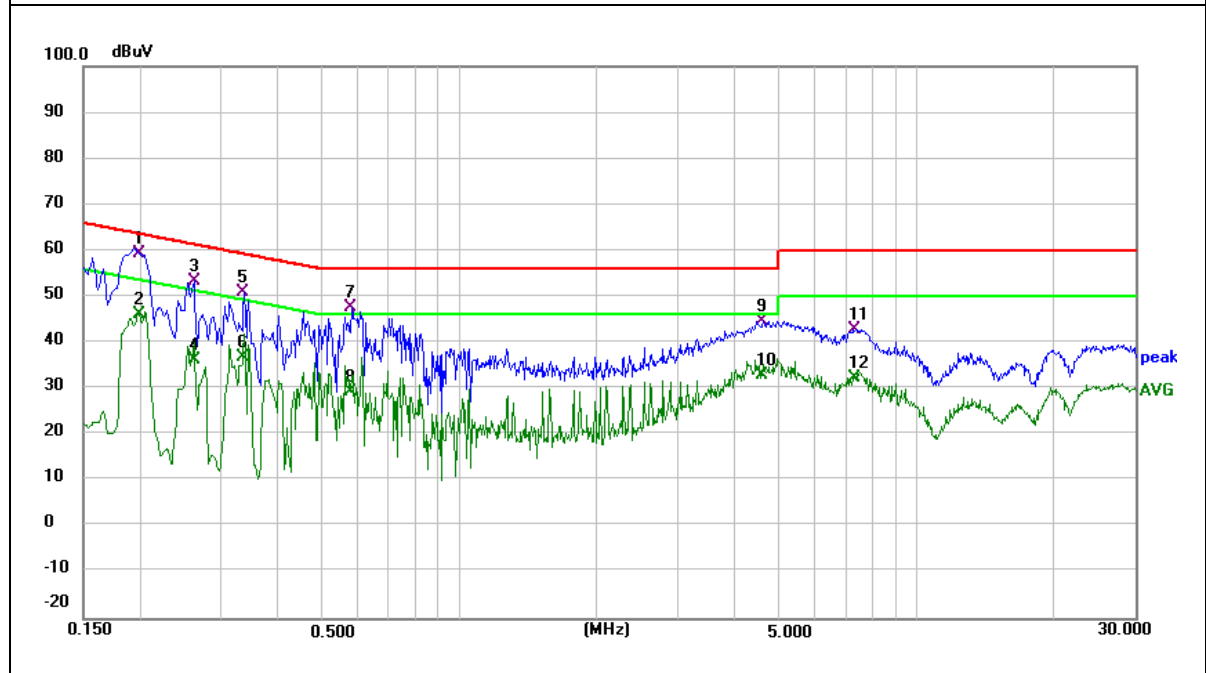
### 3.1.5 TEST RESULTS

|              |                     |                    |          |
|--------------|---------------------|--------------------|----------|
| EUT:         | Portable Luminaires | Model Name. :      | MB-77025 |
| Temperature: | 21.1℃               | Relative Humidity: | 48%      |
| Pressure:    | 1010hPa             | Phase :            | L        |
| Test Mode:   | Mode 1              | Test Voltage:      | DC 12V   |

