

FCC PART 15C TEST REPORT FOR CERTIFICATION  
On Behalf of

INMUSIC BRANDS INC

Amplifier with bluetooth audio receiver

Model Number: DN-200AZB

FCC ID: Y4O-DMA2

Prepared for : INMUSIC BRANDS INC  
200 SCENIC VIEW DRIVE, SUITE 201, CUMBERLAND,  
RI 02864,U.S.A.

Prepared By : EST Technology Co., Ltd.  
San Tun Management Zone, Houjie Town, Dongguan,  
Guangdong, China

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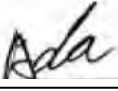
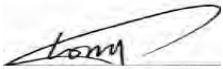
Report Number: ESTE-R1608076  
Date of Test : July 15 ~ August 21, 2016  
Date of Report : August 22, 2016

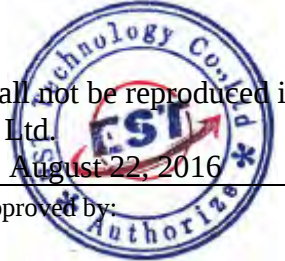
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## Test Report Verification

|                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                      |                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| <b>Applicant:</b>                                                                                                                                                                                 | INMUSIC BRANDS INC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                      |                           |
| <b>Address:</b>                                                                                                                                                                                   | 200 SCENIC VIEW DRIVE, SUITE 201, CUMBERLAND, RI 02864, U.S.A.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                      |                           |
| <b>Manufacturer</b>                                                                                                                                                                               | INMUSIC BRANDS INC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                      |                           |
| <b>Address:</b>                                                                                                                                                                                   | 200 SCENIC VIEW DRIVE, SUITE 201, CUMBERLAND, RI 02864, U.S.A.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                      |                           |
| <b>E.U.T:</b>                                                                                                                                                                                     | Amplifier with bluetooth audio receiver                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                      |                           |
| <b>Model Number:</b>                                                                                                                                                                              | DN-200AZB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                      |                           |
| <b>Power Supply:</b>                                                                                                                                                                              | DC 15V from Adapter Input AC 100-240V~50/60Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                      |                           |
| <b>Test Voltage:</b>                                                                                                                                                                              | DC 15V From Adapter Input AC 120V/60Hz<br>DC 15V From Adapter Input AC 240V/60Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                      |                           |
| <b>Trade Name:</b>                                                                                                                                                                                | DENON PROFESSIONAL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Serial No.:                                                                                                                          | -----                     |
| <b>Date of Receipt:</b>                                                                                                                                                                           | July 15, 2016                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Date of Test:</b>                                                                                                                 | July 15 ~ August 21, 2016 |
| <b>Test Specification:</b>                                                                                                                                                                        | FCC Rules and Regulations Part 15 Subpart C:2016<br>ANSI C63.10:2013                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                      |                           |
| <b>Test Result:</b>                                                                                                                                                                               | <p>The device described above is tested by EST Technology Co., Ltd.. The measurement results were contained in this test report and EST Technology Co., Ltd. was assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliance with the FCC Rules and Regulations Part 15 Subpart C requirements.</p> <p style="text-align: right;">This report applies to above tested sample only and shall not be reproduced in part without written approval of EST Technology Co., Ltd.</p> <p style="text-align: right;"><b>Date:</b> August 22, 2016</p> |                                                                                                                                      |                           |
| Prepared by:                                                                                                                                                                                      | Tested by:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Approved by:                                                                                                                         |                           |
| <br><hr style="width: 100px; margin: 0 auto;"/>                                                                | <br><hr style="width: 100px; margin: 0 auto;"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <br><hr style="width: 100px; margin: 0 auto;"/> |                           |
| Ada / Assistant                                                                                                                                                                                   | Tony.Tang/ Engineer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | IcemanHu / Manager                                                                                                                   |                           |
| <b>Other Aspects:</b>                                                                                                                                                                             | None.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                      |                           |
| Abbreviations: OK/P=passed    fail/F=failed    n.a/N=not applicable    E.U.T=equipment under tested                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                      |                           |
| This test report is based on a single evaluation of one sample of above mentioned products ,It is not permitted to be duplicated in extracts without written approval of EST Technology Co., Ltd. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                      |                           |



## 1. GENERAL INFORMATION

### 1.1. Description of Device (EUT)

|                     |   |                                                          |
|---------------------|---|----------------------------------------------------------|
| Product Name        | : | Amplifier with bluetooth audio receiver                  |
| FCC ID              | : | Y4O-DMA2                                                 |
| Model Number        | : | DN-200AZB                                                |
| Operation frequency | : | 2402MHz~2480MHz                                          |
| Number of channel   | : | 79                                                       |
| Antenna             | : | Dipole antenna, 2.0dBi gain                              |
| Modulation          | : | BT BDR: GFSK<br>BT EDR: $\pi/4$ -DQPSK<br>BT EDR: 8-DPSK |
| Sample Type         | : | Prototype production                                     |

## 2. SUMMARY OF TEST

### 2.1. Summary of test result

| Description of Test Item       | Standard                                      | Results |
|--------------------------------|-----------------------------------------------|---------|
| Maximum Peak Output Power      | FCC Part 15: 15.247(b)(1)                     | PASS    |
| 20dB Bandwidth                 | FCC Part 15: 15.247(a)(1)                     | PASS    |
| Carrier Frequency Separation   | FCC Part 15: 15.247(a)(1)                     | PASS    |
| Number Of Hopping Channel      | FCC Part 15: 15.247(a)(1)(iii)                | PASS    |
| Dwell Time                     | FCC Part 15: 15.247(a)(1)(iii)                | PASS    |
| Radiated Emissions             | FCC Part 15: 15.209<br>FCC Part 15: 15.247(d) | PASS    |
| Band Edge Compliance           | FCC Part 15: 15.247(d)                        | PASS    |
| Power Line Conducted Emissions | FCC Part 15: 15.207                           | PASS    |
| Antenna requirement            | FCC Part 15: 15.203                           | PASS    |

## 2.2. Test Facilities

|               |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EMC Lab       | : | <p>Certificated by CNAL, CHINA<br/> Registration No.: L5288<br/> Date of registration: December 07, 2015</p> <p>Certificated by FCC, USA<br/> Registration No.: 989591<br/> Date of registration: November 20, 2013</p> <p>Certificated by Industry Canada<br/> Registration No.: 9405A-1<br/> Date of registration: December 30, 2015</p> <p>Certificated by VCCI, Japan<br/> Registration No.: R-3663 &amp; C-4103<br/> Date of registration: July 25, 2011</p> <p>Certificated by TUV Rheinland, Germany<br/> Registration No.: UA 50195514 0001<br/> Date of registration: January 07, 2011</p> <p>Certificated by TUV/PS, Shenzhen<br/> Registration No.: SCN1017<br/> Date of registration: January 27, 2011</p> <p>Certificated by Intertek ETL SEMKO<br/> Registration No.: 2011-RTL-L1-18<br/> Date of registration: April 28, 2011</p> <p>Certificated by Siemic, Inc.<br/> Registration No.: SLCN021<br/> Date of registration: November 8, 2011</p> <p>Certificated by Nemko, Hong Kong<br/> Registration No.: 175193<br/> Date of registration: May 4, 2011</p> |
| Name of Firm  | : | EST Technology Co., Ltd.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Site Location | : | San Tun Management Zone, Houjie Town, Dongguan, Guangdong, China                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

## 2.3. Measurement uncertainty

| Test Item                                                  | Uncertainty        |
|------------------------------------------------------------|--------------------|
| Uncertainty for Conduction emission test                   | 2.54dB             |
| Uncertainty for Radiation Emission test<br>(30MHz-1GHz)    | 3.62dB             |
| Uncertainty for Radiation Emission test<br>(1GHz to 18GHz) | 4.86dB             |
| Uncertainty for radio frequency                            | $7 \times 10^{-8}$ |
| Uncertainty for conducted RF Power                         | 0.20dB             |
| Uncertainty for Power density test                         | 0.26dB             |

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

## 2.4. Assistant equipment used for test

### 2.4.1. Adapter

M/N : K48V150250U  
 Input : AC 100-240V~50/60Hz 1.2A  
 Output : DC 15.0V/2.5A

### 2.4.2. Notebook

Manufacturer : DELL  
 M/N : Latitude E6420  
 Adapter : M/N: DA90PM111

## 2.5. Block Diagram

For radiated emissions test: EUT was placed on a turn table, which is 0.8 or 1.5 meter high above ground. EUT was be set into BT test mode by software before test.



(EUT: Amplifier with bluetooth audio receiver)

## 2.6. Test mode

The test software was used to control EUT work in Continuous TX mode, and select test channel, wireless mode

| Mode                                                                           | Channel | Frequency |
|--------------------------------------------------------------------------------|---------|-----------|
| GFSK                                                                           | Low     | 2402MHz   |
|                                                                                | Middle  | 2441MHz   |
|                                                                                | High    | 2480MHz   |
| 8-DPSK                                                                         | Low     | 2402MHz   |
|                                                                                | Middle  | 2441MHz   |
|                                                                                | High    | 2480MHz   |
| Remark: The “GFSK” and “8-DPSK” is worst case, Will be recorded in the report. |         |           |

## 2.7. Channel List for Bluetooth

| Channel No. | Frequency (MHz) | Channel No. | Frequency (MHz) | Channel No. | Frequency (MHz) | Channel No. | Frequency (MHz) |
|-------------|-----------------|-------------|-----------------|-------------|-----------------|-------------|-----------------|
| 1           | 2402            | 2           | 2403            | 3           | 2404            | 4           | 2405            |
| 5           | 2406            | 6           | 2407            | 7           | 2408            | 8           | 2409            |
| 9           | 2410            | 10          | 2411            | 11          | 2412            | 12          | 2413            |
| 13          | 2414            | 14          | 2415            | 15          | 2416            | 16          | 2417            |
| 17          | 2418            | 18          | 2419            | 19          | 2420            | 20          | 2421            |
| 21          | 2422            | 22          | 2423            | 23          | 2424            | 24          | 2425            |
| 25          | 2426            | 26          | 2427            | 27          | 2428            | 28          | 2429            |
| 29          | 2430            | 30          | 2431            | 31          | 2432            | 32          | 2433            |
| 33          | 2434            | 34          | 2435            | 35          | 2436            | 36          | 2437            |
| 37          | 2438            | 38          | 2439            | 39          | 2440            | 40          | 2441            |
| 41          | 2442            | 42          | 2443            | 43          | 2444            | 44          | 2445            |
| 45          | 2446            | 46          | 2447            | 47          | 2448            | 48          | 2449            |
| 49          | 2450            | 50          | 2451            | 51          | 2452            | 52          | 2453            |
| 53          | 2454            | 54          | 2455            | 55          | 2456            | 56          | 2457            |
| 57          | 2458            | 58          | 2459            | 59          | 2460            | 60          | 2461            |
| 61          | 2462            | 62          | 2463            | 63          | 2464            | 64          | 2465            |
| 65          | 2466            | 66          | 2467            | 67          | 2468            | 68          | 2469            |
| 69          | 2470            | 70          | 2471            | 71          | 2472            | 72          | 2473            |
| 73          | 2474            | 74          | 2475            | 75          | 2476            | 76          | 2477            |
| 77          | 2478            | 78          | 2479            | 79          | 2480            | -           | -               |

## 2.8. Test Equipment

### 2.8.1. For conducted emissions test

| Equipment               | Manufacturer    | Model No.          | Serial No.          | Last Cal.  | Next Cal. |
|-------------------------|-----------------|--------------------|---------------------|------------|-----------|
| EMI Test Receiver       | Rohde & Schwarz | ESHS30             | 832354              | June 25,16 | 1 Year    |
| Artificial Mains Networ | Rohde & Schwarz | ENV216             | 101260              | June 25,16 | 1 Year    |
| Pulse Limiter           | Rohde & Schwarz | ESDN-200AZB-Z<br>2 | 101100              | June 25,16 | 1 Year    |
| RF Cable                | Fujikura        | 3D-2W              | 844 Chamber<br>No.1 | June 25,16 | 1 Year    |

### 2.8.2. For radiated emission test(9 kHz-30MHz)

| Equipment         | Manufacturer    | Model No. | Serial No.       | Last Cal.  | Next Cal. |
|-------------------|-----------------|-----------|------------------|------------|-----------|
| EMI Test Receiver | Rohde & Schwarz | ESCI      | 100435           | June 25,16 | 1 Year    |
| Loop Antenna      | ETS-LINDGREN    | 6502      | 00071730         | June,29,15 | 3 Year    |
| RF Cable          | MIYAZAKI        | 5D-2W     | 966 Chamber No.1 | June 25,16 | 1 Year    |

### 2.8.3. For radiated emissions test (30-1000MHz)

| Equipment         | Manufacturer    | Model No. | Serial No.          | Last Cal.  | Next Cal. |
|-------------------|-----------------|-----------|---------------------|------------|-----------|
| EMI Test Receiver | Rohde & Schwarz | ESVS10    | 100004              | June 25,16 | 1 Year    |
| Spectrum Analyzer | Agilent         | E4411B    | MY5014069<br>7      | June 25,16 | 1 Year    |
| Bilog Antenna     | Teseq           | CBL 6111D | 27090               | June 28,15 | 3 Year    |
| Signal Amplifier  | Agilent         | 310N      | 187037              | June 25,16 | 1 Year    |
| RF Cable          | MIYAZAKI        | 5D-2W     | 966 Chamber<br>No.1 | June 25,16 | 1 Year    |

### 2.8.4. For radio & radiated emissions test (above 1GHz)

| Equipment               | Manufacturer      | Model No.   | Serial No.        | Last Cal.  | Next Cal. |
|-------------------------|-------------------|-------------|-------------------|------------|-----------|
| Horn Antenna            | SCHWARZB<br>ECK   | BBHA 9120 D | BBHA9120D1<br>002 | June 25,16 | 1 Year    |
| Board-Band Horn Antenna | SCHWARZB<br>ECK   | BBHA 9170   | 9170-497          | June 28,15 | 3 Year    |
| Signal Amplifier        | SCHWARZB<br>ECK   | BBV9718     | 9718-212          | June 25,16 | 1 Year    |
| Spectrum Analyzer       | Agilent           | E4408B      | MY44211139        | June 25,16 | 1 Year    |
| Spectrum Analyzer       | Rohde<br>&Schwarz | FSV         | 103173            | June 25,16 | 1 Year    |
| RF Cable                | Hubersuhner       | RG 214/U    | 513423            | June 25,16 | 1 Year    |

### 3. MAXIMUM PEAK OUTPUT POWER

#### 3.1. Limit

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts, the e.i.r.p shall not exceed 4W

#### 3.2. Test Procedure

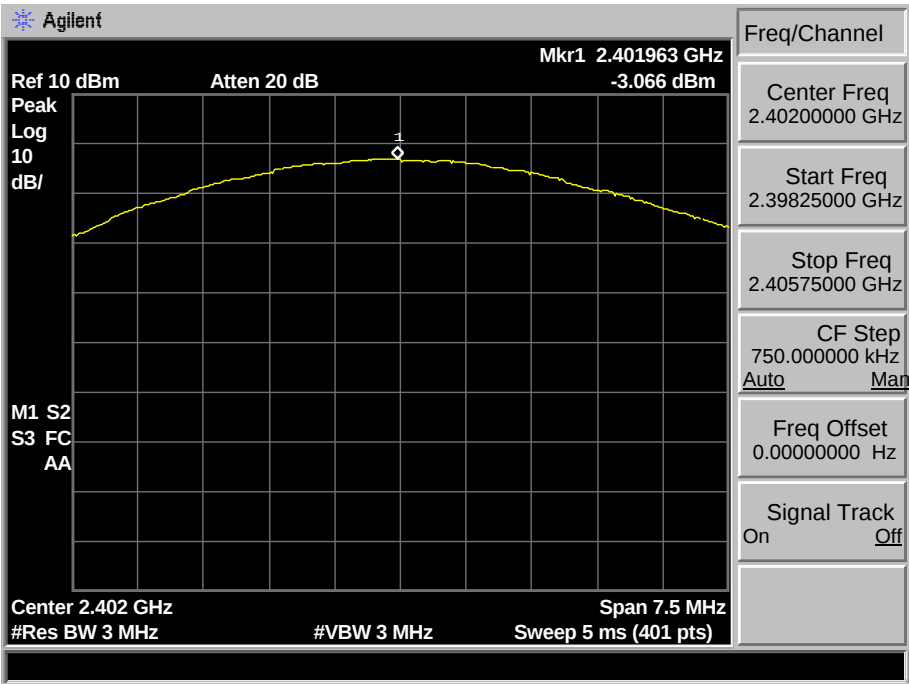
The transmitter output (antenna port) was connected to the spectrum analyzer. Connect EUT antenna terminal to the spectrum analyzer with a low loss SMA cable.

#### 3.3. Test Result

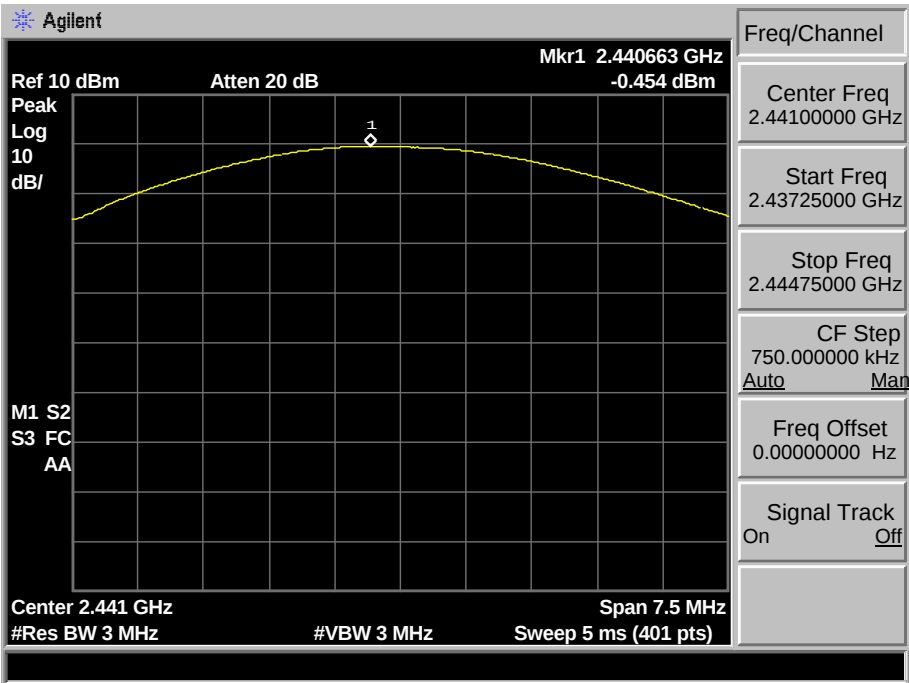
| EUT: Amplifier with bluetooth audio receiver |            |                    |       |                      |             |
|----------------------------------------------|------------|--------------------|-------|----------------------|-------------|
| M/N: DN-200AZB                               |            |                    |       |                      |             |
| Test date: 2016-08-12                        |            | Test site: RF site |       | Tested by: Tony Tang |             |
| Mode                                         | Freq (MHz) | Result (dBm)       | Limit |                      | Margin (dB) |
|                                              |            |                    | dBm   | W                    |             |
| GFSK                                         | 2402       | -3.066             | 30.00 | 1                    | 33.066      |
|                                              | 2441       | -0.454             | 30.00 | 1                    | 30.454      |
|                                              | 2480       | 1.116              | 30.00 | 1                    | 28.884      |
| 8-DPSK                                       | 2402       | -0.816             | 21.00 | 0.125                | 21.816      |
|                                              | 2441       | 3.086              | 21.00 | 0.125                | 17.914      |
|                                              | 2480       | 4.434              | 21.00 | 0.125                | 16.566      |
| Conclusion: PASS                             |            |                    |       |                      |             |

3.4. Test Data

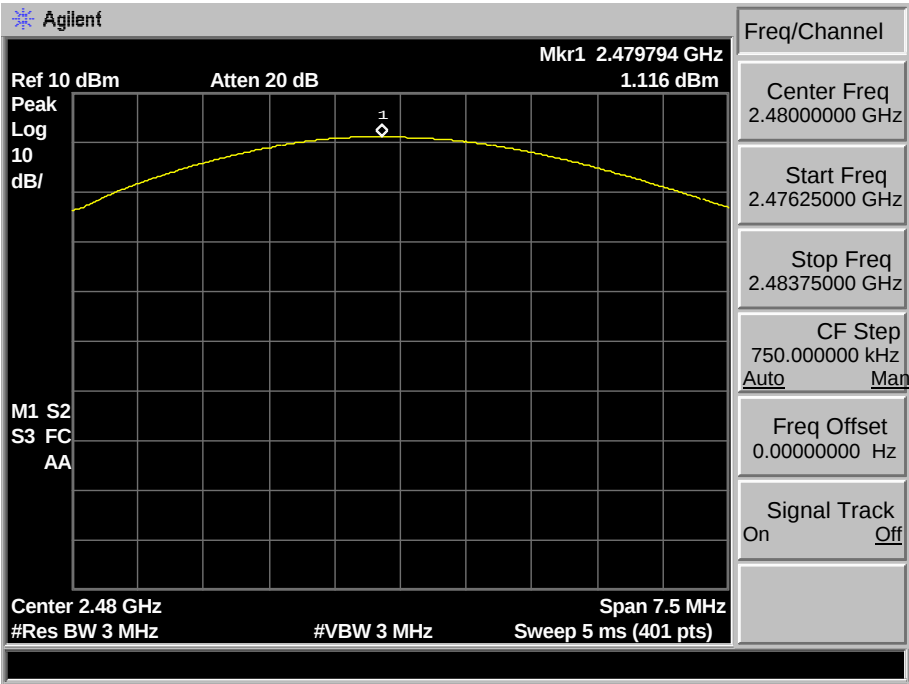
GFSK 2402 MHz



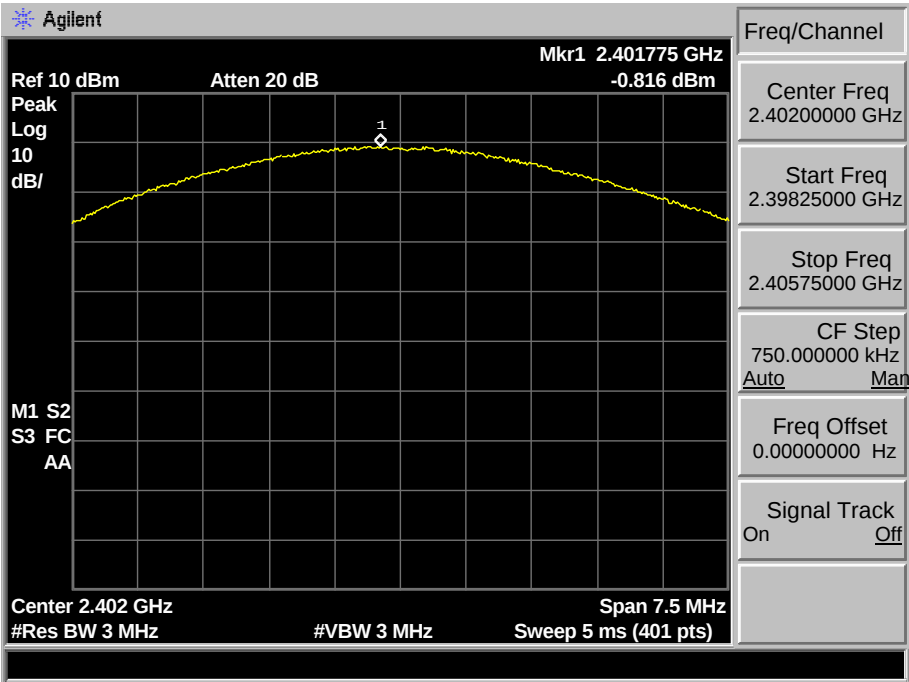
GFSK 2441 MHz



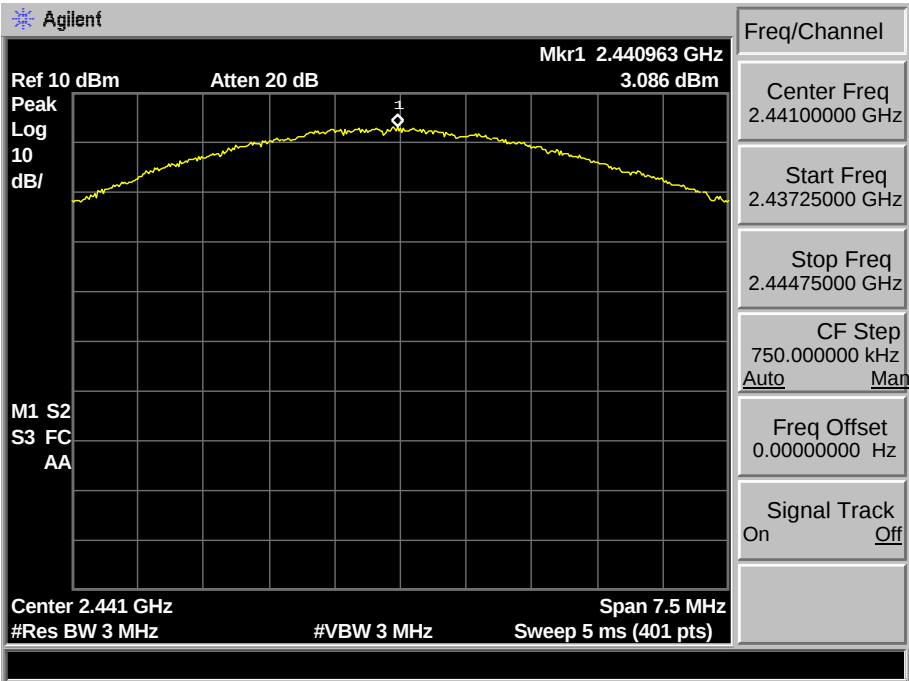
GFSK 2480 MHz



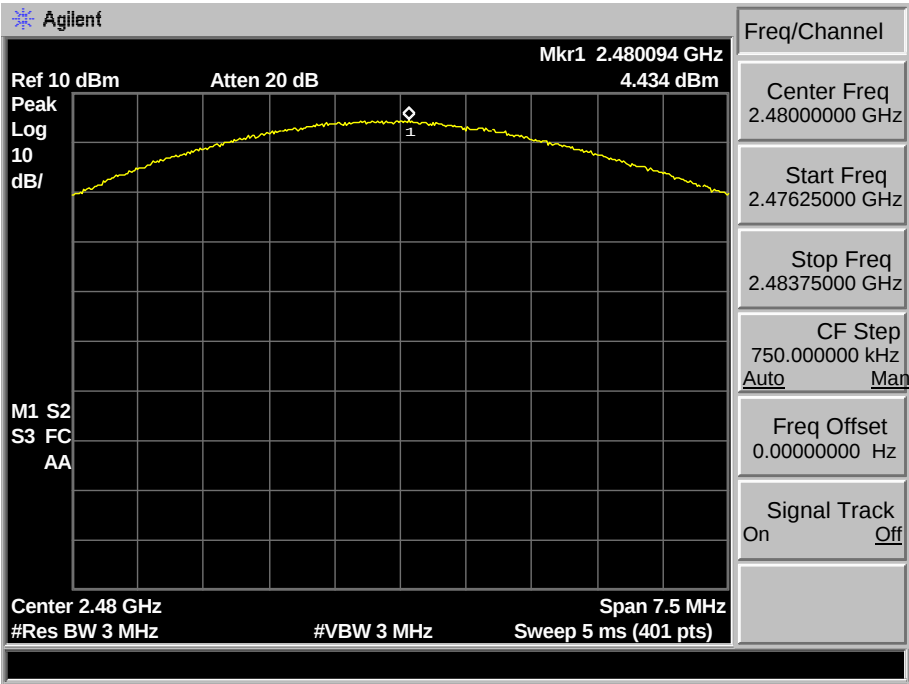
8-DPSK 2402 MHz



8-DPSK 2441 MHz



8-DPSK 2480 MHz



## 4. 20 DB BANDWIDTH

### 4.1. Limit

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

### 4.2. Test Procedure

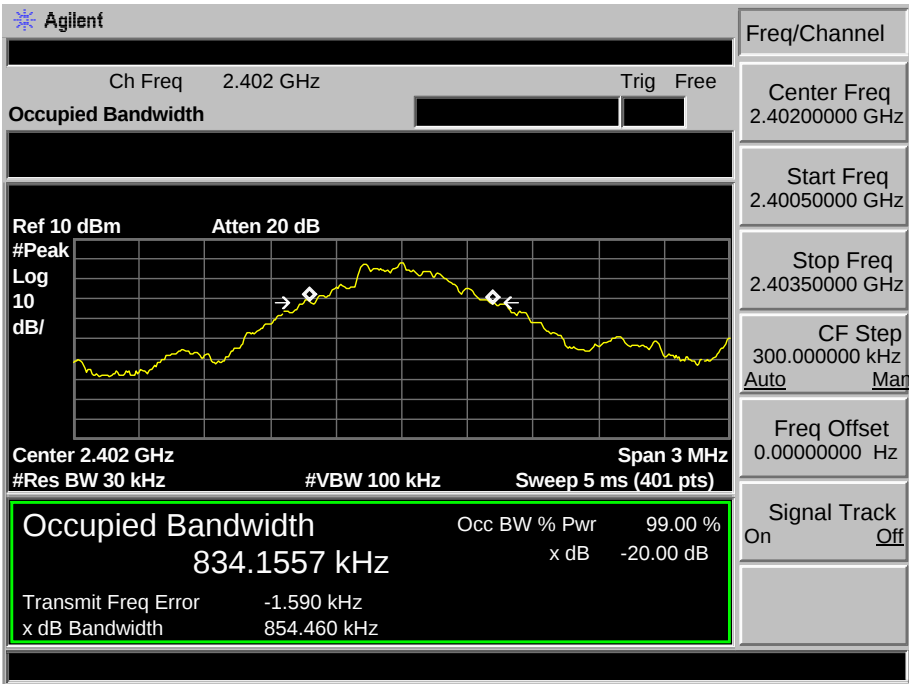
The transmitter output (antenna port) was connected to the spectrum analyzer. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 30kHz RBW and 100kHz VBW. The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

### 4.3. Test Result

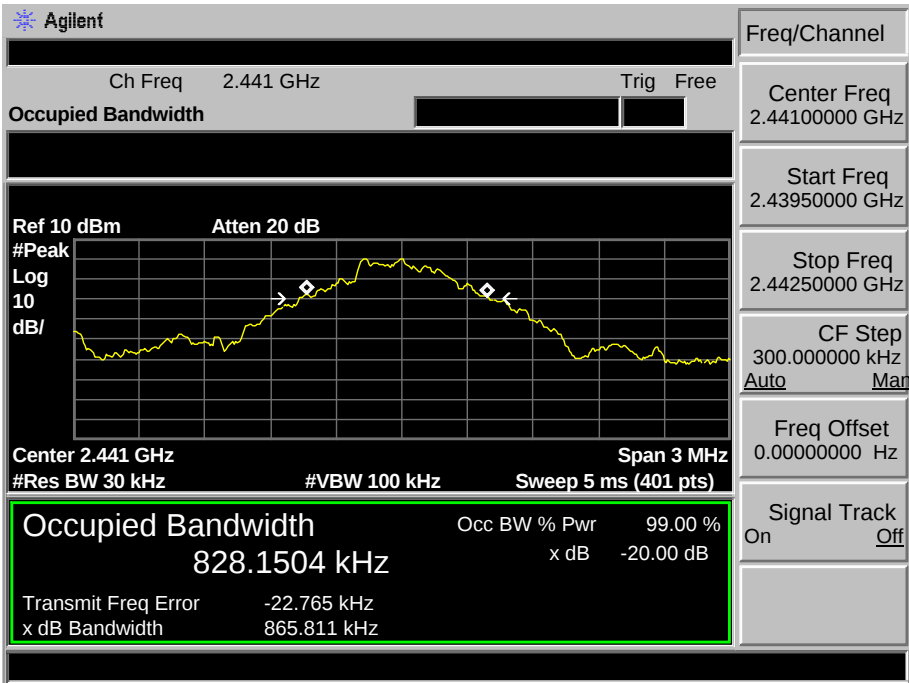
| EUT: Amplifier with bluetooth audio receiver |            |                      |             |                      |
|----------------------------------------------|------------|----------------------|-------------|----------------------|
| M/N: DN-200AZB                               |            |                      |             |                      |
| Test date: 2016-08-12                        |            | Test site: RF site   |             | Tested by: Tony Tang |
| Mode                                         | Freq (MHz) | 20dB Bandwidth (MHz) | Limit (kHz) | Conclusion           |
| GFSK                                         | 2402       | 0.854                | /           | PASS                 |
|                                              | 2441       | 0.866                | /           | PASS                 |
|                                              | 2480       | 0.864                | /           | PASS                 |
| 8-DPSK                                       | 2402       | 1.212                | /           | PASS                 |
|                                              | 2441       | 1.213                | /           | PASS                 |
|                                              | 2480       | 1.215                | /           | PASS                 |

