# *MEASUREMENT REPORT*
# *of*
# *Bluetooth Mouse*

| | | |
|---|---|---|
| **Applicant** | **:** | Chic Technology Corp. |
| **EUT** | **:** | Bluetooth Optical Mouse |
| **Model** | **:** | BMO266 |
| **FCC ID** | **:** | IOWBMO266 |
| **Report No.** | **:** | C3115361 |

**Test by :**

***Training Research Co., Ltd.***

**TEL : 886-2-26461146 FAX : 886-2-26461778**

No. 15, Lane 530, Pa-Lian RD., Sec. 1, Hsichih City, Taipei Hsien, Taiwan, R.O.C.

# CERTIFICATION

**We here by verify that:**

The test data, data evaluation, test procedures and equipment configurations shown in this report were made mainly in accordance with the procedures given in ANSI C63.4 as a reference. All test were conducted by ***Training Research Co., Ltd.***, No. 255, Nanyang Street, Shijr, Taipei Hsien 221, 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** the technical requirements set forth in the FCC Rules Part 15 Subpart B (Declaration of Conformity) and C Section 15.247.

| | | |
|---|---|---|
| **Applicant** | **:** | Chic Technology Corp. |
| **Applicant address** | **:** | 16F, No. 150, Chien-I Road, 235 Chung Ho City, Taipei Hsien, Taiwan, R.O.C. |
| **Product Name** | **:** | Bluetooth Optical Mouse |
| **Model No.** | **:** | BMO266 |
| **FCC ID** | **:** | IOWBMO266 |
| **Report No.** | **:** | C3115361 |
| **Test Date** | **:** | January 03, 2005 |

**Prepared by:** Jason Yeh
*Jason Yeh*

**Approved by:** Jacob Lin
*Jacob Lin*

***Conditions of issue :***

*(1)* ***This test report shall not be reproduced except in full, without written approval of TRC. And the test result contained within this report only relate to the sample submitted for testing.***

*(2)* ***This report must not be used by the client to claim product endorsement by NVLAP or any agency of U.S. Government.***

*(3)* ***This test report, measurements made by TRC are traceable to the NIST only Conducted and Radiated Method.***

***★ NVLAP LAB CODE: 200174-0***

## *Section 15.101(a): Equipment authorization of unintentional radiators*

This submittal(s) (test report) is intended for FCC ID: **IOWBMO266** filing to comply with Section 15.247 of the FCC Part.15, Subpart C Rules. The composite system (receiver) is compliance with Subpart B is authorized under a DOC procedure.

## *SUMMARY OF TEST RESULT*

| Standard Section | Test Type and Limit | Result |
|---|---|---|
| §15.207 | AC Power Conducted Emission | Compliant |
| §15.247(a)(1)(1)-(ii) | Carrier Frequency Separation<br>Spec.: Min. 25kHz or 20 dBBandwidth, which ever is greater | Compliant |
| §15.247(a)(1)(1)-(ii) | Number of Hopping Frequencies<br>Used Spec.: At least 15 channels | Compliant |
| §15.247(a)(1)(ii) | Time of Occupancy (Dwell Time)<br>Spec.: Max. 0.4 second within 31.6 second | Compliant |
| §15.247(a)(2) | 20dB Bandwidth Spec.: Max. 1MHz | Compliant |
| §15.247(b) | Peak Out Power Spec.: max. 30dBm | Compliant |
| §15.247(c) | Band-edge Compliance | Compliant |
| §15.247(c) | Spurious Radiated Emissions Spec.: Table 15.209 | Compliant |

# *Tables of Contents*

# Ⅰ. GENERAL

## 1.1 Introduction

The following measurement report is submitted on behalf of applicant in support that the certification in accordance with Part 2 Subpart J and Part 15 Subpart B and C of the Commission's Rules and Regulations.

## 1.2 Description of EUT

| | | |
|---|---|---|
| FCC ID | : | IOWBMO266 |
| EUT | : | Bluetooth Optical Mouse |
| Model No. | : | BMO266 |
| Product name | : | Bluetooth Optical Mouse |
| Frequency Range | : | 2402MHz ~ 2480MHz |
| Support Channel | : | 79 Channels |
| Power Type | : | Powered by two 1.5VDC AAA batteries |
| IC model number | : | BCM2040KFB TSQ423P12 Z20593E |

### 1.3 Test method

Pretest was found that the emission of operating mode is worse than standby mode. So, The final test is made at the operating mode.

The EUT's operation frequency are 2402MHz ~ 2480MHz.

During the testing, the EUT is used exclusive program to be transmitting continuously.

During the testing, we are only test the lowest, middle and highest frequencies, as below:

1. Channel 01: 2402MHz
2. Channel 40: 2441MHz
3. Channel 79: 2480MHz

The conduction pretest was found the testing mode: "Channel 01: 2402MHz" was the worst

All of the radiation test data were recorded at the test report.

We only recorded the worst case in this report.

During the testing, there are three modes as below:

1. Stand-alone Transmitting.
2. Charging by Adaptor
3. Charging by USB.

The conduction pretest was found out "**#3, Charging by USB**" was the worst case.

The radiation pretest was found out "**#1, Stand-alone Transmitting**" was the worst case.

We only recorded the worst data in this report.

While testing, the EUT was made to transmit continuously and adjusted at a position, which transmitted the maximum emission.

The test placement as the photographs showed is the worst case emission placed. (If the emission is close to the ambient, the resolution BW and view resolution will be reduced and the data will be recorded by detection of maximum hold peak mode.)

***The testing configuration of test setup is showing in the next page.***

## 1.4 Description of Support Equipment

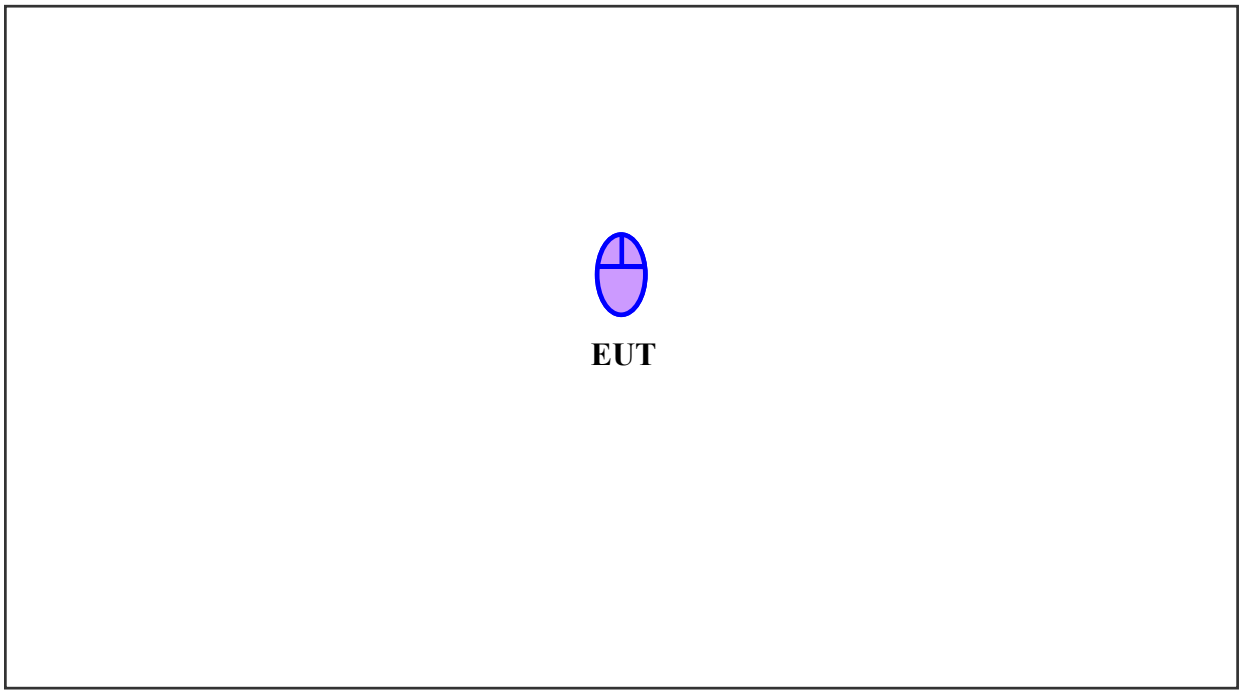
In order to construct the minimum testing, following equipment were used as the support units.

| | | |
|---|---|---|
| **Notebook** | **:** | **TOSHIBA** |
| Model No. | : | PSA10L-3V1JDP |
| Serial No. | : | Z3054434P |
| FCC ID | : | Doc Approved |
| Power type | : | AC 100 –240V 4.0A, 50 ~ 60Hz; DC 15V 4A |
| Power cord | : | Non-shielded, 3.80m long, Plastic, No ferrite core |

| | | |
|---|---|---|
| **Printer** | **:** | **HP** |
| Model No. | : | C2642A |
| Serial No. | : | SG69A196GV |
| FCC ID | : | 94C2642X |
| Power type | : | 230 VAC, 50Hz |
| Power cord | : | Non-shielded, 2m long, no ferrite core |
| Data cable | : | Shielded, 1.84m long, no ferrite core |

| | | |
|---|---|---|
| **Receiver** | **:** | **Chic** |
| Model No. | : | BT3035B |
| Serial No. | : | N/A |
| FCC ID | : | Doc Approved |
| Power type | : | by PC |

### 1.5 Configuration of System Under Test (Test mode: #1)



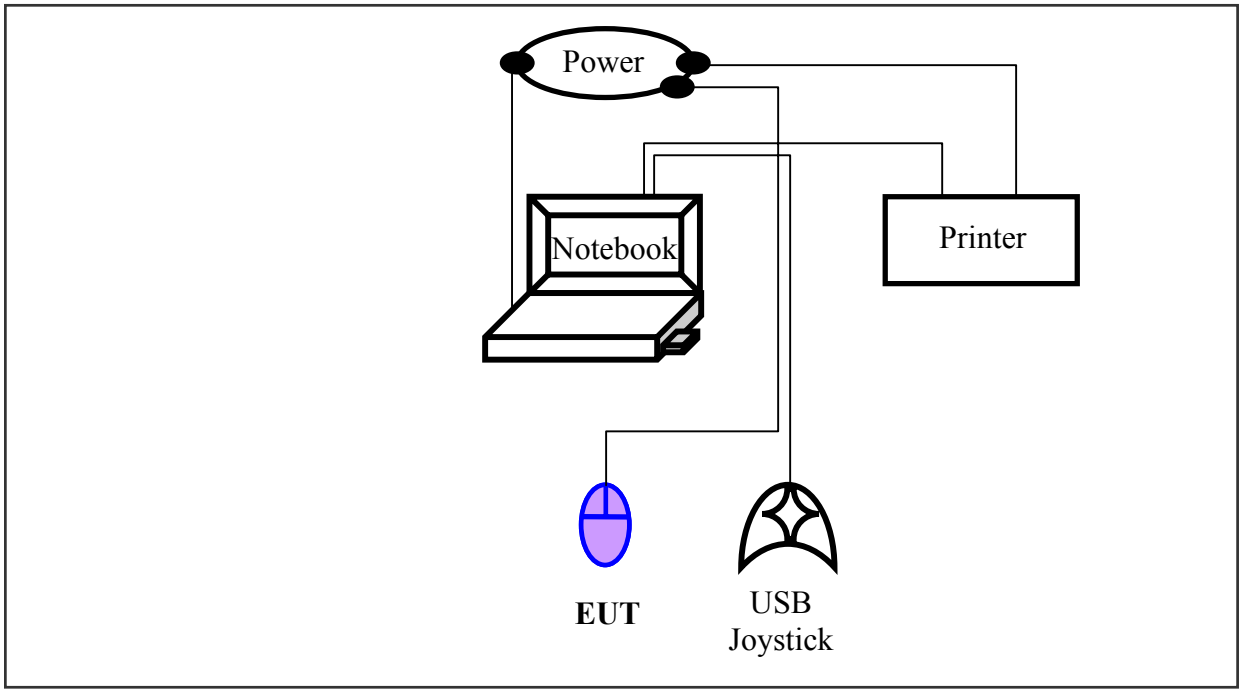

***Connections:***

***EUT:***

*Put two AAA size, 1.5V battery into the battery cell of EUT, powers the subject device. The EUT does not be connected with any product.

*Power Jack --- not connect anything.

**Configuration of System Under Test (Test mode: #2)**




## ***Connections:***

### ***Notebook:***

*Monitor Port --- not connect anything.
*Printer port --- not connect anything.
*USB port A --- an USB joystick with 1.8m long, shielded, no ferrite bead data cable.
*USB port B --- to Receiver
*LAN port --- not connect anything.
*Phone Jack --- not connect anything.
*PCMCIA Port --- not connect anything.

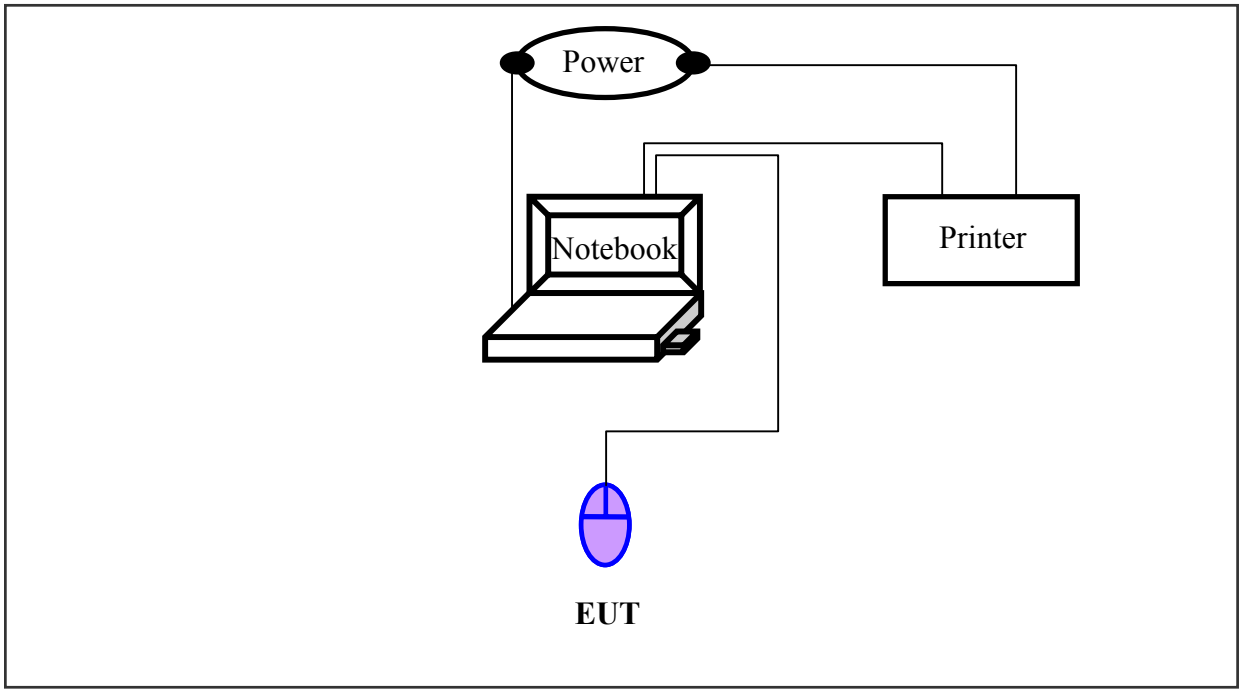
### ***Receiver:***

*USB Jack --- connect to the USB Port B of the PC.

### ***EUT:***

*Put two AAA size, 1.5V battery into the battery cell of EUT, powers the subject device. The EUT does not be connected with any product.
*Power Jack --- connect with 1.80m length cable to the power source.

**Configuration of System Under Test (Test mode: #3)**




## ***Connections:***

### ***Notebook:***

*Monitor Port --- not connect anything.
*Printer port --- not connect anything.
*USB port A --- to EUT.
*USB port B --- to Receiver
*LAN port --- not connect anything.
*Phone Jack --- not connect anything.
*PCMCIA Port --- not connect anything.

### ***Receiver:***

*USB Jack --- connect to the USB Port B of the PC.

### ***EUT:***

*Put two AAA size, 1.5V battery into the battery cell of EUT, powers the subject device. The EUT does not be connected with any product.
*Power Jack --- connected with 1.55m length data cable to the USB port A of the notebook.