| Frequency<br>(MHz) | Reading Level<br>(dBμV) | Correct Factor<br>(dB) | Measure-ment<br>(dBμV) | Limits<br>(dBμV) | Margin<br>(dB) | Remark |
|--------------------|-------------------------|------------------------|------------------------|------------------|----------------|--------|
| 0.1986             | 49.21                   | 10.03                  | 59.24                  | 63.67            | -4.43          | QP     |
| 0.1986             | 36.07                   | 10.03                  | 46.10                  | 53.67            | -7.57          | AVG    |
| 0.2620             | 43.30                   | 10.16                  | 53.46                  | 61.37            | -7.91          | QP     |
| 0.2620             | 26.16                   | 10.16                  | 36.32                  | 51.37            | -15.05         | AVG    |
| 0.3379             | 40.59                   | 10.32                  | 50.91                  | 59.25            | -8.34          | QP     |
| 0.3379             | 26.51                   | 10.32                  | 36.83                  | 49.25            | -12.42         | AVG    |
| 0.5780             | 36.83                   | 10.81                  | 47.64                  | 56.00            | -8.36          | QP     |
| 0.5780             | 18.40                   | 10.81                  | 29.21                  | 46.00            | -16.79         | AVG    |
| 4.5860             | 35.02                   | 9.67                   | 44.69                  | 56.00            | -11.31         | QP     |
| 4.5860             | 23.42                   | 9.67                   | 33.09                  | 46.00            | -12.91         | AVG    |
| 7.2940             | 33.23                   | 9.68                   | 42.91                  | 60.00            | -17.09         | QP     |
| 7.2940             | 22.62                   | 9.68                   | 32.30                  | 50.00            | -17.70         | AVG    |

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

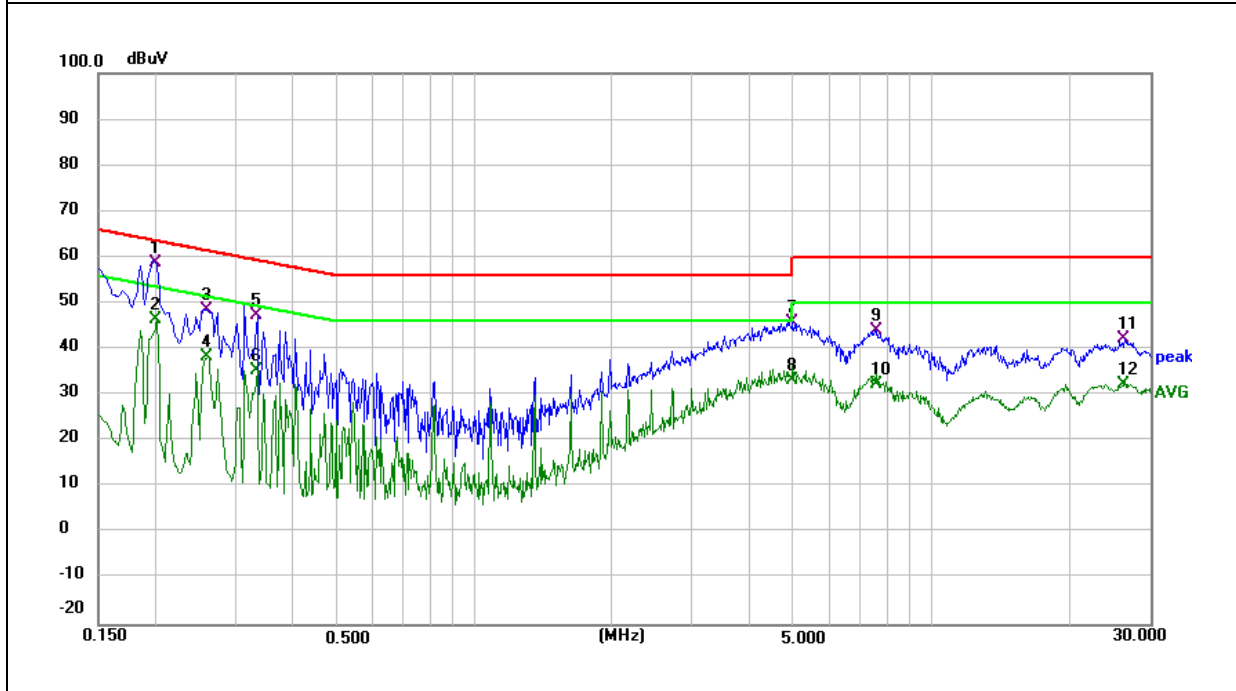


|              |                     |                    |          |
|--------------|---------------------|--------------------|----------|
| EUT:         | Portable Luminaires | Model Name. :      | MB-77025 |
| Temperature: | 21.1℃               | Relative Humidity: | 48%      |
| Pressure:    | 1010hPa             | Phase :            | N        |
| Test Mode:   | Mode 1              | Test Voltage:      | DC 12V   |