4.4. Test Data

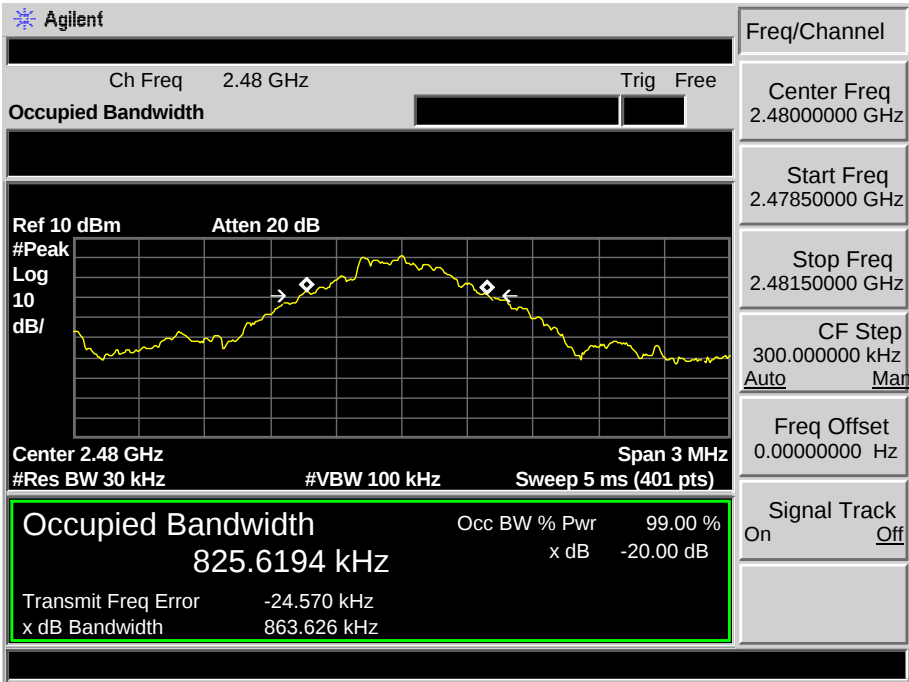
GFSK 2402MHz



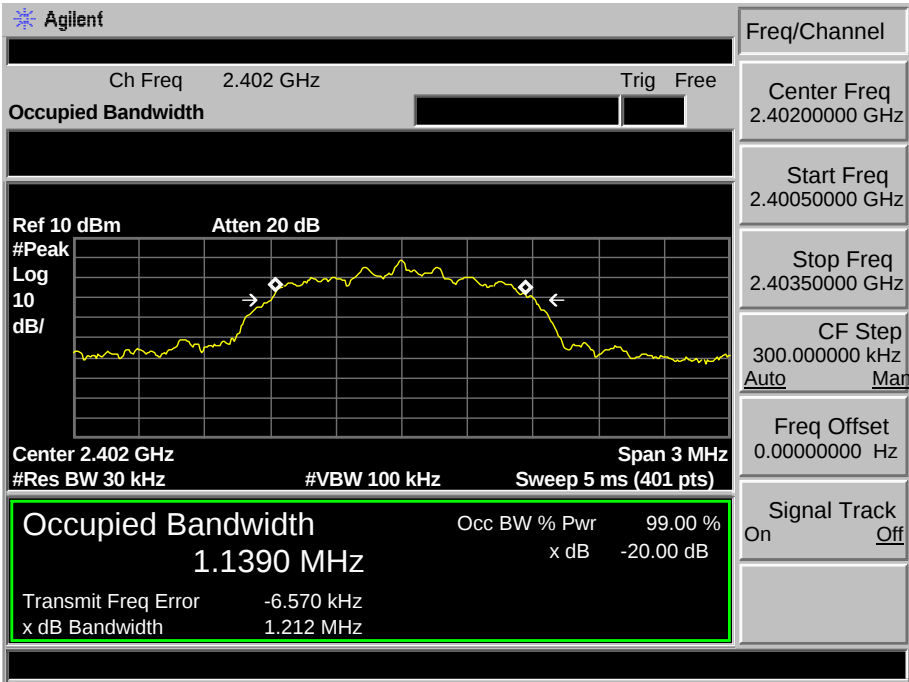
GFSK 2441MHz



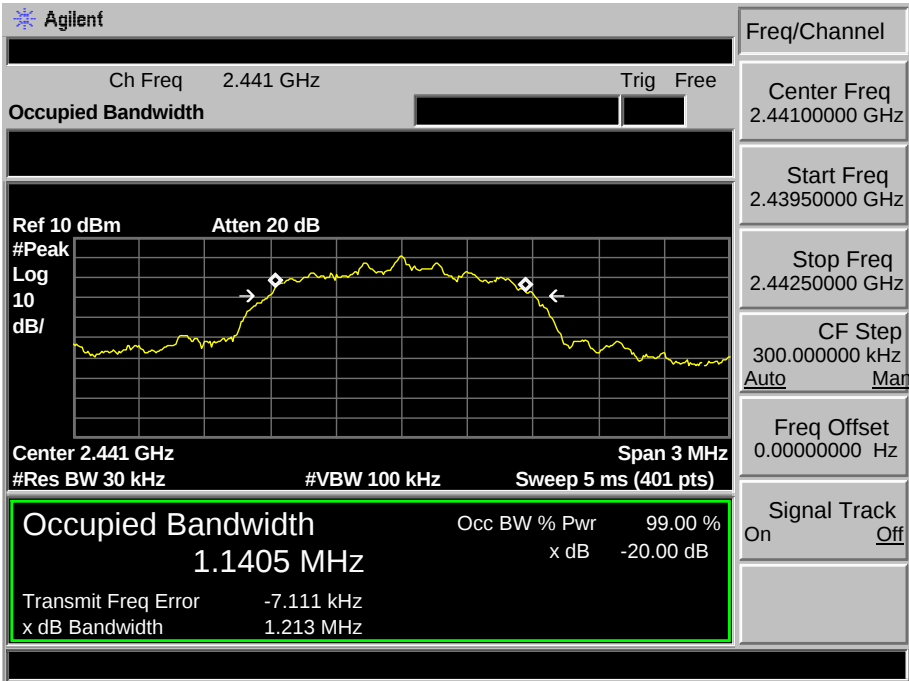
GFSK 2480MHz



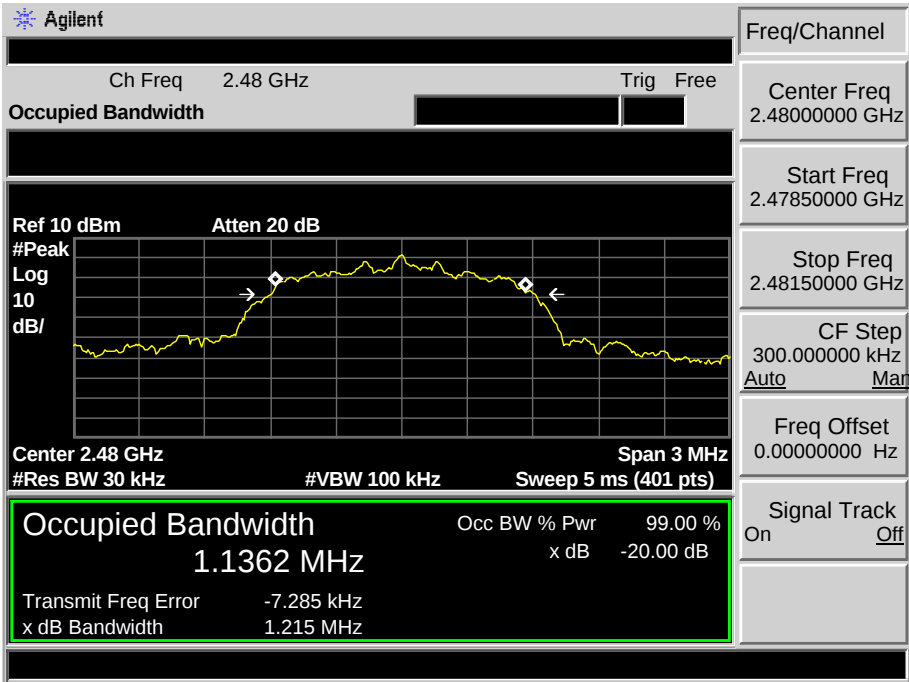
8-DPSK 2402MHz



8-DPSK 2441MHz



8-DPSK 2480MHz



## 5. CARRIER FREQUENCY SEPARATION

### 5.1. Limit

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

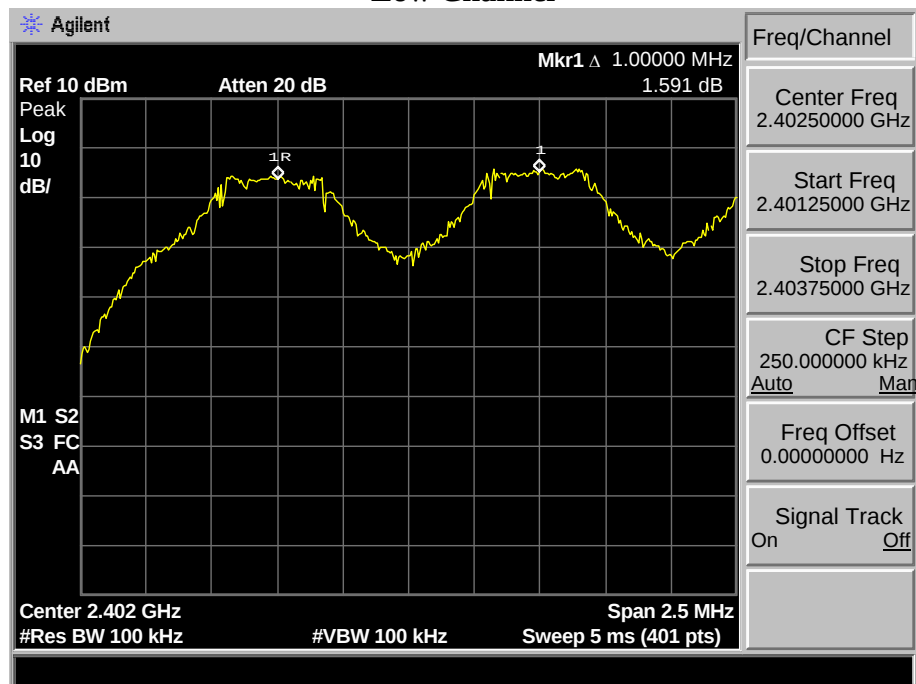
### 5.2. Test Procedure

The transmitter output (antenna port) was connected to the spectrum analyzer. The carrier frequency was measured by spectrum analyzer with 100kHz RBW and 100kHz VBW.

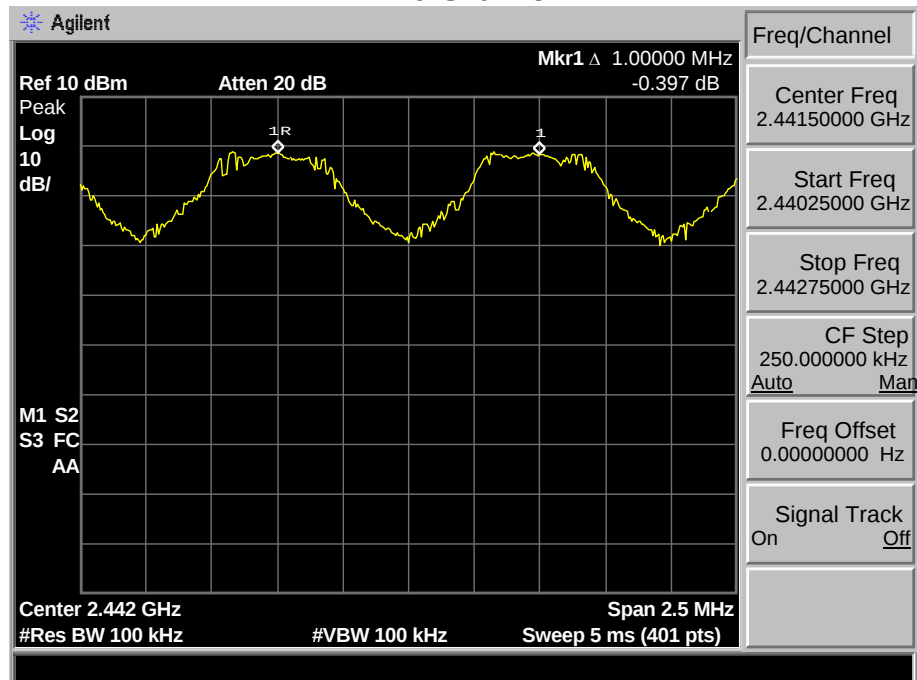
### 5.3. Test Result

| EUT: Amplifier with bluetooth audio receiver |         |                          |                                                               |                      |
|----------------------------------------------|---------|--------------------------|---------------------------------------------------------------|----------------------|
| M/N: DN-200AZB                               |         |                          |                                                               |                      |
| Test date: 2016-08-12                        |         |                          | Test site: RF site                                            | Tested by: Tony Tang |
| Mode                                         | Channel | Channel separation (MHz) | Limit                                                         | Conclusion           |
| GFSK                                         | Low CH  | 1.000                    | 0.854 MHz                                                     | PASS                 |
|                                              | Mid CH  | 1.000                    | 0.866 MHz                                                     | PASS                 |
|                                              | High CH | 1.000                    | 0.864 MHz                                                     | PASS                 |
| 8-DPSK                                       | Low CH  | 1.000                    | > 2/3 of the 20dB Bandwidth or 25[kHz]( whichever is greater) | PASS                 |
|                                              | Mid CH  | 1.000                    |                                                               | PASS                 |
|                                              | High CH | 1.000                    |                                                               | PASS                 |

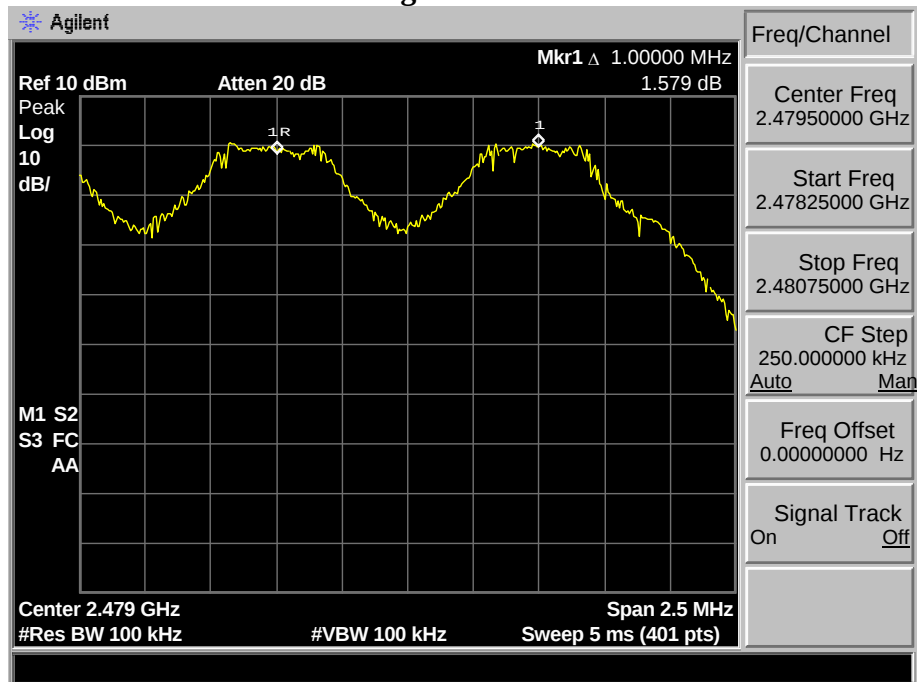
## 5.4. Test Data

GFSK  
Low Channel

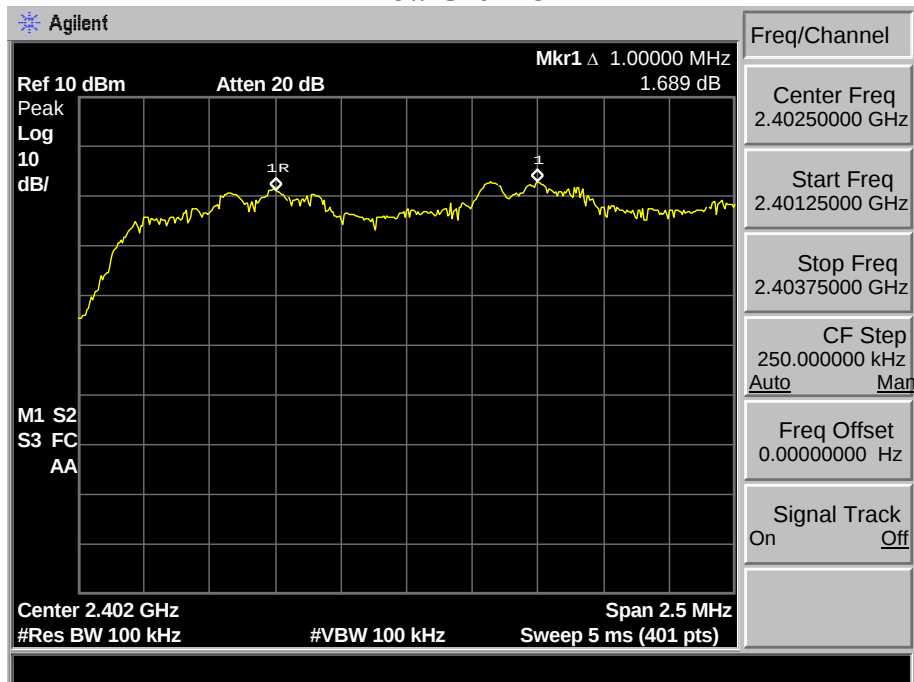
## Mid Channel



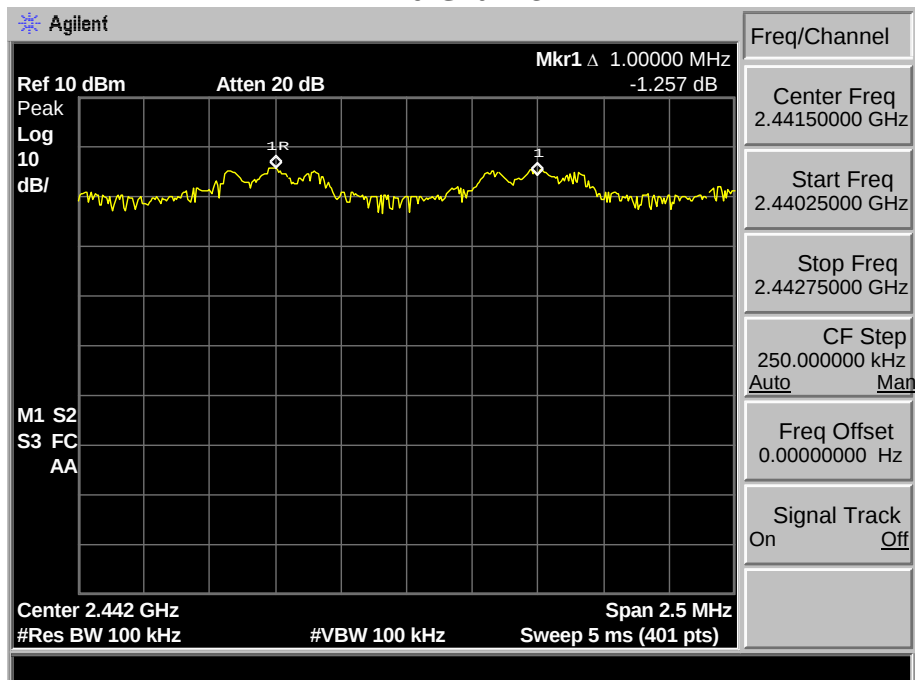
## High Channel



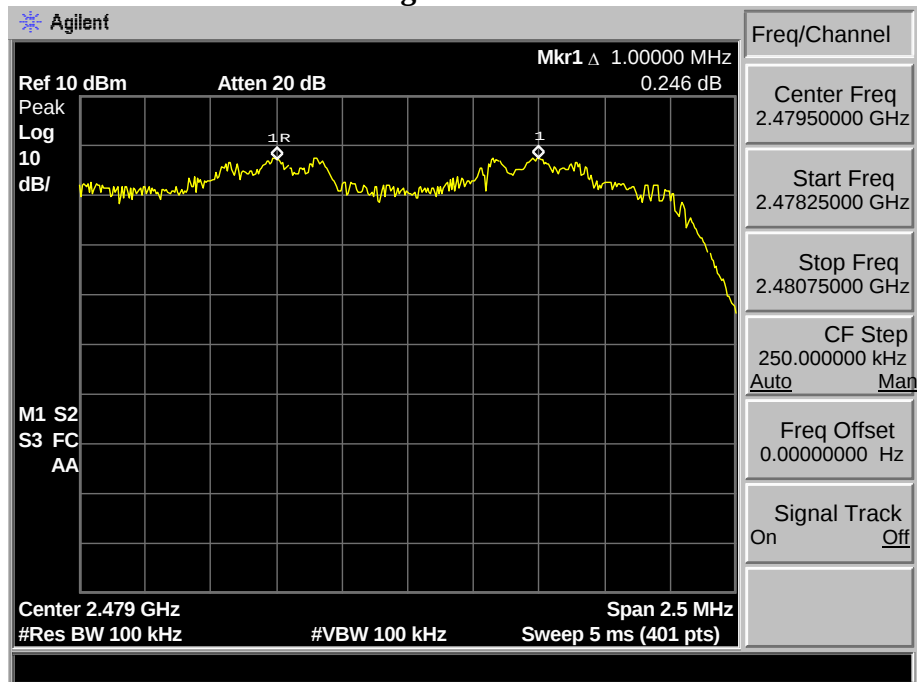
## 8-DPSK Low Channel



## Mid Channel



## High Channel



## 6. NUMBER OF HOPPING CHANNEL

### 6.1. Limit

Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels

### 6.2. Test Procedure

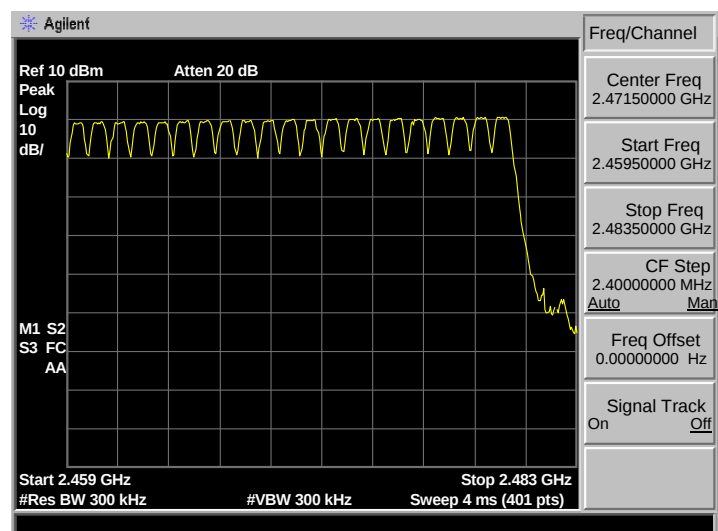
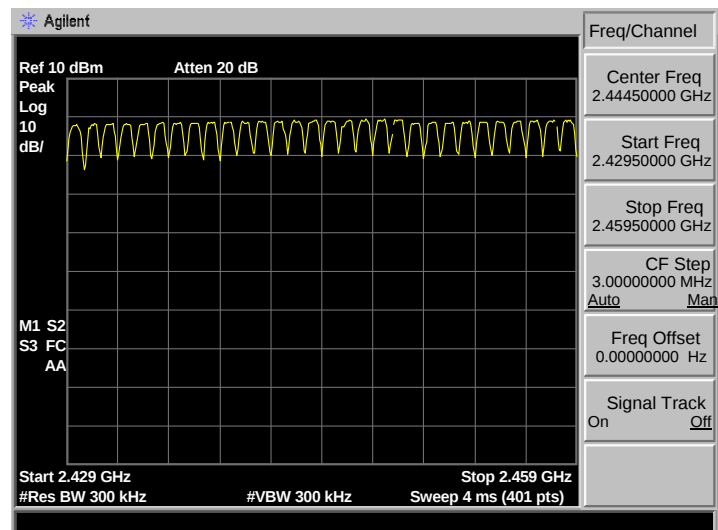
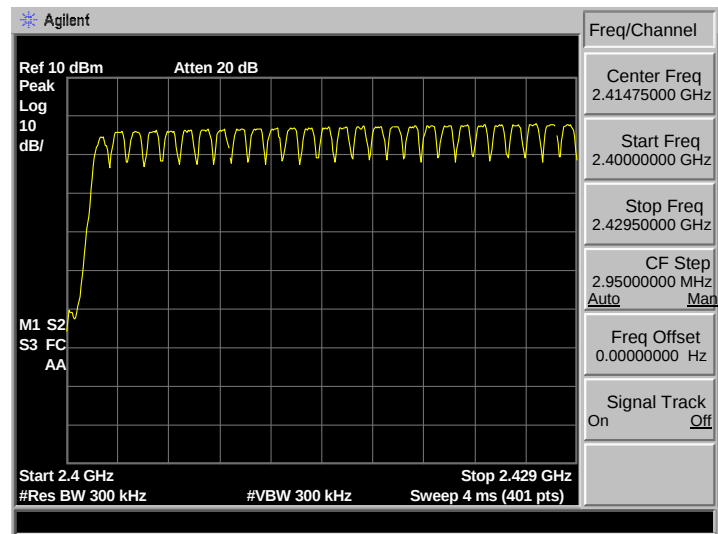
The transmitter output (antenna port) was connected to the spectrum analyzer. The number of hopping channel was measured by spectrum analyzer with 300kHz RBW and 300kHz VBW.

### 6.3. Test Result

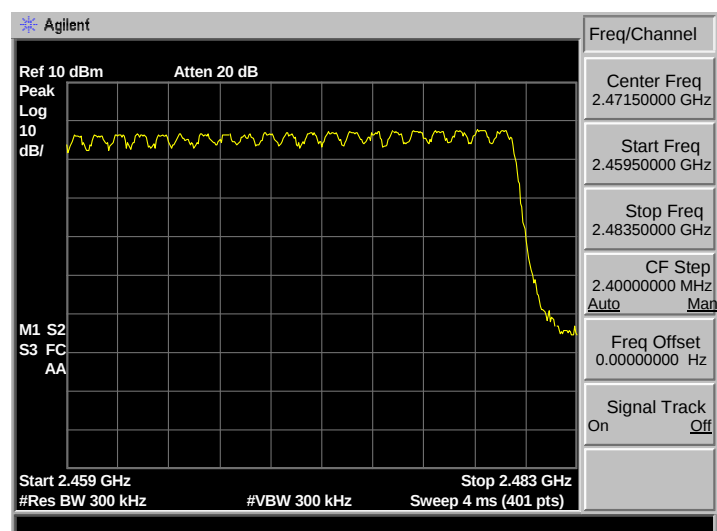
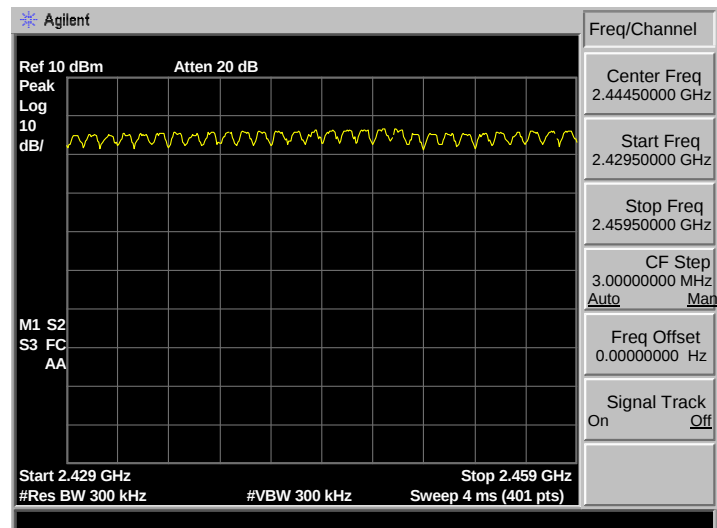
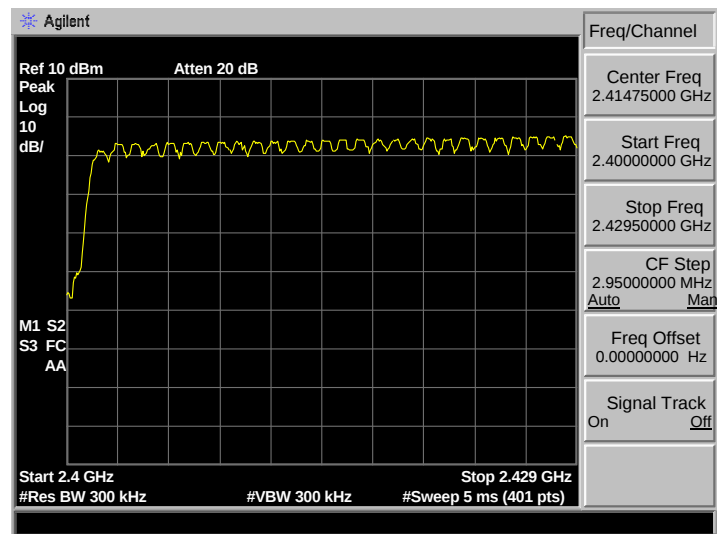
| EUT: Amplifier with bluetooth audio receiver |                           |                    |                      |
|----------------------------------------------|---------------------------|--------------------|----------------------|
| M/N: DN-200AZB                               |                           |                    |                      |
| Test date: 2016-08-12                        |                           | Test site: RF site | Tested by: Tony.Tang |
| Mode                                         | Number of hopping channel | Limit              | Conclusion           |
| GFSK                                         | 79                        | >15                | PASS                 |
| 8-DPSK                                       | 79                        | >15                | PASS                 |

## 6.4. Test Data

## GFSK



## 8-DPSK



## 7. DWELL TIME

### 7.1. Limit

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

### 7.2. Test Procedure

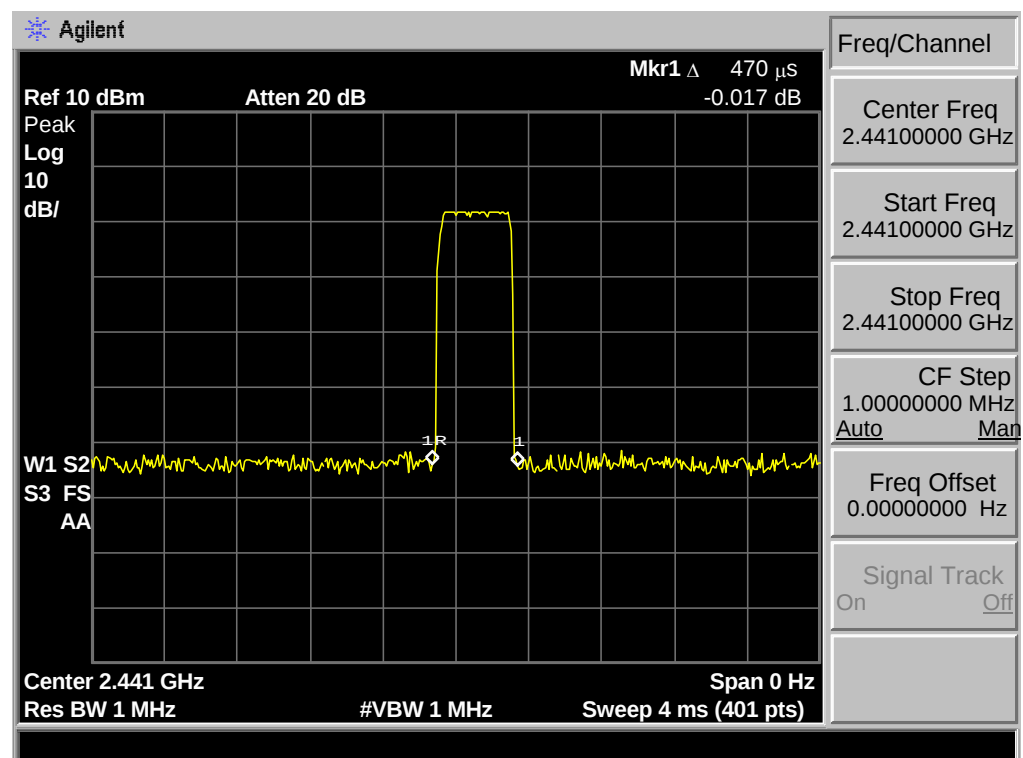
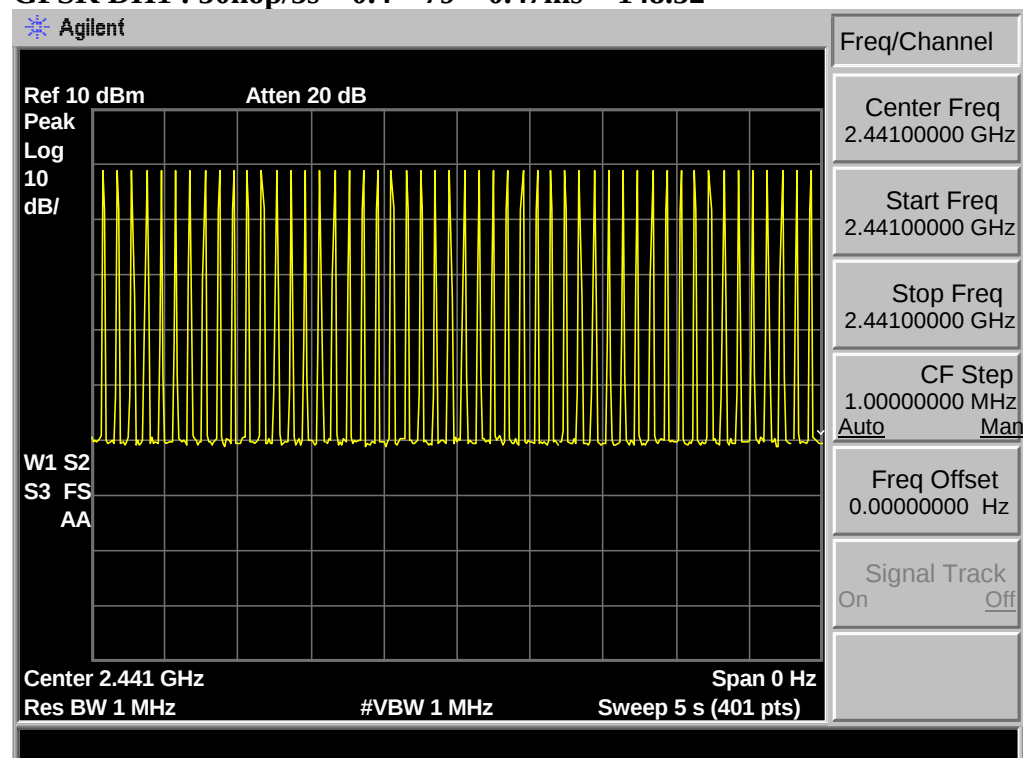
1. The transmitter output (antenna port) was connected to the spectrum analyzer. Connect EUT antenna terminal to the spectrum analyzer with a low loss SMA cable.
2. Set the EUT to proper test mode with relative test software and hardware.
3. Spectrum analyzer setting: Centered Frequency = measured channel, RBW = 1MHz, VBW= 1MHz, Frequency Span = 0 Hz.
4. Set sweep time properly to capture the entire dwell time per hopping channel.
5. Set detector type to Peak and trace mode to Max Hold and make the measurement.
6. Repeat step 3-5 until all channels measured were complete.

