# A Test Lab Techno Corp.

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## Part 15 C Measurement Report

| | | |
|---|---|---|
| **Report No.** | : | **0802FR15** |
| **Applicant** | : | **GN NETCOM A/S** |
| **Product Model** | : | **Jabra** |
| **Product Type** | : | **Bluetooth class 1 plug and play dongle** |
| **FCC ID** | : | **BCE-A335W** |
| **Dates of Test** | : | **Mar. 10, ~ Apr. 07, 2008** |
| **Test Specification** | : | **Part 15 Subpart C (15.247)** |
| **Location of Test Lab.** | : | **Changan** |

1. The test operations have to be performed with cautious behavior, the test results are as attached.
2. The test results are under chamber environment of A Test Lab Techno Corp. A Test Lab Techno Corp. does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples.
3. The measurement report has to be written approval of A Test Lab Techno Corp. It may only be reproduced or published in full.

**Country Huang** **20080415**
**Measurement Center Manager**

**John Cheng** **20080415**
**Testing Engineer**

# CERTIFICATION

**We here by verify that:**

**The test data, data evaluation, test procedures and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4:2001. All test were conducted by *A Test Lab Techno Corp. No.140-1, Chang-an St., Bade City, Tao-Yuan County 334, Taiwan (R.O.C.)* Also, we attest to the accuracy of each.**

**We further submit that the energy emitted by the sample EUT tested as described in the report is in compliance with Class B radiated and conducted emission limit of FCC Rules Part 15 Subpart C (15.247).**

| | | |
|---|---|---|
| **EUT** | : | **Bluetooth class 1 plug and play dongle** |
| **Applicant** | : | **GN NETCOM A/S** |
| | | **Lautrupbjerg 7 P.O. Box 99 DK-2750 Ballerup DENMARK** |
| **Trade Mark** | : | **Jabra** |
| **Model No** | : | **A335W** |
| **FCC ID** | : | **BCE-A335W** |

***Approved by :*** **Country Huang 2008/04/15**

***Prepared by :*** **John Cheng 2008/04/15**


*A Test Lab Techno Corp.*

*No.140-1, Chang-an St., Bade City,Tao-Yuan County 334, Taiwan (R.O.C.)*
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# Appendix A

**Appendix A - EUT Test SETUP**

# 1. GENERAL

## 1.1 Description of Equipment under Test (EUT)

**Applicant：** GN NETCOM A/S
Lautrupbjerg 7 P.O. Box 99 DK-2750 Ballerup DENMARK

| | | |
|---|---|---|
| **Trade Mark** | ： | Jabra |
| **Product Model** | ： | A335W |
| **Product Type** | ： | Bluetooth class 1 plug and play dongle |
| **FCC ID** | ： | BCE-A335W |
| **Battery Type** | ： | Powered By USB interface |
| **Frequency of Channel** | ： | See Table 1 |
| **Type of Modulation** | ： | Frequency Hopping Spread Spectrum |
| **Type of Antenna** | ： | Internal Type |

During testing the EUT was operated at Tx or Rx mode for each emission measured. This was done in order to ensure that maximum emission levels were attained.

| CH No. | Freq. | CH No. | Freq. | CH No. | Freq. | CH No. | Freq. |
|---|---|---|---|---|---|---|---|
| 0 | 2402.00 | 20 | 2422.00 | 40 | 2442.00 | 60 | 2462.00 |
| 1 | 2403.00 | 21 | 2423.00 | 41 | 2443.00 | 61 | 2463.00 |
| 2 | 2404.00 | 22 | 2424.00 | 42 | 2444.00 | 62 | 2464.00 |
| 3 | 2405.00 | 23 | 2425.00 | 43 | 2445.00 | 63 | 2465.00 |
| 4 | 2406.00 | 24 | 2426.00 | 44 | 2446.00 | 64 | 2466.00 |
| 5 | 2407.00 | 25 | 2427.00 | 45 | 2447.00 | 65 | 2467.00 |
| 6 | 2408.00 | 26 | 2428.00 | 46 | 2448.00 | 66 | 2468.00 |
| 7 | 2409.00 | 27 | 2429.00 | 47 | 2449.00 | 67 | 2469.00 |
| 8 | 2410.00 | 28 | 2430.00 | 48 | 2450.00 | 68 | 2470.00 |
| 9 | 2411.00 | 29 | 2431.00 | 49 | 2451.00 | 69 | 2471.00 |
| 10 | 2412.00 | 30 | 2432.00 | 50 | 2452.00 | 70 | 2472.00 |
| 11 | 2413.00 | 31 | 2433.00 | 51 | 2453.00 | 71 | 2473.00 |
| 12 | 2414.00 | 32 | 2434.00 | 52 | 2454.00 | 72 | 2474.00 |
| 13 | 2415.00 | 33 | 2435.00 | 53 | 2455.00 | 73 | 2475.00 |
| 14 | 2416.00 | 34 | 2436.00 | 54 | 2456.00 | 74 | 2476.00 |
| 15 | 2417.00 | 35 | 2437.00 | 55 | 2457.00 | 75 | 2477.00 |
| 16 | 2418.00 | 36 | 2438.00 | 56 | 2458.00 | 76 | 2478.00 |
| 17 | 2419.00 | 37 | 2439.00 | 57 | 2459.00 | 77 | 2479.00 |
| 18 | 2420.00 | 38 | 2440.00 | 58 | 2460.00 | 78 | 2480.00 |
| 19 | 2421.00 | 39 | 2441.00 | 59 | 2461.00 | | |

**Table 1. Bluetooth Frequency of Each Channel (Working Frequency)**

## 1.2 Introduction

The following measurement report is submitted on behalf of **GN NETCOM A/S**. In support of a Class B Digital Device certification in accordance with Part2 Subpart J and Part 15 Subpart A And B&C of the Commission's and Regulations.

## 1.3 Summary of Tests

| 47 CFR Part 15 Subpart C | | | |
|---|---|---|---|
| **Reference** | **Test** | **Results** | **Note** |
| **15.107** | **AC Power Conducted Emission** | **PASS** | |
| **15.247(c)** | **Transmitter Radiated Emissions** | **PASS** | |
| **15.247(b)** | **Max. Output Power** | **PASS** | |
| **15.247(a)(1)** | **20dB RF Bandwidth** | **PASS** | |
| **15.247(a)(1)(ii)** | **Carrier Frequency Separation** | **PASS** | |
| **15.247(a)(1)(i)** | **Number of Hopping** | **PASS** | |
| **15.247(a)(1)(i)** | **Time of Occupancy (Dwell Time)** | **PASS** | |
| **15.247(c)** | **Out of Band Conducted Spurious Emission** | **PASS** | |
| **15.247(c)** | **Band Edge Measurement** | **PASS** | |
| **15.203** | **Antenna Requirement** | **PASS** | |

## 1.4 Description of Support Equipment

| | |
|---|---|
| **Computer** | **: DELL** |
| **Model No.** | **: PP49L** |
| **Serial No.** | **: UF230 A03** |
| **FCC ID** | **: E2KWM3945ABC** |
| | |
| **Keyboard** | **: DELL** |
| **Model No.** | **: SK-8115** |
| **Serial No.** | **: MY-0DJ325-71619-7113-1366** |
| **FCC ID** | **: FCC DOC** |
| | |
| **Monitor** | **: DELL** |
| **Model No.** | **: E177FPc** |
| **Serial No.** | **: CN-0FJ179-64180-6BT-4LYS** |
| **FCC ID** | **: FCC DOC** |
| | |
| **Mouse** | **: DELL** |
| **Model No.** | **: M056U0A** |
| **Serial No.** | **: F1F026E1** |
| **FCC ID** | **: FCC DOC** |
| | |
| **Printer** | **: EPSON** |
| **Model No.** | **: C60** |
| **Serial No.** | **: DR3K041323** |
| **FCC ID** | **: FCC DOC** |

## 1.5 Configuration of System under Test

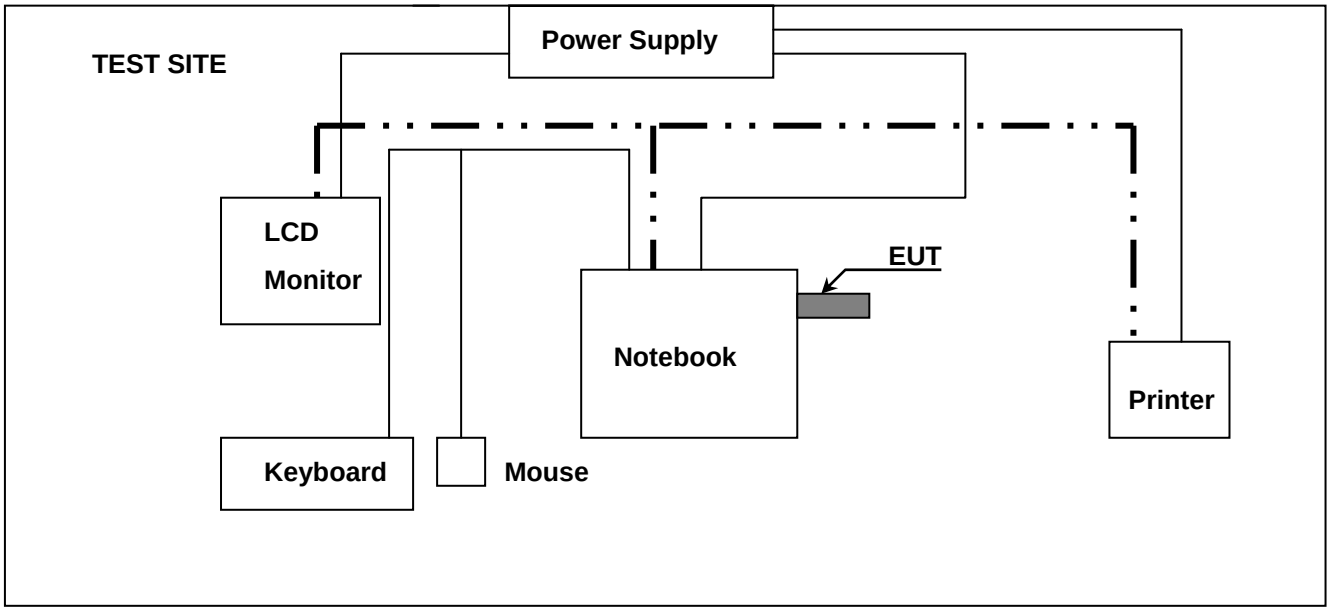



**Figure 1. Configuration of System Under Test for PC USB Link**

During EMI testing (LINK & Stand by Mode) the EUT (Bluetooth class 1 plug and play dongle)'s USB port connected to AE's Notebook.

A mouse was connected to the USB port of Notebook. And a keyboard & printer were connected to the USB ports of Notebook. An external LCD monitor connected the VGA port on AE' Notebook.

## 1.6 Test Procedure

All measurements contained in this report were performed according to the techniques described in Measurement procedure ANSI C63.4-2003 "Measurement of un-Intentional Radiators."

## 1.7 General Test Condition

The conditions under which the EUT operates were varied to determine their effect on the equipment's emission characteristics. The final configuration of the test system and the mode of operation used during these tests were chosen as that which produced the highest emission levels. However, only those conditions which the EUT was considered likely to encounter in normal use were investigated. The systems radiated and conducted emissions were investigated while the computer alternately transferred data to the EUT as well as to the monitor and printer. Using a test program which sent a continuous data and transferred data to and from the EUT was proven to worst case emissions. The system's physical layout and cabling was randomly arranged to ensure that maximum emission levels were attained.

# 2. Conducted Emissions Requirements

## 2.1 General & Setup:

The power line conducted emission measurements were performed in a shielded enclosure. The EUT was assembled on a wooden table which is 80 centimeters high, was placed 40 centimeters from the back wall and at least 1 meter from the sidewall.

Power was fed to the EUT from the public utility power grid through a line filter and EMCO Model 3162/2 SH Line Impedance Stabilization Networks (LISN). The LISN housing, measuring instrumentation case, ground plane, etc., were electrically bonded together at the same RF potential. The Spectrum analyzer was connected to the AC line through an isolation transformer. The 50-ohm output of the LISN was connected to the spectrum analyzer directly. Conducted emission levels were in the CISPR quasi-peak detection mode. The analyzer's 6 dB bandwidth was set to 9 KHz. No post-detector video filter was used.

The spectrum was scanned from 150 KHz to 30 MHz. The physical arrangement of the test system and associated cabling was varied (within the scope of arrangements likely to be encountered in actual use) to determine the effect on the unit's emanations in amplitude and frequency. All spurious emission frequencies were observed. The highest emission amplitudes relative to the appropriate limit were measured and have been recorded in paragraph 2.6.

## 2.2 Test Equipment List:

| Describe | Manufacturer | Model | Serial Number | Calibration | |
|---|---|---|---|---|---|
| | | | | Cal. Date | Due Date |
| Spectrum Analyzer | Advantest | R3132 | 160300103 | Mar. 06, 2008 | Mar. 06, 2009 |
| Test Receiver | R&S | ESCI | 100367 | May. 23, 2007 | May. 23, 2008 |
| LISN | EMCO | 3816/2 SH | 00060110 | Jun. 06, 2007 | Jun. 05, 2008 |
| LISN | EMCO | 3816/2 SH | 00060111 | Jun. 13, 2007 | Jun. 13, 2008 |
| Transient Limiter | ELECTRO-METRICS | EM-7600 | 777 | Jun. 26, 2007 | Jun. 26, 2008 |

## 2.3 Test Configuration:


**Figure 2. Front View of the Test Configuration**

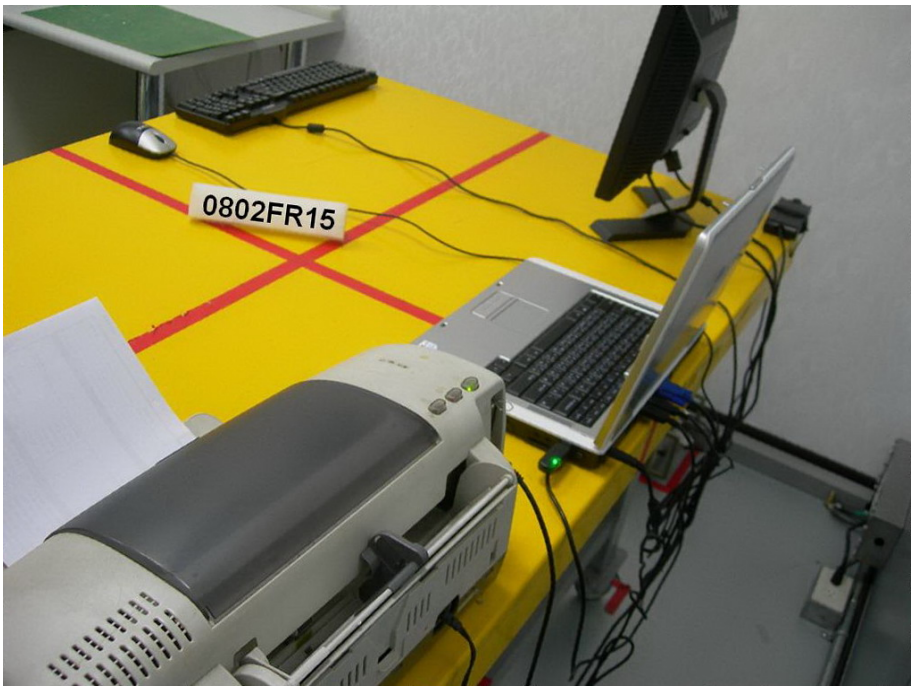



**Figure 3. Rear View of the Test Configuration**

## 2.4 Test condition:

EUT tested in accordance with the specifications given by the Manufacturer, and exercised in the most unfavorable manner.

## 2.5 Conducted Emissions Limits:

| Frequency range (MHz) | Limits (dBuV) | |
|---|---|---|
| | Quasi-peak | Average |
| 0.15 to 0.50 | 66 to 56 | 56 to 46 |
| 0.50 to 5.0 | 56 | 46 |
| 5.0 to 30 | 60 | 50 |

## 2.6 Measurement Data of Conducted Emissions:

### 2.6.1 Conducted Emissions (Subpart C)

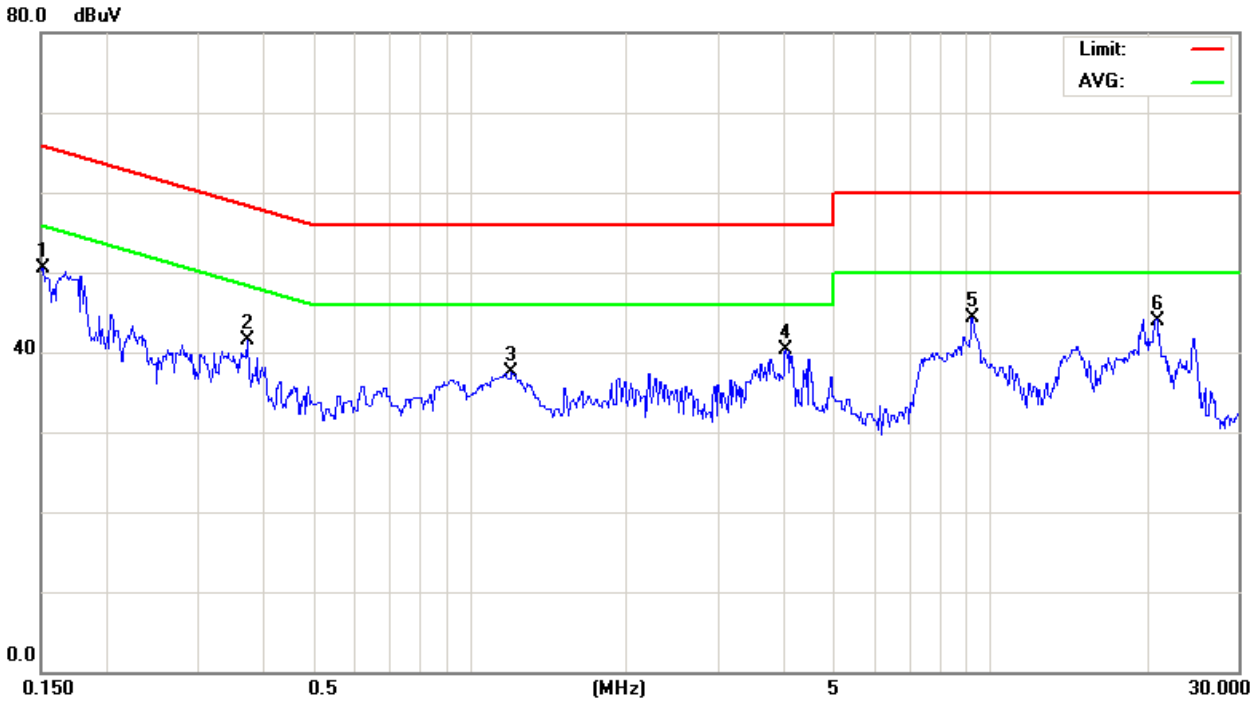
The following table show a summary of the highest emissions of power line conducted emissions to the HOT and NATURAL conductor of the EUT power.

Applicant : GN NETCOM A/S
Model No : A335W
EUT : Bluetooth class 1 plug and play dongle
Test Mode : PC USB Link _ Bluetooth 2.0 _Stand By
Test Date : 03/19/2008
Please refer to next pager of detail testing data.
Notes:

1. L1: One end & Ground L2: The other end & Ground
2. Height of table on which the EUT was placed: 0.8 m.
3. The Quasi-Peak Value have already met the Average Value Limit showed on above limits.
4. The above test results are obtained under the normal condition.

## Conducted Emission Measurement

File :A335W(IDEL) Data :#1 Date: 2008/3/19 Time:




Site site#1 Phase: *L1* Temperature: 26 ℃

Limit: CISPR22 Class B Conduction(QP) Power: AC 110V/60Hz Humidity: 55 %

EUT:

M/N: A335

Mode:

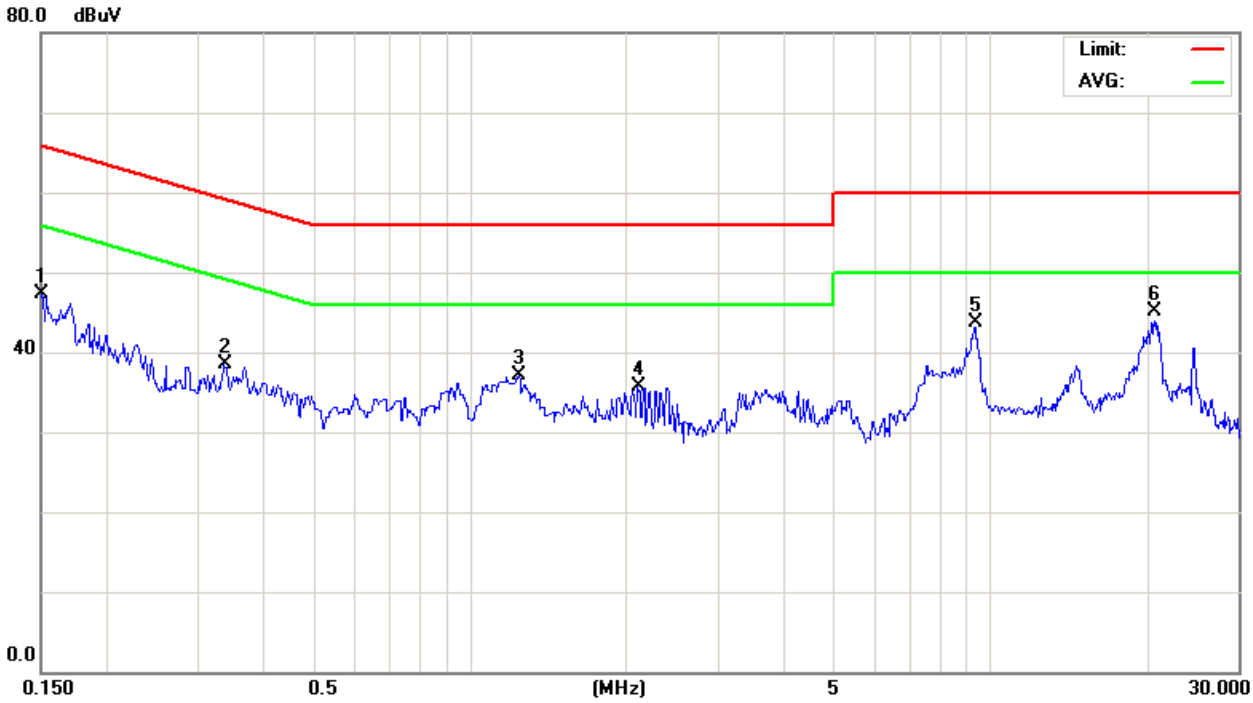
Note: IDEL

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | * | 0.1514 | 40.80 | 9.73 | 50.53 | 65.92 | -15.39 | peak | |
| 2 | | 0.3729 | 31.67 | 9.78 | 41.45 | 58.43 | -16.98 | peak | |
| 3 | | 1.2016 | 27.60 | 9.81 | 37.41 | 56.00 | -18.59 | peak | |
| 4 | | 4.0278 | 30.39 | 9.96 | 40.35 | 56.00 | -15.65 | peak | |
| 5 | | 9.2500 | 34.27 | 10.09 | 44.36 | 60.00 | -15.64 | peak | |
| 6 | | 20.8500 | 33.56 | 10.32 | 43.88 | 60.00 | -16.12 | peak | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Conducted Emission Measurement

File :A335W(IDEL) Data :#2 Date: 2008/3/19 Time:




Site site#1 Phase: *L2* Temperature: 26 ℃

Limit: CISPR22 Class B Conduction(QP) Power: AC 110V/60Hz Humidity: 55 %

EUT:

M/N: A335

Mode:

Note: IDEL

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | | 0.1500 | 37.52 | 9.73 | 47.25 | 65.99 | -18.74 | peak | |
| 2 | | 0.3375 | 28.67 | 9.78 | 38.45 | 59.26 | -20.81 | peak | |
| 3 | | 1.2379 | 27.38 | 9.81 | 37.19 | 56.00 | -18.81 | peak | |
| 4 | | 2.1018 | 25.91 | 9.87 | 35.78 | 56.00 | -20.22 | peak | |
| 5 | | 9.3500 | 33.59 | 10.08 | 43.67 | 60.00 | -16.33 | peak | |
| 6 | * | 20.6500 | 34.73 | 10.41 | 45.14 | 60.00 | -14.86 | peak | |

*:Maximum data x:Over limit !:over margin ●Reference Only

### 2.6.2 Conducted Emissions (Subpart C)

The following table show a summary of the highest emissions of power line conducted emissions to the HOT and NATURAL conductor of the EUT power.

Applicant : GN NETCOM A/S
Model No : A335W
EUT : Bluetooth class 1 plug and play dongle
Test Mode : PC USB Link _ Bluetooth 2.0 CH00 (2402MHz)
Test Date : 03/19/2008

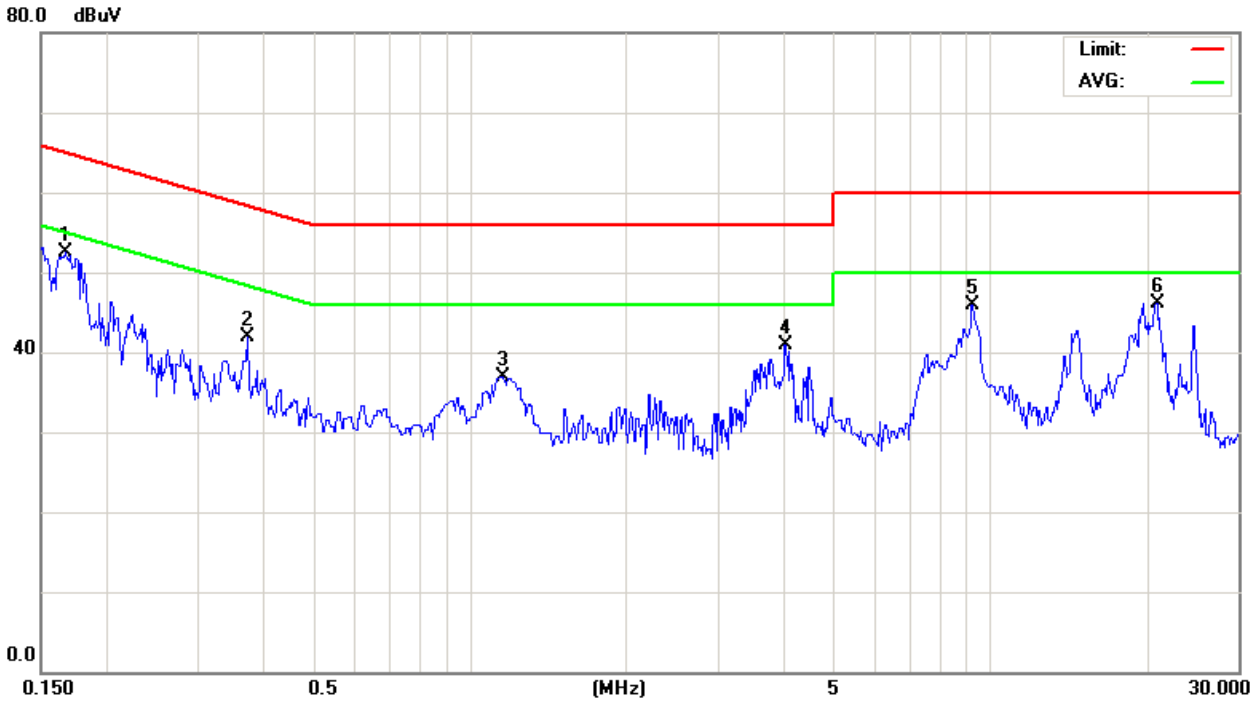
Please refer to next pager of detail testing data.

Notes:

1. L1: One end & Ground L2: The other end & Ground
2. Height of table on which the EUT was placed: 0.8 m.
3. The Quasi-Peak Value have already met the Average Value Limit showed on above limits.
4. The above test results are obtained under the normal condition.

## Conducted Emission Measurement

File :A335W(BT) Data :#1 Date: 2008/3/19 Time:




Site site#1 Phase: *L1* Temperature: 26 ℃

Limit: CISPR22 Class B Conduction(QP) Power: AC 110V/60Hz Humidity: 55 %

EUT:

M/N: A335

Mode: BT

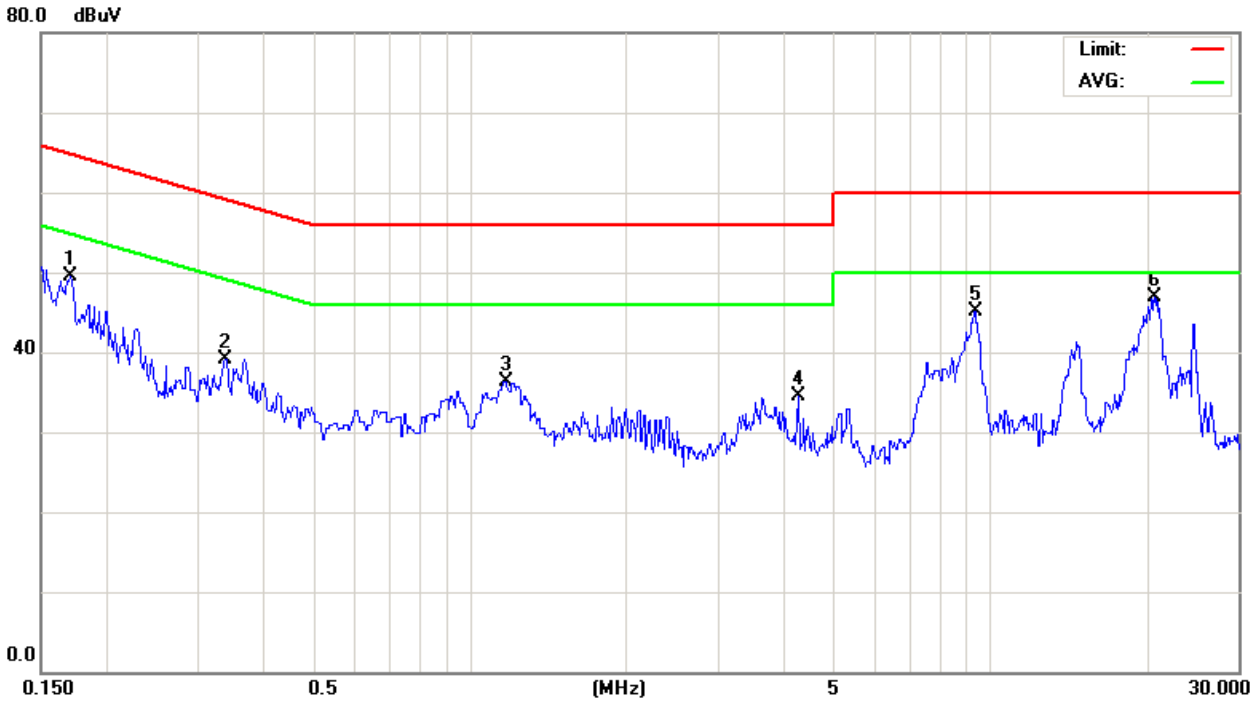
Note: LINK

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | * | 0.1668 | 42.79 | 9.73 | 52.52 | 65.11 | -12.59 | peak | |
| 2 | | 0.3733 | 32.17 | 9.78 | 41.95 | 58.43 | -16.48 | peak | |
| 3 | | 1.1570 | 27.09 | 9.80 | 36.89 | 56.00 | -19.11 | peak | |
| 4 | | 4.0280 | 30.89 | 9.96 | 40.85 | 56.00 | -15.15 | peak | |
| 5 | | 9.2500 | 35.75 | 10.09 | 45.84 | 60.00 | -14.16 | peak | |
| 6 | | 20.8500 | 35.88 | 10.32 | 46.20 | 60.00 | -13.80 | peak | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Conducted Emission Measurement

File :A335W(BT) Data :#2 Date: 2008/3/19 Time:




Site site#1 Phase: *L2* Temperature: 26 ℃

Limit: CISPR22 Class B Conduction(QP) Power: AC 110V/60Hz Humidity: 55 %

EUT:

M/N: A335

Mode: BT

Note: LINK

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | | 0.1703 | 39.85 | 9.73 | 49.58 | 64.94 | -15.36 | peak | |
| 2 | | 0.3383 | 29.37 | 9.78 | 39.15 | 59.24 | -20.09 | peak | |
| 3 | | 1.1660 | 26.52 | 9.80 | 36.32 | 56.00 | -19.68 | peak | |
| 4 | | 4.2710 | 24.52 | 10.00 | 34.52 | 56.00 | -21.48 | peak | |
| 5 | | 9.3500 | 34.95 | 10.08 | 45.03 | 60.00 | -14.97 | peak | |
| 6 | * | 20.6500 | 36.43 | 10.41 | 46.84 | 60.00 | -13.16 | peak | |

*:Maximum data x:Over limit !:over margin ●Reference Only

### 2.6.3 Conducted Emissions (Subpart C)

The following table show a summary of the highest emissions of power line conducted emissions to the HOT and NATURAL conductor of the EUT power.

Applicant : GN NETCOM A/S
Model No : A335W
EUT : Bluetooth class 1 plug and play dongle
Test Mode : PC USB Link _ Bluetooth EDR CH00 (2402MHz)
Test Date : 03/19/2008

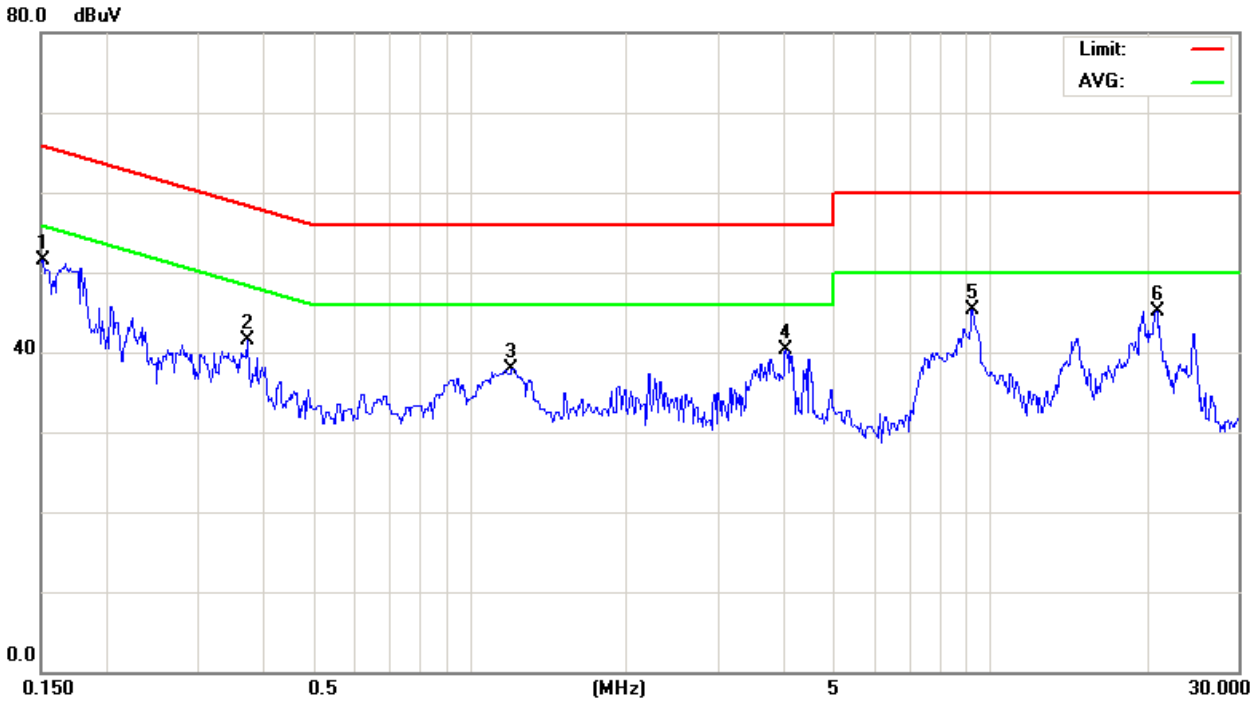
Please refer to next pager of detail testing data.

Notes:

1. L1: One end & Ground L2: The other end & Ground
2. Height of table on which the EUT was placed: 0.8 m.
3. The Quasi-Peak Value have already met the Average Value Limit showed on above limits.
4. The above test results are obtained under the normal condition.

## Conducted Emission Measurement

File :A335W(BT+EDR) Data :#1 Date: 2008/3/19 Time:




Site site#1 Phase: *L1* Temperature: 26 ℃

Limit: CISPR22 Class B Conduction(QP) Power: AC 110V/60Hz Humidity: 55 %

EUT:

M/N: A335W

Mode: BT+EDR

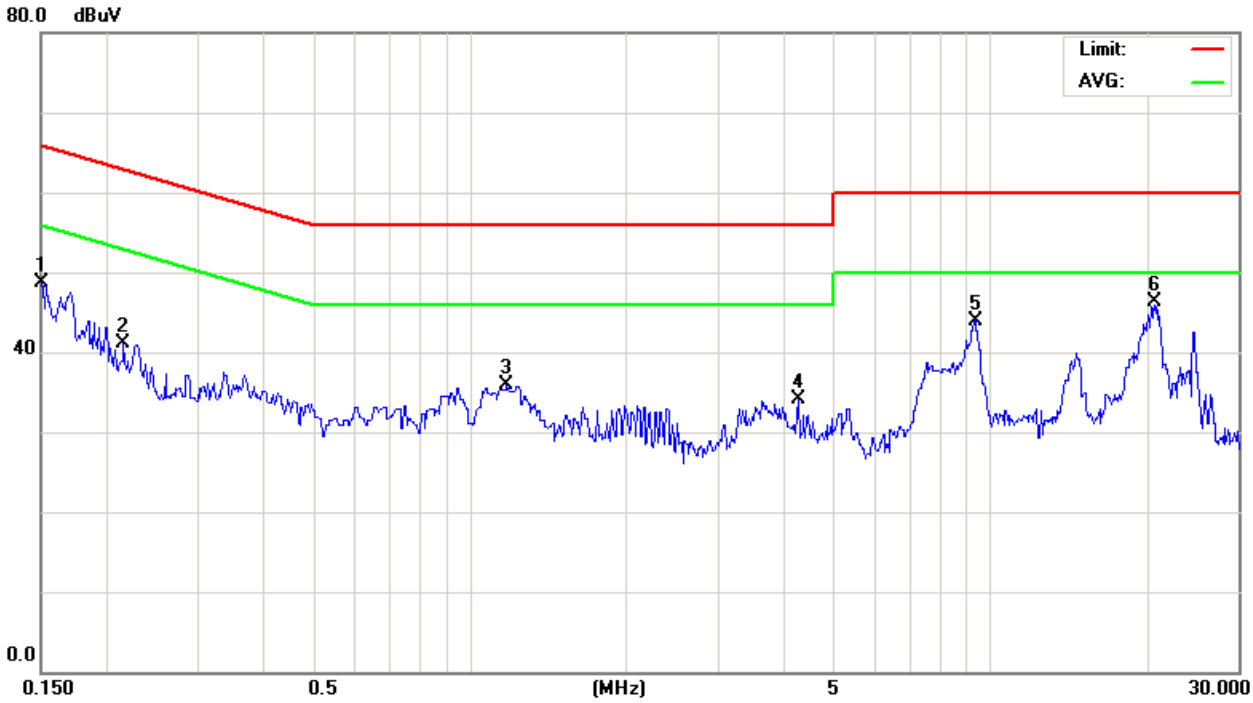
Note: LINK

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | * | 0.1514 | 41.80 | 9.73 | 51.53 | 65.92 | -14.39 | peak | |
| 2 | | 0.3730 | 31.67 | 9.78 | 41.45 | 58.43 | -16.98 | peak | |
| 3 | | 1.2016 | 28.10 | 9.81 | 37.91 | 56.00 | -18.09 | peak | |
| 4 | | 4.0278 | 30.39 | 9.96 | 40.35 | 56.00 | -15.65 | peak | |
| 5 | | 9.2500 | 35.25 | 10.09 | 45.34 | 60.00 | -14.66 | peak | |
| 6 | | 20.8500 | 34.88 | 10.32 | 45.20 | 60.00 | -14.80 | peak | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Conducted Emission Measurement

File :A335W(BT+EDR) Data :#2 Date: 2008/3/19 Time:




Site site#1 Phase: *L2* Temperature: 26 ℃

Limit: CISPR22 Class B Conduction(QP) Power: AC 110V/60Hz Humidity: 55 %

EUT:

M/N: A335W

Mode: BT+EDR

Note: LINK

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | | 0.1500 | 39.02 | 9.73 | 48.75 | 65.99 | -17.24 | peak | |
| 2 | | 0.2157 | 31.37 | 9.74 | 41.11 | 62.98 | -21.87 | peak | |
| 3 | | 1.1749 | 26.14 | 9.80 | 35.94 | 56.00 | -20.06 | peak | |
| 4 | | 4.2709 | 24.02 | 10.00 | 34.02 | 56.00 | -21.98 | peak | |
| 5 | | 9.3500 | 33.81 | 10.08 | 43.89 | 60.00 | -16.11 | peak | |
| 6 | * | 20.6500 | 35.85 | 10.41 | 46.26 | 60.00 | -13.74 | peak | |

*:Maximum data x:Over limit !:over margin ●Reference Only

# 3. Radiated Emissions Requirements

## 3.1 Final radiation measurements were made on a three-meter:

Final radiation measurements were made on a three-meter, Semi Anechoic Chamber. The EUT system was placed on a nonconductive turntable which is 0.8 meters height, top surface 1.0 x 1.5 meter. The spectrum was examined from 250 MHz to 2.5 GHz in order to cover the whole spectrum below 10th harmonic which could generate from the EUT. During the test, EUT was set to transmit continuously & Measurements spectrum range from 30 MHz to 26.5 GHz is investigated.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak. For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, and then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

A nonconductive material surrounded the EUT to supporting the EUT for standing on tree orthogonal planes. At each condition, the EUT was rotated 360 degrees, and the antenna was raised and lowered from one to four meters to find the maximum emission levels. Measurements were taken using both horizontal and vertical antenna polarization.

SCHWARZBECK MESS-ELEKTRONIK Biconilog Antenna (mode VULB9163) at 3 Meter and the SCHWARZBECK Double Ridged Guide Antenna (model BBHA9120D&9170) was used in frequencies 1 – 26.5 GHz at a distance of 1 meter. All test results were extrapolated to equivalent signal at 3 meters utilizing an inverse linear distance extrapolation Factor (20dB/decade).

For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

Appropriate preamplifiers were used for improving sensitivity and precautions were taken to avoid overloading or desensitizing the spectrum analyzer. No post – detector video filters were used in the test.

The spectrum analyzer's 6 dB bandwidth was set to 1 MHz, and the analyzer was operated in the peak detection mode, for frequencies both below and up 1 GHz. The average levels were obtained by subtracting the duty cycle correction factor from the peak readings.

The following procedures were used to convert the emission levels measured in decibels referenced to 1 microvolt (dBuV) into field intensity in micro volts pre meter (uV/m).

The actual field intensity in decibels referenced to 1 microvolt in to field intensity in micro colts per meter (dBuV/m).
The actual field is intensity in referenced to 1 microvolt per meter (dBuV/m) is determined by algebraically adding the measured reading in dBuV, the antenna factor (dB), and cable loss (dB) and Subtracting the gain of preamplifier (dB) is auto calculate in spectrum analyzer.

(1) Amplitude (dBuV/m) = FI (dBuV) +AF (dBuV) +CL (dBuV)-Gain (dB)

FI= Reading of the field intensity.
AF= Antenna factor.
CL= Cable loss.

P.S Amplitude is auto calculate in spectrum analyzer.

(2) Actual Amplitude (dBuV/m) = Amplitude (dBuV)-Dis(dB)

The FCC specified emission limits were calculated according the EUT operating frequency and by following linear interpolation equations:

(a) For fundamental frequency :

Transmitter Output < +30dBm

(b) For spurious frequency :

Spurious emission limits = fundamental emission limit /10

## 3.2 Test Equipment List:

| Describe | Manufacturer | Model | Serial Number | Calibration | |
|---|---|---|---|---|---|
| | | | | Cal. Date | Due Date |
| Spectrum Analyzer | Agilent | E4408B | MY45107753 | May. 28, 2007 | May. 28, 2008 |
| Pre Amplifier | Agilent | 8449B | 3008A02237 | May. 28, 2007 | May. 28, 2008 |
| Pre Amplifier | Agilent | 8447D | 2944A10961 | Jun. 09, 2007 | Jun. 09, 2008 |
| Test Receiver | R&S | ESCI | 100367 | May. 23, 2007 | May. 23, 2008 |
| Biconilog Antenna | SCHWARZBECK MESS-ELEKTRONIK | VULB9163 | 9163-270 | Jun. 26, 2007 | Jun. 25, 2008 |
| Horn Antenna | SCHWARZBECK MESS-ELEKTRONIK | BBHA9120D | 9120D-550 | Jun. 26, 2007 | Jun. 25, 2008 |
| Horn Antenna | SCHWARZBECK MESS-ELEKTRONIK | BBHA9170 | 9170-320 | Jun. 09, 2007 | Jun. 09, 2008 |
| Horn Antenna | SCHWARZBECK MESS-ELEKTRONIK | BBHA9120E | 0899 | Jun. 26, 2007 | Jun. 26, 2008 |

## 3.3 Test Configuration:

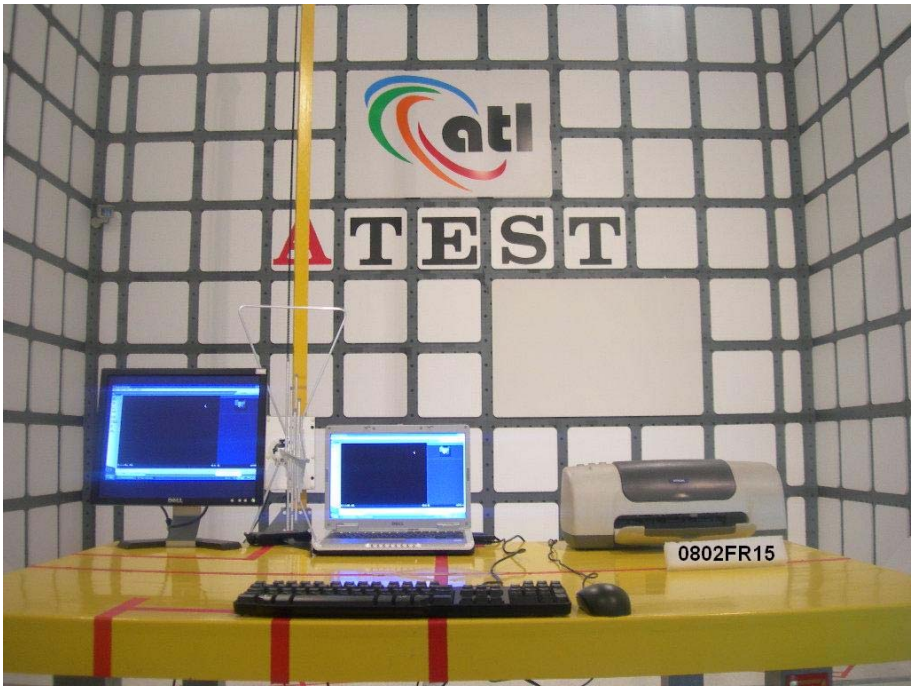



**Figure 4. Front View of the Test Configuration**

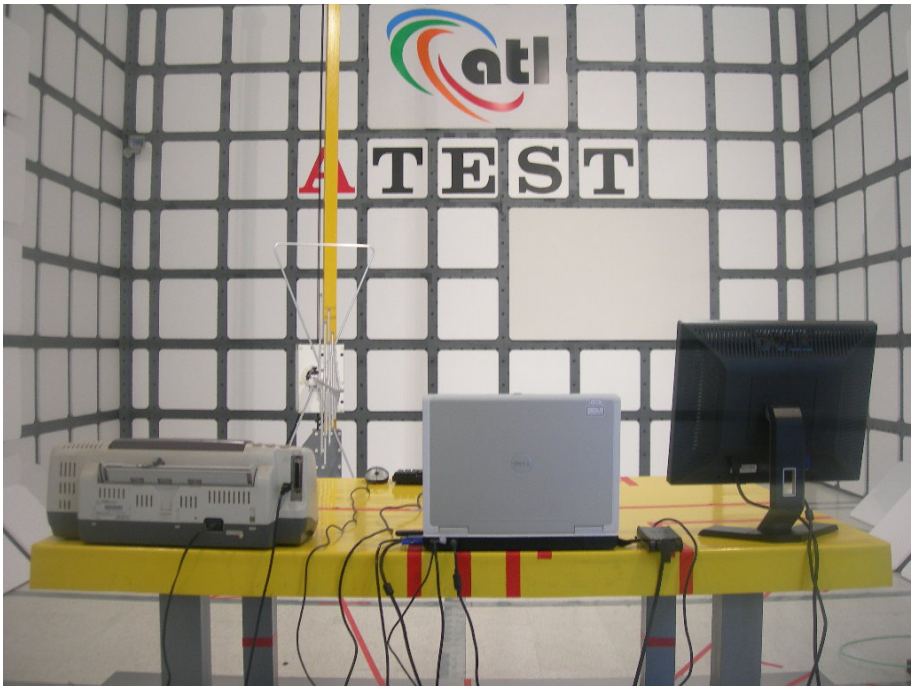



**Figure 5. Rear View of the Test Configuration**

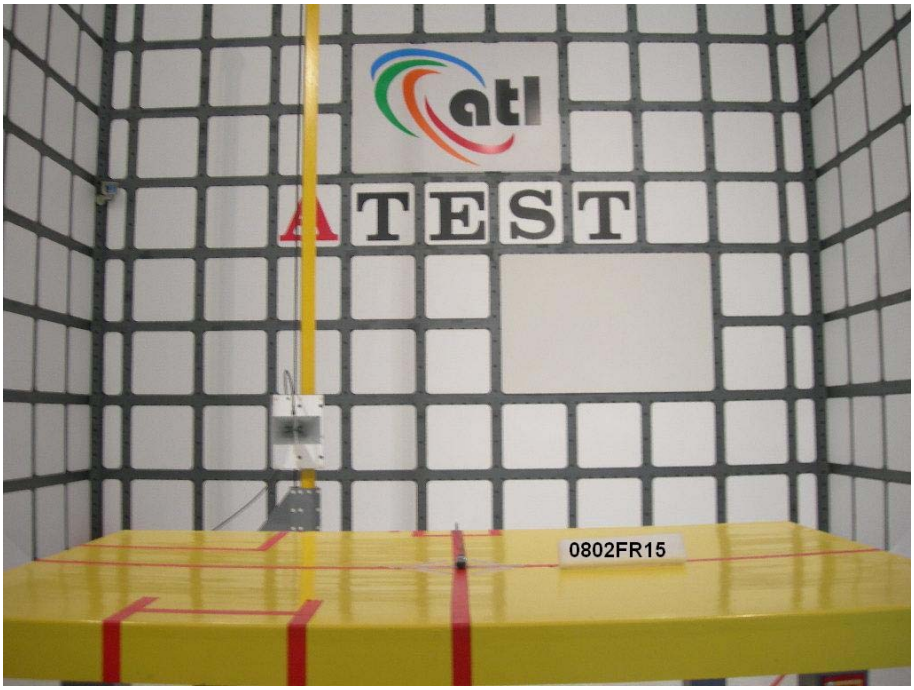



**Figure 6. Front View of the Test Configuration**

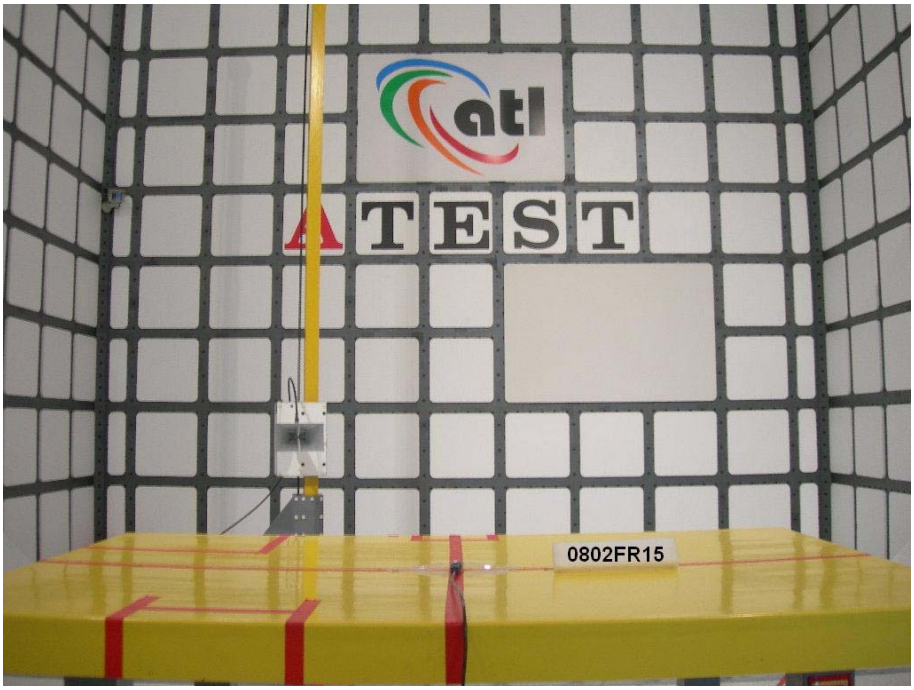



**Figure 7. Rear View of the Test Configuration**

## 3.4 Test condition:

EUT tested in accordance with the specifications given by the manufacturer, and exercised in the most unfavorable manner.

## 3.5 Radiated Emissions Limits:

| Frequency range (MHz) | Peak(dBuV) |
|---|---|
| 30 to 88 | 40 |
| 88 to 216 | 43.5 |
| 216 to 960 | 46 |
| Above 960 | 54 |

## 3.6 Measurement Data of Radiated Emissions:

### 3.6.1 Open Field Radiated Emissions (Subpart C)

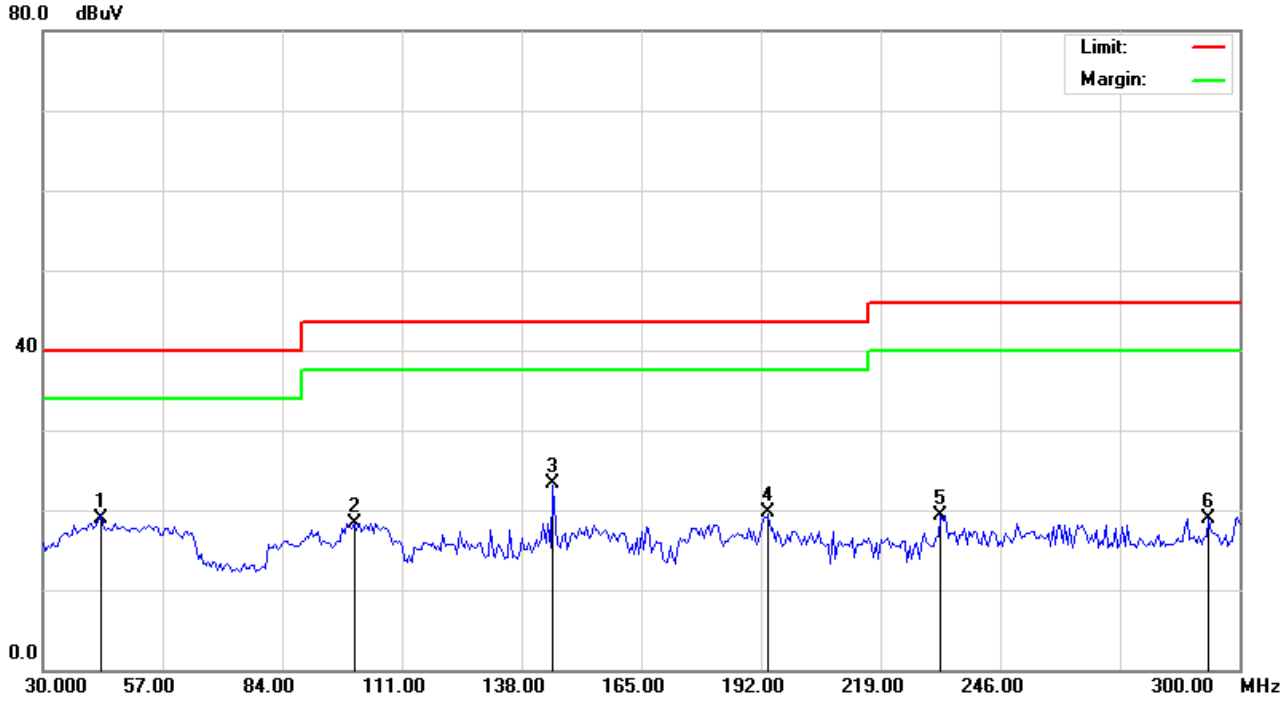
The highest peak values of radiated emissions from the EUT at various antenna heights, antenna polarization, EUT orientation, etc. are recorded on the following.

Applicant : GN NETCOM A/S
Model No : A335W
EUT : Bluetooth class 1 plug and play dongle
Test Mode : Link Mode_Bluetooth 2.0 CH00 2402.000 (Local Frequency: 2402.000 MHz)
Test Date : 03/10/2008~04/07/2008
Please refer to next pager of detail testing data.
Notes:

1. Margin= Amplitude - Limits
2. Distance of Measurement: 3 Meter (30-1000MHz) & (1-10GHz), 1 Meter (10-26.5GHz)
3. Height of table for EUT placed: 0.8 Meter.
4. ANT= Antenna height.
5. Amplitude= Reading Amplitude – Amplifier gain + Cable loss + Antenna factor
   (Auto calculate in spectrum analyzer)
6. The EUT was worst case on X axis after pretest on X & Y & Z axis setting.
7. The testing data only show below 18GHz's data because measure data above 18GHz was only ambit noise.
8. All frequencies from 30MHz to 26.5GHz have been tested

## Radiated Emission Measurement

File :A335W(1G以下) Data :#1 Date: 2008/04/07 Time:




Site site#1 Polarization: ***Vertical*** Temperature: 22 ℃

Limit: FCC Class B 3M Radiation Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT

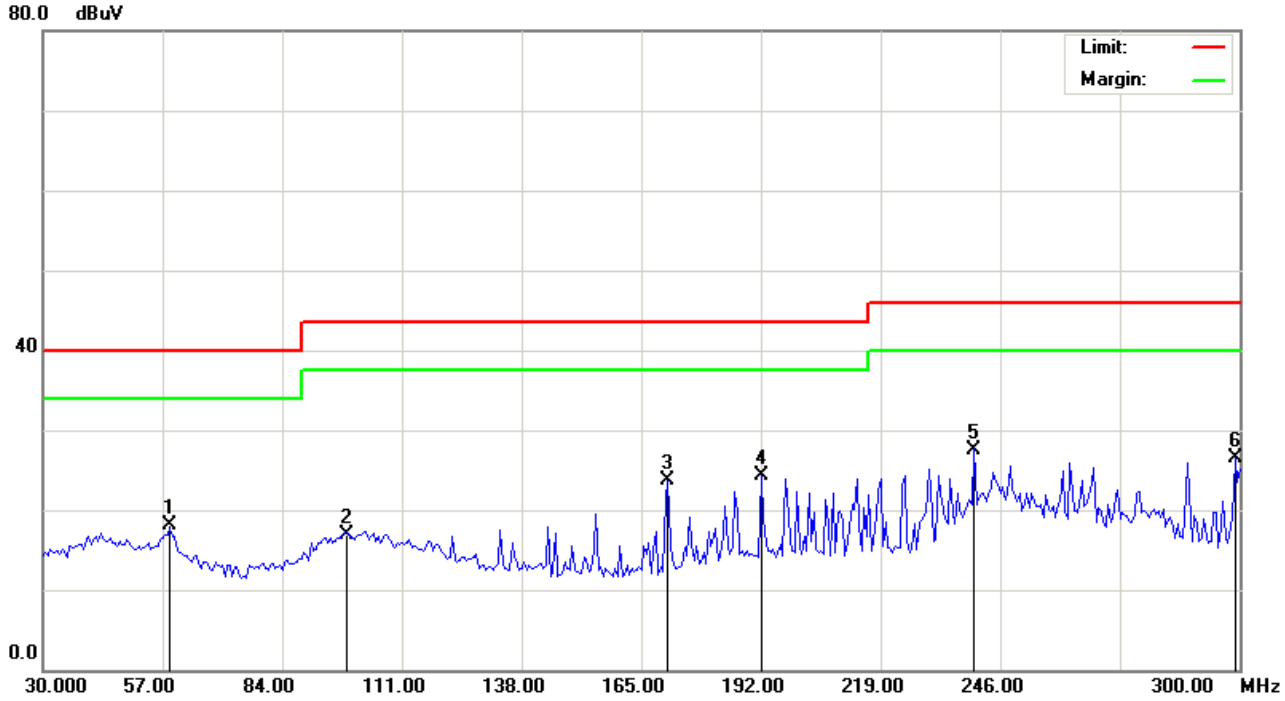
Note: 2402MHz

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 42.9600 | 30.81 | -11.86 | 18.95 | 40.00 | -21.05 | peak | | | |
| 2 | | 100.2000 | 30.11 | -11.77 | 18.34 | 43.50 | -25.16 | peak | | | |
| 3 | * | 145.0200 | 39.58 | -16.19 | 23.39 | 43.50 | -20.11 | peak | | | |
| 4 | | 193.6200 | 32.89 | -13.17 | 19.72 | 43.50 | -23.78 | peak | | | |
| 5 | | 232.5000 | 31.16 | -11.79 | 19.37 | 46.00 | -26.63 | peak | | | |
| 6 | | 292.9800 | 29.09 | -10.13 | 18.96 | 46.00 | -27.04 | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(1G以下) Data :#3 Date: 2008/04/07 Time:




Site site#1 Polarization: ***Horizontal*** Temperature: 22 ℃

Limit: FCC Class B 3M Radiation Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT

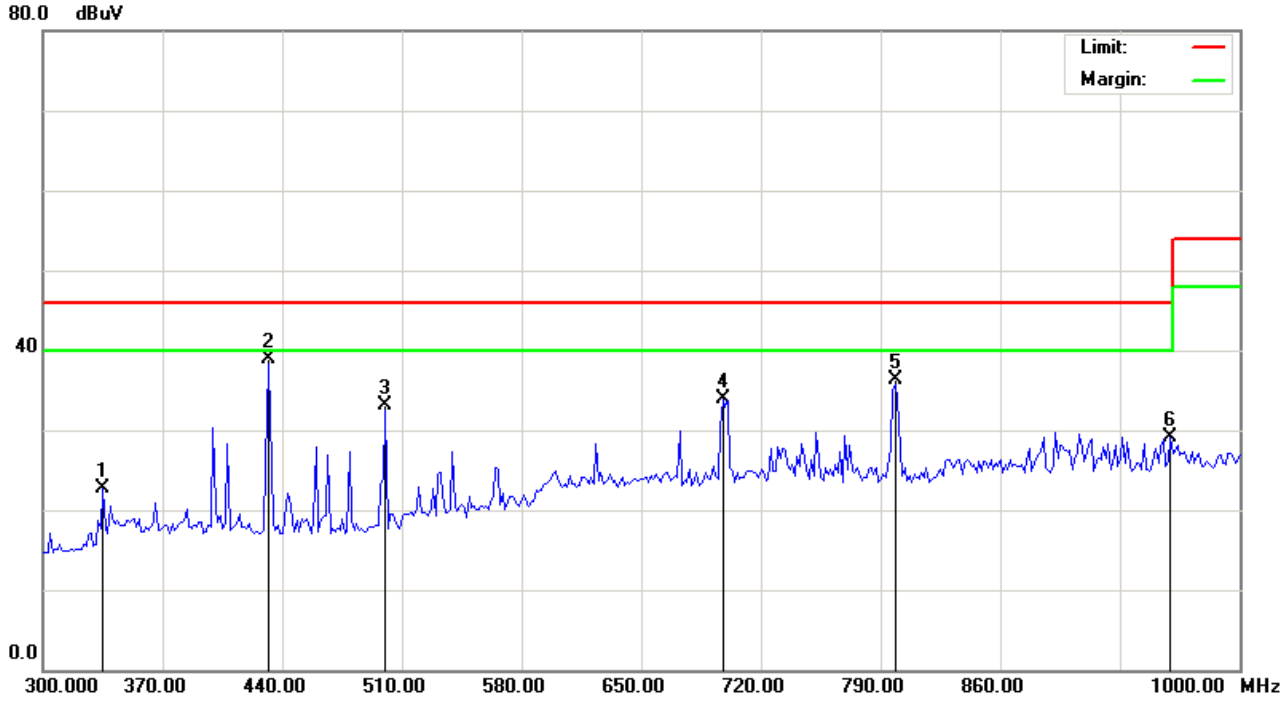
Note: 2402MHz

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 58.6200 | 30.57 | -12.45 | 18.12 | 40.00 | -21.88 | peak | | | |
| 2 | | 98.5800 | 28.73 | -11.84 | 16.89 | 43.50 | -26.61 | peak | | | |
| 3 | | 170.9400 | 38.99 | -15.27 | 23.72 | 43.50 | -19.78 | peak | | | |
| 4 | | 192.0000 | 37.52 | -13.26 | 24.26 | 43.50 | -19.24 | peak | | | |
| 5 | * | 240.0600 | 39.01 | -11.43 | 27.58 | 46.00 | -18.42 | peak | | | |
| 6 | | 298.9200 | 36.63 | -10.03 | 26.60 | 46.00 | -19.40 | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(1G以下) Data :#2 Date: 2008/04/07 Time:




Site site#1 Polarization: ***Vertical*** Temperature: 22 ℃

Limit: FCC Class B 3M Radiation Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT

Note: 2402MHz

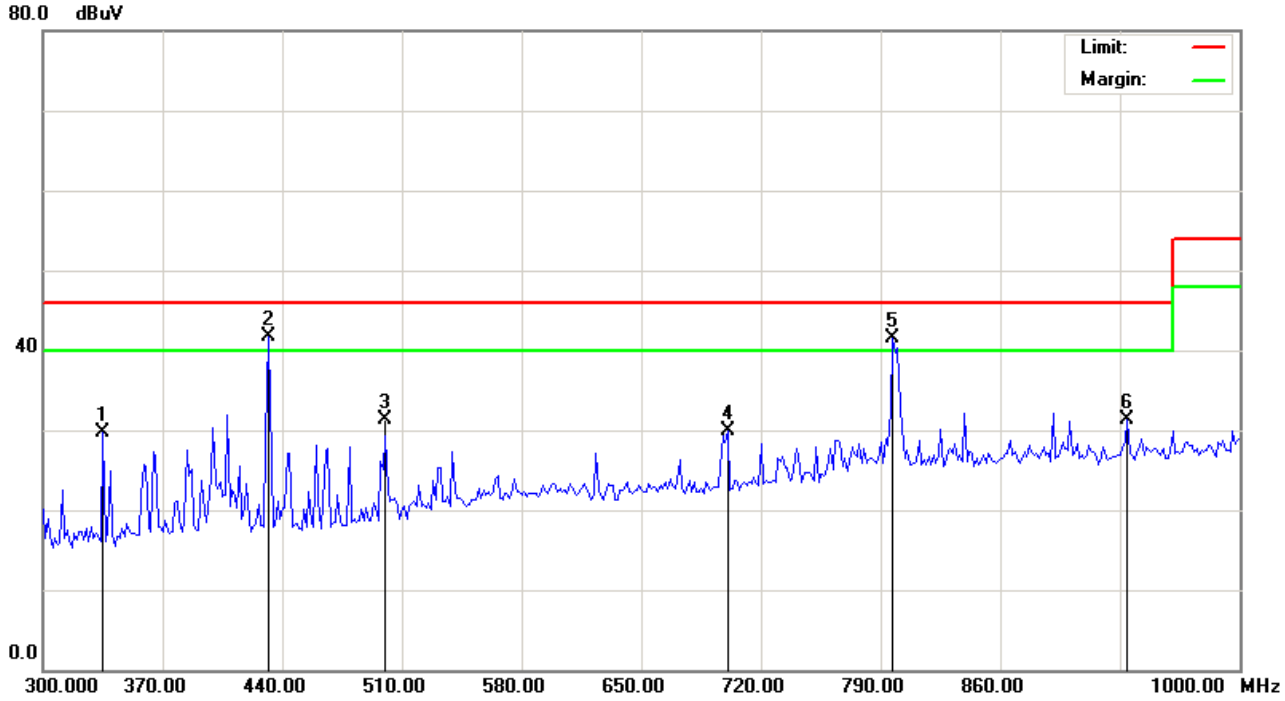
| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 335.0000 | 31.90 | -9.27 | 22.63 | 46.00 | -23.37 | peak | | | |
| 2 | * | 431.6000 | 46.89 | -8.03 | 38.86 | 46.00 | -7.14 | peak | | | |
| 3 | | 500.2000 | 40.27 | -7.17 | 33.10 | 46.00 | -12.90 | peak | | | |
| 4 | | 697.6000 | 37.73 | -3.86 | 33.87 | 46.00 | -12.13 | peak | | | |
| 5 | | 798.4000 | 38.57 | -2.33 | 36.24 | 46.00 | -9.76 | peak | | | |
| 6 | | 959.4000 | 28.73 | 0.41 | 29.14 | 46.00 | -16.86 | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