| Frequency<br>(MHz) | Reading Level<br>(dBμV) | Correct Factor<br>(dB) | Measure-ment<br>(dBμV) | Limits<br>(dBμV) | Margin<br>(dB) | Remark |
|--------------------|-------------------------|------------------------|------------------------|------------------|----------------|--------|
| 0.1996             | 48.87                   | 10.03                  | 58.90                  | 63.63            | -4.73          | QP     |
| 0.1996             | 36.35                   | 10.03                  | 46.38                  | 53.63            | -7.25          | AVG    |
| 0.2587             | 38.26                   | 10.16                  | 48.42                  | 61.47            | -13.05         | QP     |
| 0.2587             | 28.34                   | 10.16                  | 38.50                  | 51.47            | -12.97         | AVG    |
| 0.3339             | 37.09                   | 10.30                  | 47.39                  | 59.35            | -11.96         | QP     |
| 0.3339             | 24.92                   | 10.30                  | 35.22                  | 49.35            | -14.13         | AVG    |
| 4.9618             | 36.26                   | 9.67                   | 45.93                  | 56.00            | -10.07         | QP     |
| 4.9618             | 23.64                   | 9.67                   | 33.31                  | 46.00            | -12.69         | AVG    |
| 7.5939             | 34.36                   | 9.68                   | 44.04                  | 60.00            | -15.96         | QP     |
| 7.5939             | 22.82                   | 9.68                   | 32.50                  | 50.00            | -17.50         | AVG    |
| 26.3820            | 32.70                   | 9.61                   | 42.31                  | 60.00            | -17.69         | QP     |
| 26.3820            | 22.77                   | 9.61                   | 32.38                  | 50.00            | -17.62         | AVG    |

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.



## 3.2 RADIATED EMISSION MEASUREMENT

### 3.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

The emissions from an intentional radiator shall not exceed the field strength levels specified in the following table 15.209(a):

| 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                             |

### 15.205 Restricted bands of operation

| MHz                      | MHz                 | MHz           | GHz         |
|--------------------------|---------------------|---------------|-------------|
| 0.090-0.110              | 16.42-16.423        | 399.9-410     | 4.5-5.15    |
| <sup>1</sup> 0.495-0.505 | 16.69475-16.69525   | 608-614       | 5.35-5.46   |
| 2.1735-2.1905            | 16.80425-16.80475   | 960-1240      | 7.25-7.75   |
| 4.125-4.128              | 25.5-25.67          | 1300-1427     | 8.025-8.5   |
| 4.17725-4.17775          | 37.5-38.25          | 1435-1626.5   | 9.0-9.2     |
| 4.20725-4.20775          | 73-74.6             | 1645.5-1646.5 | 9.3-9.5     |
| 6.215-6.218              | 74.8-75.2           | 1660-1710     | 10.6-12.7   |
| 6.26775-6.26825          | 108-121.94          | 1718.8-1722.2 | 13.25-13.4  |
| 6.31175-6.31225          | 123-138             | 2200-2300     | 14.47-14.5  |
| 8.291-8.294              | 149.9-150.05        | 2310-2390     | 15.35-16.2  |
| 8.362-8.366              | 156.52475-156.52525 | 2483.5-2500   | 17.7-21.4   |
| 8.37625-8.38675          | 156.7-156.9         | 2690-2900     | 22.01-23.12 |
| 8.41425-8.41475          | 162.0125-167.17     | 3260-3267     | 23.6-24.0   |
| 12.29-12.293             | 167.72-173.2        | 3332-3339     | 31.2-31.8   |
| 12.51975-12.52025        | 240-285             | 3345.8-3358   | 36.43-36.5  |
| 12.57675-12.57725        | 322-335.4           | 3600-4400     | (2)         |
| 13.36-13.41              |                     |               |             |