## 1.6 Verify the Frequency and Channel

| CH | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | 2402 | 2403 | 2404 | 2405 | 2406 | 2407 | 2408 | 2409 | 2410 |
| 1 | 2411 | 2412 | 2413 | 2414 | 2415 | 2416 | 2417 | 2418 | 2419 | 2420 |
| 2 | 2421 | 2422 | 2423 | 2424 | 2425 | 2426 | 2427 | 2428 | 2429 | 2430 |
| 3 | 2431 | 2432 | 2433 | 2434 | 2435 | 2436 | 2437 | 2438 | 2439 | 2440 |
| 4 | 2441 | 2442 | 2443 | 2444 | 2445 | 2446 | 2447 | 2448 | 2449 | 2450 |
| 5 | 2451 | 2452 | 2453 | 2454 | 2455 | 2456 | 2457 | 2458 | 2459 | 2460 |
| 6 | 2461 | 2462 | 2463 | 2464 | 2465 | 2466 | 2467 | 2468 | 2469 | 2470 |
| 7 | 2471 | 2472 | 2473 | 2474 | 2475 | 2476 | 2477 | 2478 | 2479 | 2480 |

Note:

1. This is for confirming that all frequencies are in 2.402GHz to 2.480GHz.
2. Section 15.31(m): Measurements on intentional radiators or receivers shall be performed at three frequencies for operating frequency range over 10 MHz.
   (The locations of these frequencies one near the top, one near the middle and one near the bottom.)
3. After test, the EUT operating frequencies are in 2.402GHz to 2.480GHz. So all the items as followed in testing report are need to test these three frequencies:
   Top: Channel – 01;  Middle: Channel – 40;  Bottom: Channel – 79.

## 1.7 Test Procedure

All measurements contained in this report were performed mainly according to the techniques described in ANSI C63.4 and the pre-setup was written on 1.3 test method, the detail setup was written on each test item.

## 1.8 Location of the Test Site

The radiated emissions measurements required by the rules were performed on the **three-meter**, **Anechoic Chamber (FCC Registration Number: 93906)** maintained by *Training Research Co., Ltd.* 1F, No. 255 Nanyang Street, Shijr, Taipei Hsien 221, Taiwan, R.O.C. Complete description and measurement data have been placed on file with the commission. The conducted power line emissions tests and other test items were performed in a anechoic chamber also located at Training Research Co., Ltd.

No. 255 Nanyang Street, Shijr, Taipei Hsien 221, Taiwan, R.O.C. *Training Research Co., Ltd.* is listed by the FCC as a facility available to do measurement work for others on a contract basis.

## 1.9 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.

There is a test condition apply in this test item, the test procedure description as <1.3 test method>. Three channels were tested, one in the top (CH1), one in the middle (CH40) and the other in bottom (CH79).

## II. Section 15.203: Antenna requirement

A) The EUT has an integrated antenna permanently attached on the PCB, which inside the housing. In addition, there is no external antenna or connector employed. The antenna requirement stated in Sect.15.203 is inapplicable to this EUT.

The antenna specification of list as below:

Antenna Type : Integrated Antenna

Antenna Gain : 1.87dBi (Max.)

# III. Section 15.207: Power Line Conducted Emissions for AC Powered Units

## 3.1 Test Condition & Setup

The power line conducted emission measurements were performed in an anechoic chamber. The EUT was assembled on a wooden table, which is 80 centimeters high, was placed 40 centimeters from the backwall 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 Line Impedance Stabilization Networks (LISNs). The LISN housing, measuring instrumentation case, ground plane, etc., were electrically bonded together at the same RF potential. The Spectrum analyzer (or EMI receiver) 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 and average 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 150KHz to 30MHz. 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 4.3

There is a test condition apply in this test item, the test procedure description as <1.3 test method>. Three channels were tested, one in the top (CH1), one in the middle (CH40) and the other in bottom (CH79).

## 3.2 List of Test Instruments

**Calibration Date**

| Instrument Name | Model | Brand | Serial No. | Next time |
|---|---|---|---|---|
| EMI Receiver | 8546A | HP | 3520A00242 | 08/05/05 |
| RF Filter Section | 85460A | HP | 3448A00217 | 08/05/05 |
| LISN (EUT) | LISN-01 | TRC | 99-05 | 09/21/05 |
| LISN (Support E.) | LISN-01 | TRC | 9912-03, 04 | 10/21/05 |
| Pre-amplifier | 15542 ZFL-500 | Mini – Circuits | 0 0117 | 05/20/05 |
| 6dB Attenuator | MCL BW-S6W2 | Mini – Circuits | 9915 – Conducted | 05/20/05 |
| 10dB Attenuator | A5542 VAT010 | Mini – Circuits | 0215 – Conducted | 05/20/05 |
| Coaxial Cable (2 meter) | A30A30-0058-50FS-2M | Jyebao | SMA-08 | 05/20/05 |
| Coaxial Cable (1.1 meter) | A30A30-0058-50FS-1M | Jyebao | SMA-09 | 05/20/05 |
| Coaxial Cable (20 meter) | RG-214/U | Jyebao | NP-01 | 05/20/05 |
| Coaxial Cable (20 meter) | RG-214/U | Jyebao | NP-02 | 05/20/05 |
| Auto Switch Box (< 30MHz) | ASB-01 | TRC | 9904-01 | 05/20/05 |

### 3.3 Test Results of Conducted Emissions

The following table shows a summary of the highest emissions of power line conducted emissions on the LIVE and NETURAL conductors of the EUT power cord. The test data only recorded worst case in report.

Test Conditions: Temperature : 25 °C Humidity : 73 % RH

***Test Mode: Charging by USB***

| ***Power Connected Emissions*** | | | | | ***FCC Class B*** | | |
|---|---|---|---|---|---|---|---|
| ***Conductor*** | ***Frequency (KHz)*** | ***Peak (dBμV)*** | ***QP (dBμV)*** | ***Average (dBμV)*** | ***QP-limit (dBμV)*** | ***AVG-limit (dBμV)*** | ***Margin (dB)*** |
| Line 1 | 173.00 | 43.45 | --- | --- | 65.34 | 55.34 | -11.89 |
| | 182.00 | 40.42 | --- | --- | 65.09 | 55.09 | -14.66 |
| | 201.00 | 44.15 | --- | --- | 64.54 | 54.54 | -10.39 |
| | 608.00 | 34.60 | --- | --- | 56.00 | 46.00 | -11.40 |
| | 673.00 | 35.28 | --- | --- | 56.00 | 46.00 | -10.72 |
| | 1348.00 | 33.61 | --- | --- | 56.00 | 46.00 | -12.39 |
| | 4820.00 | 33.63 | --- | --- | 56.00 | 46.00 | -12.37 |
| | 7440.00 | 32.74 | --- | --- | 60.00 | 50.00 | -17.26 |
| | 14080.00 | 30.11 | --- | --- | 60.00 | 50.00 | -19.89 |
| Line 2 | 155.00 | 50.60 | --- | --- | 65.86 | 55.86 | -5.26 |
| | 201.00 | 48.37 | --- | --- | 64.54 | 54.54 | -6.17 |
| | 233.00 | 42.40 | --- | --- | 63.63 | 53.63 | -11.22 |
| | 340.00 | 36.34 | --- | --- | 60.57 | 50.57 | -14.23 |
| | 404.00 | 34.22 | --- | --- | 58.74 | 48.74 | -14.52 |
| | 673.00 | 35.00 | --- | --- | 56.00 | 46.00 | -11.00 |
| | 4700.00 | 33.04 | --- | --- | 56.00 | 46.00 | -12.96 |
| | 7320.00 | 31.83 | --- | --- | 60.00 | 50.00 | -18.17 |
| | 18850.00 | 28.25 | --- | --- | 60.00 | 50.00 | -21.75 |

## IV. Section 15.247 (a): Technical description of the EUT

*Frequency Hopping Spectrum System* is a spread spectrum system in which the carrier has been modulated by a *high speed spreading code* and an *information data stream* with its *known hopping algorithm* and *avoidance method.* The high speed code sequence dominates the "modulating function" and is the direct cause of the wide spreading of the transmitted signal. In the *operational description* demonstrates the operation principles of the base-band processor employed by the EUT, shows that which is a complete FHSS base-band processor and meets the definition of the *Frequency Hopping Spectrum System.*

# Ⅴ. Section 15.247(a)(1): Carrier Frequency Separation

## 5.1 Test Condition

The EUT must have its hopping function enabled. Use the following spectrum analyzer setting

Span = wide enough to capture the peaks of two adjacent channels

Resolution (or IF) bandwidth (RBW) ≧ 1% of the span

Video ( or Average) Bandwidth (VBW) ≧ RBW

Sweep = Auto

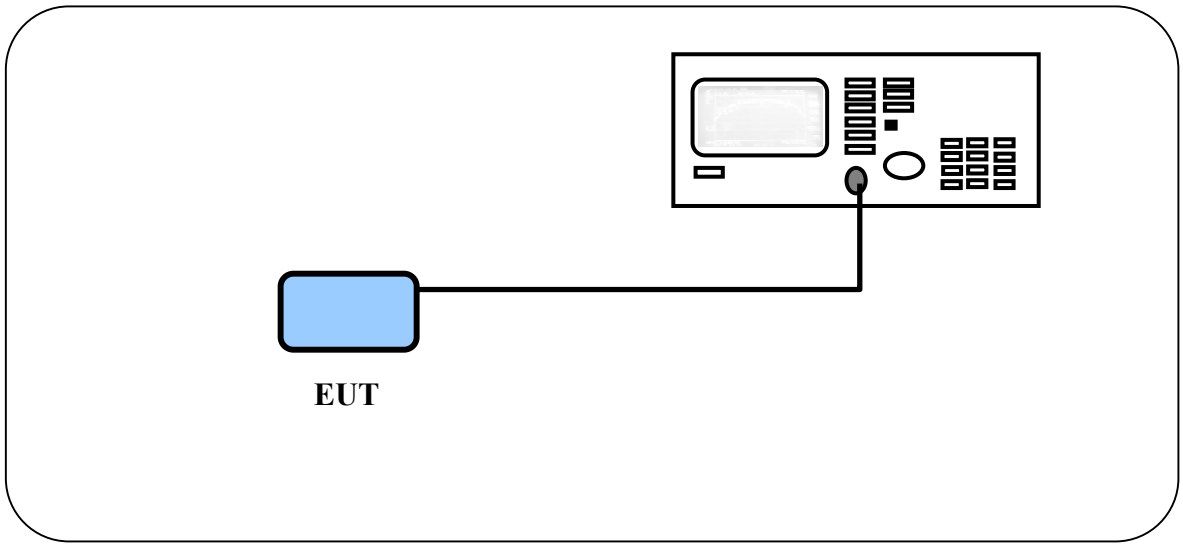
Detector Function = peak

Trace = max hold

Setting up procedure is written on 1.3 test method.

Allow the trace to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channel. The limit is specified in one of the subparagraphs of this section. Submit this plot.

## 5.2 Test Instruments Configuration




Test Configuration of carrier frequency separation

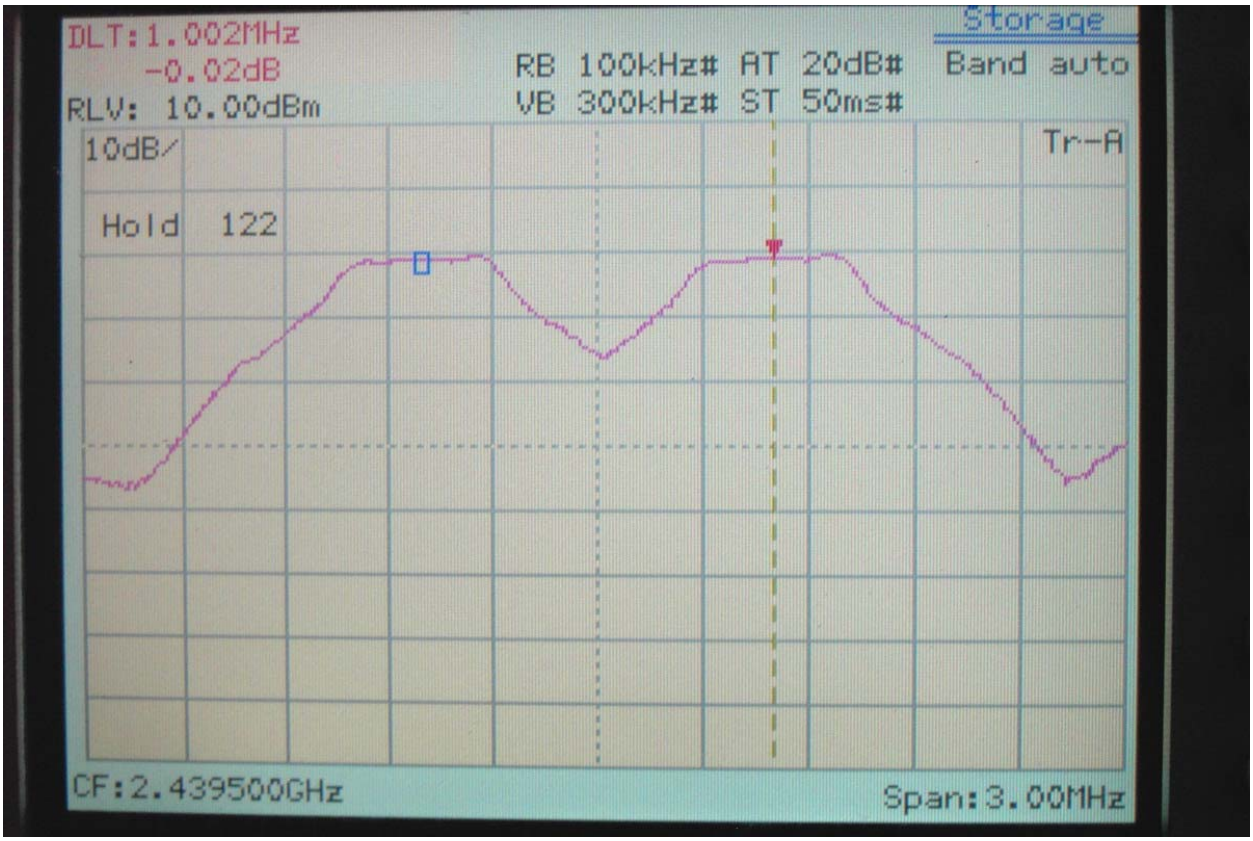
### 5.3 List of Test Instruments

| Instrument Name | Model No. | Brand | Serial No. | Last time | Next time |
|---|---|---|---|---|---|
| Spectrum Analyzer | MS2665C | ANRITSU | 6200175476 | 09/30/04 | 09/30/05 |

### 5.4 Measurement Results

| Channel separation | Limit | Result |
|---|---|---|
| MHz | KHz | PASS |
| 1.002 | >=25KHz/ 20dB bandwidth | |

***Channel Separation: 1.002MHz***



# VI. Section 15.247(a)(1)(ii) Number of Hopping Frequencies

## 6.1 Test Condition

The EUT must have its Hopping function enabled. Use the following spectrum analyzer setting:

Span = the frequency band of operation

RBW ≧ 1% of the span

VBW ≧ RBW

Sweep = auto

Detector function = peak

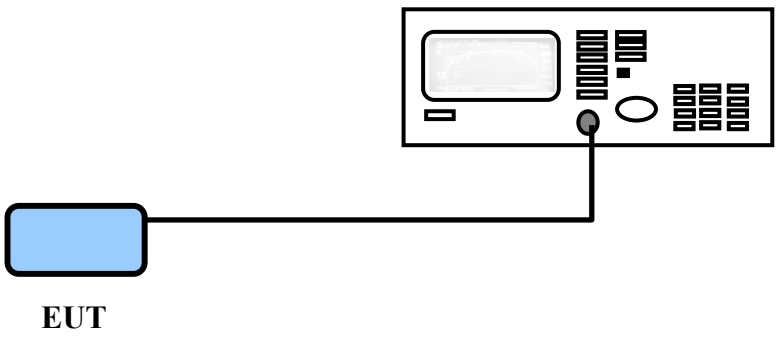
Trace = max hold

Allow the trace to stabilize. It may prove necessary to break the span up to sections. In order to clearly show all of the hopping frequencies. The limit is specified in one of the subparagraphs of this section. Submit this plots.

