

FCC TEST REPORT(Bluetooth)

for

Cenique Infotainment Group Limited

Cenique Enterprise Android Media Player

Model Number: C610 Quad Core UHD Android Media Player

FCC ID: 2AEL8C610

Prepared for : Cenique Infotainment Group Limited
Address : Unit 218, 2/F, Enterprise Place, Hong Kong Science
and Technology Parks, Shatin, N.T. ,HongKong.

Prepared by : Keyway Testing Technology Co., Ltd.
Address : Baishun Industrial Zone, Zhangmutou Town,
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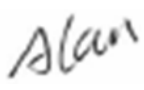


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Report No. : 15KWE042496F
Date of Test : Apr. 21~26, 2015
Date of Report : Apr. 27, 2015

TABLE OF CONTENTS

| Test Report Declaration | Page |
|--|------|
| 1. TEST SUMMARY | 4 |
| 2. GENERAL PRODUCT INFORMATION..... | 4 |
| 2.1. Product Function..... | 4 |
| 2.2. Description of Device (EUT) | 4 |
| 2.3. Difference between Model Numbers..... | 4 |
| 2.4. Independent Operation Modes | 5 |
| 2.5. Test Supporting System..... | 5 |
| 3. TEST SITES | 6 |
| 3.1. Test Facilities | 6 |
| 3.2. List of Test and Measurement Instruments..... | 7 |
| 4. TEST SET-UP AND OPERATION MODES | 8 |
| 4.1. Principle of Configuration Selection | 8 |
| 4.2. Block Diagram of Test Set-up | 8 |
| 4.3. Test Operation Mode and Test Software | 8 |
| 4.4. Special Accessories and Auxiliary Equipment | 8 |
| 4.5. Countermeasures to Achieve EMC Compliance..... | 8 |
| 4.6. Test Environment: | 8 |
| 5. EMISSION TEST RESULTS | 9 |
| 5.1. Conducted Emission at the Mains Terminals Test..... | 9 |
| 5.2. Radiated Emission Test | 12 |
| 6. 20DB OCCUPY BANDWIDTH..... | 19 |
| 6.1. Limits..... | 19 |
| 6.2. Test setup | 19 |
| 7. BAND EDGE COMPLIANCE TEST | 21 |
| 7.1. Limits..... | 21 |
| 7.2. Test setup | 21 |
| 8. ANTENNA REQUIREMENTS..... | 22 |
| 8.1. Limits..... | 22 |
| 8.2. Result..... | 22 |
| 9. PHOTOGRAPHS OF TEST SET-UP | 23 |
| 10. PHOTOGRAPHS OF THE EUT | 25 |

Keyway Testing Technology Co., Ltd.

| | | | |
|---|--|--|------------------|
| Applicant: | Cenique Infotainment Group Limited | | |
| Address: | Unit 218, 2/F, Enterprise Place, Hong Kong Science and Technology Parks, Shatin, N.T. , HongKong. | | |
| Manufacturer: | Cenique Infotainment Group Limited | | |
| Address: | Unit 218, 2/F, Enterprise Place, Hong Kong Science and Technology Parks, Shatin, N.T. , HongKong. | | |
| E.U.T: | Cenique Enterprise Android Media Player | | |
| Model Number: | C610 Quad Core UHD Android Media Player | | |
| Trade Name: | Cenique | Serial No.: | ----- |
| Date of Receipt: | Apr. 20, 2015 | Date of Test: | Apr. 21~26, 2015 |
| Test Specification: | FCC Part 15, Subpart C Section 15.249: 2014 ANSI C63.10:2013 | | |
| Test Result: | The equipment under test was found to be compliance with the requirements of the standards applied. | | |
| Issue Date: Apr. 27, 2015 | | | |
| Tested by: | Reviewed by: | Approved by: | |
|  <hr style="width: 100px; margin: 0 auto;"/> |  <hr style="width: 100px; margin: 0 auto;"/> |  <hr style="width: 100px; margin: 0 auto;"/> | |
| Alan Wang/ Engineer | Andy Gao / Supervisor | Jade Yang/ Supervisor | |
| Other Aspects: | None. | | |
| <i>Abbreviations: OK/P=passed fail/F=failed n.a/N=not applicable E.U.T=equipment under tested</i> | | | |
| <i>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 Keyway Testing Technology Co., Ltd.</i> | | | |

1. TEST SUMMARY

| Test Items | Test Requirement | Result |
|----------------------------|------------------------|--------|
| Conducted Emissions | 15.207 | PASS |
| Radiated Emissions | 15.209 15.249(a)(d) | PASS |
| 20dB Bandwidth | 15.249 | PASS |
| Emissions from out of band | 15.249(d) | PASS |
| Antenna Requirement | 15.203 | PASS |

2.GENERAL PRODUCT INFORMATION

2.1. Product Function

Refer to Technical Construction Form and User Manual.

2.2. Description of Device (EUT)

| | |
|--------------------------|---|
| Product Name: | Cenique Enterprise Android Media Player |
| Model No.: | C610 Quad Core UHD Android Media Player |
| Operation Frequency: | BT:2402~2480MHz WIFI:2412MHz~2462MHz (802.11b/802.11g/802.11n(H20)) 2422MHz~2452MHz (802.11n(H40)) |
| Channel numbers: | BT:40 Channels WIFI: 11 for 802.11b/802.11g/802.11n(H20) , 7 for 802.11n(H40) |
| Channel separation: | BT :1M WIFI : 5MHz |
| Modulation technology: | BT:GFSK WIFI: Direct Sequence Spread Spectrum (DSSS) for 802.11b Orthogonal Frequency Division Multiplexing(OFDM) for 802.11g/n |
| Data rate: | 802.11b: 1Mbps, 2Mbps, 5.5Mbps, 11Mbps 802.11g: 6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps,54Mbps 802.11n: Up to 150Mbps |
| Antenna Type: | External Antenna |
| Antenna gain: | 3dBi (declare by Applicant) |
| Power supply: | AC 120V/60Hz |
| BT version: | 4.0 |
| Switching power Adapter: | Manufacturer: Cenique Infotainment Group Limited M/N:MX18W1-0503000U I/P:AC 100~240V 50/60Hz 0.5A O/P:DC 5V 3A |

2.3. Difference between Model Numbers

None.

2.4. Independent Operation Modes

The basic operation modes are:

| Operation Frequency each of channel | | | | | | | |
|-------------------------------------|-----------|---------|-----------|---------|-----------|---------|-----------|
| Channel | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
| 1 | 2402MHz | 11 | 2422MHz | 21 | 2442MHz | 31 | 2462MHz |
| 2 | 2404MHz | 12 | 2424MHz | 22 | 2444MHz | 32 | 2464MHz |
| ~ | ~ | ~ | ~ | ~ | ~ | ~ | ~ |
| 19 | 2418MHz | 19 | 2438MHz | 29 | 2458MHz | 39 | 2478MHz |
| 10 | 2420MHz | 20 | 2440MHz | 30 | 2460MHz | 40 | 2480MHz |

Note: In section 15.31(m), regards to the operating frequency range over 10 MHz, the lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

| Modulation | Channel | Frequency |
|------------|---------|-----------|
| GFSK | Low | 2402MHz |
| | Middle | 2440MHz |
| | High | 2480MHz |

2.5. Test Supporting System

None.