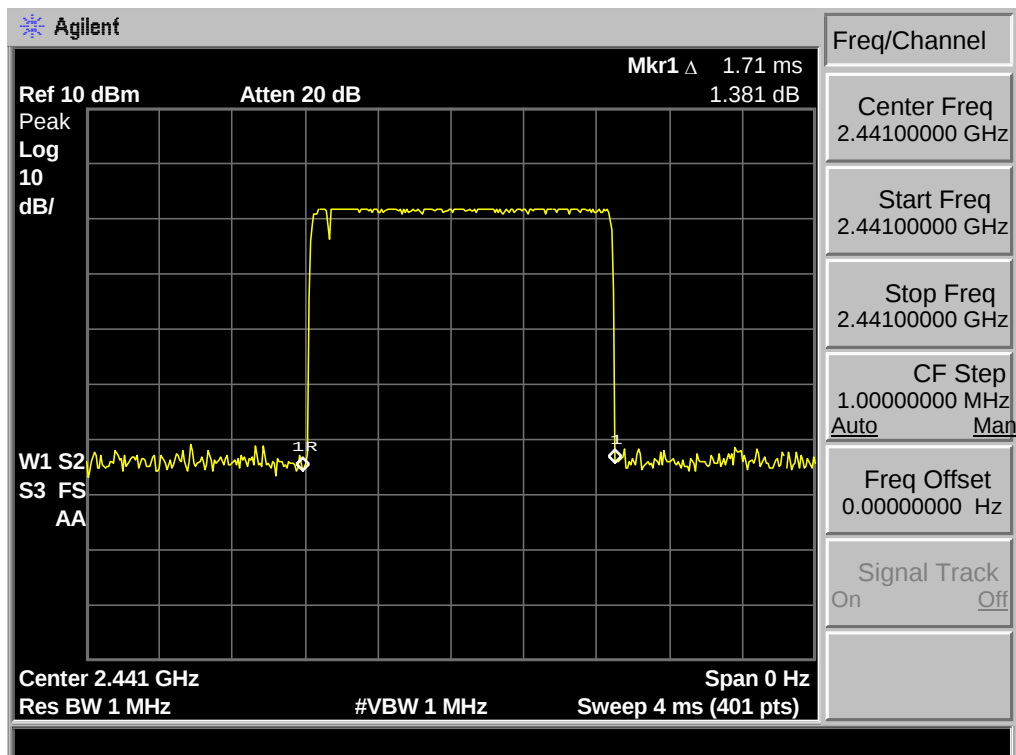
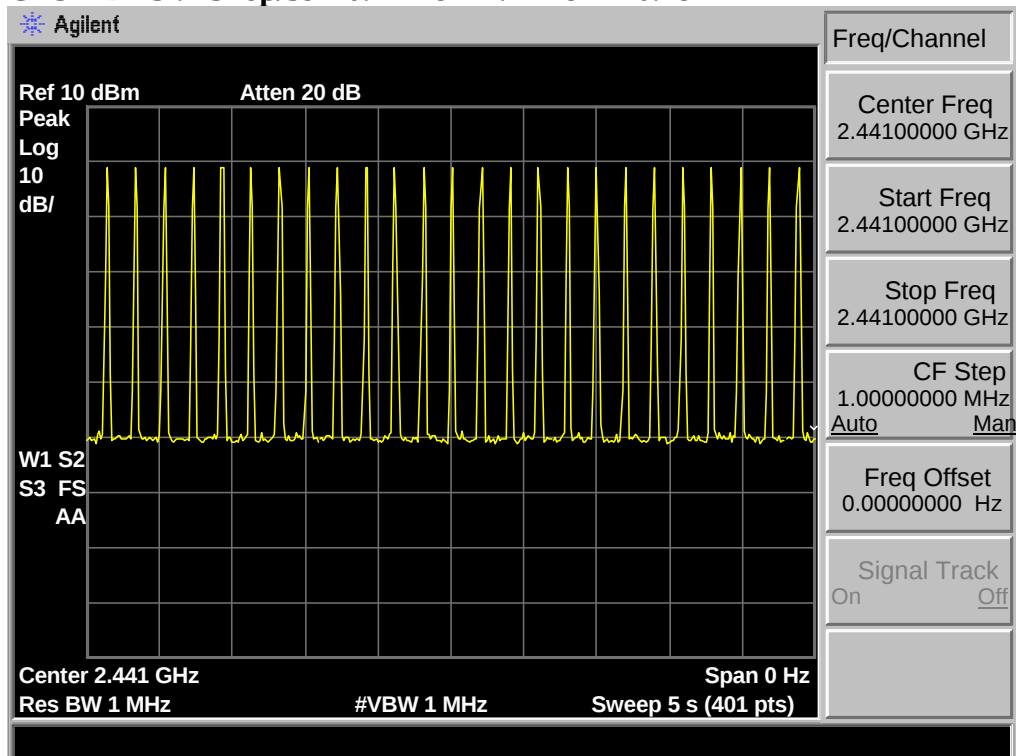
### 7.3. Test Result

| EUT: Amplifier with bluetooth audio receiver |                 |                    |                      |
|----------------------------------------------|-----------------|--------------------|----------------------|
| M/N: DN-200AZB                               |                 |                    |                      |
| Test date: 2016-08-12                        |                 | Test site: RF site | Tested by: Tony Tang |
| Mode                                         | Dwell time (ms) | Limit              | Conclusion           |
| GFSK DH1                                     | 148.52          | <400ms             | PASS                 |
| GFSK DH3                                     | 270.18          | <400ms             | PASS                 |
| GFSK DH5                                     | 316.95          | <400ms             | PASS                 |
| 8-DPSK 3DH1                                  | 151.68          | <400ms             | PASS                 |
| 8-DPSK 3DH3                                  | 270.18          | <400ms             | PASS                 |
| 8-DPSK 3DH5                                  | 321.25          | <400ms             | PASS                 |

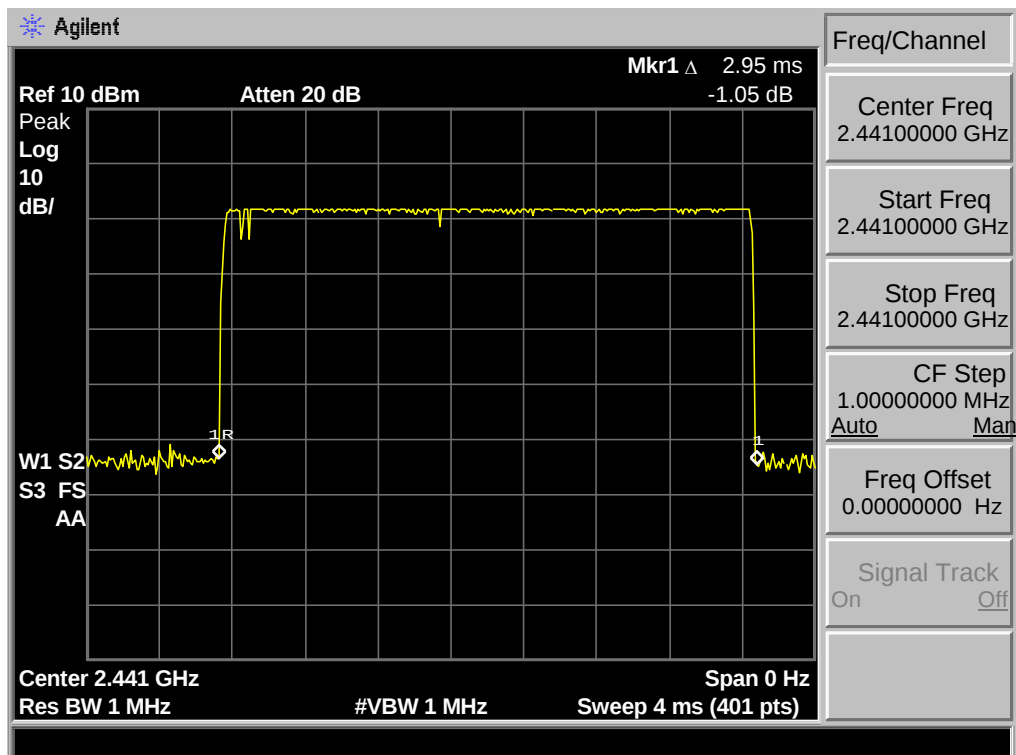
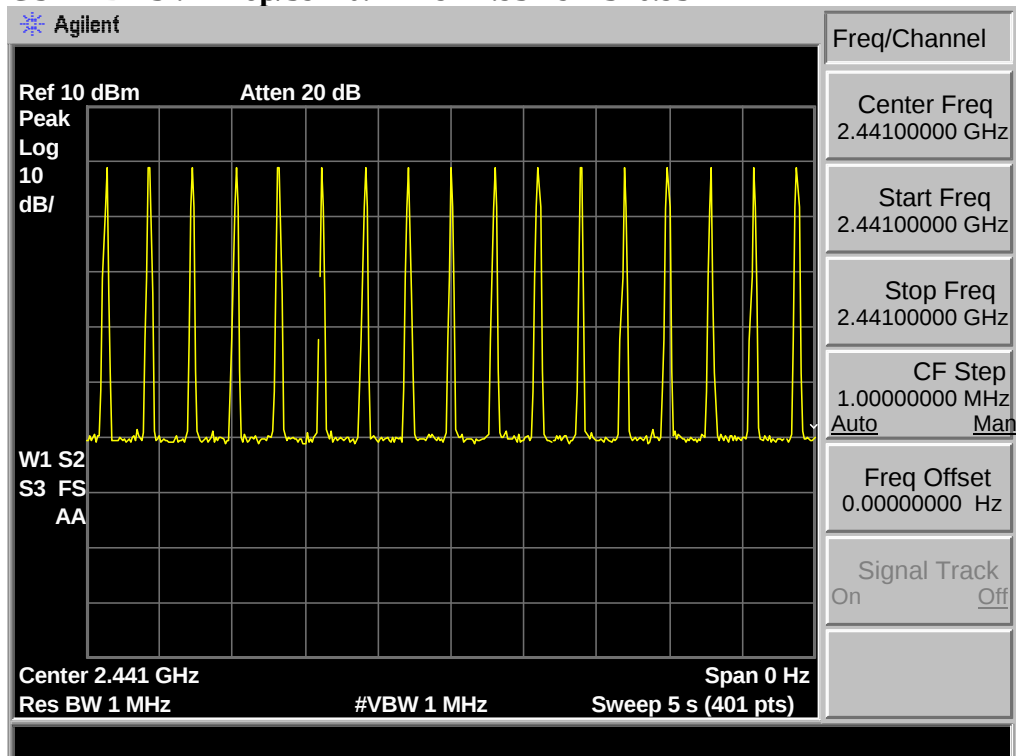
## 7.4. Test Data

GFSK DH1 :  $50\text{hop}/5\text{s} * 0.4 * 79 * 0.47\text{ms} = 148.52$

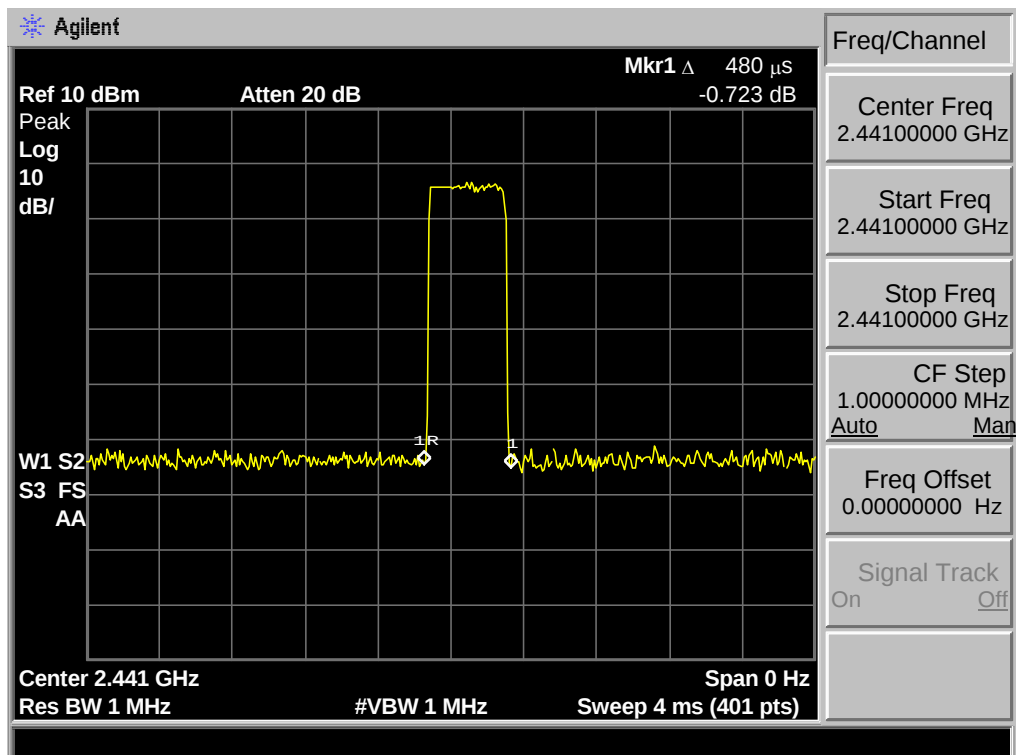
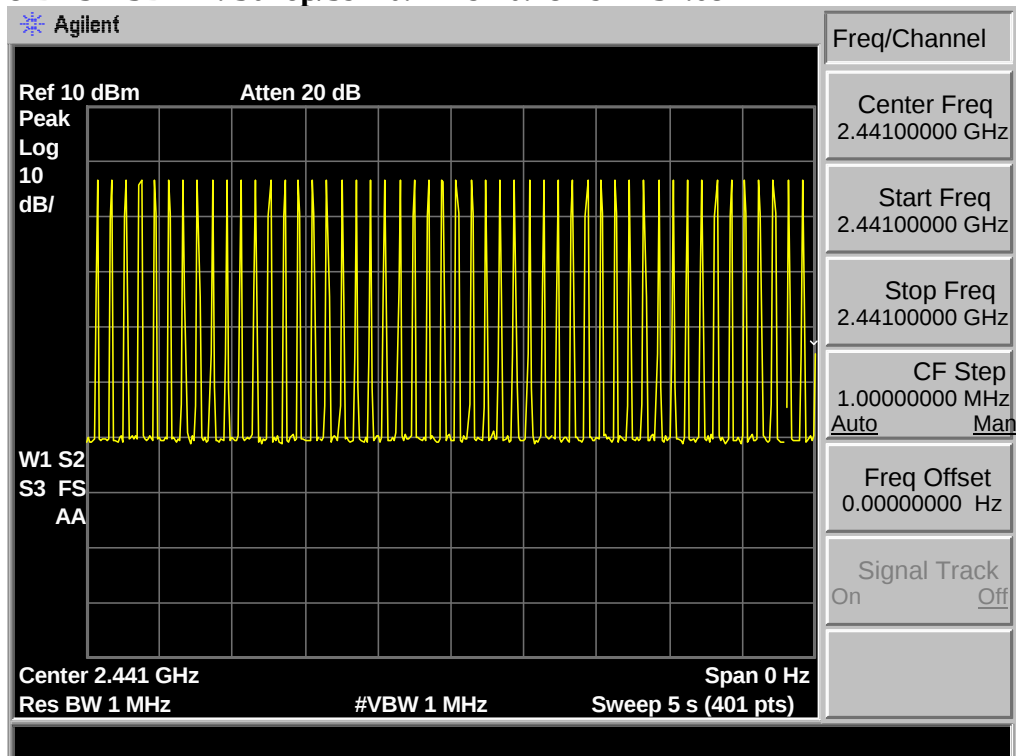


**GFSK DH3 : 25hop/5s \* 0.4 \* 79 \* 1.71ms= 270.18**

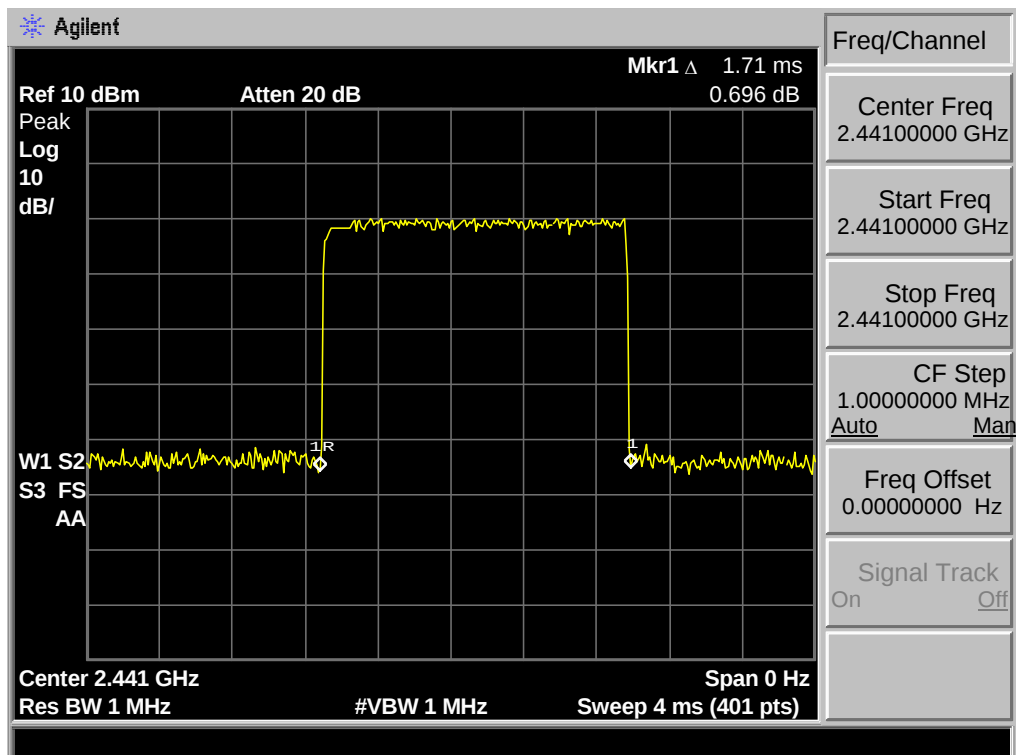
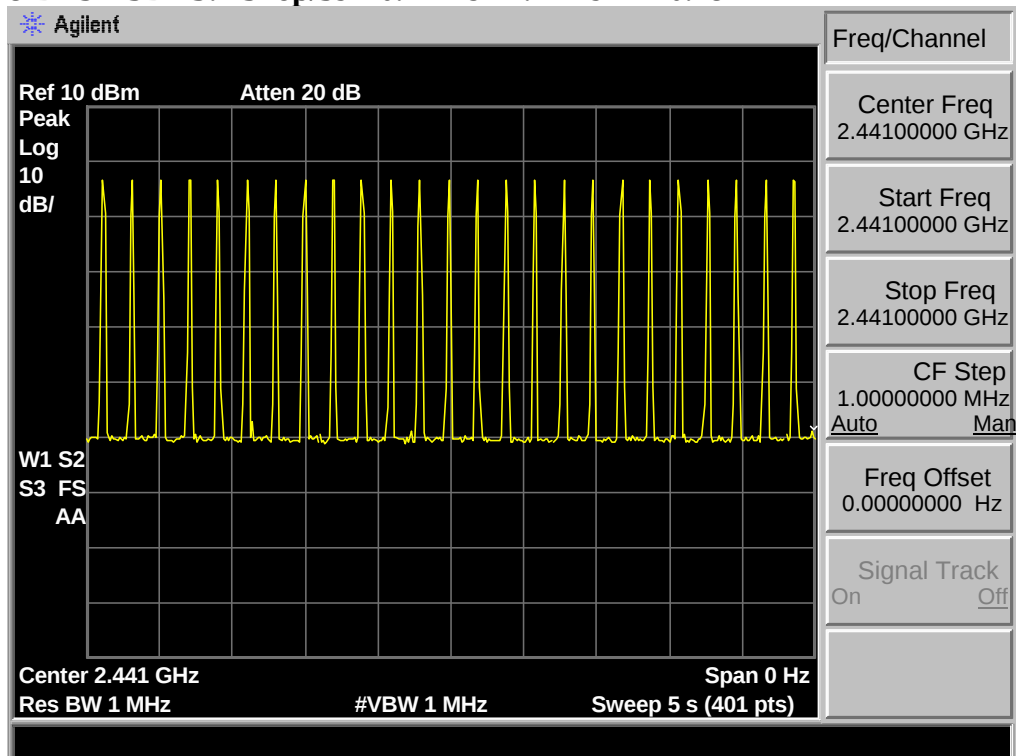
GSEK DH5 :  $17\text{hop}/5\text{s} * 0.4 * 79 * 2.95\text{ms} = 316.95$



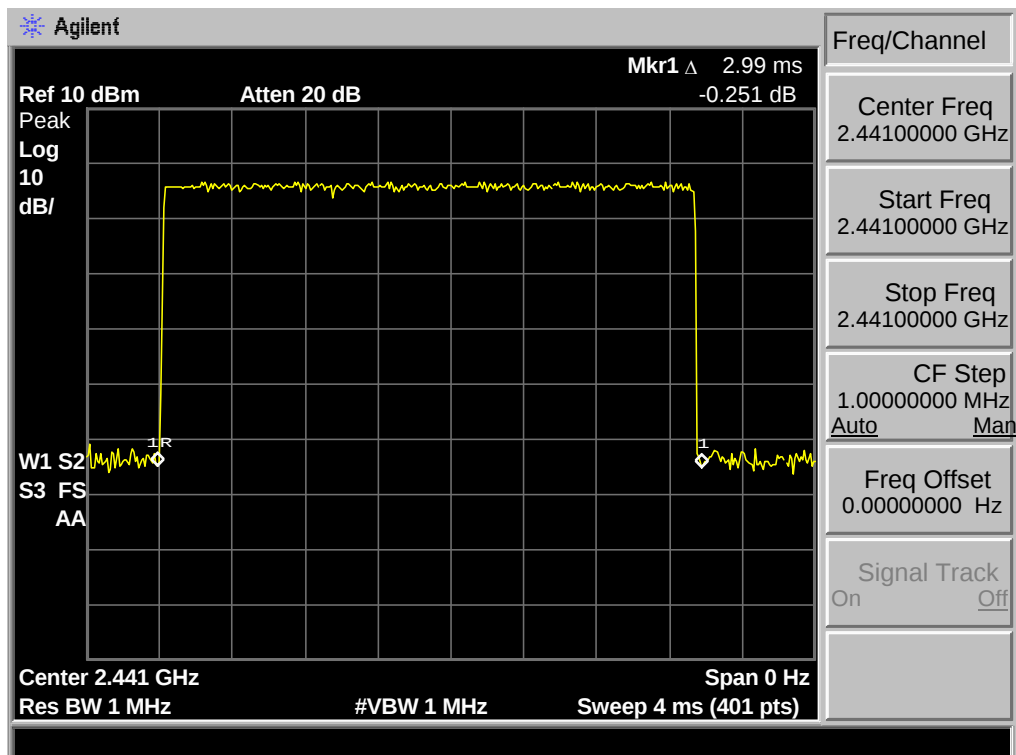
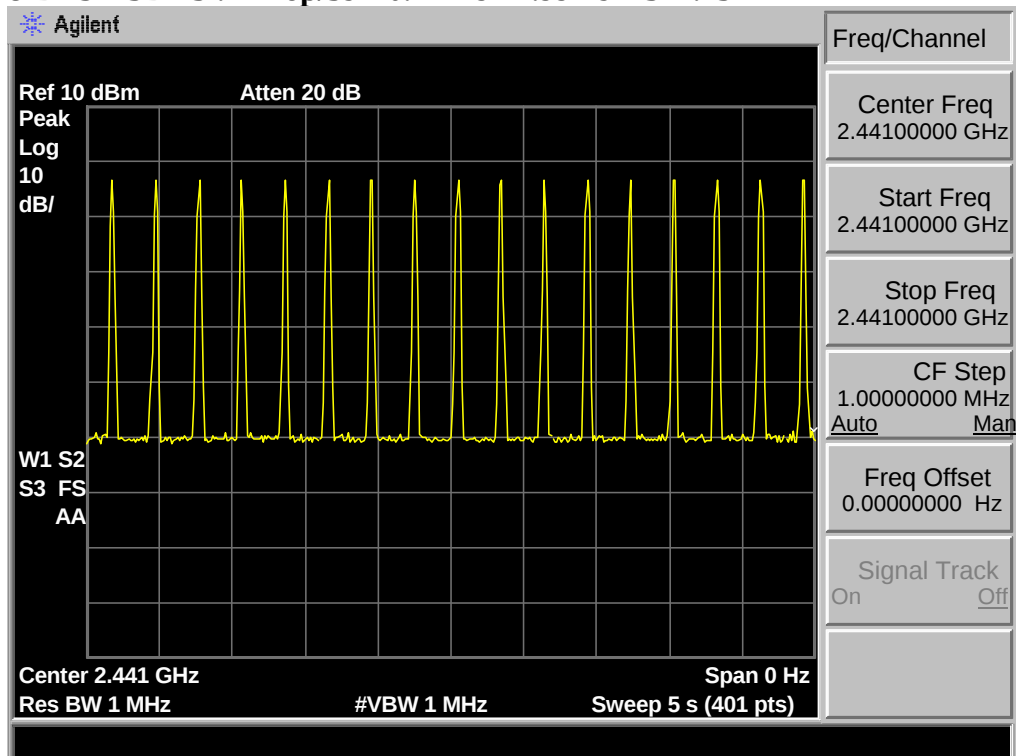
8-DPSK 3DH1 : 50hop/5s \* 0.4\* 79 \*0.48ms = 151.68



8-DPSK 3DH3: 25hop/5s \* 0.4 \* 79 \* 1.71ms = 270.18



8-DPSK 3DH5 : 17hop/5s \* 0.4 \* 79 \* 2.99ms = 321.25



## 8. RADIATED EMISSIONS

### 8.1. Limit

All the emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

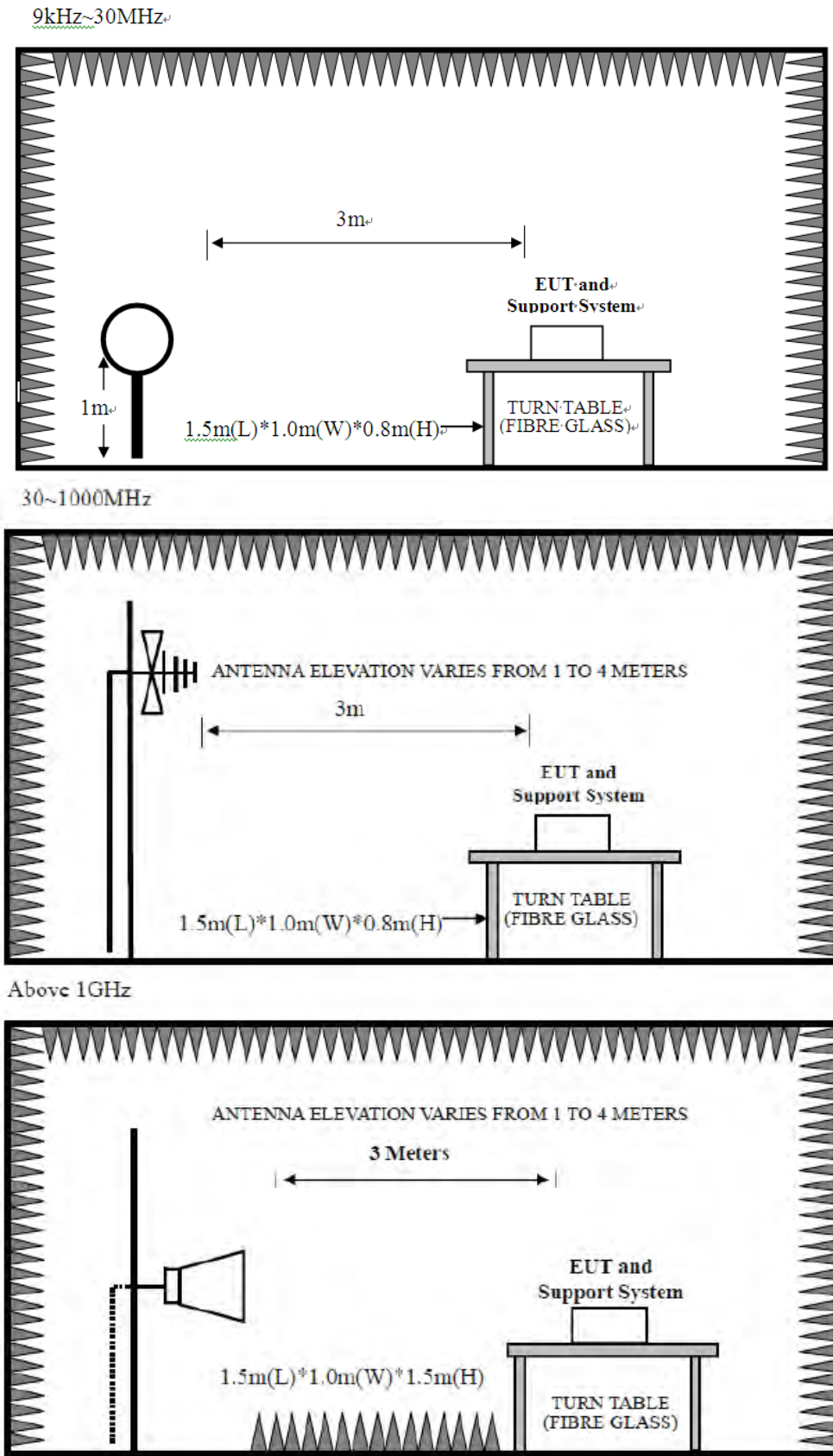
#### 15.205 Restricted frequency band

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

#### 15.209 Limit

| Frequency (MHz) | Field strength (μV/m) | Distance (m) |
|-----------------|-----------------------|--------------|
| 0.009-0.490     | 2400/F(kHz)           | 300          |
| 0.490-1.705     | 24000/F(kHz)          | 30           |
| 1.705-30        | 30                    | 30           |
| 30-88           | 100                   | 3            |
| 88-216          | 150                   | 3            |
| 216-960         | 200                   | 3            |
| Above 960       | 500                   | 3            |

8.2. Block Diagram of Test setup



### 8.3. Test Procedure

EUT was placed on a turn table, which is 0.8 meter high above ground for 9kHz~1000MHz test, and which is 1.5 meter high above ground for above 1GHz test. The turn table can rotate 360 degrees to determine the position of the maximum emission level. Power on the EUT and let it working in test mode, then test it. EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on test.

For the radiated emission test above 1GHz:

Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.

The test frequency analyzer system was set to Peak Detect (300Hz RBW in 9kHz to 150kHz and 10kHz RBW in 150kHz to 30MHz) Function and Specified Bandwidth with Maximum Hold Mode.

The bandwidth of the EMI test receiver (R&S ESVS10) is set at 120kHz for frequency range from 30MHz to 1000 MHz.

The bandwidth of the Spectrum's VBW is set at 1MHz and RBW is set at 1MHz for peak emissions measurement above 1GHz and 1MHz RBW, 10Hz VBW for average emissions measure above 1GHz

PEAK detector, 1MHz/1MHz for PAEK measurement,

PEAK detector, 1MHz/10Hz for Average measurement

The frequency range from 30MHz to 10th harmonic (25GHz) are checked.

### 8.4. Test Result

Pass

Note: 1、 For emissions above 1GHz, if peak level comply with average limit, then the average level is deemed to comply with average limit.

- 2、 The frequency 2402MHz 、2441MHz and 2480MHz is fundamental frequency which no limit, the limit on plots is automatically generated by the software, it's not fundamental limit, we can't remove it.

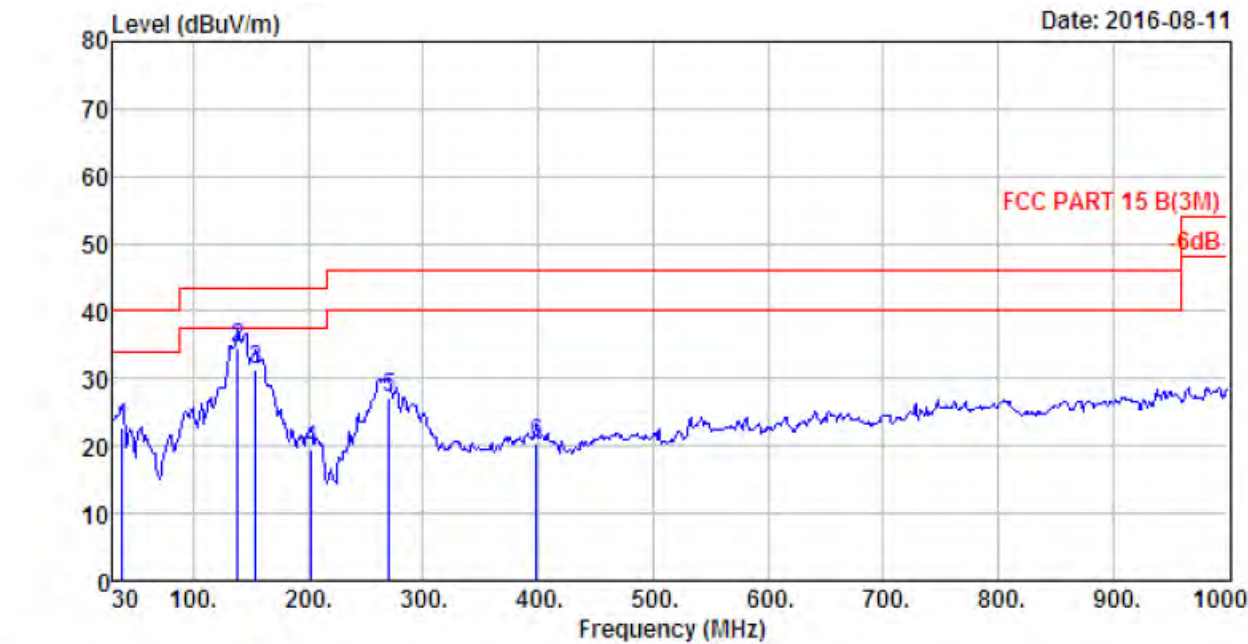
## 8.5. Test Data

9 kHz – 30 MHz

Pass

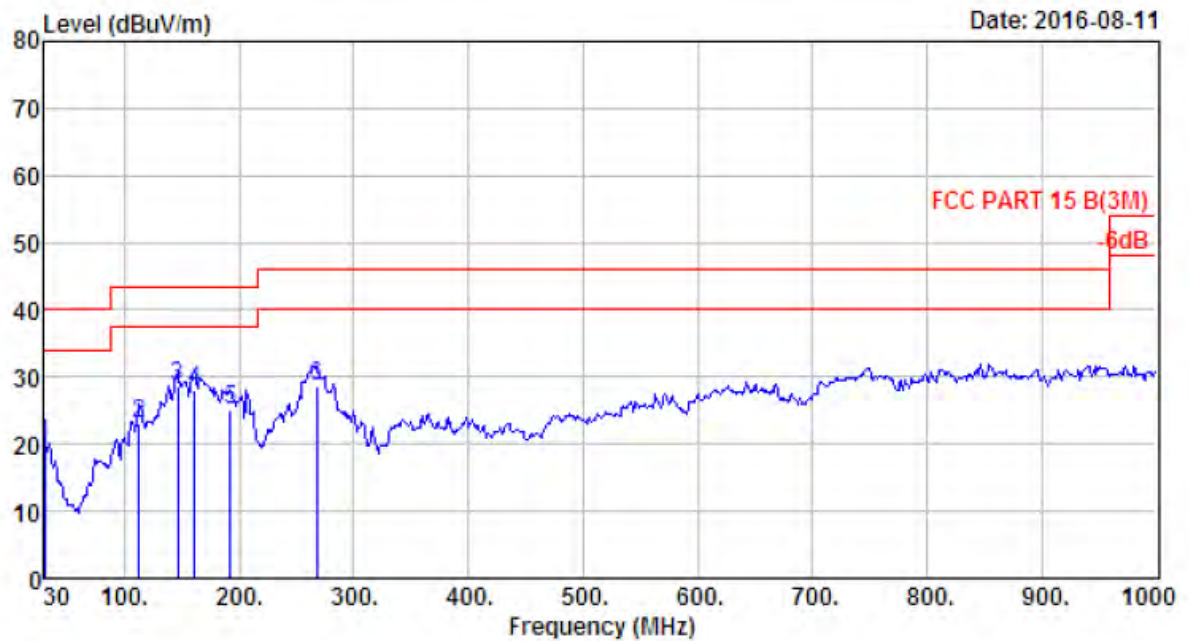
Note: The amplitude of spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.