#### Notes

- (1) Measurement was performed at an antenna to the closed point of EUT distance of meters.
- (2) Emission level (dBuV/m)=20log Emission level (uV/m).
- (3) Only spurious frequency is permitted to locate within the Restricted Bands specified in provision of 15.205, and the emissions located in restricted bands also comply with 15.209limit.
- (4) The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector

### 3.2.2 TEST PROCEDURE

#### Test Arrangement for Radiated Emissions up to 1 GHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at an accredited test facility. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a broadband antenna (Blow 30M, use loop antenna), and its 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.
- d. 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 rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

Note: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for quasi-peak detection (QP) at frequency below 1GHz.

During the radiated emission test, the Spectrum Analyzer was set with the following configurations:

Use the following receiver/spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured

RBW=200Hz for 9KHz to 150KHz,

RBW=9kHz for 150KHz to 30MHz,

RBW=120KHz for 30MHz to 1GHz

VBW  $\geq$  3\*RBW

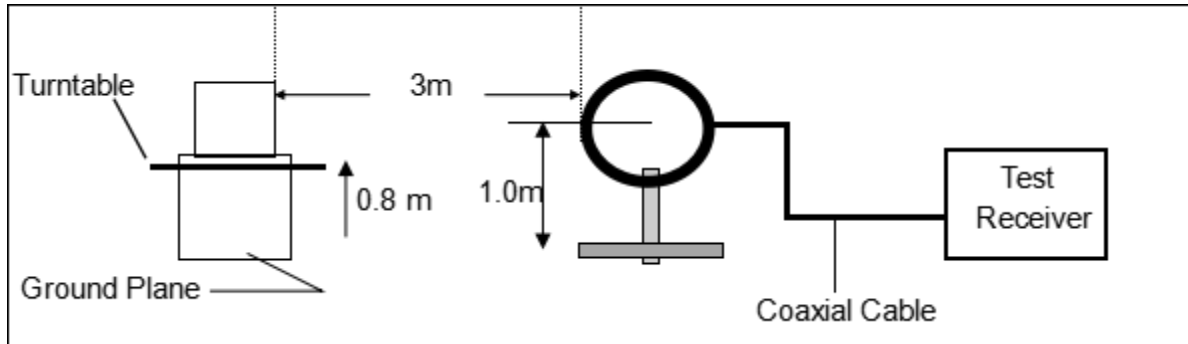
Sweep = auto

Detector function = QP

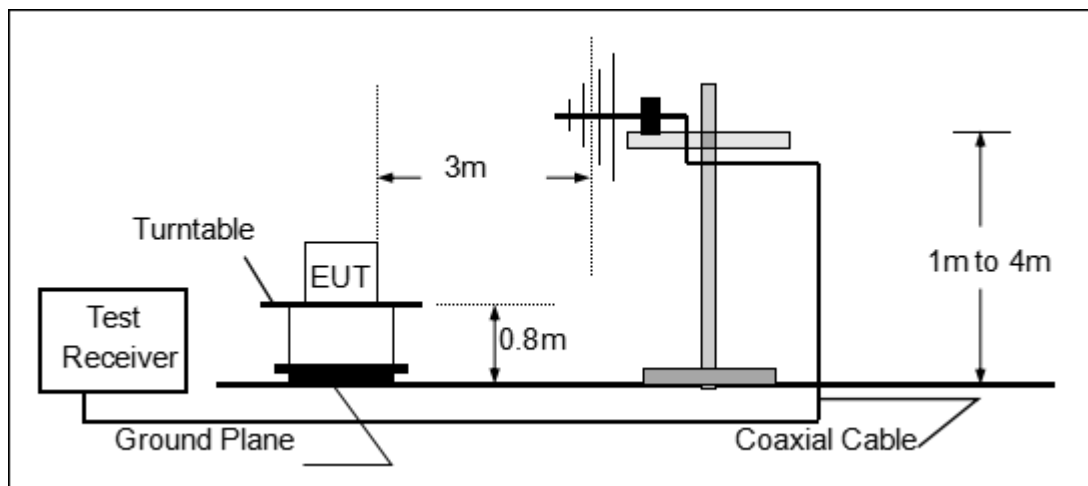
Trace = max hold

### 3.2.3 TEST SETUP

(a) For Radiated Emission Test Set-Up, Frequency Below 30MHz



(b) For Radiated Emission 30~1000MHz



### 3.2.4 TEST RESULTS

#### TEST RESULTS(9KHz~30MHz)

Note:

|              |                     |                    |          |
