

**ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT
INTENTIONAL RADIATOR CERTIFICATION TO
FCC PART 15 SUBPART C REQUIREMENT**

OF

PAOFITTRACK

MODEL No.: PFTK001, PFTK002

BRAND NAME: PAOFIT

FCC ID: 2AAR5PFTK002

REPORT NO: KAD130926062E

ISSUE DATE: October 23, 2013

Prepared for

**PAOFIT TECHNOLOGY PTE LTD
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Prepared by

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VERIFICATION OF COMPLIANCE

| | |
|----------------------|--|
| Applicant: | PAOFIT TECHNOLOGY PTE LTD 4 Battery Road #30-00, Bank of China Building, Singapore 049908 |
| Manufacturer: | CHI DA BOOM PLASTIC PRODUCTS(SHEN ZHEN) COMPANY LIMITED No.30, Da Pu South Road, Hou Ting First Industrial District, Sha Jing, Bao An District, Shen Zhen City, China |
| Product Description: | PAOFITTRACK |
| Brand Name: | PAOFIT |
| Model Number: | PFTK001, PFTK002 (Note: The samples are the same except appearance and model number. So we prepare PFTK002 for the EMC test.) |
| File Number: | KAD130926062E |
| Date of Test: | September 26, 2013 to October 14, 2013 |

We hereby certify that:

The above equipment was tested by DONGGUAN EMTEK CO., LTD. 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 (2009) and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rules Part 15.247(2012).

The test results of this report relate only to the tested sample identified in this report.

Approved By



**Sam.Lv / Q.A. Manager
DONGGUAN EMTEK CO., LTD.**

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1. GENERAL INFORMATION

1.1 Product Description

The PAOFIT TECHNOLOGY PTE LTD Model: PFTK002 (referred to as the EUT in this report) The EUT is an short range, lower power transmitter as an Input Device. It is designed by way of utilizing the following modulation achieves the system operating.

- A). Operation Frequency: 2402-2480MHz
- B). Modulation: Bluetooth 4.0 BLE: GFSK
- C). Number of Channel: 40
- D). Channel space: 2MHz
- E). Rated RF Output Power: -7.00dBm
- F). Antenna Type: embedded PCB antenna
- G). Antenna GAIN: 2.0dBi
- H). Input Rating: DC 5V, 500mA come from Adapter

| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
|---------|-----------------|---------|-----------------|---------|-----------------|
| 01 | 2402 | 15 | 2430 | 29 | 2458 |
| 02 | 2404 | 16 | 2432 | 30 | 2460 |
| 03 | 2406 | 17 | 2434 | 31 | 2462 |
| 04 | 2408 | 18 | 2436 | 32 | 2464 |
| 05 | 2410 | 19 | 2438 | 33 | 2466 |
| 06 | 2412 | 20 | 2440 | 34 | 2468 |
| 07 | 2414 | 21 | 2442 | 35 | 2470 |
| 08 | 2416 | 22 | 2444 | 36 | 2472 |
| 09 | 2418 | 23 | 2446 | 37 | 2474 |
| 10 | 2420 | 24 | 2448 | 38 | 2476 |
| 11 | 2422 | 25 | 2450 | 39 | 2478 |
| 12 | 2424 | 26 | 2452 | 40 | 2480 |
| 13 | 2426 | 27 | 2454 | | |
| 14 | 2428 | 28 | 2456 | | |

Note:

1. Test of channel was included the lowest middle and highest frequency in highest data rate and to perform the test, then record on this report.

1.2 Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4 (2009). Radiated testing was performed at an antenna to EUT distance 3 meters.

Tested in accordance with FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03 (April 2013) for compliance to FCC 47CFR 15.247 requirements.

1.3 Special Accessories

There is a USB cable with the ferrite core in this submission.

1.4 Equipment Modifications

Not available for this EUT intended for grant.

1.5 Test Facility

| | |
|------------------|--|
| Site Description | |
| EMC Lab. | : Accredited by FCC, Aug. 18, 2011 The Certificate Number is 247565. |
| Name of Firm | : DONGGUAN EMTEK CO., LTD |
| Site Location | : No.281, Guantai Road, Nancheng District, Dongguan, Guangdong, China |

2. System Test Configuration

2.1 EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous transmission application.

2.2 EUT Exercise

The Transmitter was operated in the transmission operating mode. the Tx frequency was fixed which was for the purpose of the measurements.

2.3 Test Procedure

2.3.1 Conducted Emissions

The EUT is placed on a turn table which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4-2009. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-Peak and average detector mode.

2.3.2 Radiated Emissions

The EUT is placed on a turn table which is 0.8 m above ground plane. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter(EUT) was rotated through three orthogonal axes according to the requirements in Section 13.1.4.1 of ANSI C63.4-2009.

2.4 Configuration of Tested System

Fig. 2-1 Configuration of Tested System

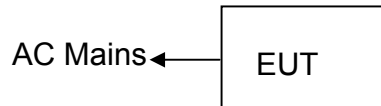


Table 2-1 Equipment Used in Tested System

| Item | Equipment | Mfr/Brand | Model/Type No. | FCC ID | Series No. | Note |
|------|-------------|-----------|----------------|--------------|------------|--------------------------|
| 1. | PAOFITTRACK | PAOFIT | PFTK002 | 2AAR5PFTK002 | N/A | EUT |
| 2 | AC Adapter | N/A | WH-827 | N/A | N/A | Support Equipment |

Note:

- (1) Unless otherwise denoted as EUT in 『Remark』 column , device(s) used in tested system is a support equipment.

3. Description of test modes

The EUT is battery powered and only for charging connected to the AC lines via AC Adaptor. This is Digital Transmission system(DTS) and have one type of modulation GFSK.

The 3 channels of lower, medium and higher were chosen for test.

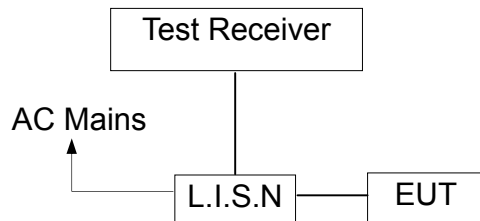
1. For lowest channel : 2402MHz(Channel 01)
2. For middle channel : 2442MHz(Channel 21)
3. For highest channel: 2480MHz(Channel 40)

4. Conducted Emissions Test

4.1 Measurement Procedure:

1. The EUT was placed on a table, which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured was complete.

4.2 Test SET-UP (Block Diagram of Configuration)



4.3 Measurement Equipment Used:

| Conducted Emission Test Site # 4 | | | | | |
|----------------------------------|-----------------|--------------|---------------|------------|------------|
| EQUIPMENT TYPE | MFR | MODEL NUMBER | SERIAL NUMBER | Last Cal. | Due date |
| Test Receiver | Rohde & Schwarz | ESCS30 | 828985/018 | 05/15/2013 | 05/14/2014 |
| L.I.S.N | Rohde & Schwarz | ESH2-Z5 | 834549/005 | 05/16/2013 | 05/15/2014 |
| L.I.S.N | Rohde & Schwarz | ESH2-Z5 | 834549/005 | 05/18/2013 | 05/17/2014 |
| 50ΩCoaxial Switch | Anritsu | MP59B | M20531 | 05/20/2013 | 05/19/2014 |

4.4 Conducted Emission Limit

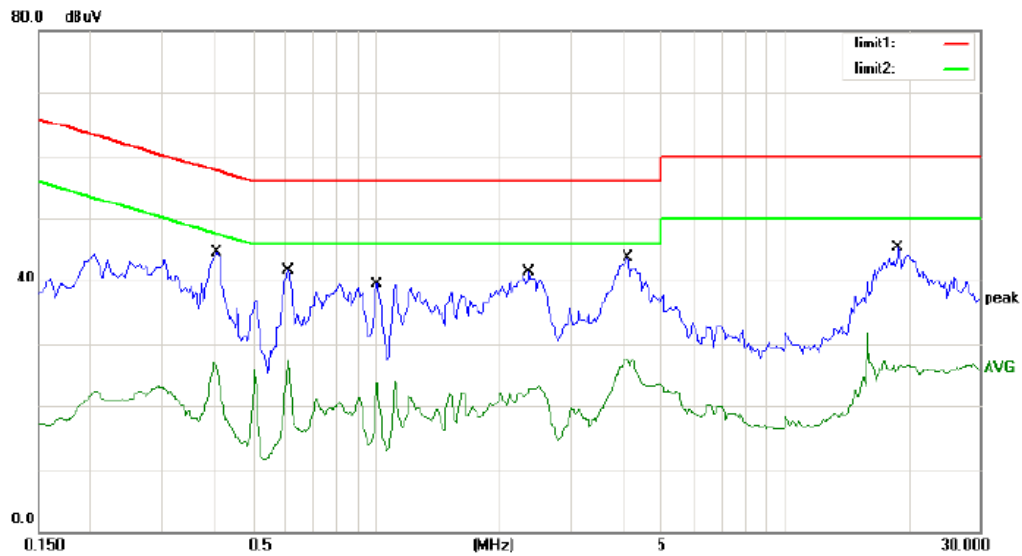
(7) Conducted Emission

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

Note:

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

4.5 Measurement Result:



Site site #1

Phase: **L1**

Temperature: 24

Limit: (CE)FCC PART 15 class C_QP

Power: AC 120V/60Hz

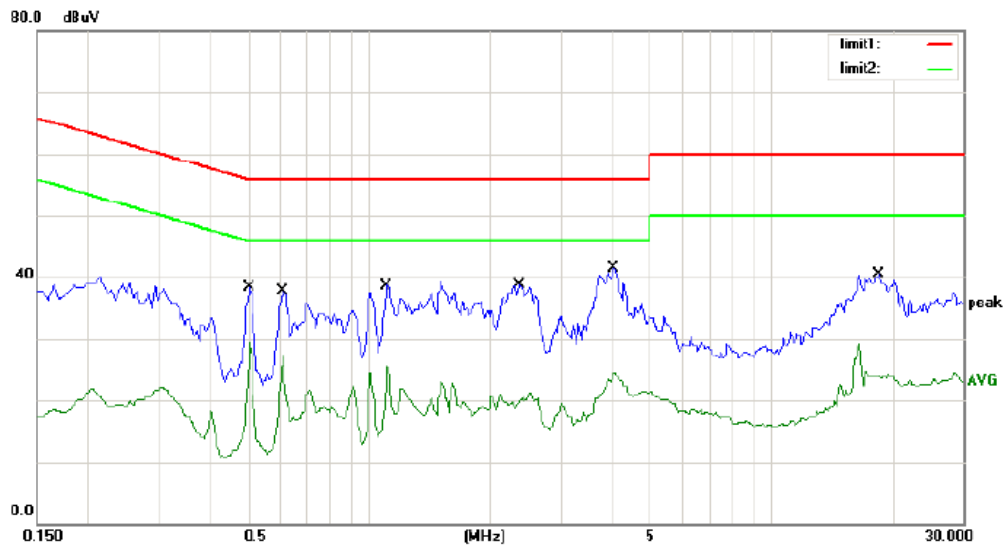
Humidity: 55 %

Mode: TX

Note:

| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV | Limit dBuV | Over dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|--------------------------|---------------|------------|----------|---------|
| 1 | * | 0.4100 | 40.20 | 0.00 | 40.20 | 57.65 | -17.45 | QP | |
| 2 | | 0.4100 | 26.99 | 0.00 | 26.99 | 47.65 | -20.66 | AVG | |
| 3 | | 0.6100 | 37.70 | 0.00 | 37.70 | 56.00 | -18.30 | QP | |
| 4 | | 0.6100 | 27.21 | 0.00 | 27.21 | 46.00 | -18.79 | AVG | |
| 5 | | 1.0100 | 35.40 | 0.00 | 35.40 | 56.00 | -20.60 | QP | |
| 6 | | 1.0100 | 24.12 | 0.00 | 24.12 | 46.00 | -21.88 | AVG | |
| 7 | | 2.3800 | 35.70 | 0.00 | 35.70 | 56.00 | -20.30 | QP | |
| 8 | | 2.3800 | 23.25 | 0.00 | 23.25 | 46.00 | -22.75 | AVG | |
| 9 | | 4.1500 | 36.40 | 0.00 | 36.40 | 56.00 | -19.60 | QP | |
| 10 | | 4.1500 | 27.65 | 0.00 | 27.65 | 46.00 | -18.35 | AVG | |
| 11 | | 18.9250 | 33.40 | 0.00 | 33.40 | 60.00 | -26.60 | QP | |
| 12 | | 18.9250 | 26.52 | 0.00 | 26.52 | 50.00 | -23.48 | AVG | |

*:Maximum data x:Over limit l:over margin Comment: Factor build in receiver.



Site site #1 Phase: **N** Temperature: 24
Limit: (CE)FCC PART 15 class C_QP Power: AC 120V/60Hz Humidity: 55 %
Mode: TX
Note:

| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV | Limit dBuV | Over dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|--------------------------|---------------|------------|----------|---------|
| 1 | | 0.5050 | 35.40 | 0.00 | 35.40 | 56.00 | -20.60 | QP | |
| 2 | * | 0.5050 | 29.42 | 0.00 | 29.42 | 46.00 | -16.58 | AVG | |
| 3 | | 0.6100 | 34.40 | 0.00 | 34.40 | 56.00 | -21.60 | QP | |
| 4 | | 0.6100 | 27.39 | 0.00 | 27.39 | 46.00 | -18.61 | AVG | |
| 5 | | 1.1100 | 34.60 | 0.00 | 34.60 | 56.00 | -21.40 | QP | |
| 6 | | 1.1100 | 25.43 | 0.00 | 25.43 | 46.00 | -20.57 | AVG | |
| 7 | | 2.3600 | 31.90 | 0.00 | 31.90 | 56.00 | -24.10 | QP | |
| 8 | | 2.3836 | 20.02 | 0.00 | 20.02 | 46.00 | -25.98 | AVG | |
| 9 | | 4.0700 | 34.10 | 0.00 | 34.10 | 56.00 | -21.90 | QP | |
| 10 | | 4.0700 | 24.50 | 0.00 | 24.50 | 46.00 | -21.50 | AVG | |
| 11 | | 18.6000 | 33.70 | 0.00 | 33.70 | 60.00 | -26.30 | QP | |
| 12 | | 18.6000 | 24.17 | 0.00 | 24.17 | 50.00 | -25.83 | AVG | |

*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver.

4.6 Conducted Measurement Photos:



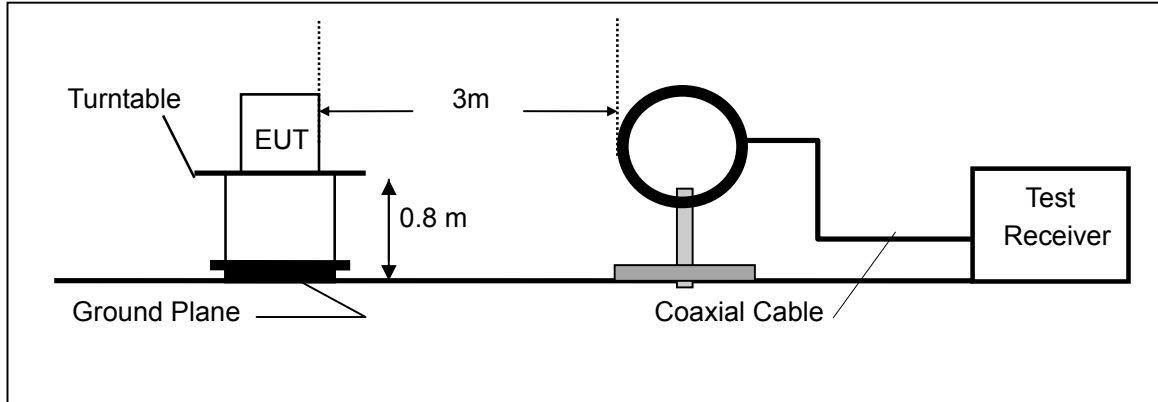
5. Radiated Emission Test

5.1 Measurement Procedure

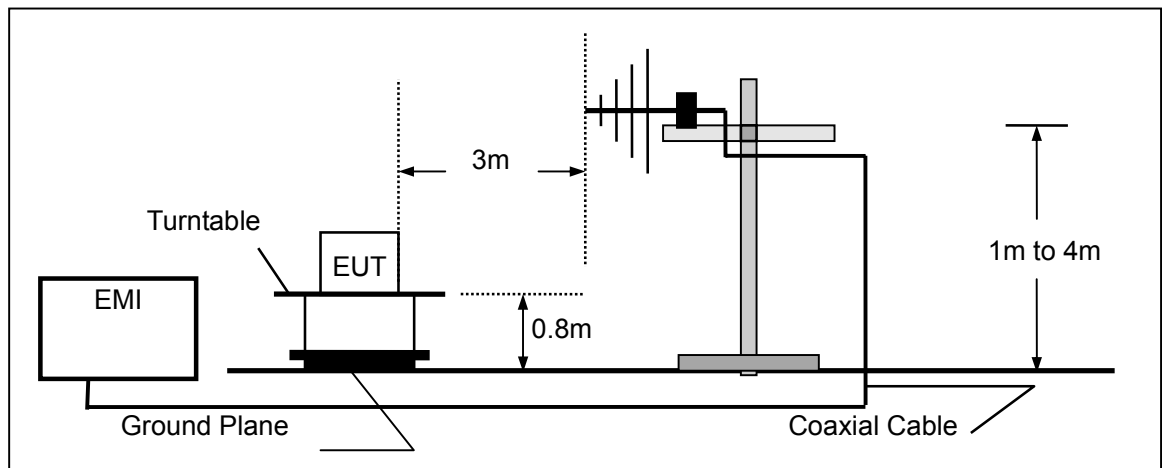
- 1 The EUT was placed on a turn table which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
4. Repeat above procedures until all frequency measured were complete.
5. Three orthogonal panels X, Y, Z of EUT are tested. And the test result of the EUT's combinations.