30 MHz – 1000 MHz



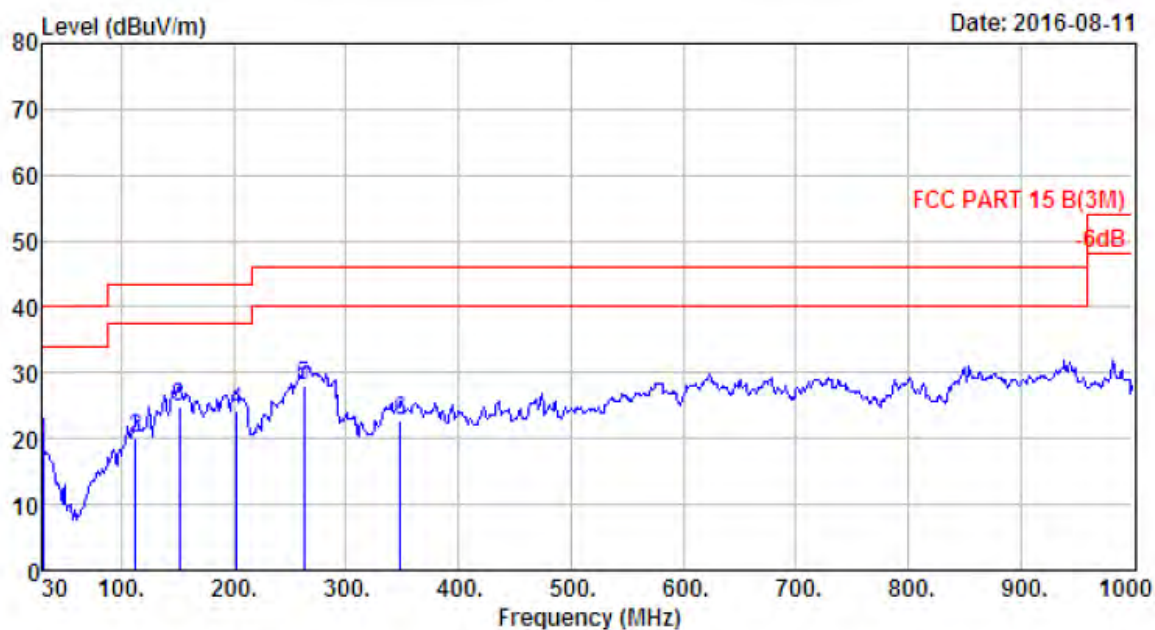
|             |                                           |           |            |
|-------------|-------------------------------------------|-----------|------------|
| Site no.    | : 966 1# chamber                          | Data no.  | : 375      |
| Dis. / Ant. | : 3m 27137                                | Ant. pol. | : VERTICAL |
| Limit       | : FCC PART 15 B(3M)                       |           |            |
| Env. / Ins. | : Temp:23.6';Humi:56%;Press:101.52kPa     |           |            |
| Engineer    | : Tony                                    |           |            |
| EUT         | : Amplifier with bluetooth audio receiver |           |            |
| Power       | : DC 15V From Adapter Input AC 120V/60Hz  |           |            |
| M/N         | : DN-200AZB                               |           |            |
| Test Mode   | : GFSK TX 2402MHz                         |           |            |

|   | Freq.<br>(MHz) | ANT<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|-------------------------|-----------------------|-------------------|-------------------------------|-------------------|----------------|--------|
| 1 | 37.76          | 14.05                   | 0.79                  | 7.90              | 22.74                         | 40.00             | 17.26          | QP     |
| 2 | 138.64         | 11.42                   | 1.54                  | 21.56             | 34.52                         | 43.50             | 8.98           | QP     |
| 3 | 154.16         | 10.71                   | 1.66                  | 18.88             | 31.25                         | 43.50             | 12.25          | QP     |
| 4 | 202.66         | 7.83                    | 1.84                  | 9.94              | 19.61                         | 43.50             | 23.89          | QP     |
| 5 | 270.56         | 12.53                   | 2.27                  | 12.22             | 27.02                         | 46.00             | 18.98          | QP     |
| 6 | 398.60         | 16.00                   | 2.67                  | 1.58              | 20.25                         | 46.00             | 25.75          | QP     |



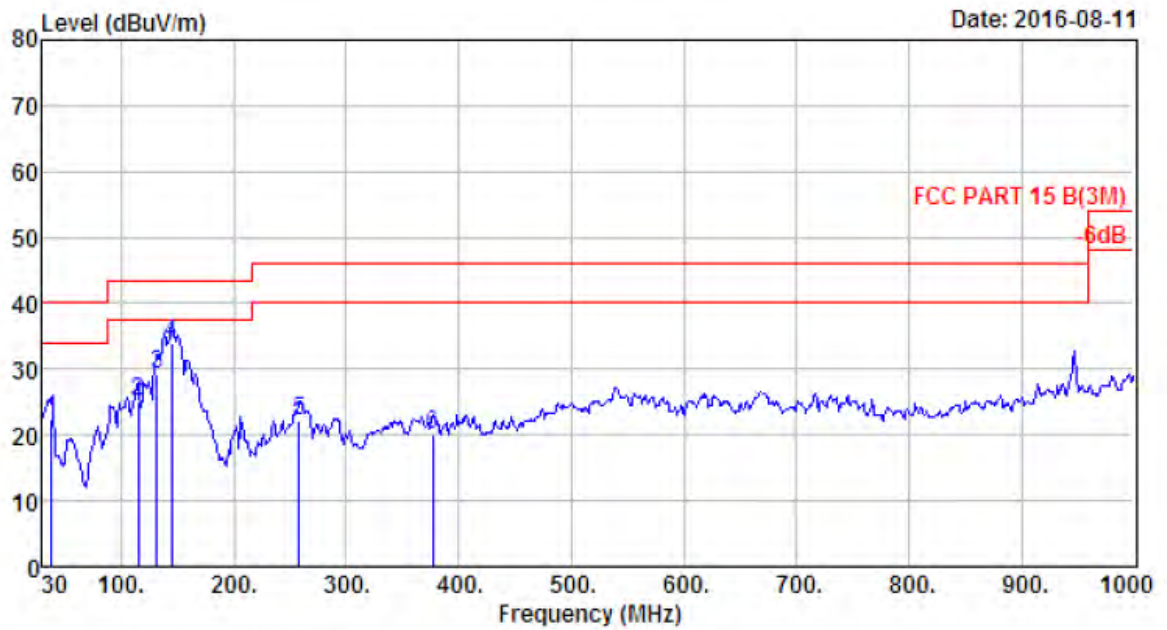
Site no. : 966 1# chamber Data no. : 376  
 Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 B(3M)  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Amplifier with bluetooth audio receiver  
 Power : DC 15V From Adapter Input AC 120V/60Hz  
 M/N : DN-200A2B  
 Test Mode : GFSK TX 2402MHz

|   | Freq.<br>(MHz) | ANT<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|-------------------------|-----------------------|-------------------|-------------------------------|-------------------|----------------|--------|
| 1 | 30.00          | 18.51                   | 0.65                  | 0.88              | 20.04                         | 40.00             | 19.96          | QP     |
| 2 | 112.45         | 10.68                   | 1.43                  | 10.94             | 23.05                         | 43.50             | 20.45          | QP     |
| 3 | 146.40         | 11.15                   | 1.58                  | 15.90             | 28.63                         | 43.50             | 14.87          | QP     |
| 4 | 160.95         | 10.24                   | 1.70                  | 16.14             | 28.08                         | 43.50             | 15.42          | QP     |
| 5 | 191.99         | 7.85                    | 1.78                  | 15.49             | 25.12                         | 43.50             | 18.38          | QP     |
| 6 | 267.65         | 12.71                   | 2.26                  | 13.64             | 28.61                         | 46.00             | 17.39          | QP     |



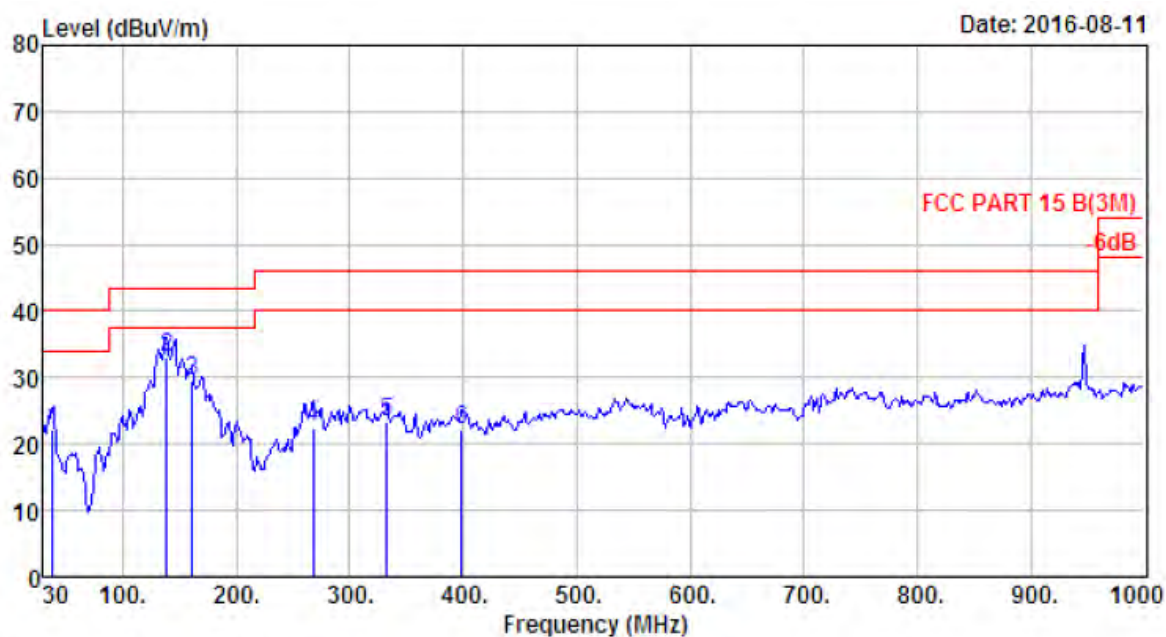
Site no. : 966 1# chamber      Data no. : 377  
 Dis. / Ant. : 3m 27137      Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 B(3M)  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Amplifier with bluetooth audio receiver  
 Power : DC 15V From Adapter Input AC 120V/60Hz  
 M/N : DN-200A2B  
 Test Mode : GFSK TX 2441MHz

|   | Freq.<br>(MHz) | ANT<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|-------------------------|-----------------------|-------------------|-------------------------------|-------------------|----------------|--------|
| 1 | 30.00          | 18.51                   | 0.65                  | 0.36              | 19.52                         | 40.00             | 20.48          | QP     |
| 2 | 112.45         | 10.68                   | 1.43                  | 8.07              | 20.18                         | 43.50             | 23.32          | QP     |
| 3 | 151.25         | 10.82                   | 1.61                  | 12.48             | 24.91                         | 43.50             | 18.59          | QP     |
| 4 | 202.66         | 7.83                    | 1.84                  | 14.58             | 24.25                         | 43.50             | 19.25          | QP     |
| 5 | 262.80         | 12.95                   | 2.22                  | 12.91             | 28.08                         | 46.00             | 17.92          | QP     |
| 6 | 348.16         | 14.41                   | 2.53                  | 5.81              | 22.75                         | 46.00             | 23.25          | QP     |



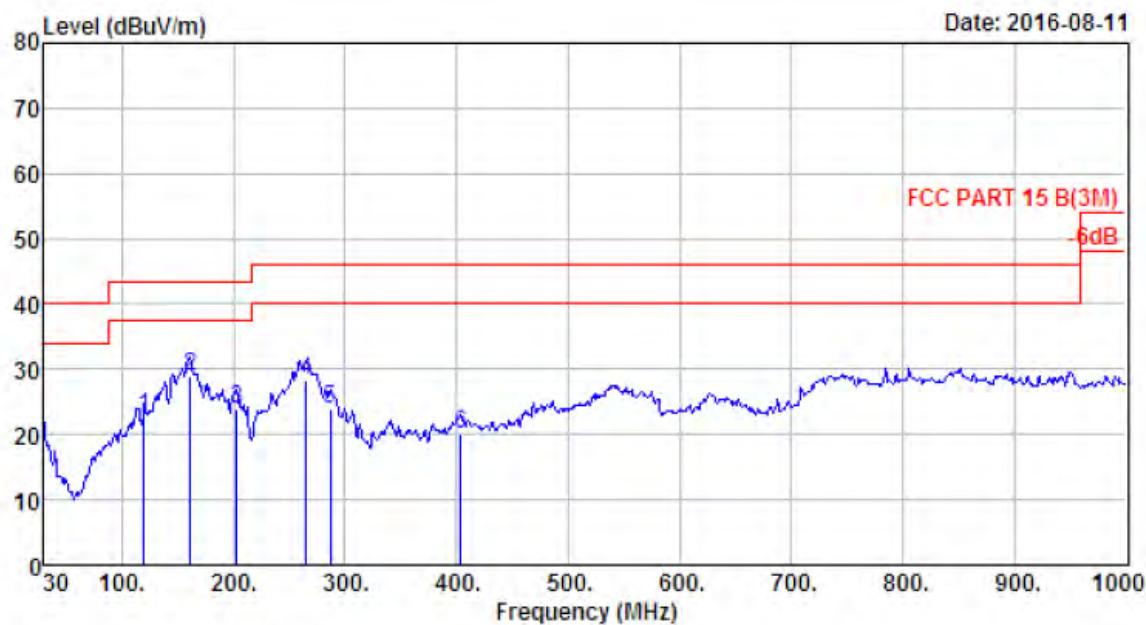
Site no. : 966 1# chamber                      Data no. : 378  
 Dis. / Ant. : 3m 27137                      Ant. pol. : VERTICAL  
 Limit : FCC PART 15 B(3M)  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Amplifier with bluetooth audio receiver  
 Power : DC 15V From Adapter Input AC 120V/60Hz  
 M/N : DN-200AZB  
 Test Mode : GFSK TX 2441MHz

|   | Freq.<br>(MHz) | ANT<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|-------------------------|-----------------------|-------------------|-------------------------------|-------------------|----------------|--------|
| 1 | 37.76          | 14.05                   | 0.79                  | 7.68              | 22.52                         | 40.00             | 17.48          | QP     |
| 2 | 115.36         | 10.93                   | 1.46                  | 12.56             | 24.95                         | 43.50             | 18.55          | QP     |
| 3 | 131.85         | 11.34                   | 1.50                  | 16.44             | 29.28                         | 43.50             | 14.22          | QP     |
| 4 | 144.46         | 11.26                   | 1.54                  | 21.11             | 33.91                         | 43.50             | 9.59           | QP     |
| 5 | 257.95         | 12.75                   | 2.19                  | 7.05              | 21.99                         | 46.00             | 24.01          | QP     |
| 6 | 377.26         | 14.96                   | 2.62                  | 2.54              | 20.12                         | 46.00             | 25.88          | QP     |



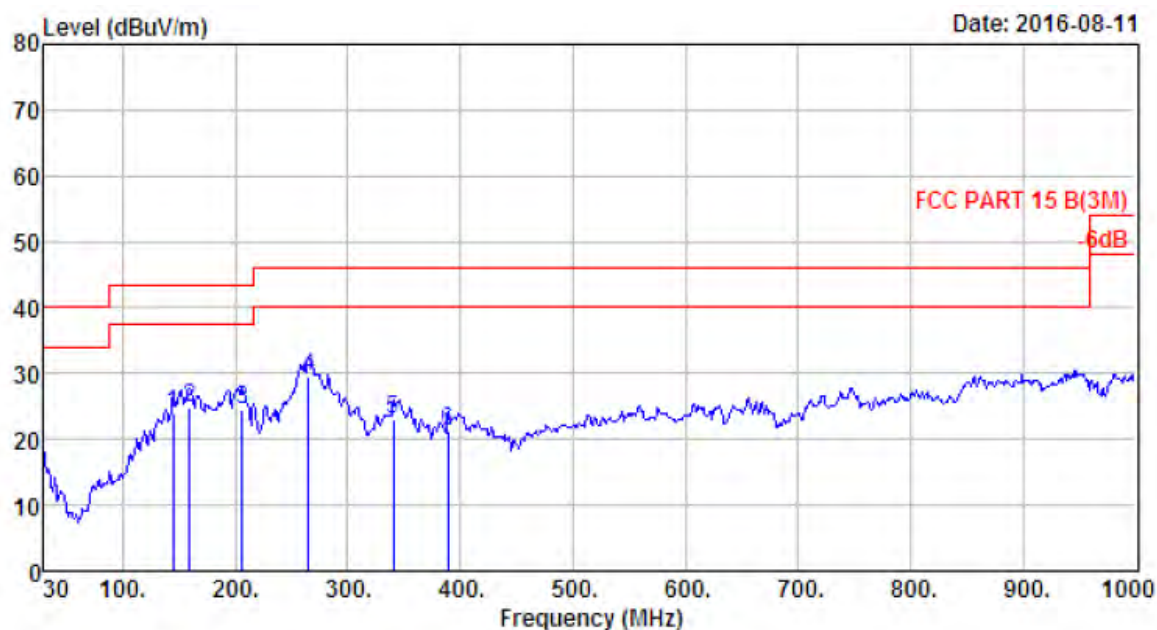
Site no. : 966 1# chamber                      Data no. : 379  
 Dis. / Ant. : 3m 27137                      Ant. pol. : VERTICAL  
 Limit : FCC PART 15 B(3M)  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUI : Amplifier with bluetooth audio receiver  
 Power : DC 15V From Adapter Input AC 120V/60Hz  
 M/N : DN-200AZB  
 Test Mode : GFSK TX 2480MHz

|   | Freq.<br>(MHz) | Ant<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|-------------------------|-----------------------|-------------------|-------------------------------|-------------------|----------------|--------|
| 1 | 37.76          | 14.05                   | 0.79                  | 7.24              | 22.08                         | 40.00             | 17.92          | QP     |
| 2 | 138.64         | 11.42                   | 1.54                  | 20.17             | 33.13                         | 43.50             | 10.37          | QP     |
| 3 | 160.95         | 10.24                   | 1.70                  | 17.62             | 29.56                         | 43.50             | 13.94          | QP     |
| 4 | 267.65         | 12.71                   | 2.26                  | 7.54              | 22.51                         | 46.00             | 23.49          | QP     |
| 5 | 332.64         | 13.93                   | 2.48                  | 6.89              | 23.30                         | 46.00             | 22.70          | QP     |
| 6 | 398.60         | 16.00                   | 2.67                  | 3.55              | 22.22                         | 46.00             | 23.78          | QP     |



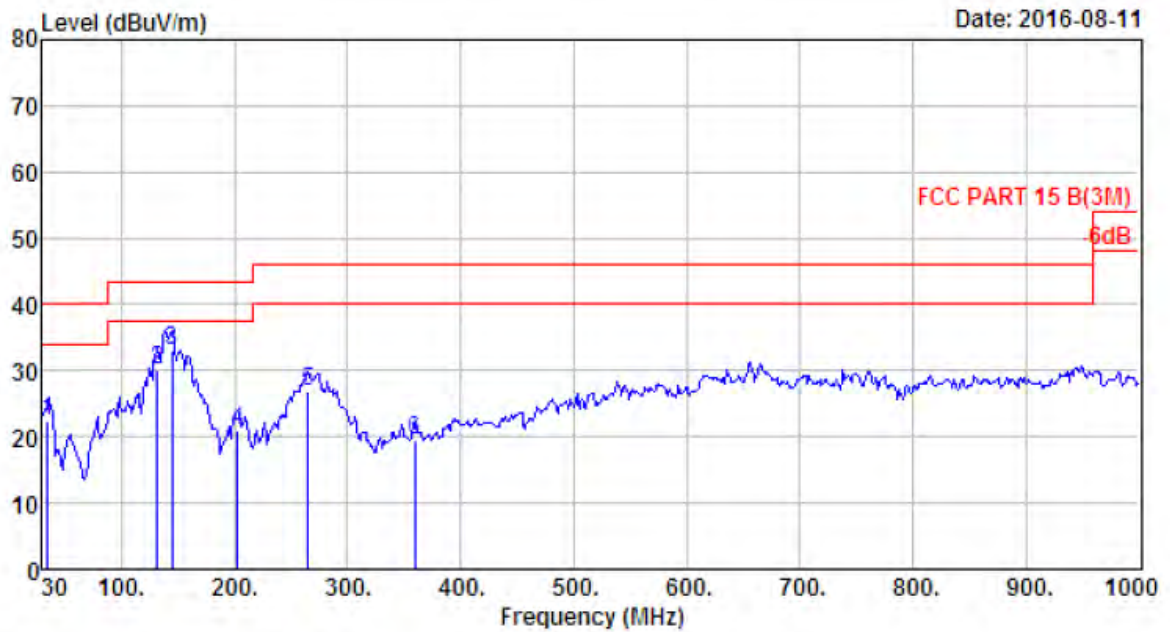
Site no. : 966 1# chamber Data no. : 380  
 Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 B(3M)  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Amplifier with bluetooth audio receiver  
 Power : DC 15V From Adapter Input AC 120V/60Hz  
 M/N : DN-200AZB  
 Test Mode : GFSK TX 2480MHz

|   | Freq.<br>(MHz) | ANT<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|-------------------------|-----------------------|-------------------|-------------------------------|-------------------|----------------|--------|
| 1 | 119.24         | 11.11                   | 1.42                  | 10.21             | 22.74                         | 43.50             | 20.76          | QP     |
| 2 | 160.95         | 10.24                   | 1.70                  | 16.98             | 28.92                         | 43.50             | 14.58          | QP     |
| 3 | 202.66         | 7.83                    | 1.84                  | 14.27             | 23.94                         | 43.50             | 19.56          | QP     |
| 4 | 264.74         | 12.94                   | 2.28                  | 13.05             | 28.27                         | 46.00             | 17.73          | QP     |
| 5 | 287.05         | 12.59                   | 2.32                  | 8.94              | 23.85                         | 46.00             | 22.15          | QP     |
| 6 | 403.45         | 16.14                   | 2.69                  | 1.20              | 20.03                         | 46.00             | 25.97          | QP     |



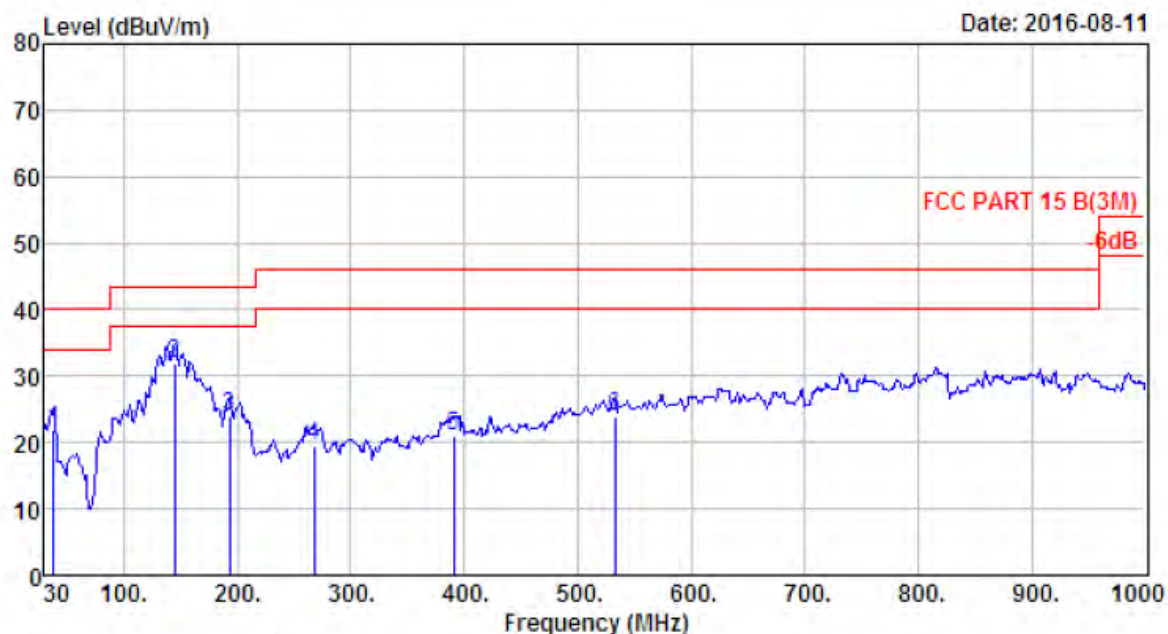
Site no. : 966 1# chamber Data no. : 381  
 Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 B(3M)  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Amplifier with bluetooth audio receiver  
 Power : DC 15V From Adapter Input AC 120V/60Hz  
 M/N : DN-200AZB  
 Test Mode : 8-DPSK TX 2402MHz

|   | Freq.<br>(MHz) | ANT<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|-------------------------|-----------------------|-------------------|-------------------------------|-------------------|----------------|--------|
| 1 | 144.46         | 11.26                   | 1.54                  | 11.09             | 23.89                         | 43.50             | 19.61          | QP     |
| 2 | 159.01         | 10.42                   | 1.68                  | 12.66             | 24.76                         | 43.50             | 18.74          | QP     |
| 3 | 206.54         | 8.09                    | 1.81                  | 14.74             | 24.64                         | 43.50             | 18.86          | QP     |
| 4 | 264.74         | 12.94                   | 2.28                  | 14.30             | 29.52                         | 46.00             | 16.48          | QP     |
| 5 | 340.40         | 14.16                   | 2.51                  | 6.31              | 22.98                         | 46.00             | 23.02          | QP     |
| 6 | 388.90         | 15.54                   | 2.65                  | 2.96              | 21.15                         | 46.00             | 24.85          | QP     |



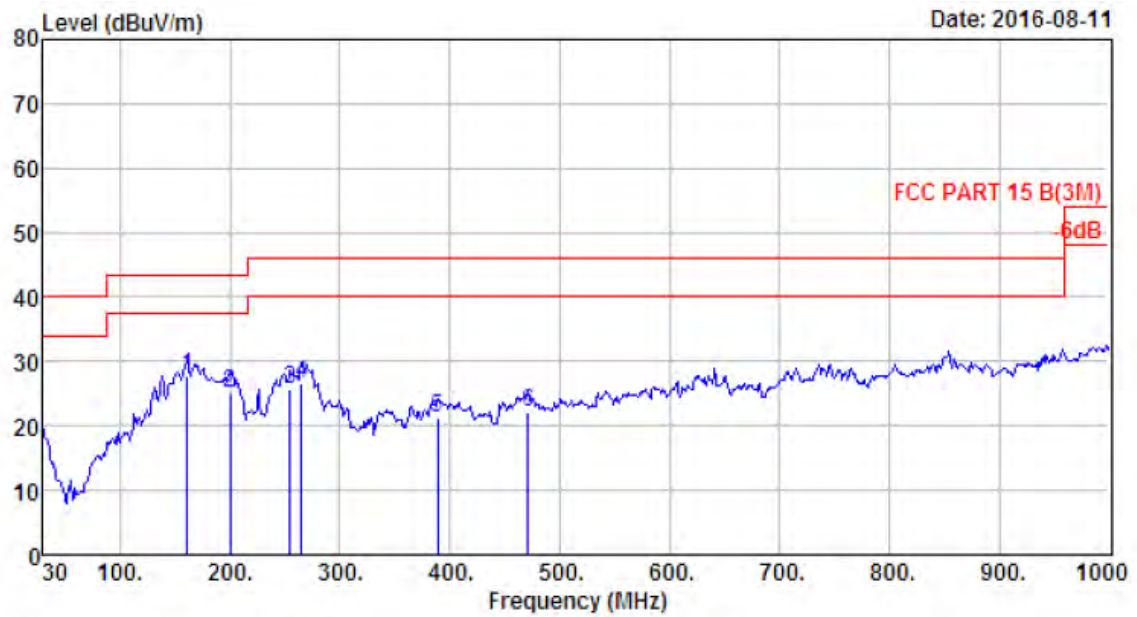
Site no. : 966 1# chamber                      Data no. : 382  
 Dis. / Ant. : 3m 27137                      Ant. pol. : VERTICAL  
 Limit : FCC PART 15 B(3M)  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Amplifier with bluetooth audio receiver  
 Power : DC 15V From Adapter Input AC 120V/60Hz  
 M/N : DN-200AZB  
 Test Mode : 8-DPSK TX 2402MHz

|   | Freq.<br>(MHz) | ANT<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|-------------------------|-----------------------|-------------------|-------------------------------|-------------------|----------------|--------|
| 1 | 34.85          | 15.55                   | 0.72                  | 6.11              | 22.38                         | 40.00             | 17.62          | QP     |
| 2 | 131.85         | 11.34                   | 1.50                  | 17.39             | 30.23                         | 43.50             | 13.27          | QP     |
| 3 | 144.46         | 11.26                   | 1.54                  | 20.29             | 33.09                         | 43.50             | 10.41          | QP     |
| 4 | 202.66         | 7.83                    | 1.84                  | 11.33             | 21.00                         | 43.50             | 22.50          | QP     |
| 5 | 264.74         | 12.94                   | 2.28                  | 11.70             | 26.92                         | 46.00             | 19.08          | QP     |
| 6 | 359.80         | 14.45                   | 2.59                  | 2.40              | 19.44                         | 46.00             | 26.56          | QP     |



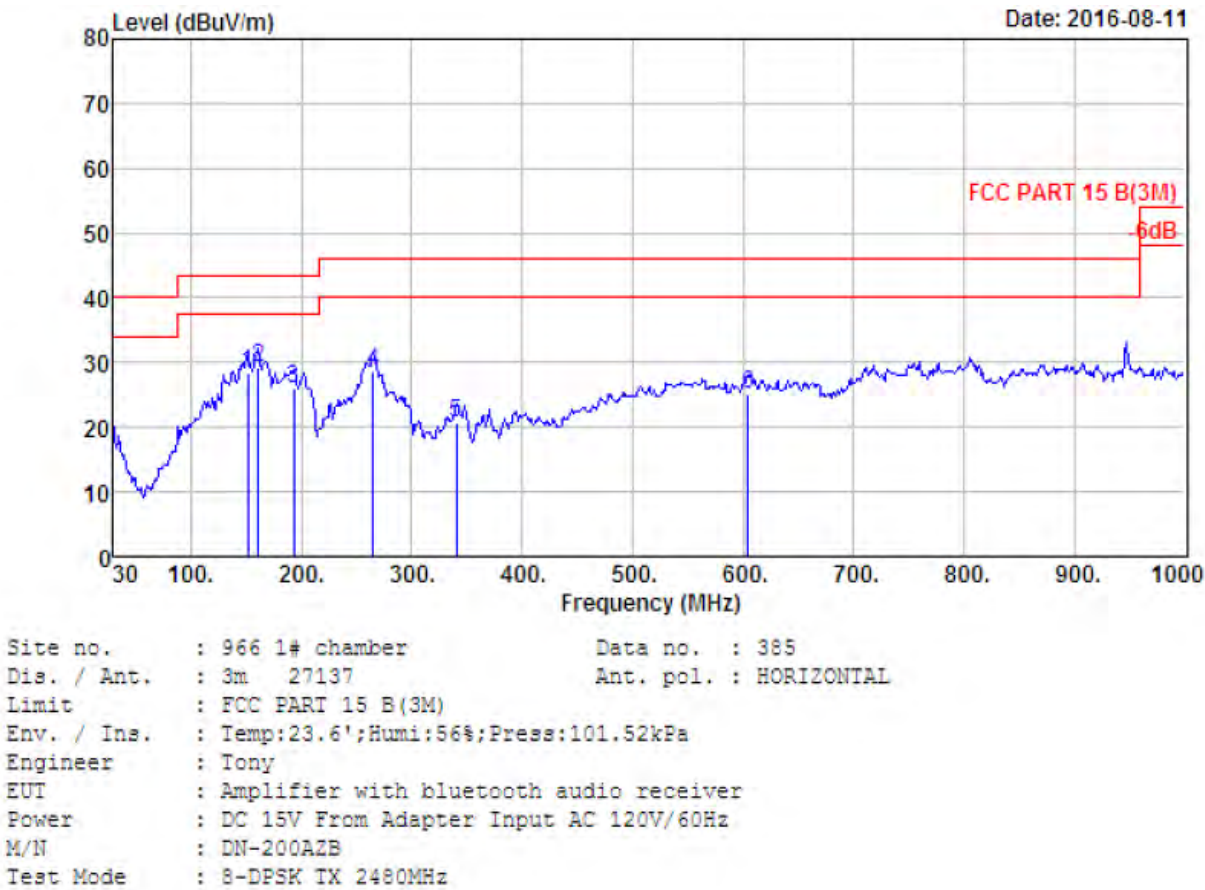
Site no. : 966 1# chamber                      Data no. : 383  
 Dis. / Ant. : 3m 27137                      Ant. pol. : VERTICAL  
 Limit : FCC PART 15 B(3M)  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Amplifier with bluetooth audio receiver  
 Power : DC 15V From Adapter Input AC 120V/60Hz  
 M/N : DN-200A2B  
 Test Mode : 8-DPSK TX 2441MHz

|   | Freq.<br>(MHz) | ANT<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|-------------------------|-----------------------|-------------------|-------------------------------|-------------------|----------------|--------|
| 1 | 37.76          | 14.05                   | 0.79                  | 6.86              | 21.70                         | 40.00             | 18.30          | QP     |
| 2 | 144.46         | 11.26                   | 1.54                  | 19.10             | 31.90                         | 43.50             | 11.60          | QP     |
| 3 | 192.96         | 7.85                    | 1.77                  | 14.17             | 23.79                         | 43.50             | 19.71          | QP     |
| 4 | 267.65         | 12.71                   | 2.26                  | 4.48              | 19.45                         | 46.00             | 26.55          | QP     |
| 5 | 390.84         | 15.65                   | 2.65                  | 2.74              | 21.04                         | 46.00             | 24.96          | QP     |
| 6 | 532.46         | 18.57                   | 3.25                  | 2.10              | 23.92                         | 46.00             | 22.08          | QP     |

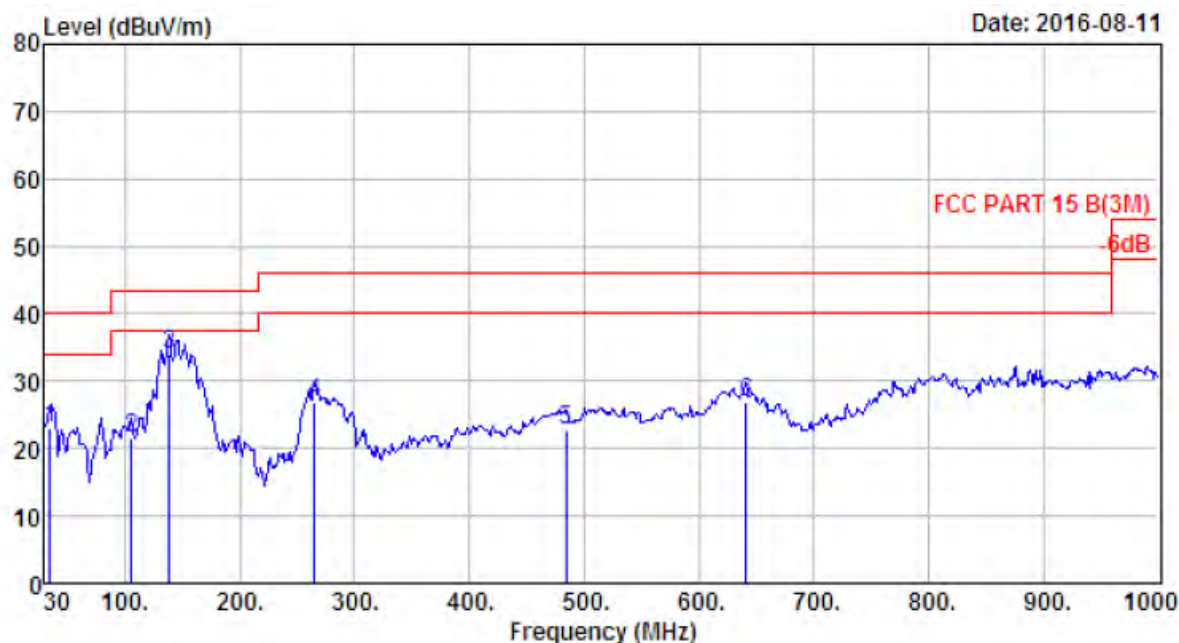


Site no. : 966 1# chamber      Data no. : 384  
 Dis. / Ant. : 3m 27137      Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 B(3M)  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Amplifier with bluetooth audio receiver  
 Power : DC 15V From Adapter Input AC 120V/60Hz  
 M/N : DN-200A2B  
 Test Mode : 8-DPSK TX 2441MHz

|   | Freq.<br>(MHz) | ANT<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|-------------------------|-----------------------|-------------------|-------------------------------|-------------------|----------------|--------|
| 1 | 160.95         | 10.24                   | 1.70                  | 15.74             | 27.68                         | 43.50             | 15.82          | QP     |
| 2 | 199.75         | 7.71                    | 1.77                  | 15.72             | 25.20                         | 43.50             | 18.30          | QP     |
| 3 | 255.04         | 12.41                   | 2.13                  | 11.02             | 25.56                         | 46.00             | 20.44          | QP     |
| 4 | 264.74         | 12.94                   | 2.28                  | 11.47             | 26.69                         | 46.00             | 19.31          | QP     |
| 5 | 388.90         | 15.54                   | 2.65                  | 2.92              | 21.11                         | 46.00             | 24.89          | QP     |
| 6 | 471.35         | 17.23                   | 3.11                  | 1.92              | 22.26                         | 46.00             | 23.74          | QP     |



|   | Freq.<br>(MHz) | ANT<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|-------------------------|-----------------------|-------------------|-------------------------------|-------------------|----------------|--------|
| 1 | 151.25         | 10.82                   | 1.61                  | 15.82             | 28.25                         | 43.50             | 15.25          | QP     |
| 2 | 160.95         | 10.24                   | 1.70                  | 17.25             | 29.19                         | 43.50             | 14.31          | QP     |
| 3 | 192.96         | 7.85                    | 1.77                  | 16.33             | 25.95                         | 43.50             | 17.55          | QP     |
| 4 | 264.74         | 12.94                   | 2.28                  | 13.44             | 28.66                         | 46.00             | 17.34          | QP     |
| 5 | 340.40         | 14.16                   | 2.51                  | 4.05              | 20.72                         | 46.00             | 25.28          | QP     |
| 6 | 604.24         | 19.71                   | 3.41                  | 1.96              | 25.08                         | 46.00             | 20.92          | QP     |



Site no. : 966 1# chamber Data no. : 386  
 Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL  
 Limit : FCC PART 15 B(3M)  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Amplifier with bluetooth audio receiver  
 Power : DC 15V From Adapter Input AC 120V/60Hz  
 M/N : DN-200AZB  
 Test Mode : 8-DPSK TX 2480MHz

|   | Freq.<br>(MHz) | ANT<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|-------------------------|-----------------------|-------------------|-------------------------------|-------------------|----------------|--------|
| 1 | 34.85          | 15.55                   | 0.72                  | 6.85              | 23.12                         | 40.00             | 16.88          | QP     |
| 2 | 105.66         | 10.05                   | 1.41                  | 10.16             | 21.62                         | 43.50             | 21.88          | QP     |
| 3 | 138.64         | 11.42                   | 1.54                  | 20.86             | 33.82                         | 43.50             | 9.68           | QP     |
| 4 | 264.74         | 12.94                   | 2.28                  | 11.61             | 26.83                         | 46.00             | 19.17          | QP     |
| 5 | 483.96         | 17.59                   | 3.07                  | 2.08              | 22.74                         | 46.00             | 23.26          | QP     |
| 6 | 641.10         | 20.02                   | 3.56                  | 3.24              | 26.82                         | 46.00             | 19.18          | QP     |

**Above 1000 MHz**

Site no. : 966 1# chamber                      Data no. : 317  
 Dis. / Ant. : 3m ANT 1-18G                      Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Amplifier with bluetooth audio receiver  
 Power : DC 15V From Adapter Input AC 120V/60Hz  
 M/N : DN-200AZB  
 Test Mode : GFSK TX 2402MHz

|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Amp<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 2402.00        | 27.61                    | 6.62                  | 34.64                 | 88.45             | 88.04                         | 74.00              | -14.04         | Peak   |
| 2 | 4804.00        | 31.25                    | 11.77                 | 35.64                 | 33.68             | 41.06                         | 74.00              | 32.94          | Peak   |
| 3 | 7206.00        | 36.52                    | 11.54                 | 33.95                 | 29.42             | 43.53                         | 74.00              | 30.47          | Peak   |
| 4 | 8684.00        | 37.32                    | 11.45                 | 33.66                 | 29.23             | 44.34                         | 74.00              | 29.66          | Peak   |
| 5 | 10894.00       | 39.41                    | 11.29                 | 34.05                 | 27.98             | 44.63                         | 74.00              | 29.37          | Peak   |
| 6 | 14005.00       | 41.46                    | 10.90                 | 33.01                 | 27.27             | 46.62                         | 74.00              | 27.38          | Peak   |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official  
 limit are not reported.

