

## FCC PART 15.247 TEST REPORT

Prepared For	Greentech International Ltd.
Product Name:	Bluetooth Retro Handset with Wireless Charging
Report No.:	PTS20120302-5F
Trade Name:	Greentech
Model Name :	GTL1218 ,GTL1218A
FCC ID:	AVIGTL1218
Prepared By	DongGuan Precise Testing Service Co.,Ltd.
	F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China
Test Date:	Mar.02, 2012 ~ Mar.11, 2012
Date of Report :	Mar.15, 2012

---

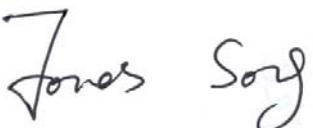
**DongGuan Precise Testing Service Co.,Ltd.**

F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China  
Tel: 86-769-23368601      Fax: 86-769-23368602      <http://www.pts-testing.com>

## VERIFICATION OF COMPLIANCE

Applicant:	Greentech International Ltd.
Address	Unit 5, 10Fl., Crown Ind. Bldg., 106 How Ming St. Kwun Tong, HK.
Manufacturer Name:	Dongguan Greentech LTD.
Address:	2 Floor, WenZen Road 68, Dongchen District, Dong Guan, Guangdong province, China.
Product Description:	Bluetooth Retro Handset with Wireless Charging
Brand Name:	Greentech
Model Name:	GTL1218 , GTL1218A
Model difference	GTL1218 with charging cradle and GTL1218A no charging cradle.
Test procedure	ANSI C63.4 : 2003

Prepared by :



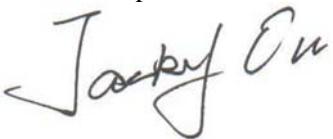
Assistant

Reviewer :



Supervisor

Approved & Authorized Signer :



Jacky Ou / Manager

**DongGuan Precise Testing Service Co.,Ltd.**

F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China  
Tel: 86-769-23368601      Fax: 86-769-23368602      <http://www.pts-testing.com>

## TABLE OF CONTENTS

<b>1. GENERAL INFORMATION .....</b>	<b>5</b>
<b>1.1 PRODUCT DESCRIPTION .....</b>	<b>5</b>
<b>1.2 TABLE OF CARRIER FREQUENCIES .....</b>	<b>5</b>
<b>1.3 RECEIVER INPUT BANDWIDTH AND BEHAVIOUR FOR REPEATED SINGLE .....</b>	<b>6</b>
<b>1.4 RELATED SUBMITTAL(S) / GRANT (S) .....</b>	<b>6</b>
<b>1.5 TEST METHODOLOGY .....</b>	<b>6</b>
<b>1.6 TEST FACILITY .....</b>	<b>6</b>
<b>1.7 SPECIAL ACCESSORIES .....</b>	<b>6</b>
<b>1.8 EQUIPMENT MODIFICATIONS .....</b>	<b>6</b>
<b>2. SYSTEM TEST CONFIGURATION.....</b>	<b>8</b>
<b>2.1 CONFIGURATION OF TESTED SYSTEM.....</b>	<b>8</b>
<b>2.2 EQUIPMENT USED IN TESTED SYSTEM.....</b>	<b>8</b>
<b>2.3 LIST OF TEST EQUIPMENTS .....</b>	<b>9</b>
<b>3. SUMMARY OF TEST RESULTS .....</b>	<b>10</b>
<b>4. DESCRIPTION OF TEST MODES.....</b>	<b>10</b>
<b>5. CONDUCTION EMISSIONS.....</b>	<b>11</b>
<b>5.1 MEASUREMENT PROCEDURE: .....</b>	<b>11</b>
<b>5.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION).....</b>	<b>11</b>
<b>5.3 LIMITS AND MEASUREMENT RESULT:.....</b>	<b>12</b>
<b>6. MAXIMUM OUTPUT POWER .....</b>	<b>14</b>
<b>6.1 MEASUREMENT PROCEDURE: .....</b>	<b>14</b>
<b>6.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION).....</b>	<b>14</b>
<b>6.3 LIMITS AND MEASUREMENT RESULT:.....</b>	<b>16</b>
<b>7. 20 DB BANDWIDTH .....</b>	<b>19</b>
<b>7.1 MEASUREMENT PROCEDURE .....</b>	<b>19</b>
<b>7.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION).....</b>	<b>19</b>
<b>7.3 LIMITS AND MEASUREMENT RESULTS:.....</b>	<b>19</b>
<b>8. MAXIMUM CONDUCTED OUTPUT POWER SPECTRAL DENSITY (N/A).....</b>	<b>23</b>
<b>8.1 MEASUREMENT PROCEDURE: .....</b>	<b>23</b>
<b>8.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION).....</b>	<b>23</b>

<b>8.3 LIMITS AND MEASUREMENT RESULT:</b> .....	23
<b>9. OUT OF BAND EMISSION .....</b>	<b>24</b>
<b>9.1 MEASUREMENT PROCEDURE: .....</b>	24
<b>9.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION).....</b>	24
<b>9.3 MEASUREMENT EQUIPMENT USED:.....</b>	24
<b>9.4 LIMITS AND MEASUREMENT RESULT:.....</b>	24
<b>10. NUMBER OF HOPPING FREQUENCY .....</b>	<b>40</b>
<b>10.1 MEASUREMENT PROCEDURE .....</b>	40
<b>10.2 TEST SETUP (BLOCK DIAGRAM OF CONFIGURATION).....</b>	40
<b>10.3 MEASUREMENT EQUIPMENT USED.....</b>	40
<b>10.4 LIMITS AND MEASUREMENT RESULT: .....</b>	40
<b>11. TIME OF OCCUPANCY (DWELL TIME).....</b>	<b>42</b>
<b>11.1 MEASUREMENT PROCEDURE .....</b>	42
<b>11.2 TEST SETUP (BLOCK DIAGRAM OF CONFIGURATION).....</b>	42
<b>11.3 MEASUREMENT EQUIPMENT USED.....</b>	42
<b>11.4 LIMITS AND MEASUREMENT RESULT.....</b>	42
<b>12. FREQUENCY SEPARATION .....</b>	<b>45</b>
<b>12.1 MEASUREMENT PROCEDURE .....</b>	45
<b>12.2 TEST SETUP (BLOCK DIAGRAM OF CONFIGURATION).....</b>	45
<b>12.3 MEASUREMENT EQUIPMENT USED.....</b>	45
<b>12.4 LIMITS AND MEASUREMENT RESULT.....</b>	45
<b>13 ANTENNA REQUIREMENT .....</b>	<b>49</b>
<b>13.1 STANDARD REQUIREMENT .....</b>	49
<b>13.2 EUT ANTENNA .....</b>	49
<b>PPENDIX 1.....</b>	<b>50</b>
<b>PHOTOGRAPHS OF THE TEST SETUP .....</b>	<b>50</b>
<b>PHOTOGRAPHS OF THE TEST SETUP (&gt;1GHZ).....</b>	<b>51</b>



## 1. GENERAL INFORMATION

### 1.1 PRODUCT DESCRIPTION

The EUT is a Bluetooth Retro Handset with Wireless Charging; It is short range, lower power. And it is designed by way of utilizing the FHSS technology to achieve the system operation.

A major technical description of EUT is described as following:

Operation Frequency	2.402 GHz to 2.480GHz
Output Power	0.26dBm
Modulation	GFSK(1Mbps) without EDR
Number of channels	79
Antenna Designation	PCB Antenna
Antenna Gain	0.5dBi
Power Supply	DC 3.7V by battery

### 1.2 TABLE OF CARRIER FREQUENCYS

Frequency Band	Channel Number	Frequency
2400~2483.5MHZ	0	2402MHZ
	1	2403MHZ
	:	:
	38	2440 MHZ
	39	2441 MHZ
	40	2442 MHZ
	:	:
	77	2479 MHZ
	78	2480 MHZ

### 1.3 RECEIVER INPUT BANDWIDTH AND BEHAVIOUR FOR REPEATED SINGLE OR MULTIPLE PACKETS

The input bandwidth of the receiver is 1MHz, In every connection one Bluetooth device is the master and the other one is slave. The master determines the hopping sequence. The slave follows this sequence. Both devices shift between RX and TX time slot according to the clock of the master.

Additionally the type of connection(e.g. single or multislot packet) is set up at the beginning of the connection. The master adapts its hopping frequency and its TX/RX timing according to the packet type of the connection. Also the slave of the connection will use these settings.

Repeating of a packet has no influence on the hopping sequence. The hopping sequence generated by the master of the connection will be followed in any case. That means, a repeated packet will not be send on the same frequency, it is send on the next frequency of the hopping sequence.

### 1.4 RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for FCC ID: AVIGTL1218 filing to comply with Section 15.247 of the FCC Part 15, Subpart C Rules.

### 1.5 TEST METHODOLOGY

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4 (2003). Radiated testing was performed at an antenna to EUT distance 3 meters.

### 1.6 TEST FACILITY

All measurement facilities used to collect the measurement data are located at  
NTEK Testing Technology Co., Ltd

Add. : 1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street, Bao'an District, Shenzhen P.R. China.

The test site is constructed and calibrated to meet the FCC requirements in documents ANSI C63.4: 2003.

FCC register No.: 238937

DA 00-705 be used. Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with preselectors and quasi-peak detectors are used to perform radiated measurements

### 1.7 SPECIAL ACCESSORIES

Not available for this EUT intended for grant.

### 1.8 EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.

## 1.9 EXAMPLE OF A HOPPING SEQUENCE IN DATA MODE

Example of a 79 hopping sequence in data mode:

40,21,44,23,42,53,46,55,48,33,52,35,50,65,54,67  
56,37,60,39,58,69,62,71,64,25,68,27,66,57,70,59  
72,29,76,31,74,61,78,63,01,41,05,43,03,73,07,75  
09,45,13,47,11,77,15,00,64,49,66,53,68,02,70,06  
01,51,03,55,05,04

## 1.10 EQUALLY AVERAGE USE OF FREQUENCIES AND BEHAVIOUR

The generation of the hopping sequence in connection mode depends essentially on two input values:

1 LAP/UAP of the master of the connection

2 Internal master clock

The LAP(lower address part) are the 24 LSB's of the 48 BD\_ADDRESS.

The BD\_ADDRESS is an unambiguous number of every Bluetooth unit. The UAP (upper address part) are the 24MSB's of the 48BD\_ADDRESS. The internal clock of a Bluetooth unit is derived from a free running clock which is never adjusted and is never turned off. For synchronisation with other units only offset are used. It has no relation to the time of the day. Its resolution is at least half the RX/TX slot length of 312.5us. The clock has a cycle of about

One day(23h30). In most case it is implemented as 28 bit counter. For the deriving of the hopping sequence the entire LAP(24 bits), 4LSB's(4bits)(Input 1) and the 27MSB's of the clock(Input 2) are used. With this input values different mathematical procedures (permutations, additions, XOR-operations)are performed to generate the Sequence. This will be done at the beginning of every new transmission.

Regarding short transmissions the Bluetooth system has the following behaviour:

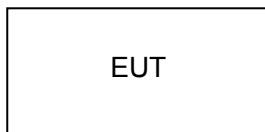
The first connection between the two devices is established, a hopping sequence was generated. For transmitting the wanted data the complete hopping sequence was not used. The connection ended.

The second connection will be established. A new hopping sequence is generated. Due to the fact the Bluetooth clock has a different value, because the period between the two transmission is longer (and it cannot be shorter)than the minimum resolution of the clock(312.5us). The hopping sequence will always differ from the first one.

## 2. SYSTEM TEST CONFIGURATION

### 2.1 CONFIGURATION OF TESTED SYSTEM

Radiated Emission:



### 2.2 EQUIPMENT USED IN TESTED SYSTEM

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID
1	Bluetooth Retro Handset with Wireless Charging	Greentech	GTL1218	AVIGTL1218
2	--	--	--	--



PRECISE TESTING

FCC ID: AVIGTL1218

Report No.: PTS20120302-5F  
Page 9 of 51

## 2.3 LIST OF TEST EQUIPMENTS

Description	Manufacturer	Model No.	Calibration Date	Calibration Due.
Test Receiver	ROHDE&SCHWARZ	ESCS30	05/29/2011	05/29/2012
Wideband Ant	Sunol Sciences Corp.	JB3	05/29/2011	05/29/2012
H&T Chamber	EXPERY	TN-400	05/29/2011	05/29/2012
Antenna	R&S	VULB9163	05/29/2011	05/29/2012
Regulated DC Power Supply	LONGWEI	50V30A	05/29/2011	05/29/2012
Universal Radio Communication Tester	R&S	CMU200	05/29/2011	05/29/2012
Horn Antenna	ETS	3117	05/29/2011	05/29/2012
Loop Antenna	R&S	HM525	05/29/2011	05/29/2012
Spectrum Analyzer	Agilent	E4407B	05/29/2011	05/29/2012
LISN	Rohde & Schwarz	ESH2-Z5	05/29/2011	05/29/2012
LISN	Rohde & Schwarz	ESH2-Z5	05/29/2011	05/29/2012
50 Ω Coaxial Switch	Anritsu	MP59B	05/29/2011	05/29/2012

---

### DongGuan Precise Testing Service Co.,Ltd.

F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China  
Tel: 86-769-23368601      Fax: 86-769-23368602      <http://www.pts-testing.com>

### 3. SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
§15.207	Conduction Emission	N/A
§15.209	Radiated Emission	Compliant
§15.247	Maximum Output Power	Compliant
§15.247	20 dB Bandwidth	Compliant
§15.247	Band Edges	Compliant
§15.247	Spurious Emission	Compliant
§15.247	Frequency Separation	Compliant
§15.247	Number of Hopping Frequency	Compliant
§15.247	Time of Occupancy	Compliant
§15.203	Antenna Requirement	Compliant

### 4. DESCRIPTION OF TEST MODES

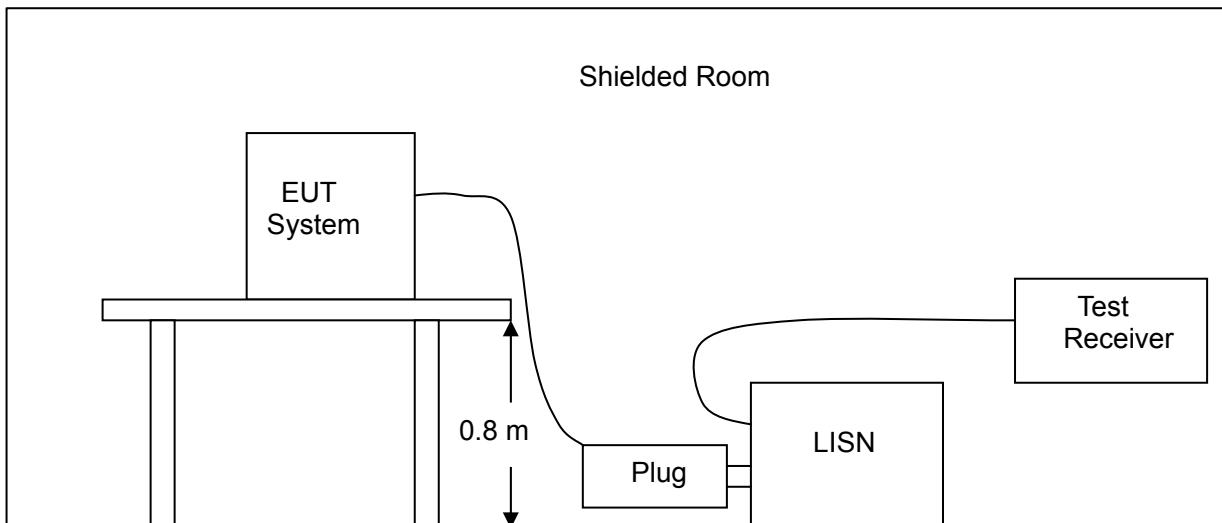
1. The EUT has been set to operate continuously on the lowest, the middle and the highest operation frequency individually.
2. The EUT stays in continuous transmitting mode on the operation frequency being set.
3. This EUT belongs to a portable device, both horizontal and vertical antenna polarities were tested, and performed pretest to three orthogonal(X,Y,Z) axis. The worst case emissions were reported.