以下

## Radiated Emission Measurement

File :A335W(1G以下) Data :#4 Date: 2008/04/07 Time:




Site site#1 Polarization: ***Horizontal*** Temperature: 22 ℃

Limit: FCC Class B 3M Radiation Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT

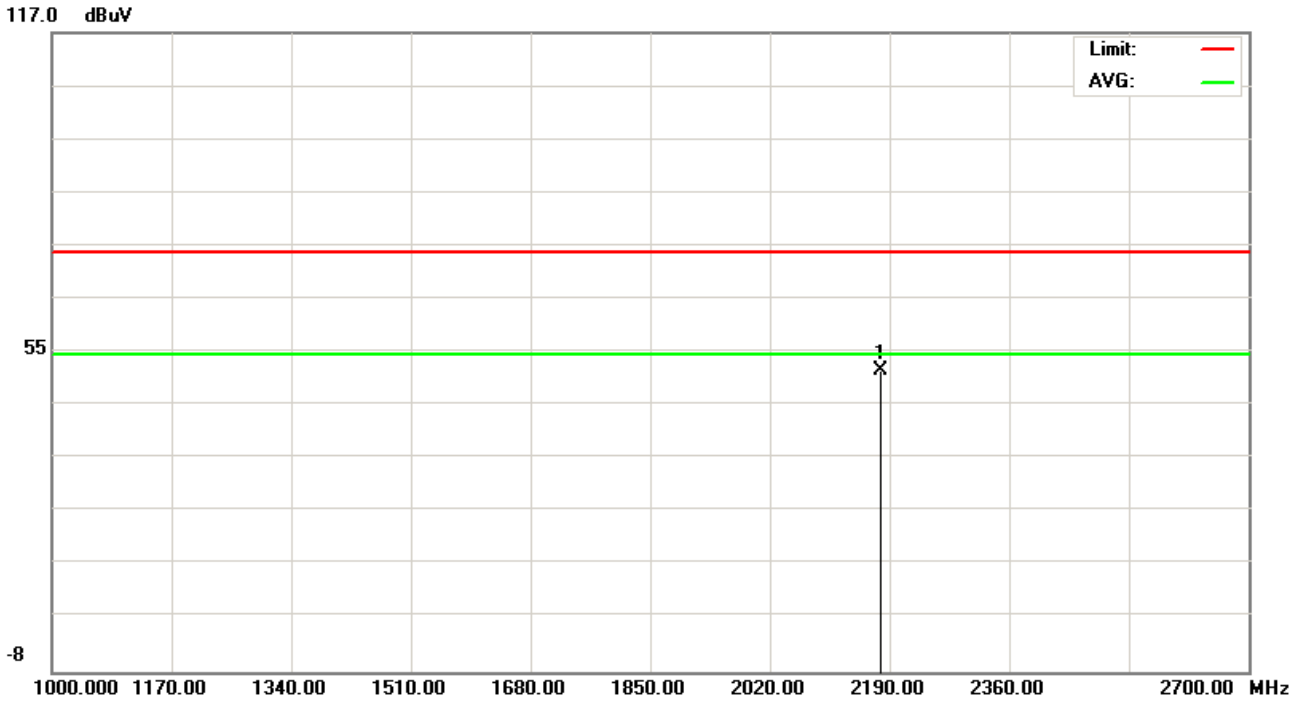
Note: 2402MHz

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 335.0000 | 39.00 | -9.27 | 29.73 | 46.00 | -16.27 | peak | | | |
| 2 | * | 431.6000 | 49.77 | -8.03 | 41.74 | 46.00 | -4.26 | peak | | | |
| 3 | | 500.2000 | 38.51 | -7.17 | 31.34 | 46.00 | -14.66 | peak | | | |
| 4 | | 700.4000 | 33.82 | -3.88 | 29.94 | 46.00 | -16.06 | peak | | | |
| 5 | ! | 797.0000 | 43.93 | -2.34 | 41.59 | 46.00 | -4.41 | peak | | | |
| 6 | | 934.2000 | 31.32 | -0.06 | 31.26 | 46.00 | -14.74 | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(2402) Data :#1 Date: 2008/3/10 Time:




Site site#1 Polarization: *Vertical* Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT(X)

Note: 2402MHz

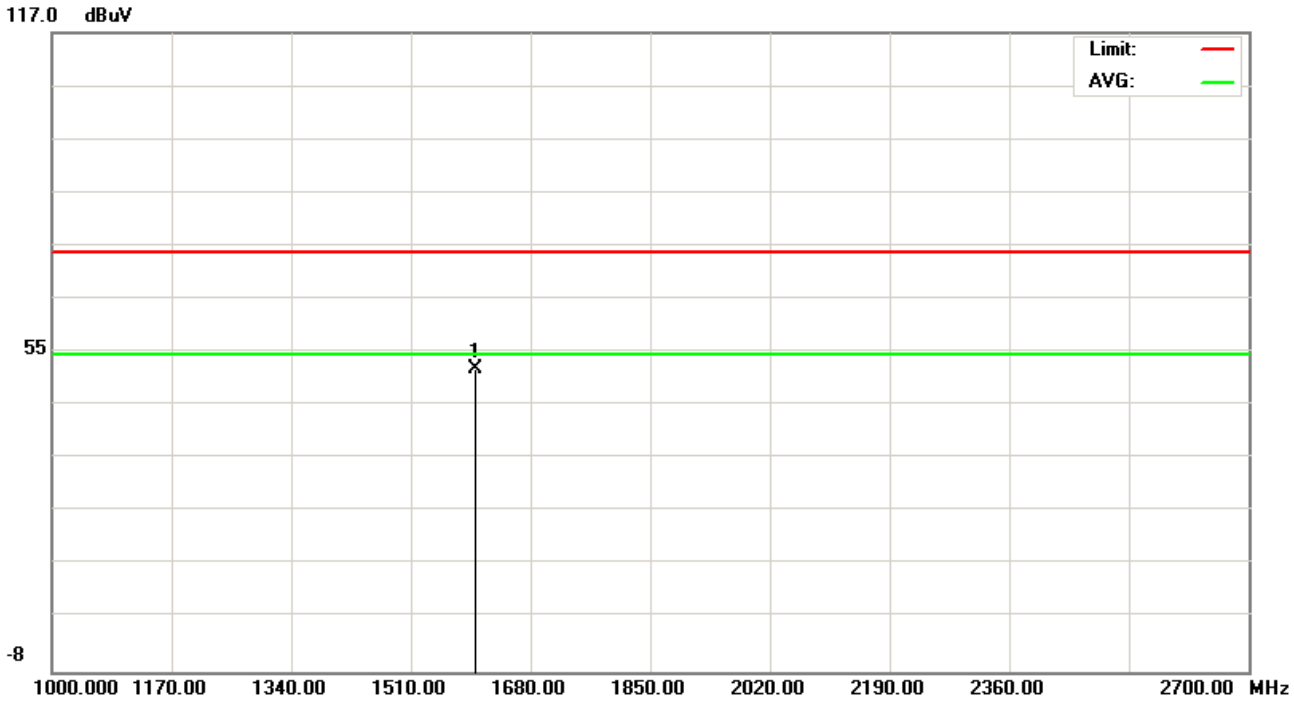
2.7G-10G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | * | 2176.400 | 50.75 | 0.21 | 50.96 | 74.00 | -23.04 | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(2402) Data :#3 Date: 2008/3/10 Time:




Site site#1 Polarization: ***Horizontal*** Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT(X)

Note: 2402MHz

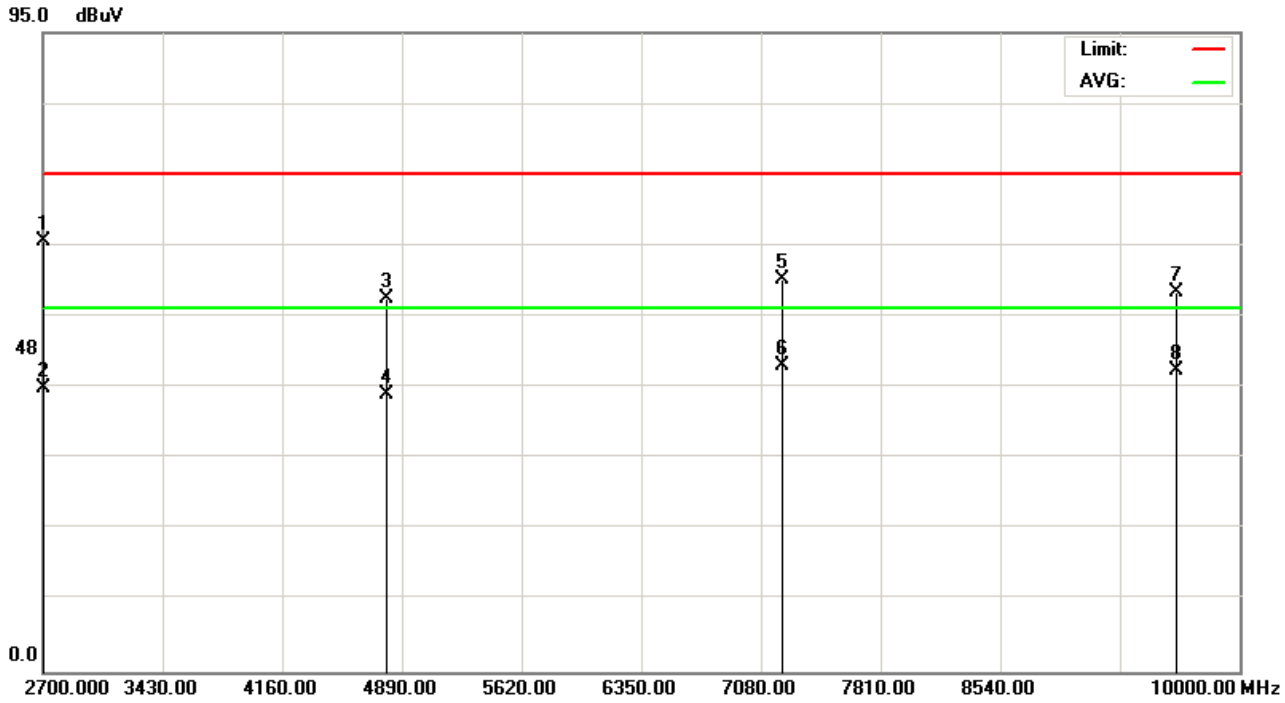
2.7G-10G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | * | 1601.800 | 55.00 | -3.73 | 51.27 | 74.00 | -22.73 | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(2402) Data :#5 Date: 2008/3/10 Time:




Site site#1 Polarization: *Vertical* Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT(X)

Note: 2402MHz

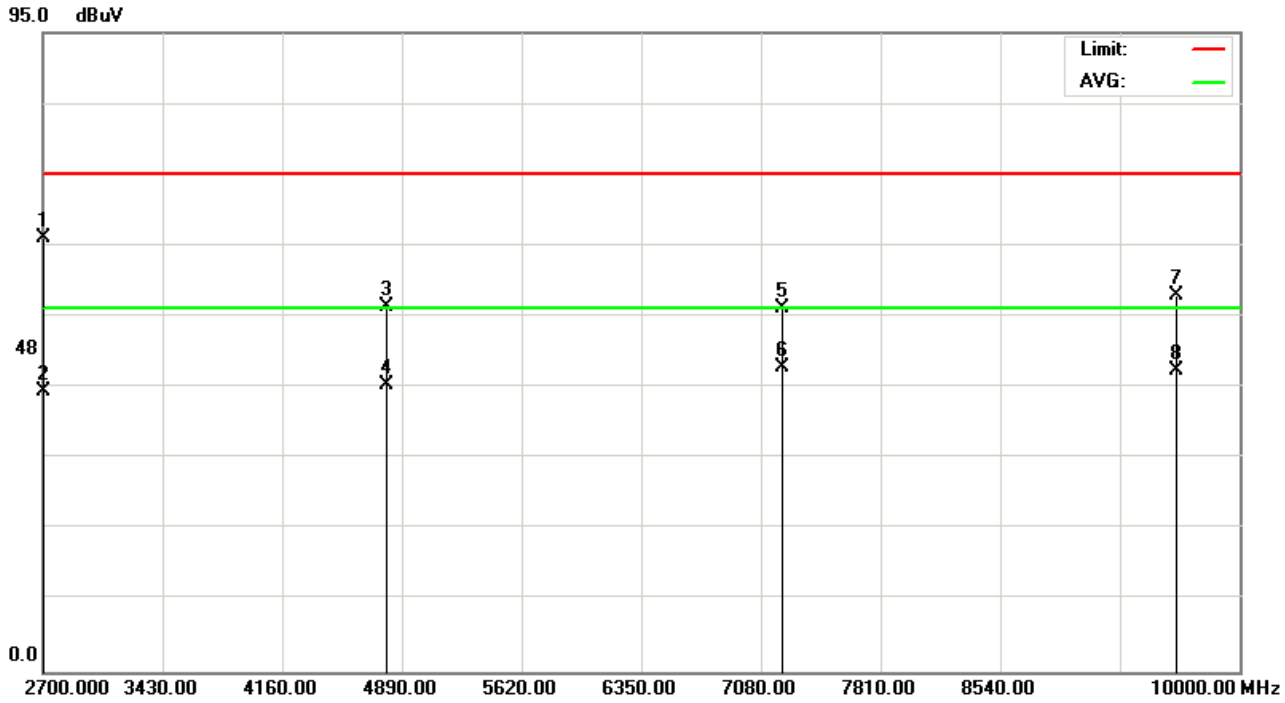
2.7G-10G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 2700.000 | 41.47 | 22.58 | 64.05 | 74.00 | -9.95 | peak | | | |
| 2 | | 2700.000 | 19.46 | 22.58 | 42.04 | 54.00 | -11.96 | AVG | | | |
| 3 | | 4798.750 | 48.15 | 7.29 | 55.44 | 74.00 | -18.56 | peak | | | |
| 4 | | 4798.750 | 33.80 | 7.29 | 41.09 | 54.00 | -12.91 | AVG | | | |
| 5 | | 7207.750 | 44.78 | 13.54 | 58.32 | 74.00 | -15.68 | peak | | | |
| 6 | * | 7207.750 | 31.83 | 13.54 | 45.37 | 54.00 | -8.63 | AVG | | | |
| 7 | | 9616.750 | 39.22 | 17.25 | 56.47 | 74.00 | -17.53 | peak | | | |
| 8 | | 9616.750 | 27.45 | 17.25 | 44.70 | 54.00 | -9.30 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(2402) Data :#7 Date: 2008/3/10 Time:




Site site#1 Polarization: ***Horizontal*** Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT(X)

Note: 2402MHz

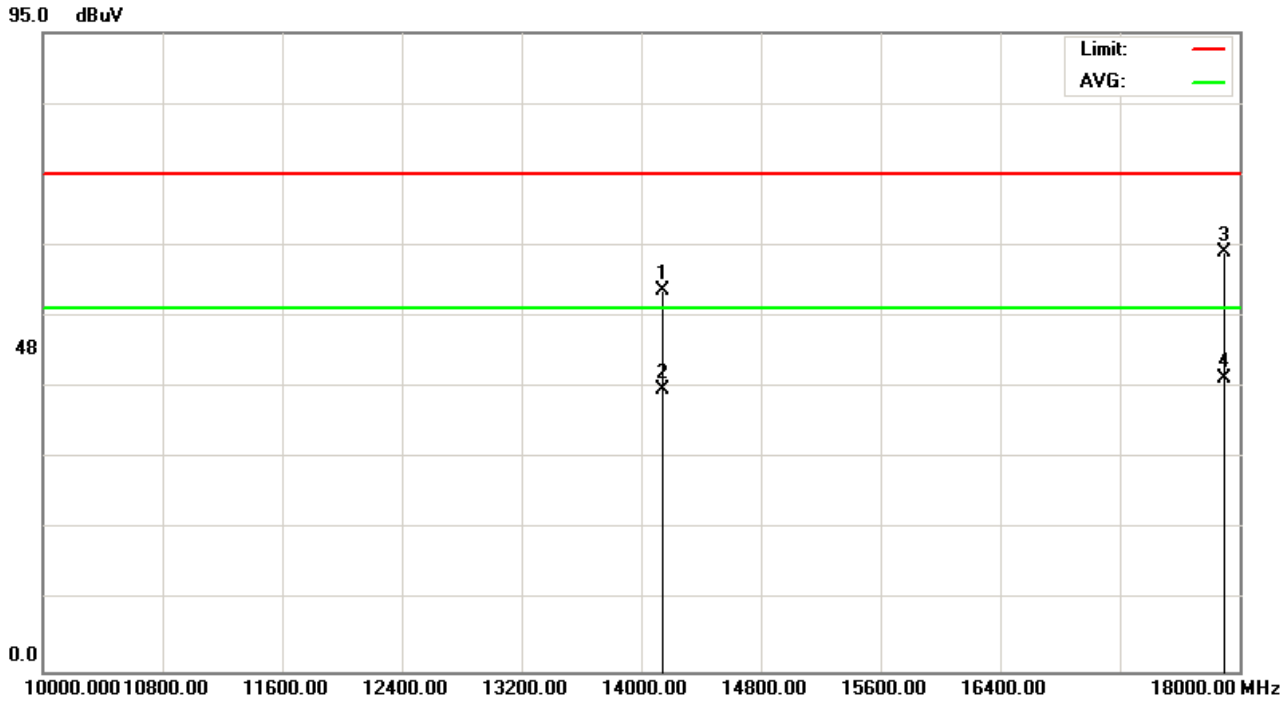
2.7G-10G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 2700.000 | 41.87 | 22.58 | 64.45 | 74.00 | -9.55 | peak | | | |
| 2 | | 2700.000 | 19.11 | 22.58 | 41.69 | 54.00 | -12.31 | AVG | | | |
| 3 | | 4798.750 | 47.01 | 7.29 | 54.30 | 74.00 | -19.70 | peak | | | |
| 4 | | 4798.750 | 35.34 | 7.29 | 42.63 | 54.00 | -11.37 | AVG | | | |
| 5 | | 7207.750 | 40.53 | 13.54 | 54.07 | 74.00 | -19.93 | peak | | | |
| 6 | * | 7207.750 | 31.68 | 13.54 | 45.22 | 54.00 | -8.78 | AVG | | | |
| 7 | | 9616.750 | 38.64 | 17.25 | 55.89 | 74.00 | -18.11 | peak | | | |
| 8 | | 9616.750 | 27.54 | 17.25 | 44.79 | 54.00 | -9.21 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(2402) Data :#9 Date: 2008/3/10 Time:




Site site#1 Polarization: *Vertical* Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 1m

M/N: A335W

Mode: BT(X)

Note: 2402MHz

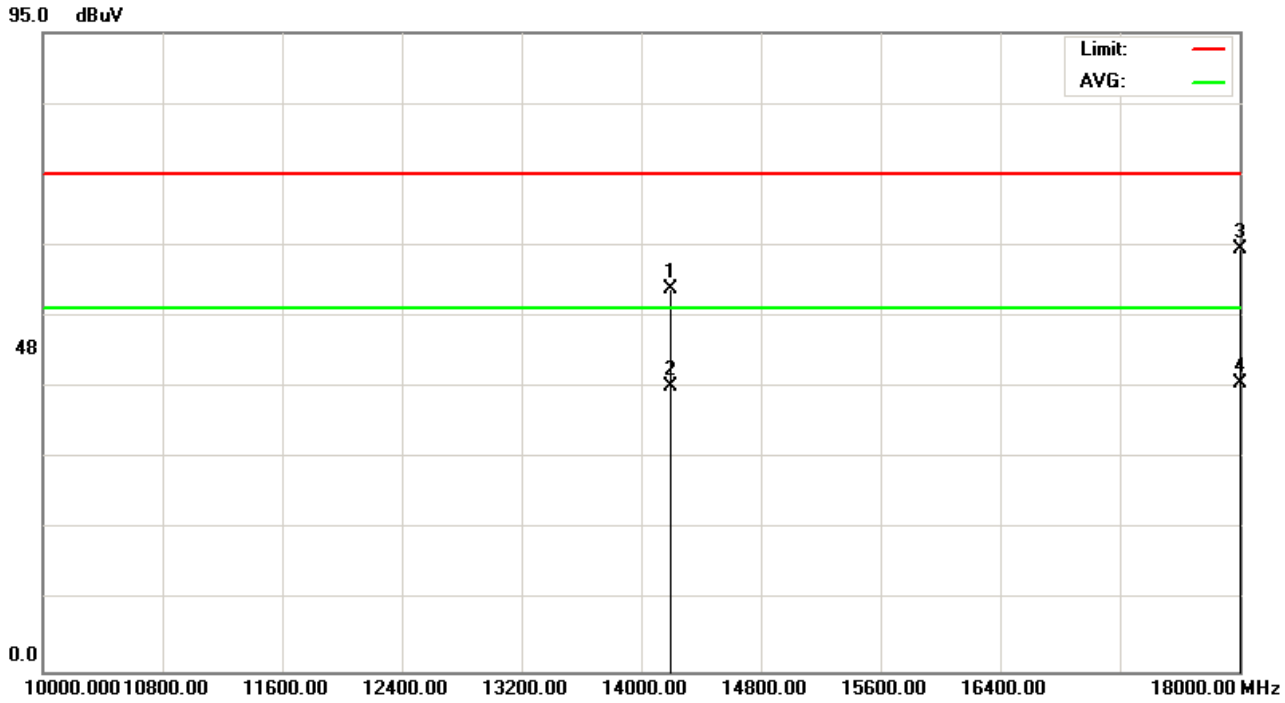
10G - 18G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 14140.00 | 37.85 | 18.84 | 56.69 | 74.00 | -17.31 | peak | | | |
| 2 | | 14140.00 | 23.09 | 18.84 | 41.93 | 54.00 | -12.07 | AVG | | | |
| 3 | | 17900.00 | 37.50 | 24.96 | 62.46 | 74.00 | -11.54 | peak | | | |
| 4 | * | 17900.00 | 18.56 | 24.96 | 43.52 | 54.00 | -10.48 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(2402) Data :#11 Date: 2008/3/10 Time:




Site site#1 Polarization: ***Horizontal*** Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 1m

M/N: A335W

Mode: BT(X)

Note: 2402MHz

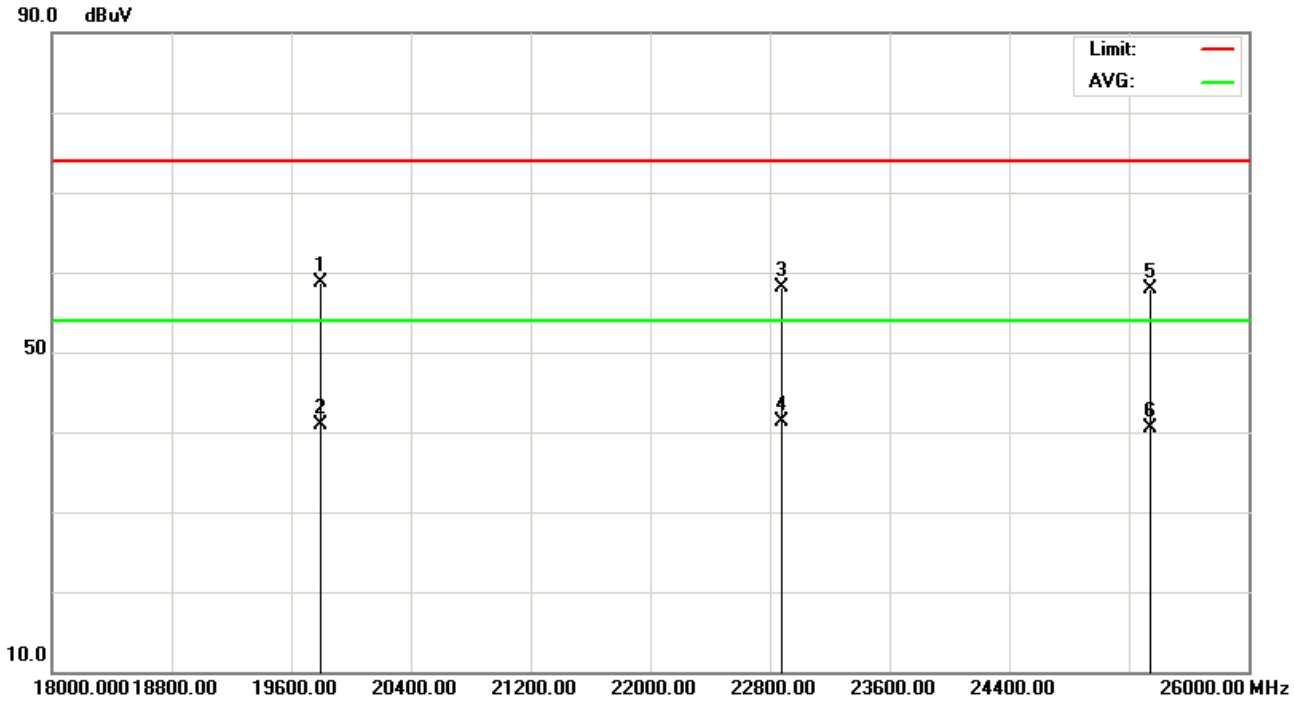
10G - 18G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 14200.00 | 38.07 | 18.86 | 56.93 | 74.00 | -17.07 | peak | | | |
| 2 | | 14200.00 | 23.63 | 18.86 | 42.49 | 54.00 | -11.51 | AVG | | | |
| 3 | | 18000.00 | 37.21 | 25.57 | 62.78 | 74.00 | -11.22 | peak | | | |
| 4 | * | 18000.00 | 17.39 | 25.57 | 42.96 | 54.00 | -11.04 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(2402) Data :#13 Date: 2008/3/10 Time:




Site site#1
Limit: FCC part 15 (PK)
EUT:
M/N: A335W
Mode: BT(X)
Note: CH01(2412MHz)

Polarization: ***Vertical***
Power:
Distance: 1m

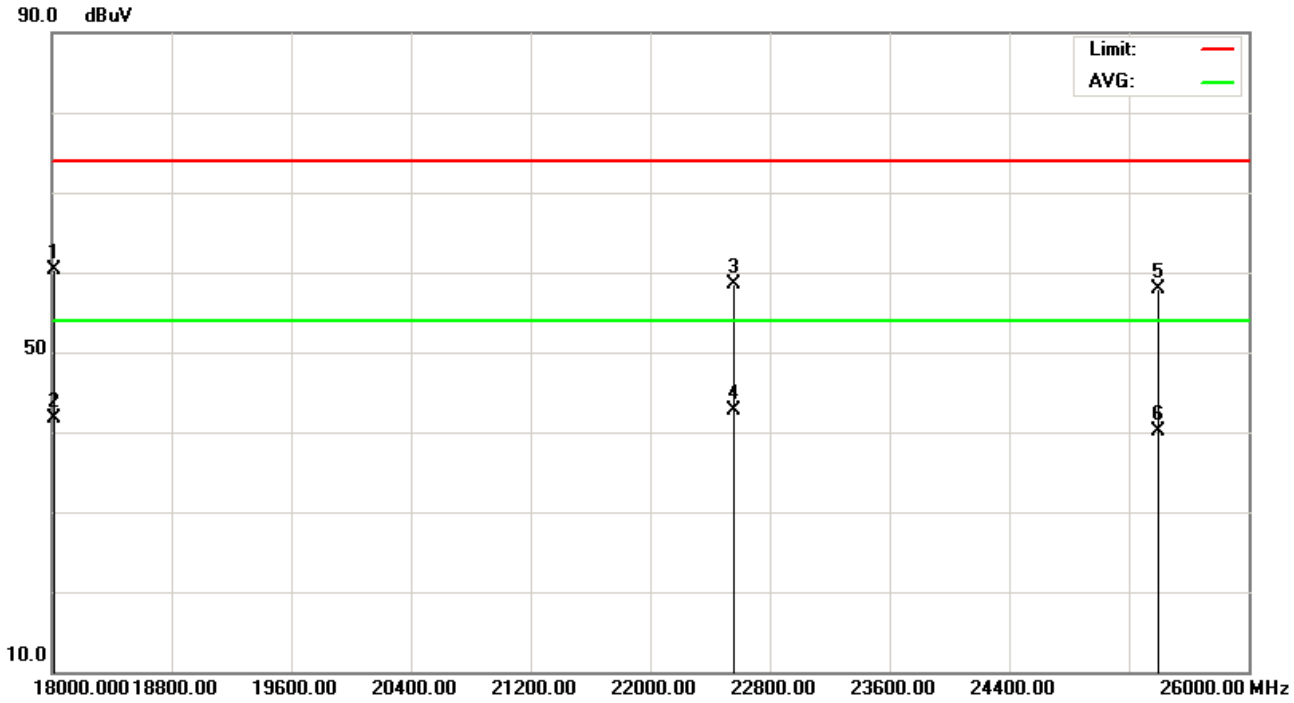
Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 19800.00 | 26.29 | 32.35 | 58.64 | 74.00 | -15.36 | peak | | | |
| 2 | | 19800.00 | 8.63 | 32.35 | 40.98 | 54.00 | -13.02 | AVG | | | |
| 3 | | 22880.00 | 27.76 | 30.25 | 58.01 | 74.00 | -15.99 | peak | | | |
| 4 | * | 22880.00 | 11.09 | 30.25 | 41.34 | 54.00 | -12.66 | AVG | | | |
| 5 | | 25340.00 | 29.28 | 28.57 | 57.85 | 74.00 | -16.15 | peak | | | |
| 6 | | 25340.00 | 11.86 | 28.57 | 40.43 | 54.00 | -13.57 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(2402) Data :#14 Date: 2008/3/10 Time:




Site site#1
Limit: FCC part 15 (PK)
EUT:
M/N: A335W
Mode: BT(X)
Note: CH01(2412MHz)

Polarization: ***Horizontal***
Power:
Distance: 1m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 18020.00 | 26.38 | 33.99 | 60.37 | 74.00 | -13.63 | peak | | | |
| 2 | | 18020.00 | 7.67 | 33.99 | 41.66 | 54.00 | -12.34 | AVG | | | |
| 3 | | 22560.00 | 28.09 | 30.46 | 58.55 | 74.00 | -15.45 | peak | | | |
| 4 | * | 22560.00 | 12.33 | 30.46 | 42.79 | 54.00 | -11.21 | AVG | | | |
| 5 | | 25400.00 | 29.37 | 28.53 | 57.90 | 74.00 | -16.10 | peak | | | |
| 6 | | 25400.00 | 11.63 | 28.53 | 40.16 | 54.00 | -13.84 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

### 3.6.2 Open Field Radiated Emissions (Subpart C)

The highest peak values of radiated emissions from the EUT at various antenna heights, antenna polarization, EUT orientation, etc. are recorded on the following

Applicant : GN NETCOM A/S
Model No : A335W
EUT : Bluetooth class 1 plug and play dongle
Test Mode : Link Mode_Bluetooth 2.0 CH39 2441.000 (Local Frequency: 2441.000 MHz)
Test Date : 03/10/2008~04/07/2008

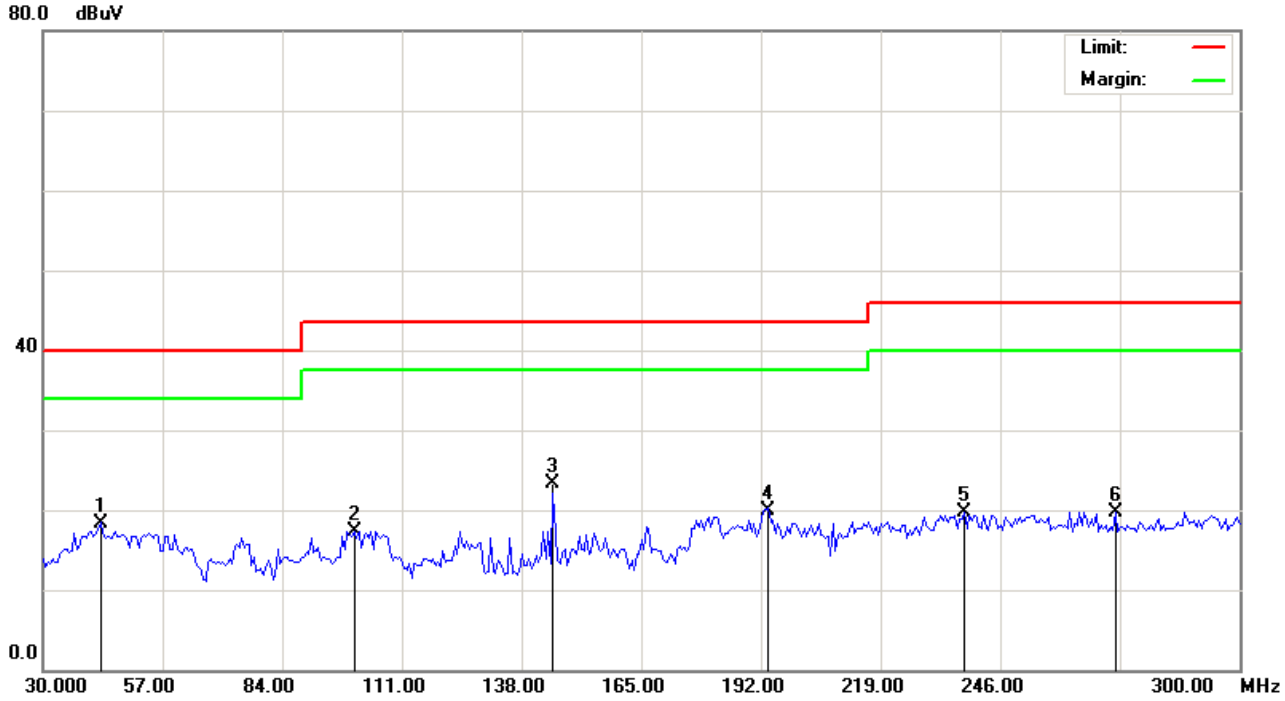
Please refer to next pager of detail testing data.

Notes:

1. Margin= Amplitude - Limits
2. Distance of Measurement: 3 Meter (30-1000MHz) & (1-10GHz), 1 Meter (10-26.5GHz)
3. Height of table for EUT placed: 0.8 Meter.
4. ANT= Antenna height.
5. Amplitude= Reading Amplitude – Amplifier gain + Cable loss + Antenna factor
   (Auto calculate in spectrum analyzer)
6. The EUT was worst case on X axis after pretest on X & Y & Z axis setting.
7. The testing data only show below 18GHz's data because measure data above 18GHz was only ambit noise.
8. All frequencies from 30MHz to 26.5GHz have been tested

## Radiated Emission Measurement

File :A335W(1G以下) Data :#5 Date: 2008/04/07 Time:




Site site#1 Polarization: ***Vertical*** Temperature: 22 ℃

Limit: FCC Class B 3M Radiation Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT

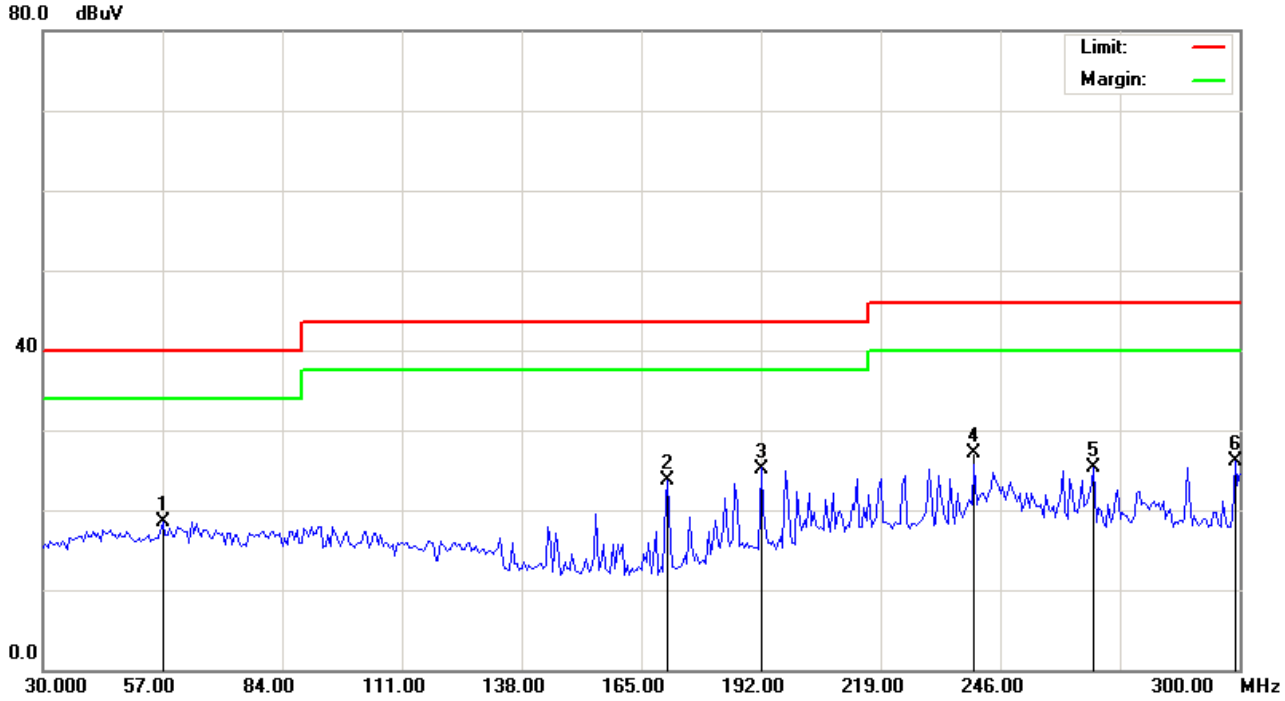
Note: 2441MHz

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 42.9600 | 30.13 | -11.86 | 18.27 | 40.00 | -21.73 | peak | | | |
| 2 | | 100.2000 | 29.11 | -11.77 | 17.34 | 43.50 | -26.16 | peak | | | |
| 3 | * | 145.0200 | 39.52 | -16.19 | 23.33 | 43.50 | -20.17 | peak | | | |
| 4 | | 193.6200 | 33.15 | -13.17 | 19.98 | 43.50 | -23.52 | peak | | | |
| 5 | | 237.9000 | 31.20 | -11.55 | 19.65 | 46.00 | -26.35 | peak | | | |
| 6 | | 271.9200 | 30.63 | -10.88 | 19.75 | 46.00 | -26.25 | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(1G以下) Data :#7 Date: 2008/04/07 Time:




Site site#1 Polarization: ***Horizontal*** Temperature: 22 ℃

Limit: FCC Class B 3M Radiation Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT

Note: 2441MHz

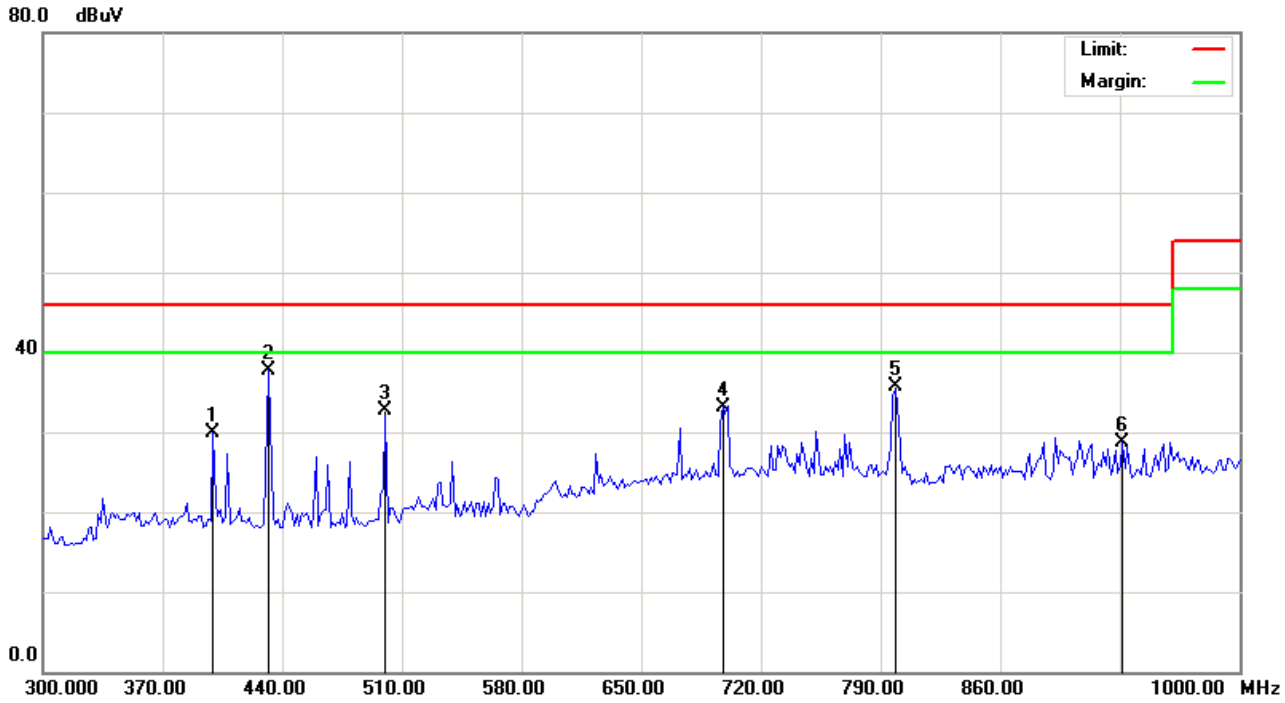
| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 57.0000 | 30.92 | -12.34 | 18.58 | 40.00 | -21.42 | peak | | | |
| 2 | | 170.9400 | 38.99 | -15.27 | 23.72 | 43.50 | -19.78 | peak | | | |
| 3 | * | 192.0000 | 38.43 | -13.26 | 25.17 | 43.50 | -18.33 | peak | | | |
| 4 | | 240.0600 | 38.59 | -11.43 | 27.16 | 46.00 | -18.84 | peak | | | |
| 5 | | 267.0600 | 36.22 | -10.99 | 25.23 | 46.00 | -20.77 | peak | | | |
| 6 | | 298.9200 | 36.13 | -10.03 | 26.10 | 46.00 | -19.90 | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

以下

## Radiated Emission Measurement

File :A335W(1G以下) Data :#6 Date: 2008/04/07 Time:




Site site#1 Polarization: ***Vertical*** Temperature: 22 ℃

Limit: FCC Class B 3M Radiation Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT

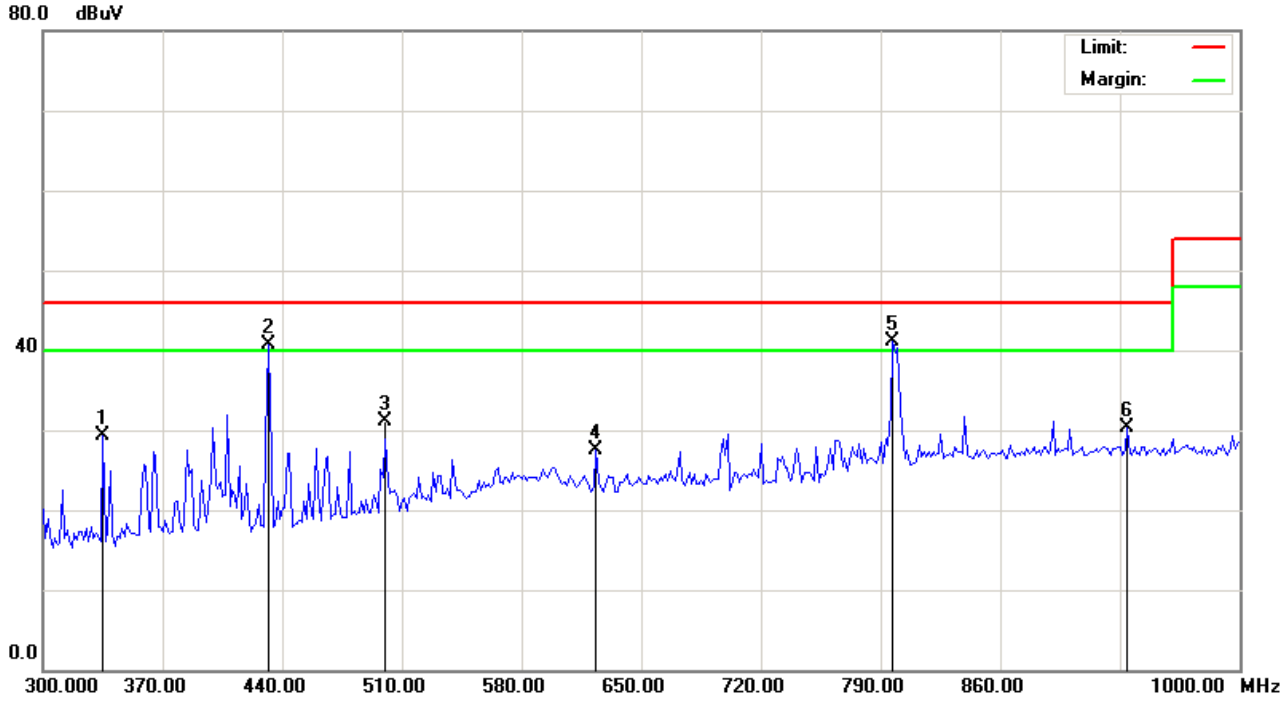
Note: 2441MHz

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 399.4000 | 38.19 | -8.34 | 29.85 | 46.00 | -16.15 | peak | | | |
| 2 | * | 431.6000 | 45.78 | -8.03 | 37.75 | 46.00 | -8.25 | peak | | | |
| 3 | | 500.2000 | 39.83 | -7.17 | 32.66 | 46.00 | -13.34 | peak | | | |
| 4 | | 697.6000 | 37.01 | -3.86 | 33.15 | 46.00 | -12.85 | peak | | | |
| 5 | | 798.4000 | 37.98 | -2.33 | 35.65 | 46.00 | -10.35 | peak | | | |
| 6 | | 931.4000 | 28.94 | -0.28 | 28.66 | 46.00 | -17.34 | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(1G以下) Data :#8 Date: 2008/04/07 Time:




Site site#1 Polarization: ***Horizontal*** Temperature: 22 ℃

Limit: FCC Class B 3M Radiation Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT

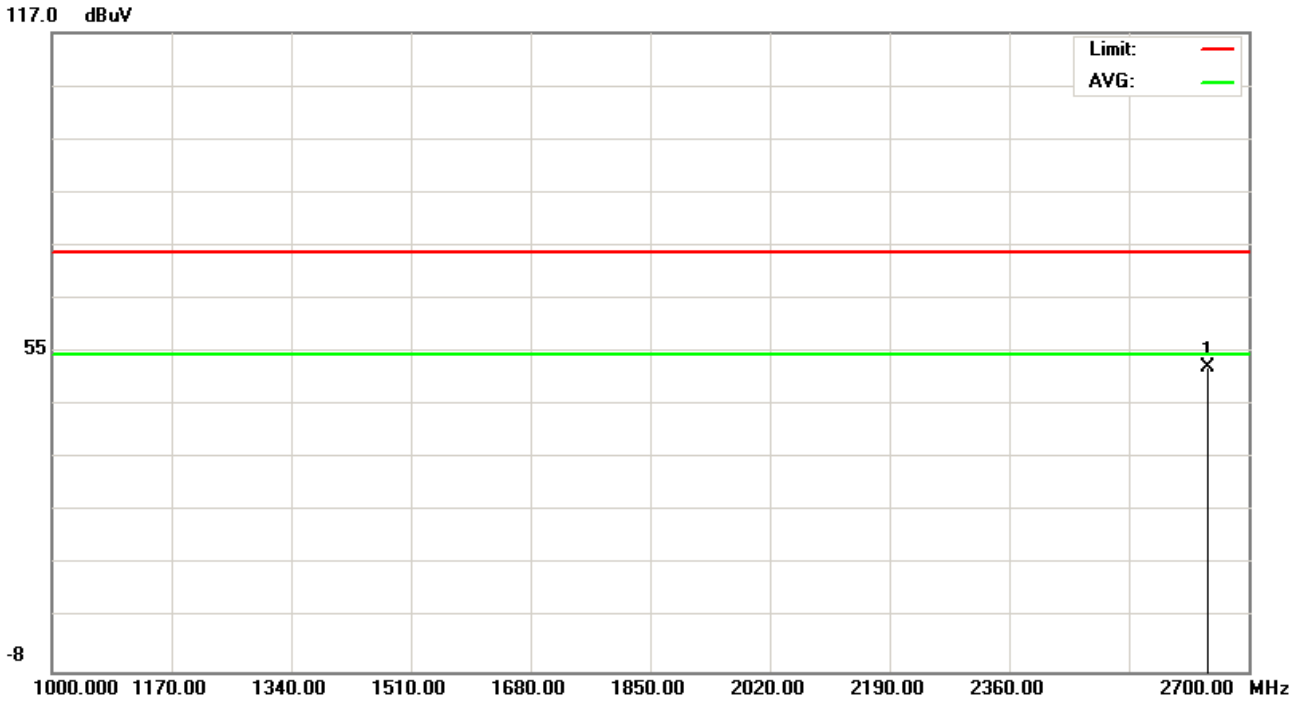
Note: 2441MHz

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 335.0000 | 38.50 | -9.27 | 29.23 | 46.00 | -16.77 | peak | | | |
| 2 | ! | 431.6000 | 48.77 | -8.03 | 40.74 | 46.00 | -5.26 | peak | | | |
| 3 | | 500.2000 | 38.24 | -7.17 | 31.07 | 46.00 | -14.93 | peak | | | |
| 4 | | 623.4000 | 32.13 | -4.56 | 27.57 | 46.00 | -18.43 | peak | | | |
| 5 | * | 797.0000 | 43.40 | -2.34 | 41.06 | 46.00 | -4.94 | peak | | | |
| 6 | | 934.2000 | 30.32 | -0.06 | 30.26 | 46.00 | -15.74 | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(2441) Data :#1 Date: 2008/3/10 Time:




Site site#1 Polarization: ***Vertical*** Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT(X)

Note: 2441MHz

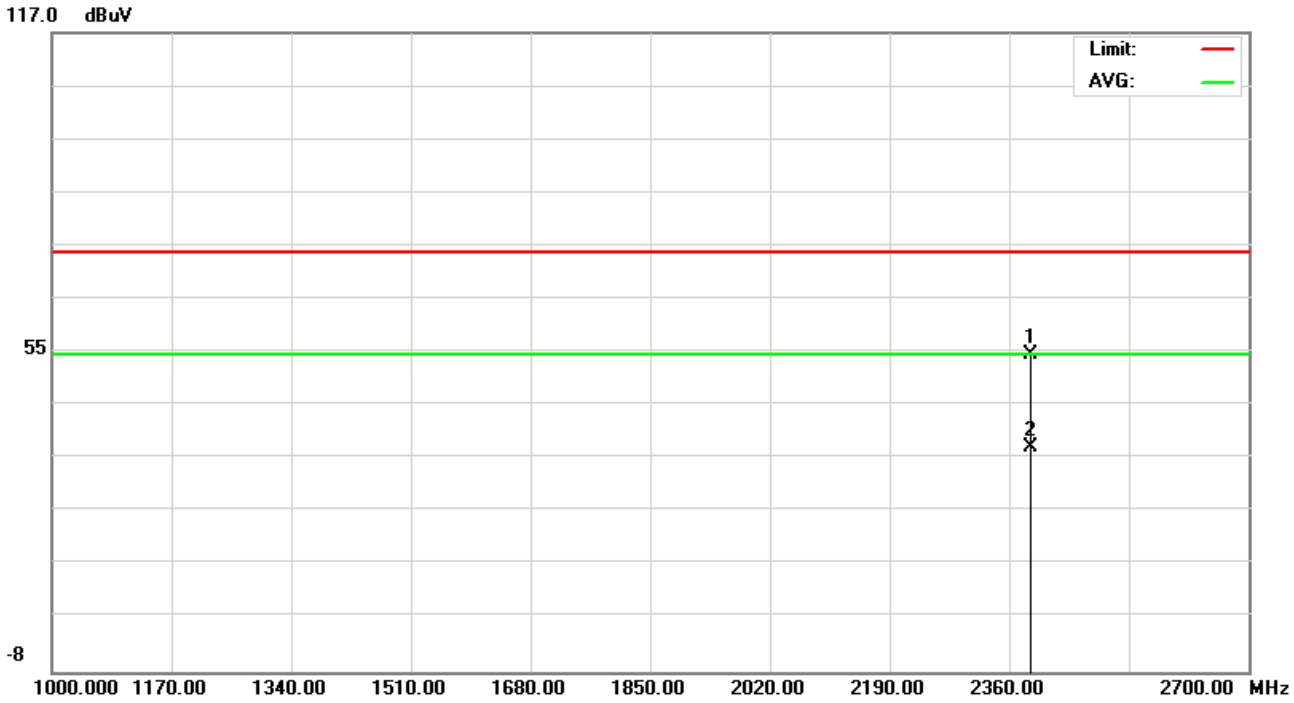
2.7G-10G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | * | 2642.200 | 50.69 | 0.97 | 51.66 | 74.00 | -22.34 | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(2441) Data :#3 Date: 2008/3/10 Time:




Site site#1 Polarization: ***Horizontal*** Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT(X)

Note: 2441MHz

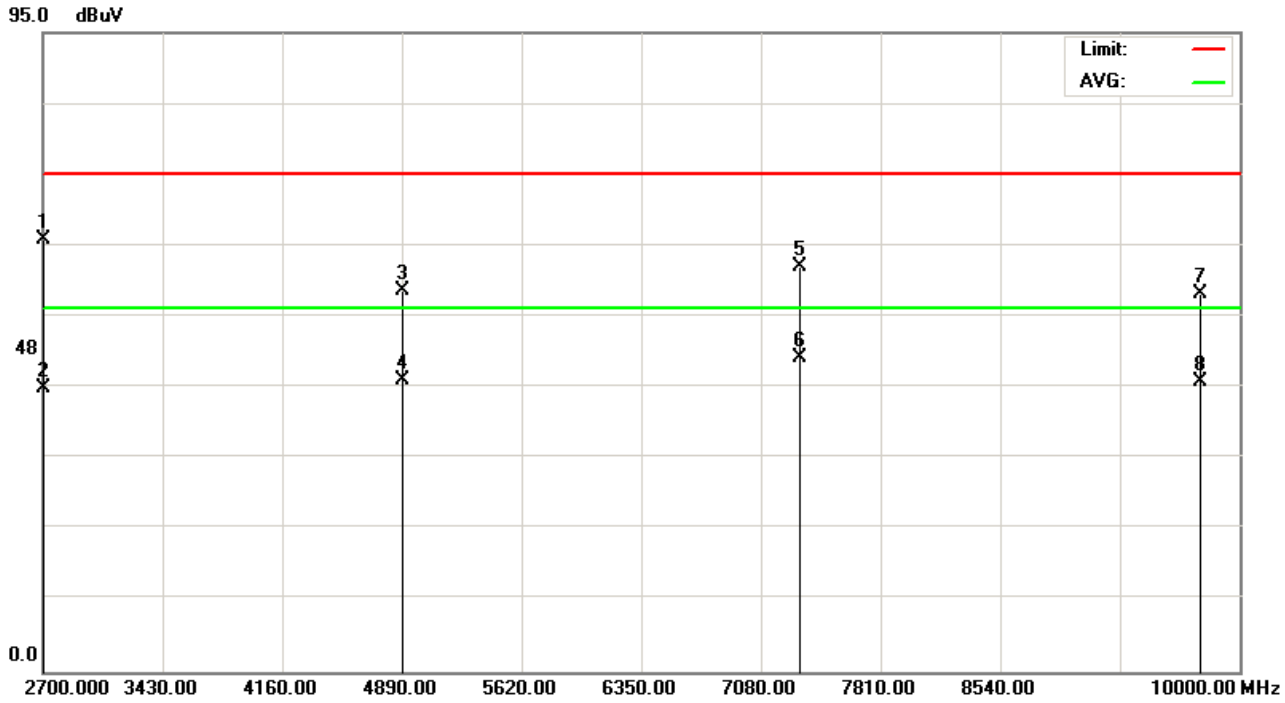
2.7G-10G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 2390.600 | 53.81 | 0.16 | 53.97 | 74.00 | -20.03 | peak | | | |
| 2 | * | 2390.600 | 35.68 | 0.16 | 35.84 | 54.00 | -18.16 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(2441) Data :#5 Date: 2008/3/10 Time:




Site site#1 Polarization: *Vertical* Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT(X)

Note: 2441MHz；3倍:161cm;4倍:155cm

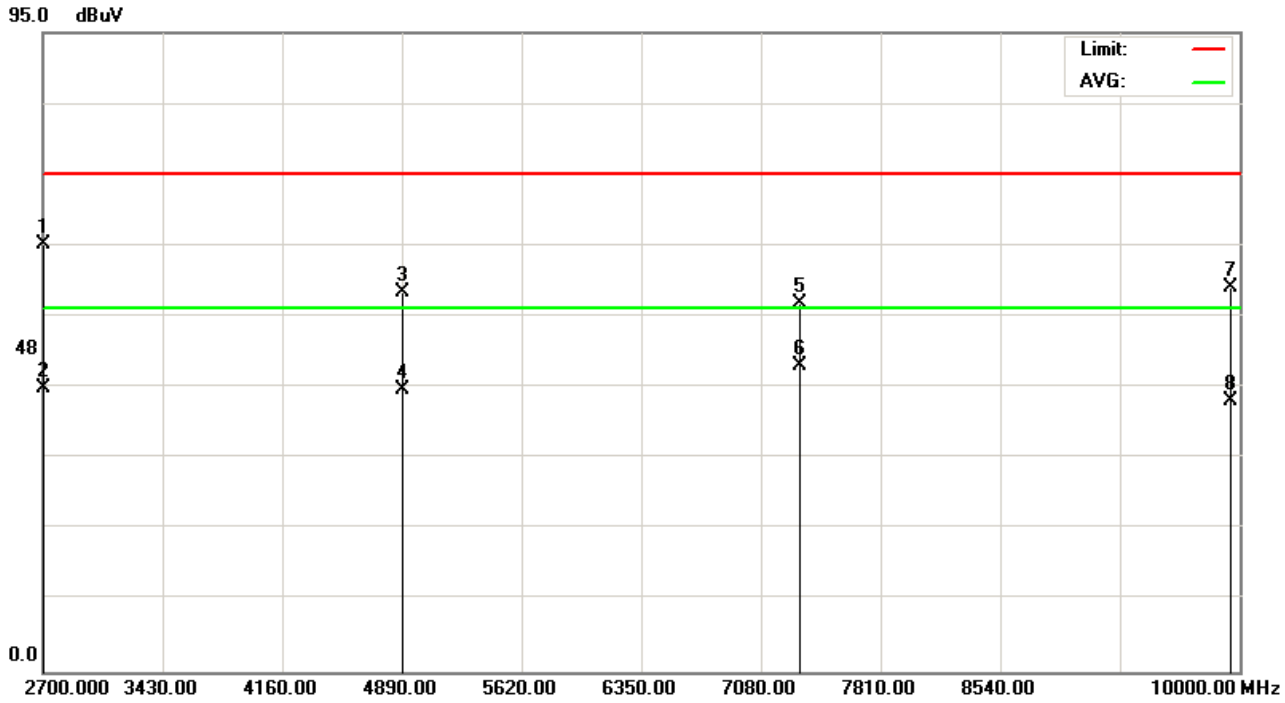
2.7G-10G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 2700.000 | 41.58 | 22.58 | 64.16 | 74.00 | -9.84 | peak | | | |
| 2 | | 2700.000 | 19.69 | 22.58 | 42.27 | 54.00 | -11.73 | AVG | | | |
| 3 | | 4890.000 | 48.95 | 7.73 | 56.68 | 74.00 | -17.32 | peak | | | |
| 4 | | 4890.000 | 35.67 | 7.73 | 43.40 | 54.00 | -10.60 | AVG | | | |
| 5 | | 7317.250 | 46.86 | 13.45 | 60.31 | 74.00 | -13.69 | peak | | | |
| 6 | * | 7317.250 | 33.17 | 13.45 | 46.62 | 54.00 | -7.38 | AVG | | | |
| 7 | | 9762.750 | 38.46 | 17.70 | 56.16 | 74.00 | -17.84 | peak | | | |
| 8 | | 9762.750 | 25.35 | 17.70 | 43.05 | 54.00 | -10.95 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(2441) Data :#7 Date: 2008/3/10 Time:




Site site#1 Polarization: ***Horizontal*** Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT(X)

Note: 2441MHz

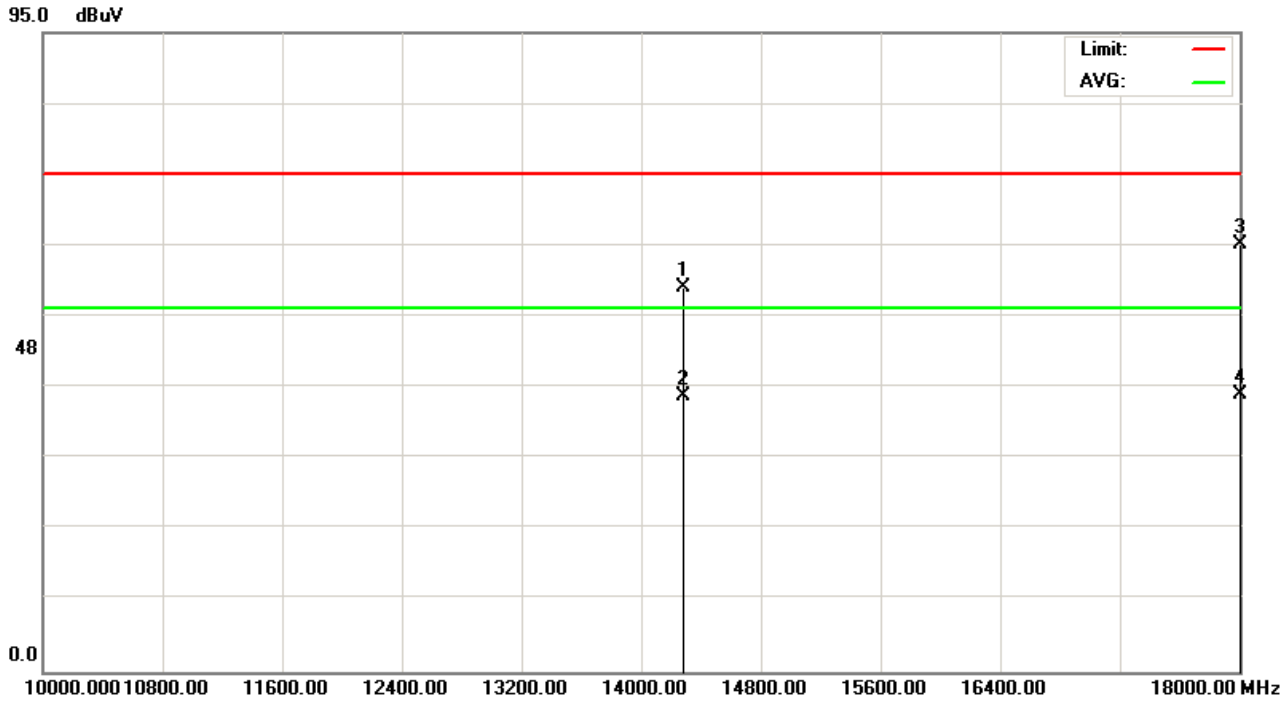
2.7G-10G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 2700.000 | 40.97 | 22.58 | 63.55 | 74.00 | -10.45 | peak | | | |
| 2 | | 2700.000 | 19.56 | 22.58 | 42.14 | 54.00 | -11.86 | AVG | | | |
| 3 | | 4890.000 | 48.68 | 7.73 | 56.41 | 74.00 | -17.59 | peak | | | |
| 4 | | 4890.000 | 34.29 | 7.73 | 42.02 | 54.00 | -11.98 | AVG | | | |
| 5 | | 7317.250 | 41.25 | 13.45 | 54.70 | 74.00 | -19.30 | peak | | | |
| 6 | * | 7317.250 | 32.07 | 13.45 | 45.52 | 54.00 | -8.48 | AVG | | | |
| 7 | | 9945.250 | 39.31 | 17.79 | 57.10 | 74.00 | -16.90 | peak | | | |
| 8 | | 9945.250 | 22.55 | 17.79 | 40.34 | 54.00 | -13.66 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(2441) Data :#9 Date: 2008/3/10 Time:




Site site#1 Polarization: *Vertical* Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 1m

M/N: A335W

Mode: BT(X)

Note: 2441MHz

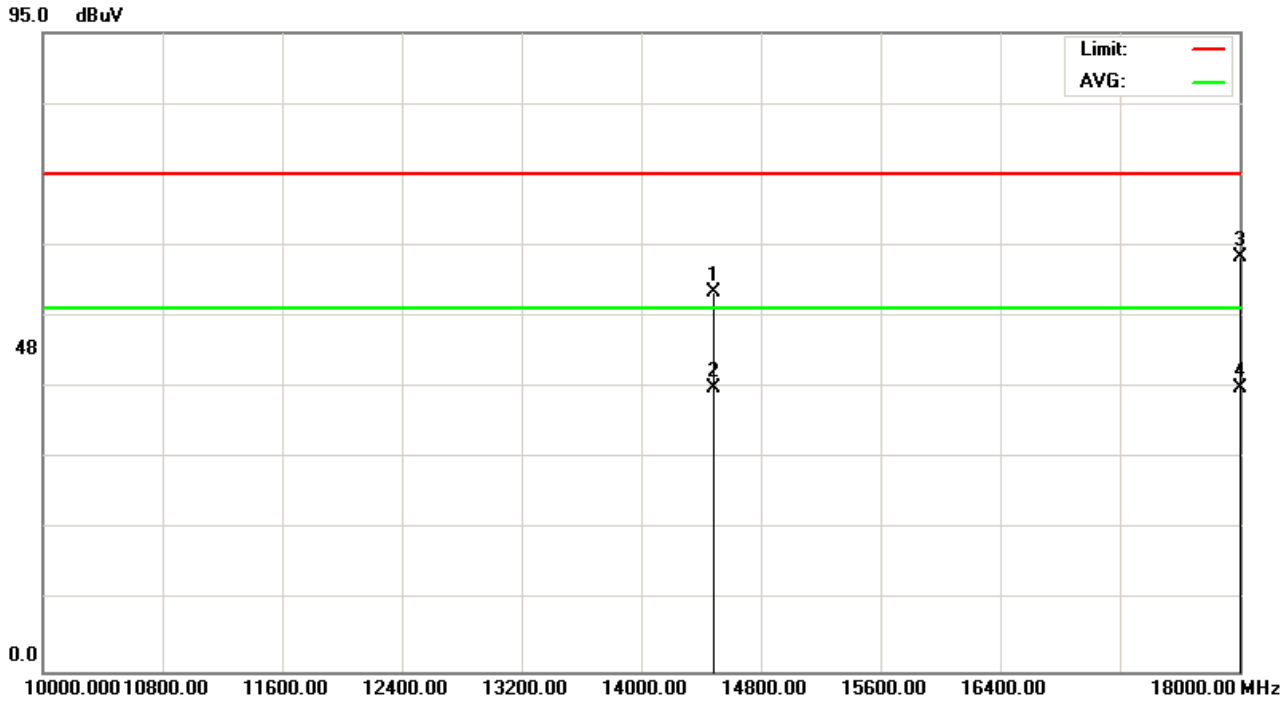
10G - 18G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 14280.00 | 38.58 | 18.63 | 57.21 | 74.00 | -16.79 | peak | | | |
| 2 | | 14280.00 | 22.36 | 18.63 | 40.99 | 54.00 | -13.01 | AVG | | | |
| 3 | * | 18000.00 | 37.94 | 25.57 | 63.51 | 74.00 | -10.49 | peak | | | |
| 4 | | 18000.00 | 15.59 | 25.57 | 41.16 | 54.00 | -12.84 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(2441) Data :#11 Date: 2008/3/10 Time:




Site site#1 Polarization: ***Horizontal*** Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 1m

M/N: A335W

Mode: BT(X)