## 6.2 List of Test Instruments

| Instrument Name | Model No. | Brand | Serial No. | Last time | Next time |
|---|---|---|---|---|---|
| Spectrum Analyzer | MS2665C | ANRITSU | 6200175476 | 09/30/04 | 09/30/05 |

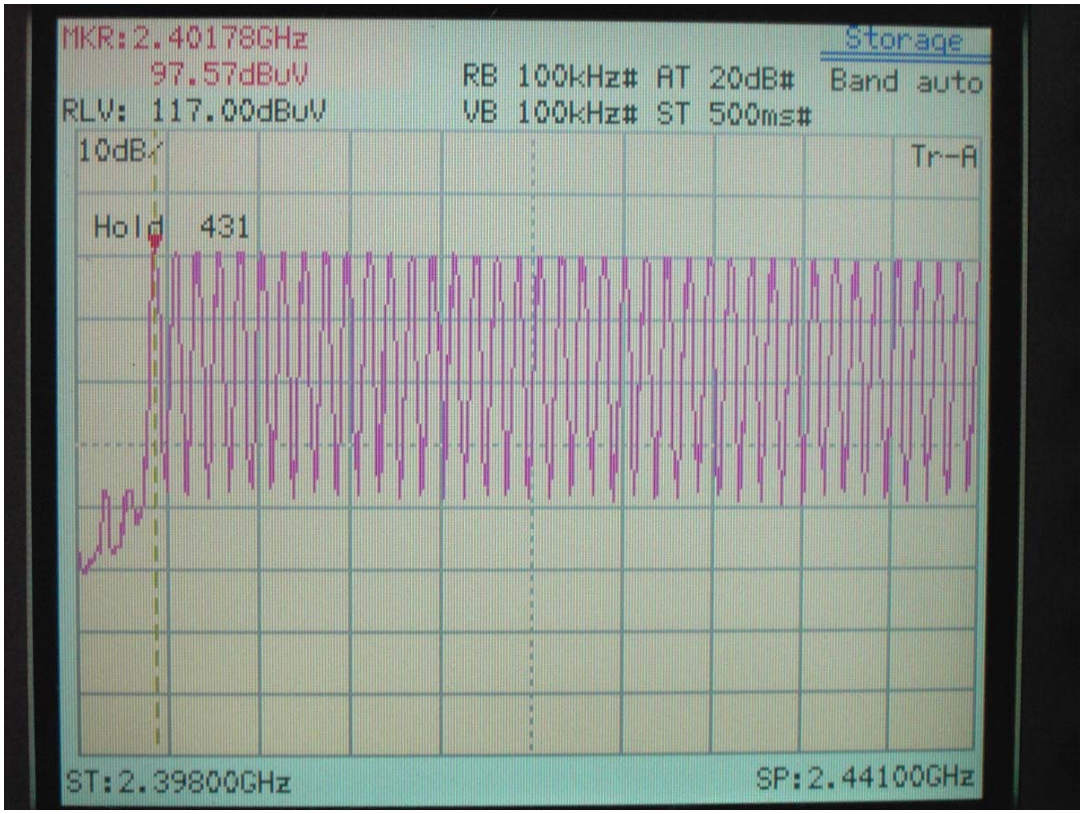
## 6.3 Test Instruments Configuration

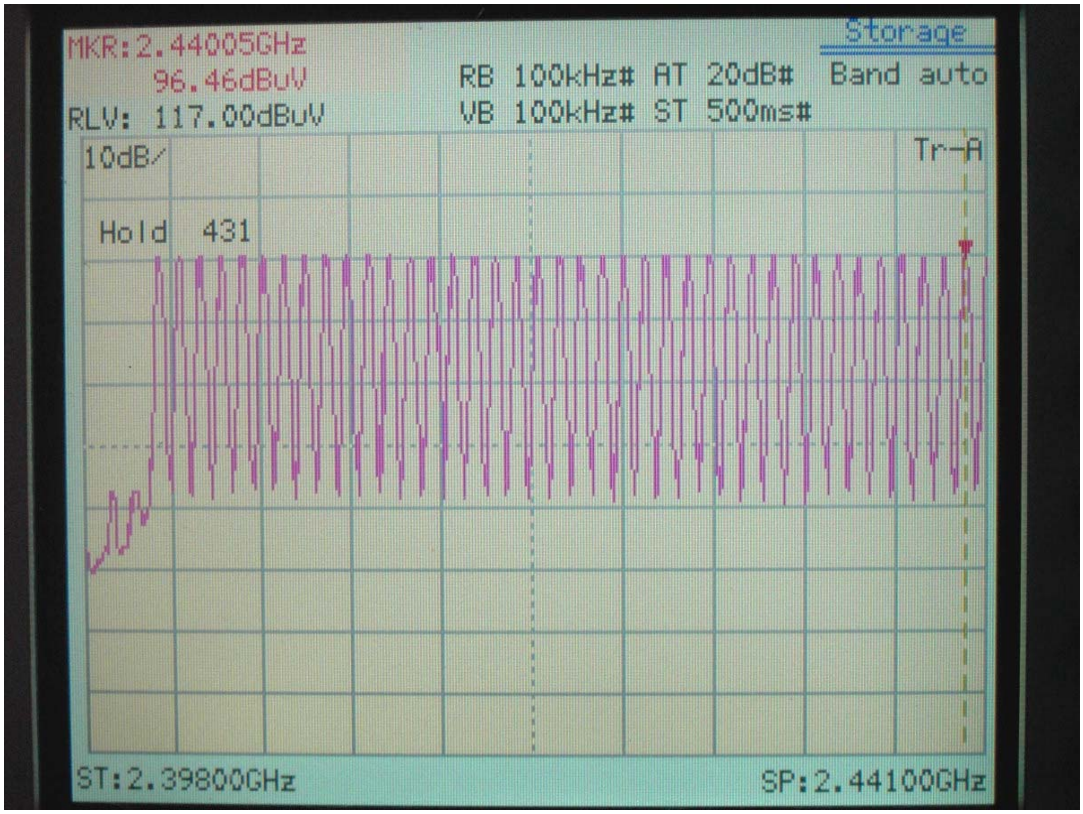


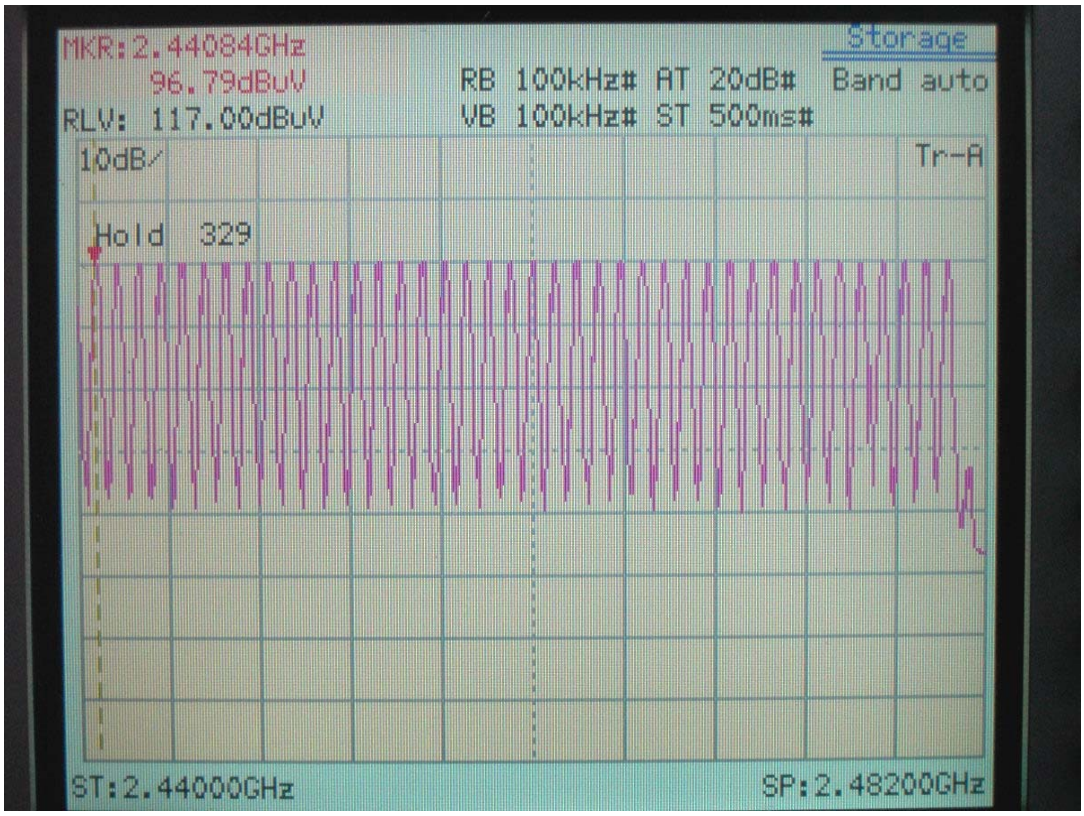

Test Configuration for number of hopping frequencies

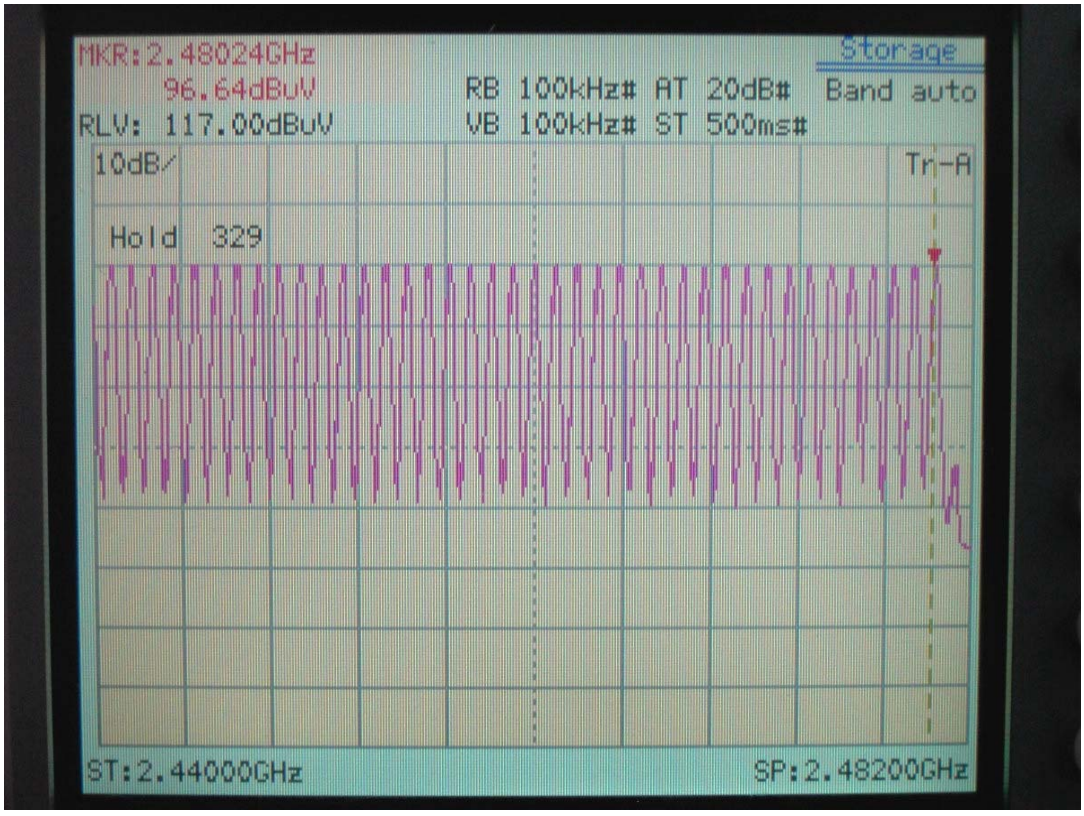
## 6.4 Measurement Results

| Top No of Hopping Channel | Limit (CH) | Measurement result (CH) | Result |
|---|---|---|---|
| | 15 | 79 | PASS |


MKR:2.40178GHz
97.57dBuV
RLV: 117.00dBuV
RB 100kHz# AT 20dB#
VB 100kHz# ST 500ms#
Storage
Band auto
10dB/
Tr-A
Hold 431
ST:2.39800GHz
SP:2.44100GHz


MKR:2.44005GHz
96.46dBuV
RLV: 117.00dBuV
RB 100kHz# AT 20dB#
VB 100kHz# ST 500ms#
Storage
Band auto
10dB/
Tr-A
Hold 431
ST:2.39800GHz
SP:2.44100GHz


MKR:2.44084GHz
96.79dBuV
RLV: 117.00dBuV
RB 100kHz# AT 20dB#
VB 100kHz# ST 500ms#
Storage
Band auto
10dB/
Tr-A
Hold 329
ST:2.44000GHz
SP:2.48200GHz


MKR:2.48024GHz
96.64dBuV
RLV: 117.00dBuV
RB 100kHz# AT 20dB#
VB 100kHz# ST 500ms#
Storage
Band auto
10dB/
Tr-A
Hold 329
ST:2.44000GHz
SP:2.48200GHz

# VII. Section 15.247(a)(1)(ii) Time of Occupancy (Dwell Time)

## 7.1 Test Condition

The EUT must have its hopping function enabled. Use the following spectrum analyzer setting:

Span = zero span, centered on a hopping channel

RBW = 1M

VBW ≧ RBW

Sweep = as necessary to capture the entire dwell time per hopping channel

Detector function = peak

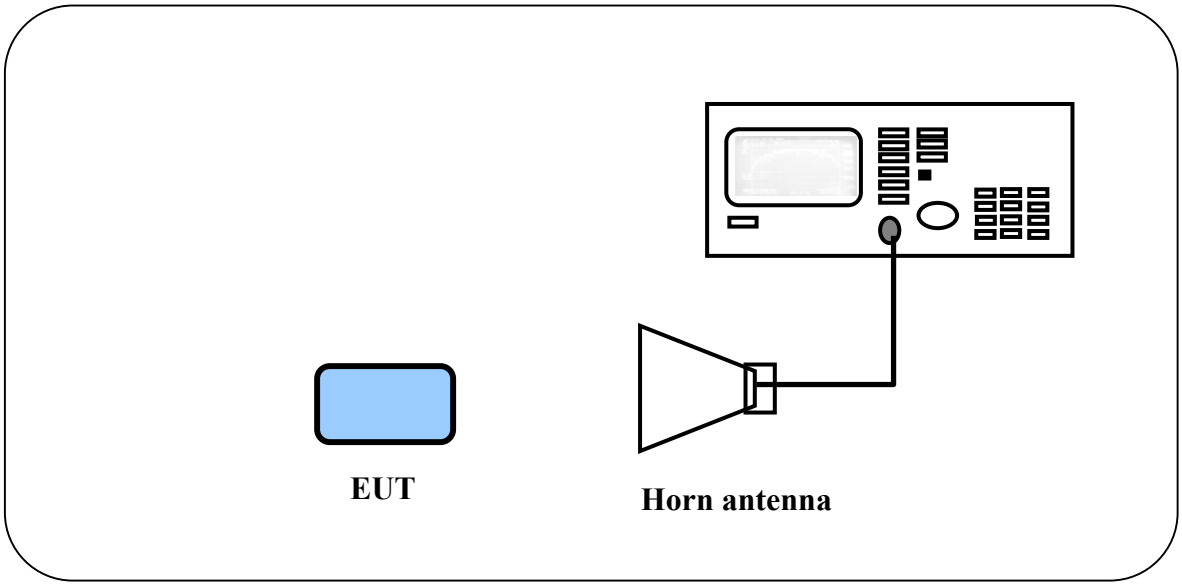
Trace = max hold

If possible, use the marker-delta function to determine the dwell time. If this value varies with different modes of operation (e.g., data rate, modulation format, etc.), repeat this test for each variation. The limit is specified in one of the subparagraphs of this section. Submit this plot(s). An oscilloscope may be used instead of a spectrum analyzer.