Site no. : 966 1# chamber                      Data no. : 318  
 Dis. / Ant. : 3m    ANT 1-18G                      Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Amplifier with bluetooth audio receiver  
 Power : DC 15V From Adapter Input AC 120V/60Hz  
 M/N : DN-200AZB  
 Test Mode : GFSK TX 2402MHz

|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Amp<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 2402.00        | 27.61                    | 6.62                  | 34.64                 | 94.48             | 94.07                         | 74.00              | -20.07         | Peak   |
| 2 | 4804.00        | 31.25                    | 11.77                 | 35.64                 | 36.22             | 43.60                         | 74.00              | 30.40          | Peak   |
| 3 | 7206.00        | 36.52                    | 11.54                 | 33.95                 | 30.60             | 44.71                         | 74.00              | 29.29          | Peak   |
| 4 | 8480.00        | 36.91                    | 11.45                 | 34.18                 | 32.01             | 46.19                         | 74.00              | 27.81          | Peak   |
| 5 | 11336.00       | 39.30                    | 11.04                 | 33.44                 | 28.09             | 44.99                         | 74.00              | 29.01          | Peak   |
| 6 | 14090.00       | 41.54                    | 10.91                 | 33.13                 | 26.72             | 46.04                         | 74.00              | 27.96          | Peak   |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official  
 limit are not reported.

Site no. : 966 1# chamber Data no. : 319  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Amplifier with bluetooth audio receiver  
 Power : DC 15V From Adapter Input AC 120V/60Hz  
 M/N : DN-200AZB  
 Test Mode : GFSK TX 2441MHz

|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Amp<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 2441.00        | 27.60                    | 6.67                  | 34.85                 | 89.12             | 88.54                         | 74.00              | -14.54         | Peak   |
| 2 | 4882.00        | 31.37                    | 12.07                 | 35.76                 | 32.73             | 40.41                         | 74.00              | 33.59          | Peak   |
| 3 | 7323.00        | 36.55                    | 11.57                 | 34.14                 | 31.21             | 45.19                         | 74.00              | 28.81          | Peak   |
| 4 | 8701.00        | 37.35                    | 11.45                 | 33.65                 | 27.96             | 43.11                         | 74.00              | 30.89          | Peak   |
| 5 | 11064.00       | 39.48                    | 11.24                 | 33.83                 | 25.85             | 42.74                         | 74.00              | 31.26          | Peak   |
| 6 | 14056.00       | 41.51                    | 10.90                 | 33.06                 | 27.21             | 46.56                         | 74.00              | 27.44          | Peak   |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : 966 1# chamber Data no. : 320  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Amplifier with bluetooth audio receiver  
 Power : DC 15V From Adapter Input AC 120V/60Hz  
 M/N : DN-200AZB  
 Test Mode : GFSK TX 2441MHz

|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Amp<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 2441.00        | 27.60                    | 6.67                  | 34.85                 | 94.12             | 93.54                         | 74.00              | -19.54         | Peak   |
| 2 | 4882.00        | 31.37                    | 12.07                 | 35.76                 | 37.98             | 45.66                         | 74.00              | 28.34          | Peak   |
| 3 | 7323.00        | 36.55                    | 11.57                 | 34.14                 | 30.28             | 44.26                         | 74.00              | 29.74          | Peak   |
| 4 | 8684.00        | 37.32                    | 11.45                 | 33.66                 | 29.98             | 45.09                         | 74.00              | 28.91          | Peak   |
| 5 | 11030.00       | 39.50                    | 11.27                 | 33.98                 | 27.86             | 44.65                         | 74.00              | 29.35          | Peak   |
| 6 | 14294.00       | 41.71                    | 10.92                 | 33.42                 | 27.85             | 47.06                         | 74.00              | 26.94          | Peak   |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official  
 limit are not reported.

Site no. : 966 1# chamber Data no. : 321  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Amplifier with bluetooth audio receiver  
 Power : DC 15V From Adapter Input AC 120V/60Hz  
 M/N : DN-200AZB  
 Test Mode : GFSK TX 2480MHz

|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Amp<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 2480.00        | 27.58                    | 6.71                  | 35.11                 | 90.04             | 89.22                         | 74.00              | -15.22         | Peak   |
| 2 | 4960.00        | 31.49                    | 12.44                 | 36.01                 | 36.18             | 44.10                         | 74.00              | 29.90          | Peak   |
| 3 | 7440.00        | 36.54                    | 11.61                 | 34.22                 | 30.53             | 44.46                         | 74.00              | 29.54          | Peak   |
| 4 | 10486.00       | 38.95                    | 11.32                 | 34.50                 | 28.90             | 44.67                         | 74.00              | 29.33          | Peak   |
| 5 | 13087.00       | 39.09                    | 11.44                 | 32.81                 | 26.86             | 44.58                         | 74.00              | 29.42          | Peak   |
| 6 | 13954.00       | 41.35                    | 10.96                 | 32.99                 | 27.47             | 46.79                         | 74.00              | 27.21          | Peak   |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : 966 1# chamber                      Data no. : 322  
 Dis. / Ant. : 3m    ANT 1-18G                      Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Amplifier with bluetooth audio receiver  
 Power : DC 15V From Adapter Input AC 120V/60Hz  
 M/N : DN-200AZB  
 Test Mode : GFSK TX 2480MHz

|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Amp<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 2480.00        | 27.58                    | 6.71                  | 35.11                 | 87.94             | 87.12                         | 74.00              | -13.12         | Peak   |
| 2 | 4960.00        | 31.49                    | 12.44                 | 36.01                 | 33.38             | 41.30                         | 74.00              | 32.70          | Peak   |
| 3 | 7440.00        | 36.54                    | 11.61                 | 34.22                 | 31.15             | 45.08                         | 74.00              | 28.92          | Peak   |
| 4 | 8650.00        | 37.27                    | 11.45                 | 33.68                 | 30.66             | 45.70                         | 74.00              | 28.30          | Peak   |
| 5 | 11200.00       | 39.39                    | 11.14                 | 33.24                 | 28.84             | 46.13                         | 74.00              | 27.87          | Peak   |
| 6 | 14124.00       | 41.57                    | 10.91                 | 33.22                 | 28.86             | 48.12                         | 74.00              | 25.88          | Peak   |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official  
 limit are not reported.

Site no. : 966 1# chamber                      Data no. : 323  
 Dis. / Ant. : 3m ANT 1-18G                      Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Amplifier with bluetooth audio receiver  
 Power : DC 15V From Adapter Input AC 120V/60Hz  
 M/N : DN-200AZB  
 Test Mode : 8-DPSK TX 2402MHz

|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Amp<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 2402.00        | 27.61                    | 6.62                  | 34.64                 | 91.01             | 90.60                         | 74.00              | -16.60         | Peak   |
| 2 | 4804.00        | 31.25                    | 11.77                 | 35.64                 | 32.19             | 39.57                         | 74.00              | 34.43          | Peak   |
| 3 | 7206.00        | 36.52                    | 11.54                 | 33.95                 | 30.79             | 44.90                         | 74.00              | 29.10          | Peak   |
| 4 | 9245.00        | 37.83                    | 11.58                 | 34.37                 | 31.03             | 46.07                         | 74.00              | 27.93          | Peak   |
| 5 | 11234.00       | 39.37                    | 11.12                 | 33.25                 | 28.28             | 45.52                         | 74.00              | 28.48          | Peak   |
| 6 | 13665.00       | 40.55                    | 11.30                 | 32.75                 | 27.87             | 46.97                         | 74.00              | 27.03          | Peak   |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : 966 1# chamber Data no. : 324  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Amplifier with bluetooth audio receiver  
 Power : DC 15V From Adapter Input AC 120V/60Hz  
 M/N : DN-200AZB  
 Test Mode : 8-DPSK TX 2402MHz

|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Amp<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 2402.00        | 27.61                    | 6.62                  | 34.64                 | 86.85             | 86.44                         | 74.00              | -12.44         | Peak   |
| 2 | 4804.00        | 31.25                    | 11.77                 | 35.64                 | 32.67             | 40.05                         | 74.00              | 33.95          | Peak   |
| 3 | 7206.00        | 36.52                    | 11.54                 | 33.95                 | 31.01             | 45.12                         | 74.00              | 28.88          | Peak   |
| 4 | 8684.00        | 37.32                    | 11.45                 | 33.66                 | 30.99             | 46.10                         | 74.00              | 27.90          | Peak   |
| 5 | 11676.00       | 39.00                    | 11.09                 | 33.24                 | 29.37             | 46.22                         | 74.00              | 27.78          | Peak   |
| 6 | 14345.00       | 41.76                    | 10.92                 | 33.39                 | 28.05             | 47.34                         | 74.00              | 26.66          | Peak   |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

0

Site no. : 966 1# chamber                      Data no. : 325  
 Dis. / Ant. : 3m ANT 1-18G                      Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Amplifier with bluetooth audio receiver  
 Power : DC 15V From Adapter Input AC 120V/60Hz  
 M/N : DN-200AZB  
 Test Mode : 8-DPSK TX 2441MHz

|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Amp<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 2441.00        | 27.60                    | 6.67                  | 34.85                 | 91.15             | 90.57                         | 74.00              | -16.57         | Peak   |
| 2 | 4882.00        | 31.37                    | 12.07                 | 35.76                 | 34.15             | 41.83                         | 74.00              | 32.17          | Peak   |
| 3 | 7323.00        | 36.55                    | 11.57                 | 34.14                 | 28.99             | 42.97                         | 74.00              | 31.03          | Peak   |
| 4 | 8684.00        | 37.32                    | 11.45                 | 33.66                 | 30.42             | 45.53                         | 74.00              | 28.47          | Peak   |
| 5 | 11336.00       | 39.30                    | 11.04                 | 33.44                 | 29.06             | 45.96                         | 74.00              | 28.04          | Peak   |
| 6 | 13920.00       | 41.26                    | 11.00                 | 33.00                 | 28.13             | 47.39                         | 74.00              | 26.61          | Peak   |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : 966 1# chamber Data no. : 326  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Amplifier with bluetooth audio receiver  
 Power : DC 15V From Adapter Input AC 120V/60Hz  
 M/N : DN-200AZB  
 Test Mode : 8-DPSK TX 2441MHz

|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Amp<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 2441.00        | 27.60                    | 6.67                  | 34.85                 | 87.24             | 86.66                         | 74.00              | -12.66         | Peak   |
| 2 | 4882.00        | 31.37                    | 12.07                 | 35.76                 | 31.55             | 39.23                         | 74.00              | 34.77          | Peak   |
| 3 | 7323.00        | 36.55                    | 11.57                 | 34.14                 | 30.29             | 44.27                         | 74.00              | 29.73          | Peak   |
| 4 | 8650.00        | 37.27                    | 11.45                 | 33.68                 | 31.61             | 46.65                         | 74.00              | 27.35          | Peak   |
| 5 | 11200.00       | 39.39                    | 11.14                 | 33.24                 | 29.32             | 46.61                         | 74.00              | 27.39          | Peak   |
| 6 | 14005.00       | 41.46                    | 10.90                 | 33.01                 | 28.32             | 47.67                         | 74.00              | 26.33          | Peak   |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.

2. The emission levels that are 20dB below the official limit are not reported.

Site no. : 966 1# chamber                      Data no. : 327  
 Dis. / Ant. : 3m    ANI 1-18G                      Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Amplifier with bluetooth audio receiver  
 Power : DC 15V From Adapter Input AC 120V/60Hz  
 M/N : DN-200AZB  
 Test Mode : 8-DPSK TX 2480MHz

|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Amp<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 2480.00        | 27.58                    | 6.71                  | 35.11                 | 89.94             | 89.12                         | 74.00              | -15.12         | Peak   |
| 2 | 4960.00        | 31.49                    | 12.44                 | 36.01                 | 32.81             | 40.73                         | 74.00              | 33.27          | Peak   |
| 3 | 7440.00        | 36.54                    | 11.61                 | 34.22                 | 31.77             | 45.70                         | 74.00              | 28.30          | Peak   |
| 4 | 8276.00        | 36.67                    | 11.43                 | 34.81                 | 32.47             | 45.76                         | 74.00              | 28.24          | Peak   |
| 5 | 10656.00       | 39.15                    | 11.30                 | 34.31                 | 28.36             | 44.50                         | 74.00              | 29.50          | Peak   |
| 6 | 13580.00       | 40.31                    | 11.40                 | 32.64                 | 28.09             | 47.16                         | 74.00              | 26.84          | Peak   |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official  
 limit are not reported.

Site no. : 966 1# chamber                      Data no. : 328  
 Dis. / Ant. : 3m    ANT 1-18G                      Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Amplifier with bluetooth audio receiver  
 Power : DC 15V From Adapter Input AC 120V/60Hz  
 M/N : DN-200AZB  
 Test Mode : 8-DPSK TX 2480MHz

|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Amp<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 2480.00        | 27.58                    | 6.71                  | 35.11                 | 92.24             | 91.42                         | 74.00              | -17.42         | Peak   |
| 2 | 4960.00        | 31.49                    | 12.44                 | 36.01                 | 33.66             | 41.58                         | 74.00              | 32.42          | Peak   |
| 3 | 7440.00        | 36.54                    | 11.61                 | 34.22                 | 30.93             | 44.86                         | 74.00              | 29.14          | Peak   |
| 4 | 8684.00        | 37.32                    | 11.45                 | 33.66                 | 30.55             | 45.66                         | 74.00              | 28.34          | Peak   |
| 5 | 10656.00       | 39.15                    | 11.30                 | 34.31                 | 29.36             | 45.50                         | 74.00              | 28.50          | Peak   |
| 6 | 13920.00       | 41.26                    | 11.00                 | 33.00                 | 26.46             | 45.72                         | 74.00              | 28.28          | Peak   |

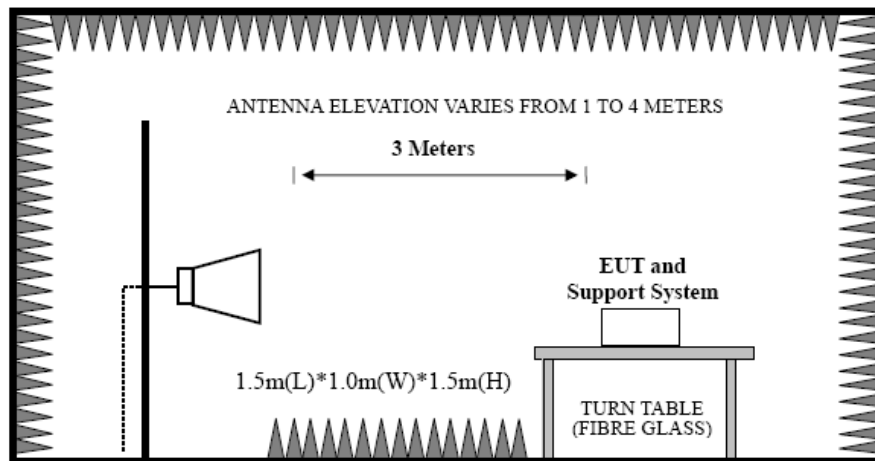
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official  
 limit are not reported.

## 9. BAND EDGE COMPLIANCE

### 9.1. Limit

All the lower and upper band-edges emissions appearing within 2310MHz to 2390MHz and 2483.5MHz to 2500MHz restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation frequency band 2400MHz to 2483.5MHz shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

### 9.2. Block Diagram of Test setup



### 9.3. Test Procedure

EUT was placed on a turn table, which is 1.5 m high above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. Power on the EUT and let it working in test mode, then test it. EUT is set 3 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on test.

Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of emissions

Peak : RBW = 1MHz, VBW = 1MHz, Detector=PEAK detector, Sweep time = auto.

AV : RBW = 1MHz, VBW = 10Hz, Detector=PEAK detector, Sweep time = auto.

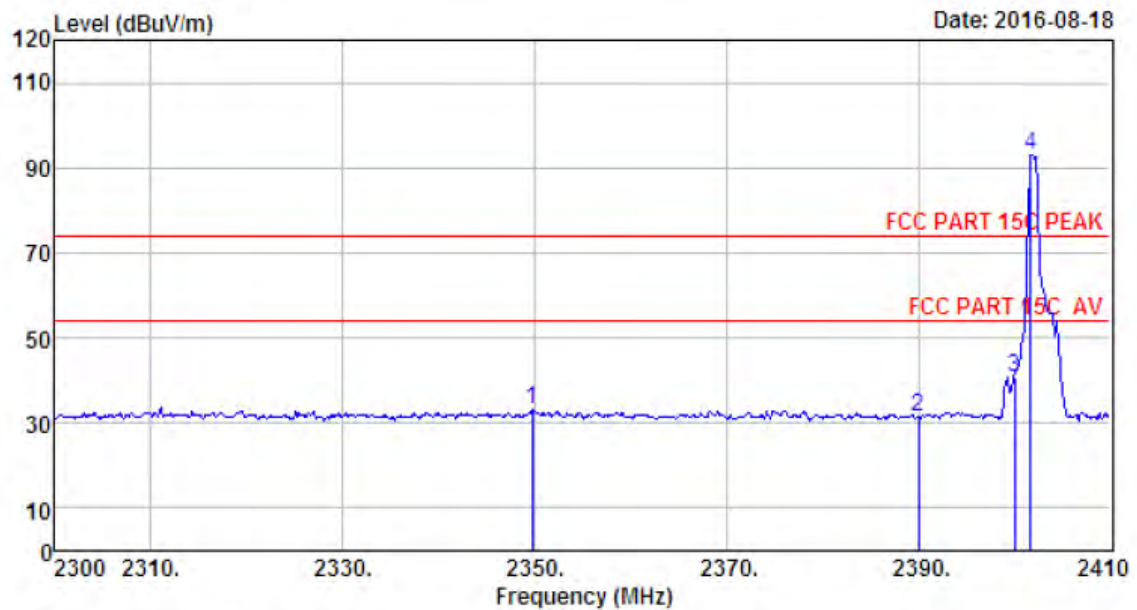
### 9.4. Test Result

Pass

Note: 1、 For emissions above 1GHz, if peak level comply with average limit, then the average level is deemed to comply with average limit.

2、 The frequency 2402MHz 、 2441MHz and 2480MHz is fundamental frequency which no limit, the limit on plots is automatically generated by the software, it's not fundamental limit, we can't remove it.

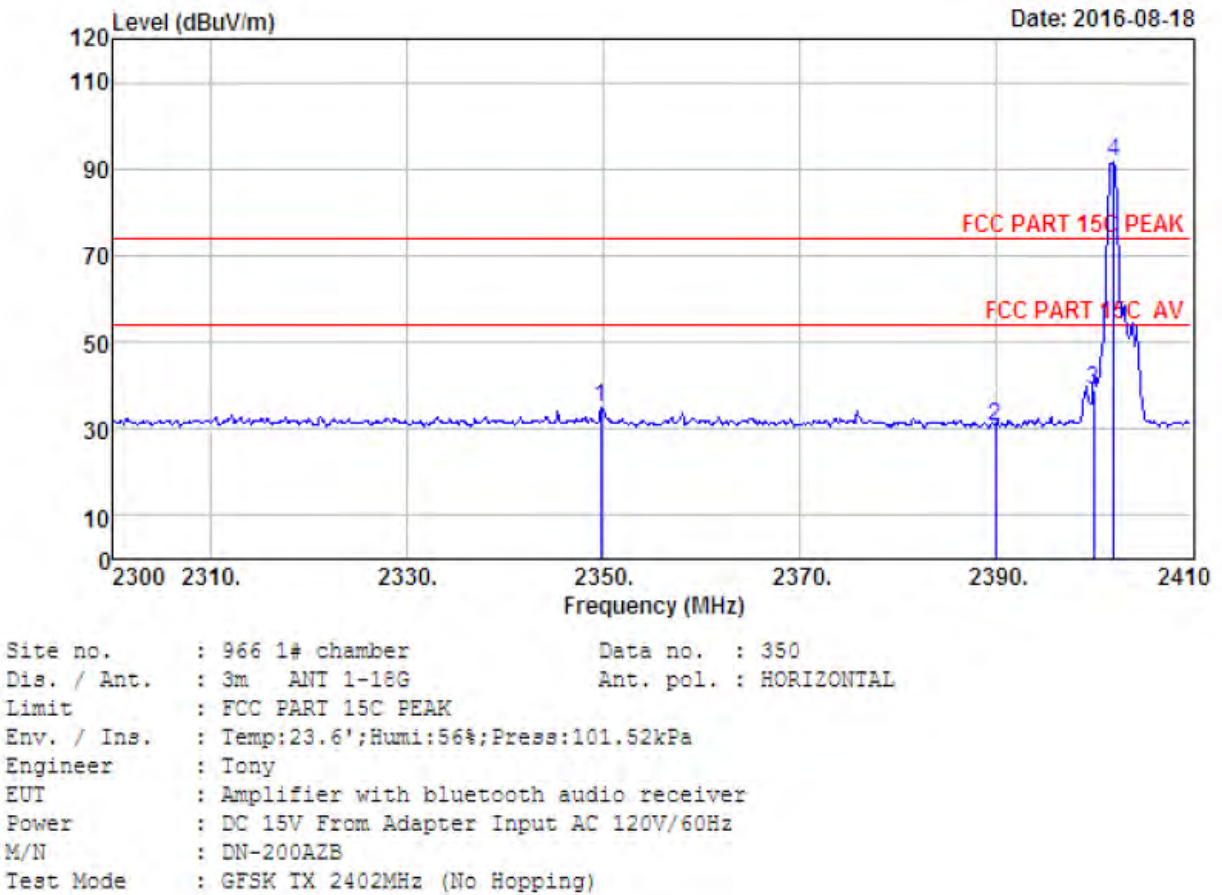
## 9.5. Test Data



Site no. : 966 1# chamber      Data no. : 349  
 Dis. / Ant. : 3m ANT 1-18G      Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Amplifier with bluetooth audio receiver  
 Power : DC 15V From Adapter Input AC 120V/60Hz  
 M/N : DN-200AZB  
 Test Mode : GFSK TX 2402MHz (No Hopping)

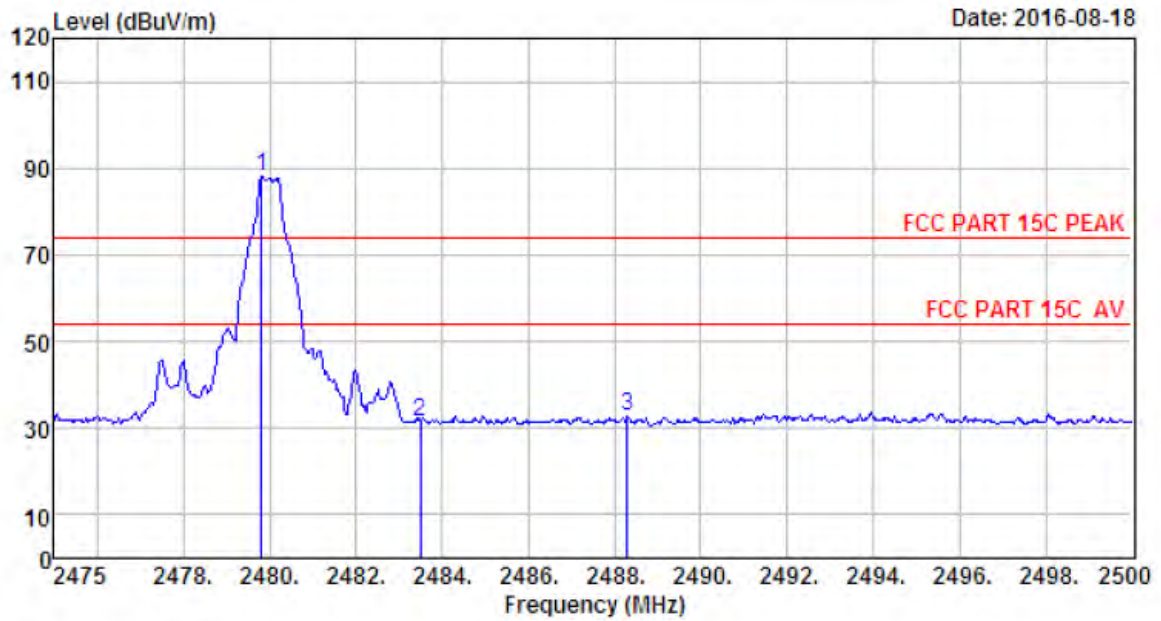
|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Amp<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 2349.72        | 27.70                    | 6.56                  | 34.57                 | 33.44             | 33.13                         | 74.00              | 40.87          | Peak   |
| 2 | 2390.00        | 27.64                    | 6.62                  | 34.62                 | 31.85             | 31.49                         | 74.00              | 42.51          | Peak   |
| 3 | 2400.00        | 27.61                    | 6.62                  | 34.64                 | 41.10             | 40.69                         | 74.00              | 33.31          | Peak   |
| 4 | 2401.75        | 27.61                    | 6.62                  | 34.64                 | 93.46             | 93.05                         | 74.00              | -19.05         | Peak   |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Amp<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 2349.72        | 27.70                    | 6.56                  | 34.57                 | 35.41             | 35.10                         | 74.00              | 38.90          | Peak   |
| 2 | 2390.00        | 27.64                    | 6.62                  | 34.62                 | 31.12             | 30.76                         | 74.00              | 43.24          | Peak   |
| 3 | 2400.00        | 27.61                    | 6.62                  | 34.64                 | 39.53             | 39.12                         | 74.00              | 34.88          | Peak   |
| 4 | 2402.08        | 27.61                    | 6.62                  | 34.64                 | 92.13             | 91.72                         | 74.00              | -17.72         | Peak   |

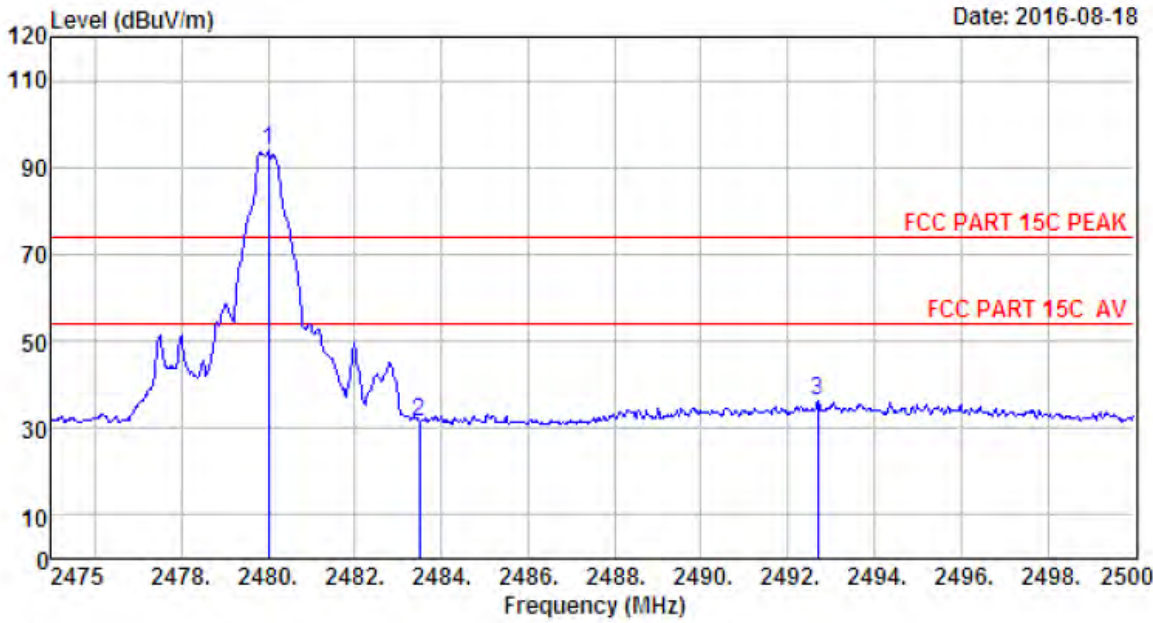
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 966 1# chamber Data no. : 351  
 Dis. / Ant. : 3m ANI 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Amplifier with bluetooth audio receiver  
 Power : DC 15V From Adapter Input AC 120V/60Hz  
 M/N : DN-200AZB  
 Test Mode : GFSK TX 2480MHz (No Hopping)

|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Amp<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 2479.80        | 27.58                    | 6.71                  | 35.11                 | 89.15             | 88.33                         | 74.00              | -14.33         | Peak   |
| 2 | 2483.50        | 27.58                    | 6.71                  | 35.11                 | 32.42             | 31.60                         | 74.00              | 42.40          | Peak   |
| 3 | 2488.30        | 27.58                    | 6.73                  | 35.11                 | 33.54             | 32.74                         | 74.00              | 41.26          | Peak   |

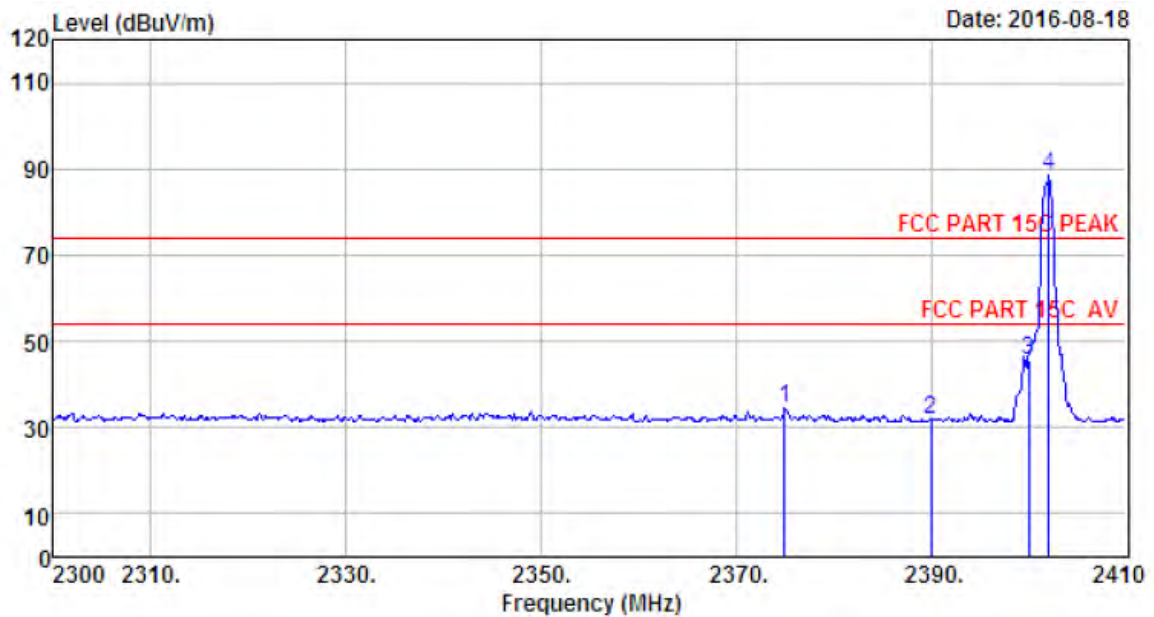
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 966 1# chamber Data no. : 352  
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Amplifier with bluetooth audio receiver  
Power : DC 15V From Adapter Input AC 120V/60Hz  
M/N : DN-200AZB  
Test Mode : GFSK TX 2480MHz (No Hopping)

|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Amp<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limite<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 2480.00        | 27.58                    | 6.71                  | 35.11                 | 94.51             | 93.69                         | 74.00              | -19.69         | Peak   |
| 2 | 2483.50        | 27.58                    | 6.71                  | 35.11                 | 32.24             | 31.42                         | 74.00              | 42.58          | Peak   |
| 3 | 2492.70        | 27.58                    | 6.73                  | 35.24                 | 37.08             | 36.15                         | 74.00              | 37.85          | Peak   |

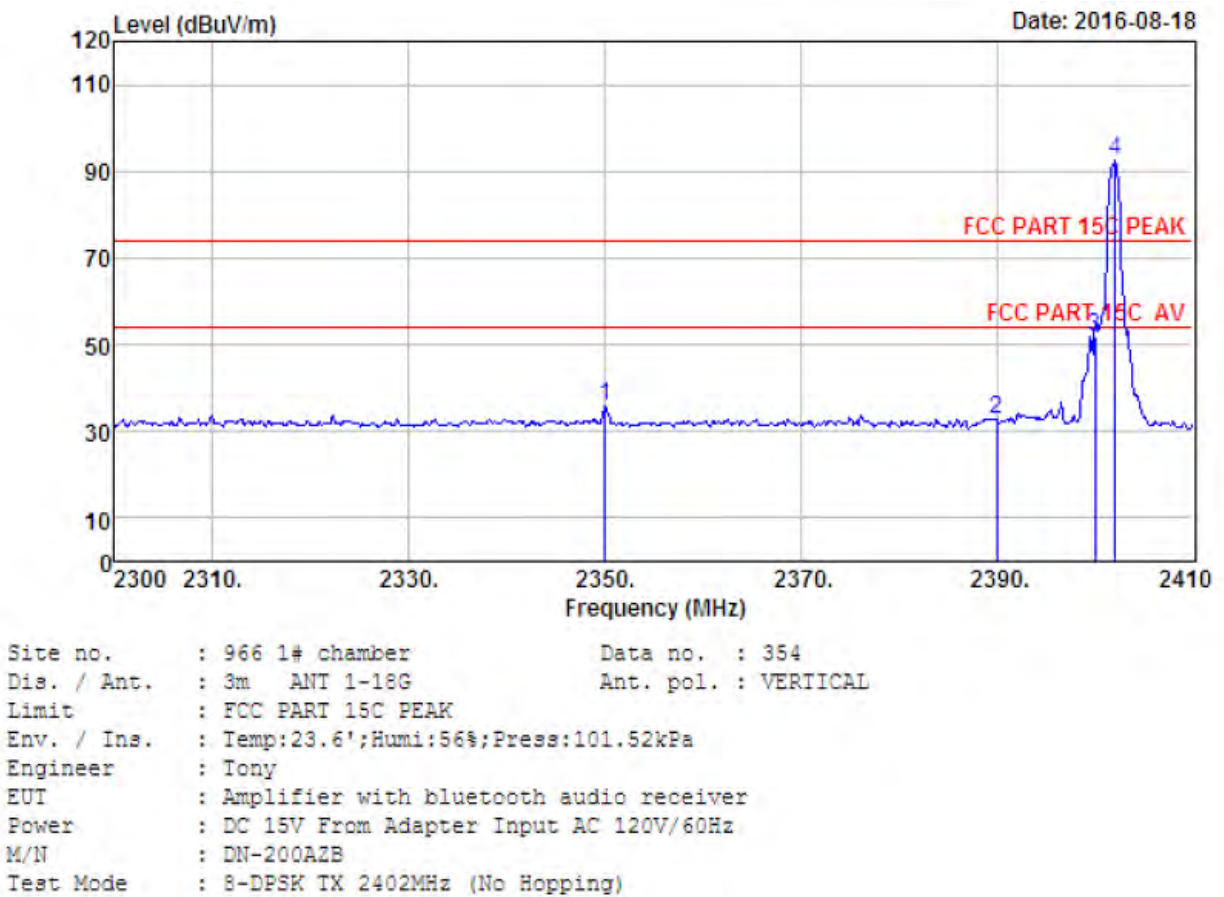
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : site Data no. : 353  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Amplifier with bluetooth audio receiver  
 Power : DC 15V From Adapter Input AC 120V/60Hz  
 M/N : DN-200AZB  
 Test Mode : 8-DPSK TX 2402MHz (No Hopping)

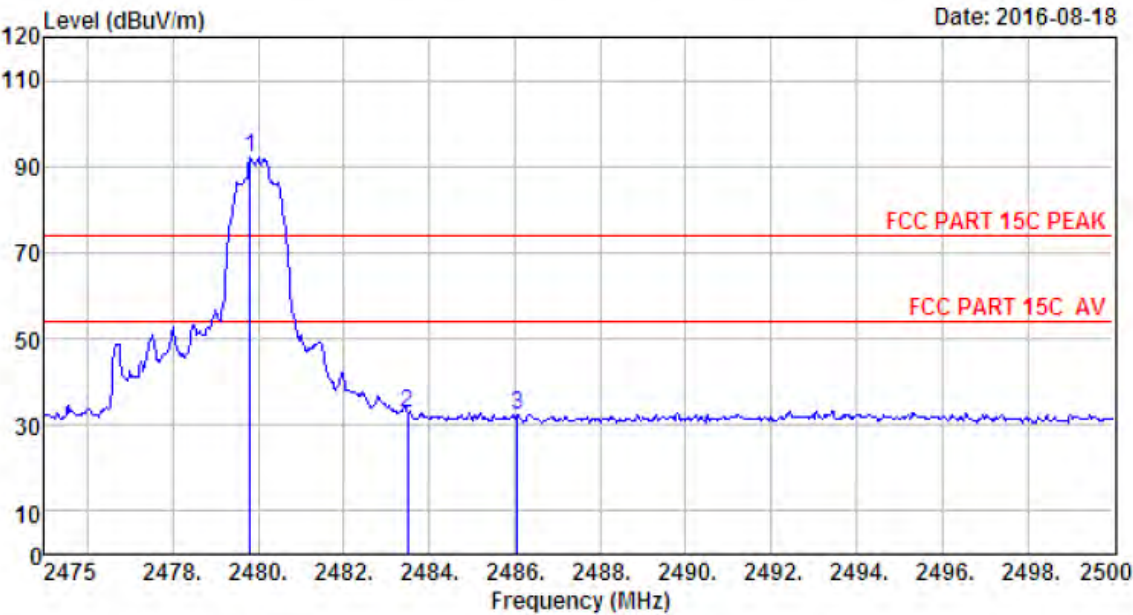
|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Amp<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limite<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 2375.02        | 27.64                    | 6.60                  | 34.59                 | 35.07             | 34.72                         | 74.00              | 39.28          | Peak   |
| 2 | 2390.00        | 27.64                    | 6.62                  | 34.62                 | 32.38             | 32.02                         | 74.00              | 41.98          | Peak   |
| 3 | 2400.00        | 27.61                    | 6.62                  | 34.64                 | 46.01             | 45.60                         | 74.00              | 28.40          | Peak   |
| 4 | 2402.08        | 27.61                    | 6.62                  | 34.64                 | 88.84             | 88.43                         | 74.00              | -14.43         | Peak   |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Amp<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 2350.05        | 27.70                    | 6.56                  | 34.57                 | 36.09             | 35.78                         | 74.00              | 38.22          | Peak   |
| 2 | 2390.00        | 27.64                    | 6.62                  | 34.62                 | 33.19             | 32.83                         | 74.00              | 41.17          | Peak   |
| 3 | 2400.00        | 27.61                    | 6.62                  | 34.64                 | 52.13             | 51.72                         | 74.00              | 22.28          | Peak   |
| 4 | 2402.08        | 27.61                    | 6.62                  | 34.64                 | 93.15             | 92.74                         | 74.00              | -18.74         | Peak   |

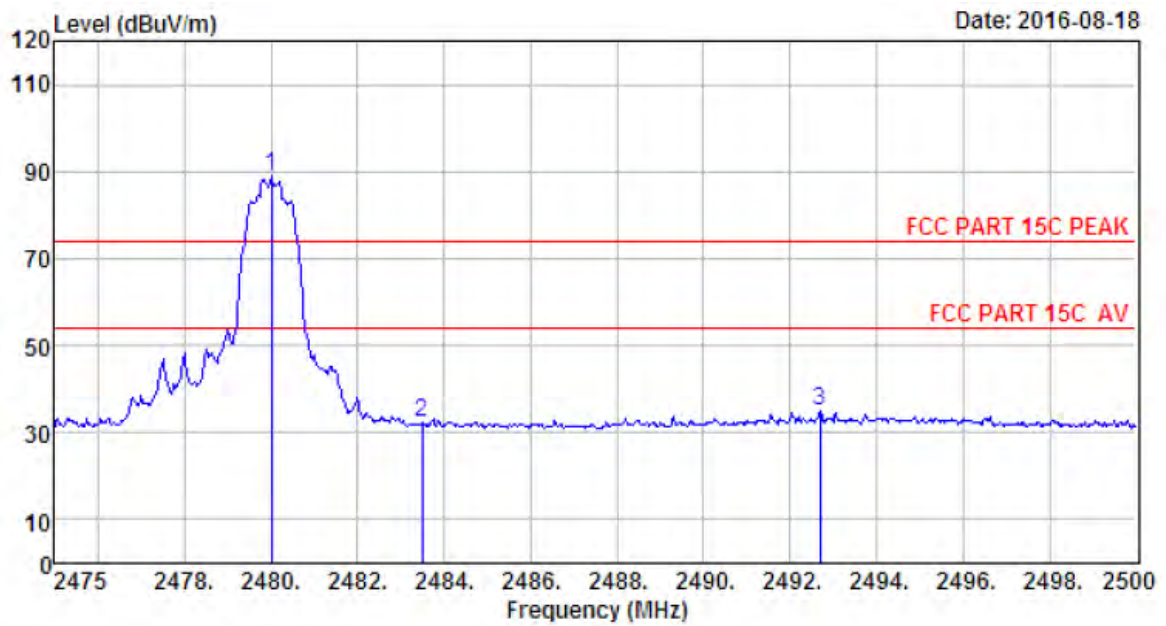
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 966 1# chamber                      Data no. : 355  
Dis. / Ant. : 3m ANT 1-18G                      Ant. pol. : VERTICAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Amplifier with bluetooth audio receiver  
Power : DC 15V From Adapter Input AC 120V/60Hz  
M/N : DN-200A2B  
Test Mode : 8-DPSK TX 2480MHz (No Hopping )

|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Amp<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 2479.80        | 27.58                    | 6.71                  | 35.11                 | 93.08             | 92.26                         | 74.00              | -18.26         | Peak   |
| 2 | 2483.50        | 27.58                    | 6.71                  | 35.11                 | 33.38             | 32.56                         | 74.00              | 41.44          | Peak   |
| 3 | 2486.05        | 27.58                    | 6.71                  | 35.11                 | 33.25             | 32.43                         | 74.00              | 41.57          | Peak   |

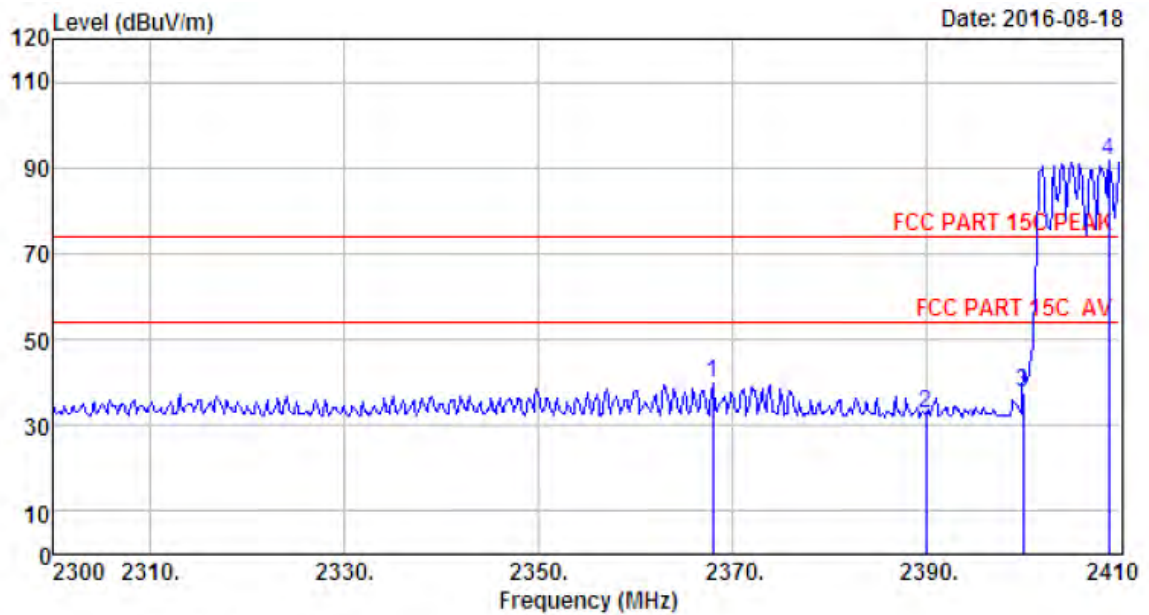
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 966 1# chamber Data no. : 356  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Amplifier with bluetooth audio receiver  
 Power : DC 15V From Adapter Input AC 120V/60Hz  
 M/N : DN-200A2B  
 Test Mode : 8-DPSK TX 2480MHz (No Hopping )

|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Amp<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 2480.00        | 27.58                    | 6.71                  | 35.11                 | 90.02             | 89.20                         | 74.00              | -15.20         | Peak   |
| 2 | 2483.50        | 27.58                    | 6.71                  | 35.11                 | 32.98             | 32.16                         | 74.00              | 41.84          | Peak   |
| 3 | 2492.70        | 27.58                    | 6.73                  | 35.24                 | 35.95             | 35.02                         | 74.00              | 38.98          | Peak   |

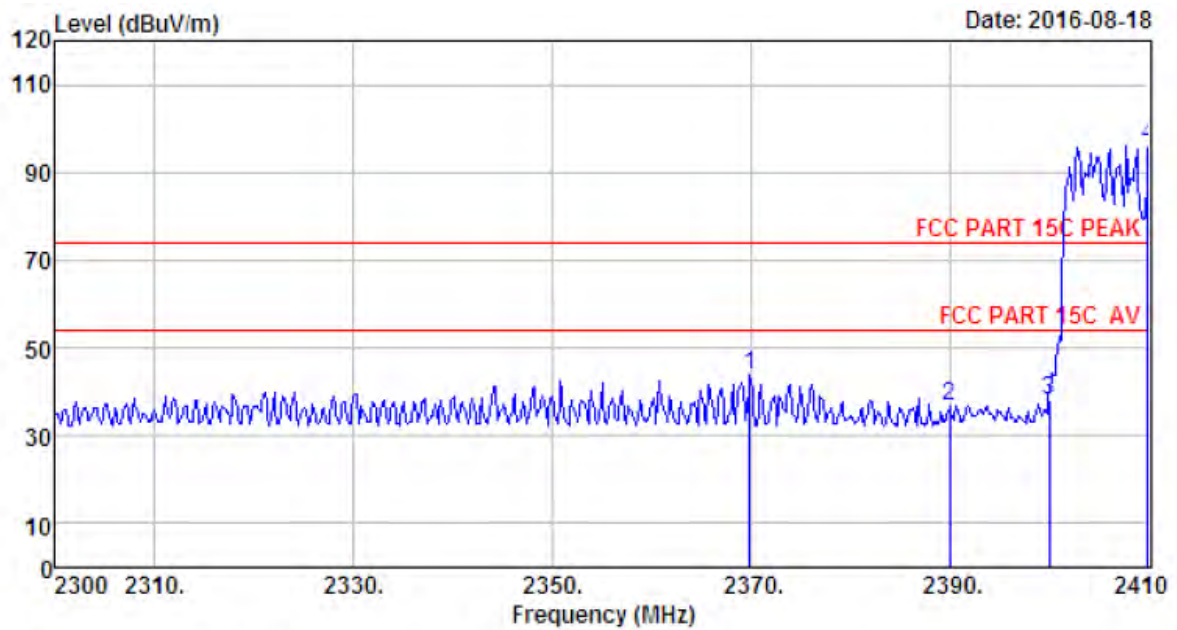
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 966 1# chamber Data no. : 329  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6°;Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Amplifier with bluetooth audio receiver  
 Power : DC 15V From Adapter Input AC 120V/60Hz  
 M/N : DN-200AZB  
 Test Mode : GFSK TX 2402MHz (Hopping On)

|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Amp<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 2367.98        | 27.67                    | 6.58                  | 34.59                 | 40.20             | 39.86                         | 74.00              | 34.14          | Peak   |
| 2 | 2390.00        | 27.64                    | 6.62                  | 34.62                 | 33.32             | 32.96                         | 74.00              | 41.04          | Peak   |
| 3 | 2400.00        | 27.61                    | 6.62                  | 34.64                 | 38.03             | 37.62                         | 74.00              | 36.38          | Peak   |
| 4 | 2408.90        | 27.60                    | 6.64                  | 34.64                 | 92.06             | 91.66                         | 74.00              | -17.66         | Peak   |

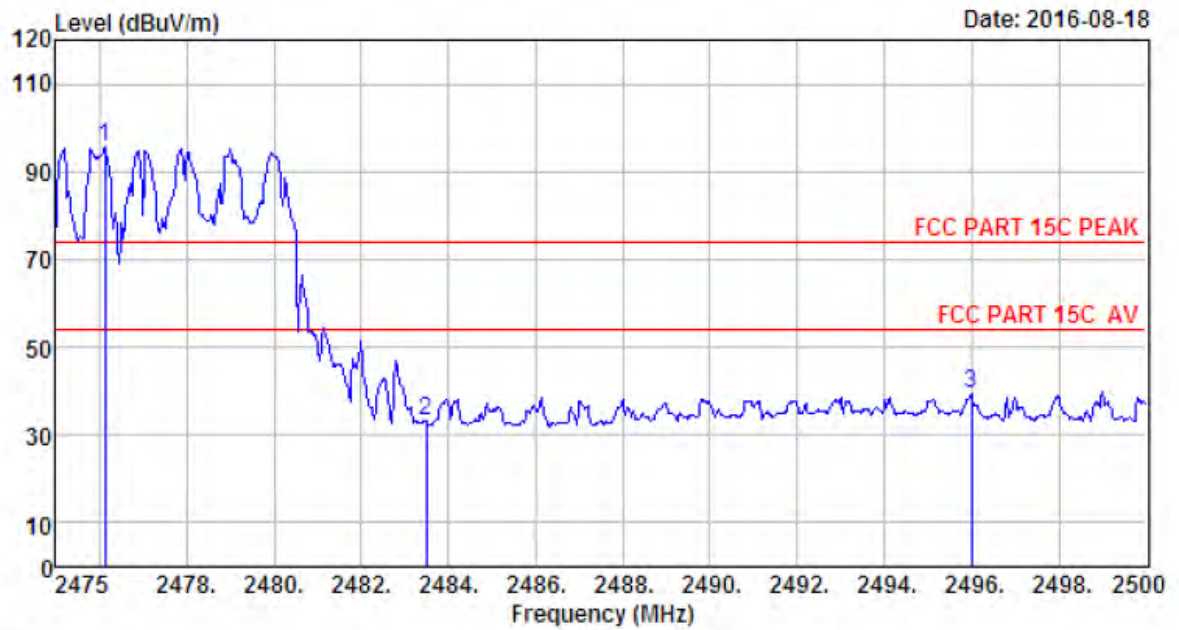
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 966 1# chamber Data no. : 330  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Amplifier with bluetooth audio receiver  
 Power : DC 15V From Adapter Input AC 120V/60Hz  
 M/N : DN-200A2B  
 Test Mode : GFSK TX 2402MHz (Hopping On)

|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Amp<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 2369.85        | 27.67                    | 6.60                  | 34.59                 | 44.12             | 43.80                         | 74.00              | 30.20          | Peak   |
| 2 | 2390.00        | 27.64                    | 6.62                  | 34.62                 | 37.00             | 36.64                         | 74.00              | 37.36          | Peak   |
| 3 | 2400.00        | 27.61                    | 6.62                  | 34.64                 | 38.41             | 38.00                         | 74.00              | 36.00          | Peak   |
| 4 | 2410.00        | 27.60                    | 6.64                  | 34.64                 | 96.49             | 96.09                         | 74.00              | -22.09         | Peak   |

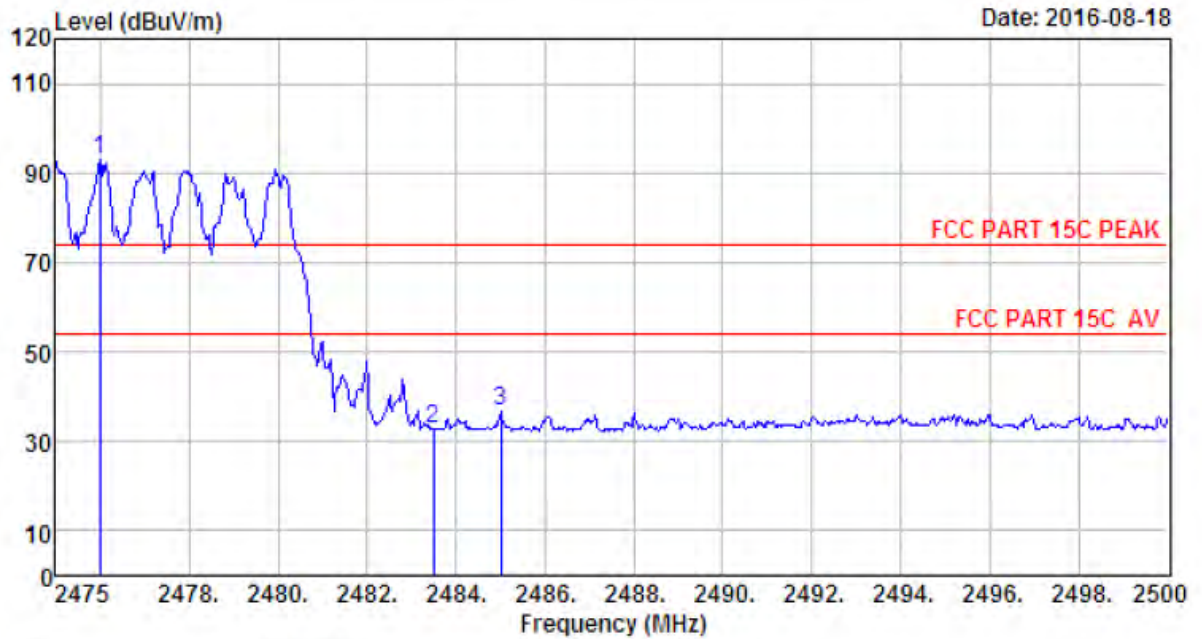
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 966 1# chamber                      Data no. : 331  
 Dis. / Ant. : 3m ANT 1-18G                      Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Amplifier with bluetooth audio receiver  
 Power : DC 15V From Adapter Input AC 120V/60Hz  
 M/N : DN-200AZB  
 Test Mode : GFSK TX 2480MHz (Hopping On)

|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Amp<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 2476.13        | 27.58                    | 6.71                  | 35.11                 | 96.33             | 95.51                         | 74.00              | -21.51         | Peak   |
| 2 | 2483.50        | 27.58                    | 6.71                  | 35.11                 | 33.84             | 33.02                         | 74.00              | 40.98          | Peak   |
| 3 | 2496.00        | 27.57                    | 6.73                  | 35.24                 | 40.21             | 39.27                         | 74.00              | 34.73          | Peak   |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

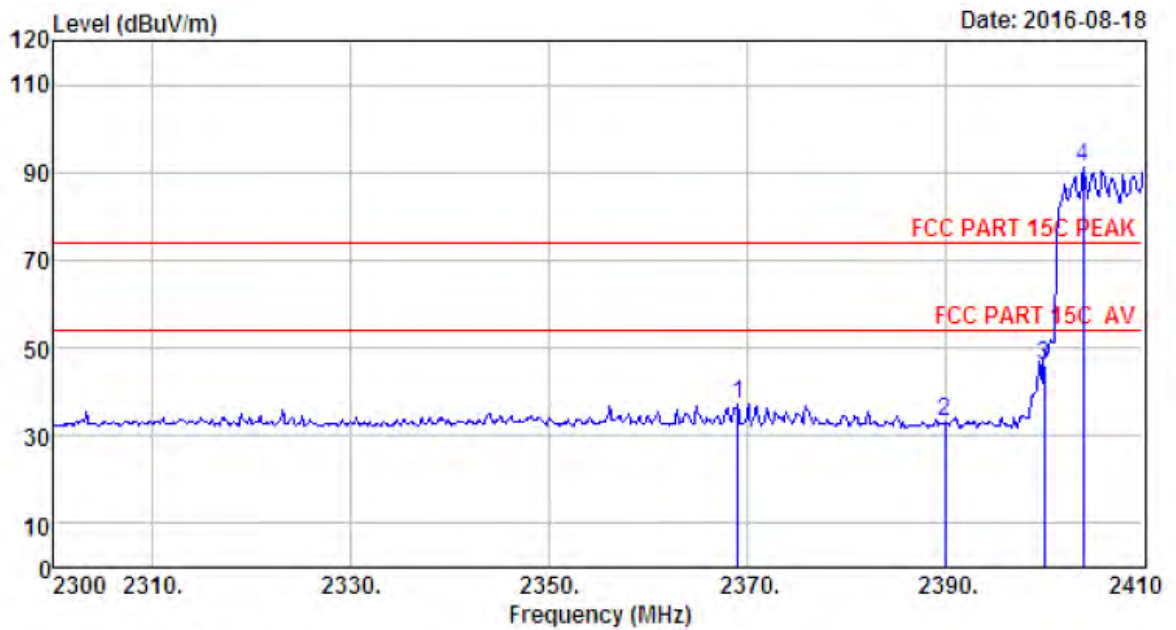


Site no. : 966 1# chamber  
 Dis. / Ant. : 3m ANT 1-18G  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Amplifier with bluetooth audio receiver  
 Power : DC 15V From Adapter Input AC 120V/60Hz  
 M/N : DN-200A2B  
 Test Mode : GFSK TX 2480MHz (Hopping On)

Data no. : 332  
Ant. pol. : HORIZONTAL

|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Amp<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 2476.00        | 27.58                    | 6.71                  | 35.11                 | 93.85             | 93.03                         | 74.00              | -19.03         | Peak   |
| 2 | 2483.50        | 27.58                    | 6.71                  | 35.11                 | 33.55             | 32.73                         | 74.00              | 41.27          | Peak   |
| 3 | 2485.00        | 27.58                    | 6.71                  | 35.11                 | 37.62             | 36.80                         | 74.00              | 37.20          | Peak   |

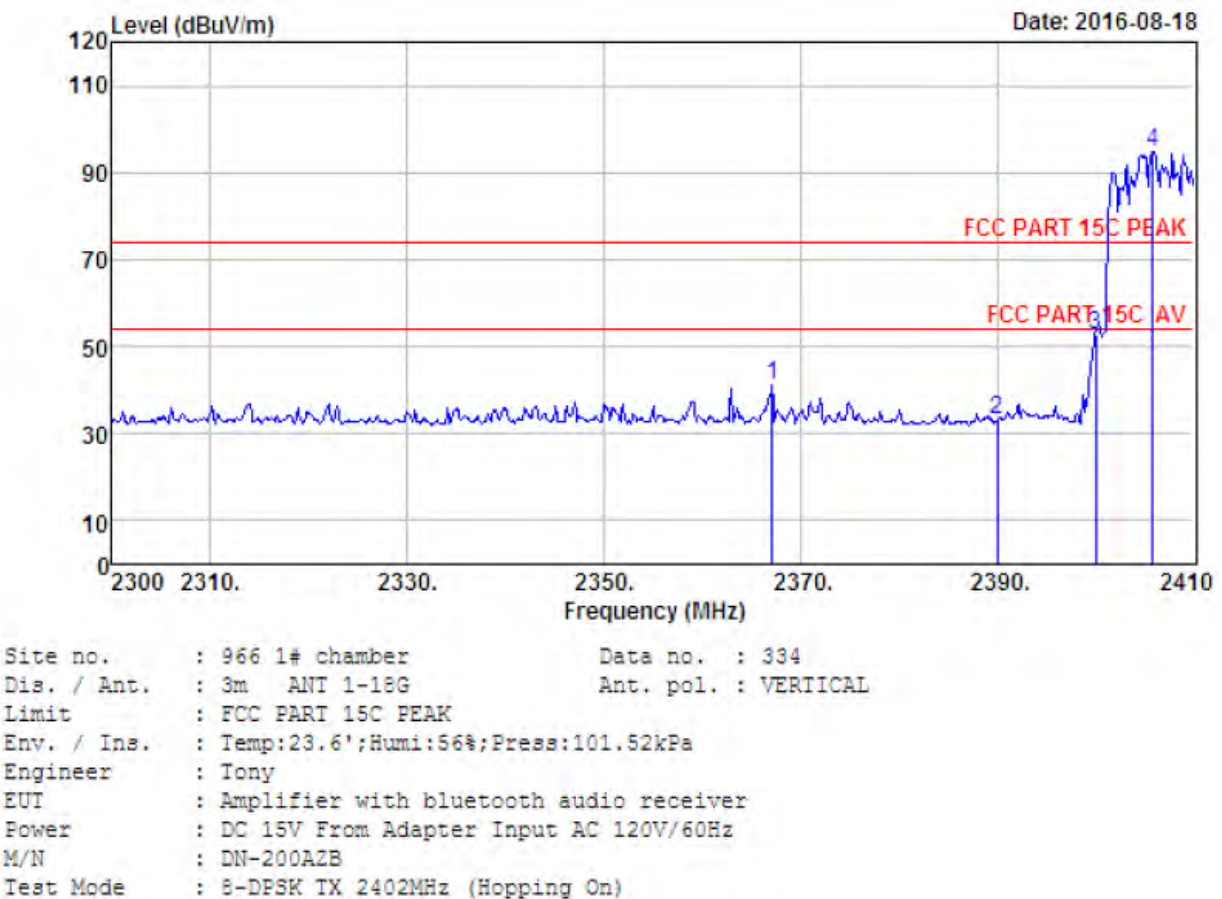
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 966 1# chamber Data no. : 333  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Amplifier with bluetooth audio receiver  
 Power : DC 15V From Adapter Input AC 120V/60Hz  
 M/N : DN-200A2B  
 Test Mode : 8-DPSK TX 2402MHz (Hopping On)

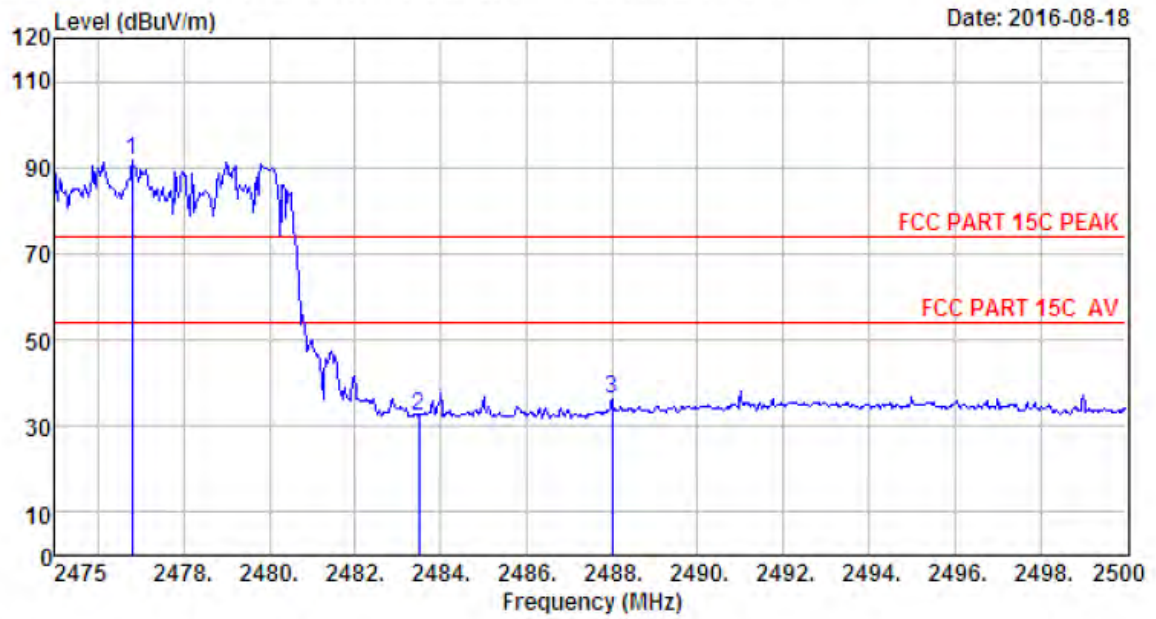
|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Amp<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 2369.08        | 27.67                    | 6.60                  | 34.59                 | 37.42             | 37.10                         | 74.00              | 36.90          | Peak   |
| 2 | 2390.00        | 27.64                    | 6.62                  | 34.62                 | 33.38             | 33.02                         | 74.00              | 40.98          | Peak   |
| 3 | 2400.00        | 27.61                    | 6.62                  | 34.64                 | 46.34             | 45.93                         | 74.00              | 28.07          | Peak   |
| 4 | 2403.95        | 27.61                    | 6.64                  | 34.64                 | 91.59             | 91.20                         | 74.00              | -17.20         | Peak   |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Amp<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 2367.10        | 27.67                    | 6.58                  | 34.59                 | 41.56             | 41.22                         | 74.00              | 32.78          | Peak   |
| 2 | 2390.00        | 27.64                    | 6.62                  | 34.62                 | 33.58             | 33.22                         | 74.00              | 40.78          | Peak   |
| 3 | 2400.00        | 27.61                    | 6.62                  | 34.64                 | 53.23             | 52.82                         | 74.00              | 21.18          | Peak   |
| 4 | 2405.82        | 27.61                    | 6.64                  | 34.64                 | 95.29             | 94.90                         | 74.00              | -20.90         | Peak   |

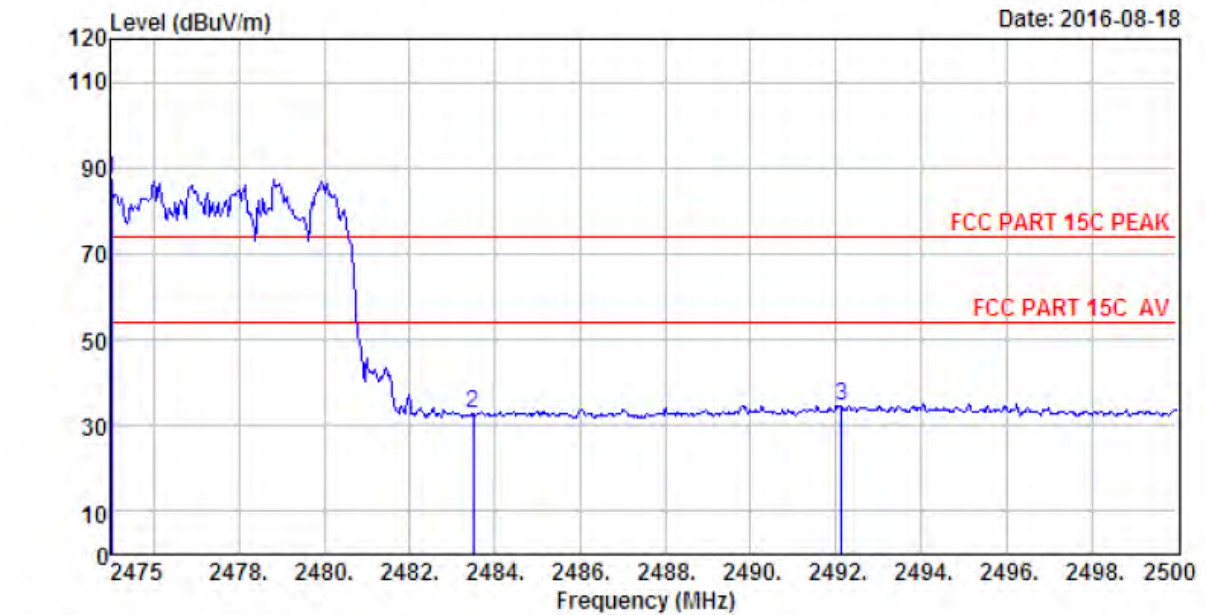
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 966 1# chamber      Data no. : 335  
 Dis. / Ant. : 3m ANT 1-18G      Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Amplifier with bluetooth audio receiver  
 Power : DC 15V From Adapter Input AC 120V/60Hz  
 M/N : DN-200AZB  
 Test Mode : 8-DPSK TX 2402MHz (Hopping On)

|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Amp<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 2476.80        | 27.58                    | 6.71                  | 35.11                 | 92.51             | 91.69                         | 74.00              | -17.69         | Peak   |
| 2 | 2483.50        | 27.58                    | 6.71                  | 35.11                 | 33.10             | 32.28                         | 74.00              | 41.72          | Peak   |
| 3 | 2488.00        | 27.58                    | 6.73                  | 35.11                 | 37.32             | 36.52                         | 74.00              | 37.48          | Peak   |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 966 1# chamber Data no. : 336  
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Amplifier with bluetooth audio receiver  
Power : DC 15V From Adapter Input AC 120V/60Hz  
M/N : DN-200A2B  
Test Mode : 8-DPSK TX 2402MHz (Hopping On)

|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Amp<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 2475.00        | 27.58                    | 6.71                  | 35.11                 | 88.12             | 87.30                         | 74.00              | -13.30         | Peak   |
| 2 | 2483.50        | 27.58                    | 6.71                  | 35.11                 | 33.72             | 32.90                         | 74.00              | 41.10          | Peak   |
| 3 | 2492.13        | 27.58                    | 6.73                  | 35.24                 | 35.52             | 34.59                         | 74.00              | 39.41          | Peak   |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
2. The emission levels that are 20dB below the official limit are not reported.