|--------------|---------------------|--------------------|----------|
| EUT:         | Portable Luminaires | Model Name. :      | MB-77025 |
| Temperature: | 24℃                 | Relative Humidity: | 54%      |
| Pressure:    | 1010hPa             | Test Power :       | DC 12V   |
| Test Mode :  | Mode 1              | Polarization:      | X        |

| Frequency | Ant.Pol. | Emission Level | Limits   | Margin | Remark                     |
|-----------|----------|----------------|----------|--------|----------------------------|
| (MHz)     |          | (dBuV/m)       | (dBuV/m) | (dB)   |                            |
| 0.072     | X        | 46.85          | 110.458  | -63.61 | Avg                        |
| 0.085     | X        | 46.95          | 109.016  | -62.07 | Avg(fundamental frequency) |
| 0.127     | X        | 78.52          | 105.528  | -27.01 | Avg                        |
| 0.716     | X        | 43.26          | 70.506   | -27.25 | QP                         |
| 1.552     | X        | 44.96          | 63.786   | -18.83 | QP                         |
| 11.568    | X        | 50.13          | 69.542   | -19.41 | QP                         |

Note:

Below 30MHz, Pre-test the X, Y, Z axis to find X axis is worst case, so only record X axis test data.

X: Field strength which this device generates since the position of the charging coil and loop antenna differ by 0 degrees.

Y: Field strength which this device generates since the position of the charging coil and loop antenna differ by 90 degrees.

Z: Field strength which this device generates since the position of the charging coil and loop antenna differ by 180 degrees.