5.2 Test SET-UP (Block Diagram of Configuration)

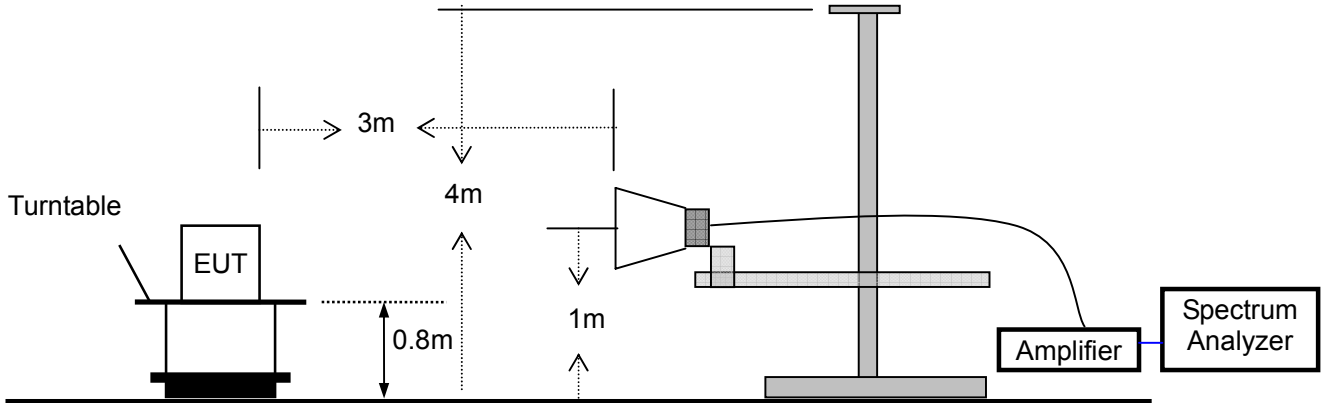
(A) Radiated Emission Test Set-Up, Frequency Below 30MHz



(B) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(C) Radiated Emission Test Set-Up, Frequency above 1000MHz



5.3 Measurement Equipment Used:

| EQUIPMENT TYPE | MFR | MODEL NUMBER | SERIAL NUMBER | LAST CAL. | CAL DUE. |
|-------------------|-----------------|--------------|---------------|------------|------------|
| EMI Test Receiver | Rohde & Schwarz | ESU | 1302.6005.26 | 06/15/2013 | 06/14/2014 |
| Pre-Amplifier | HP | 8447D | 2944A07999 | 06/02/2013 | 06/01/2014 |
| Bilog Antenna | Schwarzbeck | VULB9163 | 142 | 06/03/2013 | 06/02/2014 |
| Loop Antenna | ARA | PLA-1030/B | 1029 | 06/03/2013 | 06/02/2014 |
| Horn Antenna | Schwarzbeck | BBHA9170 | BBHA9170399 | 06/04/2013 | 06/03/2014 |
| Horn Antenna | Schwarzbeck | BBHA 9120 | D143 | 06/04/2013 | 06/03/2014 |
| Cable | Schwarzbeck | AK9513 | ACRX1 | 06/15/2013 | 06/14/2014 |
| Cable | Schwarzbeck | N/A | FP2RX2 | 05/15/2013 | 05/14/2014 |
| Cable | Schwarzbeck | AK9513 | CRPX1 | 05/17/2013 | 05/16/2014 |
| Cable | Schwarzbeck | AK9513 | CRRX2 | 05/22/2013 | 05/21/2014 |

5.4 Radiated emission limit

| Frequency MHz | Distance Meter | Field Strength | |
|------------------|-------------------|----------------|------------------------|
| | | uV/m | dBuV/m |
| 0.009 – 0.490 | 300 | 10000 * | 20log 2400/F(KHz) + 80 |
| | | 2400/F(KHz) | |
| 0.490 – 1.705 | 30 | 100 * | 20log 24000/F(KHz) + |
| | | 24000/F(KHz) | 40 |
| 1.705 – 30.00 | 30 | 100* 30 | 20log 30 + 40 |
| 30~88 | 3 | 100 | 40.0 |
| 88~216 | 3 | 150 | 43.5 |
| 216~960 | 3 | 200 | 46.0 |
| Above 960 | 3 | 500 | 54.0 |

Note: The frequencies above 1000MHz, as measured using instrumentation with a peak detector function was corresponding to 20dB above maximum permitted average limit.

5.5 Measurement Result

Operation Mode: TX Test Date : September 28, 2013
Frequency Range: 9KHz~30MHz Temperature : 28℃
Test Result: PASS Humidity : 65 %
Measured Distance: 3m Test By: WOLF

| Freq. (MHz) | Ant.Pol. H/V | Emission Level (dBuV/m) | Limit 3m (dBuV/m) | Over (dB) |
|----------------|-----------------|-------------------------------|----------------------|--------------|
| -- | -- | -- | -- | -- |

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

Operation Mode: TX Mode(Channel 01) Test Date : September 28, 2013
Frequency Range: 30~1000MHz Temperature : 25℃
Test Result: PASS Humidity : 50%
Measured Distance: 3m Test By: Andy

| Freq. (MHz) | Ant.Pol. H/V | Emission Level (dBuV/m) | Limit 3m (dBuV/m) | Margin (dB) | Note |
|----------------|-----------------|----------------------------|----------------------|----------------|------|
| 40.6700 | V | 31.31 | 40.00 | -8.69 | PK |
| 95.9600 | V | 31.94 | 43.50 | -11.56 | PK |
| 152.2200 | V | 31.65 | 43.50 | -11.85 | PK |
| 191.9900 | V | 25.67 | 43.50 | -17.83 | PK |
| 220.1200 | V | 21.44 | 46.00 | -24.56 | PK |
| 303.5400 | V | 20.55 | 46.00 | -25.45 | PK |
| 41.6400 | H | 20.44 | 40.00 | -19.56 | PK |
| 119.2400 | H | 24.61 | 43.50 | -18.89 | PK |
| 149.3100 | H | 27.59 | 43.50 | -15.91 | PK |
| 226.9100 | H | 22.84 | 46.00 | -23.16 | PK |
| 309.3600 | H | 22.67 | 46.00 | -23.33 | PK |
| 494.6300 | H | 24.98 | 46.00 | -21.02 | PK |

Note: (1) All Readings are Peak Value.
(2) Emission Level= Reading Level+ Probe Factor +Cable Loss
(3) The average measurement was not performed when the peak measured data under the limit of average detection.

Operation Mode: TX Mode(Channel 21) Test Date : September 28, 2013
Frequency Range: 30~1000MHz Temperature : 25 °C
Test Result: PASS Humidity : 50 %
Measured Distance: 3m Test By: Andy

| Freq. (MHz) | Ant.Pol. H/V | Emission Level (dBuV/m) | Limit 3m (dBuV/m) | Margin (dB) | Note |
|----------------|-----------------|----------------------------|----------------------|----------------|------|
| 40.4500 | V | 30.15 | 40.00 | -9.85 | PK |
| 95.9700 | V | 31.54 | 43.50 | -11.96 | PK |
| 152.1500 | V | 32.44 | 43.50 | -11.06 | PK |
| 191.4600 | V | 24.48 | 43.50 | -19.02 | PK |
| 220.7500 | V | 22.12 | 46.00 | -23.88 | PK |
| 313.5200 | V | 20.45 | 46.00 | -25.55 | PK |
| 41.3500 | H | 20.58 | 40.00 | -19.42 | PK |
| 119.5700 | H | 24.71 | 43.50 | -18.79 | PK |
| 149.7100 | H | 26.45 | 43.50 | -17.05 | PK |
| 236.4100 | H | 22.78 | 46.00 | -23.22 | PK |
| 304.5700 | H | 21.47 | 46.00 | -24.53 | PK |
| 464.5600 | H | 23.84 | 46.00 | -22.16 | PK |

Note: (1) All Readings are Peak Value and AV.
(2) Emission Level= Reading Level+ Probe Factor +Cable Loss.
(3) The average measurement was not performed when the peak measured data under the limit of average detection.