Note: 2441MHz

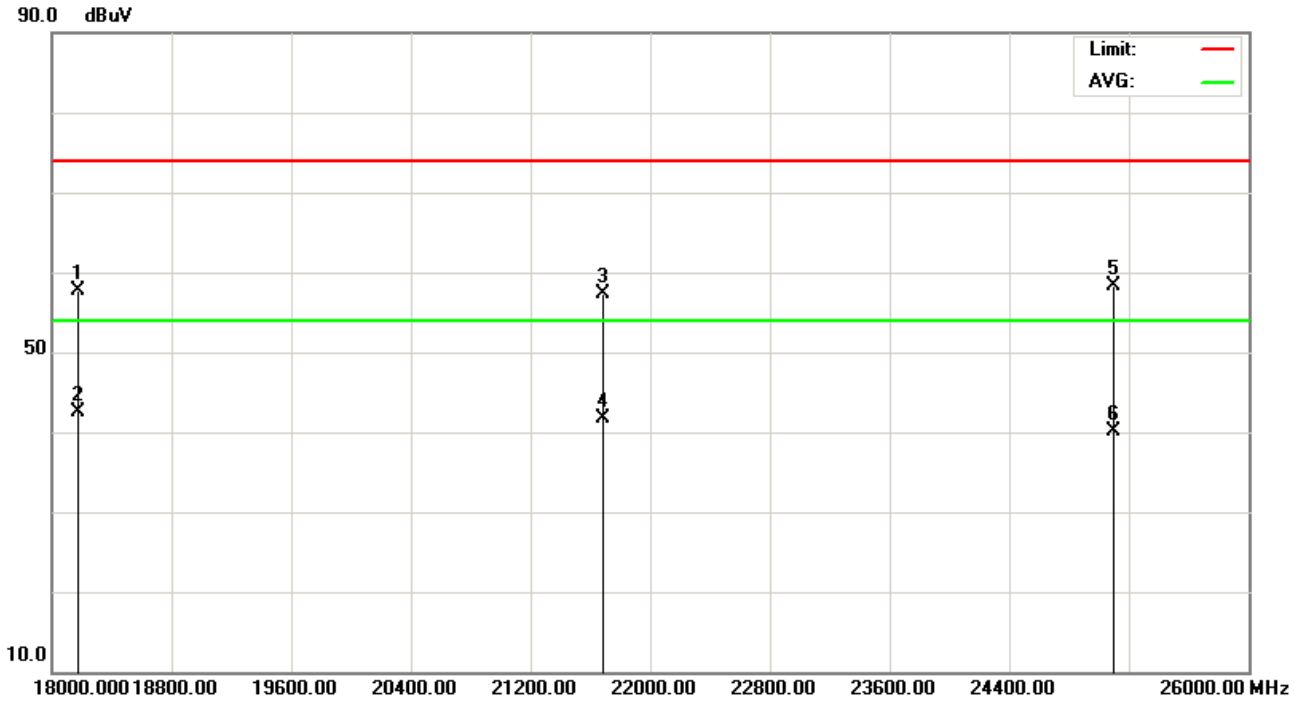
10G - 18G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 14480.00 | 38.63 | 17.89 | 56.52 | 74.00 | -17.48 | peak | | | |
| 2 | * | 14480.00 | 24.34 | 17.89 | 42.23 | 54.00 | -11.77 | AVG | | | |
| 3 | | 18000.00 | 36.04 | 25.57 | 61.61 | 74.00 | -12.39 | peak | | | |
| 4 | | 18000.00 | 16.51 | 25.57 | 42.08 | 54.00 | -11.92 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(2441) Data :#13 Date: 2008/3/10 Time:




Site site#1
Limit: FCC part 15 (PK)
EUT:
M/N: A335W
Mode: BT(X)
Note: 2441MHz

Polarization: ***Vertical***
Power:
Distance: 1m

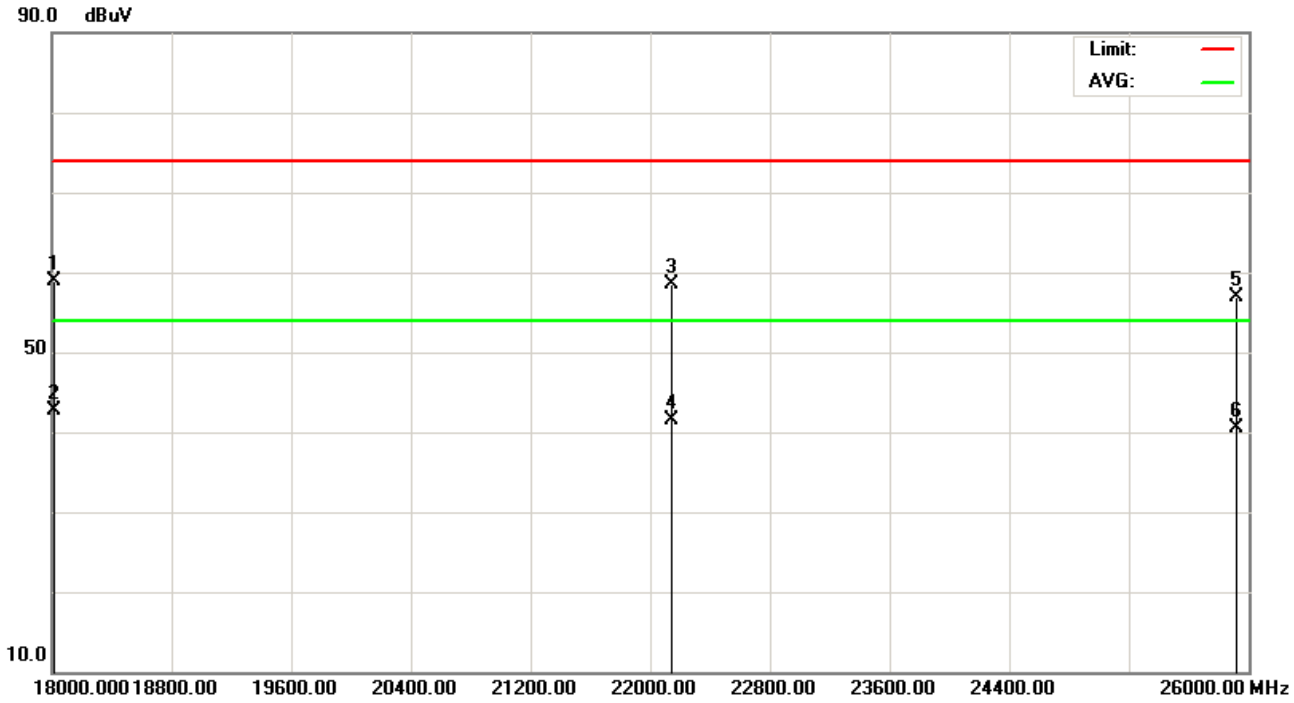
Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 18180.00 | 23.33 | 34.34 | 57.67 | 74.00 | -16.33 | peak | | | |
| 2 | * | 18180.00 | 8.23 | 34.34 | 42.57 | 54.00 | -11.43 | AVG | | | |
| 3 | | 21680.00 | 26.30 | 31.07 | 57.37 | 74.00 | -16.63 | peak | | | |
| 4 | | 21680.00 | 10.69 | 31.07 | 41.76 | 54.00 | -12.24 | AVG | | | |
| 5 | | 25100.00 | 29.67 | 28.73 | 58.40 | 74.00 | -15.60 | peak | | | |
| 6 | | 25100.00 | 11.38 | 28.73 | 40.11 | 54.00 | -13.89 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(2441) Data :#14 Date: 2008/3/10 Time:




Site site#1
Limit: FCC part 15 (PK)
EUT:
M/N: A335W
Mode: BT(X)
Note: 2441MHz

Polarization: ***Horizontal***
Power:
Distance: 1m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 18020.00 | 24.88 | 33.99 | 58.87 | 74.00 | -15.13 | peak | | | |
| 2 | * | 18020.00 | 8.69 | 33.99 | 42.68 | 54.00 | -11.32 | AVG | | | |
| 3 | | 22140.00 | 27.82 | 30.76 | 58.58 | 74.00 | -15.42 | peak | | | |
| 4 | | 22140.00 | 10.65 | 30.76 | 41.41 | 54.00 | -12.59 | AVG | | | |
| 5 | | 25920.00 | 28.82 | 28.17 | 56.99 | 74.00 | -17.01 | peak | | | |
| 6 | | 25920.00 | 12.39 | 28.17 | 40.56 | 54.00 | -13.44 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

### 3.6.3 Open Field Radiated Emissions (Subpart C)

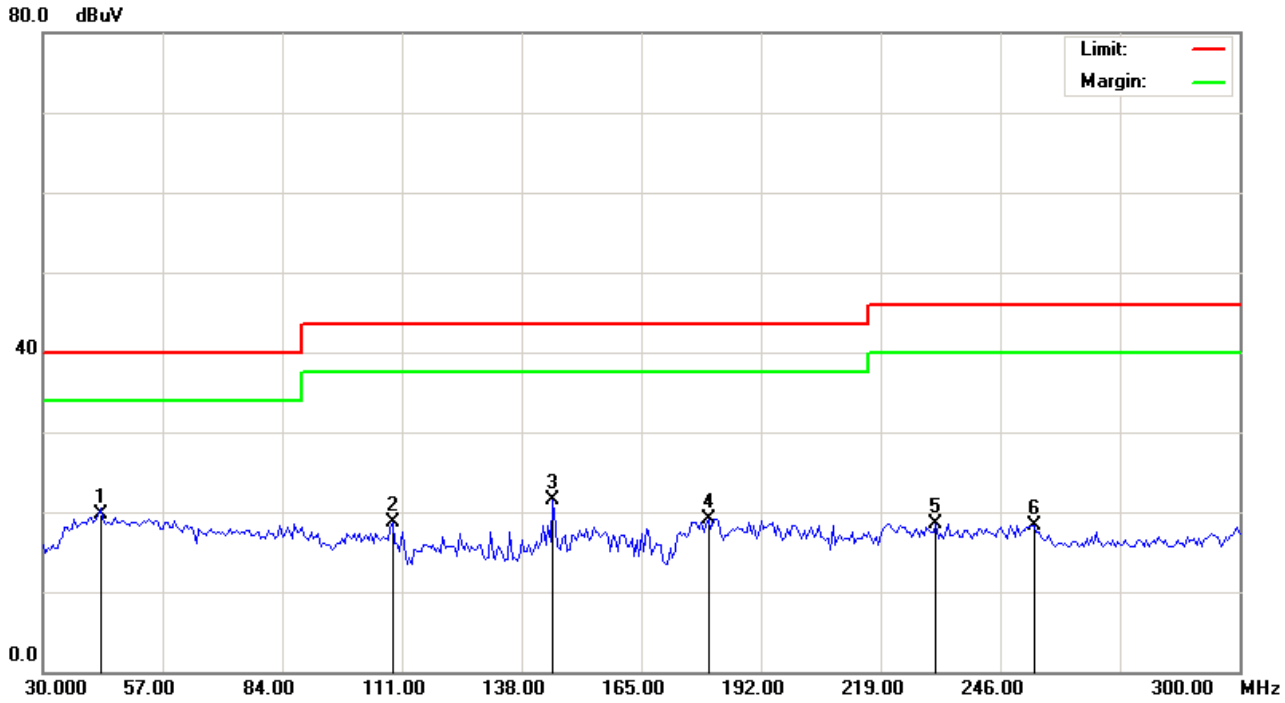
The highest peak values of radiated emissions from the EUT at various antenna heights, antenna polarization, EUT orientation, etc. are recorded on the following.

Applicant : GN NETCOM A/S
Model No : A335W
EUT : Bluetooth class 1 plug and play dongle
Test Mode : Link Mode_Bluetooth 2.0 CH78 2480.000 (Local Frequency: 2480.000 MHz)
Test Date : 03/10/2008~04/07/2008
Please refer to next pager of detail testing data.
Notes:

1. Margin= Amplitude - Limits
2. Distance of Measurement: 3 Meter (30-1000MHz) & (1-10GHz), 1 Meter (10-26.5GHz)
3. Height of table for EUT placed: 0.8 Meter.
4. ANT= Antenna height.
5. Amplitude= Reading Amplitude – Amplifier gain + Cable loss + Antenna factor
   (Auto calculate in spectrum analyzer)
6. The EUT was worst case on X axis after pretest on X & Y & Z axis setting.
7. The testing data only show below 18GHz's data because measure data above 18GHz was only ambit noise.
8. All frequencies from 30MHz to 26.5GHz have been tested

## Radiated Emission Measurement

File :A335W(1G以下) Data :#9 Date: 2008/04/07 Time:




Site site#1 Polarization: ***Vertical*** Temperature: 22 ℃

Limit: FCC Class B 3M Radiation Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT

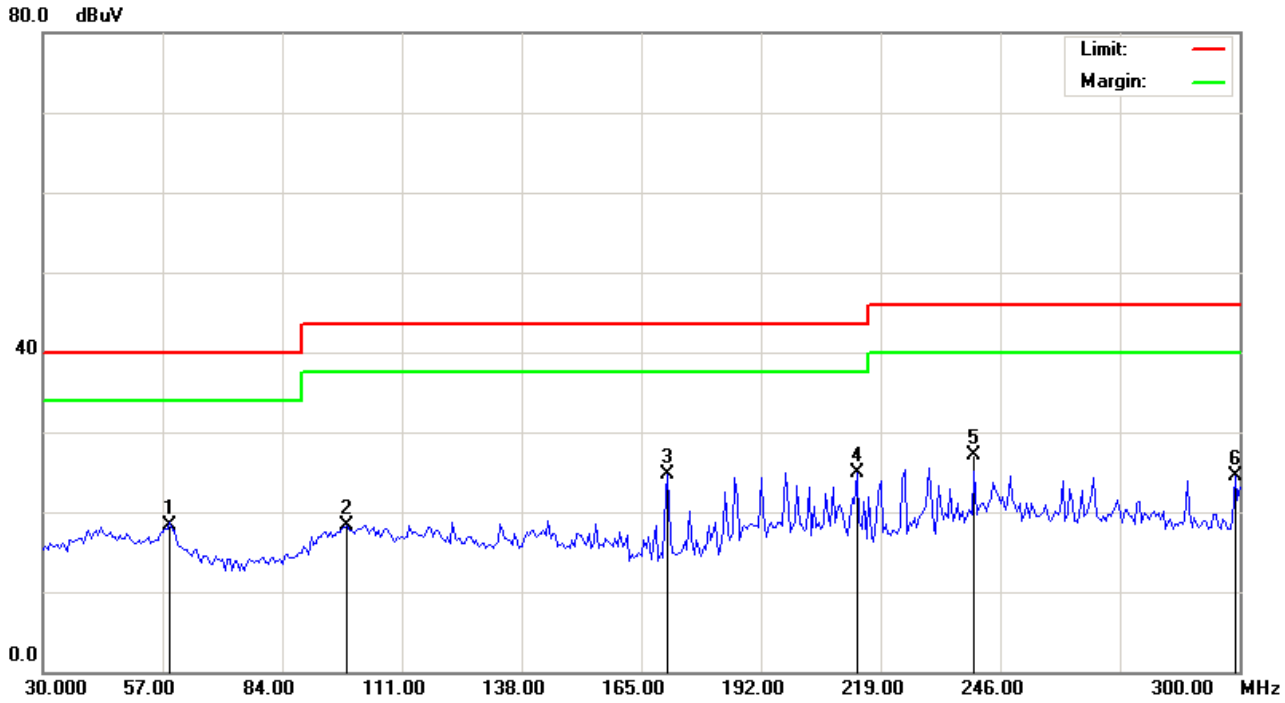
Note: 2480MHz

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | * | 42.9600 | 31.57 | -11.86 | 19.71 | 40.00 | -20.29 | peak | | | |
| 2 | | 108.8400 | 31.12 | -12.41 | 18.71 | 43.50 | -24.79 | peak | | | |
| 3 | | 145.0200 | 37.74 | -16.19 | 21.55 | 43.50 | -21.95 | peak | | | |
| 4 | | 180.1200 | 33.48 | -14.31 | 19.17 | 43.50 | -24.33 | peak | | | |
| 5 | | 231.4200 | 30.43 | -11.83 | 18.60 | 46.00 | -27.40 | peak | | | |
| 6 | | 253.5600 | 29.41 | -11.06 | 18.35 | 46.00 | -27.65 | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(1G以下) Data :#11 Date: 2008/04/07 Time:




Site site#1 Polarization: ***Horizontal*** Temperature: 22 ℃

Limit: FCC Class B 3M Radiation Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT

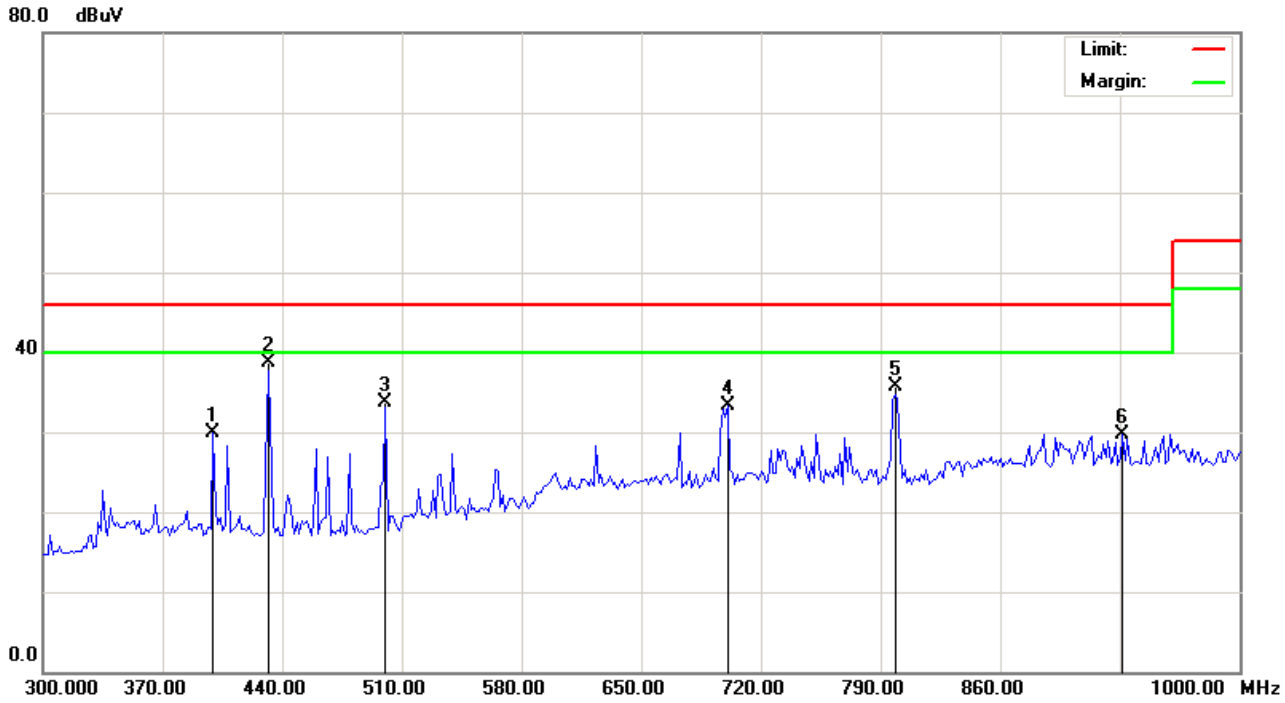
Note: 2480MHz

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 58.6200 | 30.84 | -12.45 | 18.39 | 40.00 | -21.61 | peak | | | |
| 2 | | 98.5800 | 30.12 | -11.84 | 18.28 | 43.50 | -25.22 | peak | | | |
| 3 | | 170.9400 | 39.99 | -15.27 | 24.72 | 43.50 | -18.78 | peak | | | |
| 4 | * | 213.6000 | 37.72 | -12.72 | 25.00 | 43.50 | -18.50 | peak | | | |
| 5 | | 240.0600 | 38.56 | -11.43 | 27.13 | 46.00 | -18.87 | peak | | | |
| 6 | | 298.9200 | 34.63 | -10.03 | 24.60 | 46.00 | -21.40 | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(1G以下) Data :#10 Date: 2008/04/07 Time:




Site site#1 Polarization: ***Vertical*** Temperature: 22 ℃

Limit: FCC Class B 3M Radiation Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT

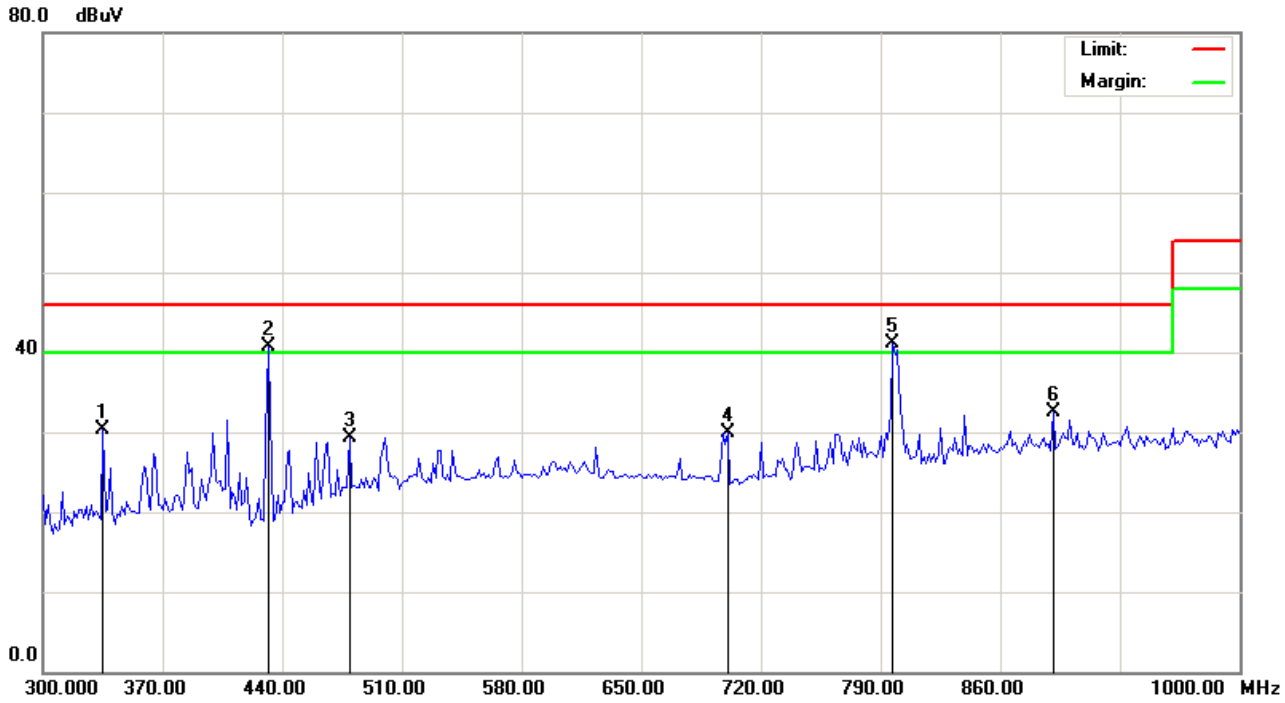
Note: 2480MHz

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 399.4000 | 38.19 | -8.34 | 29.85 | 46.00 | -16.15 | peak | | | |
| 2 | * | 431.6000 | 46.81 | -8.03 | 38.78 | 46.00 | -7.22 | peak | | | |
| 3 | | 500.2000 | 40.84 | -7.17 | 33.67 | 46.00 | -12.33 | peak | | | |
| 4 | | 700.4000 | 37.13 | -3.88 | 33.25 | 46.00 | -12.75 | peak | | | |
| 5 | | 798.4000 | 37.96 | -2.33 | 35.63 | 46.00 | -10.37 | peak | | | |
| 6 | | 931.4000 | 29.94 | -0.28 | 29.66 | 46.00 | -16.34 | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(1G以下) Data :#12 Date: 2008/04/07 Time:




Site site#1 Polarization: ***Horizontal*** Temperature: 22 ℃

Limit: FCC Class B 3M Radiation Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT

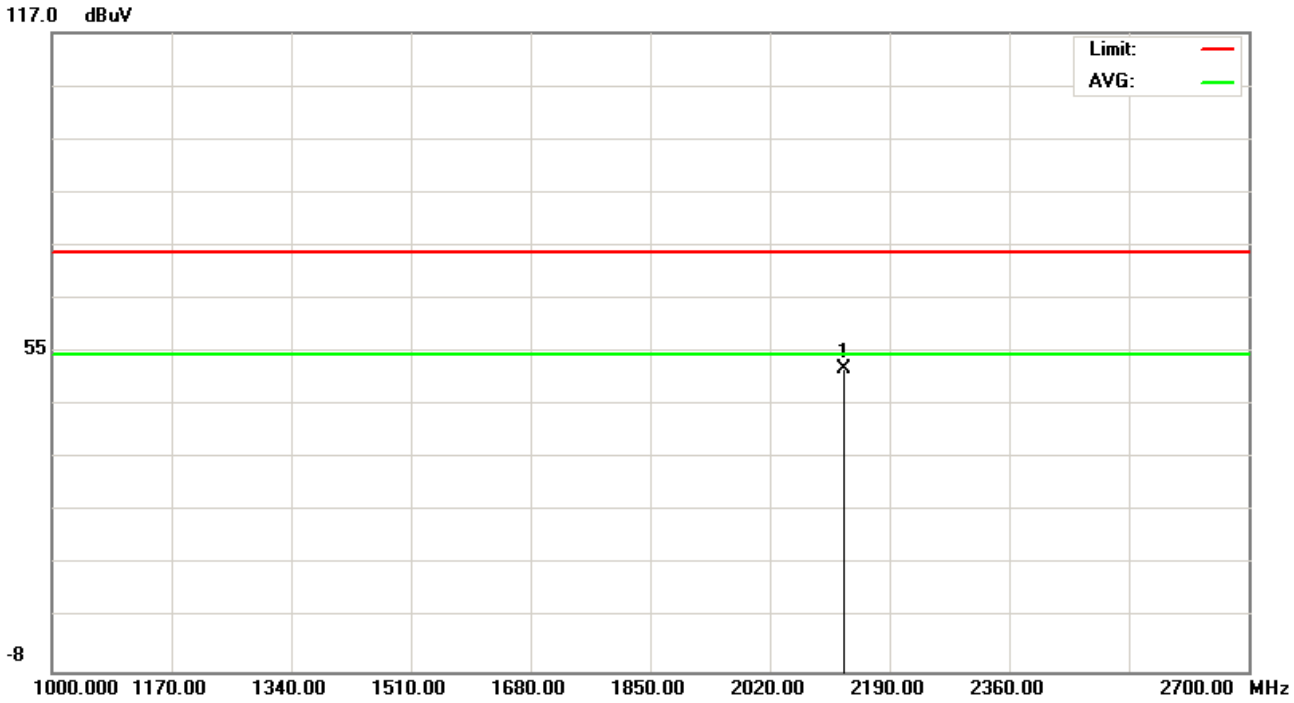
Note: 2480MHz

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 335.0000 | 39.50 | -9.27 | 30.23 | 46.00 | -15.77 | peak | | | |
| 2 | ! | 431.6000 | 48.77 | -8.03 | 40.74 | 46.00 | -5.26 | peak | | | |
| 3 | | 479.2000 | 36.97 | -7.60 | 29.37 | 46.00 | -16.63 | peak | | | |
| 4 | | 700.4000 | 33.82 | -3.88 | 29.94 | 46.00 | -16.06 | peak | | | |
| 5 | * | 797.0000 | 43.40 | -2.34 | 41.06 | 46.00 | -4.94 | peak | | | |
| 6 | | 890.8000 | 33.37 | -0.78 | 32.59 | 46.00 | -13.41 | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(2480) Data :#1 Date: 2008/3/10 Time:




Site site#1 Polarization: ***Vertical*** Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT(X)

Note: 2480MHz

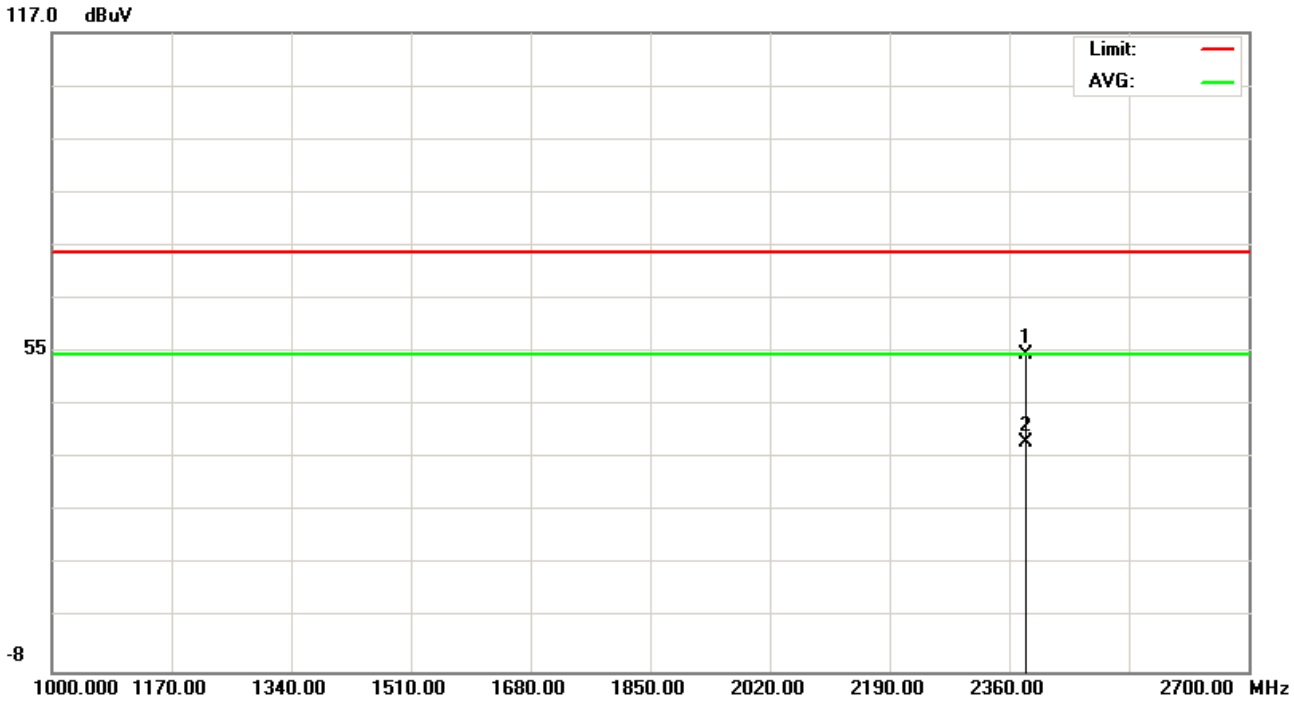
2.7G-10G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | * | 2125.400 | 51.42 | -0.28 | 51.14 | 74.00 | -22.86 | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(2480) Data :#3 Date: 2008/3/10 Time:




Site site#1 Polarization: ***Horizontal*** Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT(X)

Note: 2480MHz

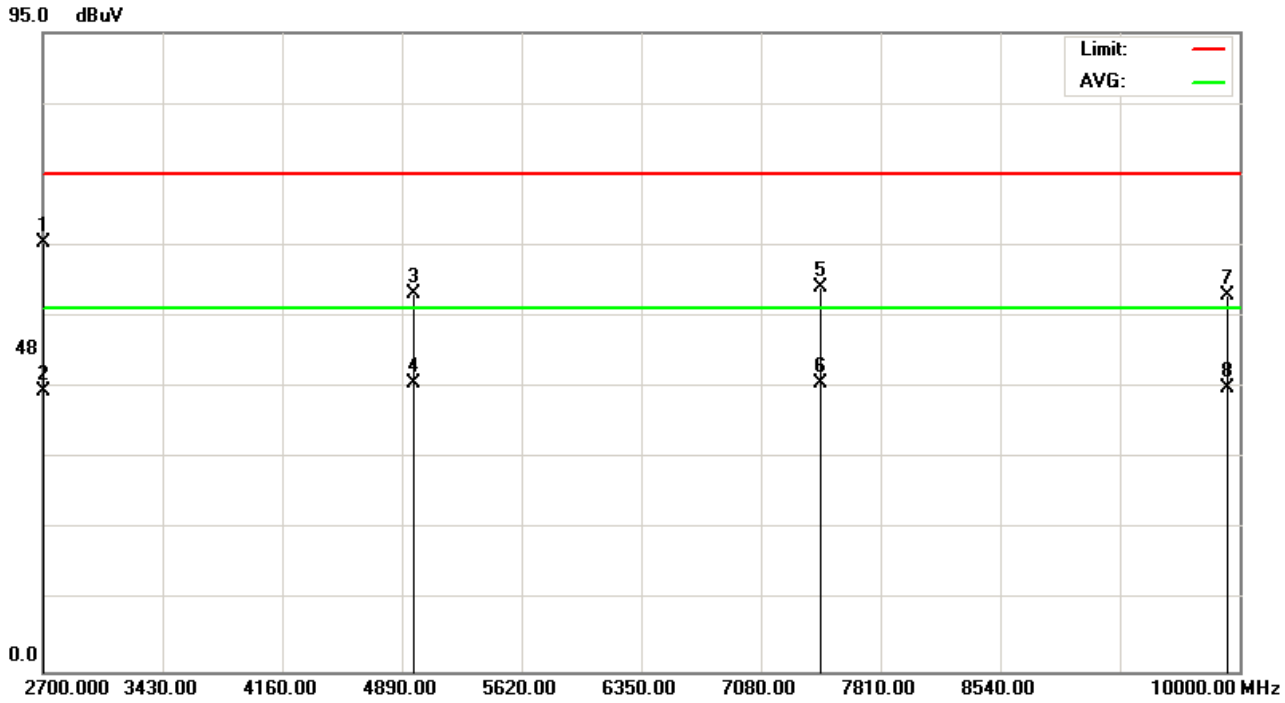
2.7G-10G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 2383.800 | 53.97 | 0.16 | 54.13 | 74.00 | -19.87 | peak | | | |
| 2 | * | 2383.800 | 36.63 | 0.16 | 36.79 | 54.00 | -17.21 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(2480) Data :#5 Date: 2008/3/10 Time:




Site site#1 Polarization: *Vertical* Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT(X)

Note: 2480MHz

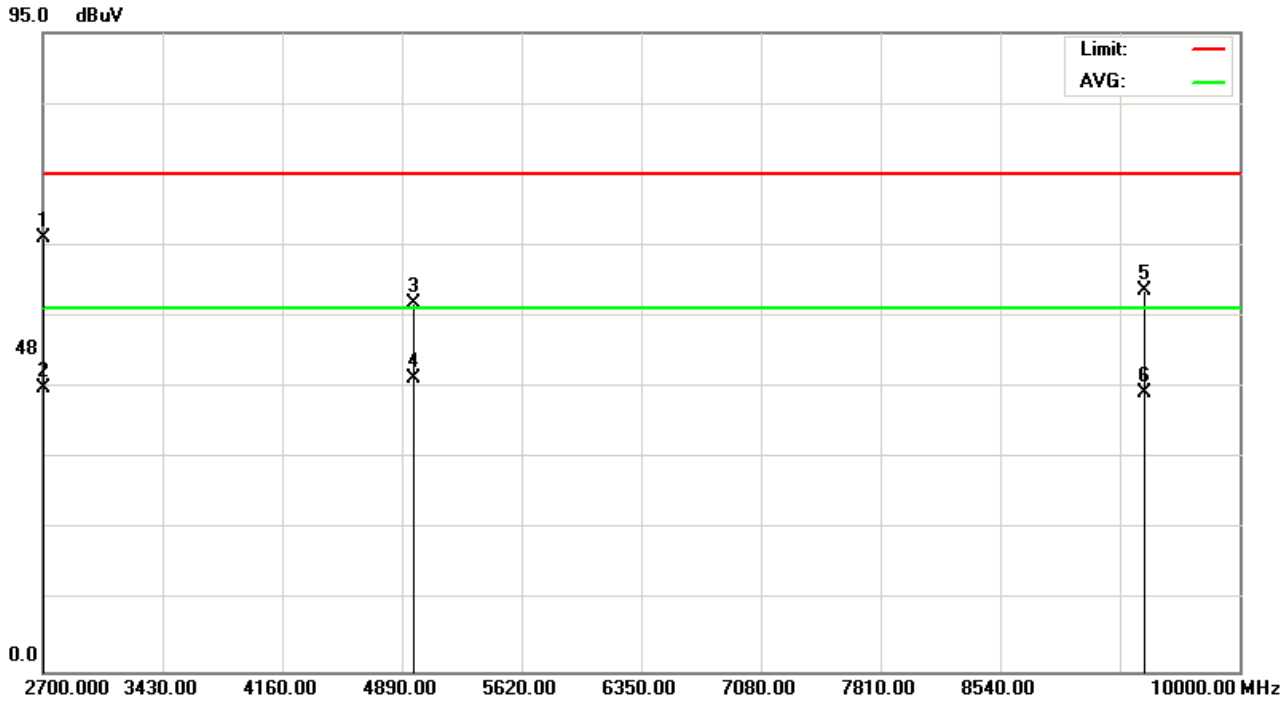
2.7G-10G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | * | 2700.000 | 41.18 | 22.58 | 63.76 | 74.00 | -10.24 | peak | | | |
| 2 | | 2700.000 | 19.13 | 22.58 | 41.71 | 54.00 | -12.29 | AVG | | | |
| 3 | | 4963.000 | 48.43 | 7.82 | 56.25 | 74.00 | -17.75 | peak | | | |
| 4 | | 4963.000 | 35.13 | 7.82 | 42.95 | 54.00 | -11.05 | AVG | | | |
| 5 | | 7445.000 | 43.44 | 13.67 | 57.11 | 74.00 | -16.89 | peak | | | |
| 6 | | 7445.000 | 29.21 | 13.67 | 42.88 | 54.00 | -11.12 | AVG | | | |
| 7 | | 9927.000 | 38.24 | 17.78 | 56.02 | 74.00 | -17.98 | peak | | | |
| 8 | | 9927.000 | 24.26 | 17.78 | 42.04 | 54.00 | -11.96 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(2480) Data :#7 Date: 2008/3/10 Time:




Site site#1 Polarization: ***Horizontal*** Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT(X)

Note: 2480MHz

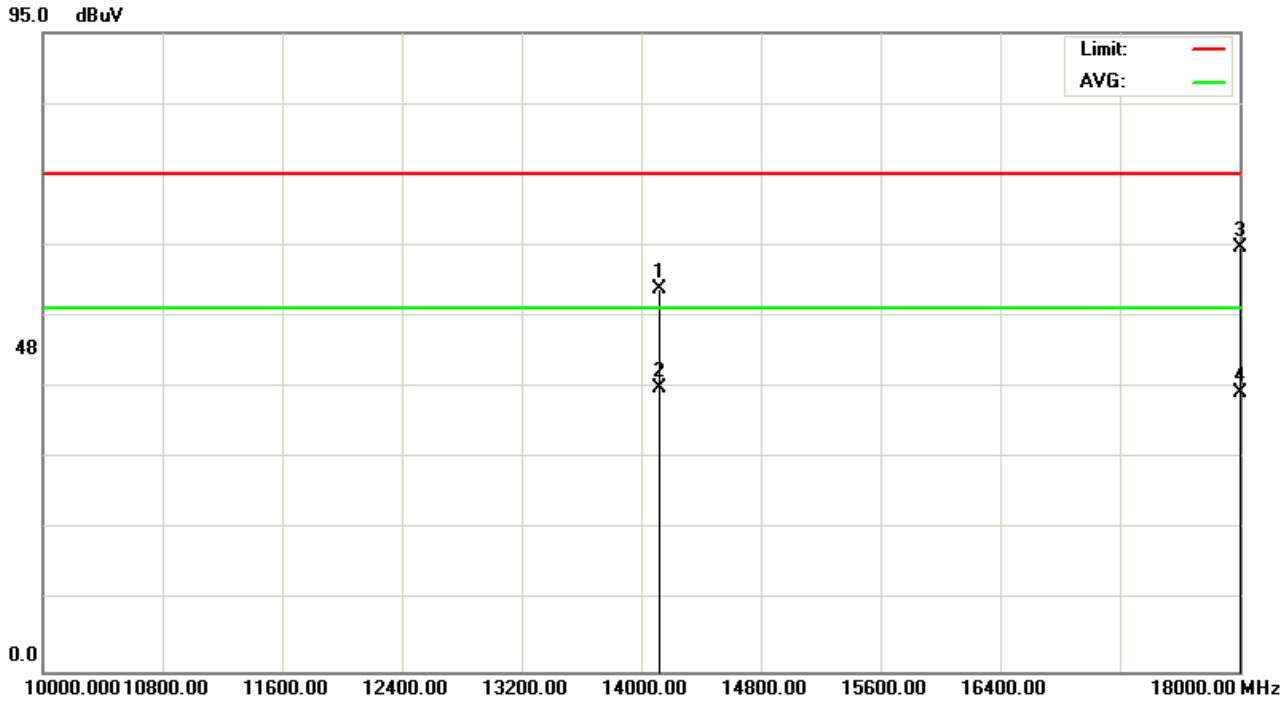
2.7G-10G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | * | 2700.000 | 41.88 | 22.58 | 64.46 | 74.00 | -9.54 | peak | | | |
| 2 | | 2700.000 | 19.51 | 22.58 | 42.09 | 54.00 | -11.91 | AVG | | | |
| 3 | | 4963.000 | 46.84 | 7.82 | 54.66 | 74.00 | -19.34 | peak | | | |
| 4 | | 4963.000 | 35.86 | 7.82 | 43.68 | 54.00 | -10.32 | AVG | | | |
| 5 | | 9416.000 | 39.65 | 17.07 | 56.72 | 74.00 | -17.28 | peak | | | |
| 6 | | 9416.000 | 24.36 | 17.07 | 41.43 | 54.00 | -12.57 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(2480) Data :#9 Date: 2008/3/10 Time:




Site site#1 Polarization: *Vertical* Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 1m

M/N: A335W

Mode: BT(X)

Note: 2480MHz

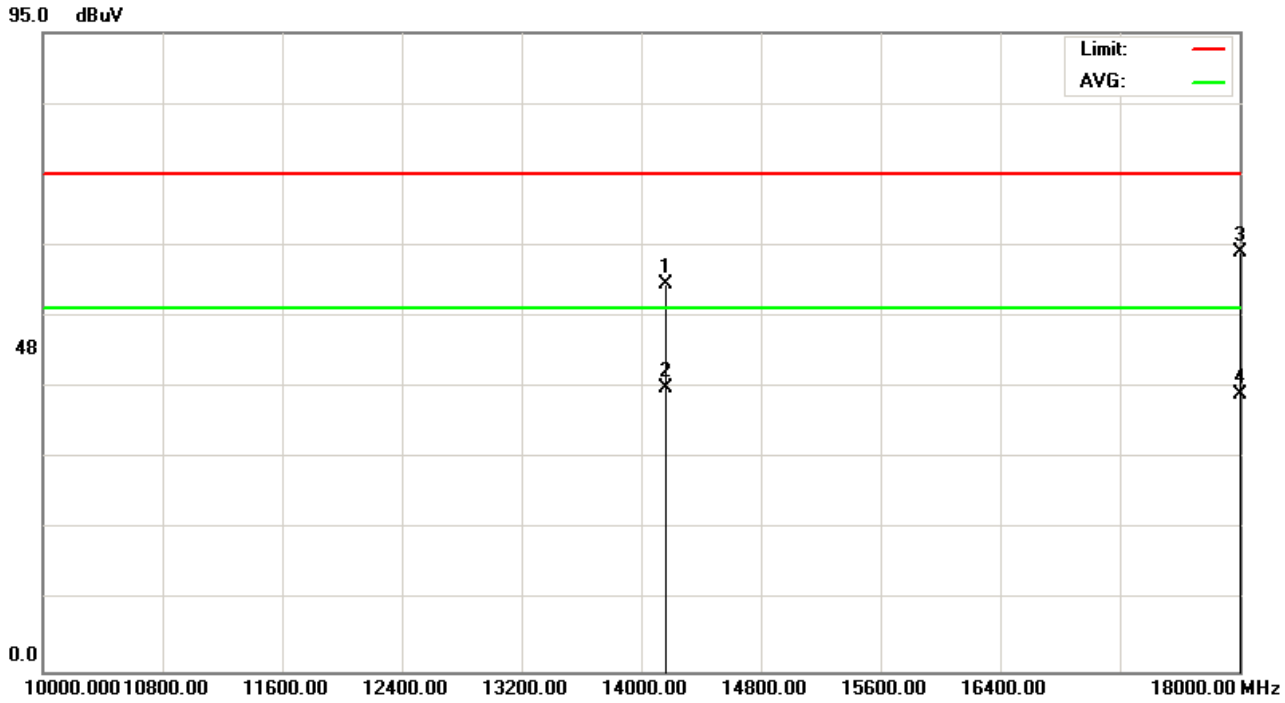
10G - 18G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 14120.00 | 38.01 | 18.87 | 56.88 | 74.00 | -17.12 | peak | | | |
| 2 | | 14120.00 | 23.35 | 18.87 | 42.22 | 54.00 | -11.78 | AVG | | | |
| 3 | * | 18000.00 | 37.47 | 25.57 | 63.04 | 74.00 | -10.96 | peak | | | |
| 4 | | 18000.00 | 15.89 | 25.57 | 41.46 | 54.00 | -12.54 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(2480) Data :#11 Date: 2008/3/10 Time:




Site site#1 Polarization: ***Horizontal*** Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 1m

M/N: A335W

Mode: BT(X)

Note: 2480MHz

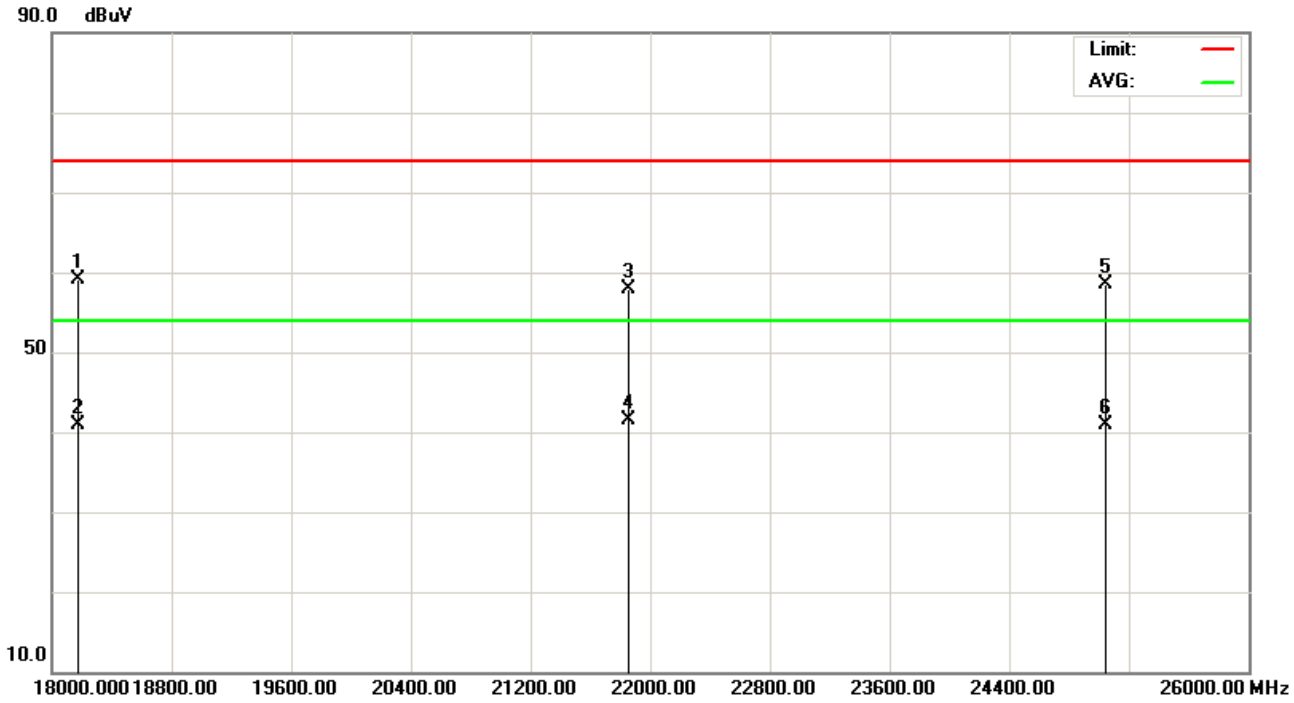
10G - 18G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 14160.00 | 38.73 | 18.83 | 57.56 | 74.00 | -16.44 | peak | | | |
| 2 | | 14160.00 | 23.36 | 18.83 | 42.19 | 54.00 | -11.81 | AVG | | | |
| 3 | * | 18000.00 | 36.87 | 25.57 | 62.44 | 74.00 | -11.56 | peak | | | |
| 4 | | 18000.00 | 15.53 | 25.57 | 41.10 | 54.00 | -12.90 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(2480) Data :#13 Date: 2008/3/10 Time:




Site site#1
Limit: FCC part 15 (PK)
EUT:
M/N: A335W
Mode: BT(X)
Note: 2480MHz

Polarization: *Vertical*
Power:
Distance: 1m

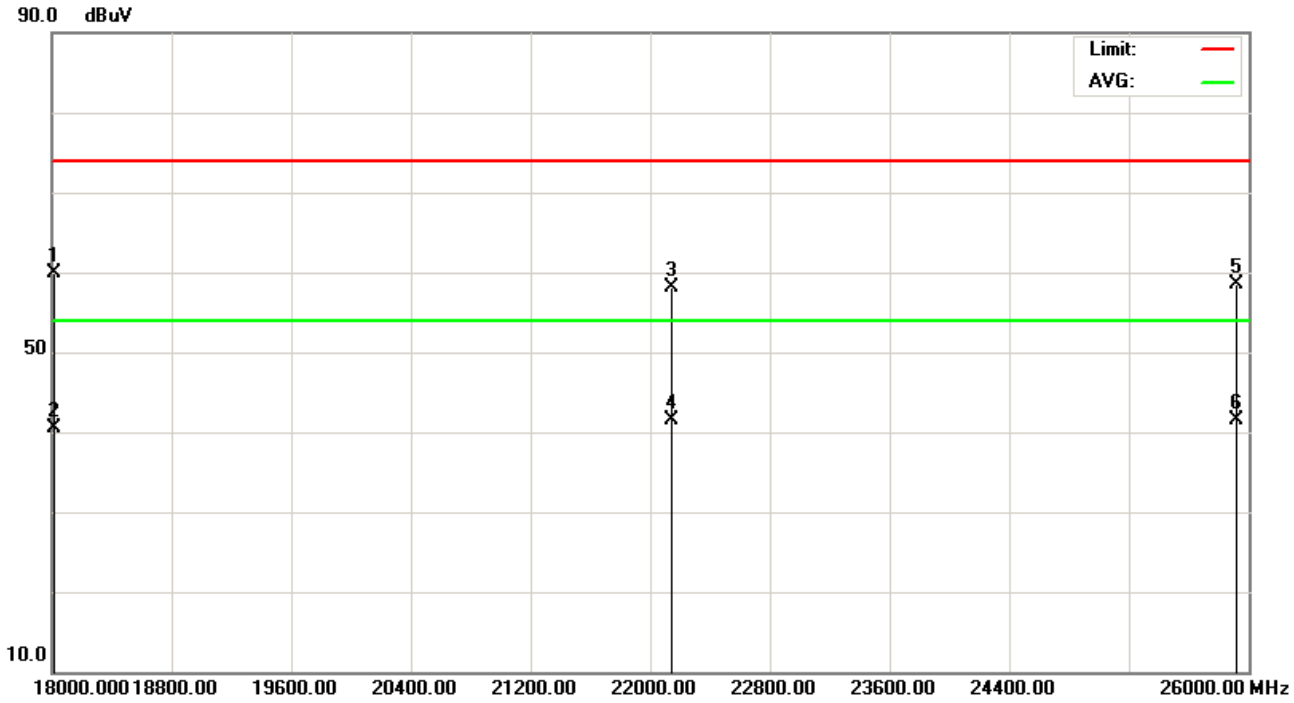
Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 18180.00 | 24.83 | 34.34 | 59.17 | 74.00 | -14.83 | peak | | | |
| 2 | | 18180.00 | 6.65 | 34.34 | 40.99 | 54.00 | -13.01 | AVG | | | |
| 3 | | 21860.00 | 27.03 | 30.94 | 57.97 | 74.00 | -16.03 | peak | | | |
| 4 | * | 21860.00 | 10.62 | 30.94 | 41.56 | 54.00 | -12.44 | AVG | | | |
| 5 | | 25040.00 | 29.79 | 28.77 | 58.56 | 74.00 | -15.44 | peak | | | |
| 6 | | 25040.00 | 12.04 | 28.77 | 40.81 | 54.00 | -13.19 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(2480) Data :#14 Date: 2008/3/10 Time:




Site site#1
Limit: FCC part 15 (PK)
EUT:
M/N: A335W
Mode: BT(X)
Note: 2480MHz

Polarization: ***Horizontal***
Power:
Distance: 1m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 18020.00 | 25.88 | 33.99 | 59.87 | 74.00 | -14.13 | peak | | | |
| 2 | | 18020.00 | 6.51 | 33.99 | 40.50 | 54.00 | -13.50 | AVG | | | |
| 3 | | 22140.00 | 27.32 | 30.76 | 58.08 | 74.00 | -15.92 | peak | | | |
| 4 | | 22140.00 | 10.76 | 30.76 | 41.52 | 54.00 | -12.48 | AVG | | | |
| 5 | | 25920.00 | 30.32 | 28.17 | 58.49 | 74.00 | -15.51 | peak | | | |
| 6 | * | 25920.00 | 13.39 | 28.17 | 41.56 | 54.00 | -12.44 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

### 3.6.4 Open Field Radiated Emissions (Subpart C)

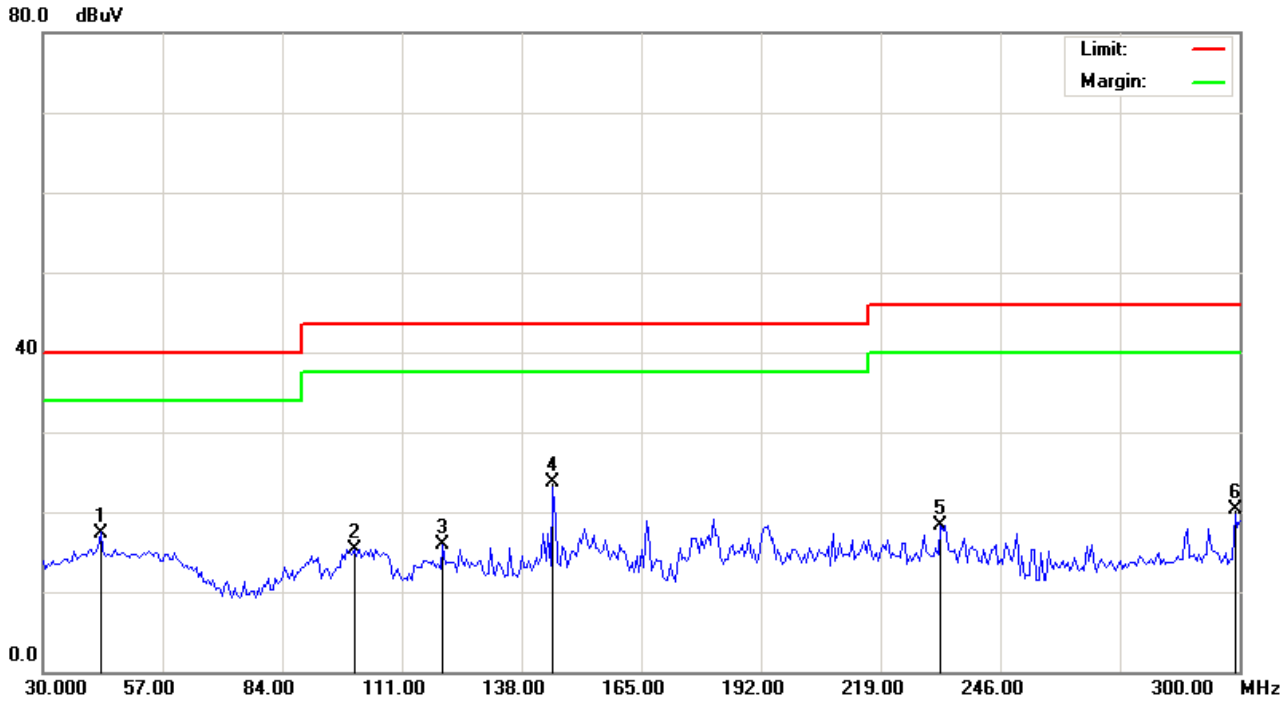
The highest peak values of radiated emissions from the EUT at various antenna heights, antenna polarization, EUT orientation, etc. are recorded on the following.

Applicant : GN NETCOM A/S
Model No : A335W
EUT : Bluetooth class 1 plug and play dongle
Test Mode : Link Mode_Bluetooth EDR CH00 2402.000 (Local Frequency: 2402.000 MHz)
Test Date : 03/10/2008~04/07/2008
Please refer to next pager of detail testing data.
Notes:

1. Margin= Amplitude - Limits
2. Distance of Measurement: 3 Meter (30-1000MHz) & (1-10GHz), 1 Meter (10-26.5GHz)
3. Height of table for EUT placed: 0.8 Meter.
4. ANT= Antenna height.
5. Amplitude= Reading Amplitude – Amplifier gain + Cable loss + Antenna factor
   (Auto calculate in spectrum analyzer)
6. The EUT was worst case on X axis after pretest on X & Y & Z axis setting.
7. The testing data only show below 18GHz's data because measure data above 18GHz was only ambit noise.
8. All frequencies from 30MHz to 26.5GHz have been tested

## Radiated Emission Measurement

File :A335W(1G以下) Data :#1 Date: 2008/04/07 Time:




Site site#1 Polarization: ***Vertical*** Temperature: 22 ℃

Limit: FCC Class B 3M Radiation Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT+EDR

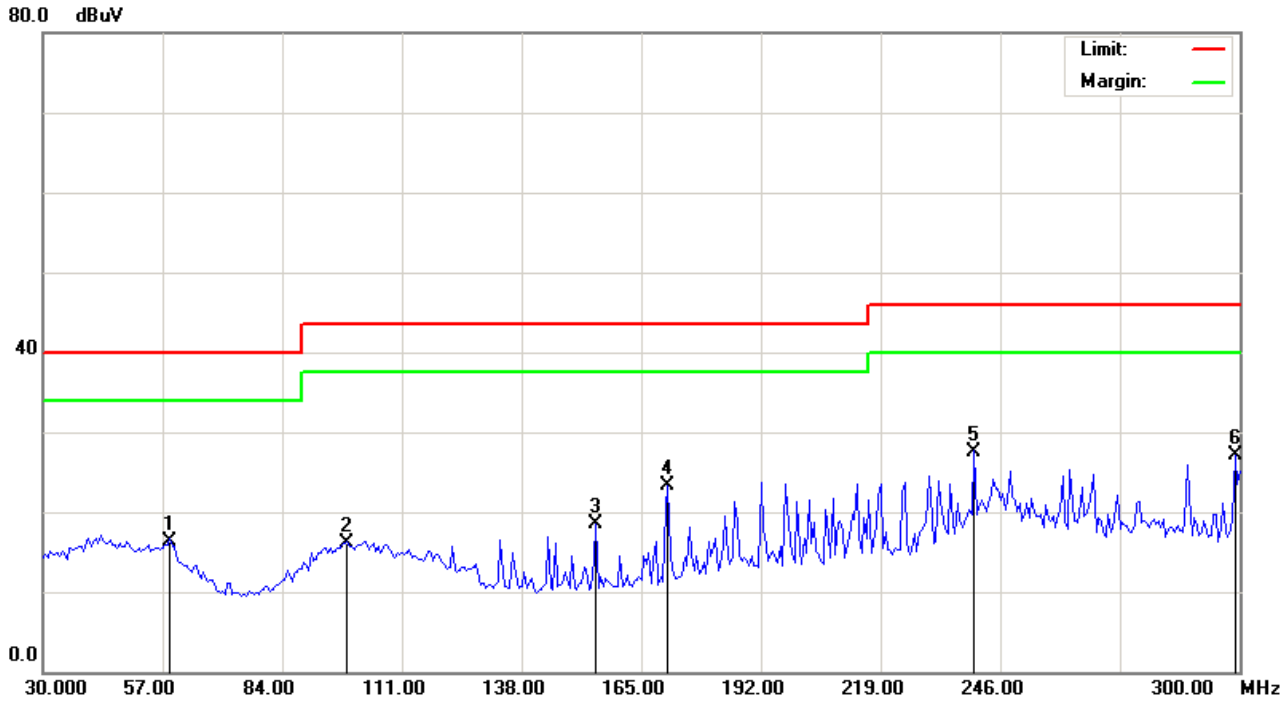
Note: 2402MHz

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 42.9600 | 29.12 | -11.86 | 17.26 | 40.00 | -22.74 | peak | | | |
| 2 | | 100.2000 | 27.11 | -11.77 | 15.34 | 43.50 | -28.16 | peak | | | |
| 3 | | 120.1800 | 30.04 | -14.23 | 15.81 | 43.50 | -27.69 | peak | | | |
| 4 | * | 145.0200 | 39.87 | -16.19 | 23.68 | 43.50 | -19.82 | peak | | | |
| 5 | | 232.5000 | 30.16 | -11.79 | 18.37 | 46.00 | -27.63 | peak | | | |
| 6 | | 298.9200 | 30.28 | -10.03 | 20.25 | 46.00 | -25.75 | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(1G以下) Data :#3 Date: 2008/04/07 Time:




Site site#1 Polarization: ***Horizontal*** Temperature: 22 ℃

Limit: FCC Class B 3M Radiation Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT+EDR

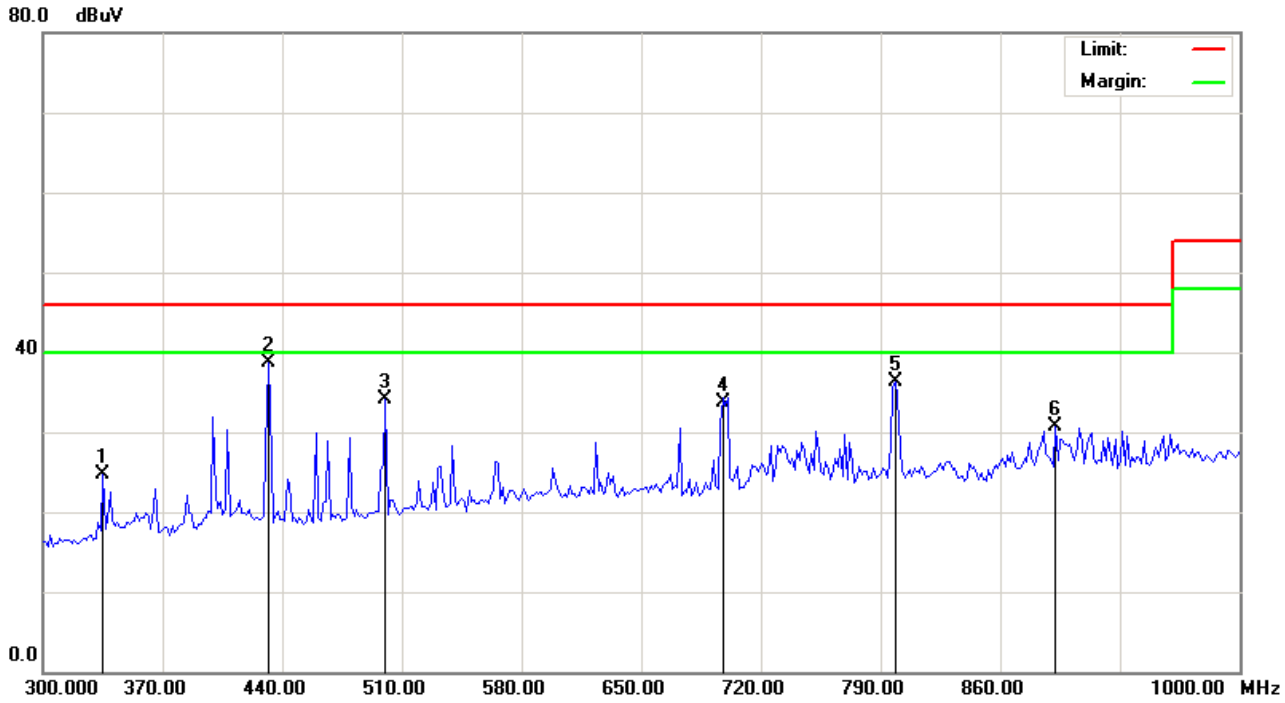
Note: 2402MHz

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 58.6200 | 28.79 | -12.45 | 16.34 | 40.00 | -23.66 | peak | | | |
| 2 | | 98.5800 | 27.93 | -11.84 | 16.09 | 43.50 | -27.41 | peak | | | |
| 3 | | 154.7400 | 34.37 | -15.91 | 18.46 | 43.50 | -25.04 | peak | | | |
| 4 | | 170.9400 | 38.49 | -15.27 | 23.22 | 43.50 | -20.28 | peak | | | |
| 5 | * | 240.0600 | 38.91 | -11.43 | 27.48 | 46.00 | -18.52 | peak | | | |
| 6 | | 298.9200 | 37.13 | -10.03 | 27.10 | 46.00 | -18.90 | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(1G以下) Data :#2 Date: 2008/04/07 Time:




Site site#1 Polarization: ***Vertical*** Temperature: 22 ℃

Limit: FCC Class B 3M Radiation Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT+EDR

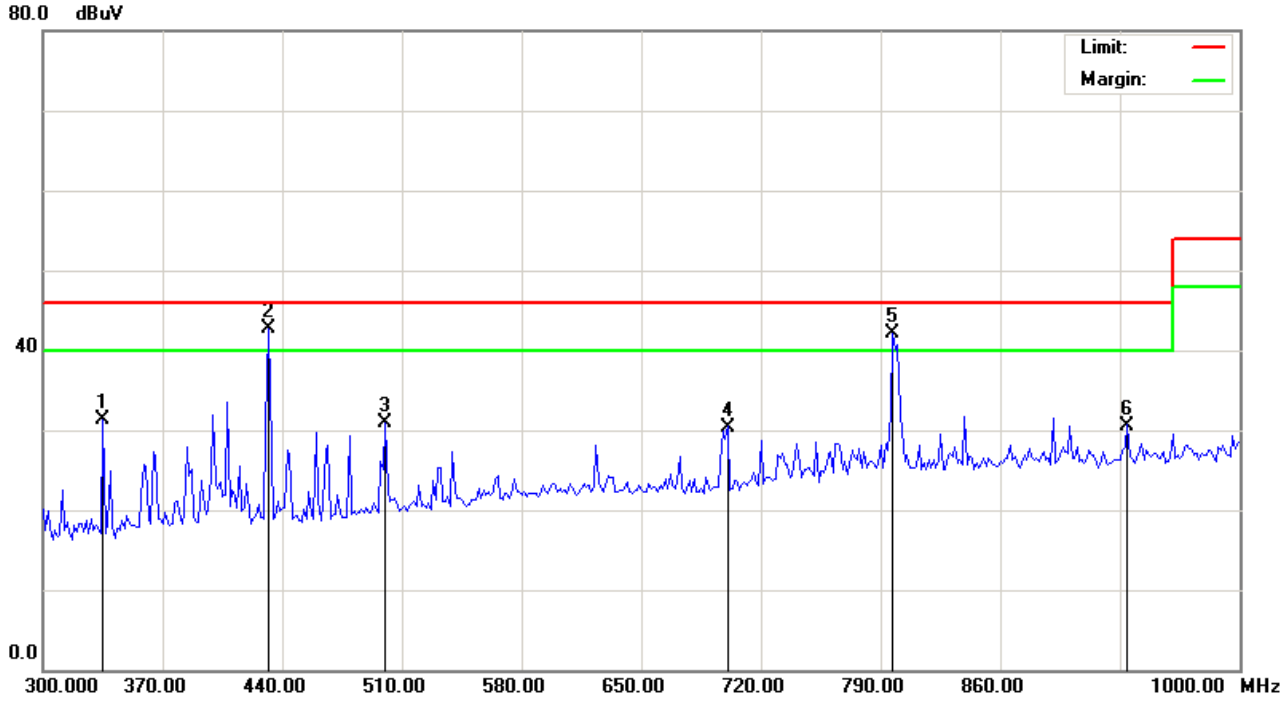
Note: 2402MHz

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 335.0000 | 33.90 | -9.27 | 24.63 | 46.00 | -21.37 | peak | | | |
| 2 | * | 431.6000 | 46.78 | -8.03 | 38.75 | 46.00 | -7.25 | peak | | | |
| 3 | | 500.2000 | 41.26 | -7.17 | 34.09 | 46.00 | -11.91 | peak | | | |
| 4 | | 697.6000 | 37.59 | -3.86 | 33.73 | 46.00 | -12.27 | peak | | | |
| 5 | | 798.4000 | 38.57 | -2.33 | 36.24 | 46.00 | -9.76 | peak | | | |
| 6 | | 892.2000 | 31.43 | -0.70 | 30.73 | 46.00 | -15.27 | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(1G以下) Data :#4 Date: 2008/04/07 Time:




Site site#1 Polarization: ***Horizontal*** Temperature: 22 ℃

Limit: FCC Class B 3M Radiation Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT+EDR

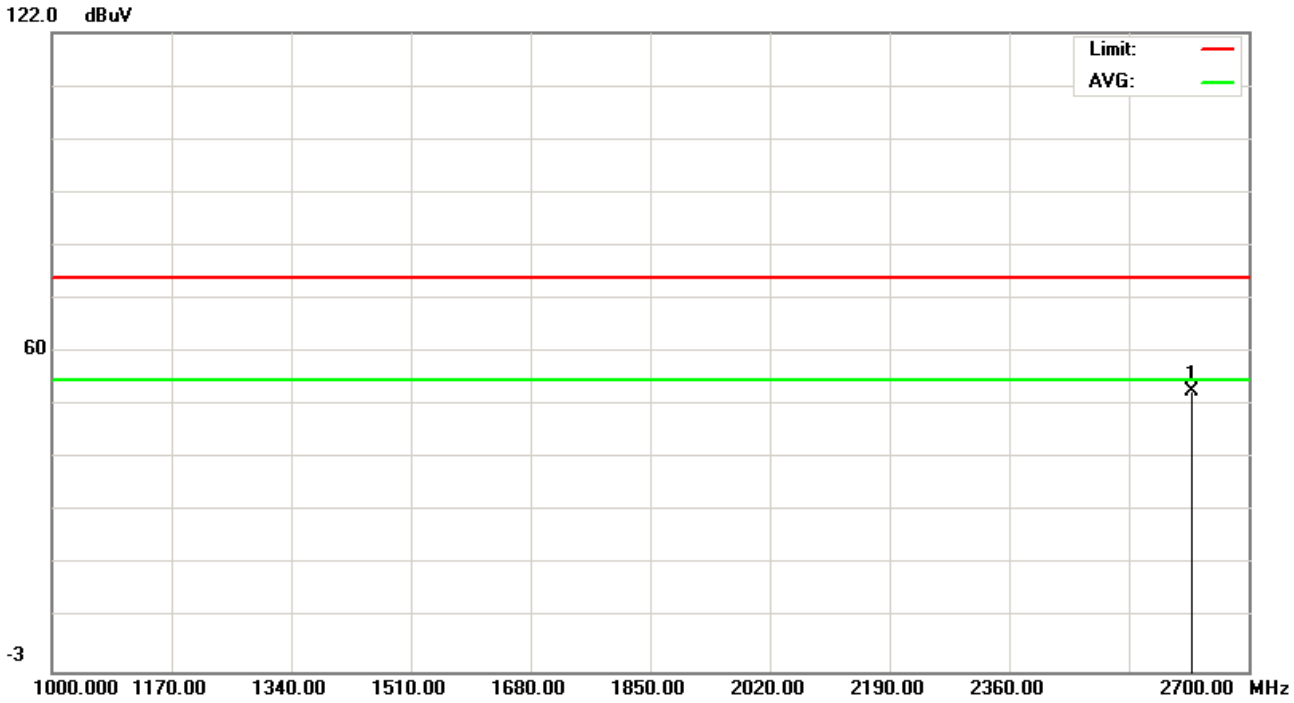
Note: 2402MHz

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 335.0000 | 40.50 | -9.27 | 31.23 | 46.00 | -14.77 | peak | | | |
| 2 | * | 431.6000 | 50.77 | -8.03 | 42.74 | 46.00 | -3.26 | peak | | | |
| 3 | | 500.2000 | 37.99 | -7.17 | 30.82 | 46.00 | -15.18 | peak | | | |
| 4 | | 700.4000 | 34.13 | -3.88 | 30.25 | 46.00 | -15.75 | peak | | | |
| 5 | ! | 797.0000 | 44.40 | -2.34 | 42.06 | 46.00 | -3.94 | peak | | | |
| 6 | | 934.2000 | 30.51 | -0.06 | 30.45 | 46.00 | -15.55 | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335(2402) Data :#1 Date: 2008/3/10 Time:




Site site#1 Polarization: ***Vertical*** Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT+EDR(X)

Note: 2402MHz

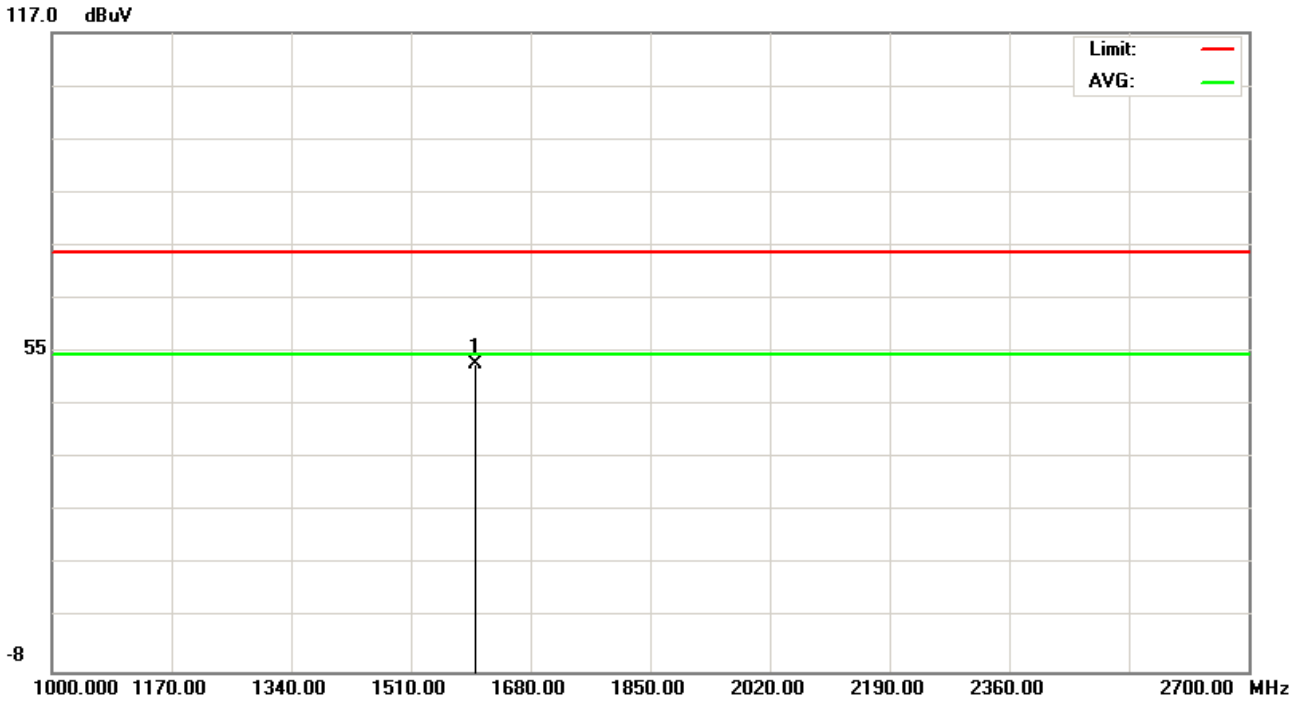
2.7G-10G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | * | 2618.400 | 51.13 | 0.75 | 51.88 | 74.00 | -22.12 | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335(2402) Data :#3 Date: 2008/3/10 Time:




Site site#1 Polarization: ***Horizontal*** Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT+EDR(X)

Note: 2402MHz

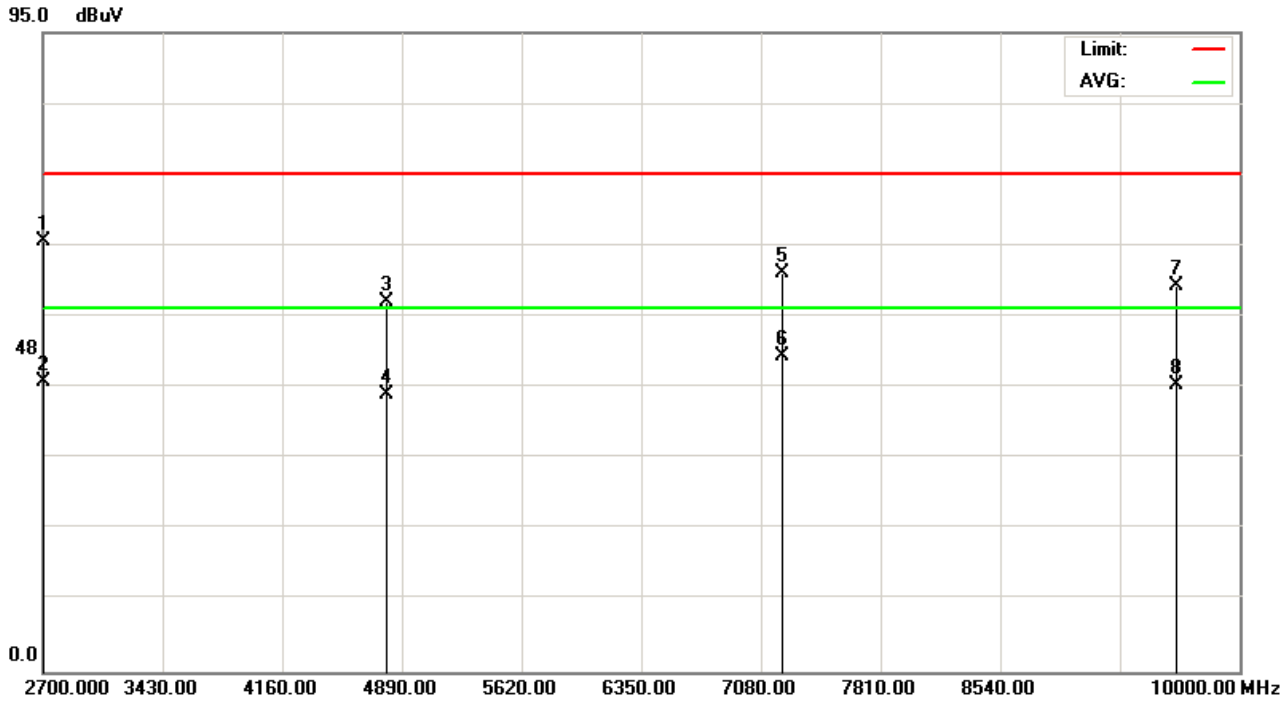
2.7G-10G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | * | 1601.800 | 55.94 | -3.73 | 52.21 | 74.00 | -21.79 | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335(2402) Data :#5 Date: 2008/3/10 Time:




Site site#1 Polarization: *Vertical* Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT+EDR(X)

Note: 2402MHz

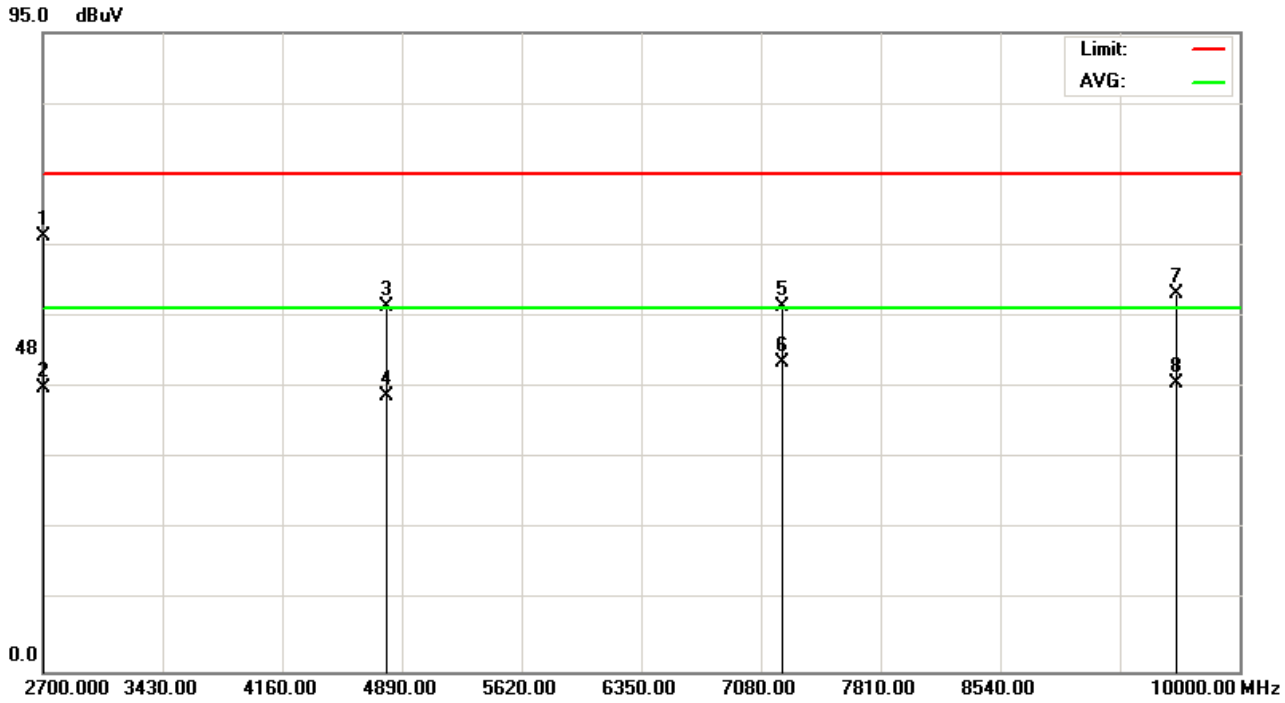
2.7G-10G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 2700.000 | 41.37 | 22.58 | 63.95 | 74.00 | -10.05 | peak | | | |
| 2 | | 2700.000 | 20.59 | 22.58 | 43.17 | 54.00 | -10.83 | AVG | | | |
| 3 | | 4798.750 | 47.74 | 7.29 | 55.03 | 74.00 | -18.97 | peak | | | |
| 4 | | 4798.750 | 33.91 | 7.29 | 41.20 | 54.00 | -12.80 | AVG | | | |
| 5 | | 7207.750 | 45.73 | 13.54 | 59.27 | 74.00 | -14.73 | peak | | | |
| 6 | * | 7207.750 | 33.25 | 13.54 | 46.79 | 54.00 | -7.21 | AVG | | | |
| 7 | | 9616.750 | 40.07 | 17.25 | 57.32 | 74.00 | -16.68 | peak | | | |
| 8 | | 9616.750 | 25.48 | 17.25 | 42.73 | 54.00 | -11.27 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335(2402) Data :#7 Date: 2008/3/10 Time:




Site site#1 Polarization: ***Horizontal*** Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT+EDR(X)

Note: 2402MHz

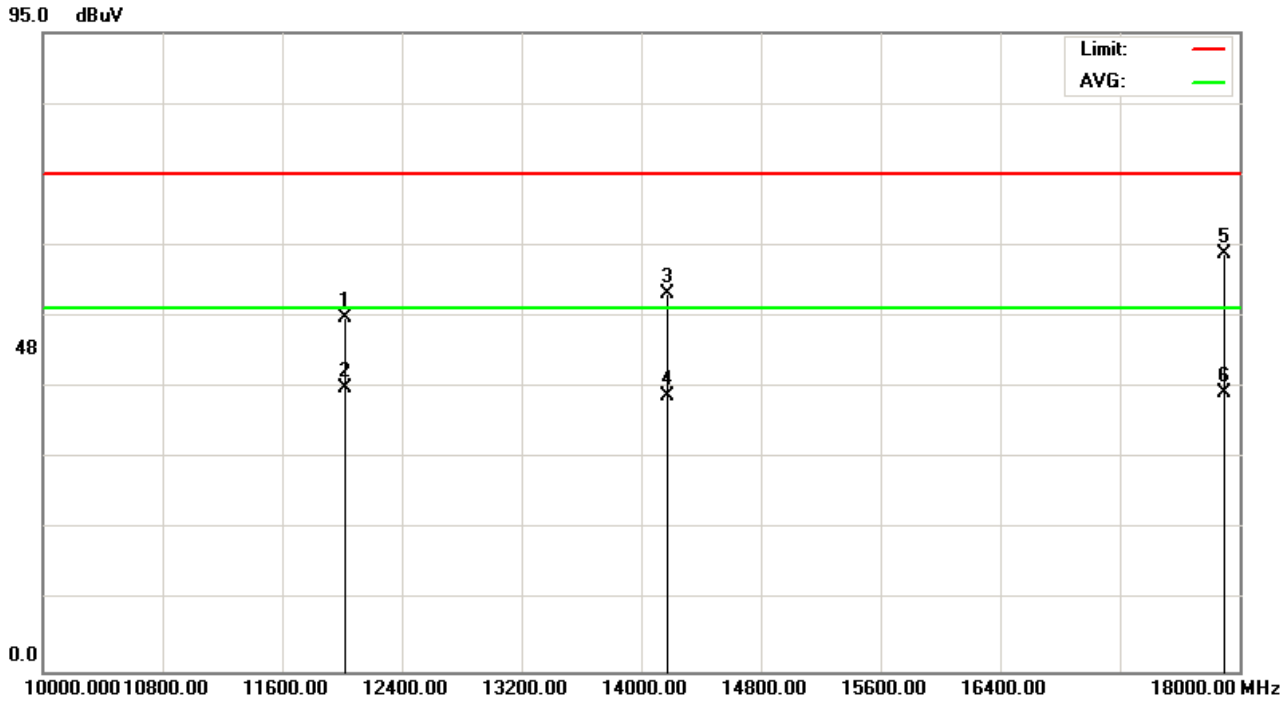
2.7G-10G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 2700.000 | 42.16 | 22.58 | 64.74 | 74.00 | -9.26 | peak | | | |
| 2 | | 2700.000 | 19.63 | 22.58 | 42.21 | 54.00 | -11.79 | AVG | | | |
| 3 | | 4798.750 | 46.93 | 7.29 | 54.22 | 74.00 | -19.78 | peak | | | |
| 4 | | 4798.750 | 33.77 | 7.29 | 41.06 | 54.00 | -12.94 | AVG | | | |
| 5 | | 7207.750 | 40.73 | 13.54 | 54.27 | 74.00 | -19.73 | peak | | | |
| 6 | * | 7207.750 | 32.31 | 13.54 | 45.85 | 54.00 | -8.15 | AVG | | | |
| 7 | | 9616.750 | 39.03 | 17.25 | 56.28 | 74.00 | -17.72 | peak | | | |
| 8 | | 9616.750 | 25.61 | 17.25 | 42.86 | 54.00 | -11.14 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335(2402) Data :#9 Date: 2008/3/10 Time:




Site site#1 Polarization: *Vertical* Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 1m

M/N: A335W

Mode: BT+EDR(X)

Note: 2402MHz

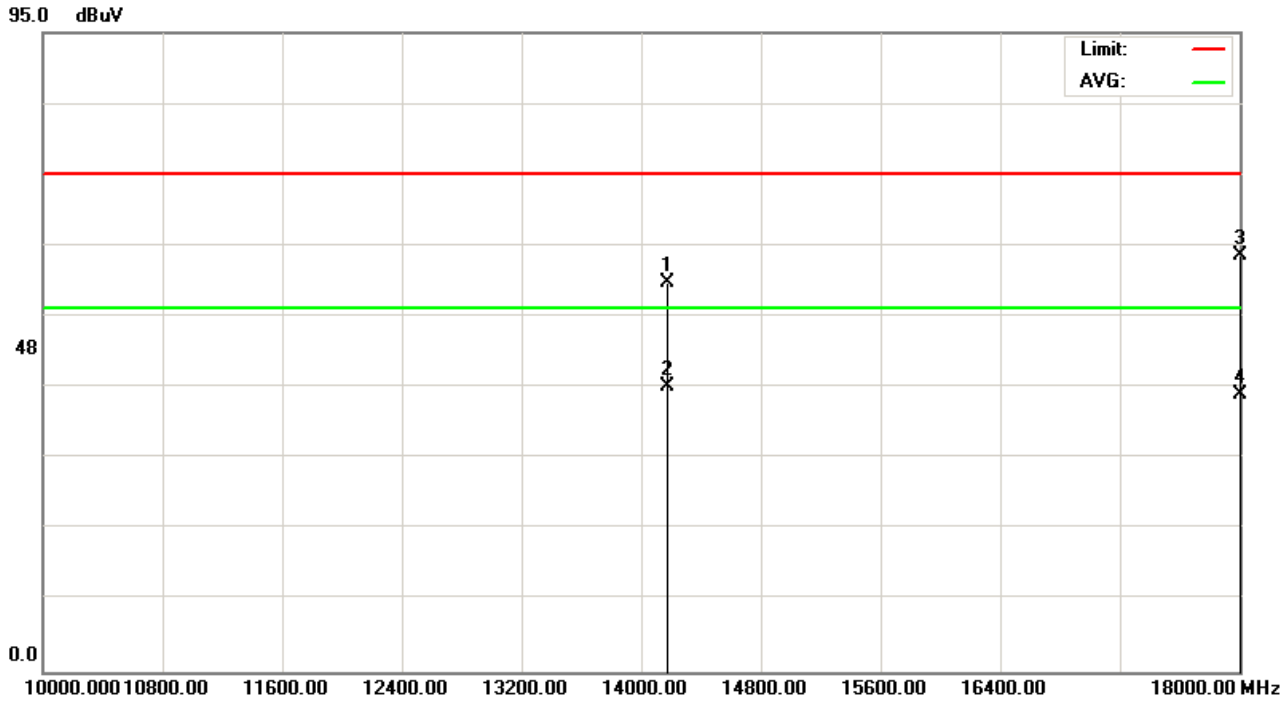
10G - 18G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 12020.00 | 39.71 | 12.83 | 52.54 | 74.00 | -21.46 | peak | | | |
| 2 | * | 12020.00 | 29.44 | 12.83 | 42.27 | 54.00 | -11.73 | AVG | | | |
| 3 | | 14180.00 | 37.34 | 18.85 | 56.19 | 74.00 | -17.81 | peak | | | |
| 4 | | 14180.00 | 22.19 | 18.85 | 41.04 | 54.00 | -12.96 | AVG | | | |
| 5 | | 17900.00 | 37.04 | 24.96 | 62.00 | 74.00 | -12.00 | peak | | | |
| 6 | | 17900.00 | 16.56 | 24.96 | 41.52 | 54.00 | -12.48 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335(2402) Data :#11 Date: 2008/3/10 Time:




Site site#1 Polarization: ***Horizontal*** Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 1m

M/N: A335W

Mode: BT+EDR(X)

Note: 2402MHz

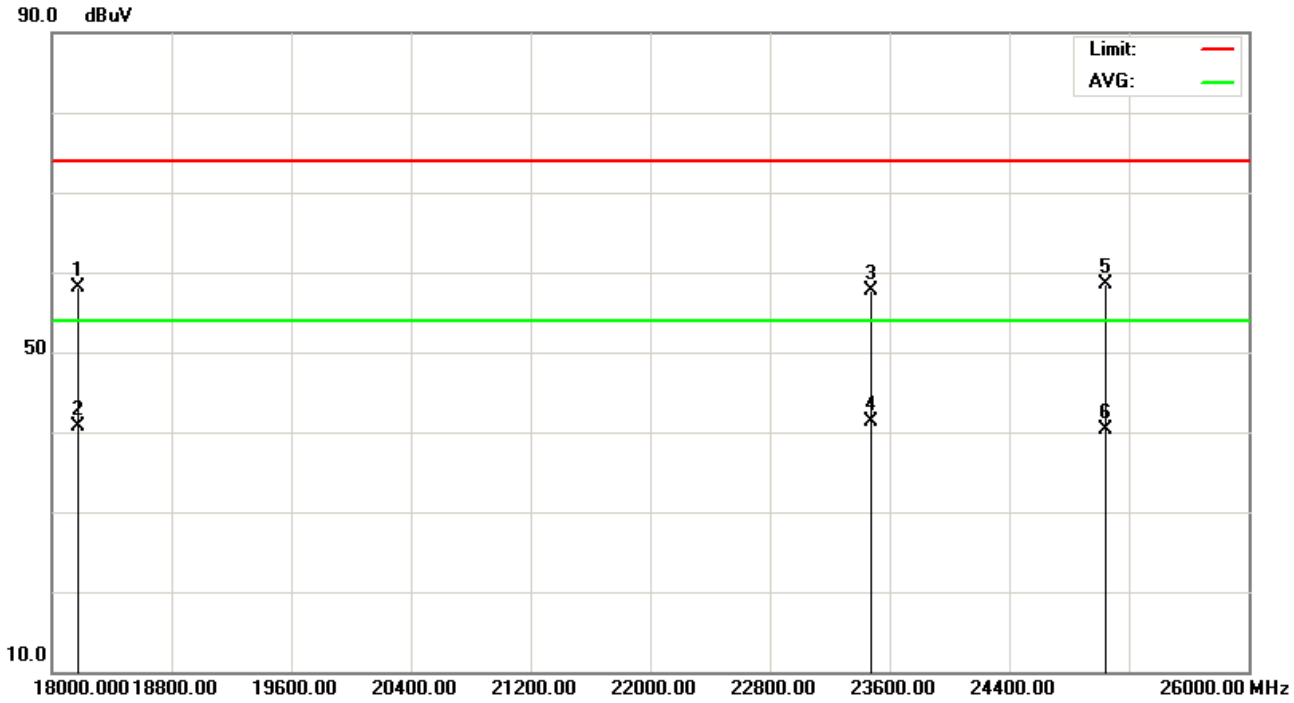
10G - 18G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 14180.00 | 38.91 | 18.85 | 57.76 | 74.00 | -16.24 | peak | | | |
| 2 | * | 14180.00 | 23.56 | 18.85 | 42.41 | 54.00 | -11.59 | AVG | | | |
| 3 | | 18000.00 | 36.32 | 25.57 | 61.89 | 74.00 | -12.11 | peak | | | |
| 4 | | 18000.00 | 15.57 | 25.57 | 41.14 | 54.00 | -12.86 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335(2402) Data :#13 Date: 2008/3/10 Time:




Site site#1 Polarization: *Vertical* Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 1m

M/N: A335W

Mode: BT+EDR(X)

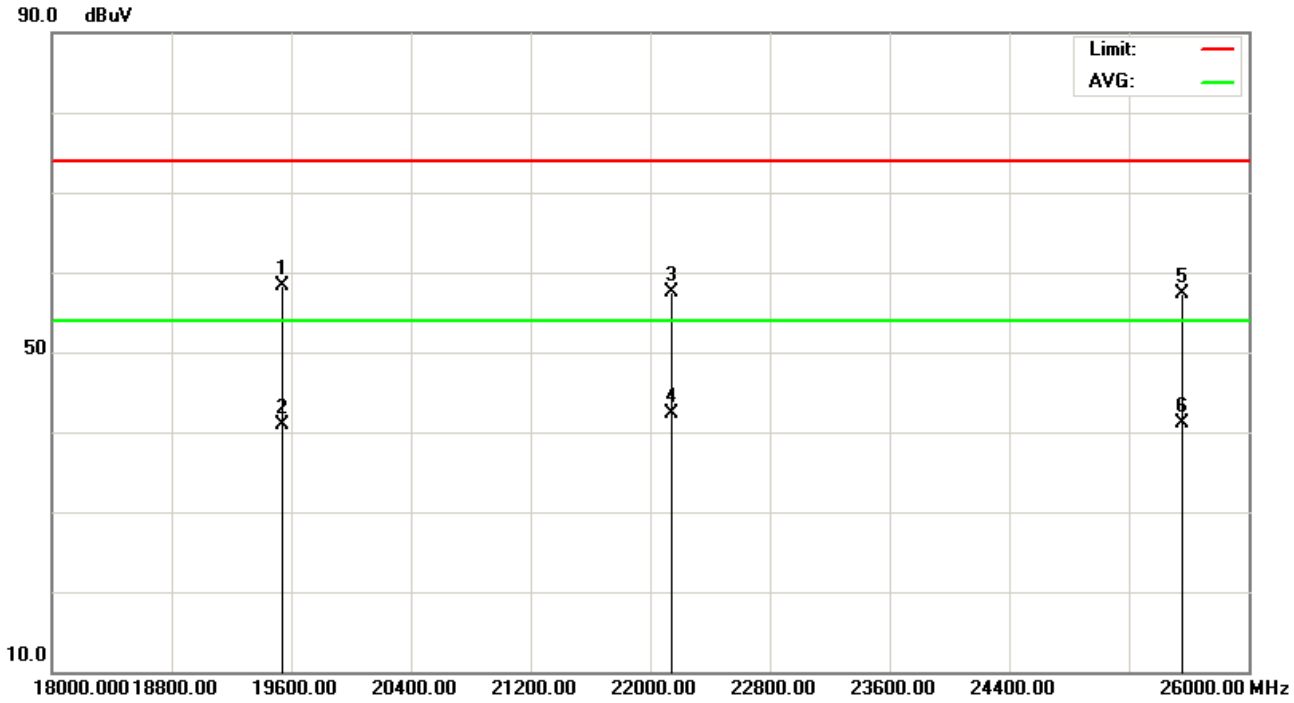
Note: 2402MHz

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 18180.00 | 23.83 | 34.34 | 58.17 | 74.00 | -15.83 | peak | | | |
| 2 | | 18180.00 | 6.31 | 34.34 | 40.65 | 54.00 | -13.35 | AVG | | | |
| 3 | | 23480.00 | 27.85 | 29.83 | 57.68 | 74.00 | -16.32 | peak | | | |
| 4 | * | 23480.00 | 11.42 | 29.83 | 41.25 | 54.00 | -12.75 | AVG | | | |
| 5 | | 25040.00 | 29.79 | 28.77 | 58.56 | 74.00 | -15.44 | peak | | | |
| 6 | | 25040.00 | 11.56 | 28.77 | 40.33 | 54.00 | -13.67 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335(2402) Data :#14 Date: 2008/3/10 Time:




Site site#1
Limit: FCC part 15 (PK)
EUT:
M/N: A335W
Mode: BT+EDR(X)
Note: 2402MHz

Polarization: ***Horizontal***
Power:
Distance: 1m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 19540.00 | 25.71 | 32.53 | 58.24 | 74.00 | -15.76 | peak | | | |
| 2 | | 19540.00 | 8.39 | 32.53 | 40.92 | 54.00 | -13.08 | AVG | | | |
| 3 | | 22140.00 | 26.82 | 30.76 | 57.58 | 74.00 | -16.42 | peak | | | |
| 4 | * | 22140.00 | 11.56 | 30.76 | 42.32 | 54.00 | -11.68 | AVG | | | |
| 5 | | 25560.00 | 28.82 | 28.42 | 57.24 | 74.00 | -16.76 | peak | | | |
| 6 | | 25560.00 | 12.67 | 28.42 | 41.09 | 54.00 | -12.91 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

### 3.6.5 Open Field Radiated Emissions (Subpart C)

The highest peak values of radiated emissions from the EUT at various antenna heights, antenna polarization, EUT orientation, etc. are recorded on the following

Applicant : GN NETCOM A/S
Model No : A335W
EUT : Bluetooth class 1 plug and play dongle
Test Mode : Link Mode_Bluetooth EDR CH39 2441.000 (Local Frequency: 2441.000 MHz)
Test Date : 03/10/2008~04/07/2008

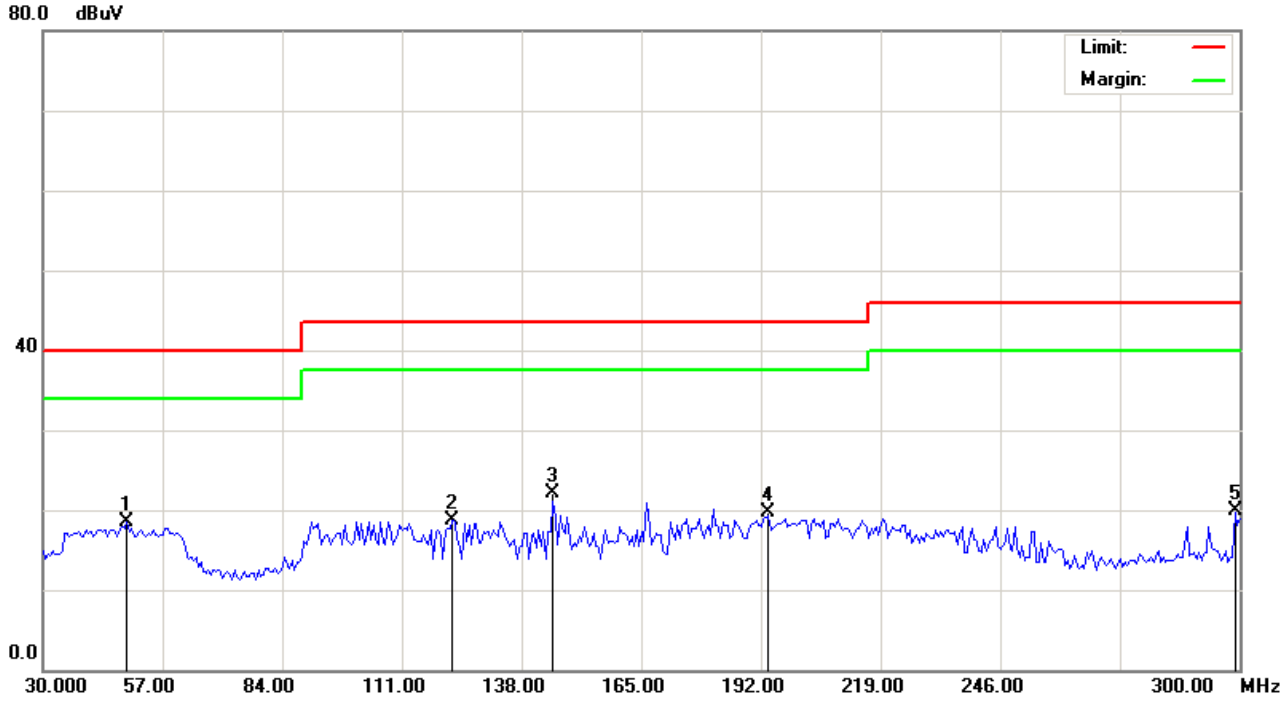
Please refer to next pager of detail testing data.

Notes:

1. Margin= Amplitude - Limits
2. Distance of Measurement: 3 Meter (30-1000MHz) & (1-10GHz), 1 Meter (10-26.5GHz)
3. Height of table for EUT placed: 0.8 Meter.
4. ANT= Antenna height.
5. Amplitude= Reading Amplitude – Amplifier gain + Cable loss + Antenna factor
   (Auto calculate in spectrum analyzer)
6. The EUT was worst case on X axis after pretest on X & Y & Z axis setting.
7. The testing data only show below 18GHz's data because measure data above 18GHz was only ambit noise.
8. All frequencies from 30MHz to 26.5GHz have been tested

## Radiated Emission Measurement

File :A335W(1G以下) Data :#5 Date: 2008/04/07 Time:




Site site#1 Polarization: ***Vertical*** Temperature: 22 ℃

Limit: FCC Class B 3M Radiation Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT+EDR

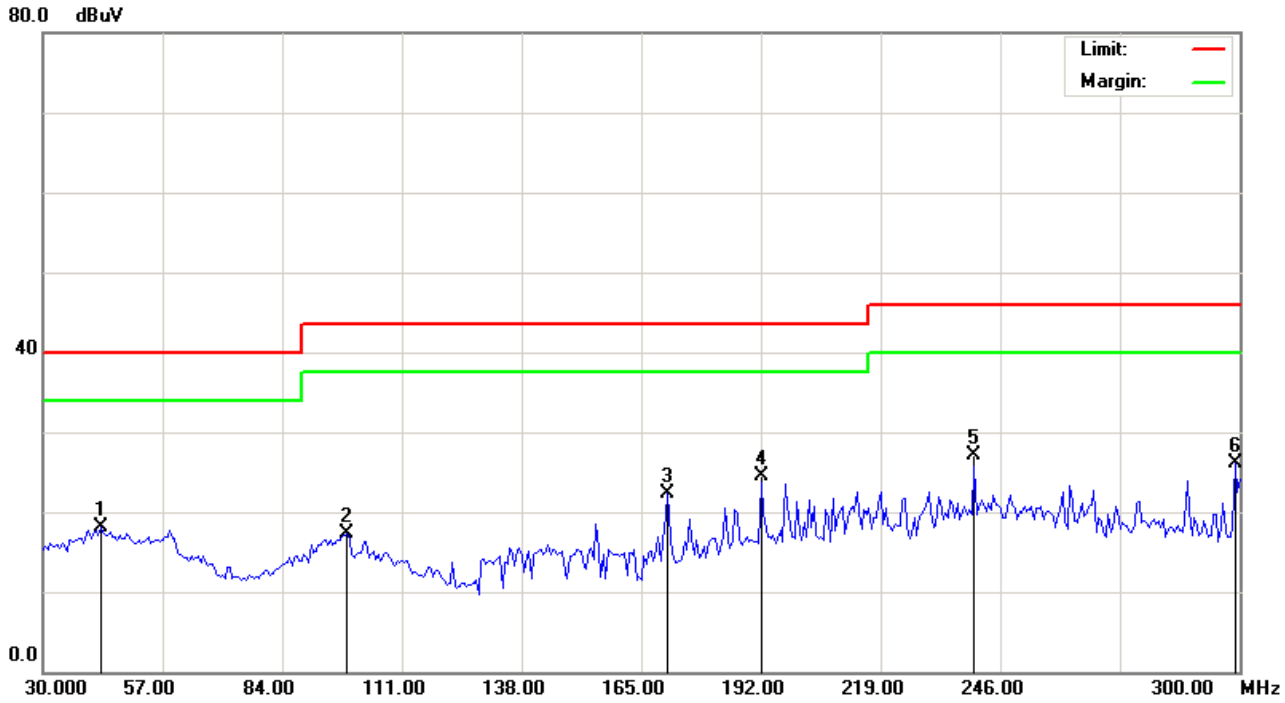
Note: 2441MHz

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 48.9000 | 30.52 | -12.08 | 18.44 | 40.00 | -21.56 | peak | | | |
| 2 | | 122.3400 | 33.34 | -14.59 | 18.75 | 43.50 | -24.75 | peak | | | |
| 3 | * | 145.0200 | 38.29 | -16.19 | 22.10 | 43.50 | -21.40 | peak | | | |
| 4 | | 193.6200 | 32.86 | -13.17 | 19.69 | 43.50 | -23.81 | peak | | | |
| 5 | | 298.9200 | 29.95 | -10.03 | 19.92 | 46.00 | -26.08 | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(1G以下) Data :#7 Date: 2008/04/07 Time:




Site site#1 Polarization: ***Horizontal*** Temperature: 22 ℃

Limit: FCC Class B 3M Radiation Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT+EDR

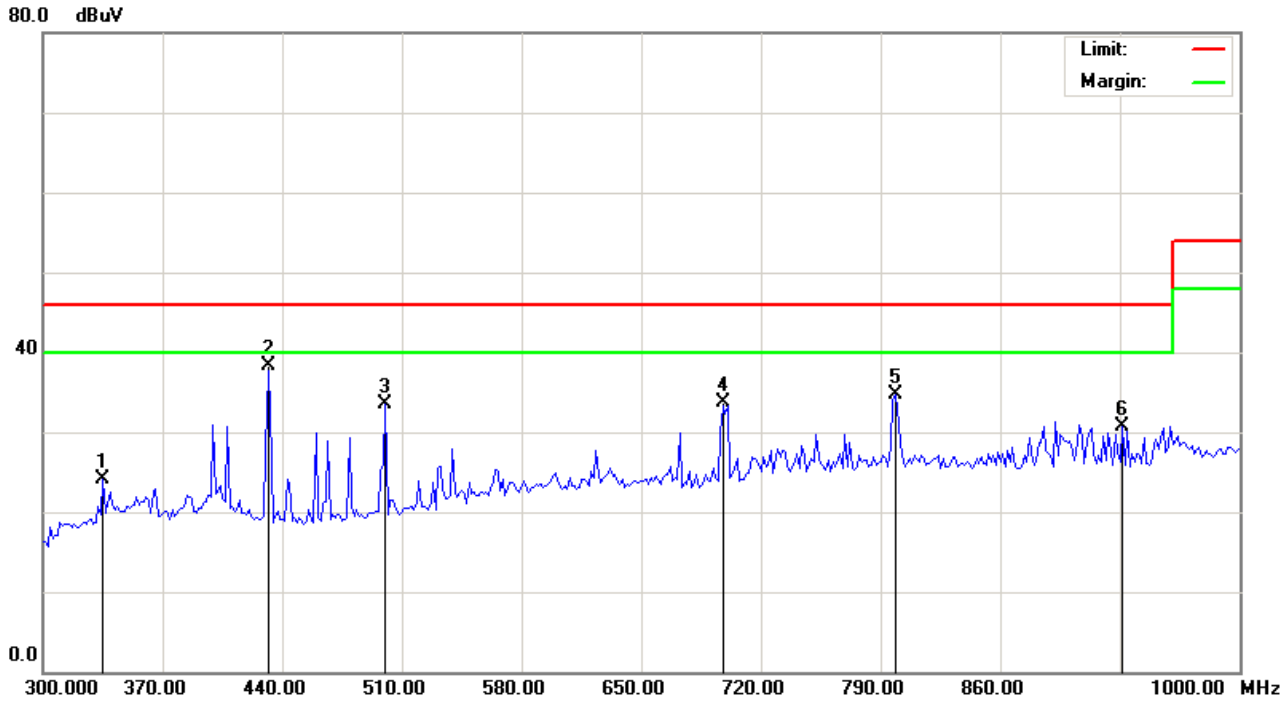
Note: 2441MHz

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 42.9600 | 30.00 | -11.86 | 18.14 | 40.00 | -21.86 | peak | | | |
| 2 | | 98.5800 | 29.12 | -11.84 | 17.28 | 43.50 | -26.22 | peak | | | |
| 3 | | 170.9400 | 37.49 | -15.27 | 22.22 | 43.50 | -21.28 | peak | | | |
| 4 | | 192.0000 | 37.67 | -13.26 | 24.41 | 43.50 | -19.09 | peak | | | |
| 5 | * | 240.0600 | 38.56 | -11.43 | 27.13 | 46.00 | -18.87 | peak | | | |
| 6 | | 298.9200 | 36.13 | -10.03 | 26.10 | 46.00 | -19.90 | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(1G以下) Data :#6 Date: 2008/04/07 Time:




Site site#1 Polarization: *Vertical* Temperature: 22 ℃

Limit: FCC Class B 3M Radiation Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT+EDR

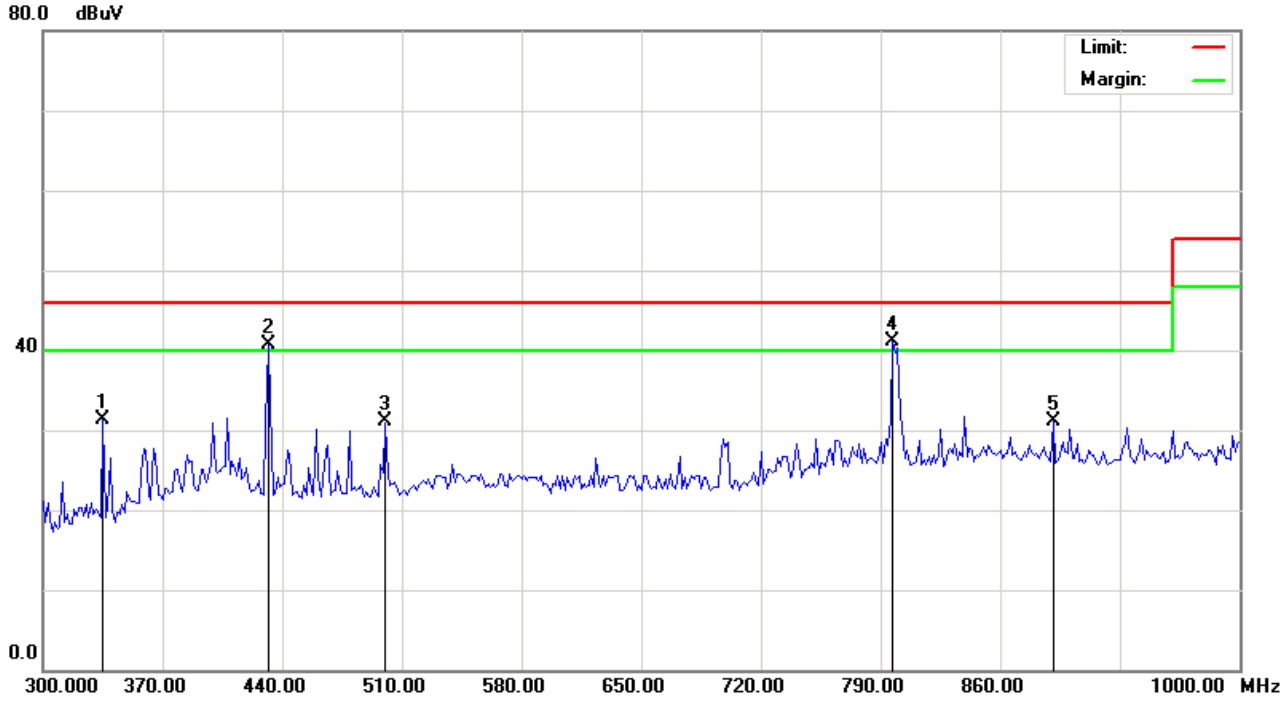
Note: 2441MHz

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 335.0000 | 33.40 | -9.27 | 24.13 | 46.00 | -21.87 | peak | | | |
| 2 | * | 431.6000 | 46.27 | -8.03 | 38.24 | 46.00 | -7.76 | peak | | | |
| 3 | | 500.2000 | 40.76 | -7.17 | 33.59 | 46.00 | -12.41 | peak | | | |
| 4 | | 697.6000 | 37.58 | -3.86 | 33.72 | 46.00 | -12.28 | peak | | | |
| 5 | | 798.4000 | 37.07 | -2.33 | 34.74 | 46.00 | -11.26 | peak | | | |
| 6 | | 931.4000 | 30.94 | -0.28 | 30.66 | 46.00 | -15.34 | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(1G以下) Data :#8 Date: 2008/04/07 Time:




Site site#1 Polarization: ***Horizontal*** Temperature: 22 ℃

Limit: FCC Class B 3M Radiation Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT+EDR

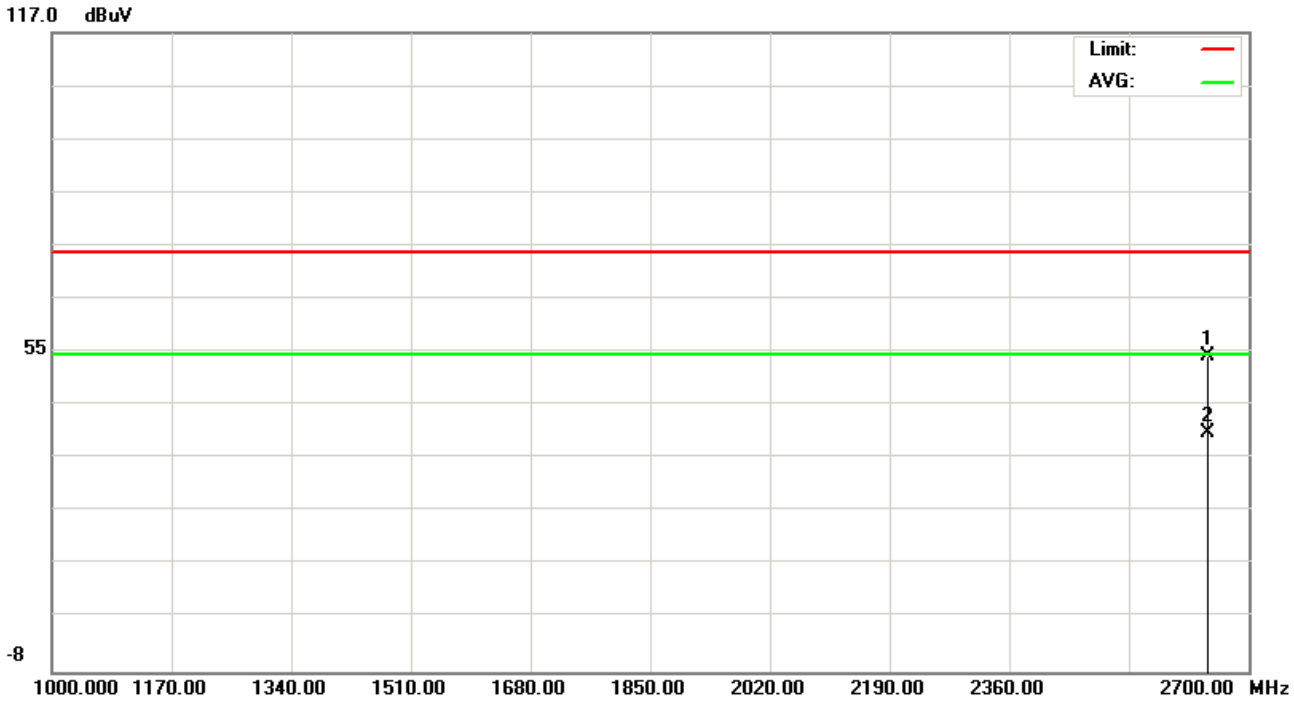
Note: 2441MHz

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 335.0000 | 40.50 | -9.27 | 31.23 | 46.00 | -14.77 | peak | | | |
| 2 | ! | 431.6000 | 48.77 | -8.03 | 40.74 | 46.00 | -5.26 | peak | | | |
| 3 | | 500.2000 | 38.34 | -7.17 | 31.17 | 46.00 | -14.83 | peak | | | |
| 4 | * | 797.0000 | 43.40 | -2.34 | 41.06 | 46.00 | -4.94 | peak | | | |
| 5 | | 890.8000 | 31.87 | -0.78 | 31.09 | 46.00 | -14.91 | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335(2441) Data :#1 Date: 2008/3/10 Time:




Site site#1 Polarization: ***Vertical*** Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT+EDR(X)

Note: 2441MHz

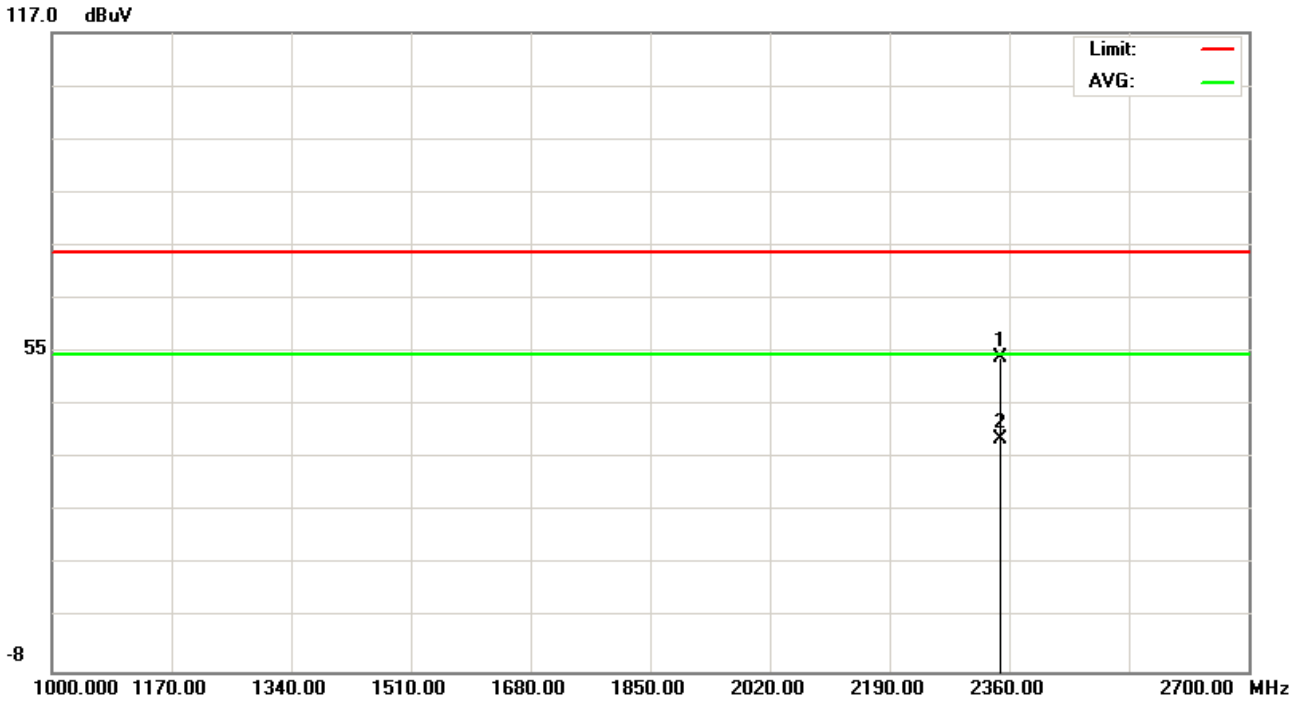
2.7G-10G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 2642.200 | 52.72 | 0.97 | 53.69 | 74.00 | -20.31 | peak | | | |
| 2 | * | 2642.200 | 37.65 | 0.97 | 38.62 | 54.00 | -15.38 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335(2441) Data :#3 Date: 2008/3/10 Time:




Site site#1 Polarization: ***Horizontal*** Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT+EDR(X)

Note: 2441MHz

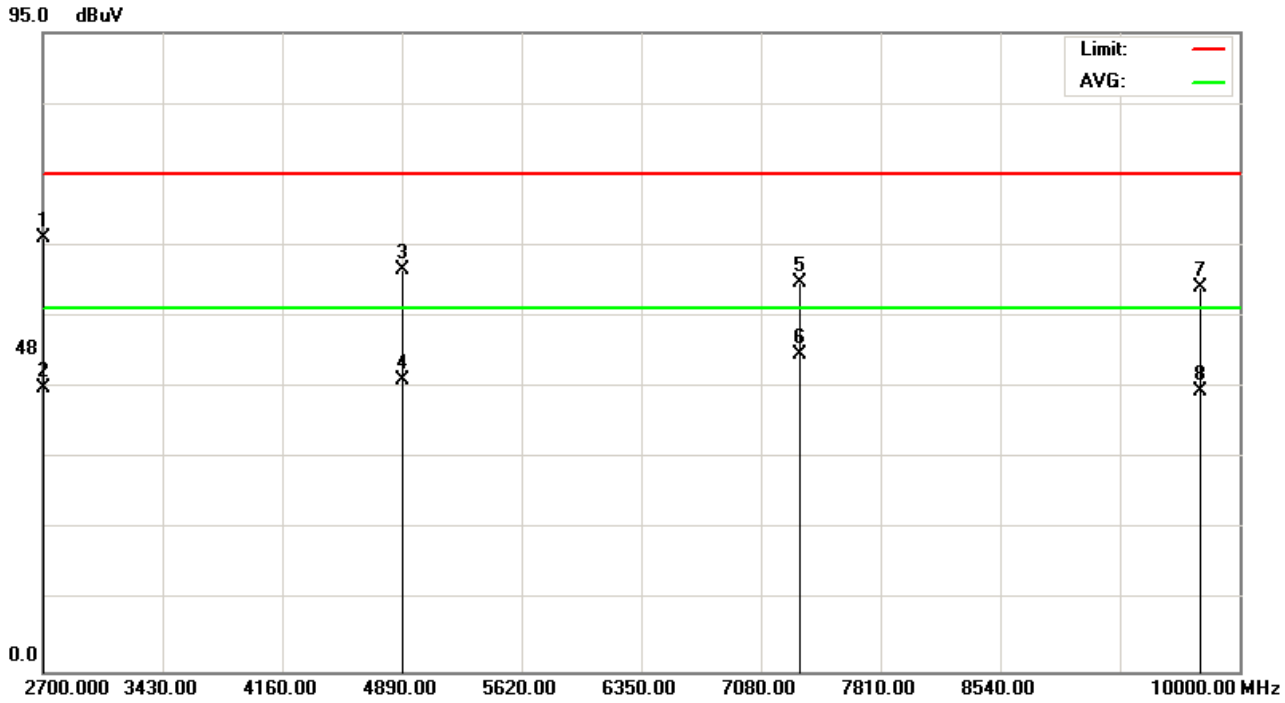
2.7G-10G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 2346.400 | 53.18 | 0.18 | 53.36 | 74.00 | -20.64 | peak | | | |
| 2 | * | 2346.400 | 37.33 | 0.18 | 37.51 | 54.00 | -16.49 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335(2441) Data :#5 Date: 2008/3/10 Time:




Site site#1 Polarization: *Vertical* Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT+EDR(X)

Note: 2441MHz

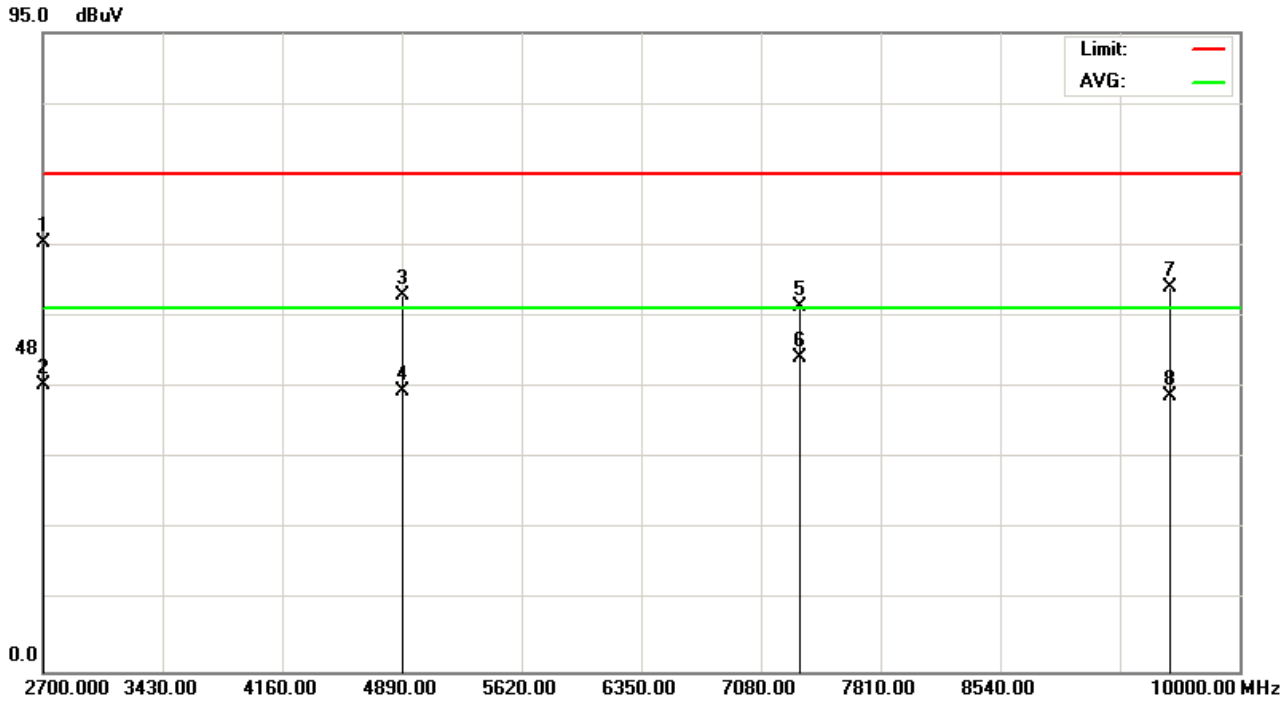
2.7G-10G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 2700.000 | 41.92 | 22.58 | 64.50 | 74.00 | -9.50 | peak | | | |
| 2 | | 2700.000 | 19.69 | 22.58 | 42.27 | 54.00 | -11.73 | AVG | | | |
| 3 | | 4890.000 | 52.08 | 7.73 | 59.81 | 74.00 | -14.19 | peak | | | |
| 4 | | 4890.000 | 35.68 | 7.73 | 43.41 | 54.00 | -10.59 | AVG | | | |
| 5 | | 7317.250 | 44.34 | 13.45 | 57.79 | 74.00 | -16.21 | peak | | | |
| 6 | * | 7317.250 | 33.70 | 13.45 | 47.15 | 54.00 | -6.85 | AVG | | | |
| 7 | | 9762.750 | 39.46 | 17.70 | 57.16 | 74.00 | -16.84 | peak | | | |
| 8 | | 9762.750 | 24.10 | 17.70 | 41.80 | 54.00 | -12.20 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335(2441) Data :#7 Date: 2008/3/10 Time:




Site site#1 Polarization: ***Horizontal*** Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT+EDR(X)

Note: 2441MHz

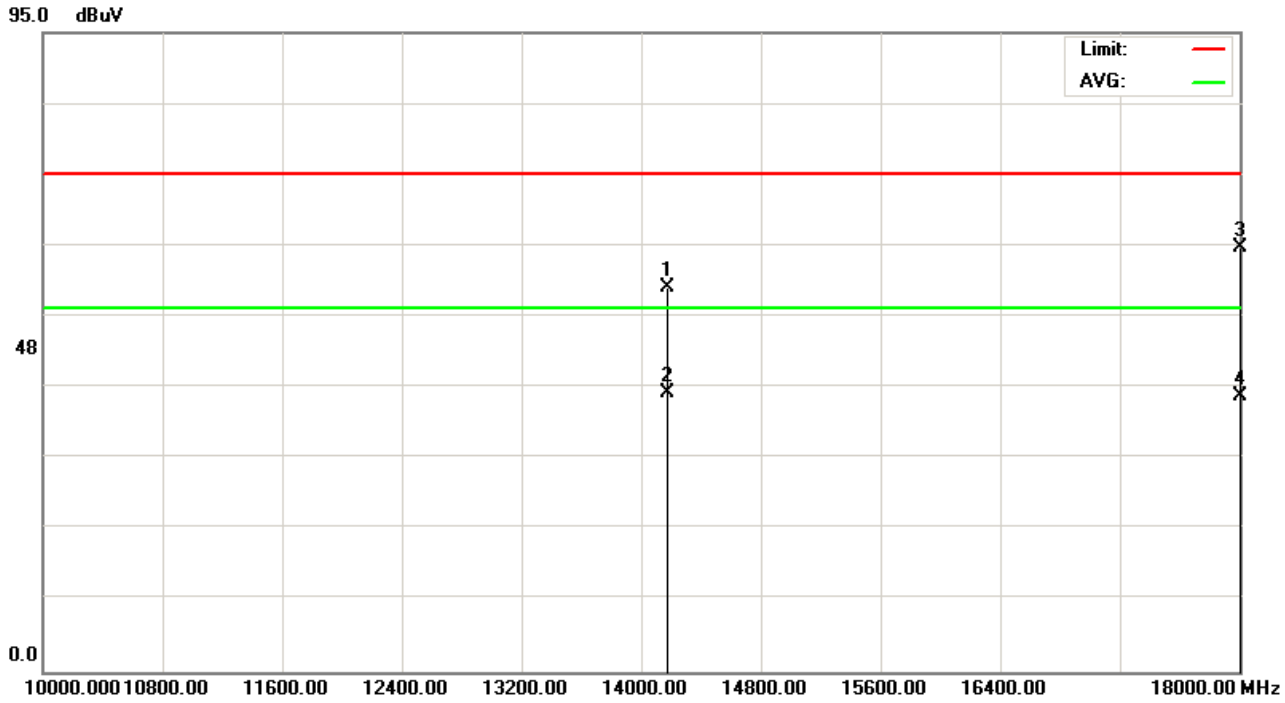
2.7G-10G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 2700.000 | 41.09 | 22.58 | 63.67 | 74.00 | -10.33 | peak | | | |
| 2 | | 2700.000 | 20.01 | 22.58 | 42.59 | 54.00 | -11.41 | AVG | | | |
| 3 | | 4890.000 | 48.16 | 7.73 | 55.89 | 74.00 | -18.11 | peak | | | |
| 4 | | 4890.000 | 34.07 | 7.73 | 41.80 | 54.00 | -12.20 | AVG | | | |
| 5 | | 7317.250 | 40.88 | 13.45 | 54.33 | 74.00 | -19.67 | peak | | | |
| 6 | * | 7317.250 | 33.13 | 13.45 | 46.58 | 54.00 | -7.42 | AVG | | | |
| 7 | | 9580.250 | 39.85 | 17.31 | 57.16 | 74.00 | -16.84 | peak | | | |
| 8 | | 9580.250 | 23.59 | 17.31 | 40.90 | 54.00 | -13.10 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335(2441) Data :#9 Date: 2008/3/10 Time:




Site site#1 Polarization: *Vertical* Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 1m

M/N: A335W

Mode: BT+EDR(X)

Note: 2441MHz

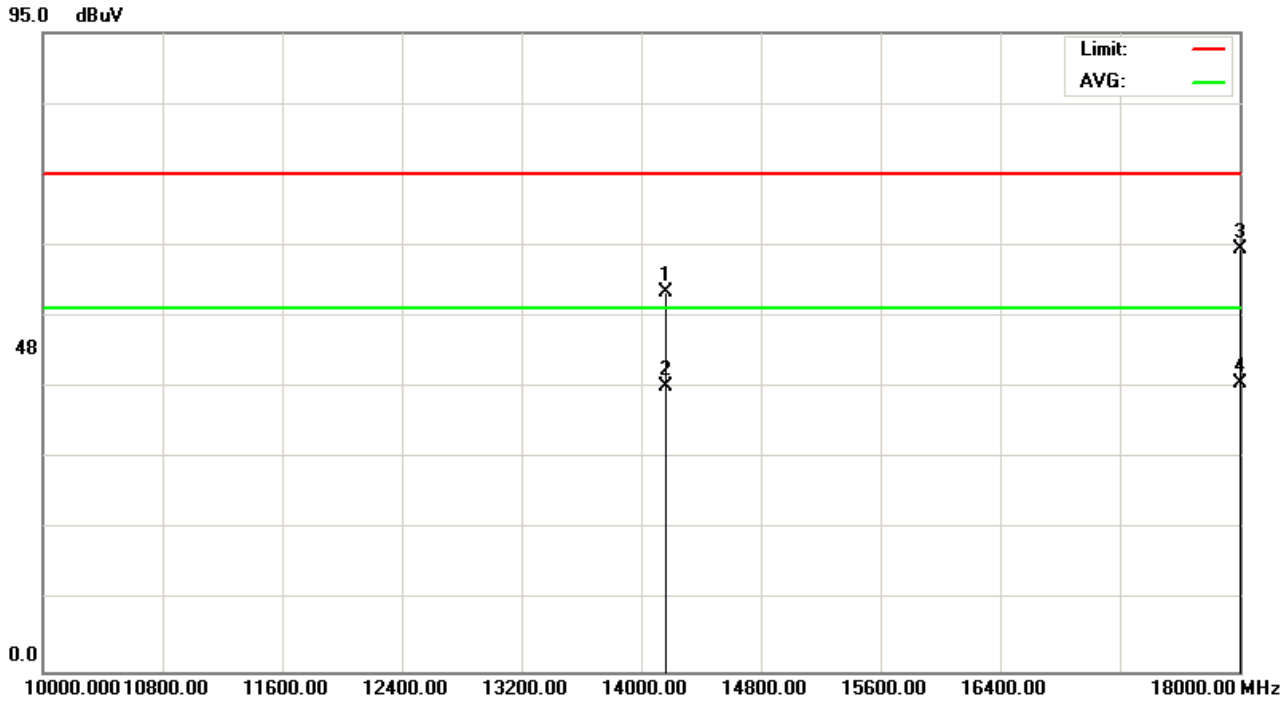
10G - 18G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 14180.00 | 38.22 | 18.85 | 57.07 | 74.00 | -16.93 | peak | | | |
| 2 | | 14180.00 | 22.69 | 18.85 | 41.54 | 54.00 | -12.46 | AVG | | | |
| 3 | * | 18000.00 | 37.55 | 25.57 | 63.12 | 74.00 | -10.88 | peak | | | |
| 4 | | 18000.00 | 15.47 | 25.57 | 41.04 | 54.00 | -12.96 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335(2441) Data :#11 Date: 2008/3/10 Time:




Site site#1 Polarization: ***Horizontal*** Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 1m

M/N: A335W

Mode: BT+EDR(X)

Note: 2441MHz

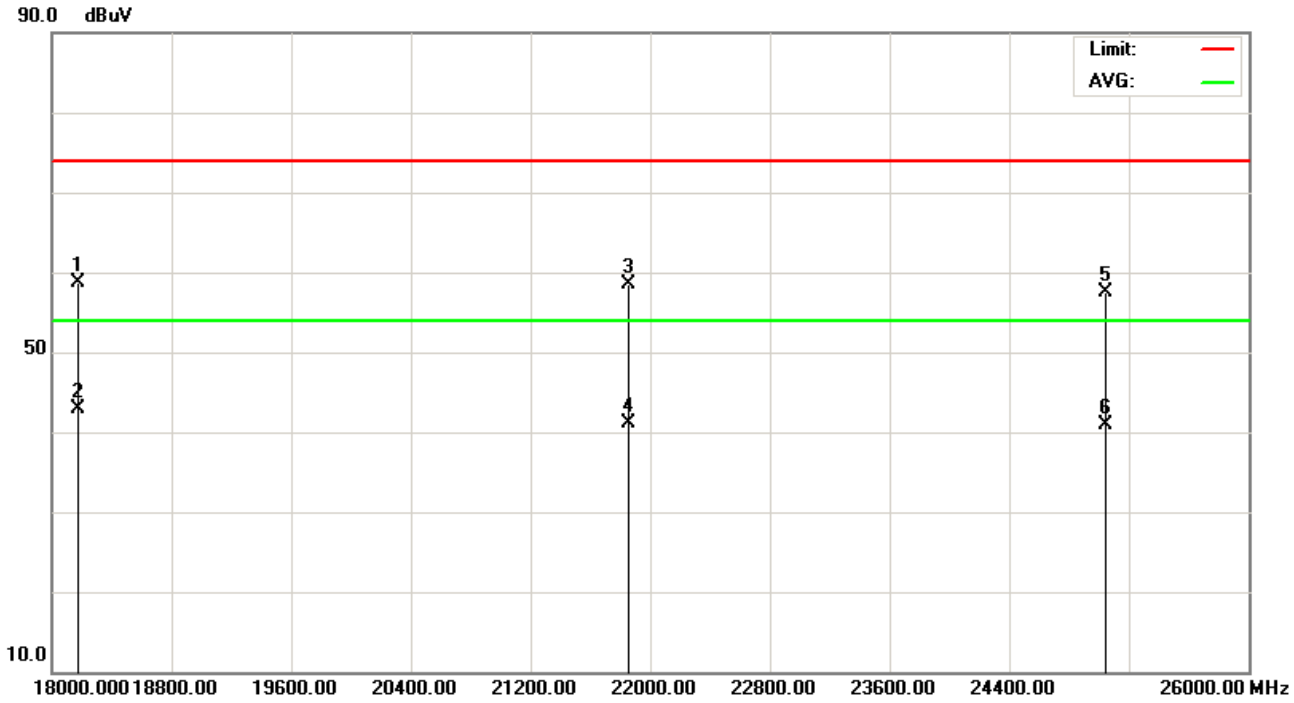
10G - 18G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 14160.00 | 37.68 | 18.83 | 56.51 | 74.00 | -17.49 | peak | | | |
| 2 | | 14160.00 | 23.49 | 18.83 | 42.32 | 54.00 | -11.68 | AVG | | | |
| 3 | | 18000.00 | 37.20 | 25.57 | 62.77 | 74.00 | -11.23 | peak | | | |
| 4 | * | 18000.00 | 17.26 | 25.57 | 42.83 | 54.00 | -11.17 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335(2441) Data :#13 Date: 2008/3/10 Time:




Site site#1
Limit: FCC part 15 (PK)
EUT:
M/N: A335W
Mode: BT+EDR(X)
Note: 2441MHz

Polarization: *Vertical*
Power:
Distance: 1m

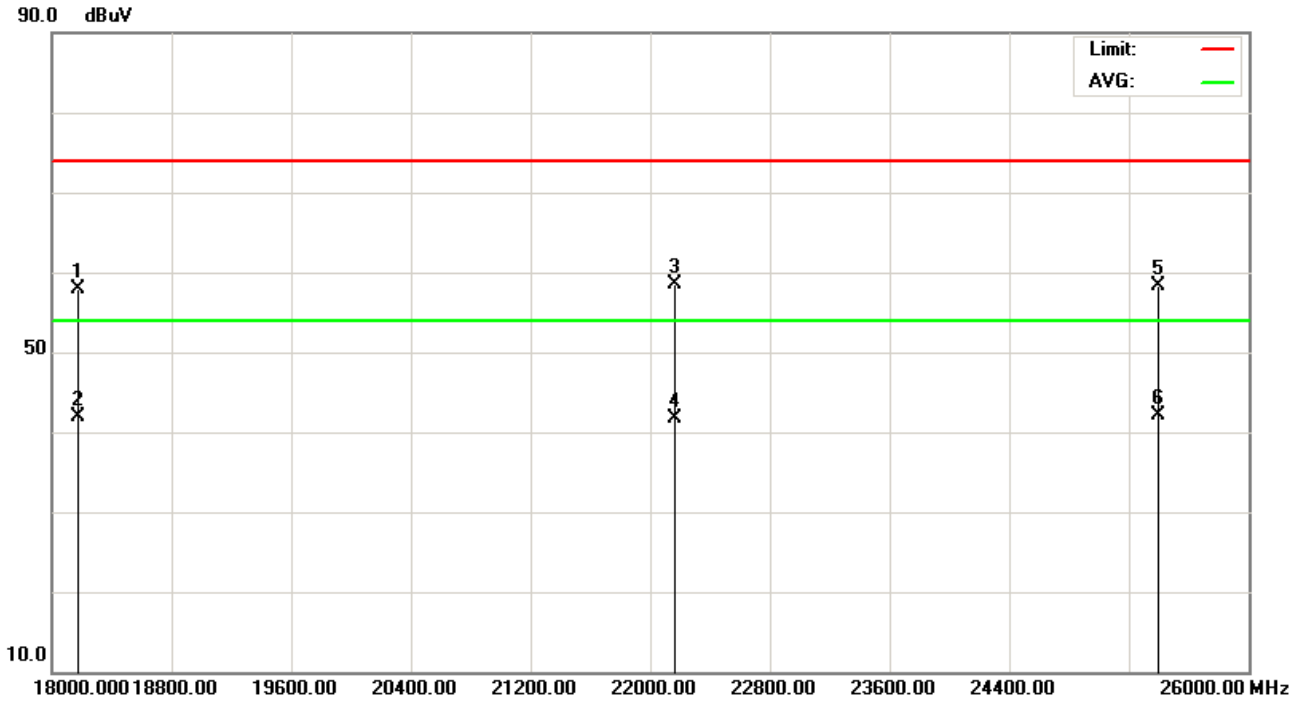
Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 18180.00 | 24.33 | 34.34 | 58.67 | 74.00 | -15.33 | peak | | | |
| 2 | * | 18180.00 | 8.56 | 34.34 | 42.90 | 54.00 | -11.10 | AVG | | | |
| 3 | | 21860.00 | 27.53 | 30.94 | 58.47 | 74.00 | -15.53 | peak | | | |
| 4 | | 21860.00 | 10.24 | 30.94 | 41.18 | 54.00 | -12.82 | AVG | | | |
| 5 | | 25040.00 | 28.79 | 28.77 | 57.56 | 74.00 | -16.44 | peak | | | |
| 6 | | 25040.00 | 12.06 | 28.77 | 40.83 | 54.00 | -13.17 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335(2441) Data :#14 Date: 2008/3/10 Time:




Site site#1
Limit: FCC part 15 (PK)
EUT:
M/N: A335W
Mode: BT+EDR(X)
Note: 2441MHz

Polarization: ***Horizontal***
Power:
Distance: 1m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 18180.00 | 23.56 | 34.34 | 57.90 | 74.00 | -16.10 | peak | | | |
| 2 | | 18180.00 | 7.59 | 34.34 | 41.93 | 54.00 | -12.07 | AVG | | | |
| 3 | | 22160.00 | 27.79 | 30.74 | 58.53 | 74.00 | -15.47 | peak | | | |
| 4 | | 22160.00 | 11.03 | 30.74 | 41.77 | 54.00 | -12.23 | AVG | | | |
| 5 | | 25400.00 | 29.87 | 28.53 | 58.40 | 74.00 | -15.60 | peak | | | |
| 6 | * | 25400.00 | 13.56 | 28.53 | 42.09 | 54.00 | -11.91 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

### 3.6.6 Open Field Radiated Emissions (Subpart C)

The highest peak values of radiated emissions from the EUT at various antenna heights, antenna polarization, EUT orientation, etc. are recorded on the following.