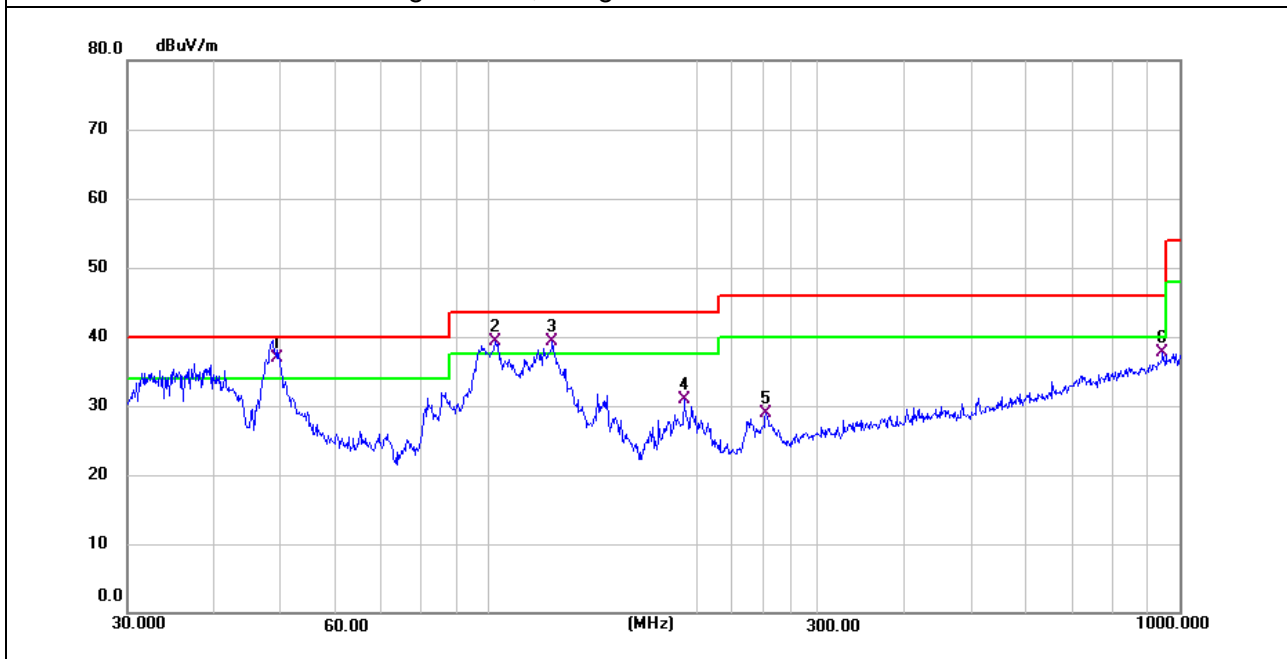
TEST RESULTS(30MHz ~1000MHz)

|              |                     |                    |          |
|--------------|---------------------|--------------------|----------|
| EUT:         | Portable Luminaires | Model Name. :      | MB-77025 |
| Temperature: | 25.6                | Relative Humidity: | 54       |
| Pressure:    | 1010hPa             | Test Power :       | DC 12V   |
| 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              | 49.4770   | 17.49            | 19.49  | 36.98             | 40.00    | -3.02  | QP     |
| V              | 102.3600  | 21.48            | 17.78  | 39.26             | 43.50    | -4.24  | QP     |
| V              | 123.6980  | 24.16            | 15.08  | 39.24             | 43.50    | -4.26  | QP     |
| V              | 191.7450  | 13.71            | 17.22  | 30.93             | 43.50    | -12.57 | QP     |
| V              | 252.0630  | 10.39            | 18.58  | 28.97             | 46.00    | -17.03 | QP     |
| V              | 945.4400  | 7.21             | 30.56  | 37.77             | 46.00    | -8.23  | QP     |

Remark:

Emission Level= Meter Reading+ Factor, Margin= Emission Level- Limit.

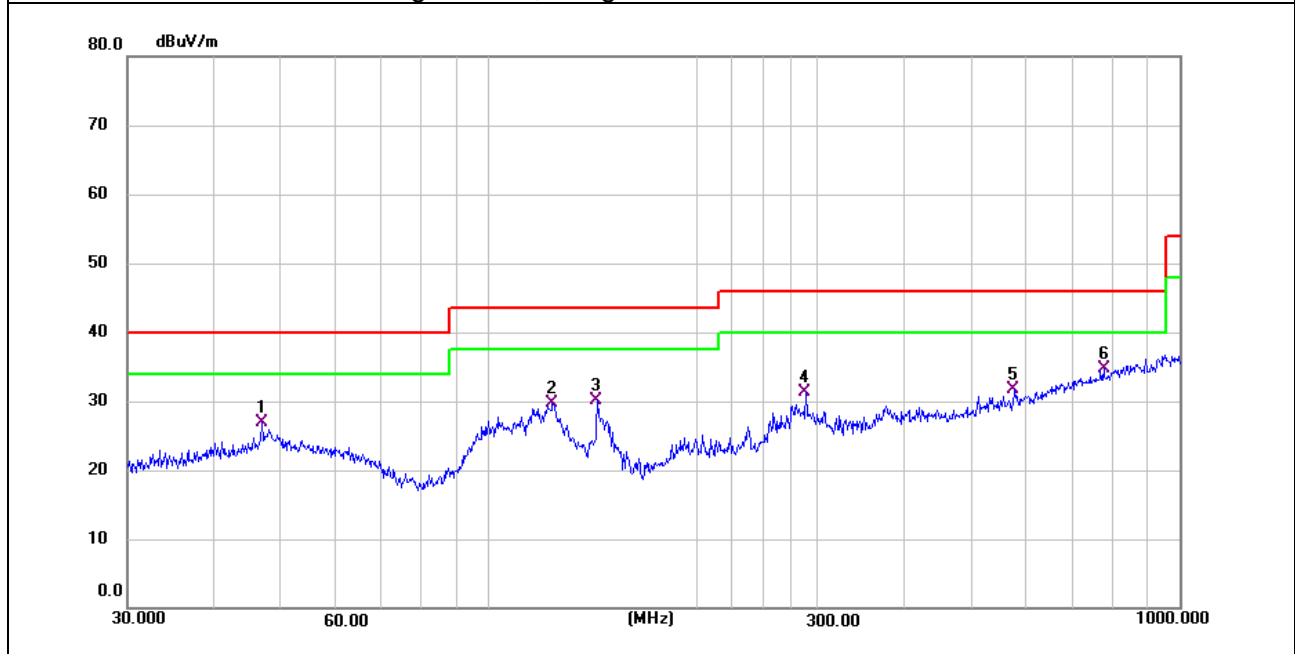


|              |                     |                    |            |
|--------------|---------------------|--------------------|------------|
| EUT:         | Portable Luminaires | Model Name. :      | MB-77025   |
| Temperature: | 25.6                | Relative Humidity: | 54         |
| Pressure:    | 1010hPa             | Test Power :       | DC 12V     |
| Test Mode :  | Mode 1              | Polarization:      | Horizontal |

| Polar<br>(H/V) | Frequency | Meter<br>Reading | Factor | Emission<br>Level | Limits   | Margin | Remark |
|----------------|-----------|------------------|--------|-------------------|----------|--------|--------|
|                | (MHz)     | (dBuV)           | (dB)   | (dBuV/m)          | (dBuV/m) | (dB)   |        |
| H              | 46.9950   | 7.50             | 19.44  | 26.94             | 40.00    | -13.06 | QP     |
| H              | 123.6980  | 14.54            | 15.08  | 29.62             | 43.50    | -13.88 | QP     |
| H              | 143.8290  | 16.01            | 14.07  | 30.08             | 43.50    | -13.42 | QP     |
| H              | 287.9900  | 11.38            | 19.94  | 31.32             | 46.00    | -14.68 | QP     |
| H              | 576.6440  | 6.24             | 25.37  | 31.61             | 46.00    | -14.39 | QP     |
| H              | 776.8780  | 6.05             | 28.71  | 34.76             | 46.00    | -11.24 | QP     |

Remark:

Emission Level= Meter Reading+ Factor, Margin= Emission Level- Limit.

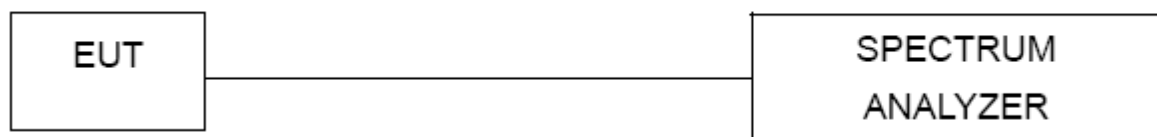


#### 4. BANDWIDTH TEST

##### 4.1 TEST PROCEDURE

- 1). The transmitter output (antenna port) was connected to the spectrum analyzer in peak mode.
- 2). 20dB Bandwidth the resolution bandwidth of 300 Hz and the video bandwidth of 1 kHz were used.
- 3). Measured the spectrum width with power higher than 20dB below carrier.