3. TEST SITES

3.1. Test Facilities

Lab Qualifications : 944 Shielded Room built by ETS-Lindgren, USA
Date of completion: March 28, 2011

966 Chamber built by ETS-Lindgren, USA
Date of completion: March 28, 2011

Certificated by TUV Rheinland, Germany.
Registration No.: UA 50207153
Date of registration: July 13, 2011

Certificated by UL, USA
Registration No.: 100567-237
Date of registration: September 1, 2011

Certificated by Intertek
Registration No.: 2011-RTL-L1-31
Date of registration: October 11, 2011

Certificated by Industry Canada
Registration No.: 9868A
Date of registration: December 8, 2011

Certificated by FCC, USA
Registration No.: 370994
Date of registration: February 21, 2012

Certificated by CNAS China
Registration No.: CNAS L5783
Date of registration: August 8, 2012

Name of Firm : Keyway Testing Technology Co., Ltd.

Site Location : Baishun Industrial Zone, Zhangmutou Town,
Dongguan, Guangdong, China

3.2. List of Test and Measurement Instruments

3.2.1. For conducted emission at the mains terminals test

| Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|--------------------------------|---------------|-----------|------------|------------|------------|
| EMI Test Receiver | Rohde&Schwarz | ESCI | 101156 | Apr. 27,14 | Apr. 27,15 |
| Artificial Mains Network | Rohde&Schwarz | ENV216 | 101315 | Apr. 27,14 | Apr. 27,15 |
| Artificial Mains Network (AUX) | Rohde&Schwarz | ENV216 | 101314 | Apr. 27,14 | Apr. 27,15 |
| RF Cable | FUJIKURA | 3D-2W | 944 Cable | Apr. 27,14 | Apr. 27,15 |

3.2.2. For radiated emission test

| Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|--|---------------|--------------------|--------------|------------|------------|
| EMI Test Receiver | Rohde&Schwarz | ESCI | 101156 | Apr. 27,14 | Apr. 27,15 |
| System Simulator | Agilent | E5515C | GB43130245 | Apr. 30,14 | Apr. 30,15 |
| Power Splitter | Weinschel | 1506A | NW425 | Apr. 30,14 | Apr. 30,15 |
| Bilog Antenna | ETS-LINDGREEN | 3142D | 135452 | Apr. 27,14 | Apr. 27,15 |
| Spectrum Analyzer | Agilent | E4411B | MY4511304 | Apr. 27,14 | Apr. 27,15 |
| 3m Semi-anechoic Chamber | ETS-LINDGREEN | 966 | KW01 | Apr. 27,14 | Apr. 27,15 |
| Signal Cenique Enterprise Android Media Player | SONOMA | 310 | 187016 | Apr. 27,14 | Apr. 27,15 |
| Signal Cenique Enterprise Android Media Player | Agilent | 8449B | 3008A00251 | Apr. 27,14 | Apr. 27,15 |
| RF Cable | IMRO | IMRO-400 | 966 Cable 1# | N/A | N/A |
| MULTI-DEVICE Controller | ETS-LINDGREEN | 2090 | 126913 | N/A | N/A |
| Horn Antenna | DAZE | ZN30701 | 11003 | Apr. 27,14 | Apr. 27,15 |
| Horn Antenna | SCHWARZBECK | BBHA9170 | 9170-068 | Apr. 27,14 | Apr. 27,15 |
| Spectrum Analyzer | Agilent | 8593E | 3911A04271 | Apr. 27,14 | Apr. 27,15 |
| Spectrum Analyzer | Agilent | E4408B | MY44211125 | Apr. 30,14 | Apr. 30,15 |
| Signal Cenique Enterprise Android Media Player | DAZE | ZN3380C | 11001 | Apr. 27,14 | Apr. 27,15 |
| High Pass filter | Micro | HPM50111 | 324216 | Apr. 30,14 | Apr. 30,15 |
| Filter | COM-MW | ZBSF-C836.5-25-X | KW032 | Apr. 30,14 | Apr. 30,15 |
| Filter | COM-MW | ZBSF-C1747.5-75-X2 | KW035 | Apr. 30,14 | Apr. 30,15 |
| Filter | COM-MW | ZBSF-C1880-60-X2 | KW037 | Apr. 30,14 | Apr. 30,15 |
| DC Power Supply | LongWei | PS-305D | 010964729 | Apr. 27,14 | Apr. 27,15 |
| Constant temperature and humidity box | GF | GTH-800-40-1P | MAA9906-005 | Apr. 27,14 | Apr. 27,15 |
| Universal radio communication tester | Rohde&Schwarz | CMU200 | 3215420 | Apr. 27,14 | Apr. 27,15 |
| Splitter | Agilent | 11636B | 0025164 | Apr. 27,14 | Apr. 27,15 |

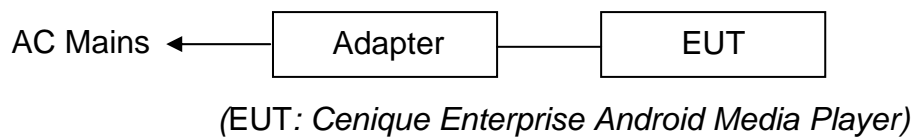
4. TEST SET-UP AND OPERATION MODES

4.1. Principle of Configuration Selection

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the Operating Instructions.

4.2. Block Diagram of Test Set-up

System Diagram of Connections between EUT and Simulators



4.3. Test Operation Mode and Test Software

None.

4.4. Special Accessories and Auxiliary Equipment

None.

4.5. Countermeasures to Achieve EMC Compliance

None.

4.6. Test Environment:

Ambient conditions in the test laboratory:

| Items | Actual |
|------------------|--------|
| Temperature (°C) | 21~23 |
| Humidity (%RH) | 50~65 |

5. EMISSION TEST RESULTS

5.1. Conducted Emission at the Mains Terminals Test

5.1.1. Limit 15.207 limits

| FREQUENCY OF EMISSION (MHz) | CONDUCTED LIMIT (dB μ V) | |
|-----------------------------|------------------------------|----------|
| | Quasi-peak | Average |
| 0.15-0.5 | 66 to 56 | 56 to 46 |
| 0.5-5 | 56 | 46 |
| 5-30 | 60 | 50 |

5.1.2. Test Setup

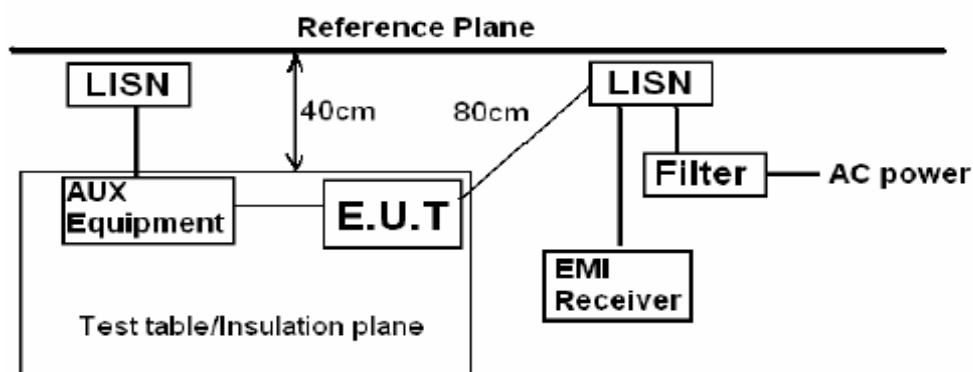
The EUT was put on a wooden table which was 0.8 m high above the ground and connected to the AC mains through the Artificial Mains Network (AMN). Where the mains cable supplied by the manufacture was longer than 0.8 m, the excess was folded back and forth parallel to the cable at the centre so as to form a bundle no longer than 0.4 m.