Operation Mode: TX Mode(Channel 40) Test Date : September 28, 2013
Frequency Range: 30~1000MHz Temperature : 25 °C
Test Result: PASS Humidity : 50 %
Measured Distance: 3m Test By: Andy

| Freq. (MHz) | Ant.Pol. H/V | Emission Level (dBuV/m) | Limit 3m (dBuV/m) | Margin (dB) | Note |
|----------------|-----------------|----------------------------|----------------------|----------------|------|
| 40.1700 | V | 31.23 | 40.00 | -8.77 | PK |
| 95.5400 | V | 29.78 | 43.50 | -13.72 | PK |
| 142.4700 | V | 30.64 | 43.50 | -12.86 | PK |
| 191.6300 | V | 25.57 | 43.50 | -17.93 | PK |
| 230.8500 | V | 31.57 | 46.00 | -14.43 | PK |
| 345.2400 | V | 25.46 | 46.00 | -20.54 | PK |
| 44.6700 | H | 28.14 | 40.00 | -11.86 | PK |
| 115.5100 | H | 26.56 | 43.50 | -16.94 | PK |
| 149.3700 | H | 27.73 | 43.50 | -15.77 | PK |
| 236.6100 | H | 21.57 | 46.00 | -24.43 | PK |
| 309.4600 | H | 25.56 | 46.00 | -20.44 | PK |
| 494.3500 | H | 24.33 | 46.00 | -21.67 | PK |

Note: (1) All Readings are Peak Value and AV.
(2) Emission Level= Reading Level+ Probe Factor +Cable Loss
(3) The average measurement was not performed when the peak measured data under the limit of average detection.

Operation Mode: TX Mode (CH01: 2402MHz) Test Date : September 28, 2013
Frequency Range: 1-25GHz Temperature : 25 °C
Test Result: PASS Humidity : 50 %
Measured Distance: 3m Test By: Andy

| Freq. (MHz) | Ant. Pol. H/V | Emission Level(dBuV/m) | | Limit 3m(dBuV/m) | | Margin(dB) | |
|----------------|------------------|------------------------|-------|------------------|----|------------|--------|
| | | PK | AV | PK | AV | PK | AV |
| 2402 | V | 62.34 | 48.12 | 74 | 54 | -11.66 | -5.88 |
| 4804 | V | 60.43 | 47.23 | 74 | 54 | -13.57 | -6.77 |
| 7206 | V | 59.25 | 46.17 | 74 | 54 | -14.75 | -7.83 |
| 9608 | V | 58.35 | 45.55 | 74 | 54 | -15.65 | -8.45 |
| 12010 | V | 57.45 | 44.02 | 74 | 54 | -16.55 | -9.98 |
| 2402 | H | 62.56 | 47.89 | 74 | 54 | -11.44 | -6.11 |
| 4804 | H | 61.34 | 46.21 | 74 | 54 | -12.66 | -7.79 |
| 7206 | H | 60.76 | 45.44 | 74 | 54 | -13.24 | -8.56 |
| 9608 | H | 59.59 | 44.12 | 74 | 54 | -14.41 | -9.88 |
| 12010 | H | 58.05 | 43.06 | 74 | 54 | -15.95 | -10.94 |

Other harmonics emissions are lower than 20dB below the allowable limit.

Note: (1) All Readings are Peak Value and AV.
(2) Emission Level= Reading Level+ Probe Factor +Cable Loss.
(3) The average measurement was not performed when the peak measured data under the limit of average detection.

Operation Mode: TX Mode (CH21: 2442MHz) Test Date : September 28, 2013
Frequency Range: 1-25GHz Temperature : 25 °C
Test Result: PASS Humidity : 50 %
Measured Distance: 3m Test By: Andy

| Freq. (MHz) | Ant. Pol. H/V | Emission Level(dBuV/m) | | Limit 3m(dBuV/m) | | Margin(dB) | |
|----------------|------------------|------------------------|-------|------------------|----|------------|--------|
| | | PK | AV | PK | AV | PK | AV |
| 2442 | V | 63.58 | 46.28 | 74 | 54 | -10.42 | -7.72 |
| 4884 | V | 62.25 | 45.84 | 74 | 54 | -11.75 | -8.16 |
| 7326 | V | 61.23 | 44.69 | 74 | 54 | -12.77 | -9.31 |
| 9768 | V | 60.71 | 43.11 | 74 | 54 | -13.29 | -10.89 |
| 12210 | V | 59.84 | 42.85 | 74 | 54 | -14.16 | -11.15 |
| 2442 | H | 64.09 | 45.92 | 74 | 54 | -9.91 | -8.08 |
| 4884 | H | 63.48 | 44.87 | 74 | 54 | -10.52 | -9.13 |
| 7326 | H | 62.47 | 43.24 | 74 | 54 | -11.53 | -10.76 |
| 9768 | H | 61.28 | 42.89 | 74 | 54 | -12.72 | -11.11 |
| 12210 | H | 60.78 | 41.55 | 74 | 54 | -13.22 | -12.45 |

Other harmonics emissions are lower than 20dB below the allowable limit.

Note: (1) All Readings are Peak Value and AV.
(2) Emission Level= Reading Level+ Probe Factor +Cable Loss.
(3) The average measurement was not performed when the peak measured data under the limit of average detection.

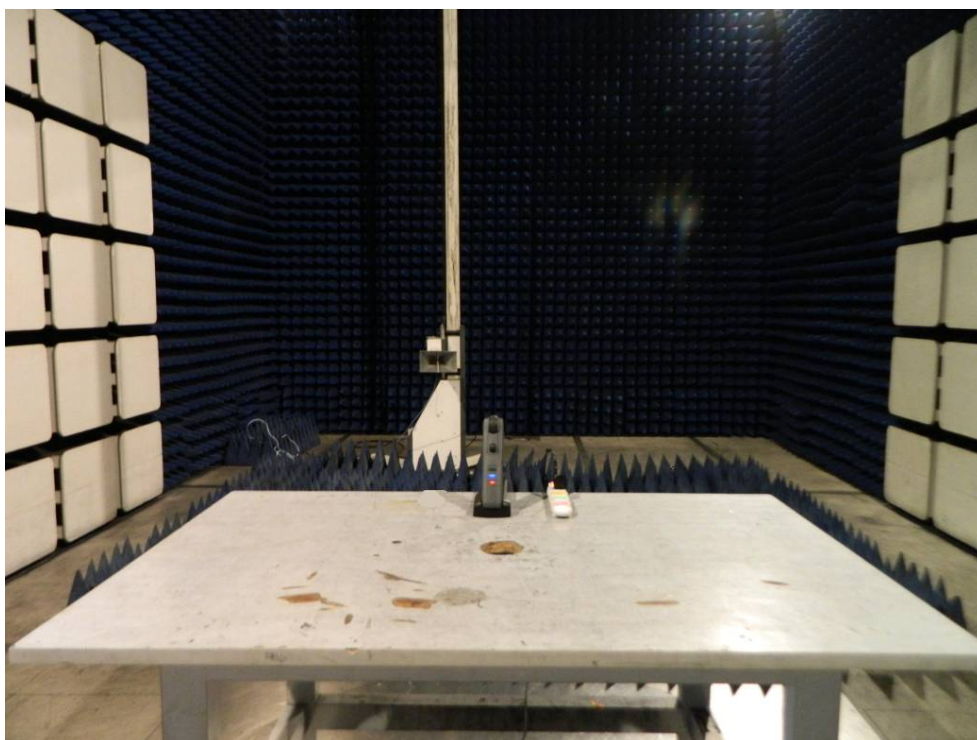
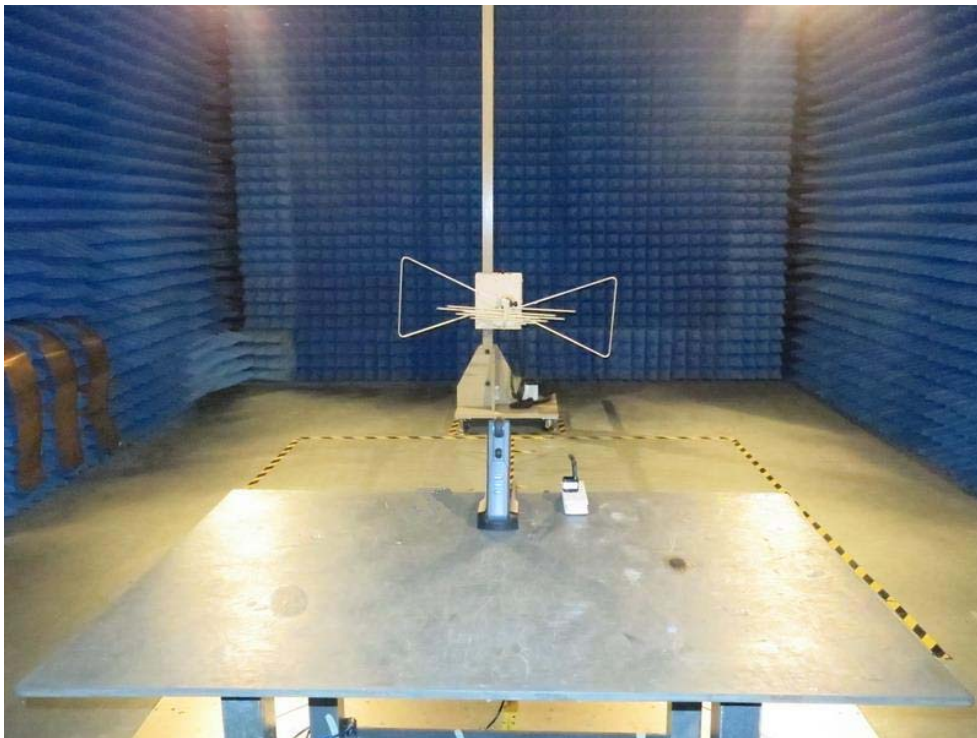
Operation Mode: TX Mode (CH40: 2480MHz) Test Date : September 28, 2013
Frequency Range: 1-25GHz Temperature : 25 °C
Test Result: PASS Humidity : 50 %
Measured Distance: 3m Test By: Andy