Applicant : GN NETCOM A/S
Model No : A335W
EUT : Bluetooth class 1 plug and play dongle
Test Mode : Link Mode_Bluetooth EDR CH78 2480.000 (Local Frequency: 2480.000 MHz)
Test Date : 03/10/2008~04/07/2008

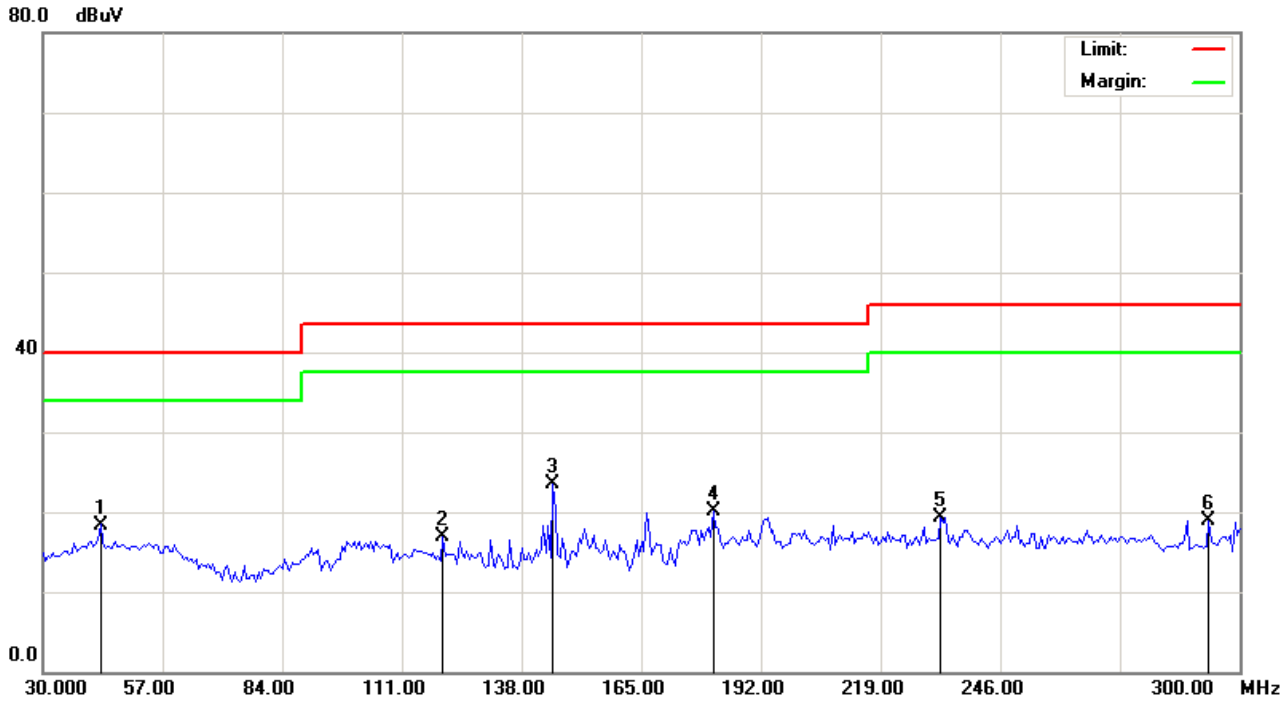
Please refer to next pager of detail testing data.

Notes:

1. Margin= Amplitude - Limits
2. Distance of Measurement: 3 Meter (30-1000MHz) & (1-10GHz), 1 Meter (10-26.5GHz)
3. Height of table for EUT placed: 0.8 Meter.
4. ANT= Antenna height.
5. Amplitude= Reading Amplitude – Amplifier gain + Cable loss + Antenna factor
   (Auto calculate in spectrum analyzer)
6. The EUT was worst case on X axis after pretest on X & Y & Z axis setting.
7. The testing data only show below 18GHz's data because measure data above 18GHz was only ambit noise.
8. All frequencies from 30MHz to 26.5GHz have been tested

## Radiated Emission Measurement

File :A335W(1G以下) Data :#9 Date: 2008/04/07 Time:




Site site#1 Polarization: *Vertical* Temperature: 22 ℃

Limit: FCC Class B 3M Radiation Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT+EDR

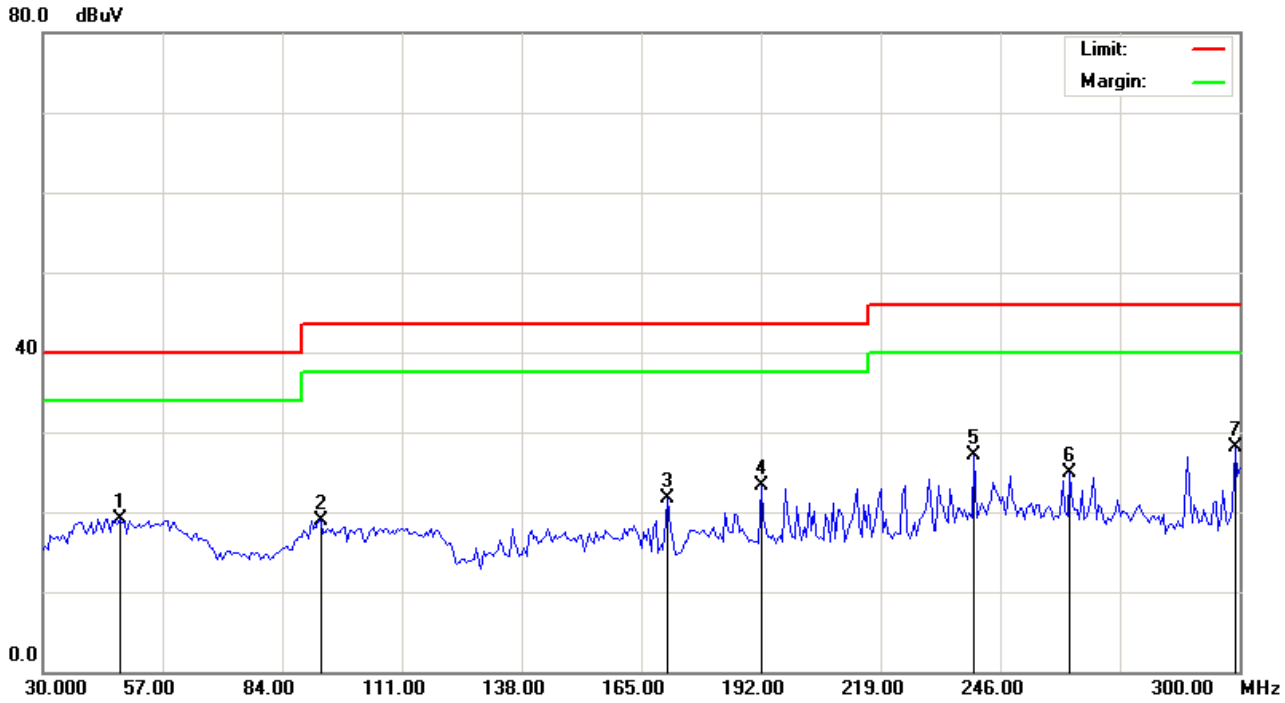
Note: 2480MHz

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 42.9600 | 30.21 | -11.86 | 18.35 | 40.00 | -21.65 | peak | | | |
| 2 | | 120.1800 | 31.04 | -14.23 | 16.81 | 43.50 | -26.69 | peak | | | |
| 3 | * | 145.0200 | 39.74 | -16.19 | 23.55 | 43.50 | -19.95 | peak | | | |
| 4 | | 181.2000 | 34.26 | -14.19 | 20.07 | 43.50 | -23.43 | peak | | | |
| 5 | | 232.5000 | 31.16 | -11.79 | 19.37 | 46.00 | -26.63 | peak | | | |
| 6 | | 292.9800 | 29.09 | -10.13 | 18.96 | 46.00 | -27.04 | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(1G以下) Data :#11 Date: 2008/04/07 Time:




Site site#1 Polarization: ***Horizontal*** Temperature: 22 ℃

Limit: FCC Class B 3M Radiation Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT+EDR

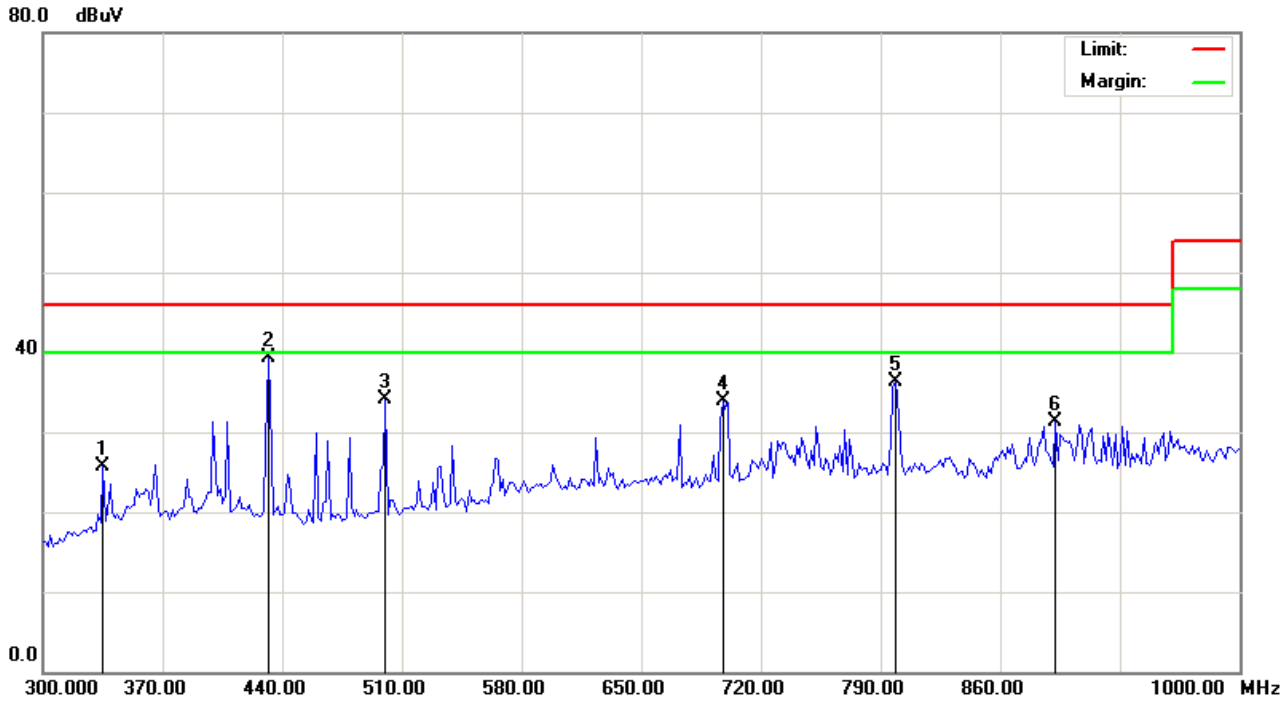
Note: 2480MHz

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 47.2800 | 31.17 | -11.98 | 19.19 | 40.00 | -20.81 | peak | | | |
| 2 | | 92.6400 | 31.39 | -12.57 | 18.82 | 43.50 | -24.68 | peak | | | |
| 3 | | 170.9400 | 36.99 | -15.27 | 21.72 | 43.50 | -21.78 | peak | | | |
| 4 | | 192.0000 | 36.52 | -13.26 | 23.26 | 43.50 | -20.24 | peak | | | |
| 5 | | 240.0600 | 38.61 | -11.43 | 27.18 | 46.00 | -18.82 | peak | | | |
| 6 | | 261.6600 | 35.99 | -11.17 | 24.82 | 46.00 | -21.18 | peak | | | |
| 7 | * | 298.9200 | 38.13 | -10.03 | 28.10 | 46.00 | -17.90 | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(1G以下) Data :#10 Date: 2008/04/07 Time:




Site site#1 Polarization: ***Vertical*** Temperature: 22 ℃

Limit: FCC Class B 3M Radiation Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT+EDR

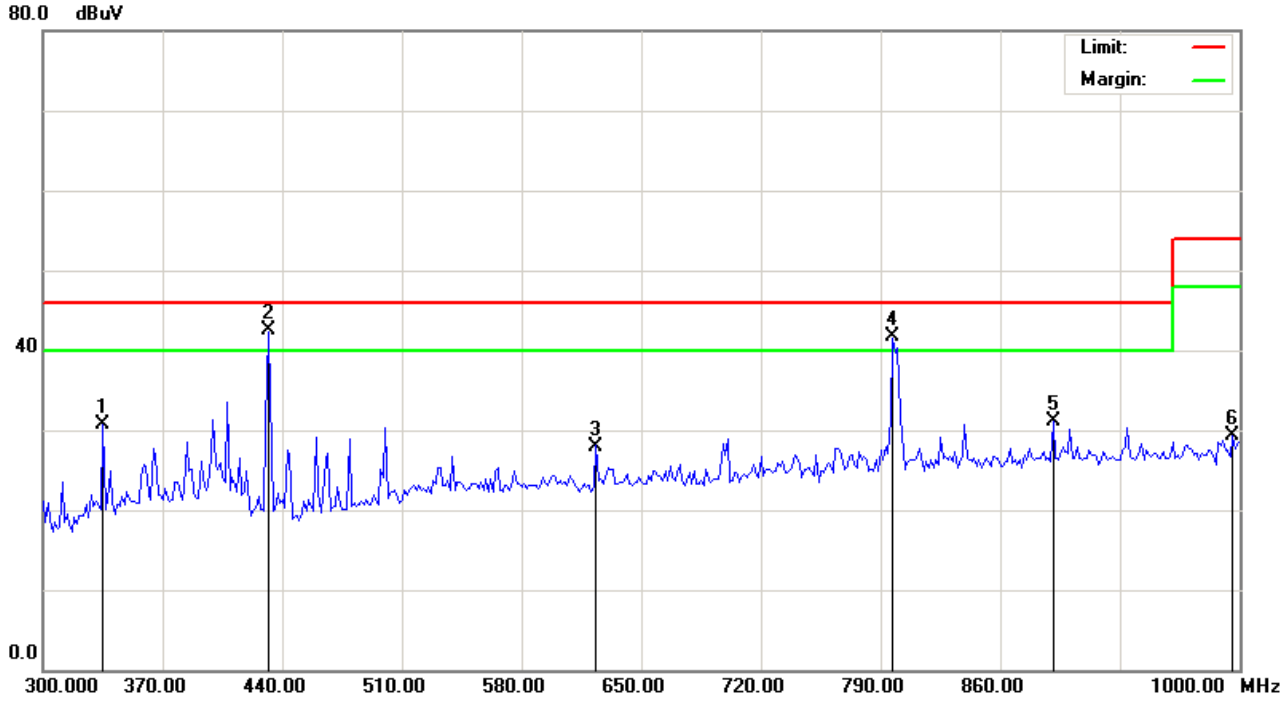
Note: 2480MHz

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 335.0000 | 34.90 | -9.27 | 25.63 | 46.00 | -20.37 | peak | | | |
| 2 | * | 431.6000 | 47.28 | -8.03 | 39.25 | 46.00 | -6.75 | peak | | | |
| 3 | | 500.2000 | 41.26 | -7.17 | 34.09 | 46.00 | -11.91 | peak | | | |
| 4 | | 697.6000 | 37.73 | -3.86 | 33.87 | 46.00 | -12.13 | peak | | | |
| 5 | | 798.4000 | 38.57 | -2.33 | 36.24 | 46.00 | -9.76 | peak | | | |
| 6 | | 892.2000 | 31.93 | -0.70 | 31.23 | 46.00 | -14.77 | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335W(1G以下) Data :#12 Date: 2008/04/07 Time:




Site site#1 Polarization: ***Horizontal*** Temperature: 22 ℃

Limit: FCC Class B 3M Radiation Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT+EDR

Note: 2480MHz

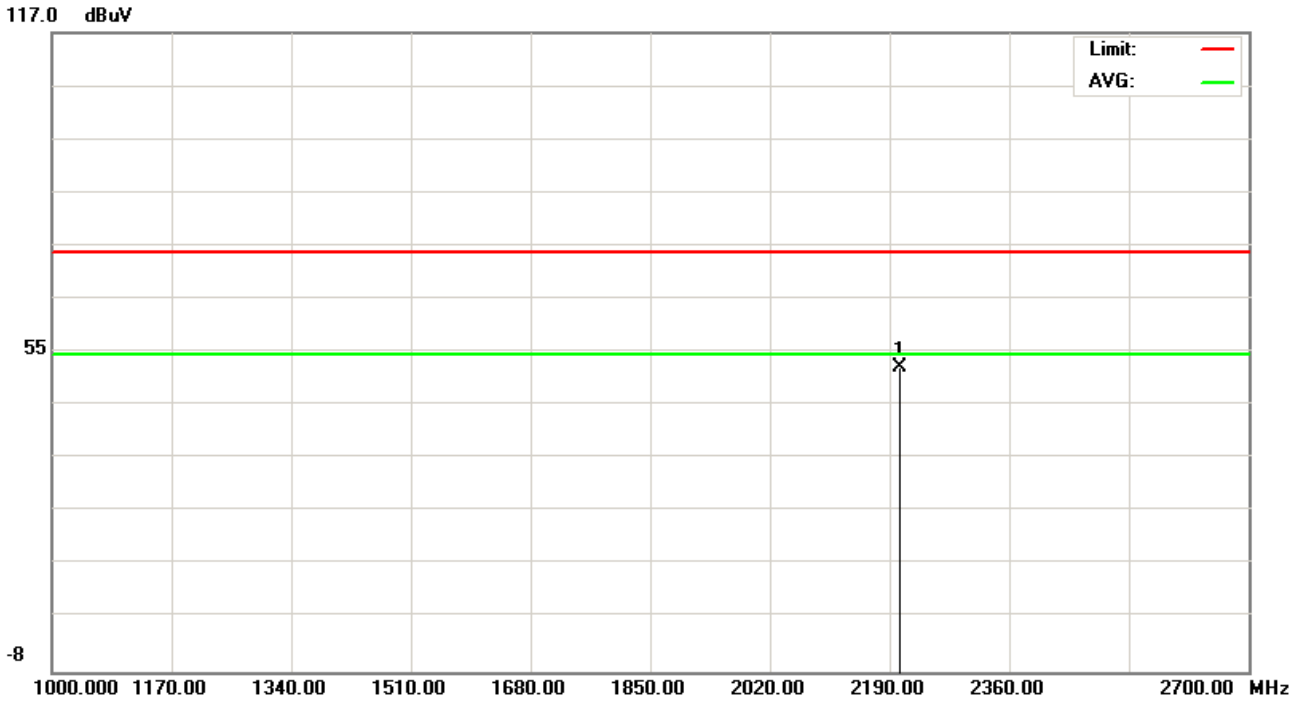
| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 335.0000 | 40.00 | -9.27 | 30.73 | 46.00 | -15.27 | peak | | | |
| 2 | * | 431.6000 | 50.58 | -8.03 | 42.55 | 46.00 | -3.45 | peak | | | |
| 3 | | 623.4000 | 32.39 | -4.56 | 27.83 | 46.00 | -18.17 | peak | | | |
| 4 | ! | 797.0000 | 44.05 | -2.34 | 41.71 | 46.00 | -4.29 | peak | | | |
| 5 | | 890.8000 | 31.87 | -0.78 | 31.09 | 46.00 | -14.91 | peak | | | |
| 6 | | 995.8000 | 28.61 | 0.75 | 29.36 | 54.00 | -24.64 | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

以下

## Radiated Emission Measurement

File :A335(2480) Data :#1 Date: 2008/3/10 Time:




Site site#1 Polarization: *Vertical* Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT+EDR(X)

Note: 2480MHz

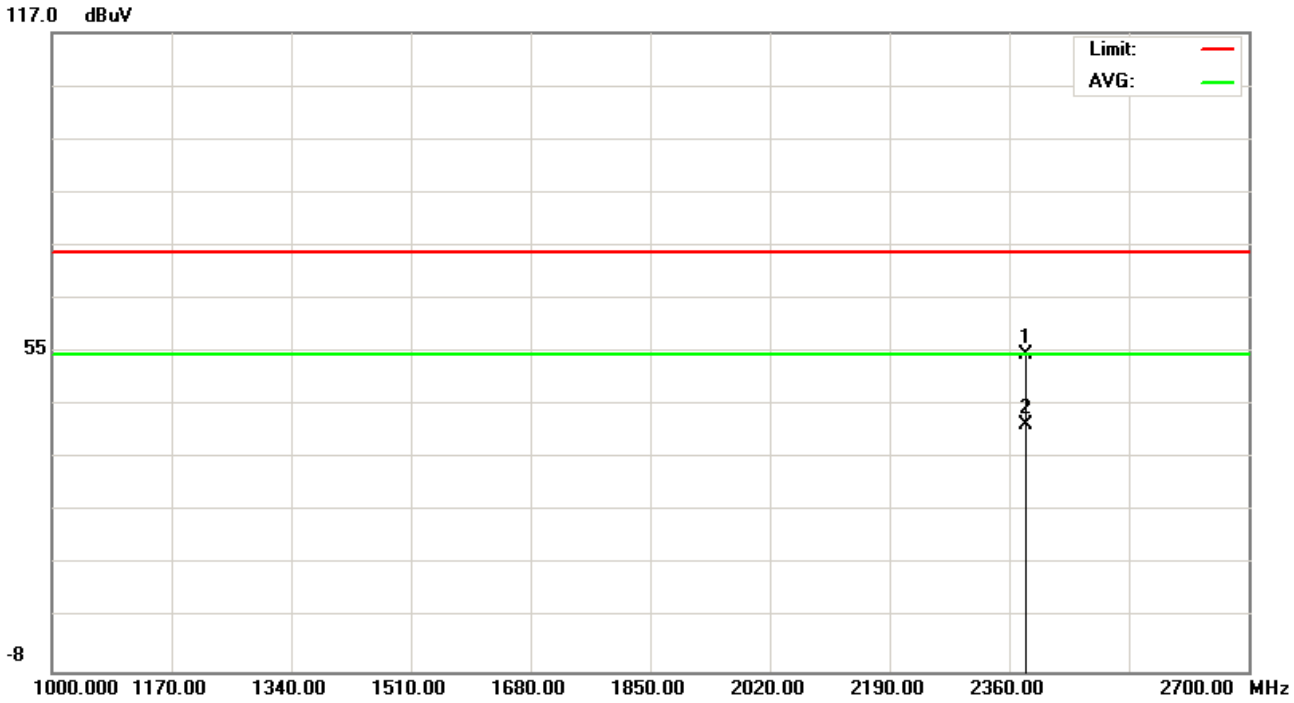
2.7G-10G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | * | 2203.600 | 51.06 | 0.49 | 51.55 | 74.00 | -22.45 | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335(2480) Data :#3 Date: 2008/3/10 Time:




Site site#1 Polarization: ***Horizontal*** Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT+EDR(X)

Note: 2480MHz

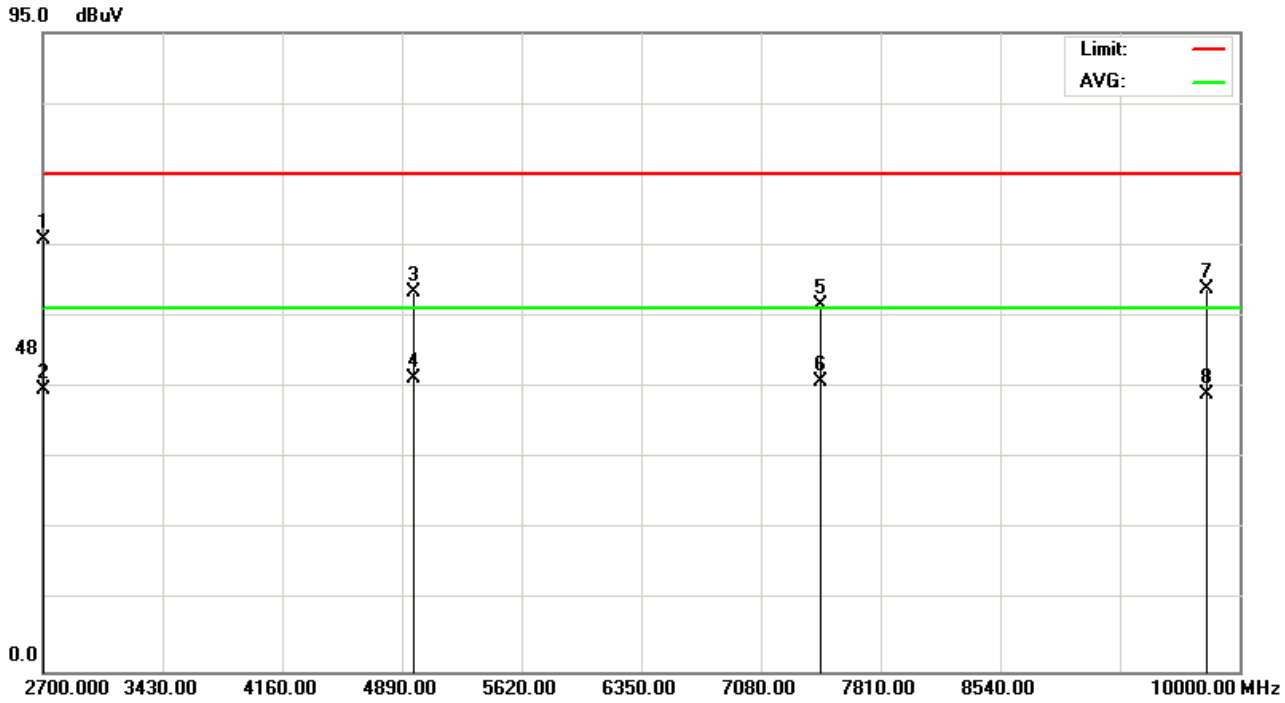
2.7G-10G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 2383.800 | 54.02 | 0.16 | 54.18 | 74.00 | -19.82 | peak | | | |
| 2 | * | 2383.800 | 40.27 | 0.16 | 40.43 | 54.00 | -13.57 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335(2480) Data :#5 Date: 2008/3/10 Time:




Site site#1 Polarization: *Vertical* Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT+EDR(X)

Note: 2480MHz

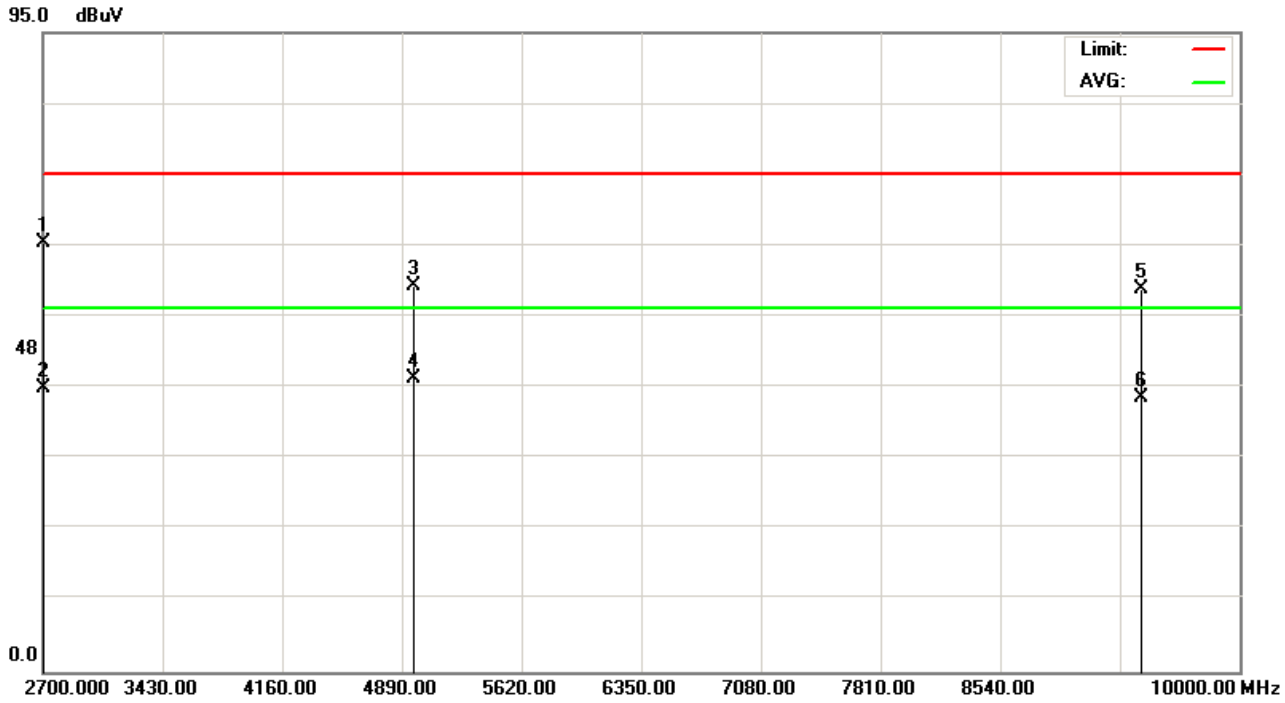
2.7G-10G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | * | 2700.000 | 41.71 | 22.58 | 64.29 | 74.00 | -9.71 | peak | | | |
| 2 | | 2700.000 | 19.26 | 22.58 | 41.84 | 54.00 | -12.16 | AVG | | | |
| 3 | | 4963.000 | 48.60 | 7.82 | 56.42 | 74.00 | -17.58 | peak | | | |
| 4 | | 4963.000 | 35.66 | 7.82 | 43.48 | 54.00 | -10.52 | AVG | | | |
| 5 | | 7445.000 | 40.94 | 13.67 | 54.61 | 74.00 | -19.39 | peak | | | |
| 6 | | 7445.000 | 29.49 | 13.67 | 43.16 | 54.00 | -10.84 | AVG | | | |
| 7 | | 9799.250 | 39.15 | 17.67 | 56.82 | 74.00 | -17.18 | peak | | | |
| 8 | | 9799.250 | 23.56 | 17.67 | 41.23 | 54.00 | -12.77 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335(2480) Data :#7 Date: 2008/3/10 Time:




Site site#1 Polarization: ***Horizontal*** Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT+EDR(X)

Note: 2480MHz

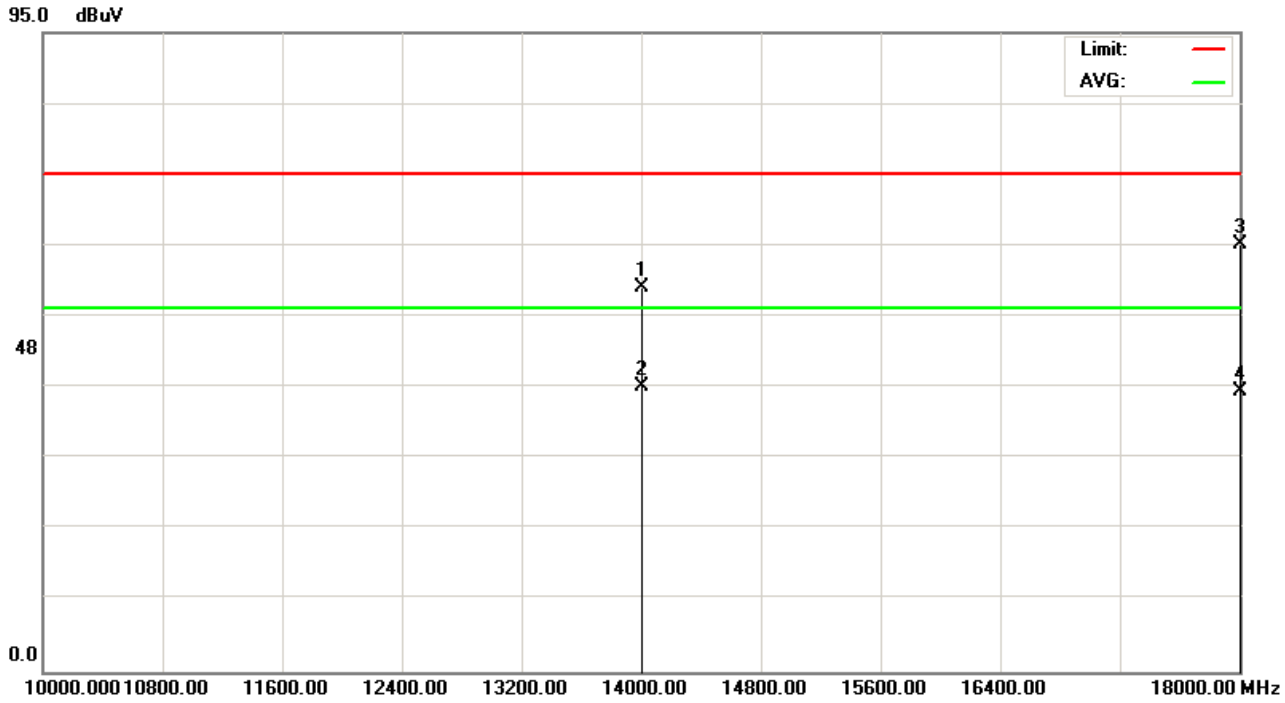
2.7G-10G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | * | 2700.000 | 41.14 | 22.58 | 63.72 | 74.00 | -10.28 | peak | | | |
| 2 | | 2700.000 | 19.56 | 22.58 | 42.14 | 54.00 | -11.86 | AVG | | | |
| 3 | | 4963.000 | 49.52 | 7.82 | 57.34 | 74.00 | -16.66 | peak | | | |
| 4 | | 4963.000 | 35.65 | 7.82 | 43.47 | 54.00 | -10.53 | AVG | | | |
| 5 | | 9397.750 | 39.75 | 17.07 | 56.82 | 74.00 | -17.18 | peak | | | |
| 6 | | 9397.750 | 23.63 | 17.07 | 40.70 | 54.00 | -13.30 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335(2480) Data :#9 Date: 2008/3/10 Time:




Site site#1 Polarization: *Vertical* Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 1m

M/N: A335W

Mode: BT+EDR(X)

Note: 2480MHz

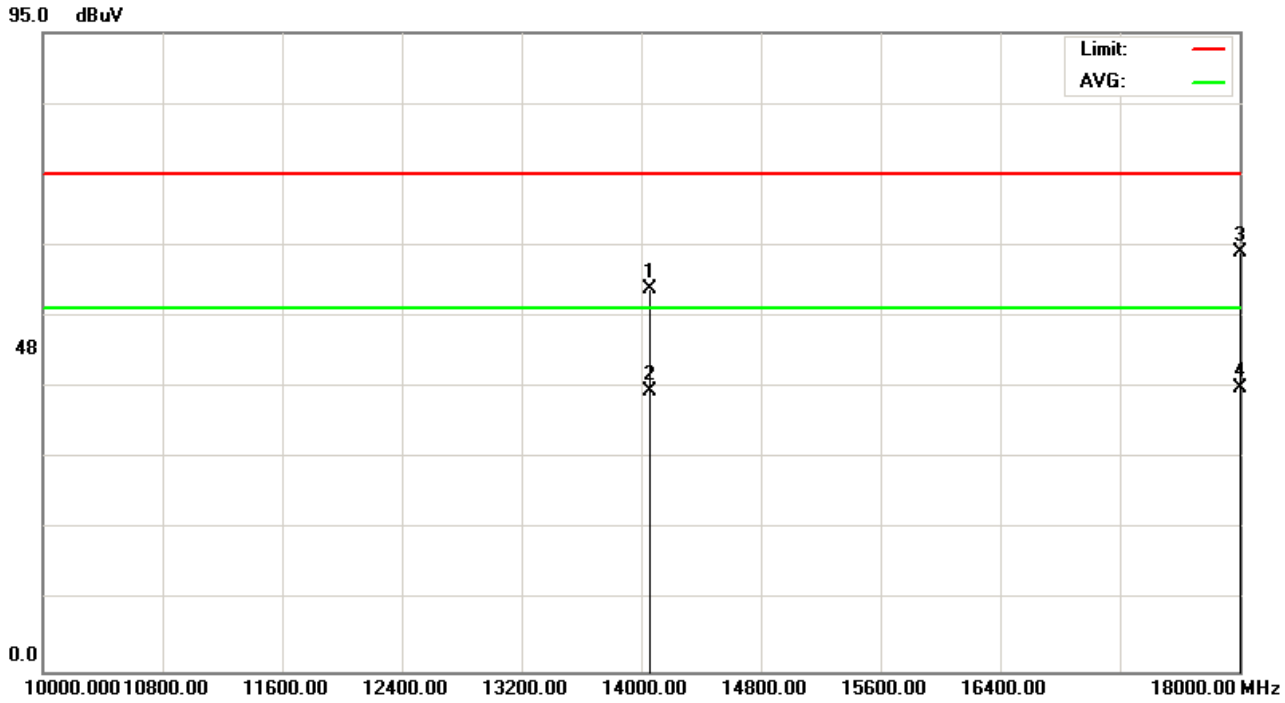
10G - 18G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 14000.00 | 38.42 | 18.67 | 57.09 | 74.00 | -16.91 | peak | | | |
| 2 | | 14000.00 | 23.65 | 18.67 | 42.32 | 54.00 | -11.68 | AVG | | | |
| 3 | * | 18000.00 | 37.88 | 25.57 | 63.45 | 74.00 | -10.55 | peak | | | |
| 4 | | 18000.00 | 16.06 | 25.57 | 41.63 | 54.00 | -12.37 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335(2480) Data :#11 Date: 2008/3/10 Time:




Site site#1 Polarization: ***Horizontal*** Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 1m

M/N: A335W

Mode: BT+EDR(X)

Note: 2480MHz

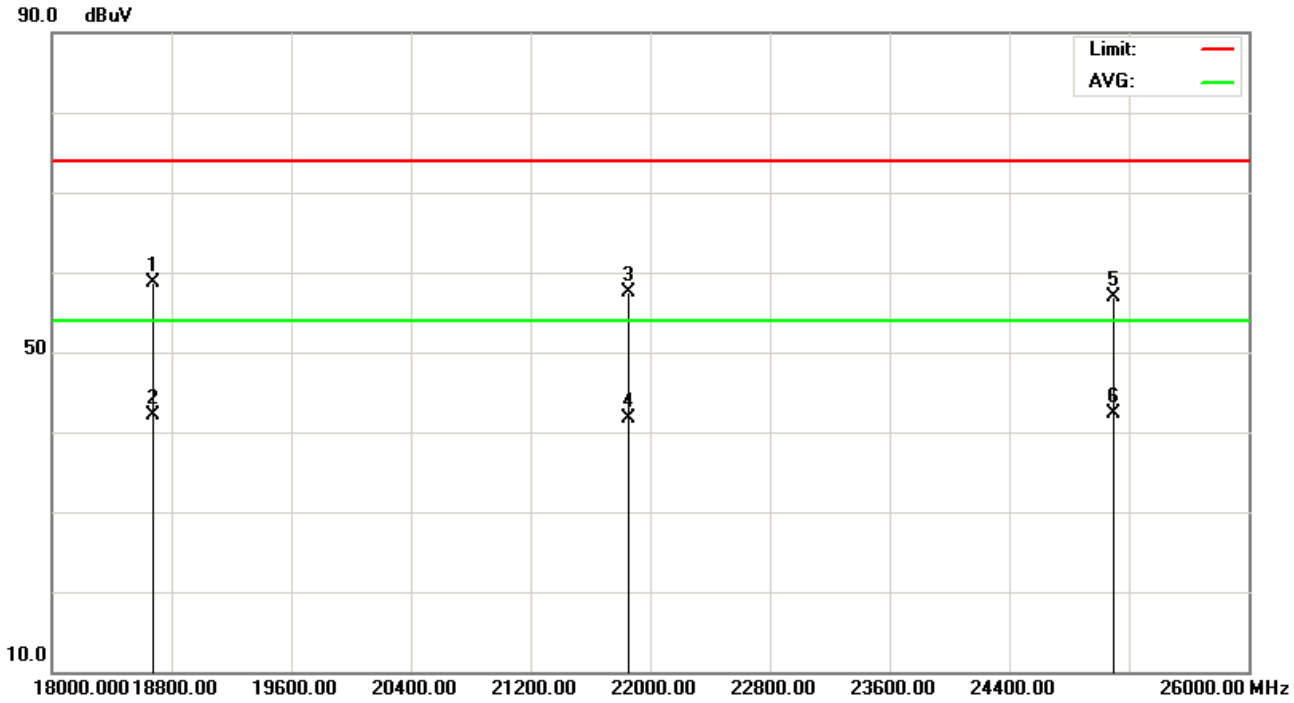
10G - 18G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 14060.00 | 38.13 | 18.72 | 56.85 | 74.00 | -17.15 | peak | | | |
| 2 | | 14060.00 | 22.95 | 18.72 | 41.67 | 54.00 | -12.33 | AVG | | | |
| 3 | * | 18000.00 | 36.74 | 25.57 | 62.31 | 74.00 | -11.69 | peak | | | |
| 4 | | 18000.00 | 16.63 | 25.57 | 42.20 | 54.00 | -11.80 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335(2480) Data :#13 Date: 2008/3/10 Time:




Site site#1
Limit: FCC part 15 (PK)
EUT:
M/N: A335W
Mode: BT+EDR(X)
Note: 2480MHz

Polarization: ***Vertical***
Power:
Distance: 1m

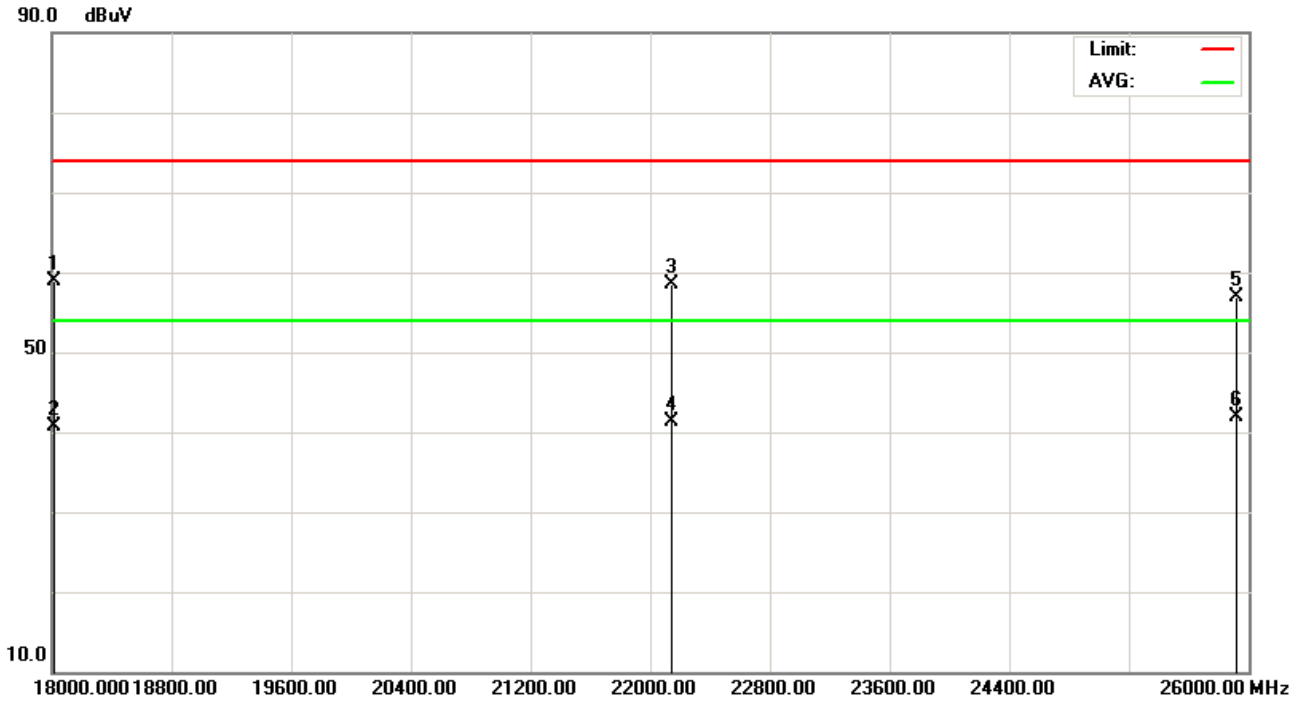
Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 18680.00 | 25.57 | 33.11 | 58.68 | 74.00 | -15.32 | peak | | | |
| 2 | | 18680.00 | 8.96 | 33.11 | 42.07 | 54.00 | -11.93 | AVG | | | |
| 3 | | 21860.00 | 26.53 | 30.94 | 57.47 | 74.00 | -16.53 | peak | | | |
| 4 | | 21860.00 | 10.69 | 30.94 | 41.63 | 54.00 | -12.37 | AVG | | | |
| 5 | | 25100.00 | 28.17 | 28.73 | 56.90 | 74.00 | -17.10 | peak | | | |
| 6 | * | 25100.00 | 13.59 | 28.73 | 42.32 | 54.00 | -11.68 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

## Radiated Emission Measurement

File :A335(2480) Data :#14 Date: 2008/3/10 Time:




Site site#1
Limit: FCC part 15 (PK)
EUT:
M/N: A335W
Mode: BT+EDR(X)
Note: 2480MHz

Polarization: ***Horizontal***
Power:
Distance: 1m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 18020.00 | 24.88 | 33.99 | 58.87 | 74.00 | -15.13 | peak | | | |
| 2 | | 18020.00 | 6.63 | 33.99 | 40.62 | 54.00 | -13.38 | AVG | | | |
| 3 | | 22140.00 | 27.82 | 30.76 | 58.58 | 74.00 | -15.42 | peak | | | |
| 4 | | 22140.00 | 10.56 | 30.76 | 41.32 | 54.00 | -12.68 | AVG | | | |
| 5 | | 25920.00 | 28.82 | 28.17 | 56.99 | 74.00 | -17.01 | peak | | | |
| 6 | * | 25920.00 | 13.68 | 28.17 | 41.85 | 54.00 | -12.15 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

# 4. Maximum Conducted Output Power Requirements

## 4.1 Test Condition & Setup:

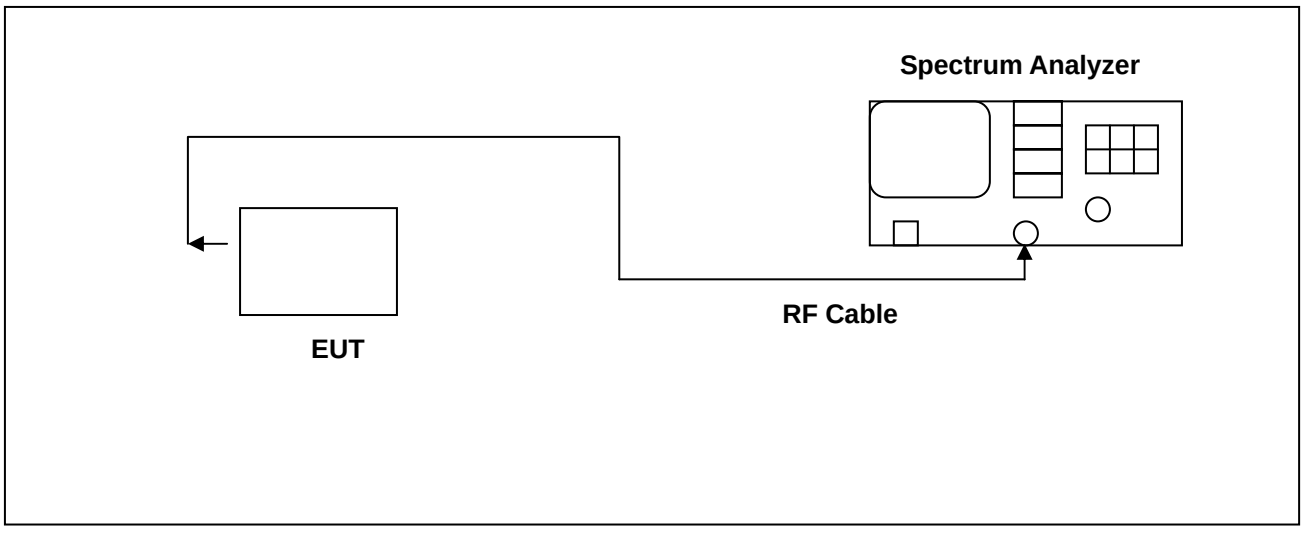
The tests below are run with the EUT's transmitter set at high power in TX mode. The EUT is needed to force selection of output power level and channel number. While testing, EUT was set to transmit continuously. Remove the Subjective device's antenna and connect the RF output port to spectrum analyzer. The maximum peak output power shall not exceed 1 watt.

Use a direct connection between the antenna port of transmitter and the spectrum Analyzer, for prevent the spectrum analyzer input attenuation 40-50 dB. Set the RBW Bandwidth of the emission or use a channel power meter mode.

For antennas with gains of 6 dBi or less, maximum allowed transmitter output is 1 watt (+30 dBm). For antennas with gains greater than 6 dBi, transmitter output level must be decreased by an amount equal to (GAIN - 6)/3 dBm.

The antenna port of the EUT was connected to the input of a power meter. Power was read directly and cable loss correction was added to the reading to obtain power at the EUT antenna terminals.

## 4.2 Test Instruments Configuration:



## 4.3 Test Equipment List:

| Describe | Manufacturer | Model | Serial Number | Calibration | |
|---|---|---|---|---|---|
| | | | | Cal. Date | Due Date |
| Spectrum Analyzer | Agilent | E4445A | MY45300744 | Nov. 29, 2007 | Nov. 29, 2008 |

## 4.4 Test Result

Bluetooth 2.0

| Frequency (MHz) | Output (dBm) | Required Limit |
|---|---|---|
| 2402 | 15.15 | <30dBm |
| 2441 | 15.52 | <30dBm |
| 2480 | 13.59 | <30dBm |

Bluetooth EDR

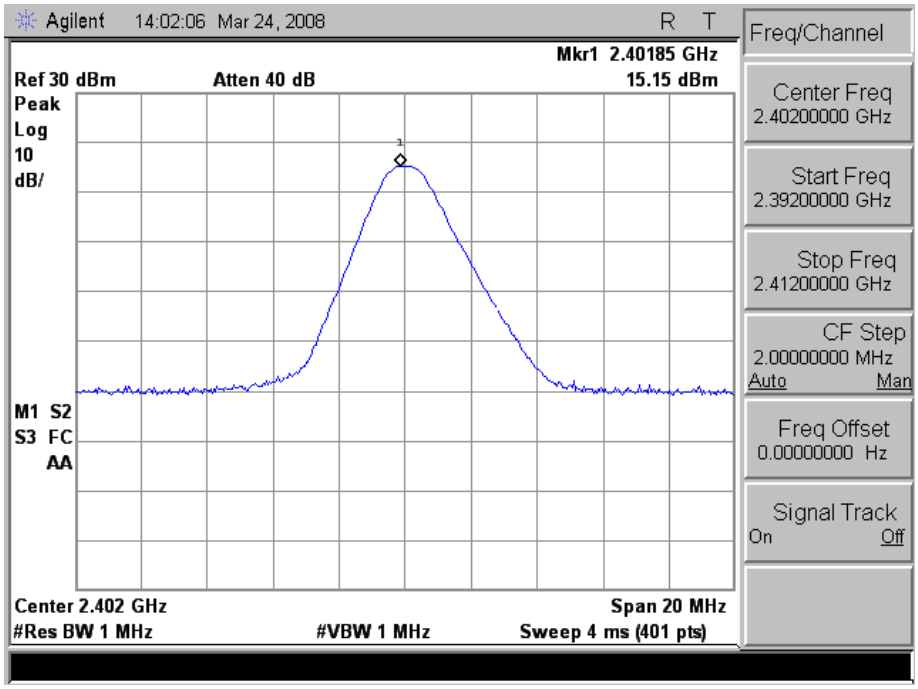
| Frequency (MHz) | Output (dBm) | Required Limit |
|---|---|---|
| 2402 | 14.42 | <30dBm |
| 2441 | 14.80 | <30dBm |
| 2480 | 13.12 | <30dBm |

Note: Test Graphs See next page.

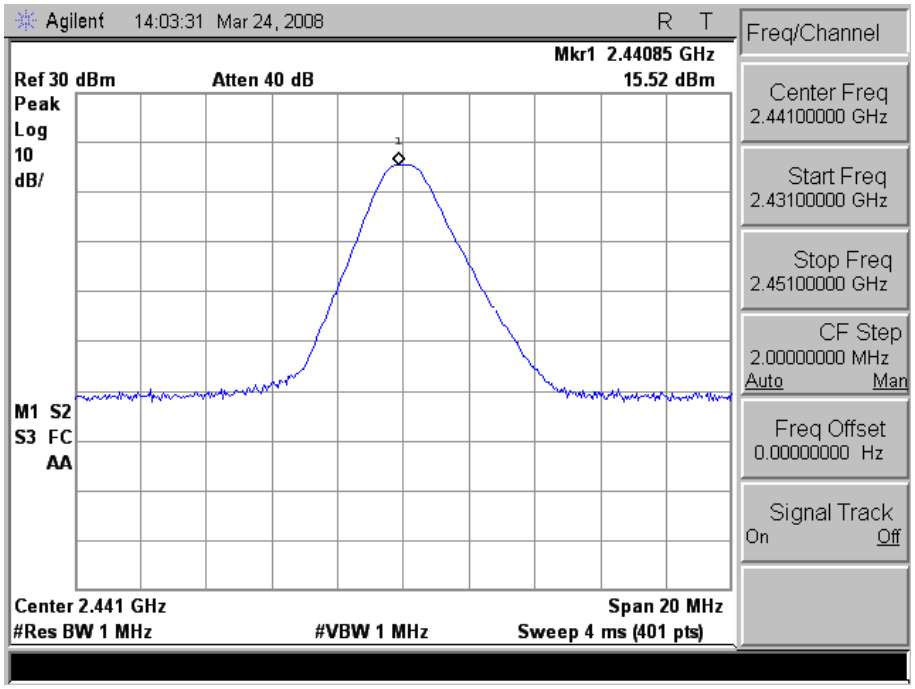
## 4.5 Test Graphs

### 4.5.1 Bluetooth 2.0 Mode:

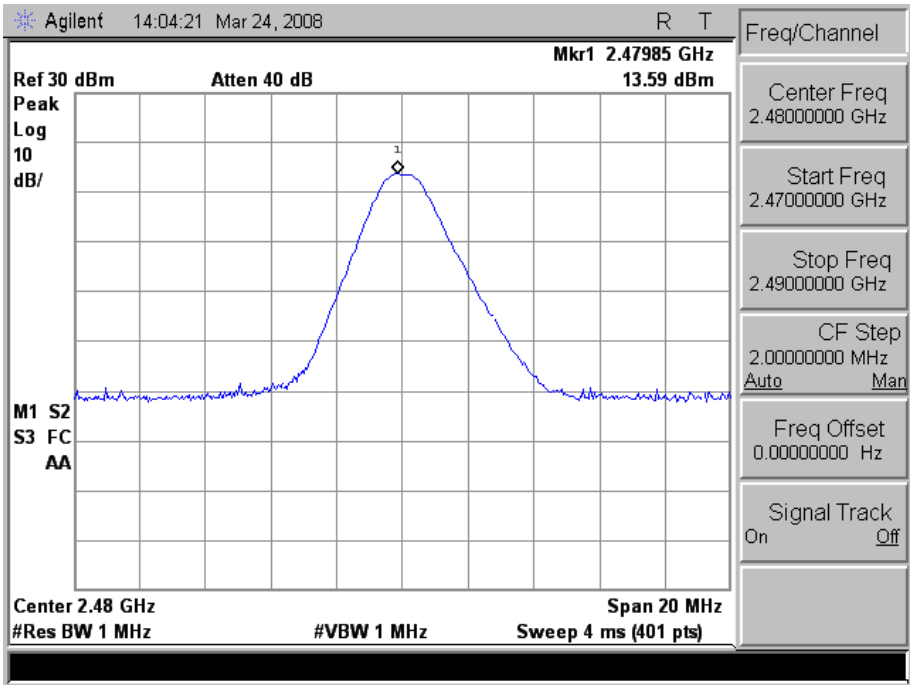
**Bluetooth 2.0 CH00 (2402MHz)**




**Bluetooth 2.0 CH39 (2441MHz)**

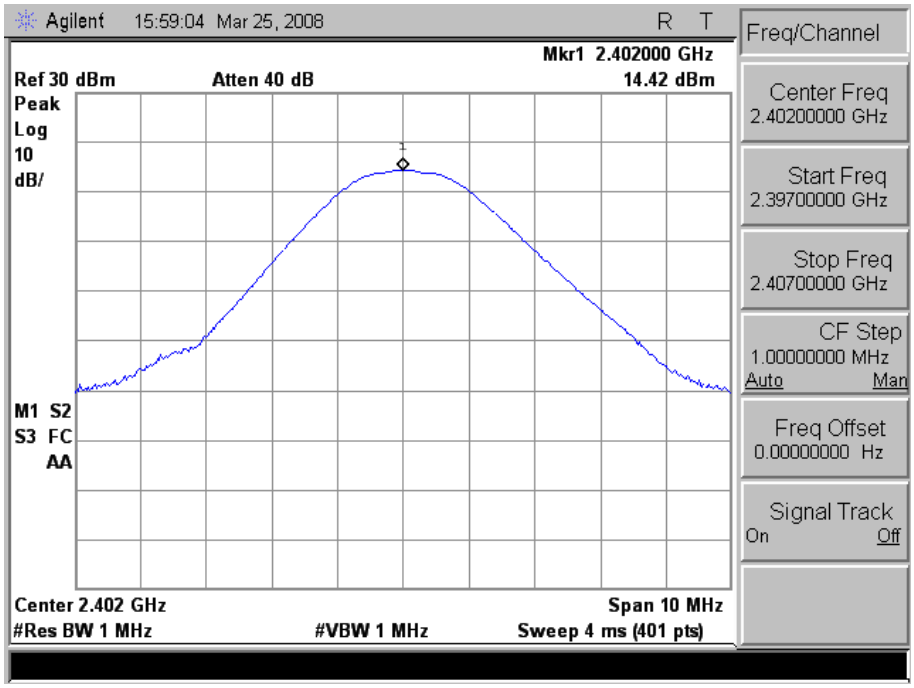


**Bluetooth 2.0 CH78 (2480MHz)**

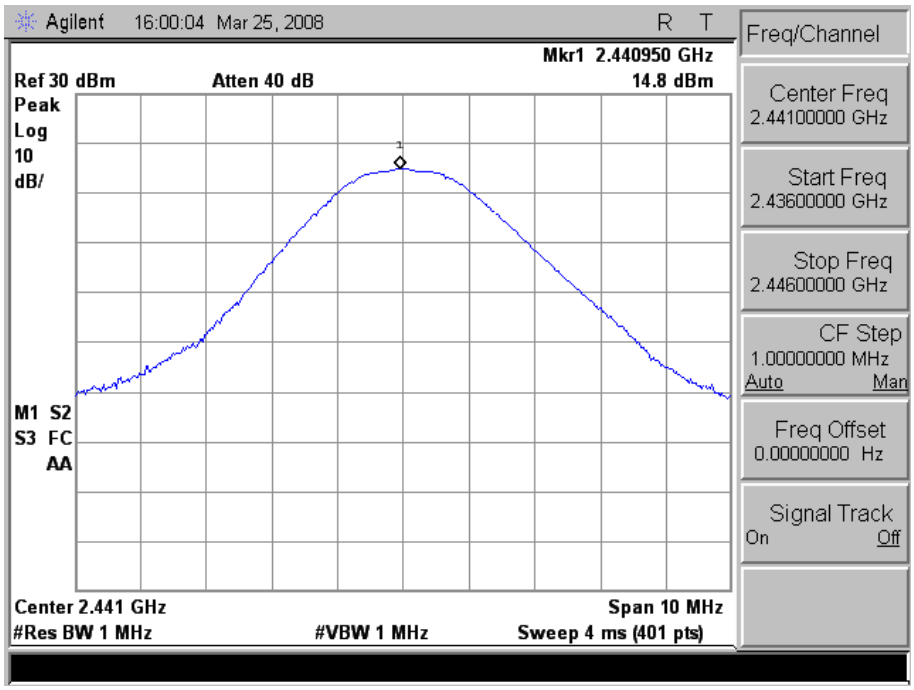


### 4.5.2 Test Graphs _ Bluetooth EDR Mode:

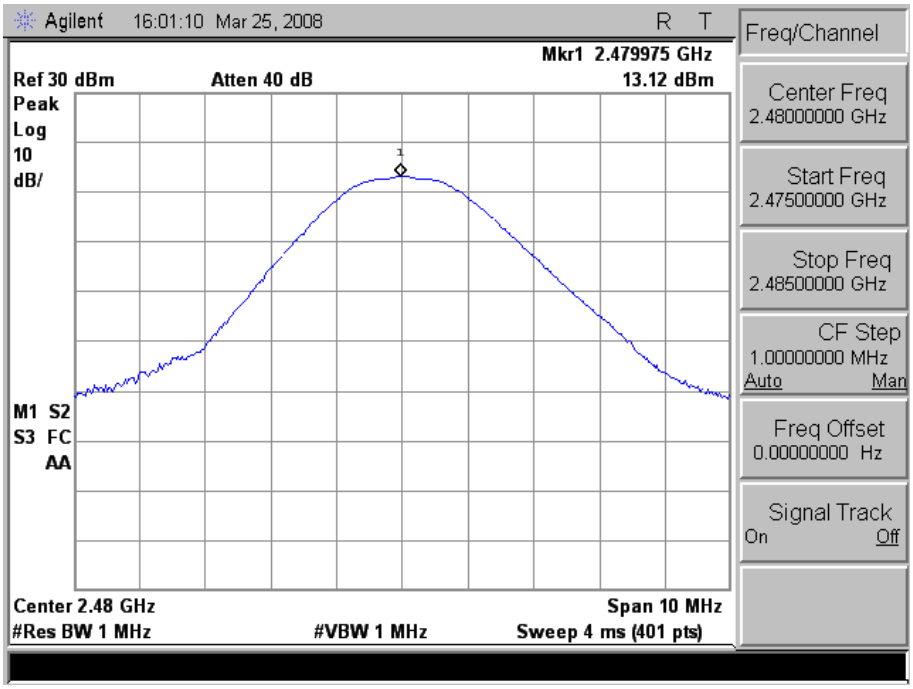
**Bluetooth EDR CH00 (2402MHz)**




**Bluetooth EDR CH39 (2441MHz)**



**Bluetooth EDR CH78 (2480MHz)**



# 5. Minimum 20dB RF Bandwidth Requirements

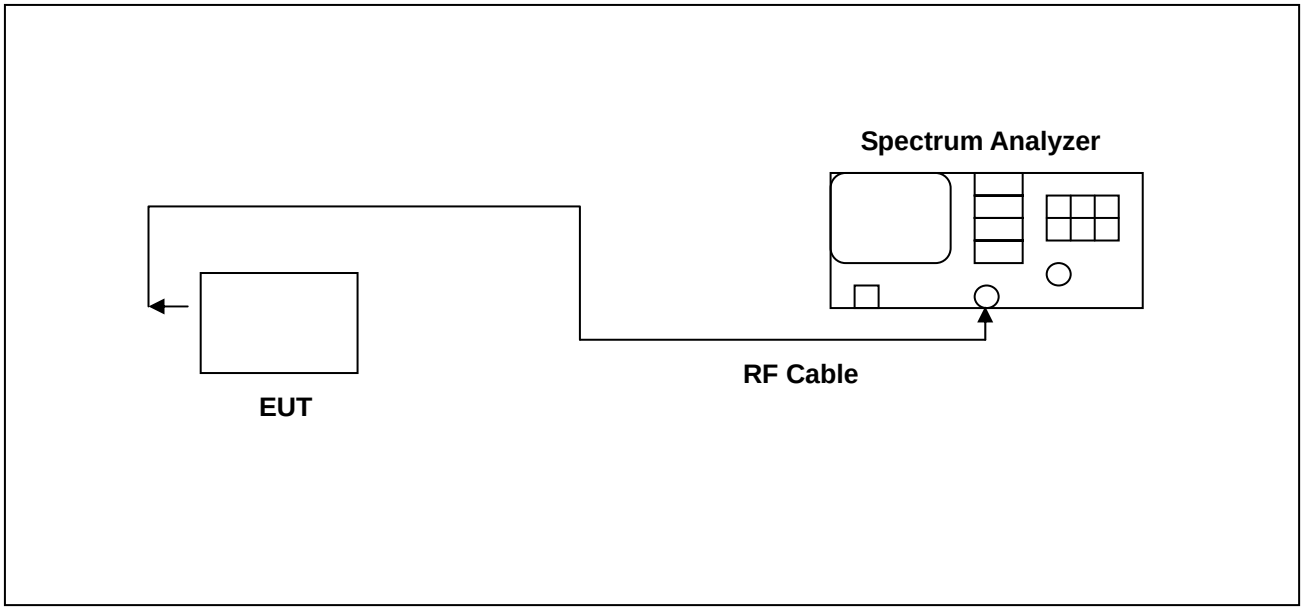
## 5.1 Test Condition & Setup:

The RF output port of the Equipment-Under-Test is directly coupled to the input of the EMC analyzer through a specialized RF connector and a 10dB passive attenuator. A fully charged battery was used for the supply voltage. The Bluetooth frequency hopping function of the EUT was enabled. The spectrum analyzer used the following settings:

1. Span = approx. 2 to 3 times the 20dB bandwidth, centered on a hopping frequency
2. RBW ≥ 1% of the 20dB span
3. VBW ≥ RBW
4. Sweep = auto
5. Detector function = peak
6. Trace = max hold

The trace was allowed to stabilize. The EUT was transmitting at its maximum data rate. The marker-to-peak function was used to set the marker to the peak of the emission. The marker-delta function was used to measure 20dB down one side of the emission. The marker-delta function and marker was moved to the other side of the emission until it was even with the reference marker. The marker-delta reading at this point was the 20dB bandwidth of the emission.