## 5. CONDUCTION EMISSIONS(N/A)

### 5.1 MEASUREMENT PROCEDURE:

1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system; a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4.
2. Support equipment, if needed, was placed as per ANSI C63.4.
3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.
4. The EUT received DC3.7V through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
5. All support equipments received AC power from a second LISN, if any.
6. The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7. Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.
8. During the above scans, the emissions were maximized by cable manipulation.

### 5.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



### 5.3 LIMITS AND MEASUREMENT RESULT:

#### LIMITS OF LINE CONDUCTED EMISSION TEST

Frequency	Maximum RF Line Voltage	
	Q.P.( dBuV)	Average( dBuV)
150kHz~500kHz	66-56	56-46
500kHz~5MHz	56	46
5MHz~30MHz	60	50

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

#### MEASURING INSTRUMENT AND SETTING

The following table is the setting of receiver.

Receiver Parameter	Setting
Attenuation	10dB
Start Frequency	0.15MHz
Stop Frequency	30MHz
6dB bandwidth	9KHz for QP
IF bandwidth	9KHz for AV



PRECISE TESTING

FCC ID: AVIGTL1218

Report No.: PTS20120302-5F  
Page 13 of 51

**TEST RESULT:**

**WITHOUT AC LINE, NOT APPROPRIATE.**

---

**DongGuan Precise Testing Service Co.,Ltd.**

F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China  
Tel: 86-769-23368601      Fax: 86-769-23368602      <http://www.pts-testing.com>

## 6. MAXIMUM OUTPUT POWER

### 6.1 MEASUREMENT PROCEDURE:

#### CONDUCTED METHOD

1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
3. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
4. Set Span = approximately 5 times the 20 dB bandwidth, centered on a hopping channel  
RBW > the 20 dB bandwidth of the emission being measured

VBW  $\geq$  RBW

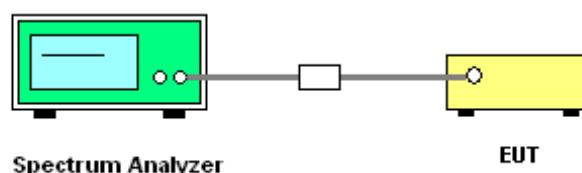
Sweep = auto

Detector function = peak

Trace = max hold

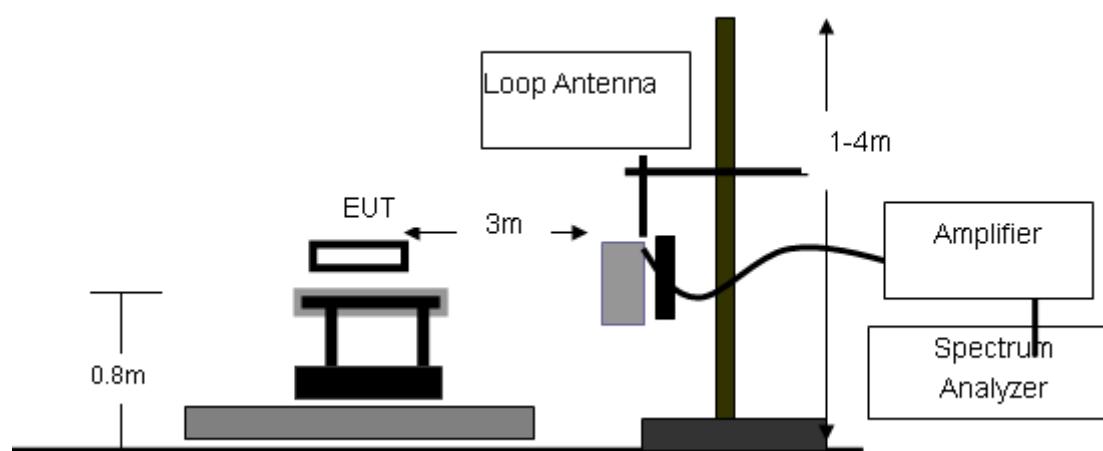
### 6.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

#### CONDUCTED METHOD



#### RADIATED EMISSION TEST SETUP

RADIATED MISSION TEST SETUP BELOW 30MHz

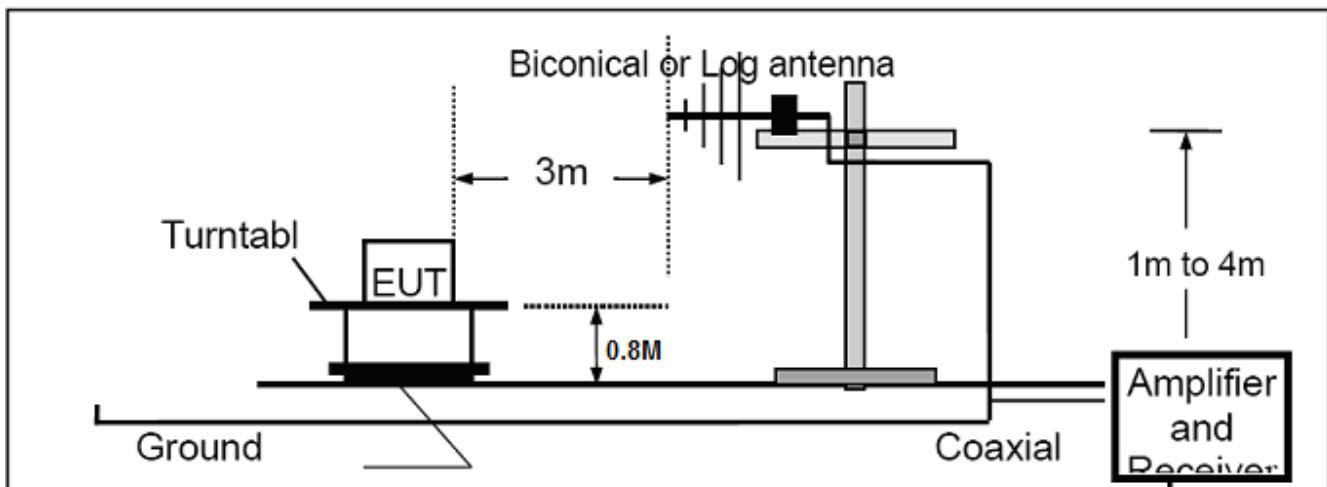


---

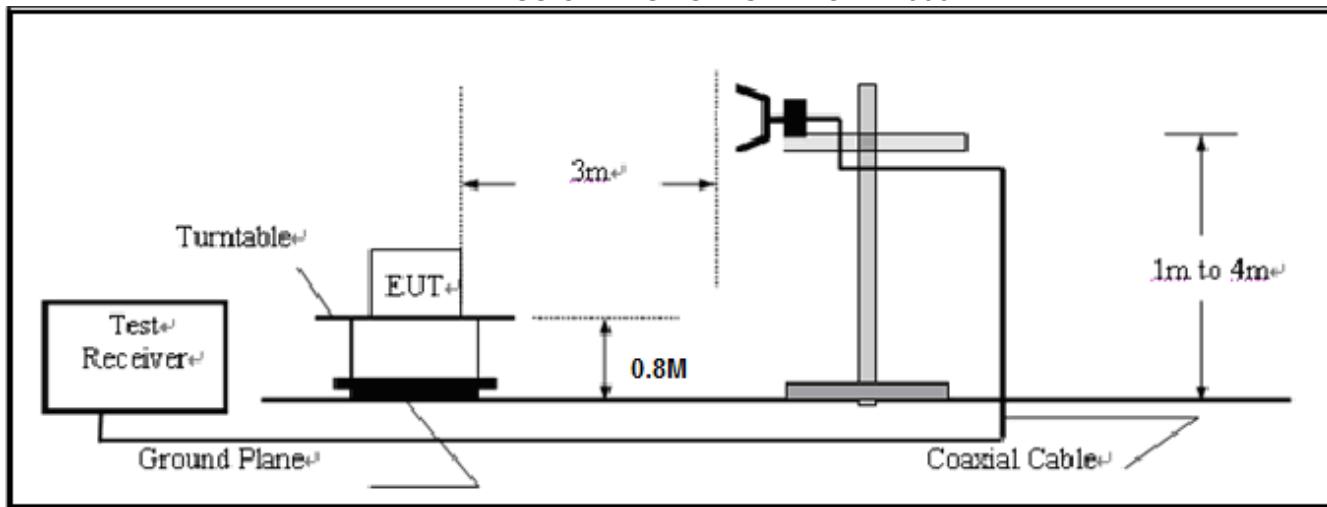
**DongGuan Precise Testing Service Co.,Ltd.**

F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China  
Tel: 86-769-23368601      Fax: 86-769-23368602      <http://www.pts-testing.com>

RADIATED MISSION TEST SETUP 30MHz-1000MHz



RADIATED MISSION TEST SETUP ABOVE 1000MHz





PRECISE TESTING

FCC ID: AVIGTL1218

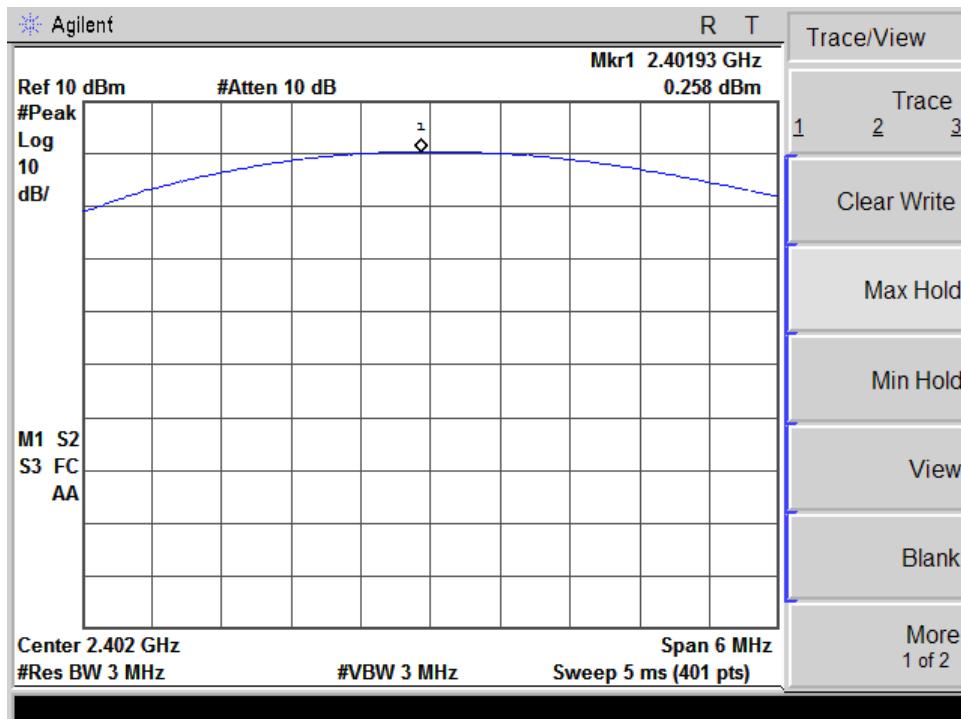
Report No.: PTS20120302-5F  
Page 16 of 51

## 6.3 LIMITS AND MEASUREMENT RESULT:

Operation Mode:	RF MODE (CONDUCTED)	Test Date:	Mar.09, 2012
Temperature:	25°C	Tested by:	Jones Song
Humidity:	55 % RH		

Channel	Frequency (MHZ)	GFSK 1Mbps	Limit (dBm)	Result
0	2402	0.26dBm	20.97	Pass
39	2441	-3.12dBm	20.97	Pass
78	2480	-3.25dbm	20.97	Pass

CH0



DongGuan Precise Testing Service Co.,Ltd.