The EUT was kept 0.4 m from any other earthed conducting surface. Both sides of AC line were checked to find out the maximum conducted emission levels according to the test procedure during the conducted emission test.

The frequency range from 150 kHz to 30 MHz was investigated.

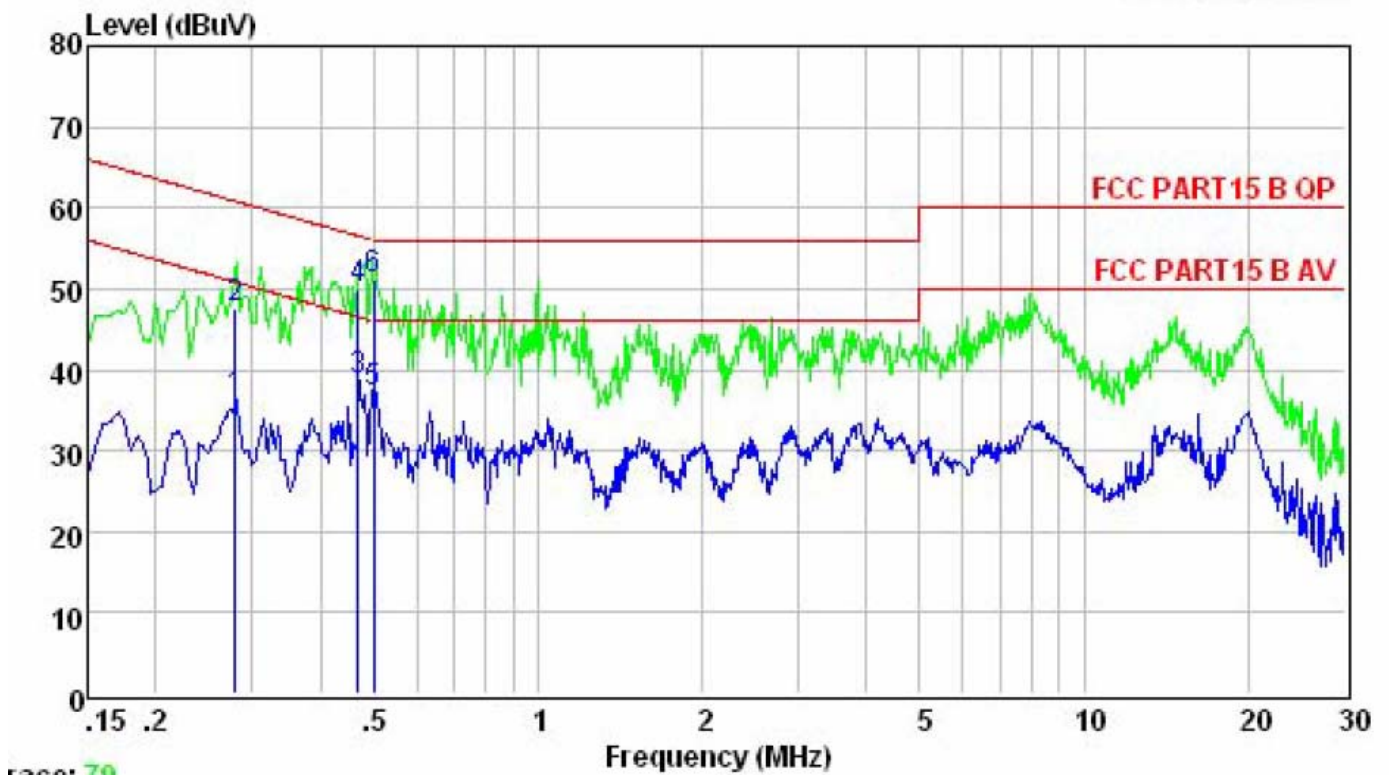
The bandwidth of the test receiver was set at 9 kHz.

Pretest for all mode, The test data of the worst case condition(s) was reported on the following page.



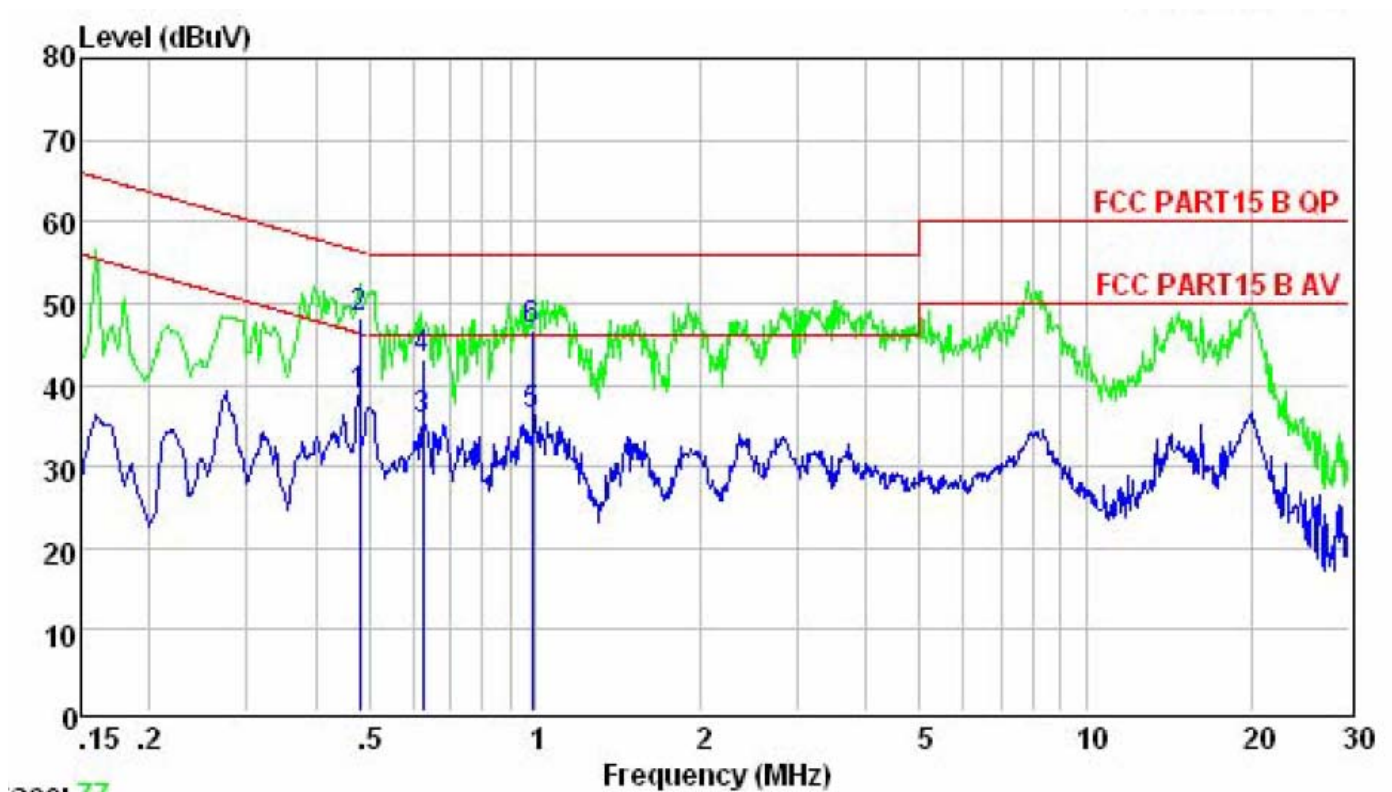
Remark:
E.U.T: Equipment Under Test
LISN: Line Impedance Stabilization Network
Test table height=0.8m