## 7.2 List of Test Instruments

| Instrument Name | Model | Brand | Serial No. | Next time |
|---|---|---|---|---|
| Spectrum Analyzer | 8564E | H P | 3720A00840 | 08/13/05 |
| Spectrum Analyzer | MS2665C | ANRITSU | 6200175476 | 09/30/05 |
| Microwave Preamplifier | 84125C | HP | US36433002 | 08/13/05 |
| Horn Antenna | 3115 | EMCO | 9704 – 5178 | 12/12/04 |

### 7.3 Test Instruments Configuration



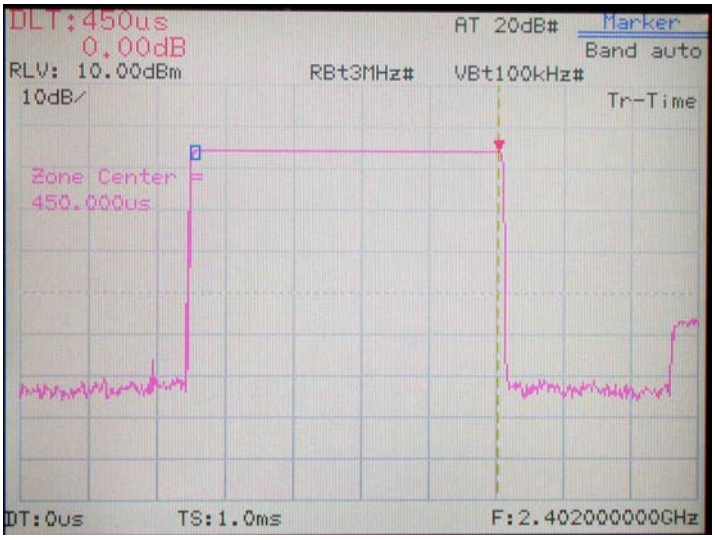

### 7.4 Test Results

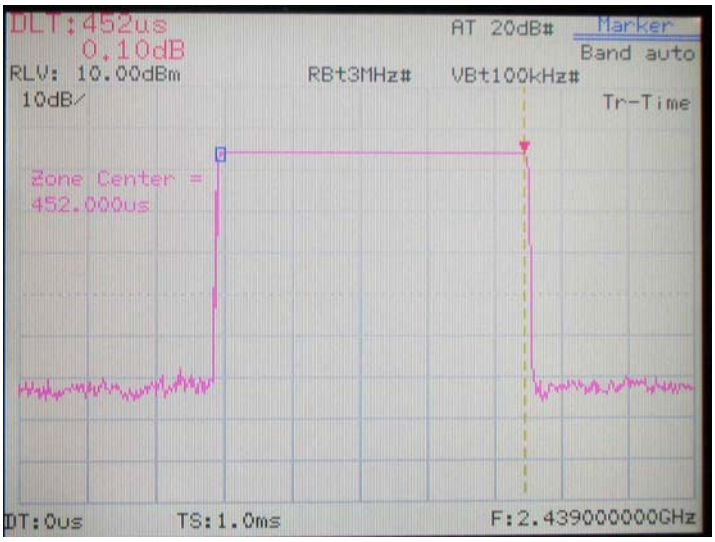
| CH | DH1-Packet (ms) | DH3-Packet (ms) | DH5-Packet (ms) | Limit (ms) |
|---|---|---|---|---|
| 01 | 0.450x31.6x10.12 = 143.91 | 1.704x31.6x5.06 = 272.46 | 2.950x31.6x3.37 = 314.15 | 400.00 |
| 40 | 0.452x31.6x10.12 = 144.55 | 1.704x31.6x5.06 = 272.46 | 2.950x31.6x3.37 = 314.15 | 400.00 |
| 79 | 0.450x31.6x10.12 = 143.91 | 1.700x31.6x5.06 = 271.82 | 2.940x31.6x3.37 = 313.09 | 400.00 |

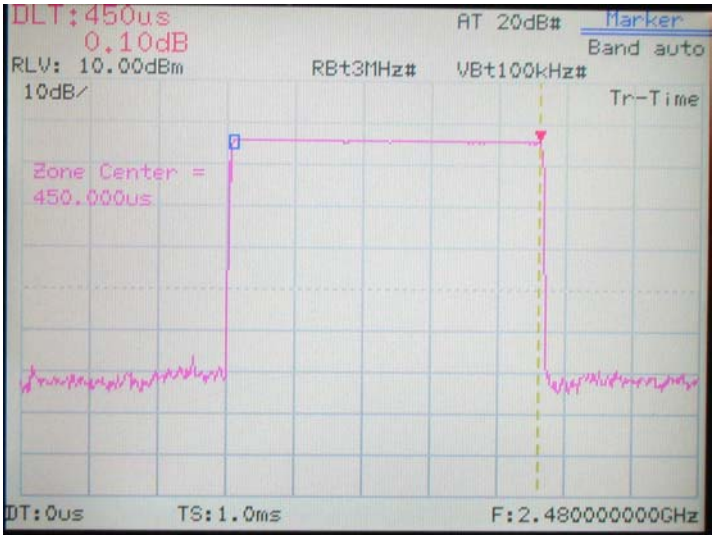
Note： 1. 0.4 x 79 = 31.6 s

2. DH1: $1600 \div 79 \div 2 = 10.12$ ms
3. DH3: $1600 \div 79 \div 4 = 5.06$ ms
4. DH5: $1600 \div 79 \div 6 = 3.37$ ms
5. Show as following page.

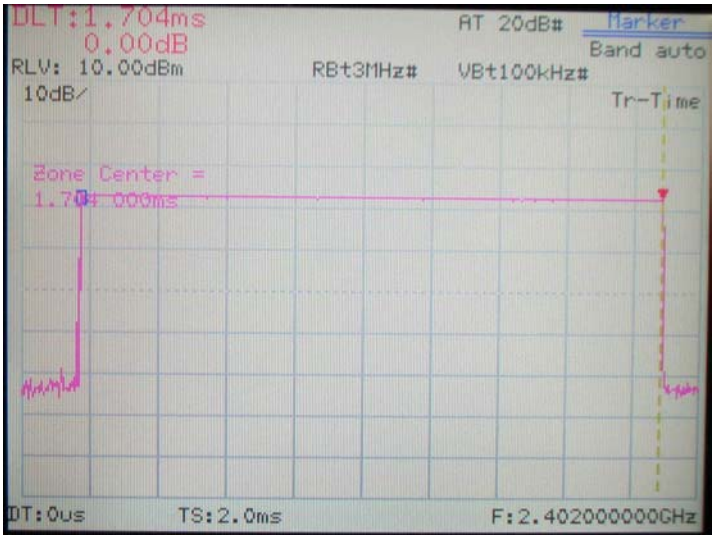
***DH1-Packet：***

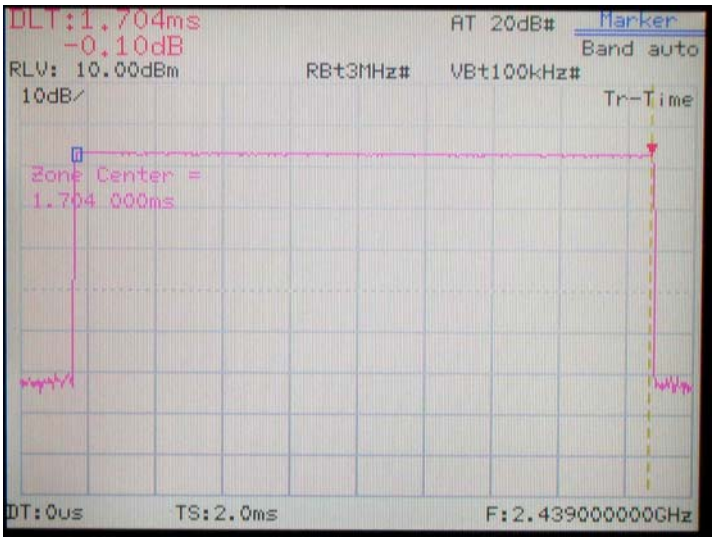

DLT:450us
0.00dB
RLV: 10.00dBm
10dB/
RBt3MHz#
VBt100kHz#
AT 20dB#
Marker
Band auto
Tr-Time
Zone Center =
450.000us
DT:0us
TS:1.0ms
F:2.402000000GHz

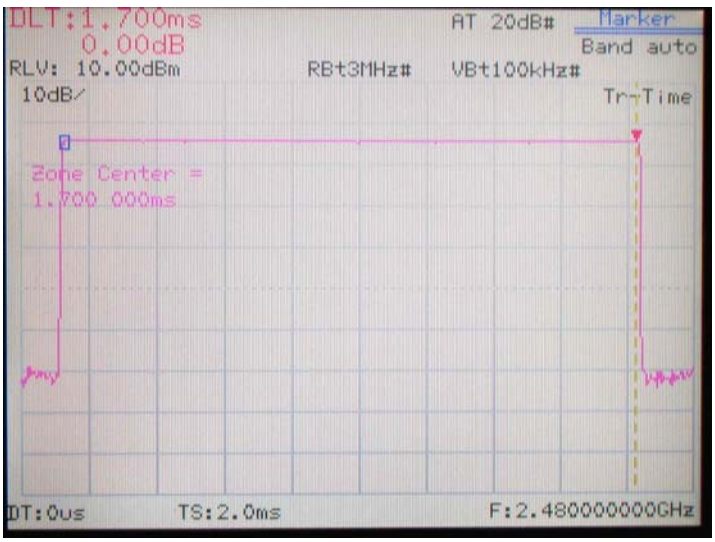

DLT:452us
0.10dB
RLV: 10.00dBm
10dB/
RBt3MHz#
VBt100kHz#
AT 20dB#
Marker
Band auto
Tr-Time
Zone Center =
452.000us
DT:0us
TS:1.0ms
F:2.439000000GHz


DLT:450us
0.10dB
RLV: 10.00dBm
10dB/
RBt3MHz#
VBt100kHz#
AT 20dB#
Marker
Band auto
Tr-Time
Zone Center =
450.000us
DT:0us
TS:1.0ms
F:2.480000000GHz

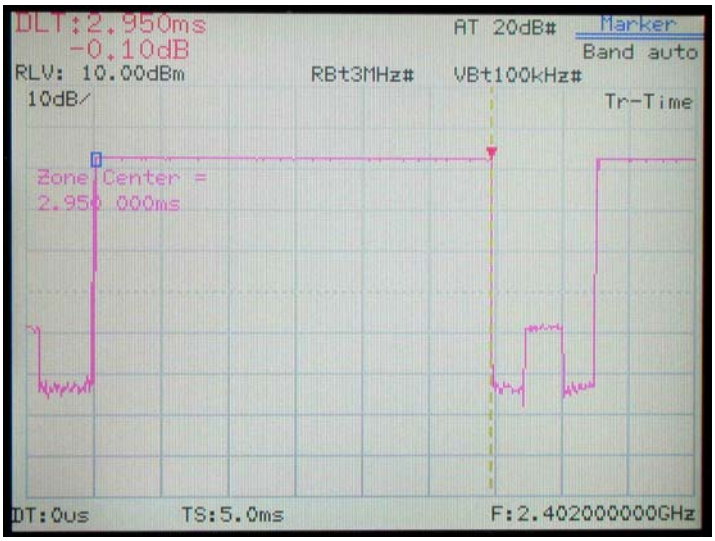
***DH3-Packet：***

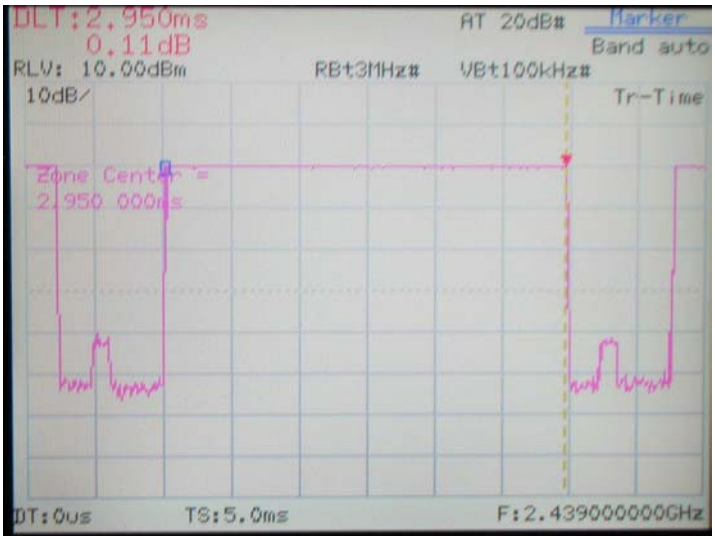

DLT:1.704ms
0.00dB
AT 20dB#
Marker
Band auto
RLV: 10.00dBm
RBt3MHz#
VBt100kHz#
10dB/
Tr-Time
Zone Center =
1.704 000ms
DT:0us
TS:2.0ms
F:2.402000000GHz

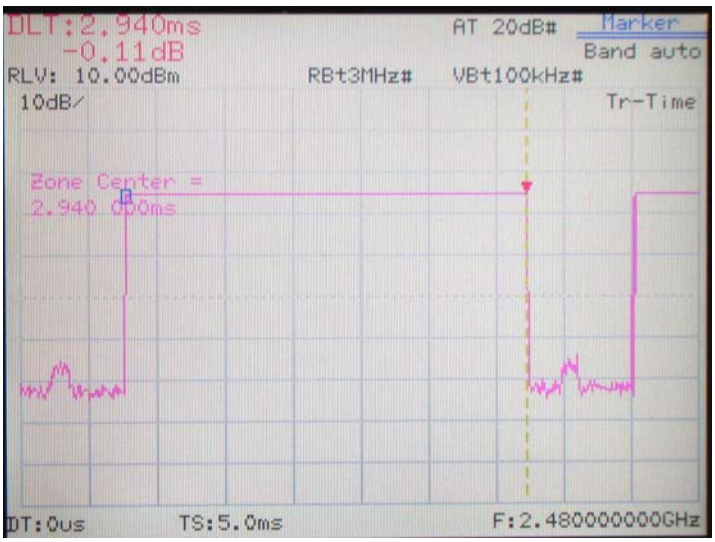

DLT:1.704ms
-0.10dB
AT 20dB#
Marker
Band auto
RLV: 10.00dBm
RBt3MHz#
VBt100kHz#
10dB/
Tr-Time
Zone Center =
1.704 000ms
DT:0us
TS:2.0ms
F:2.439000000GHz


DLT:1.700ms
0.00dB
AT 20dB#
Marker
Band auto
RLV: 10.00dBm
RBt3MHz#
VBt100kHz#
10dB/
Tr-Time
Zone Center =
1.700 000ms
DT:0us
TS:2.0ms
F:2.480000000GHz

***DH5-Packet：***


DLT:2.950ms
-0.10dB
AT 20dB#
Marker
Band auto
RLV: 10.00dBm
RBt3MHz#
VBt100kHz#
10dB/
Tr-Time
Zone Center =
2.950 000ms
DT:0us
TS:5.0ms
F:2.402000000GHz


DLT:2.950ms
0.11dB
AT 20dB#
Marker
Band auto
RLV: 10.00dBm
RBt3MHz#
VBt100kHz#
10dB/
Tr-Time
Zone Center =
2.950 000ms
DT:0us
TS:5.0ms
F:2.439000000GHz


DLT:2.940ms
-0.11dB
AT 20dB#
Marker
Band auto
RLV: 10.00dBm
RBt3MHz#
VBt100kHz#
10dB/
Tr-Time
Zone Center =
2.940 000ms
DT:0us
TS:5.0ms
F:2.480000000GHz

# XIII. Section 15.247(a)(1)(ii) 20dB Bandwidth

## 8.1 Test Condition

Use the following spectrum analyzer setting:

Span = the frequency band of operation

RBW ≧ 1% of the emission bandwidth

VBW ≧ RBW

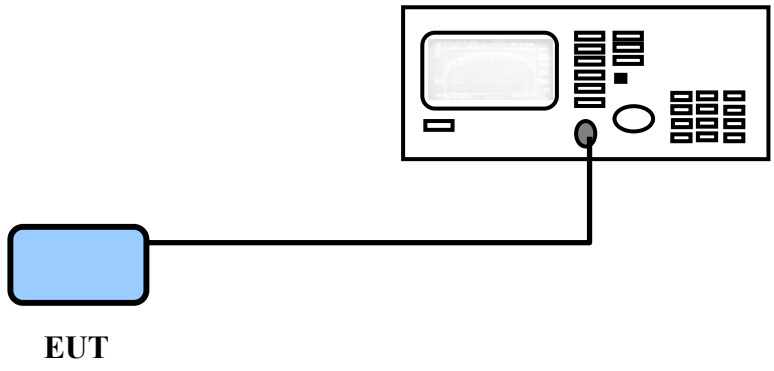
Sweep = auto

Detector function = peak

Trace = max hold

The EUT should be transmitting at its maximum data rate. Allow the trace to stabilize. Use the marker-to-peak function to set the marker to the peak of emission. Use the marker-delta function to measure 20dB down one side of the emission. Reset the marker-delta function, and move the marker to the other side of the emission, until it is (as close as possible to) even with the reference marker level. The marker-delta reading at this point is the 20dB bandwidth of the emission. If this value varies with different modes of operation (e.g., data rate, modulation format, etc.), repeat this test for each variation. The limit is specified in one of the subparagraphs of this section. Submit this plot(s).