## 10. POWER LINE CONDUCTED EMISSIONS

### 10.1. Limit

| Frequency       | Maximum RF Line Voltage          |                               |
|-----------------|----------------------------------|-------------------------------|
|                 | Quasi-Peak Level<br>dB( $\mu$ V) | Average Level<br>dB( $\mu$ V) |
| 150kHz ~ 500kHz | 66 ~ 56*                         | 56 ~ 46*                      |
| 500kHz ~ 5MHz   | 56                               | 46                            |
| 5MHz ~ 30MHz    | 60                               | 50                            |

Notes: 1. \* Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

### 10.2. Test Procedure

The EUT was placed on a non-metallic table, 80cm above the ground plane. The EUT power mains through a line impedance stabilization network (L.I.S.N. 1#). Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.10: 2013 on Conducted Emission Test.

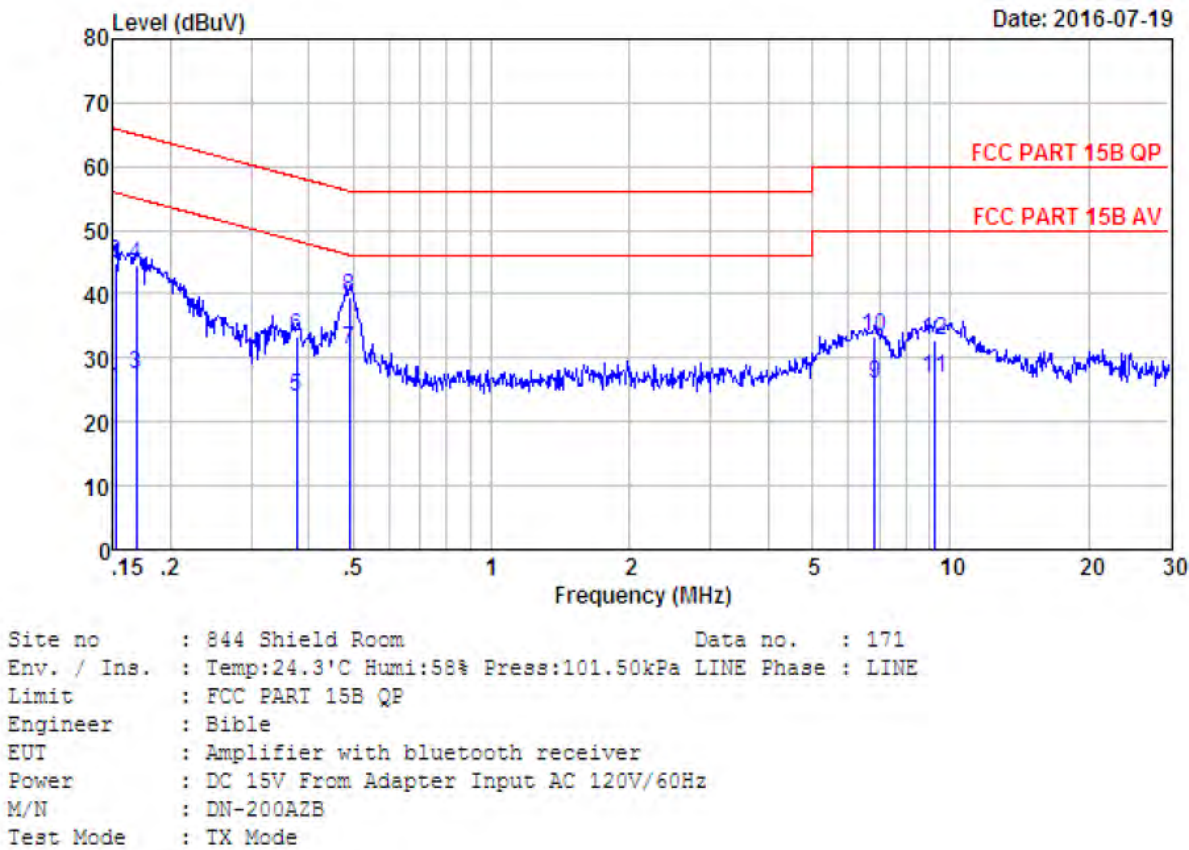
The bandwidth of test receiver (R & S ESHS30) is set at 10kHz.

The frequency range from 150kHz to 30MHz is checked.

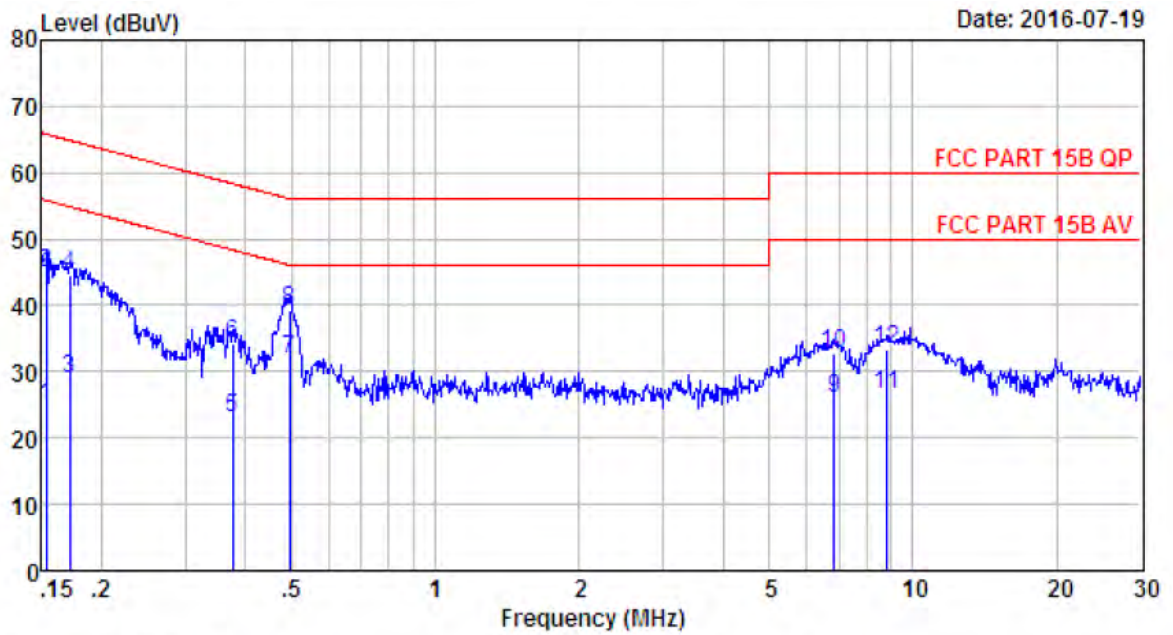
### 10.3. Test Result

**PASS.** (All emissions not reported below are too low against the prescribed limits.)

10.4.Test data

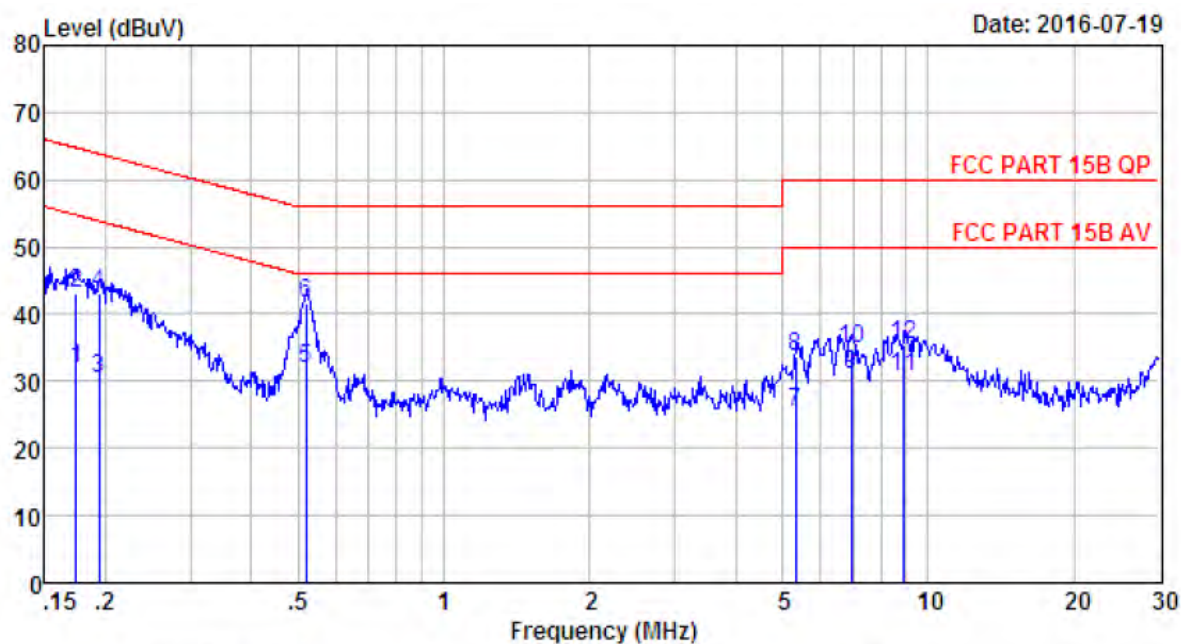


|    | Freq.<br>(MHz) | LISN<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV) | Limits<br>(dBuV) | Margin<br>(dB) | Remark  |
|----|----------------|------------------------|-----------------------|-------------------|-----------------------------|------------------|----------------|---------|
| 1  | 0.15           | 9.61                   | 9.81                  | 5.58              | 25.00                       | 55.91            | 30.91          | Average |
| 2  | 0.15           | 9.61                   | 9.81                  | 25.52             | 44.94                       | 65.91            | 20.97          | QP      |
| 3  | 0.17           | 9.61                   | 9.81                  | 8.08              | 27.50                       | 55.03            | 27.53          | Average |
| 4  | 0.17           | 9.61                   | 9.81                  | 25.08             | 44.50                       | 65.03            | 20.53          | QP      |
| 5  | 0.38           | 9.61                   | 9.82                  | 4.57              | 24.00                       | 48.34            | 24.34          | Average |
| 6  | 0.38           | 9.61                   | 9.82                  | 13.99             | 33.42                       | 58.34            | 24.92          | QP      |
| 7  | 0.49           | 9.61                   | 9.81                  | 11.88             | 31.30                       | 46.14            | 14.84          | Average |
| 8  | 0.49           | 9.61                   | 9.81                  | 20.02             | 39.44                       | 56.14            | 16.70          | QP      |
| 9  | 6.84           | 9.66                   | 9.85                  | 6.49              | 26.00                       | 50.00            | 24.00          | Average |
| 10 | 6.84           | 9.66                   | 9.85                  | 13.74             | 33.25                       | 60.00            | 26.75          | QP      |
| 11 | 9.20           | 9.66                   | 9.88                  | 7.46              | 27.00                       | 50.00            | 23.00          | Average |
| 12 | 9.20           | 9.66                   | 9.88                  | 13.19             | 32.73                       | 60.00            | 27.27          | QP      |



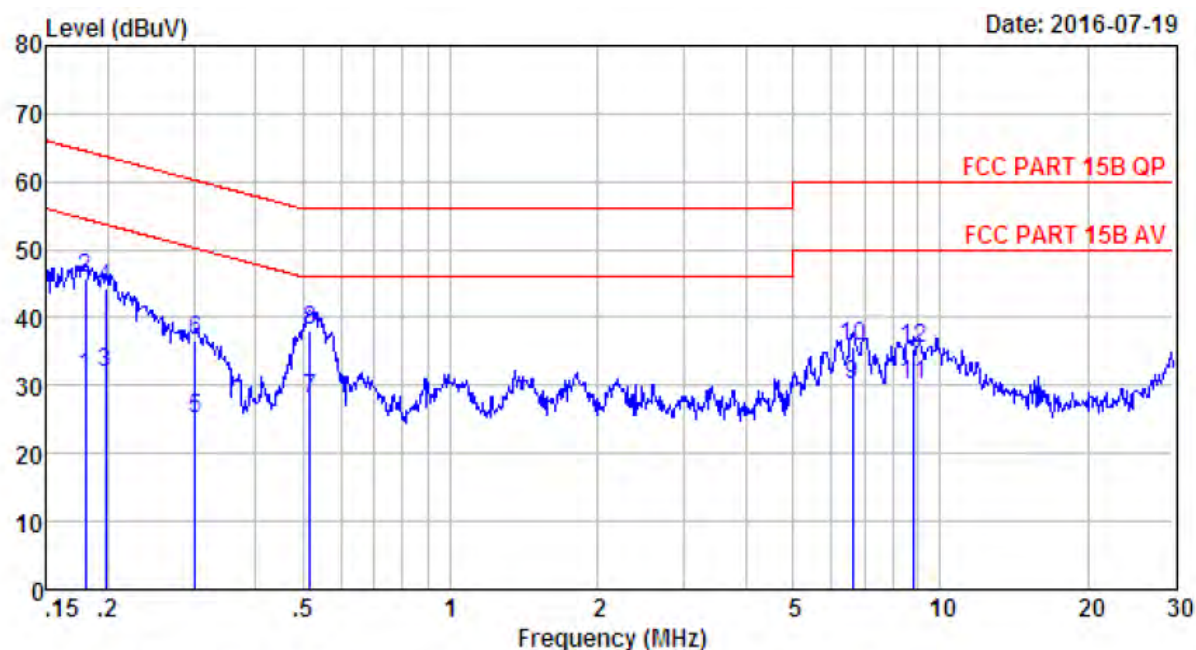
Site no : 844 Shield Room Data no. : 173  
 Env. / Ins. : Temp:24.3'C Humi:58% Press:101.50kPa LINE Phase : NEUTRAL  
 Limit : FCC PART 15B QP  
 Engineer : Bible  
 EUT : Amplifier with bluetooth receiver  
 Power : DC 15V From Adapter Input AC 120V/60Hz  
 M/N : DN-200AZB  
 Test Mode : TX Mode

|    | Freq.<br>(MHz) | LISN<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV) | Limits<br>(dBuV) | Margin<br>(dB) | Remark  |
|----|----------------|------------------------|-----------------------|-------------------|-----------------------------|------------------|----------------|---------|
| 1  | 0.15           | 9.47                   | 9.81                  | 5.62              | 24.90                       | 55.82            | 30.92          | Average |
| 2  | 0.15           | 9.47                   | 9.81                  | 25.72             | 45.00                       | 65.82            | 20.82          | QP      |
| 3  | 0.17           | 9.52                   | 9.81                  | 9.67              | 29.00                       | 54.90            | 25.90          | Average |
| 4  | 0.17           | 9.52                   | 9.81                  | 25.30             | 44.63                       | 64.90            | 20.27          | QP      |
| 5  | 0.38           | 9.59                   | 9.82                  | 3.59              | 23.00                       | 48.34            | 25.34          | Average |
| 6  | 0.38           | 9.59                   | 9.82                  | 14.87             | 34.28                       | 58.34            | 24.06          | QP      |
| 7  | 0.49           | 9.59                   | 9.81                  | 12.60             | 32.00                       | 46.10            | 14.10          | Average |
| 8  | 0.49           | 9.59                   | 9.81                  | 19.90             | 39.30                       | 56.10            | 16.80          | QP      |
| 9  | 6.84           | 9.66                   | 9.85                  | 6.49              | 26.00                       | 50.00            | 24.00          | Average |
| 10 | 6.84           | 9.66                   | 9.85                  | 13.29             | 32.80                       | 60.00            | 27.20          | QP      |
| 11 | 8.82           | 9.69                   | 9.87                  | 6.94              | 26.50                       | 50.00            | 23.50          | Average |
| 12 | 8.82           | 9.69                   | 9.87                  | 13.88             | 33.44                       | 60.00            | 26.56          | QP      |



Site no : 844 Shield Room Data no. : 167  
 Env. / Ins. : Temp:24.3'C Humi:58% Press:101.50kPa LINE Phase : LINE  
 Limit : FCC PART 15B QP  
 Engineer : Bible  
 EUT : Amplifier with bluetooth receiver  
 Power : DC 15V From Adapter Input AC 240V/50Hz  
 M/N : DN-200AZB  
 Test Mode : TX Mode

|    | Freq.<br>(MHz) | LISN<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV) | Limits<br>(dBuV) | Margin<br>(dB) | Remark  |
|----|----------------|------------------------|-----------------------|-------------------|-----------------------------|------------------|----------------|---------|
| 1  | 0.17           | 9.61                   | 9.80                  | 12.59             | 32.00                       | 54.77            | 22.77          | Average |
| 2  | 0.17           | 9.61                   | 9.80                  | 23.80             | 43.21                       | 64.77            | 21.56          | QP      |
| 3  | 0.19           | 9.61                   | 9.80                  | 11.09             | 30.50                       | 53.84            | 23.34          | Average |
| 4  | 0.19           | 9.61                   | 9.80                  | 23.63             | 43.04                       | 63.84            | 20.80          | QP      |
| 5  | 0.52           | 9.61                   | 9.81                  | 12.58             | 32.00                       | 46.00            | 14.00          | Average |
| 6  | 0.52           | 9.61                   | 9.81                  | 22.25             | 41.67                       | 56.00            | 14.33          | QP      |
| 7  | 5.33           | 9.65                   | 9.85                  | 5.80              | 25.30                       | 50.00            | 24.70          | Average |
| 8  | 5.33           | 9.65                   | 9.85                  | 14.29             | 33.79                       | 60.00            | 26.21          | QP      |
| 9  | 6.95           | 9.66                   | 9.87                  | 11.47             | 31.00                       | 50.00            | 19.00          | Average |
| 10 | 6.95           | 9.66                   | 9.87                  | 15.42             | 34.95                       | 60.00            | 25.05          | QP      |
| 11 | 8.92           | 9.66                   | 9.90                  | 11.24             | 30.80                       | 50.00            | 19.20          | Average |
| 12 | 8.92           | 9.66                   | 9.90                  | 15.80             | 35.36                       | 60.00            | 24.64          | QP      |



Site no : 844 Shield Room Data no. : 169  
 Env. / Ins. : Temp:24.3'C Humi:58% Press:101.50kPa LINE Phase : NEUTRAL  
 Limit : FCC PART 15B QP  
 Engineer : Bible  
 EUT : Amplifier with bluetooth receiver  
 Power : DC 15V From Adapter Input AC 240V/50Hz  
 M/N : DN-200AZB  
 Test Mode : TX Mode

|    | Freq.<br>(MHz) | LISN<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV) | Limits<br>(dBuV) | Margin<br>(dB) | Remark  |
|----|----------------|------------------------|-----------------------|-------------------|-----------------------------|------------------|----------------|---------|
| 1  | 0.18           | 9.55                   | 9.80                  | 11.85             | 31.20                       | 54.50            | 23.30          | Average |
| 2  | 0.18           | 9.55                   | 9.80                  | 26.34             | 45.69                       | 64.50            | 18.81          | QP      |
| 3  | 0.20           | 9.60                   | 9.80                  | 12.60             | 32.00                       | 53.71            | 21.71          | Average |
| 4  | 0.20           | 9.60                   | 9.80                  | 24.90             | 44.30                       | 63.71            | 19.41          | QP      |
| 5  | 0.30           | 9.60                   | 9.83                  | 5.57              | 25.00                       | 50.19            | 25.19          | Average |
| 6  | 0.30           | 9.60                   | 9.83                  | 17.04             | 36.47                       | 60.19            | 23.72          | QP      |
| 7  | 0.52           | 9.59                   | 9.81                  | 8.60              | 28.00                       | 46.00            | 18.00          | Average |
| 8  | 0.52           | 9.59                   | 9.81                  | 18.77             | 38.17                       | 56.00            | 17.83          | QP      |
| 9  | 6.63           | 9.66                   | 9.86                  | 10.48             | 30.00                       | 50.00            | 20.00          | Average |
| 10 | 6.63           | 9.66                   | 9.86                  | 16.18             | 35.70                       | 60.00            | 24.30          | QP      |
| 11 | 8.78           | 9.68                   | 9.87                  | 10.65             | 30.20                       | 50.00            | 19.80          | Average |
| 12 | 8.78           | 9.68                   | 9.87                  | 15.75             | 35.30                       | 60.00            | 24.70          | QP      |

## **11. ANTENNA REQUIREMENTS**

### **11.1. Limit**

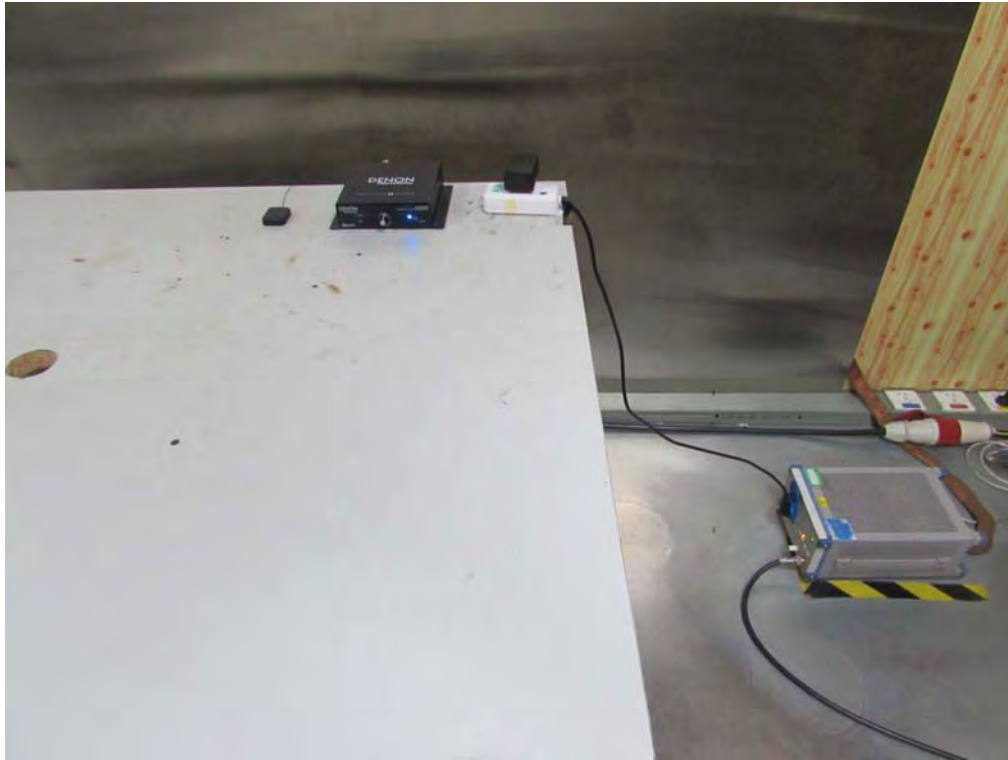
For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

### **11.2. Result**

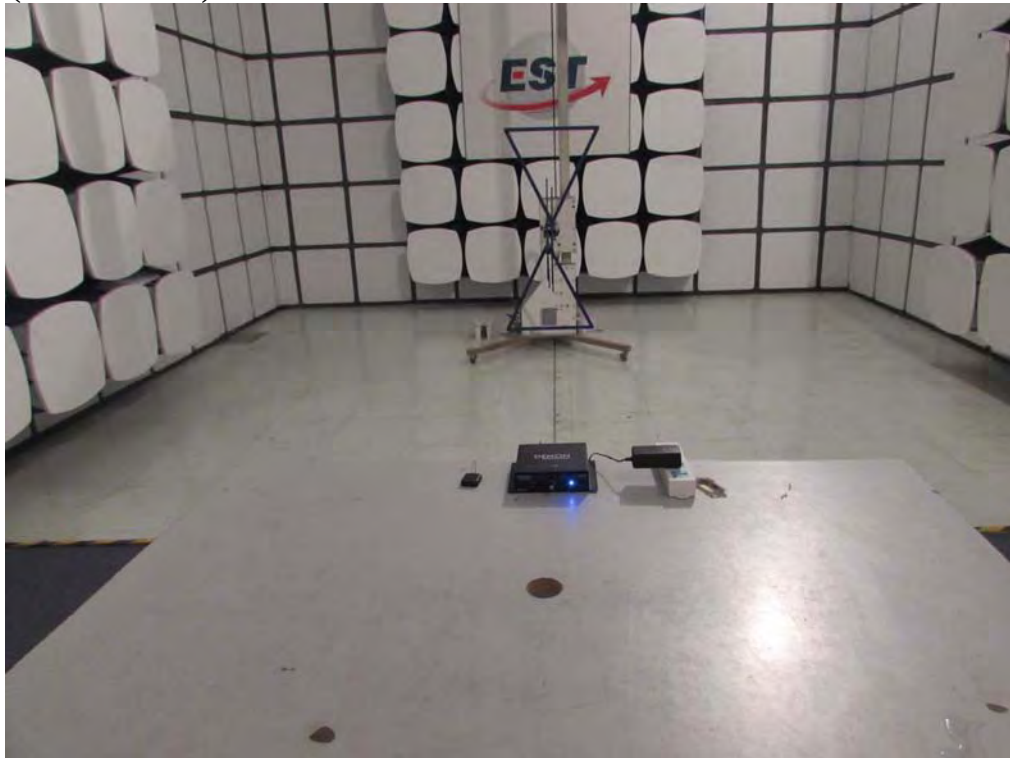
The antennas used for this product are Dipole antenna with the ipex connector and that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is only 2.0dBi.

## 12. TEST SETUP PHOTO

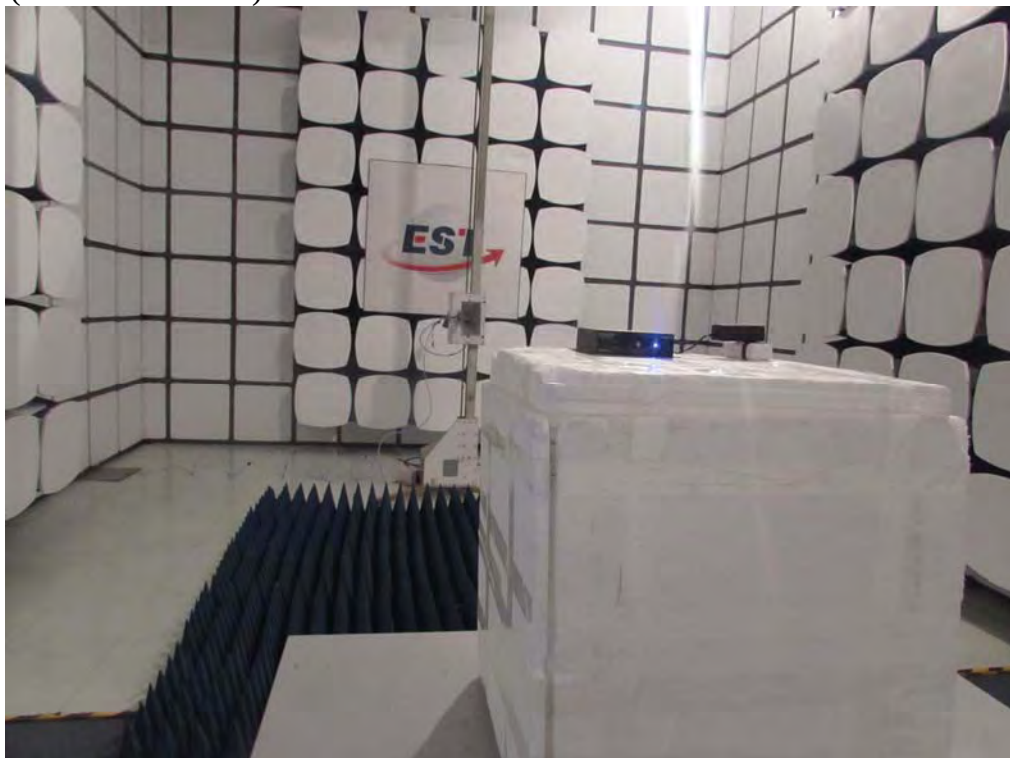
Conducted Test



Radiated Test (30-1000 MHz)

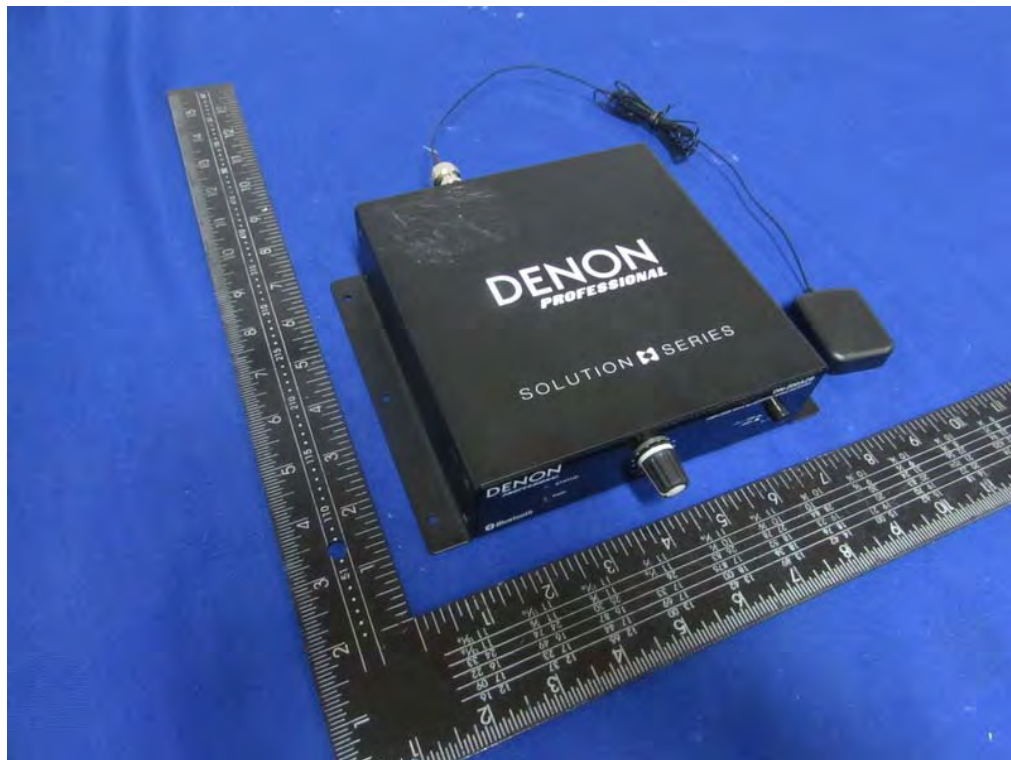


Radiated Test (Above 1000 MHz)