## 5.2 Test Instruments Configuration:



## 5.3 Test Equipment List:

| Describe | Manufacturer | Model | Serial Number | Calibration | |
|---|---|---|---|---|---|
| | | | | Cal. Date | Due Date |
| Spectrum Analyzer | Agilent | E4445A | MY45300744 | Nov. 29, 2007 | Nov. 29, 2008 |

## 5.4 Test Result

Bluetooth 2.0

| Frequency (MHz) | Max 20dB Bandwidth (KHz) | 2/3 Max 20dB Bandwidth (KHz) | Required Limit |
|---|---|---|---|
| 2402 | 715 | 476 | <1MHz |
| 2441 | 710 | 473 | <1MHz |
| 2480 | 720 | 480 | <1MHz |

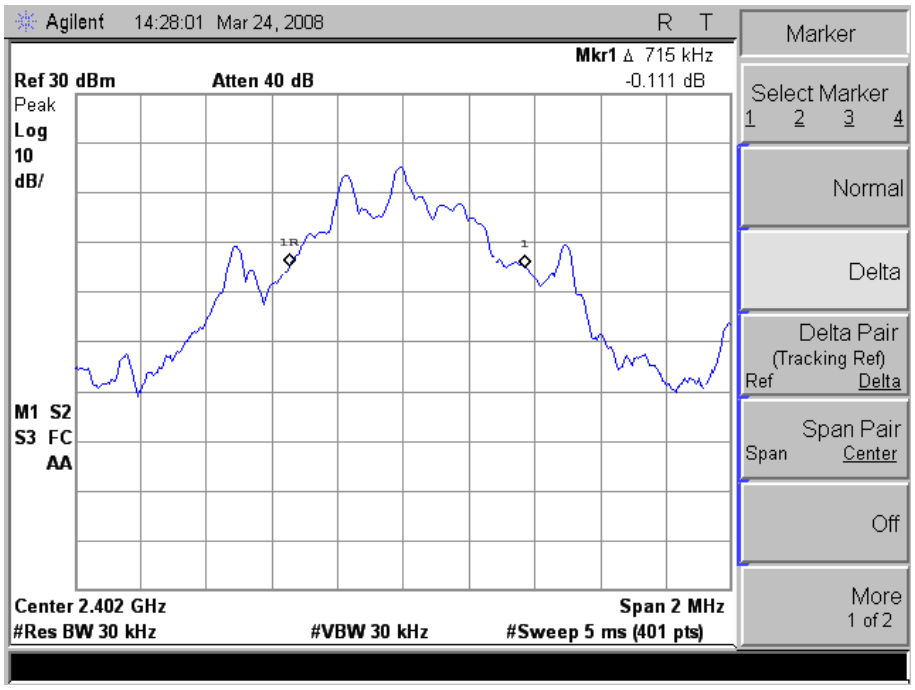
Bluetooth EDR

| Frequency (MHz) | Max 20dB Bandwidth (KHz) | 2/3 Max 20dB Bandwidth (KHz) | Required Limit |
|---|---|---|---|
| 2402 | 1205 | 803 | <1MHz |
| 2441 | 1210 | 806 | <1MHz |
| 2480 | 1215 | 810 | <1MHz |

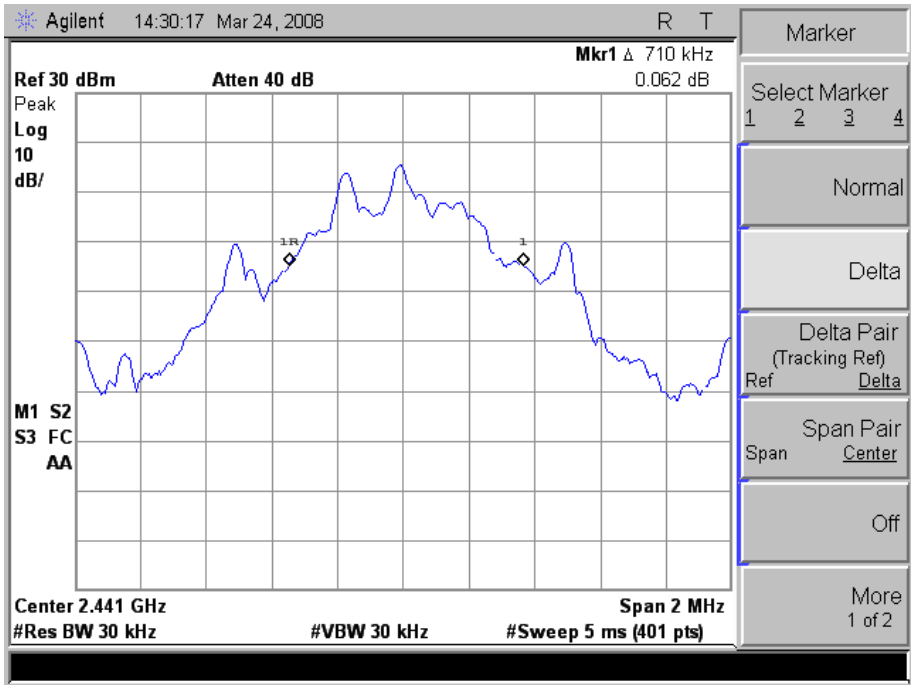
## 5.5 Test Graphs

### 5.5.1 Bluetooth 2.0 Mode:

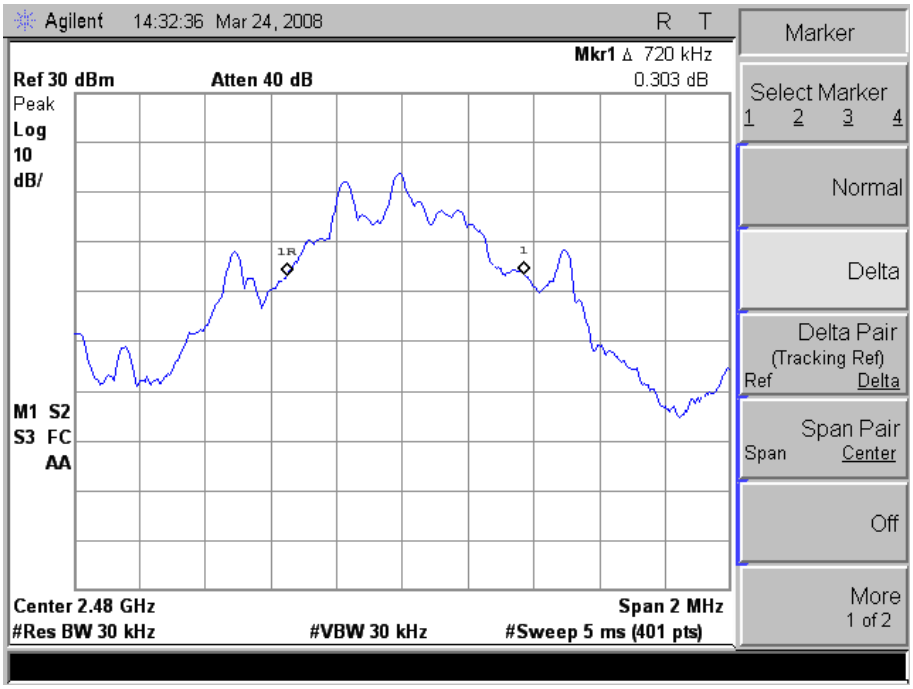
**Bluetooth 2.0 CH00 (2412MHz)**




**Bluetooth 2.0 CH39 (2441MHz)**

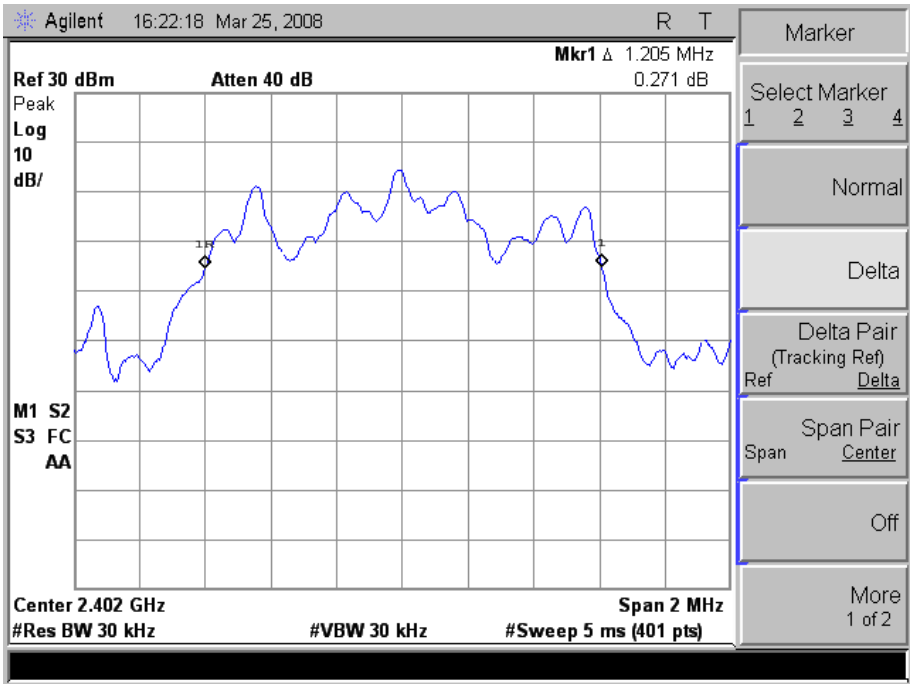


**Bluetooth 2.0 CH78 (2480MHz)**

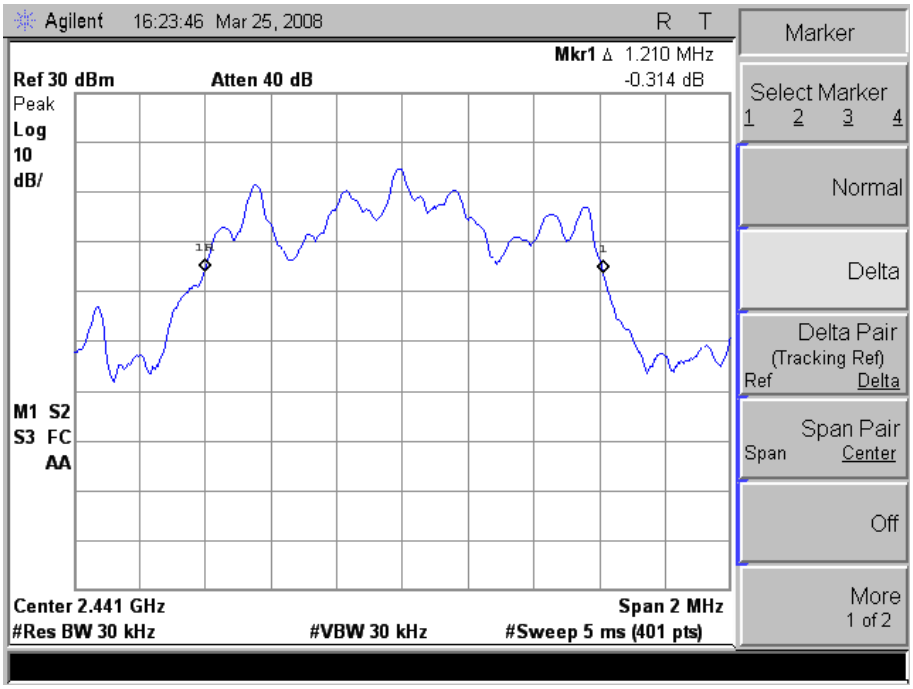


### 5.5.2 Bluetooth EDR Mode:

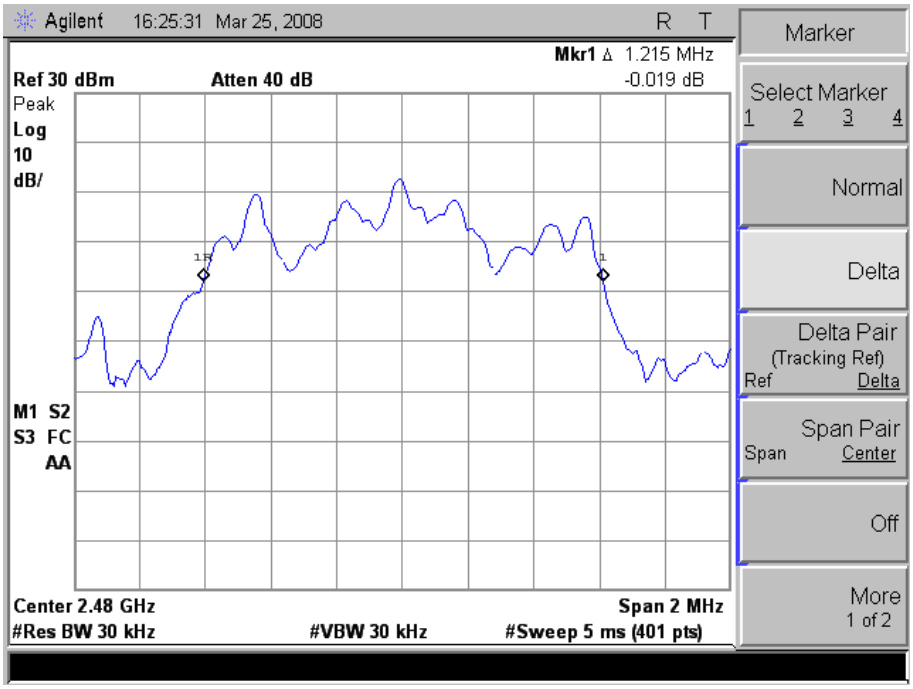
**Bluetooth EDR CH00 (2412MHz)**




**Bluetooth EDR CH39 (2441MHz)**



**Bluetooth EDR CH78 (2480MHz)**



# 6. Carrier Frequency Separation Requirements

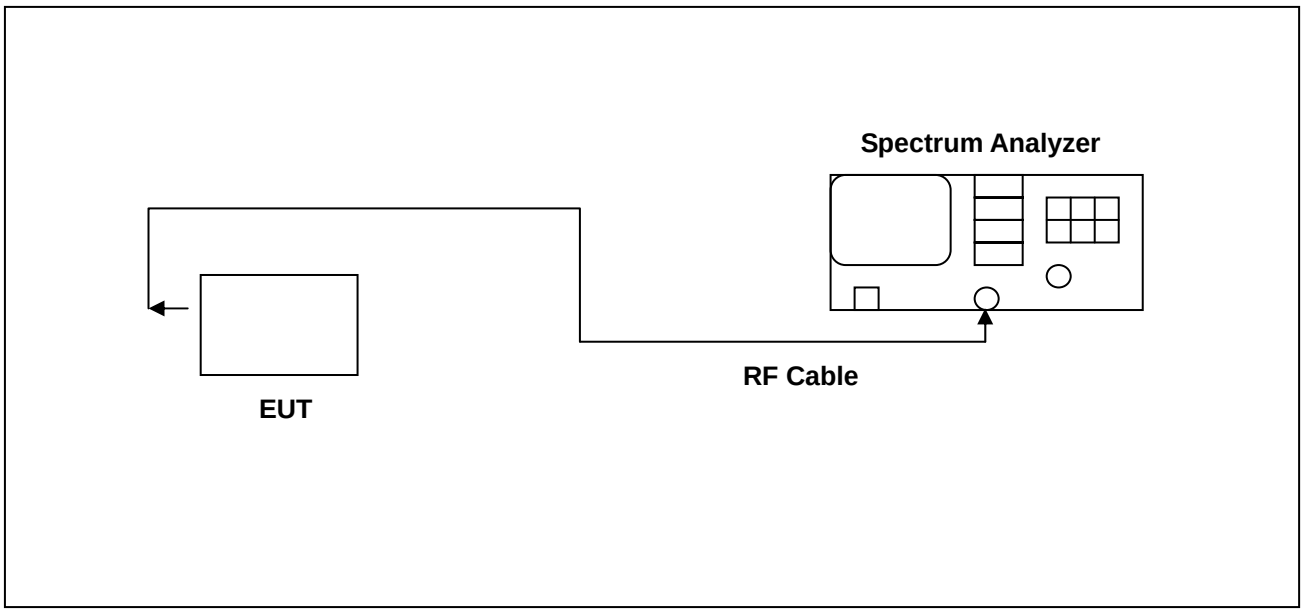
## 6.1 Test Condition & Setup:

The RF output port of the Equipment-Under-Test is directly coupled to the input of the EMC analyzer through a specialized RF connector and a 10dB passive attenuator. A fully charged battery was used for the supply voltage. The Bluetooth transmitter of the V6 had its hopping function enabled. The following spectrum analyzer settings were used:

1. Span = wide enough to capture the peaks of two adjacent channels
2. Resolution (or IF) Bandwidth (RBW) ≥ 1% of the span
3. Video (or Average) Bandwidth (VBW) ≥ RBW
4. Sweep = auto
5. Detector function = peak
6. Trace = max hold

The trace was allowed to stabilize. The marker-delta function was used to determine the separation between the peaks of the adjacent channels.

## 6.2 Test Instruments Configuration:



## 6.3 Test Equipment List:

| Describe | Manufacturer | Model | Serial Number | Calibration | |
|---|---|---|---|---|---|
| | | | | Cal. Date | Due Date |
| Spectrum Analyzer | Agilent | E4445A | MY45300744 | Nov. 29, 2007 | Nov. 29, 2008 |
| Attenuator | RADIALL | R41572000 | 0603033073 | NA | NA |

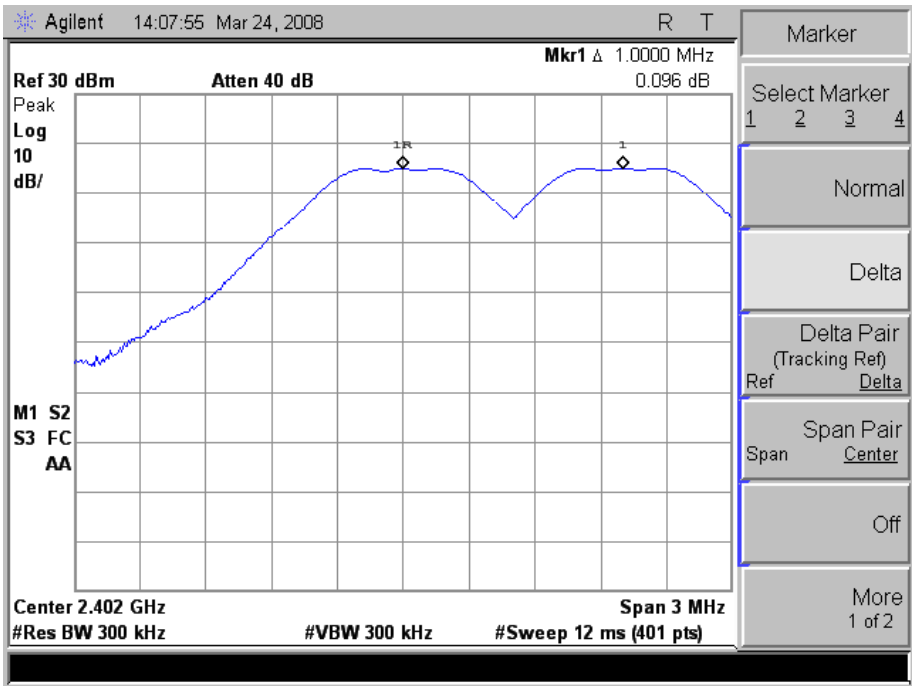
## 6.4 Test Result:

| Carrier Frequency Separation Measure: | 1MHz |
|---|---|

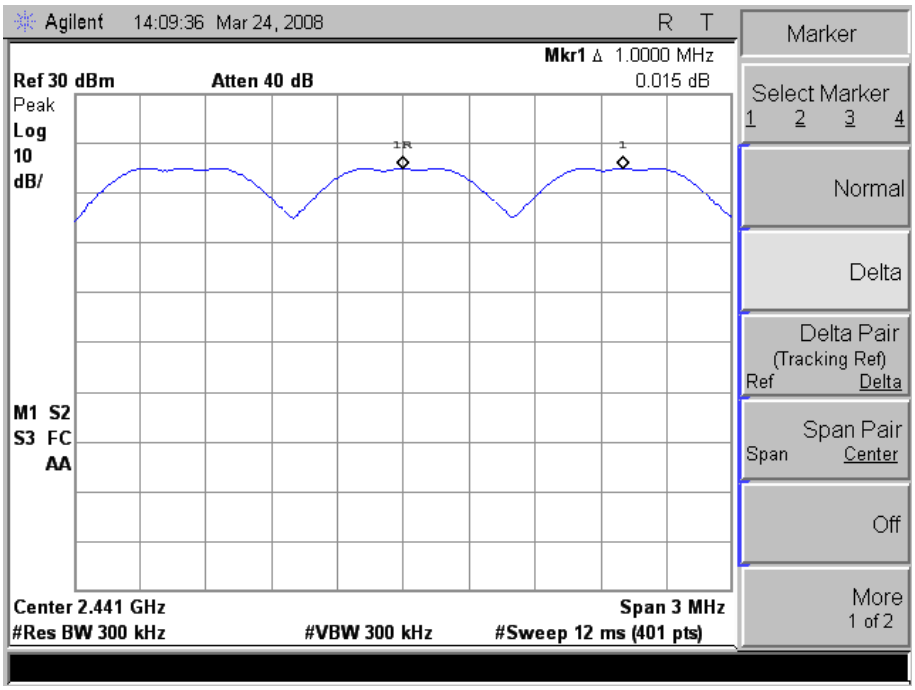
## 6.5 Test Graphs

### 6.5.1 Bluetooth 2.0 Mode:

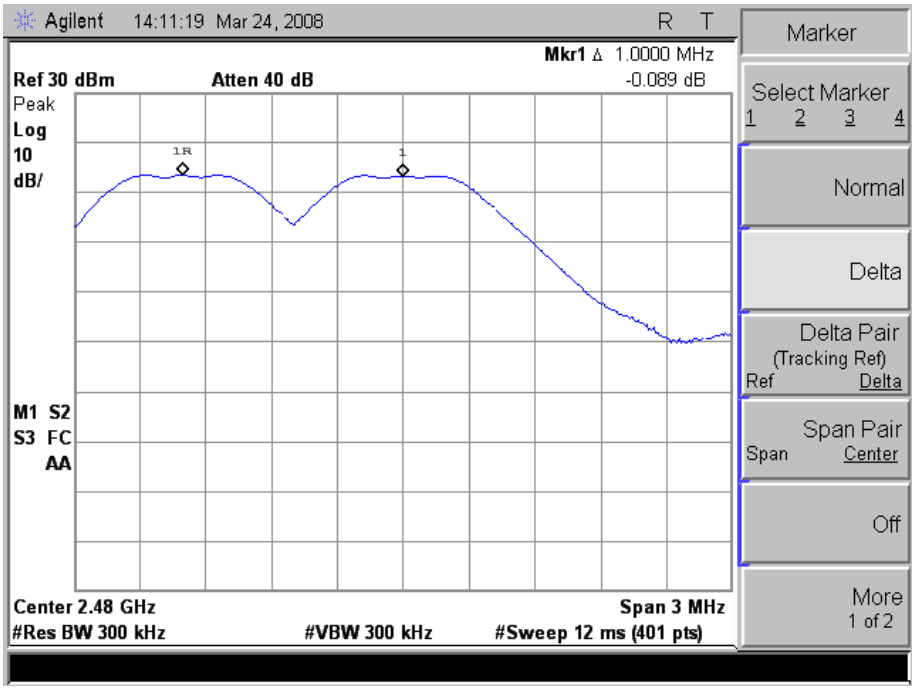
**Bluetooth 2.0 CH00 (2412MHz)**



**Bluetooth 2.0 CH39 (2441MHz)**

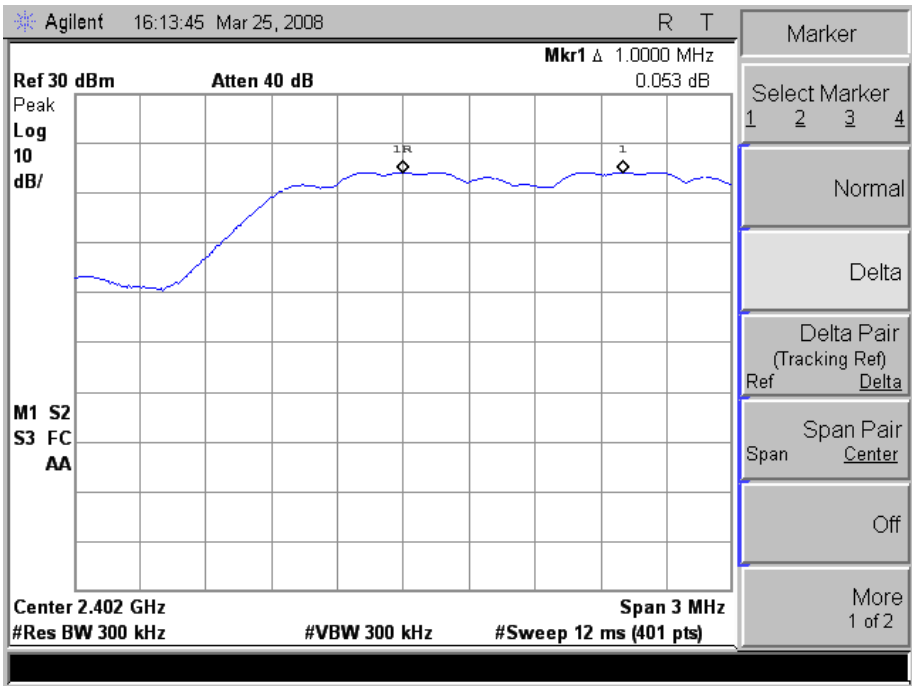



**Bluetooth 2.0 CH78 (2480MHz)**

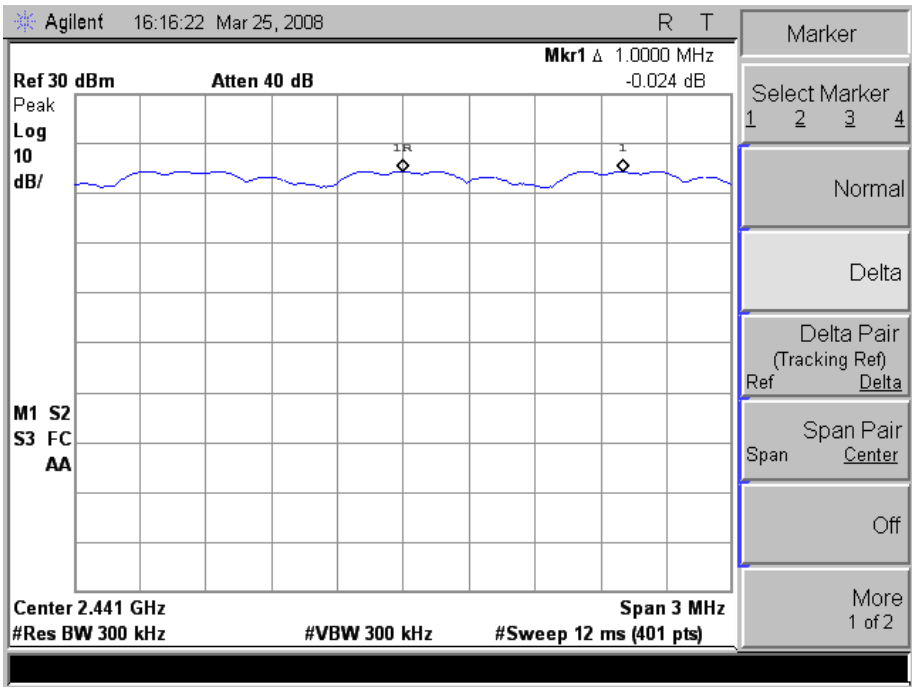


### 6.5.2 Bluetooth EDR Mode:

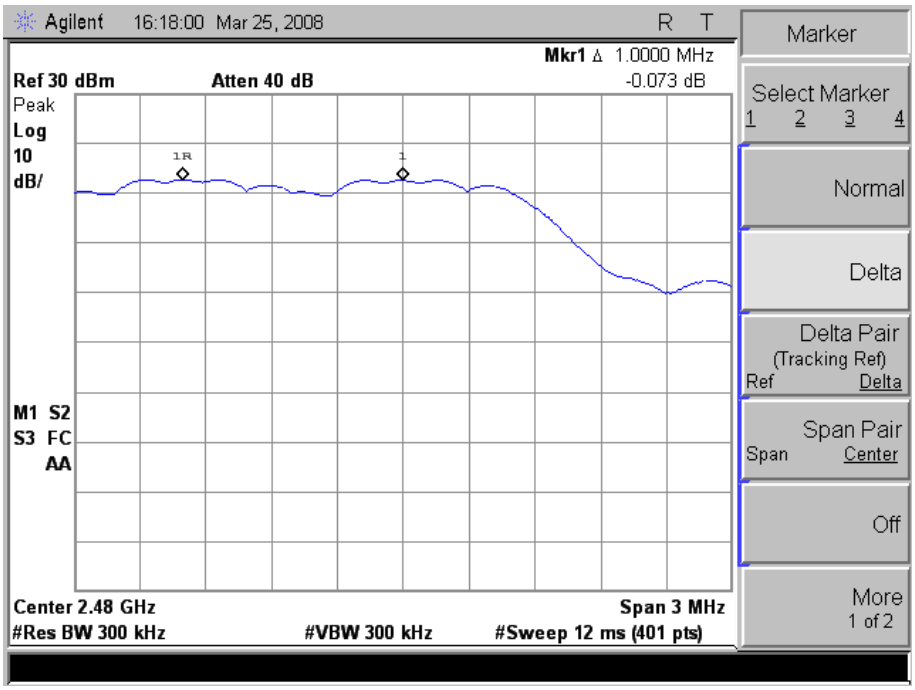
**Bluetooth EDR CH00 (2412MHz)**




**Bluetooth EDR CH39 (2441MHz)**



**Bluetooth EDR CH78 (2480MHz)**



# 7. Number of Hopping Requirements

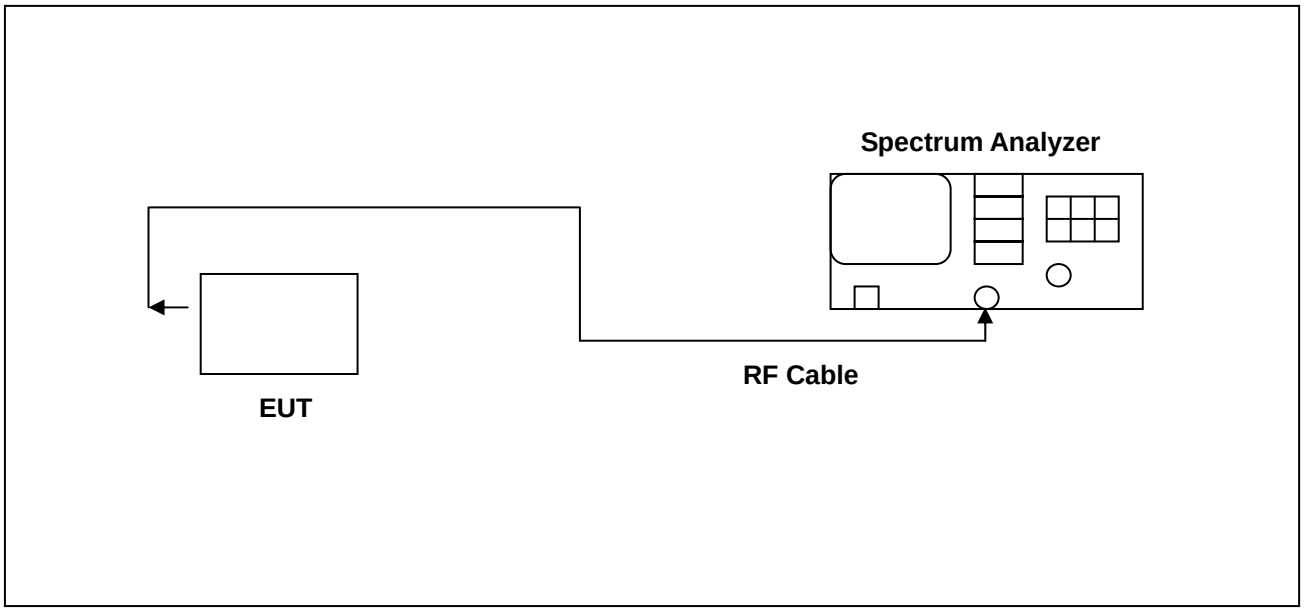
## 7.1 Test Condition & Setup:

The RF output port of the Equipment-Under-Test is directly coupled to the input of the EMC analyzer through a specialized RF connector and a 10dB passive attenuator. A fully charged battery was used for the supply voltage. The Bluetooth frequency hopping function of the EUT was enabled. The spectrum analyzer used the following settings:

1. Span = the frequency band of operation
2. RBW ≥ 1% of the span
3. VBW ≥ RBW
4. Sweep = auto
5. Detector function = peak
6. Trace = max hold

The trace was allowed to stabilize.

## 7.2 Test Instruments Configuration:



## 7.3 Test Equipment List:

| Describe | Manufacturer | Model | Serial Number | Calibration | |
|---|---|---|---|---|---|
| | | | | Cal. Date | Due Date |
| Spectrum Analyzer | Agilent | E4445A | MY45300744 | Nov. 29, 2007 | Nov. 29, 2008 |
| Attenuator | RADIALL | R41572000 | 0603033073 | NA | NA |

## 7.4 Test Result:

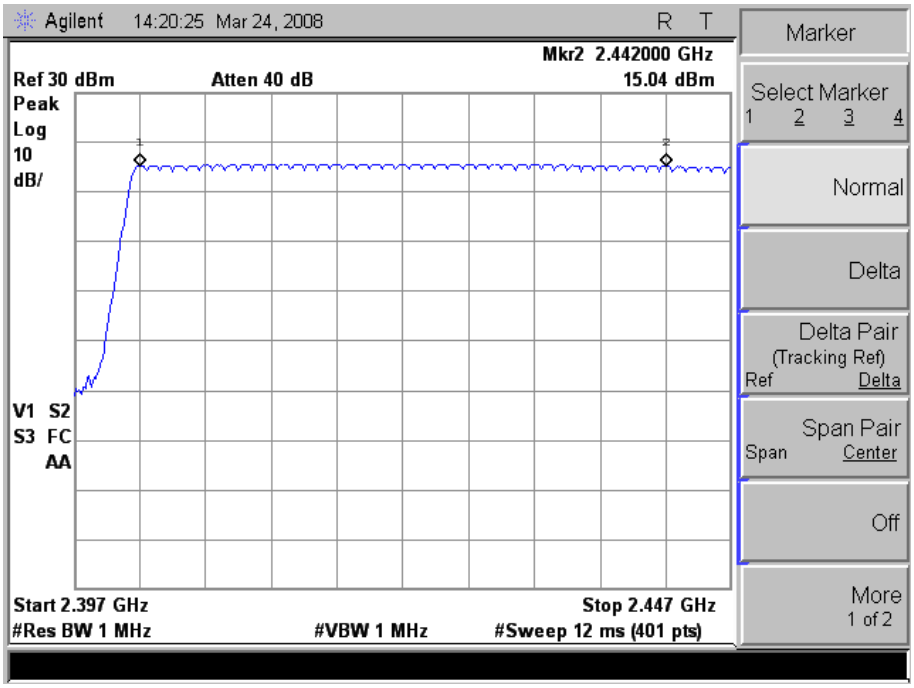
| Number of Hopping Measure: | 79CH |
|---|---|

Note: Test Graphs See next page.

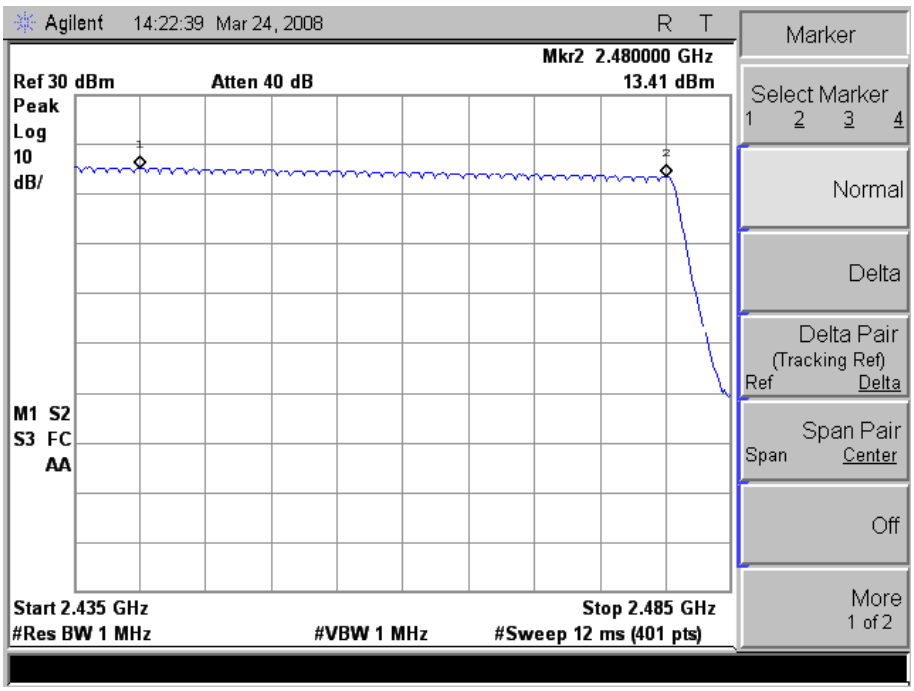
## 7.5 Test Graphs

### 7.5.1 Bluetooth 2.0 Mode:

**Bluetooth 2.0 Mode CH0~CH39**

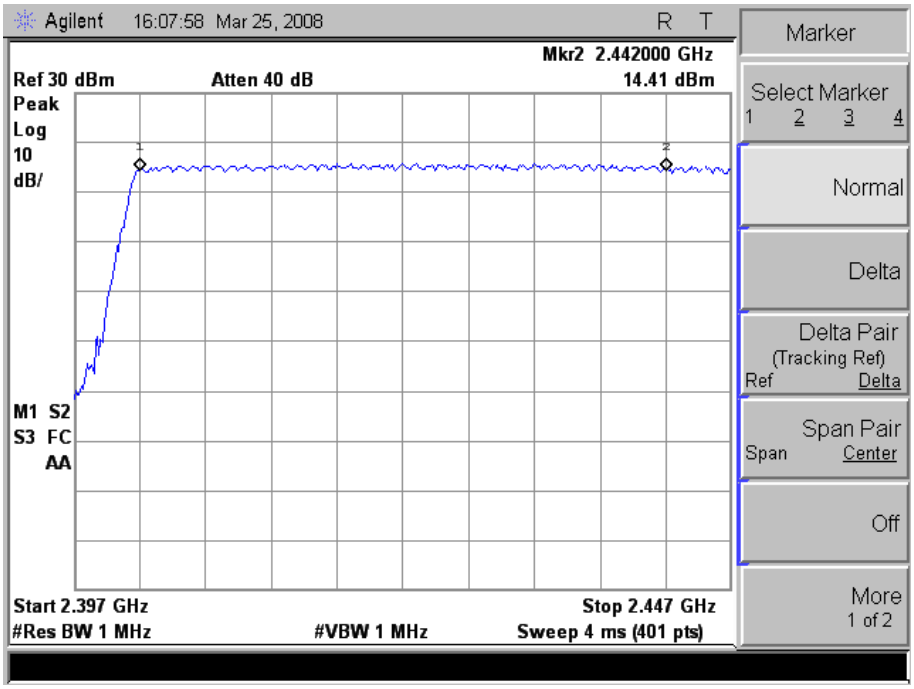



**Bluetooth 2.0 Mode CH40~CH78**

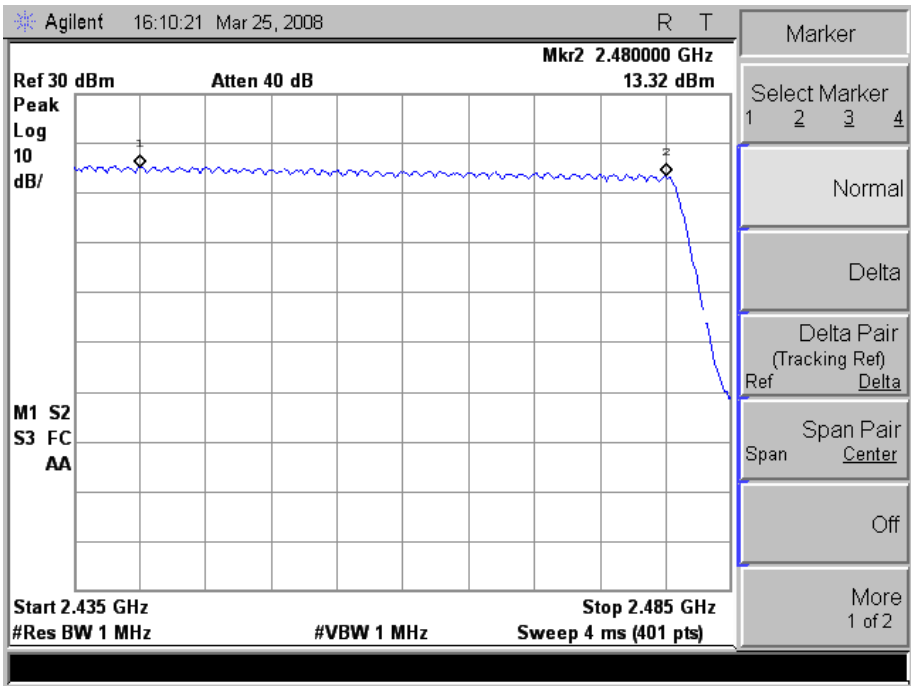


### 7.5.2 Bluetooth EDR Mode:

**Bluetooth EDR Mode CH0~CH39**




**Bluetooth EDR Mode CH40~CH78**



# 8. Time of Occupancy (Dwell Time) Requirements

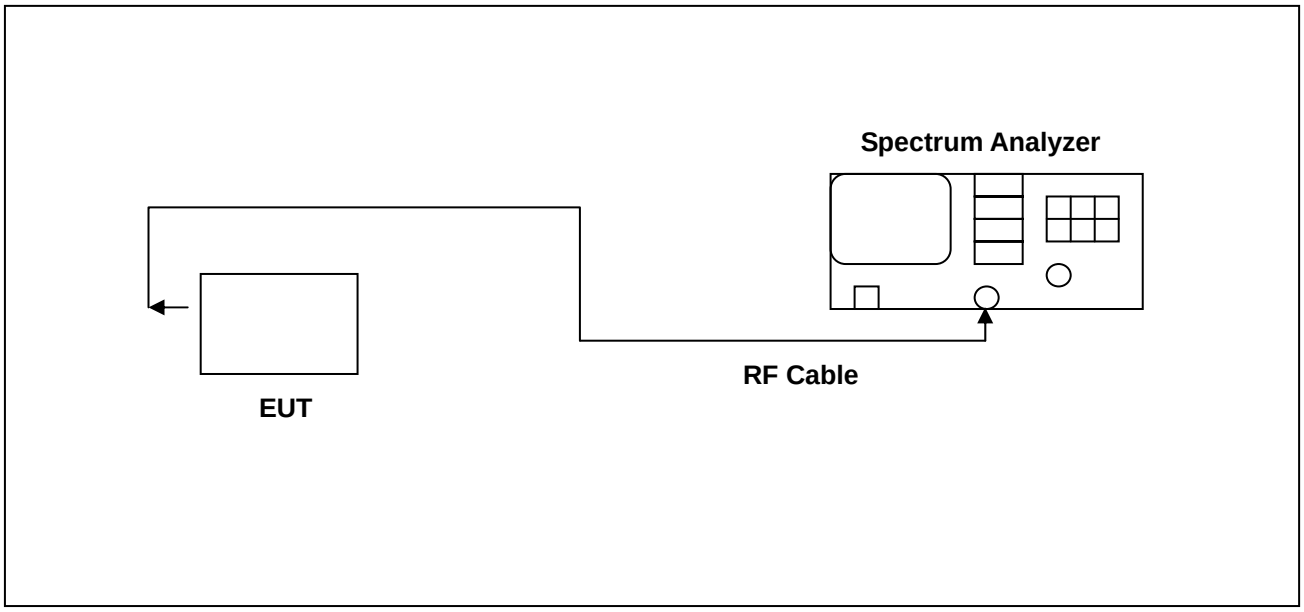
## 8.1 Test Condition & Setup:

The RF output port of the Equipment-Under-Test is directly coupled to the input of the EMC analyzer through a specialized RF connector and a 10dB passive attenuator. A fully charged battery was used for the supply voltage. The Bluetooth hopping function of the EUT was enabled. The following spectrum analyzer settings were used:

1. Span = zero span, centered on a hopping channel
2. RBW = 1 MHz
3. VBW ≥ RBW
4. Sweep = as necessary to capture the entire dwell time per hopping channel
5. Detector function = peak
6. Trace = max hold

The marker-delta function was used to determine the dwell time.

## 8.2 Test Instruments Configuration:



## 8.3 Test Equipment List:

| Describe | Manufacturer | Model | Serial Number | Calibration | |
|---|---|---|---|---|---|
| | | | | Cal. Date | Due Date |
| Spectrum Analyzer | Agilent | E4445A | MY45300744 | Nov. 29, 2007 | Nov. 29, 2008 |
| Attenuator | RADIALL | R41572000 | 0603033073 | NA | NA |

## 8.4 Test Result

### 8.4.1 Bluetooth 2.0 Mode:

**Bluetooth 2.0 DH1 Mode**

| | |
|---|---|
| **Cycle Calculate** | 79CH * 0.4 = 31.6 (sec) |
| **The EUT Hopping Number per Sec** | 1600 times/sec |
| **Each Channel Dwell Times per Sec** | 800/79CH = 10.13(times/sec) |
| **Each Channel Dwell Times (1)** | **0.41** ms (sec) |
| **Each Channel Dwell Times on Cycle(2)** | 31.6 * 10.13 = 320.108(times) |
| **Dwell Times on Cycle (1) * (2)** | **131.24428** ms (sec) |
| **LIMIT(msec)** | < = 400 |

**Bluetooth 2.0 DH3 Mode**

| | |
|---|---|
| **Cycle Calculate** | 79CH * 0.4 = 31.6 (sec) |
| **The EUT Hopping Number per Sec** | 1600 times/sec |
| **Each Channel Dwell Times per Sec** | 400/79CH=5.1(times/sec) |
| **Each Channel Dwell Times (1)** | **1.66** ms (sec) |
| **Each Channel Dwell Times on Cycle(2)** | 31.6*5.1=161.16(times) |
| **Dwell Times on Cycle (1) * (2)** | **267.5256** ms (sec) |
| **LIMIT(msec)** | < = 400 |

**Bluetooth 2.0 DH5 Mode**

| | |
|---|---|
| **Cycle Calculate** | 79CH * 0.4 = 31.6 (sec) |
| **The EUT Hopping Number per Sec** | 1600 times/sec |
| **Each Channel Dwell Times per Sec** | 266.7/79CH=3.37 (times/sec) |
| **Each Channel Dwell Times (1)** | **2.91** ms (sec) |
| **Each Channel Dwell Times on Cycle(2)** | 31.6*2.82=106.492 (times) |
| **Dwell Times on Cycle (1) * (2)** | **309.8917** ms (sec) |
| **LIMIT(msec)** | < = 400 |

**Note: RB=1MHz; VB=1MHz; SPAN=0MHz; Sweep Time=20msec**

### 8.4.2 Bluetooth EDR Mode:

**Bluetooth EDR 3DH1 Mode**

| | |
|---|---|
| **Cycle Calculate** | 79CH * 0.4 = 31.6 (sec) |
| **The EUT Hopping Number per Sec** | 1600 times/sec |
| **Each Channel Dwell Times per Sec** | 800/79CH = 10.13(times/sec) |
| **Each Channel Dwell Times (1)** | **0.42** ms (sec) |
| **Each Channel Dwell Times on Cycle(2)** | 31.6 * 10.13 = 320.108(times) |
| **Dwell Times on Cycle (1) * (2)** | **134.4453** ms (sec) |
| **LIMIT(msec)** | < = 400 |

**Bluetooth EDR 3DH3 Mode**

| | |
|---|---|
| **Cycle Calculate** | 79CH * 0.4 = 31.6 (sec) |
| **The EUT Hopping Number per Sec** | 1600 times/sec |
| **Each Channel Dwell Times per Sec** | 400/79CH=5.1(times/sec) |
| **Each Channel Dwell Times (1)** | **1.68** ms (sec) |
| **Each Channel Dwell Times on Cycle(2)** | 31.6*5.1=161.16(times) |
| **Dwell Times on Cycle (1) * (2)** | **270.7488** ms (sec) |
| **LIMIT(msec)** | < = 400 |

**Bluetooth EDR 3DH5 Mode**

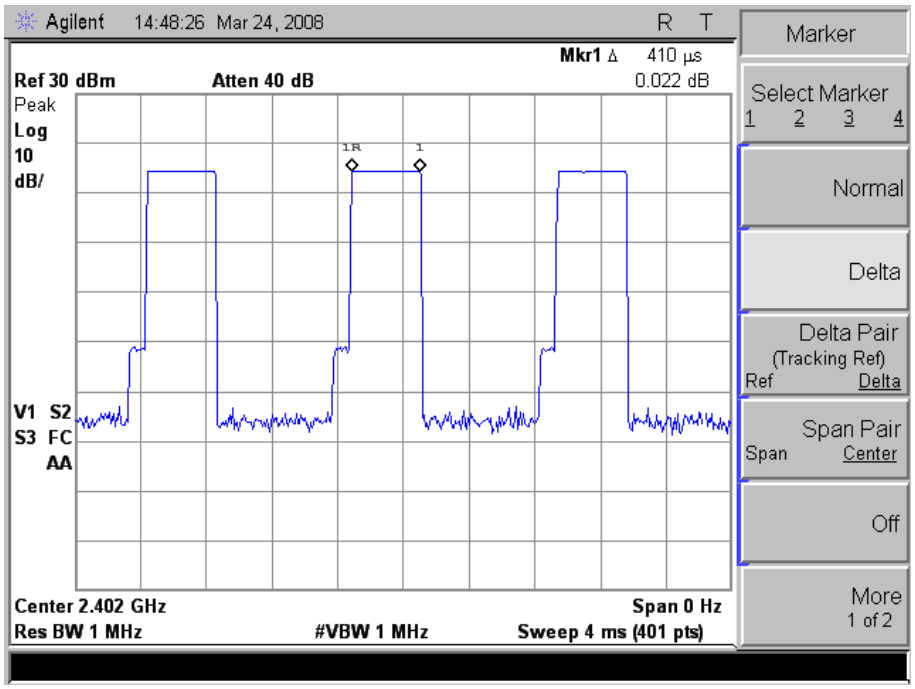
| | |
|---|---|
| **Cycle Calculate** | 79CH * 0.4 = 31.6 (sec) |
| **The EUT Hopping Number per Sec** | 1600 times/sec |
| **Each Channel Dwell Times per Sec** | 266.7/79CH=3.37 (times/sec) |
| **Each Channel Dwell Times (1)** | **2.91** ms (sec) |
| **Each Channel Dwell Times on Cycle(2)** | 31.6*2.82=106.492 (times) |
| **Dwell Times on Cycle (1) * (2)** | **309.8917** ms (sec) |
| **LIMIT(msec)** | < = 400 |

**Note: RB=1MHz; VB=1MHz; SPAN=0MHz; Sweep Time=20msec**

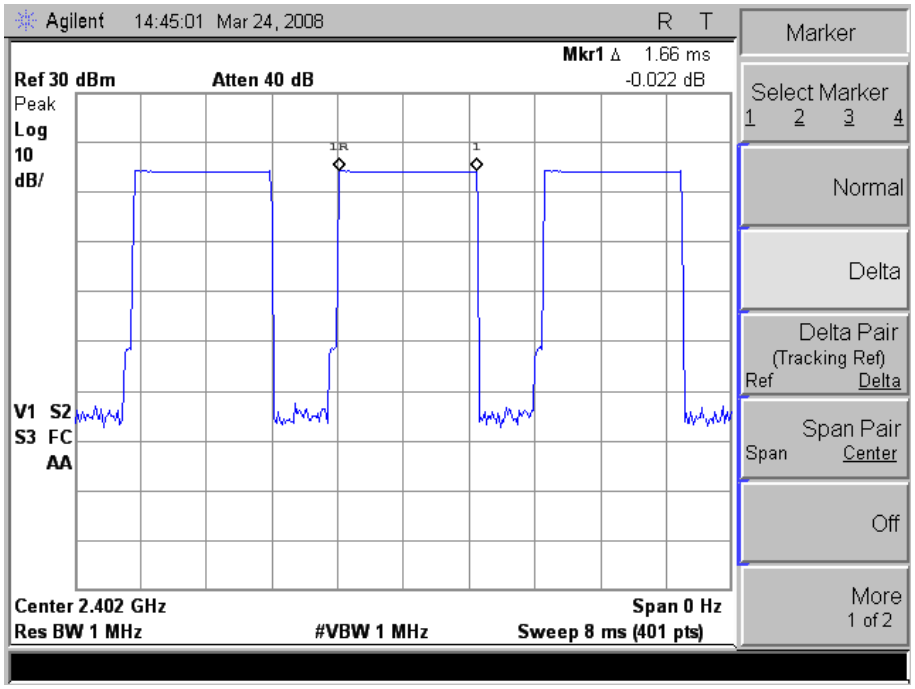
## 8.5 Test Graphs

### 8.5.1 Bluetooth 2.0 Mode:

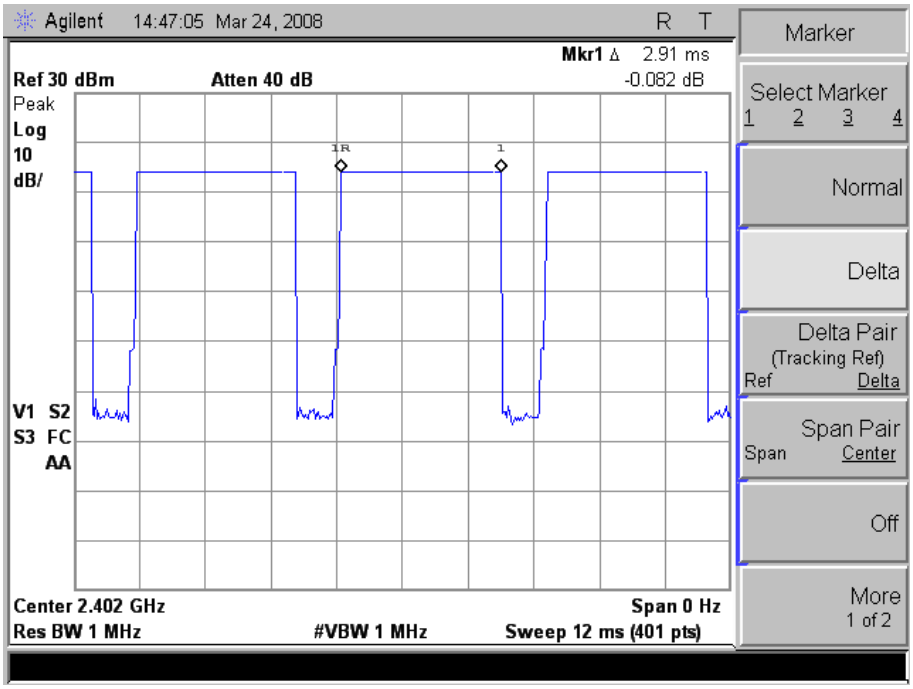
**Bluetooth 2.0 DH1**




**Bluetooth 2.0 DH3**

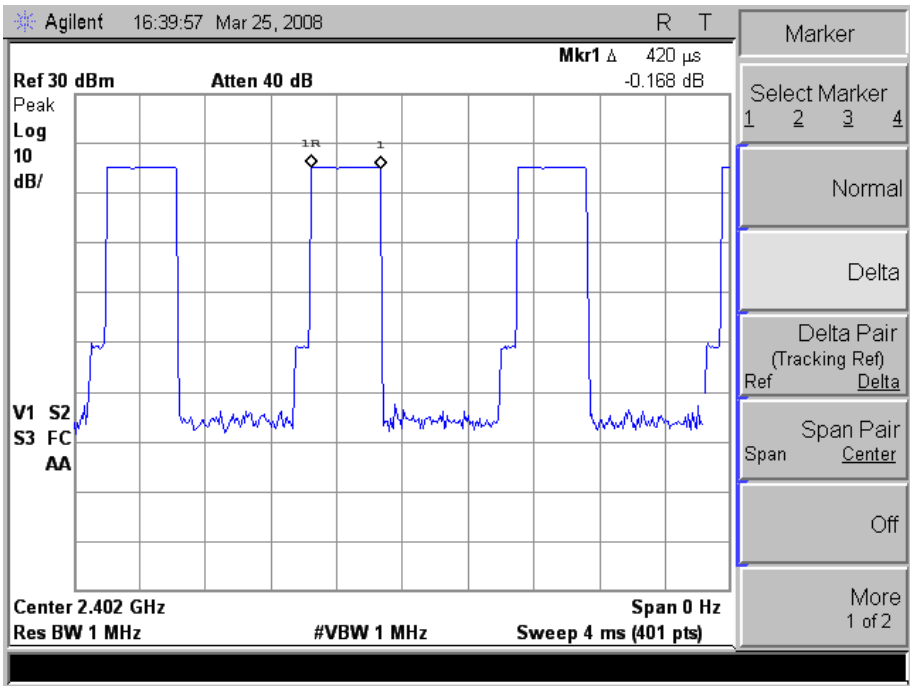


**Bluetooth 2.0 DH5**

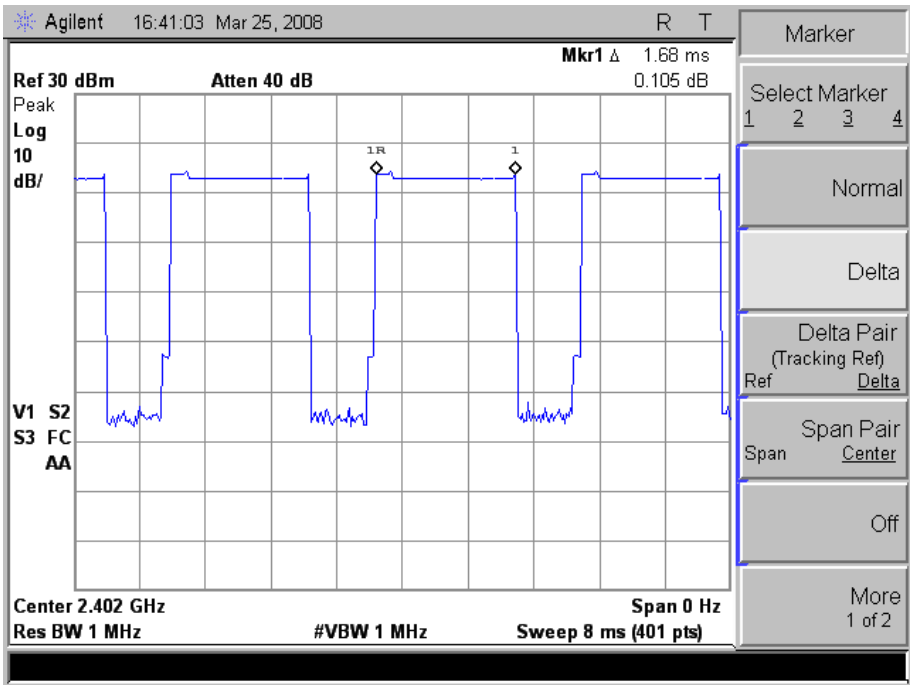


### 8.5.2 Bluetooth EDR Mode:

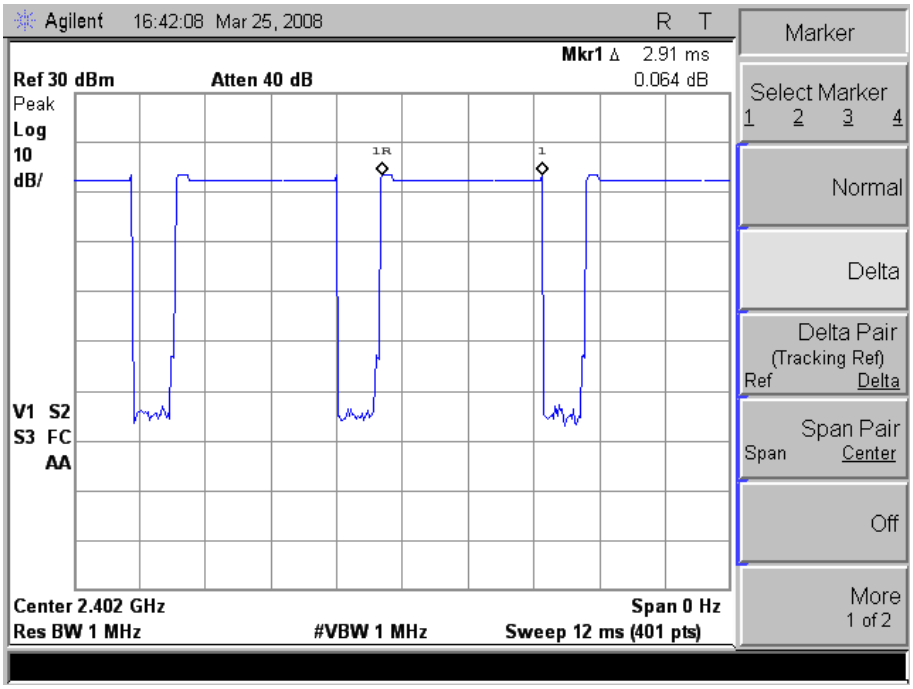
**Bluetooth EDR 3DH1**




**Bluetooth EDR 3DH3**



**Bluetooth EDR DH5**



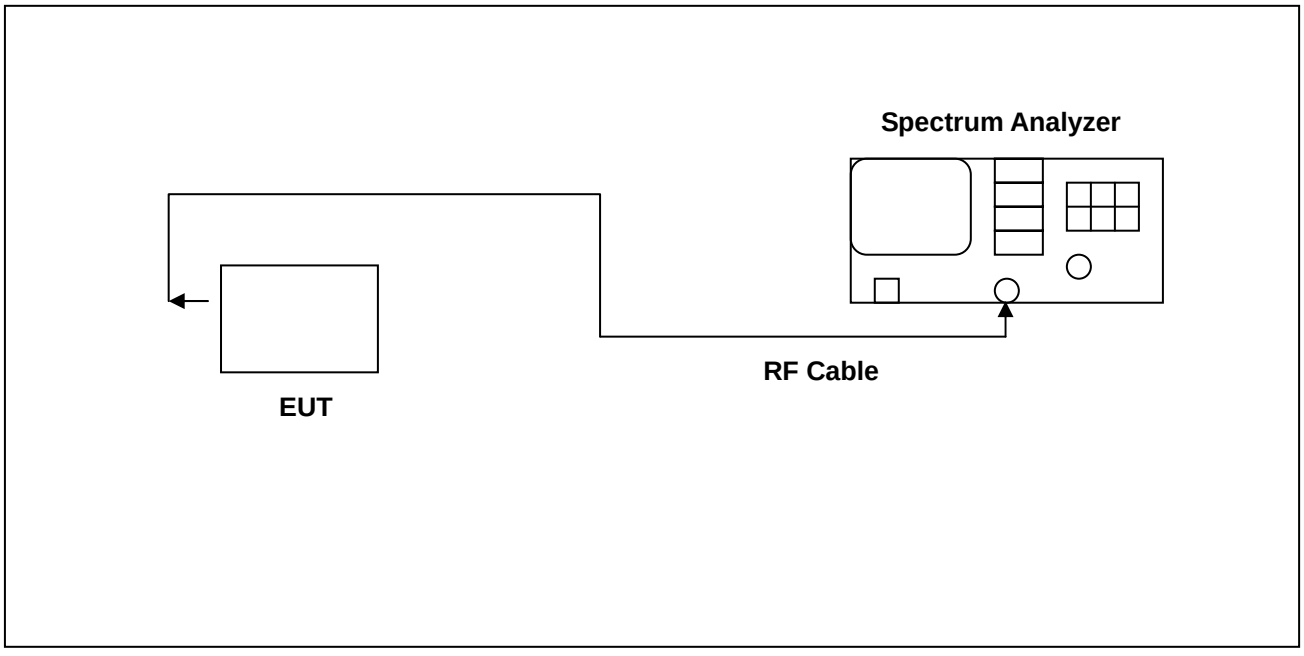
# 9. Out of Band Conducted Emissions Requirements

## 9.1 Test Condition & Setup:

In any 100 kHz bandwidth outside the EUT pass band, the RF power produced by the modulation products of the spreading sequence, the information sequence, and the carrier frequency shall be at least 20 dB below that of the maximum in-band 100 kHz emission, antenna output of the EUT was coupled directly to spectrum analyzer; if an external attenuator and/or cable was used, these losses are compensated for with the analyzer OFFSET function.