Line



| | Freq | Level | Limit | Over | Remark |
|---|-------|-------|-------|--------|---------|
| | MHz | dBuV | Line | Limit | |
| | | | dBuV | dB | |
| 1 | 0.279 | 36.42 | 50.85 | -14.43 | Average |
| 2 | 0.279 | 47.58 | 60.85 | -13.27 | QP |
| 3 | 0.469 | 38.56 | 46.53 | -7.97 | Average |
| 4 | 0.469 | 50.09 | 56.53 | -6.44 | QP |
| 5 | 0.502 | 37.26 | 46.00 | -8.74 | Average |
| 6 | 0.502 | 51.28 | 56.00 | -4.72 | QP |

Neutral



| | Freq | Level | Limit | Over | Remark |
|---|-------|-------|-------|--------|---------|
| | MHz | dBuV | dBuV | dB | |
| 1 | 0.481 | 38.52 | 56.32 | -17.80 | Peak |
| 2 | 0.481 | 48.29 | 56.32 | -8.03 | QP |
| 3 | 0.626 | 35.83 | 46.00 | -10.17 | Average |
| 4 | 0.626 | 43.19 | 56.00 | -12.81 | QP |
| 5 | 0.990 | 36.19 | 46.00 | -9.81 | Average |
| 6 | 0.990 | 46.76 | 56.00 | -9.24 | QP |

5.2. Radiated Emission Test

5.2.1. Limit 15.209 limits

| FREQUENCY MHz | DISTANCE Meters | FIELD STRENGTHS LIMIT | |
|------------------|--------------------|---|-----------------------------------|
| | | $\mu\text{V}/\text{m}$ | $\text{dB}(\mu\text{V})/\text{m}$ |
| 30 ~ 88 | 3 | 100 | 40.0 |
| 88 ~ 216 | 3 | 150 | 43.5 |
| 216 ~ 960 | 3 | 200 | 46.0 |
| 960 ~ 1000 | 3 | 500 | 54.0 |
| Above 1000 | 3 | 74.0 $\text{dB}(\mu\text{V})/\text{m}$ (Peak) 54.0 $\text{dB}(\mu\text{V})/\text{m}$ (Average) | |

5.2.2. Restricted bands of operation

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

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.

5.2.3. Test setup

The EUT was placed on a turn table which was 0.8 m (above 1GHz, the high is 1.5m) above the ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was set 3 m away from the receiving antenna which was mounted on an antenna tower. The measuring antenna moved up and down to find out the maximum emission level. It moved from 1 m to 4 m for both horizontal and vertical polarizations.

The EUT was tested in the Chamber Site. It was pre-scanned with a Peak detector from the spectrum, and all the final readings from the test receiver were measured with the Quasi-Peak detector below 1GHz.

The bandwidth of the EMI test receiver is set at 120kHz for frequency range from 30MHz to 1000 MHz.

The bandwidth of the Spectrum's VBW is set at 3MHz and RBW is set at 1MHz for peak emissions measurement above 1GHz and 1MHz RBW, 10Hz VBW for average emissions measure above 1GHz.

The frequency range from 30MHz to 10th harmonic (25GHz) are checked. and no any emissions were found from 18GHz to 25 GHz, So the radiated emissions from 18GHz to 25GHz were not record.

