

## NCC RADIO TEST REPORT

**Product name**

Projector

**Applicant**

成都極米科技股份有限公司

**Manufacture**

成都極米科技股份有限公司

**Rating(s)**

100-240V~ 50/60Hz 6A MAX

**Trademark**

XGIMI

**Model and/or type reference**

XM03A

**Standard**

LP0002:2020

**Test Result**
**Pass**

Date of receipt : 05-28-2021

Signature :

Date of Issue : 07-23-2021



## NCC RADIO TEST REPORT

Report Reference No. .... M210723N5-03

Compiled by (+ signature)..... Kevin Bothmann

Approved by (+ signature)..... Jay Gandhi

Date of issue ..... 2021-07-23

Applicant's name..... 成都極米科技股份有限公司

Address..... 中國(四川)自由貿易試驗區成都高新區世紀城路 1129 號 A 區 4 棟

Manufacture's Name..... 成都極米科技股份有限公司

Address..... 中國(四川)自由貿易試驗區成都高新區世紀城路 1129 號 A 區 4 棟

### Test specification:

Standard..... LP0002: 2020

Test procedure..... EIA 603、ANSI、FCC/47 CFR/2.1046、2.1047、2.1049、2.1051、2.1053 and 2.1055

Non-standard test method..... N/A

### Test item description

Product name .....: Projector

Brand name .....: XGIMI

Model and/or type reference .....: XM03A

Rating(s) .....: 100-240V~ 50/60Hz 6A MAX

### Testing Laboratory information

Testing Laboratory Name .....: Electro Magnetic Test, Inc.

Address .....: 1547 Plymouth Street, Mountain View, CA 94043

CAB Identifier Number .....: US0036

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E-mail.....: jgandhi@emtlabs.com

### Testing.....

Date of receipt of test item..... Mar. 28, 2021

Date (s) of performance of tests..... Mar. 28, 2021~ July 05, 2021

Date of Issue ..... July 23, 2021

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

**GENERAL REPORT SUMMARY**

This electromagnetic emission test report is generated by Electro Magnetic Test, Inc., which is an independent testing and consulting firm. The test report is based on testing performed Electro Magnetic Test, Inc. personnel according to the measurement procedure described in the test specification given below and in the "Test Procedures" section of this report.

The measurement data and conclusions appearing herein relate only to the sample tested and this report may not be reproduced in any form unless done so in full.

This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Federal Government.

Electro Magnetic Test, Inc. is recognized by the following agencies for performing EMI/EMC testing:

| <b>COUNTRY</b>                                                       | <b>AGENCY</b>                                                                                                                                                                                                                              | <b>IDENTIFYING #</b>               |
|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| USA                                                                  | Federal Communications Commission (FCC)<br>(EMT's test site is recognized by the FCC)                                                                                                                                                      | Registration Number:<br>90576      |
| USA, Canada, Taiwan,<br>Australia/New Zealand,<br>European Community | National Voluntary Lab Accreditation Program (NVLAP)<br>(EMT is accredited by NVLAP. A copy of the NVLAP<br>Scope Of Accreditation is available upon request.)                                                                             | Lab Code: 200147-0                 |
| Canada                                                               | Industry Canada                                                                                                                                                                                                                            | File No.: IC 2804                  |
| Japan                                                                | Voluntary Control Council For Interference (VCCI)                                                                                                                                                                                          | A-0118                             |
|                                                                      | Open Field Test Site "A"                                                                                                                                                                                                                   | -                                  |
|                                                                      | Mains Conducted Emissions Test Site "A"                                                                                                                                                                                                    | -                                  |
|                                                                      | Telecom Conducted Emissions Test Site "A"                                                                                                                                                                                                  | -                                  |
|                                                                      | 3 Meter Semi-Anechoic Chamber Site "E"                                                                                                                                                                                                     | -                                  |
|                                                                      | 3 Meter Semi-Anechoic Chamber Site "E"<br>(1GHz – 6GHz)                                                                                                                                                                                    | -                                  |
|                                                                      | Mains Conducted Emissions Test Site "E"                                                                                                                                                                                                    | -                                  |
|                                                                      | Telecom Conducted Emissions Test Site "E"                                                                                                                                                                                                  | -                                  |
| Korea                                                                | Ministry of Information and Communication's Radio<br>Research Laboratory (RRL) under the Asia Pacific<br>Economic Cooperation (APEC) Mutual Recognition<br>Arrangement (A copy of the Scope Of Accreditation is<br>available upon request) | US0036                             |
| Taiwan                                                               | Bureau Of Standards, Metrology and Inspection (BSMI)                                                                                                                                                                                       | Reference Number:<br>SL2-IN-E-1024 |
| Australia / New Zealand                                              | Australian Communications Authority (AUSTEL)                                                                                                                                                                                               | *                                  |

**\*THESE AGENCIES DO NOT ISSUE AN IDENTIFYING NUMBER TO TEST LABS.**

| <b>Table of Contents</b>                                    | <b>Page</b> |
|-------------------------------------------------------------|-------------|
| <b>GENERAL REPORT SUMMARY</b>                               | <b>3</b>    |
| <b>1 . SUMMARY OF TEST RESULTS</b>                          | <b>6</b>    |
| 1.1 MEASUREMENT UNCERTAINTY                                 | 7           |
| <b>2 . GENERAL INFORMATION</b>                              | <b>8</b>    |
| 2.1 GENERAL DESCRIPTION OF EUT                              | 8           |
| 2.2 DESCRIPTION OF TEST MODES                               | 10          |
| 2.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING            | 10          |
| 2.4 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED | 11          |
| 2.5 DESCRIPTION OF SUPPORT UNITS (CONDUCTED MODE)           | 13          |
| <b>3 . ON TIME, DUTY CYCLE AND MEASUREMENT METHODS</b>      | <b>16</b>   |
| 3.1 LIMITS                                                  | 16          |
| 3.2 ON TIME AND DUTY CYCLE RESULTS                          | 16          |
| <b>4 . TRANSMITTER EMISSION TEST</b>                        | <b>18</b>   |
| 4.1 CONDUCTED EMISSION MEASUREMENT                          | 18          |
| 4.1.1 POWER LINE CONDUCTED EMISSION LIMITS                  | 18          |
| 4.1.2 TEST PROCEDURE                                        | 19          |
| 4.1.3 DEVIATION FROM TEST STANDARD                          | 19          |
| 4.1.4 TEST SETUP                                            | 19          |
| 4.1.5 TEST RESULTS                                          | 20          |
| 4.2 RADIATED EMISSION MEASUREMENT                           | 22          |
| 4.2.1 RADIATED EMISSION LIMITS                              | 22          |
| 4.2.2 TEST PROCEDURE                                        | 23          |
| 4.2.3 TEST SETUP                                            | 23          |
| 4.2.4 EUT OPERATING CONDITIONS                              | 24          |
| 4.2.5 TEST RESULTS (BLOW 30MHZ)                             | 25          |
| 4.2.6 TEST RESULTS (BETWEEN30 – 1000 MHZ)                   | 25          |
| 4.2.7 TEST RESULTS (ABOVE 1000 MHZ)                         | 29          |
| 4.2.8 TEST RESULTS (RESTRICTED BANDS REQUIREMENTS)          | 43          |
| <b>5 . OCCUPIED BANDWIDTH TEST</b>                          | <b>47</b>   |
| 5.1 APPLIED PROCEDURES / LIMIT                              | 47          |
| 5.1.1 TEST PROCEDURE                                        | 47          |
| 5.1.2 TEST SETUP                                            | 47          |
| 5.1.3 EUT OPERATION CONDITIONS                              | 47          |
| 5.1.4 TEST RESULTS                                          | 48          |
| <b>6 . POWER DENSITY</b>                                    | <b>52</b>   |

| <b>Table of Contents</b>                                      | <b>Page</b> |
|---------------------------------------------------------------|-------------|
| <b>6.1 APPLIED PROCEDURES / LIMIT</b>                         | <b>52</b>   |
| <b>6.1.1 TEST PROCEDURE</b>                                   | <b>52</b>   |
| <b>6.1.2 TEST SETUP</b>                                       | <b>52</b>   |
| <b>6.1.3 EUT OPERATION CONDITIONS</b>                         | <b>52</b>   |
| <b>6.1.4 TEST RESULTS</b>                                     | <b>53</b>   |
| <b>7 . OUTPUT POWER TEST</b>                                  | <b>57</b>   |
| <b>7.1 APPLIED PROCEDURES / LIMIT</b>                         | <b>57</b>   |
| <b>7.1.1 TEST PROCEDURE</b>                                   | <b>57</b>   |
| <b>7.1.2 DEVIATION FROM STANDARD</b>                          | <b>57</b>   |
| <b>7.1.3 TEST SETUP</b>                                       | <b>57</b>   |
| <b>7.1.4 EUT OPERATION CONDITIONS</b>                         | <b>57</b>   |
| <b>7.1.5 TEST RESULTS</b>                                     | <b>58</b>   |
| <b>8 . ANTENNA CONDUCTED SPURIOUS EMISSION</b>                | <b>62</b>   |
| <b>8.1 APPLIED PROCEDURES / LIMIT</b>                         | <b>62</b>   |
| <b>8.1.1 TEST PROCEDURE</b>                                   | <b>62</b>   |
| <b>8.1.2 TEST SETUP</b>                                       | <b>62</b>   |
| <b>8.1.3 EUT OPERATION CONDITIONS</b>                         | <b>62</b>   |
| <b>8.1.4 TEST RESULTS</b>                                     | <b>63</b>   |
| <b>8. ANTENNA REQUIREMENT</b>                                 | <b>71</b>   |
| <b>8.1 STANDARD REQUIREMENT</b>                               | <b>71</b>   |
| <b>8.2 EUT ANTENNA</b>                                        | <b>71</b>   |
| <b>9. EUT TEST PHOTO</b>                                      | <b>72</b>   |
| <b>10. APPENDIX-PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS</b> | <b>74</b>   |

## 1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

| LP0002 : 2020    |                            |          |        |
|------------------|----------------------------|----------|--------|
| Standard Section | Test Item                  | Judgment | Remark |
| 3.3              | Conducted Emission         | PASS     | None   |
| 4.10.1.5/3.6     | Radiated Spurious Emission | PASS     | None   |
| 4.10.1.2         | Peak Output Power          | PASS     | None   |
| 4.10.1.6         | 6dB Occupied Bandwidth     | PASS     | None   |
| 4.10.1.6         | Power Density              | PASS     | None   |
| 4.10.1.5/3.6     | Restricted Bands           | PASS     | None   |
| 4.10.1.3         | Antenna Requirement        | PASS     | None   |

NOTE:

(1) "N/A" denotes test is not applicable in this Test Report

## 1.1 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 %.

| No. | Item                         | Uncertainty |
|-----|------------------------------|-------------|
| 1   | Conducted Emission Test      | 1.38dB      |
| 2   | Radiated Emission Test       | 3.17dB      |
| 3   | RF power,conducted           | 0.16dB      |
| 4   | Spurious emissions,conducted | 0.21dB      |
| 5   | All emissions,radiated(<1G)  | 4.68dB      |
| 6   | All emissions,radiated(>1G)  | 4.89dB      |

## 2. GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF EUT

|                        |                                   |                    |
|------------------------|-----------------------------------|--------------------|
| Equipment              | Projector                         |                    |
| Brand Name             | XGIMI                             |                    |
| Model Name             | XM03A                             |                    |
| Serial Model Name      | N/A                               |                    |
| OEM Brand/Model Name   | N/A                               |                    |
| Product Description    | The EUT is a Projector.           |                    |
|                        | Operation Frequency:              | 2402~2480 MHz      |
|                        | Modulation Type:                  | GFSK               |
|                        | Bit Rate of Transmitter           | 1Mbps              |
|                        | Number Of Channel                 | 40                 |
|                        | Antenna Designation:              | Please see Note 3. |
|                        | Antenna Gain(Peak)                | 3.49dBi            |
|                        | Output Power:                     | 8.291dBm (Max.)    |
| Channel List           | Please refer to the Note 2.       |                    |
| Rating                 | Input: 100-240V~ 50/60Hz 6A MAX   |                    |
| Connecting I/O Port(s) | Please refer to the User's Manual |                    |
| Products Covered       | N/A                               |                    |
| EUT Modification(s)    | N/A                               |                    |
| Model difference       | N/A                               |                    |

Note:

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

2.

## Description of Channel:

| Channel | Frequency (MHz) | Channel | Frequency (MHz) |
|---------|-----------------|---------|-----------------|
| 01      | 2402            | 21      | 2442            |
| 02      | 2404            | 22      | 2444            |
| 03      | 2406            | 23      | 2446            |
| 04      | 2408            | 24      | 2448            |
| 05      | 2410            | 25      | 2450            |
| 06      | 2412            | 26      | 2452            |
| 07      | 2414            | 27      | 2454            |
| 08      | 2416            | 28      | 2456            |
| 09      | 2418            | 29      | 2458            |
| 10      | 2420            | 30      | 2460            |
| 11      | 2422            | 31      | 2462            |
| 12      | 2424            | 32      | 2464            |
| 13      | 2426            | 33      | 2466            |
| 14      | 2428            | 34      | 2468            |
| 15      | 2430            | 35      | 2470            |
| 16      | 2432            | 36      | 2472            |
| 17      | 2434            | 37      | 2474            |
| 18      | 2436            | 38      | 2476            |
| 19      | 2438            | 39      | 2478            |
| 20      | 2440            | 40      | 2480            |

3.

Table for Filed Antenna

|   | Trade Name                                                      | Model Name       | Antenna Type | Connector | Gain (dBi) |
|---|-----------------------------------------------------------------|------------------|--------------|-----------|------------|
| 1 | Shenzhen Zhongtian Xun Communication Technology Shares Co.,Ltd. | ZTX-AX01-BT-V3.0 | PIFA antenna | N/A       | 3.49 dBi   |

## 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       | GFSK        |
| Mode 2       | RX          |

| For Conducted Emission |             |
|------------------------|-------------|
| Final Test Mode        | Description |
| Mode 1                 | GFSK        |

| For Radiated Emission |             |
|-----------------------|-------------|
| Final Test Mode       | Description |
| Mode 1                | GFSK        |
| Mode 2                | RX          |

Note:

- (1) The measurements are performed at the highest, middle, lowest available channels.
- (2) For all tests the worst-case was selected as the table above, the data of the worst-case is shown in the report.

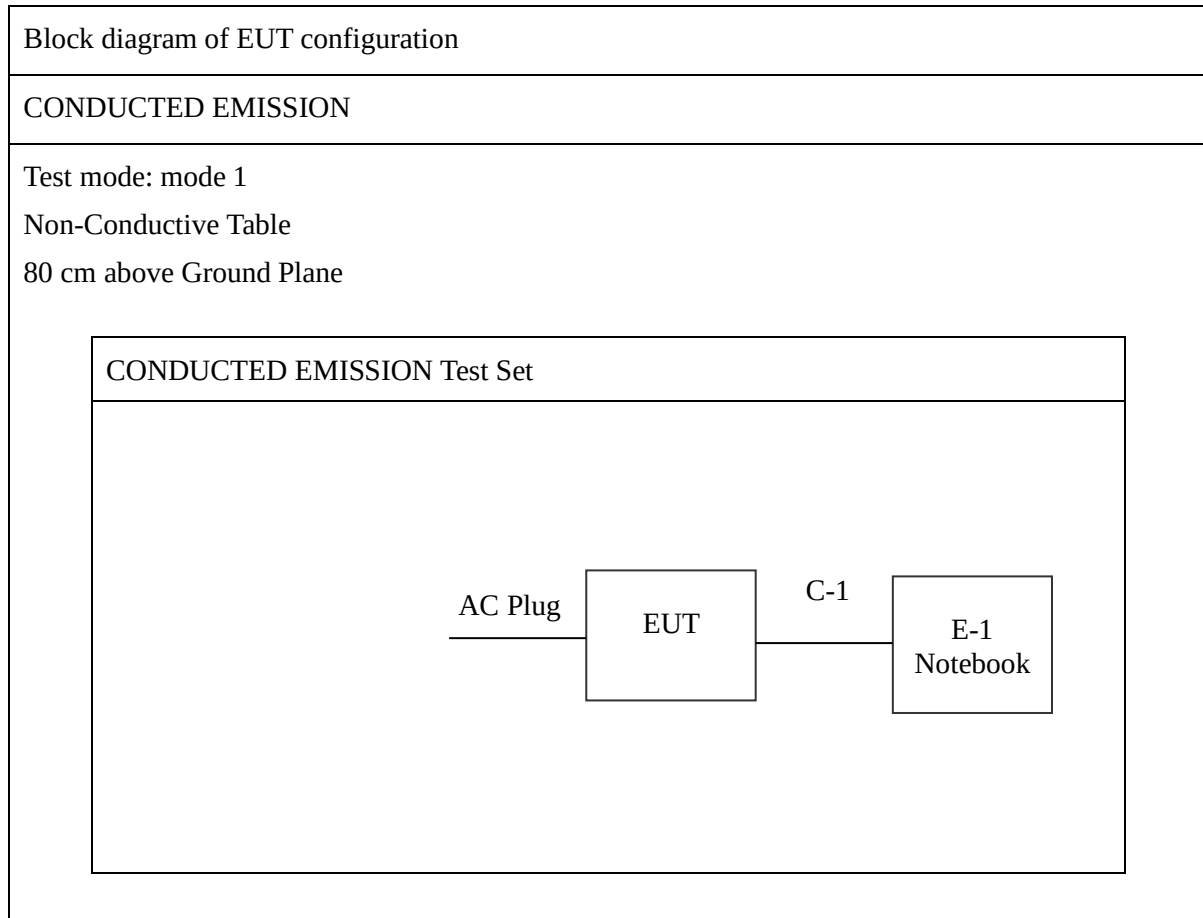
## 2.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters.

| RF Function      | Type       | Mode Or Modulation type | ANT Gain(dBi) | Power Class | Software For Testing      |
|------------------|------------|-------------------------|---------------|-------------|---------------------------|
| BLE(With 2M PHY) | BLE_1M PHY | GFSK                    | 3.49          | Default     | WCN Combo Tool_v2.1747.00 |
|                  | BLE_2M PHY | GFSK                    | 3.49          | Default     |                           |

1. Connect the computer with USB ports.
2. Open the “WCN\_Combo\_Tool” test software.
3. Set the commands and click "ENTER" transmitter.

## 2.4 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



## Block diagram of EUT configuration

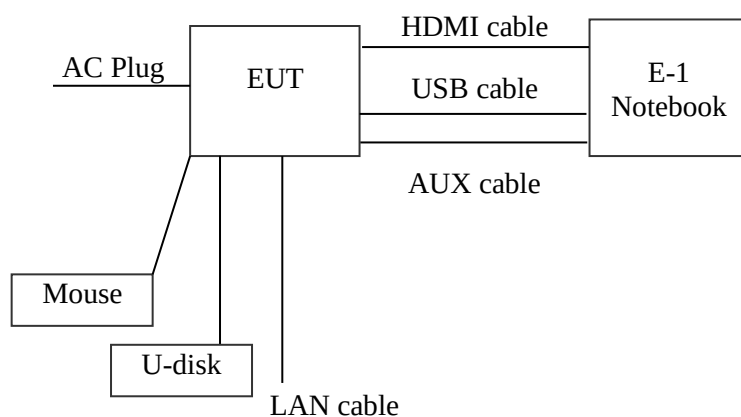
### RADIATED EMISSION

Test mode: mode 1, 2

Non-Conductive Table

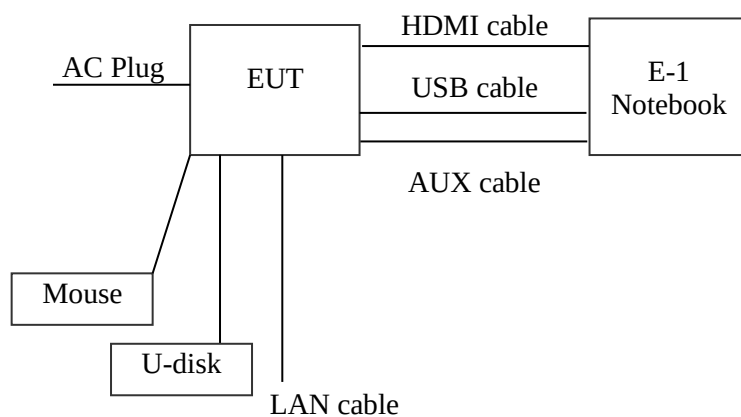
80 cm above Ground Plane

#### Below 1 GHz Radiation Test Set



150 cm above Ground Plane

#### Above 1 GHz Radiation Test Set



## 2.5 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         | Mfr/Brand | Model/Type No. | FCC ID | Series No. | Note                  |
|------|-------------------|-----------|----------------|--------|------------|-----------------------|
| /    | AC Cable          | ASAP      | 246445         | N/A    | N/A        | necessary accessories |
| /    | Remote control    | XGIMI     | B981C          | N/A    | N/A        |                       |
| E-1  | Personal computer | DELL      | VOSTRO.3800    | N/A    | N/A        | support units.*       |
| C-1  | USB Cable         | UGREEN    | 10368          | N/A    | N/A        |                       |
| /    | Mouse             | HP        | MODGUO         | N/A    | N/A        |                       |
| /    | HDMI Cable        | SONY      | 20276          | N/A    | N/A        |                       |
| /    | AUX Cable         | UGREEN    | AV175          | N/A    | N/A        |                       |
| /    | U Disk            | Kingston  | DTKN/128GB     | N/A    | N/A        |                       |
| /    | LAN Cable         | SAMZHE    | 283M           | N/A    | N/A        |                       |

| Item | Equipment | Mfr/Brand | Model/Type No. | Note |
|------|-----------|-----------|----------------|------|
| N/A  | N/A       | N/A       | N/A            | N/A  |

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” or “with ferrite core”; “NO” means “unshielded” or “without ferrite core”
- (4) “\*”: In this report, the applicant did not provide the accompanying accessories with the equipment. The accessories were provided by the laboratory (or the applicant) and inspected simultaneously.

### 2.5.1 EQUIPMENTS LIST FOR ALL TEST ITEMS

| EQUIPMENT TYPE       | MANU-FACTURER   | MODEL NUMBER | SERIAL NUMBER | CAL. DATE          | CAL. CYCLE |
|----------------------|-----------------|--------------|---------------|--------------------|------------|
| Spectrum Analyzer    | Keysight        | N9020A       | MY53300466    | April 29, 2021     | 1 Year     |
| RF Preselector       | Hewlett Packard | 85685A       | 3010A01157    | April 29, 2021     | 1 Year     |
| Quasi-Peak Adapter   | Hewlett Packard | 85650        | 2521A00584    | April 29, 2021     | 1 Year     |
| Preamplifier         | Com Power       | PA-102       | 1482          | April 29, 2021     | 1 Year     |
| RF Attenuator        | Mini-Circuits   | CAT-10       | Asset #1000   | December 08, 2020  | 1 Year     |
| LISN                 | Com Power       | LI-200       | 12012         | September 09, 2020 | 1 Year     |
| LISN                 | Com Power       | LI-200       | 12214         | September 09, 2020 | 1 Year     |
| LISN                 | Com Power       | LI-200       | 1767          | September 09, 2020 | 1 Year     |
| LISN                 | Com Power       | LI-200       | 1768          | September 09, 2020 | 1 Year     |
| Biconical Antenna    | Com Power       | AB-100       | 01557         | December 29, 2020  | 1 Year     |
| Log Periodic Antenna | Com Power       | AL-100       | 16037         | December 22, 2020  | 1 Year     |
| Horn Antenna         | Com Power       | AHA-118      | 711054        | December 22, 2020  | 1 Year     |
| Antenna Mast         | Com Power       | AM-400       | N/A           | N/A                | N/A        |
| Turntable            | Com Power       | TT-100       | N/A           | N/A                | N/A        |
| Computer             | Dell, Inc.      | DHS          | DNSV641       | N/A                | N/A        |

**EMI Test Equipment (Continued)**

| EQUIPMENT TYPE                | MANU-FACTURER   | MODEL NUMBER | SERIAL NUMBER | CAL. DATE       | CAL. CYCLE |
|-------------------------------|-----------------|--------------|---------------|-----------------|------------|
| EMI Receiver                  | Rohde & Schwarz | ESU40        | 100127        | June 12, 2021   | 1 Year     |
| BiConiLog Antenna             | ETS-Lindgren    | 3142D        | 00102183      | August 13, 2020 | 1 Year     |
| Horn Antenna<br>(1GHz-18GHz)  | ETS-Lindgren    | 3117         | 00109294      | May 6, 2021     | 1 Year     |
| Horn Antenna<br>(15GHz-40GHz) | SCHWARZBECK     | BBHA 9170    | BBHA9170242   | May 6, 2021     | 1 Year     |
| Preamplifier                  | Rohde & Schwarz | TS-PR18      | 100056        | June 12, 2021   | 1 Year     |
| Pre-Amplifier                 | Agilent         | 8449B        | 3008A00409    | June 12, 2021   | 1 Year     |
| Antenna Mast                  | ETS-Lindgren    | 2175         | 00095727      | N/A             | N/A        |
| Turntable                     | ETS-Lindgren    | 2187-3.0     | 00118231      | N/A             | N/A        |
| Computer                      | Acer            | Aspire 8930  | 85100050123   | N/A             | N/A        |
| Multi-Function Controller     | ETS-Lindgren    | 2090         | 00102270      | N/A             | N/A        |
| Loop Antenna                  | ARA             | PLA-1030/B   | 1029          | May 19, 2021    | 1 Year     |

## 3. ON TIME, DUTY CYCLE AND MEASUREMENT METHODS

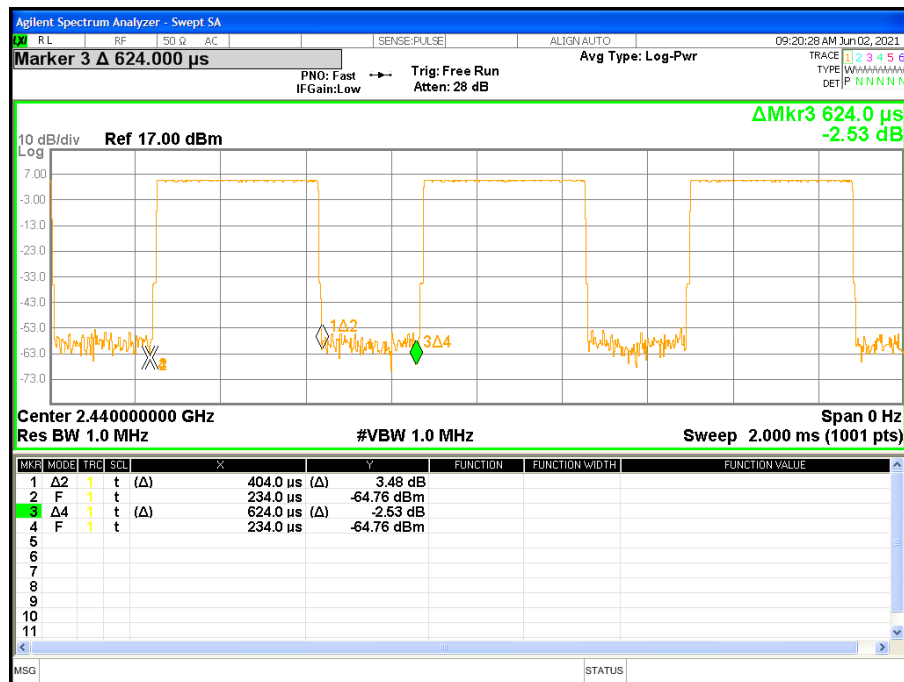
### 3.1 LIMITS

None; for reporting purposes only.

### 3.2 ON TIME AND DUTY CYCLE RESULTS

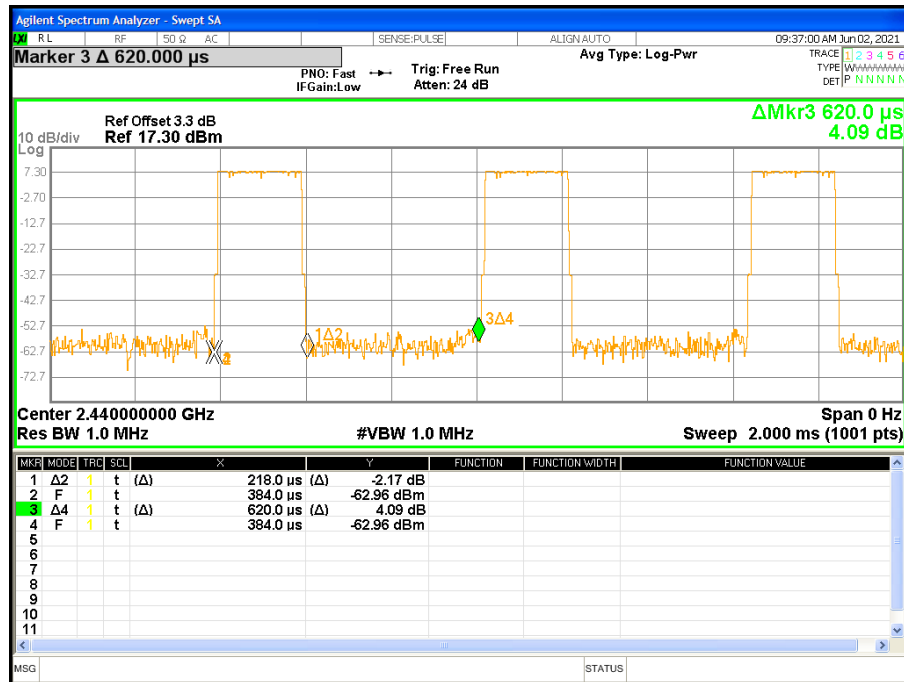
1M PHY

| Mode | ON Time<br>B<br>(msec) | Period<br>(msec) | Duty Cycle<br>x<br>(linear) | Duty Cycle<br>(%) | 10log(1/x)Duty<br>Cycle<br>Correction<br>Factor<br>(dB) | 1/B<br>Minimum<br>VBW<br>(kHz) |
|------|------------------------|------------------|-----------------------------|-------------------|---------------------------------------------------------|--------------------------------|
| BLE  | 0.404                  | 0.624            | 0.647                       | 64.74%            | 1.888                                                   | 2.475                          |



## 2M PHY

| Mode | ON Time<br>B<br>(msec) | Period<br>(msec) | Duty Cycle<br>x<br>(linear) | Duty<br>Cycle<br>(%) | 10log(1/x)Duty<br>Cycle<br>Correction Factor<br>(dB) | 1/B<br>Minimum<br>VBW<br>(kHz) |
|------|------------------------|------------------|-----------------------------|----------------------|------------------------------------------------------|--------------------------------|
| BLE  | 0.218                  | 0.620            | 0.352                       | 35.16%               | 4.539                                                | 4.587                          |



#### 4. TRANSMITTER EMISSION TEST

##### 4.1 CONDUCTED EMISSION MEASUREMENT

##### 4.1.1 POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150kHz-30MHz)

| FREQUENCY (MHz) | Class B (dBuV) |           | Standard |
|-----------------|----------------|-----------|----------|
|                 | Quasi-peak     | Average   |          |
| 0.15 -0.5       | 66 - 56 *      | 56 - 46 * | CISPR    |
| 0.50 -5.0       | 56.00          | 46.00     | CISPR    |
| 5.0 -30.0       | 60.00          | 50.00     | CISPR    |

|           |           |           |        |
|-----------|-----------|-----------|--------|
| 0.15 -0.5 | 66 - 56 * | 56 - 46 * | LP0002 |
| 0.50 -5.0 | 56.00     | 46.00     | LP0002 |
| 5.0 -30.0 | 60.00     | 50.00     | LP0002 |

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    |

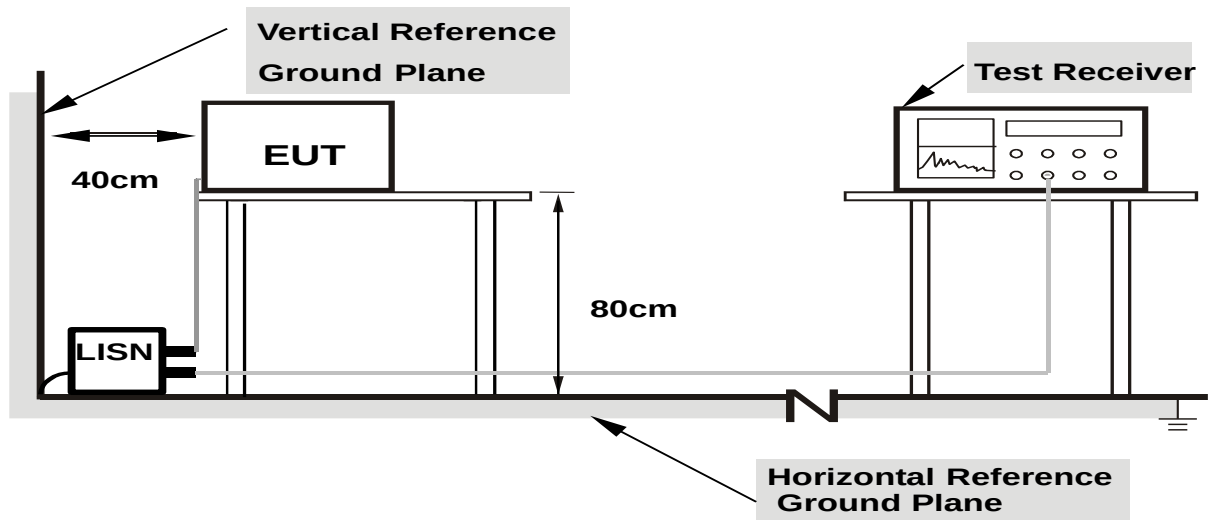
## 4.1.2 TEST PROCEDURE

- 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.

## 4.1.3 DEVIATION FROM TEST STANDARD

No deviation

## 4.1.4 TEST SETUP

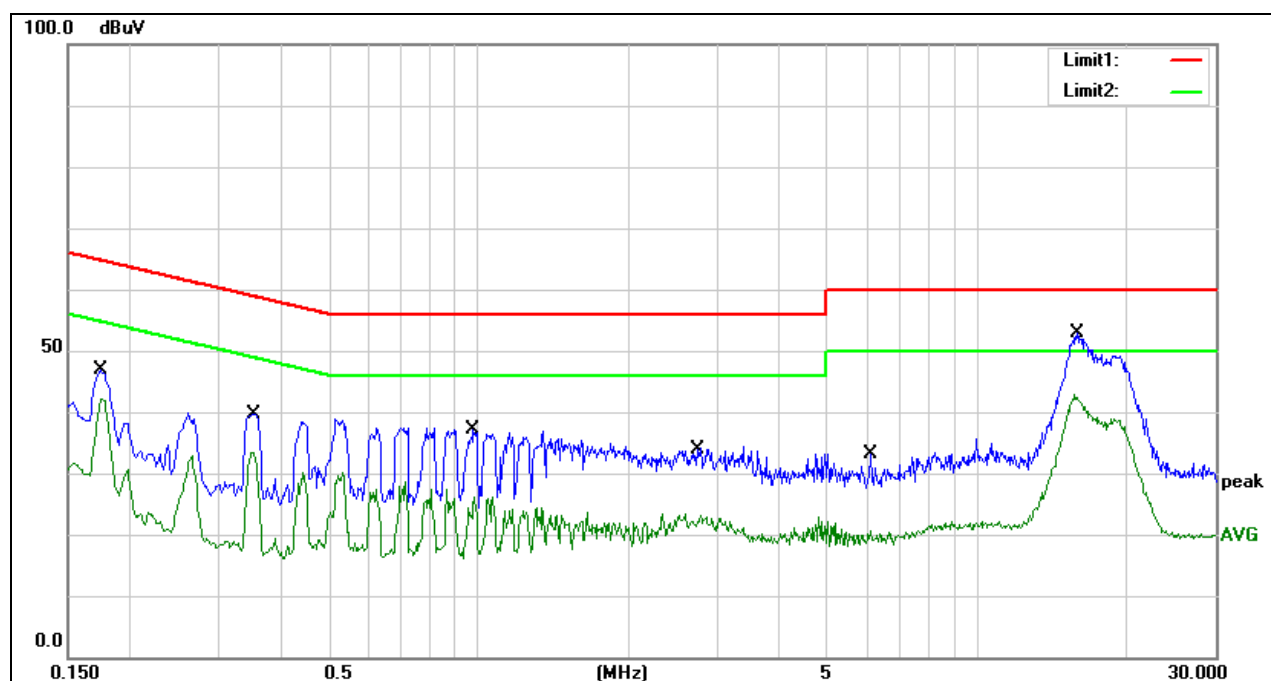


**Note: 1.Support units were connected to second LISN.**

**2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes**

## 4.1.5 TEST RESULTS

|                |              |                     |            |
|----------------|--------------|---------------------|------------|
| EUT :          | Projector    | Model Name. :       | XM03A      |
| Temperature :  | 26.0 °C      | Relative Humidity : | 59%        |
| Pressure :     | 1010hPa      | Test Date :         | 2021-06-03 |
| Test Mode :    | Mode 1       | Phase :             | L          |
| Test Voltage : | AC 110V/60Hz |                     |            |

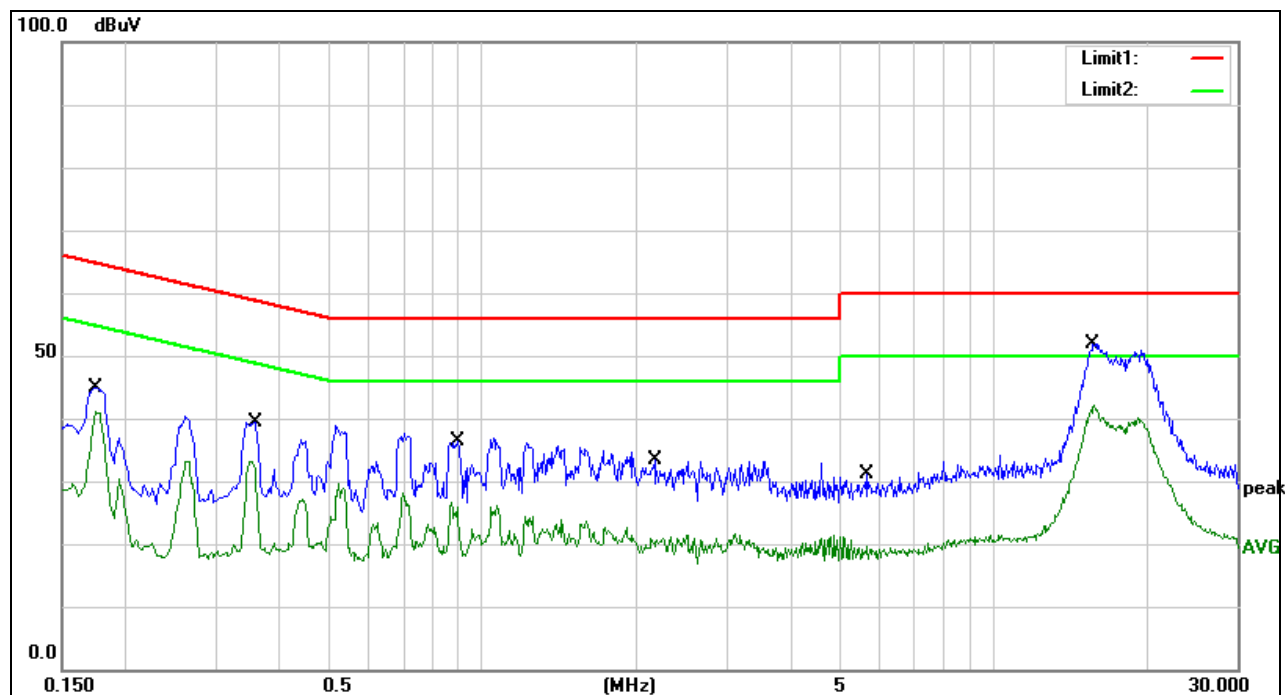


Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. '\*' means the worst case

| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>Factor(dB) | Result<br>(dBuV) | Limit<br>(dBuV) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-----------------------|------------------|-----------------|----------------|--------|
| 1   | 0.1740             | 26.45             | 20.33                 | 46.78            | 64.77           | -17.99         | QP     |
| 2   | 0.1740             | 21.75             | 20.33                 | 42.08            | 54.77           | -12.69         | AVG    |
| 3   | 0.3540             | 19.08             | 20.64                 | 39.72            | 58.87           | -19.15         | QP     |
| 4   | 0.3540             | 12.63             | 20.64                 | 33.27            | 48.87           | -15.60         | AVG    |
| 5   | 0.9780             | 16.86             | 20.30                 | 37.16            | 56.00           | -18.84         | QP     |
| 6   | 0.9780             | 4.52              | 20.30                 | 24.82            | 46.00           | -21.18         | AVG    |
| 7   | 2.7380             | 13.48             | 20.33                 | 33.81            | 56.00           | -22.19         | QP     |
| 8   | 2.7380             | 1.81              | 20.33                 | 22.14            | 46.00           | -23.86         | AVG    |
| 9   | 6.1140             | 12.59             | 20.53                 | 33.12            | 60.00           | -26.88         | QP     |
| 10  | 6.1140             | 0.07              | 20.53                 | 20.60            | 50.00           | -29.40         | AVG    |
| 11  | 15.8740            | 30.95             | 21.93                 | 52.88            | 60.00           | -7.12          | QP     |
| 12  | 15.8740            | 20.85             | 21.93                 | 42.78            | 50.00           | -7.22          | AVG    |

|                |              |                     |            |
|----------------|--------------|---------------------|------------|
| EUT :          | Projector    | Model Name. :       | XM03A      |
| Temperature :  | 26.0 °C      | Relative Humidity : | 59%        |
| Pressure :     | 1010hPa      | Test Date :         | 2021-06-03 |
| Test Mode :    | Mode 1       | Phase :             | N          |
| Test Voltage : | AC 110V/60Hz |                     |            |



Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. '\*' means the worst case

| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>Factor(dB) | Result<br>(dBuV) | Limit<br>(dBuV) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-----------------------|------------------|-----------------|----------------|--------|
| 1   | 0.1740             | 24.66             | 20.33                 | 44.99            | 64.77           | -19.78         | QP     |
| 2   | 0.1740             | 20.76             | 20.33                 | 41.09            | 54.77           | -13.68         | AVG    |
| 3   | 0.3580             | 18.84             | 20.63                 | 39.47            | 58.77           | -19.30         | QP     |
| 4   | 0.3580             | 6.01              | 20.63                 | 26.64            | 48.77           | -22.13         | AVG    |
| 5   | 0.8980             | 15.99             | 20.32                 | 36.31            | 56.00           | -19.69         | QP     |
| 6   | 0.8980             | 4.08              | 20.32                 | 24.40            | 46.00           | -21.60         | AVG    |
| 7   | 2.1700             | 12.95             | 20.31                 | 33.26            | 56.00           | -22.74         | QP     |
| 8   | 2.1700             | -0.66             | 20.31                 | 19.65            | 46.00           | -26.35         | AVG    |
| 9   | 5.6620             | 10.59             | 20.50                 | 31.09            | 60.00           | -28.91         | QP     |
| 10  | 5.6620             | -1.57             | 20.50                 | 18.93            | 50.00           | -31.07         | AVG    |
| 11  | 15.6780            | 30.06             | 21.89                 | 51.95            | 60.00           | -8.05          | QP     |
| 12  | 15.6780            | 20.22             | 21.89                 | 42.11            | 50.00           | -7.89          | AVG    |

**Test result: The unit does meet the NCC requirements.**

## 4.2 RADIATED EMISSION MEASUREMENT

### 4.2.1 RADIATED EMISSION LIMITS (Frequency Range 9kHz-1000MHz)

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 3.5, then the 3.6 limit in the table below has to be followed.

| Frequencies<br>(MHz) | Field Strength<br>(micровolts/meter) | Measurement Distance<br>(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                                |

### LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

| FREQUENCY (MHz) | LIMITS (at 3M) |         |
|-----------------|----------------|---------|
|                 | PEAK           | AVERAGE |
| Above 1000      | 74             | 54      |

Notes:

- (1) The limit for radiated test was performed according to LP0002.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

### FREQUENCY RANGE OF RADIATED MEASUREMENT (For unintentional radiators)

Frequency measurement range:

1 The spectrum shall be measured from the lowest radio frequency signal generated in the device (without going below 9 kHz), and the upper limit of the measurement range shall be decided according to the maximum operating frequency.

1.1 Maximum operating frequency less than 10 GHz: to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

1.2 Maximum operating frequency between 10 GHz~30 GHz: to the fifth harmonic of the highest fundamental frequency or to 100 GHz, whichever is lower.

1.3 Maximum operating frequency over 30 GHz: to the fifth harmonic of the highest fundamental frequency or to 200 GHz, whichever is lower.

2 Particular attention should be paid to harmonics and subharmonics of the carrier frequency as well as to those frequencies removed from the carrier by multiples of the oscillator frequency. Radiation at the frequencies of multiplier stages should also be checked.

| Spectrum Parameter |             | Setting               |           |
|--------------------|-------------|-----------------------|-----------|
| Attenuation        |             | Auto                  |           |
| Start Frequency    |             | 1000 MHz              |           |
| Stop Frequency     |             | 10th carrier harmonic |           |
| Measurement        | Duty cycle  | RBW                   | Video B/W |
| PK                 | Any         | 1MHz                  | 3MHz      |
| AV                 | $\geq 98\%$ | 1MHz                  | 10Hz      |
|                    | $< 98\%$    | 1MHz                  | 1/T       |

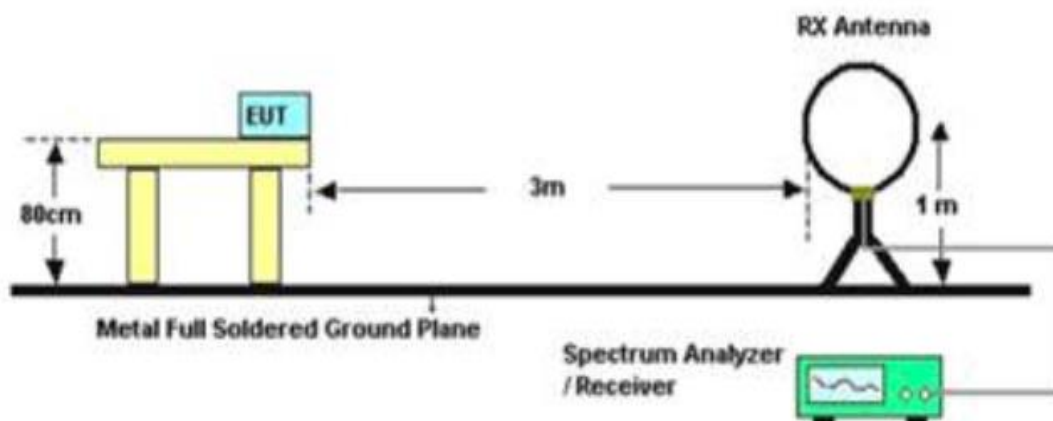
| Receiver Parameter     | Setting                          |
|------------------------|----------------------------------|
| Attenuation            | Auto                             |
| Start ~ Stop Frequency | 9kHz~150kHz / RB 200Hz for QP    |
| Start ~ Stop Frequency | 150kHz~30MHz / RB 9kHz for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

## 4.2.2 TEST PROCEDURE

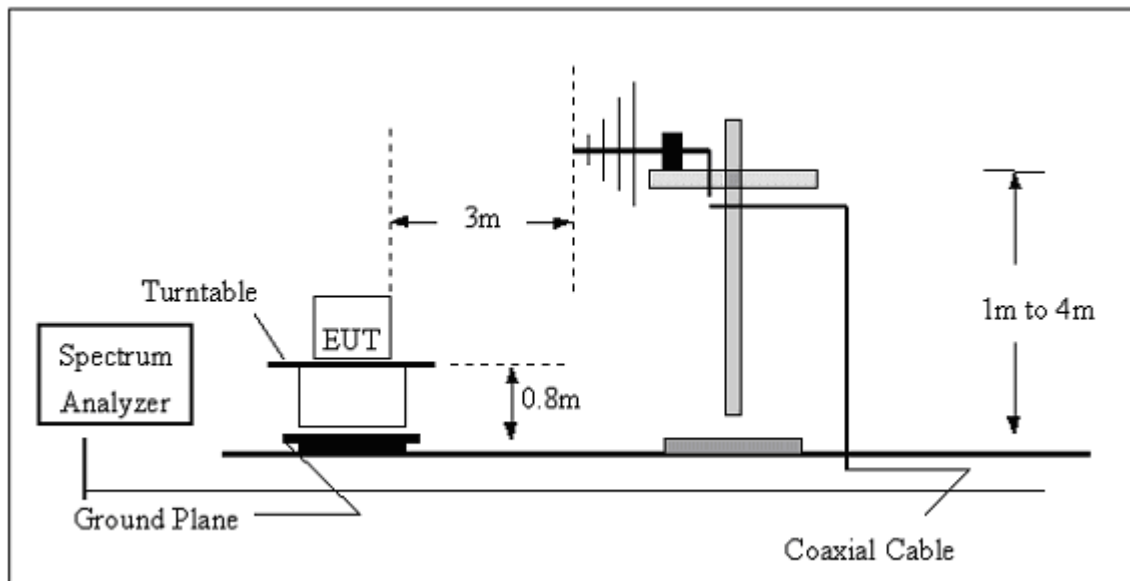
- The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- The EUT was placed on the top of a rotating table 0.8 meters (For frequencies above 1GHz, table 1.5 meters) above the ground at a 3 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- The height of the equipment or of the substitution antenna shall be 0.8 m; 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.
- The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- If the 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.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

## 4.2.3 TEST SETUP

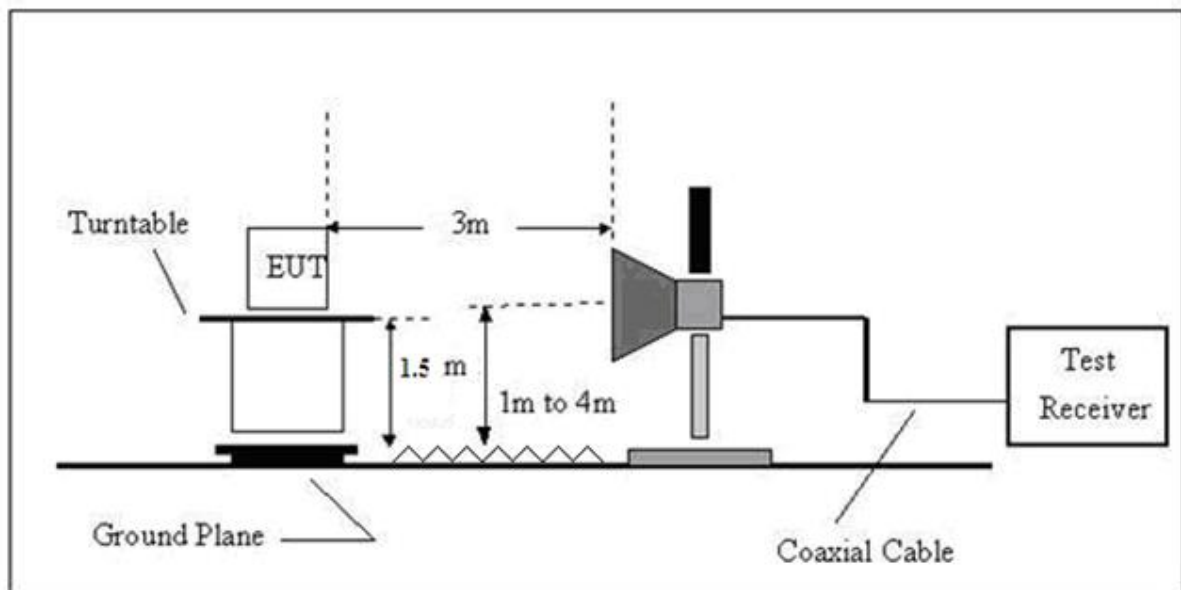
(A) Radiated Emission Test-Up Frequency Below 30MHz



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



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



#### 4.2.4 EUT OPERATING CONDITIONS

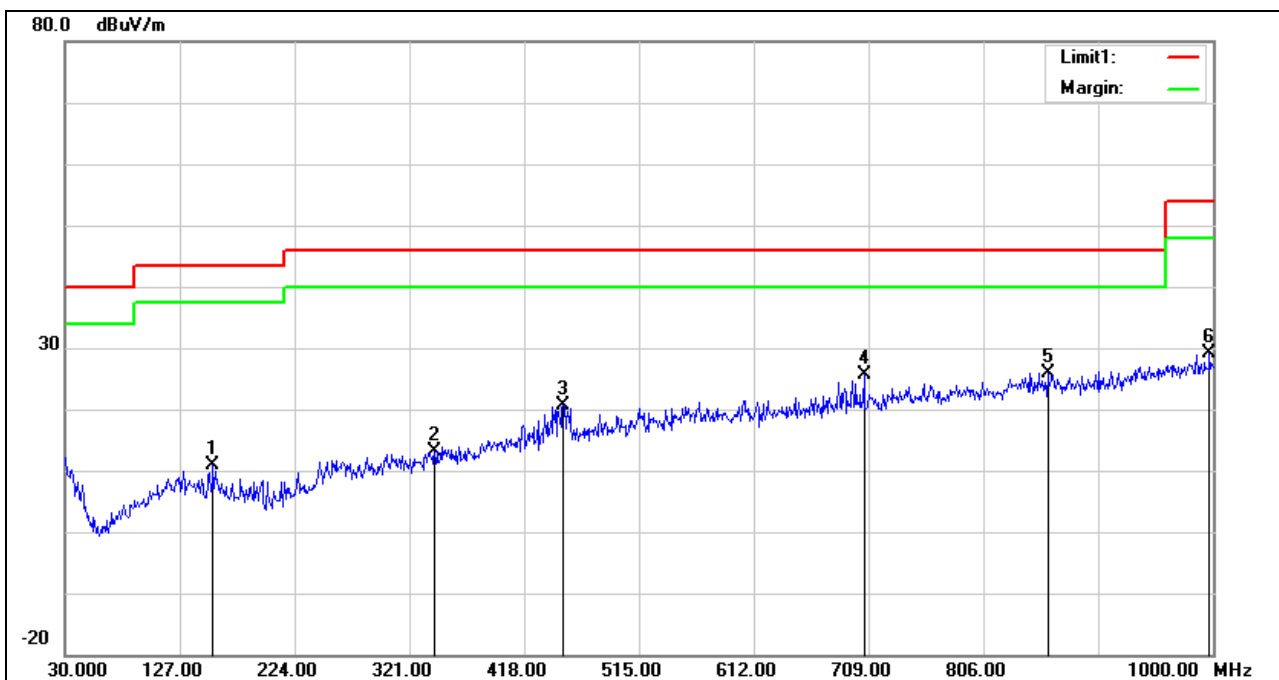
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

## 4.2.5 TEST RESULTS (BLOW 30MHZ)

There is not detected blow 30MHz.

## 4.2.6 TEST RESULTS (BETWEEN30 – 1000 MHZ)

|               |                     |                     |            |
|---------------|---------------------|---------------------|------------|
| EUT :         | Projector           | Model Name :        | XM03A      |
| Temperature : | 23.1 °C             | Relative Humidity : | 60%        |
| Pressure :    | 1010 hPa            | Test Date :         | 2021-6-19  |
| Test Mode :   | TX 2440MHz (1M PHY) | Polarization :      | Horizontal |
| Test Power :  | AC 110V/60Hz        |                     |            |

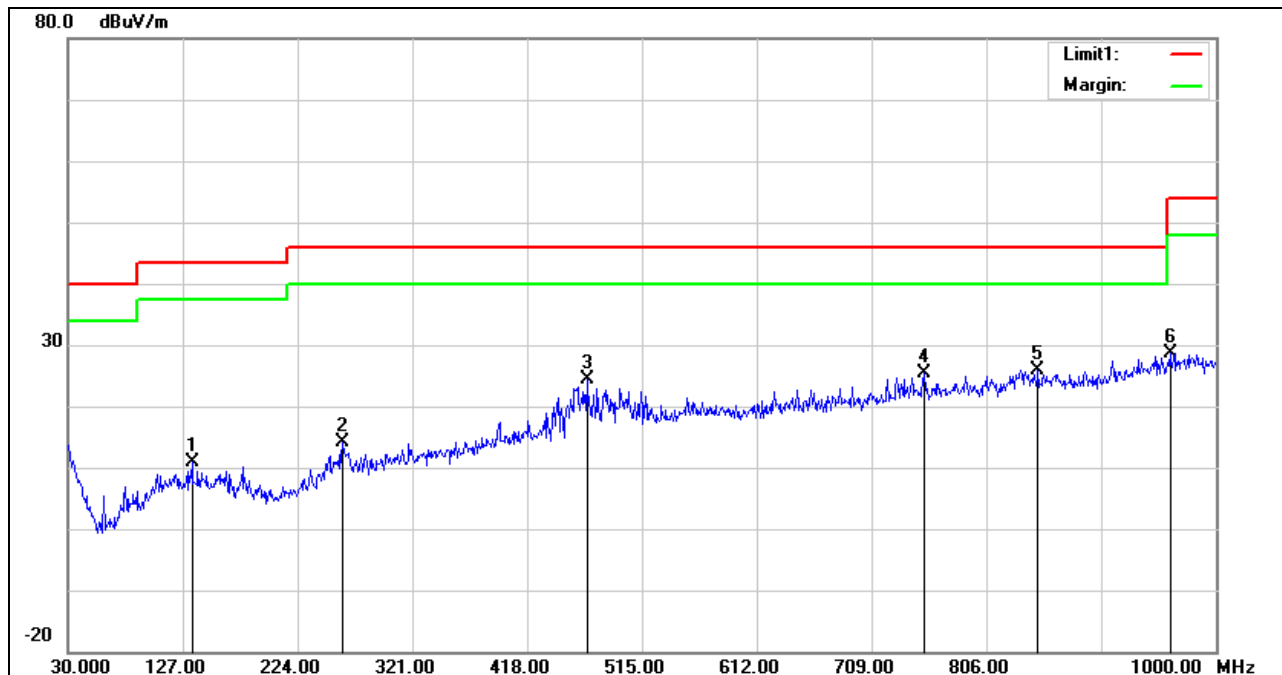


Remark:

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

| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>Factor(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-------------------------|--------------------|-------------------|----------------|--------|
| 1   | 155.1300           | 29.43             | -18.63                  | 10.80              | 43.50             | -32.70         | QP     |
| 2   | 342.3400           | 26.48             | -13.33                  | 13.15              | 46.00             | -32.85         | QP     |
| 3   | 450.9800           | 30.38             | -9.65                   | 20.73              | 46.00             | -25.27         | QP     |
| 4   | 705.1200           | 29.66             | -4.01                   | 25.65              | 46.00             | -20.35         | QP     |
| 5   | 860.3200           | 26.27             | -0.42                   | 25.85              | 46.00             | -20.15         | QP     |
| 6   | 997.0900           | 27.20             | 2.04                    | 29.24              | 54.00             | -24.76         | QP     |

|               |                     |                     |           |
|---------------|---------------------|---------------------|-----------|
| EUT :         | Projector           | Model Name :        | XM03A     |
| Temperature : | 23.1 °C             | Relative Humidity : | 60%       |
| Pressure :    | 1010 hPa            | Test Date :         | 2021-6-19 |
| Test Mode :   | TX 2440MHz (1M PHY) | Polarization :      | Vertical  |
| Test Power :  | AC 110V/60Hz        |                     |           |

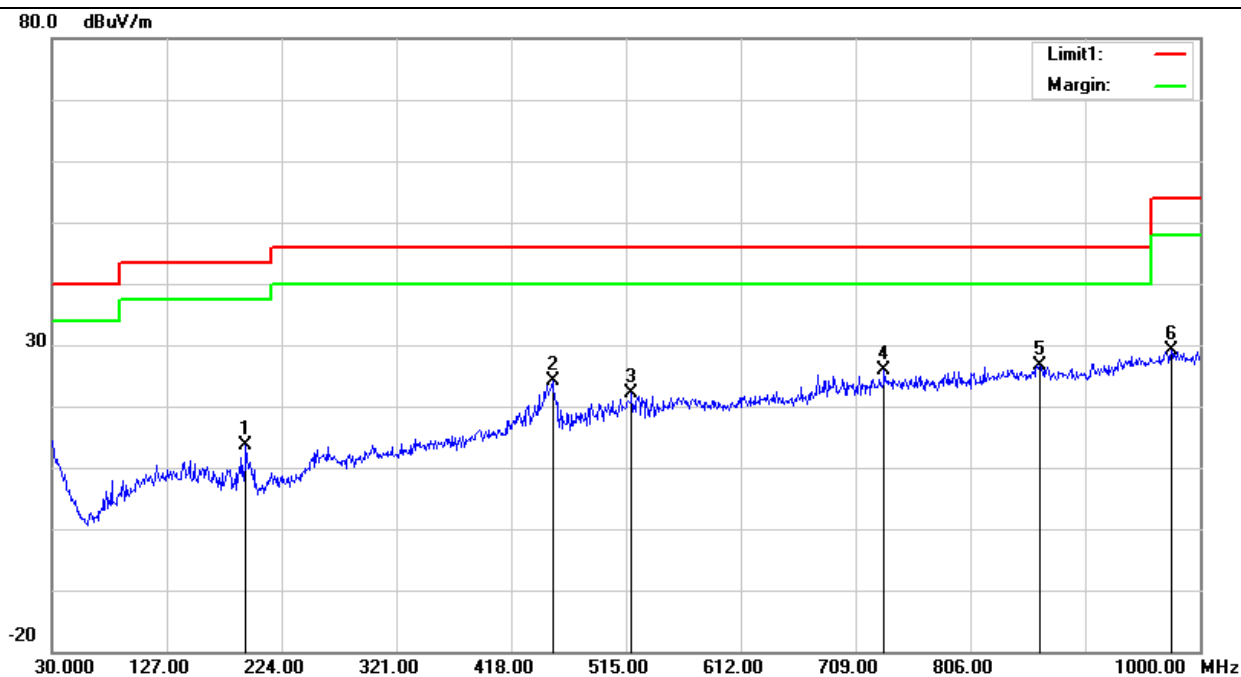


Remark:

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

| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>Factor(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-------------------------|--------------------|-------------------|----------------|--------|
| 1   | 134.7600           | 28.88             | -18.11                  | 10.77              | 43.50             | -32.73         | QP     |
| 2   | 261.8300           | 28.82             | -14.77                  | 14.05              | 46.00             | -31.95         | QP     |
| 3   | 468.4400           | 33.49             | -9.07                   | 24.42              | 46.00             | -21.58         | QP     |
| 4   | 753.6200           | 27.60             | -2.16                   | 25.44              | 46.00             | -20.56         | QP     |
| 5   | 849.6500           | 26.57             | -0.73                   | 25.84              | 46.00             | -20.16         | QP     |
| 6   | 961.2000           | 26.82             | 1.79                    | 28.61              | 54.00             | -25.39         | QP     |

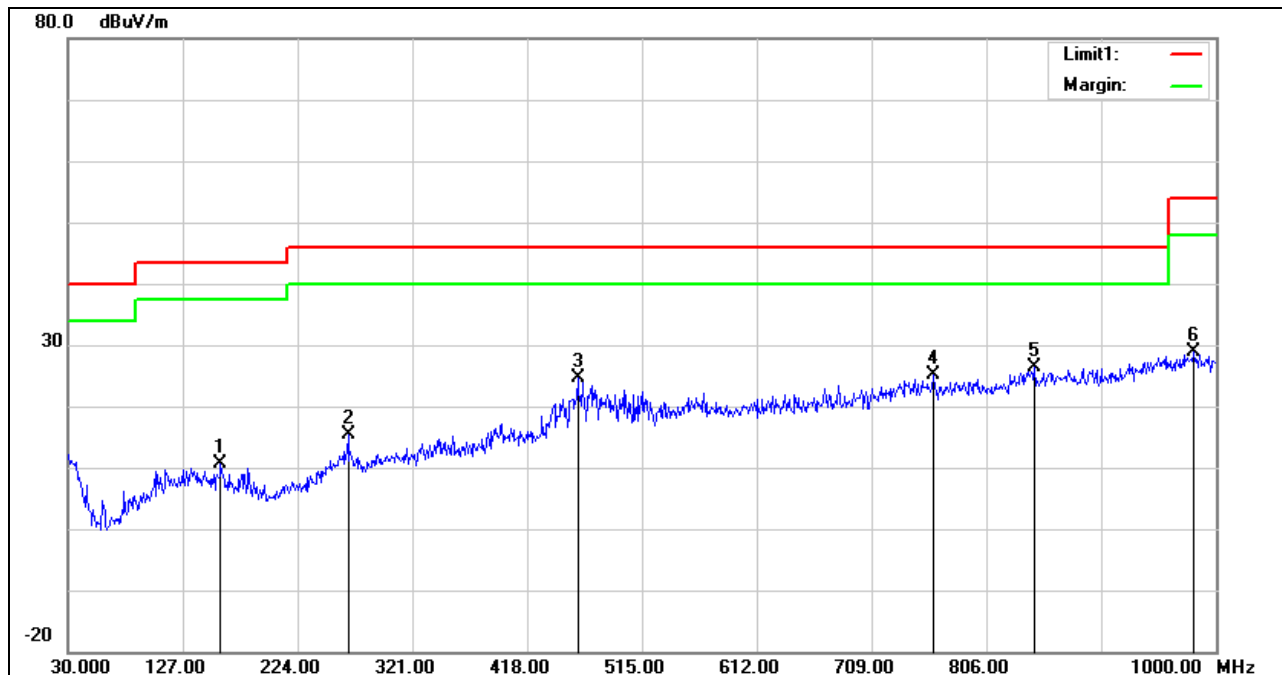
|               |                 |                     |            |
|---------------|-----------------|---------------------|------------|
| EUT :         | Projector       | Model Name :        | XM03A      |
| Temperature : | 23.1 °C         | Relative Humidity : | 60%        |
| Pressure :    | 1010 hPa        | Test Date :         | 2021-6-19  |
| Test Mode :   | RX (Worst Case) | Polarization :      | Horizontal |
| Test Power :  | AC 110V/60Hz    |                     |            |



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

| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>Factor(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-------------------------|--------------------|-------------------|----------------|--------|
| 1   | 193.9300           | 34.67             | -21.11                  | 13.56              | 43.50             | -29.94         | QP     |
| 2   | 452.9200           | 33.79             | -9.61                   | 24.18              | 46.00             | -21.82         | QP     |
| 3   | 519.8500           | 29.91             | -7.82                   | 22.09              | 46.00             | -23.91         | QP     |
| 4   | 733.2500           | 28.31             | -2.35                   | 25.96              | 46.00             | -20.04         | QP     |
| 5   | 865.1700           | 27.12             | -0.48                   | 26.64              | 46.00             | -19.36         | QP     |
| 6   | 975.7500           | 26.65             | 2.38                    | 29.03              | 54.00             | -24.97         | QP     |

|               |                 |                     |           |
|---------------|-----------------|---------------------|-----------|
| EUT :         | Projector       | Model Name :        | XM03A     |
| Temperature : | 23.1 °C         | Relative Humidity : | 60%       |
| Pressure :    | 1010 hPa        | Test Date :         | 2021-6-19 |
| Test Mode :   | RX (Worst Case) | Polarization :      | Vertical  |
| Test Power :  | AC 110V/60Hz    |                     |           |



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

| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>Factor(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-------------------------|--------------------|-------------------|----------------|--------|
| 1   | 159.0100           | 29.49             | -18.77                  | 10.72              | 43.50             | -32.78         | QP     |
| 2   | 266.6800           | 30.37             | -14.94                  | 15.43              | 46.00             | -30.57         | QP     |
| 3   | 460.6800           | 33.98             | -9.43                   | 24.55              | 46.00             | -21.45         | QP     |
| 4   | 761.3800           | 27.42             | -2.19                   | 25.23              | 46.00             | -20.77         | QP     |
| 5   | 846.7400           | 26.91             | -0.62                   | 26.29              | 46.00             | -19.71         | QP     |
| 6   | 981.5700           | 26.42             | 2.57                    | 28.99              | 54.00             | -25.01         | QP     |

**Test result: The unit does meet the NCC requirements.**

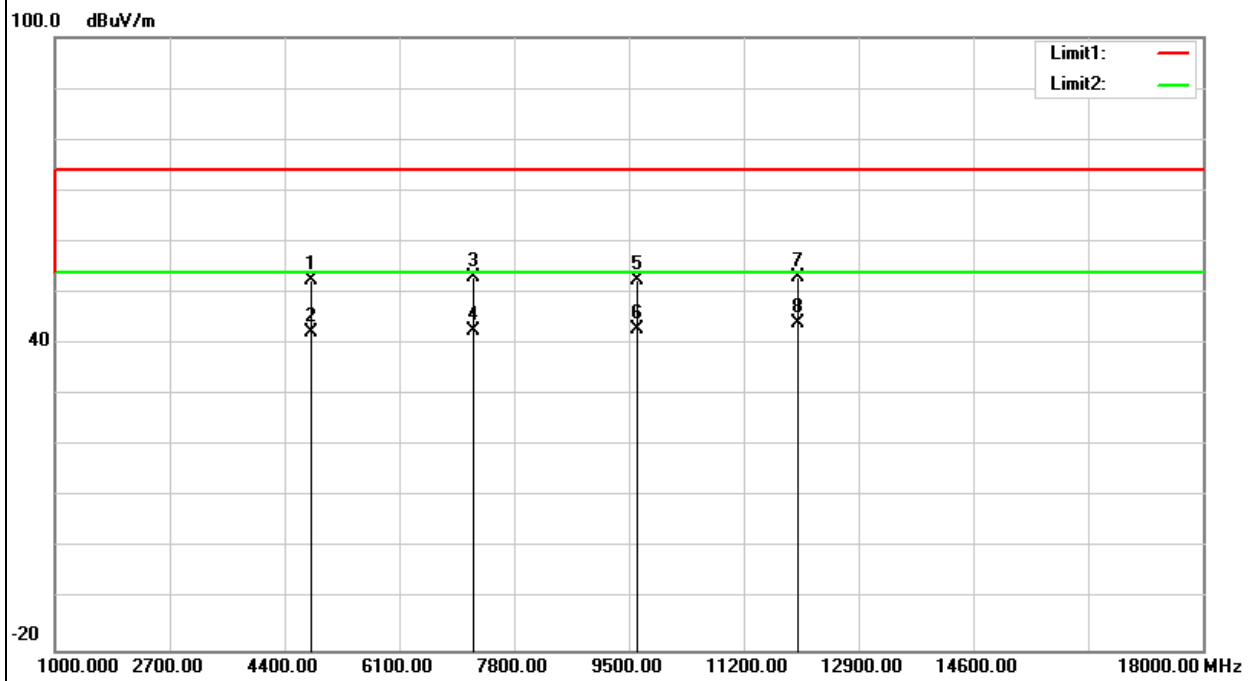
## 4.2.7 TEST RESULTS (ABOVE 1000 MHZ)

|               |                  |                     |            |
|---------------|------------------|---------------------|------------|
| EUT :         | Projector        | Model Name :        | XM03A      |
| Temperature : | 23.1 °C          | Relative Humidity : | 60%        |
| Pressure :    | 1010 hPa         | Test Date :         | 2021-6-18  |
| Test Mode :   | TX CH01 (1M PHY) | Polarization :      | Horizontal |
| Test Power :  | AC 110V/60Hz     |                     |            |

| Frequency<br>(MHz) | Meter<br>Reading<br>(dBμV) | Factor<br>(dB) | Emission<br>Level<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) | Detector Type |
|--------------------|----------------------------|----------------|-------------------------------|--------------------|----------------|---------------|
| 4807.000           | 59.56                      | -7.20          | 52.36                         | 74.00              | -21.64         | peak          |
| 4807.000           | 49.49                      | -7.20          | 42.29                         | 54.00              | -11.71         | AVG           |
| 7209.000           | 52.41                      | 0.56           | 52.97                         | 74.00              | -21.03         | peak          |
| 7209.000           | 42.05                      | 0.56           | 42.61                         | 54.00              | -11.39         | AVG           |
| 9631.000           | 49.17                      | 3.20           | 52.37                         | 74.00              | -21.63         | peak          |
| 9631.000           | 39.74                      | 3.20           | 42.94                         | 54.00              | -11.06         | AVG           |
| 12014.000          | 47.33                      | 5.80           | 53.13                         | 74.00              | -20.87         | peak          |
| 12014.000          | 38.14                      | 5.80           | 43.94                         | 54.00              | -10.06         | AVG           |

Remark:

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

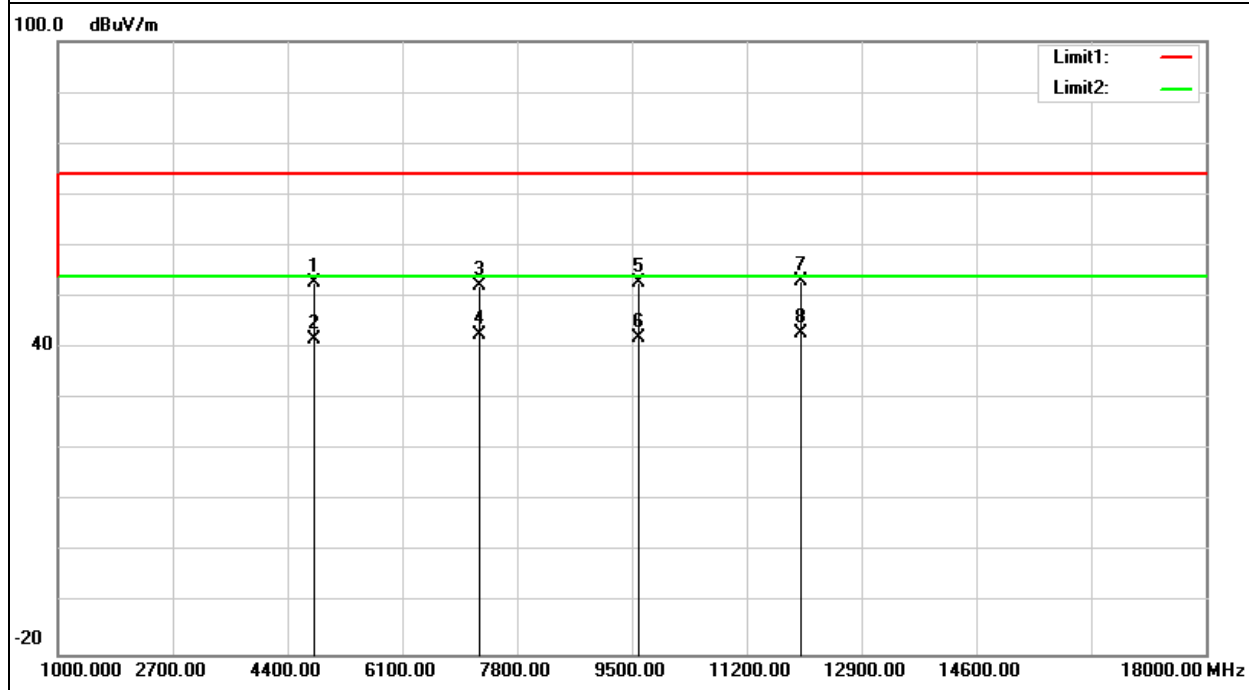


|               |                  |                     |           |
|---------------|------------------|---------------------|-----------|
| EUT :         | Projector        | Model Name :        | XM03A     |
| Temperature : | 23.1 °C          | Relative Humidity : | 60%       |
| Pressure :    | 1010 hPa         | Test Date :         | 2021-6-18 |
| Test Mode :   | TX CH01 (1M PHY) | Polarization :      | Vertical  |
| Test Power :  | AC 110V/60Hz     |                     |           |

| Frequency<br>(MHz) | Meter<br>Reading<br>(dBμV) | Factor<br>(dB) | Emission<br>Level<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) | Detector Type |
|--------------------|----------------------------|----------------|-------------------------------|--------------------|----------------|---------------|
| 4805.000           | 59.81                      | -7.20          | 52.61                         | 74.00              | -21.39         | peak          |
| 4805.000           | 48.72                      | -7.20          | 41.52                         | 54.00              | -12.48         | AVG           |
| 7236.000           | 51.49                      | 0.66           | 52.15                         | 74.00              | -21.85         | peak          |
| 7236.000           | 41.99                      | 0.66           | 42.65                         | 54.00              | -11.35         | AVG           |
| 9608.000           | 49.66                      | 3.19           | 52.85                         | 74.00              | -21.15         | peak          |
| 9608.000           | 38.89                      | 3.19           | 42.08                         | 54.00              | -11.92         | AVG           |
| 12014.000          | 47.11                      | 5.80           | 52.91                         | 74.00              | -21.09         | peak          |
| 12014.000          | 36.95                      | 5.80           | 42.75                         | 54.00              | -11.25         | AVG           |

Remark:

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

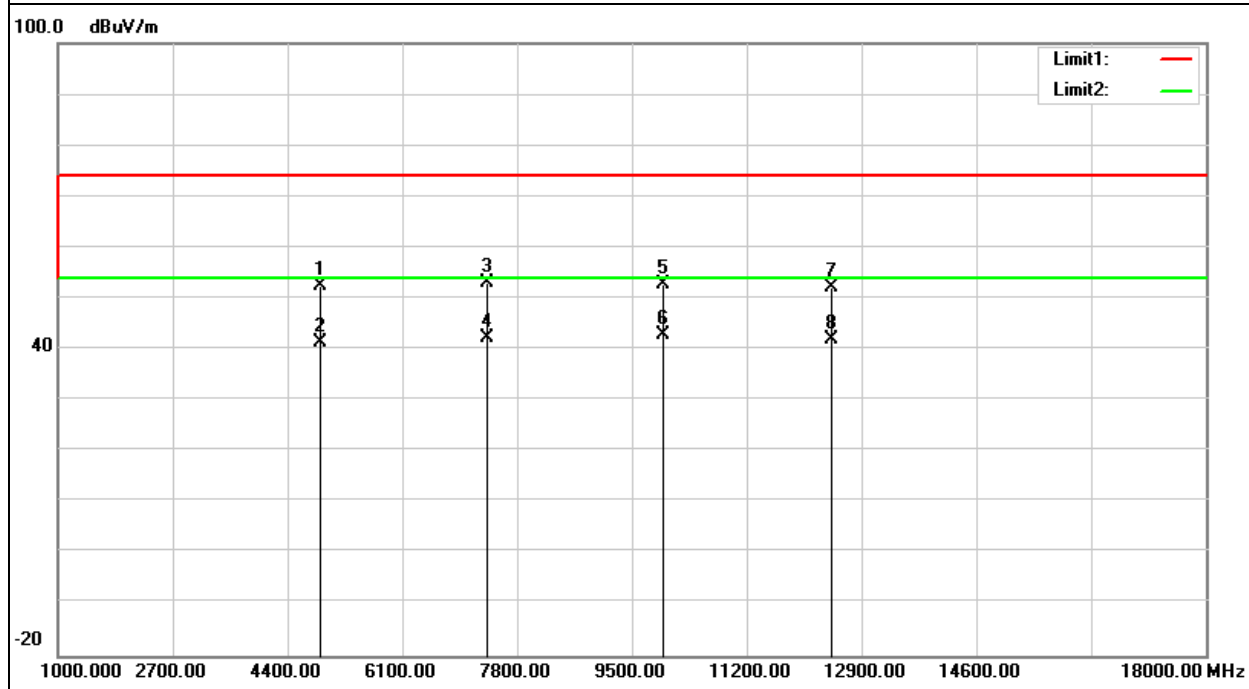


|               |                  |                     |            |
|---------------|------------------|---------------------|------------|
| EUT :         | Projector        | Model Name :        | XM03A      |
| Temperature : | 23.1 °C          | Relative Humidity : | 60%        |
| Pressure :    | 1010 hPa         | Test Date :         | 2021-6-18  |
| Test Mode :   | TX CH20 (1M PHY) | Polarization :      | Horizontal |
| Test Power :  | AC 110V/60Hz     |                     |            |

| Frequency<br>(MHz) | Meter<br>Reading<br>(dBμV) | Factor<br>(dB) | Emission<br>Level<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) | Detector Type |
|--------------------|----------------------------|----------------|-------------------------------|--------------------|----------------|---------------|
| 4885.000           | 59.24                      | -6.90          | 52.34                         | 74.00              | -21.66         | peak          |
| 4885.000           | 48.30                      | -6.90          | 41.40                         | 54.00              | -12.60         | AVG           |
| 7369.000           | 51.79                      | 1.15           | 52.94                         | 74.00              | -21.06         | peak          |
| 7369.000           | 41.09                      | 1.15           | 42.24                         | 54.00              | -11.76         | AVG           |
| 9965.000           | 49.29                      | 3.35           | 52.64                         | 74.00              | -21.36         | peak          |
| 9965.000           | 39.62                      | 3.35           | 42.97                         | 54.00              | -11.03         | AVG           |
| 12455.000          | 46.42                      | 5.83           | 52.25                         | 74.00              | -21.75         | peak          |
| 12455.000          | 36.18                      | 5.83           | 42.01                         | 54.00              | -11.99         | AVG           |

Remark:

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

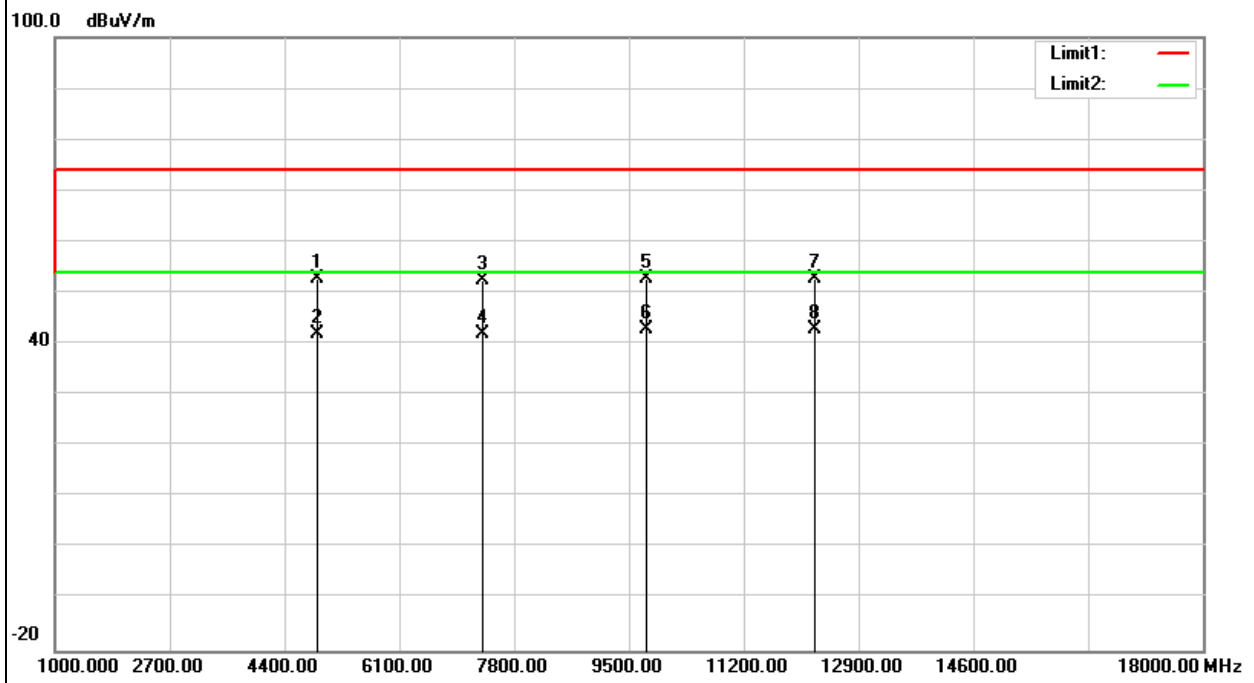


|               |                  |                     |           |
|---------------|------------------|---------------------|-----------|
| EUT :         | Projector        | Model Name :        | XM03A     |
| Temperature : | 23.1 °C          | Relative Humidity : | 60%       |
| Pressure :    | 1010 hPa         | Test Date :         | 2021-6-18 |
| Test Mode :   | TX CH20 (1M PHY) | Polarization :      | Vertical  |
| Test Power :  | AC 110V/60Hz     |                     |           |

| Frequency<br>(MHz) | Meter<br>Reading<br>(dBμV) | Factor<br>(dB) | Emission<br>Level<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) | Detector Type |
|--------------------|----------------------------|----------------|-------------------------------|--------------------|----------------|---------------|
| 4887.000           | 59.50                      | -6.89          | 52.61                         | 74.00              | -21.39         | peak          |
| 4887.000           | 48.91                      | -6.89          | 42.02                         | 54.00              | -11.98         | AVG           |
| 7325.000           | 51.35                      | 0.99           | 52.34                         | 74.00              | -21.66         | peak          |
| 7325.000           | 41.06                      | 0.99           | 42.05                         | 54.00              | -11.95         | AVG           |
| 9758.000           | 49.39                      | 3.25           | 52.64                         | 74.00              | -21.36         | peak          |
| 9758.000           | 39.70                      | 3.25           | 42.95                         | 54.00              | -11.05         | AVG           |
| 12254.000          | 46.86                      | 5.82           | 52.68                         | 74.00              | -21.32         | peak          |
| 12254.000          | 37.05                      | 5.82           | 42.87                         | 54.00              | -11.13         | AVG           |

Remark:

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

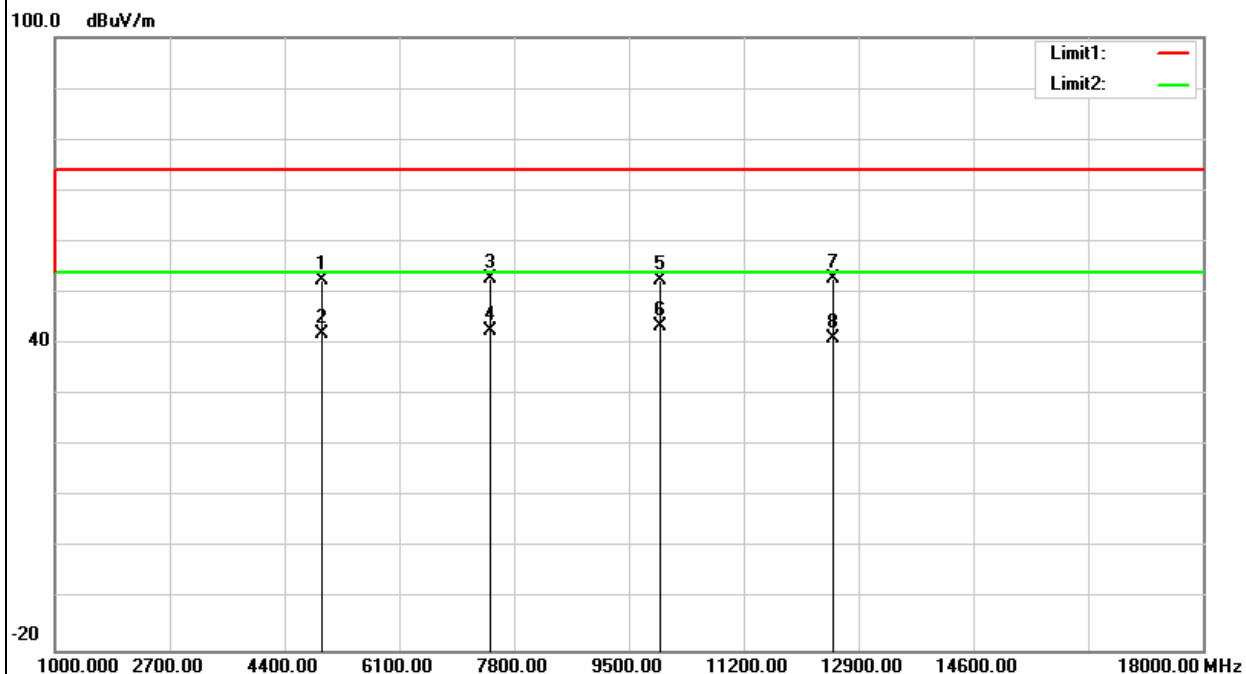


|               |                  |                     |            |
|---------------|------------------|---------------------|------------|
| EUT :         | Projector        | Model Name :        | XM03A      |
| Temperature : | 23.1 °C          | Relative Humidity : | 60%        |
| Pressure :    | 1010 hPa         | Test Date :         | 2021-6-18  |
| Test Mode :   | TX CH40 (1M PHY) | Polarization :      | Horizontal |
| Test Power :  | AC 110V/60Hz     |                     |            |

| Frequency<br>(MHz) | Meter<br>Reading<br>(dBμV) | Factor<br>(dB) | Emission<br>Level<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) | Detector Type |
|--------------------|----------------------------|----------------|-------------------------------|--------------------|----------------|---------------|
| 4962.000           | 58.75                      | -6.44          | 52.31                         | 74.00              | -21.69         | peak          |
| 4962.000           | 48.46                      | -6.44          | 42.02                         | 54.00              | -11.98         | AVG           |
| 7445.000           | 51.21                      | 1.43           | 52.64                         | 74.00              | -21.36         | peak          |
| 7445.000           | 41.21                      | 1.43           | 42.64                         | 54.00              | -11.36         | AVG           |
| 9965.000           | 48.96                      | 3.35           | 52.31                         | 74.00              | -21.69         | peak          |
| 9965.000           | 40.21                      | 3.35           | 43.56                         | 54.00              | -10.44         | AVG           |
| 12533.000          | 46.88                      | 5.88           | 52.76                         | 74.00              | -21.24         | peak          |
| 12533.000          | 35.18                      | 5.88           | 41.06                         | 54.00              | -12.94         | AVG           |

Remark:

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

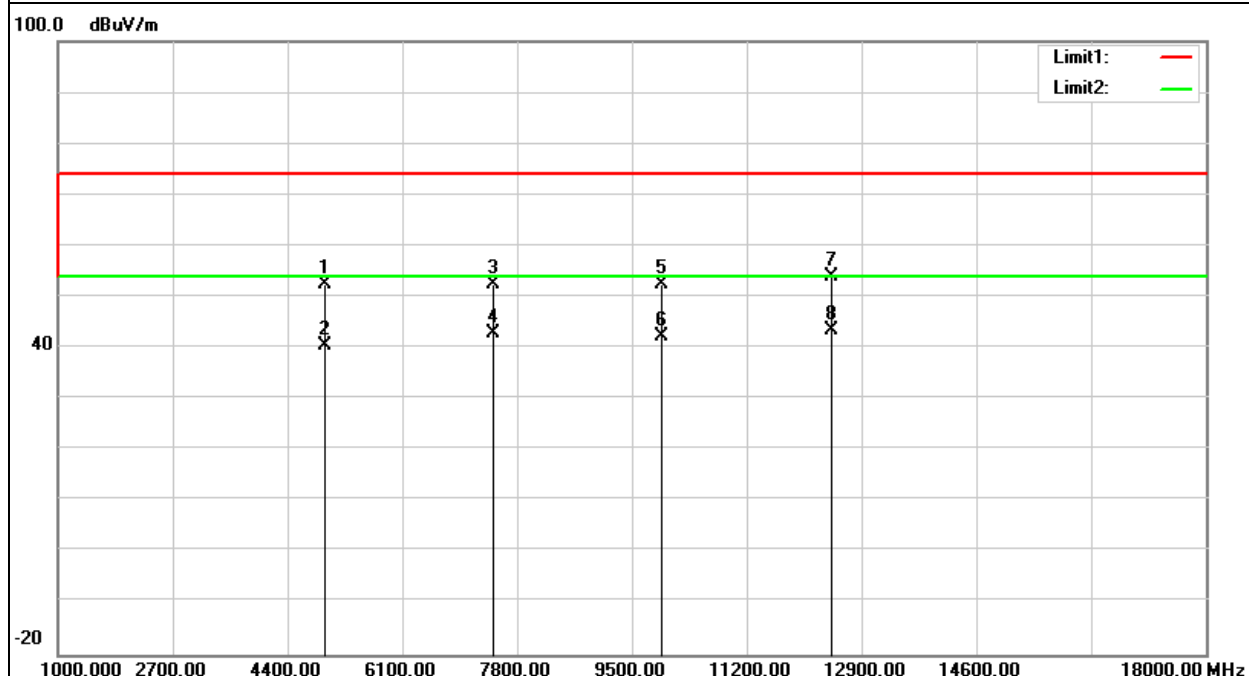


|               |                  |                     |           |
|---------------|------------------|---------------------|-----------|
| EUT :         | Projector        | Model Name :        | XM03A     |
| Temperature : | 23.1 °C          | Relative Humidity : | 60%       |
| Pressure :    | 1010 hPa         | Test Date :         | 2021-6-18 |
| Test Mode :   | TX CH40 (1M PHY) | Polarization :      | Vertical  |
| Test Power :  | AC 110V/60Hz     |                     |           |

| Frequency<br>(MHz) | Meter<br>Reading<br>(dBμV) | Factor<br>(dB) | Emission<br>Level<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) | Detector Type |
|--------------------|----------------------------|----------------|-------------------------------|--------------------|----------------|---------------|
| 4966.000           | 58.72                      | -6.41          | 52.31                         | 74.00              | -21.69         | peak          |
| 4966.000           | 46.79                      | -6.41          | 40.38                         | 54.00              | -13.62         | AVG           |
| 7441.000           | 50.95                      | 1.41           | 52.36                         | 74.00              | -21.64         | peak          |
| 7441.000           | 41.54                      | 1.41           | 42.95                         | 54.00              | -11.05         | AVG           |
| 9932.000           | 48.98                      | 3.33           | 52.31                         | 74.00              | -21.69         | peak          |
| 9932.000           | 38.87                      | 3.33           | 42.20                         | 54.00              | -11.80         | AVG           |
| 12455.000          | 48.12                      | 5.83           | 53.95                         | 74.00              | -20.05         | peak          |
| 12455.000          | 37.68                      | 5.83           | 43.51                         | 54.00              | -10.49         | AVG           |

Remark:

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

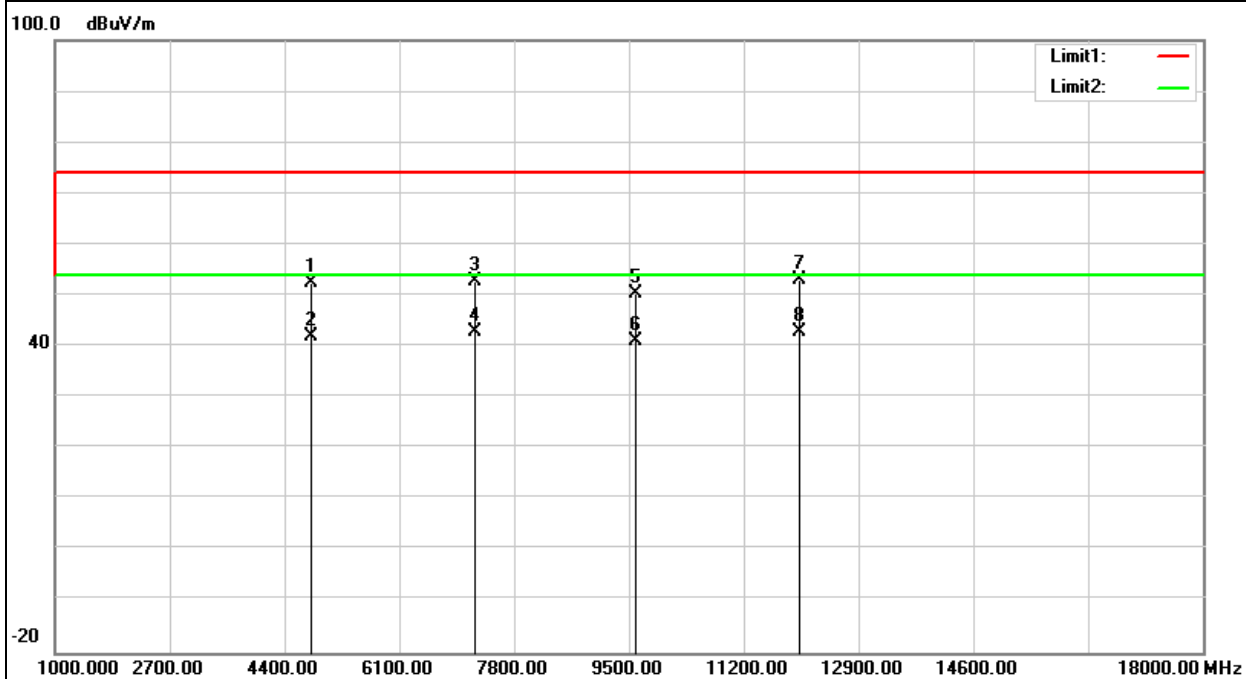


|               |                  |                     |            |
|---------------|------------------|---------------------|------------|
| EUT :         | Projector        | Model Name :        | XM03A      |
| Temperature : | 23.1 °C          | Relative Humidity : | 60%        |
| Pressure :    | 1010 hPa         | Test Date :         | 2021-6-19  |
| Test Mode :   | TX CH01 (2M PHY) | Polarization :      | Horizontal |
| Test Power :  | AC 110V/60Hz     |                     |            |

| Frequency<br>(MHz) | Meter<br>Reading<br>(dBμV) | Factor<br>(dB) | Emission<br>Level<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) | Detector Type |
|--------------------|----------------------------|----------------|-------------------------------|--------------------|----------------|---------------|
| 4806.000           | 59.51                      | -7.20          | 52.31                         | 74.00              | -21.69         | peak          |
| 4806.000           | 49.25                      | -7.20          | 42.05                         | 54.00              | -11.95         | AVG           |
| 7231.000           | 52.01                      | 0.65           | 52.66                         | 74.00              | -21.34         | peak          |
| 7231.000           | 42.30                      | 0.65           | 42.95                         | 54.00              | -11.05         | AVG           |
| 9609.000           | 47.05                      | 3.19           | 50.24                         | 74.00              | -23.76         | peak          |
| 9609.000           | 37.76                      | 3.19           | 40.95                         | 54.00              | -13.05         | AVG           |
| 12036.000          | 47.14                      | 5.80           | 52.94                         | 74.00              | -21.06         | peak          |
| 12036.000          | 37.11                      | 5.80           | 42.91                         | 54.00              | -11.09         | AVG           |

Remark:

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

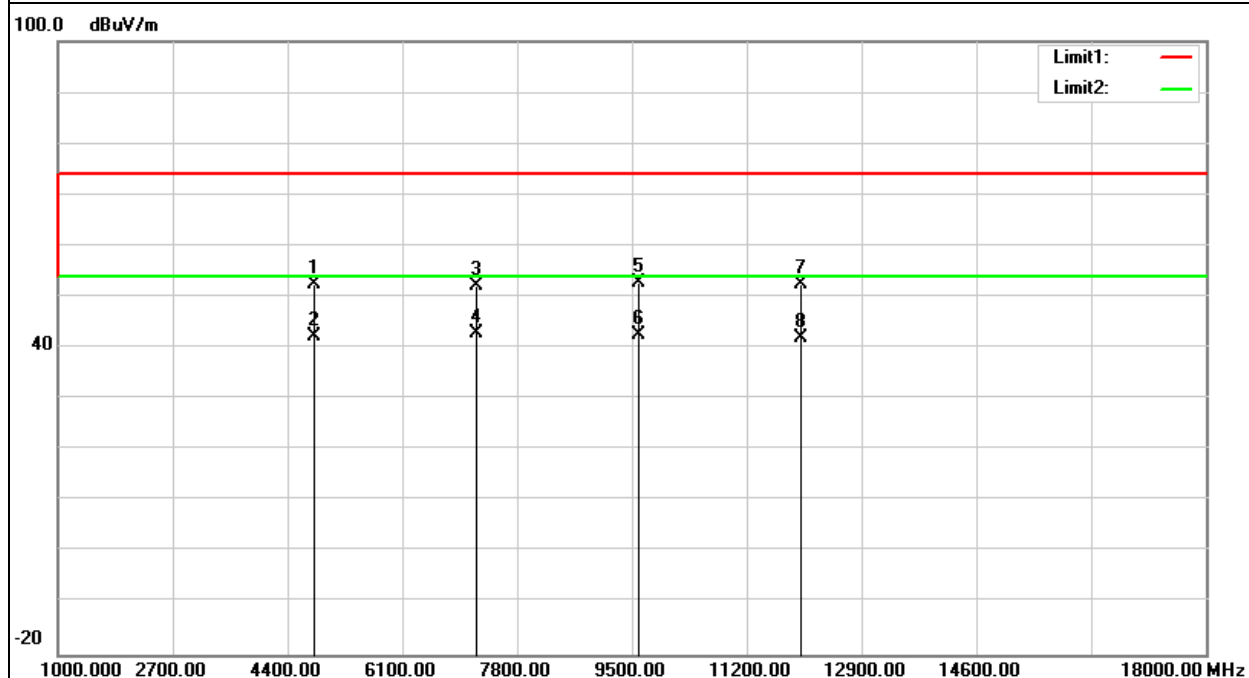


|               |                  |                     |           |
|---------------|------------------|---------------------|-----------|
| EUT :         | Projector        | Model Name :        | XM03A     |
| Temperature : | 23.1 °C          | Relative Humidity : | 60%       |
| Pressure :    | 1010 hPa         | Test Date :         | 2021-6-19 |
| Test Mode :   | TX CH01 (2M PHY) | Polarization :      | Vertical  |
| Test Power :  | AC 110V/60Hz     |                     |           |

| Frequency<br>(MHz) | Meter<br>Reading<br>(dBμV) | Factor<br>(dB) | Emission<br>Level<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) | Detector Type |
|--------------------|----------------------------|----------------|-------------------------------|--------------------|----------------|---------------|
| 4803.000           | 59.51                      | -7.20          | 52.31                         | 74.00              | -21.69         | peak          |
| 4803.000           | 49.45                      | -7.20          | 42.25                         | 54.00              | -11.75         | AVG           |
| 7205.000           | 51.59                      | 0.55           | 52.14                         | 74.00              | -21.86         | peak          |
| 7205.000           | 42.40                      | 0.55           | 42.95                         | 54.00              | -11.05         | AVG           |
| 9603.000           | 49.43                      | 3.18           | 52.61                         | 74.00              | -21.39         | peak          |
| 9603.000           | 39.44                      | 3.18           | 42.62                         | 54.00              | -11.38         | AVG           |
| 12014.000          | 46.52                      | 5.80           | 52.32                         | 74.00              | -21.68         | peak          |
| 12014.000          | 36.23                      | 5.80           | 42.03                         | 54.00              | -11.97         | AVG           |

Remark:

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

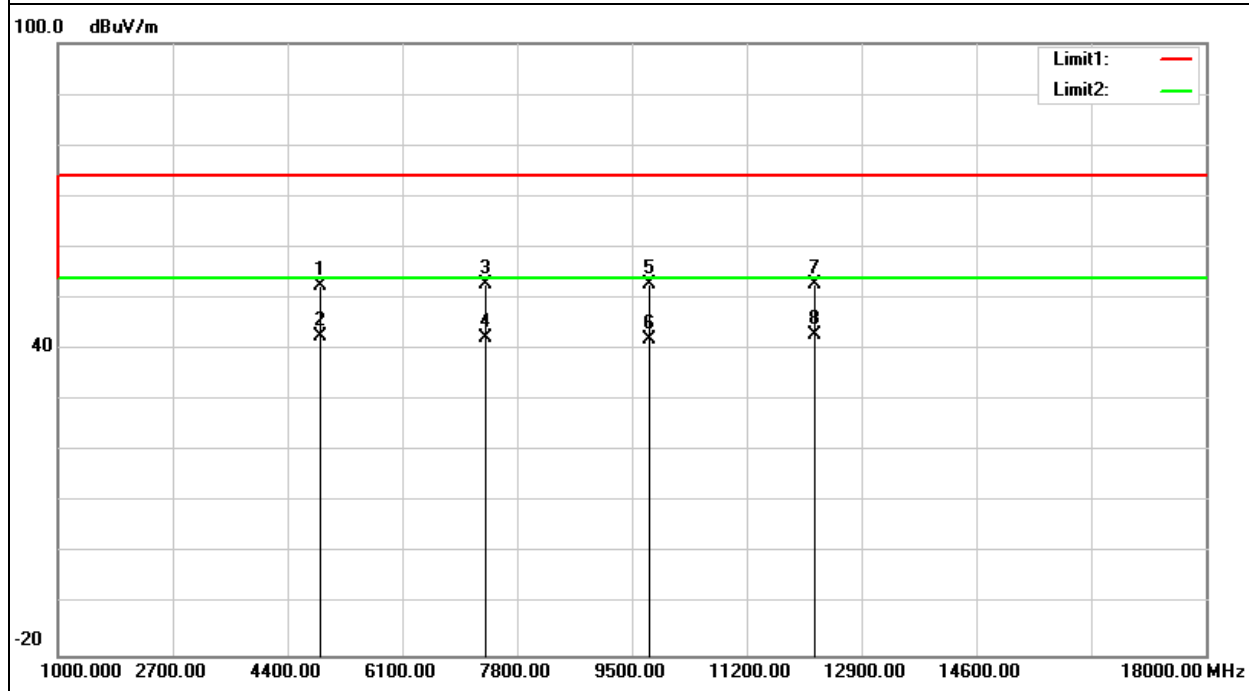


|               |                  |                     |            |
|---------------|------------------|---------------------|------------|
| EUT :         | Projector        | Model Name :        | XM03A      |
| Temperature : | 23.1 °C          | Relative Humidity : | 60%        |
| Pressure :    | 1010 hPa         | Test Date :         | 2021-6-19  |
| Test Mode :   | TX CH20 (2M PHY) | Polarization :      | Horizontal |
| Test Power :  | AC 110V/60Hz     |                     |            |

| Frequency<br>(MHz) | Meter<br>Reading<br>(dBμV) | Factor<br>(dB) | Emission<br>Level<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) | Detector Type |
|--------------------|----------------------------|----------------|-------------------------------|--------------------|----------------|---------------|
| 4887.000           | 59.20                      | -6.89          | 52.31                         | 74.00              | -21.69         | peak          |
| 4887.000           | 49.54                      | -6.89          | 42.65                         | 54.00              | -11.35         | AVG           |
| 7336.000           | 51.64                      | 1.03           | 52.67                         | 74.00              | -21.33         | peak          |
| 7336.000           | 41.32                      | 1.03           | 42.35                         | 54.00              | -11.65         | AVG           |
| 9766.000           | 49.34                      | 3.26           | 52.60                         | 74.00              | -21.40         | peak          |
| 9766.000           | 38.76                      | 3.26           | 42.02                         | 54.00              | -11.98         | AVG           |
| 12205.000          | 46.85                      | 5.81           | 52.66                         | 74.00              | -21.34         | peak          |
| 12205.000          | 37.13                      | 5.81           | 42.94                         | 54.00              | -11.06         | AVG           |

Remark:

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

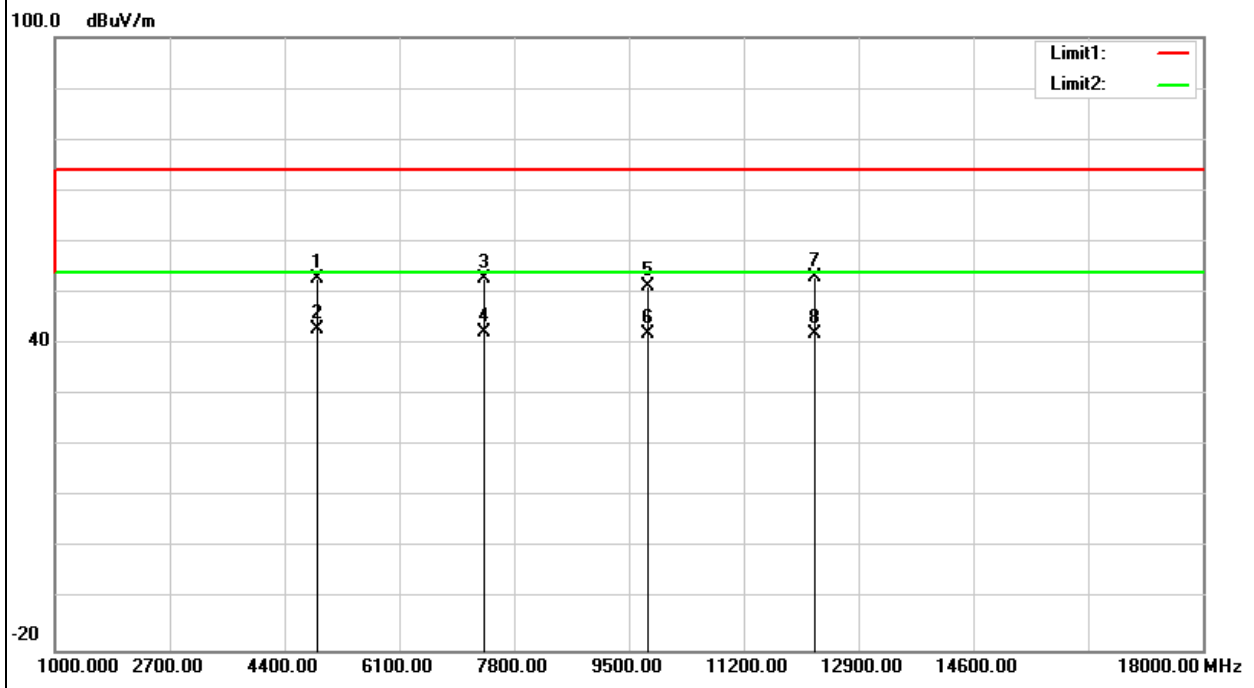


|               |                  |                     |           |
|---------------|------------------|---------------------|-----------|
| EUT :         | Projector        | Model Name :        | XM03A     |
| Temperature : | 23.1 °C          | Relative Humidity : | 60%       |
| Pressure :    | 1010 hPa         | Test Date :         | 2021-6-19 |
| Test Mode :   | TX CH20 (2M PHY) | Polarization :      | Vertical  |
| Test Power :  | AC 110V/60Hz     |                     |           |

| Frequency<br>(MHz) | Meter<br>Reading<br>(dBμV) | Factor<br>(dB) | Emission<br>Level<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) | Detector Type |
|--------------------|----------------------------|----------------|-------------------------------|--------------------|----------------|---------------|
| 4889.000           | 59.49                      | -6.88          | 52.61                         | 74.00              | -21.39         | peak          |
| 4889.000           | 49.83                      | -6.88          | 42.95                         | 54.00              | -11.05         | AVG           |
| 7369.000           | 51.50                      | 1.15           | 52.65                         | 74.00              | -21.35         | peak          |
| 7369.000           | 41.20                      | 1.15           | 42.35                         | 54.00              | -11.65         | AVG           |
| 9789.000           | 48.04                      | 3.26           | 51.30                         | 74.00              | -22.70         | peak          |
| 9789.000           | 38.69                      | 3.26           | 41.95                         | 54.00              | -12.05         | AVG           |
| 12254.000          | 47.12                      | 5.82           | 52.94                         | 74.00              | -21.06         | peak          |
| 12254.000          | 36.20                      | 5.82           | 42.02                         | 54.00              | -11.98         | AVG           |

Remark:

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

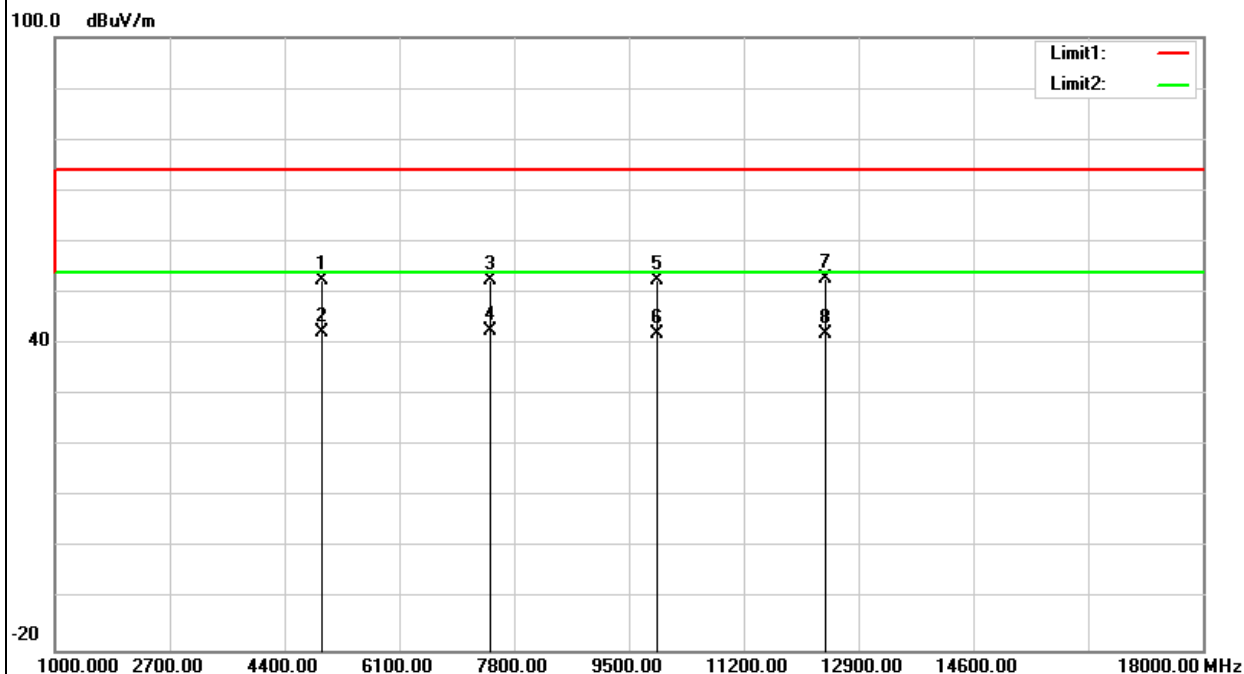


|               |                  |                     |            |
|---------------|------------------|---------------------|------------|
| EUT :         | Projector        | Model Name :        | XM03A      |
| Temperature : | 23.1 °C          | Relative Humidity : | 60%        |
| Pressure :    | 1010 hPa         | Test Date :         | 2021-6-19  |
| Test Mode :   | TX CH40 (2M PHY) | Polarization :      | Horizontal |
| Test Power :  | AC 110V/60Hz     |                     |            |

| Frequency<br>(MHz) | Meter<br>Reading<br>(dBμV) | Factor<br>(dB) | Emission<br>Level<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) | Detector Type |
|--------------------|----------------------------|----------------|-------------------------------|--------------------|----------------|---------------|
| 4962.000           | 58.75                      | -6.44          | 52.31                         | 74.00              | -21.69         | peak          |
| 4962.000           | 48.79                      | -6.44          | 42.35                         | 54.00              | -11.65         | AVG           |
| 7445.000           | 50.92                      | 1.43           | 52.35                         | 74.00              | -21.65         | peak          |
| 7445.000           | 41.15                      | 1.43           | 42.58                         | 54.00              | -11.42         | AVG           |
| 9921.000           | 48.99                      | 3.32           | 52.31                         | 74.00              | -21.69         | peak          |
| 9921.000           | 38.73                      | 3.32           | 42.05                         | 54.00              | -11.95         | AVG           |
| 12406.000          | 46.82                      | 5.82           | 52.64                         | 74.00              | -21.36         | peak          |
| 12406.000          | 36.23                      | 5.82           | 42.05                         | 54.00              | -11.95         | AVG           |

Remark:

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

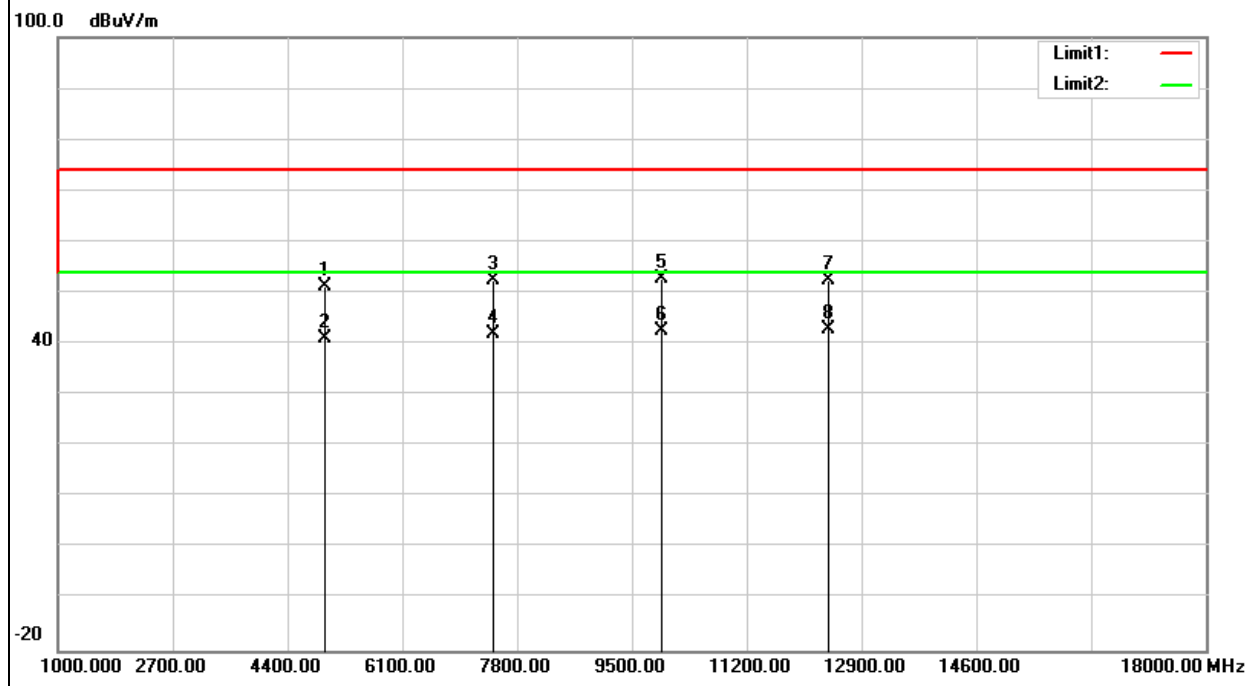


|               |                  |                     |           |
|---------------|------------------|---------------------|-----------|
| EUT :         | Projector        | Model Name :        | XM03A     |
| Temperature : | 23.1 °C          | Relative Humidity : | 60%       |
| Pressure :    | 1010 hPa         | Test Date :         | 2021-6-19 |
| Test Mode :   | TX CH40 (2M PHY) | Polarization :      | Vertical  |
| Test Power :  | AC 110V/60Hz     |                     |           |

| Frequency<br>(MHz) | Meter<br>Reading<br>(dBμV) | Factor<br>(dB) | Emission<br>Level<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) | Detector Type |
|--------------------|----------------------------|----------------|-------------------------------|--------------------|----------------|---------------|
| 4960.000           | 57.81                      | -6.45          | 51.36                         | 74.00              | -22.64         | peak          |
| 4960.000           | 47.40                      | -6.45          | 40.95                         | 54.00              | -13.05         | AVG           |
| 7445.000           | 50.89                      | 1.43           | 52.32                         | 74.00              | -21.68         | peak          |
| 7445.000           | 40.60                      | 1.43           | 42.03                         | 54.00              | -11.97         | AVG           |
| 9931.000           | 49.27                      | 3.33           | 52.60                         | 74.00              | -21.40         | peak          |
| 9931.000           | 39.32                      | 3.33           | 42.65                         | 54.00              | -11.35         | AVG           |
| 12406.000          | 46.52                      | 5.82           | 52.34                         | 74.00              | -21.66         | peak          |
| 12406.000          | 36.95                      | 5.82           | 42.77                         | 54.00              | -11.23         | AVG           |

Remark:

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



Remark:

All the modes had been tested, but only the worst data recorded in the report.

No any other emissions detected which are tested to compliance with the limit. No recording in the test report.

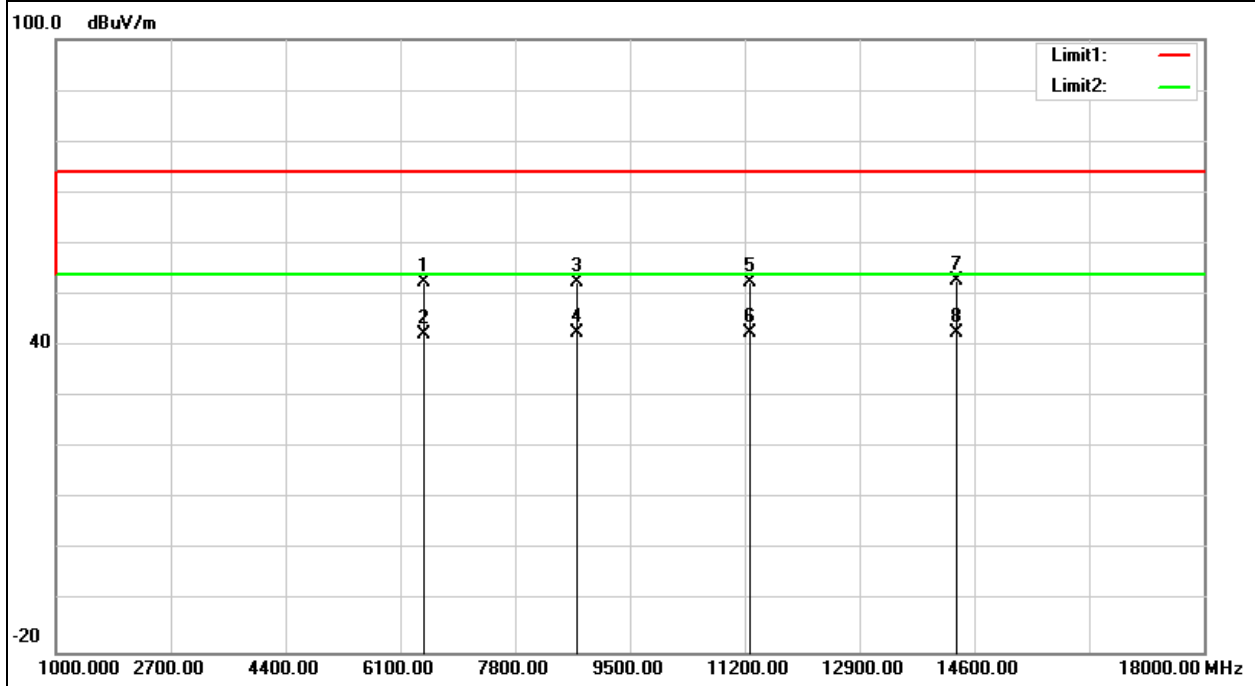
Test result: The unit does meet the NCC requirements.

|                      |                 |                     |               |
|----------------------|-----------------|---------------------|---------------|
| EUT :                | Projector       | Model Name :        | XM03A         |
| Temperature :        | 23.1 °C         | Relative Humidity : | 60%           |
| Pressure :           | 1010 hPa        | Test Date :         | 2021-6-18     |
| Test Mode :          | RX (worst case) | Polarization :      | Horizontal    |
| Measurement Distance | 3 m             | Frenqucy Range      | 1GHz to 18GHz |
| Test Power :         | AC 110V/60Hz    |                     |               |

| Frequency<br>(MHz) | Meter Reading<br>(dBμV) | Factor<br>(dB) | Emission Level<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) | Detector Type |
|--------------------|-------------------------|----------------|----------------------------|--------------------|----------------|---------------|
| 6457.000           | 54.38                   | -2.07          | 52.31                      | 74.00              | -21.69         | peak          |
| 6457.000           | 44.32                   | -2.07          | 42.25                      | 54.00              | -11.75         | AVG           |
| 8718.000           | 49.75                   | 2.61           | 52.36                      | 74.00              | -21.64         | peak          |
| 8718.000           | 40.04                   | 2.61           | 42.65                      | 54.00              | -11.35         | AVG           |
| 11285.000          | 45.96                   | 6.35           | 52.31                      | 74.00              | -21.69         | peak          |
| 11285.000          | 36.23                   | 6.35           | 42.58                      | 54.00              | -11.42         | AVG           |
| 14328.000          | 40.91                   | 11.72          | 52.63                      | 74.00              | -21.37         | peak          |
| 14328.000          | 30.82                   | 11.72          | 42.54                      | 54.00              | -11.46         | AVG           |

Remark:

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

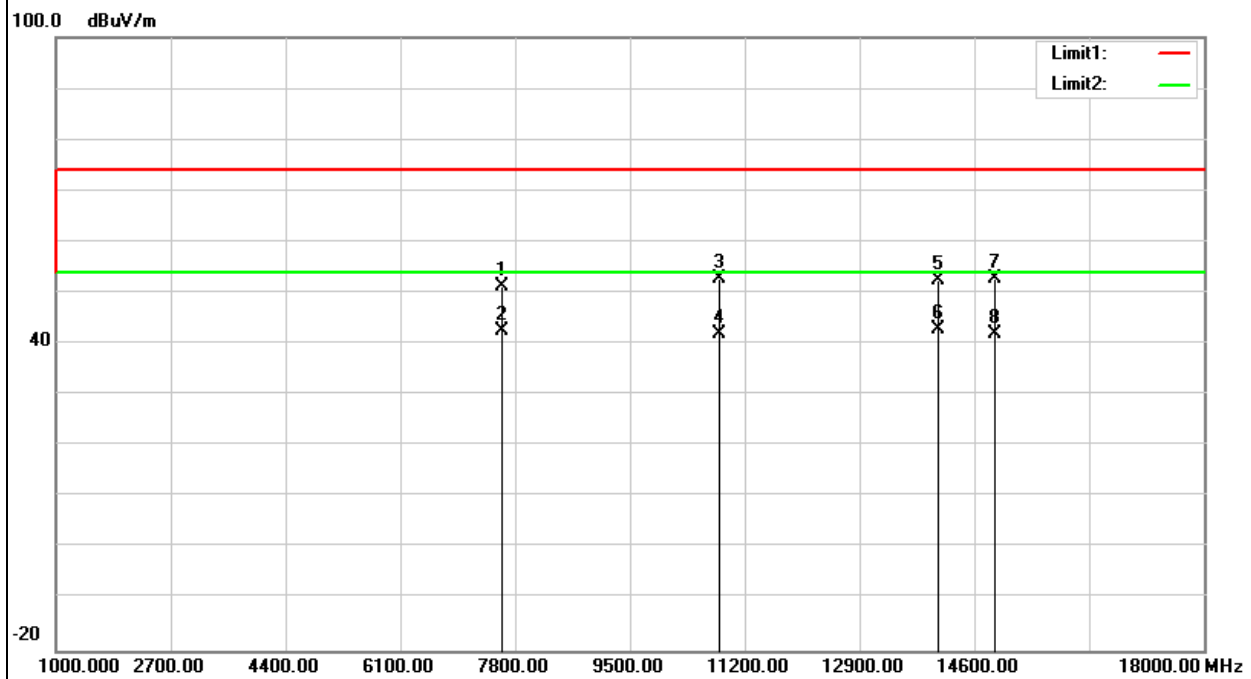


|                      |                 |                     |               |
|----------------------|-----------------|---------------------|---------------|
| EUT :                | Projector       | Model Name :        | XM03A         |
| Temperature :        | 23.1 °C         | Relative Humidity : | 60%           |
| Pressure :           | 1010 hPa        | Test Date :         | 2021-6-18     |
| Test Mode :          | RX (worst case) | Polarization :      | Vertical      |
| Measurement Distance | 3 m             | Frenqucy Range      | 1GHz to 18GHz |
| Test Power :         | AC 110V/60Hz    |                     |               |

| Frequency<br>(MHz) | Meter Reading<br>(dBμV) | Factor<br>(dB) | Emission Level<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) | Detector Type |
|--------------------|-------------------------|----------------|----------------------------|--------------------|----------------|---------------|
| 7613.000           | 49.48                   | 1.75           | 51.23                      | 74.00              | -22.77         | peak          |
| 7613.000           | 40.86                   | 1.75           | 42.61                      | 54.00              | -11.39         | AVG           |
| 10826.000          | 46.78                   | 5.83           | 52.61                      | 74.00              | -21.39         | peak          |
| 10826.000          | 36.19                   | 5.83           | 42.02                      | 54.00              | -11.98         | AVG           |
| 14073.000          | 40.13                   | 12.19          | 52.32                      | 74.00              | -21.68         | peak          |
| 14073.000          | 30.76                   | 12.19          | 42.95                      | 54.00              | -11.05         | AVG           |
| 14906.000          | 42.32                   | 10.31          | 52.63                      | 74.00              | -21.37         | peak          |
| 14906.000          | 31.74                   | 10.31          | 42.05                      | 54.00              | -11.95         | AVG           |

Remark:

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



Remark:

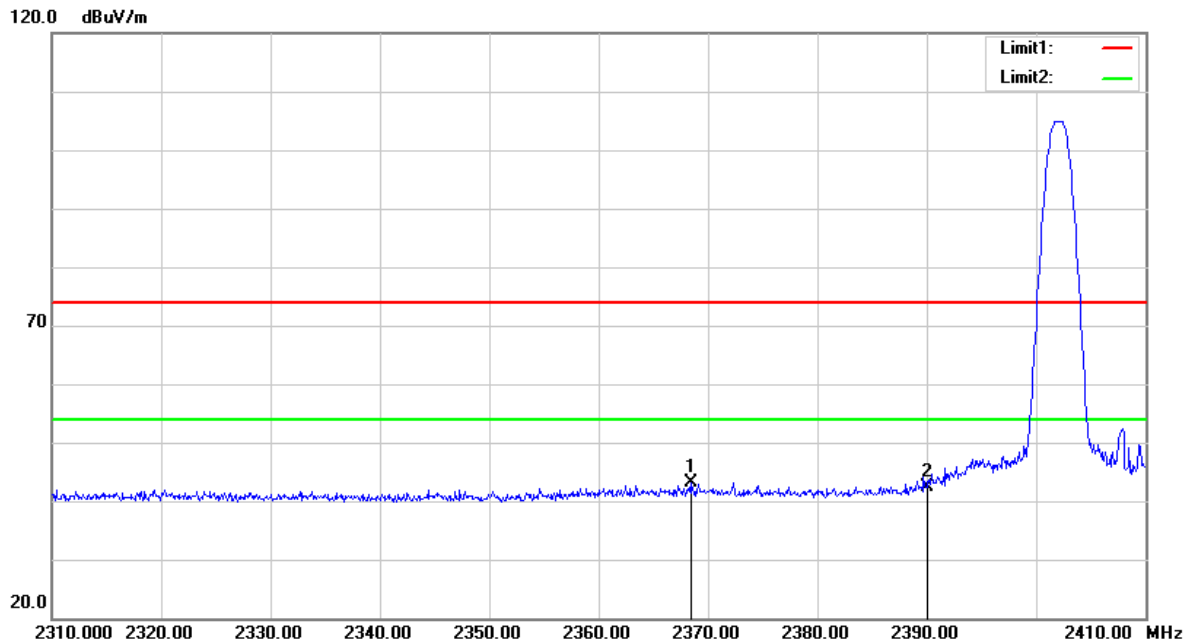
All the modes had been tested, but only the worst data recorded in the report.

No any other emissions detected which are tested to compliance with the limit. No recording in the test report.

Test result: The unit does meet the NCC requirements.

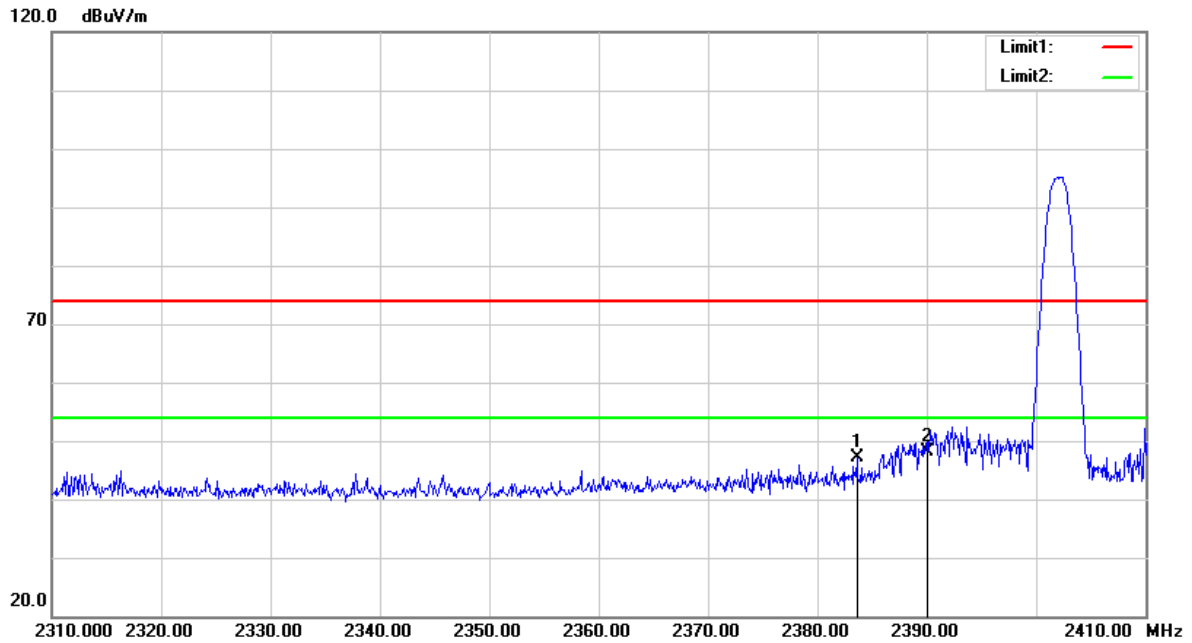
#### 4.2.8 TEST RESULTS (RESTRICTED BANDS REQUIREMENTS)

1M PHY  
Low channel  
Horizontal



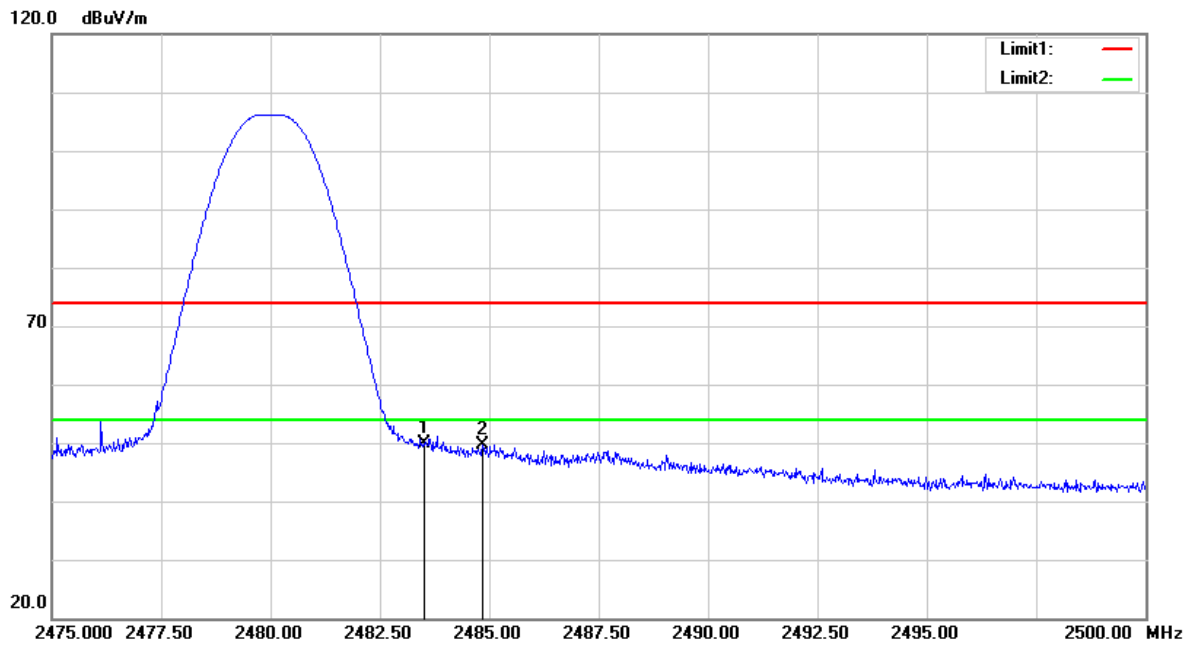
| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>Factor(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-------------------------|--------------------|-------------------|----------------|--------|
| 1   | 2368.400           | 39.17             | 4.01                    | 43.18              | 74.00             | -30.82         | peak   |
| 2   | 2390.000           | 38.09             | 4.34                    | 42.43              | 74.00             | -31.57         | peak   |

Vertical



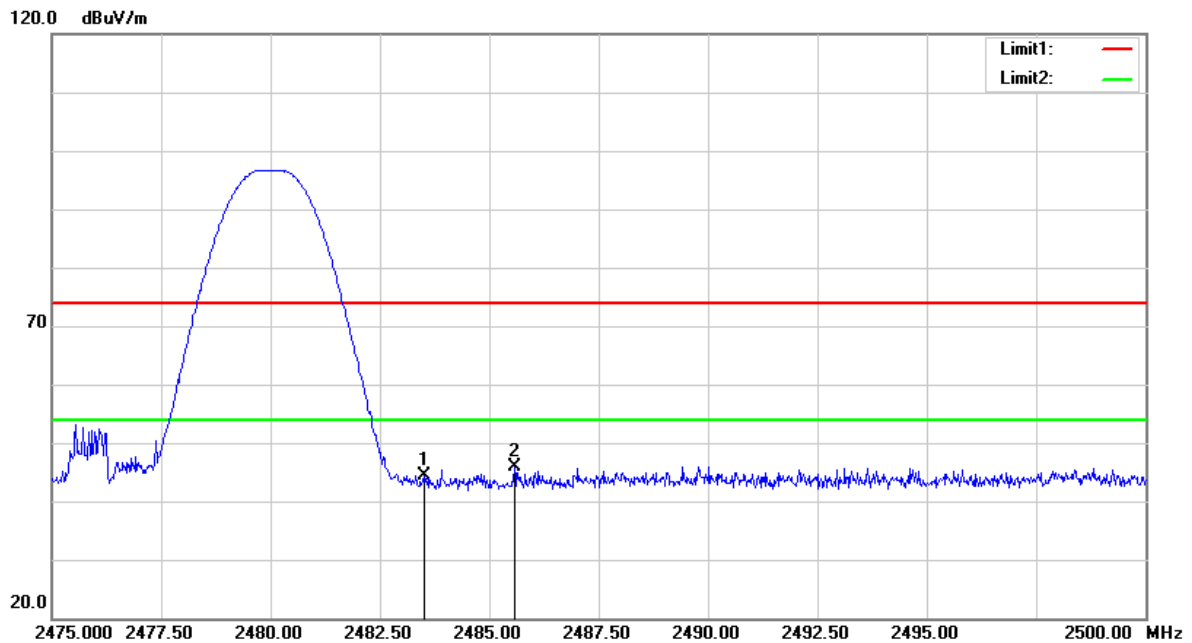
| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>Factor(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-------------------------|--------------------|-------------------|----------------|--------|
| 1   | 2383.600           | 42.89             | 4.24                    | 47.13              | 74.00             | -26.87         | peak   |
| 2   | 2390.000           | 43.84             | 4.34                    | 48.18              | 74.00             | -25.82         | peak   |

## High channel Horizontal



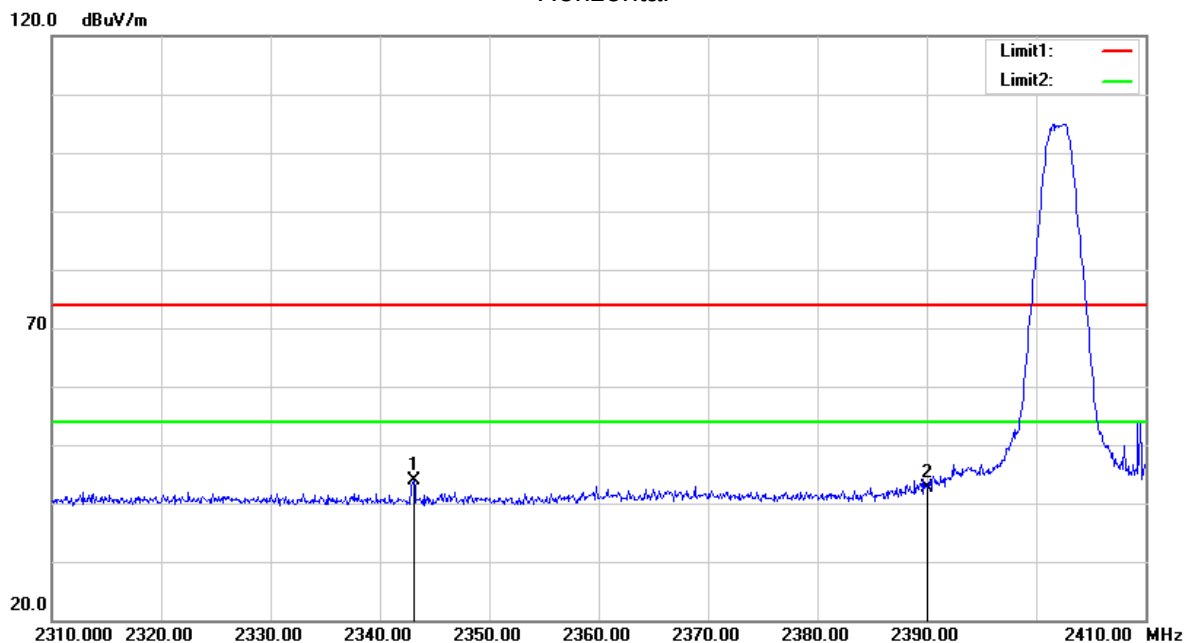
| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>Factor(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-------------------------|--------------------|-------------------|----------------|--------|
| 1   | 2483.500           | 45.29             | 4.60                    | 49.89              | 74.00             | -24.11         | peak   |
| 2   | 2484.850           | 45.02             | 4.61                    | 49.63              | 74.00             | -24.37         | peak   |

## Vertical



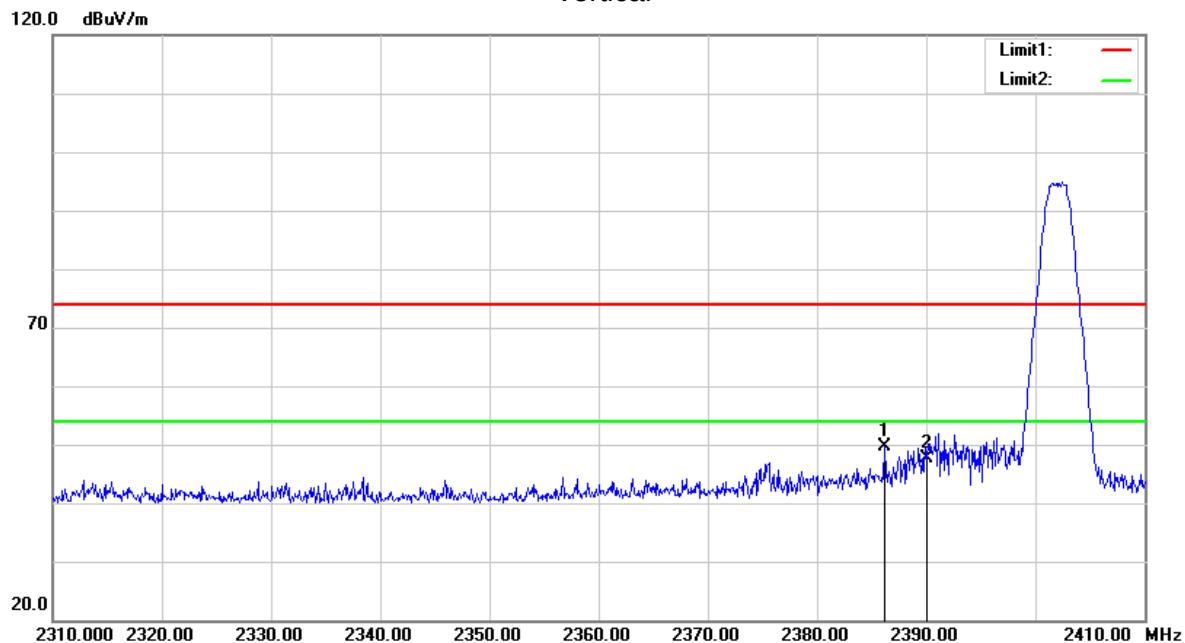
| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>Factor(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-------------------------|--------------------|-------------------|----------------|--------|
| 1   | 2483.500           | 39.85             | 4.60                    | 44.45              | 74.00             | -29.55         | peak   |
| 2   | 2485.575           | 41.35             | 4.61                    | 45.96              | 74.00             | -28.04         | peak   |

## 2M PHY Low channel Horizontal



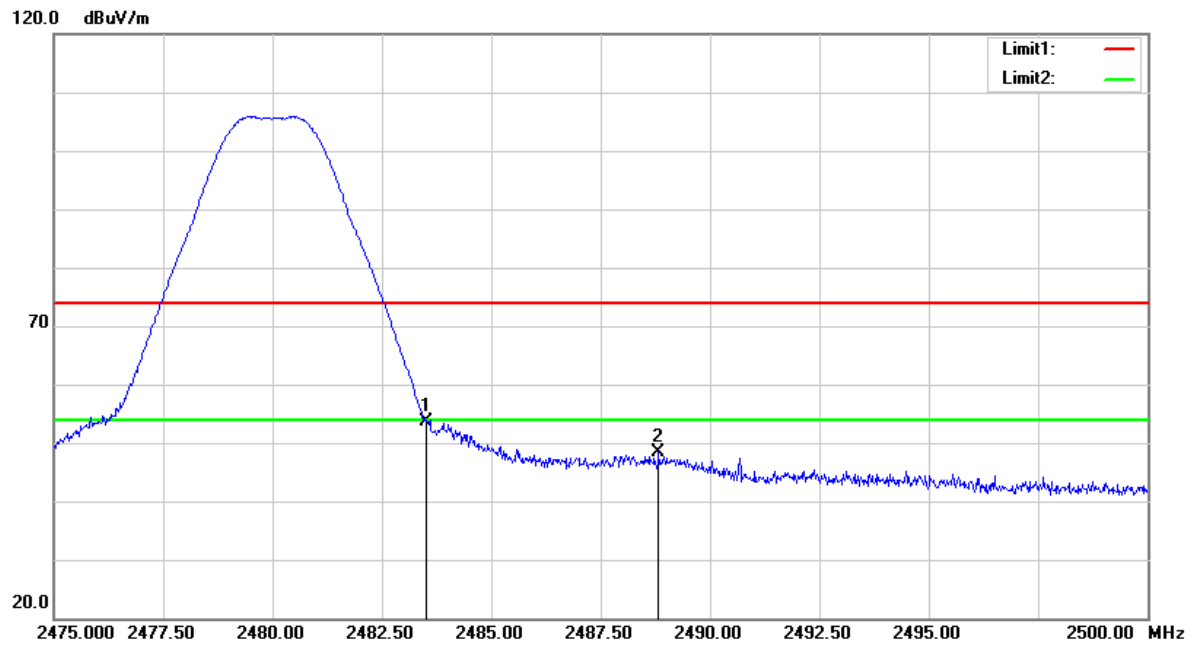
| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>Factor(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-------------------------|--------------------|-------------------|----------------|--------|
| 1   | 2343.100           | 40.08             | 3.71                    | 43.79              | 74.00             | -30.21         | peak   |
| 2   | 2390.000           | 38.27             | 4.34                    | 42.61              | 74.00             | -31.39         | peak   |

## Vertical



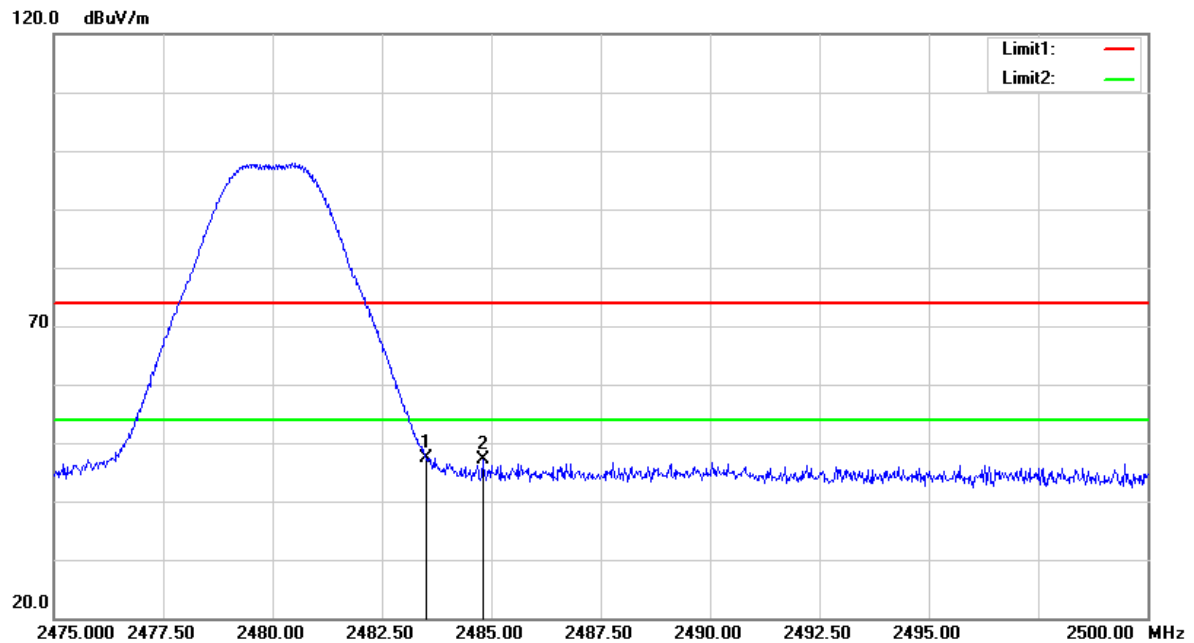
| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>Factor(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-------------------------|--------------------|-------------------|----------------|--------|
| 1   | 2386.200           | 45.23             | 4.28                    | 49.51              | 74.00             | -24.49         | peak   |
| 2   | 2390.000           | 43.38             | 4.34                    | 47.72              | 74.00             | -26.28         | peak   |

## High channel Horizontal



| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>Factor(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-------------------------|--------------------|-------------------|----------------|--------|
| 1   | 2483.500           | 49.11             | 4.60                    | 53.71              | 74.00             | -20.29         | peak   |
| 2   | 2488.825           | 43.65             | 4.62                    | 48.27              | 74.00             | -25.73         | peak   |

## Vertical



| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>Factor(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-------------------------|--------------------|-------------------|----------------|--------|
| 1   | 2483.500           | 42.83             | 4.60                    | 47.43              | 74.00             | -26.57         | peak   |
| 2   | 2484.800           | 42.63             | 4.61                    | 47.24              | 74.00             | -26.76         | AVG    |

**Test result: The unit does meet the NCC requirements.**

## 5. OCCUPIED BANDWIDTH TEST

### 5.1 APPLIED PROCEDURES / LIMIT

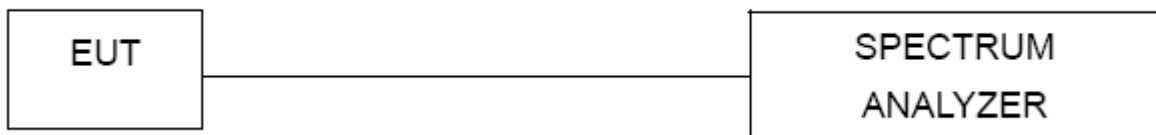
| LP0002        |           |                                         |                       |        |
|---------------|-----------|-----------------------------------------|-----------------------|--------|
| Section       | Test Item | Limit                                   | Frequency Range (MHz) | Result |
| 4.10.1(6.2.1) | Bandwidth | $\geq 500\text{kHz}$<br>(6dB bandwidth) | 2400-2483.5           | PASS   |

| Spectrum Parameter | Setting                                                |
|--------------------|--------------------------------------------------------|
| Attenuation        | Auto                                                   |
| Span Frequency     | $>$ Measurement Bandwidth or Channel Separation        |
| RB                 | 100 kHz (6dB Bandwidth) / 100 kHz (Channel Separation) |
| VB                 | 300 kHz (6dB Bandwidth) / 300 kHz (Channel Separation) |
| Detector           | Peak                                                   |
| Trace              | Max Hold                                               |
| Sweep Time         | Auto                                                   |

#### 5.1.1 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting: RBW= 100kHz, VBW=300kHz, Sweep time = Auto.

#### 5.1.2 TEST SETUP



#### 5.1.3 EUT OPERATION CONDITIONS

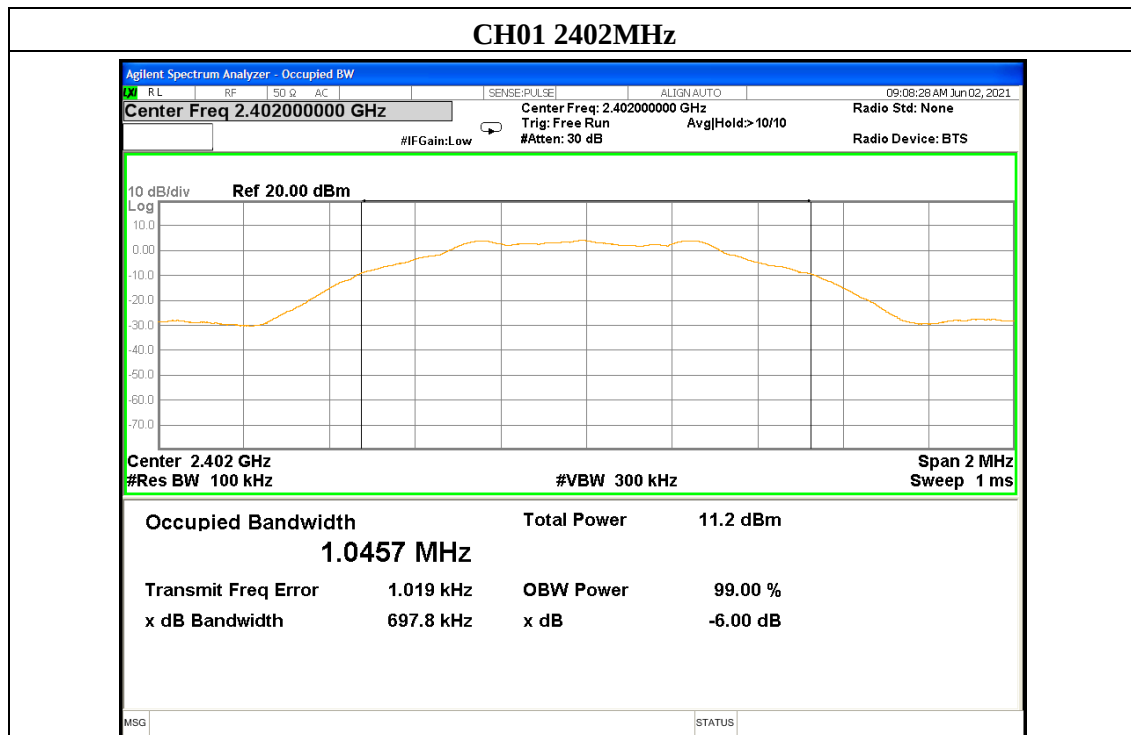
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

## 5.1.4 TEST RESULTS

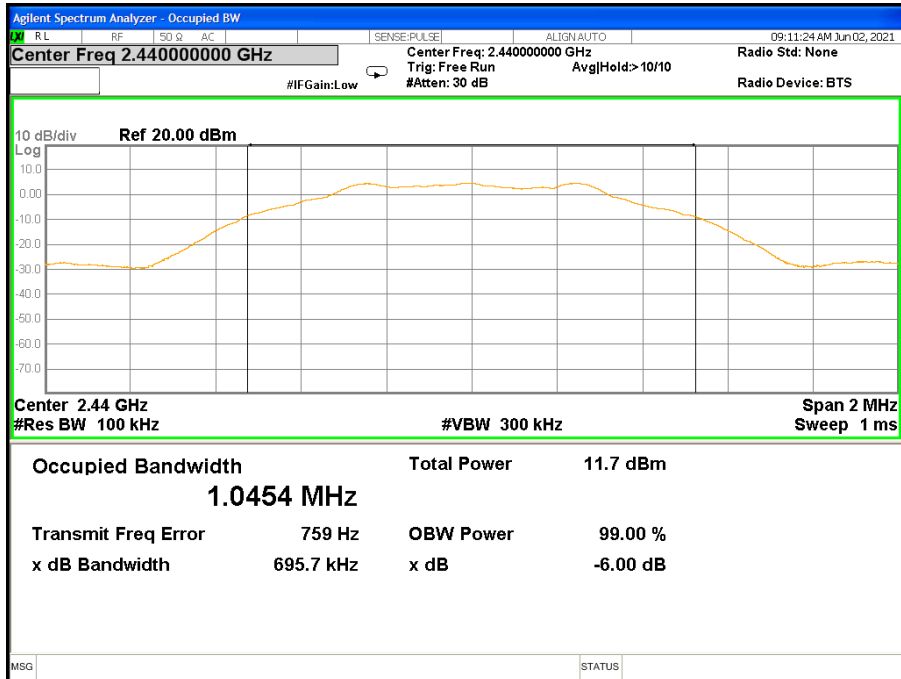
### 1M PHY

|               |            |                    |              |
|---------------|------------|--------------------|--------------|
| EUT :         | Projector  | Model Name :       | XM03A        |
| Temperature : | 25.1 °C    | Relative Humidity: | 52%          |
| Pressure :    | 1010 hPa   | Test Power :       | AC 110V/60Hz |
| Test Mode :   | Mode 1     |                    |              |
| Test Date :   | 2021-06-02 |                    |              |

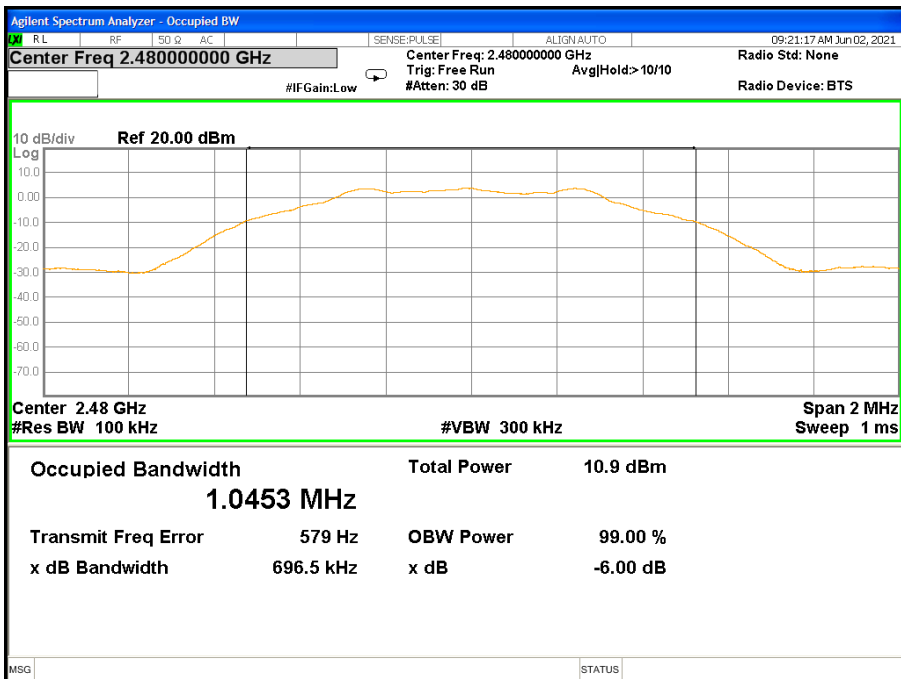
| Test Mode | Test Channel | Frequency (MHz) | 6 dB Bandwidth (kHz) | Limit ( kHz ) |
|-----------|--------------|-----------------|----------------------|---------------|
| Mode 1    | CH01         | 2402            | 697.800              | ≥ 500         |
|           | CH20         | 2440            | 695.700              | ≥ 500         |
|           | CH40         | 2480            | 696.500              | ≥ 500         |



## CH20 2440MHz



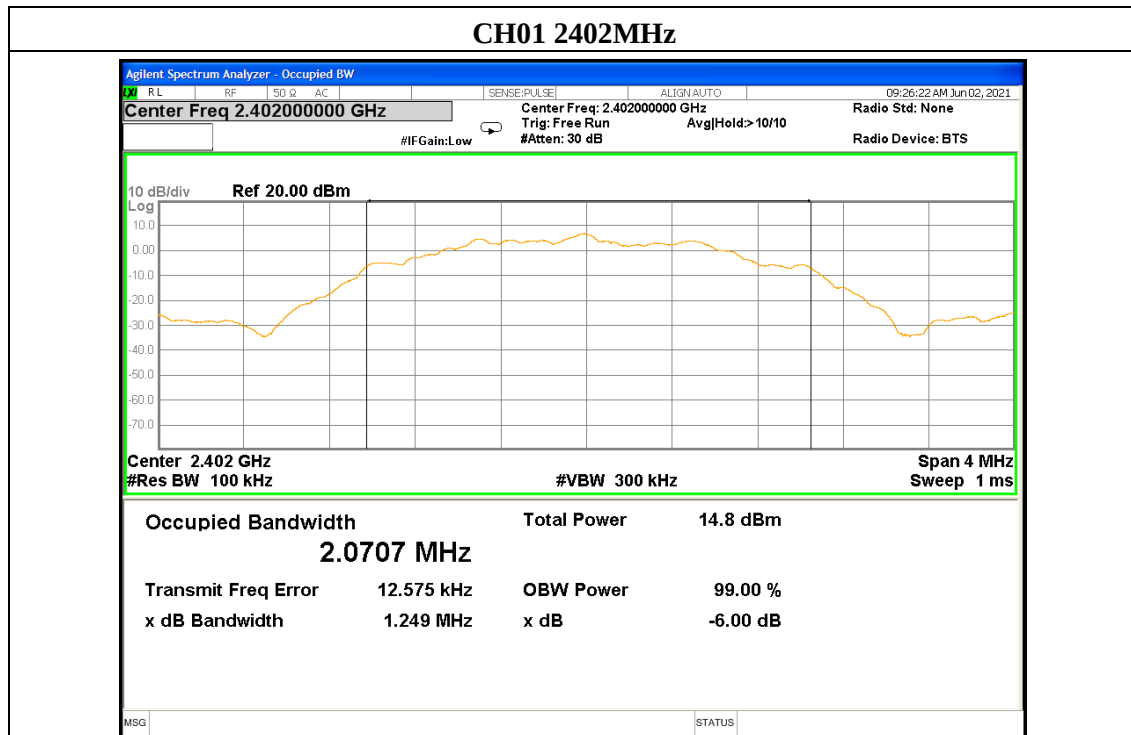
## CH40 2480MHz



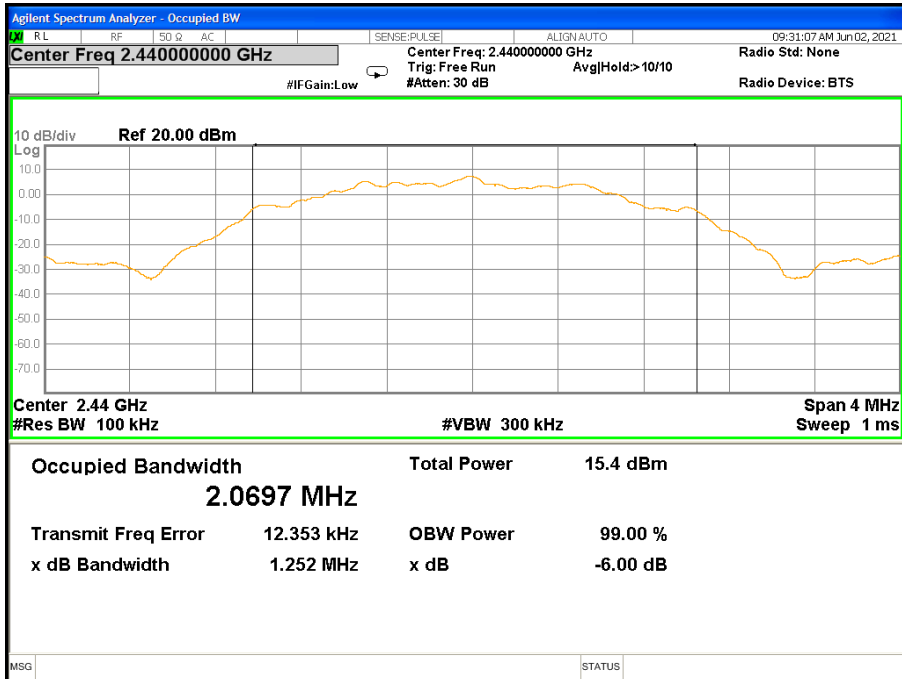
## 2M PHY

|               |            |                     |              |
|---------------|------------|---------------------|--------------|
| EUT :         | Projector  | Model Name :        | XM03A        |
| Temperature : | 25.1 °C    | Relative Humidity : | 52%          |
| Pressure :    | 1010 hPa   | Test Power :        | AC 110V/60Hz |
| Test Mode :   | Mode 1     |                     |              |
| Test Date :   | 2021-06-02 |                     |              |

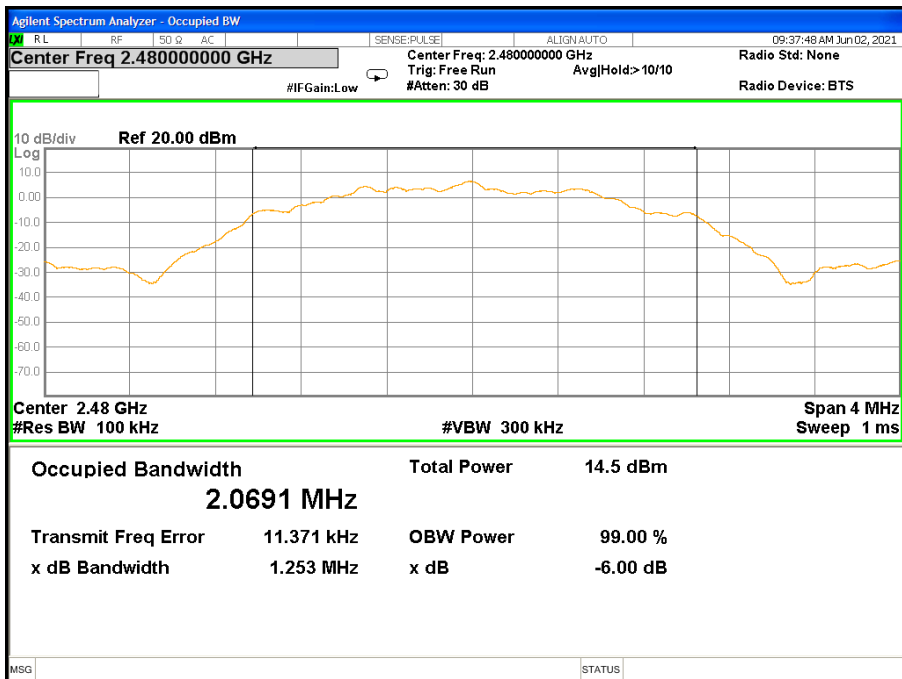
| Test Mode | Test Channel | Frequency (MHz) | 6 dB Bandwidth (kHz) | Limit ( kHz ) |
|-----------|--------------|-----------------|----------------------|---------------|
| Mode 1    | CH01         | 2402            | 1249.000             | ≥ 500         |
|           | CH20         | 2440            | 1252.000             | ≥ 500         |
|           | CH40         | 2480            | 1253.000             | ≥ 500         |



## CH20 2440MHz



## CH40 2480MHz



## 6. POWER DENSITY

### 6.1 APPLIED PROCEDURES / LIMIT

| LP0002        |               |       |                       |        |
|---------------|---------------|-------|-----------------------|--------|
| Section       | Test Item     | Limit | Frequency Range (MHz) | Result |
| 4.10.1(6.2.2) | Power density | 8dBm  | 2400-2483.5           | PASS   |

| Spectrum Parameters | Setting                     |
|---------------------|-----------------------------|
| Attenuation         | Auto                        |
| Span Frequency      | 1.5 times the DTS bandwidth |
| RB                  | 3 kHz                       |
| VB                  | 10 kHz                      |
| Detector            | Peak                        |
| Trace               | Max Hold                    |
| Sweep Time          | Auto                        |

#### 6.1.1 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting : RBW= 3kHz, VBW=10kHz.

#### 6.1.2 TEST SETUP



#### 6.1.3 EUT OPERATION CONDITIONS

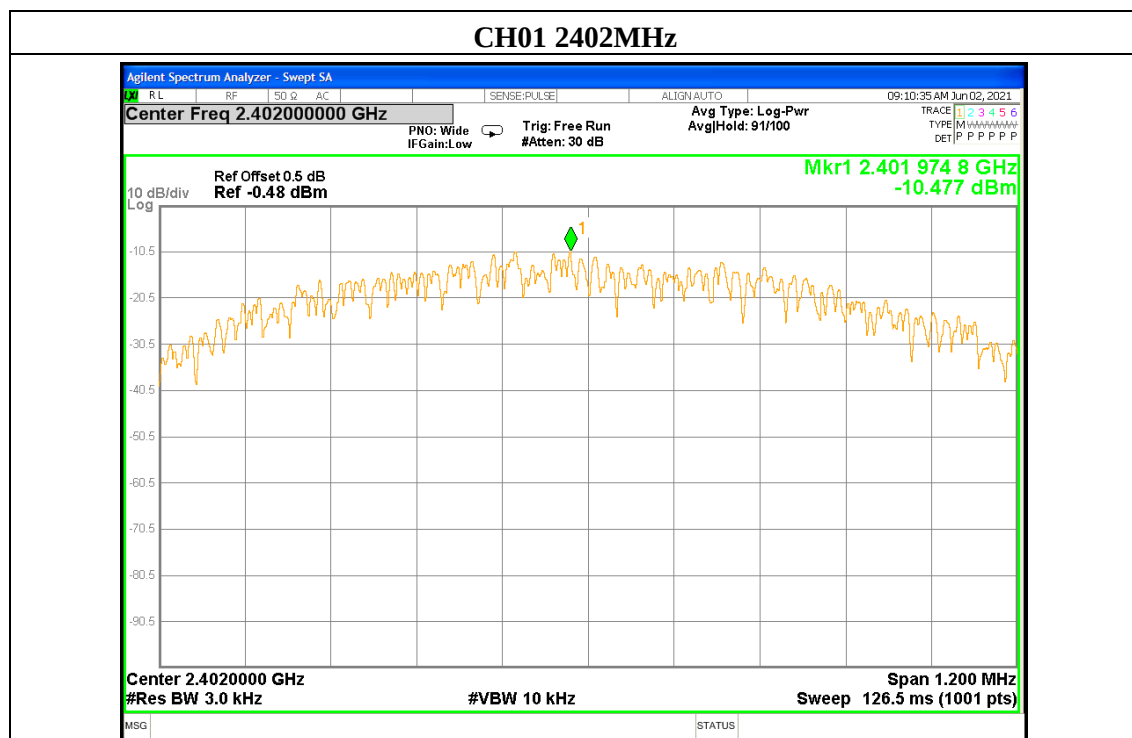
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

## 6.1.4 TEST RESULTS

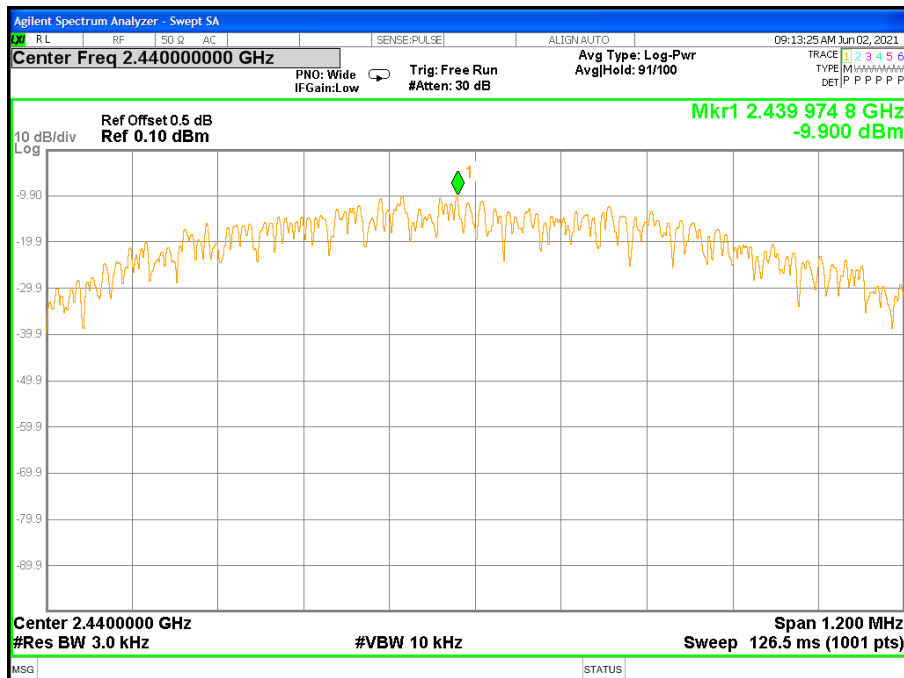
### 1M PHY

|               |            |                     |              |
|---------------|------------|---------------------|--------------|
| EUT :         | Projector  | Model Name :        | XM03A        |
| Temperature : | 25.1 °C    | Relative Humidity : | 52%          |
| Pressure :    | 1010 hPa   | Test Power :        | AC 110V/60Hz |
| Test Mode :   | Mode 1     |                     |              |
| Test Date :   | 2021-06-02 |                     |              |

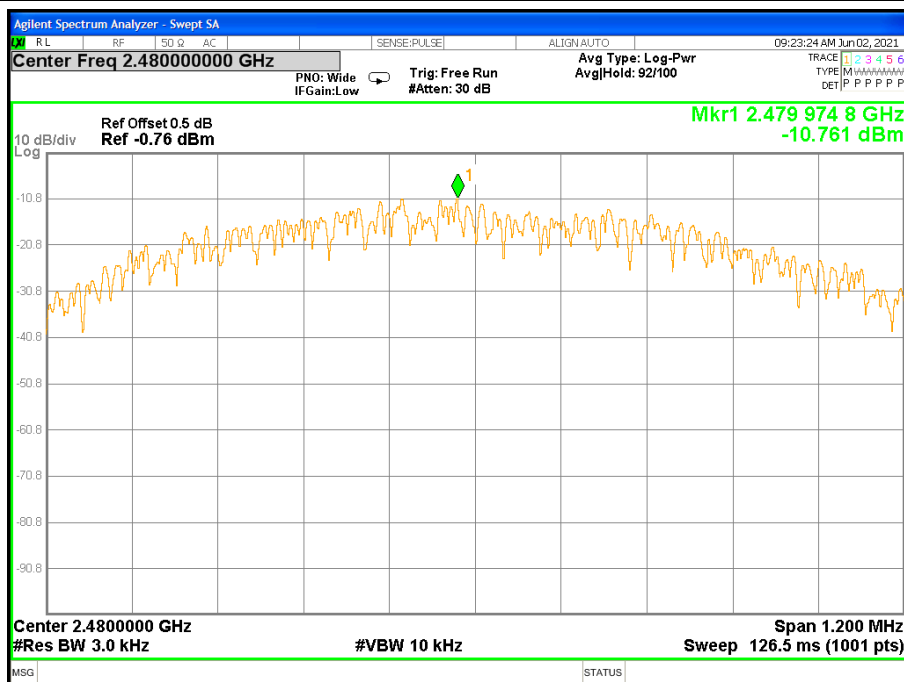
| Test Channel | Frequency(MHz) | Power Density(dBm) | LIMIT(dBm) |
|--------------|----------------|--------------------|------------|
| CH01         | 2402 MHz       | -10.477            | 8.00       |
| CH20         | 2440 MHz       | -9.900             | 8.00       |
| CH40         | 2480 MHz       | -10.761            | 8.00       |



## CH20 2440MHz



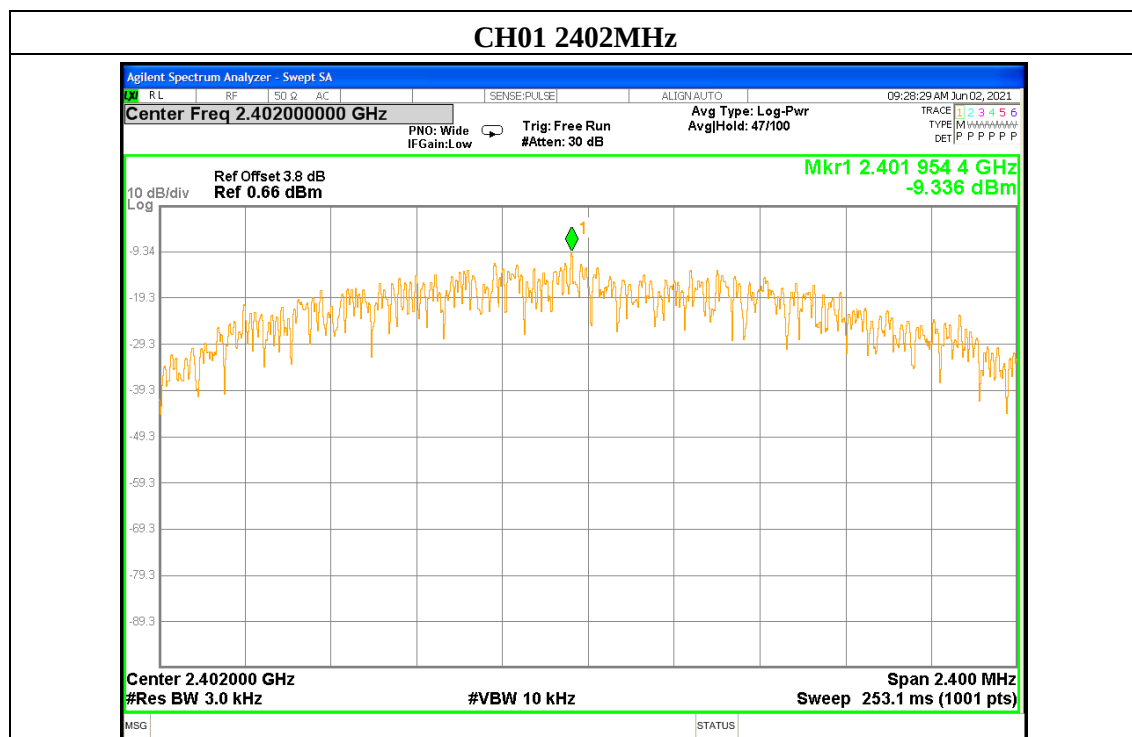
## CH40 2480MHz



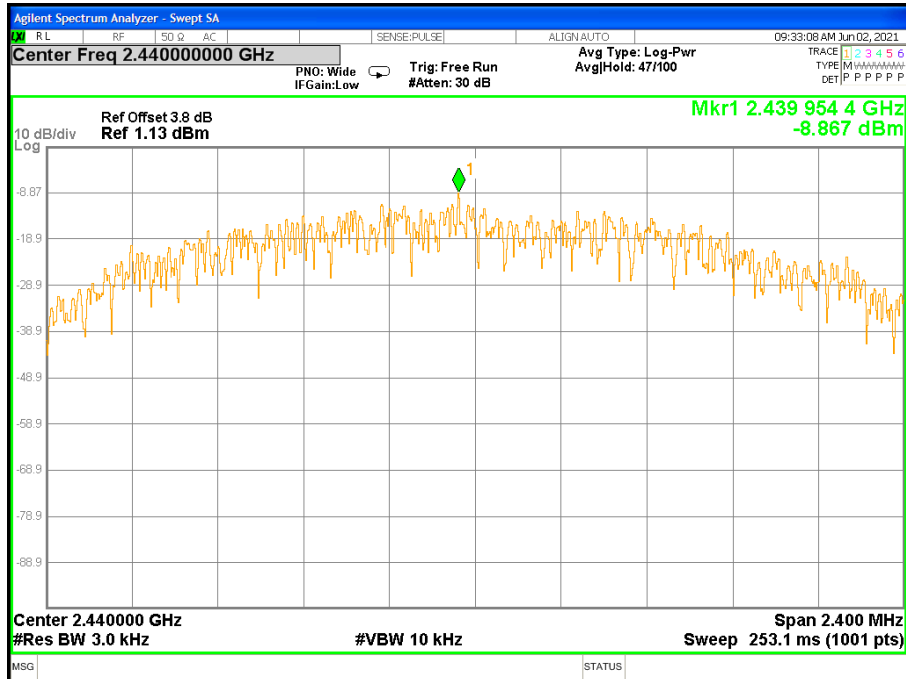
## 2M PHY

|               |            |                     |              |
|---------------|------------|---------------------|--------------|
| EUT :         | Projector  | Model Name :        | XM03A        |
| Temperature : | 25.1 °C    | Relative Humidity : | 52%          |
| Pressure :    | 1010 hPa   | Test Power :        | AC 110V/60Hz |
| Test Mode :   | Mode 1     |                     |              |
| Test Date :   | 2021-06-02 |                     |              |

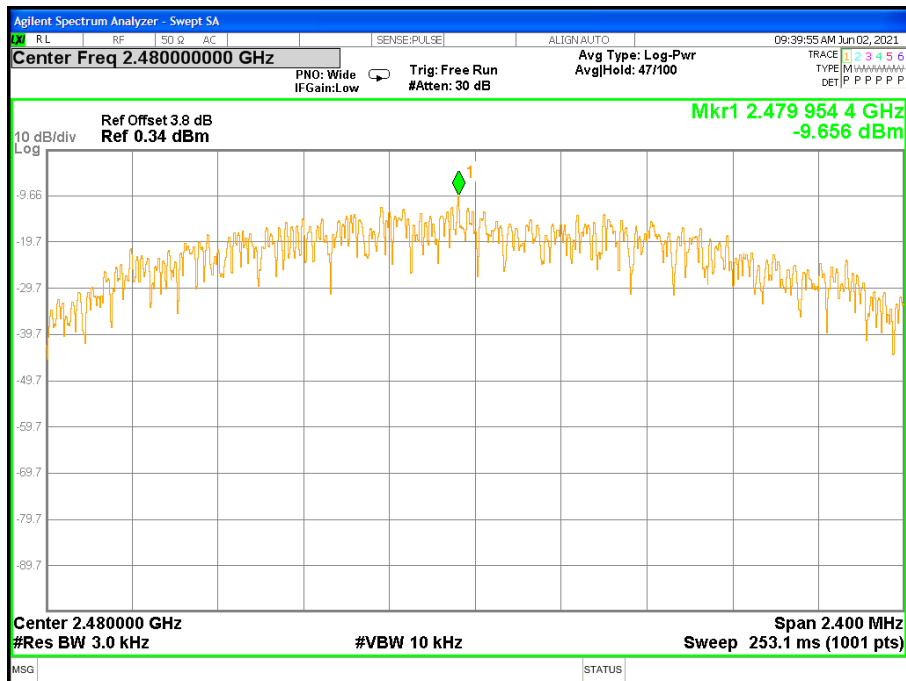
| Test Channel | Frequency(MHz) | Power Density(dBm) | LIMIT(dBm) |
|--------------|----------------|--------------------|------------|
| CH01         | 2402 MHz       | -9.336             | 8.00       |
| CH20         | 2440 MHz       | -8.867             | 8.00       |
| CH40         | 2480 MHz       | -9.656             | 8.00       |



## CH20 2440MHz



## CH40 2480MHz



## 7. OUTPUT POWER TEST

### 7.1 APPLIED PROCEDURES / LIMIT

| LP0002    |                   |                 |                       |        |
|-----------|-------------------|-----------------|-----------------------|--------|
| Section   | Test Item         | Limit           | Frequency Range (MHz) | Result |
| 4.10.1(2) | Peak Output Power | 1 watt or 30dBm | 2400-2483.5           | PASS   |

#### 7.1.1 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting : RBW= 1 MHz, VBW= 3 MHz, Span=3MHz,Detector=Peak,Trace mode= Max Hold ,Sweep time = Auto.

#### 7.1.2 DEVIATION FROM STANDARD

No deviation.

#### 7.1.3 TEST SETUP



#### 7.1.4 EUT OPERATION CONDITIONS

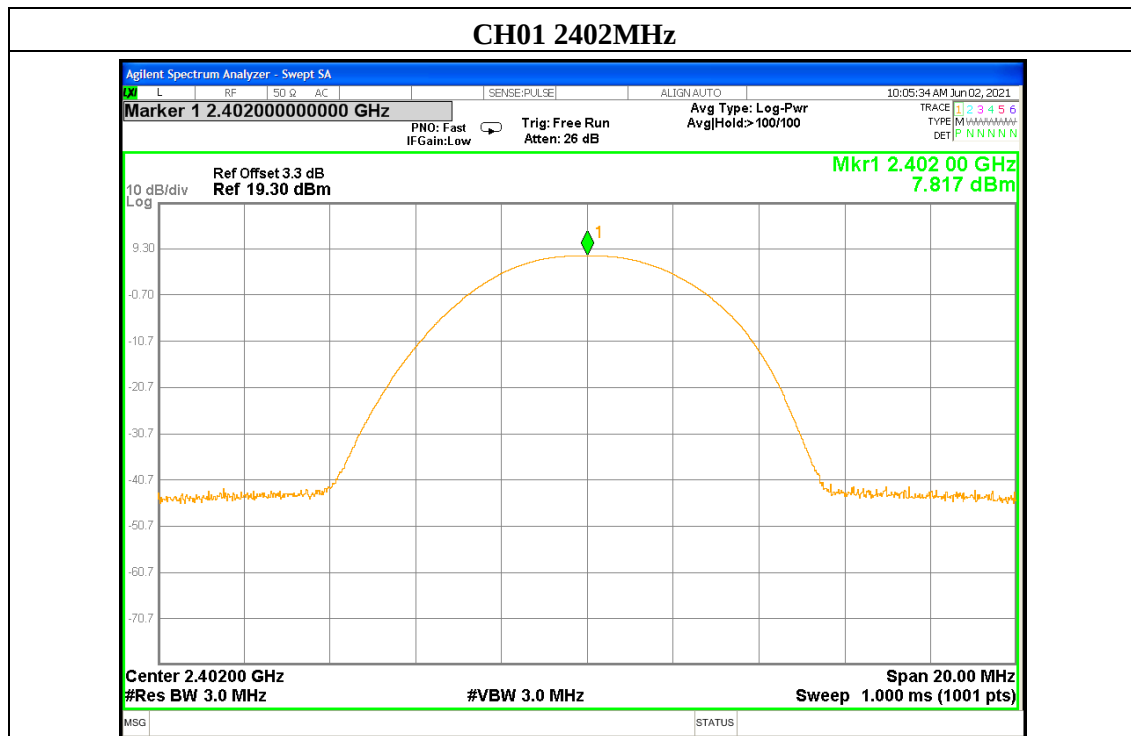
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

### 7.1.5 TEST RESULTS

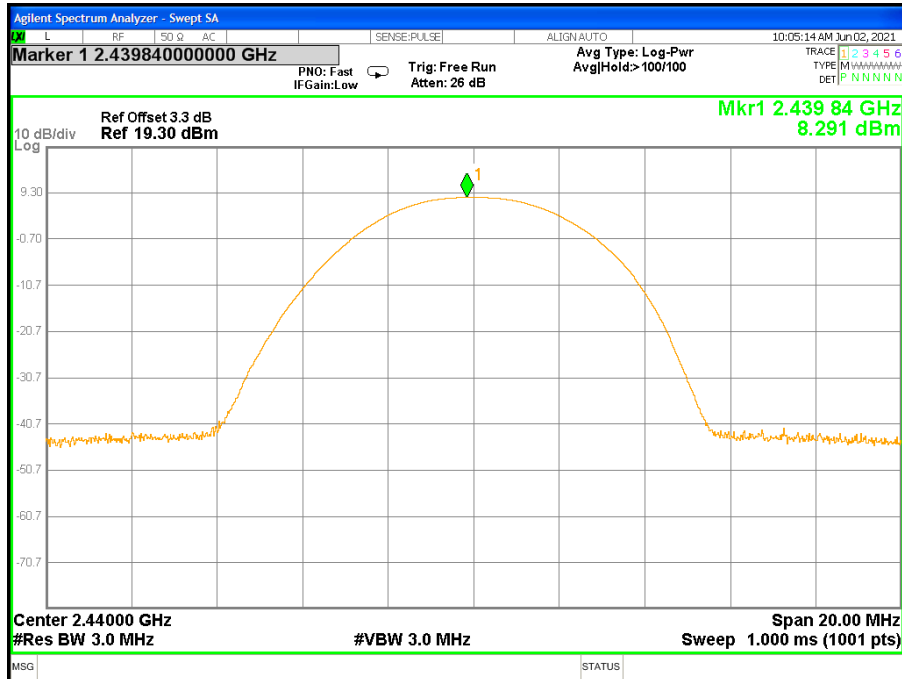
1M PHY

|               |            |                     |              |
|---------------|------------|---------------------|--------------|
| EUT :         | Projector  | Model Name :        | XM03A        |
| Temperature : | 25.1 ℃     | Relative Humidity : | 52%          |
| Pressure :    | 1010 hPa   | Test Power :        | AC 110V/60Hz |
| Test Mode :   | Mode 1     |                     |              |
| Test Date :   | 2021-06-02 |                     |              |

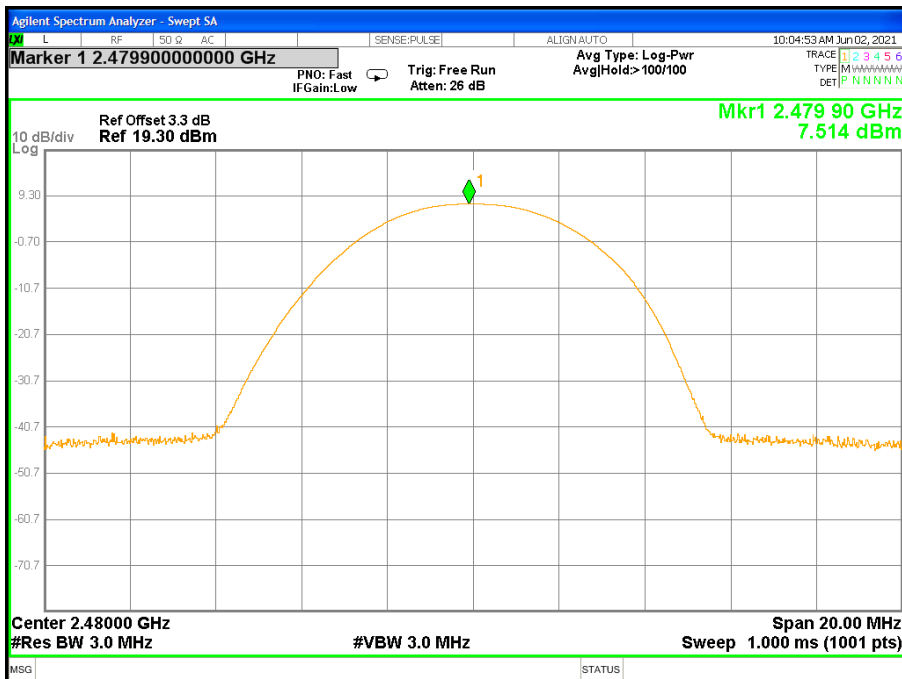
| Test Channel | Frequency (MHz) | Output Power (dBm) | Limit(dBm) | Result |
|--------------|-----------------|--------------------|------------|--------|
| CH01         | 2402 MHz        | 7.817              | 30         | PASS   |
| CH20         | 2440MHz         | 8.291              | 30         | PASS   |
| CH40         | 2480 MHz        | 7.514              | 30         | PASS   |



## CH20 2440MHz



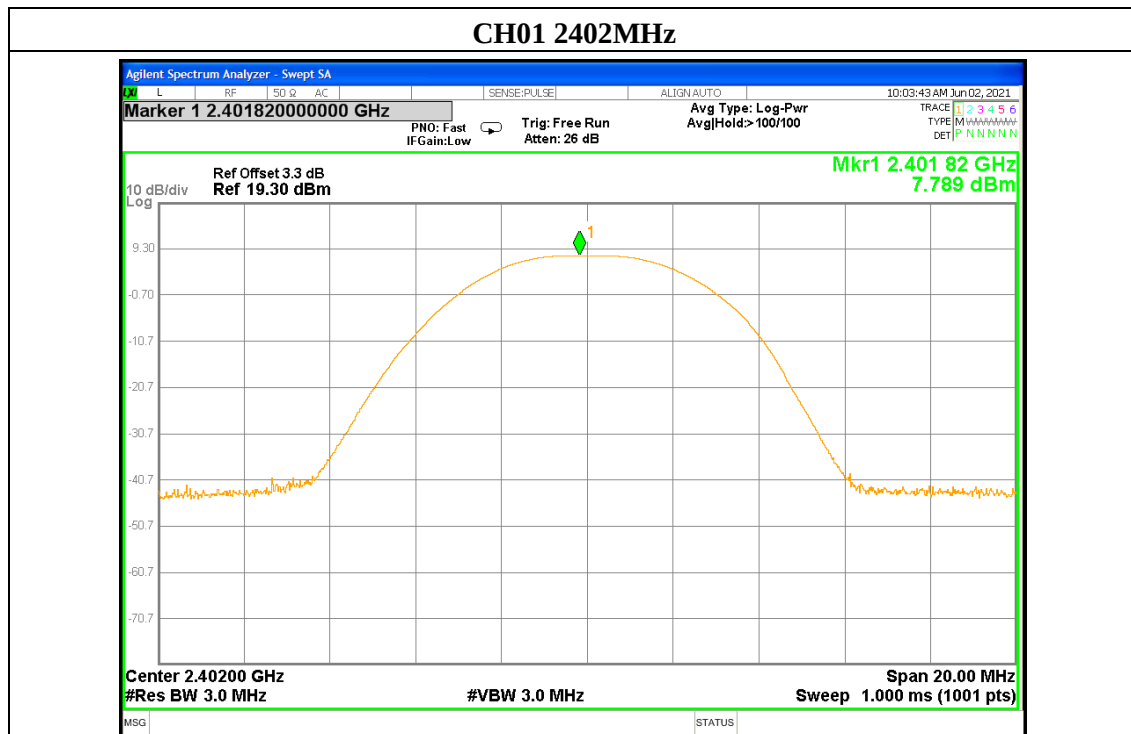
## CH40 2480MHz



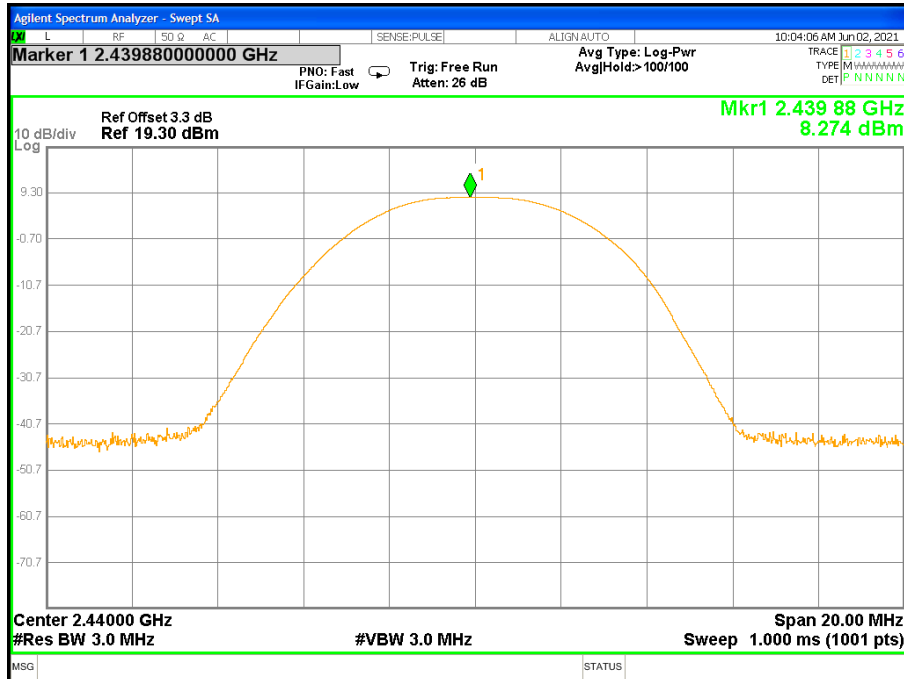
## 2M PHY

|               |            |                     |              |
|---------------|------------|---------------------|--------------|
| EUT :         | Projector  | Model Name :        | XM03A        |
| Temperature : | 25.1 °C    | Relative Humidity : | 52%          |
| Pressure :    | 1010 hPa   | Test Power :        | AC 110V/60Hz |
| Test Mode :   | Mode 1     |                     |              |
| Test Date :   | 2021-06-02 |                     |              |

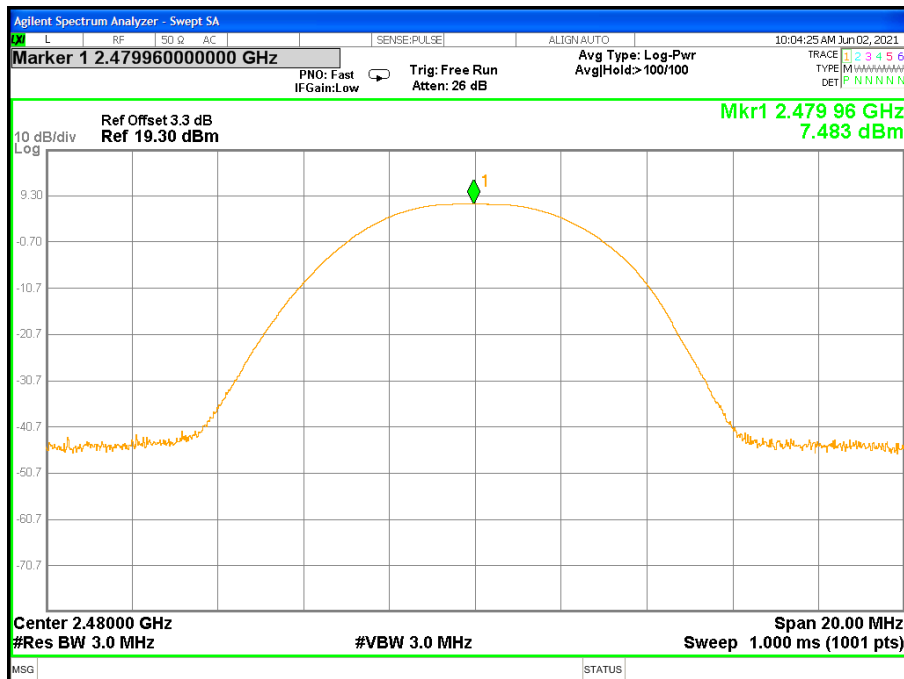
| Test Channel | Frequency (MHz) | Output Power (dBm) | Limit(dBm) | Result |
|--------------|-----------------|--------------------|------------|--------|
| CH01         | 2402 MHz        | 7.789              | 30         | PASS   |
| CH20         | 2440MHz         | 8.274              | 30         | PASS   |
| CH40         | 2480 MHz        | 7.483              | 30         | PASS   |



## CH20 2440MHz



## CH40 2480MHz



## 8. ANTENNA CONDUCTED SPURIOUS EMISSION

### 8.1 APPLIED PROCEDURES / LIMIT

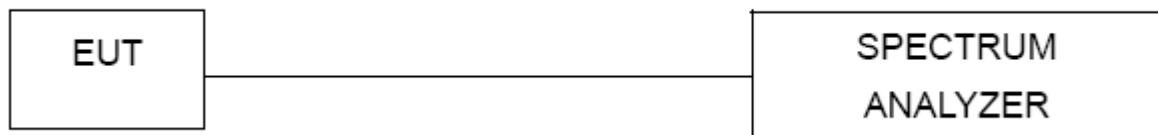
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the modulation products of the spreading sequence, the information sequence and the carrier frequency shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power or shall not exceed the general levels specified in Section 3.6.

| 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                            |
| 30~88             | 100                               | 3                             |
| 88~216            | 150                               | 3                             |
| 216~960           | 200                               | 3                             |
| Above 960         | 500                               | 3                             |

#### 8.1.1 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting : RBW= 100kHz, VBW=300kHz, Sweep time = Auto.

#### 8.1.2 TEST SETUP



#### 8.1.3 EUT OPERATION CONDITIONS

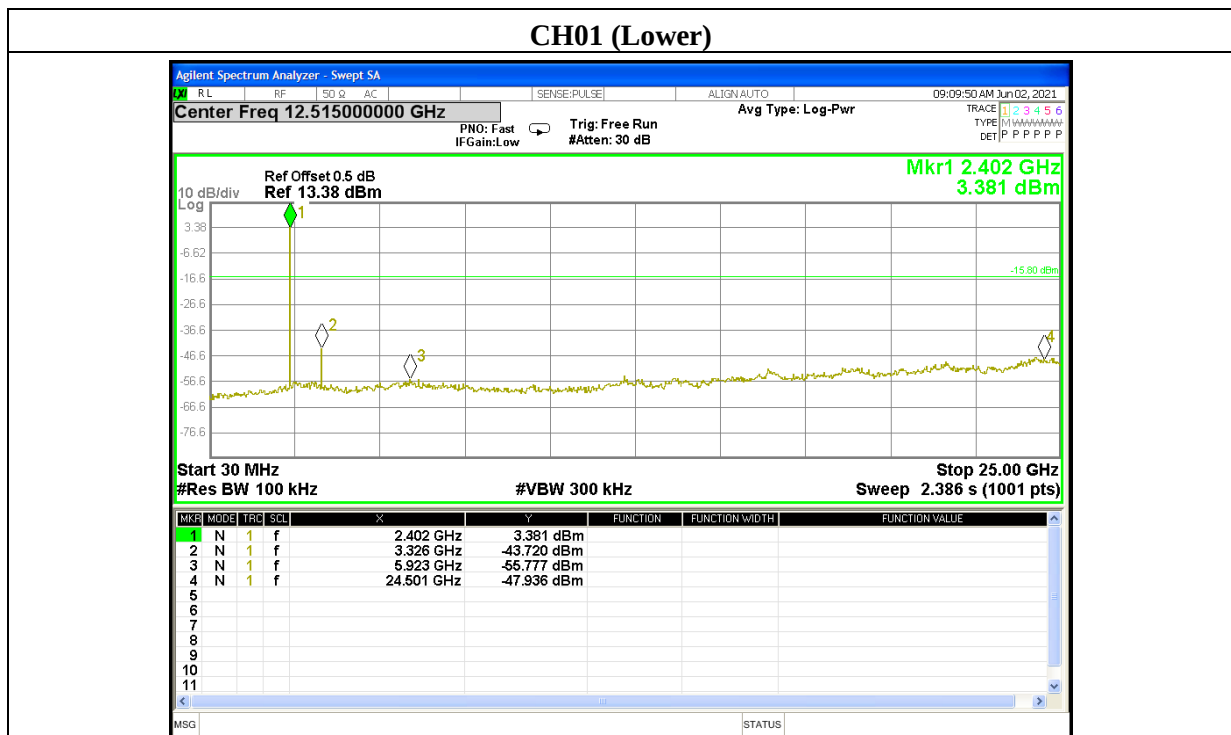
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

### 8.1.4 TEST RESULTS

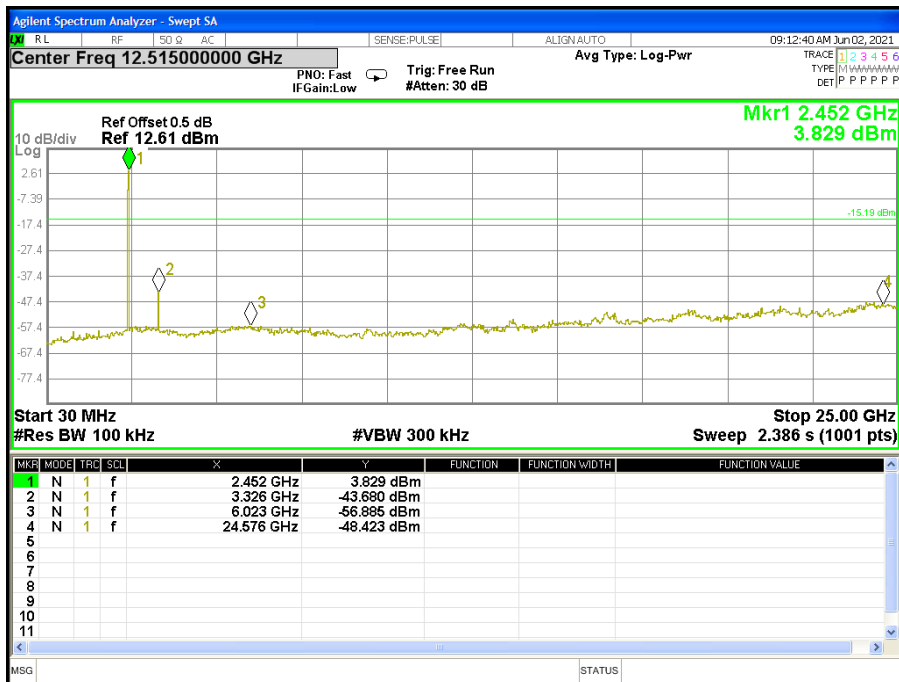
1M PHY

|               |            |                     |              |
|---------------|------------|---------------------|--------------|
| EUT :         | XM03A      | Model Name :        | XM03A        |
| Temperature : | 25.1 ℃     | Relative Humidity : | 52%          |
| Pressure :    | 1010 hPa   | Test Power :        | AC 110V/60Hz |
| Test Mode:    | Mode 1     |                     |              |
| Test Date :   | 2021-06-02 |                     |              |

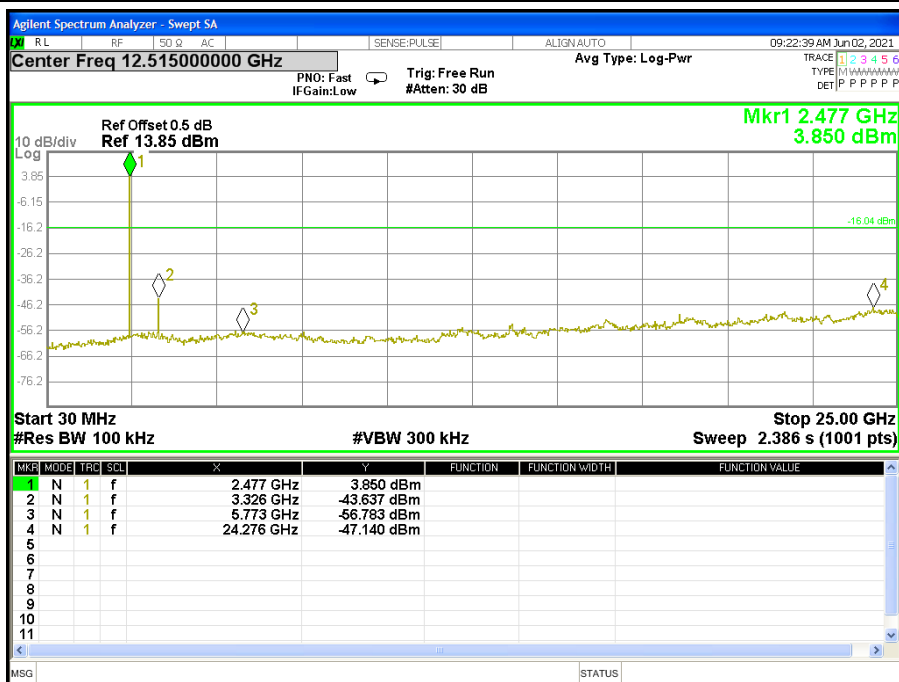
|                                                                                                                                                                                                         |                                                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| in any 100kHz bandwidth outside the low frequency band                                                                                                                                                  | in any 100 kHz bandwidth outside the high frequency band |
| Pass                                                                                                                                                                                                    | Pass                                                     |
| Result                                                                                                                                                                                                  |                                                          |
| In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power. |                                                          |



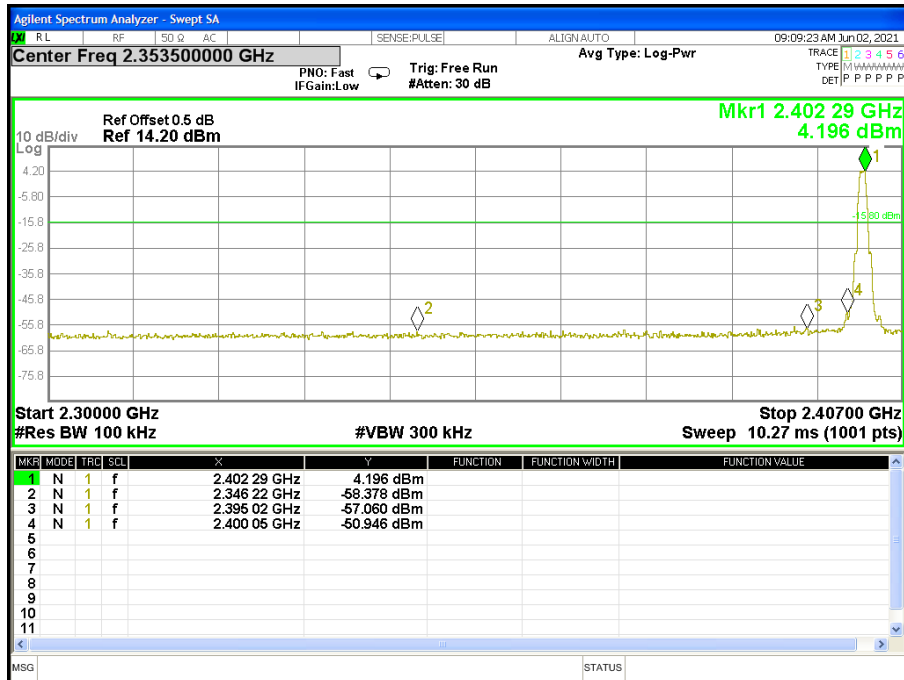
## CH20 (Middle)



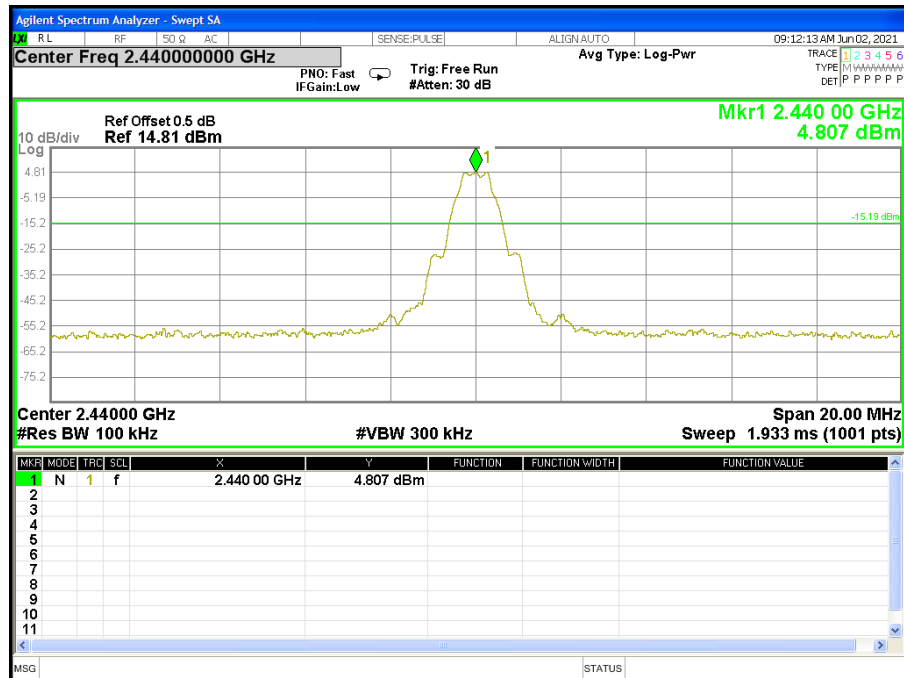
## CH40 (Upper)



## CH01



## CH20



Agilent Spectrum Analyzer - Swept SA

Center Freq 2.48750000 GHz PNO: Fast IF Gain: Low Trig: Free Run #Atten: 30 dB Avg Type: Log-Pwr

Ref Offset 0.5 dB Ref 13.96 dBm

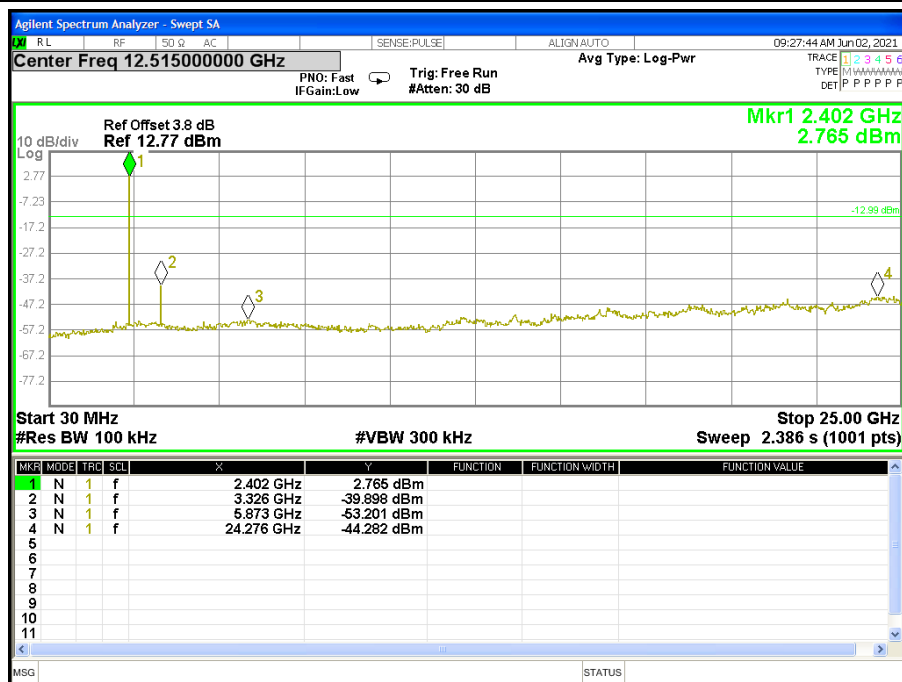
| Mkr | Mode | Freq          | Level       |
|-----|------|---------------|-------------|
| 1   | N    | 2.480 000 GHz | 3.976 dBm   |
| 2   | N    | 2.483 500 GHz | -57.342 dBm |
| 3   | N    | 2.484 525 GHz | -56.306 dBm |
| 4   | N    | 2.499 550 GHz | -57.690 dBm |

## 2M PHY

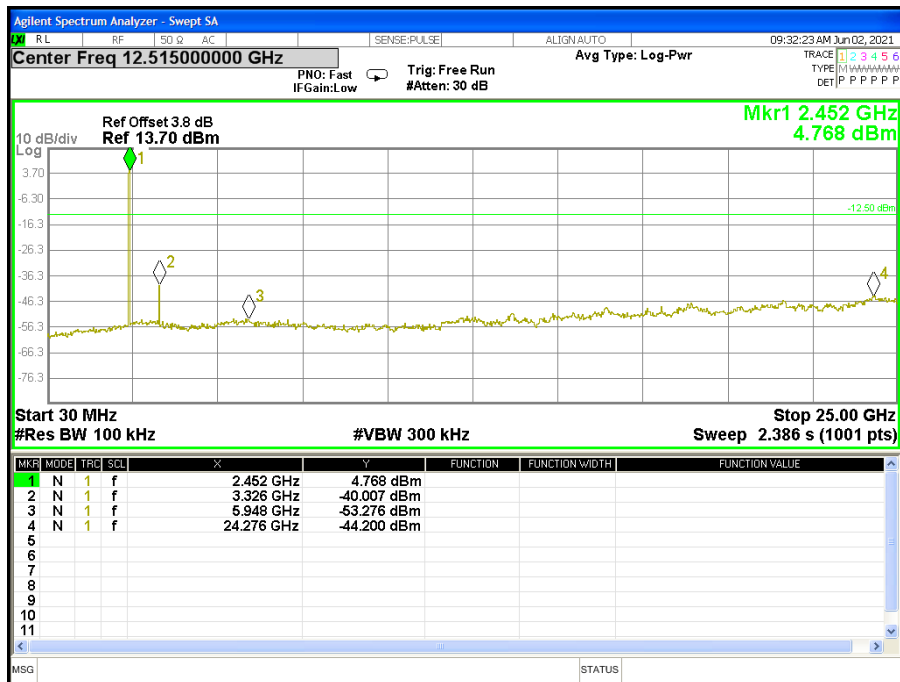
|               |            |                     |              |
|---------------|------------|---------------------|--------------|
| EUT :         | XM03A      | Model Name :        | XM03A        |
| Temperature : | 25.1 °C    | Relative Humidity : | 52%          |
| Pressure :    | 1010 hPa   | Test Power :        | AC 110V/60Hz |
| Test Mode:    | Mode 1     |                     |              |
| Test Date :   | 2021-06-02 |                     |              |

|                                                                                                                                                                                                         |                                                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| in any 100kHz bandwidth outside the low frequency band                                                                                                                                                  | in any 100 kHz bandwidth outside the high frequency band |
| Pass                                                                                                                                                                                                    | Pass                                                     |
| Result                                                                                                                                                                                                  |                                                          |
| In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power. |                                                          |

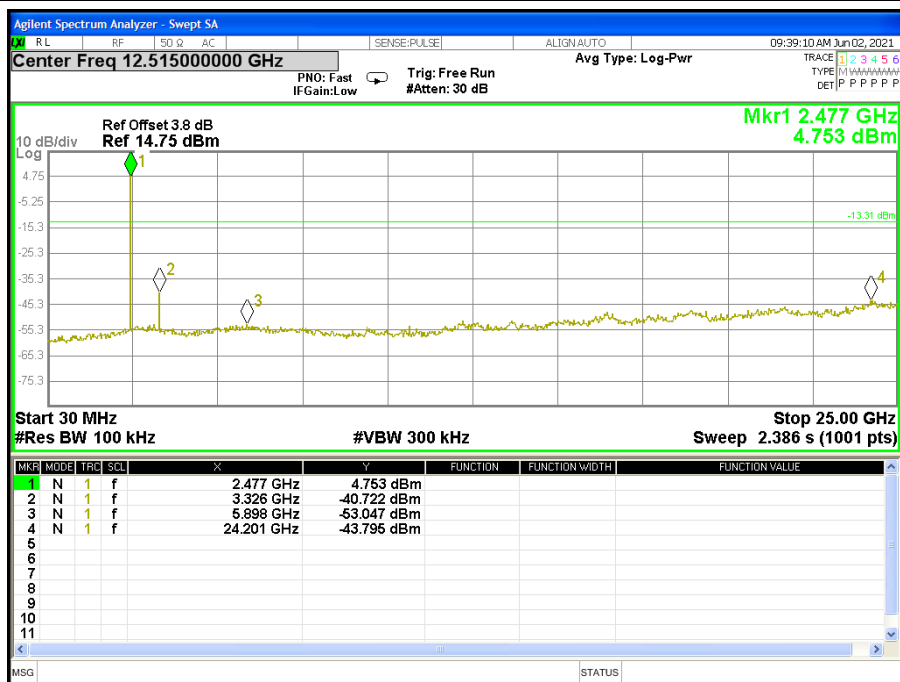
## CH01 (Lower)



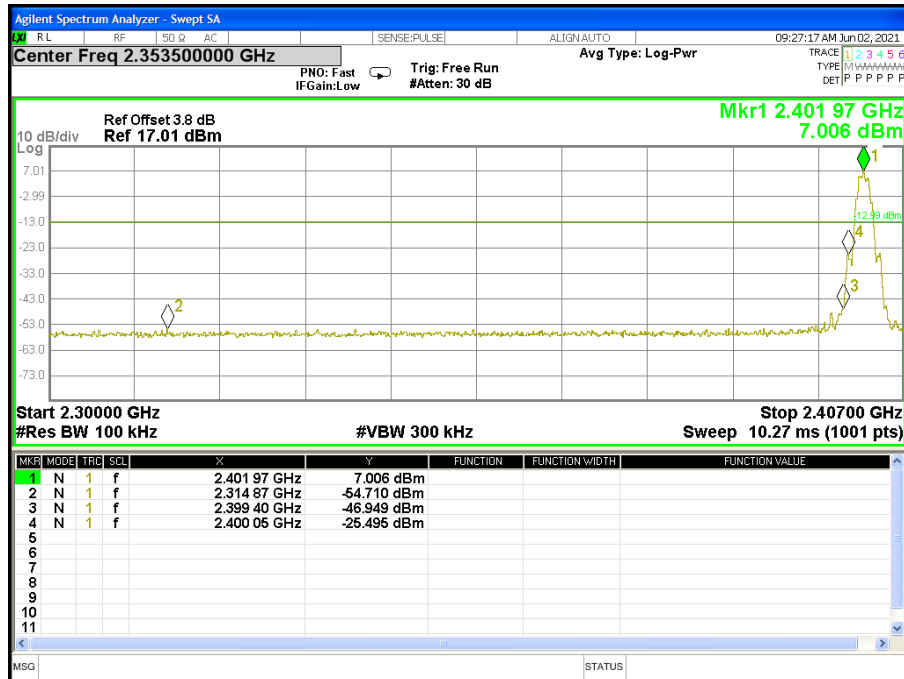
## CH20 (Middle)



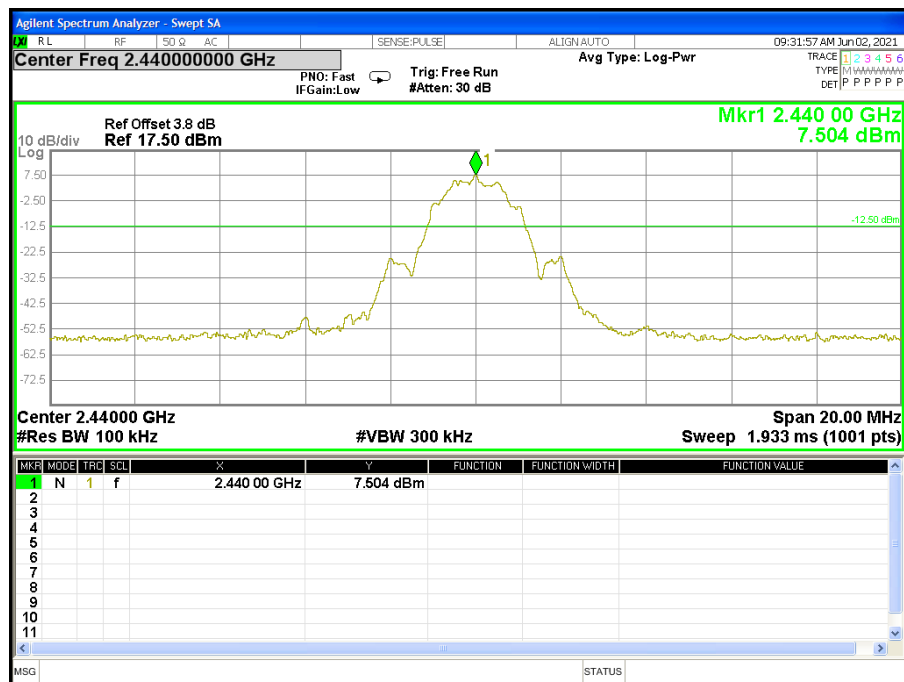
## CH40 (Upper)



## CH01



## CH20



Agilent Spectrum Analyzer - Swept SA

09:38:43 AM Jun 02, 2021

Center Freq 2.48750000 GHz

PNO: Fast IF Gain: Low

Trig: Free Run #Atten: 30 dB

Avg Type: Log-Pwr

Ref Offset 3.8 dB  
Ref 16.70 dBm

Mkr1 2.480 000 GHz  
6.695 dBm

10 dB/div  
Log

Start 2.47500 GHz  
#Res BW 100 kHz

Stop 2.50000 GHz  
#VBW 300 kHz  
Sweep 2.400 ms (1001 pts)

| MKR | MODE | TRC | SCL | X             | Y           | FUNCTION | FUNCTION WIDTH | FUNCTION VALUE |
|-----|------|-----|-----|---------------|-------------|----------|----------------|----------------|
| 1   | N    | 1   | f   | 2.480 000 GHz | 6.695 dBm   |          |                |                |
| 2   | N    | 1   | f   | 2.483 500 GHz | -54.532 dBm |          |                |                |
| 3   | N    | 1   | f   | 2.484 025 GHz | -52.194 dBm |          |                |                |
| 4   | N    | 1   | f   | 2.499 225 GHz | -54.697 dBm |          |                |                |

## **8. ANTENNA REQUIREMENT**

### **8.1 STANDARD REQUIREMENT**

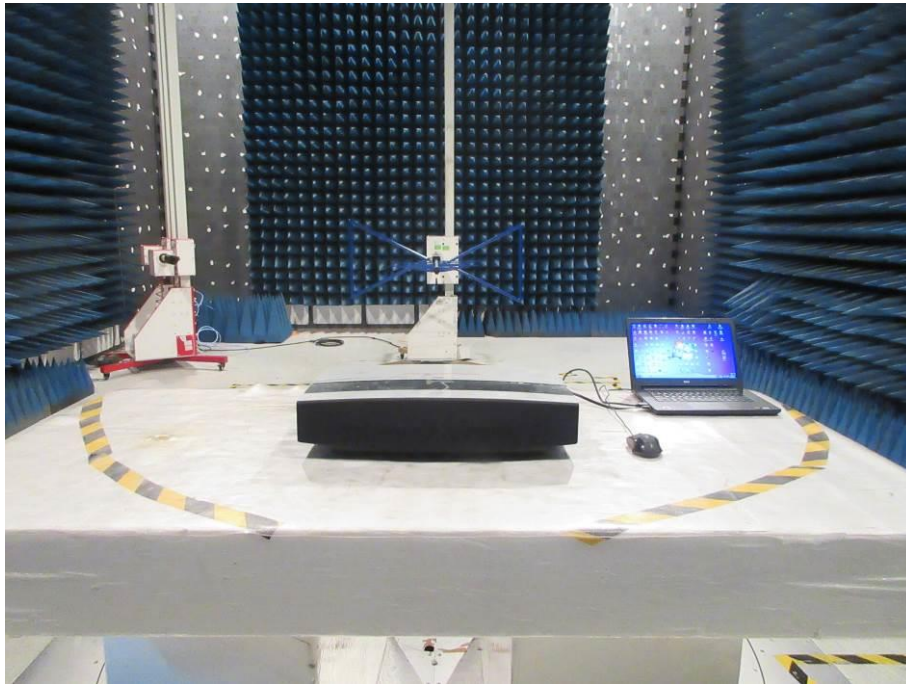
4.10.3.1.1 requirement: Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

### **8.2 EUT ANTENNA**

The antenna is a PIFA antenna and no consideration of replacement. Antenna max gain is 3.49 dBi from 2.4GHz to 2.5GHz.

## 9. EUT TEST PHOTO

### Radiated Measurement Photos 30MHz-1GHz



### Radiated Measurement Photos Above 1GHz



### Conducted Measurement Photos



## **10. APPENDIX-PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS**

Please refer to **APPENDIX**.

\*\*\*\*End of the report\*\*\*\*