All other types of emissions from the EUT shall meet the general limits for radiated frequencies outside the pass band. The test was performed at 3 channels (Channel 1, 6, 11)

## 9.2 Test Instruments Configuration:



## 9.3 Test Equipment List:

| Describe | Manufacturer | Model | Serial Number | Calibration | |
|---|---|---|---|---|---|
| | | | | Cal. Date | Due Date |
| Spectrum Analyzer | Agilent | E4445A | MY45300744 | Nov. 29, 2007 | Nov. 29, 2008 |

## 9.4 Test Result:

Refer to attached data sheets. Data shows out of band emissions are suppressed well below the -20 dBc minimum required by the Rules.

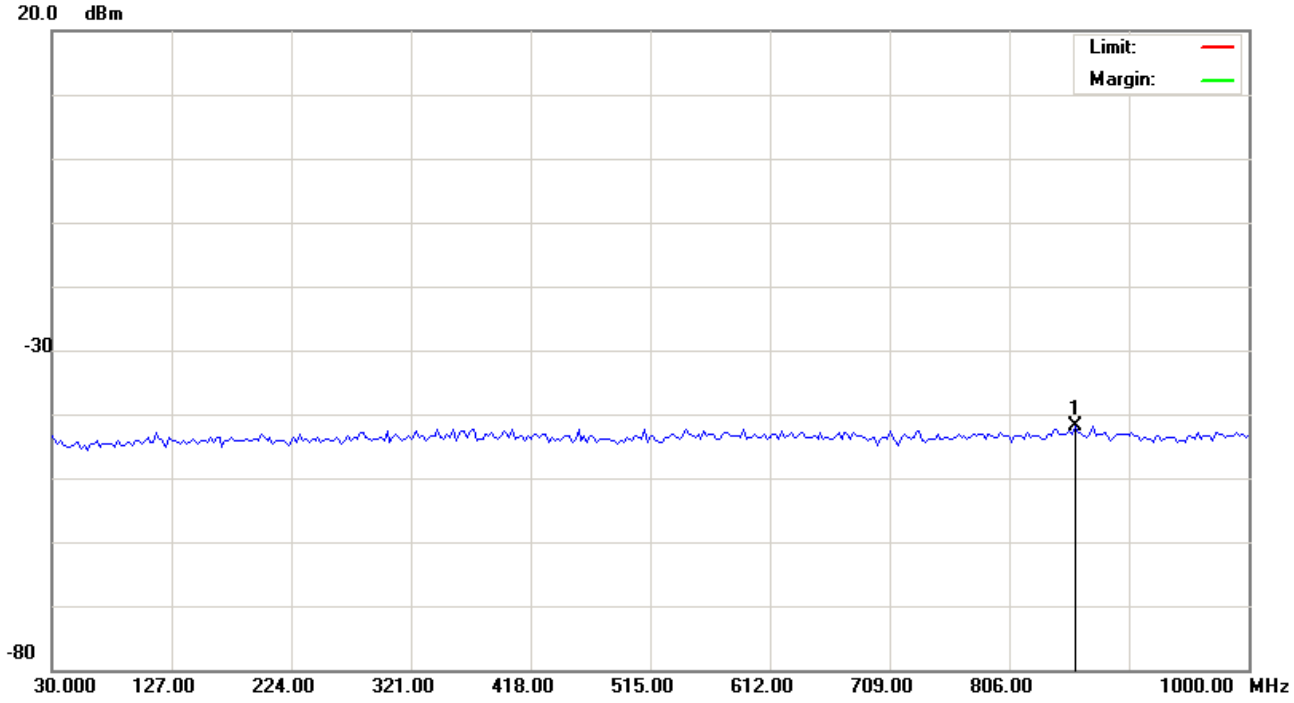
Note: Test Graphs See next page.

## 9.5 Test Graphs

### 9.5.1 Bluetooth 2.0 Mode:

Applicant : GN NETCOM A/S
Model No : A335W
EUT : Bluetooth class 1 plug and play dongle
Test Mode : Bluetooth 2.0
Test Date : 03/25/2008
Please refer to next pager of detail testing data.

File :A335W(BT) Data :#1 Date: 2008/03/25 Time: 下午 05:01:43




Site site#1
Limit:
EUT:
M/N: A335W
Mode: BT
Note: CH2402

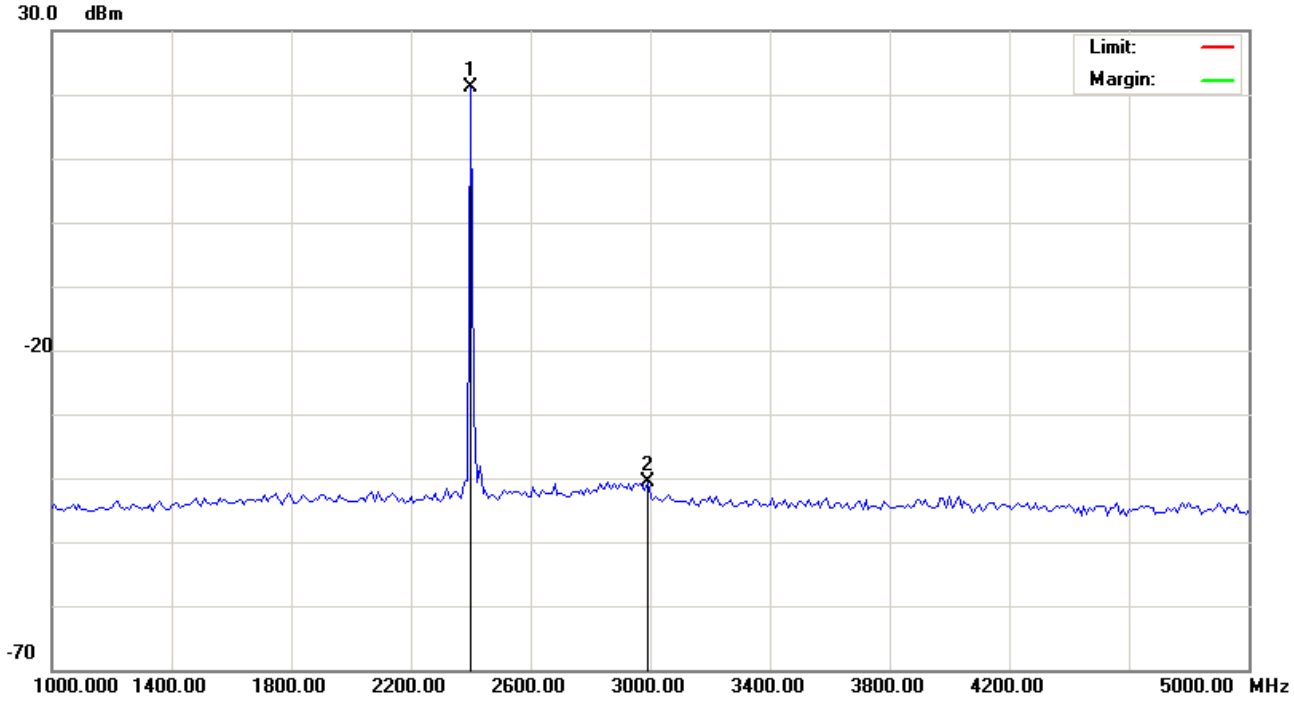
Polarization:
Power: AC 110V/60Hz
Distance: 3m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 859.3500 | -47.86 | 6.03 | -41.83 | | | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

File :A335W(BT) Data :#2 Date: 2008/03/25 Time: 下午 05:01:56




Site site#1
Limit:
EUT:
M/N: A335W
Mode: BT
Note: CH2402

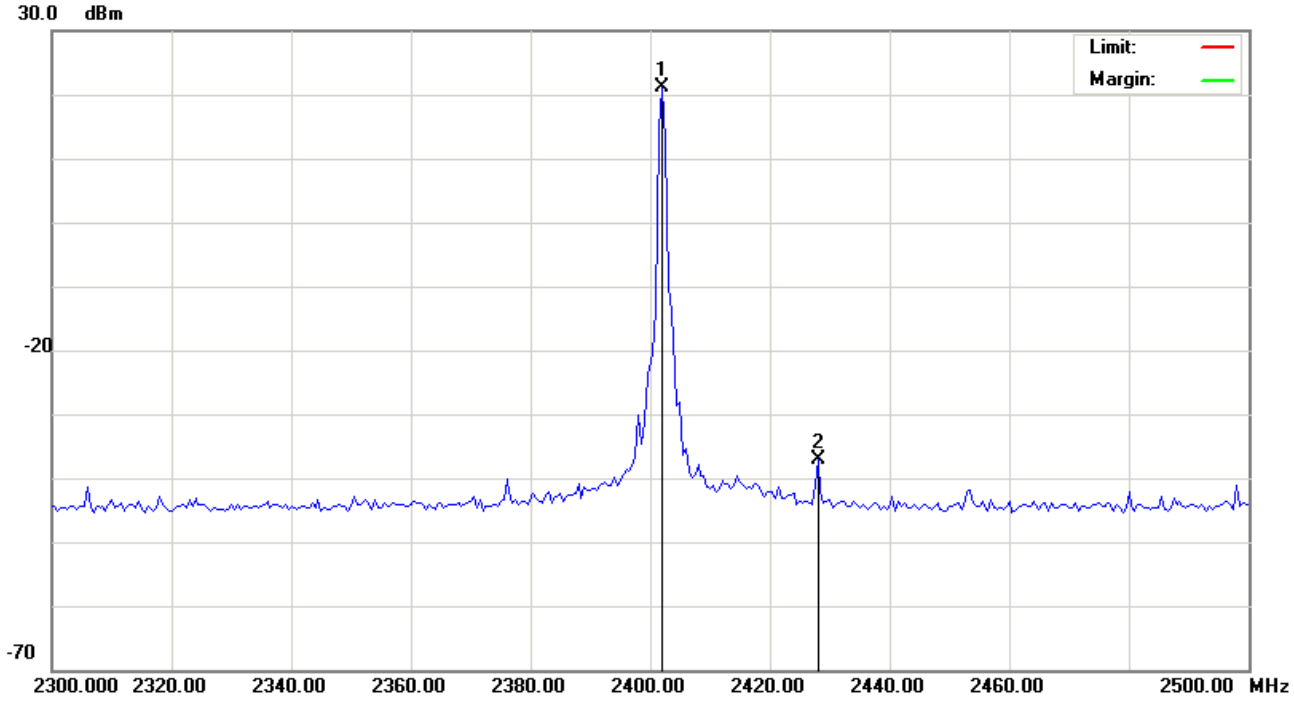
Polarization:
Power: AC 110V/60Hz
Distance: 3m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 2400.000 | 15.10 | 6.09 | 21.19 | | | peak | | | |
| 2 | | 2990.000 | -46.66 | 6.11 | -40.55 | | | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

File :A335W(BT) Data :#3 Date: 2008/03/25 Time: 下午 05:02:09




Site site#1
Limit:
EUT:
M/N: A335W
Mode: BT
Note: CH2402

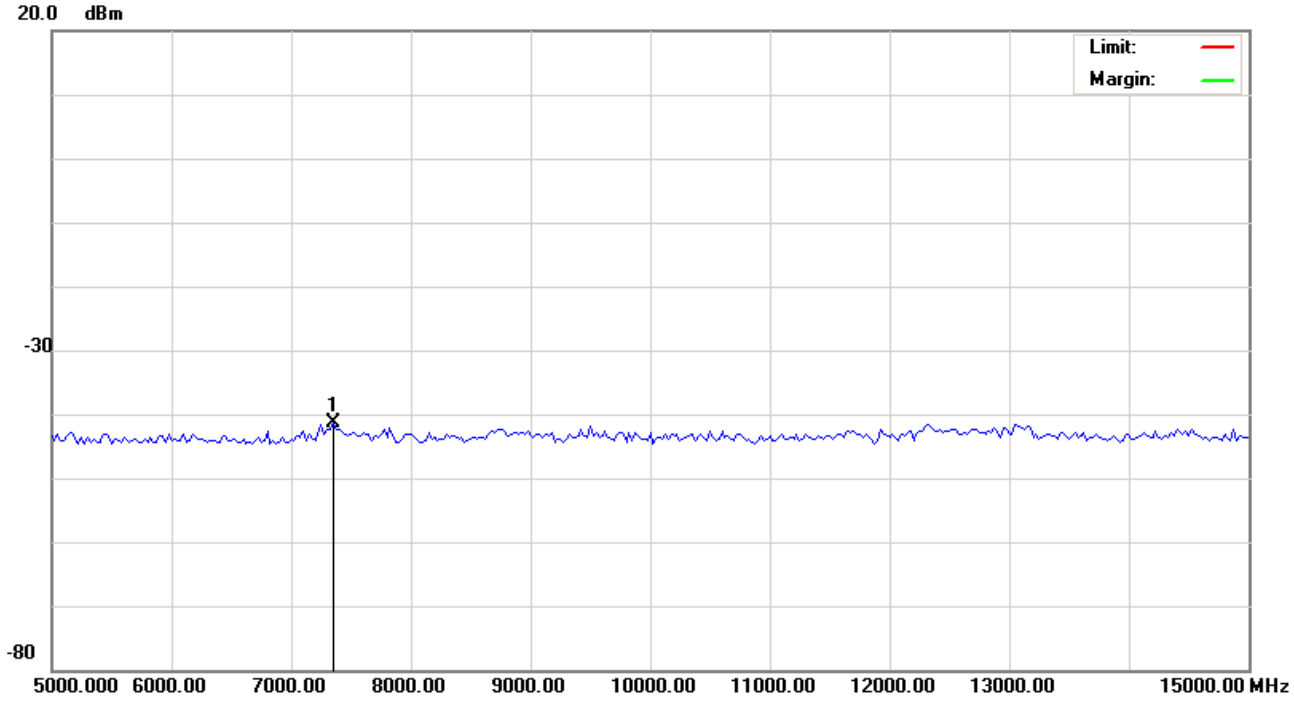
Polarization:
Power: AC 110V/60Hz
Distance: 3m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 2402.000 | 15.03 | 6.09 | 21.12 | | | peak | | | |
| 2 | | 2428.000 | -43.24 | 6.09 | -37.15 | | | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

File :A335W(BT) Data :#4 Date: 2008/03/25 Time: 下午 05:02:22




Site site#1
Limit:
EUT:
M/N: A335W
Mode: BT
Note: CH2402

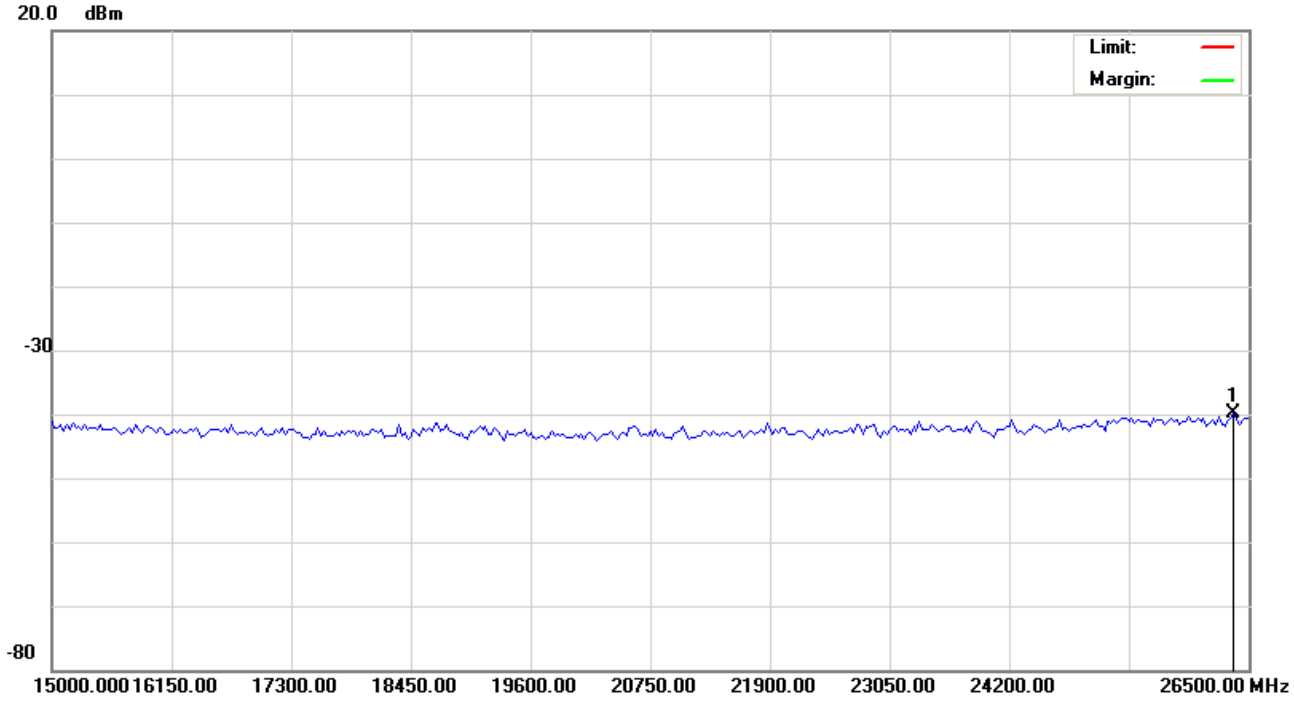
Polarization:
Power: AC 110V/60Hz
Distance: 3m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 7350.000 | -47.68 | 6.28 | -41.40 | | | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

File :A335W(BT) Data :#5 Date: 2008/03/25 Time: 下午 05:02:35




Site site#1
Limit:
EUT:
M/N: A335W
Mode: BT
Note: CH2402

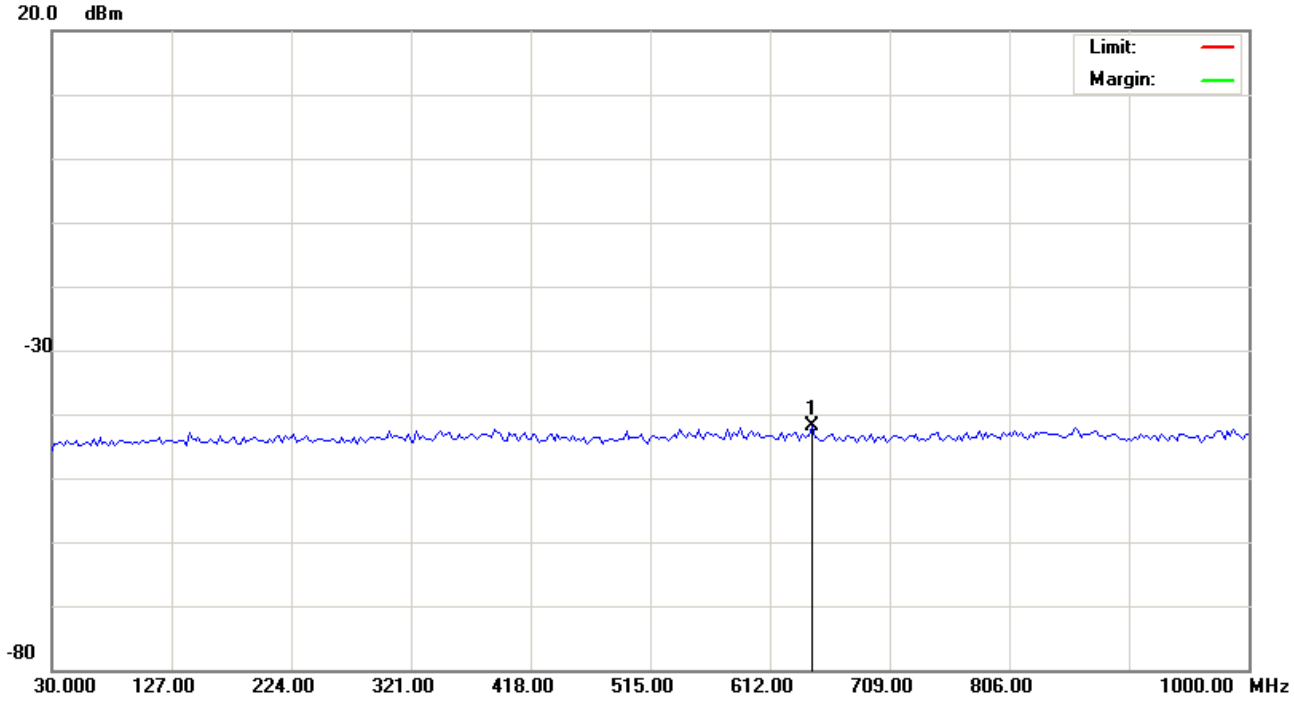
Polarization:
Power: AC 110V/60Hz
Distance: 3m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 26356.25 | -46.76 | 6.99 | -39.77 | | | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

File :A335W(BT) Data :#6 Date: 2008/03/25 Time: 下午 05:04:32




Site site#1
Limit:
EUT:
M/N: A335W
Mode: BT
Note: CH2441

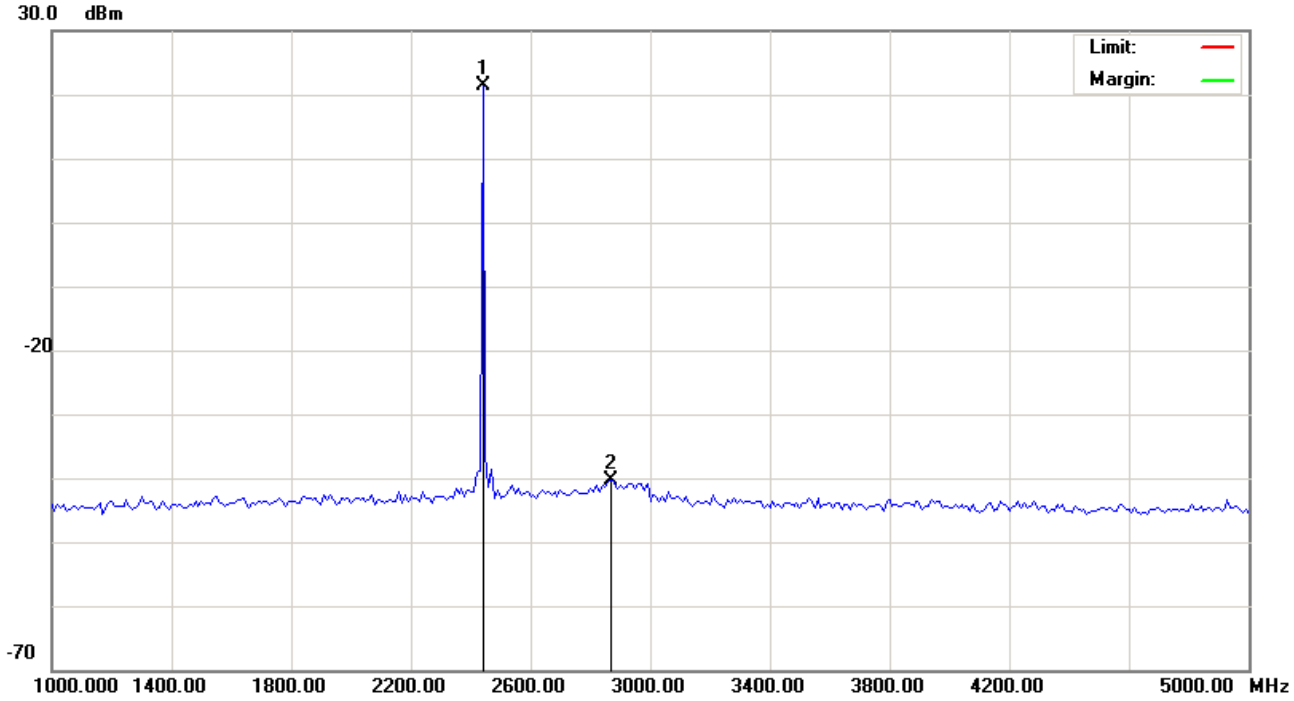
Polarization:
Power: AC 110V/60Hz
Distance: 3m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 645.9500 | -47.98 | 6.02 | -41.96 | | | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

File :A335W(BT) Data :#7 Date: 2008/03/25 Time: 下午 05:04:45




Site site#1
Limit:
EUT:
M/N: A335W
Mode: BT
Note: CH2441

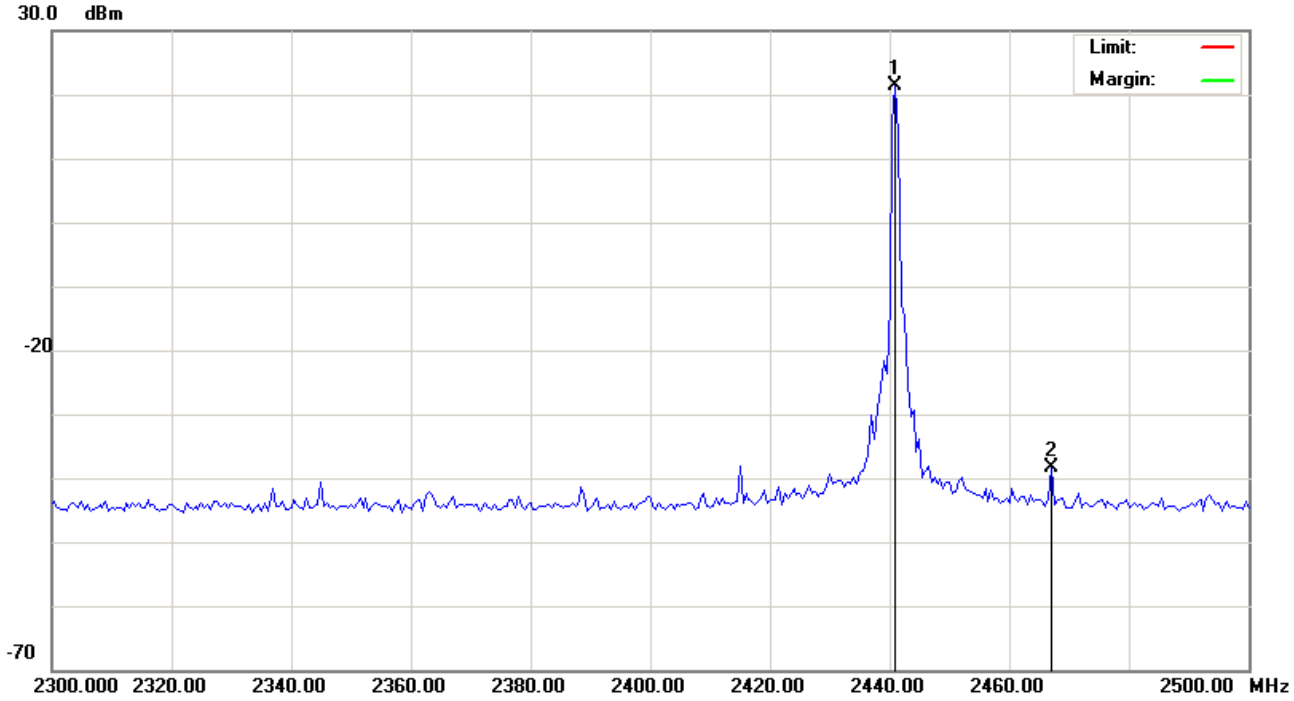
Polarization:
Power: AC 110V/60Hz
Distance: 3m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 2440.000 | 15.30 | 6.09 | 21.39 | | | peak | | | |
| 2 | | 2870.000 | -46.54 | 6.11 | -40.43 | | | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

File :A335W(BT) Data :#8 Date: 2008/03/25 Time: 下午 05:04:58




Site site#1
Limit:
EUT:
M/N: A335W
Mode: BT
Note: CH2441

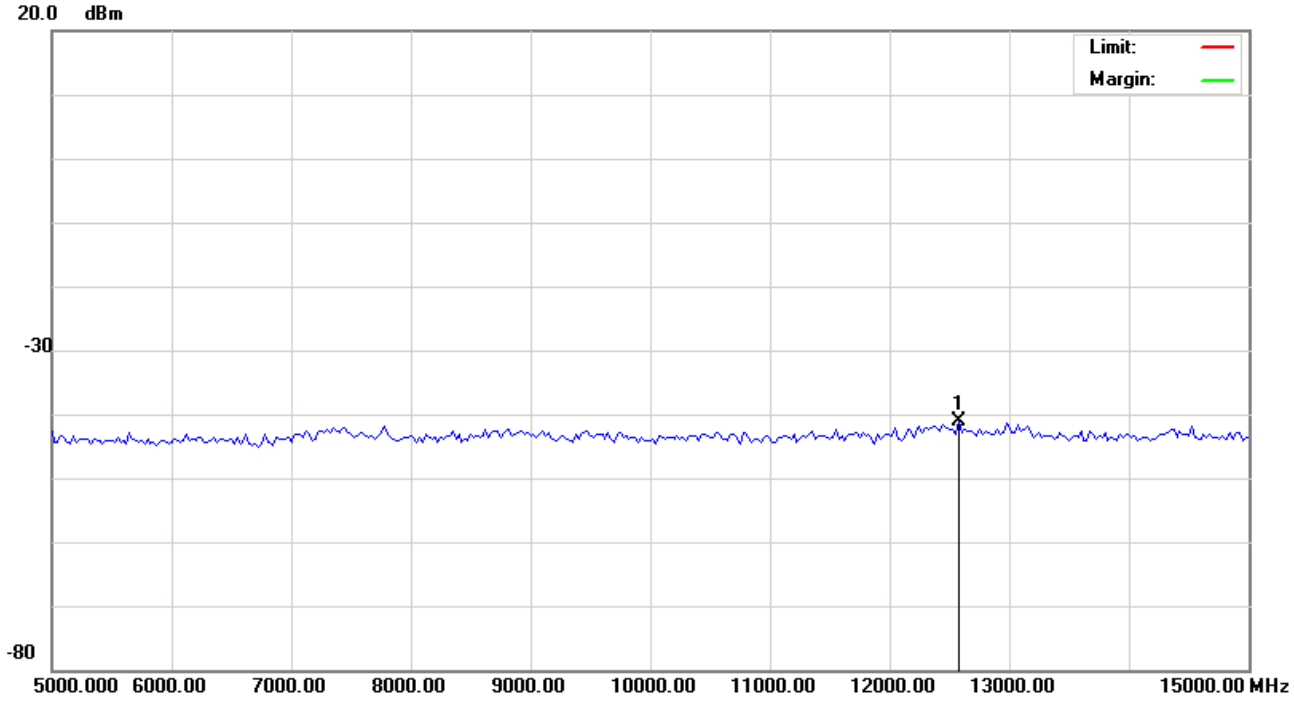
Polarization:
Power: AC 110V/60Hz
Distance: 3m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 2441.000 | 15.32 | 6.09 | 21.41 | | | peak | | | |
| 2 | | 2467.000 | -44.46 | 6.09 | -38.37 | | | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

File :A335W(BT) Data :#9 Date: 2008/03/25 Time: 下午 05:05:11




Site site#1
Limit:
EUT:
M/N: A335W
Mode: BT
Note: CH2441

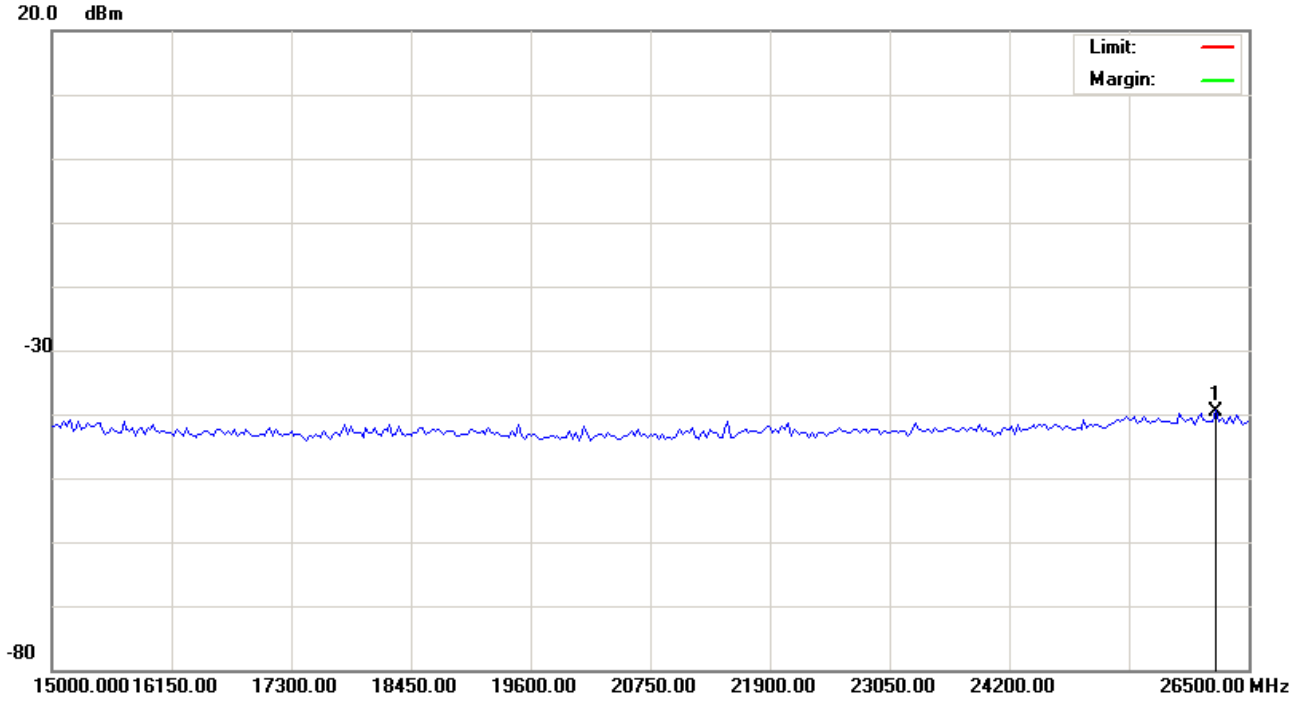
Polarization:
Power: AC 110V/60Hz
Distance: 3m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 12575.00 | -47.49 | 6.47 | -41.02 | | | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

File :A335W(BT) Data :#10 Date: 2008/03/25 Time: 下午 05:05:24




Site site#1
Limit:
EUT:
M/N: A335W
Mode: BT
Note: CH2441

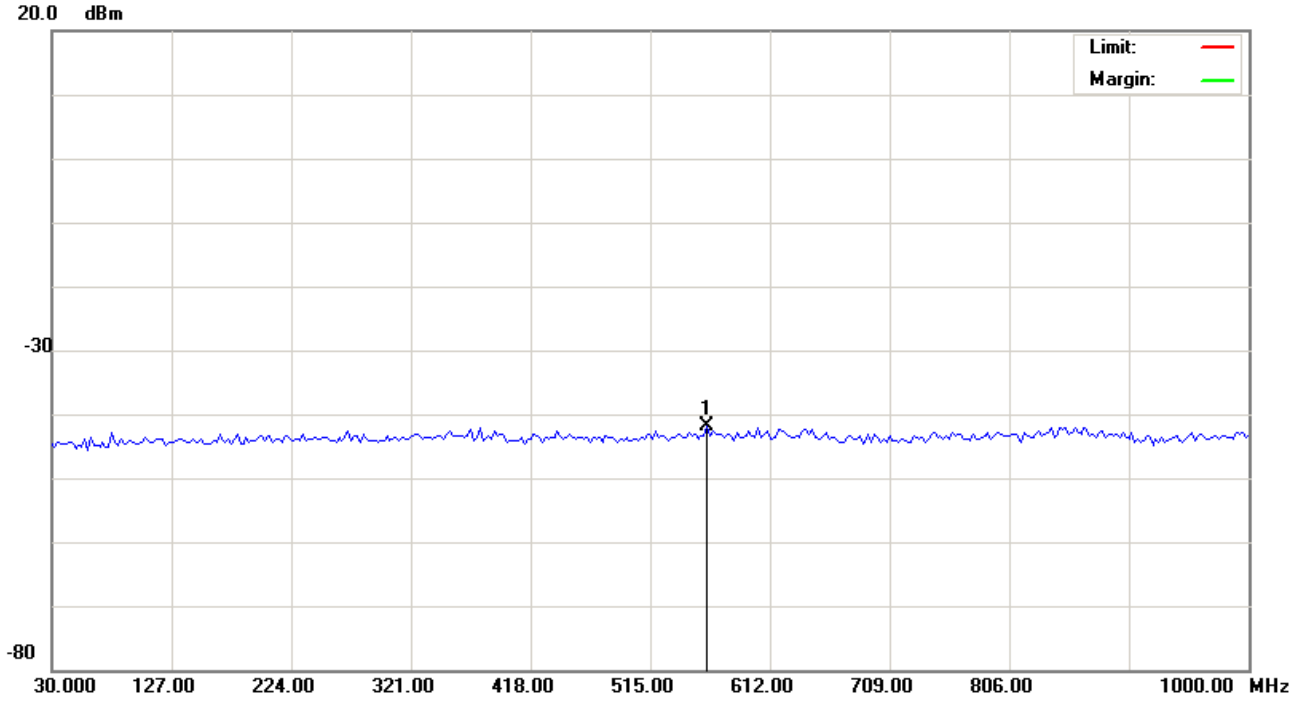
Polarization:
Power: AC 110V/60Hz
Distance: 3m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 26183.75 | -46.49 | 6.99 | -39.50 | | | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

File :A335W(BT) Data :#11 Date: 2008/03/25 Time: 下午 05:06:56




Site site#1
Limit:
EUT:
M/N: A335W
Mode: BT
Note: CH2480

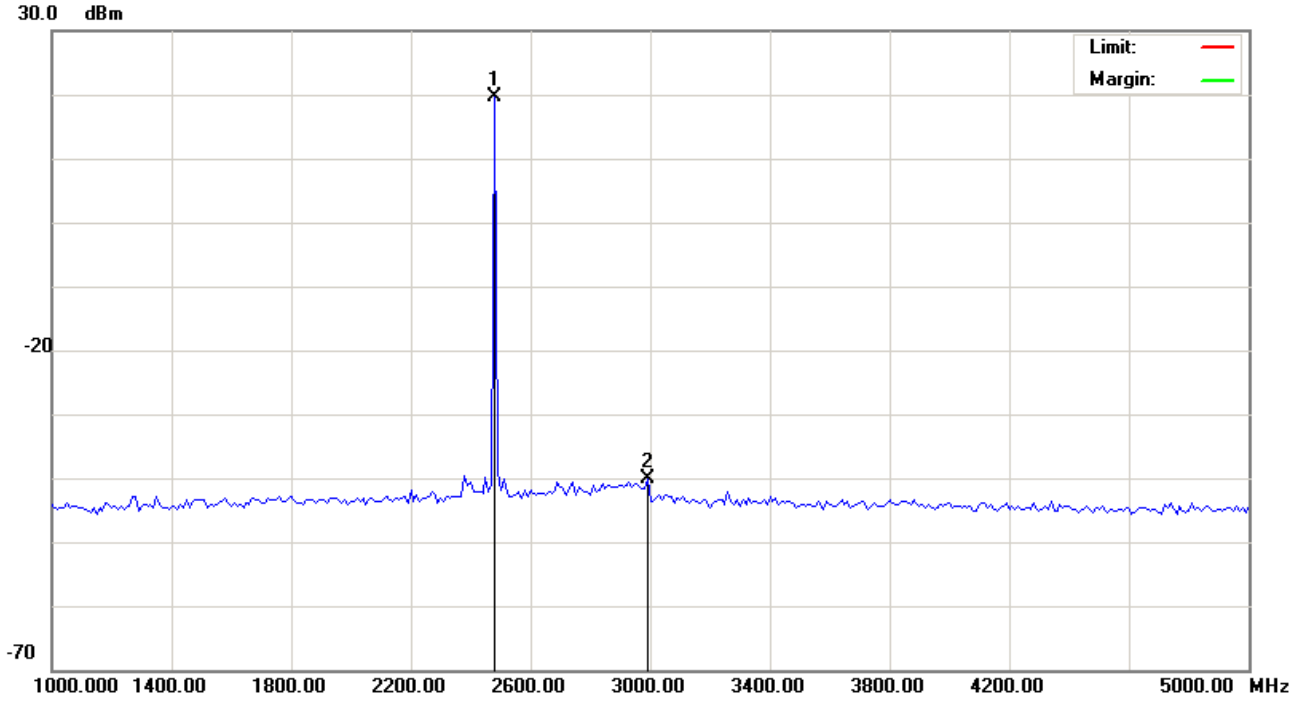
Polarization:
Power: AC 110V/60Hz
Distance: 3m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 561.0750 | -47.96 | 6.02 | -41.94 | | | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

File :A335W(BT) Data :#12 Date: 2008/03/25 Time: 下午 05:07:09




Site site#1
Limit:
EUT:
M/N: A335W
Mode: BT
Note: CH2480

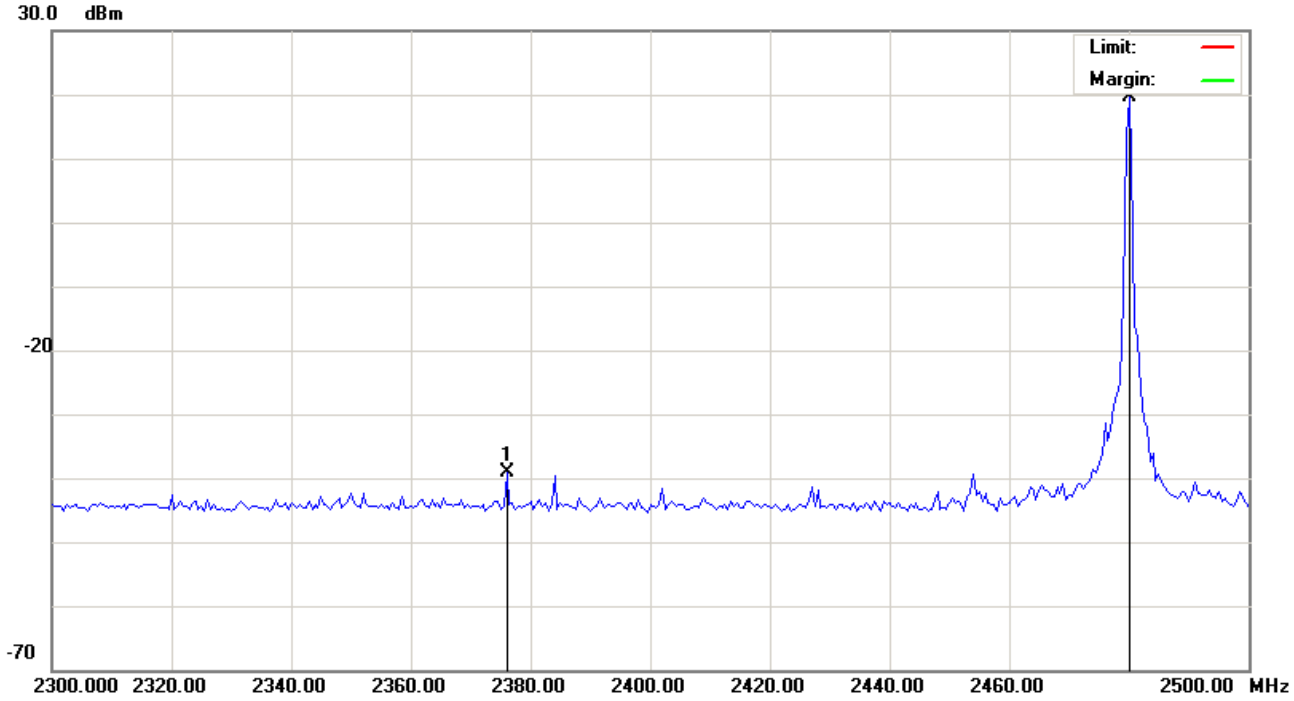
Polarization:
Power: AC 110V/60Hz
Distance: 3m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 2480.000 | 13.54 | 6.09 | 19.63 | | | peak | | | |
| 2 | | 2990.000 | -46.28 | 6.11 | -40.17 | | | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

File :A335W(BT) Data :#13 Date: 2008/03/25 Time: 下午 05:07:22




Site site#1
Limit:
EUT:
M/N: A335W
Mode: BT
Note: CH2480

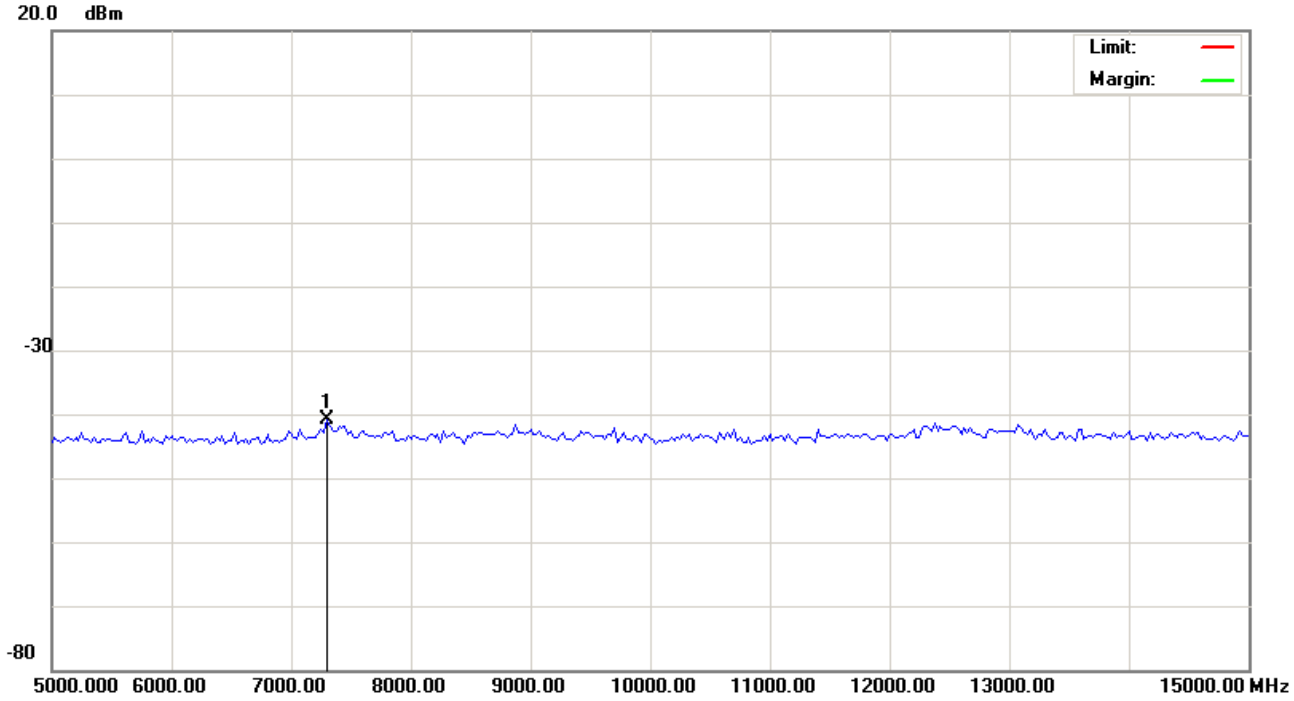
Polarization:
Power: AC 110V/60Hz
Distance: 3m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | | 2376.000 | -45.19 | 6.09 | -39.10 | | | peak | | | |
| 2 | * | 2480.000 | 13.61 | 6.09 | 19.70 | | | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

File :A335W(BT) Data :#14 Date: 2008/03/25 Time: 下午 05:07:35




Site site#1
Limit:
EUT:
M/N: A335W
Mode: BT
Note: CH2480

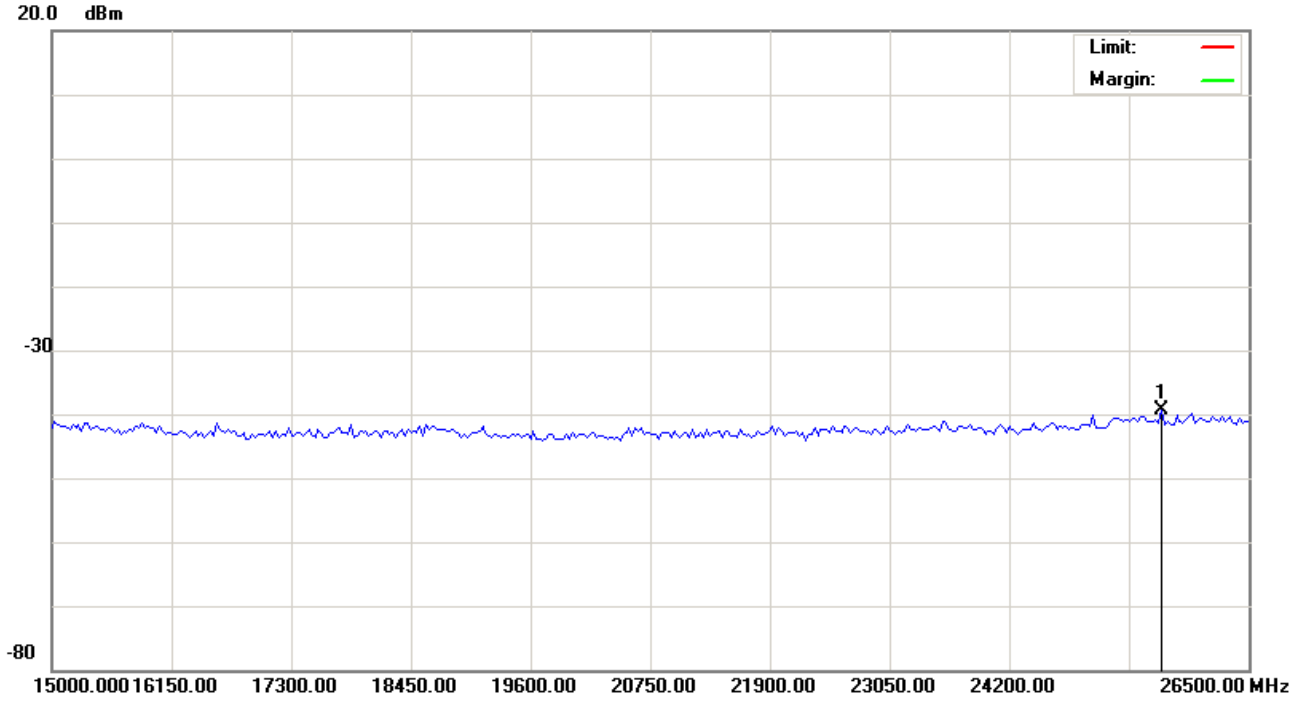
Polarization:
Power: AC 110V/60Hz
Distance: 3m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 7300.000 | -47.20 | 6.27 | -40.93 | | | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

File :A335W(BT) Data :#15 Date: 2008/03/25 Time: 下午 05:07:48




Site site#1
Limit:
EUT:
M/N: A335W
Mode: BT
Note: CH2480

Polarization:
Power: AC 110V/60Hz
Distance: 3m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 25666.25 | -46.46 | 6.97 | -39.49 | | | peak | | | |

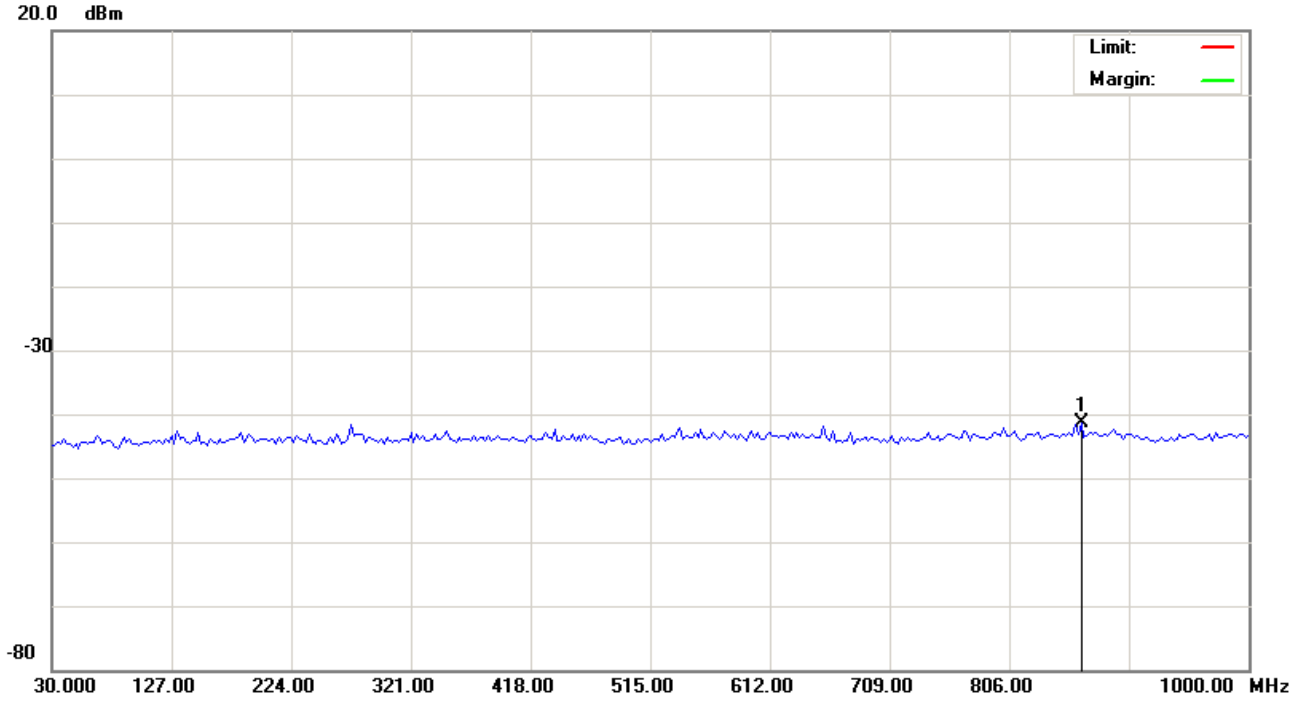
*:Maximum data x:Over limit !:over margin ●Reference Only

### 9.5.2 Bluetooth EDR Mode:

| | |
|---|---|
| Applicant | : GN NETCOM A/S |
| Model No | : A335W |
| EUT | : Bluetooth class 1 plug and play dongle |
| Test Mode | : Bluetooth EDR |
| Test Date | : 03/25/2008 |

Please refer to next pager of detail testing data.

File :A335(BT+EDR) Data :#1 Date: 2008/03/25 Time: 下午 05:10:24




Site site#1
Limit:
EUT:
M/N: A335W
Mode: BT+EDR
Note: CH2402

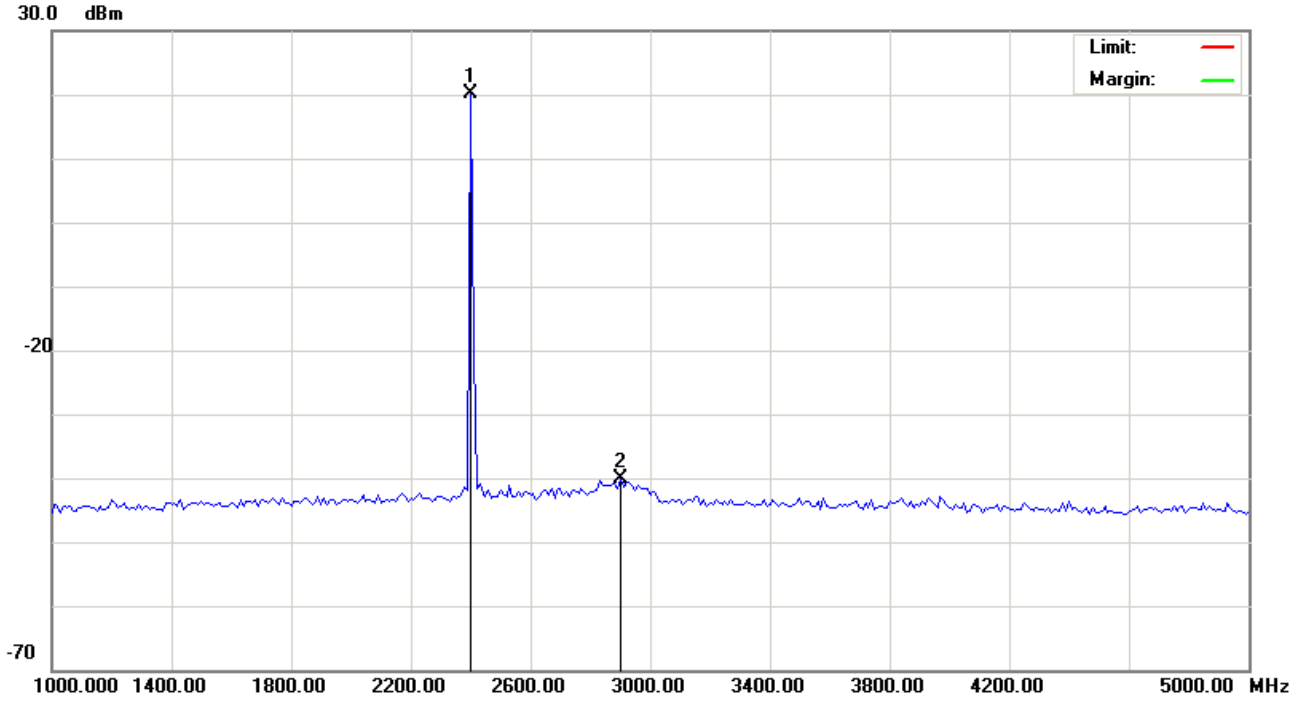
Polarization:
Power: AC 110V/60Hz
Distance: 3m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 864.2000 | -47.51 | 6.03 | -41.48 | | | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

File :A335(BT+EDR) Data :#2 Date: 2008/03/25 Time: 下午 05:10:37




Site site#1
Limit:
EUT:
M/N: A335W
Mode: BT+EDR
Note: CH2402

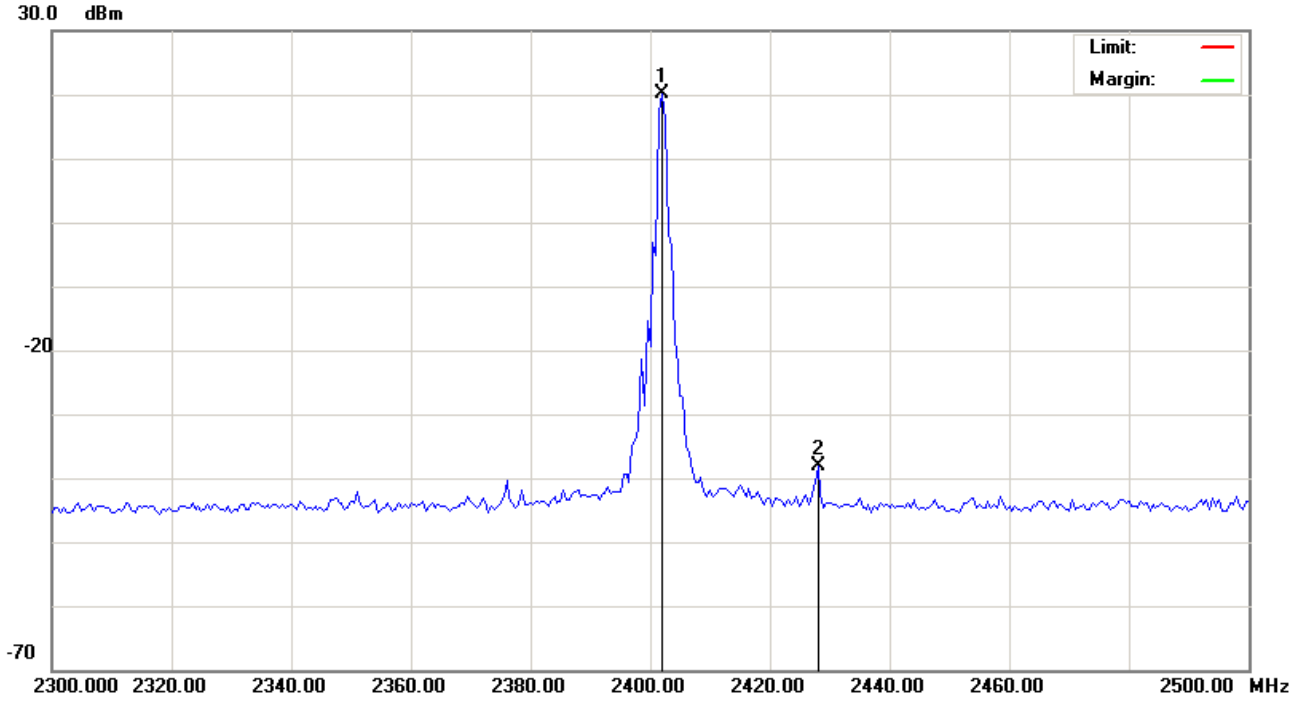
Polarization:
Power: AC 110V/60Hz
Distance: 3m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 2400.000 | 14.00 | 6.09 | 20.09 | | | peak | | | |
| 2 | | 2900.000 | -46.12 | 6.11 | -40.01 | | | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

File :A335(BT+EDR) Data :#3 Date: 2008/03/25 Time: 下午 05:10:50




Site site#1
Limit:
EUT:
M/N: A335W
Mode: BT+EDR
Note: CH2402

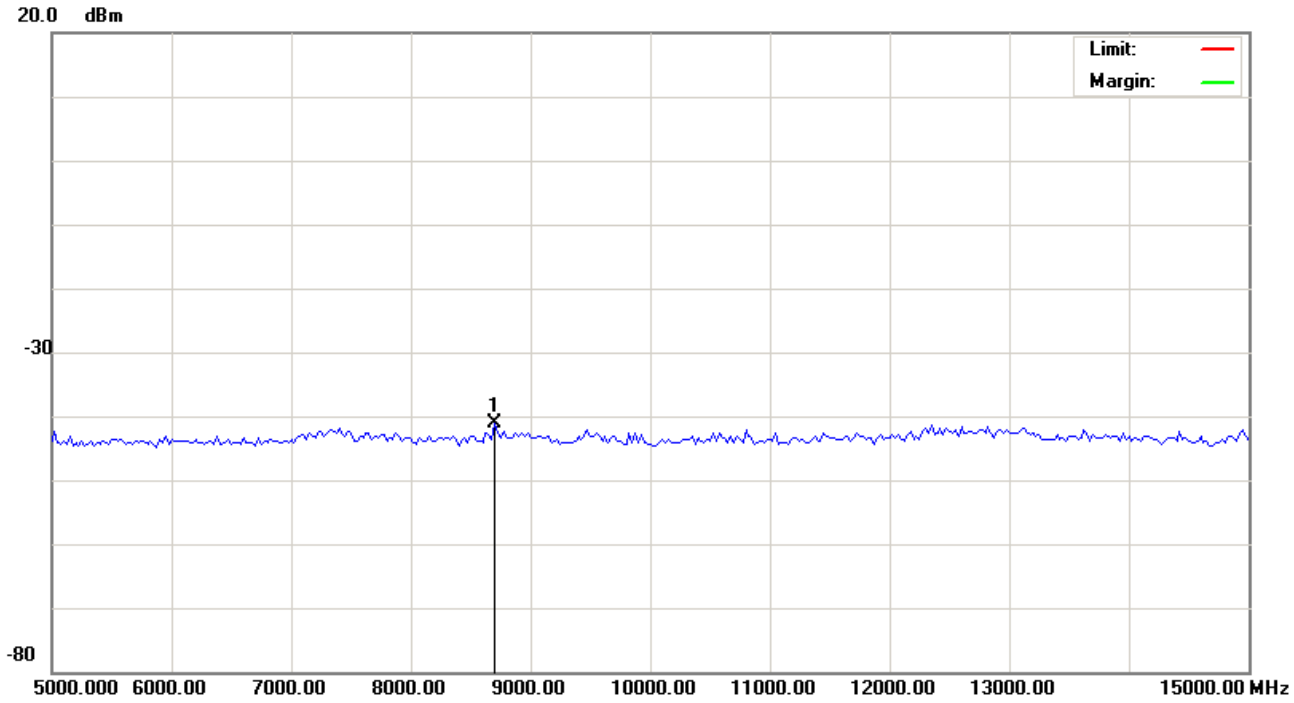
Polarization:
Power: AC 110V/60Hz
Distance: 3m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 2402.000 | 14.13 | 6.09 | 20.22 | | | peak | | | |
| 2 | | 2428.000 | -44.14 | 6.09 | -38.05 | | | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

File :A335(BT+EDR) Data :#4 Date: 2008/03/25 Time: 下午 05:11:03




Site site#1
Limit:
EUT:
M/N: A335W
Mode: BT+EDR
Note: CH2402

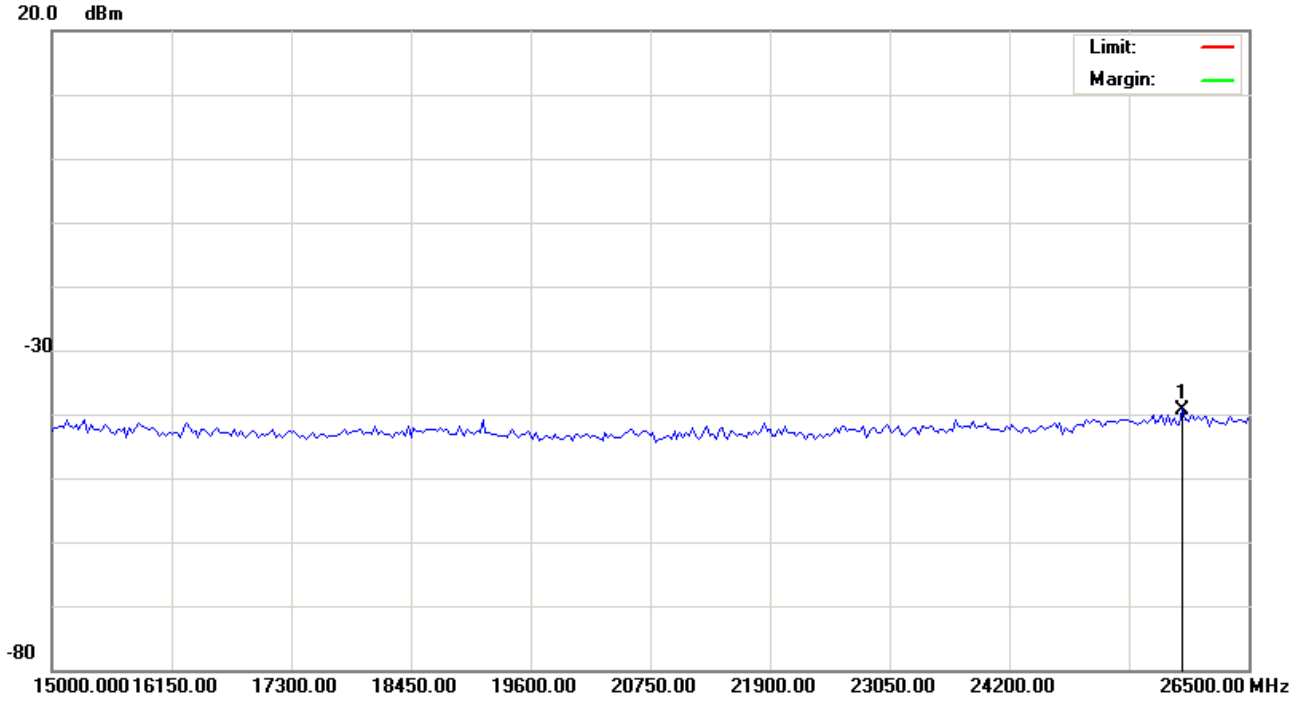
Polarization:
Power: AC 110V/60Hz
Distance: 3m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 8700.000 | -47.37 | 6.33 | -41.04 | | | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