| Freq. (MHz) | Ant. Pol. H/V | Emission Level(dBuV/m) | | Limit 3m(dBuV/m) | | Margin(dB) | |
|----------------|------------------|------------------------|-------|------------------|----|------------|--------|
| | | PK | AV | PK | AV | PK | AV |
| 2480 | V | 63.12 | 46.34 | 74 | 54 | -10.88 | -7.66 |
| 4960 | V | 62.28 | 45.73 | 74 | 54 | -11.72 | -8.27 |
| 7440 | V | 61.45 | 44.31 | 74 | 54 | -12.55 | -9.69 |
| 9920 | V | 60.57 | 43.12 | 74 | 54 | -13.43 | -10.88 |
| 12400 | V | 59.55 | 42.66 | 74 | 54 | -14.45 | -11.34 |
| 2480 | H | 64.41 | 46.52 | 74 | 54 | -9.59 | -7.48 |
| 4960 | H | 63.17 | 45.45 | 74 | 54 | -10.83 | -8.55 |
| 7440 | H | 62.48 | 44.88 | 74 | 54 | -11.52 | -9.12 |
| 9920 | H | 61.59 | 43.81 | 74 | 54 | -12.41 | -10.19 |
| 12400 | H | 60.87 | 42.68 | 74 | 54 | -13.13 | -11.32 |

Other harmonics emissions are lower than 20dB below the allowable limit.

Note: (1) All Readings are Peak Value and AV.
(2) Emission Level= Reading Level+ Probe Factor +Cable Loss.
(3) The average measurement was not performed when the peak measured data under the limit of average detection.

5.6 Radiated Measurement Photos:

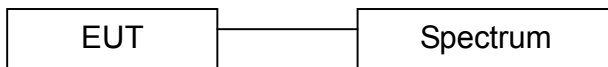


6. 6dB Bandwidth Measurement

6.1 Measurement Procedure

The EUT was operating in Bluetooth mode or could be controlled its channel. Printed out the test result from the spectrum by hard copy function.

6.2 Test SET-UP (Block Diagram of Configuration)



6.3 Measurement Equipment Used:

| EQUIPMENT TYPE | MFR | MODEL NUMBER | SERIAL NUMBER | LAST CAL. | CAL DUE. |
|-------------------|---------|--------------|---------------|------------|------------|
| Spectrum Analyzer | Agilent | E4407B | 88156318 | 05/29/2013 | 05/28/2014 |

6.4 Limit

The minimum 6dB bandwidth shall be at least 500kHz.

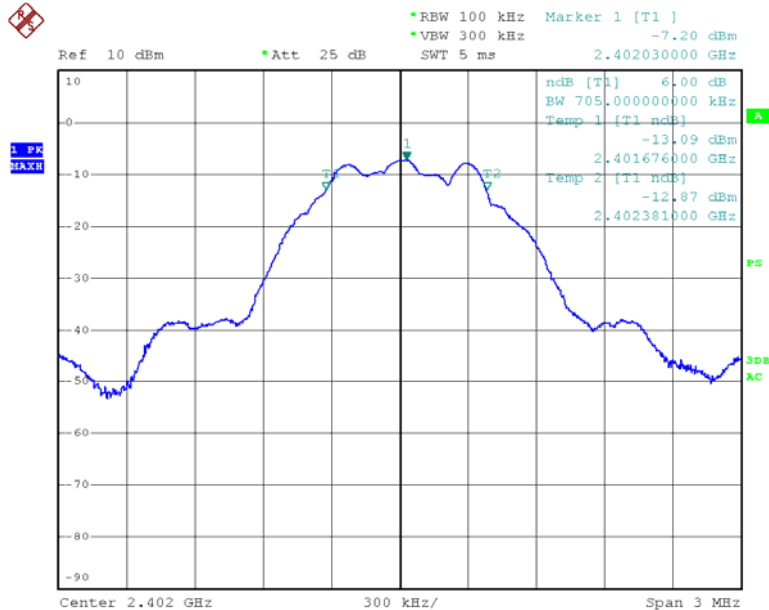
6.5 Measurement Results:

Refer to attached data chart.

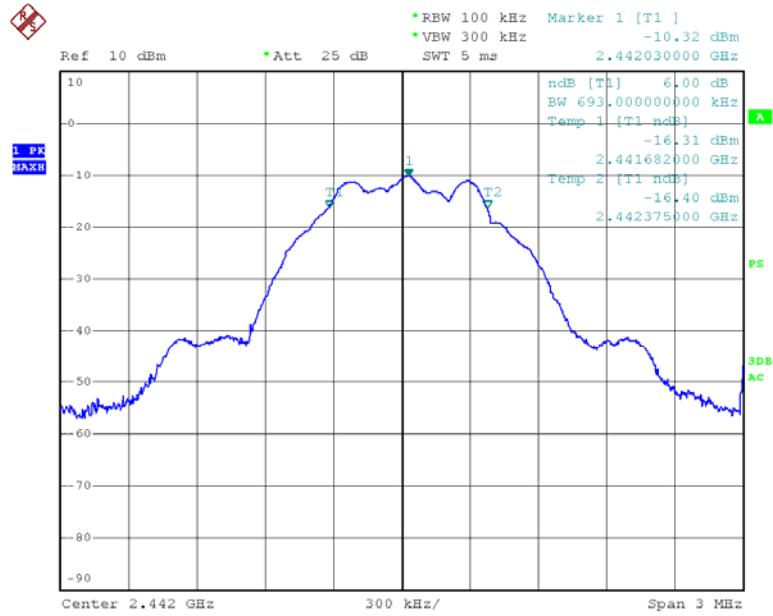
| | | | |
|--------------------|------|---------------|--------------------|
| Spectrum Detector: | PK | Test Date : | September 30, 2013 |
| Test By: | Andy | Temperature : | 25 °C |
| Test Result: | PASS | Humidity : | 50 % |

| Channel number | Channel frequency (MHz) | Measurement level (KHz) | Required Limit (KHz) |
|----------------|-------------------------|-------------------------|----------------------|
| 01 | 2402 | 705 | >500 |
| 21 | 2442 | 693 | >500 |
| 40 | 2480 | 693 | >500 |

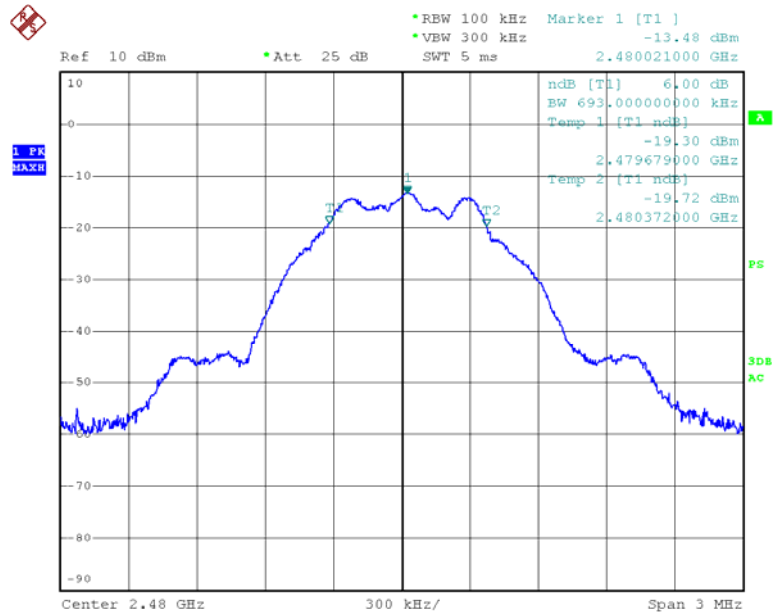
Channel 01:



Channel 21:



Channel 40:

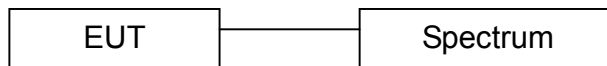


7. MAXIMUM PEAK OUTPUT POWER TEST

7.1 Measurement Procedure

- The Transmitter output (antenna port) was connected to the spectrum Analyzer.
- Turn on the EUT and then record the peak power value.
- Repeat above procedures on all channels needed to be tested.

7.2 Test SET-UP (Block Diagram of Configuration)



7.3 Measurement Equipment Used:

| EQUIPMENT TYPE | MFR | MODEL NUMBER | SERIAL NUMBER | LAST CAL. | CAL DUE. |
|-------------------|---------|--------------|---------------|------------|------------|
| Spectrum Analyzer | Agilent | E4407B | 88156318 | 05/29/2013 | 05/28/2014 |

7.4 Peak Power output limit

The maximum peak power shall be less 1Watt.

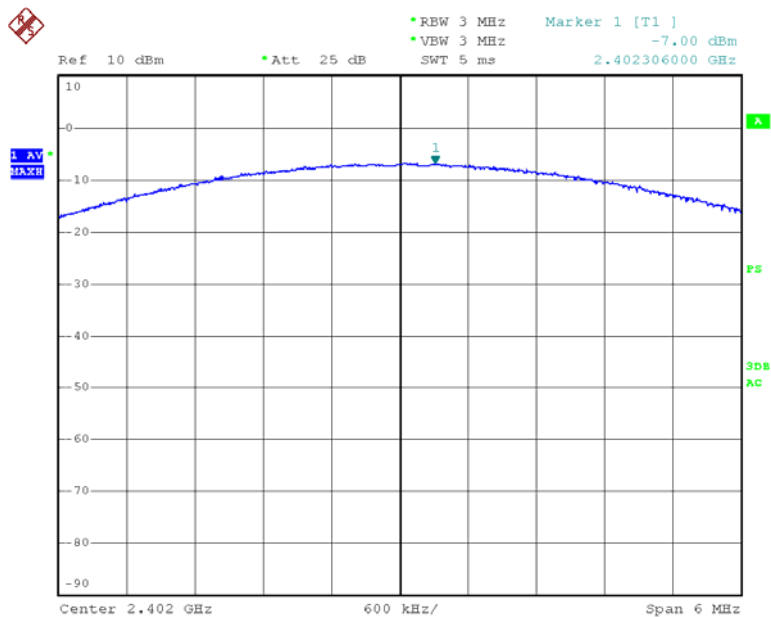
7.5 Measurement Results:

Refer to attached data chart.

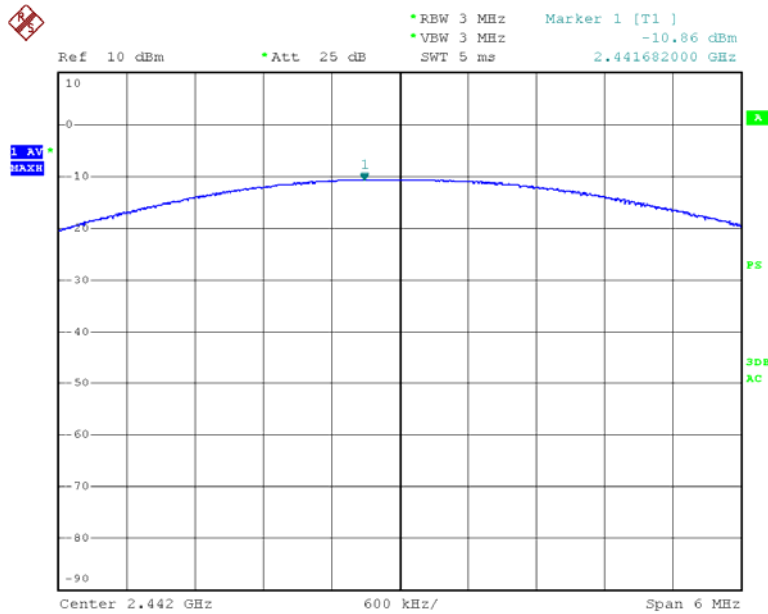
| | | | |
|--------------------|------|---------------|--------------------|
| Spectrum Detector: | PK | Test Date : | September 30, 2013 |
| Test By: | Andy | Temperature : | 25 °C |
| Test Result: | PASS | Humidity : | 50 % |

| Channel number | Channel Frequency (MHz) | Peak Power output(dBm) | Peak Power Limit(W) | Pass/Fail |
|----------------|-------------------------|------------------------|---------------------|-----------|
| 01 | 2402 | -7.00 | 1W(30dBm) | PASS |
| 21 | 2442 | -10.86 | 1W(30dBm) | PASS |
| 40 | 2480 | -13.77 | 1W(30dBm) | PASS |

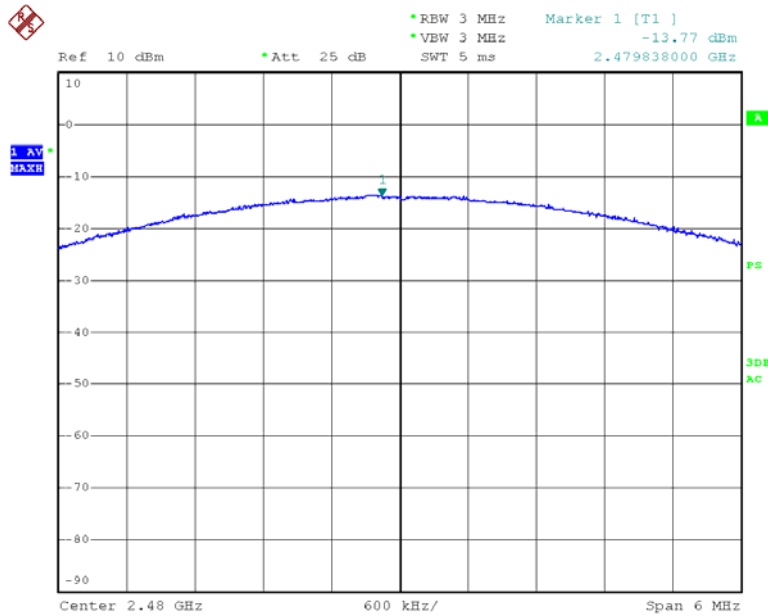
Channel 01



Channel 21



Channel 40

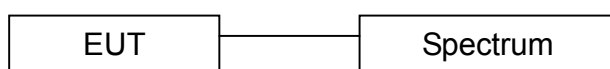


8. Power Spectral Density Measurement

8.1 Measurement Procedure

The EUT was operating in Bluetooth mode or could be controlled its channel. Printed out the test result from the spectrum by hard copy function.

8.2 Test SET-UP (Block Diagram of Configuration)



8.3 Measurement Equipment Used:

| EQUIPMENT TYPE | MFR | MODEL NUMBER | SERIAL NUMBER | LAST CAL. | CAL DUE. |
|-------------------|---------|--------------|---------------|------------|------------|
| Spectrum Analyzer | Agilent | E4407B | 88156318 | 05/29/2013 | 05/28/2014 |

8.4 Measurement Procedure

8.4.1 The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.

8.4.2. Set to the maximum power setting and enable the EUT transmit continuously.

8.4.3. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 3 kHz. Video bandwidth VBW = 10 kHz In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW)

8.4.4. Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level.

8.4.5. Measure and record the results in the test report.

8.4.6. The Measured power density (dBm)/ 100KHz is a reference level and used as 20dBc down limit line for Conducted Band Edges and Conducted Spurious Emission.

8.5 Measurement Results:

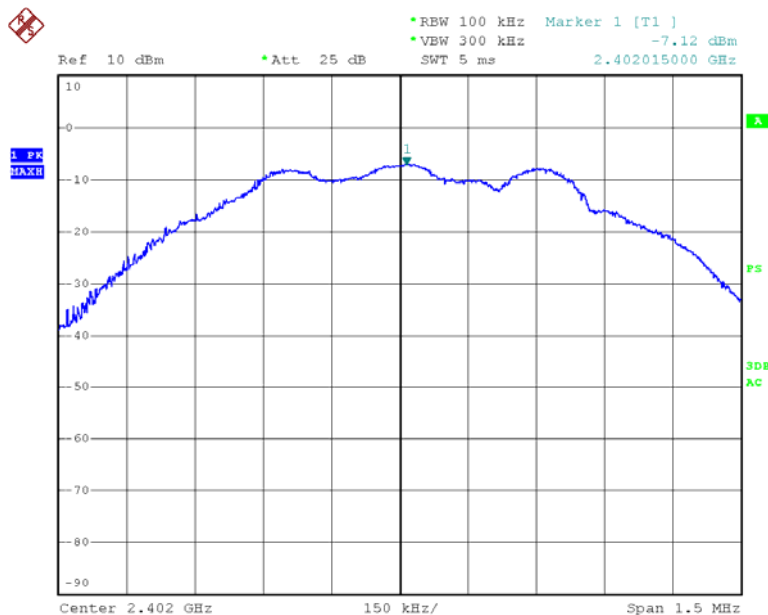
Refer to attached data chart.

| | | | |
|--------------------|------|---------------|--------------------|
| Spectrum Detector: | PK | Test Date : | September 30, 2013 |
| Test By: | Andy | Temperature : | 25 °C |
| Test Result: | PASS | Humidity : | 50 % |

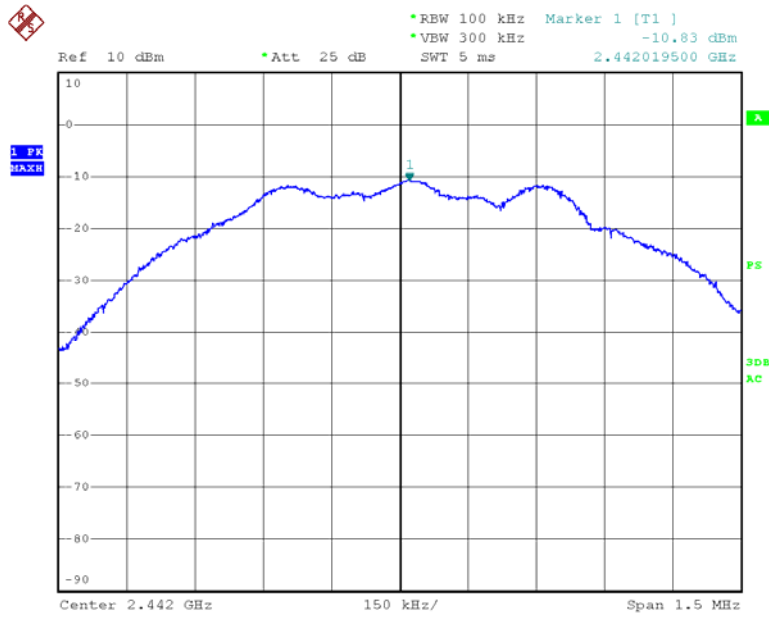
| Channel number | Channel frequency (MHz) | Measurement level (dBm) | | Required Limit (dBm) | Pass/Fail |
|----------------|-------------------------|-------------------------|--------|----------------------|-----------|
| 01 | 2402 | -7.12 | -20.89 | 8 | PASS |
| 21 | 2442 | -10.83 | -23.96 | 8 | PASS |
| 40 | 2480 | -14.48 | -27.03 | 8 | PASS |

PSD 100kHz Plot:

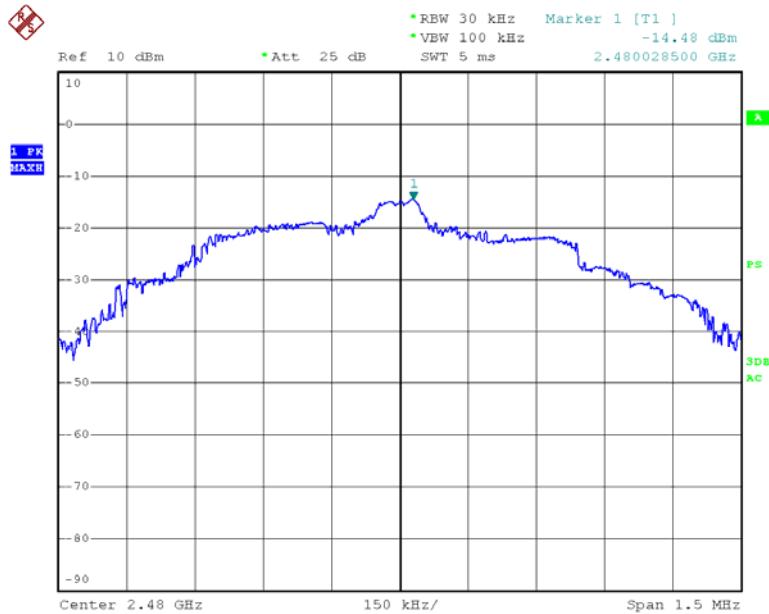
Channel 01



Channel 21

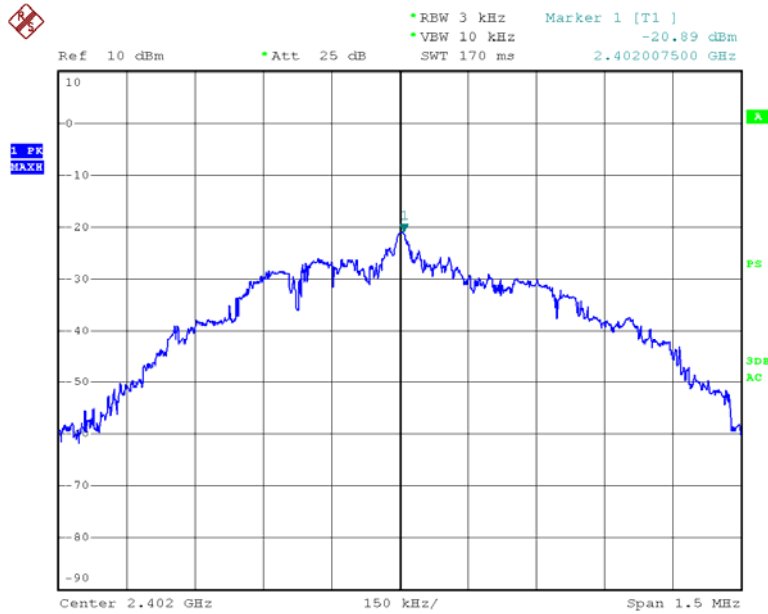


Channel 40

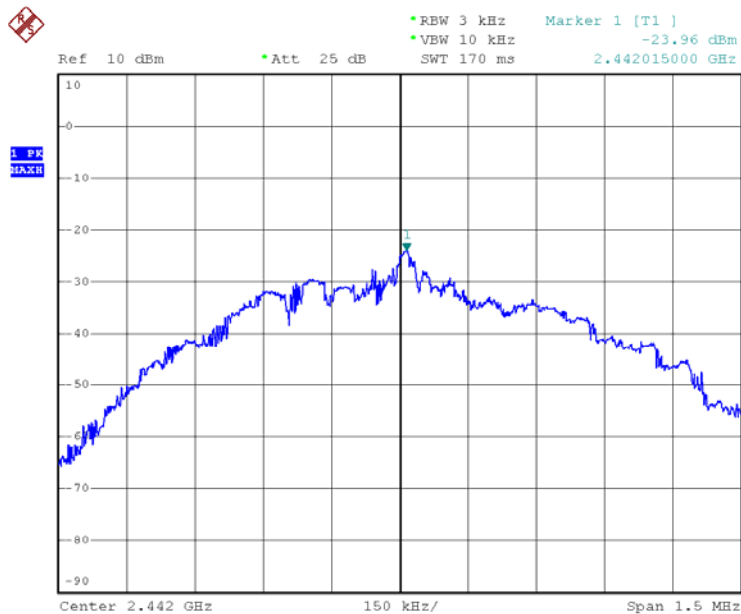


PSD 3KHz Plot:

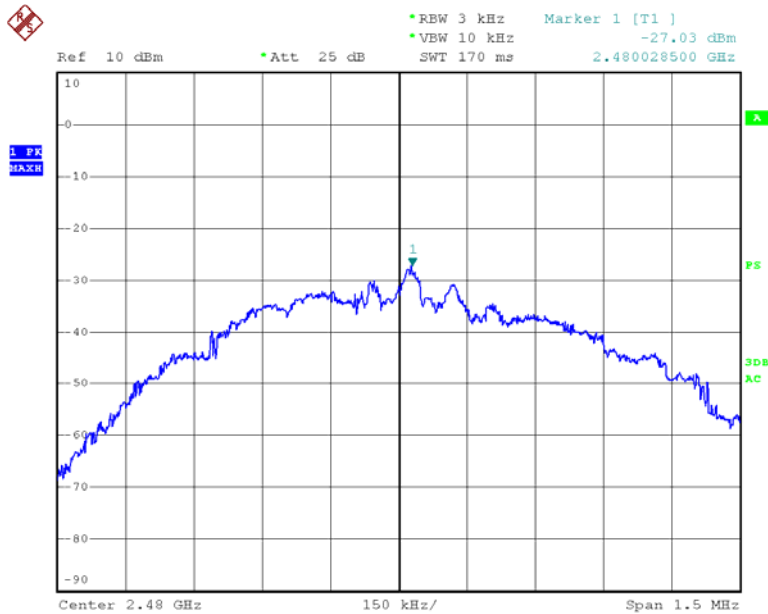
Channel 01



Channel 21



Channel 40

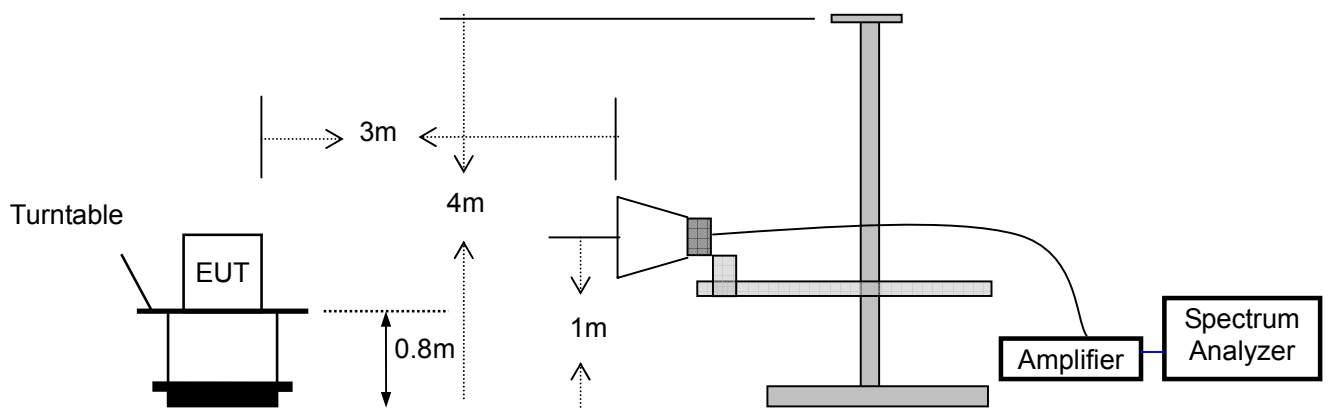


9. Band EDGE test

9.1 Measurement Procedure

1. The EUT was Operating in hopping mode or could be controlled its channel. Printed out test result from the spectrum by hard copy function.
2. The EUT was placed on a turn table which is 0.8m above ground plane.
3. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
4. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
5. Repeat above procedures until all frequency measured were complete.

9.2 Test SET-UP (Block Diagram of Configuration)



9.3 Measurement Equipment Used:

Same as 5.3 Radiated Emission Measurement.

9.4 Measurement Results:

Refer to attached data chart.

Spectrum Detector: PK Test Date : September 30, 2013
Test By: Andy Temperature : 25 °C
Test Result: PASS Humidity : 50 %

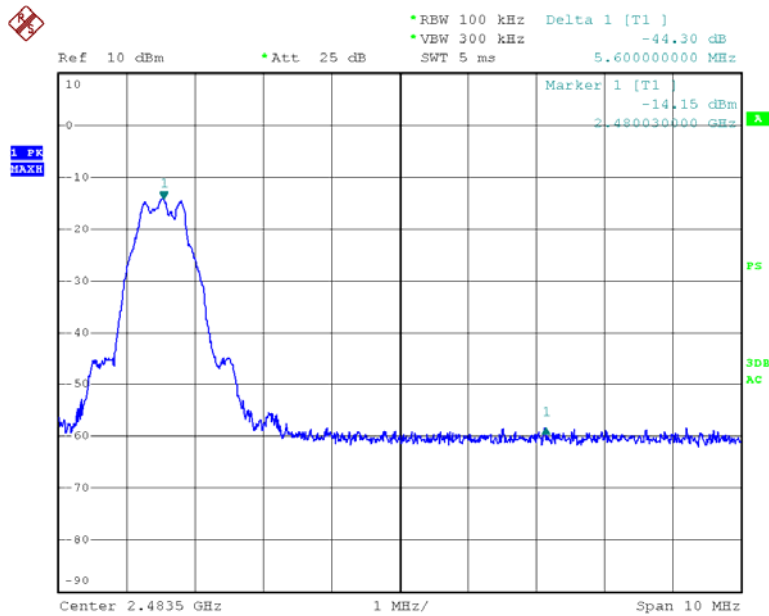
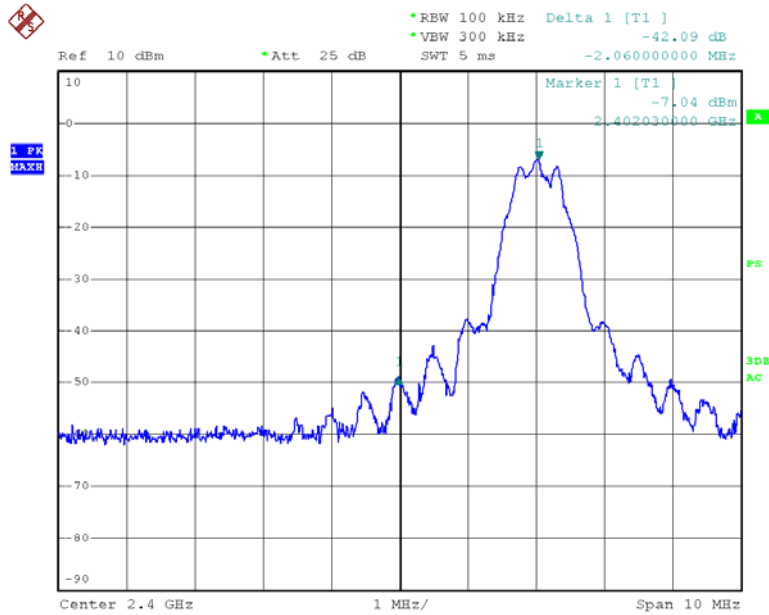
1. Conducted Test

| Frequency (MHz) | Peak Power Output(dBm) | Emission read Value(dBm) | Result of Band edge(dBc) | Band edge Limit(dBc) |
|-----------------|------------------------|--------------------------|--------------------------|----------------------|
| <2400 | -7.04 | -42.09 | 35.05 | >20dBc |
| >2483.5 | -14.15 | -44.30 | 30.15 | >20dBc |

2. Radiated emission Test

| Frequency (MHz) | Operating Mode | Antenna polarization (H/V) | Emission (dBuV/m) | | Band edge Limit (dBuV/m) | |
|-----------------|----------------|----------------------------|-------------------|-------|--------------------------|-------|
| | | | PK | AV | PK | AV |
| <2400 | op-mode 1 | V | 50.23 | 36.34 | 74.00 | 54.00 |
| | op-mode 6 | V | 51.36 | 39.12 | 74.00 | 54.00 |
| | op-mode 10 | V | 48.34 | 37.17 | 74.00 | 54.00 |
| >2483.5 | op-mode 3 | V | 49.34 | 33.46 | 74.00 | 54.00 |
| | op-mode 8 | V | 41.45 | 36.41 | 74.00 | 54.00 |
| | op-mode 12 | V | 48.24 | 33.46 | 74.00 | 54.00 |

Channel 01



10 Antenna Application

10.1 Antenna requirement

The EUT'S antenna is met the requirement of FCC part 15C section 15.203 and 15.247.

FCC part 15C section 15.247 requirements:

Systems operating in the 2402-2480MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum peak output power of the intentional radiator is reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

10.2 Result

The EUT's antenna is an embedded PCB antenna. and integrated on PCB, The antenna's gain is 2.0 dBi and meets the requirement.