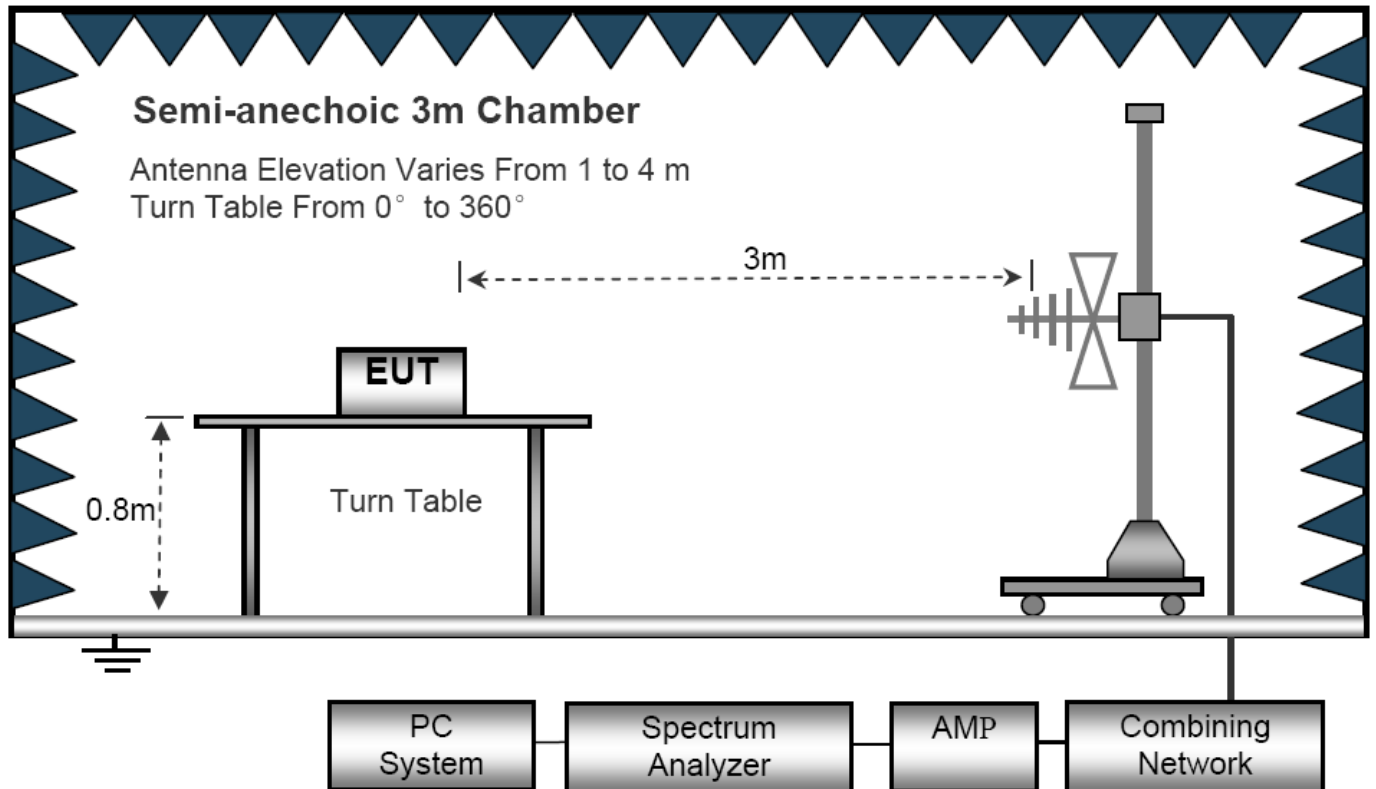
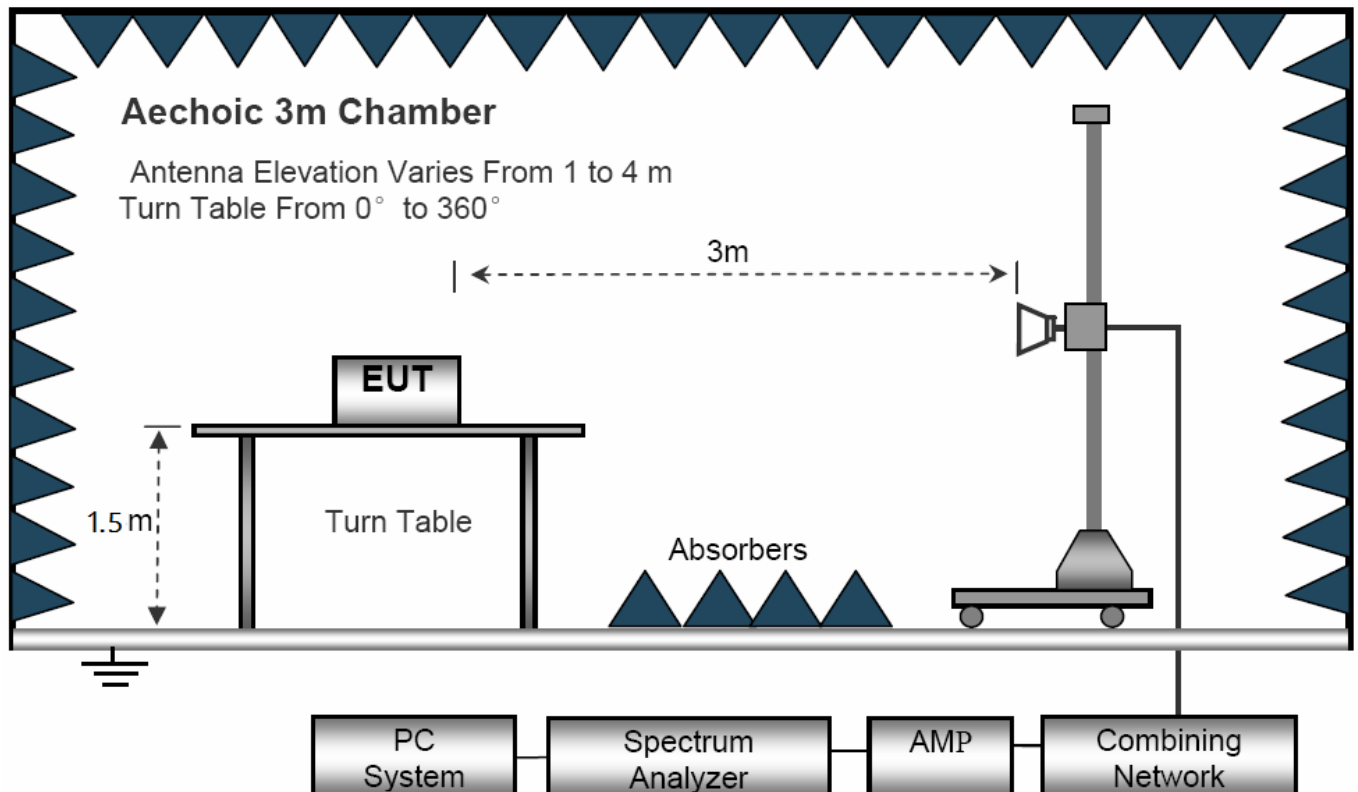
Notes: 1. Emission Level = Antenna Factor + Cable Loss + Meter Reading-Preamplifier Factor.

2. Measurement Uncertainty: ± 3.2 dB at a level of confidence of 95%.

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

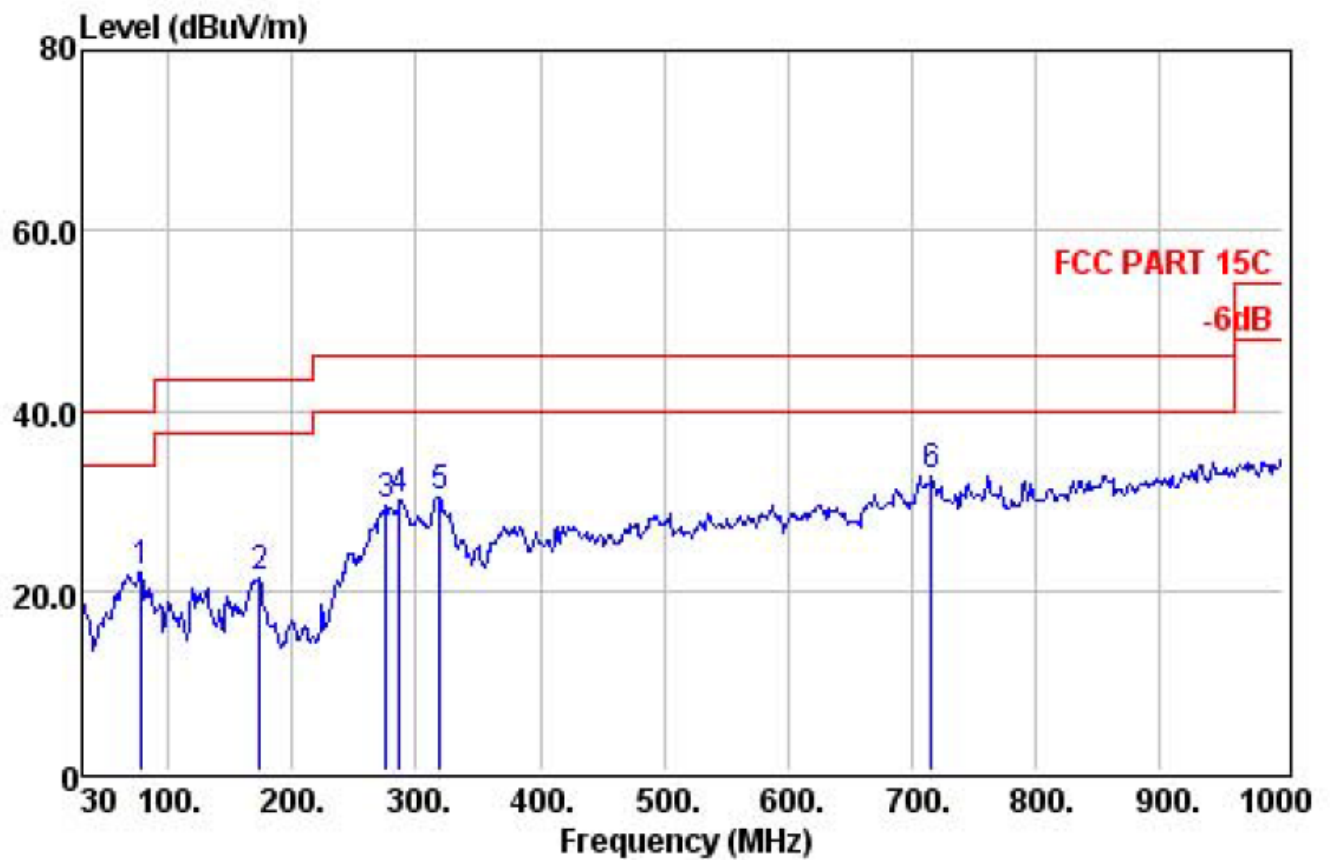
4. For emissions below 1GHz, pretest for all mode, The test data of the worst case condition(s) was reported on the following pages.

5. For Both PK and AV value above 1GHz, PK detector is used.

Below 1GHz**Above 1GHz**

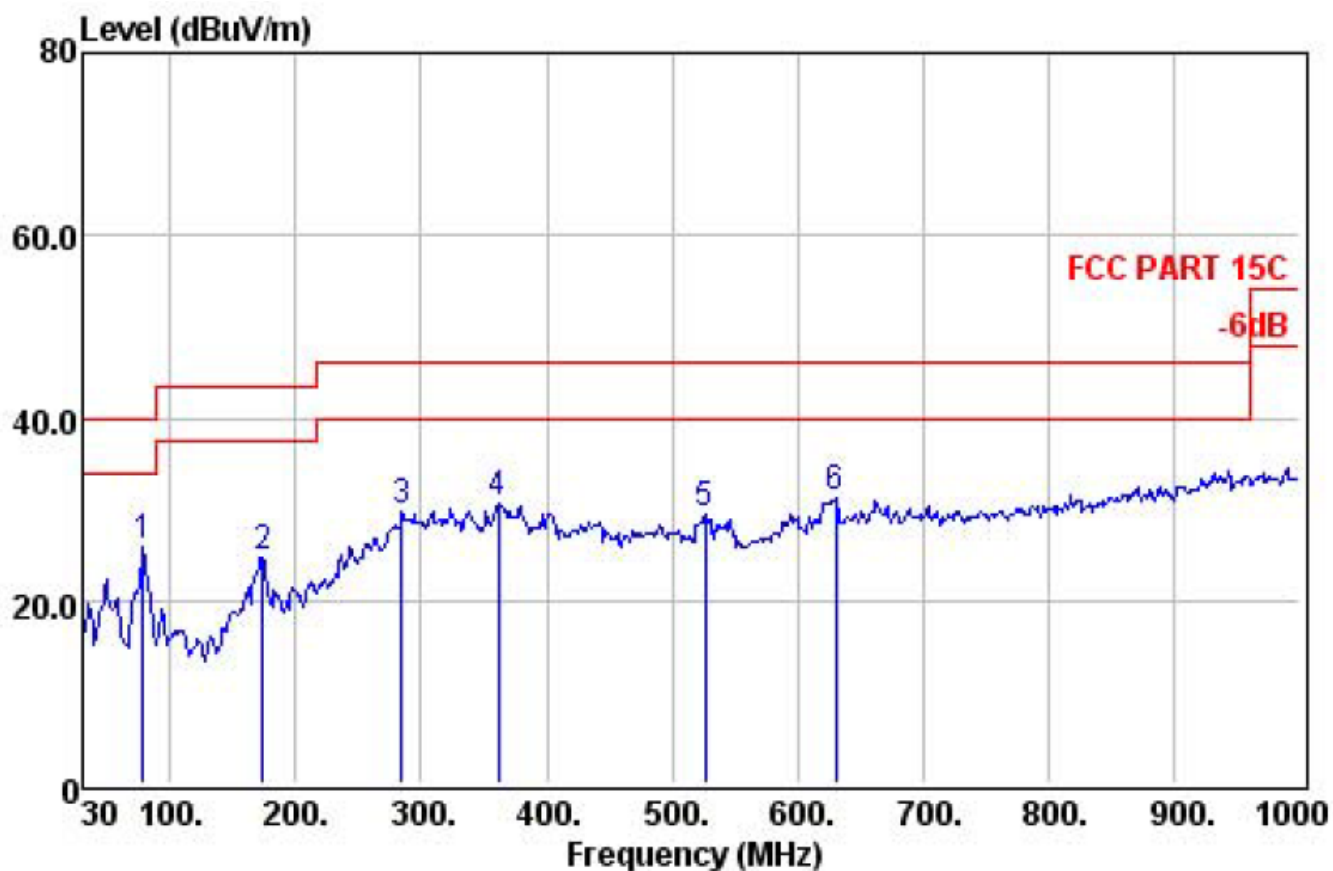
Below 1GHz

BT Mode Horizontal polarizations



| | Freq | Preamp Factor | Read Level | Cable Loss | Level | Limit Line | Over Limit | Remark |
|---|--------|------------------|---------------|---------------|--------|---------------|---------------|--------|
| | MHz | dB | dBuV | dB | dBuV/m | dBuV/m | dB | |
| 1 | 78.50 | 31.34 | 44.57 | 0.85 | 22.01 | 40.00 | -17.99 | QP |
| 2 | 173.56 | 31.18 | 40.95 | 1.39 | 21.37 | 43.50 | -22.13 | QP |
| 3 | 275.41 | 30.95 | 45.46 | 1.78 | 29.30 | 46.00 | -16.70 | QP |
| 4 | 287.05 | 30.94 | 45.86 | 1.87 | 30.18 | 46.00 | -15.82 | QP |
| 5 | 319.06 | 30.85 | 44.88 | 2.02 | 30.38 | 46.00 | -15.62 | QP |
| 6 | 716.76 | 30.65 | 36.98 | 3.96 | 32.66 | 46.00 | -13.34 | QP |

BT Mode Vertical polarizations



| | Freq | Preamp Factor | Read Level | Cable Loss | Level | Limit Line | Over Limit | Remark |
|---|--------|------------------|---------------|---------------|--------|---------------|---------------|--------|
| | MHz | dB | dBuV | dB | dBuV/m | dBuV/m | dB | |
| 1 | 78.50 | 31.34 | 48.48 | 0.85 | 25.92 | 40.00 | -14.08 | QP |
| 2 | 173.56 | 31.18 | 44.37 | 1.39 | 24.79 | 43.50 | -18.71 | QP |
| 3 | 284.14 | 30.94 | 45.38 | 1.87 | 29.60 | 46.00 | -16.40 | QP |
| 4 | 361.74 | 30.61 | 42.88 | 2.18 | 30.57 | 46.00 | -15.43 | QP |
| 5 | 526.64 | 30.72 | 38.02 | 2.94 | 29.46 | 46.00 | -16.54 | QP |
| 6 | 630.43 | 30.71 | 37.21 | 3.47 | 31.29 | 46.00 | -14.71 | QP |

Above 1GHz

GFSK 2402MHz Horizontal polarizations

| | Freq | Preamp Factor | Read Level | Cable Loss | Level | Limit Line | Over Limit | Remark |
|---|----------|------------------|---------------|---------------|--------|---------------|---------------|---------|
| | MHz | dB | dBuV | dB | dBuV/m | dBuV/m | dB | |
| 1 | 2402.00 | 26.32 | 80.04 | 7.34 | 89.78 | 94.00 | -4.22 | Average |
| 2 | 2402.00 | 26.32 | 93.90 | 7.34 | 103.64 | 114.00 | -10.36 | Peak |
| 3 | 4804.00 | 27.49 | 32.96 | 11.96 | 50.37 | 74.00 | -23.63 | Peak |
| 4 | 7664.00 | 28.03 | 16.96 | 16.64 | 42.64 | 74.00 | -31.36 | Peak |
| 5 | 9483.00 | 28.59 | 15.98 | 16.92 | 42.29 | 74.00 | -31.71 | Peak |
| 6 | 13087.00 | 29.22 | 12.11 | 18.32 | 42.31 | 74.00 | -31.69 | Peak |

GFSK 2402MHz Vertical polarizations

| | Freq | Preamp Factor | Read Level | Cable Loss | Level | Limit Line | Over Limit | Remark |
|---|----------|------------------|---------------|---------------|--------|---------------|---------------|---------|
| | MHz | dB | dBuV | dB | dBuV/m | dBuV/m | dB | |
| 1 | 2402.00 | 26.32 | 79.89 | 7.34 | 89.63 | 94.00 | -4.37 | Average |
| 2 | 2402.00 | 26.32 | 93.78 | 7.34 | 103.52 | 114.00 | -10.48 | Peak |
| 3 | 4804.00 | 27.49 | 32.90 | 11.96 | 50.31 | 74.00 | -23.69 | Peak |
| 4 | 7052.00 | 27.91 | 14.77 | 16.60 | 40.68 | 74.00 | -33.32 | Peak |
| 5 | 9517.00 | 28.61 | 16.11 | 16.92 | 42.43 | 74.00 | -31.57 | Peak |
| 6 | 13665.00 | 29.33 | 10.10 | 18.98 | 42.92 | 74.00 | -31.08 | Peak |

GFSK 2440MHz Horizontal polarizations

| | Freq | Preamp Factor | Read Level | Cable Loss | Level | Limit Line | Over Limit | Remark |
|---|----------|------------------|---------------|---------------|--------|---------------|---------------|---------|
| | MHz | dB | dBuV | dB | dBuV/m | dBuV/m | dB | |
| 1 | 2440.00 | 26.33 | 79.76 | 7.48 | 89.67 | 94.00 | -4.33 | Average |
| 2 | 2440.00 | 26.33 | 93.04 | 7.48 | 102.95 | 114.00 | -11.05 | Peak |
| 3 | 4880.00 | 27.53 | 32.46 | 12.14 | 50.18 | 74.00 | -23.82 | Peak |
| 4 | 7460.00 | 27.99 | 16.04 | 16.62 | 42.06 | 74.00 | -31.94 | Peak |
| 5 | 8905.00 | 28.37 | 18.38 | 16.86 | 44.15 | 74.00 | -29.85 | Peak |
| 6 | 11778.00 | 28.98 | 14.92 | 17.32 | 42.88 | 74.00 | -31.12 | Peak |

GFSK 2440MHz Vertical polarizations

| | Freq | Preamp Factor | Read Level | Cable Loss | Level | Limit Line | Over Limit | Remark |
|---|----------|------------------|---------------|---------------|--------|---------------|---------------|---------|
| | MHz | dB | dBuV | dB | dBuV/m | dBuV/m | dB | |
| 1 | 2440.00 | 26.33 | 79.48 | 7.48 | 89.39 | 94.00 | -4.61 | Average |
| 2 | 2440.00 | 26.33 | 93.63 | 7.48 | 103.54 | 114.00 | -10.46 | Peak |
| 3 | 4880.00 | 27.53 | 32.59 | 12.14 | 50.31 | 74.00 | -23.69 | Peak |
| 4 | 7358.00 | 27.97 | 17.33 | 16.62 | 43.32 | 74.00 | -30.68 | Peak |
| 5 | 10571.00 | 28.86 | 15.43 | 17.08 | 42.89 | 74.00 | -31.11 | Peak |
| 6 | 12509.00 | 29.10 | 14.89 | 17.81 | 43.14 | 74.00 | -30.86 | Peak |

GFSK 2480MHz Horizontal polarizations

| | Freq | Preamp Factor | Read Level | Cable Loss | Level | Limit Line | Over Limit | Remark |
|---|----------|------------------|---------------|---------------|--------|---------------|---------------|---------|
| | MHz | dB | dBuV | dB | dBuV/m | dBuV/m | dB | |
| 1 | 2480.00 | 26.34 | 79.55 | 7.57 | 89.57 | 94.00 | -4.43 | Average |
| 2 | 2480.00 | 26.34 | 93.24 | 7.57 | 103.26 | 114.00 | -10.74 | Peak |
| 3 | 4960.00 | 27.58 | 32.08 | 12.36 | 50.18 | 74.00 | -23.82 | Peak |
| 4 | 7647.00 | 28.03 | 13.98 | 16.64 | 39.69 | 74.00 | -34.31 | Peak |
| 5 | 10622.00 | 28.86 | 12.89 | 17.09 | 40.39 | 74.00 | -33.61 | Peak |
| 6 | 14090.00 | 29.41 | 9.47 | 19.43 | 42.49 | 74.00 | -31.51 | Peak |

GFSK 2480MHz Vertical polarizations

| | Freq | Preamp Factor | Read Level | Cable Loss | Level | Limit Line | Over Limit | Remark |
|---|----------|------------------|---------------|---------------|--------|---------------|---------------|---------|
| | MHz | dB | dBuV | dB | dBuV/m | dBuV/m | dB | |
| 1 | 2480.00 | 26.34 | 79.19 | 7.57 | 89.21 | 94.00 | -4.79 | Average |
| 2 | 2480.00 | 26.34 | 93.09 | 7.57 | 103.11 | 114.00 | -10.89 | Peak |
| 3 | 4960.00 | 27.58 | 31.96 | 12.36 | 50.06 | 74.00 | -23.94 | Peak |
| 4 | 7783.00 | 28.06 | 16.94 | 16.64 | 42.35 | 74.00 | -31.65 | Peak |
| 5 | 10724.00 | 28.87 | 14.83 | 17.11 | 42.40 | 74.00 | -31.60 | Peak |
| 6 | 13172.00 | 29.23 | 9.83 | 18.40 | 40.49 | 74.00 | -33.51 | Peak |

6. 20DB OCCUPY BANDWIDTH

6.1. Limits

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.

6.2. Test setup

1. Set the RBW =30kHz.
2. Set the VBW = 100kHz
3. Span=2.5MHz
4. Detector = peak.
5. Sweep time = auto couple.
6. Allow trace to fully stabilize, and view the plot.
7. Measure and record the result in the test report.