File :A335(BT+EDR) Data :#5 Date: 2008/03/25 Time: 下午 05:11:16




Site site#1
Limit:
EUT:
M/N: A335W
Mode: BT+EDR
Note: CH2402

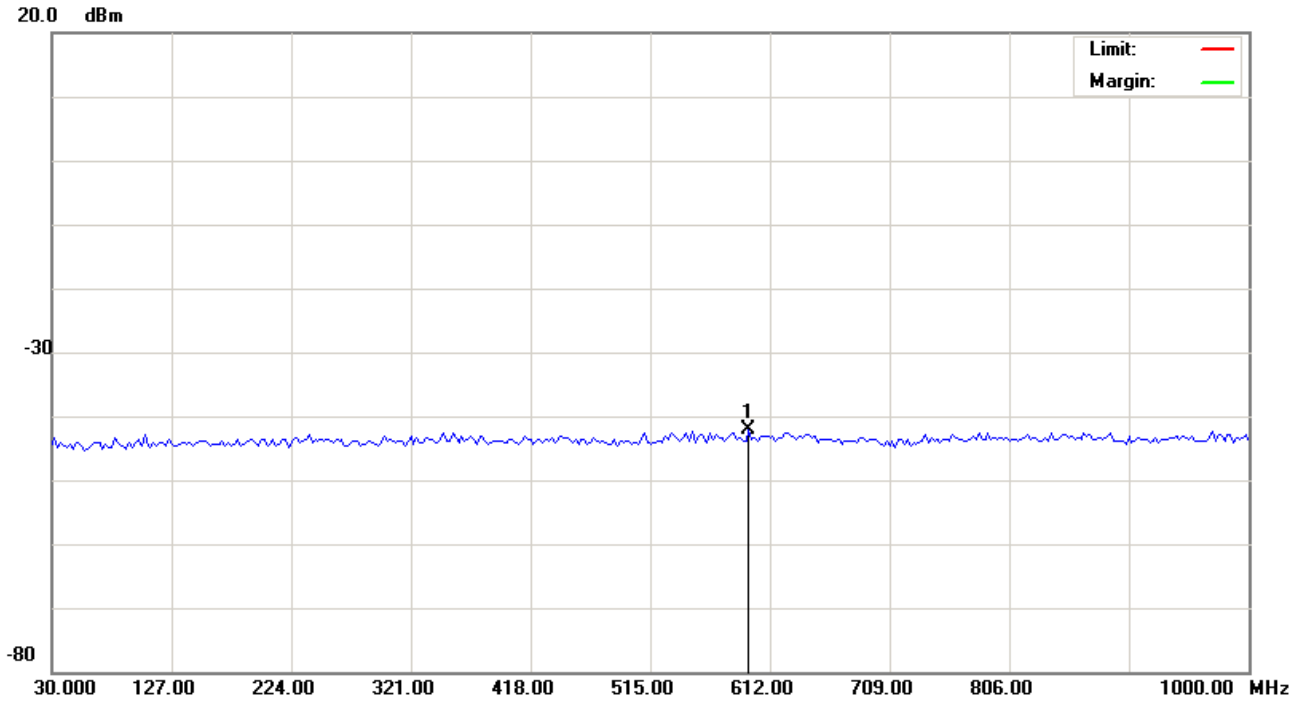
Polarization:
Power: AC 110V/60Hz
Distance: 3m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 25867.50 | -46.23 | 6.98 | -39.25 | | | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

File :A335(BT+EDR) Data :#6 Date: 2008/03/25 Time: 下午 05:12:35




Site site#1
Limit:
EUT:
M/N: A335W
Mode: BT+EDR
Note: CH2441

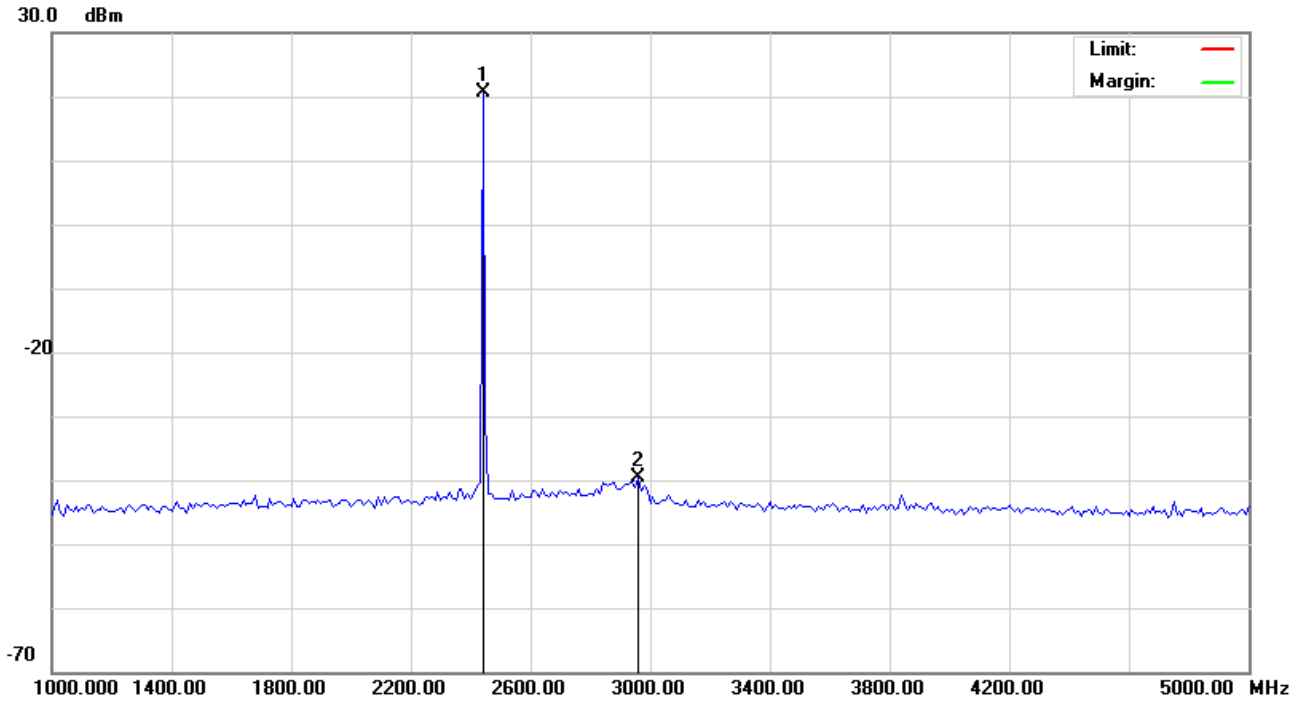
Polarization:
Power: AC 110V/60Hz
Distance: 3m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 595.0250 | -48.09 | 6.02 | -42.07 | | | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

File :A335(BT+EDR) Data :#7 Date: 2008/03/25 Time: 下午 05:12:48




Site site#1
Limit:
EUT:
M/N: A335W
Mode: BT+EDR
Note: CH2441

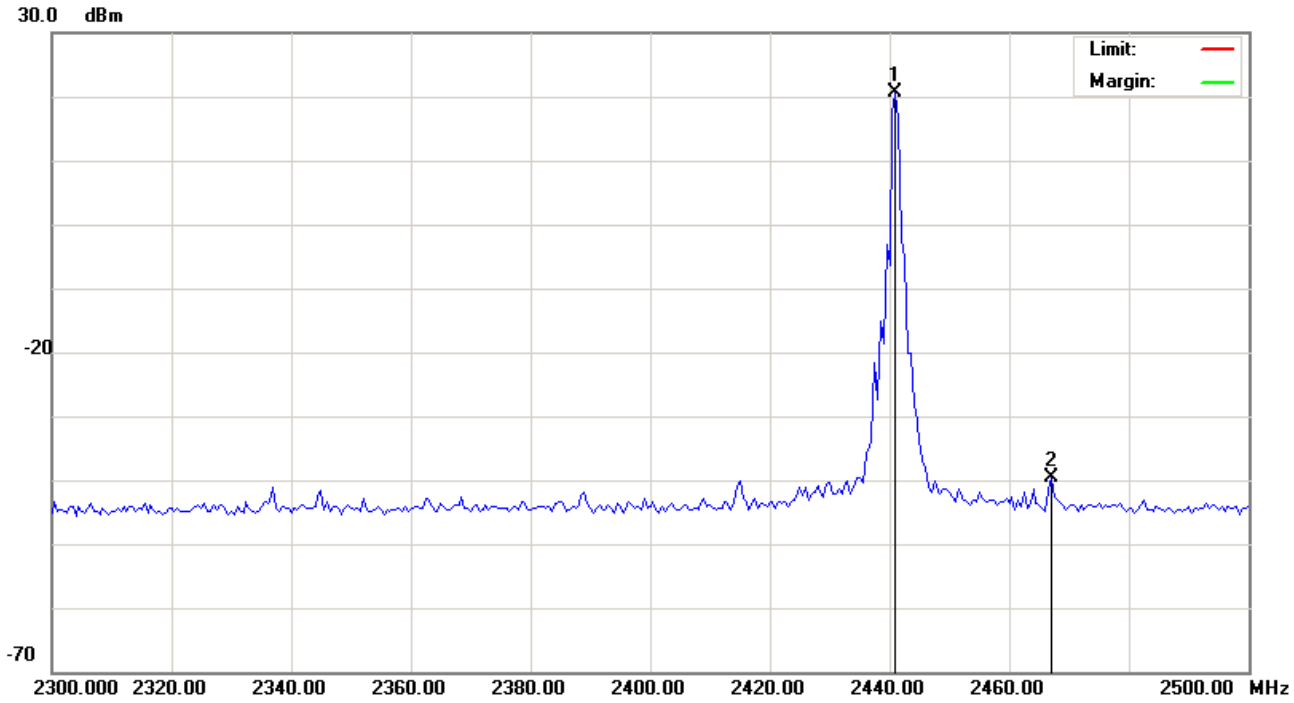
Polarization:
Power: AC 110V/60Hz
Distance: 3m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 2440.000 | 14.52 | 6.09 | 20.61 | | | peak | | | |
| 2 | | 2960.000 | -45.62 | 6.11 | -39.51 | | | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

File :A335(BT+EDR) Data :#8 Date: 2008/03/25 Time: 下午 05:13:01




Site site#1
Limit:
EUT:
M/N: A335W
Mode: BT+EDR
Note: CH2441

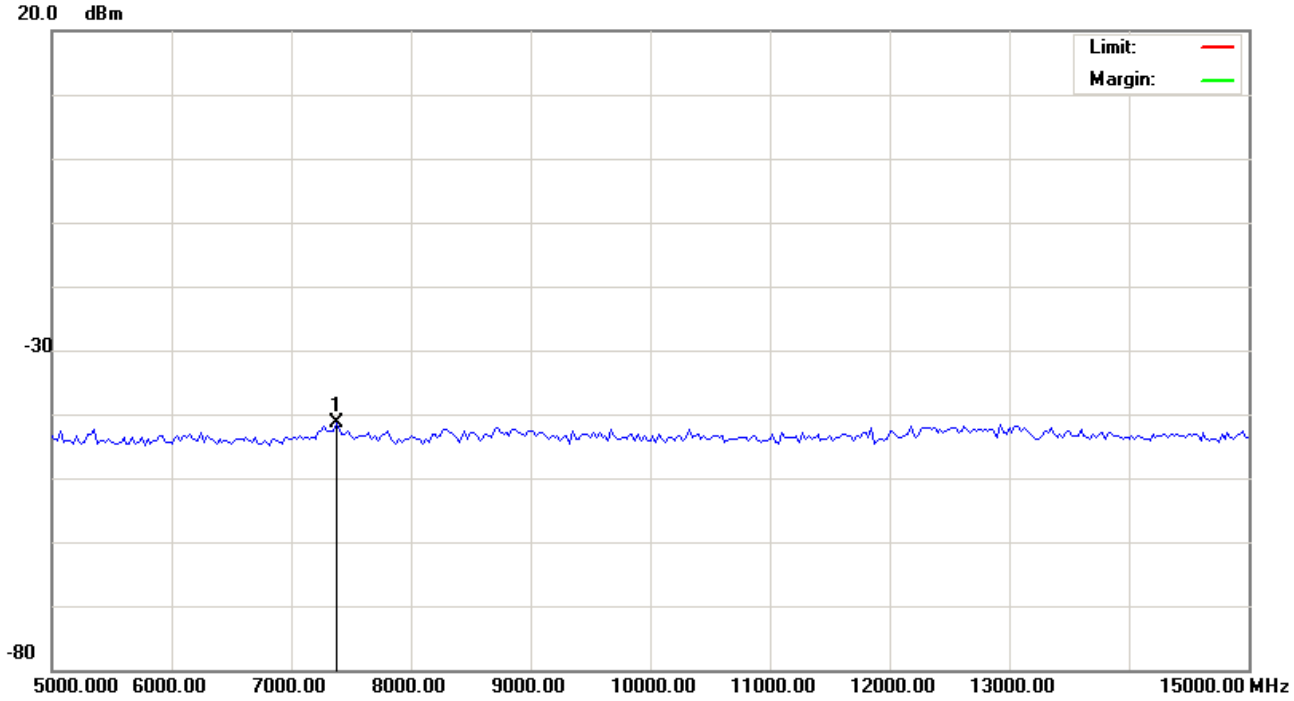
Polarization:
Power: AC 110V/60Hz
Distance: 3m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 2441.000 | 14.49 | 6.09 | 20.58 | | | peak | | | |
| 2 | | 2467.000 | -45.59 | 6.09 | -39.50 | | | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

File :A335(BT+EDR) Data :#9 Date: 2008/03/25 Time: 下午 05:13:14




Site site#1
Limit:
EUT:
M/N: A335W
Mode: BT+EDR
Note: CH2441

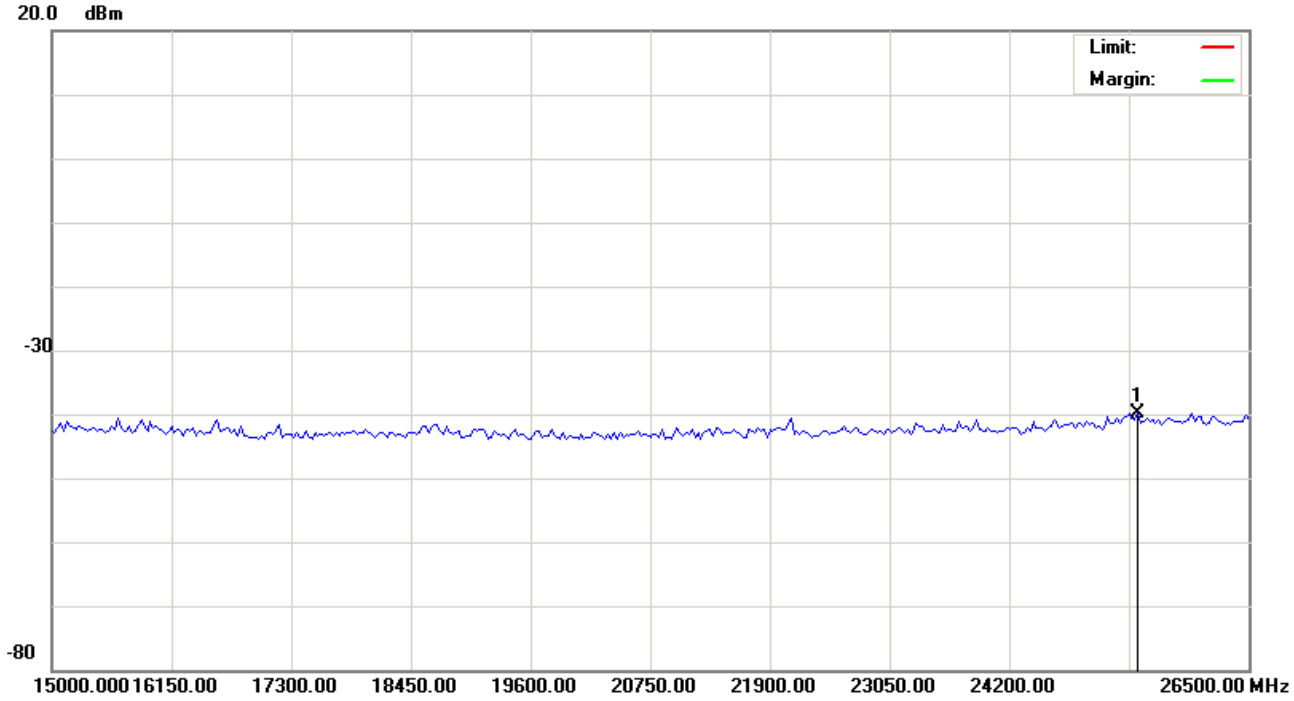
Polarization:
Power: AC 110V/60Hz
Distance: 3m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 7375.000 | -47.67 | 6.28 | -41.39 | | | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

File :A335(BT+EDR) Data :#10 Date: 2008/03/25 Time: 下午 05:13:27




Site site#1
Limit:
EUT:
M/N: A335W
Mode: BT+EDR
Note: CH2441

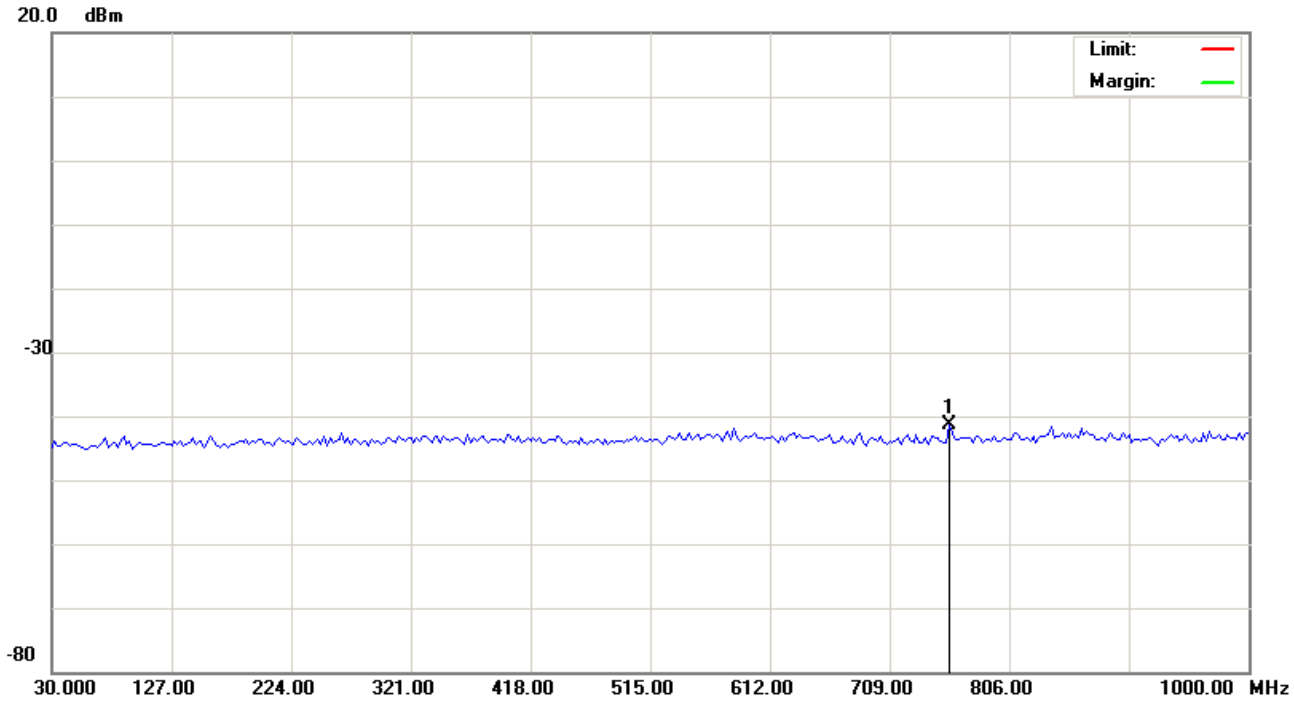
Polarization:
Power: AC 110V/60Hz
Distance: 3m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 25436.25 | -46.80 | 6.96 | -39.84 | | | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

File :A335(BT+EDR) Data :#11 Date: 2008/03/25 Time: 下午 05:15:09




Site site#1
Limit:
EUT:
M/N: A335W
Mode: BT+EDR
Note: CH2480

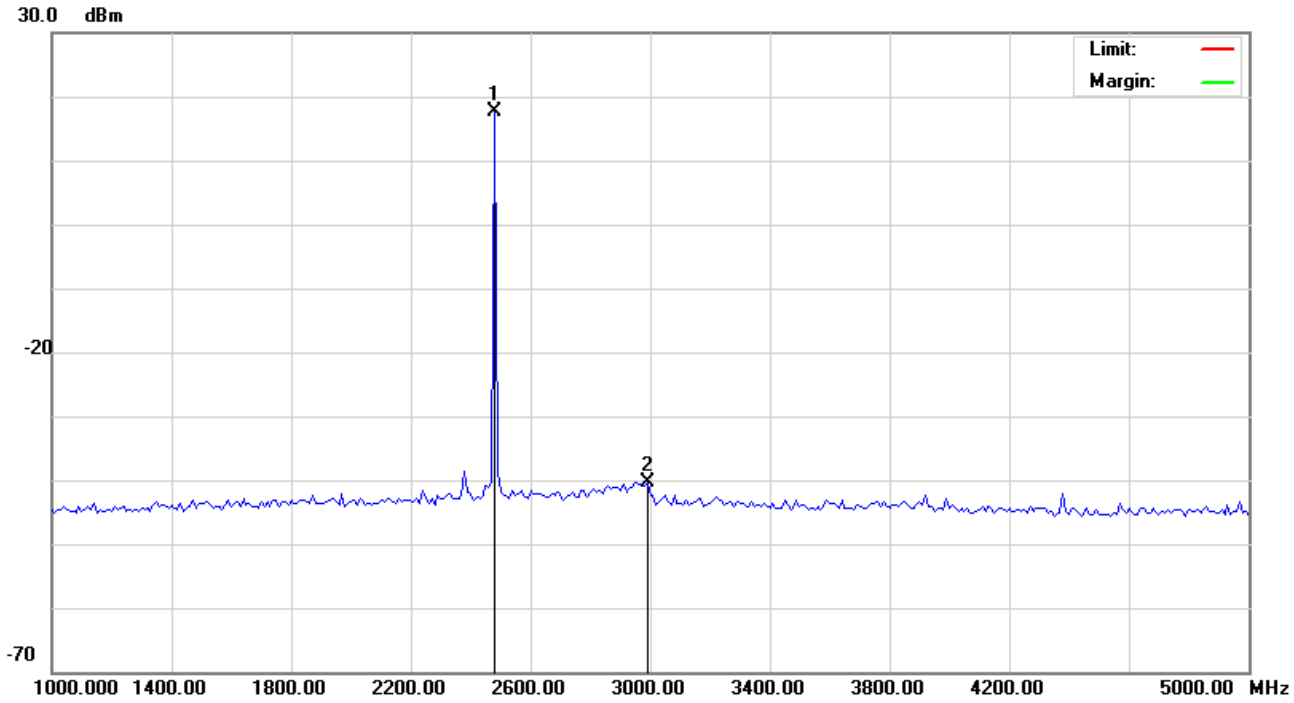
Polarization:
Power: AC 110V/60Hz
Distance: 3m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 757.5000 | -47.43 | 6.03 | -41.40 | | | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

File :A335(BT+EDR) Data :#12 Date: 2008/03/25 Time: 下午 05:15:22




Site site#1
Limit:
EUT:
M/N: A335W
Mode: BT+EDR
Note: CH2480

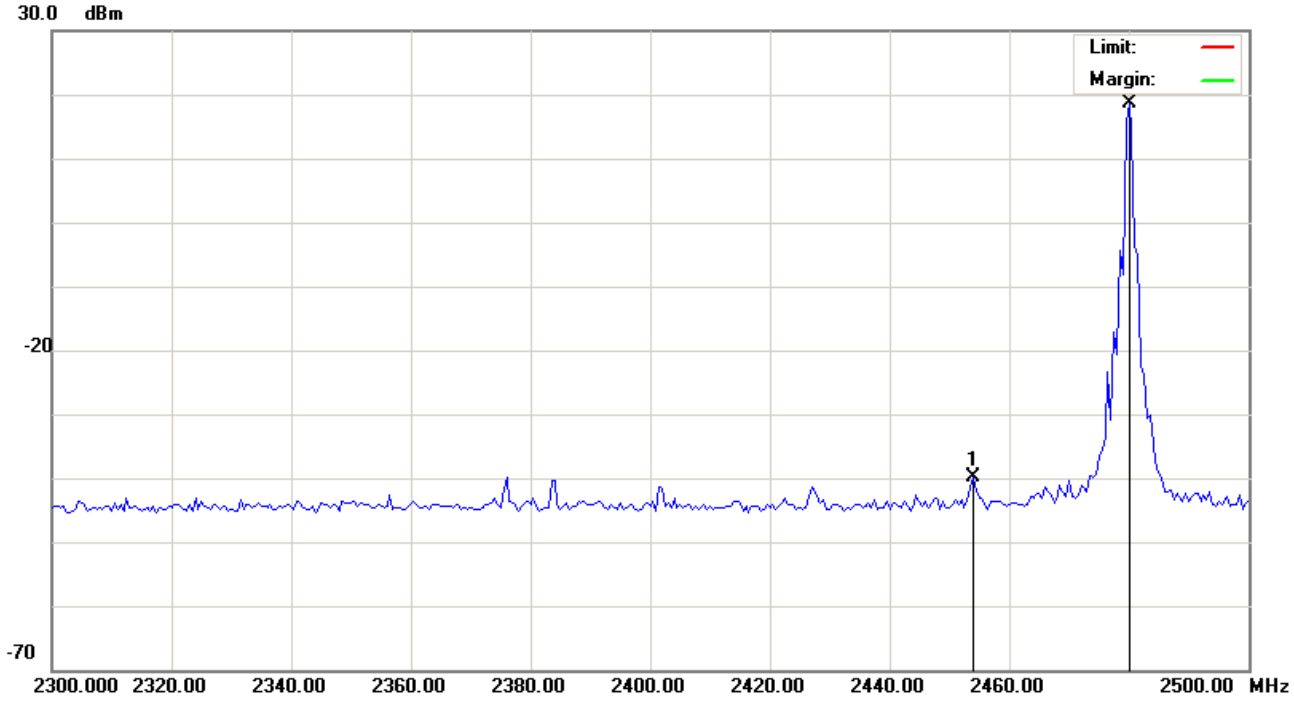
Polarization:
Power: AC 110V/60Hz
Distance: 3m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 2480.000 | 11.57 | 6.09 | 17.66 | | | peak | | | |
| 2 | | 2990.000 | -46.43 | 6.11 | -40.32 | | | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

File :A335(BT+EDR) Data :#13 Date: 2008/03/25 Time: 下午 05:15:35




Site site#1
Limit:
EUT:
M/N: A335W
Mode: BT+EDR
Note: CH2480

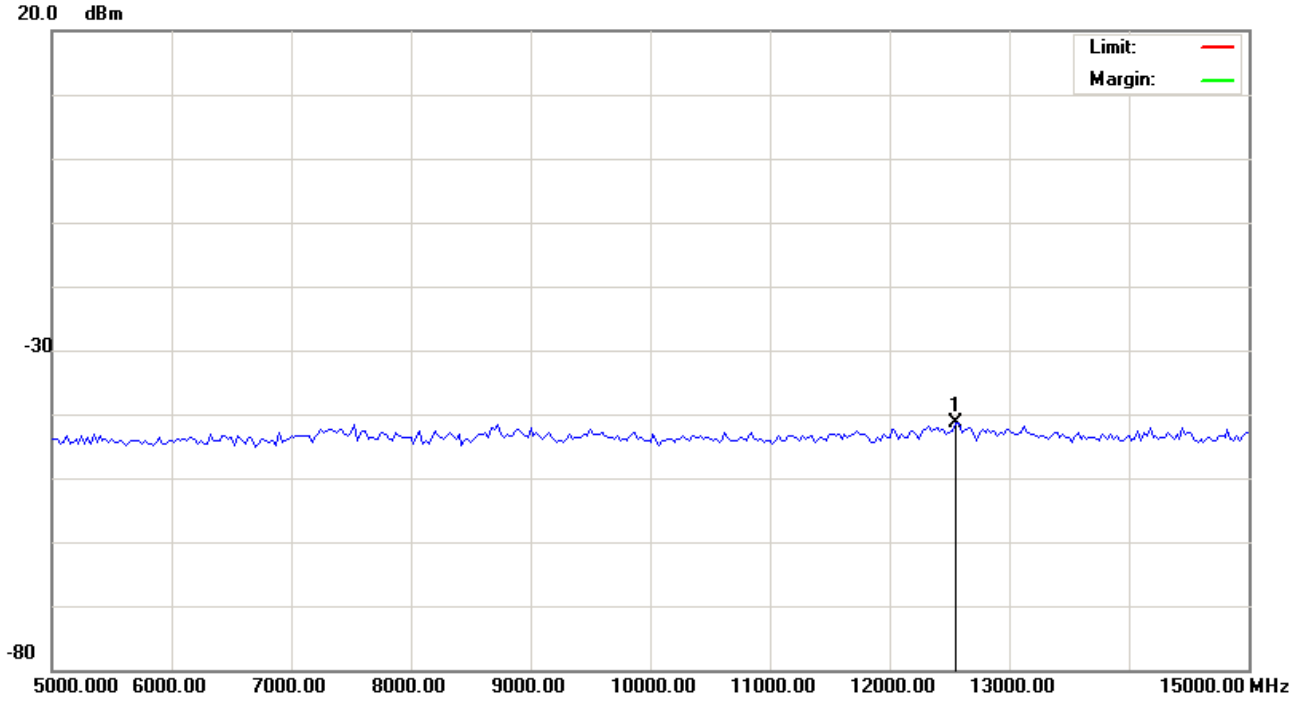
Polarization:
Power: AC 110V/60Hz
Distance: 3m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | | 2454.000 | -45.97 | 6.09 | -39.88 | | | peak | | | |
| 2 | * | 2480.000 | 12.64 | 6.09 | 18.73 | | | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

File :A335(BT+EDR) Data :#14 Date: 2008/03/25 Time: 下午 05:15:48




Site site#1
Limit:
EUT:
M/N: A335W
Mode: BT+EDR
Note: CH2480

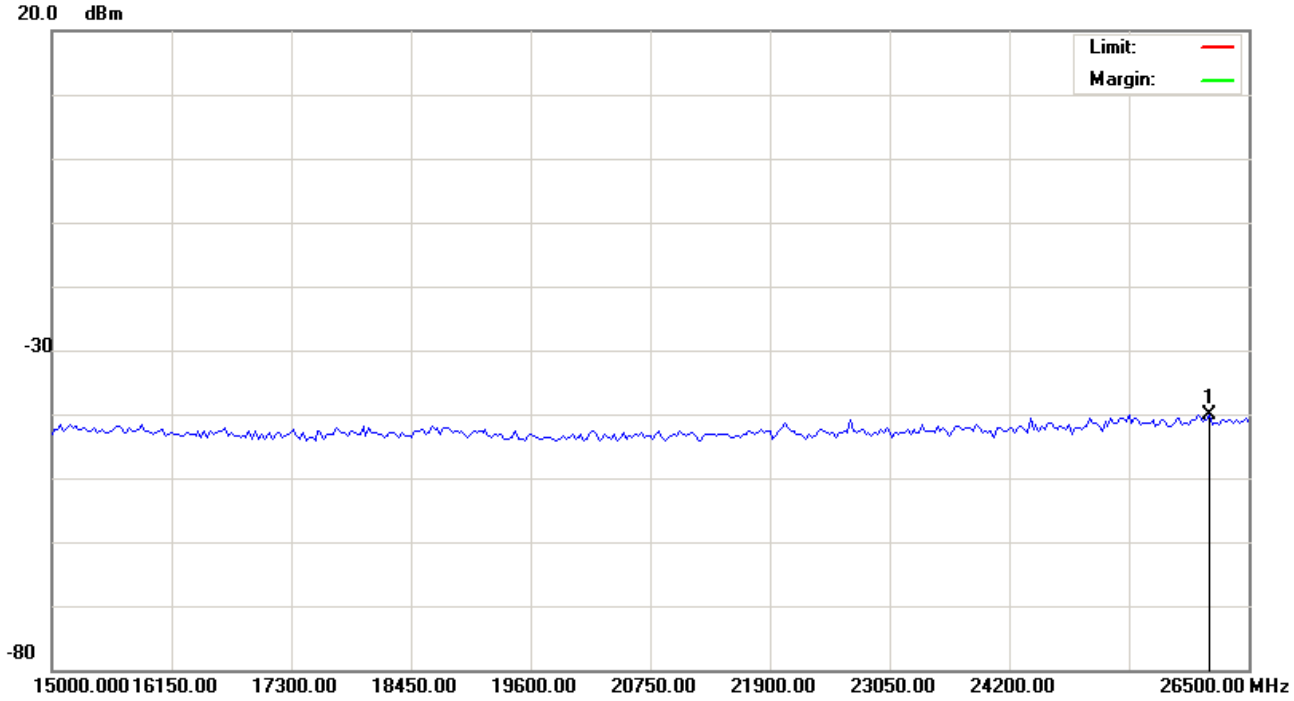
Polarization:
Power: AC 110V/60Hz
Distance: 3m

Temperature: 22 ℃
Humidity: 60 %

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 12550.00 | -47.86 | 6.47 | -41.39 | | | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

File :A335(BT+EDR) Data :#15 Date: 2008/03/25 Time: 下午 05:16:01




Site site#1 Polarization: Temperature: 22 ℃

Limit: Power: AC 110V/60Hz Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT+EDR

Note: CH2480

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 26126.25 | -47.02 | 6.99 | -40.03 | | | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

# *10. Band Edges Requirements*

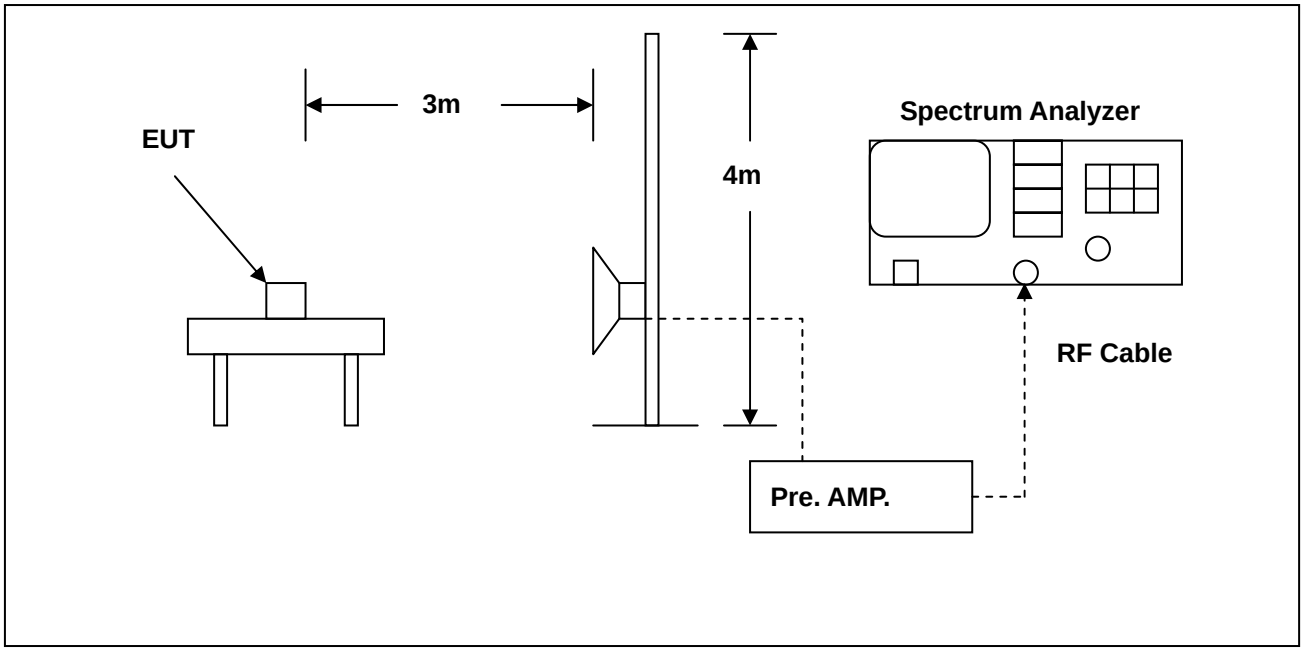
## 10.1 Test Condition & Setup:

The emissions on the harmonics frequencies, the limits, and the margin of compliance are presented. These tests were made when the transmitter was in full radiated power. The additional test was performed to show compliance with the requirement at the band-edge frequency 2483.5 MHz and up to 2500 MHz and at 2390.0 MHz.

The transmitter was configured with the worst case antenna and setup to transmit at the highest channel. Then the field strength was measured at 2483.5 MHz.

The transmitter was then configured with the worst case antenna and setup to transmit at the lowest channel. Then the field strength was measured at 2390.0 MHz. These tests were performed at 4 different bit rates.

## 10.2 Test Instruments Configuration:



## 10.3 Test Equipment List:

| Describe | Manufacturer | Model | Serial Number | Calibration | |
|---|---|---|---|---|---|
| | | | | Cal. Date | Due Date |
| Spectrum Analyzer | Agilent | E4408B | MY45107753 | Nov. 29, 2007 | Nov. 29, 2008 |
| Pre Amplifier | Agilent | 8449B | 3008A02237 | May. 28, 2007 | May. 28, 2008 |
| Horn Antenna | SCHWARZBECK MESS-ELEKTRONIK | BBHA9120D | 9120D-550 | Jun. 26, 2007 | Jun. 26, 2008 |

## 10.4 Test Result

### 10.4.1 Bluetooth 2.0 Mode:

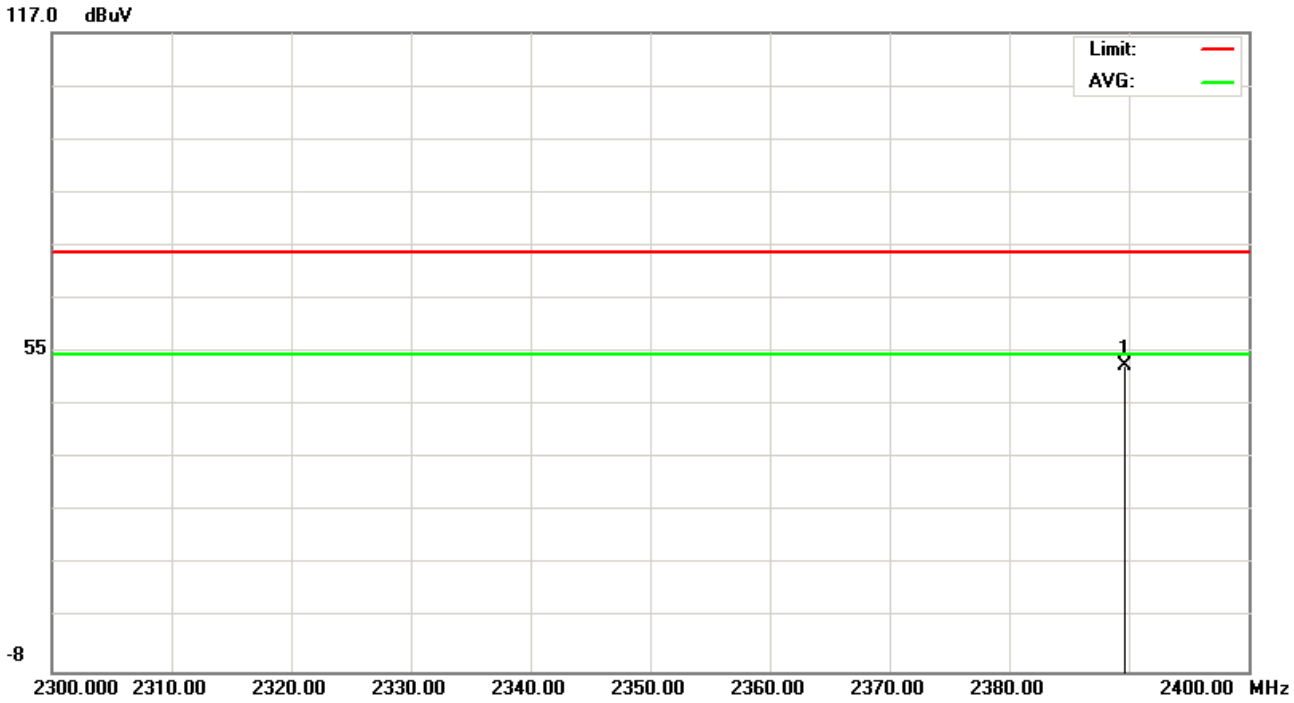
| | |
|---|---|
| Applicant | : GN NETCOM A/S |
| Model No | : A335W |
| EUT | : Bluetooth class 1 plug and play dongle |
| Test Mode | : Low CH & High CH |
| Test Date | : 03/10/2008 |

Test Graphs See next page.

Notes:

1. Margin= Amplitude - Limits
2. Height of table for EUT placed: 0.8 Meter.
3. ANT= Antenna height.
4. Duty= Duty cycle correction factor.
5. Dis= Distance extrapolation factor.
6. Amplitude= Reading Amplitude – Amplifier gain + Cable loss + Antenna factor
   (Auto calculate in spectrum analyzer)
7. Actual Amp= Amplitude – Duty – Dis.

File :A335W(bandedge) Data :#5 Date: 2008/3/10 Time:




Site site#1 Polarization: ***Vertical*** Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT(X)

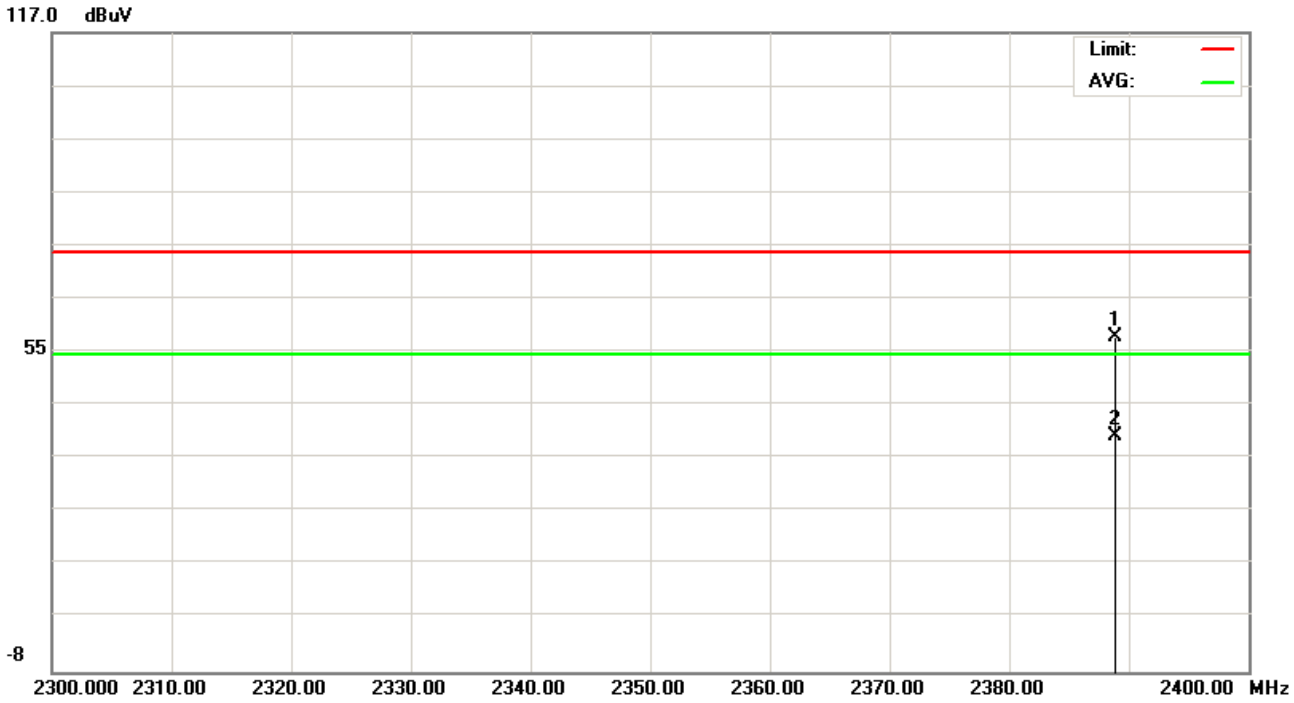
Note: 2402MHz;power:30;106cm

2.7G-10G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | * | 2389.600 | 51.64 | 0.16 | 51.80 | 74.00 | -22.20 | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

File :A335W(bandedge) Data :#7 Date: 2008/3/10 Time:




Site site#1 Polarization: ***Horizontal*** Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT(X)

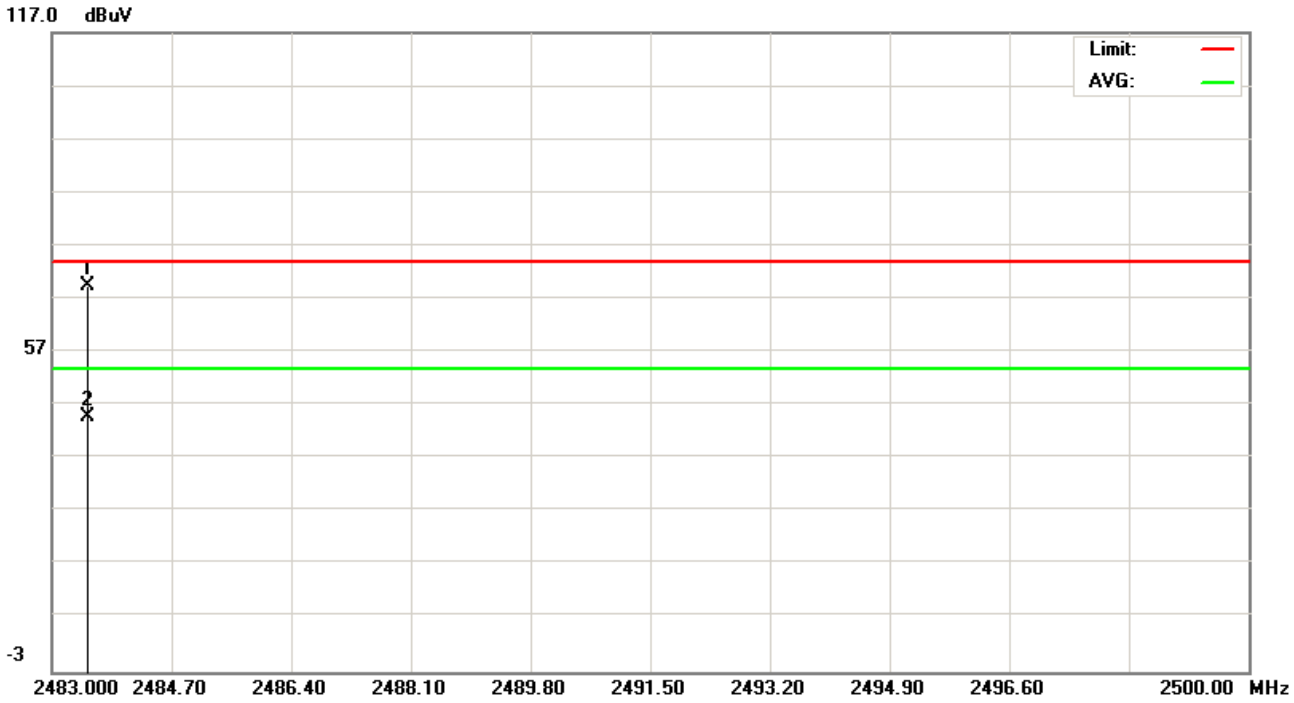
Note: 2402MHz;power:30;106cm

2.7G-10G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | | 2388.800 | 57.20 | 0.16 | 57.36 | 74.00 | -16.64 | peak | | | |
| 2 | * | 2388.800 | 38.05 | 0.16 | 38.21 | 54.00 | -15.79 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

File :A335W(bandedge) Data :#3 Date: 2008/3/10 Time:




Site site#1 Polarization: ***Vertical*** Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT(X)

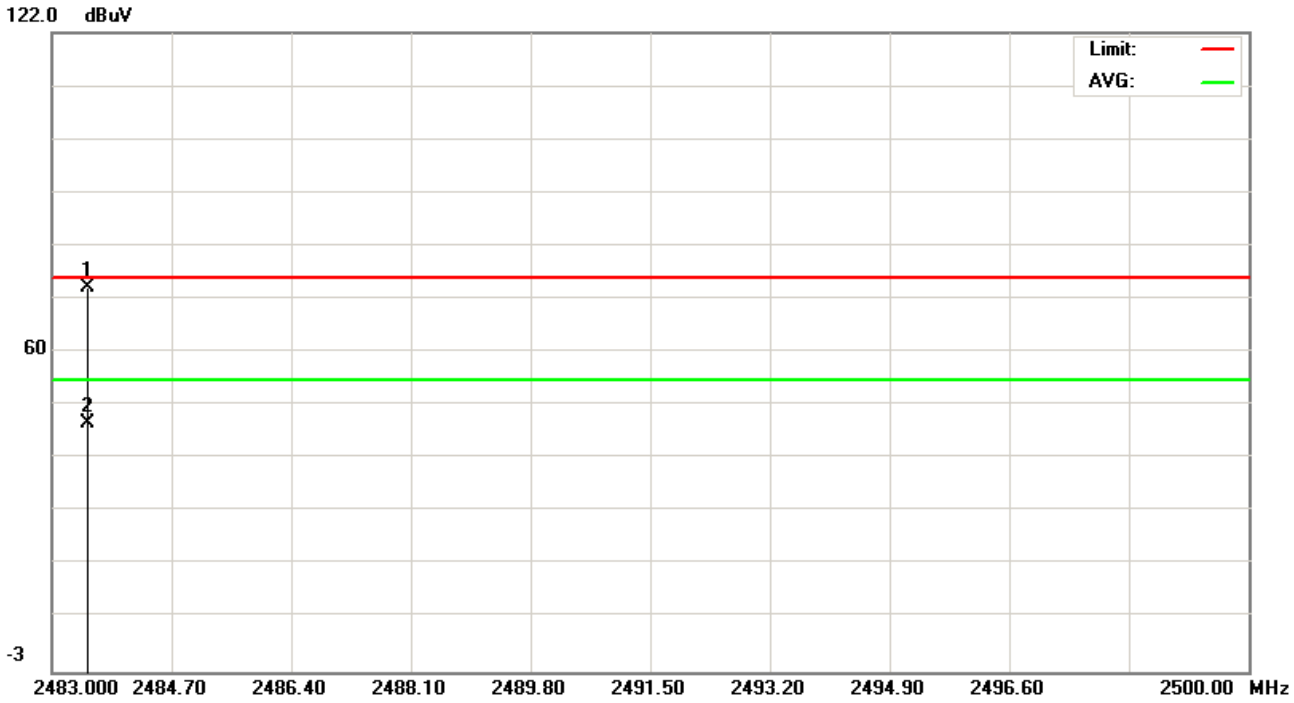
Note: 2480MHz;power:30;106cm

2.7G-10G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | * | 2483.510 | 69.13 | 0.25 | 69.38 | 74.00 | -4.62 | peak | | | |
| 2 | | 2483.510 | 44.53 | 0.25 | 44.78 | 54.00 | -9.22 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

File :A335W(bandedge) Data :#1 Date: 2008/3/10 Time:




Site site#1 Polarization: ***Horizontal*** Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT(X)

Note: 2480MHz;power:30

2.7G-10G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | * | 2483.502 | 71.88 | 0.25 | 72.13 | 74.00 | -1.87 | peak | | | |
| 2 | | 2483.502 | 45.37 | 0.25 | 45.62 | 54.00 | -8.38 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

### 10.4.2 Bluetooth EDR Mode:

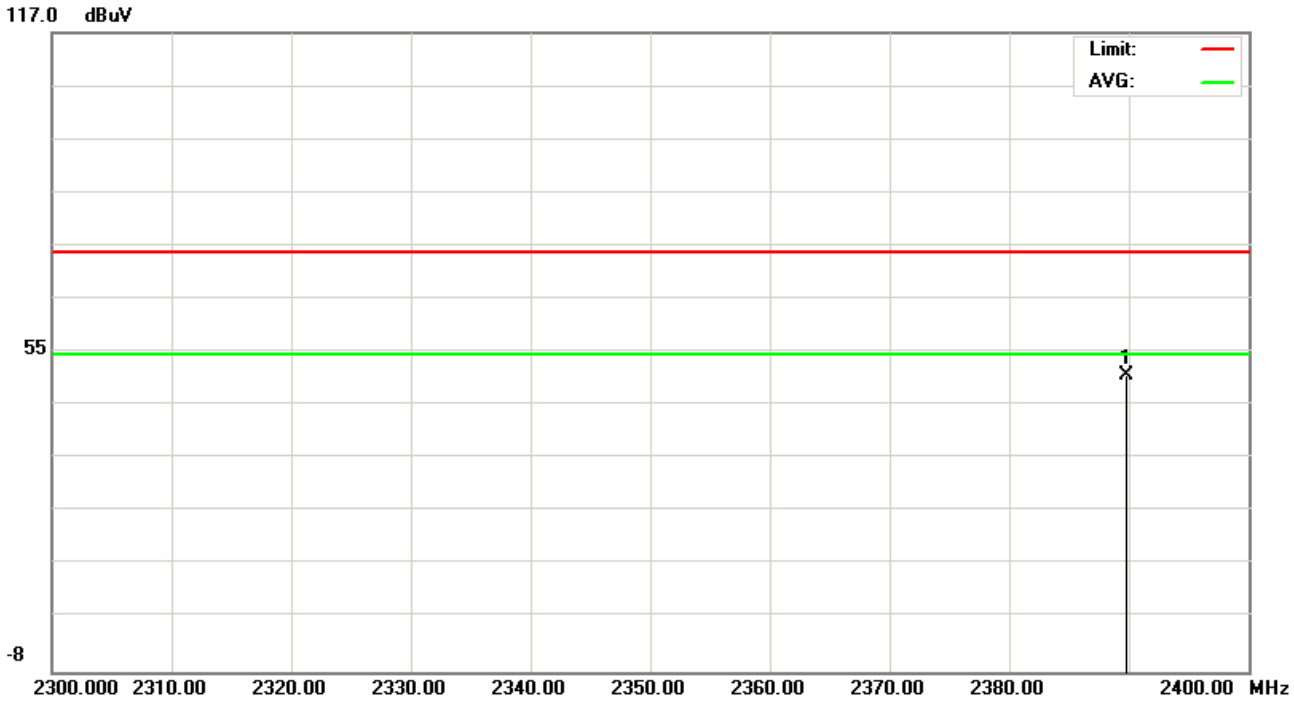
| | |
|---|---|
| Applicant | : GN NETCOM A/S |
| Model No | : A335W |
| EUT | : Bluetooth class 1 plug and play dongle |
| Test Mode | : Low CH & High CH |
| Test Date | : 03/10/2008 |

Test Graphs See next page.

Notes:

1. Margin= Amplitude - Limits
2. Height of table for EUT placed: 0.8 Meter.
3. ANT= Antenna height.
4. Duty= Duty cycle correction factor.
5. Dis= Distance extrapolation factor.
6. Amplitude= Reading Amplitude – Amplifier gain + Cable loss + Antenna factor
   (Auto calculate in spectrum analyzer)
7. Actual Amp= Amplitude – Duty – Dis.

File :A335(bandedge) Data :#5 Date: 2008/3/10 Time:




Site site#1 Polarization: ***Vertical*** Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT+EDR(X)

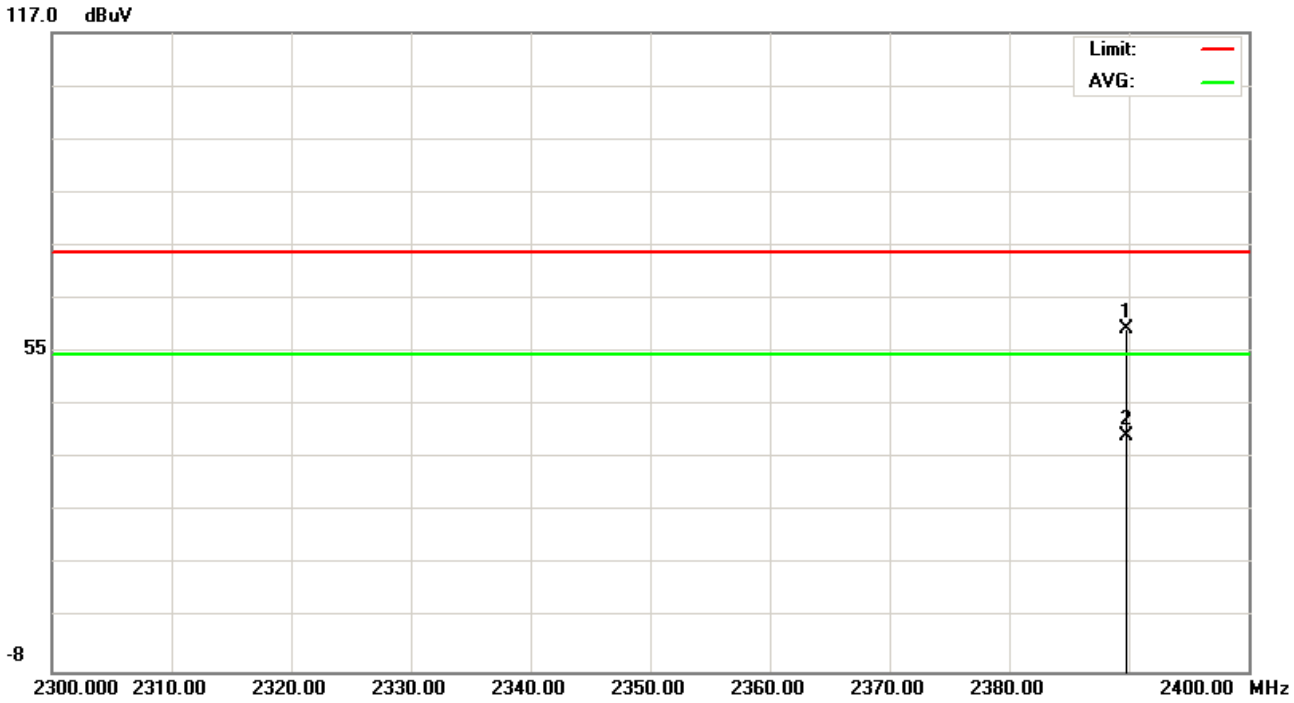
Note: 2402MHz;power:30;106cm

2.7G-10G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | * | 2389.800 | 49.91 | 0.16 | 50.07 | 74.00 | -23.93 | peak | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

File :A335(bandedge) Data :#7 Date: 2008/3/10 Time:




Site site#1 Polarization: ***Horizontal*** Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT+EDR(X)

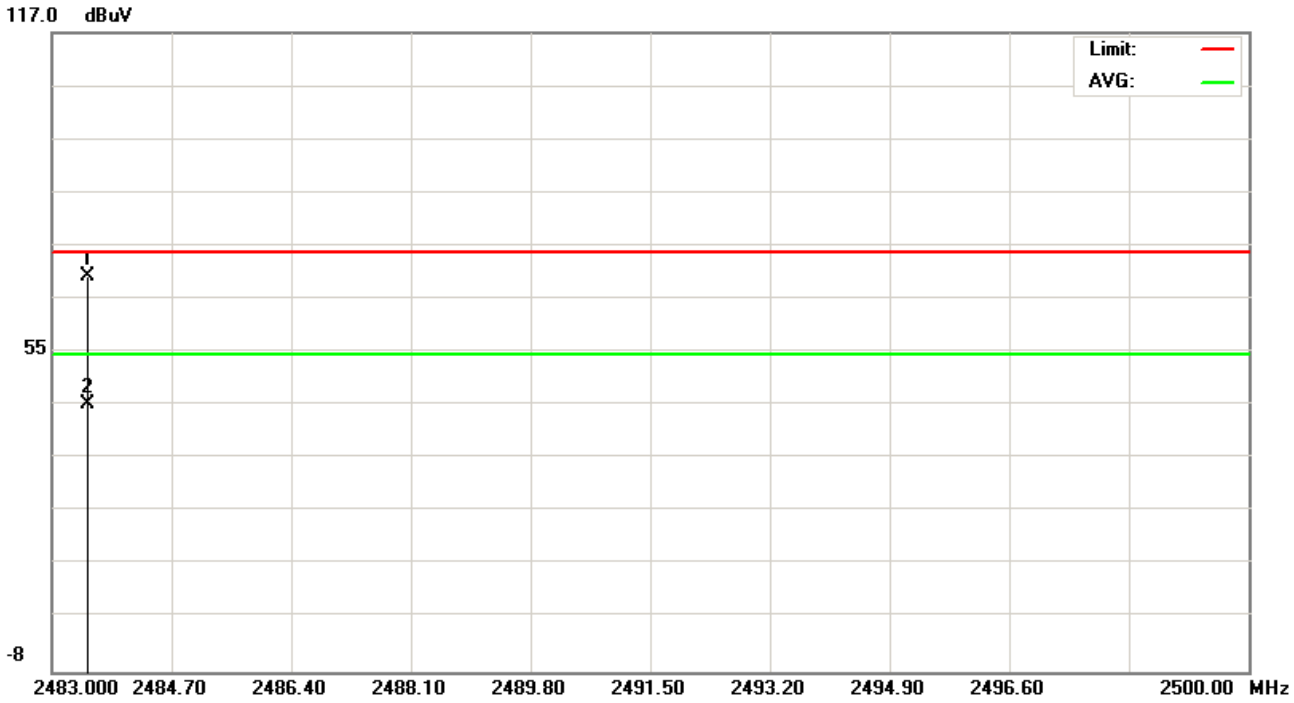
Note: 2402MHz;power:30;106cm

2.7G-10G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | * | 2389.800 | 58.77 | 0.16 | 58.93 | 74.00 | -15.07 | peak | | | |
| 2 | | 2389.800 | 38.04 | 0.16 | 38.20 | 54.00 | -15.80 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

File :A335(bandedge) Data :#1 Date: 2008/3/10 Time:




Site site#1 Polarization: ***Vertical*** Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT+EDR(X)

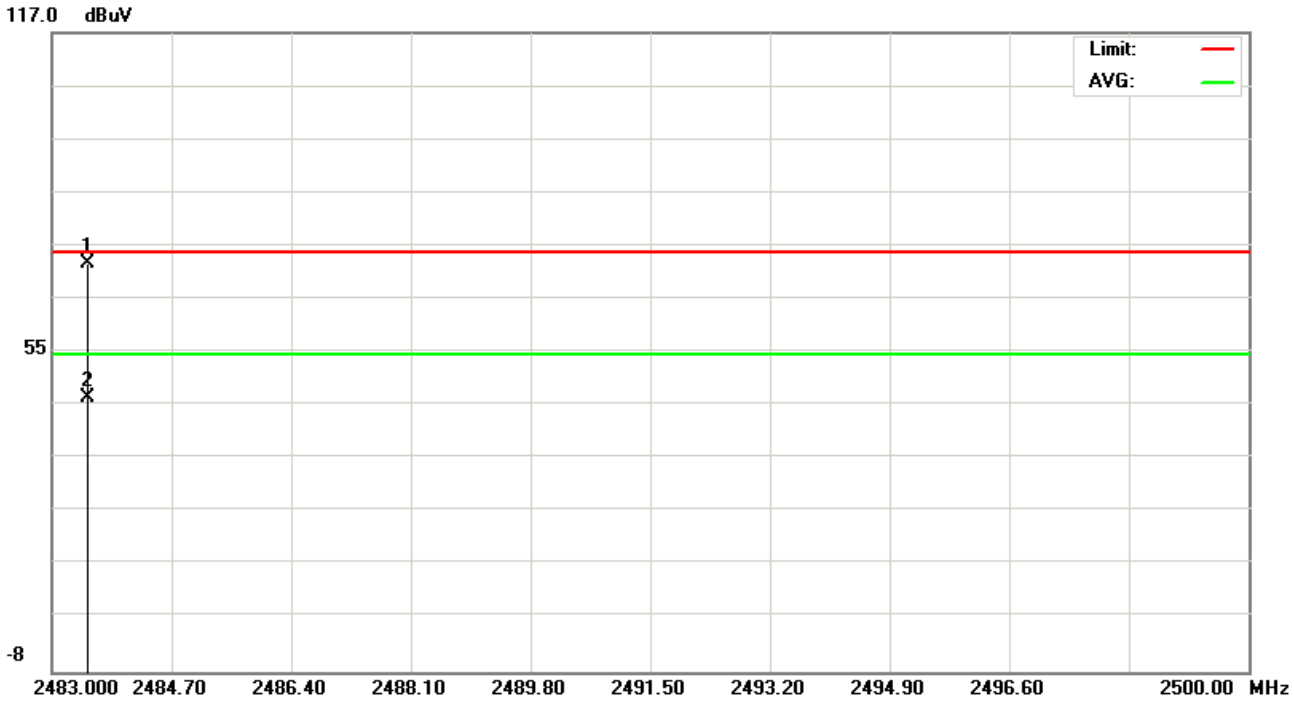
Note: 2480MHz;power:30;111cm

2.7G-10G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | * | 2483.510 | 68.96 | 0.25 | 69.21 | 74.00 | -4.79 | peak | | | |
| 2 | | 2483.510 | 44.10 | 0.25 | 44.35 | 54.00 | -9.65 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

File :A335(bandedge) Data :#3 Date: 2008/3/10 Time:




Site site#1 Polarization: ***Horizontal*** Temperature: 22 ℃

Limit: FCC part 15 (PK) Power: Humidity: 60 %

EUT: Distance: 3m

M/N: A335W

Mode: BT+EDR(X)

Note: 2480MHz;power:30;106cm

2.7G-10G PK Scan Att:0 ; REF:95 ; Range:95(EUT Power Lever:255)

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | cm | degree | Comment |
| 1 | * | 2483.510 | 71.65 | 0.25 | 71.90 | 74.00 | -2.10 | peak | | | |
| 2 | | 2483.510 | 45.26 | 0.25 | 45.51 | 54.00 | -8.49 | AVG | | | |

*:Maximum data x:Over limit !:over margin ●Reference Only

# *11. Antenna Requirements*

## 11.1 Standard Applicable:

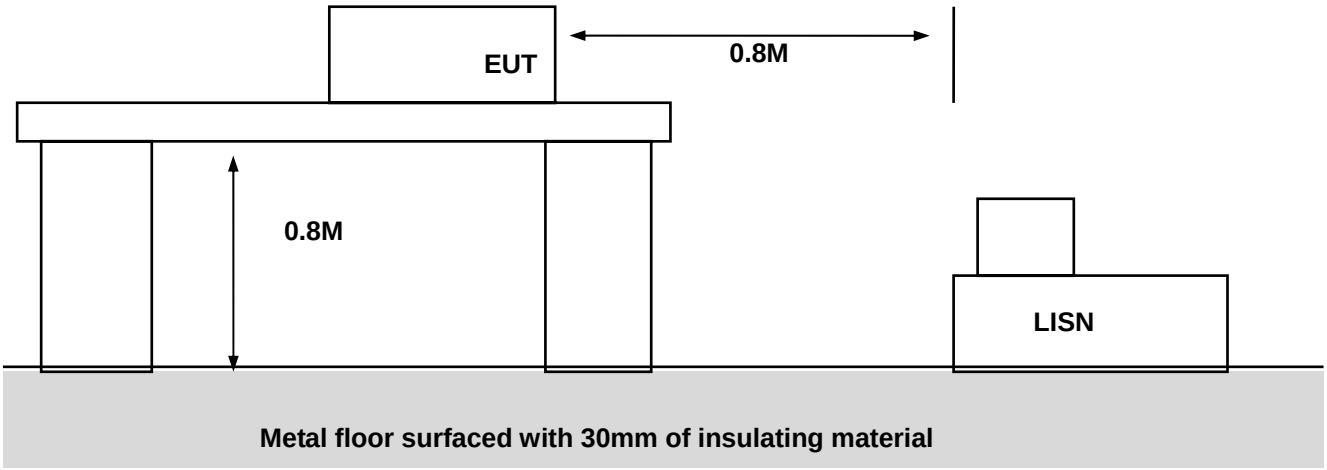
For intentional device, according to 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.
And According to 15.247 (b), if transmitting antennas of directional gain greater than 6 dBi are used, the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

## 11.2 Antenna Connector Construction

The antenna used in this product is internal antenna. And the maximum Gain of this antenna is only **-1.59** dBi.

## *Appendix A - EUT Test SETUP*

### MEASUREMENT OF POWER LINE CONDUCTED RFI VOLTAGE



## MEASUREMENT OF RADIATED EMISSION