## 8.2 Test Instruments Configuration




Test Configuration of Bandwidth for Frequency Hopping Spread Spectrum System

### 8.3 List of Test Instruments

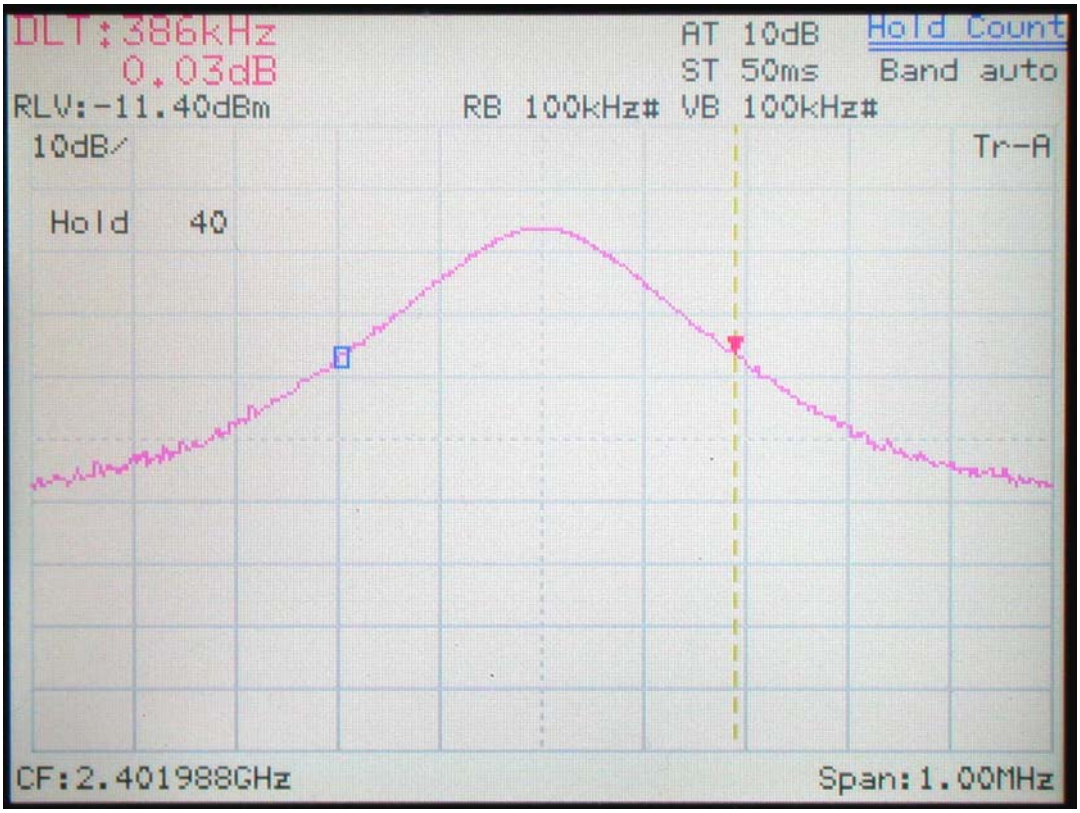
| Instrument Name | Model No. | Brand | Serial No. | Last time | Next time |
|---|---|---|---|---|---|
| Spectrum Analyzer | MS2665C | ANRITSU | 6200175476 | 09/30/04 | 09/30/05 |

### 8.4 Test Results

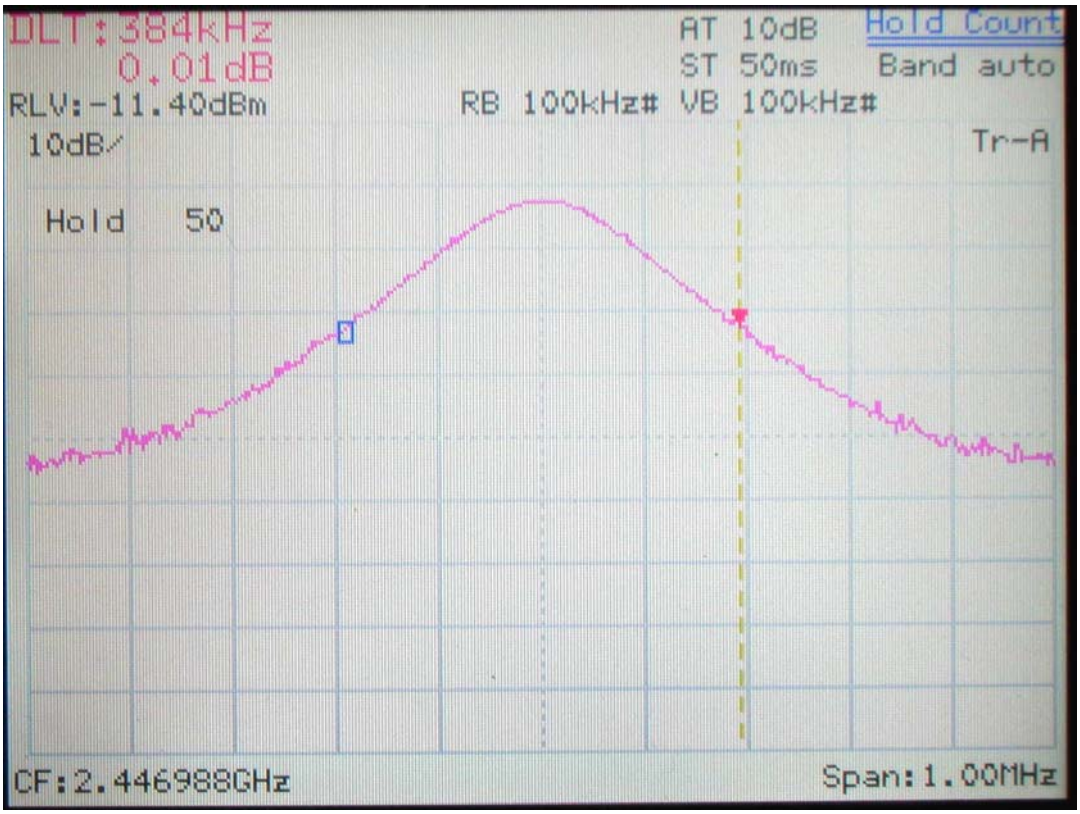
| Channel | Bandwidth (KHz) | Bandwidth Limit (KHz) | Result |
|---|---|---|---|
| Channel 01 | 386 | 1000 | PASS |
| Channel 40 | 384 | 1000 | PASS |
| Channel 79 | 396 | 1000 | PASS |

Note: The data in the above table are summarizing the following attachment spectrum analyzer.

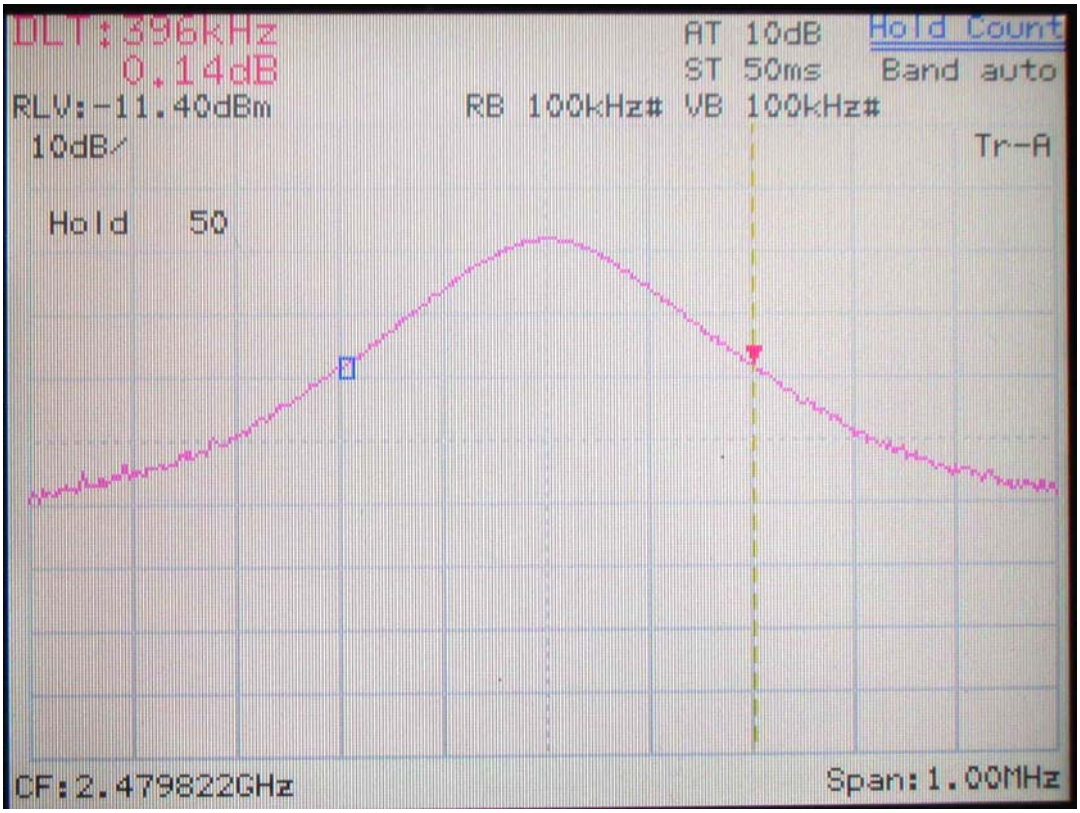
***Bandwidth of Channel 01:***



***Bandwidth of Channel 40:***

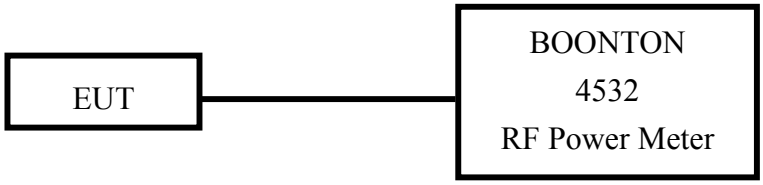



***Bandwidth of Channel 79:***



# IX. Section 15.247(b) Peak Output Power

## 9.1 Test Condition & Setup




1. The output of the transmitter is connected to the BOONTON RF Power Meter.
2. The calibration is performed before every test. The values of the output power of the EUT will shown in the dBm directly are the transmitter output peak power. Recording as follows.

## 9.2 List of Test Instruments

| | | | | **Calibration Date** |
|---|---|---|---|---|
| Instrument Name | Model | Brand | Serial No. | Next time |
| RF Power Meter | 4532 | BOONTON | 117501 | 04/16/05 |
| Peak Power Sensor | 57340 | BOONTON | 2698 | 04/16/05 |

## 9.3 Test Result

**Formula:**
RF output power of EUT + |Cable loss| = Output peak power

| **Channel** | **RF Output** | **Cable Loss** | **Output peak power** | **Limit** | **Margin** |
|---|---|---|---|---|---|
| | **dBm** | **dBm** | **dBm** | **dBm** | **dB** |
| CH 01 | 1.48 | 1.00 | 2.48 | 30 | -27.52 |
| CH 40 | -2.42 | 1.00 | -1.42 | 30 | -31.42 |
| CH 79 | -2.13 | 1.00 | -1.13 | 30 | -31.13 |

# X. Section 15.247(c) Band-edge Compliance

## 10.1 Test Condition

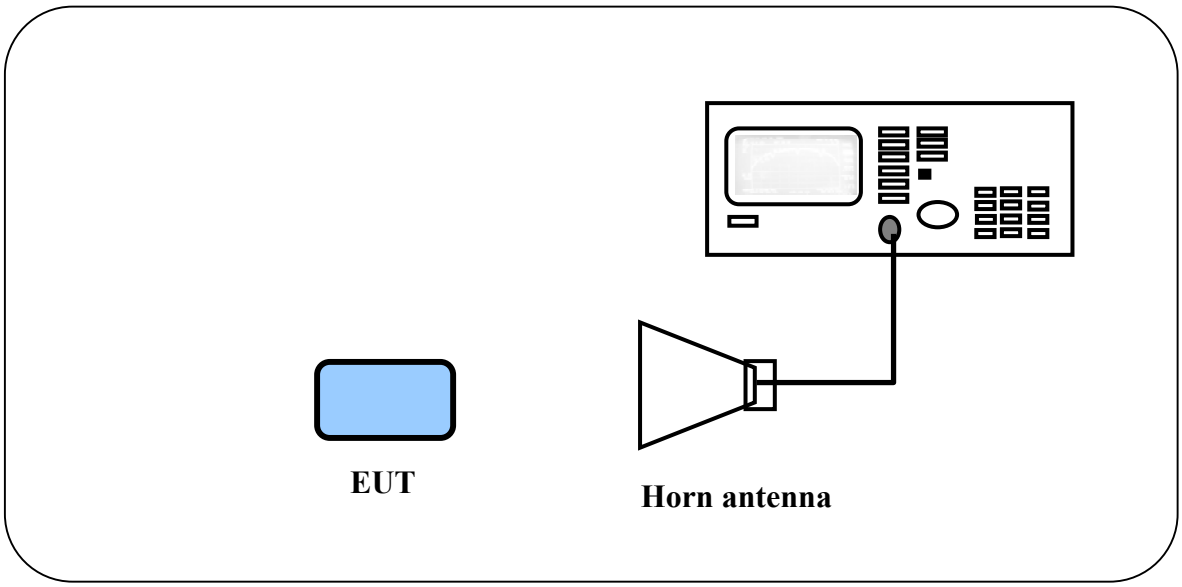
If any 100 kHz bandwidth outside these frequency bands, the radio frequency power that is produced by the modulation products of the spreading sequence, the information sequence and the carrier frequency shall be either *at least 20 dB below that in any 100 kHz bandwidth within the band that contains the highest level of the desired power or shall not exceed the general levels specified id §15.209(a)*,

We perform this section by the *radiated manner*, the RBW is set to 100kHz and VBW>RBW. We'd made the observation *up to 10th harmonics and the criterion is all the harmonic/spurious emissions must be 20dB below the highest emission level measured.* If the emissions fall in the restricted bands stated in the Part15.205(a) must also *comply with the radiated emission limits specified in Part15.209(a). (Peak mode: RBW=VBW=1MHz, Average mode: RBW=1MHz; VBW=10Hz)*

## 10.2 List of Test Instruments

| | | | | **Calibration Date** |
|---|---|---|---|---|
| Instrument Name | Model No. | Brand | Serial No. | Next time |
| Spectrum Analyzer | 8564E | H P | 3720A00840 | 08/13/05 |
| Spectrum Analyzer | MS2665C | ANRITSU | 6200175476 | 09/30/05 |
| Microwave Preamplifier | 84125C | HP | US36433002 | 08/13/05 |
| Horn Antenna | 3115 | EMCO | 9704 – 5178 | 12/12/04 |

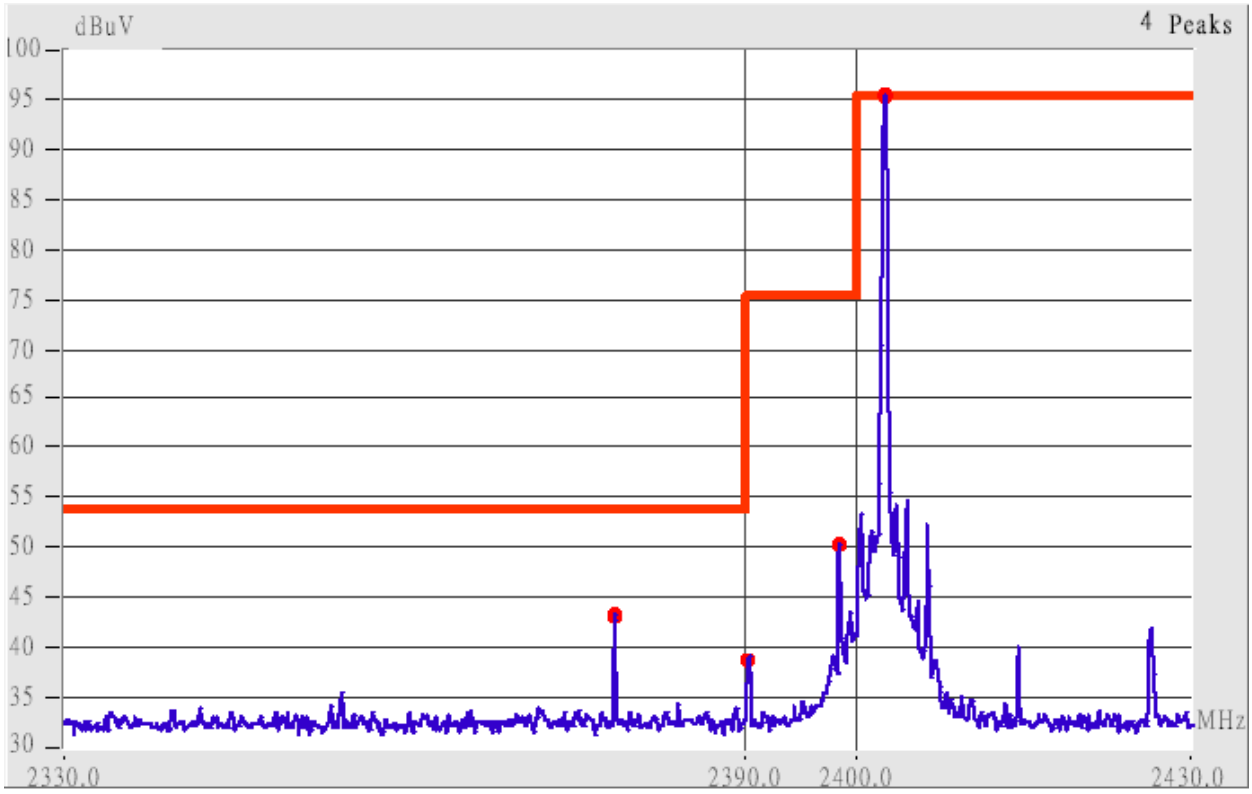
### 10.3 Test Instruments Configuration




### 10.4 Test Result of the Bandedge

The following pages show our observations referring to the channel 1 and 79 respectively.