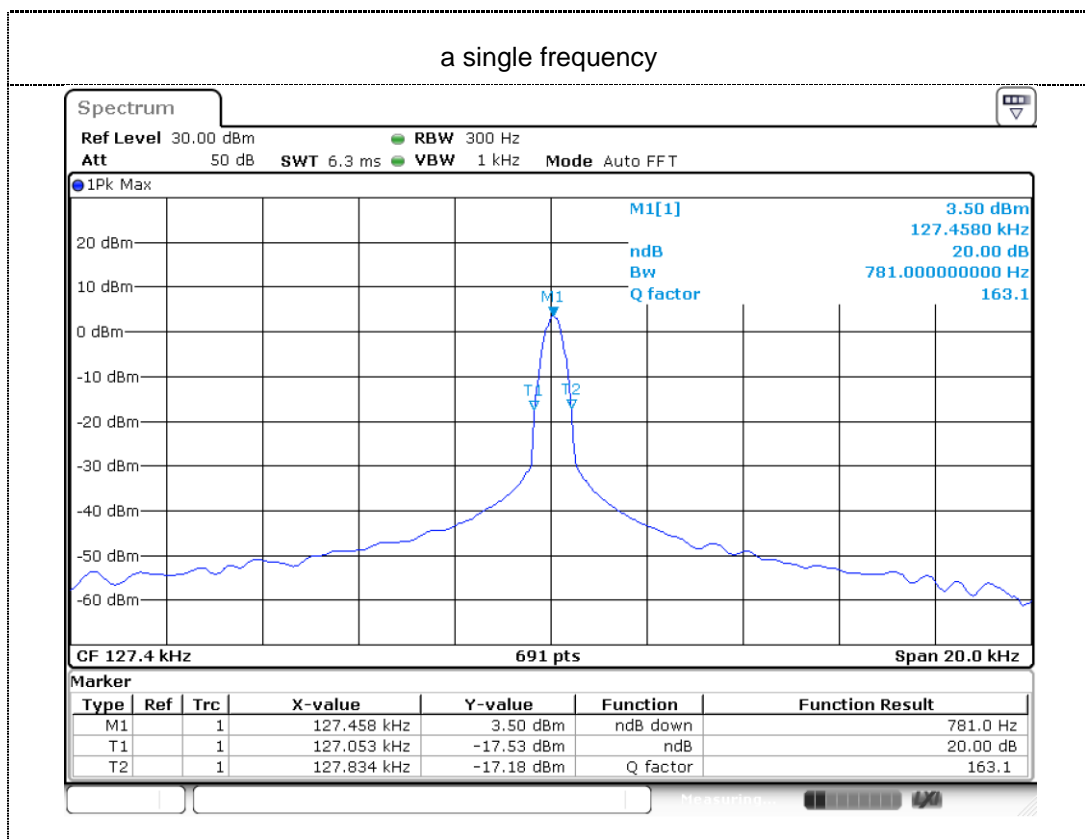
##### 4.2 TEST SETUP



#### 4.3 TEST RESULT

|              |                     |                    |          |
|--------------|---------------------|--------------------|----------|
| EUT:         | Portable Luminaires | Model Name. :      | MB-77025 |
| Temperature: | 24°C                | Relative Humidity: | 54%      |
| Pressure:    | 1010hPa             | Test Mode :        | Mode 1   |
| Test Power : | DC 12V              |                    |          |

|  |                |                |
|--|----------------|----------------|
| -20dB Bandwidth-a single frequency(Hz) | $F_L$<br>(kHz) | $F_H$<br>(kHz) |
| 781                                    | 127.053        | 127.834        |



## 5. ANTENNA APPLICATION

### 5.1 Antenna 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.

### 5.2 Result

The EUT antenna is permanent attached antenna. It complies with the standard requirement.

END REPORT