F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China  
Tel: 86-769-23368601 Fax: 86-769-23368602 <http://www.pts-testing.com>



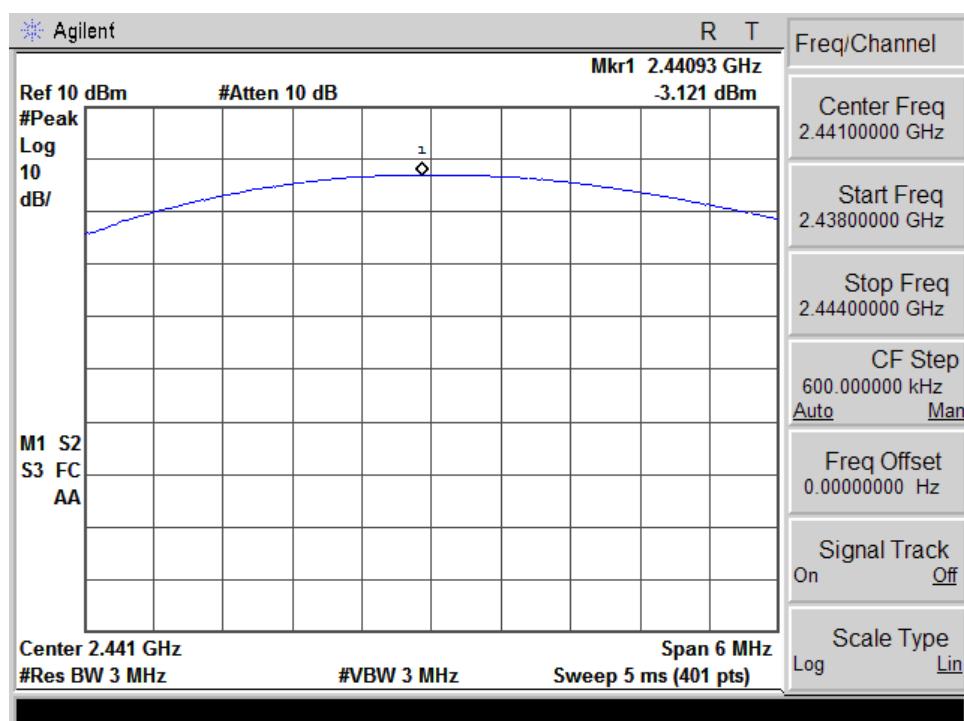
PRECISE TESTING

FCC ID: AVIGTL1218

Report No.: PTS20120302-5F

Page 17 of 51

CH39



---

**DongGuan Precise Testing Service Co.,Ltd.**

F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China  
Tel: 86-769-23368601      Fax: 86-769-23368602      <http://www.pts-testing.com>



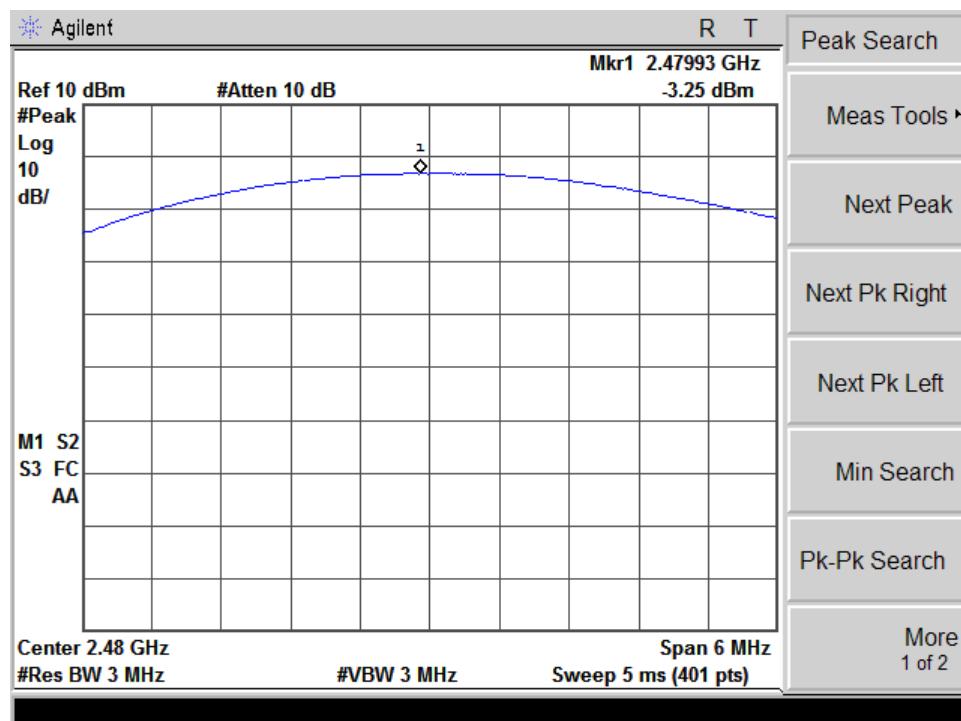
PRECISE TESTING

FCC ID: AVIGTL1218

Report No.: PTS20120302-5F

Page 18 of 51

CH78



---

**DongGuan Precise Testing Service Co.,Ltd.**

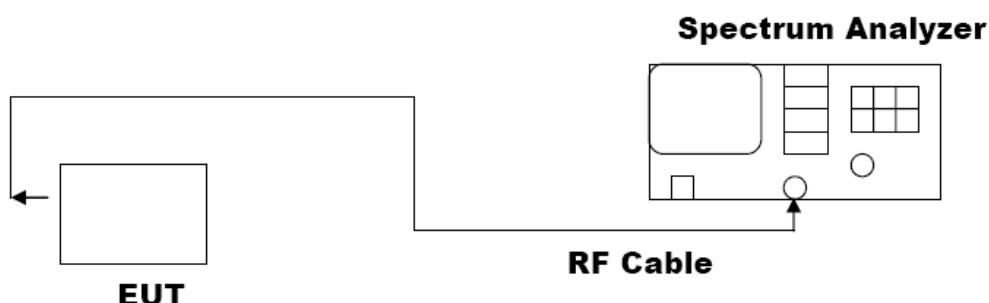
F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China  
Tel: 86-769-23368601      Fax: 86-769-23368602      <http://www.pts-testing.com>

## 7. 20 DB BANDWIDTH

### 7.1 MEASUREMENT PROCEDURE

1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
3. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
4. Set Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel
   
 $RBW \geq 1\%$  of the 20 dB bandwidth
   
 $VBW \geq RBW$ 
  
 Sweep = auto
   
 Detector function = peak
   
 Trace = max hold

### 7.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



### 7.3 LIMITS AND MEASUREMENT RESULTS:

Operation Mode:	RF MODE	Test Date:	Mar.09, 2012
Temperature:	25°C	Tested by:	Jones Song
Humidity:	55 % RH		

Channel	Frequency (MHZ)	20 dB BANDWIDTH
0	2402	0.947MHz
39	2441	0.961 MHz
78	2480	0.952 MHz



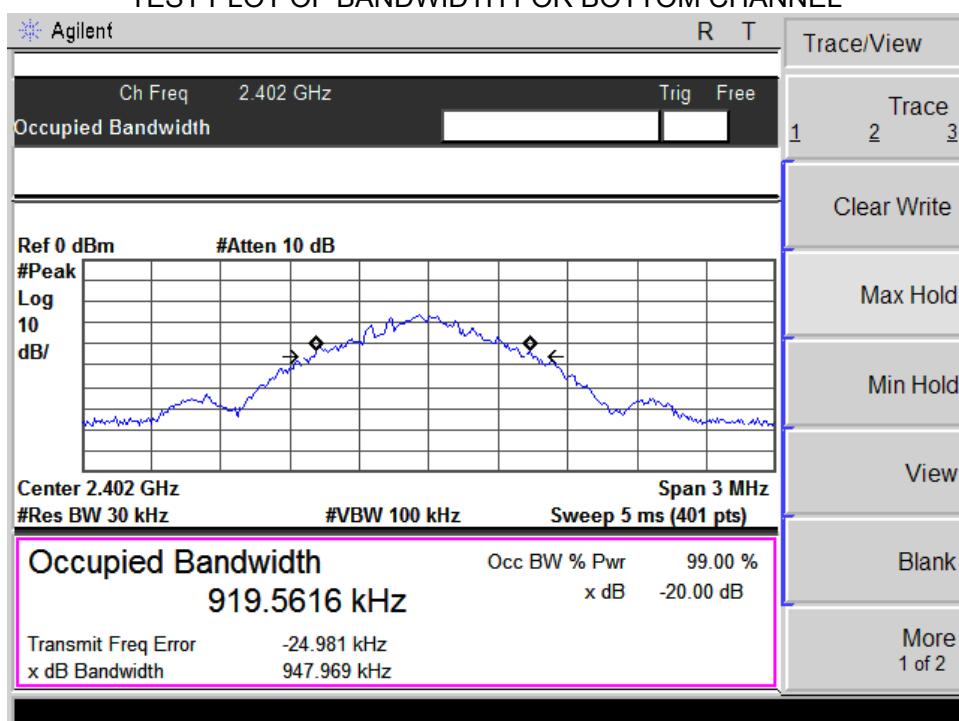
PRECISE TESTING

FCC ID: AVIGTL1218

Report No.: PTS20120302-5F

Page 20 of 51

TEST PLOT OF BANDWIDTH FOR BOTTOM CHANNEL



---

DongGuan Precise Testing Service Co.,Ltd.

F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China  
Tel: 86-769-23368601 Fax: 86-769-23368602 <http://www.pts-testing.com>



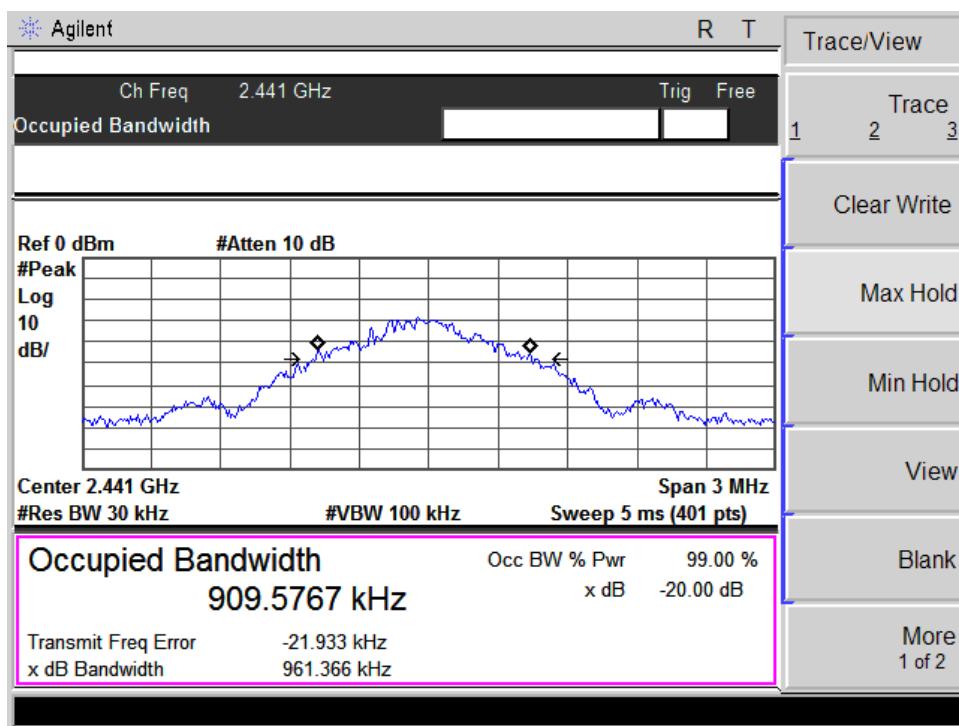
PRECISE TESTING

FCC ID: AVIGTL1218

Report No.: PTS20120302-5F

Page 21 of 51

TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL



---

DongGuan Precise Testing Service Co.,Ltd.

F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China  
Tel: 86-769-23368601 Fax: 86-769-23368602 <http://www.pts-testing.com>



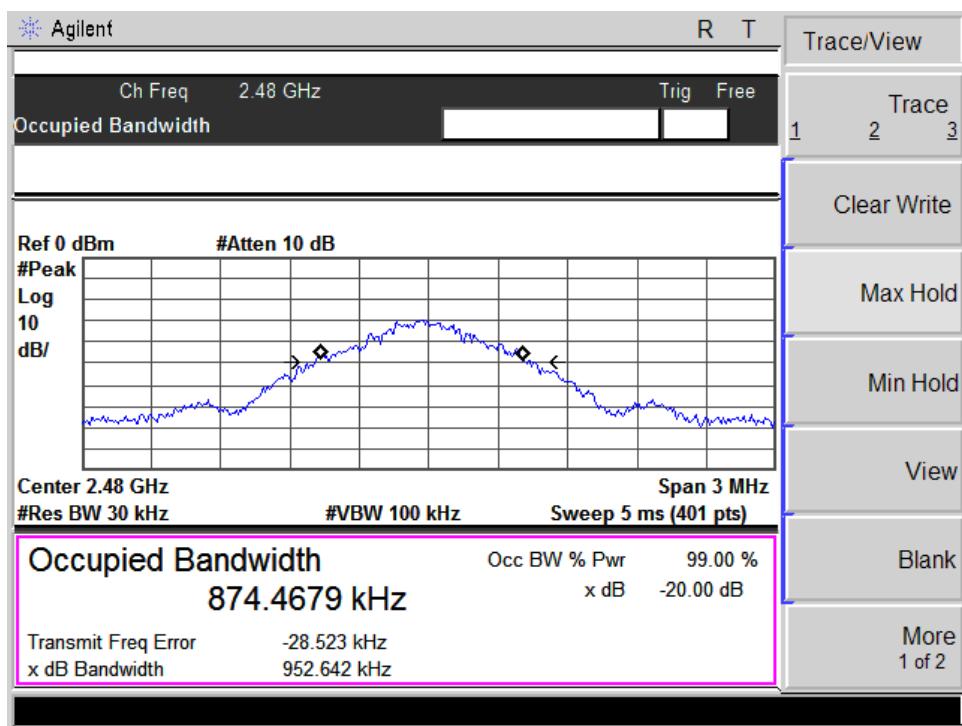
PRECISE TESTING

FCC ID: AVIGTL1218

Report No.: PTS20120302-5F

Page 22 of 51

TEST PLOT OF BANDWIDTH FOR TOP CHANNEL



---

DongGuan Precise Testing Service Co.,Ltd.

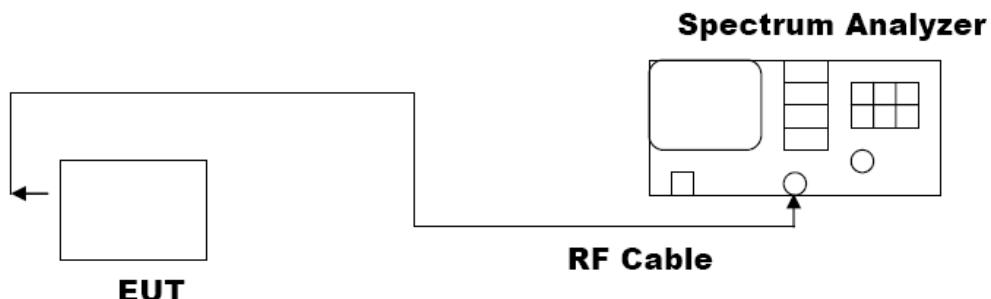
F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China  
Tel: 86-769-23368601 Fax: 86-769-23368602 <http://www.pts-testing.com>

## 8. MAXIMUM CONDUCTED OUTPUT POWER SPECTRAL DENSITY (N/A)

### 8.1 MEASUREMENT PROCEDURE:

- (1). The EUT was placed on a turn table which is 0.8m above ground plane.
- (2). Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- (3). Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- (4). Set SPA Centre Frequency = Operation Frequency, RBW= 3 KHz,  
VBW= 10 KHz., Sweep time= Auto
- (5). Set SPA Trace 1 Max hold, then View.

### 8.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



### 8.3 LIMITS AND MEASUREMENT RESULT:

It is FHSS Modulation, So it isn't appropriate.

## 9. OUT OF BAND EMISSION

### 9.1 MEASUREMENT PROCEDURE:

1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
3. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
4. Set SPA Centre Frequency = Operation Frequency, RBW  $\geq$  1% of the span  
VBW  $\geq$  RBW  
Sweep = auto  
Detector function = peak  
Trace = max hold

### 9.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

The Same as described in section 6.2

1. Conducted test setup
2. Radiated Emission test Setup

### 9.3 MEASUREMENT EQUIPMENT USED:

The Same as described in section 2.4

### 9.4 LIMITS AND MEASUREMENT RESULT:

LIMITS AND MEASUREMENT RESULT		
Applicable Limits	Measurement Result	
	Test Data	Criteria
In any 100 KHz Bandwidth Outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in 100KHz bandwidth within the band that contains the highest level of the desired power.	At least -20dBc than the limit Specified on the BOTTOM Channel	PASS
In addition, radiation emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in§15.209(a))	At least -20dBc than the limit Specified on the TOP Channel	PASS



PRECISE TESTING

FCC ID: AVIGTL1218

Report No.: PTS20120302-5F

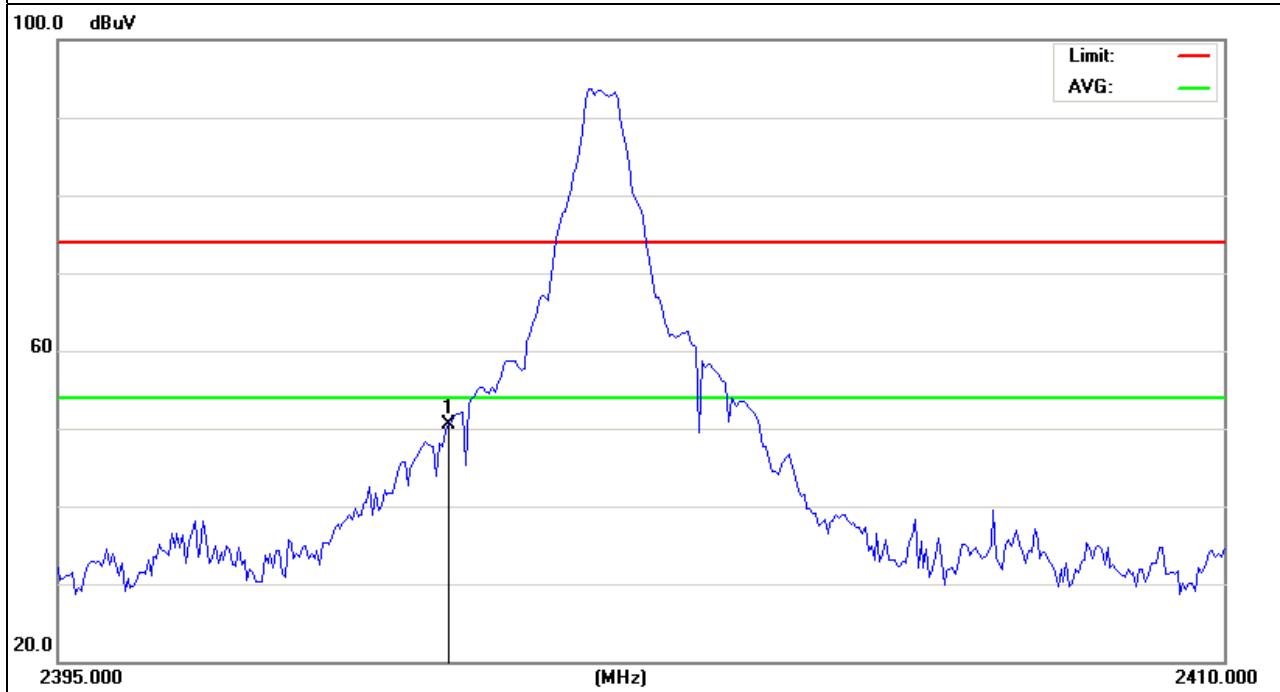
Page 25 of 51

Operation Mode:	RF	Test Date:	Mar.09, 2012
Temperature:	25°C	Tested by:	Jones Song
Humidity:	55 % RH	Polarization :	Horizontal
Remark	TX 2402MHz		

Frequency (MHz)	Meter Reading (dB $\mu$ V)	Factor (dB)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector Type
2400	63.4	-12.99	50.41	74	-23.59	peak

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



---

**DongGuan Precise Testing Service Co.,Ltd.**

F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China  
Tel: 86-769-23368601 Fax: 86-769-23368602 <http://www.pts-testing.com>



PRECISE TESTING

FCC ID: AVIGTL1218

Report No.: PTS20120302-5F

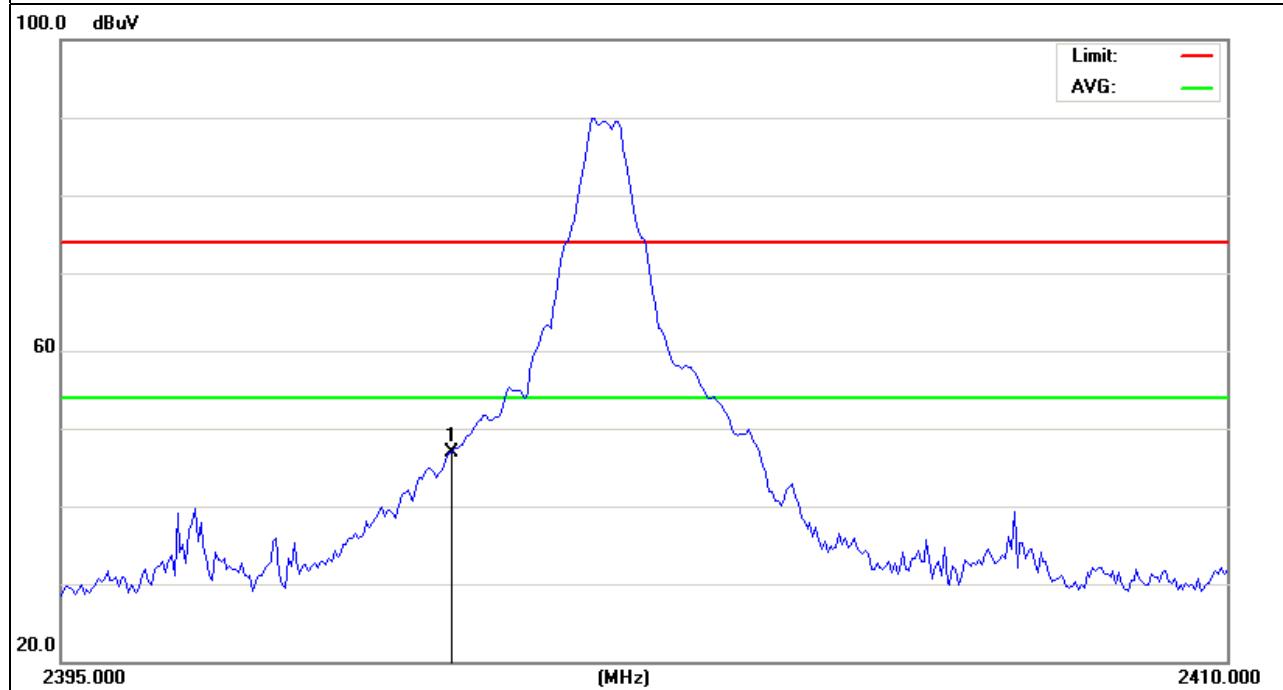
Page 26 of 51

Operation Mode:	RF	Test Date:	Mar.09, 2012
Temperature:	25°C	Tested by:	Jones Song
Humidity:	55 % RH	Polarization :	Vertical
Remark	TX 2402MHz		

Frequency (MHz)	Meter Reading (dB $\mu$ V)	Factor (dB)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector Type
2400	59.83	-12.99	46.84	74	-27.16	peak

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



---

DongGuan Precise Testing Service Co.,Ltd.

F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China  
Tel: 86-769-23368601 Fax: 86-769-23368602 <http://www.pts-testing.com>



PRECISE TESTING

FCC ID: AVIGTL1218

Report No.: PTS20120302-5F

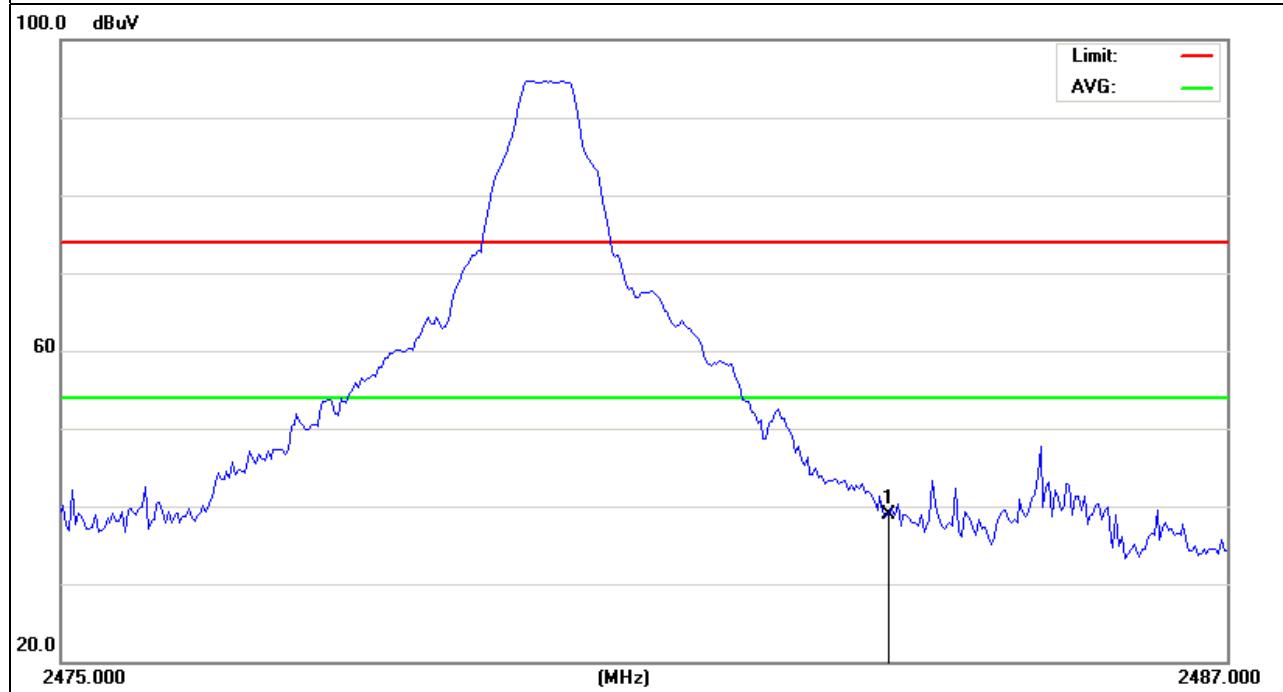
Page 27 of 51

Operation Mode:	RF	Test Date:	Mar.09, 2012
Temperature:	25°C	Tested by:	Jones Song
Humidity:	55 % RH	Polarization :	Horizontal
Remark	TX 2480MHz		

Frequency (MHz)	Meter Reading (dB $\mu$ V)	Factor (dB)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector Type
2483.5	51.63	-12.78	38.85	74	-35.15	peak

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



---

DongGuan Precise Testing Service Co.,Ltd.F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China  
Tel: 86-769-23368601 Fax: 86-769-23368602 <http://www.pts-testing.com>



PRECISE TESTING

FCC ID: AVIGTL1218

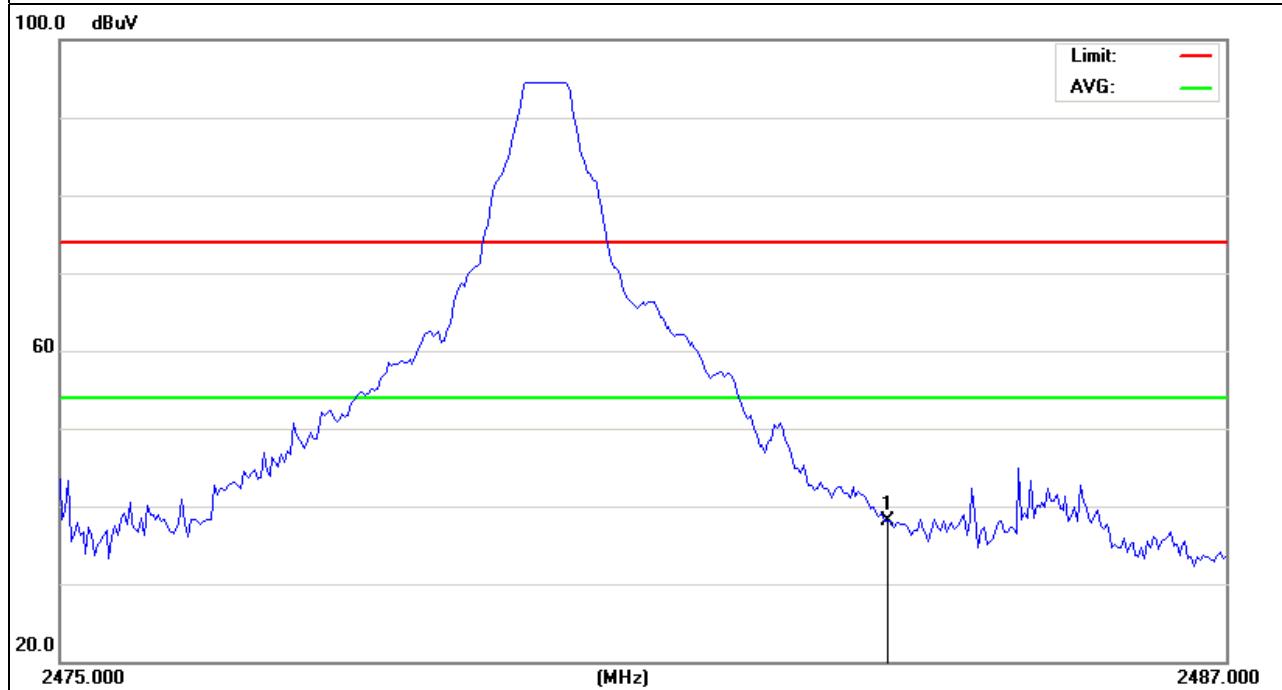
Report No.: PTS20120302-5F  
Page 28 of 51

Operation Mode:	RF	Test Date:	Mar.09, 2012
Temperature:	25°C	Tested by:	Jones Song
Humidity:	55 % RH	Polarization :	Vertical
Remark	TX 2480MHz		

Frequency (MHz)	Meter Reading (dB $\mu$ V)	Factor (dB)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector Type
2483.5	50.9	-12.78	38.12	74	-35.88	peak

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



---

DongGuan Precise Testing Service Co.,Ltd.F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China  
Tel: 86-769-23368601 Fax: 86-769-23368602 <http://www.pts-testing.com>

## RADIATED EMISSION

### MEASUREMENT PROCEDURE

- a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

The following table is the setting of spectrum analyzer and receiver.'

Spectrum Parameter	Setting
Start Frequency	1GHz
Stop Frequency	26.5GHz
RB/VB(Emission in restricted band)	1MHz/1MHz for Peak, 1MHz/10Hz for Average
RB/VB(Emission in non-restricted band)	1MHz/1MHz for Peak

Receiver Parameter	Setting
Start ~Stop Frequency	9KHz~150KHz/RB 200Hz for QP
Start ~Stop Frequency	150KHz~30MHz/RB 9KHz for QP
Start ~Stop Frequency	30MHz~1000MHz/RB 120KHz for QP

### TEST SET-UP

The Same as described in section 6.2

---

### DongGuan Precise Testing Service Co.,Ltd.

F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China  
Tel: 86-769-23368601      Fax: 86-769-23368602      <http://www.pts-testing.com>



PRECISE TESTING

FCC ID: AVIGTL1218

Report No.: PTS20120302-5F

Page 30 of 51

**TEST RESULT OF RADIATED EMISSION TEST (9KHz ~30MHz)**

Humidity:	55 % RH	Test Date:	Mar.09, 2012
Temperature:	25°C	Tested by:	Jones Song
Test Method	GFSK		

Operation Mode: RF Mode

Freq. (MHz)	Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	State
--	--	--	--	P/F
--	--	--	--	PASS
--	--	--	--	PASS

**NOTE:**

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor = $20 \log (\text{specific distance}/\text{test distance})$ (dB);

Limit line = specific limits(dBuv) + distance extrapolation factor.

---

**DongGuan Precise Testing Service Co.,Ltd.**

F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China  
Tel: 86-769-23368601 Fax: 86-769-23368602 <http://www.pts-testing.com>



PRECISE TESTING

FCC ID: AVIGTL1218

Report No.: PTS20120302-5F

Page 31 of 51

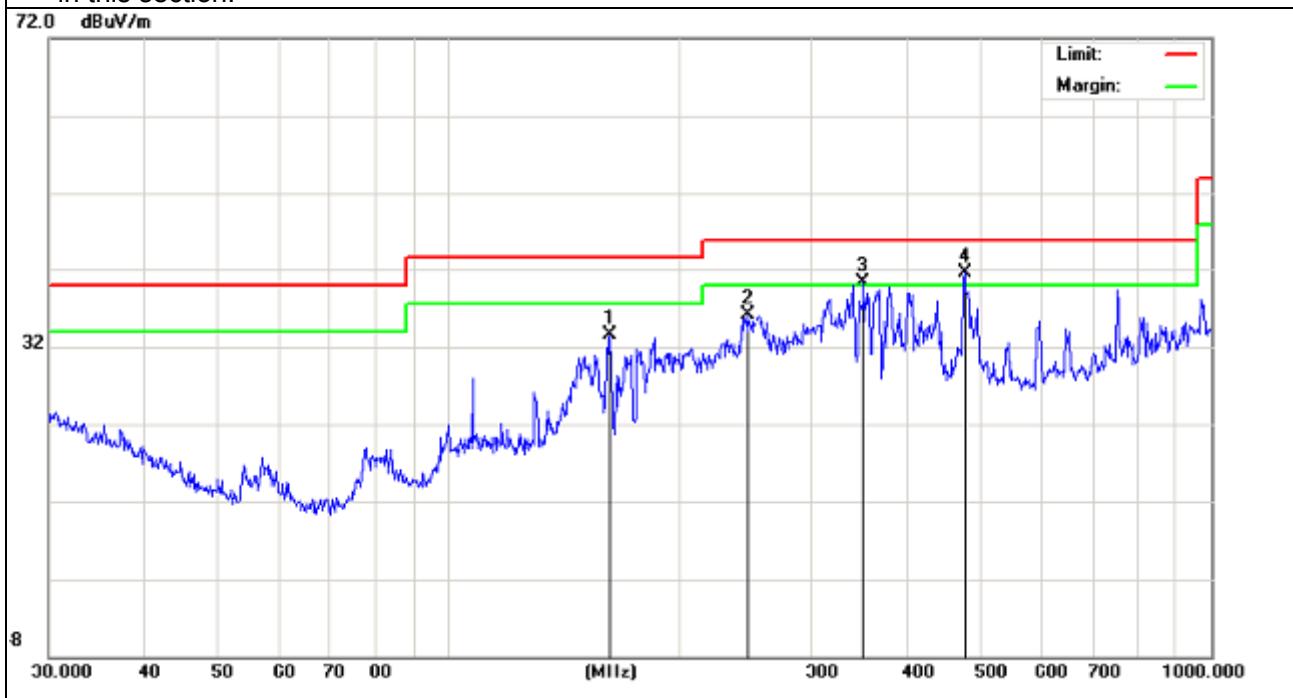
**TEST RESULT OF RADIATED EMISSION TEST (30MHZ-1GHZ)**

Operation Mode:	RF	Test Date:	Mar.09, 2012
Temperature:	25°C	Tested by:	Jones Song
Humidity:	55 % RH	Polarization :	Horizontal
Remark	TX		

Frequency (MHz)	Meter Reading (dB $\mu$ V)	Factor (dB)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector Type
162.6106	22.98	10.54	33.52	43.5	-9.98	Quasi-Peak
246.8146	23.53	12.57	36.1	46	-9.9	Quasi-Peak
350.4768	25.02	15.38	40.4	46	-5.6	Quasi-Peak
475.499	22.97	18.63	41.6	46	-4.4	Quasi-Peak

## Remark:

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. For the initial investigation on 2402MHz, 2441MHz, 2480MHz, no significant differences in radiated emissions were observed between these 3 modes. So test data for 2402MHz, 2480MHz was omitted in this section.

**DongGuan Precise Testing Service Co.,Ltd.**

F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China  
 Tel: 86-769-23368601 Fax: 86-769-23368602 <http://www.pts-testing.com>



PRECISE TESTING

FCC ID: AVIGTL1218

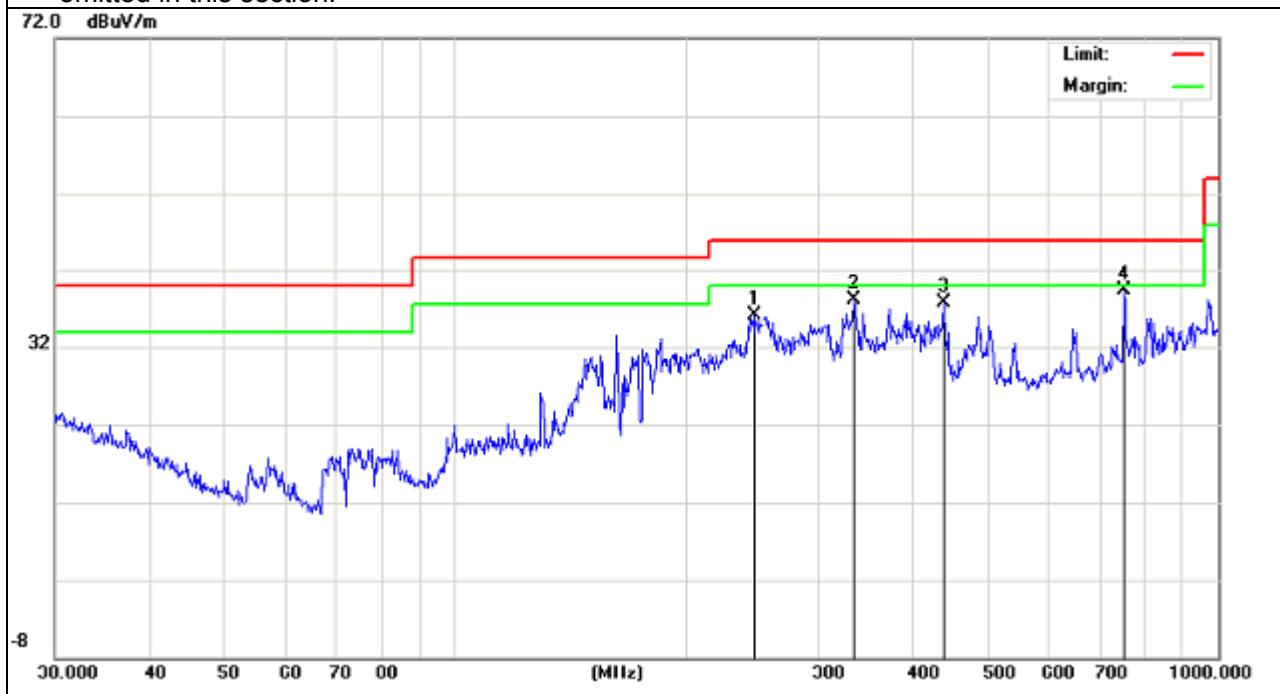
Report No.: PTS20120302-5F  
Page 32 of 51

Operation Mode:	RF	Test Date:	Mar.09, 2012
Temperature:	25°C	Tested by:	Jones Song
Humidity:	55 % RH	Polarization :	Vertical
Remark	TX		

Frequency (MHz)	Meter Reading (dB $\mu$ V)	Factor (dB)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector Type
246.8146	23.53	12.57	36.1	46	-9.9	Quasi-Peak
333.6865	23.1	15	38.1	46	-7.9	Quasi-Peak
438.6553	19.94	17.86	37.8	46	-8.2	Quasi-Peak
752.7432	14.92	24.3	39.22	46	-6.78	Quasi-Peak

## Remark:

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. For the initial investigation on 2402MHz, 2441MHz, 2480MHz, no significant differences in radiated emissions were observed between these 3 modes. So test data for 2402MHz, 2480MHz was omitted in this section.



DongGuan Precise Testing Service Co.,Ltd.

F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China  
Tel: 86-769-23368601 Fax: 86-769-23368602 <http://www.pts-testing.com>



PRECISE TESTING

FCC ID: AVIGTL1218

Report No.: PTS20120302-5F

Page 33 of 51

**TEST RESULT OF RADIATED EMISSION TEST (ABOVE 1GHZ)**

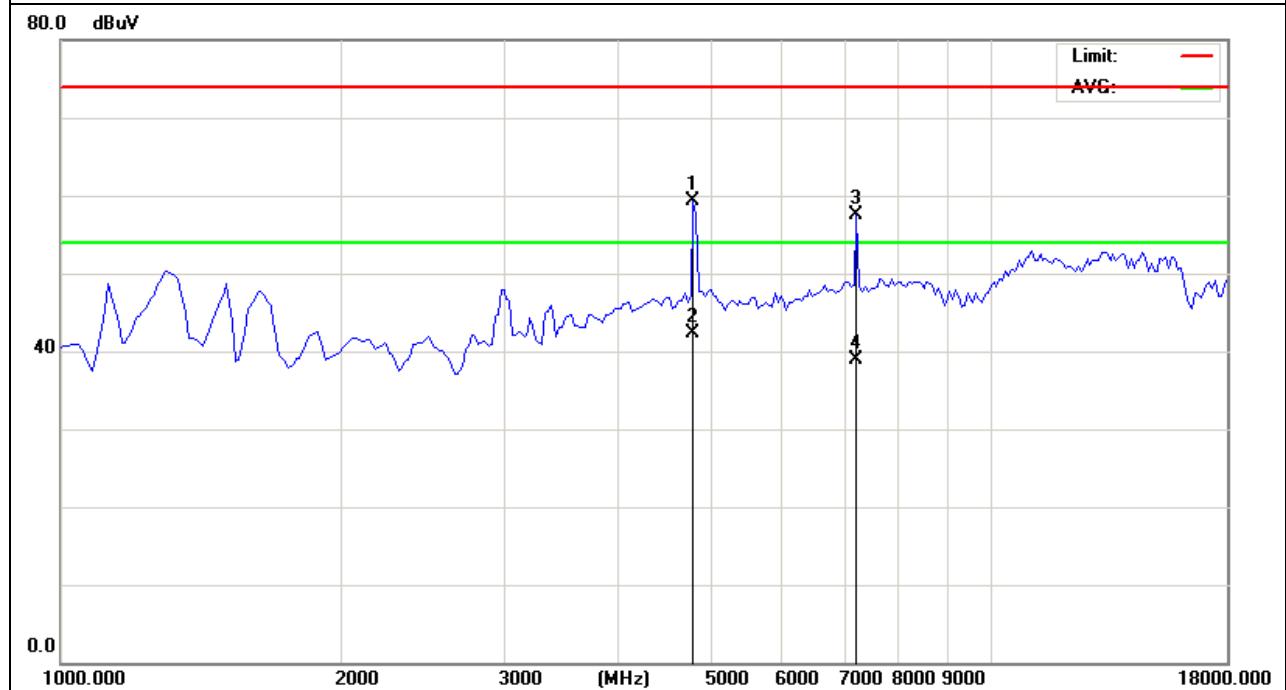
Operation Mode:	RF	Test Date:	Mar.09, 2012
Temperature:	25°C	Tested by:	Jones Song
Humidity:	55 % RH	Polarization :	Horizontal
Remark	TX 2402MHz		

Frequency (MHz)	Meter Reading (dB $\mu$ V)	Factor (dB)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector Type
**4804	62.94	-3.59	59.35	74	-14.65	peak
4804	45.86	-3.59	42.27	54	-11.73	AVG
7206	58.44	-0.96	57.48	74	-16.52	peak
7206	39.95	-0.96	38.99	54	-15.01	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Above 18GHz no emission

**DongGuan Precise Testing Service Co.,Ltd.**F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China  
Tel: 86-769-23368601 Fax: 86-769-23368602 <http://www.pts-testing.com>



PRECISE TESTING

FCC ID: AVIGTL1218

Report No.: PTS20120302-5F  
Page 34 of 51

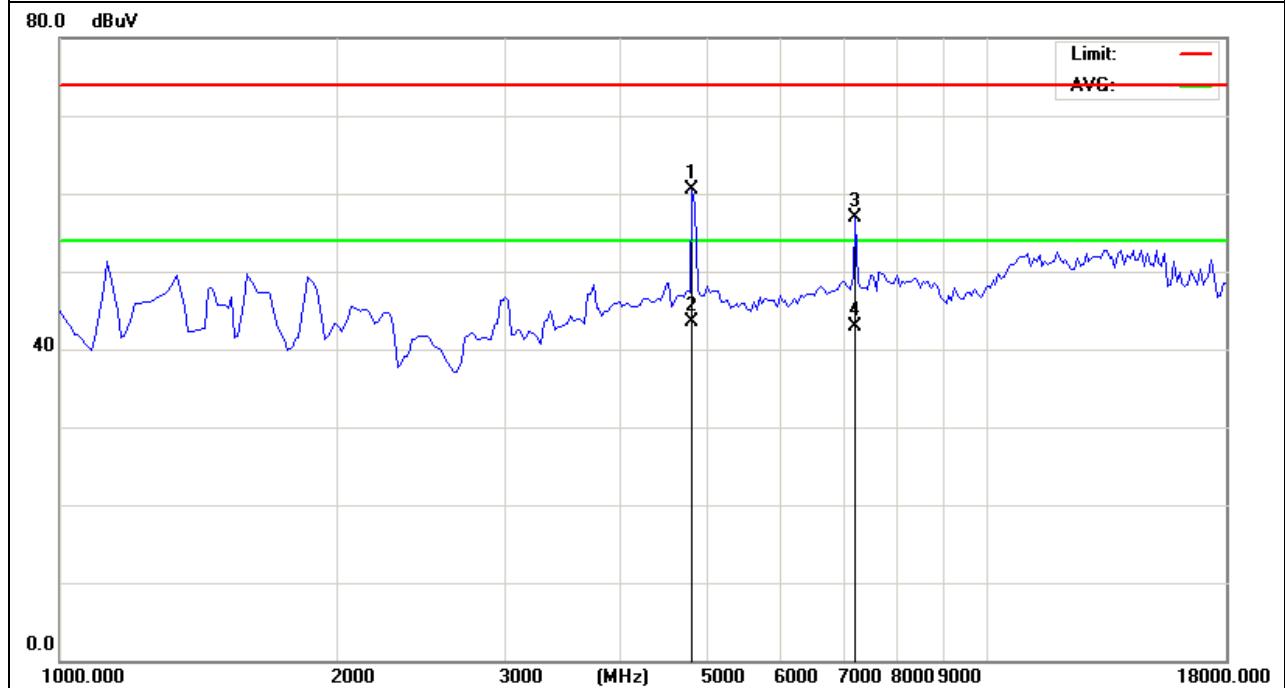
Operation Mode:	RF	Test Date:	Mar.09, 2012
Temperature:	25°C	Tested by:	Jones Song
Humidity:	55 % RH	Polarization :	Vertical
Remark	TX 2402MHz		

Frequency (MHz)	Meter Reading (dB $\mu$ V)	Factor (dB)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector Type
**4804	64.13	-3.59	60.54	74	-13.46	peak
4804	47.09	-3.59	43.5	54	-10.5	AVG
7206	57.93	-0.96	56.97	74	-17.03	peak
7206	43.95	-0.96	42.99	54	-11.01	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Above 18GHz no emission

**DongGuan Precise Testing Service Co.,Ltd.**F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China  
Tel: 86-769-23368601 Fax: 86-769-23368602 <http://www.pts-testing.com>



PRECISE TESTING

FCC ID: AVIGTL1218

Report No.: PTS20120302-5F  
Page 35 of 51

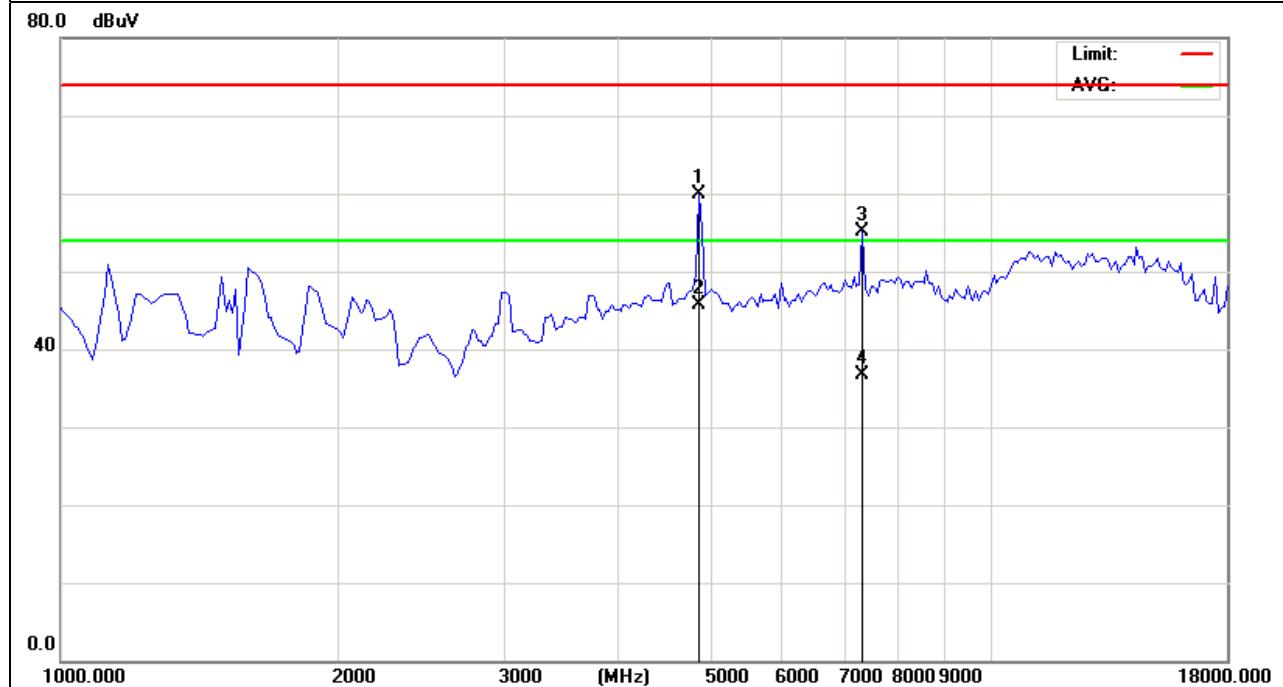
Operation Mode:	RF	Test Date:	Mar.09, 2012
Temperature:	25°C	Tested by:	Jones Song
Humidity:	55 % RH	Polarization :	Horizontal
Remark	TX 2441MHz		

Frequency (MHz)	Meter Reading (dB $\mu$ V)	Factor (dB)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector Type
**4882	63.61	-3.61	60	74	-14	peak
4882	49.23	-3.61	45.62	54	-8.38	AVG
7323	55.88	-0.82	55.06	74	-18.94	peak
7323	37.56	-0.82	36.74	54	-17.26	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Above 18GHz no emission

**DongGuan Precise Testing Service Co.,Ltd.**F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China  
Tel: 86-769-23368601 Fax: 86-769-23368602 <http://www.pts-testing.com>



PRECISE TESTING

FCC ID: AVIGTL1218

Report No.: PTS20120302-5F

Page 36 of 51

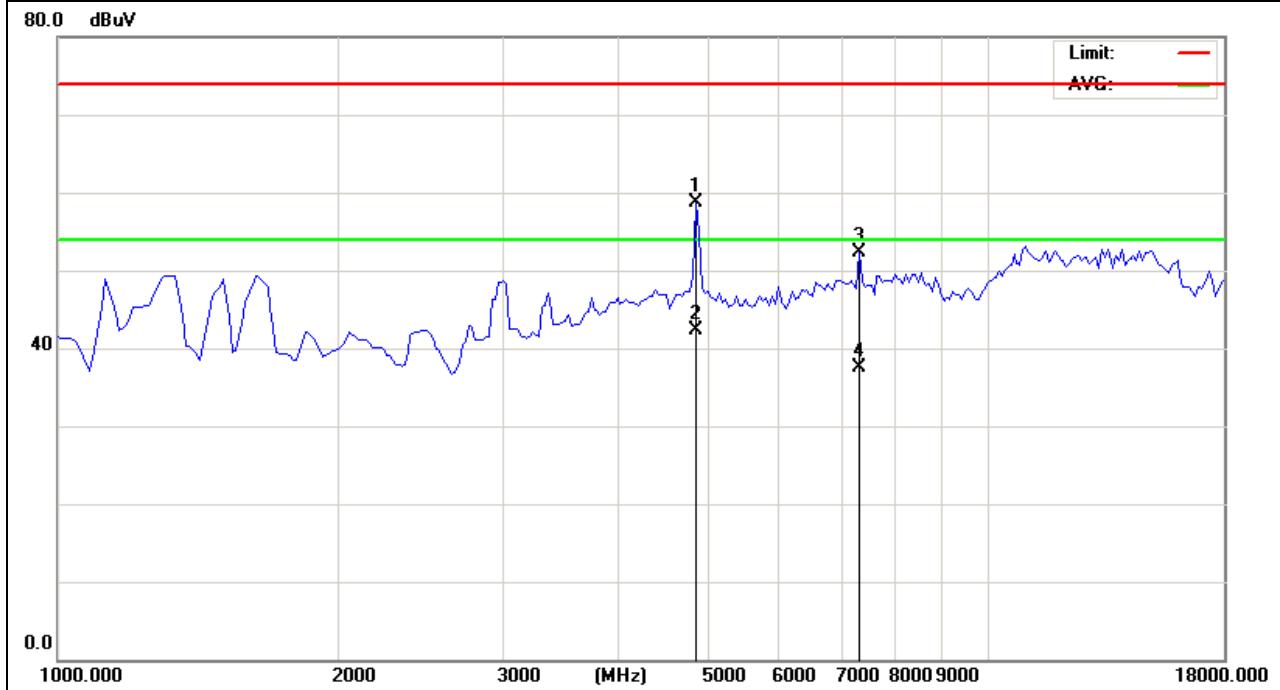
Operation Mode:	RF	Test Date:	Mar.09, 2012
Temperature:	25°C	Tested by:	Jones Song
Humidity:	55 % RH	Polarization :	Vertical
Remark	TX 2441MHz		

Frequency (MHz)	Meter Reading (dB $\mu$ V)	Factor (dB)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector Type
**4882	62.27	-3.61	58.66	74	-15.34	peak
4882	46.01	-3.61	42.4	54	-11.6	AVG
7323	53.1	-0.82	52.28	74	-21.72	peak
7323	38.31	-0.82	37.49	54	-16.51	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifie

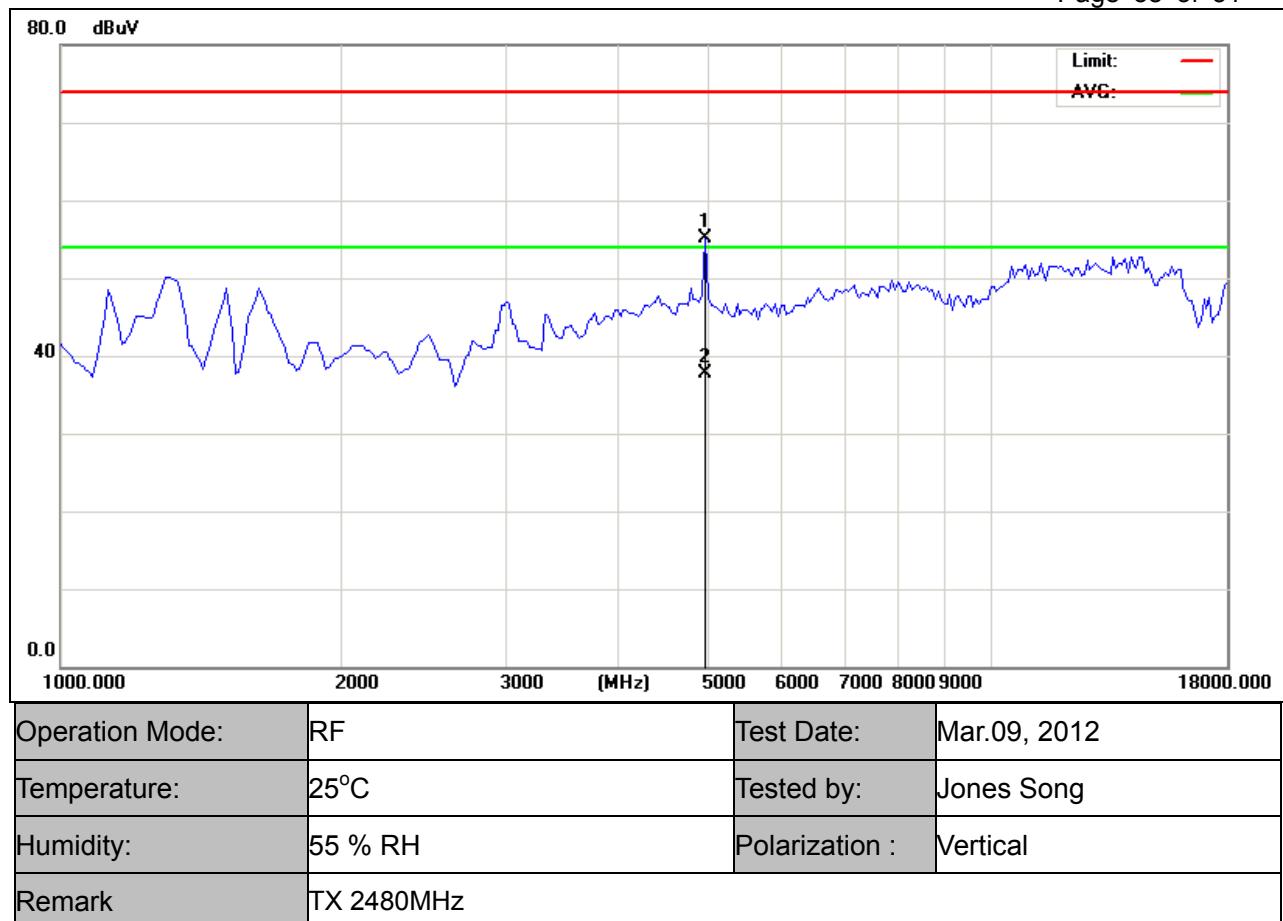
Above 18GHz no emission

**DongGuan Precise Testing Service Co.,Ltd.**F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China  
Tel: 86-769-23368601 Fax: 86-769-23368602 <http://www.pts-testing.com>

Operation Mode:	RF	Test Date:	Mar.09, 2012
Temperature:	25°C	Tested by:	Jones Song
Humidity:	55 % RH	Polarization :	Horizontal
Remark	TX 2480MHz		

Frequency (MHz)	Meter Reading (dB $\mu$ V)	Factor (dB)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector Type
**4960	58.68	-3.55	55.13	74	-18.87	peak
4960	41.21	-3.55	37.66	54	-16.34	AVG

Remark:  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.  
Above 18GHz no emission



Frequency (MHz)	Meter Reading (dB $\mu$ V)	Factor (dB)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector Type
**4960	60.34	-3.55	56.79	74	-17.21	peak
4960	46.21	-3.55	42.66	54	-11.34	AVG
7440	52.74	-0.68	52.06	74	-21.94	peak
7440	37.51	-0.68	36.83	54	-17.17	AVG

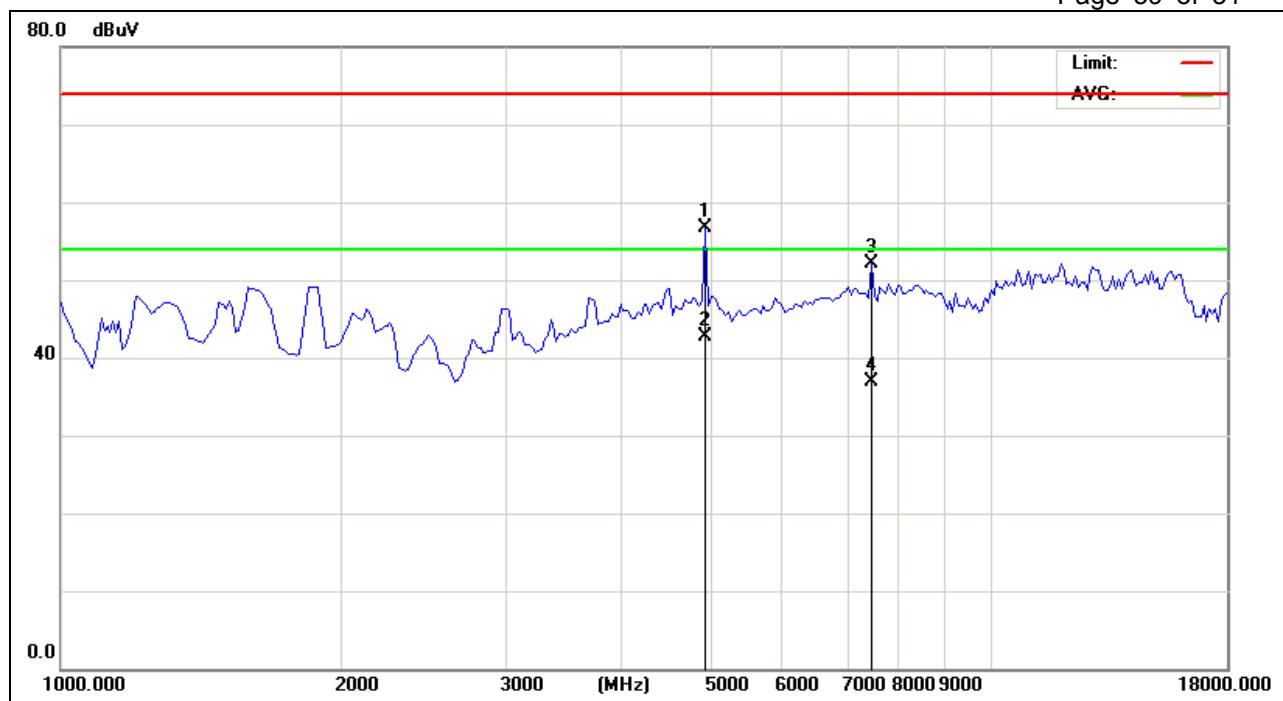
Remark:  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.  
Above 18GHz no emission



PRECISE TESTING

FCC ID: AVIGTL1218

Report No.: PTS20120302-5F  
Page 39 of 51



---

**DongGuan Precise Testing Service Co.,Ltd.**

F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China  
Tel: 86-769-23368601      Fax: 86-769-23368602      <http://www.pts-testing.com>

## 10. NUMBER OF HOPPING FREQUENCY

### 10.1 MEASUREMENT PROCEDURE

1. Place the EUT on the table and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum analyzer.
3. Set Span = the frequency band of operation  
 RBW  $\geq$  1% of the span  
 VBW  $\geq$  RBW  
 Sweep = auto  
 Detector function = peak  
 Trace = max hold

### 10.2 TEST SETUP (BLOCK DIAGRAM OF CONFIGURATION)

Same as described in section 6.2

1. Conducted Method.

### 10.3 MEASUREMENT EQUIPMENT USED

The Same as described in section 6.3

### 10.4 LIMITS AND MEASUREMENT RESULT:

TOTAL NO. OF HOPPING CHANNEL	LIMIT (NO. OF CH)	MEASUREMENT (NO. OF CH)	RESULT
	$\geq 15$	79	PASS



PRECISE TESTING

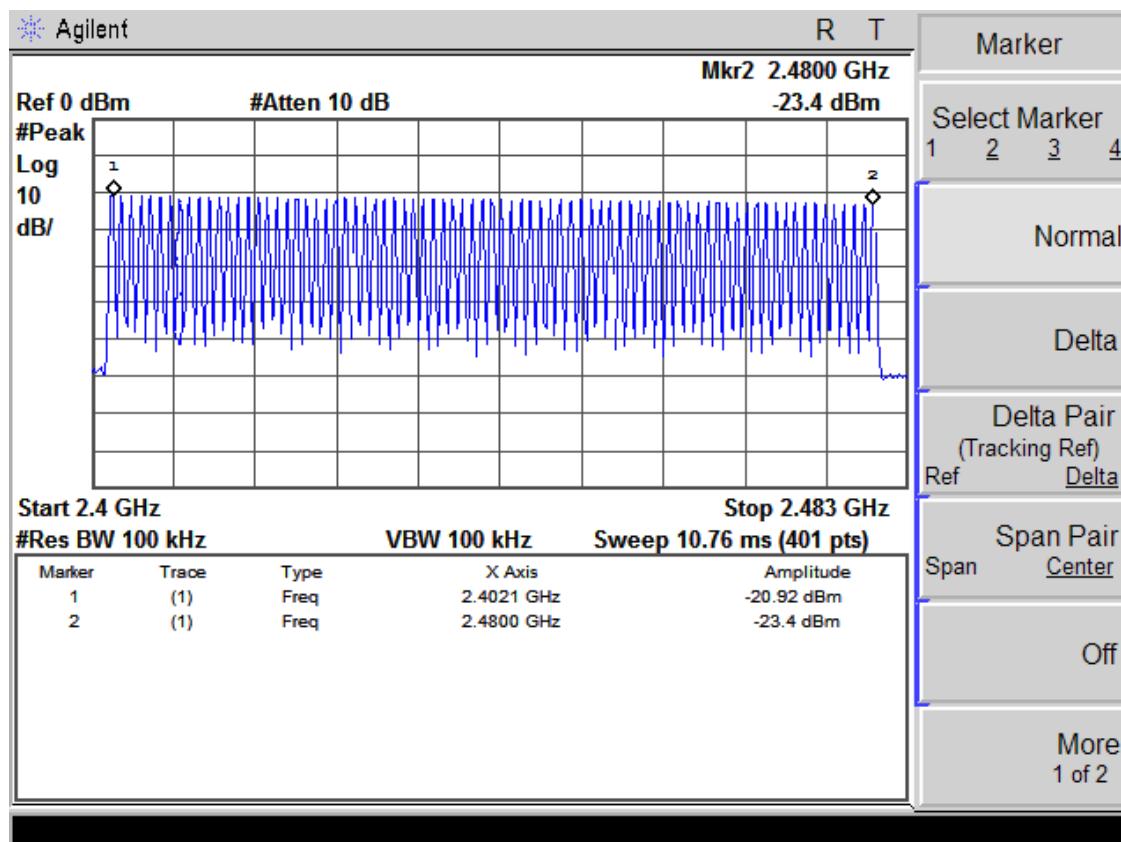
FCC ID: AVIGTL1218

Report No.: PTS20120302-5F

Page 41 of 51

Humidity:	55 % RH	Test Date:	Mar.09, 2012
Temperature:	25°C	Tested by:	Jones Song

### NUMBER OF HOPPING CHANNEL PLOT ON CHANNEL 0~78



---

**DongGuan Precise Testing Service Co.,Ltd.**

F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China  
Tel: 86-769-23368601      Fax: 86-769-23368602      <http://www.pts-testing.com>

## 11. TIME OF OCCUPANCY (DWELL TIME)

### 11.1 MEASUREMENT PROCEDURE

1. Place the EUT on the table and set it in transmitting mode
2. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum analyzer
3. Set center frequency of spectrum analyzer = Operating frequency
4. Set the spectrum analyzer as RBW, VBW=1MHz, Span = 0 Hz,

### 11.2 TEST SETUP (BLOCK DIAGRAM OF CONFIGURATION)

Same as described in section 6.2

Conducted Method

### 11.3 MEASUREMENT EQUIPMENT USED

The same as described in section 2.4

### 11.4 LIMITS AND MEASUREMENT RESULT

Mode	Spectrum Reading	Test Result	Limit	Pass / Fail
	(uS)	(mS)	(mS)	
DH5	3112	331	400	Pass

Remark:

A Period Time =  $79*0.4=31.6$  S

DH1 Time Slot: Reading \* (1600/2)\*31.6/79

DH3 Time Slot: Reading \* (1600/4)\*31.6/79

DH5 Time Slot: Reading \* (1600/6)\*31.6/79

The dwell time is showed the maximum data of all data (DH1, DH3, DH5), DH5 of mode have the maximum dwell time.



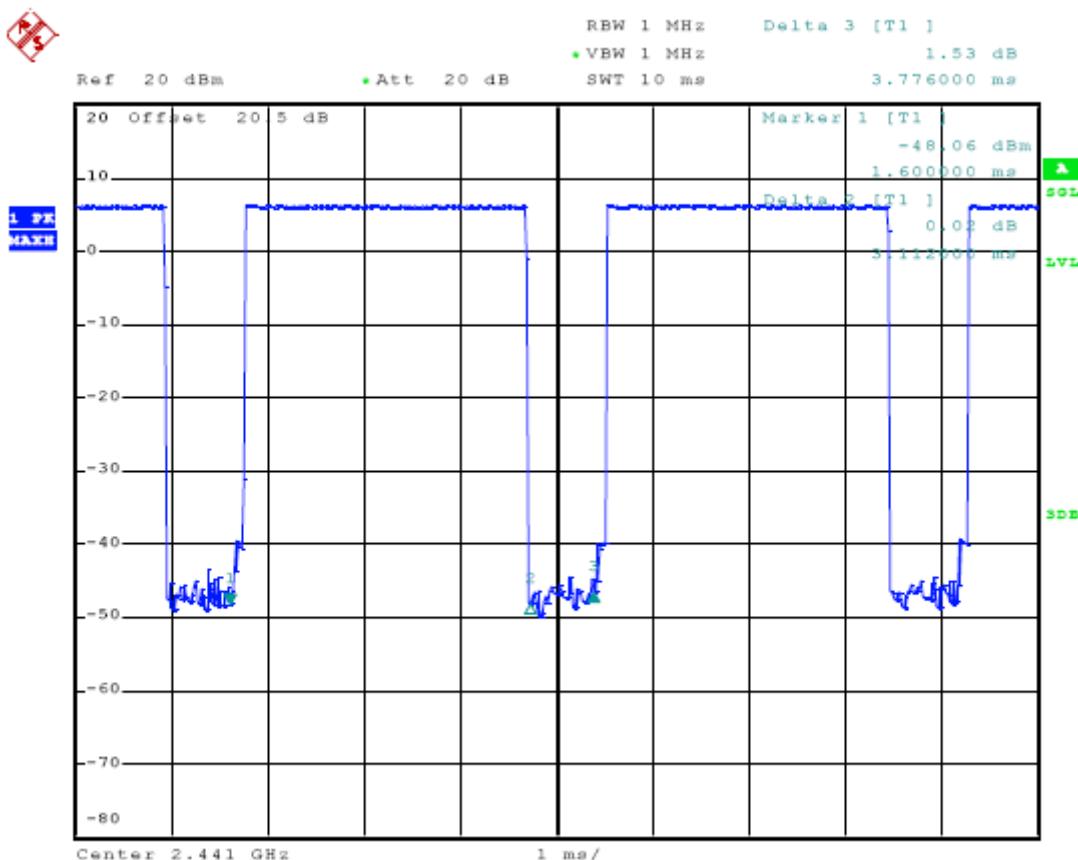
PRECISE TESTING

FCC ID: AVIGTL1218

Report No.: PTS20120302-5F  
Page 43 of 51

Humidity:	55 % RH	Test Date:	Mar.09, 2012
Temperature:	25°C	Tested by:	Jones Song
Configurations	DH5		

### DH5 Dwell Time (One Pulse) Plot on Channel 39



---

**DongGuan Precise Testing Service Co.,Ltd.**

F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China  
Tel: 86-769-23368601      Fax: 86-769-23368602      <http://www.pts-testing.com>



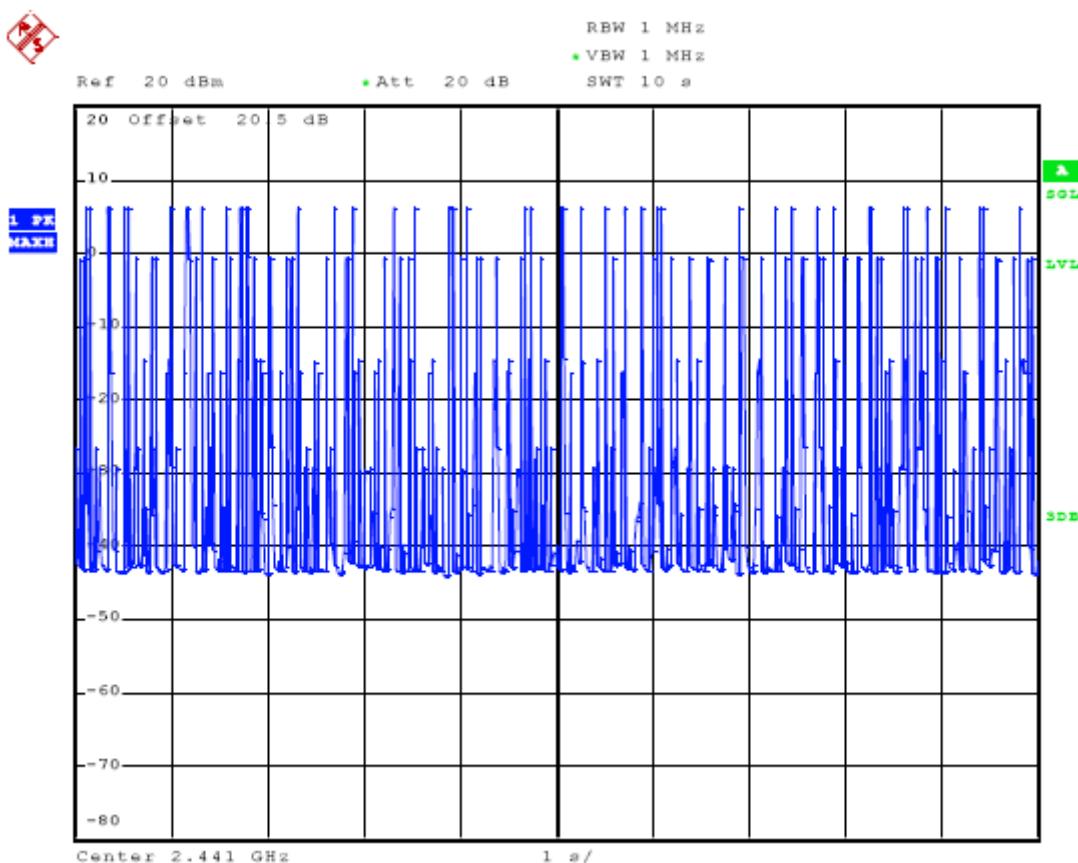
PRECISE TESTING

FCC ID: AVIGTL1218

Report No.: PTS20120302-5F

Page 44 of 51

**DH5 Dwell Time (Count Pulses) Plot on Channel 39**



---

**DongGuan Precise Testing Service Co.,Ltd.**

F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China  
Tel: 86-769-23368601      Fax: 86-769-23368602      <http://www.pts-testing.com>

## 12. FREQUENCY SEPARATION

### 12.1 MEASUREMENT PROCEDURE

1. Place the EUT on the table and set it in transmitting mode
2. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum analyzer
3. Set Span = wide enough to capture the peaks of two adjacent channels  
 Resolution (or IF) Bandwidth (RBW)  $\geq$  1% of the span  
 Video (or Average) Bandwidth (VBW)  $\geq$  RBW  
 Sweep = auto  
 Detector function = peak  
 Trace = max hold

### 12.2 TEST SETUP (BLOCK DIAGRAM OF CONFIGURATION)

Same as described in section 6.2

### 12.3 MEASUREMENT EQUIPMENT USED

The same as described in section 2.4

### 12.4 LIMITS AND MEASUREMENT RESULT

CHANNEL	Channel separation
CH00-CH01	1002KHz
CH39-CH40	1008KHz
CH77-CH78	1002KHz
LIMIT	$\geq$ 25 KHz or 2/3 20 dB BW
RESULT	Pass



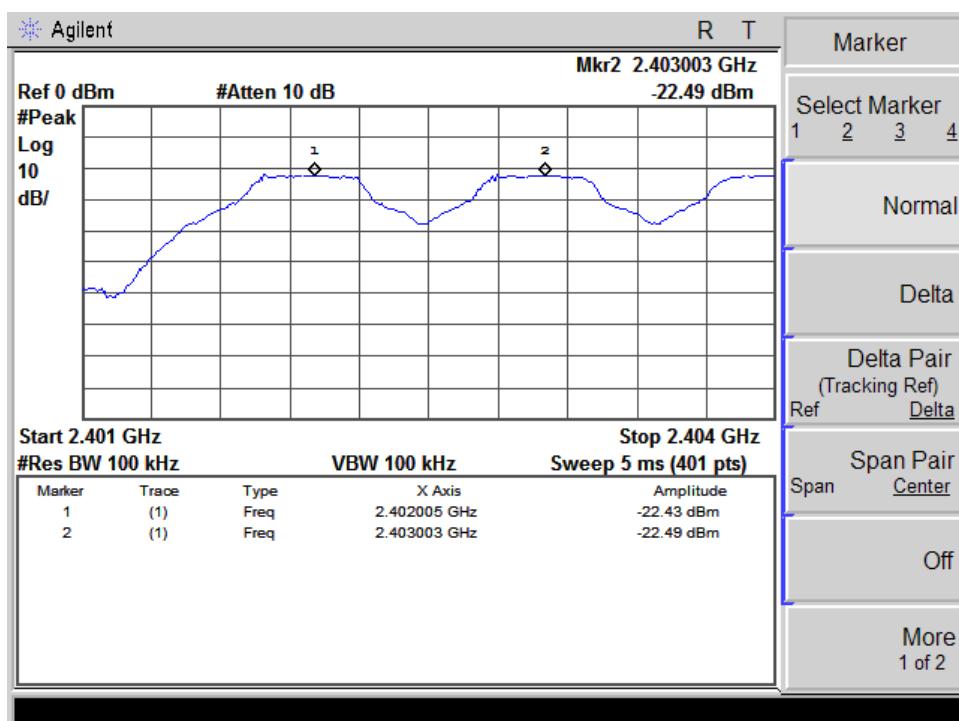
PRECISE TESTING

FCC ID: AVIGTL1218

Report No.: PTS20120302-5F  
Page 46 of 51

Humidity:	55 % RH	Test Date:	Mar.09, 2012
Temperature:	25°C	Tested by:	Jones Song
Configurations	Channel 0-1, channel39-40, channel78-79		

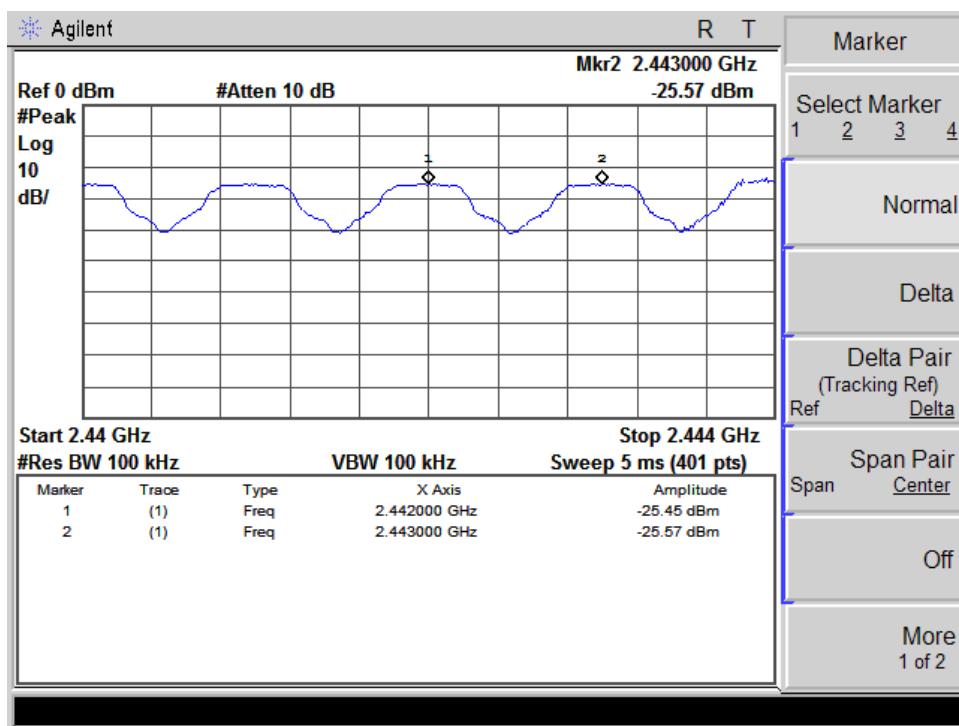
## TEST PLOT FOR FREQUENCY SEPARATION –CHANNEL0-1



---

DongGuan Precise Testing Service Co.,Ltd.F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China  
Tel: 86-769-23368601      Fax: 86-769-23368602      <http://www.pts-testing.com>

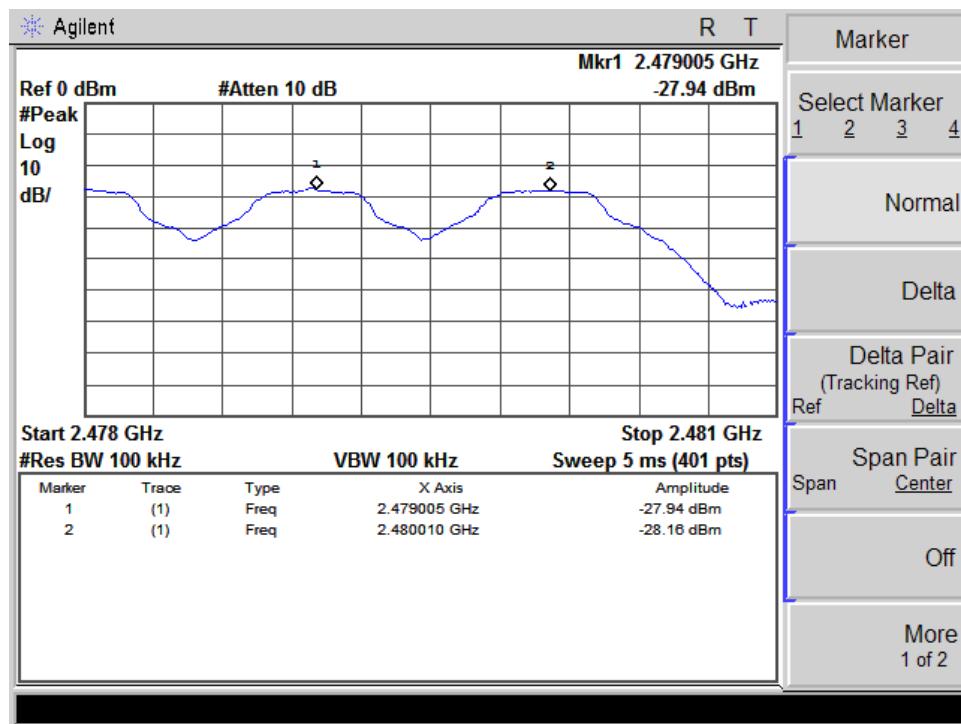
TEST PLOT FOR FREQUENCY SEPARATION –CHANNEL39-40



**DongGuan Precise Testing Service Co.,Ltd.**

F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China  
Tel: 86-769-23368601      Fax: 86-769-23368602      <http://www.pts-testing.com>

TEST PLOT FOR FREQUENCY SEPARATION -CHANNEL



**DongGuan Precise Testing Service Co.,Ltd.**

F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China  
 Tel: 86-769-23368601      Fax: 86-769-23368602      <http://www.pts-testing.com>

## 13 ANTENNA REQUIREMENT

### 13.1 STANDARD REQUIREMENT

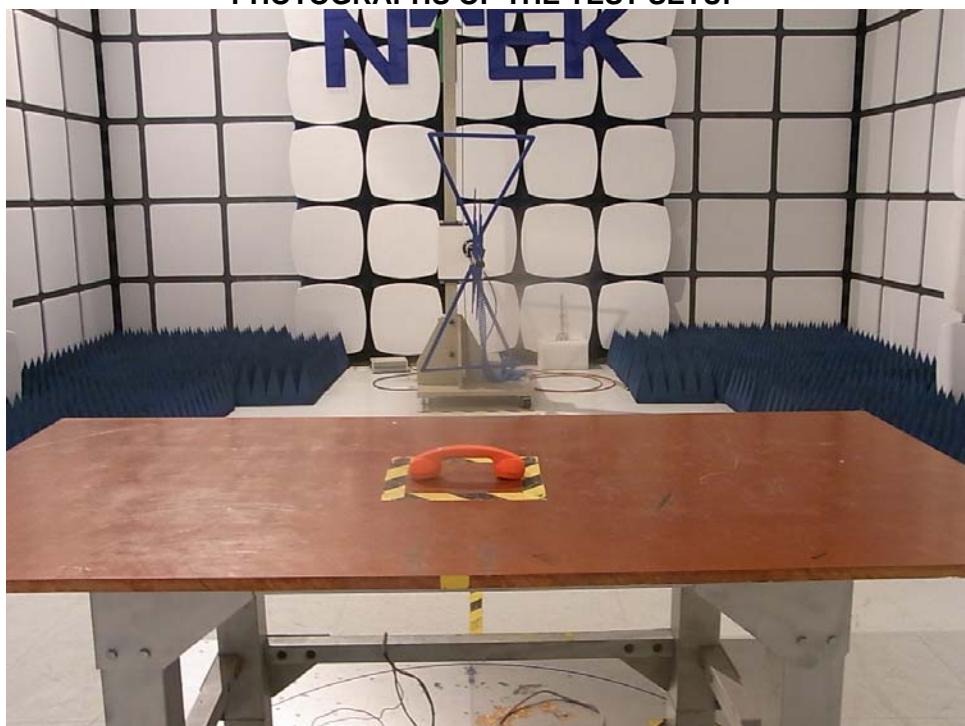
15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

### 13.2 EUT ANTENNA

The EUT antenna is integral Antenna. It comply with the standard requirement.

**PPENDIX 1**

**PHOTOGRAPHS OF THE TEST SETUP**

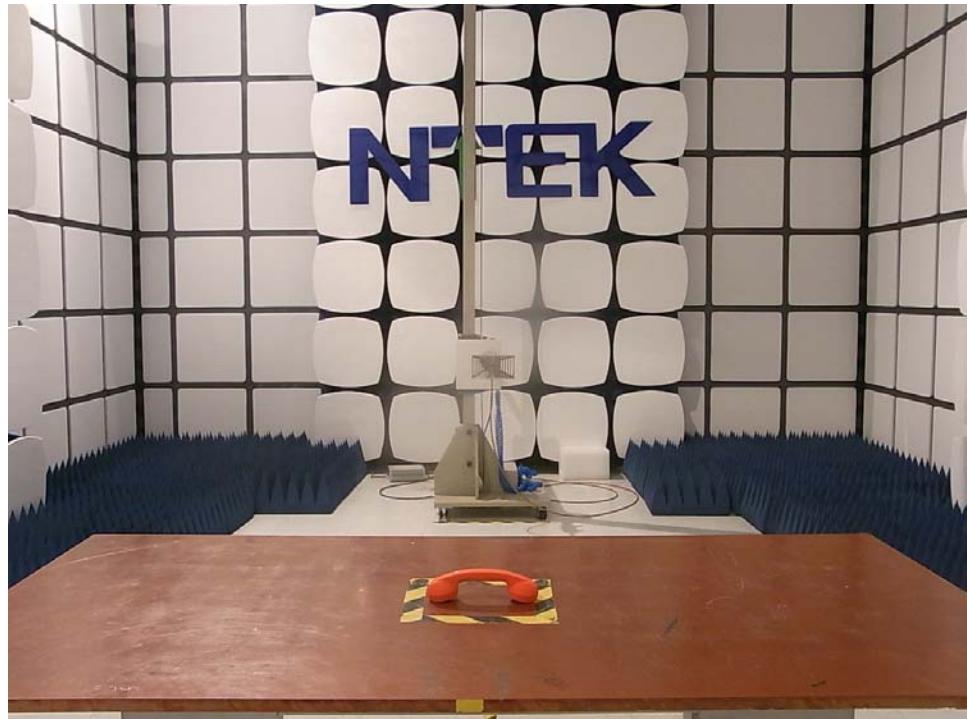


---

**DongGuan Precise Testing Service Co.,Ltd.**

F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China  
Tel: 86-769-23368601      Fax: 86-769-23368602      <http://www.pts-testing.com>

**PHOTOGRAPHS OF THE TEST SETUP (>1GHZ)**



**--- END OF REPORT ---**

---

**DongGuan Precise Testing Service Co.,Ltd.**

F616A Room, 6th Floor, Meixin Business Center, Dongcheng Middle Road, Dongguan, Guangdong, China  
Tel: 86-769-23368601      Fax: 86-769-23368602      <http://www.pts-testing.com>