***Channel 01***

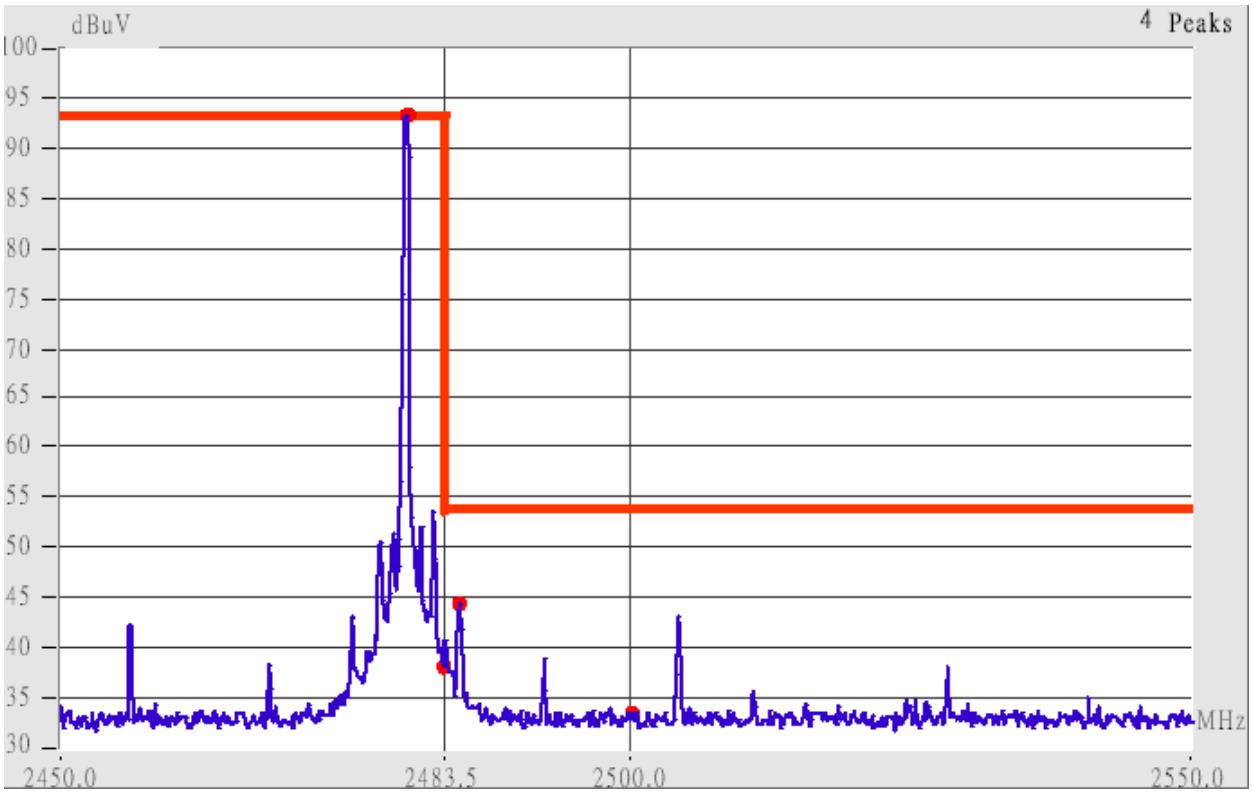



This is the hard copy of our bandedge measurement generated by our bandedge testing program. The plot shown above is the bandedge of channel 1.

1. The lobe left by the fundamental side is already 20dB below the highest emission level.
2. The emissions recorded in the restricted band is do comply with the Part 15.209(a) – as below.

| *Radiated Emission* | | | | | *Corrected Amplitude (dBμV/m)* | | *Class B* | | |
|---|---|---|---|---|---|---|---|---|---|
| *Frequency (MHz)* | *Ant. P.* | *Ant. H. (m)* | *Table ( )* | *Factors (dB)* | *Peak* | *Average* | *Limit (dBμV/m) Peak* | *Ave.* | *Margin (dB)* |
| 2378.15 | Hor | 1.00 | 159 | 9.15 | 47.48 | --- | 73.96 | 53.96 | -6.48 |
| 2390.02 | Hor | 1.00 | 152 | 9.18 | 43.18 | --- | 73.96 | 53.96 | -10.78 |
| 2378.10 | Ver | 1.00 | 32 | 9.15 | 44.65 | --- | 73.96 | 53.96 | -9.31 |
| 2390.02 | Ver | 1.00 | 151 | 9.18 | 42.68 | --- | 73.96 | 53.96 | -11.28 |

***Channel 79***




This is the hard copy of our bandedge measurement generated by our bandedge testing program. The plot shown above is the bandedge of channel 79.

3. The lobe left by the fundamental side is already 20dB below the highest emission level.
4. The emissions recorded in the restricted band is do comply with the Part 15.209(a) – as below.

| *Radiated Emission* | | | | | *Corrected Amplitude (dBμV/m)* | | *Class B* | | |
|---|---|---|---|---|---|---|---|---|---|
| *Frequency (MHz)* | *Ant. P.* | *Ant. H. (m)* | *Table ( )* | *Factors (dB)* | *Peak* | *Average* | *Limit (dBμV/m) Peak* | *Ave.* | *Margin (dB)* |
| 2483.50 | Hor | 1.00 | 283 | 9.44 | 50.28 | --- | 73.96 | 53.96 | -3.68 |
| 2491.96 | Hor | 1.00 | 277 | 9.47 | 46.13 | --- | 73.96 | 53.96 | -7.83 |
| 2500.01 | Hor | 1.00 | 188 | 9.49 | 43.82 | --- | 73.96 | 53.96 | -10.14 |
| 2483.50 | Ver | 1.00 | 240 | 9.44 | 46.11 | --- | 73.96 | 53.96 | -7.85 |
| 2499.60 | Ver | 1.00 | 322 | 9.49 | 45.82 | --- | 73.96 | 53.96 | -8.14 |
| 2500.01 | Ver | 1.00 | 309 | 9.49 | 42.66 | --- | 73.96 | 53.96 | -11.30 |

# XI. Section 15.247(c) Spurious Radiated Emissions

## 11.1 Test Condition and Setup

We'd performed the test by the *radiated emission* skill: The EUT was placed in an anechoic chamber, and set the EUT transmitting continuously and scanned at 3-meter distance to determine its emission characteristics. The physical arrangement of the EUT 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, directivity, and frequency. The exact system configuration, which produced the highest emissions was noted so it could be reproduced later during the final tests. For the measurement above 1GHz, according to the guidance we'd set the spectrum analyzer's 6dB bandwidth RBW to 1MHz.

This was done to ensure that the final measurements would demonstrate the worst-case interference potential of the EUT. Final radiation measurements were made on a three-meter, 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 30 MHz to 1000 MHz using an Hewlett Packard 85460A EMI Receiver, SCHWARZECK whole range Small Biconical Antenna (Model No.: UBAA9114 & BBVU9135) is used to measure frequency from 30 MHz to 1GHz. The final test is used the HP 85460A spectrum and 8564E spectrum was examined from 1GHz to 25GHz using an Hewlett Packard Spectrum Analyzer, EMCO/HP Horn Antenna (Model 3115 / 84125-80008) for 1G - 25GHz.

At each frequency, the EUT was rotated 360 degrees, stand on three orthogonal planes respectively 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.

Appropriate preamplifiers were used for improving sensitivity and precautions were taken to avoid overloading or desensitizing the spectrum analyzer. There are two spectrum analyzers use on this testing, HP 85460A for frequency 30MHz to 1000MHz, and 8564E for frequency 1GHz to 25GHz. No post-detector video filters were used in the test. The spectrum analyzer's 6dB bandwidth was set to 120KHz (spectrum was examined from 30 MHz to 1000 MHz), the spectrum analyzer's 6 dB bandwidth was set to 1 MHz (spectrum was examined from 1GHz to 25GHz) and the analyzer was operated in the maximum hold mode. There is a test condition applies in this test item, the test procedure description as the following:

Three channels were tested, one in the top (CH1), one in the middle (CH40) and the other in bottom (CH79). The setting up procedure is recorded on <1.3 test method>

With the transmitter operating from a AC source and using the internal of EUT, radiates spurious emissions falling within the restricted bands of 15.209 were measured at operating frequencies corresponding to upper, middle and bottom channels in the 2400 ~ 2483.5 MHz band.

The actual field intensity in decibels referenced to 1 microvolt per meter (dBμV/m) is determined by algebraically adding the measured reading in dBμV, the antenna factor (dB), and cable loss (dB) at the appropriate frequency. Since the EUT was set to transmit continuously, no *duty cycle* is present.

**For frequency between 30MHz to 1000MHz**

FIa (dBuV/m) = FIr (dBμV) + Correction Factors

FIa : Actual Field Intensity

FIr : Reading of the Field Intensity

Correction Factors = Antenna Factor + Cable Loss – Amplifier Gain

**For frequency between 1GHz to 25GHz**

FIa (dBμV/m) = FIr (dBμV) + Correction Factor

FIa : Actual Field Intensity

FIr : Reading of the Field Intensity

Correction Factors = Antenna Factor + Cable Loss – Amplifier Gain

## 11.2 List of Test Instruments

| | | | | Calibration Date |
|---|---|---|---|---|
| **Instrument Name** | **Model** | **Brand** | **Serial No.** | **Next time** |
| EMI Receiver | 8546A | HP | 3520A00242 | 08/05/05 |
| RF Filter Section | 85460A | HP | 3448A00217 | 08/05/05 |
| Small Biconical Antenna | UBAA9114 & BBVU9135 | SCHWARZECK | 127 | 09/21/05 |
| Pre-amplifier | PA1F | TRC | 1FAC | 05/20/05 |
| Auto Switch Box (>30MHz) | ASB-01 | TRC | 9904-01 | 05/20/05 |
| Coaxial Cable (Double shielded, 15 meter) | A30A30-0058-50FS-15M | JYEBAO | SMA-01 | 05/20/05 |
| Coaxial Cable (1.1 meter) | A30A30-0058-50FS-1M | JYEBAO | SMA-02 | 05/20/05 |
| Spectrum Analyzer | 8564E | HP | 3720A00840 | 08/13/05 |
| Microwave Preamplifier | 84125C | HP | US36433002 | 08/13/05 |
| Horn Antenna | 3115 | EMCO | 9104-3668 | 12/18/04 |
| Standard Guide Horn Antenna | 84125-80008 | HP | 18-26.5GHz | 09/18/05 |
| Standard Guide Horn Antenna | 84125-80001 | HP | 26.5-40GHz | 09/18/05 |
| Horn Antenna | 1196E (3115) | HP (EMCO) | 9704-5178 | 12/12/04 |
| Pre-amplifier | PA2F | TRC | 2F1GZ | 03/20/05 |
| Coaxial Cable (3 miter) | A30A30-0058-50FST118 | JYEBAO | MSA-05 | 03/20/05 |
| Coaxial Cable (1 meter) | A30A30-0058-50FST118 | JYEBAO | MSA-04 | 03/20/05 |

### 11.3 Test Result of Spurious Radiated Emissions

The highest peak values of radiated emissions form the EUT at various antenna heights, antenna polarizations, EUT orientation, etc. are recorded on the following. (worst case)

Test Conditions: Temperature : 20 ° C Humidity : 88 % RH

***Test mode: BT Channel 01 30MHz to 1GHz [Horizontal]***

| *Radiated Emission* | | | | *Correction Factors* | *Corrected Amplitude* | *Class B ( 3 m )* | |
|---|---|---|---|---|---|---|---|
| *Frequency (MHz)* | *Amplitude (dBμV)* | *Ant. H. (m)* | *Table ( )* | *(dB)* | *(dBμV/m)* | *Limit (dBμV/m)* | *Margin (dB)* |
| 601.4150 | 24.90 | 1.22 | 290 | 9.83 | 34.73 | 46.02 | -11.29 |
| 801.1393 | 21.23 | 0.98 | 0 | 14.13 | 35.36 | 46.02 | -10.66 |
| 988.0180 | 15.55 | 1.00 | 195 | 17.83 | 33.38 | 53.98 | -20.60 |

***Test mode: BT Channel 01 30MHz to 1GHz [Vertical]***

| *Radiated Emission* | | | | *Correction Factors* | *Corrected Amplitude* | *Class B ( 3 m )* | |
|---|---|---|---|---|---|---|---|
| *Frequency (MHz)* | *Amplitude (dBμV)* | *Ant. H. (m)* | *Table ( )* | *(dB)* | *(dBμV/m)* | *Limit (dBμV/m)* | *Margin (dB)* |
| 168.0020 | 41.68 | 1.00 | 63 | -5.82 | 35.86 | 43.52 | -7.66 |
| 171.8225 | 26.58 | 1.00 | 279 | -5.77 | 20.81 | 43.52 | -22.71 |
| 801.0400 | 20.16 | 0.99 | 133 | 14.13 | 34.29 | 46.02 | -11.73 |
| 997.9000 | 15.62 | 1.00 | 351 | 17.89 | 33.51 | 53.98 | -20.47 |

Note:

1. Margin = Amplitude – Limit, *if margin is minus means under limit.*
2. Corrected Amplitude = Reading Amplitude + Correction Factors
3. Correction Factor = Antenna factor + ( Cable Loss – Amplitude gain) + Switching Box Loss

*Test mode: Channel 01 1GHz to 25GHz [Horizontal]*

| *Frequency* | *Ant. H.* | *Table* | *Amplitude* | | *Correction Factor* | *Corrected Amplitude* | | *Limit* | | *Margin* |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | *Peak / Ave.* | | | *Peak / Ave.* | | *Peak / Ave.* | | |
| *MHz* | *m* | *degree* | *dBμV* | | *dB/m* | *dBμV/m* | | *dBμV/m* | | *dB* |
| *1602.08 | 1.00 | 258 | 36.33 | --- | 14.30 | 50.63 | --- | *** | 53.96 | -3.33 |
| 1820.83 | 1.00 | 285 | 40.00 | --- | 10.89 | 50.89 | --- | *** | 53.96 | -3.07 |
| 2425.00 | 1.00 | 169 | 37.67 | --- | 9.28 | 46.95 | --- | *** | 53.96 | -7.01 |
| 7215.62 | 1.00 | 162 | 24.07 | --- | 21.39 | 45.46 | --- | *** | 53.96 | -8.50 |
| 9608.12 | 1.00 | 177 | 24.24 | --- | 23.05 | 47.29 | --- | *** | 53.96 | -6.67 |
| *12012.71 | 1.00 | 350 | 26.08 | --- | 21.40 | 47.48 | --- | *** | 53.96 | -6.48 |
| 14411.25 | 1.00 | 204 | 30.41 | --- | 19.45 | 49.86 | --- | *** | 53.96 | -4.10 |

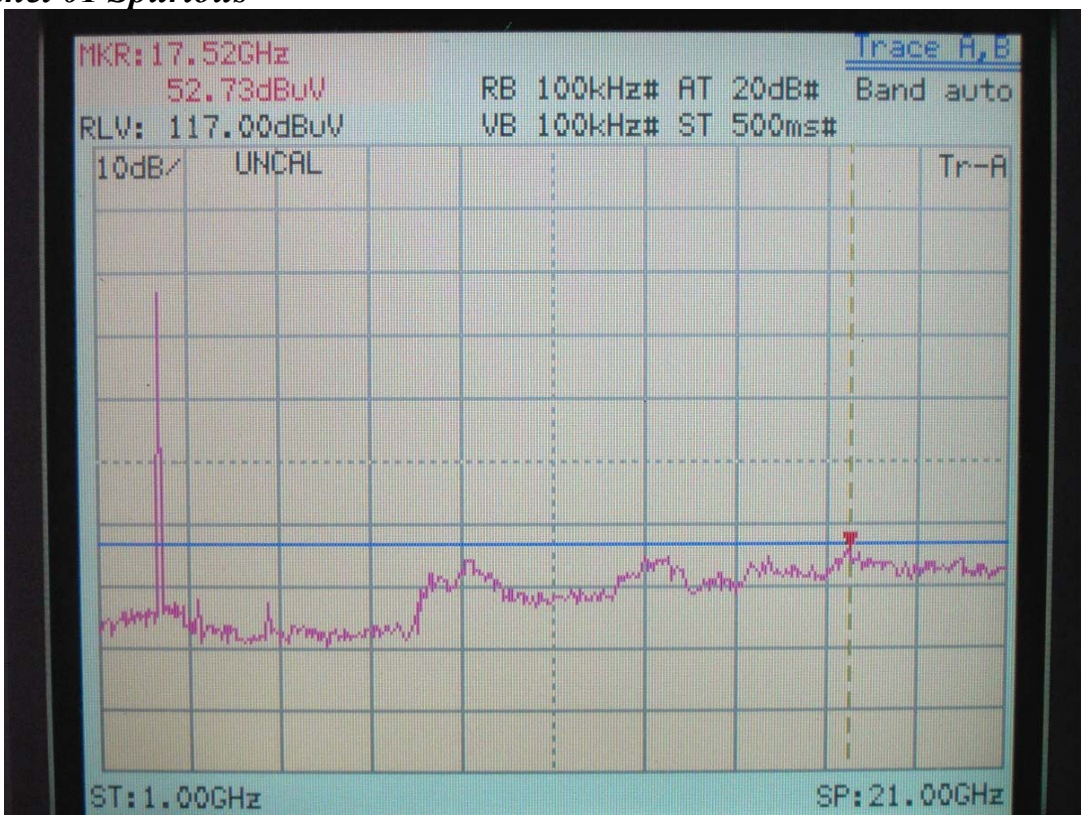
*Test mode: Channel 01 1GHz to 25GHz [Vertical]*

| *Frequency* | *Ant. H.* | *Table* | *Amplitude* | | *Correction Factor* | *Corrected Amplitude* | | *Limit* | | *Margin* |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | *Peak / Ave.* | | | *Peak / Ave.* | | *Peak / Ave.* | | |
| *MHz* | *m* | *degree* | *dBμV* | | *dB/m* | *dBμV/m* | | *dBμV/m* | | *dB* |
| *1689.58 | 1.00 | 96 | 35.67 | --- | 12.93 | 48.60 | --- | *** | 53.96 | -5.36 |
| 1820.83 | 1.00 | 128 | 38.50 | --- | 10.89 | 49.39 | --- | *** | 53.96 | -4.57 |
| 1922.92 | 1.00 | 320 | 35.17 | --- | 9.29 | 44.46 | --- | *** | 53.96 | -9.50 |
| 7209.58 | 1.00 | 198 | 24.41 | --- | 21.37 | 45.78 | --- | *** | 53.96 | -8.18 |
| 9608.12 | 1.00 | 119 | 25.24 | --- | 23.05 | 48.29 | --- | *** | 53.96 | -5.67 |
| *12012.71 | 1.00 | 225 | 25.74 | --- | 21.40 | 47.14 | --- | *** | 53.96 | -6.82 |
| 14411.25 | 1.00 | 19 | 30.41 | --- | 19.45 | 49.86 | --- | *** | 53.96 | -4.10 |

Note:

1. Margin = Corrected - Limit.
2. The EUT utilizes a *permanently attached antenna*. In addition the spurious RF radiated emissions levels do comply with the *20dBc limit* both at its bandedges and other spurious emissions.
3. As stated in Section 15.35(b), for any frequencies above 1000MHz, radiated limits shown are based upon the use of measurement instrumentation employing an average detector function. As the results of our test, the peak amplitudes are already below the FCC limit. Thus the average amplitudes of the rest are omitted.
4. The " * " means in the restricted bands of operation.