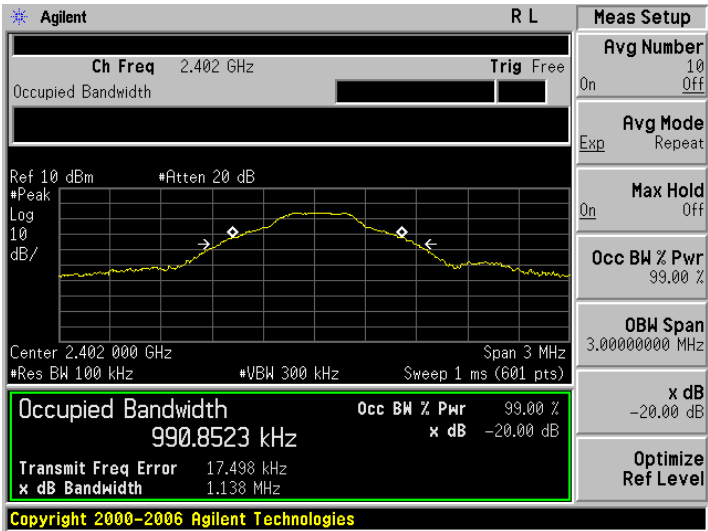
Test data:

| | Channel Frequency (MHz) | 20dB Bandwidth (MHz) | Result |
|------|----------------------------|-------------------------|--------|
| GFSK | 2402 | 1.138 | Pass |
| | 2440 | 1.130 | Pass |
| | 2480 | 1.121 | Pass |

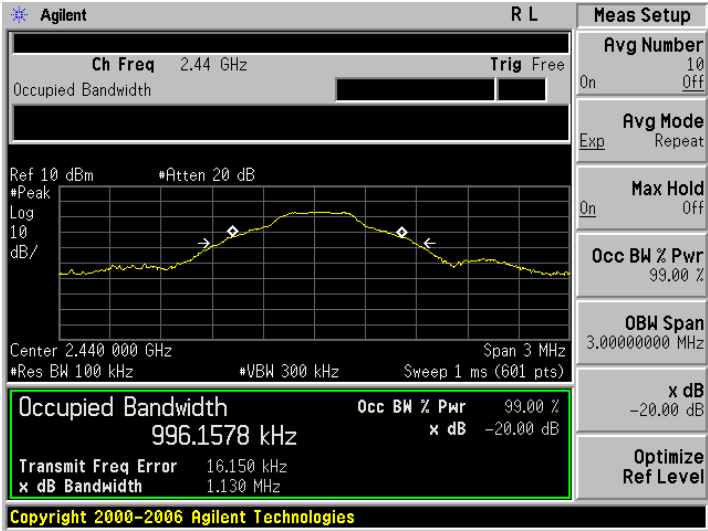
Test plot as follows:

GFSK

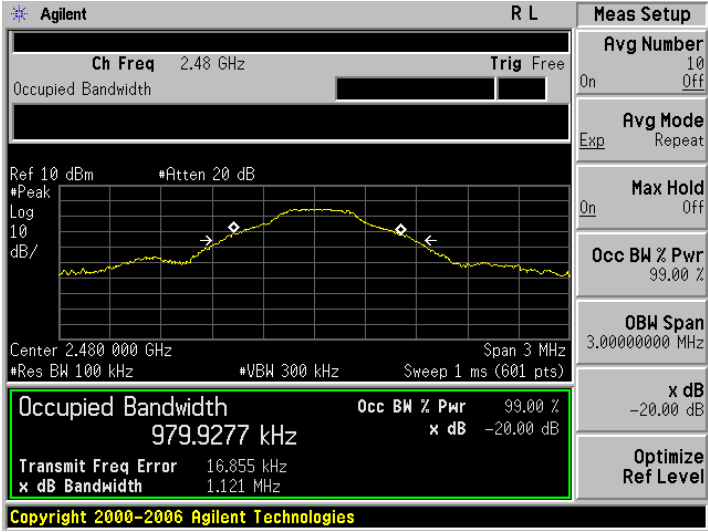
2402MHz



2441 MHz



2480 MHz



7. BAND EDGE COMPLIANCE TEST

7.1. Limits

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.

7.2. Test setup

The EUT was placed on a turn table which was 1.5 m above the ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was set 3 m away from the receiving antenna which was mounted on an antenna tower. The measuring antenna moved up and down to find out the maximum emission level. It moved from 1 m to 4 m for both horizontal and vertical polarizations.

The bandwidth of the Spectrum's VBW is set at 3MHz and RBW is set at 1MHz for peak emissions measurement above 1GHz and 1MHz RBW, 10Hz VBW for average emissions measure.

Note: 1. If the PK measured levels comply with average limit, then the average level were deemed to comply with average limit.

2. For Both PK and AV value above 1GHz, PK detector is used.

Remark: All emission out of band are more than 30dB lower than fundamental.

| | Frequency (MHz) | Antenna polarization (H/V) | Emission (dBuV/m) | Band edge Limit (dBuV/m) | | Result |
|--|--------------------|----------------------------------|----------------------|-----------------------------|-------|--------|
| | | | PK | PK | AV | |
| | <2400 | H | 50.16 | 74.00 | 54.00 | Pass |
| | <2400 | V | 50.24 | 74.00 | 54.00 | Pass |
| | >2483.5 | H | 50.18 | 74.00 | 54.00 | Pass |
| | >2483.5 | V | 49.94 | 74.00 | 54.00 | Pass |

If the PK measured levels comply with average limit, then the average level were deemed to comply with average limit.

8. ANTENNA REQUIREMENTS

8.1. Limits

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.

8.2. Result

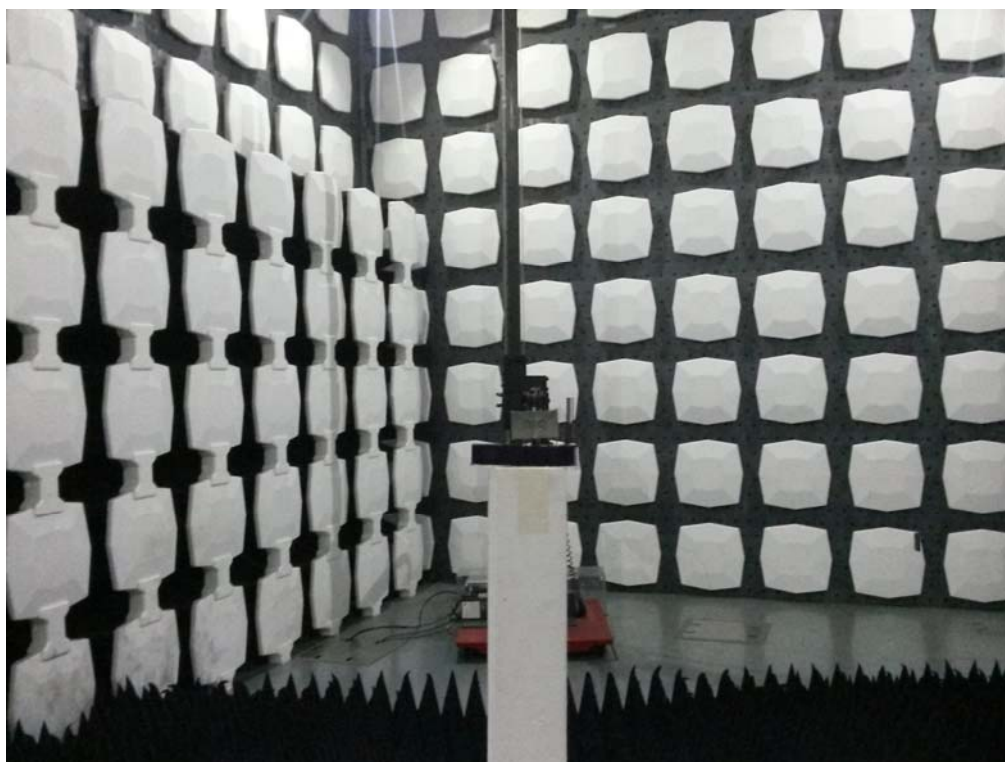
The antennas used for this product are permanent attached antenna and that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is only 3.0dBi.

9. PHOTOGRAPHS OF TEST SET-UP

Conducted Emission



Radiated Emission Test



10. PHOTOGRAPHS OF THE EUT



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