# RADIO TEST REPORT
# FCC ID: 2AE6G-GDX

**Product**： Wireless microphone

**Trade Mark**： GEMINI

**Model Name**： GDX-2000M

**Serial Model**： GDX-1000M

**Report No.**： SER180330702001E

## Prepared for

Innovative Concepts and Design LLC

107 Trumbull st. Building F8 Elizabeth, NJ 07206-2165 USA

## Prepared by

Shenzhen NTEK Testing Technology Co., Ltd.

1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street
Bao'an District, Shenzhen 518126 P.R. China
Tel.: +86-755-6115 9388 Fax.: +86-755-6115 6599
Website:http//www.ntek.org.cn

# TEST RESULT CERTIFICATION

| | | |
|---|---|---|
| **Applicant's name** | : | Innovative Concepts and Design LLC |
| Address | : | 107 Trumbull st. Building F8 Elizabeth, NJ 07206-2165 USA |
| **Manufacturer's Name** | : | ENPING SANGE ELECTRONIC CO., LTD |
| Address | : | No. 12, F District, Individual & Foreign Capital Industry Zone, Enping City, Guangdong Province, P.R.C |

**Product description**

| | | |
|---|---|---|
| Product name | : | Wireless microphone |
| Model and/or type reference | : | GDX-2000M |
| Serial Model： | | GDX-1000M |
| Rating(s) | : | DC 3V from battery |
| **Standards** | : | FCC Part15.249: 2018 |
| Test procedure | | ANSI C63.10-2013 |

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

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| | | |
|---|---|---|
| **Date of Test** | : | |
| Date (s) of performance of tests | : | 30 Mar. 2018 ~27 Apr. 2018 |
| Date of Issue | : | 27 Apr. 2018 |
| Test Result | : | **Pass** |

**Testing Engineer** : Eileen Liu.

(Eileen Liu)

Technical Manager : Jason chen

(Jason Chen)

Authorized Signatory : Sam . Chen

(Sam Chen)

Table of Contents Page

## 1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

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

## 1.1 TEST FACILITY

Shenzhen NTEK Testing Technology Co., Ltd
Add. : 1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street, Bao'an District, Shenzhen 518126 P.R. China.
FCC FRN Registration No.:463705; IC Registration No.:9270A-1
CNAS Registration No.:L5516

## 1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement **y ± U**，where expended uncertainty **U** is based on a standard uncertainty multiplied by a coverage factor of **k=2**，providing a level of confidence of approximately **95** %。

| No. | Item | Uncertainty |
|---|---|---|
| 1 | Conducted Emission Test | ±1.38dB |
| 2 | RF power,conducted | ±0.16dB |
| 3 | Spurious emissions,conducted | ±0.21dB |
| 4 | All emissions,radiated(<1G) | ±4.68dB |
| 5 | All emissions,radiated(>1G) | ±4.89dB |
| 6 | Temperature | ±0.5℃ |
| 7 | Humidity | ±2% |

# 2. GENERAL INFORMATION

## 2.1 GENERAL DESCRIPTION OF EUT

| | |
|---|---|
| Equipment | Wireless microphone |
| Trade Mark | GEMINI |
| Model Name | GDX-2000M |
| Serial Model | GDX-1000M |
| Model Difference | All the model are the same circuit and RF module, except the model name. |
| Product Description | The EUT is a Wireless microphone<br>Operation Frequency: Frequency 1:2404-2434MHz<br>Frequency 2:2444-2474 MHz<br>Modulation Type: GFSK<br>Antenna Designation: PCB Antenna<br>Antenna Gain(Peak) 1 dBi<br><br>Based on the application, features, or specification exhibited in User's Manual. More details of EUT technical specification, please refer to the User's Manual. |
| Channel List | Please refer to the Note 2. |
| Adapter | N/A |
| Battery | DC 3V |
| HW Version | BM-2419T3 |
| SW Version | BM2419-TIA-A0 |

Note:

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

2.

| Channel | Frequency 1 (MHz) | Frequency 2 (MHz) |
|---|---|---|
| 01 | 2406 | 2446 |
| 02 | 2408 | 2448 |
| 03 | 2410 | 2450 |
| 04 | 2412 | 2452 |
| 05 | 2414 | 2454 |
| 06 | 2416 | 2456 |
| 07 | 2418 | 2458 |
| 08 | 2420 | 2460 |
| 09 | 2422 | 2462 |
| 10 | 2424 | 2464 |
| 11 | 2426 | 2466 |
| 12 | 2428 | 2468 |
| 13 | 2430 | 2470 |
| 14 | 2432 | 2472 |
| 15 | 2434 | 2474 |
| 16 | 2404 | 2444 |

3.

Table for Filed Antenna

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

## 2.2 DESCRIPTION OF TEST MODES

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

| Pretest Mode | Description |
|---|---|
| Mode 1 | CH16 |
| Mode 2 | CH08 |
| Mode 3 | CH15 |

| **For Radiated Spurious Emission** | |
|---|---|
| Pretest Mode | Description |
| Mode 1 | CH16 |
| Mode 2 | CH08 |
| Mode 3 | CH15 |

| **For Conducted Emission** | |
|---|---|
| Final Test Mode | Description |
| Mode 1 | CH16 |
| Mode 2 | CH08 |
| Mode 3 | CH15 |

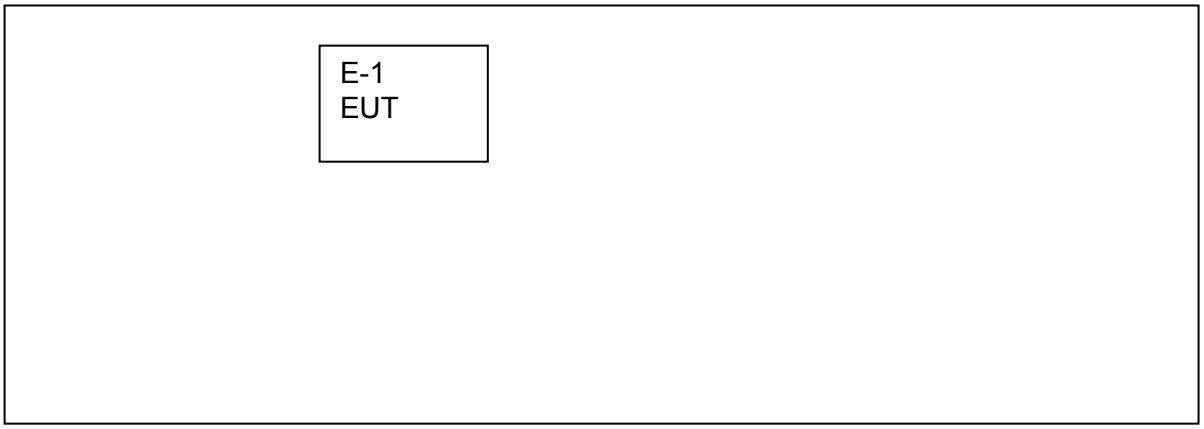
Note:

(1) The measurements are performed at the highest, middle, lowest available channels.

(2) Use the new battery to test.

## 2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Radiated Spurious Emission Test



## 2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

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

| Item | Equipment | Mfr/Brand | Model/Type No. | Series No. | Note |
|---|---|---|---|---|---|
| E-1 | Wireless microphone | GEMINI | GDX-2000M | N/A | EUT |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

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

Note:

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

## 2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

**Radiation Test equipment**

| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Last calibration | Calibrated until | Calibration period |
|---|---|---|---|---|---|---|---|
| 1 | Spectrum Analyzer | Aglient | E4407B | MY45108040 | 2017.06.06 | 2018.06.05 | 1 year |
| 2 | Spectrum Analyzer | Agilent | N9020A | MY49100060 | 2017.11.10 | 2018.11.09 | 1 year |
| 3 | EMI Test Receiver | Agilent | N9038A | MY53227146 | 2017.06.06 | 2018.06.05 | 1 year |
| 4 | Test Receiver | R&S | ESPI | 101318 | 2017.06.06 | 2018.06.05 | 1 year |
| 5 | Bilog Antenna | TESEQ | CBL6111D | 31216 | 2018.04.09 | 2019.04.08 | 1 year |
| 6 | 50Ω Coaxial Switch | Anritsu | MP59B | 6200983705 | 2017.06.06 | 2018.06.05 | 1 year |
| 7 | Horn Antenna | EM | EM-AH-10180 | 2011071402 | 2018.04.09 | 2019.04.08 | 1 year |
| 8 | Horn Ant | Schwarzbeck | BBHA 9170 | 9170-181 | 2017.07.06 | 2018.07.05 | 1 year |
| 9 | Amplifier | EMC | EMC051835SE | 980246 | 2017.08.09 | 2018.08.08 | 1 year |
| 10 | Amplifier | MITEQ | TTA1840-35-HG | 177156 | 2017.06.06 | 2018.06.05 | 1 year |
| 11 | Loop Antenna | ARA | PLA-1030/B | 1029 | 2017.06.06 | 2018.06.05 | 1 year |
| 12 | Power Meter | DARE | RPR3006W | 15I00041SNO84 | 2017.08.07 | 2018.08.06 | 1 year |
| 13 | Test Cable (9KHz-30MHz) | N/A | R-01 | N/A | 2017.04.21 | 2020.04.20 | 3 year |
| 14 | Test Cable (30MHz-1GHz) | N/A | R-02 | N/A | 2017.04.21 | 2020.04.20 | 3 year |
| 15 | High Test Cable(1G-40 GHz) | N/A | R-03 | N/A | 2017.04.21 | 2020.04.20 | 3 year |
| 16 | High Test Cable(1G-40 GHz) | N/A | R-04 | N/A | 2017.04.21 | 2020.04.20 | 3 year |
| 17 | temporary antenna connector (Note) | NTS | R001 | N/A | N/A | N/A | N/A |

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

**Conduction Test equipment**

| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Last calibration | Calibrated until | Calibration period |
|---|---|---|---|---|---|---|---|
| 1 | Test Receiver | R&S | ESCI | 101160 | 2017.06.06 | 2018.06.05 | 1 year |
| 2 | LISN | R&S | ENV216 | 101313 | 2018.04.19 | 2019.04.18 | 1 year |
| 3 | LISN | SCHWARZBECK | NNLK 8129 | 8129245 | 2017.06.06 | 2018.06.05 | 1 year |
| 4 | 50Ω Coaxial Switch | ANRITSU CORP | MP59B | 6200983704 | 2017.06.06 | 2018.06.05 | 1 year |
| 5 | Test Cable (9KHz-30MHz) | N/A | C01 | N/A | 2017.04.21 | 2020.04.20 | 3 year |
| 6 | Test Cable (9KHz-30MHz) | N/A | C02 | N/A | 2017.04.21 | 2020.04.20 | 3 year |
| 7 | Test Cable (9KHz-30MHz) | N/A | C03 | N/A | 2017.04.21 | 2020.04.20 | 3 year |

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

# 3. ANTENNA REQUIREMENT

## 3.1 STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

## 3.2 EUT ANTENNA

The EUT antenna is permanent attached PCB antenna(Gain:1dBi). It comply with the standard requirement.

## 3.3 CONDUCTED EMISSION MEASUREMENT

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

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

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

The following table is the setting of the receiver

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

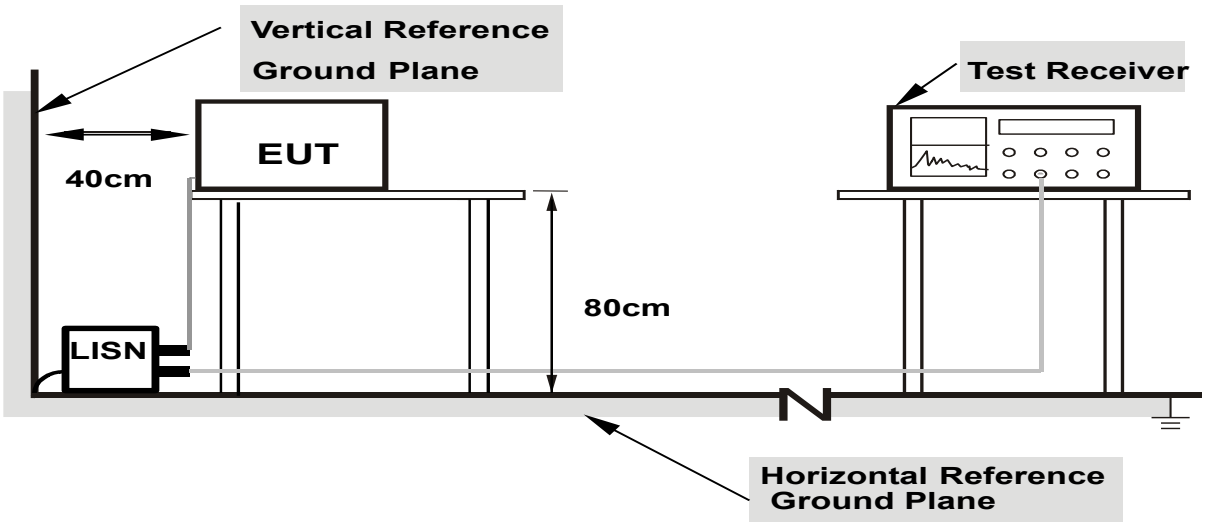
### 3.3.2 TEST PROCEDURE

a. 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.
b. 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.
c. 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.
d. LISN at least 80 cm from nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

### 3.3.3 DEVIATION FROM TEST STANDARD

No deviation

### 3.3.4 TEST SETUP




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

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

### 3.2.5 TEST RESULT

| | | | |
|---|---|---|---|
| EUT： | Wireless microphone | Model Name. ： | GDX-2000M |
| Temperature： | 25 ℃ | Relative Humidity： | 55% |
| Pressure： | 1010hPa | Phase： | N/A |
| Test Voltage ： | N/A | Test Mode： | N/A |

Note: Not applicable

## 3.4 RADIATED EMISSION MEASUREMENT

### 3.4.1 Radiated Emission Limits ( FCC 15.209 )

| Frequencies (MHz) | Field Strength (micorvolts/meter) | Measurement Distance (meters) |
|---|---|---|
| 0.009~0.490 | 2400/F(KHz) | 300 |
| 0.490~1.705 | 24000/F(KHz) | 30 |
| 1.705~30.0 | 30 | 30 |
| Frequency (MHz) | Limit (dBuV) | |
| 30~88 | 40 | 3 |
| 88~216 | 43.5 | 3 |
| 216~960 | 46 | 3 |
| 960 -10000 | 54.00 | 3 |
| *902 - 928 | 94.00 | 3 |

Note:

(1) The tighter limit applies at the band edges.

(2) Emission level (dBuV/m)=20log Emission level (uV/m).

(3) *Note: This is the limit for the fundamental frequency.

LIMITS OF RADIATED EMISSION MEASUREMENT ( FCC 15.249)

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

Notes:

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

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

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

### 3.4.2 TEST PROCEDURE

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

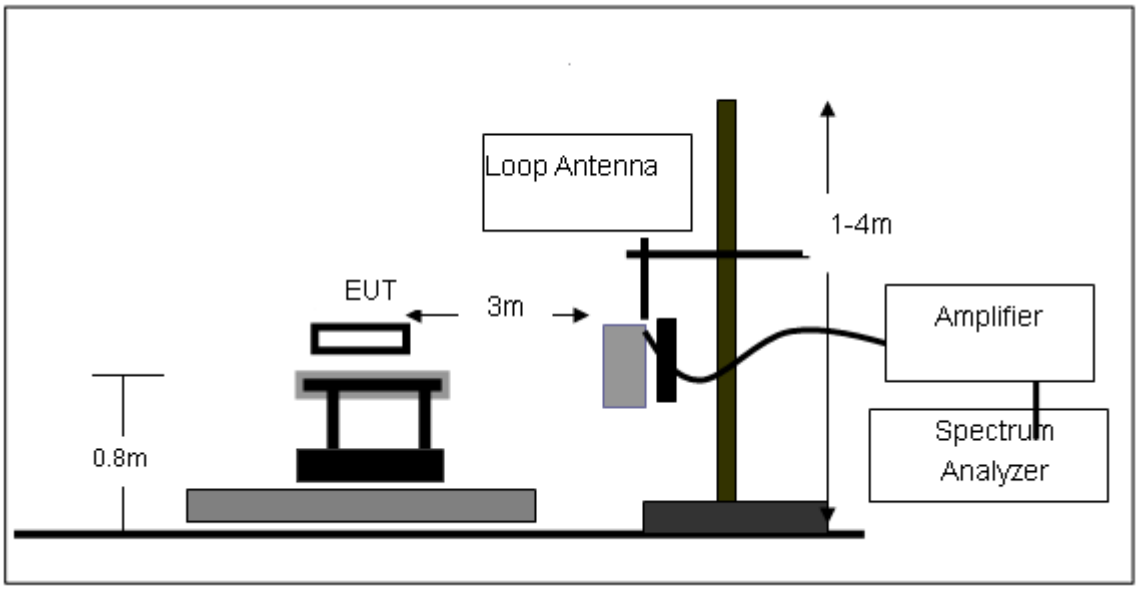
Note:

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

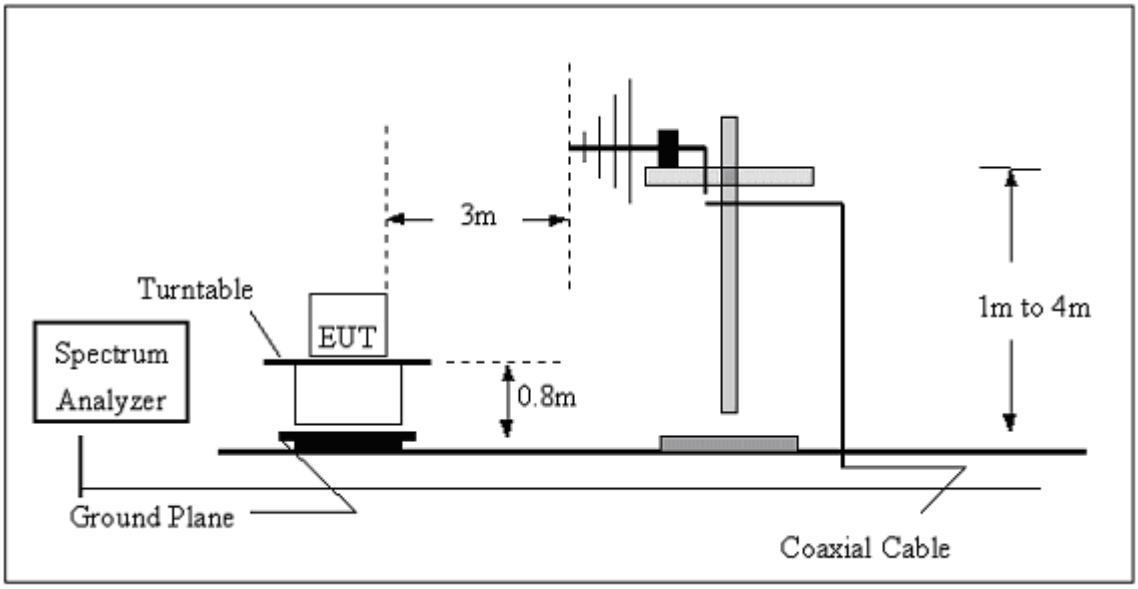
### 3.4.3 DEVIATION FROM TEST STANDARD

No deviation

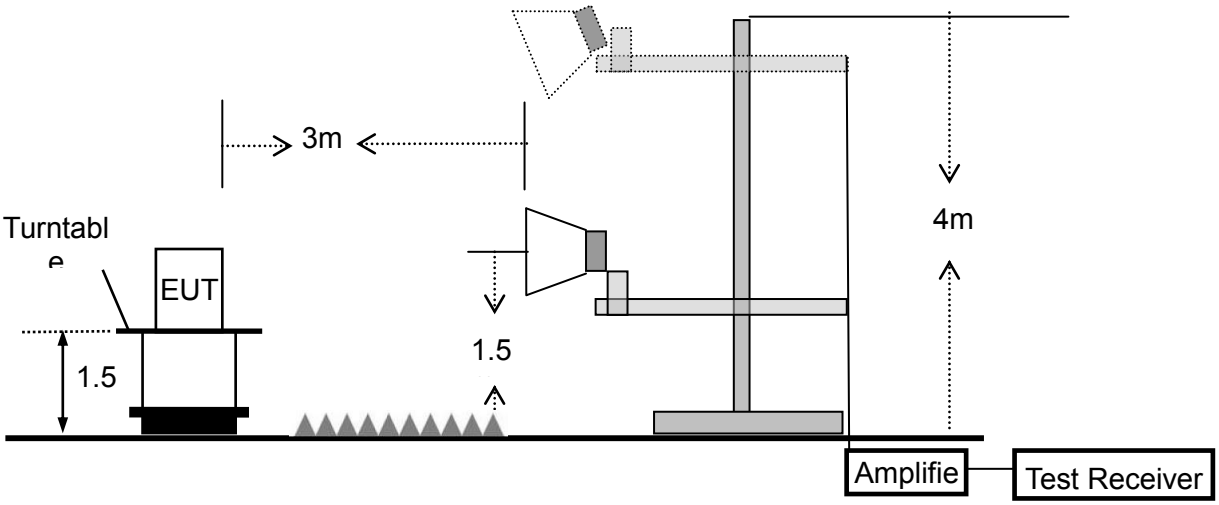
（A）Radiated Emission Test-Up Frequency Below 30MHz




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



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



### 3.4.4 TEST RESULTS (BELOW 30MHz)

| | | | |
|---|---|---|---|
| EUT： | Wireless microphone | Model Name. ： | GDX-2000M |
| Temperature： | 20 ℃ | Relative Humidtity： | 48% |
| Pressure： | 1010 hPa | Test Voltage ： | DC 3V from battery |
| Test Mode ： | TX | Polarization： | -- |

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

**NOTE:**

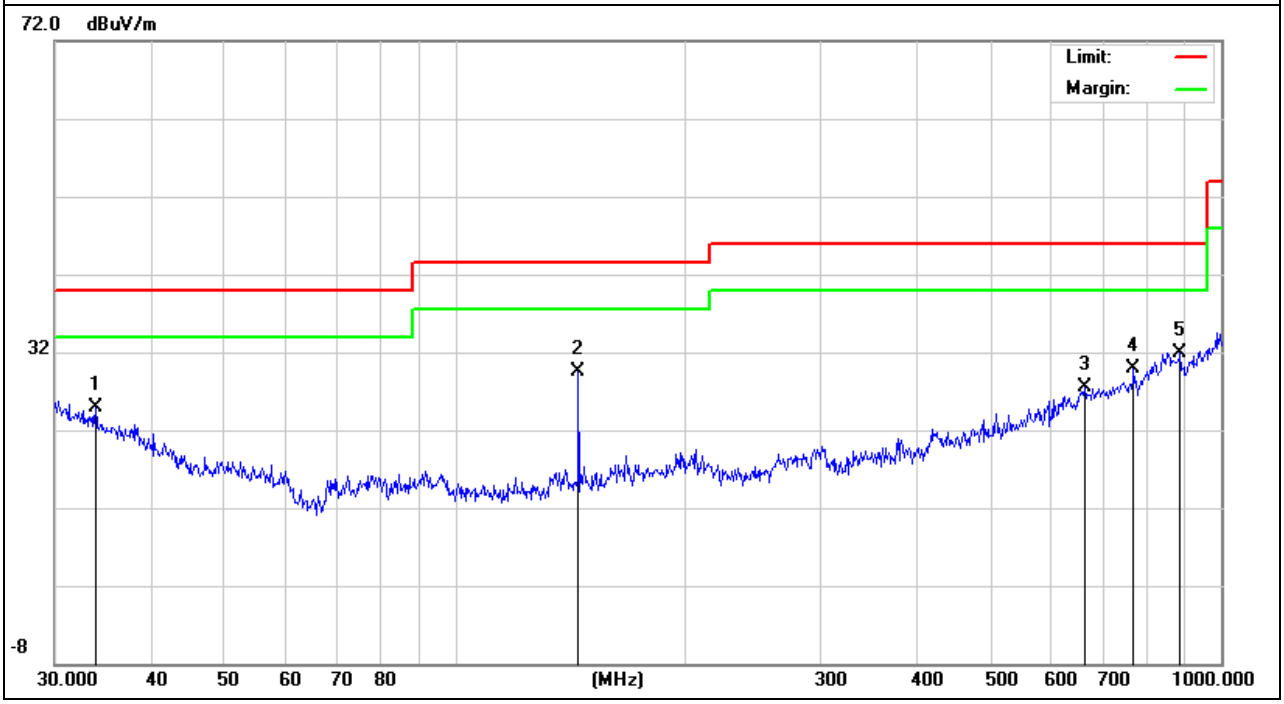
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.
Distance extrapolation factor =20 log (specific distance/test distance)(dB);
Limit line = specific limits(dBuv) + distance extrapolation factor.

### 3.4.5 TEST RESULTS (BELOW 1000 MHz)

| | | | |
|---|---|---|---|
| EUT： | Wireless microphone | Model Name ： | GDX-2000M |
| Temperature： | 25 ℃ | Relative Humidity： | 51% |
| Pressure： | 1010 hPa | Test Voltage ： | DC 3V from battery |
| Test Mode ： | Model 1 | Polarization： | Vertical |

| Frequency (MHz) | Meter Reading (dBμV) | Factor (dB) | Emission Level (dBμV/m) | Limits (dBμV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 33.9174 | 5.48 | 19.41 | 24.89 | 40.00 | -15.11 | QP |
| 144.8418 | 18.22 | 11.35 | 29.57 | 43.50 | -13.93 | QP |
| 663.4728 | 6.59 | 20.94 | 27.53 | 46.00 | -18.47 | QP |
| 768.7481 | 7.59 | 22.36 | 29.95 | 46.00 | -16.05 | QP |
| 884.5027 | 6.69 | 25.29 | 31.98 | 46.00 | -14.02 | QP |

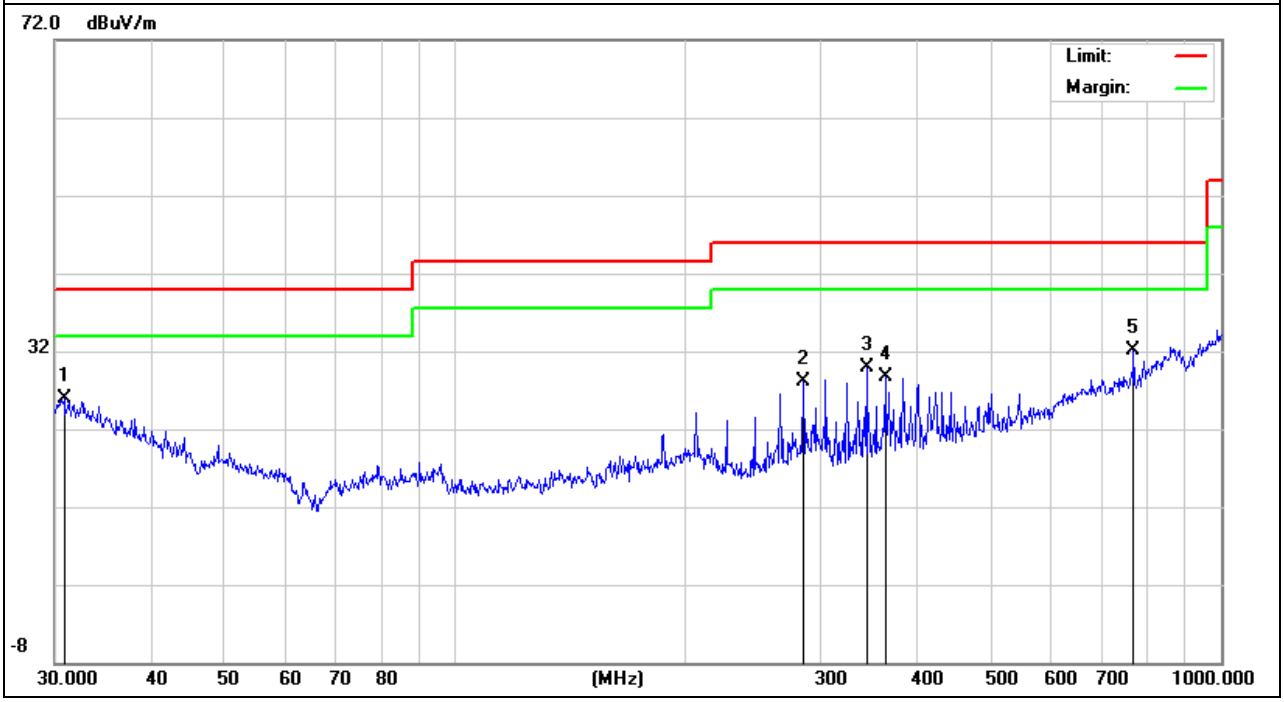
Remark:
1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.



| | | | |
|---|---|---|---|
| EUT： | Wireless microphone | Model Name ： | GDX-2000M |
| Temperature： | 25 ℃ | Relative Humidity： | 51% |
| Pressure： | 1010 hPa | Test Voltage ： | DC 3V from battery |
| Test Mode ： | Model 1 | Polarization： | Horizontal |

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 30.8535 | 5.05 | 20.84 | 25.89 | 40.00 | -14.11 | QP |
| 284.9767 | 14.01 | 14.08 | 28.09 | 46.00 | -17.91 | QP |
| 344.3855 | 15.69 | 14.30 | 29.99 | 46.00 | -16.01 | QP |
| 364.2595 | 14.18 | 14.52 | 28.70 | 46.00 | -17.30 | QP |
| 768.7481 | 9.72 | 22.36 | 32.08 | 46.00 | -13.92 | QP |

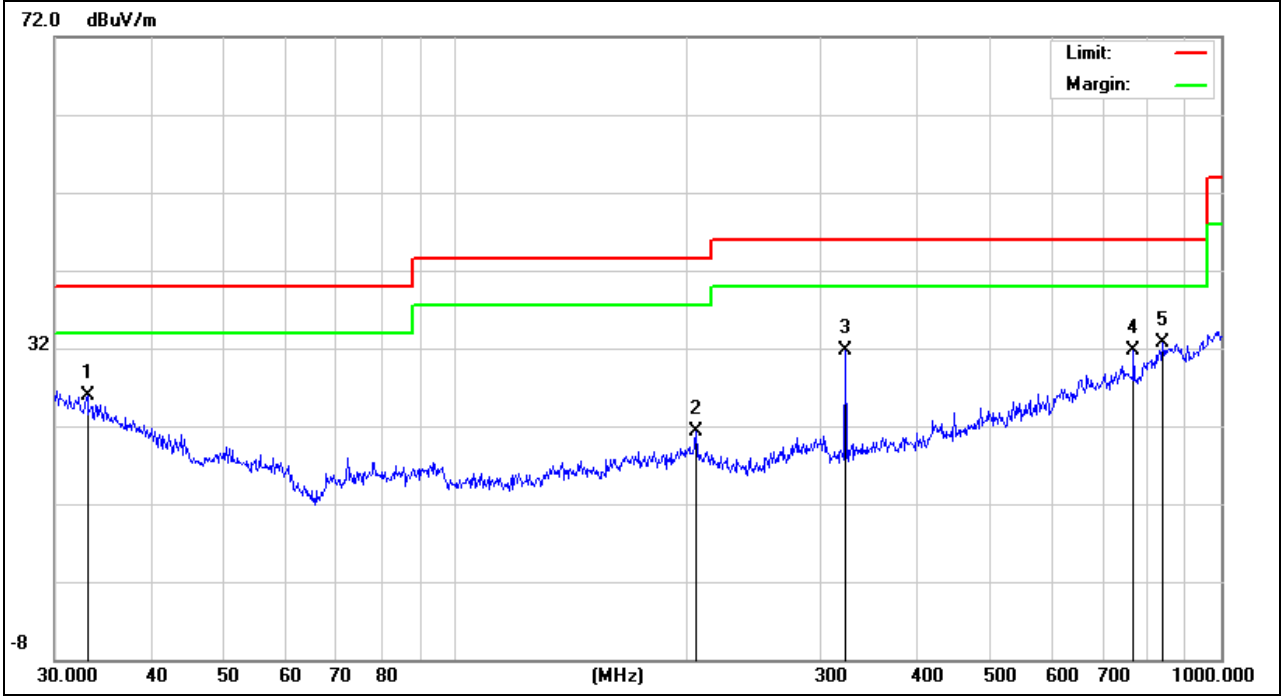
Remark:
1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.



| EUT： | Wireless microphone | Model Name ： | GDX-2000M |
|---|---|---|---|
| Temperature： | 25 ℃ | Relative Humidity： | 51% |
| Pressure： | 1010 hPa | Test Voltage ： | DC 3V from battery |
| Test Mode ： | Model 2 | Polarization： | Vertical |

| Frequency (MHz) | Meter Reading (dBμV) | Factor (dB) | Emission Level (dBμV/m) | Limits (dBμV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 33.0949 | 6.00 | 19.81 | 25.81 | 40.00 | -14.19 | QP |
| 206.3976 | 7.54 | 13.71 | 21.25 | 43.50 | -22.25 | QP |
| 323.3204 | 18.20 | 13.57 | 31.77 | 46.00 | -14.23 | QP |
| 768.7481 | 9.34 | 22.36 | 31.70 | 46.00 | -14.30 | QP |
| 839.1816 | 7.16 | 25.58 | 32.74 | 46.00 | -13.26 | QP |

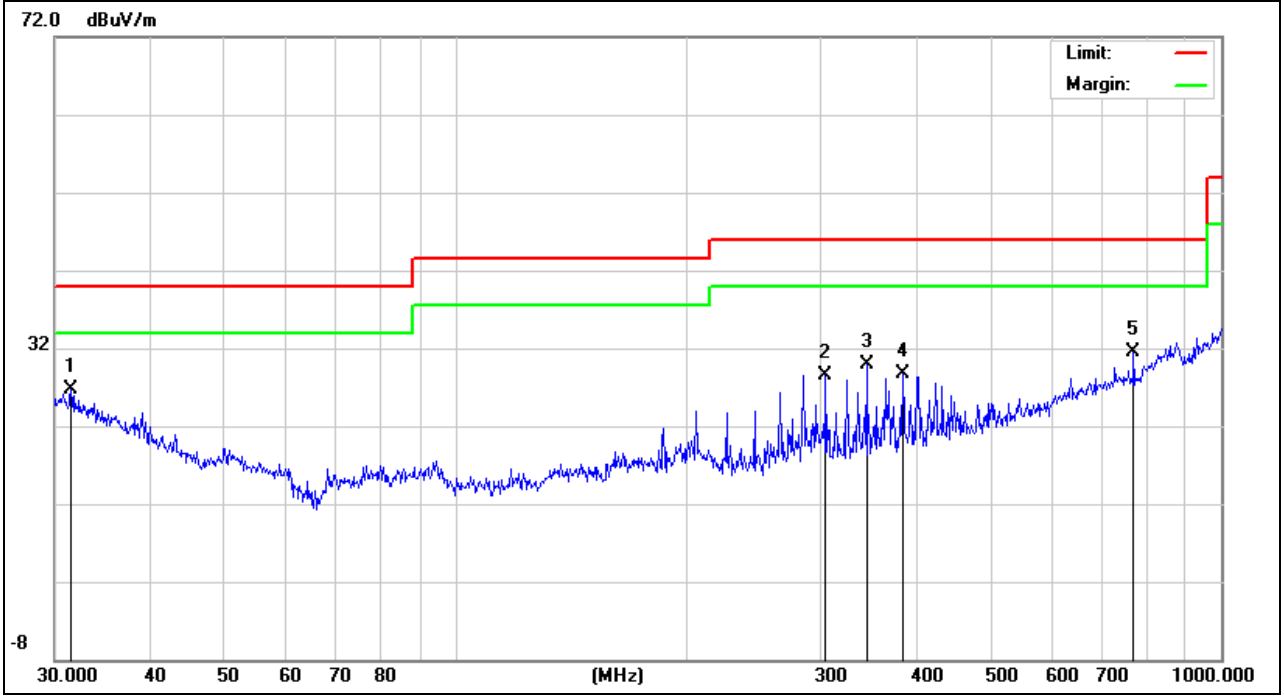
Remark:
1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.



| EUT： | Wireless microphone | Model Name ： | GDX-2000M |
|---|---|---|---|
| Temperature： | 25 ℃ | Relative Humidity： | 51% |
| Pressure： | 1010 hPa | Test Voltage ： | DC 3V from battery |
| Test Mode ： | Model 2 | Polarization： | Horizontal |

| Frequency (MHz) | Meter Reading (dBμV) | Factor (dB) | Emission Level (dBμV/m) | Limits (dBμV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 31.5095 | 6.20 | 20.55 | 26.75 | 40.00 | -13.25 | QP |
| 304.6099 | 14.52 | 14.05 | 28.57 | 46.00 | -17.43 | QP |
| 344.3855 | 15.51 | 14.30 | 29.81 | 46.00 | -16.19 | QP |
| 383.9318 | 13.77 | 14.94 | 28.71 | 46.00 | -17.29 | QP |
| 768.7481 | 9.14 | 22.36 | 31.50 | 46.00 | -14.50 | QP |

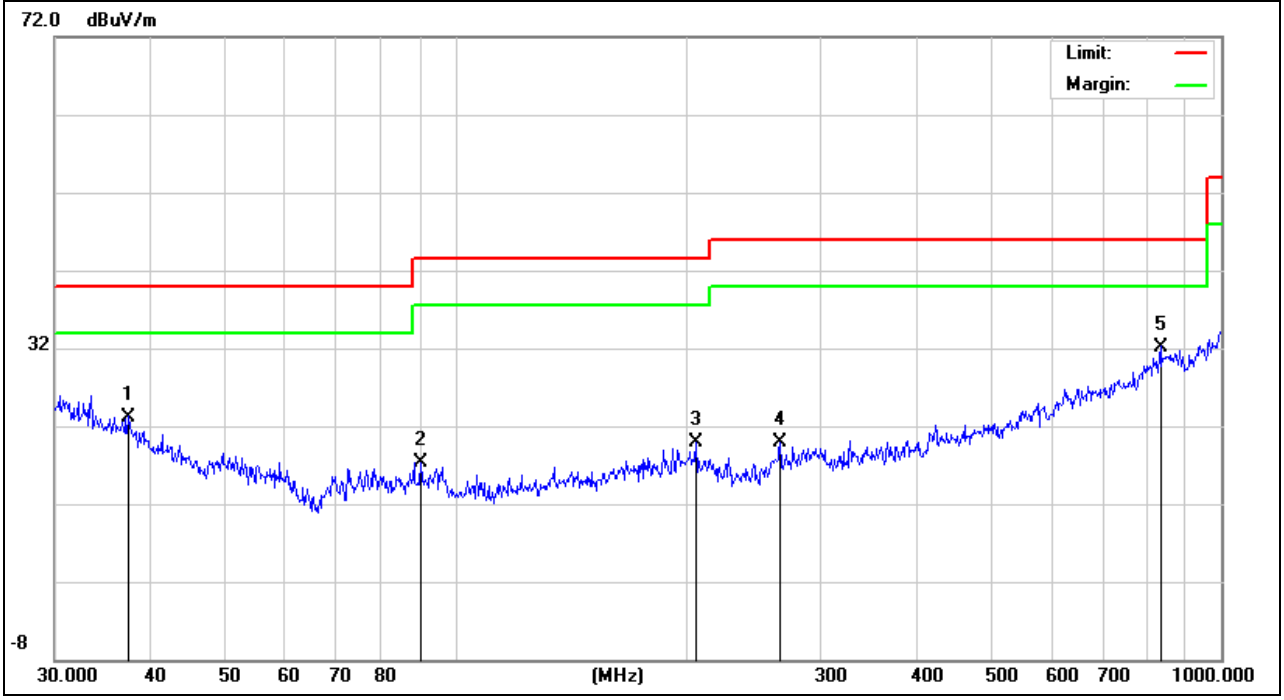
Remark:
1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.



| EUT： | Wireless microphone | Model Name ： | GDX-2000M |
|---|---|---|---|
| Temperature： | 25 ℃ | Relative Humidity： | 51% |
| Pressure： | 1010 hPa | Test Voltage ： | DC 3V from battery |
| Test Mode ： | Model 3 | Polarization： | Vertical |

| Frequency (MHz) | Meter Reading (dBμV) | Factor (dB) | Emission Level (dBμV/m) | Limits (dBμV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 37.4165 | 5.44 | 17.76 | 23.20 | 40.00 | -16.80 | QP |
| 90.2205 | 5.61 | 11.79 | 17.40 | 43.50 | -26.10 | QP |
| 206.3976 | 6.15 | 13.71 | 19.86 | 43.50 | -23.64 | QP |
| 265.6757 | 6.43 | 13.45 | 19.88 | 46.00 | -26.12 | QP |
| 833.3170 | 7.30 | 24.90 | 32.20 | 46.00 | -13.80 | QP |

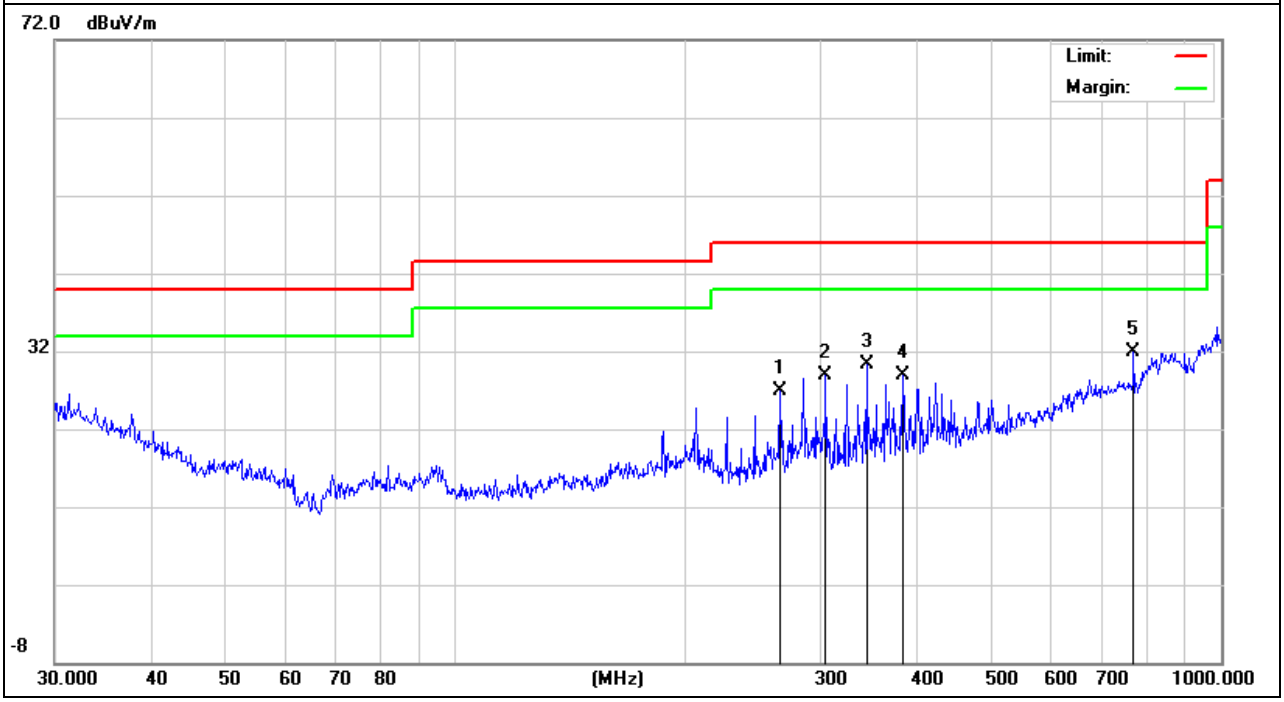
Remark:
1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.



| EUT： | Wireless microphone | Model Name ： | GDX-2000M |
|---|---|---|---|
| Temperature： | 25 ℃ | Relative Humidity： | 51% |
| Pressure： | 1010 hPa | Test Voltage ： | DC 3V from battery |
| Test Mode ： | Model 3 | Polarization： | Horizontal |

| Frequency (MHz) | Meter Reading (dBμV) | Factor (dB) | Emission Level (dBμV/m) | Limits (dBμV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 265.6757 | 13.41 | 13.45 | 26.86 | 46.00 | -19.14 | QP |
| 304.6099 | 14.93 | 14.05 | 28.98 | 46.00 | -17.02 | QP |
| 344.3855 | 16.06 | 14.30 | 30.36 | 46.00 | -15.64 | QP |
| 383.9318 | 13.99 | 14.94 | 28.93 | 46.00 | -17.07 | QP |
| 768.7481 | 9.56 | 22.36 | 31.92 | 46.00 | -14.08 | QP |

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

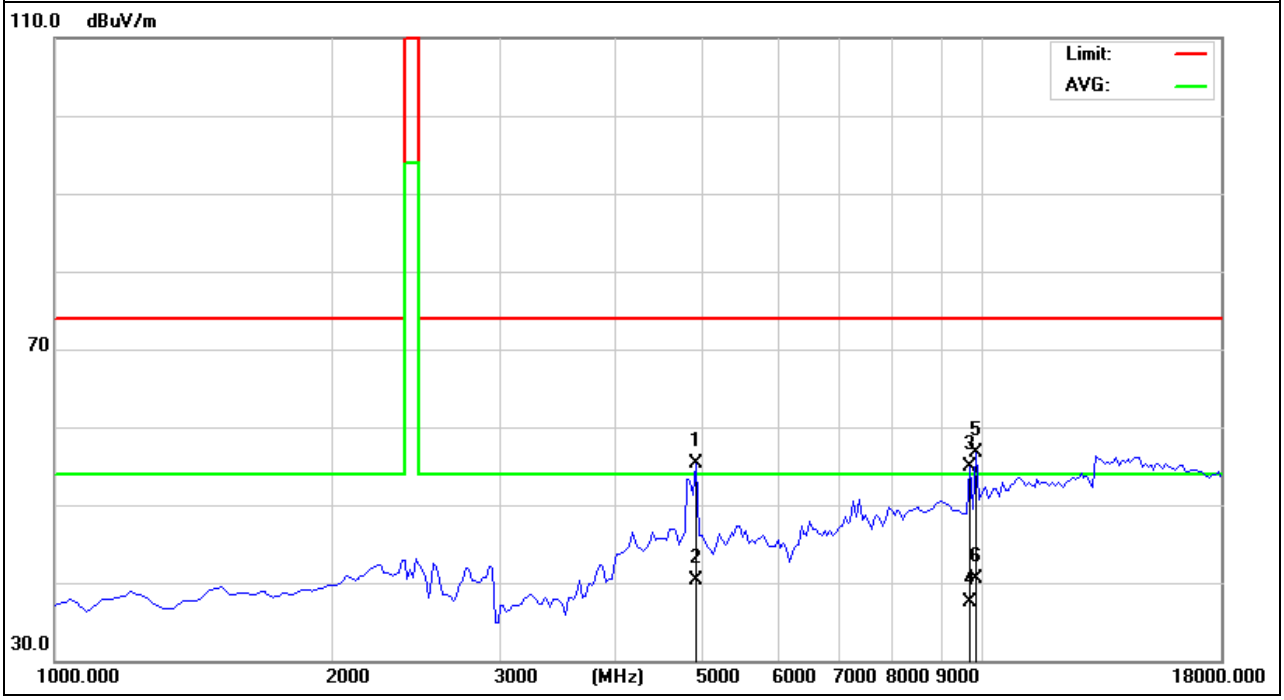


### 3.4.6 TEST RESULTS (ABOVE 1000 MHZ)

| | | | |
|---|---|---|---|
| EUT： | Wireless microphone | Model Name ： | GDX-2000M |
| Temperature： | 25 ℃ | Relative Humidity： | 51% |
| Pressure： | 1010 hPa | Test Voltage ： | DC 3V from battery |
| Test Mode ： | Model 1 | Polarization： | Horizontal |

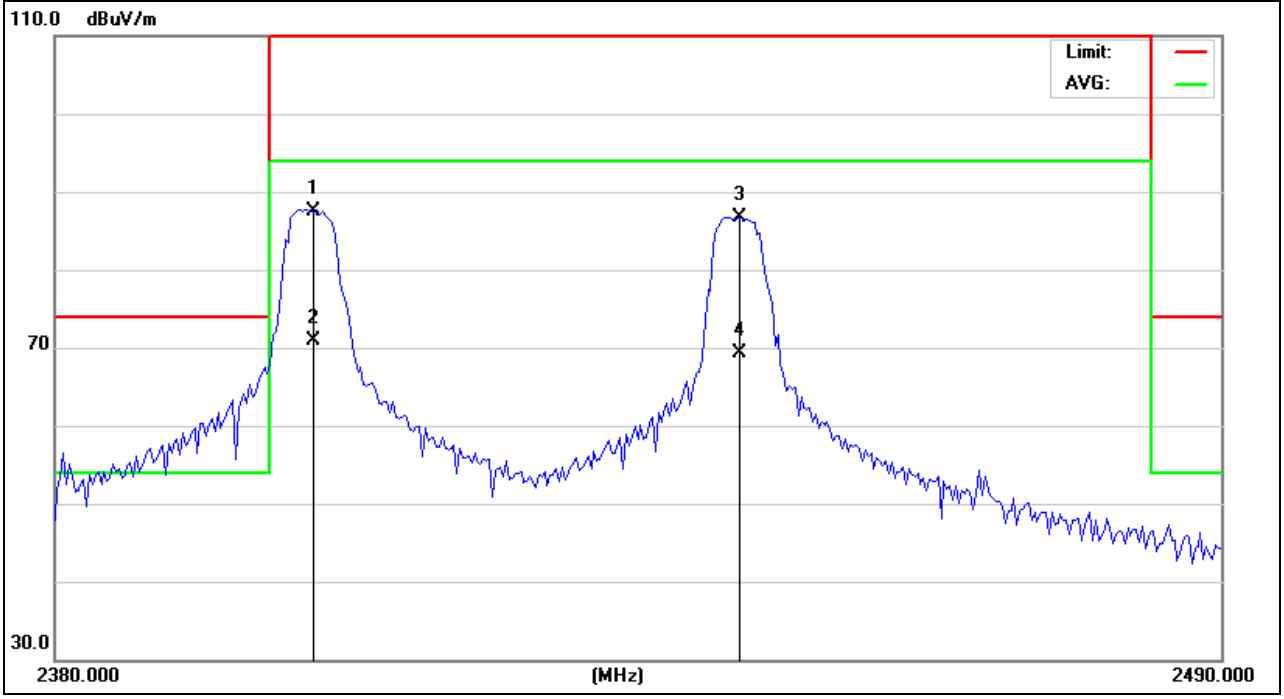
| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 4910.000 | 43.12 | 12.21 | 55.33 | 74.00 | -18.67 | peak |
| 4910.000 | 28.15 | 12.21 | 40.36 | 54.00 | -13.64 | AVG |
| 9670.000 | 3.78 | 51.09 | 54.87 | 74.00 | -19.13 | peak |
| 9670.000 | -13.60 | 51.09 | 37.49 | 54.00 | -16.51 | AVG |
| 9840.000 | 5.04 | 51.70 | 56.74 | 74.00 | -17.26 | peak |
| 9840.000 | -11.13 | 51.70 | 40.57 | 54.00 | -13.43 | AVG |

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.
No emission above 18GHz.



| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 2404.000 | 85.52 | 1.98 | 87.50 | 114.00 | -26.50 | peak |
| 2404.000 | 68.90 | 1.98 | 70.88 | 94.00 | -23.12 | AVG |
| 2444.000 | 85.66 | 1.04 | 86.70 | 114.00 | -27.30 | peak |
| 2444.000 | 68.20 | 1.04 | 69.24 | 94.00 | -24.76 | AVG |

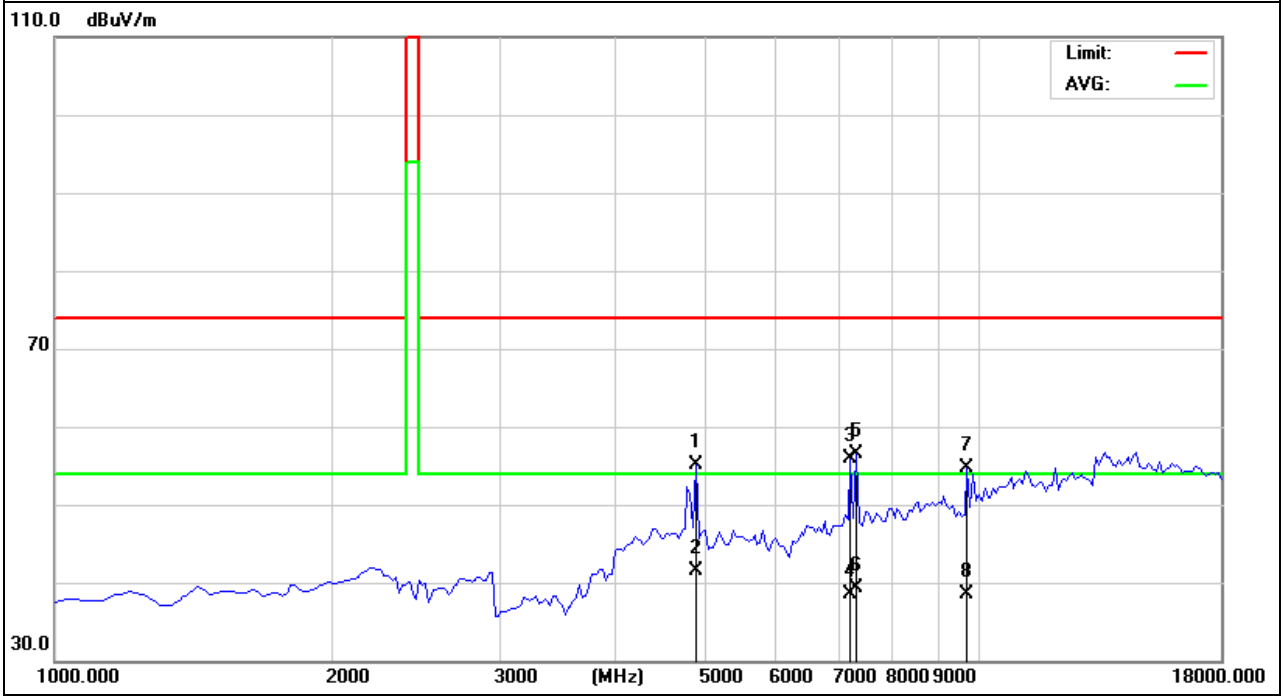
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.
No emission above 18GHz.



| | | | |
|---|---|---|---|
| EUT： | Wireless microphone | Model Name ： | GDX-2000M |
| Temperature： | 25 ℃ | Relative Humidity： | 51% |
| Pressure： | 1010 hPa | Test Voltage ： | DC 3V from battery |
| Test Mode ： | Model 1 | Polarization： | Vertical |

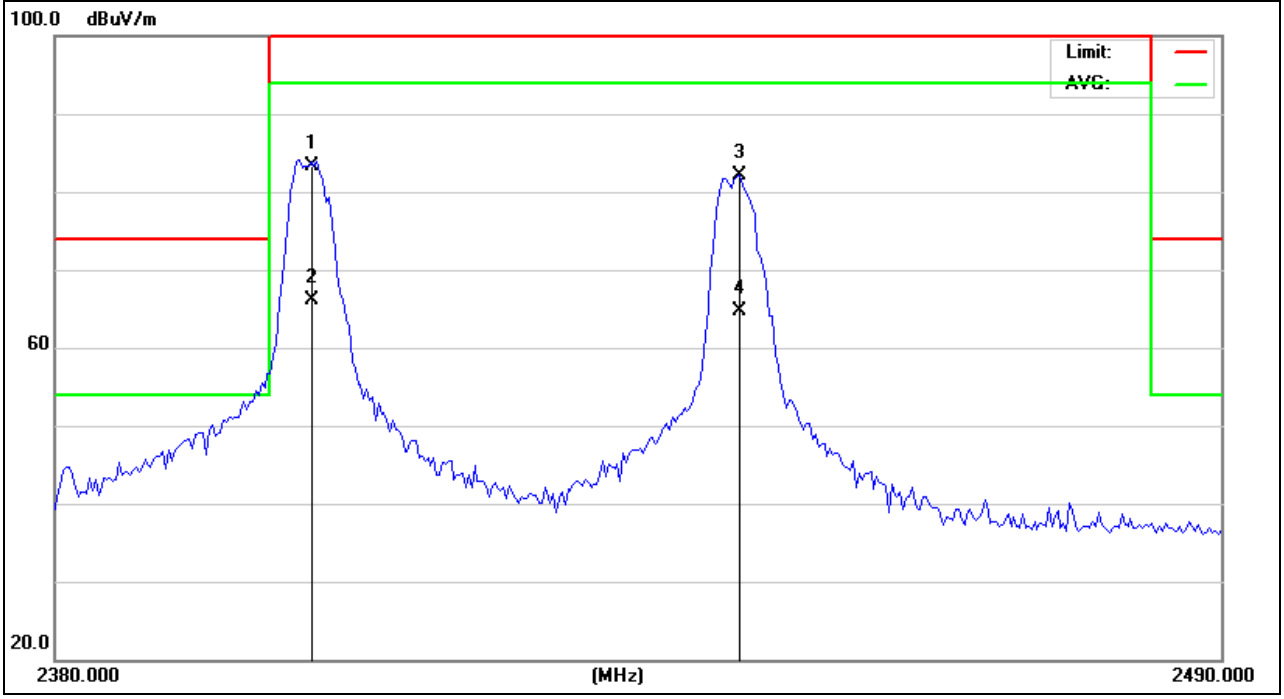
| Frequency (MHz) | Meter Reading (dBμV) | Factor (dB) | Emission Level (dBμV/m) | Limits (dBμV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 4910.000 | 42.83 | 12.21 | 55.04 | 74.00 | -18.96 | peak |
| 4910.000 | 29.30 | 12.21 | 41.51 | 54.00 | -12.49 | AVG |
| 7205.000 | 6.95 | 48.98 | 55.93 | 74.00 | -18.07 | peak |
| 7205.000 | -10.40 | 48.98 | 38.58 | 54.00 | -15.42 | AVG |
| 7332.500 | 7.33 | 49.20 | 56.53 | 74.00 | -17.47 | peak |
| 7332.500 | -9.80 | 49.20 | 39.40 | 54.00 | -14.60 | AVG |
| 9627.500 | 3.86 | 50.92 | 54.78 | 74.00 | -19.22 | peak |
| 9627.500 | -12.40 | 50.92 | 38.52 | 54.00 | -15.48 | AVG |

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.
No emission above 18GHz.



| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 2404.000 | 81.26 | 1.98 | 83.24 | 114.00 | -30.76 | peak |
| 2404.000 | 64.20 | 1.98 | 66.18 | 94.00 | -27.82 | AVG |
| 2444.000 | 80.99 | 1.04 | 82.03 | 114.00 | -31.97 | peak |
| 2444.000 | 63.60 | 1.04 | 64.64 | 94.00 | -29.36 | AVG |

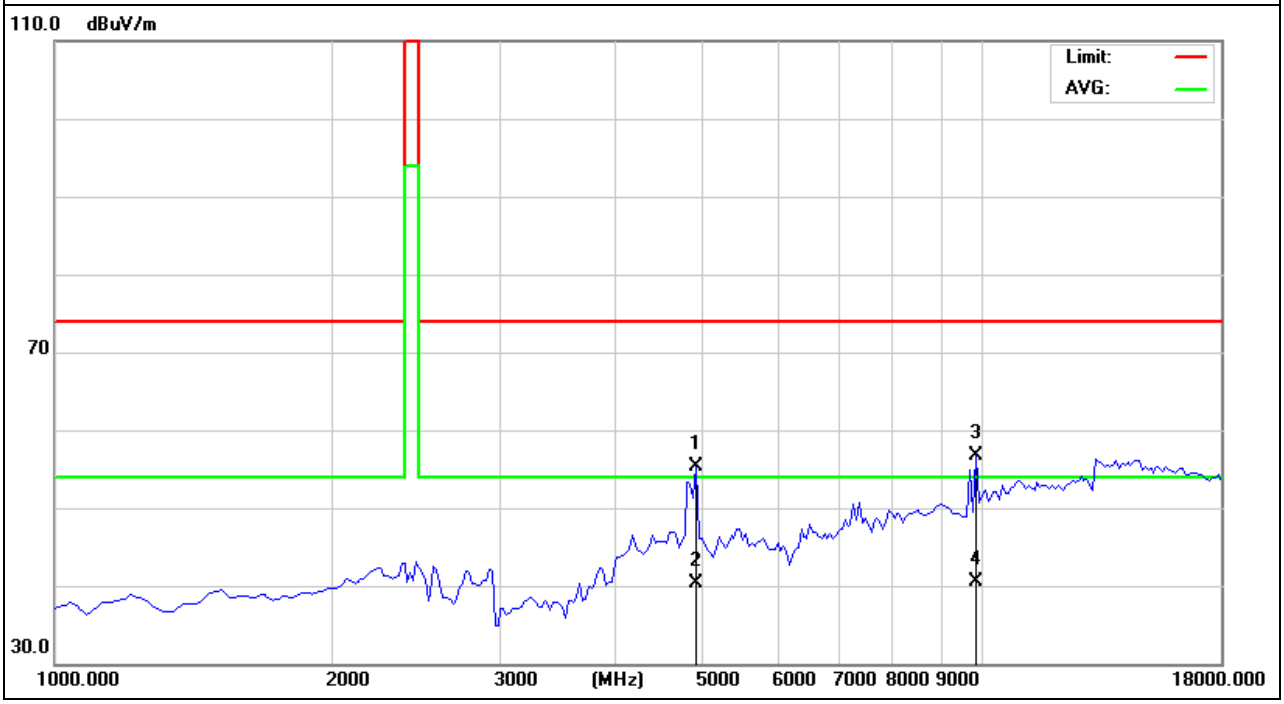
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.
No emission above 18GHz.



| EUT： | Wireless microphone | Model Name ： | GDX-2000M |
|---|---|---|---|
| Temperature： | 25 ℃ | Relative Humidity： | 51% |
| Pressure： | 1010 hPa | Test Voltage ： | DC 3V from battery |
| Test Mode ： | Model 2 | Polarization： | Horizontal |

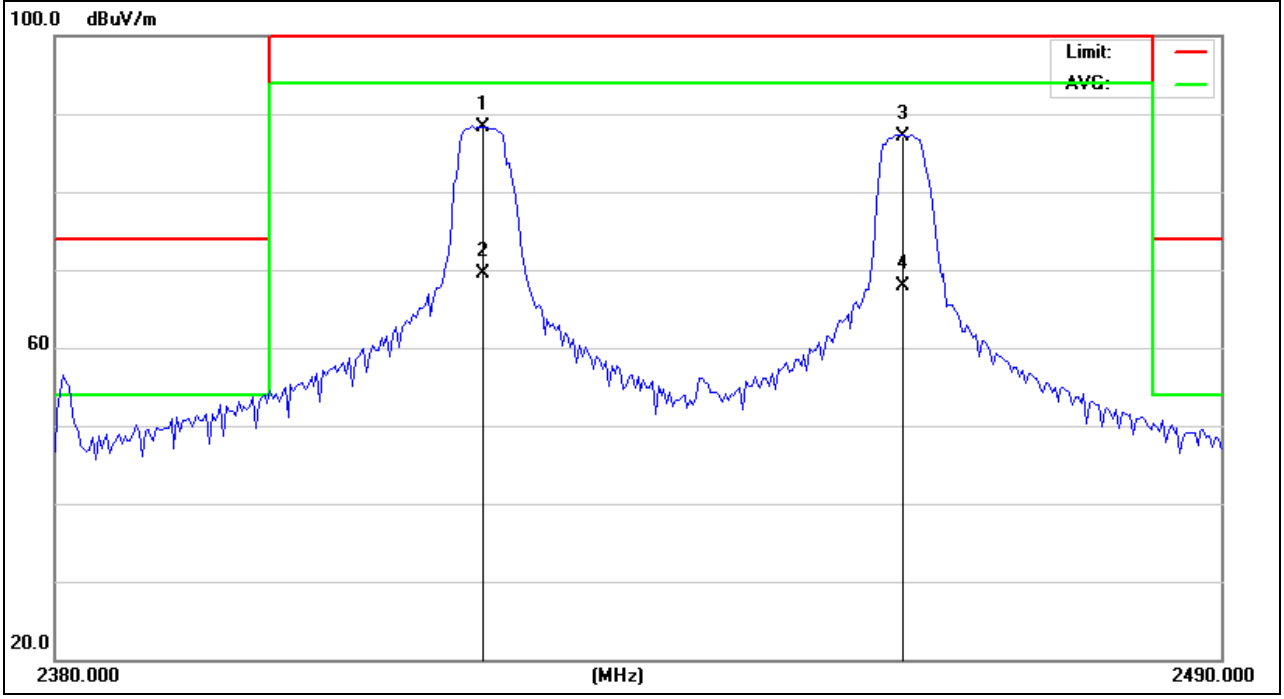
| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 4910.000 | 43.12 | 12.21 | 55.33 | 74.00 | -18.67 | peak |
| 4910.000 | 28.15 | 12.21 | 40.36 | 54.00 | -13.64 | AVG |
| 9840.000 | 5.04 | 51.70 | 56.74 | 74.00 | -17.26 | peak |
| 9840.000 | -11.13 | 51.70 | 40.57 | 54.00 | -13.43 | AVG |

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.
No emission above 18GHz.



| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 2420.000 | 86.68 | 1.60 | 88.28 | 114.00 | -25.72 | peak |
| 2420.000 | 67.80 | 1.60 | 69.40 | 94.00 | -24.60 | AVG |
| 2460.000 | 86.63 | 0.53 | 87.16 | 114.00 | -26.84 | peak |
| 2460.000 | 67.40 | 0.53 | 67.93 | 94.00 | -26.07 | AVG |

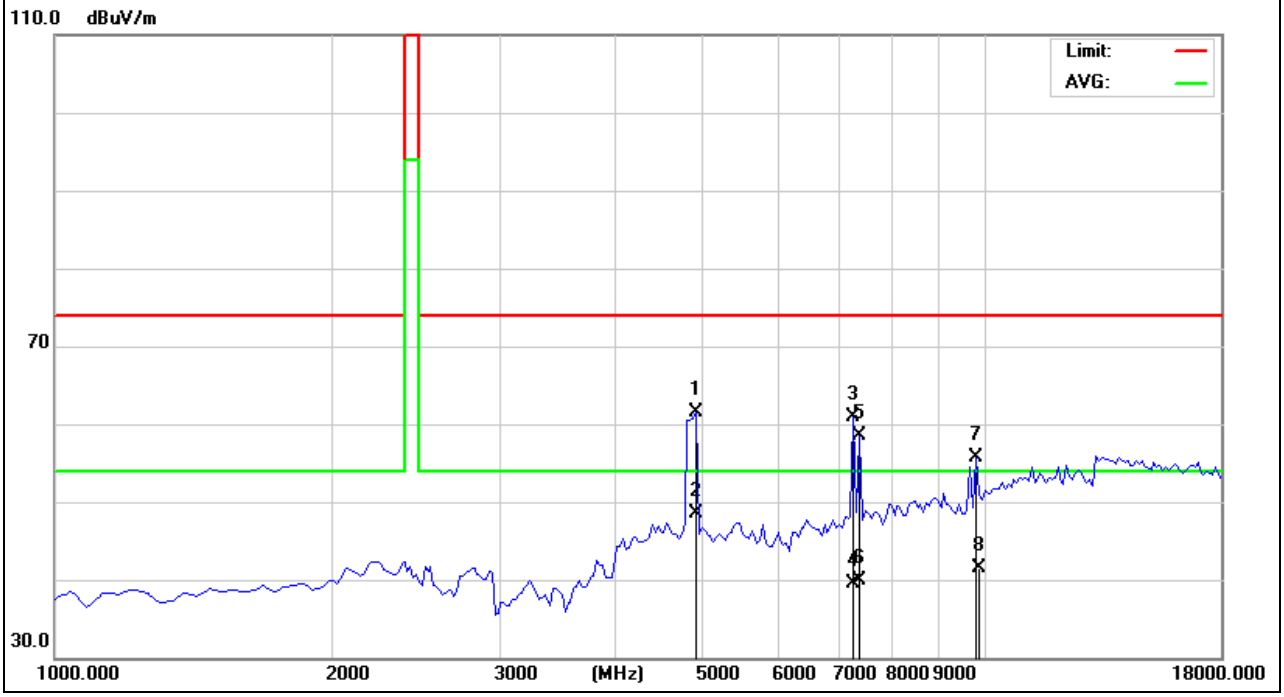
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.
No emission above 18GHz.



| EUT： | Wireless microphone | Model Name ： | GDX-2000M |
|---|---|---|---|
| Temperature： | 25 ℃ | Relative Humidity： | 51% |
| Pressure： | 1010 hPa | Test Voltage ： | DC 3V from battery |
| Test Mode ： | Model 2 | Polarization： | Vertical |

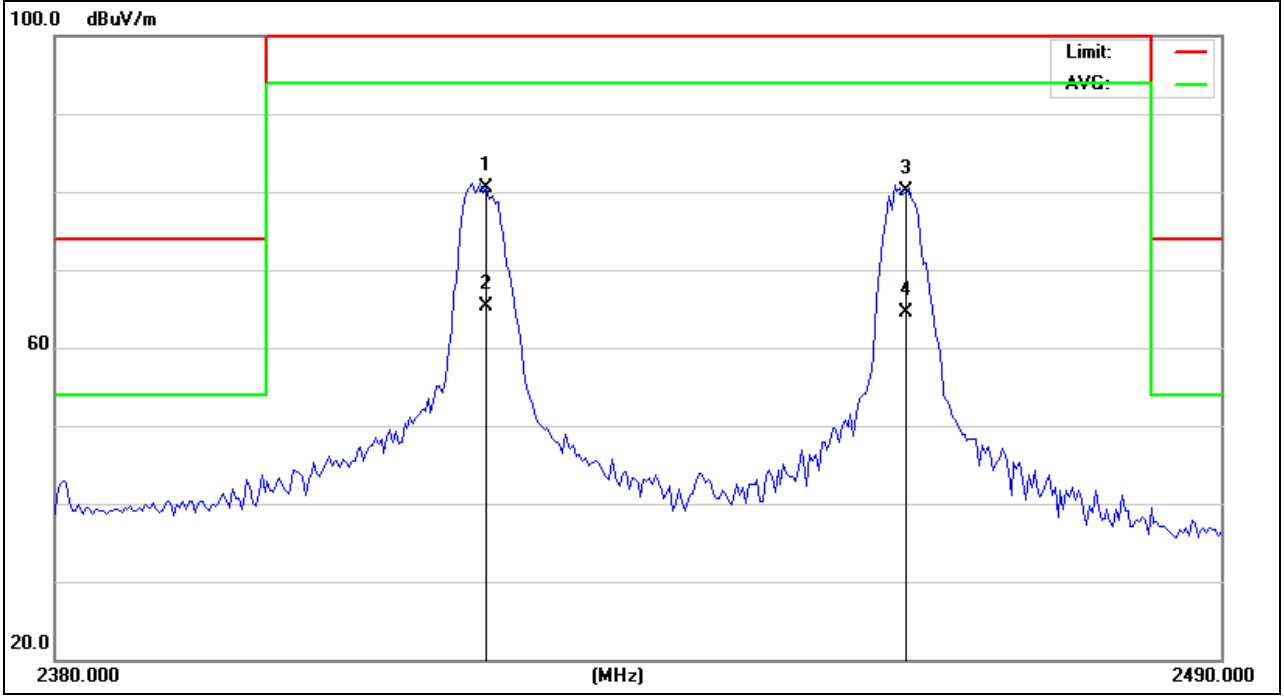
| Frequency (MHz) | Meter Reading (dBμV) | Factor (dB) | Emission Level (dBμV/m) | Limits (dBμV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 4910.000 | 49.29 | 12.21 | 61.50 | 74.00 | -12.50 | peak |
| 4910.000 | 36.36 | 12.21 | 48.57 | 54.00 | -5.43 | AVG |
| 7247.500 | 11.75 | 49.06 | 60.81 | 74.00 | -13.19 | peak |
| 7247.500 | -9.61 | 49.06 | 39.45 | 54.00 | -14.55 | AVG |
| 7375.000 | 9.16 | 49.28 | 58.44 | 74.00 | -15.56 | peak |
| 7375.000 | -9.40 | 49.28 | 39.88 | 54.00 | -14.12 | AVG |
| 9840.000 | 3.98 | 51.70 | 55.68 | 74.00 | -18.32 | peak |
| 9882.500 | -10.29 | 51.84 | 41.55 | 54.00 | -12.45 | AVG |

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.
No emission above 18GHz.



| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 2420.000 | 78.85 | 1.60 | 80.45 | 114.00 | -33.55 | peak |
| 2420.000 | 63.70 | 1.60 | 65.30 | 94.00 | -28.70 | AVG |
| 2460.000 | 79.49 | 0.53 | 80.02 | 114.00 | -33.98 | peak |
| 2460.000 | 63.90 | 0.53 | 64.43 | 94.00 | -29.57 | AVG |

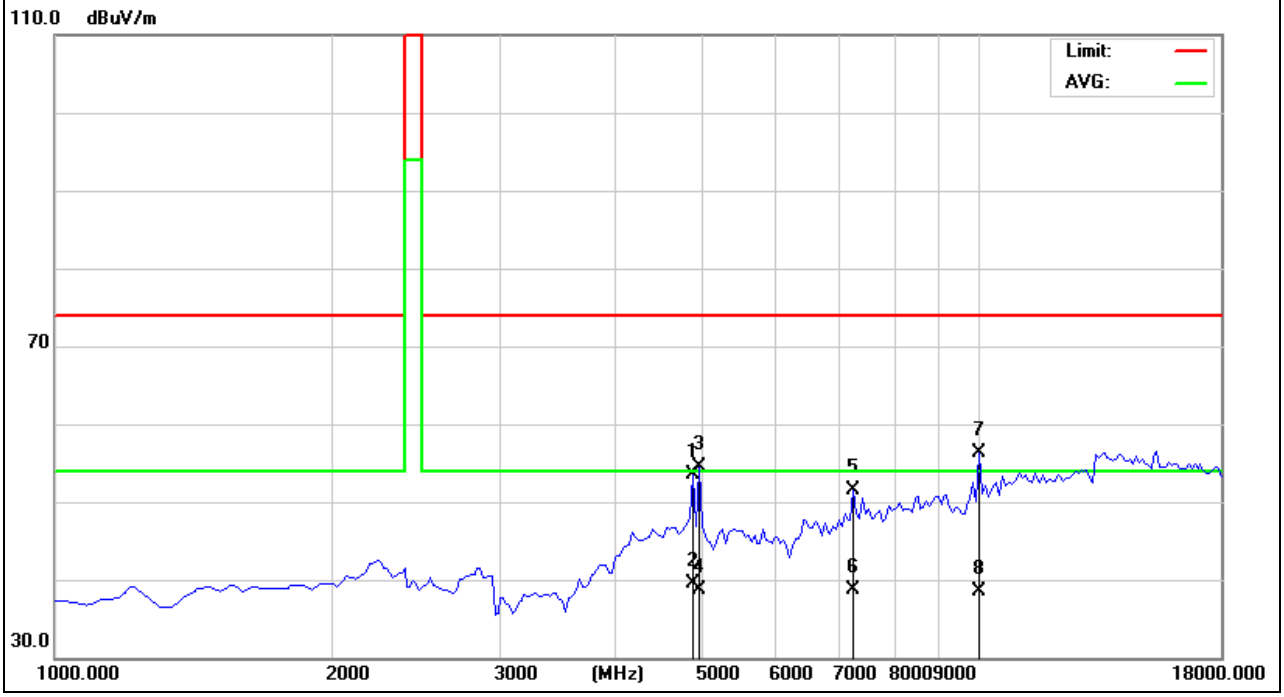
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.
No emission above 18GHz.



| EUT： | Wireless microphone | Model Name ： | GDX-2000M |
|---|---|---|---|
| Temperature： | 20 ℃ | Relative Humidity： | 48% |
| Pressure： | 1010 hPa | Test Voltage ： | DC 3V from battery |
| Test Mode ： | Model 3 | Polarization： | Horizontal |

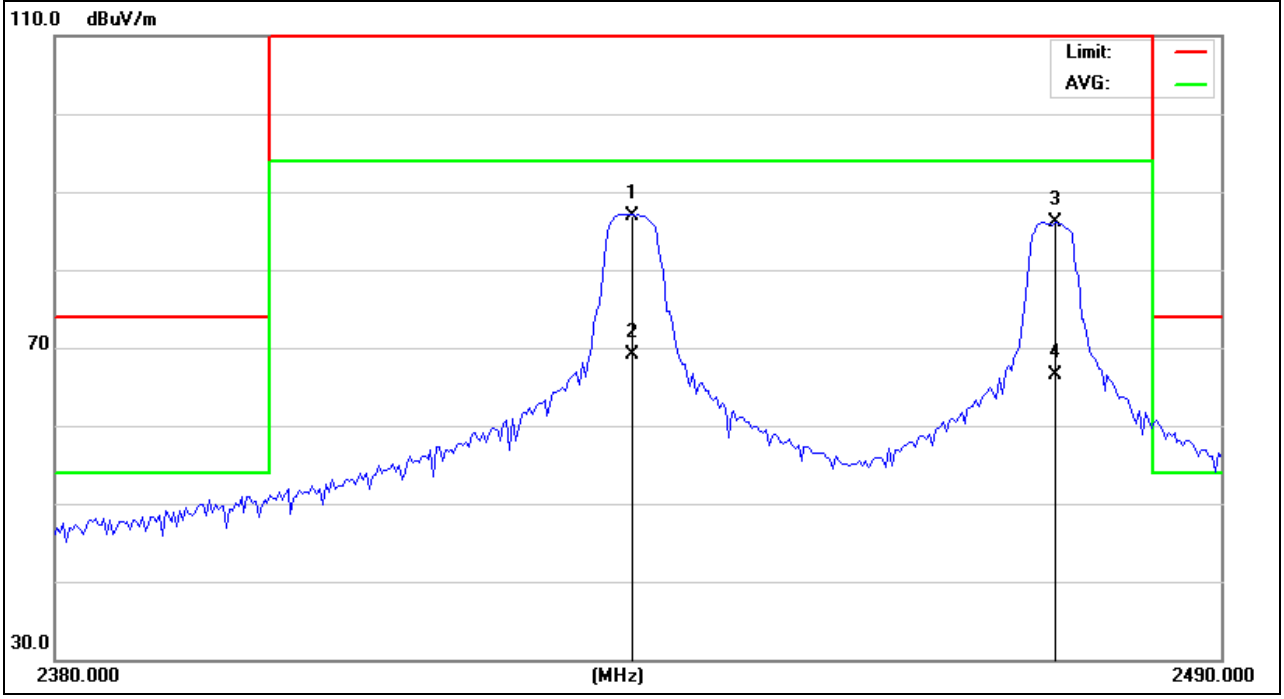
| Frequency (MHz) | Meter Reading (dBμV) | Factor (dB) | Emission Level (dBμV/m) | Limits (dBμV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 4867.500 | 41.28 | 12.13 | 53.41 | 74.00 | -20.59 | peak |
| 4867.500 | 27.40 | 12.13 | 39.53 | 54.00 | -14.47 | AVG |
| 4952.500 | 42.26 | 12.18 | 54.44 | 74.00 | -19.56 | peak |
| 4952.500 | 26.60 | 12.18 | 38.78 | 54.00 | -15.22 | AVG |
| 7290.000 | 2.47 | 49.13 | 51.60 | 74.00 | -22.40 | peak |
| 7290.000 | -10.50 | 49.13 | 38.63 | 54.00 | -15.37 | AVG |
| 9882.500 | 4.53 | 51.84 | 56.37 | 74.00 | -17.63 | peak |
| 9882.500 | -13.25 | 51.84 | 38.59 | 54.00 | -15.41 | AVG |

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.
No emission above 18GHz.



| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 2434.000 | 85.65 | 1.27 | 86.92 | 114.00 | -27.08 | peak |
| 2434.000 | 67.80 | 1.27 | 69.07 | 94.00 | -24.93 | AVG |
| 2474.000 | 86.03 | 0.00 | 86.03 | 114.00 | -27.97 | peak |
| 2474.000 | 66.50 | 0.00 | 66.50 | 94.00 | -27.50 | AVG |

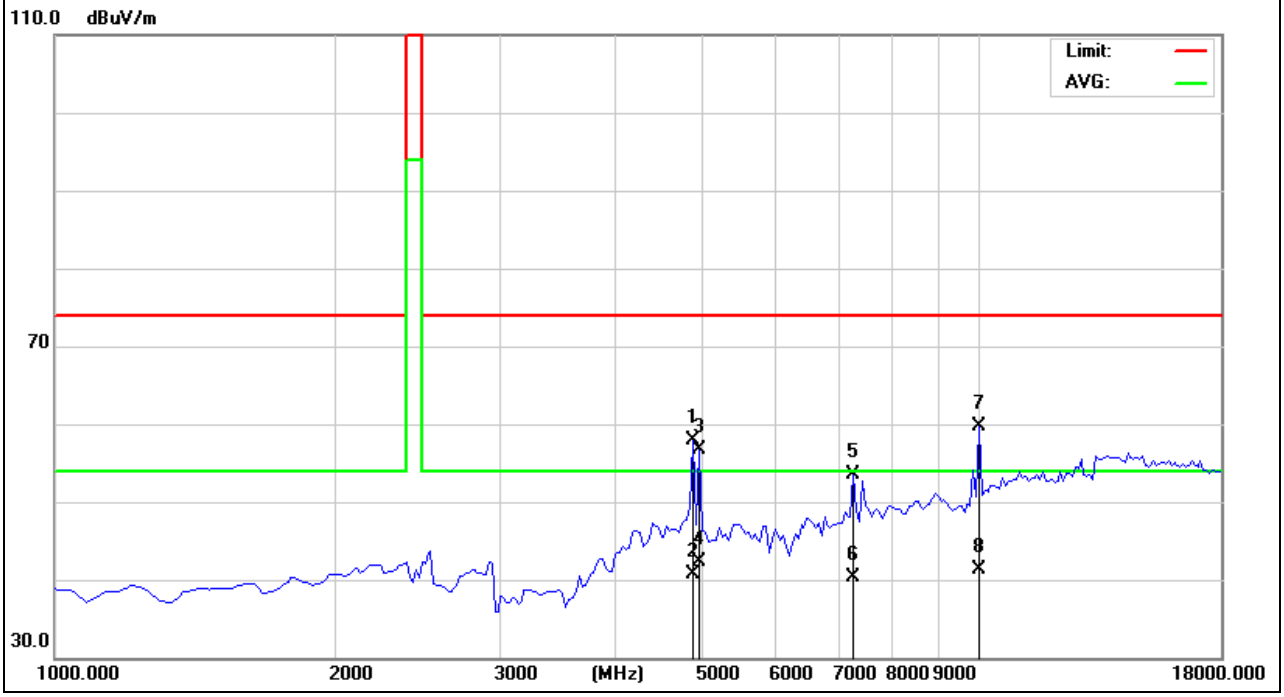
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.
No emission above 18GHz.



| EUT： | Wireless microphone | Model Name ： | GDX-2000M |
|---|---|---|---|
| Temperature： | 25 ℃ | Relative Humidity： | 51% |
| Pressure： | 1010 hPa | Test Voltage ： | DC 3V from battery |
| Test Mode ： | Model 3 | Polarization： | Vertical |

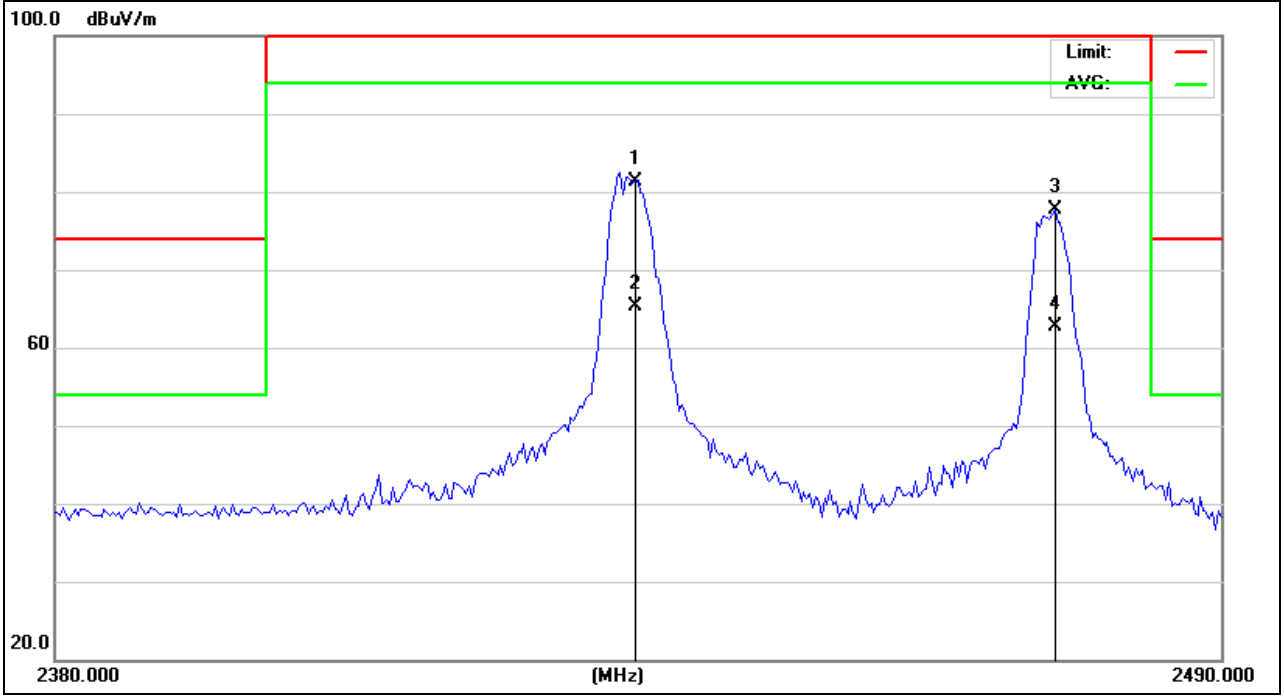
| Frequency (MHz) | Meter Reading (dBμV) | Factor (dB) | Emission Level (dBμV/m) | Limits (dBμV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 4867.500 | 45.73 | 12.13 | 57.86 | 74.00 | -16.14 | peak |
| 4867.500 | 28.55 | 12.13 | 40.68 | 54.00 | -13.32 | AVG |
| 4952.500 | 44.49 | 12.18 | 56.67 | 74.00 | -17.33 | peak |
| 4952.500 | 30.10 | 12.18 | 42.28 | 54.00 | -11.72 | AVG |
| 7290.000 | 4.42 | 49.13 | 53.55 | 74.00 | -20.45 | peak |
| 7290.000 | -8.90 | 49.13 | 40.23 | 54.00 | -13.77 | AVG |
| 9882.500 | 7.77 | 51.84 | 59.61 | 74.00 | -14.39 | peak |
| 9882.500 | -10.52 | 51.84 | 41.32 | 54.00 | -12.68 | AVG |

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.
No emission above 18GHz.



| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 2434.000 | 79.97 | 1.27 | 81.24 | 114.00 | -32.76 | peak |
| 2434.000 | 64.10 | 1.27 | 65.37 | 94.00 | -28.63 | AVG |
| 2474.000 | 77.70 | 0.00 | 77.70 | 114.00 | -36.30 | peak |
| 2474.000 | 62.80 | 0.00 | 62.80 | 94.00 | -31.20 | AVG |

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.
No emission above 18GHz.



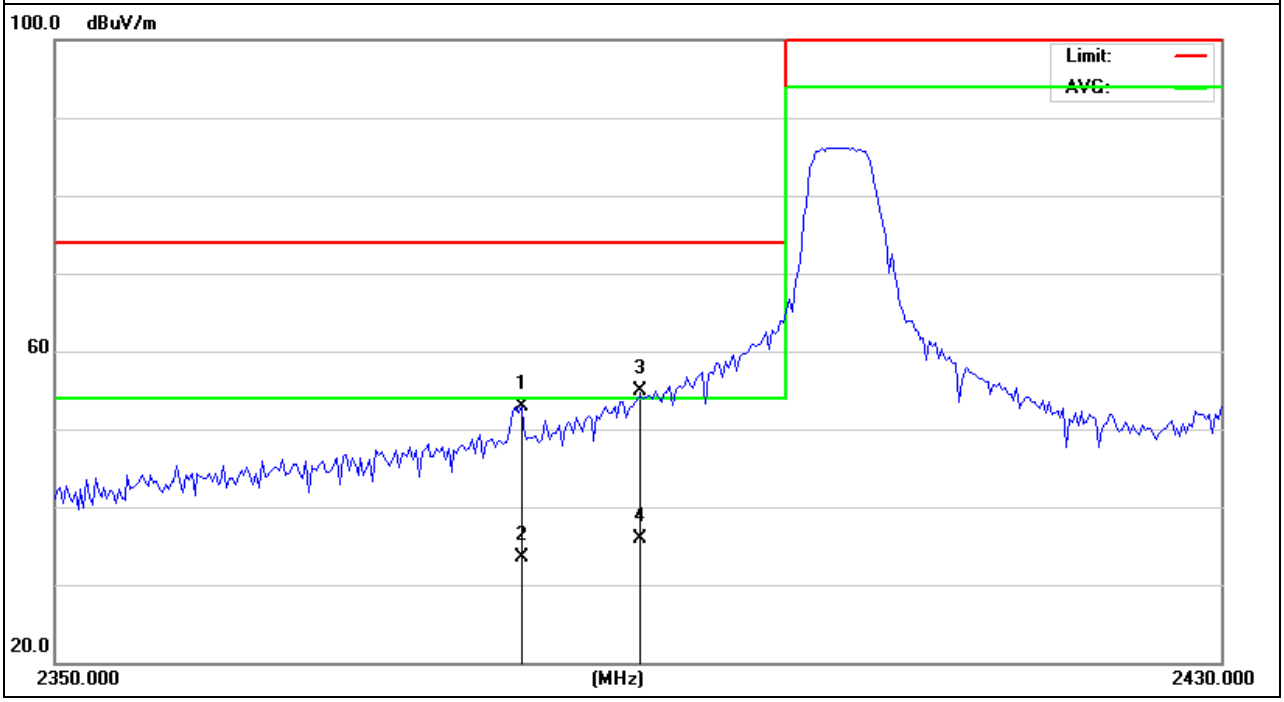

Note: EUT Pre-scan X/Y/Z orientation, only worst case is presented in the report(X orientation).

### 3.4.7 TEST RESULTS (RESTRICTED BANDS REQUIREMENTS)

| | | | |
|---|---|---|---|
| EUT： | Wireless microphone | Model Name ： | GDX-2000M |
| Temperature： | 25 ℃ | Relative Humidity： | 51% |
| Pressure： | 1010 hPa | Test Voltage ： | DC 3V from battery |
| Test Mode ： | Mode 1 | Polarization： | Horizontal |

| Frequency (MHz) | Meter Reading (dBμV) | Factor (dB) | Emission Level (dBμV/m) | Limits (dBμV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 2381.800 | 51.05 | 1.89 | 52.94 | 74.00 | -21.06 | peak |
| 2381.800 | 31.70 | 1.89 | 33.59 | 54.00 | -20.41 | AVG |
| 2390.000 | 53.00 | 1.97 | 54.97 | 74.00 | -19.03 | peak |
| 2390.000 | 33.90 | 1.97 | 35.87 | 54.00 | -18.13 | AVG |

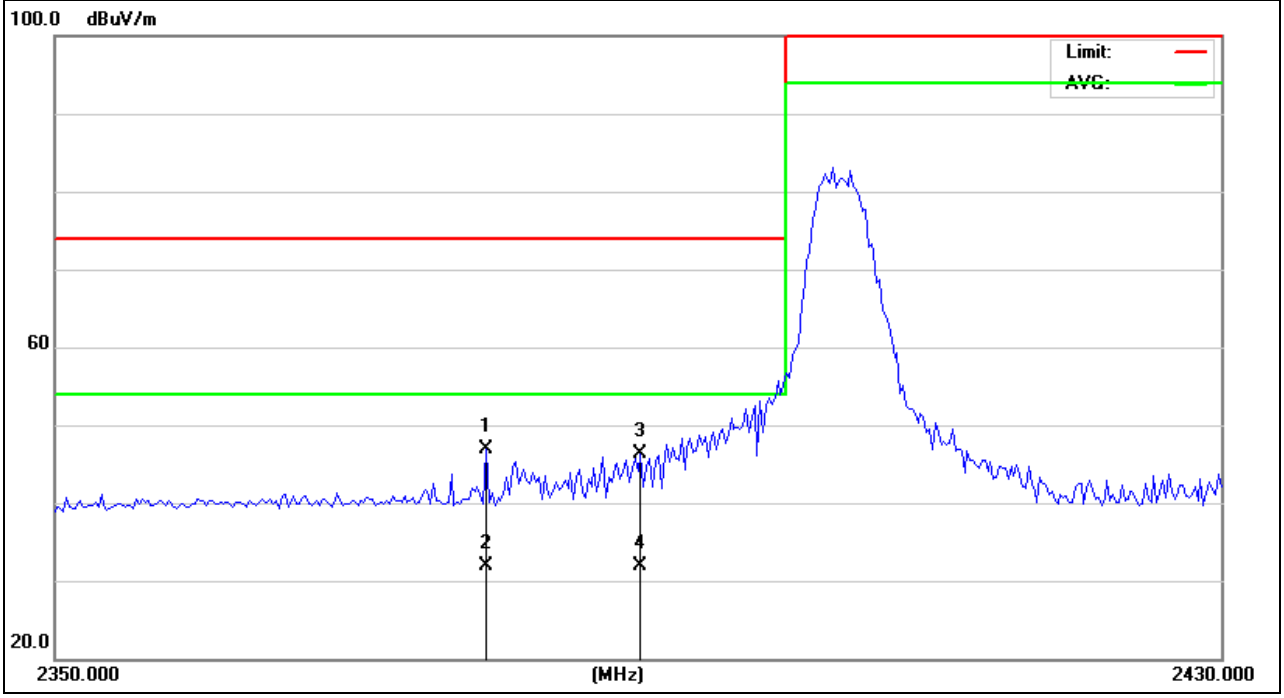
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



| | | | |
|---|---|---|---|
| EUT： | Wireless microphone | Model Name ： | GDX-2000M |
| Temperature： | 25 ℃ | Relative Humidity： | 51% |
| Pressure： | 1010 hPa | Test Voltage ： | DC 3V from battery |
| Test Mode ： | Mode 1 | Polarization： | Vertical |

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 2379.400 | 45.13 | 1.86 | 46.99 | 74.00 | -27.01 | peak |
| 2379.400 | 30.10 | 1.86 | 31.96 | 54.00 | -22.04 | AVG |
| 2390.000 | 44.24 | 1.97 | 46.21 | 74.00 | -27.79 | peak |
| 2390.000 | 29.90 | 1.97 | 31.87 | 54.00 | -22.13 | AVG |

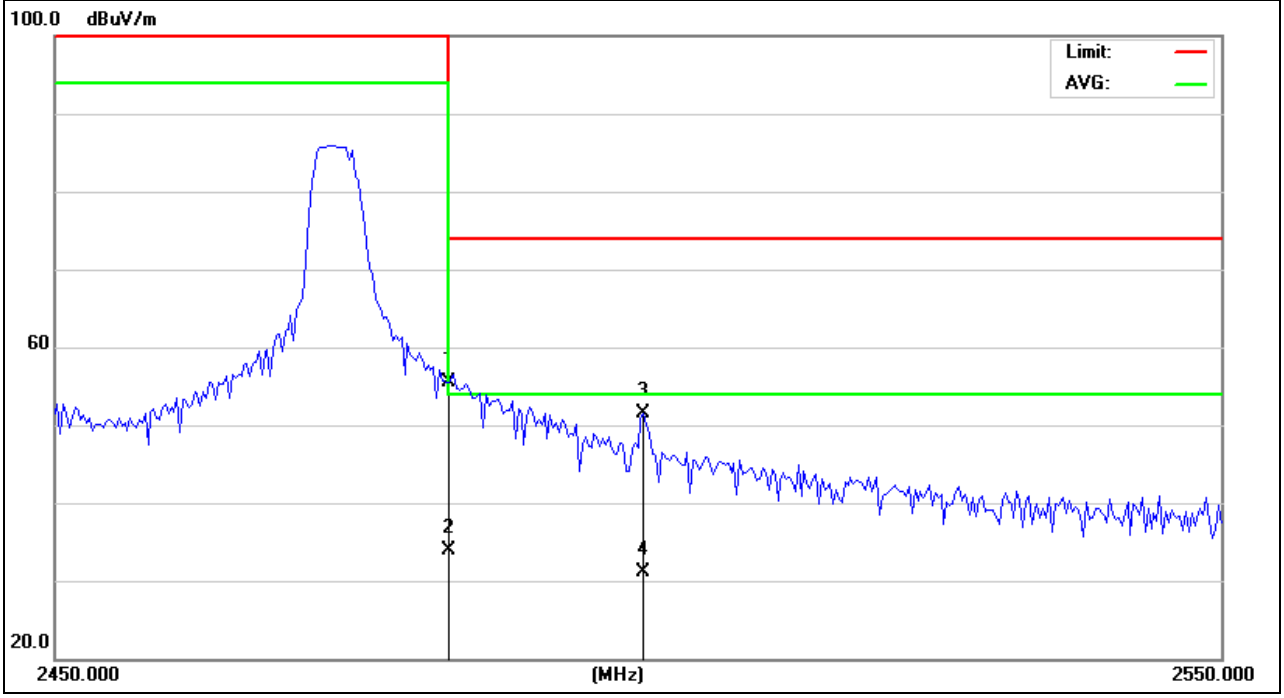
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



| | | | |
|---|---|---|---|
| EUT： | Wireless microphone | Model Name ： | GDX-2000M |
| Temperature： | 25 ℃ | Relative Humidity： | 51% |
| Pressure： | 1010 hPa | Test Voltage ： | DC 3V from battery |
| Test Mode ： | Mode 3 | Polarization： | Horizontal |

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 2483.500 | 55.77 | -0.34 | 55.43 | 74.00 | -18.57 | peak |
| 2483.500 | 34.32 | -0.34 | 33.98 | 54.00 | -20.02 | AVG |
| 2500.000 | 52.47 | -0.95 | 51.52 | 74.00 | -22.48 | peak |
| 2500.000 | 32.10 | -0.95 | 31.15 | 54.00 | -22.85 | AVG |

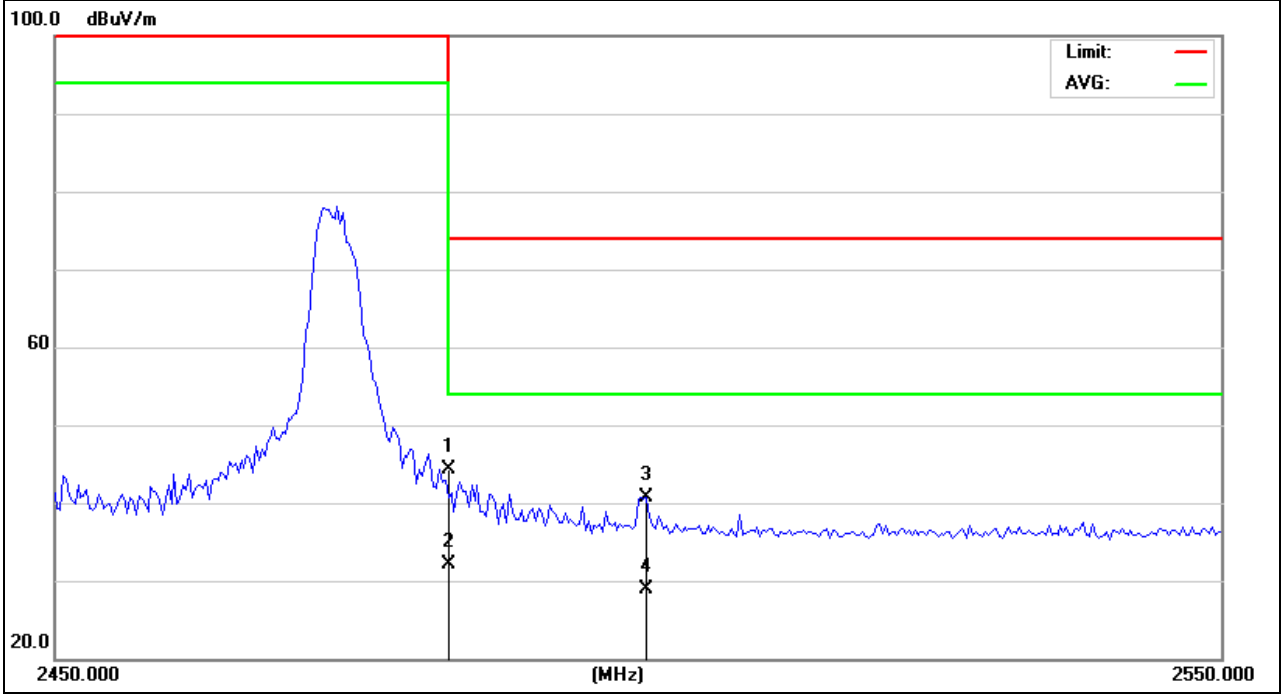
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



| | | | |
|---|---|---|---|
| EUT： | Wireless microphone | Model Name ： | GDX-2000M |
| Temperature： | 25 ℃ | Relative Humidity： | 51% |
| Pressure： | 1010 hPa | Test Voltage ： | DC 3V from battery |
| Test Mode ： | Mode 3 | Polarization： | Vertical |

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 2483.500 | 44.57 | -0.34 | 44.23 | 74.00 | -29.77 | peak |
| 2483.500 | 32.50 | -0.34 | 32.16 | 54.00 | -21.84 | AVG |
| 2500.250 | 41.73 | -0.96 | 40.77 | 74.00 | -33.23 | peak |
| 2500.250 | 29.80 | -0.96 | 28.84 | 54.00 | -25.16 | AVG |

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



# 4. FREQUENCY TOLERANCE

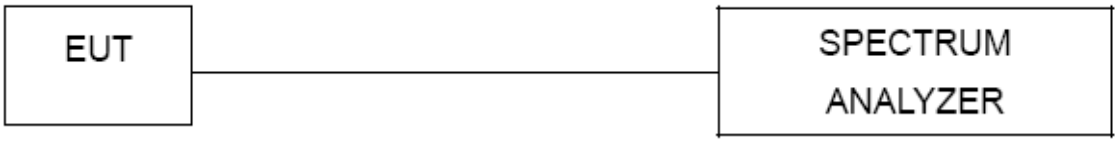
## 4.1 FREQUENCY TOLERANCE LIMITS

The frequency tolerance of the carrier signal shall be maintained within ±0.001% of the operating frequency over a temperature variation of −20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.

## 4.2TEST PROCEDURE

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

## 4.3 TEST SETUP




## 4.4 TEST RESULTS

| | | | |
|---|---|---|---|
| EUT： | Wireless microphone | Model Name ： | GDX-2000M |
| Temperature： | 26 ℃ | Relative Humidity： | 53% |
| Pressure： | 1020 hPa | Test Power ： | DC 3V from battery |
| Test Mode ： | Model 1/2/3 | | |

2404MHz

| Voltage (V) | Frequency(MHz) | Reading(MHz) | Frequency Tolerance(ppm) | LIMIT(ppm) |
|---|---|---|---|---|
| 2.55 | 2404 | 2404.0087 | 3.6190 | ±10 |
| 3 | 2404 | 2404.0102 | 4.2429 | ±10 |
| 3.45 | 2404 | 2404.0098 | 4.0765 | ±10 |

| Temperature (℃) | Frequency(MHz) | Reading(MHz) | Frequency Tolerance(ppm) | LIMIT(ppm) |
|---|---|---|---|---|
| -20 | 2404 | 2404.0116 | 4.8253 | ±10 |
| -10 | 2404 | 2404.0105 | 4.3677 | ±10 |
| 0 | 2404 | 2404.0086 | 3.5774 | ±10 |
| 10 | 2404 | 2404.0097 | 4.0349 | ±10 |
| 20 | 2404 | 2404.0011 | 0.4409 | ±10 |
| 30 | 2404 | 2404.0152 | 6.3228 | ±10 |
| 40 | 2404 | 2404.0123 | 5.1165 | ±10 |
| 50 | 2404 | 2404.0147 | 6.1148 | ±10 |

2444MHz

| Voltage (V) | Frequency(MHz) | Reading(MHz) | Frequency Tolerance(ppm) | LIMIT(ppm) |
|---|---|---|---|---|
| 2.55 | 2444 | 2444.0112 | 4.5827 | ±10 |
| 3 | 2444 | 2444.0129 | 5.2782 | ±10 |
| 3.45 | 2444 | 2444.0095 | 3.8871 | ±10 |

| Temperature (℃) | Frequency(MHz) | Reading(MHz) | Frequency Tolerance(ppm) | LIMIT(ppm) |
|---|---|---|---|---|
| -20 | 2444 | 2444.0089 | 3.6416 | ±10 |
| -10 | 2444 | 2444.0093 | 3.8052 | ±10 |
| 0 | 2444 | 2444.0097 | 3.9689 | ±10 |
| 10 | 2444 | 2444.0104 | 4.2553 | ±10 |
| 20 | 2444 | 2444.0154 | 6.3011 | ±10 |
| 30 | 2444 | 2444.0117 | 4.7872 | ±10 |
| 40 | 2444 | 2444.0108 | 4.4190 | ±10 |
| 50 | 2444 | 2444.0132 | 5.4010 | ±10 |

2420MHz

| Voltage (V) | Frequency(MHz) | Reading(MHz) | Frequency Tolerance(ppm) | LIMIT(ppm) |
|---|---|---|---|---|
| 2.55 | 2420 | 2420.0165 | 6.8182 | ±10 |
| 3 | 2420 | 2420.0112 | 4.6281 | ±10 |
| 3.45 | 2420 | 2420.0098 | 4.0496 | ±10 |

| Temperature (℃) | Frequency(MHz) | Reading(MHz) | Frequency Tolerance(ppm) | LIMIT(ppm) |
|---|---|---|---|---|
| -20 | 2420 | 2420.0132 | 5.4545 | ±10 |
| -10 | 2420 | 2420.0111 | 4.5868 | ±10 |
| 0 | 2420 | 2420.0157 | 6.4876 | ±10 |
| 10 | 2420 | 2420.0136 | 5.6198 | ±10 |
| 20 | 2420 | 2420.0228 | 9.4215 | ±10 |
| 30 | 2420 | 2420.0197 | 8.1405 | ±10 |
| 40 | 2420 | 2420.0164 | 6.7769 | ±10 |
| 50 | 2420 | 2420.0137 | 5.6612 | ±10 |

2460MHz

| Voltage (V) | Frequency(MHz) | Reading(MHz) | Frequency Tolerance(ppm) | LIMIT(ppm) |
|---|---|---|---|---|
| 2.55 | 2460 | 2460.0069 | 2.8049 | ±10 |
| 3 | 2460 | 2460.0074 | 3.0081 | ±10 |
| 3.45 | 2460 | 2460.0085 | 3.4553 | ±10 |

| Temperature (℃) | Frequency(MHz) | Reading(MHz) | Frequency Tolerance(ppm) | LIMIT(ppm) |
|---|---|---|---|---|
| -20 | 2460 | 2460.0092 | 3.7398 | ±10 |
| -10 | 2460 | 2460.0090 | 3.6585 | ±10 |
| 0 | 2460 | 2460.0136 | 5.5285 | ±10 |
| 10 | 2460 | 2460.0103 | 4.1870 | ±10 |
| 20 | 2460 | 2460.0082 | 3.3333 | ±10 |
| 30 | 2460 | 2460.0079 | 3.2114 | ±10 |
| 40 | 2460 | 2460.0105 | 4.2683 | ±10 |
| 50 | 2460 | 2460.0135 | 5.4878 | ±10 |

2434MHz

| Voltage (V) | Frequency(MHz) | Reading(MHz) | Frequency Tolerance(ppm) | LIMIT(ppm) |
|---|---|---|---|---|
| 2.55 | 2434 | 2434.0096 | 3.9441 | ±10 |
| 3 | 2434 | 2434.0067 | 2.7527 | ±10 |
| 3.45 | 2434 | 2434.0078 | 3.2046 | ±10 |

| Temperature (℃) | Frequency(MHz) | Reading(MHz) | Frequency Tolerance(ppm) | LIMIT(ppm) |
|---|---|---|---|---|
| -20 | 2434 | 2434.0098 | 4.0263 | ±10 |
| -10 | 2434 | 2434.0085 | 3.4922 | ±10 |
| 0 | 2434 | 2434.0115 | 4.7247 | ±10 |
| 10 | 2434 | 2434.0104 | 4.2728 | ±10 |
| 20 | 2434 | 2434.0079 | 3.2457 | ±10 |
| 30 | 2434 | 2434.0103 | 4.2317 | ±10 |
| 40 | 2434 | 2434.0116 | 4.7658 | ±10 |
| 50 | 2434 | 2434.0107 | 4.3961 | ±10 |

2474MHz

| Voltage (V) | Frequency(MHz) | Reading(MHz) | Frequency Tolerance(ppm) | LIMIT(ppm) |
|---|---|---|---|---|
| 2.55 | 2474 | 2474.0085 | 3.4357 | ±10 |
| 3 | 2474 | 2474.0121 | 4.8909 | ±10 |
| 3.45 | 2474 | 2474.0198 | 8.0032 | ±10 |

| Temperature (℃) | Frequency(MHz) | Reading(MHz) | Frequency Tolerance(ppm) | LIMIT(ppm) |
|---|---|---|---|---|
| -20 | 2474 | 2474.0158 | 6.3864 | ±10 |
| -10 | 2474 | 2474.0142 | 5.7397 | ±10 |
| 0 | 2474 | 2474.0104 | 4.2037 | ±10 |
| 10 | 2474 | 2474.0145 | 5.8610 | ±10 |
| 20 | 2474 | 2474.0163 | 6.5885 | ±10 |
| 30 | 2474 | 2474.0142 | 5.7397 | ±10 |
| 40 | 2474 | 2474.0128 | 5.1738 | ±10 |
| 50 | 2474 | 2474.0109 | 4.4058 | ±10 |

# 5. BANDWIDTH TEST

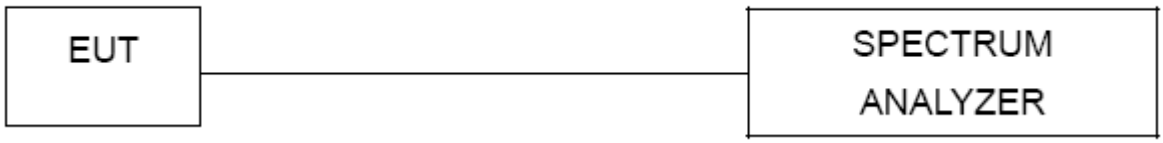
## 5.1 TEST PROCEDURE

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

## 5.1 DEVIATION FROM STANDARD

No deviation.

## 5.1 TEST SETUP

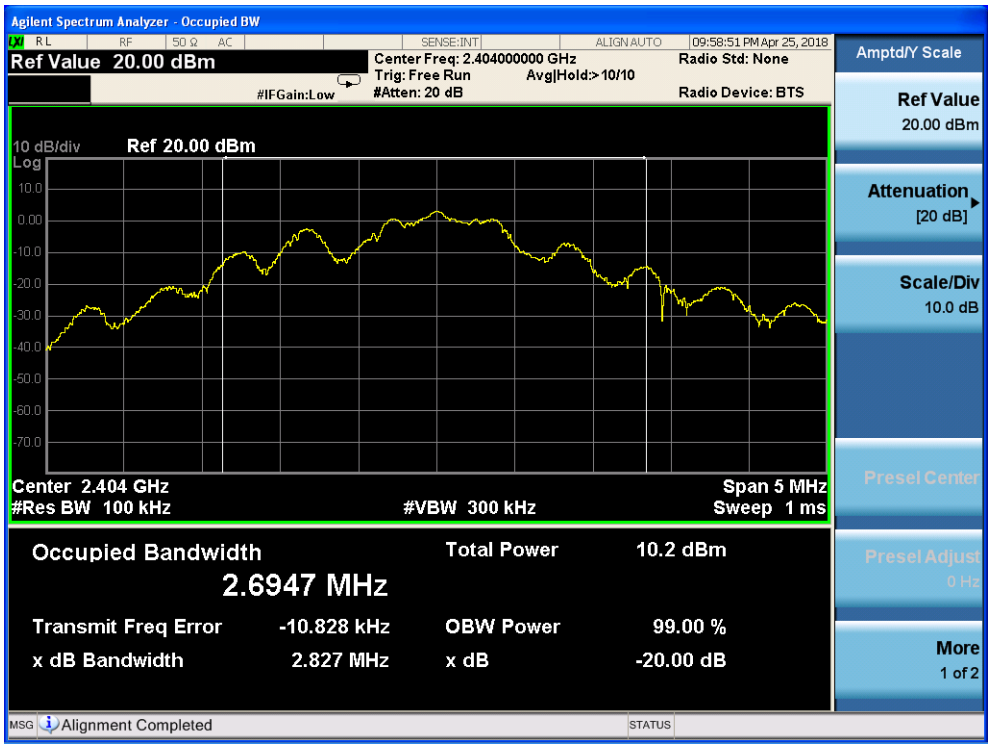


## 6. TEST RESULTS

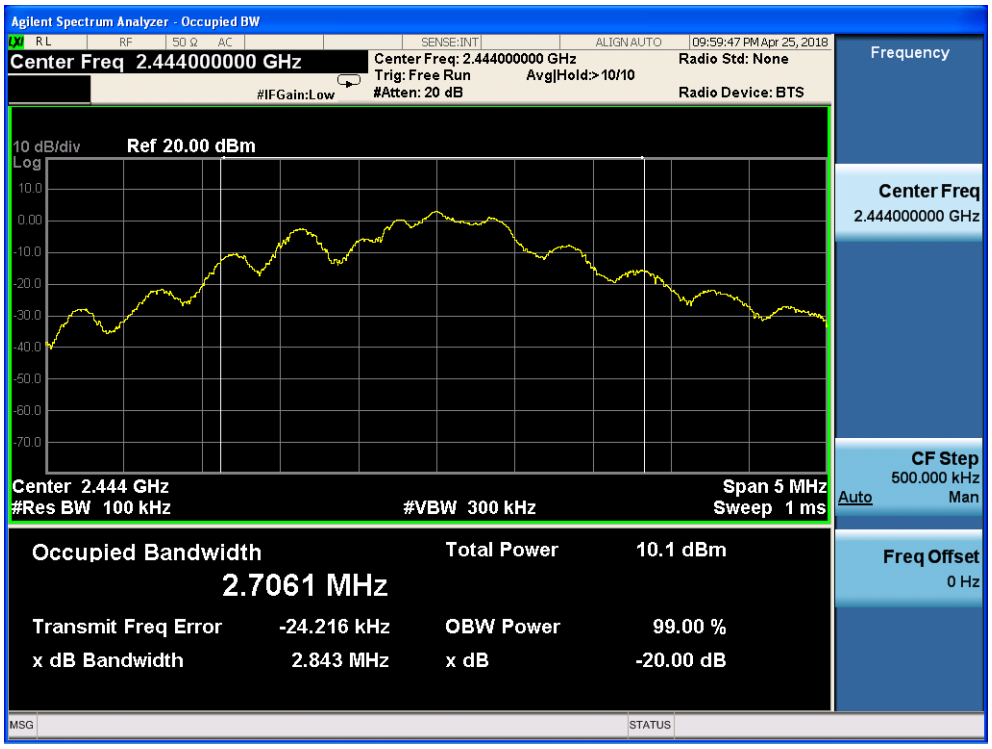
| EUT： | Wireless microphone | Model Name ： | GDX-2000M |
|---|---|---|---|
| Temperature： | 26 ℃ | Relative Humidity： | 53% |
| Pressure： | 1020 hPa | Test Power ： | DC 3V from battery |
| Test Mode ： | Model 1/2/3 | | |

| Test Channel | Frequency (MHz) | 20 dBc Bandwidth (MHz) |
|---|---|---|
| CH16 | 2404 | 2.827 |
| | 2444 | 2.843 |
| CH08 | 2420 | 2.956 |
| | 2460 | 2.725 |
| CH15 | 2434 | 2.855 |
| | 2474 | 2.596 |

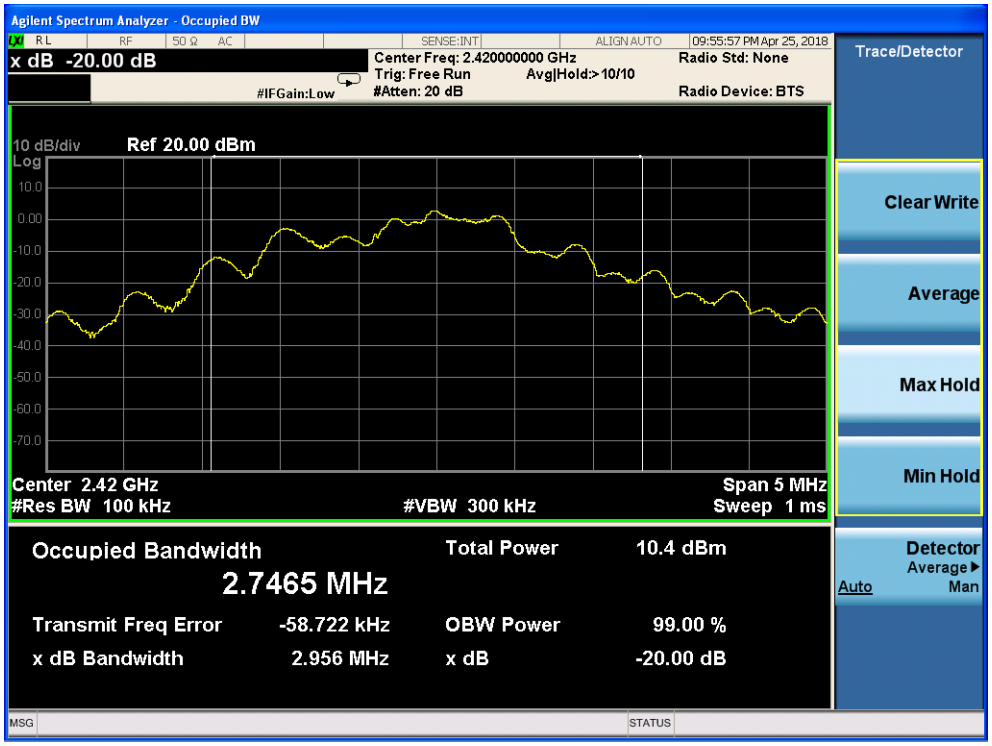
2404 MHz



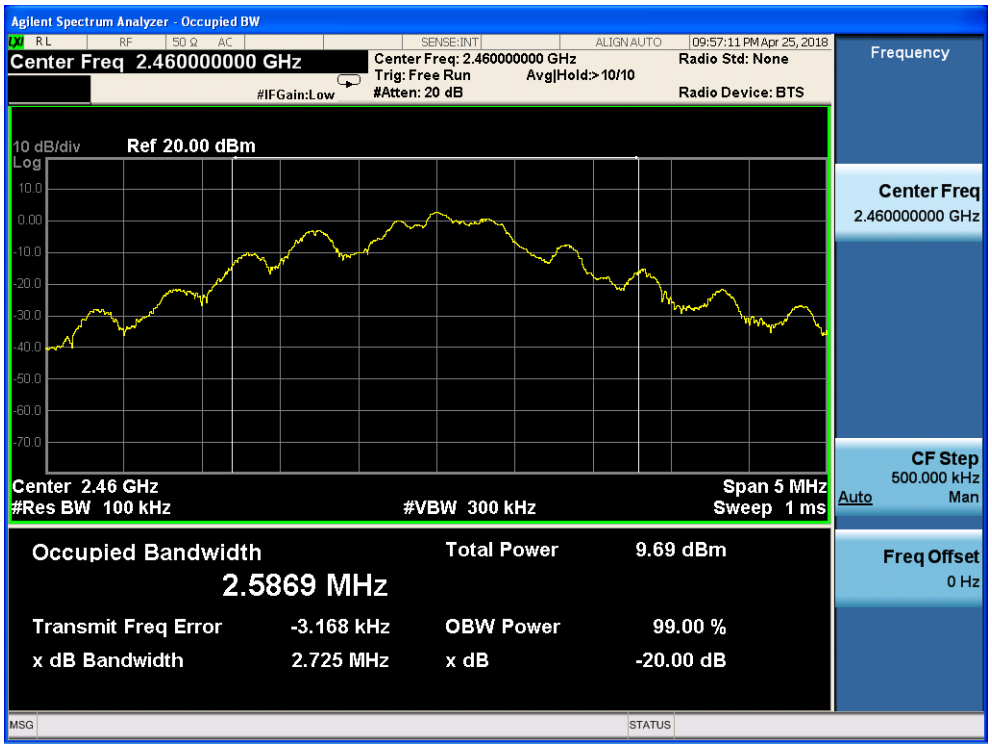
2444 MHz



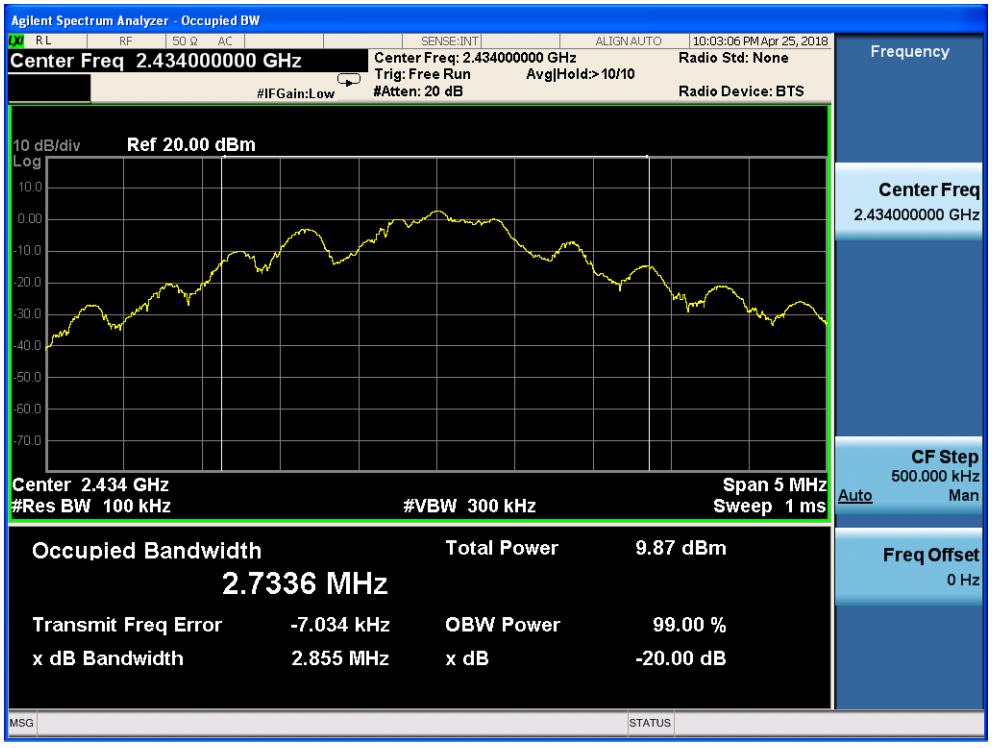

2420 MHz



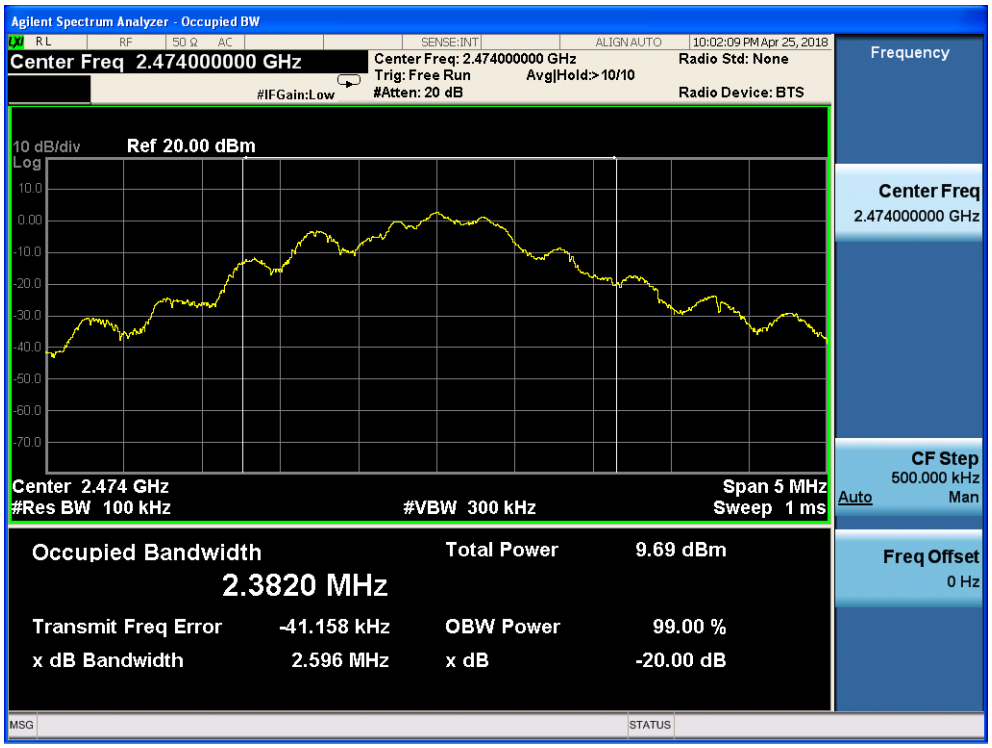
2460 MHz




2434 MHz



2474 MHz


Agilent Spectrum Analyzer - Occupied BW
RL
RF
50 Ω AC
SENSE:INT
ALIGN AUTO
10:02:09 PM Apr 25, 2018
Center Freq 2.474000000 GHz
Center Freq: 2.474000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#IFGain:Low
#Atten: 20 dB
Radio Std: None
Radio Device: BTS
Frequency
10 dB/div
Log
Ref 20.00 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
Center Freq
2.474000000 GHz
Center 2.474 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 5 MHz
Sweep 1 ms
CF Step
500.000 kHz
Auto
Man
Occupied Bandwidth
2.3820 MHz
Total Power
9.69 dBm
Freq Offset
0 Hz
Transmit Freq Error
-41.158 kHz
OBW Power
99.00 %
x dB Bandwidth
2.596 MHz
x dB
-20.00 dB
MSG
STATUS