***Channel 01 Spurious***



*Test mode: BT Channel 40 30MHz to 1GHz [Horizontal]*

| Radiated Emission | | | | Correction Factors | Corrected Amplitude | Class B ( 3 m ) | |
|---|---|---|---|---|---|---|---|
| Frequency (MHz) | Amplitude (dBμV) | Ant. H. (m) | Table ( ) | (dB) | (dBμV/m) | Limit (dBμV/m) | Margin (dB) |
| 598.5700 | 24.40 | 1.19 | 242 | 9.75 | 34.15 | 46.02 | -11.87 |
| 816.1360 | 20.78 | 2.34 | 63 | 14.52 | 35.30 | 46.02 | -10.72 |
| 997.6400 | 25.36 | 2.28 | 41 | 17.89 | 43.25 | 53.98 | -10.73 |

*Test mode: BT Channel 40 30MHz to 1GHz [Vertical]*

| Radiated Emission | | | | Correction Factors | Corrected Amplitude | Class B ( 3 m ) | |
|---|---|---|---|---|---|---|---|
| Frequency (MHz) | Amplitude (dBμV) | Ant. H. (m) | Table ( ) | (dB) | (dBμV/m) | Limit (dBμV/m) | Margin (dB) |
| 168.0030 | 37.33 | 0.97 | 79 | -5.82 | 31.51 | 43.52 | -12.01 |
| 171.8180 | 27.89 | 1.01 | 264 | -5.77 | 22.12 | 43.52 | -21.40 |
| 801.7610 | 21.52 | 0.99 | 190 | 14.15 | 35.67 | 46.02 | -10.35 |
| 999.6740 | 15.58 | 1.00 | 351 | 17.90 | 33.48 | 53.98 | -20.50 |

*Test mode: Channel 40 1GHz to 25GHz [Horizontal]*

| *Frequency* | *Ant. H.* | *Table* | *Amplitude* | | *Correction Factor* | *Corrected Amplitude* | | *Limit* | | *Margin* |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | *Peak / Ave.* | | | *Peak / Ave.* | | *Peak / Ave.* | | |
| *MHz* | *m* | *degree* | *dBμV* | | *dB/m* | *dBμV/m* | | *dBμV/m* | | *dB* |
| 1627.08 | 1.00 | 267 | 38.16 | --- | 13.91 | 52.07 | --- | *** | 53.96 | -1.89 |
| 1820.83 | 1.00 | 83 | 38.00 | --- | 10.89 | 48.89 | --- | *** | 53.96 | -5.07 |
| 2462.50 | 1.00 | 172 | 36.17 | --- | 9.38 | 45.55 | --- | *** | 53.96 | -8.41 |
| *4877.50 | 1.00 | 318 | 28.74 | --- | 15.01 | 43.75 | --- | *** | 53.96 | -10.21 |
| *7318.33 | 1.00 | 142 | 24.24 | --- | 21.66 | 45.90 | --- | *** | 53.96 | -8.06 |
| 9759.17 | 1.00 | 296 | 24.91 | --- | 23.19 | 48.10 | --- | *** | 53.96 | -5.86 |
| *12193.96 | 1.00 | 297 | 27.24 | --- | 20.61 | 47.85 | --- | *** | 53.96 | -6.11 |
| 14634.79 | 1.00 | 75 | 30.57 | --- | 18.60 | 49.17 | --- | *** | 53.96 | -4.79 |

*Test mode: Channel 40 1GHz to 25GHz [Vertical]*

| *Frequency* | *Ant. H.* | *Table* | *Amplitude* | | *Correction Factor* | *Corrected Amplitude* | | *Limit* | | *Margin* |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | *Peak / Ave.* | | | *Peak / Ave.* | | *Peak / Ave.* | | |
| *MHz* | *m* | *degree* | *dBμV* | | *dB/m* | *dBμV/m* | | *dBμV/m* | | *dB* |
| 1820.83 | 1.00 | 98 | 38.33 | --- | 10.89 | 49.22 | --- | *** | 53.96 | -4.74 |
| 2154.17 | 1.00 | 177 | 35.00 | --- | 8.52 | 43.52 | --- | *** | 53.96 | -10.44 |
| *2310.42 | 1.00 | 93 | 34.50 | --- | 8.96 | 43.46 | --- | *** | 53.96 | -10.50 |
| *4877.50 | 1.00 | 239 | 30.91 | --- | 15.01 | 45.92 | --- | *** | 53.96 | -8.04 |
| *7318.33 | 1.00 | 57 | 23.41 | --- | 21.66 | 45.07 | --- | *** | 53.96 | -8.89 |
| 9759.17 | 1.00 | 249 | 24.58 | --- | 23.19 | 47.77 | --- | *** | 53.96 | -6.19 |
| *12193.96 | 1.00 | 279 | 27.40 | --- | 20.61 | 48.01 | --- | *** | 53.96 | -5.95 |
| 14634.79 | 1.00 | 56 | 30.91 | --- | 18.60 | 49.51 | --- | *** | 53.96 | -4.45 |

***Channel 40 Spurious***

*Test mode: BT Channel 79 30MHz to 1GHz [Horizontal]*

| Radiated Emission | | | | Correction Factors | Corrected Amplitude | Class B ( 3 m ) | |
|---|---|---|---|---|---|---|---|
| Frequency (MHz) | Amplitude (dBμV) | Ant. H. (m) | Table ( ° ) | (dB) | (dBμV/m) | Limit (dBμV/m) | Margin (dB) |
| 528.0053 | 31.56 | 0.99 | 186 | 7.53 | 39.09 | 46.02 | -6.93 |
| 600.0090 | 32.65 | 1.45 | 0 | 9.80 | 42.45 | 46.02 | -3.57 |
| 816.0360 | 18.21 | 0.99 | 37 | 14.52 | 32.73 | 46.02 | -13.29 |
| 961.9600 | 12.03 | 1.97 | 34 | 17.67 | 29.70 | 53.98 | -24.28 |

*Test mode: BT Channel 79 30MHz to 1GHz [Vertical]*

| Radiated Emission | | | | Correction Factors | Corrected Amplitude | Class B ( 3 m ) | |
|---|---|---|---|---|---|---|---|
| Frequency (MHz) | Amplitude (dBμV) | Ant. H. (m) | Table ( ° ) | (dB) | (dBμV/m) | Limit (dBμV/m) | Margin (dB) |
| 172.5570 | 24.96 | 1.00 | 249 | -5.72 | 19.24 | 43.52 | -24.28 |
| 721.6840 | 12.13 | 1.05 | 11 | 12.94 | 25.07 | 46.02 | -20.95 |
| 798.7100 | 20.69 | 0.97 | 129 | 14.11 | 34.80 | 46.02 | -11.22 |
| 802.1860 | 22.21 | 1.01 | 139 | 14.16 | 36.37 | 46.02 | -9.65 |

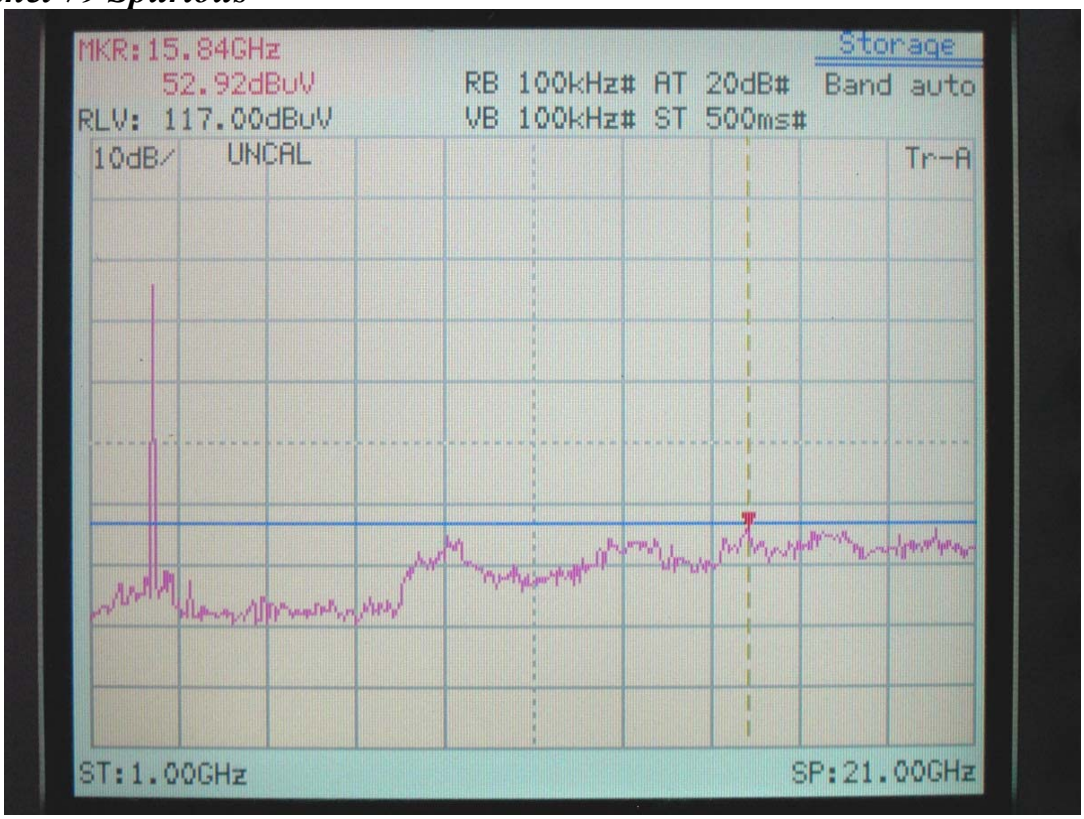
*Test mode: Channel 79 1GHz to 25GHz [Horizontal]*

| *Frequency* | *Ant. H.* | *Table* | *Amplitude* | | *Correction Factor* | *Corrected Amplitude* | | *Limit* | | *Margin* |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | *Peak / Ave.* | | | *Peak / Ave.* | | *Peak / Ave.* | | |
| *MHz* | *m* | *degree* | *dBμV* | | *dB/m* | *dBμV/m* | | *dBμV/m* | | *dB* |
| 1654.17 | 1.00 | 259 | 40.00 | --- | 13.49 | 53.49 | --- | *** | 53.96 | -0.47 |
| 1822.92 | 1.00 | 112 | 36.00 | --- | 10.85 | 46.85 | --- | *** | 53.96 | -7.11 |
| *2333.33 | 1.00 | 155 | 36.17 | --- | 9.02 | 45.19 | --- | *** | 53.96 | -8.77 |
| *4962.08 | 1.00 | 107 | 29.57 | --- | 15.42 | 44.99 | --- | *** | 53.96 | -8.97 |
| *7445.21 | 1.00 | 123 | 23.40 | --- | 21.86 | 45.26 | --- | *** | 53.96 | -8.70 |
| 9922.29 | 1.00 | 279 | 23.74 | --- | 23.03 | 46.77 | --- | *** | 53.96 | -7.19 |
| *12399.37 | 1.00 | 220 | 27.08 | --- | 20.40 | 47.48 | --- | *** | 53.96 | -6.48 |
| 14882.50 | 1.00 | 219 | 29.24 | --- | 18.10 | 47.34 | --- | *** | 53.96 | -6.62 |

*Test mode: Channel 79 1GHz to 25GHz [Vertical]*

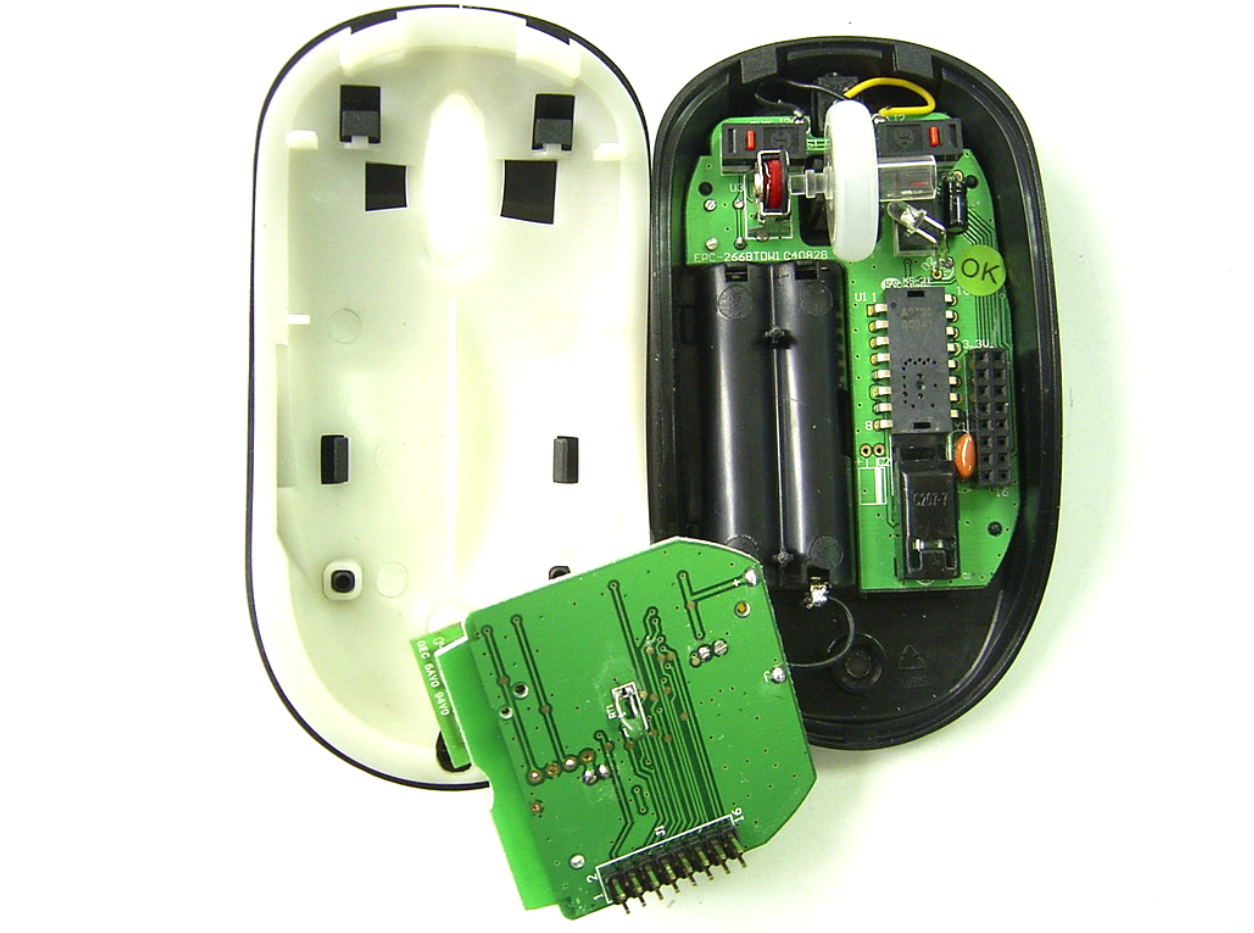
| *Frequency* | *Ant. H.* | *Table* | *Amplitude* | | *Correction Factor* | *Corrected Amplitude* | | *Limit* | | *Margin* |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | *Peak / Ave.* | | | *Peak / Ave.* | | *Peak / Ave.* | | |
| *MHz* | *m* | *degree* | *dBμV* | | *dB/m* | *dBμV/m* | | *dBμV/m* | | *dB* |
| 1654.17 | 1.00 | 289 | 35.50 | --- | 13.49 | 48.99 | --- | *** | 53.96 | -4.97 |
| 1820.83 | 1.00 | 323 | 35.50 | --- | 10.89 | 46.39 | --- | *** | 53.96 | -7.57 |
| *2733.33 | 1.00 | 186 | 35.33 | --- | 9.93 | 45.26 | --- | *** | 53.96 | -8.70 |
| *4956.04 | 1.00 | 267 | 32.07 | --- | 15.39 | 47.46 | --- | *** | 53.96 | -6.50 |
| *7439.17 | 1.00 | 123 | 23.57 | --- | 21.85 | 45.42 | --- | *** | 53.96 | -8.54 |
| 9922.29 | 1.00 | 205 | 23.74 | --- | 23.03 | 46.77 | --- | *** | 53.96 | -7.19 |
| *12399.37 | 1.00 | 307 | 25.41 | --- | 20.40 | 45.81 | --- | *** | 53.96 | -8.15 |
| 14882.50 | 1.00 | 27 | 29.07 | --- | 18.10 | 47.17 | --- | *** | 53.96 | -6.79 |