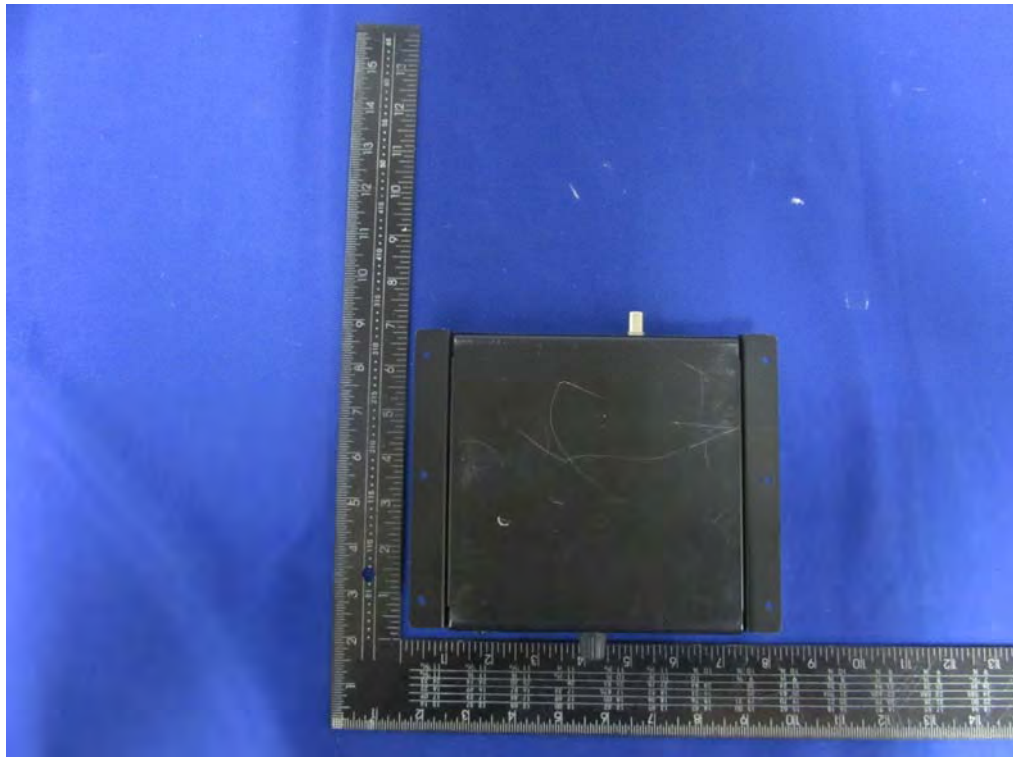


## 13.PHOTO EUT

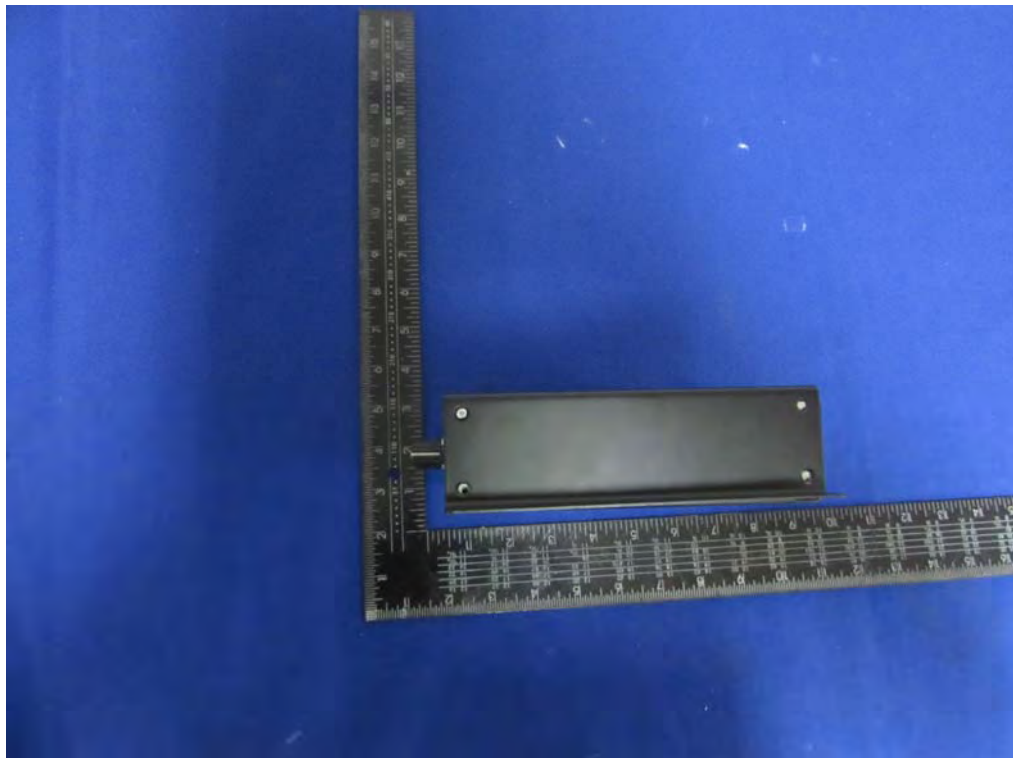
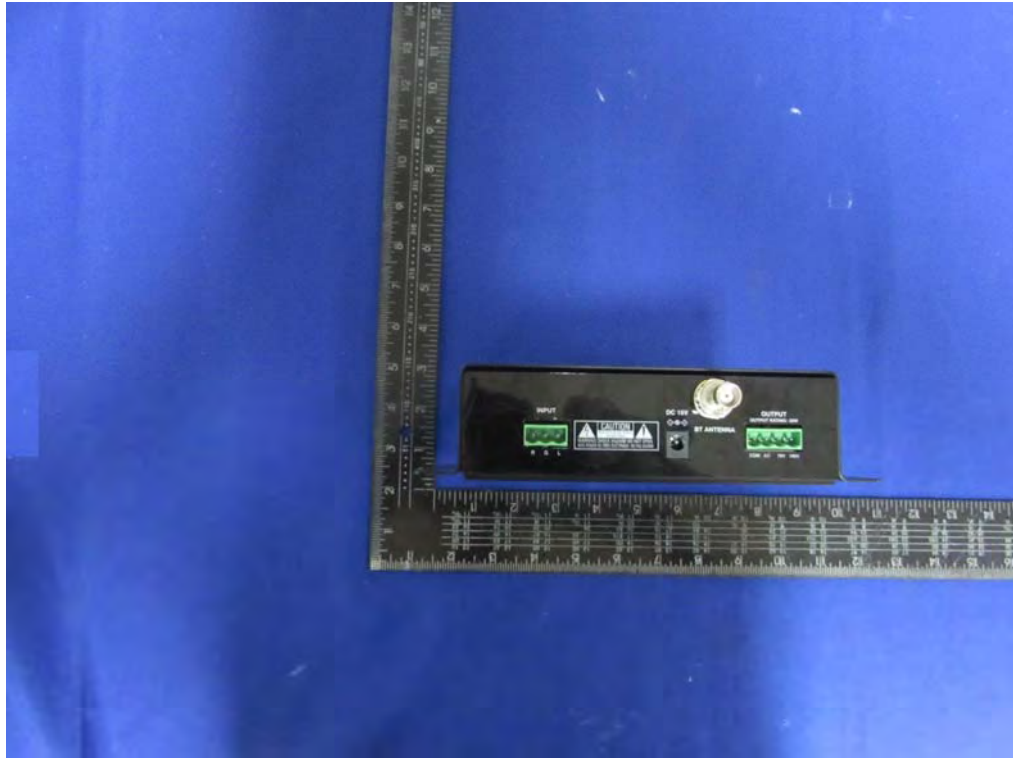
**External Photos**  
M/N: DN-200AZB



**External Photos**  
M/N: DN-200AZB



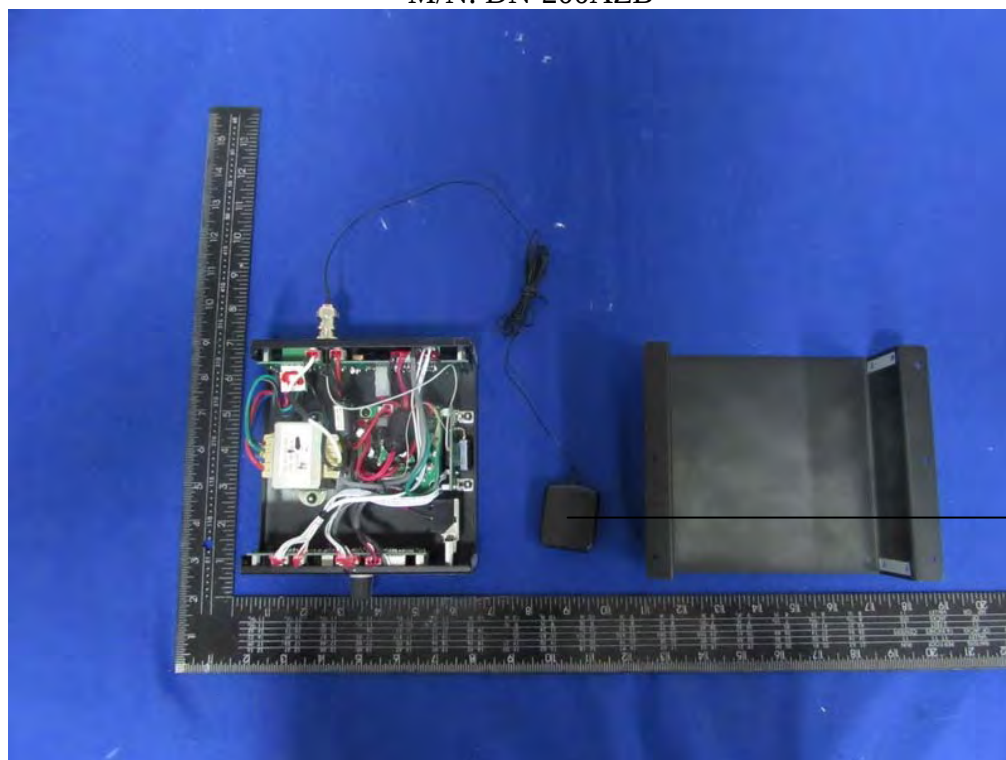
**External Photos**  
M/N: DN-200AZB



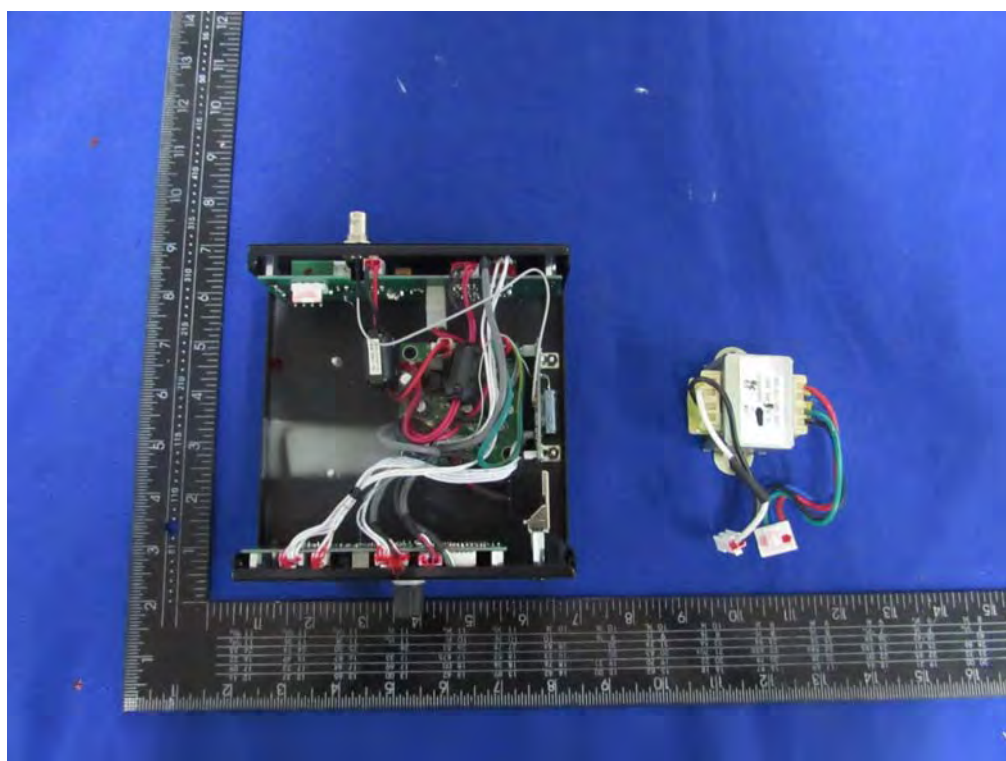
**External Photos**  
M/N: DN-200AZB



**Internal Photos**  
M/N: DN-200AZB



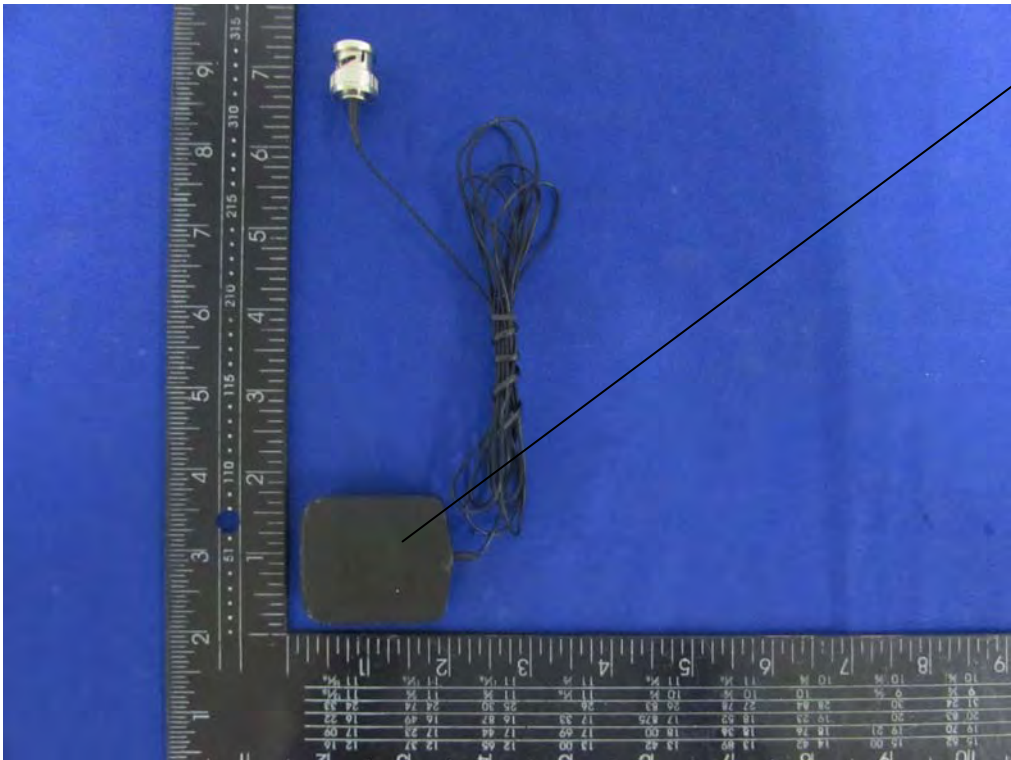
Antenna



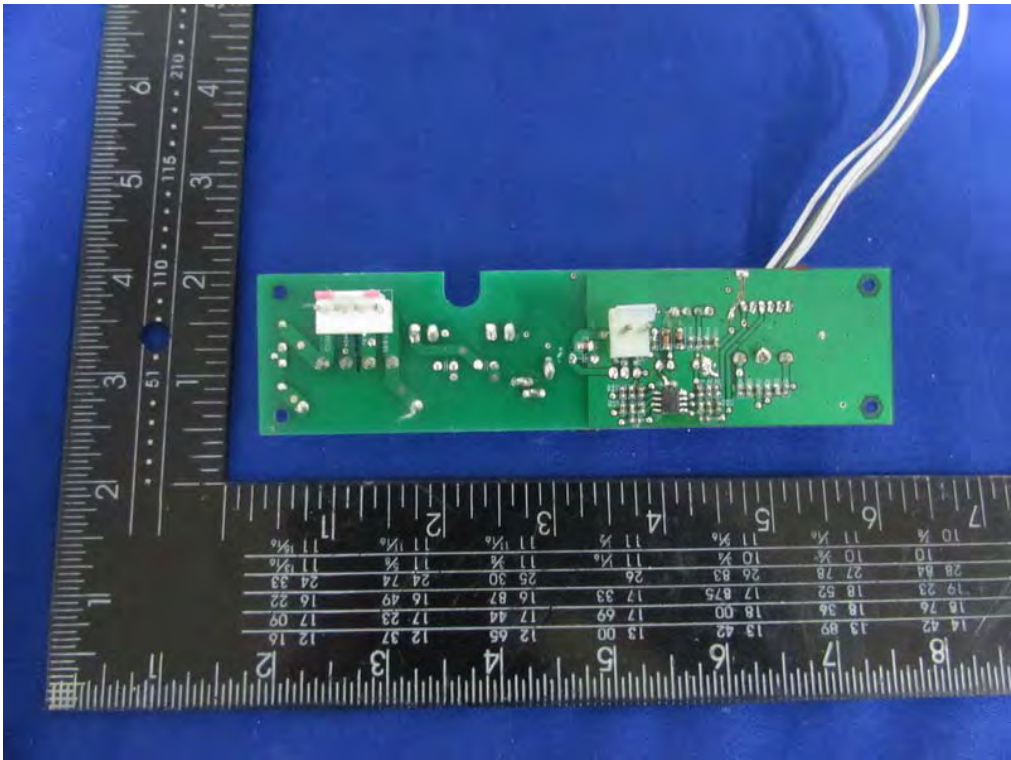
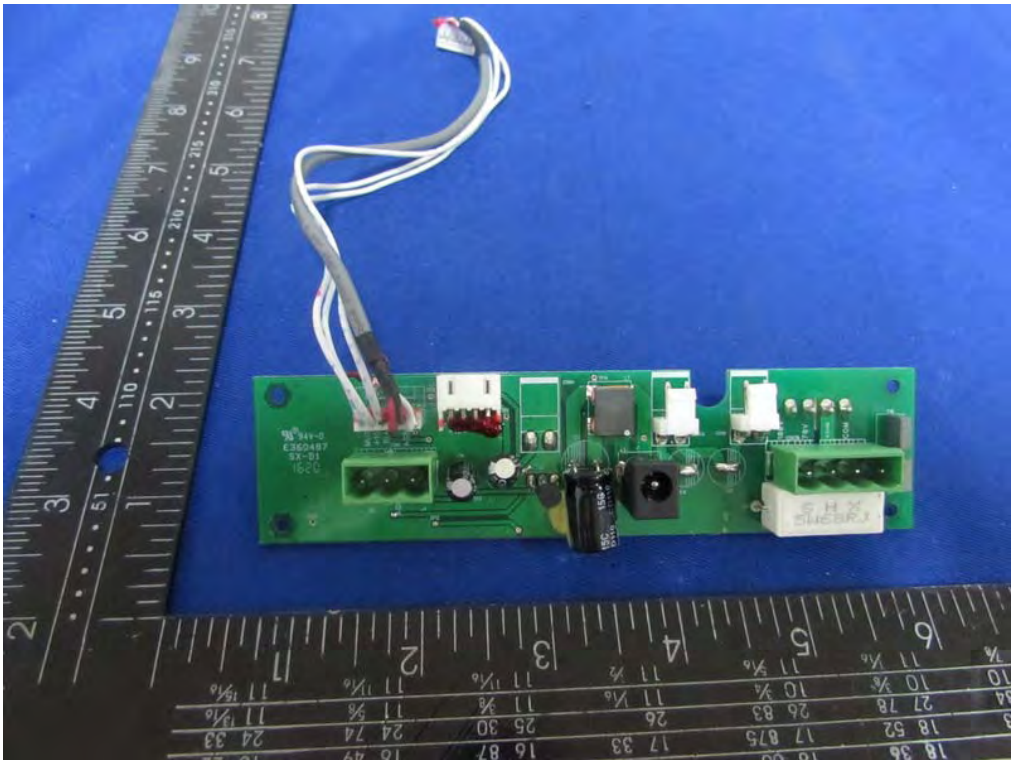
Internal Photos  
M/N: DN-200AZB



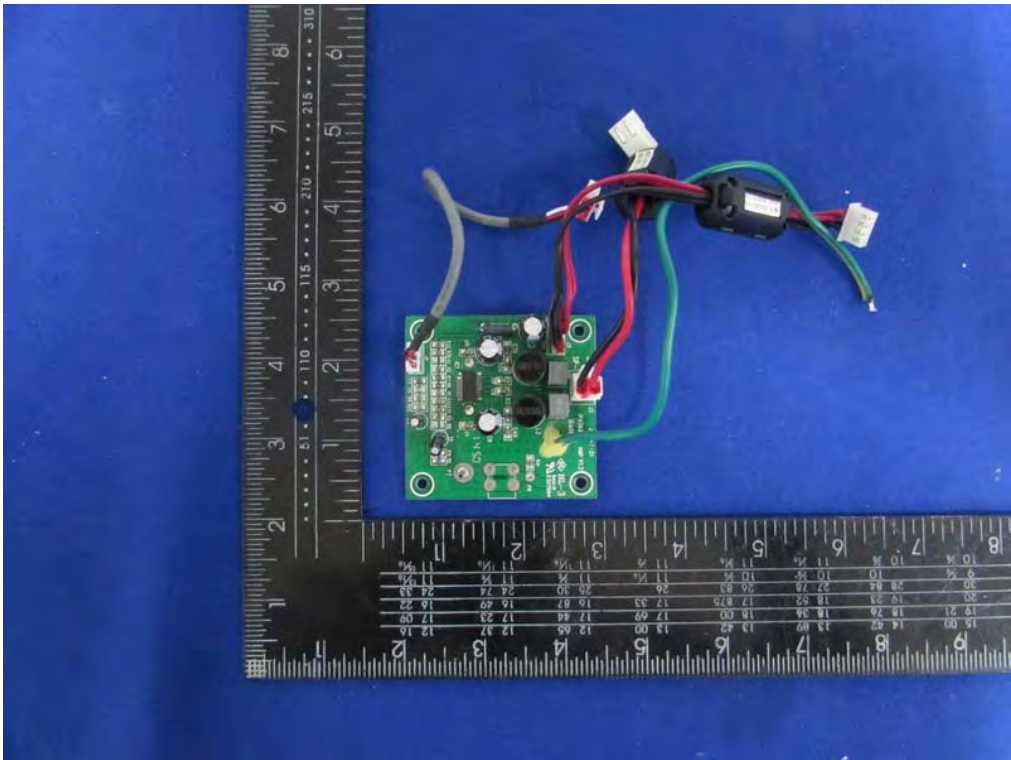
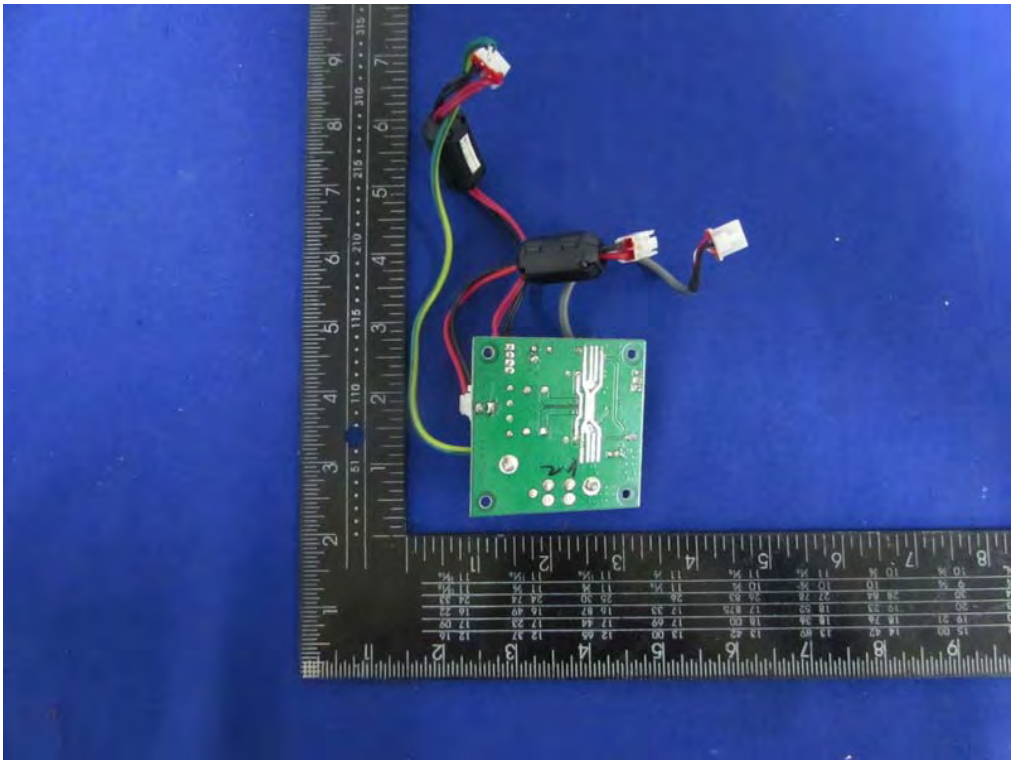
Bluetooth  
Antenna



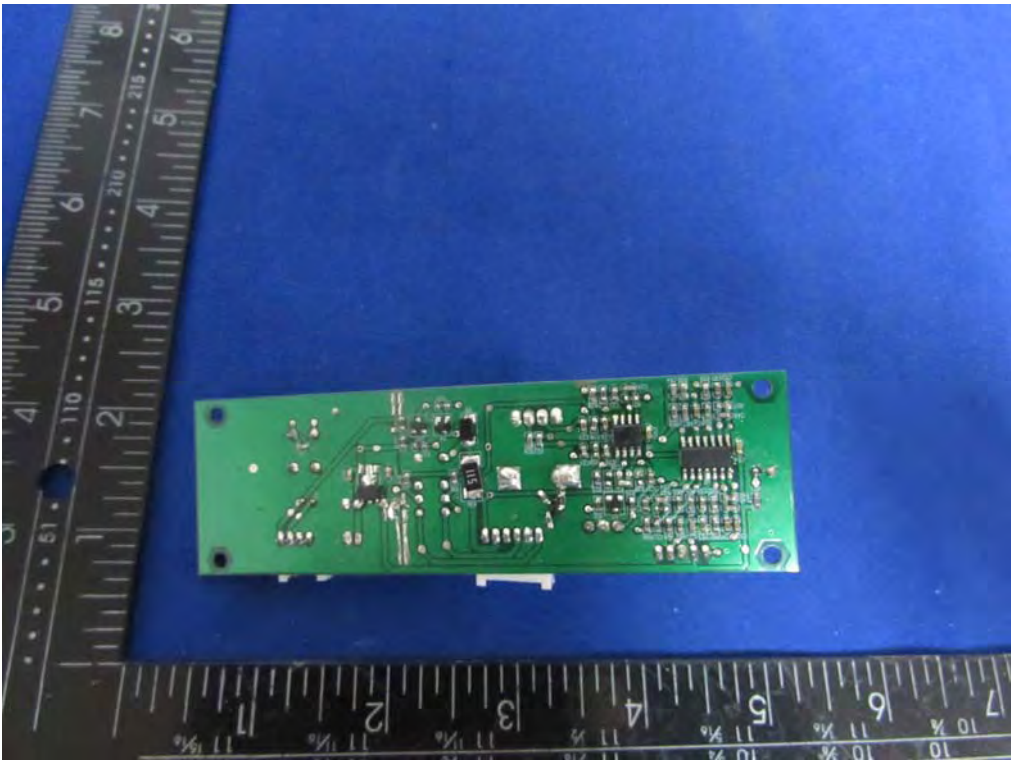
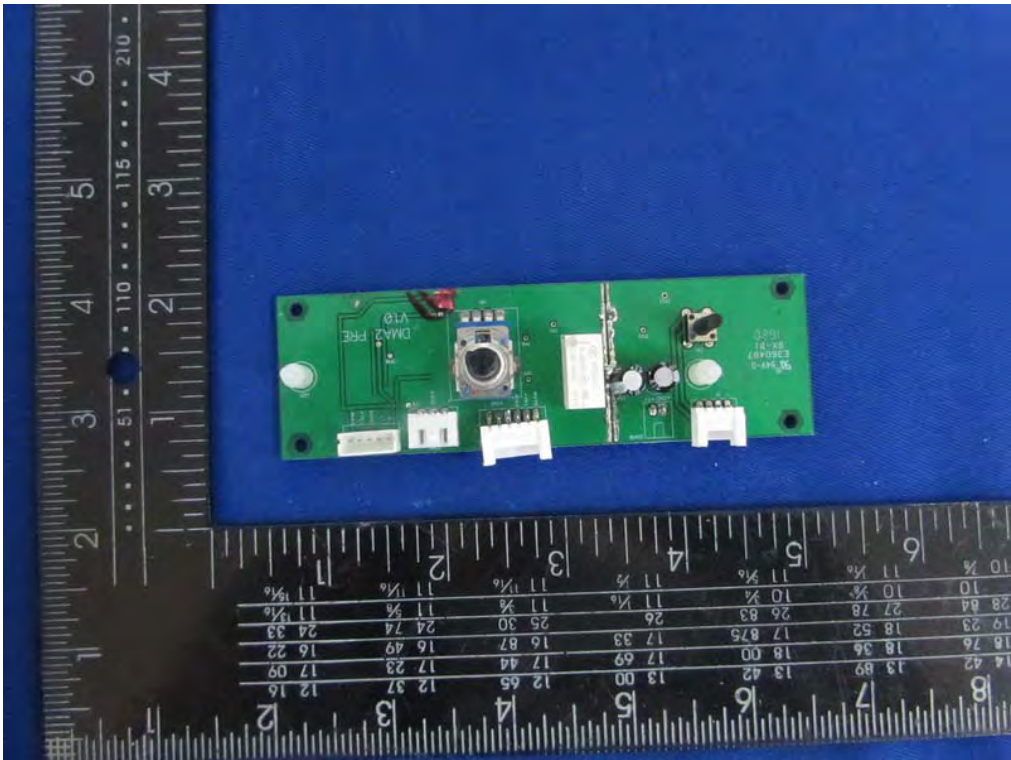
Internal Photos  
M/N: DN-200AZB



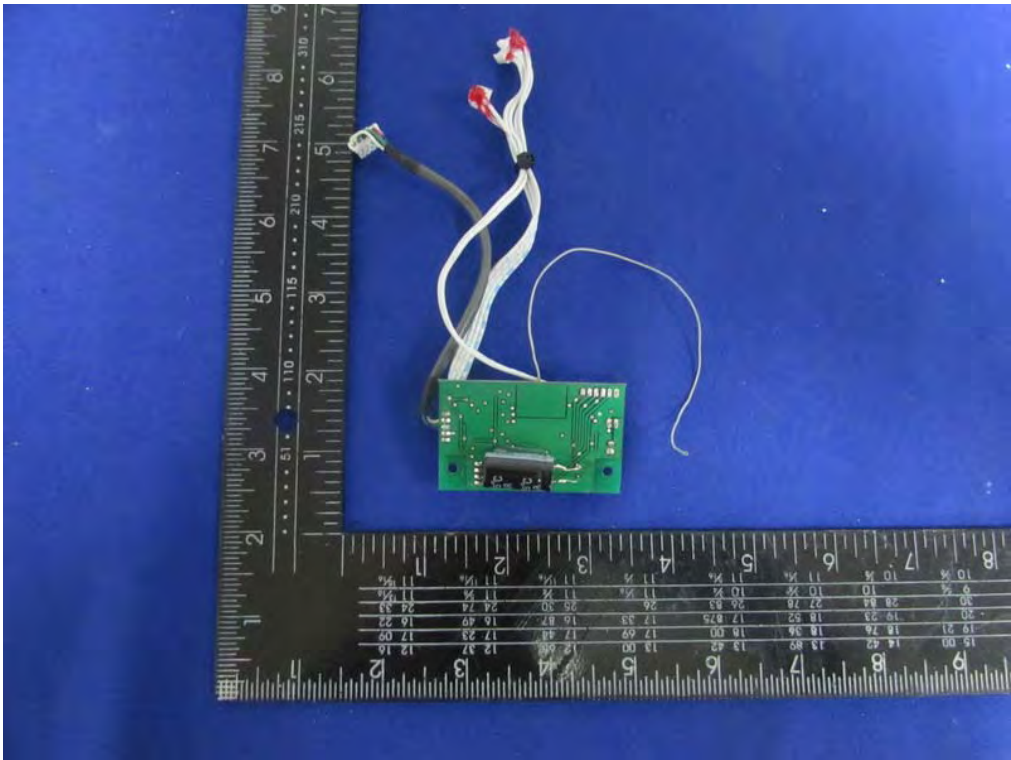
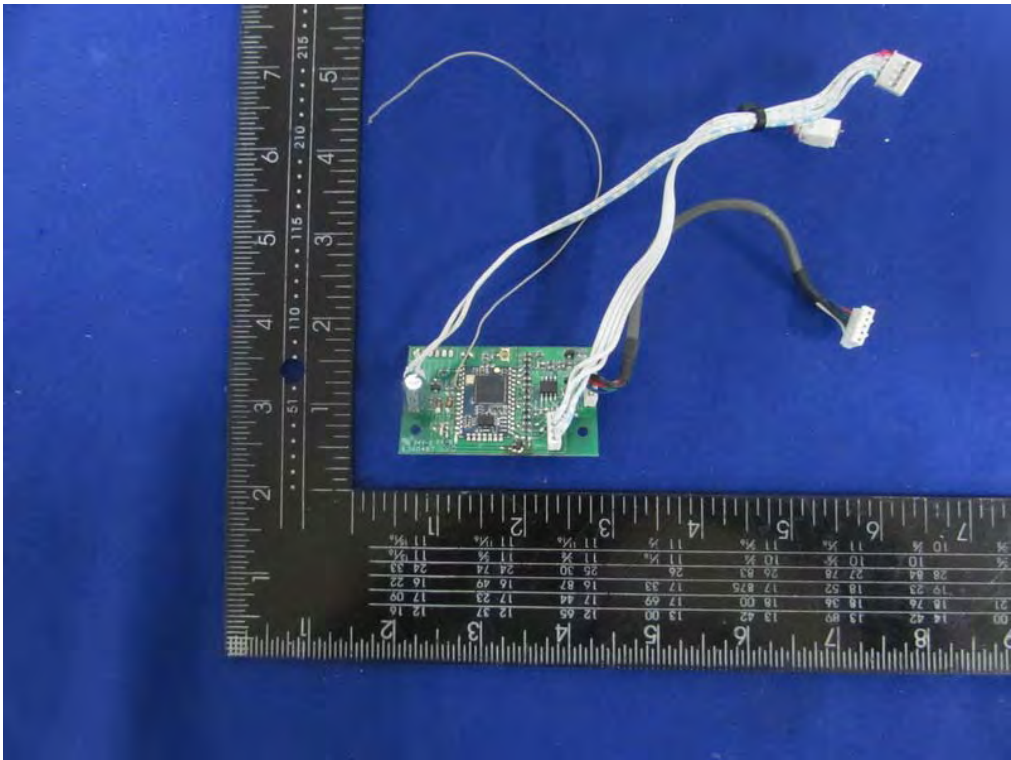
Internal Photos  
M/N: DN-200AZB



Internal Photos  
M/N: DN-200AZB

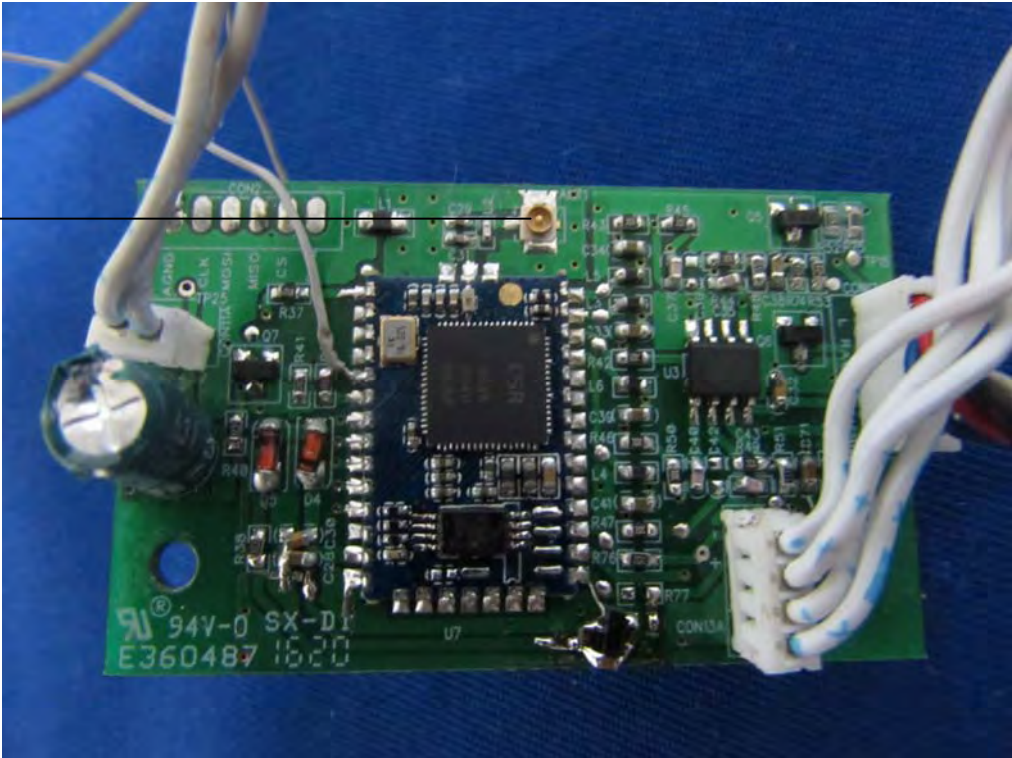


Internal Photos  
M/N: DN-200AZB



Internal Photos  
M/N: DN-200AZB

ipex connector



Adapter Photos