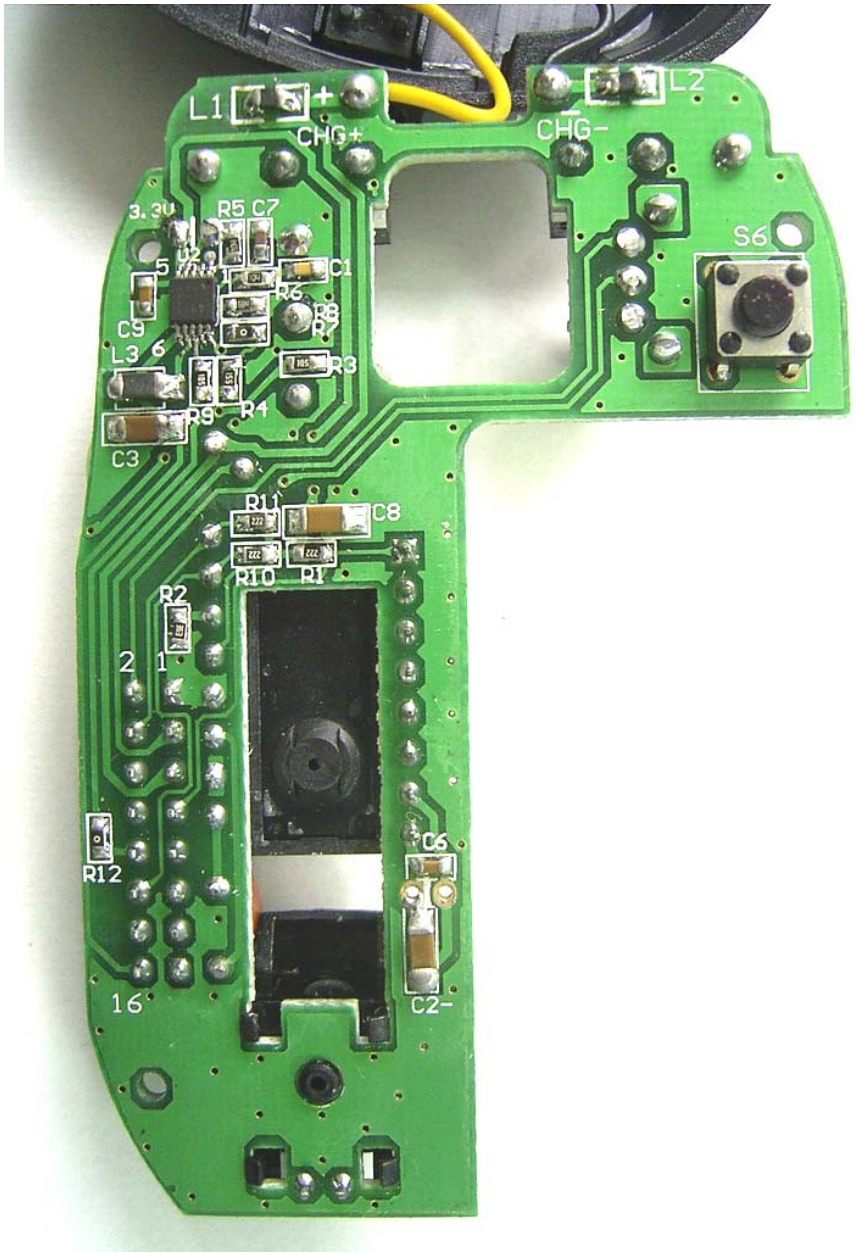
***Channel 79 Spurious***




OPEN


EPC-266BTUP1
040828 VER.2
VCC
VBAT


OK


L1
CHG+
CHG-
L2
S6
3.3V
R5 C7
U2
C1
R6
R8
R7
C9
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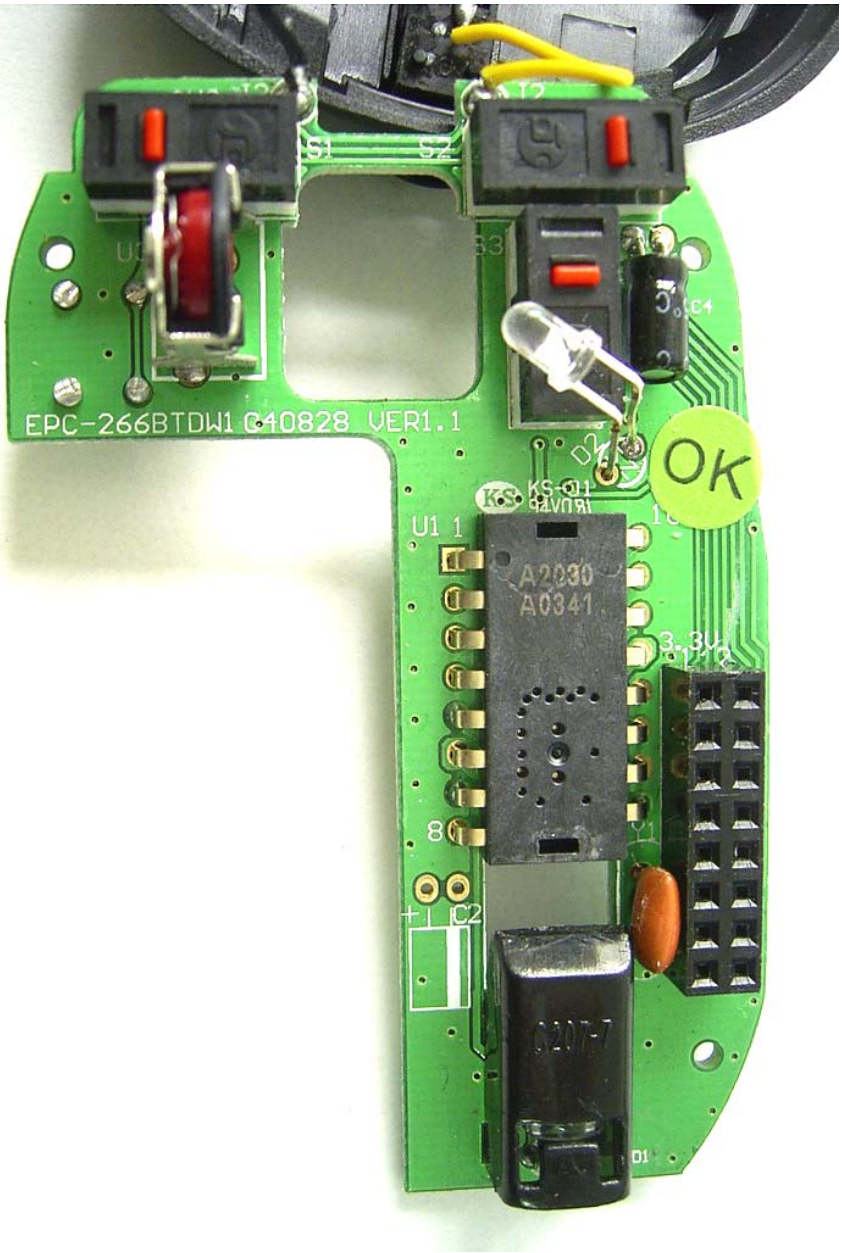
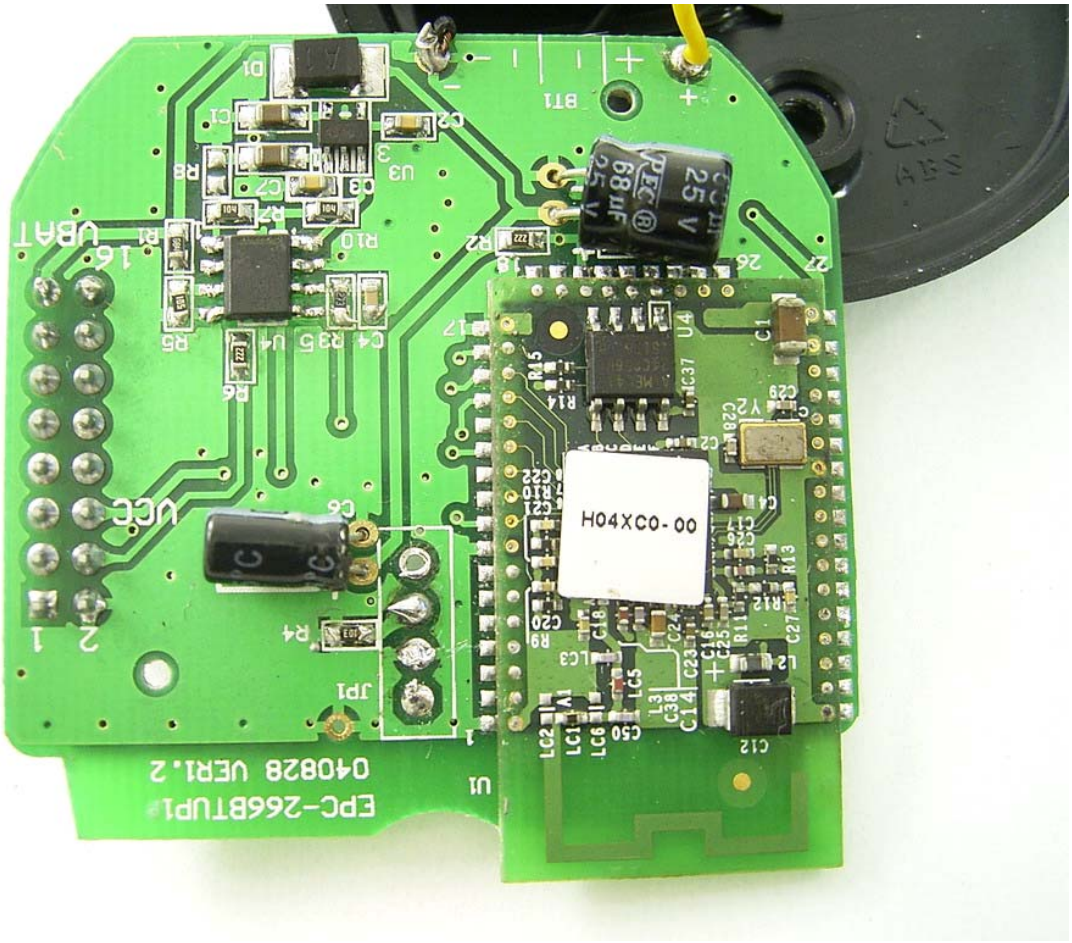
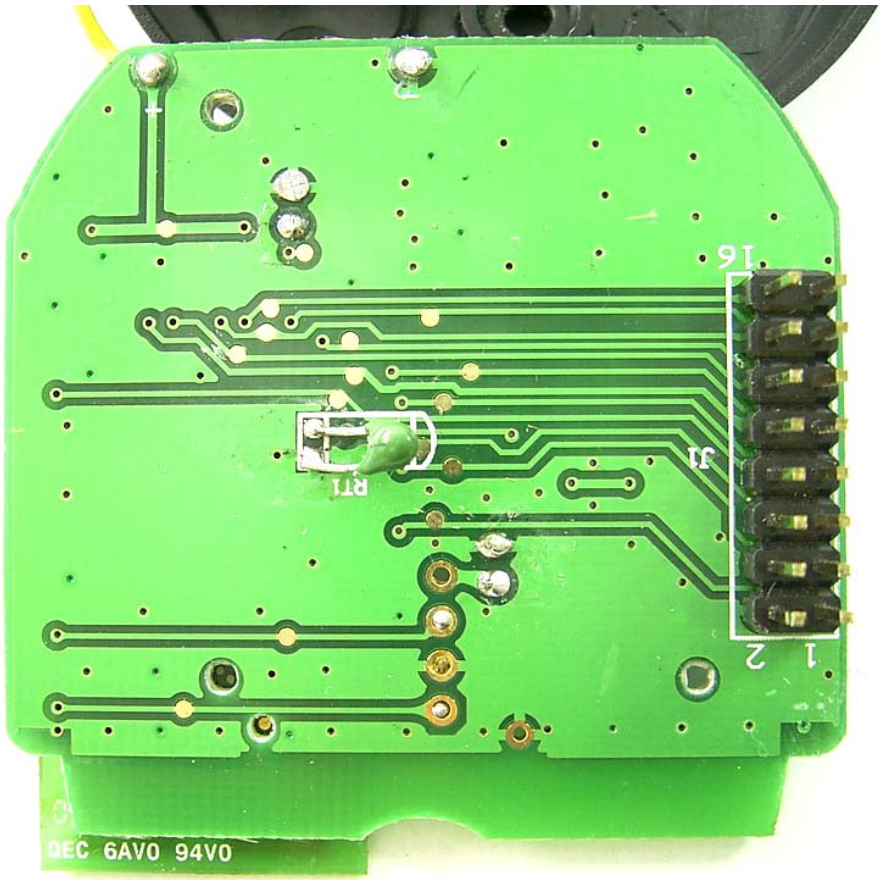
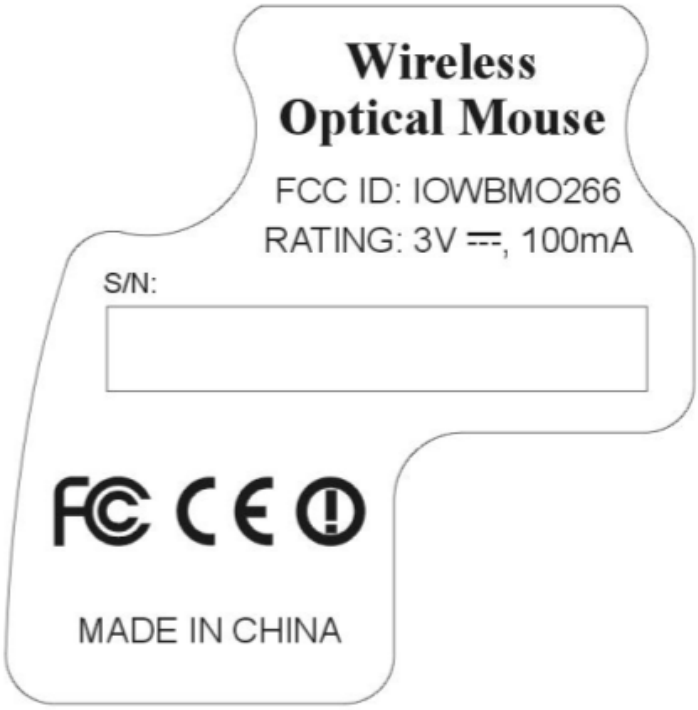
R4
C3
R11
C8
R10
R1
R2
2
1
R12
C6
C2-
16


S1
S2
EPC-266BTDW1 G40828 VER1.1
OK
U1 1
A2030
A0341
3.3V
8
C2
C4


H04XC0-00
040828 VER1.2
EPC-266BTUP1
VBAT
VCC
JP1
BT1


J1
16
1 2
QEC 6AV0 94V0

LABEL Format:




LABEL Size: 55.4 x 33.09 mm

LABEL Position: