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# FCC Test Report

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Report No.: AGC10091012SZ08F1

**TEST NAME** : FCC Part 15  
**FCC ID** : YTK-BPW24  
**PRODUCT DESIGNATION** : Wrist Blood Pressure  
**BRAND NAME** : Boston Life Labs  
**TEST MODEL** : BPW 2.4  
**CLIENT** : Boston Life Labs LLC.  
**DATE OF ISSUE** : Dec.29, 2010  
**STANDARD(S)** : FCC Part 15 Rules

## Attestation of Global Compliance Co., Ltd.

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## VERIFICATION OF COMPLIANCE

Applicant:	Boston Life Labs LLC.
Address	Cambridge Innovation Center, One Broadway 14 <sup>th</sup> , Cambridge, MA 02142, USA
Manufacturer Name:	Boston Life Labs LLC.(Shenzhen)
Address:	2107S, Building C, Tiley Plaza( II ), Nanshan Central District, Shenzhen, 518067,China
Product Description:	Wrist Blood Pressure
Brand Name:	Boston Life Labs
Model Name:	BPW 2.4
Model Difference	N/A
FCC ID	YTK-BPW24
Report Number:	AGC10091012SZ08F1
Date of Test:	Dec. 24, 2010 to Dec.30, 2010

### WE HEREBY CERTIFY THAT:

The above equipment was tested by Shenzhen Attestation of Global Compliance Science & Technology 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 (2003) and the energy emitted by the sample EUT tested as described in this report is in compliance with radiated emission limits of FCC Rules Part 15.247.

Checked By:

*Jekey Zhang*

Jekey Zhang Dec.30, 2010

Authorized By:

*King Zhang*

King Zhang Dec.30, 2010

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## 1. GENERAL INFORMATION

### 1.1 PRODUCT DESCRIPTION

The EUT is a **Wrist Blood Pressure**; 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	BT(1Mbps): 0.21dBm BT EDR(2Mbps): 2.4dBm BT EDR(3Mbps): 2.53dBm
Modulation	BT(1Mbps): GFSK BT EDR(2Mbps): $\Pi/4$ -DQPSK BT EDR(3Mbps): 8-DPSK
Number of channels	79
Antenna Designation	Integrated Antenna
Antenna Gain	0.78dBi
Power Supply	DC 3V(User two identical 1.5V alkaline batteries type AAA LR03)

### 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 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

#### 1.5EQUALLY 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.

## **1.6 RELATED SUBMITTAL(S) / GRANT (S)**

This submittal(s) (test report) is intended for **FCC ID: YTK-BPW24** filing to comply with Section 15.247 of the FCC Part 15, Subpart C Rules.

## **1.7 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.

## **1.8 TEST FACILITY**

All measurement facilities used to collect the measurement data are located at  
Attestation of Global Compliance Co., Ltd.

1F, No.2 Building, Huafeng No.1 Technical,Industrial Park, Sanwei, Xixiang, Baoan District,,

Shenzhen, China

The test site is constructed and calibrated to meet the FCC requirements in documents ANSI C63.4: 2003.  
FCC register No.: 259865

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.

## **1.9 SPECIAL ACCESSORIES**

Not available for this EUT intended for grant.

## 2. SYSTEM TEST CONFIGURATION

### 2.1 CONFIGURATION OF TESTED SYSTEM



### 2.2 EQUIPMENT USED IN TESTED SYSTEM

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID
1	Wrist Blood Pressure	Boston Life Labs	BPW 2.4	YTK-BPW24

### 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

### 4. DESCRIPTION OF TEST MODES

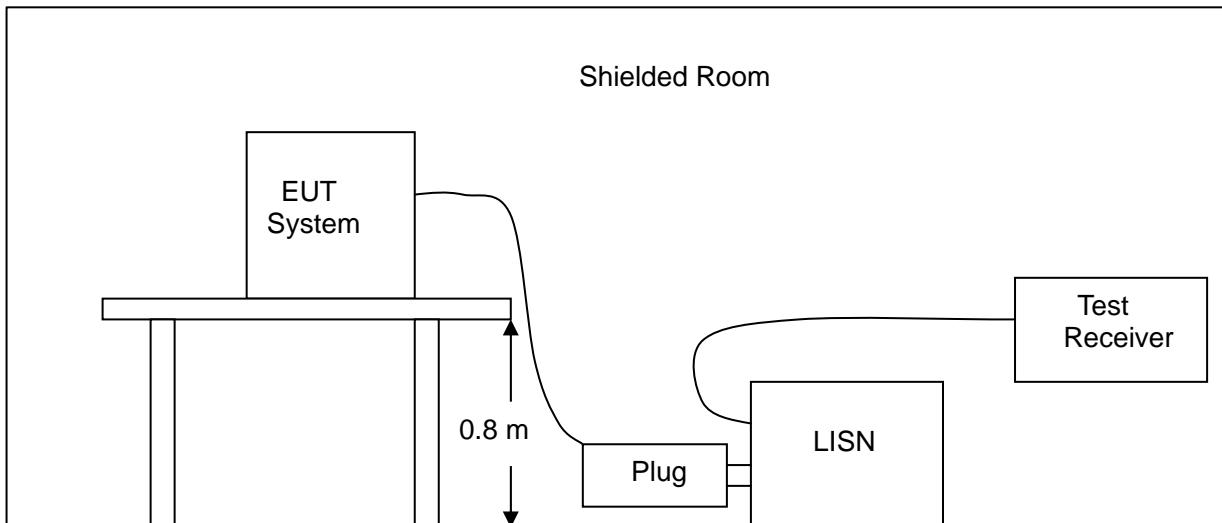
1. The EUT has been set to operate continuously on the lowest, the middle and the highest operation frequency individually.
2. The EUT stays in continuous transmitting mode on the operation frequency being set.

## 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 DC3.0V 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 MEASUREMENT EQUIPMENT USED:

Conducted Emission Test Site				
Name of Equipment	Manufacturer	Model	Serial Number	Cal. Date
Test Receiver	Rohde & Schwarz	ESCS30	828985/018	05/29/2011
LISN	Rohde & Schwarz	ESH2-Z5	834549/005	05/29/2011
LISN	Rohde & Schwarz	ESH2-Z5	834549/005	05/29/2011
50 Ω Coaxial Switch	Anritsu	MP59B	M20531	05/29/2011

#### 5.4 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

1\*\*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

#### TEST RESULT :

N/A

## 6. MAXIMUM OUTPUT POWER

### 6.1 MEASUREMENT PROCEDURE:

#### CONDUCTED METHOD

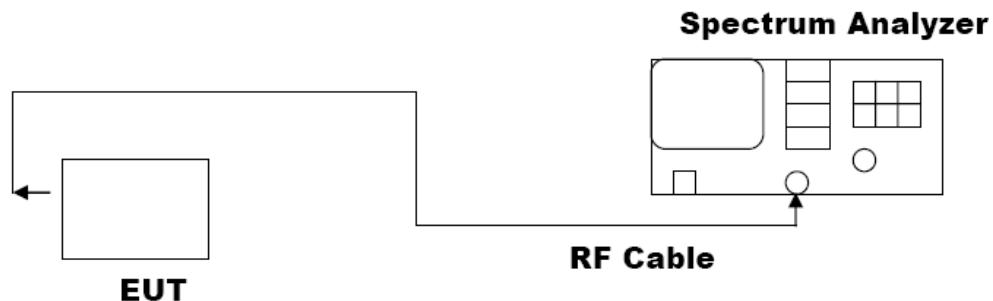
1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
3. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
4. Set SPA Centre Frequency = Operation Frequency, RBW= 1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

#### RADIATED METHOD

According to ANSI C63.4:2003

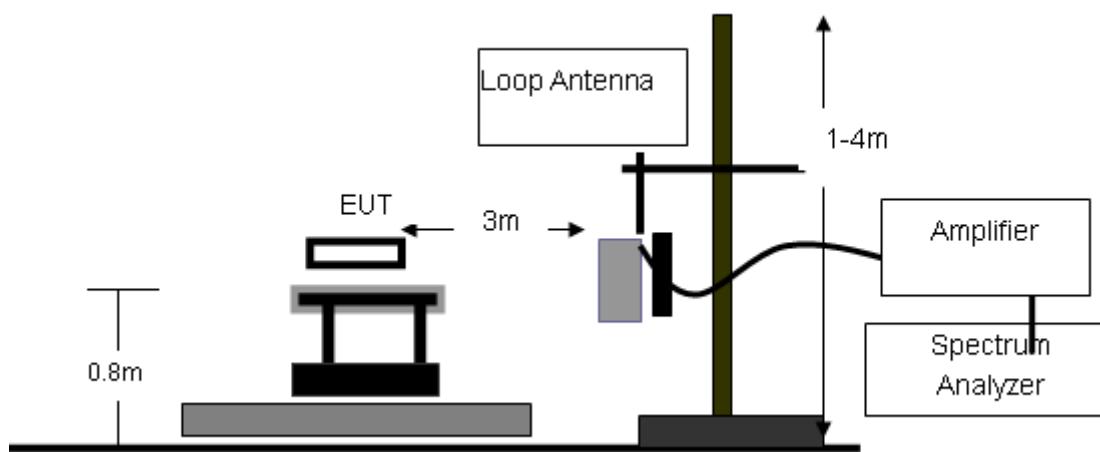
### 6.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

#### CONDUCTED METHOD

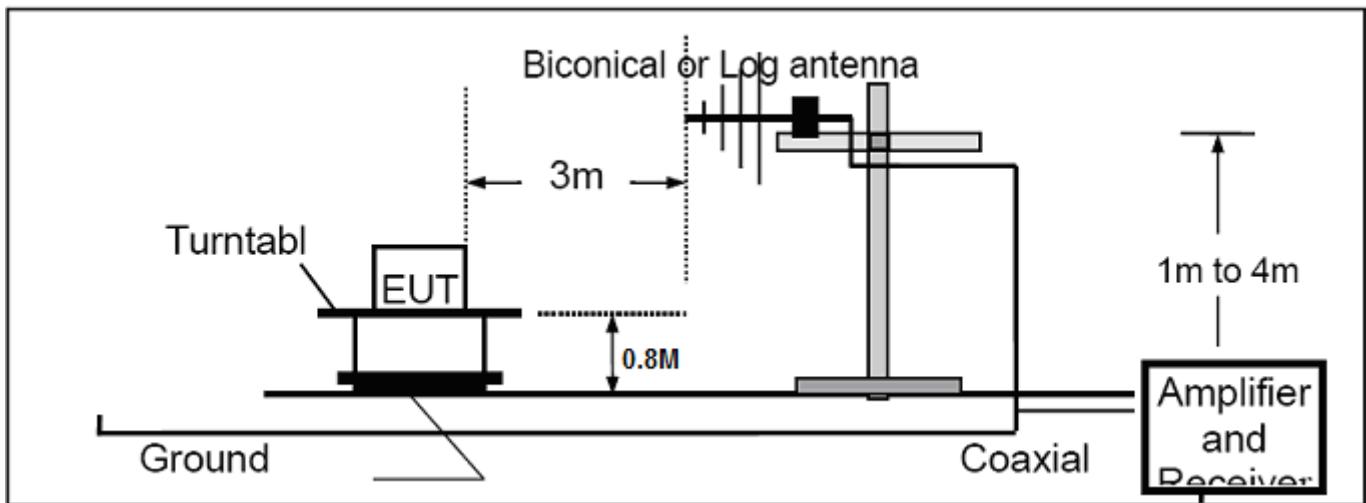


#### RADIATED EMISSION TEST SETUP

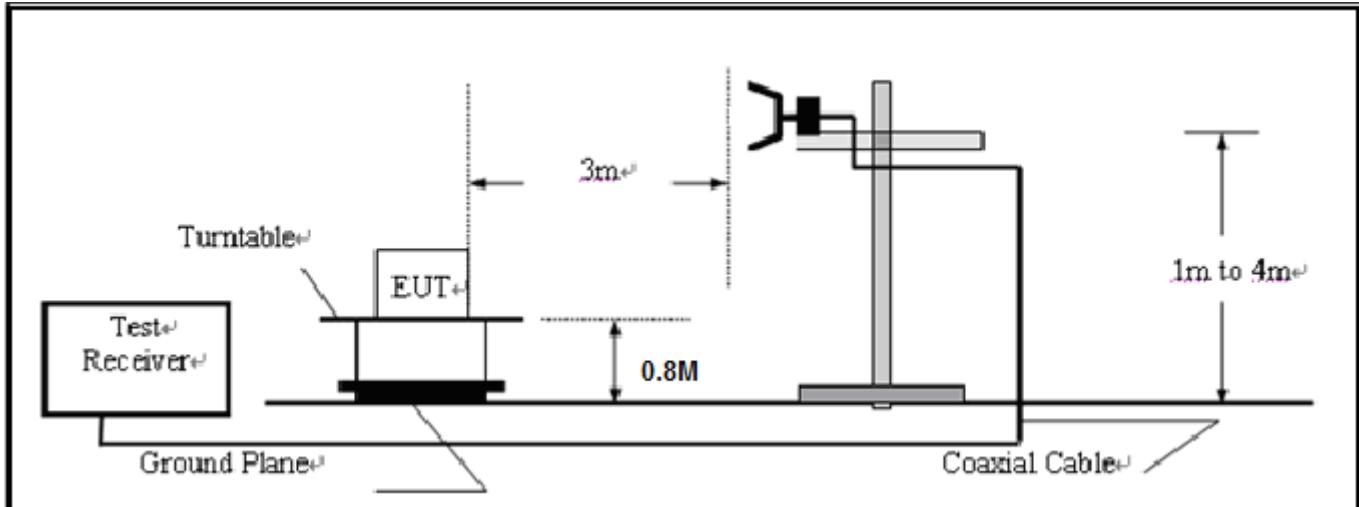
RADIATED MISSION TEST SETUP BELOW 30MHz



RADIATED MISSION TEST SETUP 30MHz-1000MHz

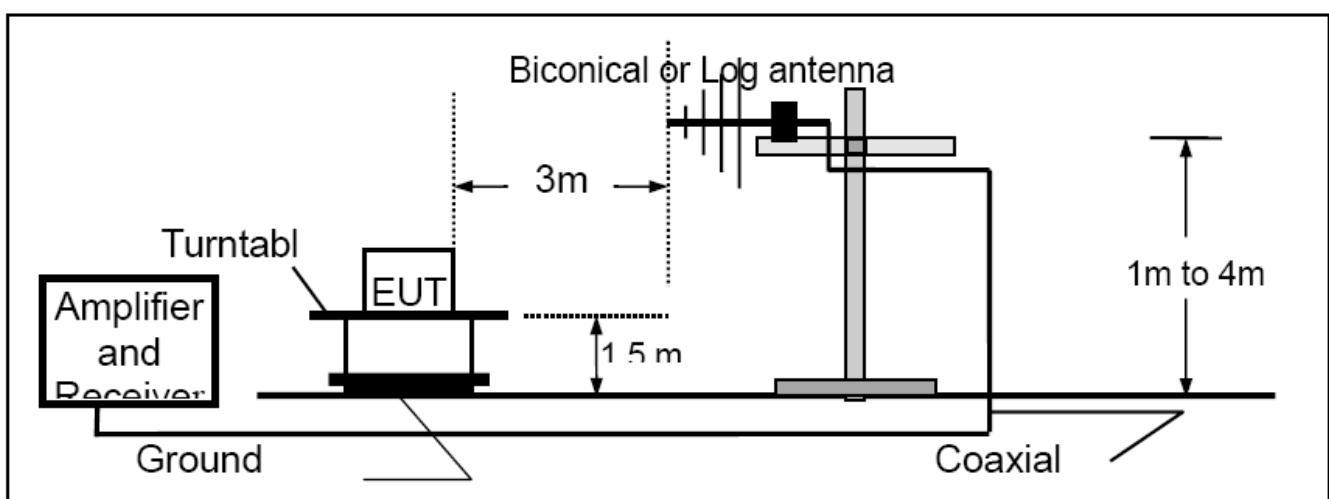


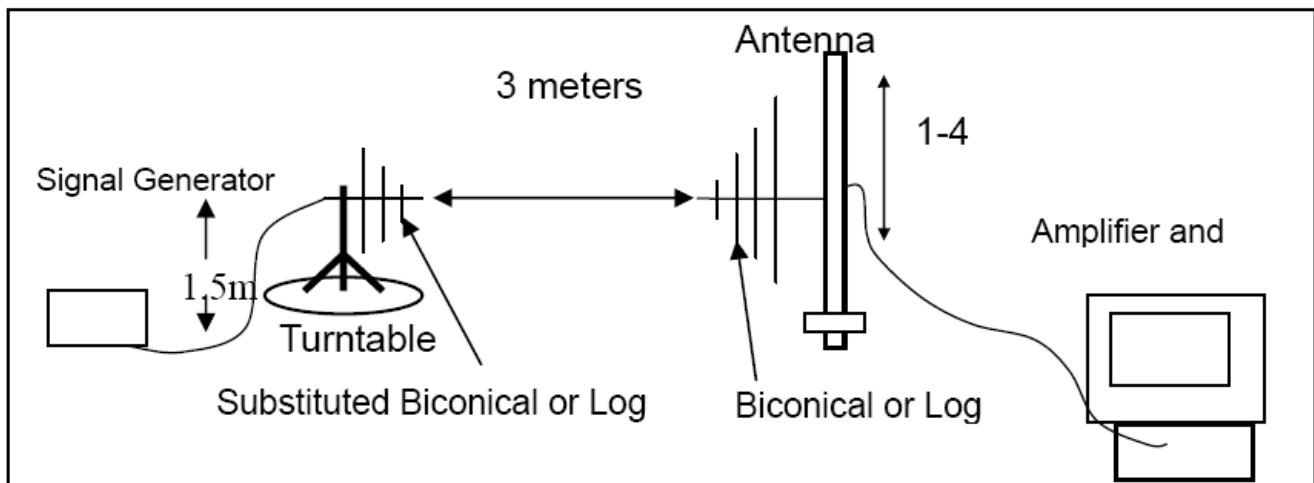
RADIATED MISSION TEST SETUP ABOVE 1000MHz



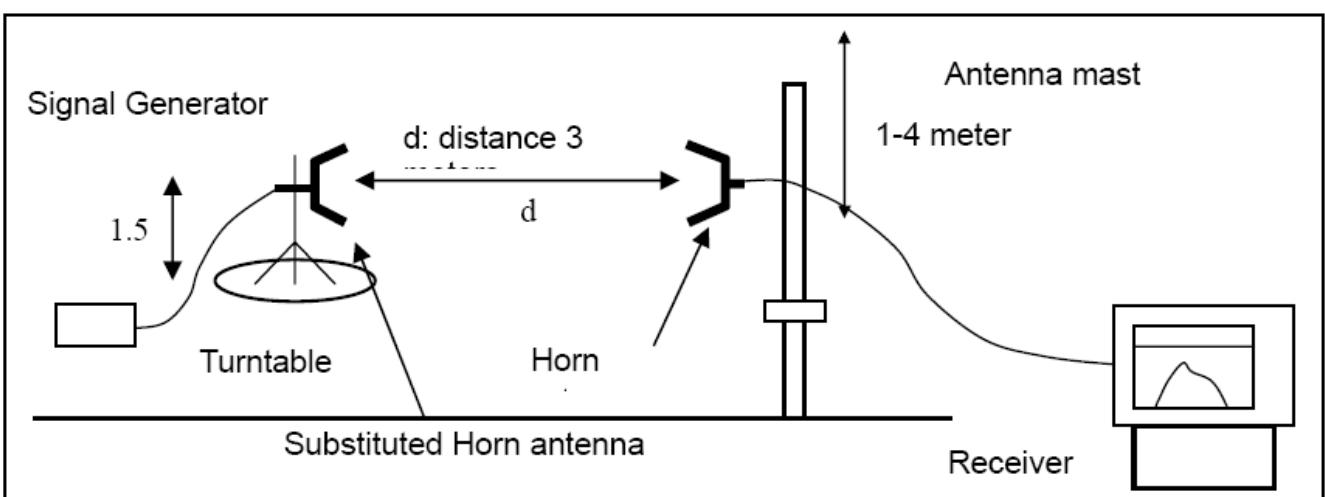
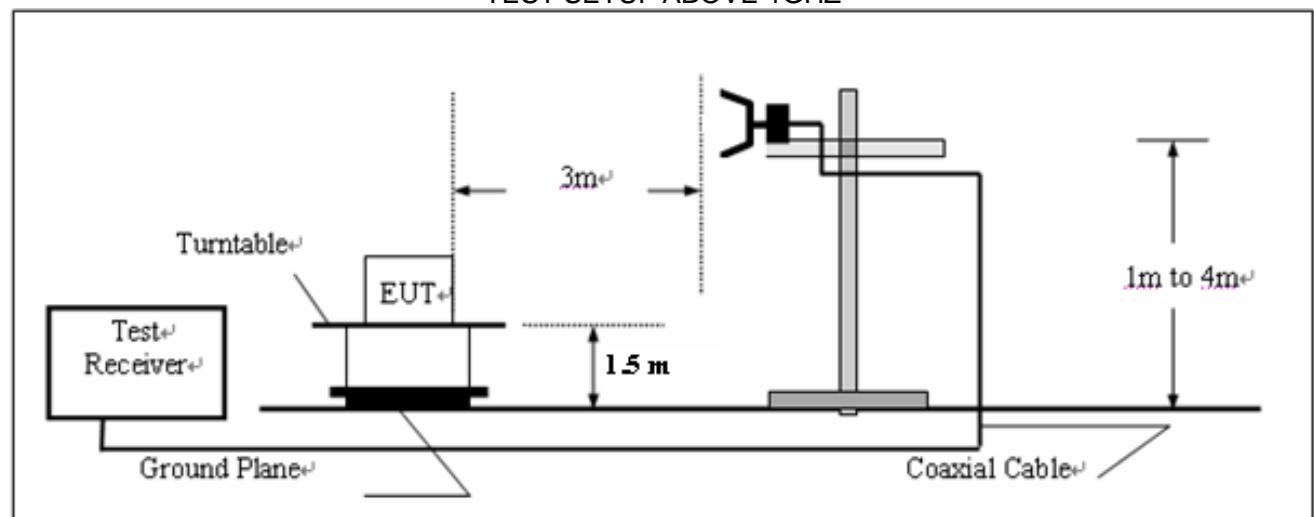
EIRP TEST SETUP

TEST SETUP BELOW 1GHZ





TEST SETUP ABOVE 1GHZ



**6.3 MEASUREMENT EQUIPMENT USED:**

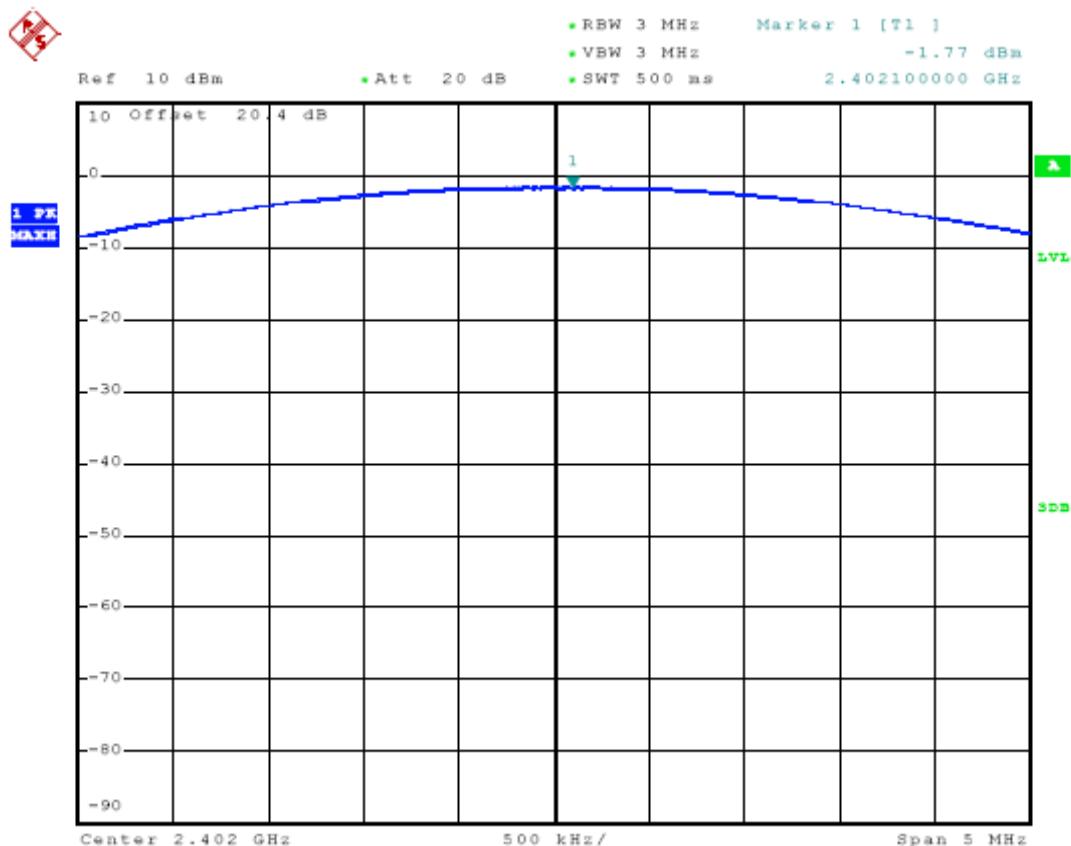
<b>Description</b>	<b>Manufacturer</b>	<b>Model</b>	<b>SERIAL NUMBER</b>	<b>Cal. Date</b>	<b>Cal. Due</b>
Spectrum Analyzer	Rohde & Schwarz	FSEM30	849720/019	05/29/2010	05/29/2011
Amplifier	H.P.	8449B	3008A00277	05/29/2010	05/29/2011
Horn Antenna	Sunol Sciences	DRH-118	A052604	05/29/2010	05/29/2011
Horn Antenna	A.H. Systems Inc.	SAS-574	--	05/29/2010	05/29/2011
EMI Test Receiver	Rohde & Schwarz	ESCI	100028	05/29/2010	05/29/2011
Amplifier	H.P.	HP8447E	1937A01046	05/29/2010	05/29/2011
Broadband Antenna	Sunol Sciences	JB1	A040904-2	05/29/2010	05/29/2011
LOOP ANTENNA	R&S	HM525	--	05/29/2010	05/29/2011

#### 6.4 LIMITS AND MEASUREMENT RESULT:

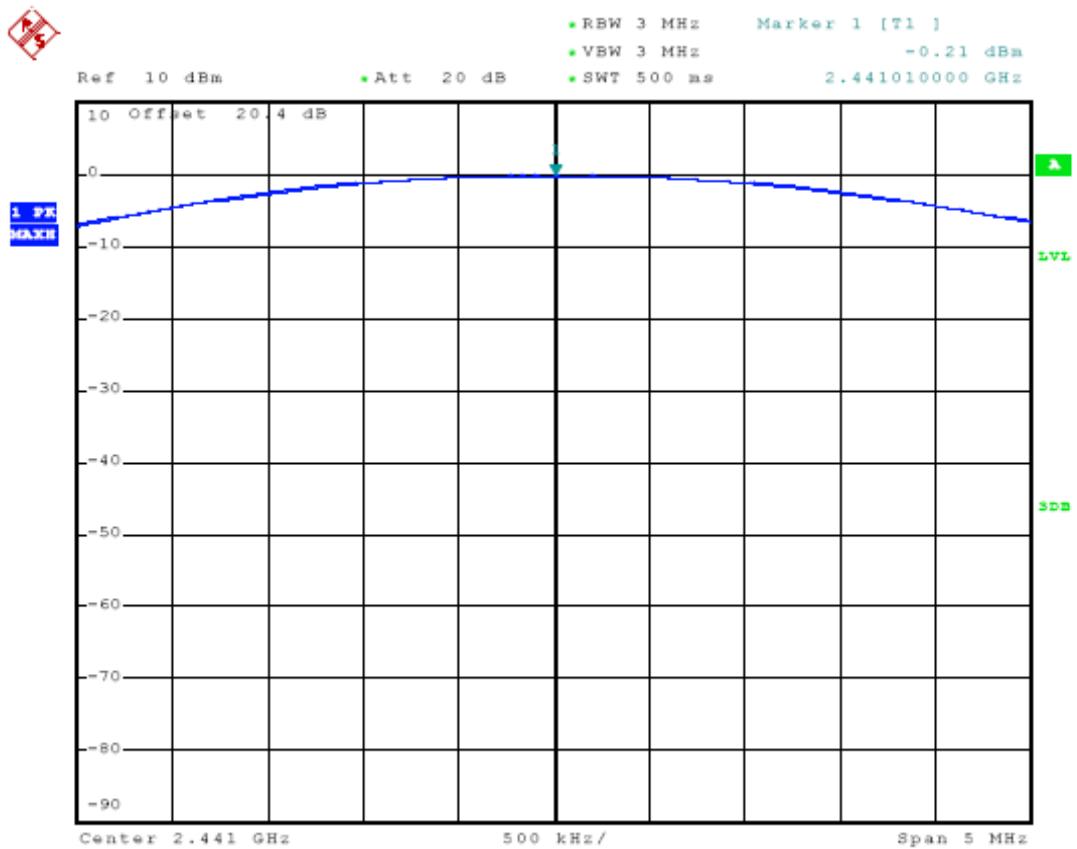
Operation Mode: **RF MODE(GFSK: 1Mbps)** Test Date: Dec.28, 2010  
Temperature: 25°C Tested by: Jekey Zhang  
Humidity: 55 % RH

Channel	Frequency (MHz)	Reading (dBm)	Limit (dBm)	Result
0	2402	-1.77	30	Pass
39	2441	-0.21	30	Pass
78	2480	-0.69	30	Pass

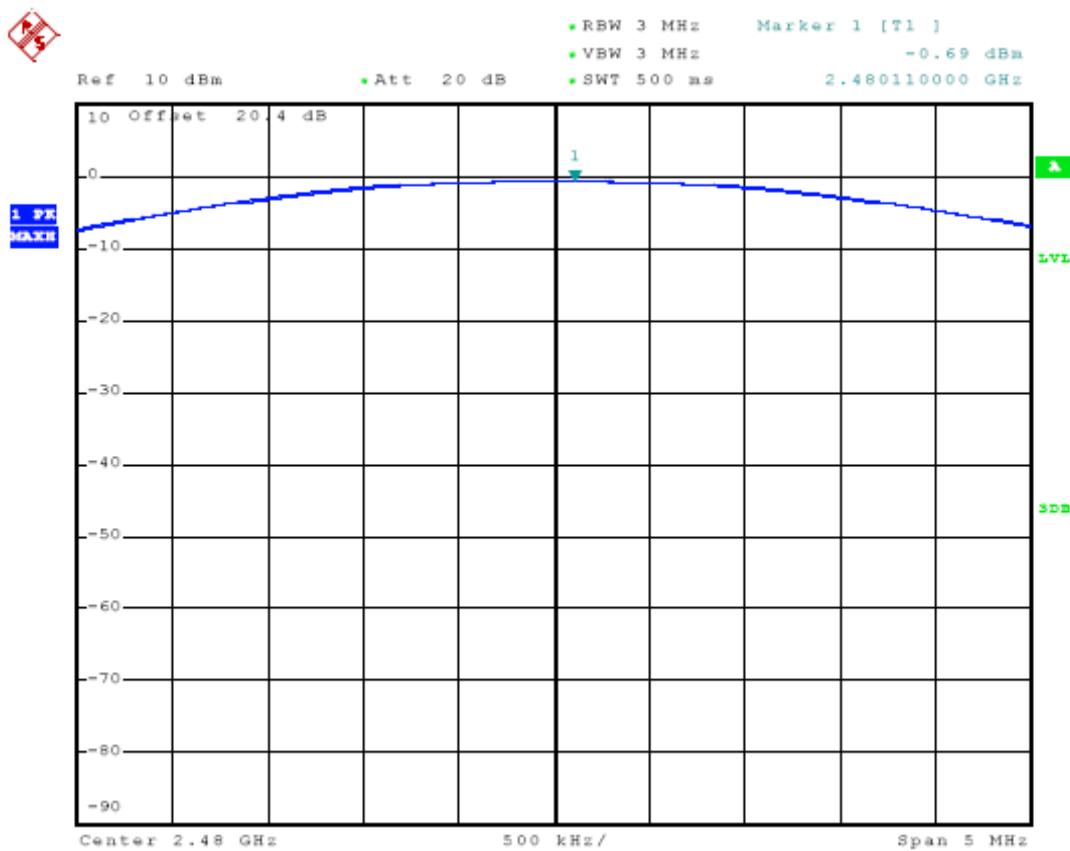
#### TEST PLOT OF BOTTOM CHANNEL(1Mbps):



## TEST PLOT OF MIDDLE CHANNEL (1Mbps):



**TEST PLOT OF TOP CHANNEL (1Mbps):**



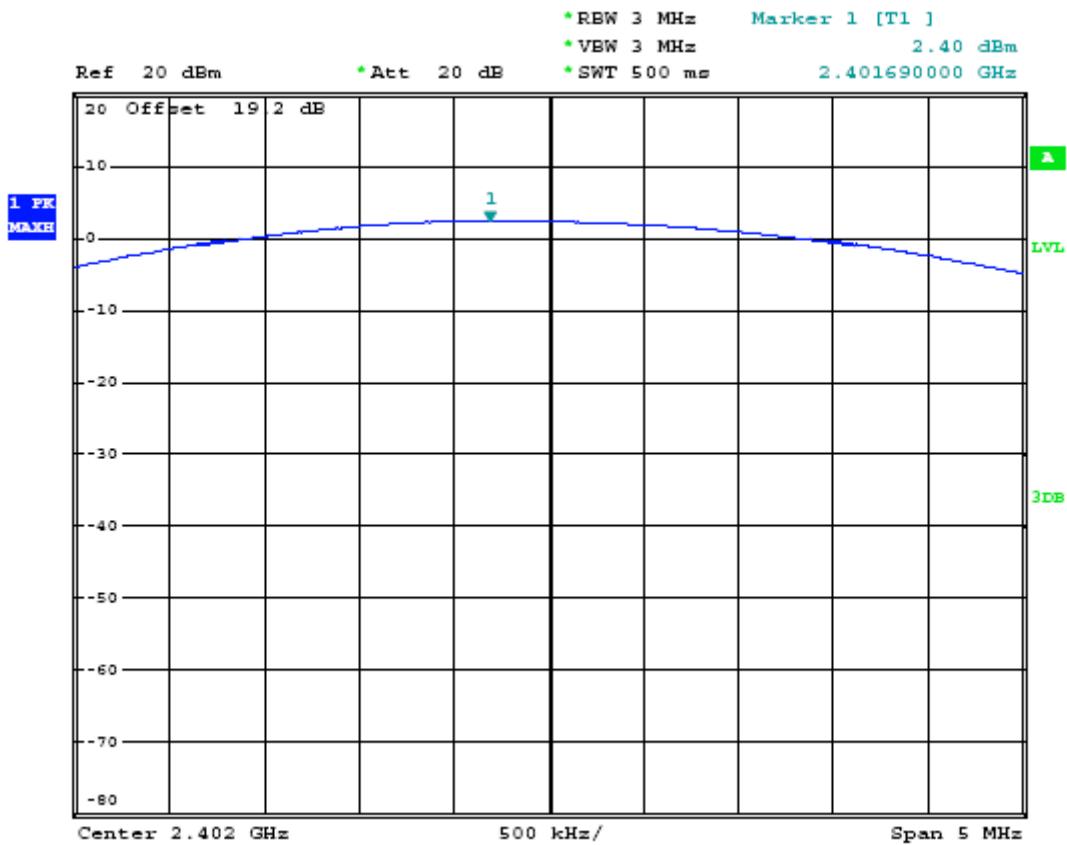
Operation Mode: **RF MODE(Π/4-DQPSK: 2Mbps)** Test Date: Dec.28, 2010

Temperature: 25°C Tested by: Jekey Zhang

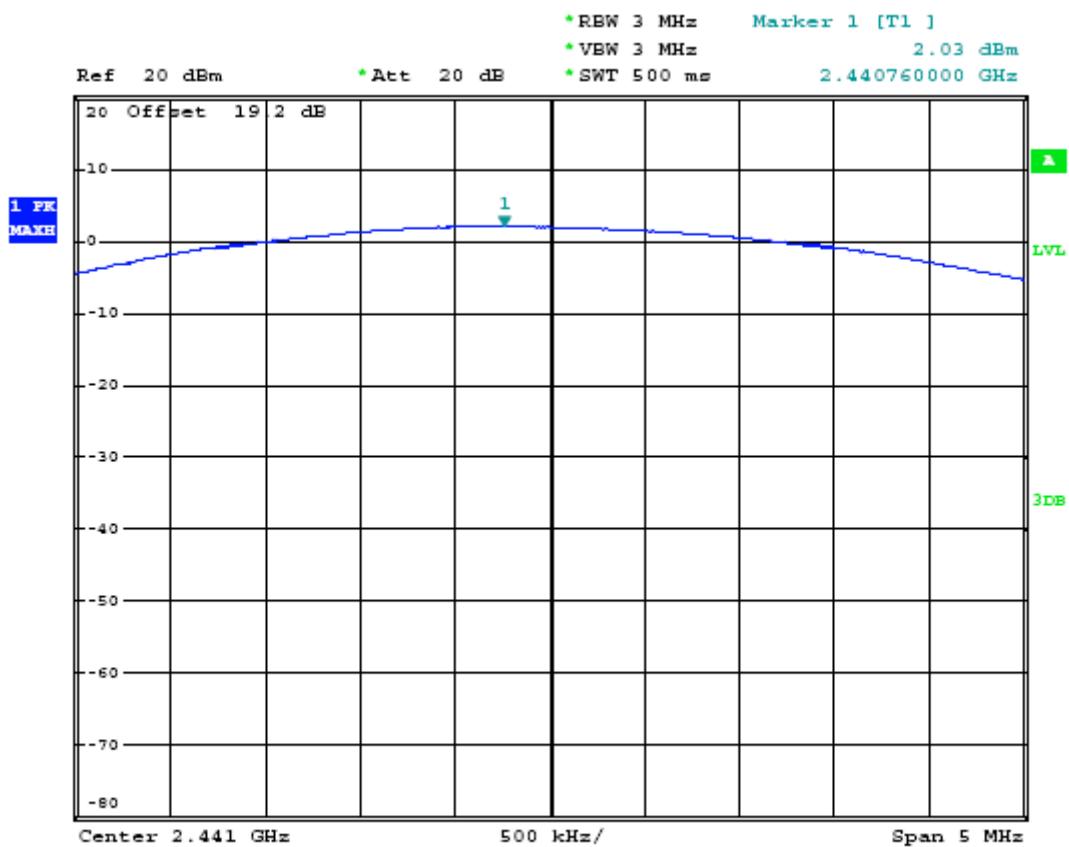
Humidity: 55 % RH

Channel	Frequency (MHz)	Reading (dBm)	Limit (dBm)	Result
0	2402	2.40	30	Pass
39	2441	2.03	30	Pass
78	2480	1.33	30	Pass

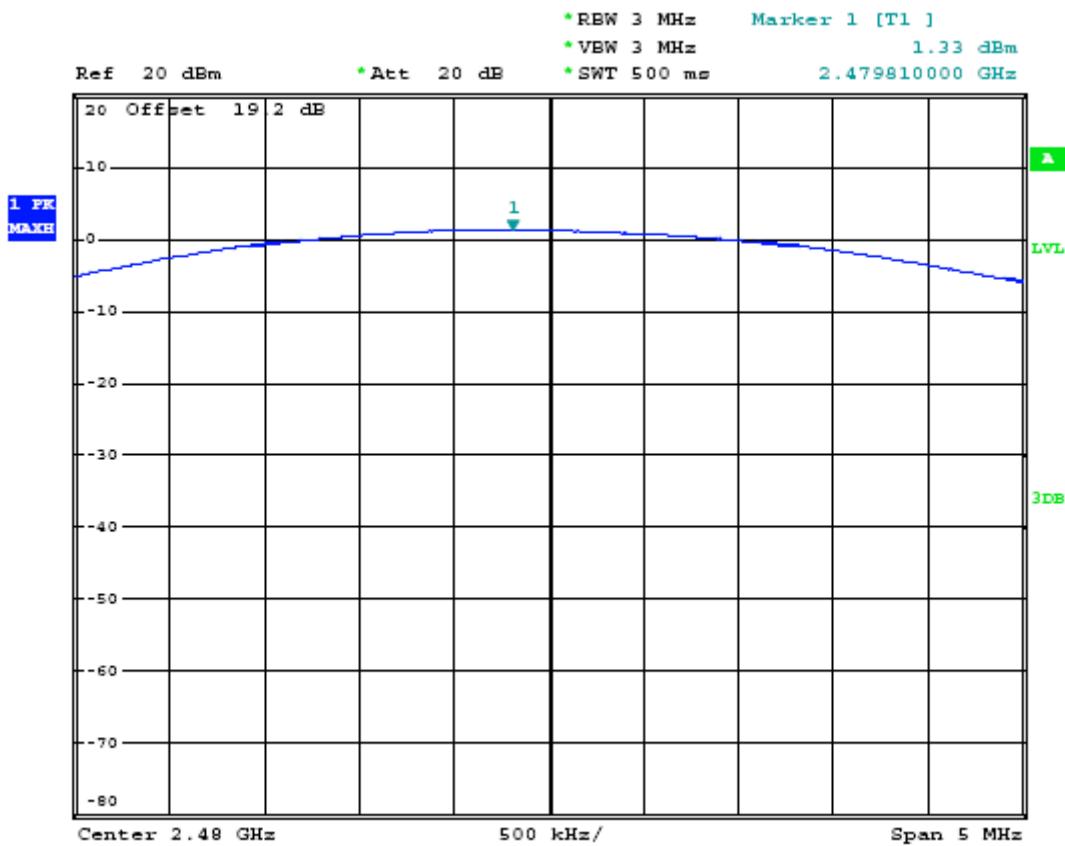
#### TEST PLOT OF BOTTOM CHANNEL (2Mbps):



**TEST PLOT OF MIDDLE CHANNEL (2Mbps):**



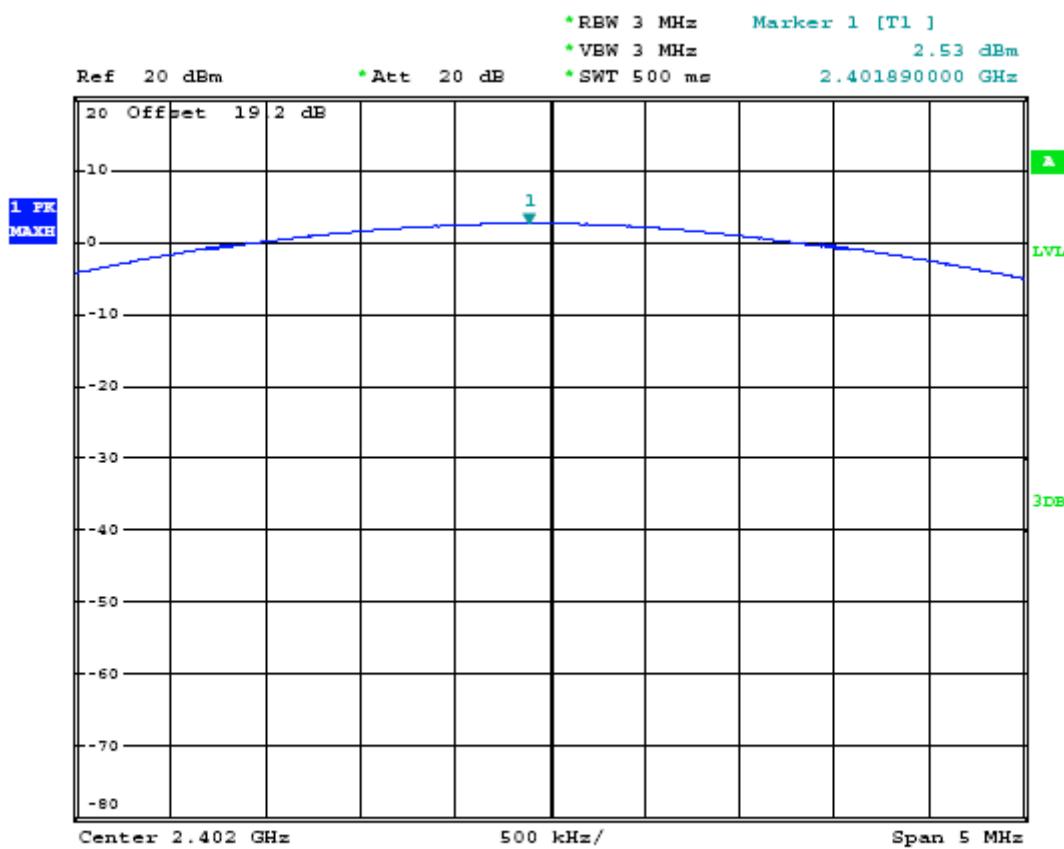
**TEST PLOT OF TOP CHANNEL (2Mbps):**



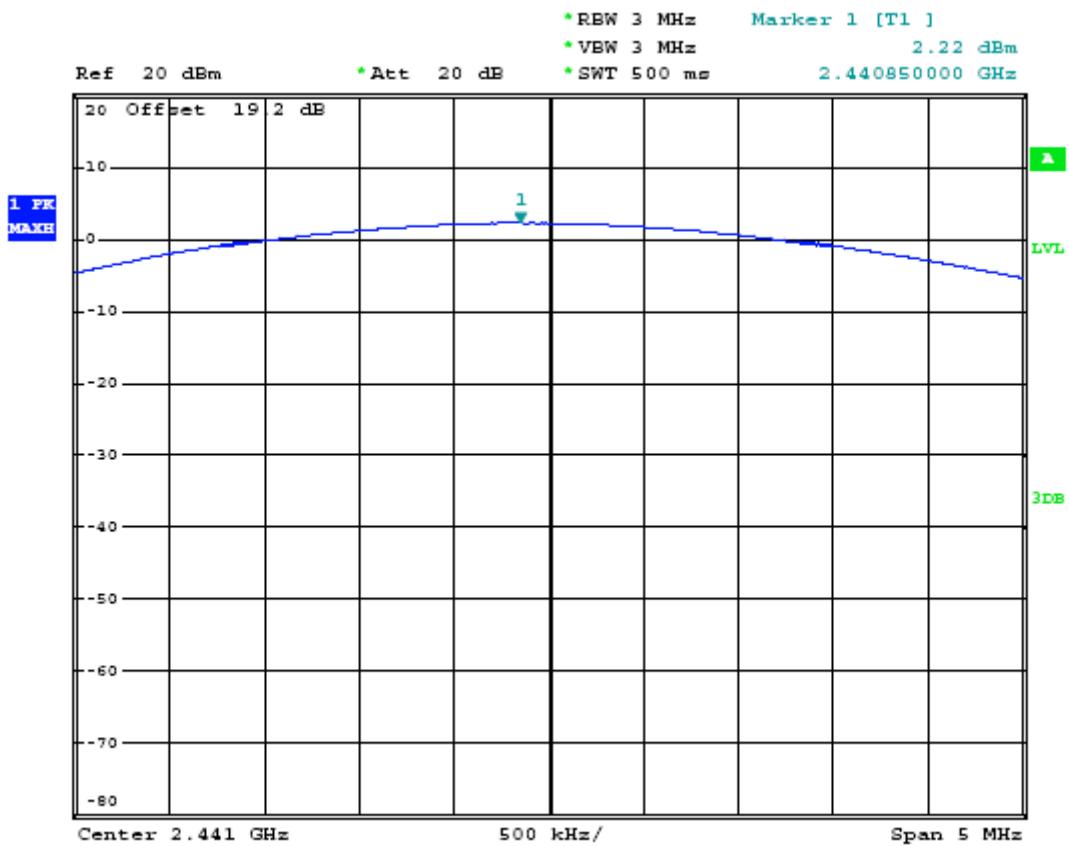
Operation Mode: **RF MODE(8-DPSK: 3Mbps)** Test Date: Dec.28, 2010  
Temperature: 25°C Tested by: Jekey Zhang  
Humidity: 55 % RH

Channel	Frequency (MHz)	Reading (dBm)	Limit (dBm)	Result
0	2402	2.53	30	Pass
39	2441	2.22	30	Pass
78	2480	1.50	30	Pass

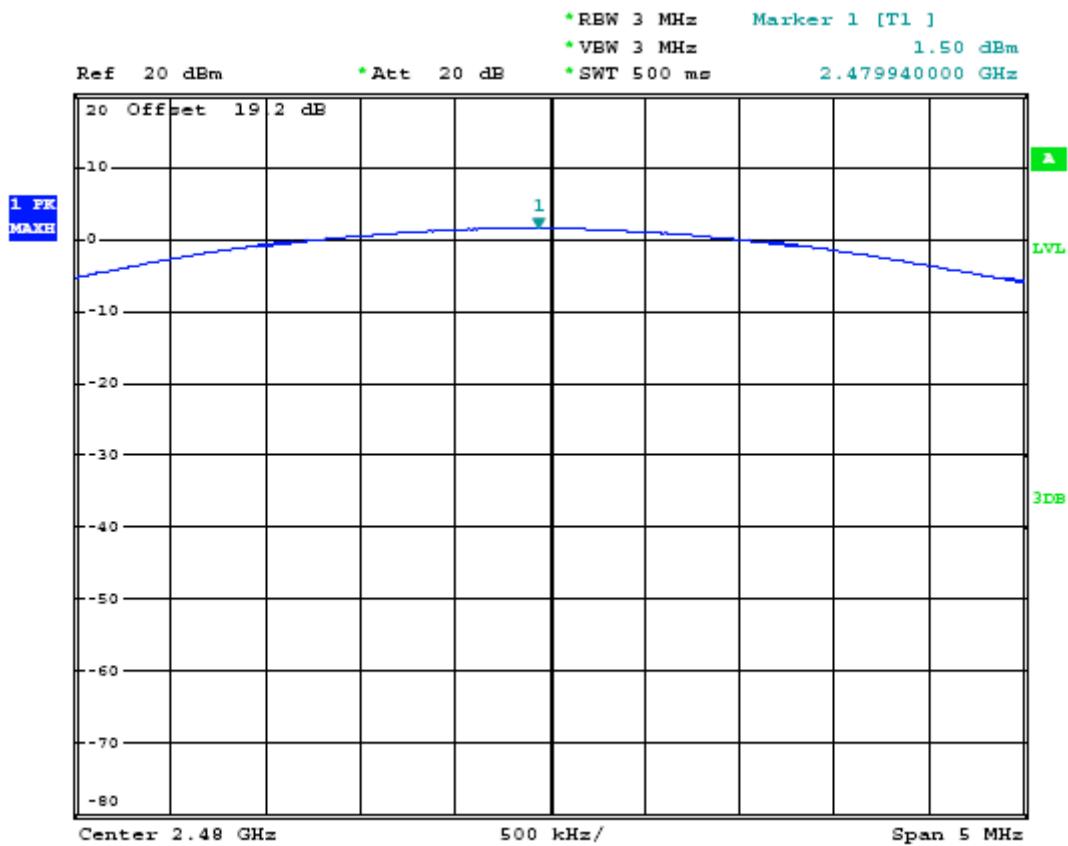
#### TEST PLOT OF BOTTOM CHANNEL (3Mbps):



**TEST PLOT OF MIDDLE CHANNEL (3Mbps):**



**TEST PLOT OF TOP CHANNEL (3Mbps):**



## 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.
3. Set SPA Centre Frequency = Operation Frequency, RBW= 100 KHz,  
VBW= 100 KHz.
4. Set SPA Trace 1 Max hold, then View.

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

The Same as described in Section 6.2

### 7.3 MEASUREMENT EQUIPMENT USED:

The same as described in Section 6.3

### 7.4 LIMITS AND MEASUREMENT RESULTS:

Operation Mode: RF MODE

Test Date: Dec.28, 2010

Temperature: 25°C

Tested by: Jekey Zhang

Humidity: 55 % RH

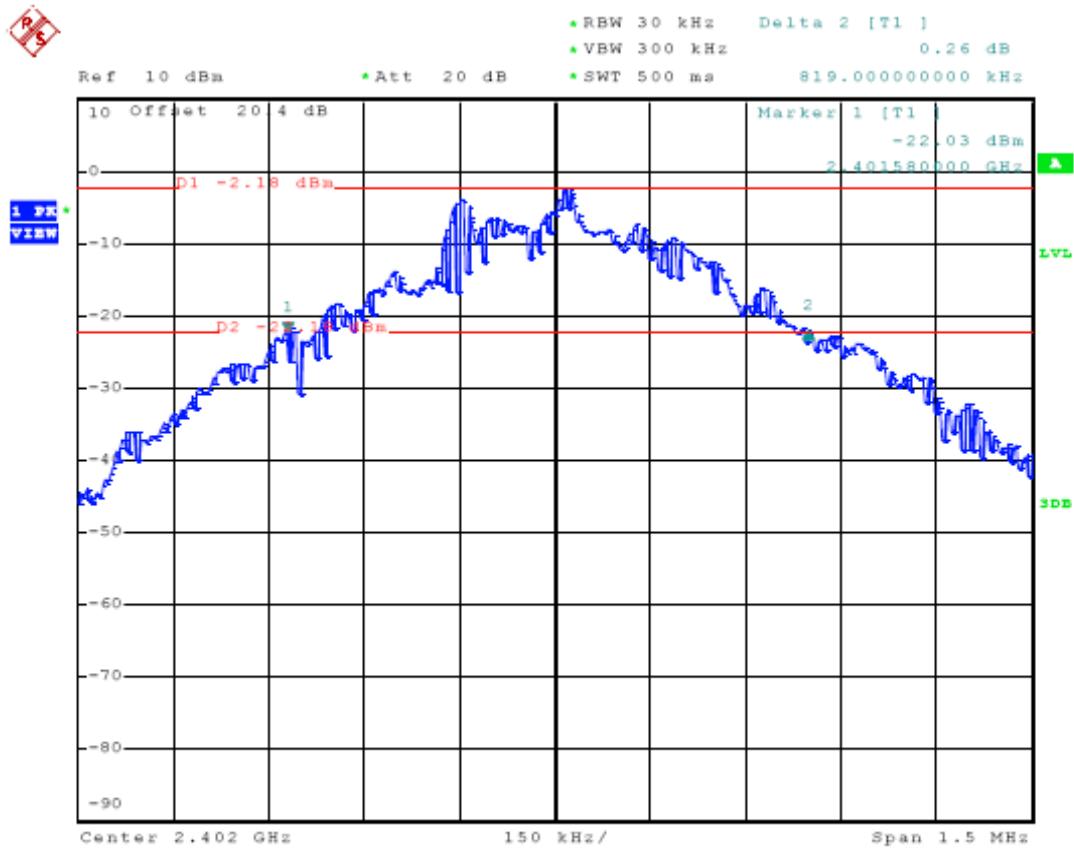
Polarity: --

LIMITS AND MEASUREMENT RESULT			
Applicable Limits	Measurement Result		
	20 dB Bandwidth(1Mbps)		Criteria
--	Bottom Channel	0.819	PASS
	Middle Channel	0.822	PASS
	Top Channel	0.834	PASS

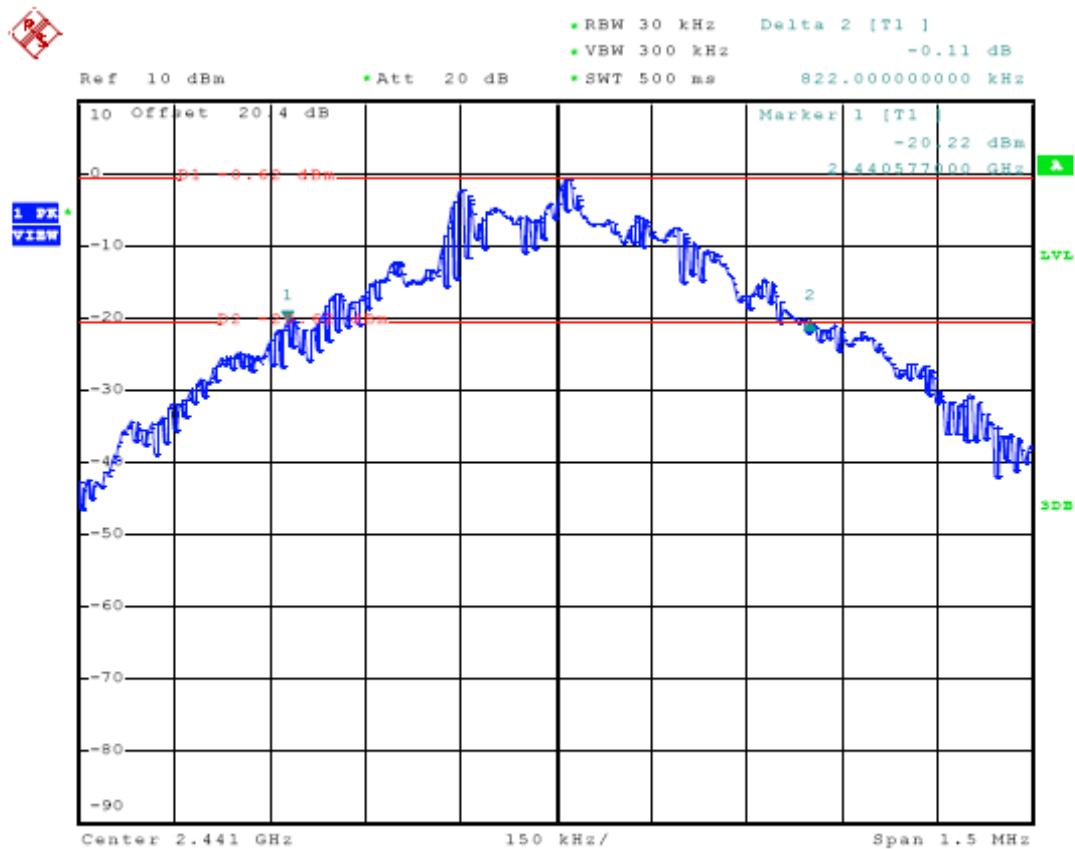
LIMITS AND MEASUREMENT RESULT			
Applicable Limits	Measurement Result		
	20 dB Bandwidth(2Mbps)		Criteria
--	Bottom Channel	1.232	PASS
	Middle Channel	1.228	PASS
	Top Channel	1.224	PASS

LIMITS AND MEASUREMENT RESULT			
Applicable Limits	Measurement Result		
	20 dB Bandwidth(3Mbps)		Criteria
--	Bottom Channel	1.256	PASS
	Middle Channel	1.260	PASS
	Top Channel	1.256	PASS

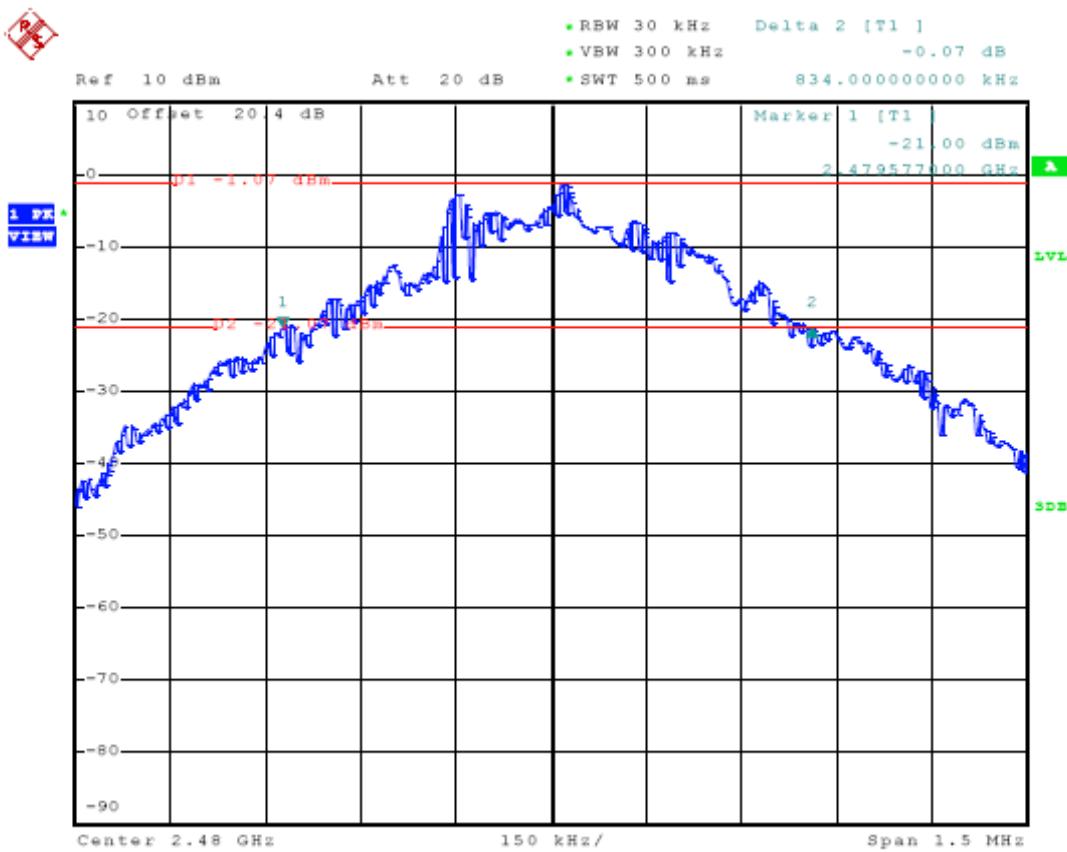
## TEST PLOT OF BANDWIDTH FOR BOTTOM CHANNEL (1Mbps)



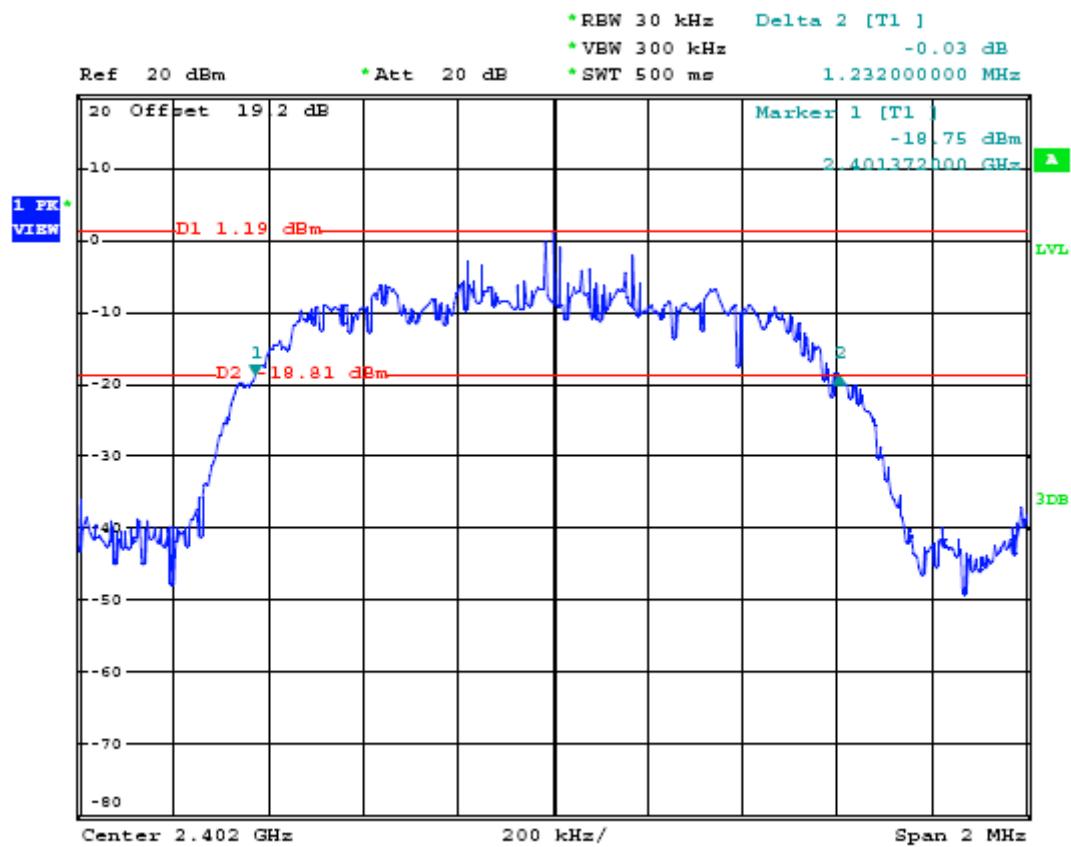
TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL(1Mbps)



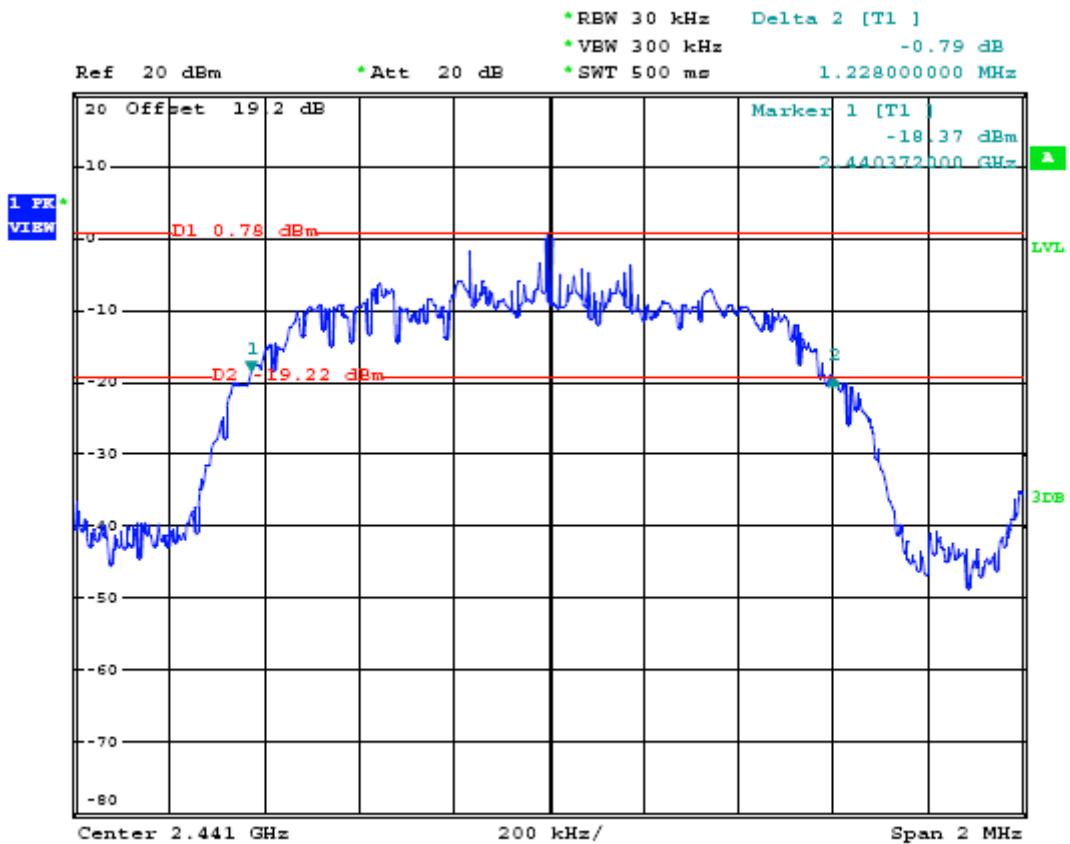
TEST PLOT OF BANDWIDTH FOR TOP CHANNEL (1Mbps)



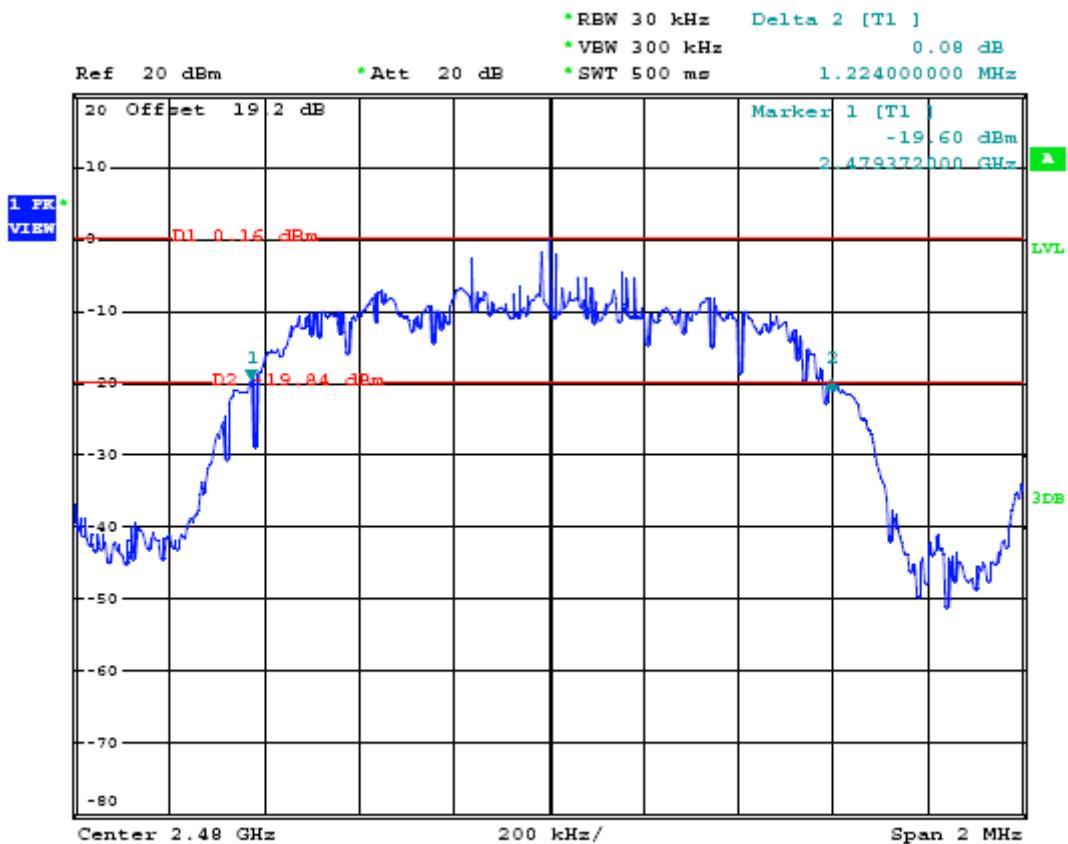
TEST PLOT OF BANDWIDTH FOR BOTTOM CHANNEL (2Mbps)



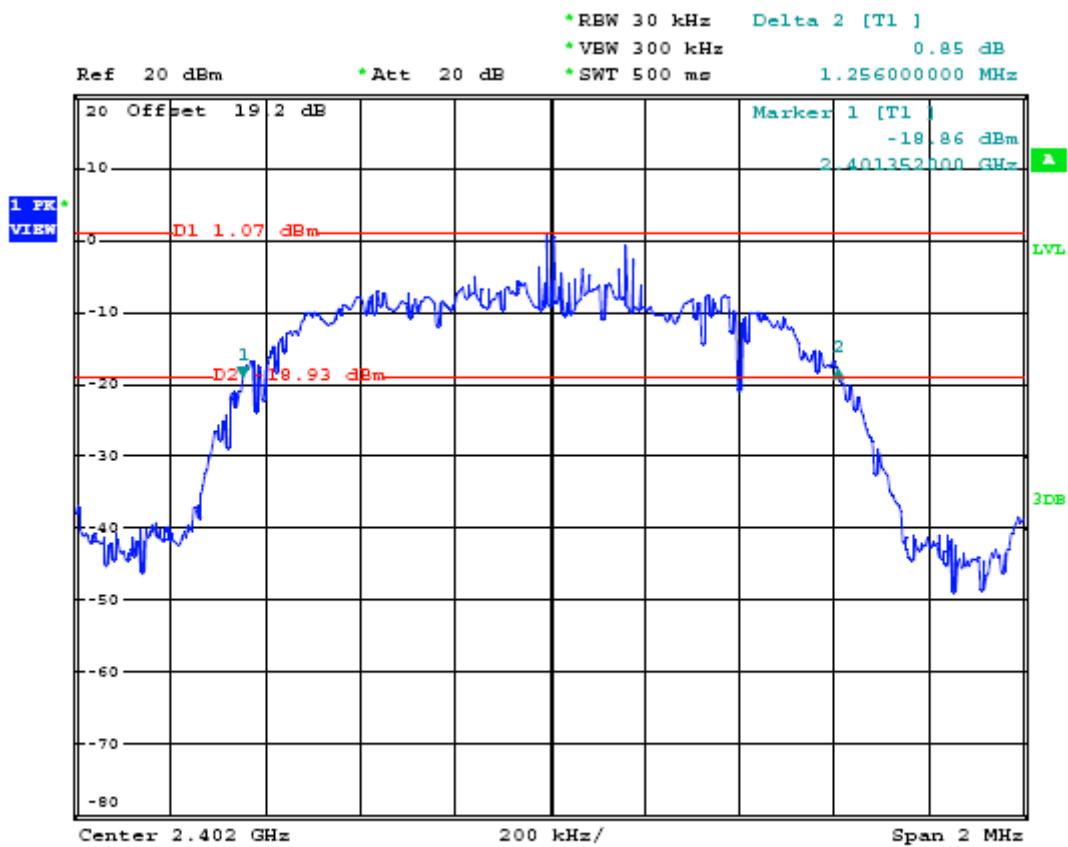
## TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL (2Mbps)



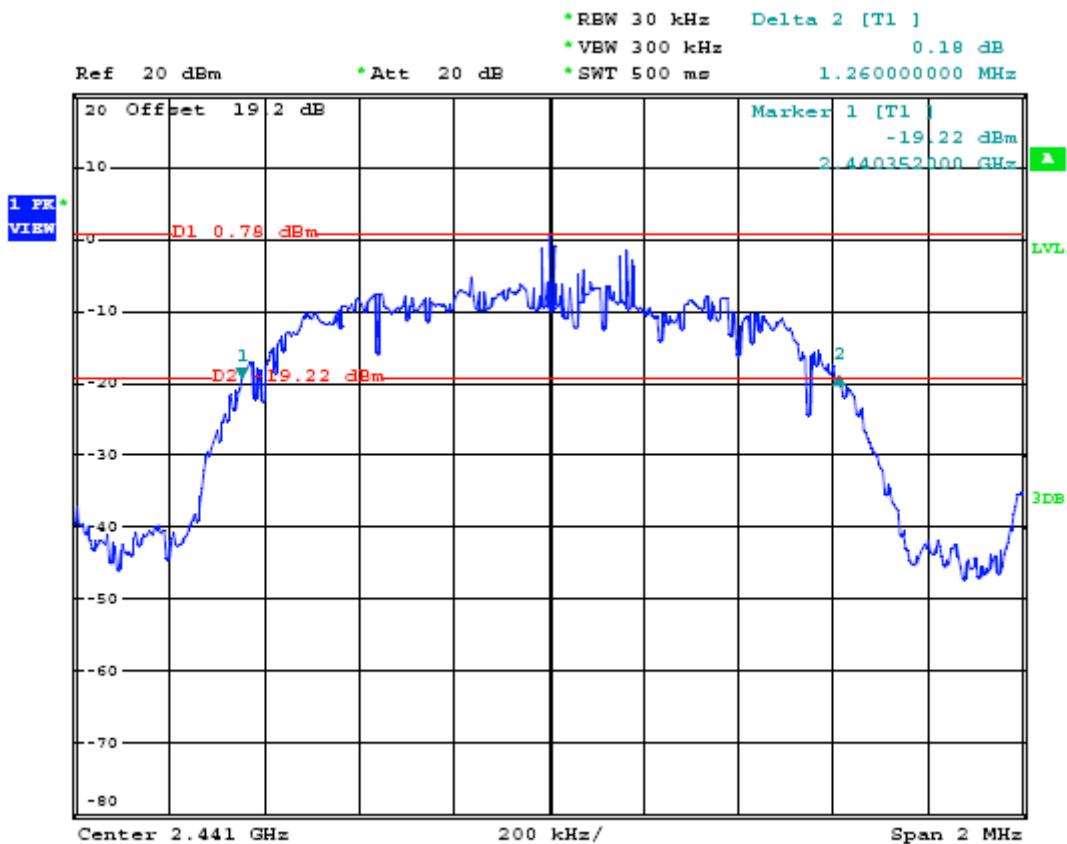
TEST PLOT OF BANDWIDTH FOR TOP CHANNEL (2Mbps)



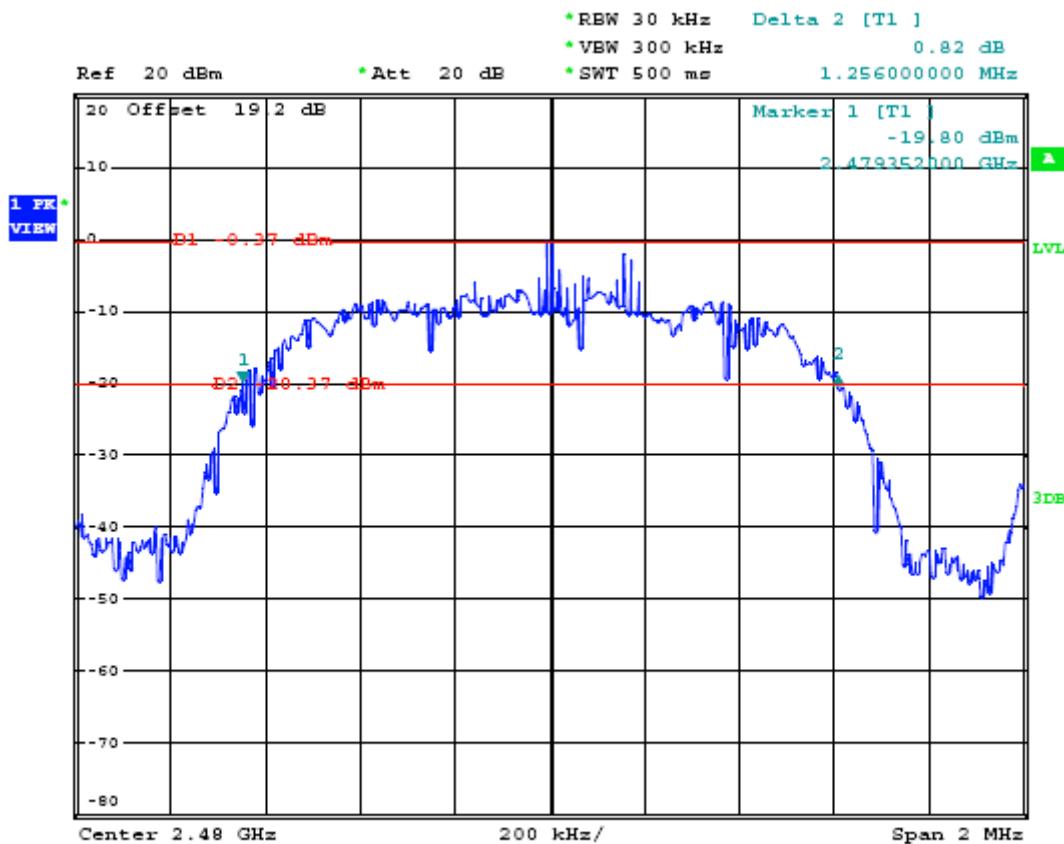
TEST PLOT OF BANDWIDTH FOR BOTTOM CHANNEL (3Mbps)



TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL (3Mbps)



TEST PLOT OF BANDWIDTH FOR TOP CHANNEL (3Mbps)

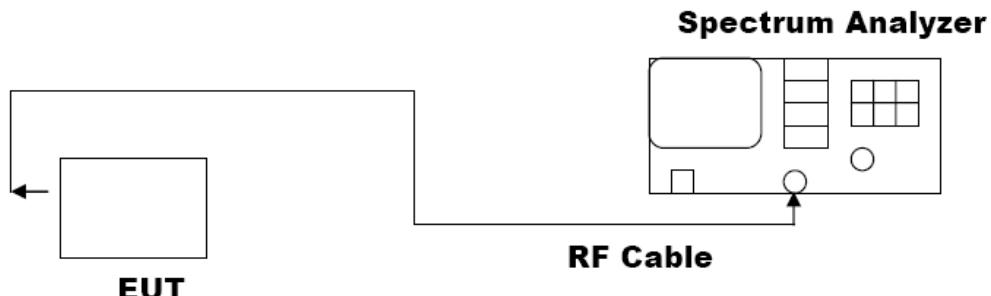


## 8. MAXIMUM CONDUCTED OUTPUT POWER SPECTRAL DENSITY (N/A)

### 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 MEASUREMENT EQUIPMENT USED:

SHIELDING ROOM					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4440A	US41421290	04/16/2010	04/15/2011

### 8.4 LIMITS AND MEASUREMENT RESULT:

LIMITS AND MEASUREMENT RESULT			
Applicable Limits	Measurement Result		
	Test Data (dBm/3KHz)		Criteria
8 dBm / 3KHz	Bottom Channel	--	--
	Middle Channel	--	--
	Top Channel	--	--

## 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.
3. Set SPA Centre Frequency = Operation Frequency, RBW= 100 KHz,  
VBW= 100 KHz.
4. Set SPA Trace 1 Max hold, then View.

### 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 6.3

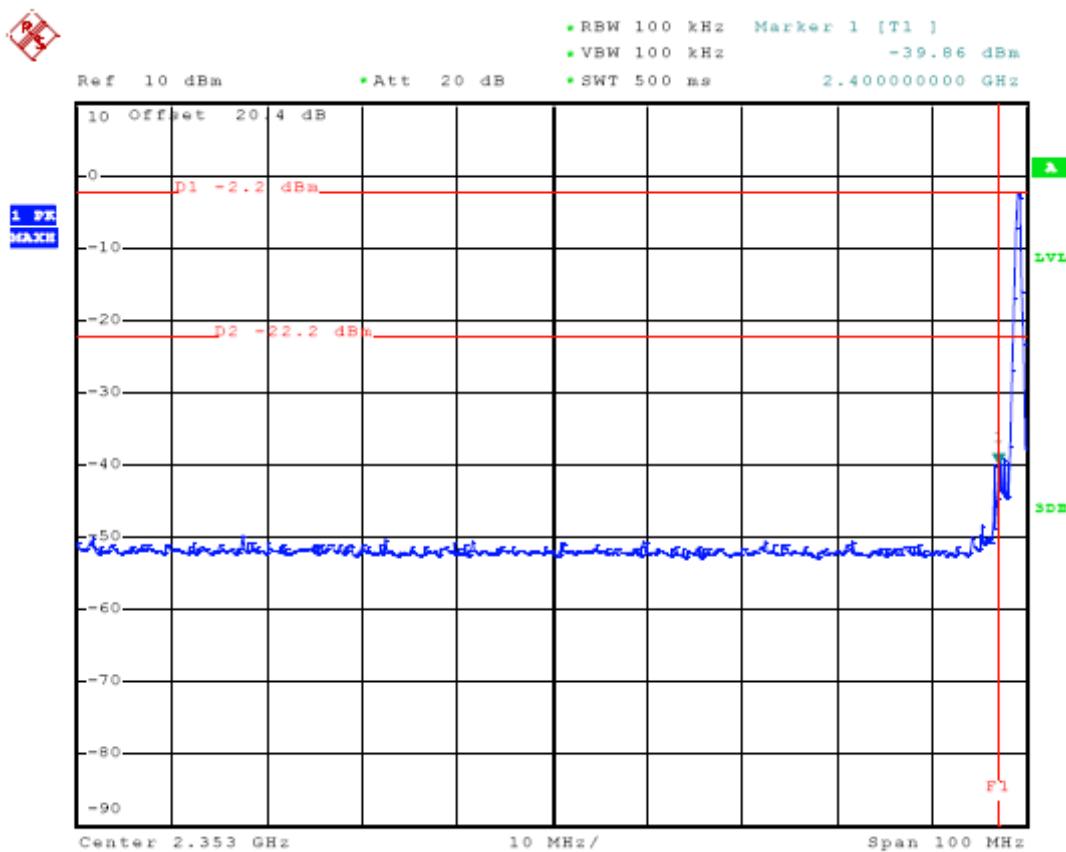
### 9.4 LIMITS AND MEASUREMENT RESULT:

LIMITS AND MEASUREMENT RESULT		
Applicable Limits	Measurement Result	
	Test Data	Criteria
<p>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.</p> <p>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))</p>	At least -20dBc than the limit Specified on the BOTTOM Channel	PASS
	At least -20dBc than the limit Specified on the TOP Channel	PASS

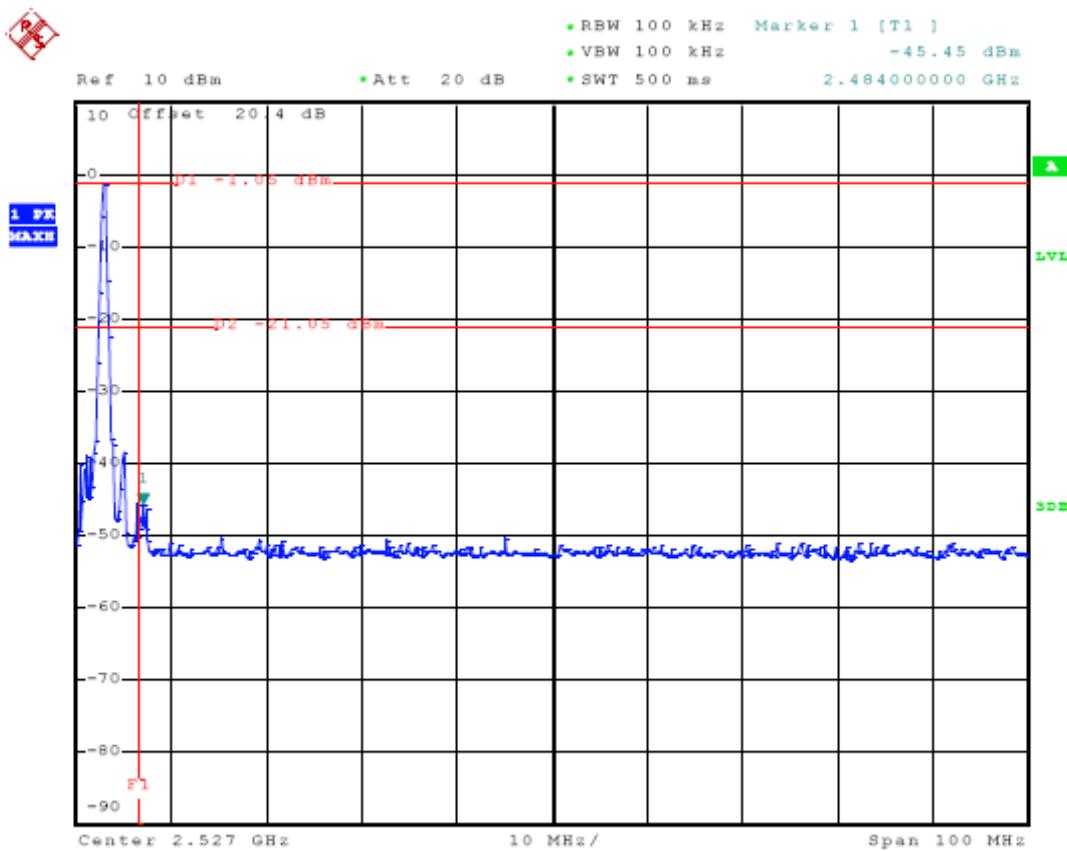
Humidity:	55 % RH	Test Date:	Dec.28, 2010
Temperature:	25°C	Tested by:	Mary Liu
Test Method	Conducted		

### BT(1Mbps)

#### TEST PLOT OF BAND ELDG FOR BOTTOM CHANNEL (2.402GHz)

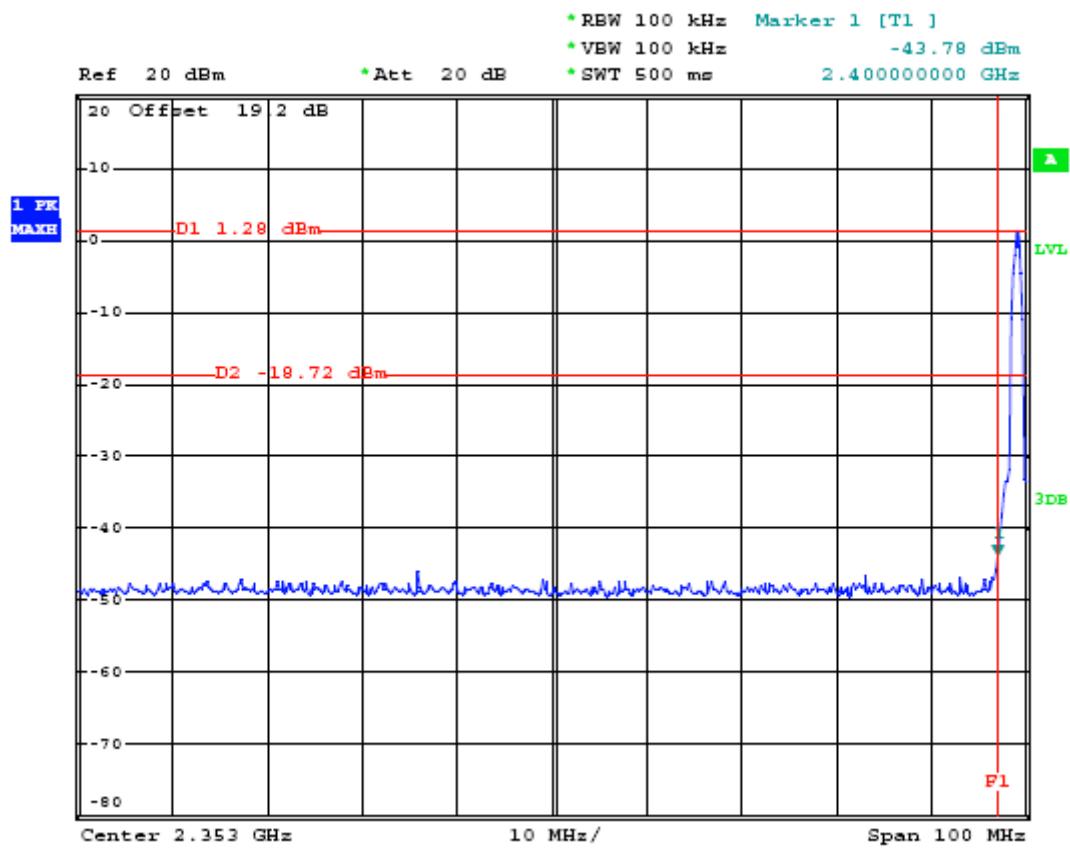


TEST PLOT OF BAND ELDG FOR TOP CHANNEL (2.480GHz)

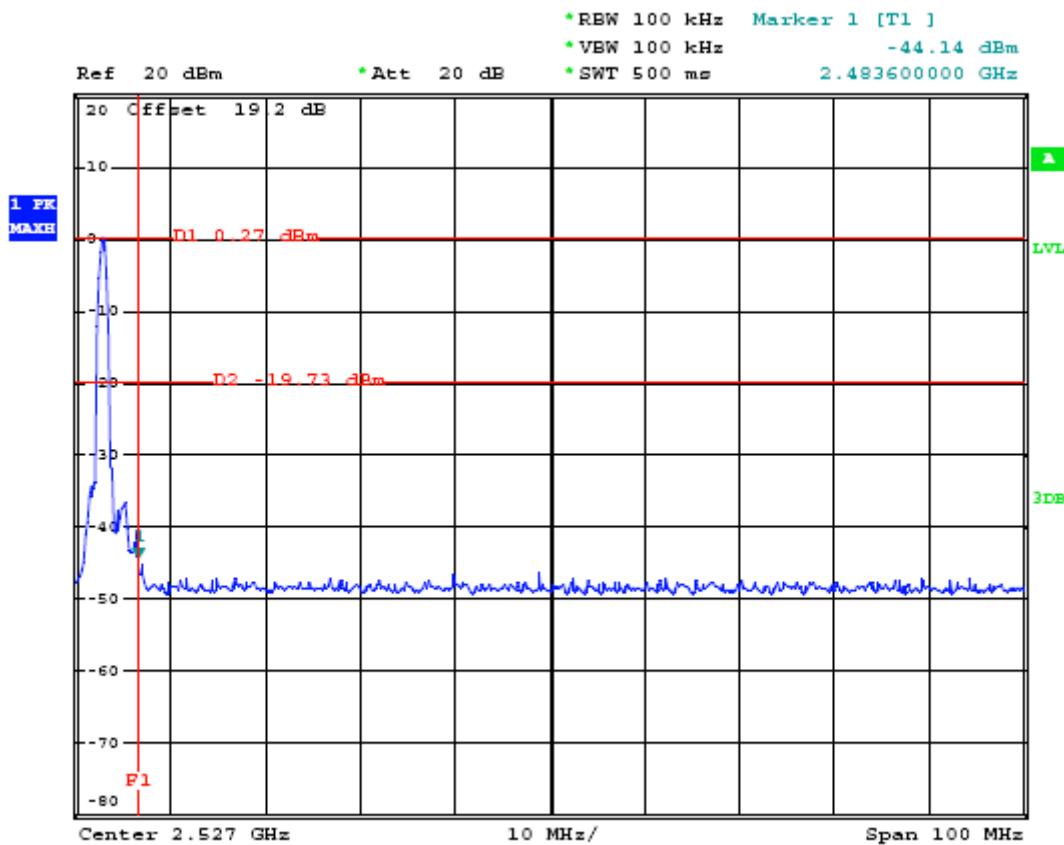


BT EDR (2Mbps)

TEST PLOT OF BAND ELDG FOR BOTTOM CHANNEL (2.402GHz)

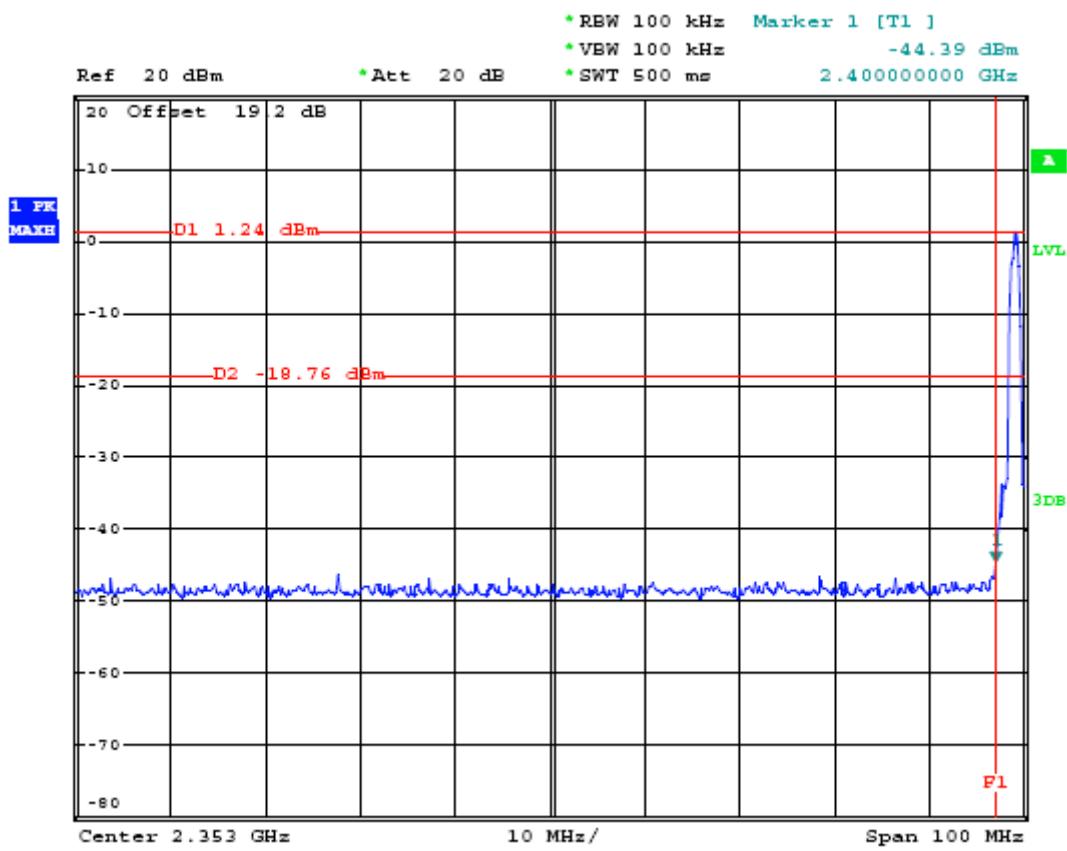


## TEST PLOT OF BAND ELDG FOR TOP CHANNEL (2.480GHz)

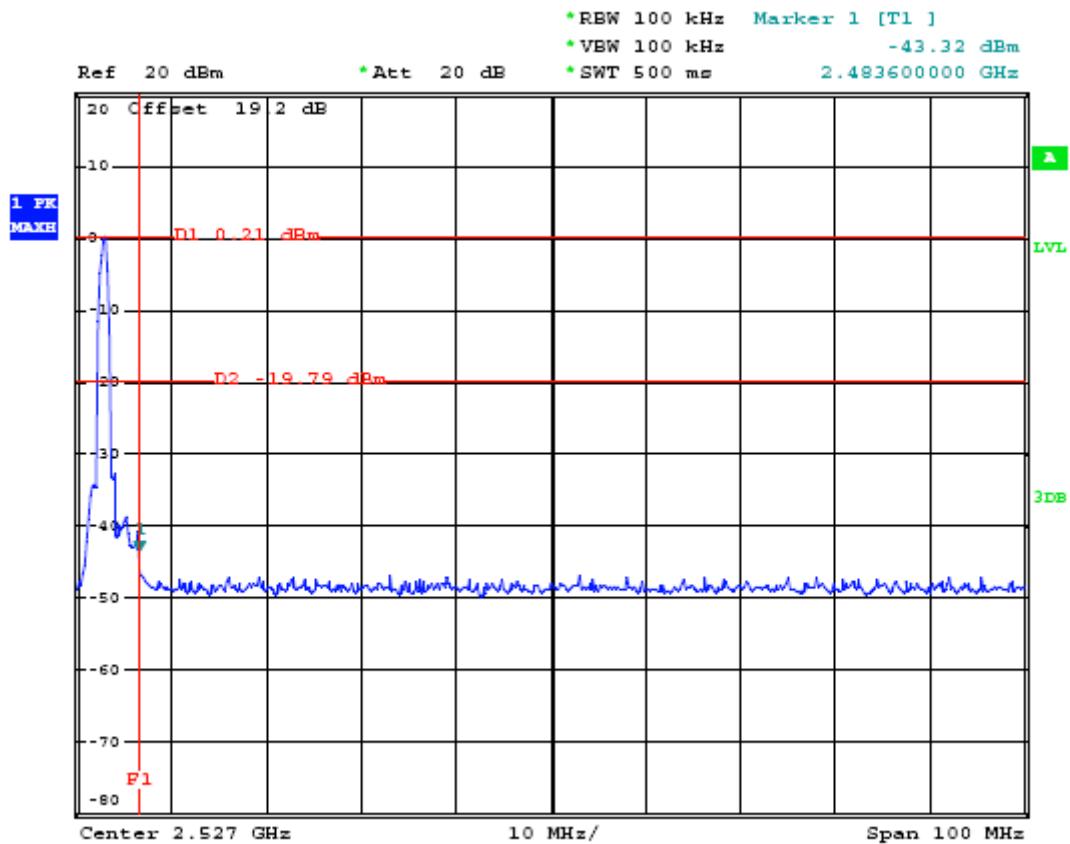


**BT EDR (3Mbps)**

TEST PLOT OF BAND ELDG FOR BOTTOM CHANNEL (2.402GHz)



TEST PLOT OF BAND ELDG FOR TOP CHANNEL (2.480GHz)



## RADIATED EMISSION

### MEASUREMENT PROCEDURE

1. Configure the EUT according to ANSI C63.4. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value.
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High – Low scan is not required in this case.

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

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

Distance: 3m Test Date: Dec.28, 2010  
Temperature: 25°C Tested by: Jekey Zhang  
Humidity: 55 % RH

## Operation Mode: RF Mode

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

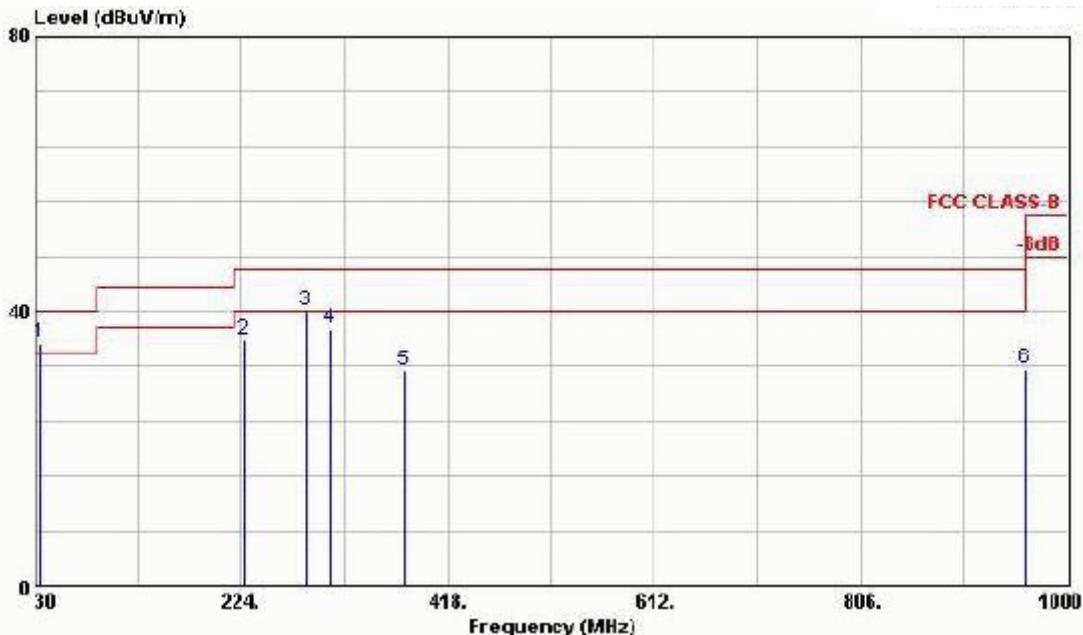
Distance extrapolation factor =  $20 \log (\text{specific distance} / \text{test distance})$  (dB);

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

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

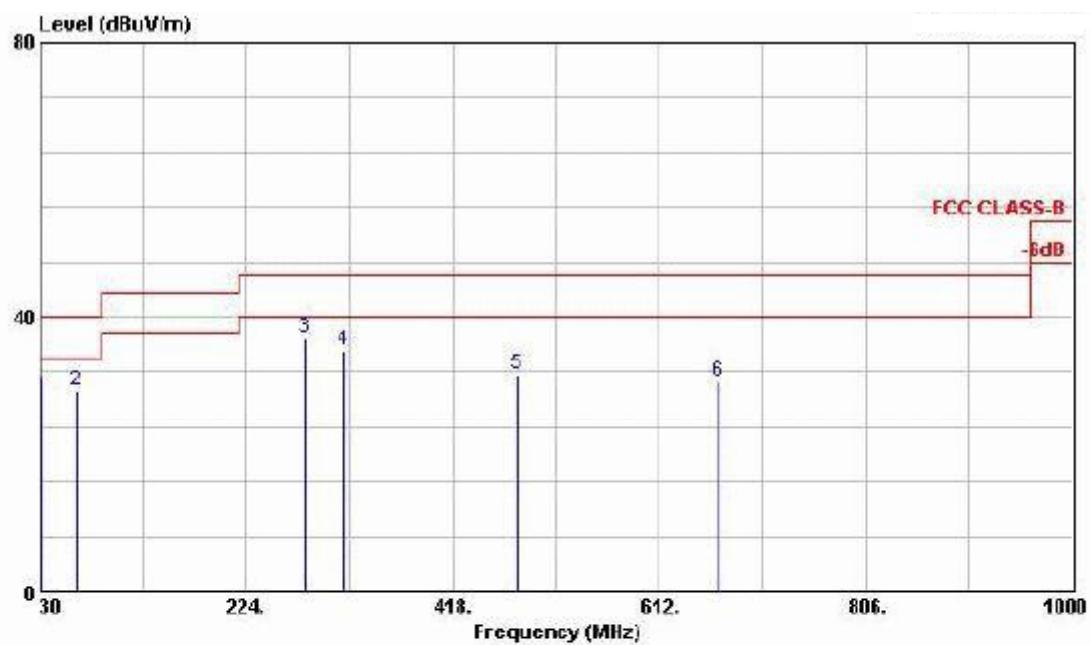
Operation Mode:	channel 00(1Mbps)	Test Date:	Dec.28, 2010
Temperature:	25°C	Tested by:	Mary Liu
Humidity:	55 % RH		

**Horizontal:**



Freq	Level	Over Limit		Readintenna Level	Antenna Factor	Cable Loss	Preamp Factor	Int Pos	Table Pos	Table Remark
		MHz	dBuV/m	dB	dBuV/m	dB	dB/m	dB	cm	deg
1 !	35.130	35.39	-4.61	40.00	46.45	16.29	0.91	28.26	100	157 Peak
2	226.020	35.82	-10.18	46.00	50.88	10.72	1.97	27.75	---	--- Peak
3 !	284.340	40.06	-5.94	46.00	53.12	12.39	2.18	27.63	---	--- Peak
4	307.000	37.33	-8.67	46.00	50.14	12.58	2.26	27.65	---	--- Peak
5	377.000	31.24	-14.76	46.00	41.90	14.98	2.49	28.14	---	--- Peak
6	950.100	31.71	-22.29	54.00	31.37	25.04	3.99	28.68	---	--- Peak

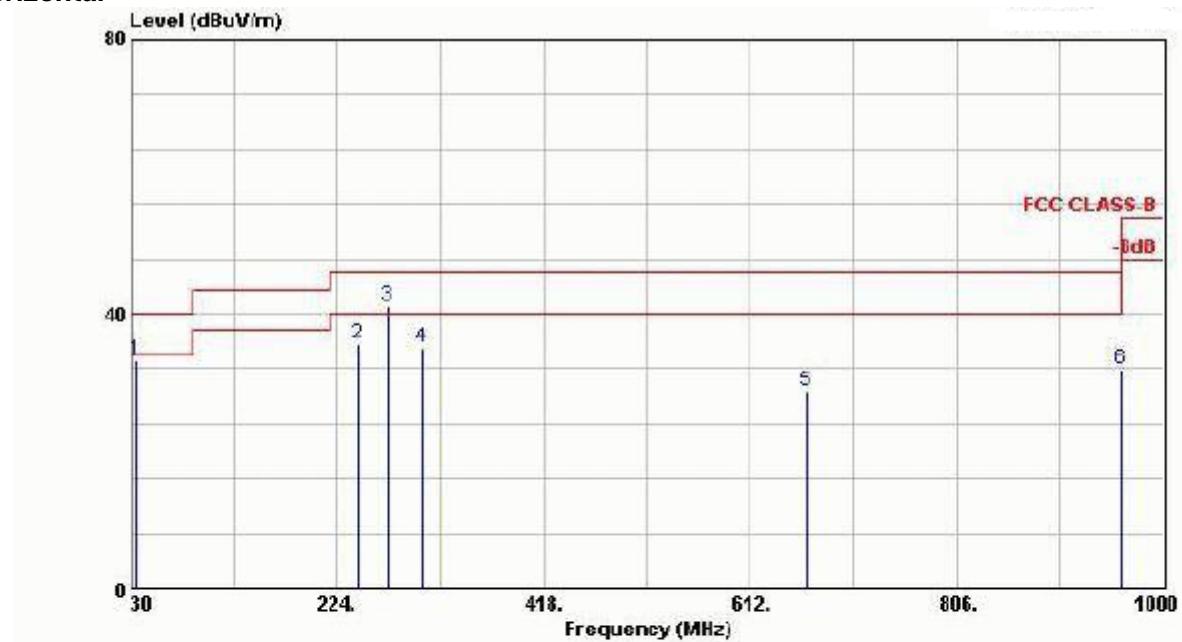
**Vertical:**



Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	
		Line	Line	Level	Factor	Loss	Factor	Pos	Pos	Remark
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	31.000	31.26	-6.74	40.00	42.27	16.36	0.60	26.25	100	58 Peak
2	54.020	29.21	-10.79	40.00	52.05	4.29	1.14	28.27	---	--- Peak
3	280.020	36.87	-9.13	46.00	49.93	12.41	2.17	27.64	---	--- Peak
4	315.400	34.97	-11.03	46.00	47.54	12.84	2.29	27.70	---	--- Peak
5	478.500	31.61	-14.39	46.00	41.03	16.65	2.77	28.85	---	--- Peak
6	660.200	30.63	-15.37	46.00	36.22	20.06	0.45	29.10	---	--- Peak

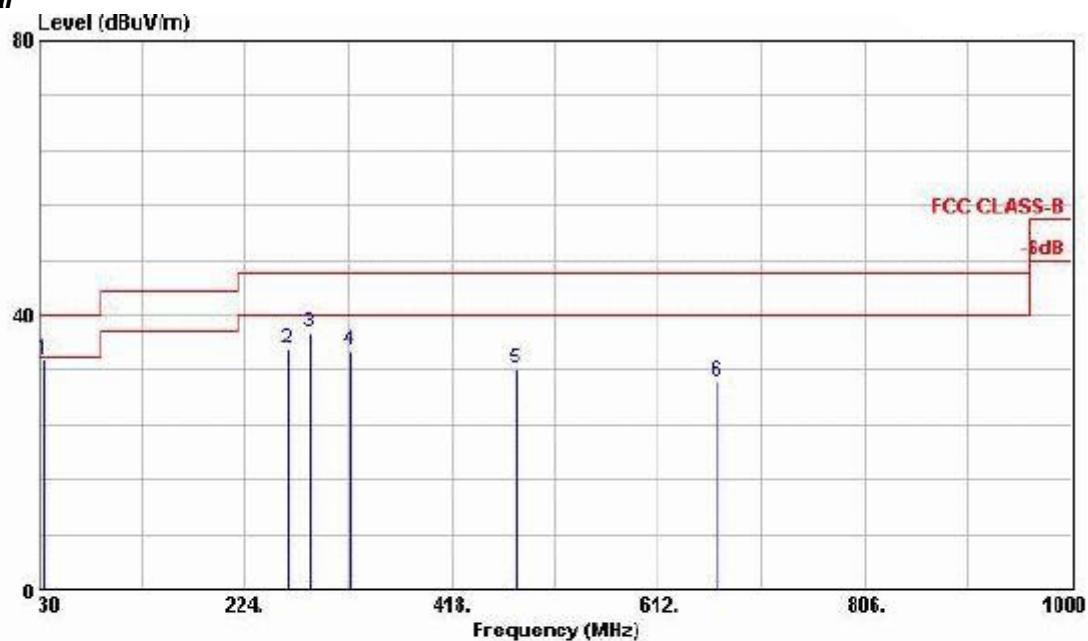
Operation Mode:	channel 39(1Mbps)	Test Date:	Dec.28, 2010
Temperature:	25°C	Tested by:	Mary Liu
Humidity:	55 % RH		

**Horizontal**



Freq	Over		Limit	Read		Cable	Preamp	Ant	Table		
	Level	Limit		Line	antenna				Pos	Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	35.940	33.28	-6.72	40.00	45.22	15.40	0.93	28.27	---	---	Peak
2	240.300	35.54	-10.46	46.00	49.17	12.05	2.03	27.71	---	---	Peak
3	271.650	40.93	-5.07	46.00	53.99	12.46	2.13	27.66	100	254	Peak
4	304.200	35.01	-10.99	46.00	47.91	12.48	2.25	27.63	---	---	Peak
5	665.400	28.77	-17.23	46.00	34.37	20.06	3.45	29.10	---	---	Peak
6	960.100	31.90	-22.10	54.00	31.56	25.04	3.99	28.68	---	---	Peak

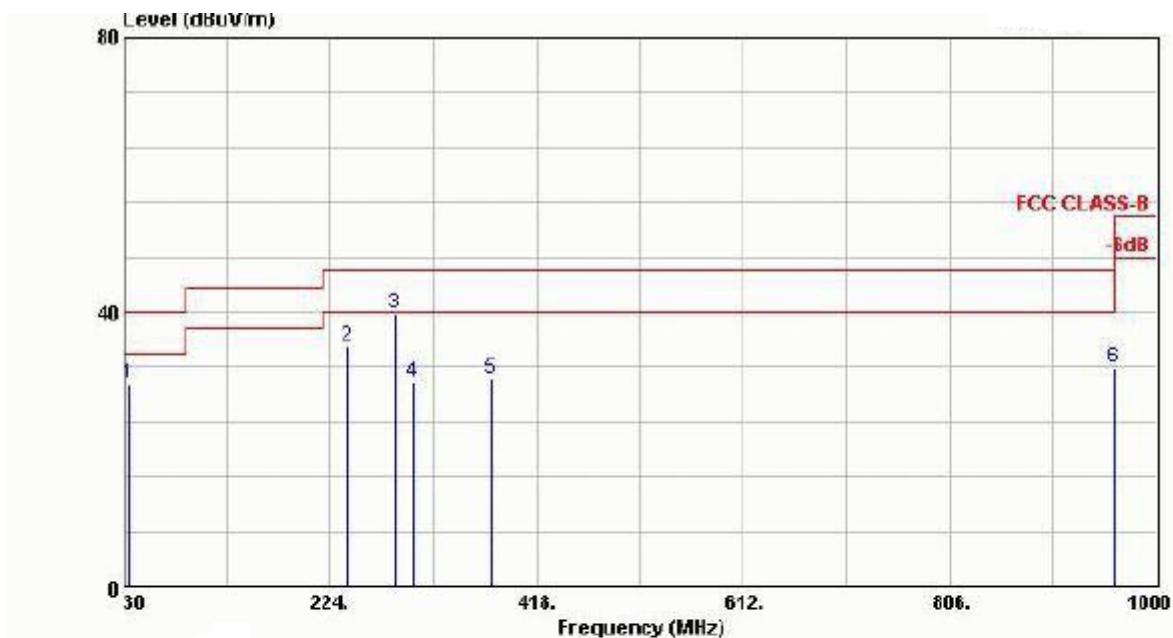
**Vertical**



Freq	Level	Over Limit	Limit Line	Read Antenna		Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark	
				MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	35.100	33.35	-6.65	40.00	44.41	16.29	0.91	20.26	100	46	Peak
2	253.820	35.07	-10.93	46.00	48.14	12.50	2.10	27.67	---	---	Peak
3	285.420	37.35	-8.65	46.00	50.41	12.39	2.19	27.63	---	---	Peak
4	321.700	34.64	-11.36	46.00	47.00	13.06	2.31	27.75	---	---	Peak
5	478.500	32.17	-13.83	46.00	41.59	16.65	2.77	28.85	---	---	Peak
6	668.200	30.21	-15.79	46.00	35.80	20.06	3.45	29.10	---	---	Peak

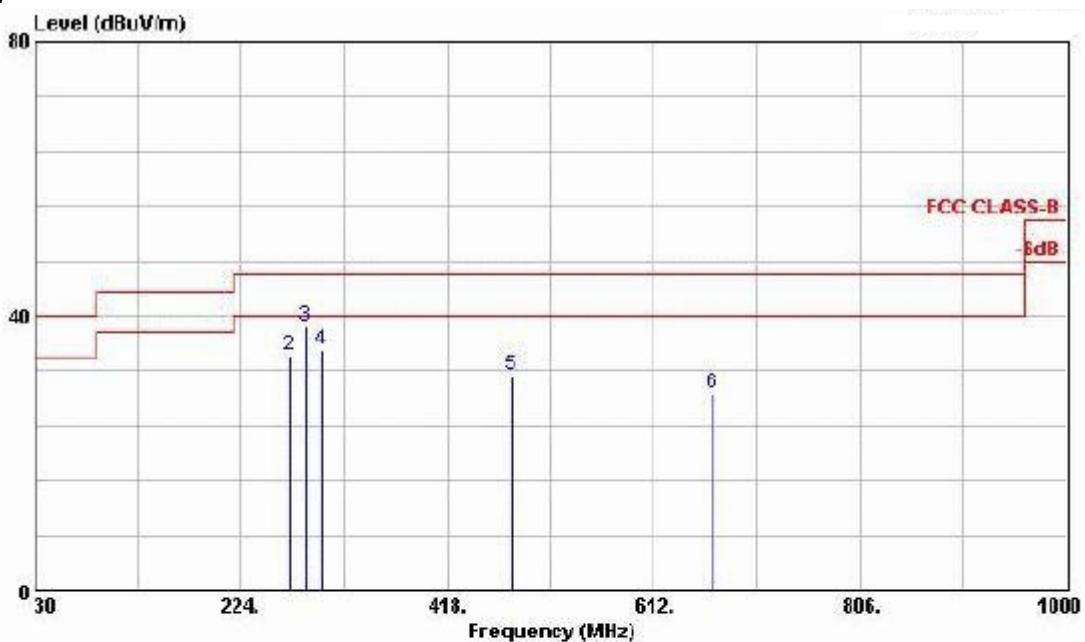
Operation Mode:	channel 78(1Mbps)	Test Date:	Dec.28, 2010
Temperature:	25°C	Tested by:	Mary Liu
Humidity:	55 % RH		

**Horizontal**



Freq	Level	Over Limit	Line	Read antenna		Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark	
				MHz	dBuV/n	dB	dBuV/n	dBuV	dB/m	dB	dB
1	35.940	29.57	-10.43	40.00	41.51	15.40	0.93	28.27	---	---	Peak
2	240.330	34.95	-11.05	46.00	48.82	11.83	2.02	27.72	---	---	Peak
3	285.690	39.66	-6.34	46.00	52.72	12.98	2.19	27.63	100	121	Peak
4	302.100	29.78	-16.22	46.00	42.74	12.41	2.25	27.61	---	---	Peak
5	374.900	30.31	-15.69	46.00	41.03	14.92	2.49	28.13	---	---	Peak
6	950.100	31.91	-22.09	54.00	31.57	25.04	0.99	20.60	---	---	Peak

**Vertical**



Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table
		Line	Level	Level	Factor	Loss	Factor	Pos	Pos
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	30.540	32.43	-7.57	40.00	43.45	16.36	0.87	28.25	100
2	269.490	34.33	-11.67	46.00	47.40	12.47	2.13	27.66	---
3	284.610	38.31	-7.69	46.00	51.37	12.39	2.18	27.63	---
4	300.000	35.02	-10.99	46.00	49.07	12.31	2.24	27.60	---
5	478.500	31.27	-14.73	46.00	40.69	16.65	2.77	28.85	---
6	658.200	28.60	-17.40	46.00	34.19	20.06	3.45	29.10	---

**Note:**

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

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Operation Mode:	2Mbps	Test Date:	Dec.28, 2010
Temperature:	25°C	Tested by:	Mary Liu
Humidity:	55 % RH	Radiated emission	(30MHZ-1GHZ)

Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
284.60	38.21	46.00	-7.79	PASS
--	--	--	--	PASS

Operation Mode:	3Mbps	Test Date:	Dec.28, 2010
Temperature:	25°C	Tested by:	Mary Liu
Humidity:	55 % RH	Radiated emission	(30MHZ-1GHZ)

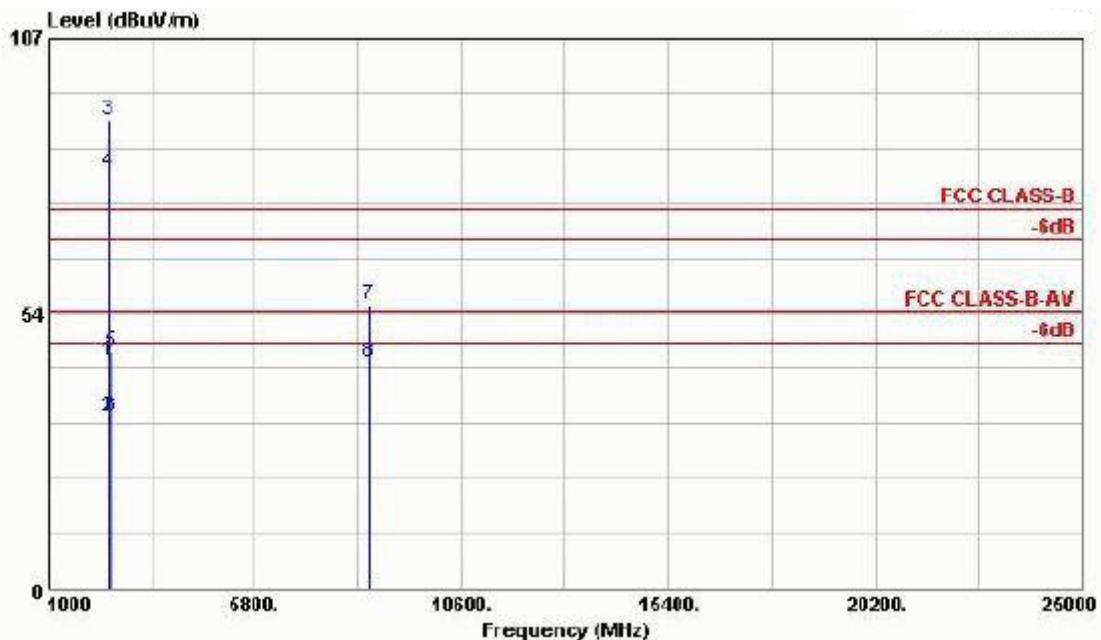
Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
284.70	38.96	46.00	-7.04	PASS
--	--	--	--	PASS

**Note:** “--“ Indicated the test value is much lower to limit.

**TEST RESULT OF RADIATED EMISSION TEST (1GHZ-10<sup>TH</sup> HARMONIC)**

Operation Mode:	channel 00(1Mbps)	Test Date:	Dec.28, 2010
Temperature:	25°C	Tested by:	Mary Liu
Humidity:	55 % RH		

**Horizontal**

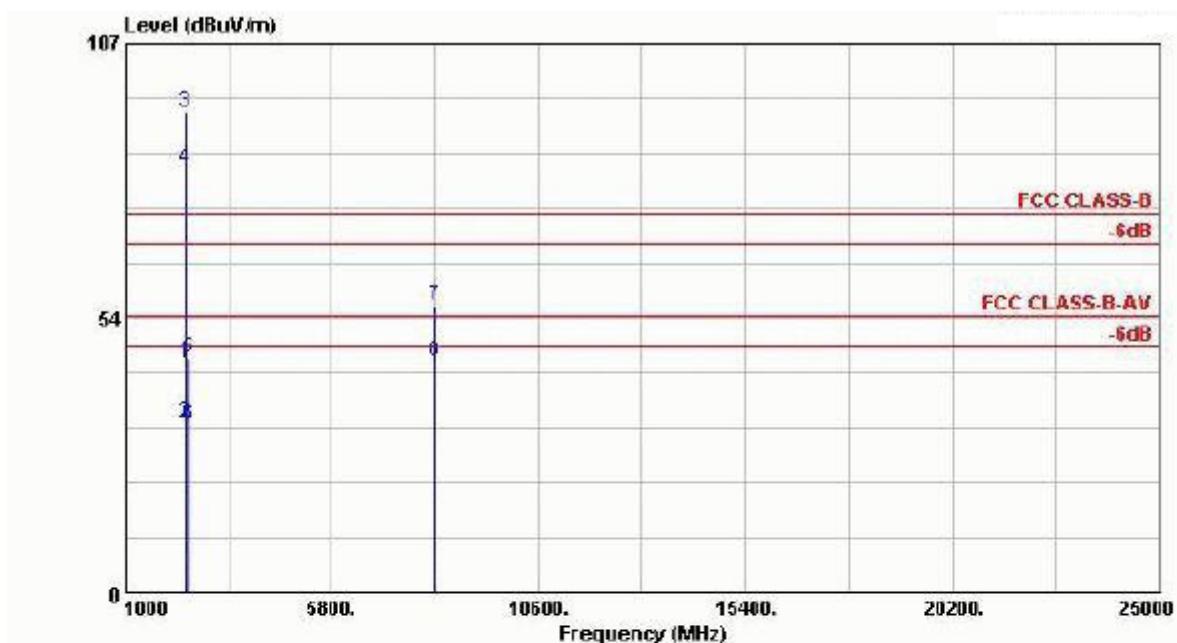


1000 6800. 10600. 15400. 20200. 26000

Freq	Level	Over	Limit	Read	Antenna	Cable	Preamplifier	Ant	Table
		Limit	Line	Antenna	Factor	Cable	Preamplifier	Pos	Pos
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	2390.000	44.31	-29.69	74.00	41.81	32.54	3.74	33.78	100 0 Peak
2	2390.000	33.50	-20.50	54.00	31.00	32.54	3.74	33.78	100 312 Average
3 X	2402.000	91.23		88.73	32.54	3.74	33.78	100 0 Peak	
4 X	2402.000	81.11		78.61	32.54	3.74	33.78	100 312 Average	
5	2500.000	46.20	-27.80	74.00	43.56	32.60	3.84	33.80	100 0 Peak
6	2500.000	33.30	-20.70	54.00	30.66	32.60	3.84	33.80	100 312 Average
7	8469.000	55.38	-18.62	74.00	45.29	37.45	7.00	34.36	100 0 Peak
8	8469.000	44.10	-9.90	54.00	34.01	37.45	7.00	34.36	100 252 Average

Remark: #3 and #4 Fundamental Signal

**Vertical**

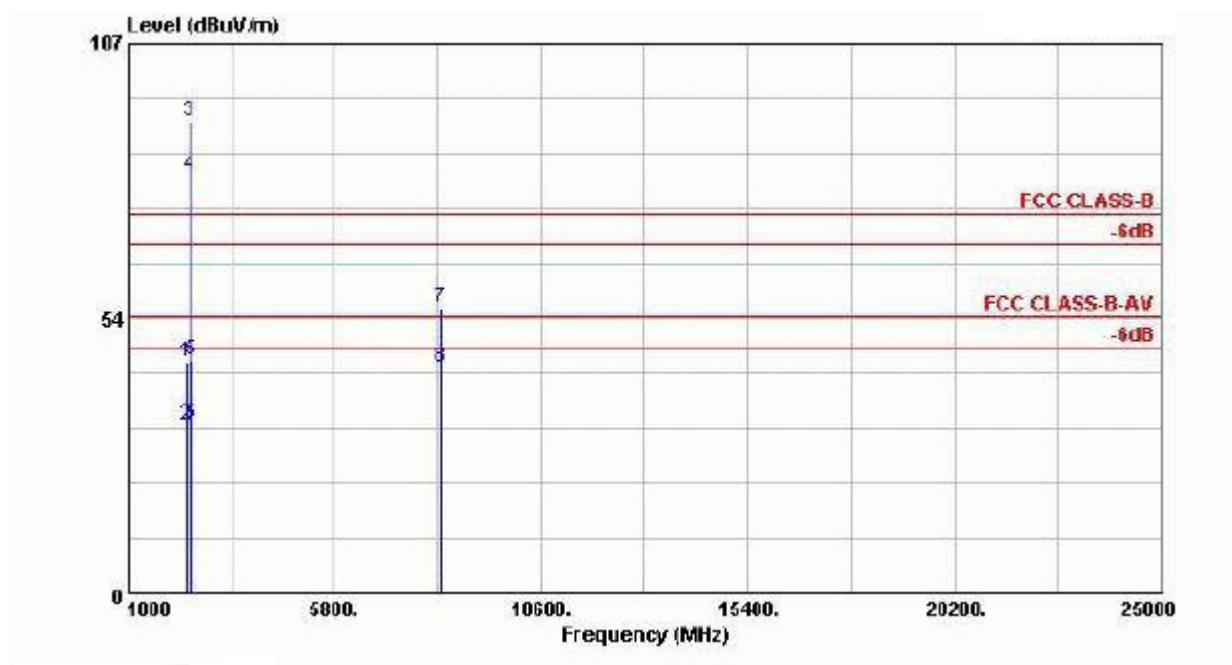


Freq	Level	Over	Limit	Read	Antenna	Cable	Preamplifier	Ant	Table		
		MHz	dBuV/m	dB	dBuV/m	Level	Factor	Loss	Factor	Pos	Pos
1	2390.000	44.74	-29.26	74.00	42.24	32.54	3.74	33.78	100	0	Peak
2	2390.000	33.08	-20.92	54.00	30.58	32.54	3.74	33.78	131	247	Average
3 X	2402.000	93.47			90.97	32.54	3.74	33.78	100	0	Peak
4 @	2402.000	82.86			80.36	32.54	3.74	33.78	131	247	Average
5	2406.000	45.77	-20.23	74.00	40.10	32.60	3.04	33.00	100	0	Peak
6	2486.000	32.75	-21.25	54.00	30.11	32.60	3.84	33.80	131	247	Average
7	8214.000	55.93	-18.07	74.00	45.91	37.09	6.87	33.94	100	0	Peak
8	8214.000	45.12	-0.00	54.00	35.10	37.09	6.87	33.94	100	110	Average

Remark: #3 and #4 Fundamental Signal

Operation Mode:	channel 39(1Mbps)	Test Date:	Dec.28, 2010
Temperature:	25°C	Tested by:	Mary Liu
Humidity:	55 % RH		

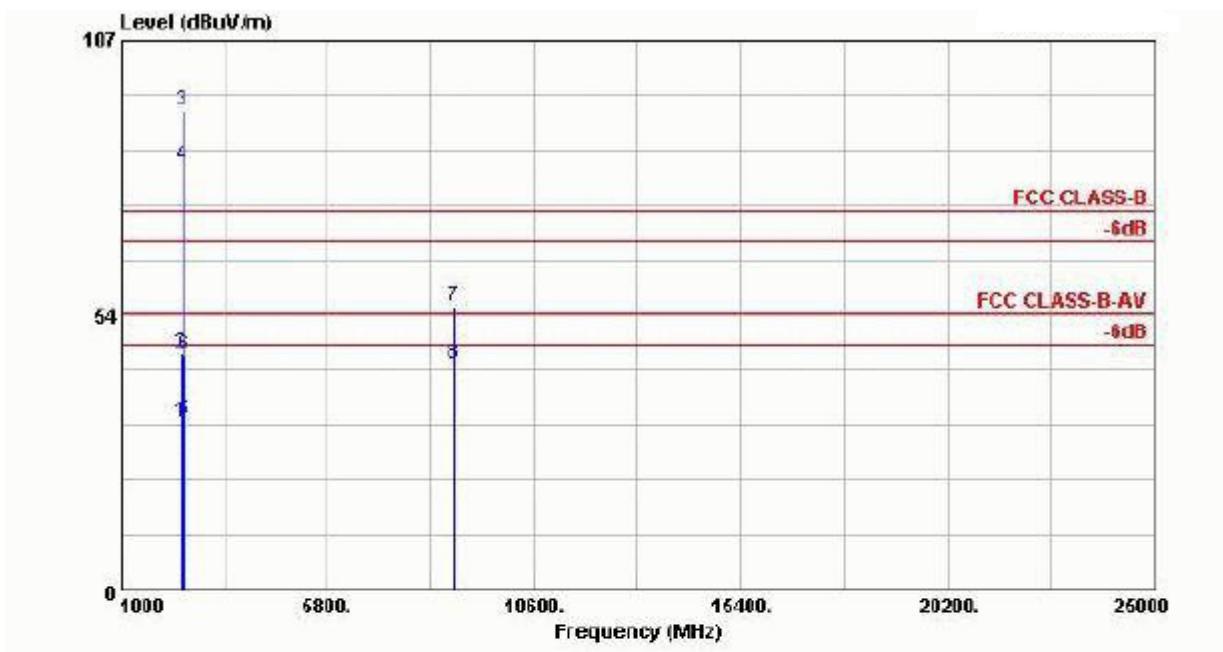
**Horizontal**



Freq	Level	Over Limit	Limit Line	ReadAntenna		Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
				MHz	dBuV/m					
				dB	dBuV/m					
1	2364.000	44.94	-29.06	74.00	42.46	32.52	3.71	33.77	100	0 Peak
2	2364.000	32.83	-21.17	54.00	30.37	32.52	3.71	33.77	100	180 Average
3 X	2441.000	91.83			89.26	32.57	3.79	33.79	100	0 Peak
4 X	2441.000	81.42			78.85	32.57	3.79	33.79	100	180 Average
5	2486.000	45.28	-28.72	74.00	42.65	32.59	3.84	33.80	100	0 Peak
6	2486.000	33.01	-20.99	54.00	30.39	32.59	3.84	33.90	100	180 Average
7	8298.000	55.66	-18.34	74.00	45.60	37.21	6.91	34.06	100	0 Peak
8	8298.000	44.12	-9.88	54.00	34.06	37.21	6.91	34.06	100	48 Average

Remark: #3 and #4 Fundamental Signal

**Vertical**

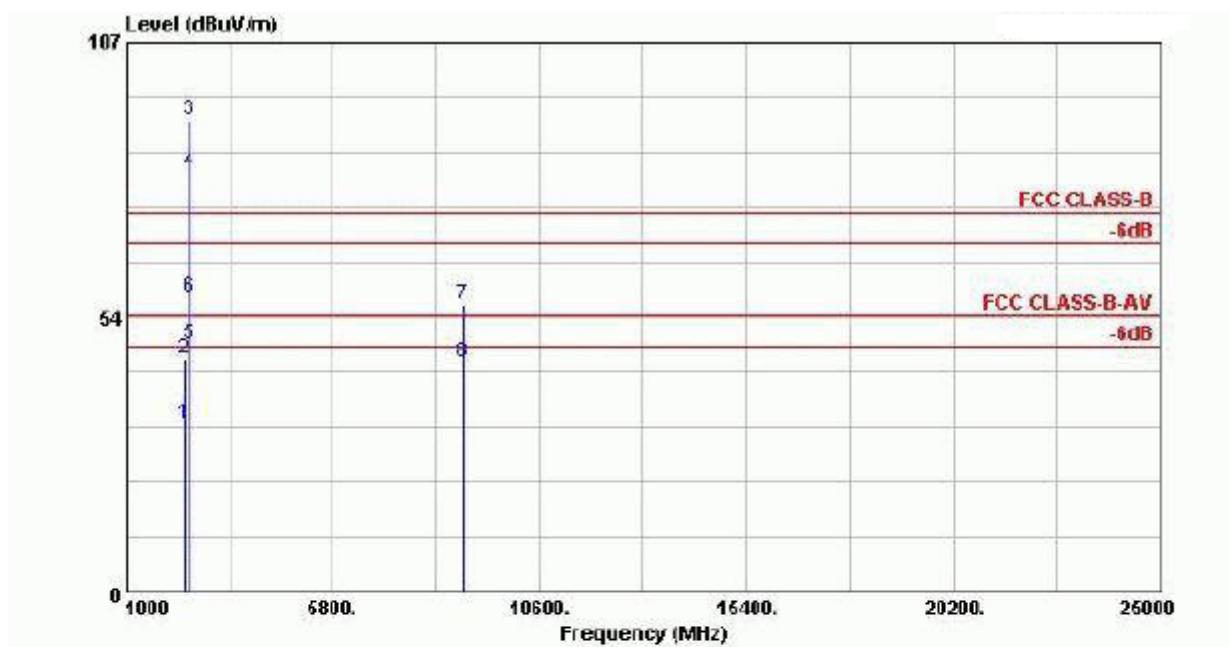


Freq	Level	Over	Limit	Read	Antenna	Cable	Preampl	Ant	Table	
		Limit	Line	Antenna	Factor	Loss	Factor	Pos	Pos	Remark
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2390.000	32.87	-21.13	54.00	30.37	32.54	3.74	33.78	102	94 Average
2	2390.000	46.23	-27.77	74.00	43.73	32.54	3.74	33.78	100	0 Peak
3 X	2441.000	93.41			90.84	32.57	3.79	33.79	100	0 Peak
4 @	2441.000	82.58			80.01	32.57	3.79	33.79	102	94 Average
5	2492.000	32.95	-21.05	54.00	30.31	32.60	3.84	33.80	102	94 Average
6	2492.000	45.93	-28.07	74.00	43.29	32.60	3.84	33.80	100	0 Peak
7	8754.000	55.37	-10.63	74.00	45.02	37.00	7.15	34.60	100	0 Peak
8	8754.000	43.84	-10.16	54.00	33.49	37.80	7.15	34.60	100	247 Average

Remark: #3 and #4 Fundamental Signal

Operation Mode:	channel 78(1Mbps)	Test Date:	Dec.28, 2010
Temperature:	25°C	Tested by:	Mary Liu
Humidity:	55 % RH		

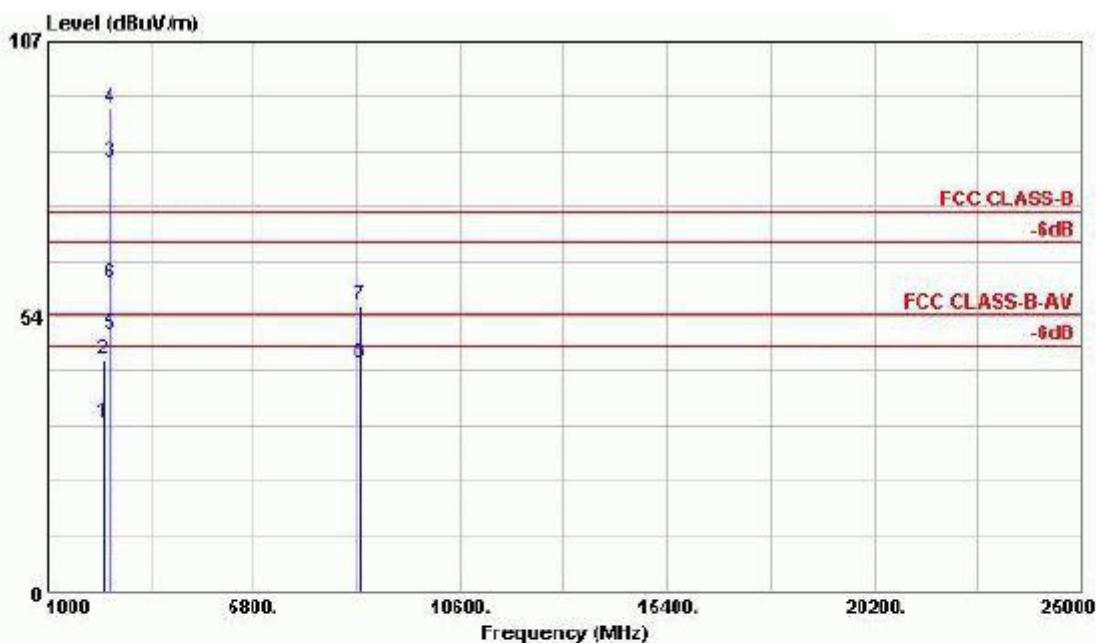
**Horizontal**



Freq	Level	Over Limit	Limit Line	ReadAntenna		Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark	
				MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1	2358.000	32.81	-21.19	54.00	30.35	32.52	3.71	33.77	144	186	Average
2	2358.000	45.33	-28.67	74.00	42.87	32.52	3.71	33.77	100	0	Peak
3	2480.000	91.87			89.24	32.59	3.84	33.80	100	0	Peak
4	2480.000	81.54			78.91	32.59	3.84	33.80	144	186	Average
5	2483.500	48.29	-5.71	54.00	45.56	32.59	3.84	33.80	144	186	Average
6	2483.500	57.51	-16.49	74.00	54.88	32.59	3.84	33.80	100	0	Peak
7	8817.000	55.99	-10.01	74.00	45.59	37.09	7.18	34.66	100	0	Peak
8	8817.000	44.58	-9.42	54.00	34.18	37.09	7.18	34.66	100	178	Average

Remark: #3 and #4 Fundamental Signal

**Vertical**



Freq	MHz	Over Limit		Read		Ant	Table Pos	Table Pos	Remark	
		Level	Limit	Antenna Line	Factor					
	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2326.000	32.80	-21.20	54.00	30.41	32.50	3.66	33.77	114	150 Average
2	2326.000	45.22	-20.70	74.00	42.83	32.50	3.66	33.77	100	0 Peak
3	2480.000	83.27			80.64	32.59	3.84	33.80	114	150 Average
4	2480.000	94.08			91.45	32.59	3.84	33.80	100	0 Peak
5	2483.500	50.14	-3.86	54.00	47.51	32.59	3.84	33.80	114	150 Average
6	2483.500	59.88	-14.12	74.00	57.25	32.59	3.84	33.80	100	0 Peak
7	8265.000	55.50	-19.50	74.00	45.46	37.16	6.90	34.02	100	0 Peak
8	8265.000	44.46	-9.54	54.00	34.42	37.16	6.90	34.02	100	154 Average

Remark: #3 and #4 Fundamental Signal

Operation Mode:	2Mbps	Test Date:	Dec.28, 2010
Temperature:	25°C	Tested by:	Mary Liu
Humidity:	55 % RH		

Radiated emission for Bottom Channel(2Mbps)						
Frequency	Antenna Pol.	Field Strength	Field Strength	Limit (PK)	Limit (AV)	Memo
GHz	H/V	dBuV/m (PK)	dBuV/m (AV)	dBuV/m	dBuV/m	
2.390	H	47.22	33.18	74	54	*
2.390	V	47.22	33.18	74	54	H
2.486	H	46.88	34.52	74	54	*
2.486	V	46.11	33.29	74	54	*
4.804	H	--	--	74	54	*
4.804	V	--	--	74	54	*
Other(1G-25G)	--	--	--	74	54	

Radiated emission for Middle Channel (2Mbps)						
Frequency	Antenna Pol.	Field Strength	Field Strength	Limit (PK)	Limit (AV)	Memo
GHz	H/V	dBuV/m (PK)	dBuV/m (AV)	dBuV/m	dBuV/m	
2.390	H	47.43	33.43	74	54	*
2.390	V	47.43	33.64	74	54	H
2.486	H	46.32	34.32	74	54	*
2.486	V	46.21	33.32	74	54	*
4.882	H	--	--	74	54	*
4.882	V	--	--	74	54	*
Other(1G-25G)	--	--	--	74	54	

Radiated emission for Top Channel (2Mbps)						
Frequency	Antenna Pol.	Field Strength	Field Strength	Limit (PK)	Limit (AV)	Memo
GHz	H/V	dBuV/m (PK)	dBuV/m (AV)	dBuV/m	dBuV/m	
2.4835	H	60.22	49.52	74	54	*
2.4835	V	59.58	48.33	74	54	*
4.960	H	--	--	74	54	
4.960	V	--	--	74	54	
8.625	H	55.87	44.32	74	54	
8.625	V	54.43	43.31	74	54	
Other(1G-25G)	--	--	--	74	54	

Operation Mode:	2Mbps	Test Date:	Dec.28, 2010
Temperature:	25°C	Tested by:	Mary Liu
Humidity:	55 % RH		

Radiated emission for Bottom Channel(2Mbps)						
Frequency	Antenna Pol.	Field Strength	Field Strength	Limit (PK)	Limit (AV)	Memo
GHz	H/V	dBuV/m (PK)	dBuV/m (AV)	dBuV/m	dBuV/m	
2.390	H	48.01	33.90	74	54	*
2.390	V	47.58	34.18	74	54	H
2.486	H	46.65	34.87	74	54	*
2.486	V	47.21	33.87	74	54	*
4.804	H	--	--	74	54	*
4.804	V	--	--	74	54	*
Other(1G-25G)	--	--	--	74	54	

Radiated emission for Middle Channel (2Mbps)						
Frequency	Antenna Pol.	Field Strength	Field Strength	Limit (PK)	Limit (AV)	Memo
GHz	H/V	dBuV/m (PK)	dBuV/m (AV)	dBuV/m	dBuV/m	
2.390	H	47.90	33.87	74	54	*
2.390	V	46.09	32.54	74	54	H
2.486	H	46.56	34.98	74	54	*
2.486	V	45.76	32.31	74	54	*
4.882	H	--	--	74	54	*
4.882	V	--	--	74	54	*
Other(1G-25G)	--	--	--	74	54	

Radiated emission for Top Channel (2Mbps)						
Frequency	Antenna Pol.	Field Strength	Field Strength	Limit (PK)	Limit (AV)	Memo
GHz	H/V	dBuV/m (PK)	dBuV/m (AV)	dBuV/m	dBuV/m	
2.4835	H	60.09	48.65	74	54	*
2.4835	V	58.44	47.21	74	54	*
4.960	H	--	--	74	54	
4.960	V	--	--	74	54	
8.625	H	54.54	43.97	74	54	
8.625	V	53.64	42.66	74	54	
Other(1G-25G)	--	--	--	74	54	

## 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 the spectrum analyzer Start = 2.4GHz Stop = 2.4835GHz, span=20MHz
4. Set the Spectrum Analyzer as RBW = VBW = 100KHz

### 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

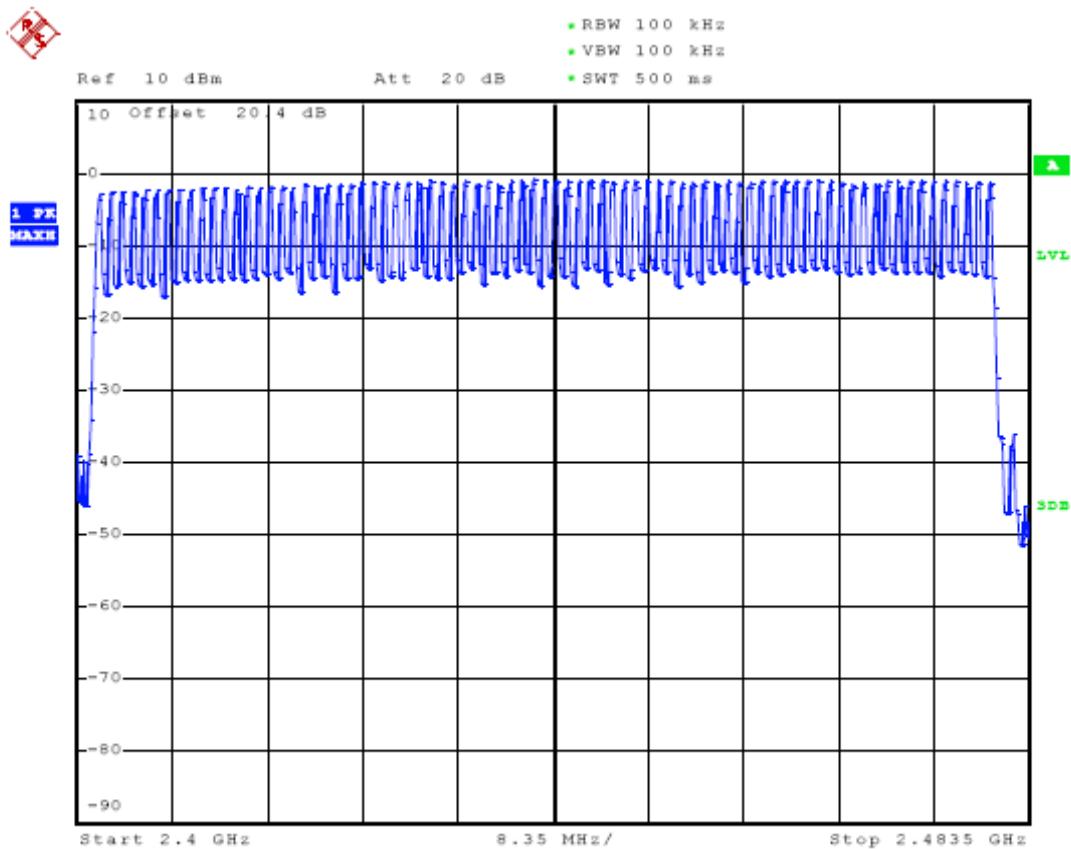
### 10.4 LIMITS AND MEASUREMENT RESULT:

TOTAL NO. OF HOPPING CHANNEL	LIMIT (NO. OF CH)	MEASUREMENT (NO. OF CH)	RESULT
	>=15	79	PASS

Humidity:	55 % RH	Test Date:	Dec.28, 2010
Temperature:	25°C	Tested by:	Jekey Zhang

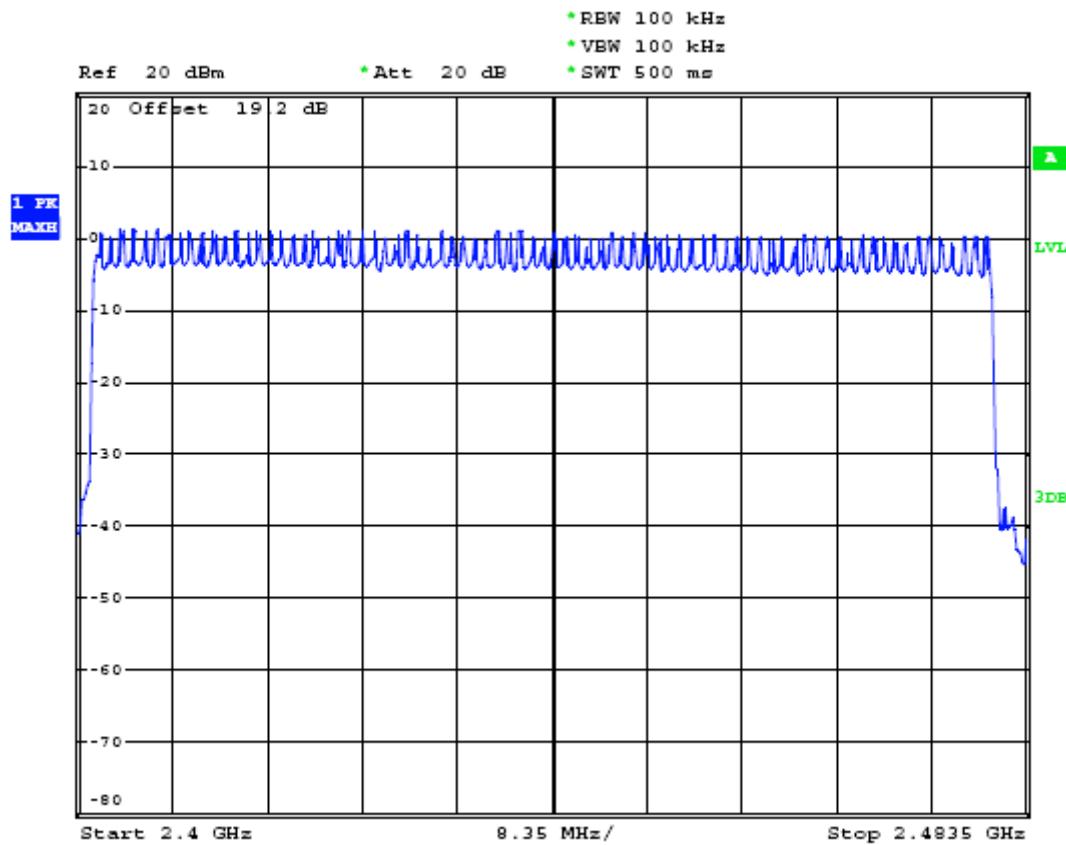
**BT (1Mbps)**

NUMBER OF HOPPING CHANNEL PLOT ON CHANNEL 0~78



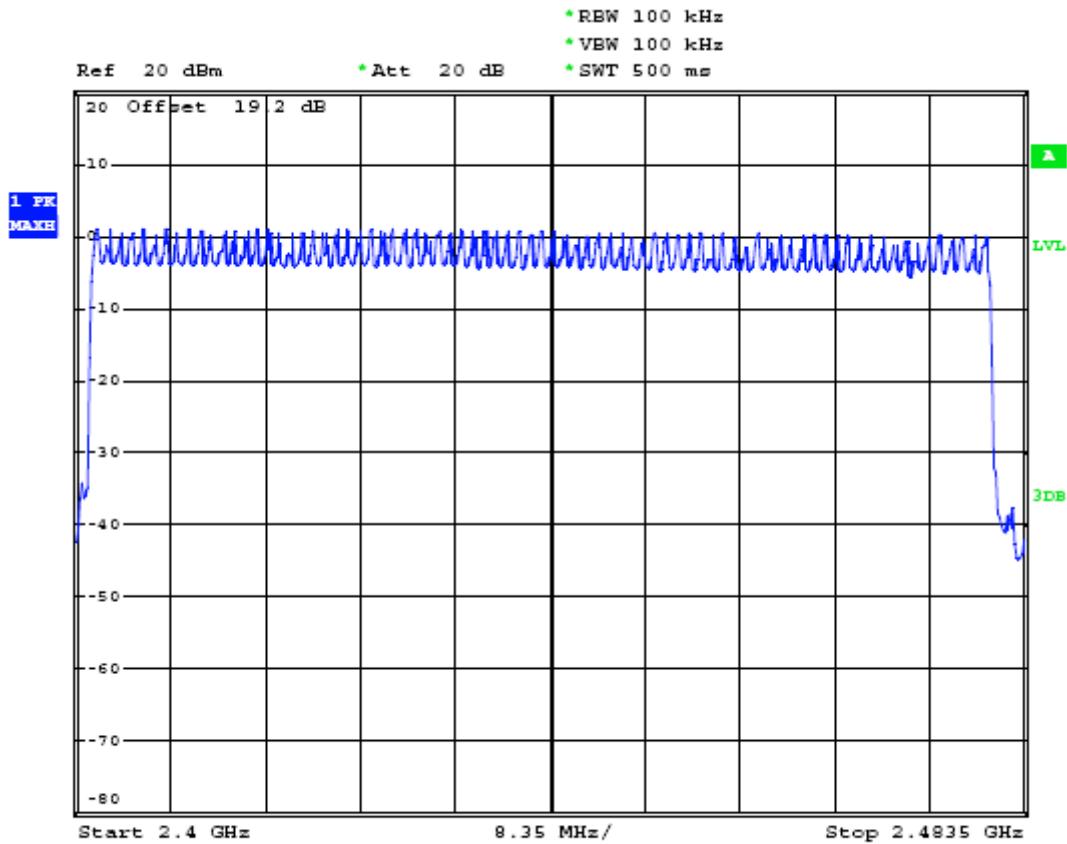
**BT EDR (2Mbps)**

NUMBER OF HOPPING CHANNEL PLOT ON CHANNEL 0~78



**BT EDR (3Mbps)**

NUMBER OF HOPPING CHANNEL PLOT ON CHANNEL 0~78



## 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 6.3

### 11.4 LIMITS AND MEASUREMENT RESULT

BOTTOM CHANNEL(1Mbps)					
Mode	Frequency	Spectrum Reading	Test Result	Limit	Pass / Fail
	(MHz)	(uS)	(mS)	(mS)	
DH1	2402	370	118.40	400	Pass
DH3	2402	1627	260.32	400	Pass
DH5	2402	2870	306.13	400	Pass

MIDDLE CHANNEL(1Mbps)					
Mode	Frequency	Spectrum Reading	Test Result	Limit	Pass / Fail
	(MHz)	(uS)	(mS)	(mS)	
DH1	2441	373.3	119.46	400	Pass
DH3	2441	1627	260.32	400	Pass
DH5	2441	2860	305.07	400	Pass

TOP CHANNEL(1Mbps)					
Mode	Frequency	Spectrum Reading	Test Result	Limit	Pass / Fail
	(MHz)	(uS)	(mS)	(mS)	
DH1	2480	370	118.40	400	Pass
DH3	2480	1627	260.32	400	Pass
DH5	2480	2860	305.07	400	Pass

BOTTOM CHANNEL(2Mbps)					
Mode	Frequency	Spectrum Reading	Test Result	Limit	Pass / Fail
	(MHz)	(uS)	(mS)	(mS)	
DH1	2402	373.3	119.45	400	Pass
DH3	2402	1620	259.20	400	Pass
DH5	2402	2860	305.06	400	Pass

MIDDLE CHANNEL(2Mbps)					
Mode	Frequency	Spectrum Reading	Test Result	Limit	Pass / Fail
	(MHz)	(uS)	(mS)	(mS)	
DH1	2441	370	118.40	400	Pass
DH3	2441	1610	257.60	400	Pass
DH5	2441	2860	305.06	400	Pass

TOP CHANNEL(2Mbps)					
Mode	Frequency	Spectrum Reading	Test Result	Limit	Pass / Fail
	(MHz)	(uS)	(mS)	(mS)	
DH1	2480	366.7	117.34	400	Pass
DH3	2480	1620	259.20	400	Pass
DH5	2480	2880	307.20	400	Pass

BOTTOM CHANNEL(3Mbps)					
Mode	Frequency	Spectrum Reading	Test Result	Limit	Pass / Fail
	(MHz)	(uS)	(mS)	(mS)	
DH1	2402	370	118.40	400	Pass
DH3	2402	1600	256.00	400	Pass
DH5	2402	2875	306.66	400	Pass

MIDDLE CHANNEL(3Mbps)					
Mode	Frequency	Spectrum Reading	Test Result	Limit	Pass / Fail
	(MHz)	(uS)	(mS)	(mS)	
DH1	2441	368.3	117.85	400	Pass
DH3	2441	1608	257.28	400	Pass
DH5	2441	2858	304.85	400	Pass

TOP CHANNEL(3Mbps)					
Mode	Frequency	Spectrum Reading	Test Result	Limit	Pass / Fail
	(MHz)	(uS)	(mS)	(mS)	
DH1	2480	368.3	117.85	400	Pass
DH3	2480	1617	258.72	400	Pass
DH5	2480	2867	305.81	400	Pass

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

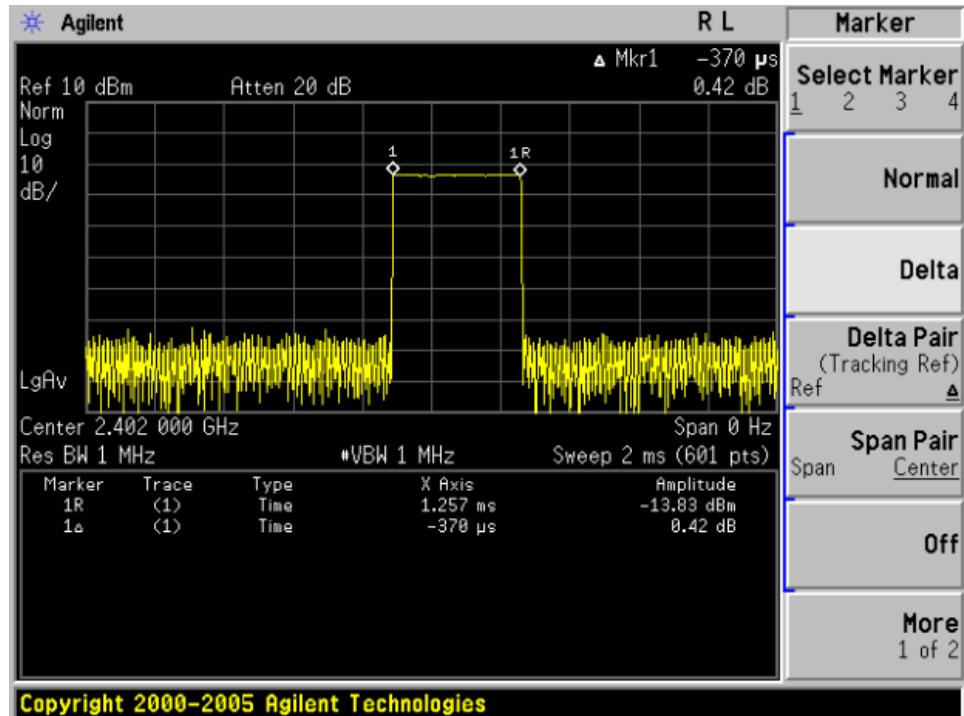
DH1 Time Slot: Reading \*  $(1600/2)*31.6/79$

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

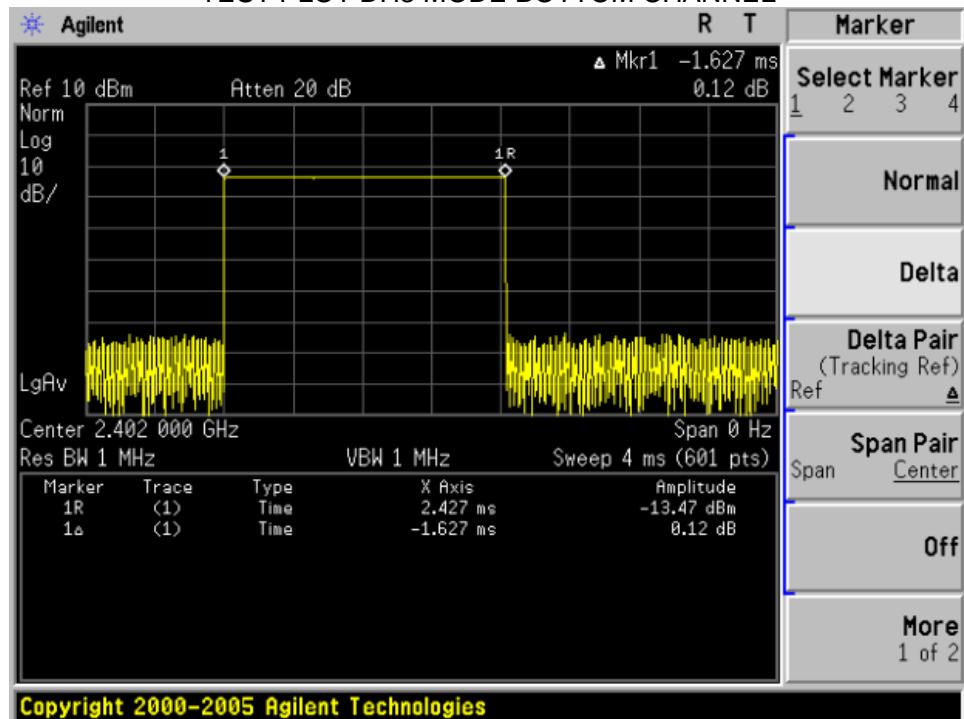
DH5 Time Slot: Reading \*  $(1600/6)*31.6/79$

Humidity:	55 % RH	Test Date:	Dec.28, 2010
Temperature:	25°C	Tested by:	Jekey Zhang
Configurations	DH1, DH3, DH5(1Mbps)		

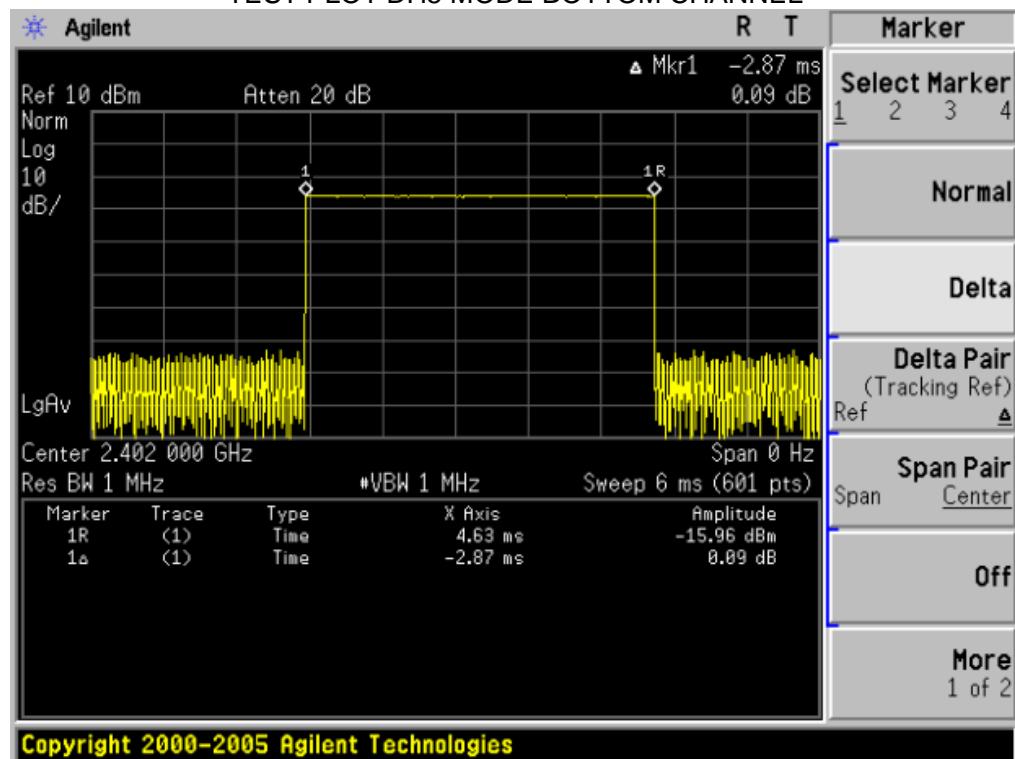
TEST PLOT DH1 MODE BOTTOM CHANNEL



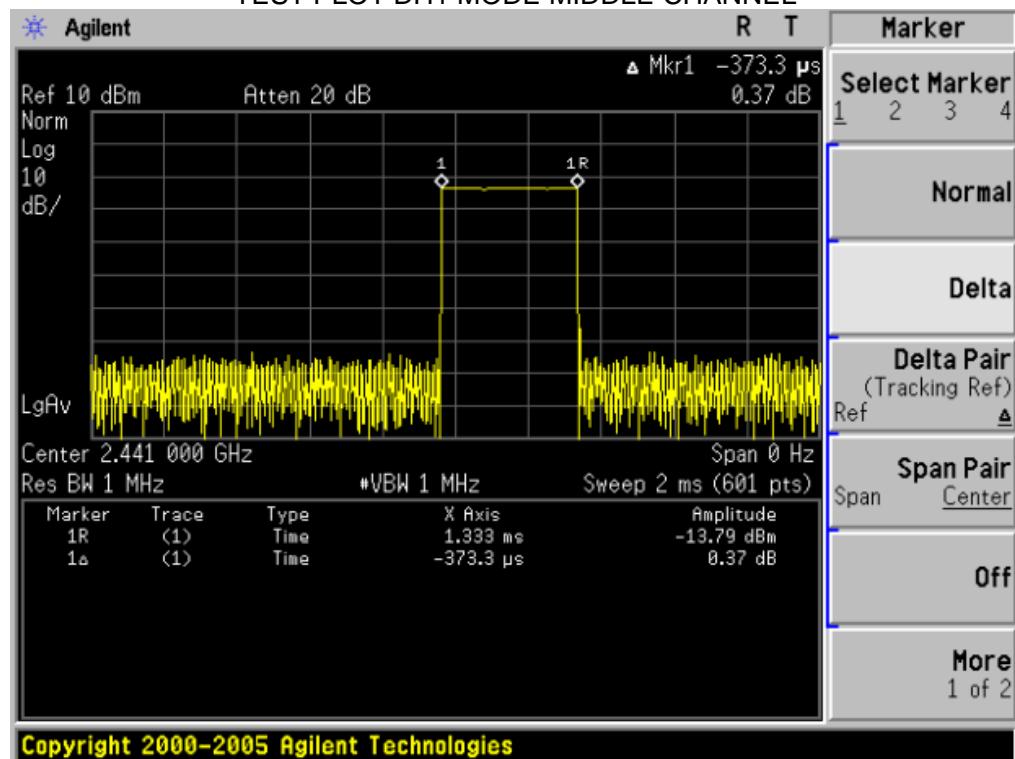
TEST PLOT DH3 MODE BOTTOM CHANNEL



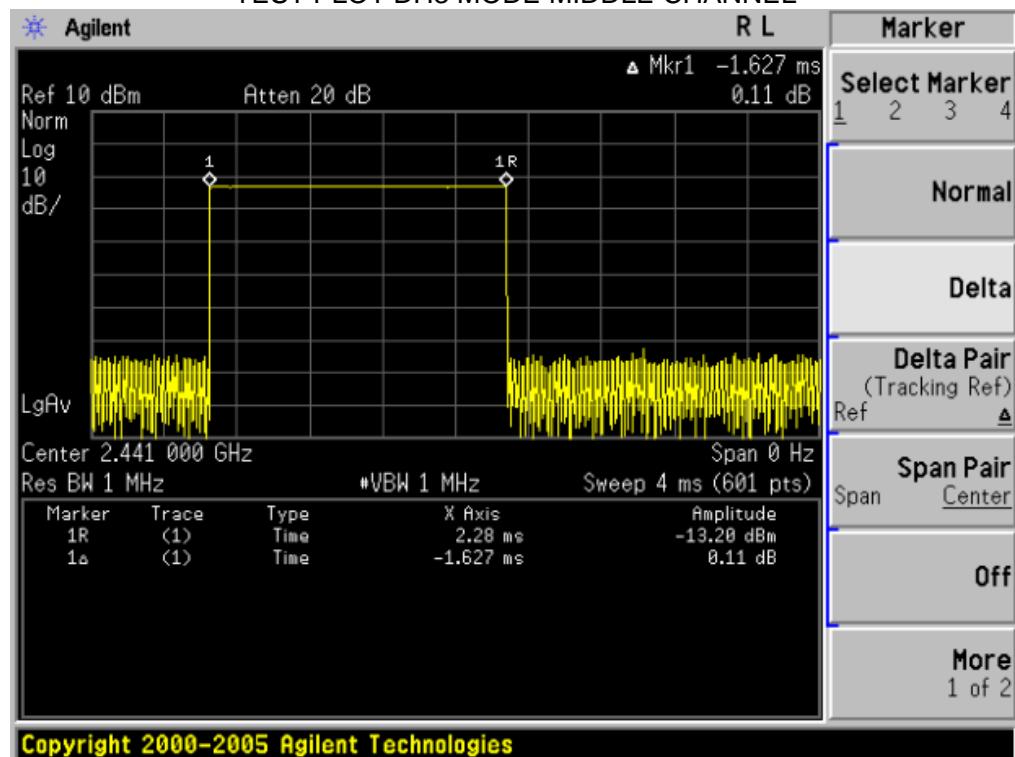
TEST PLOT DH5 MODE BOTTOM CHANNEL



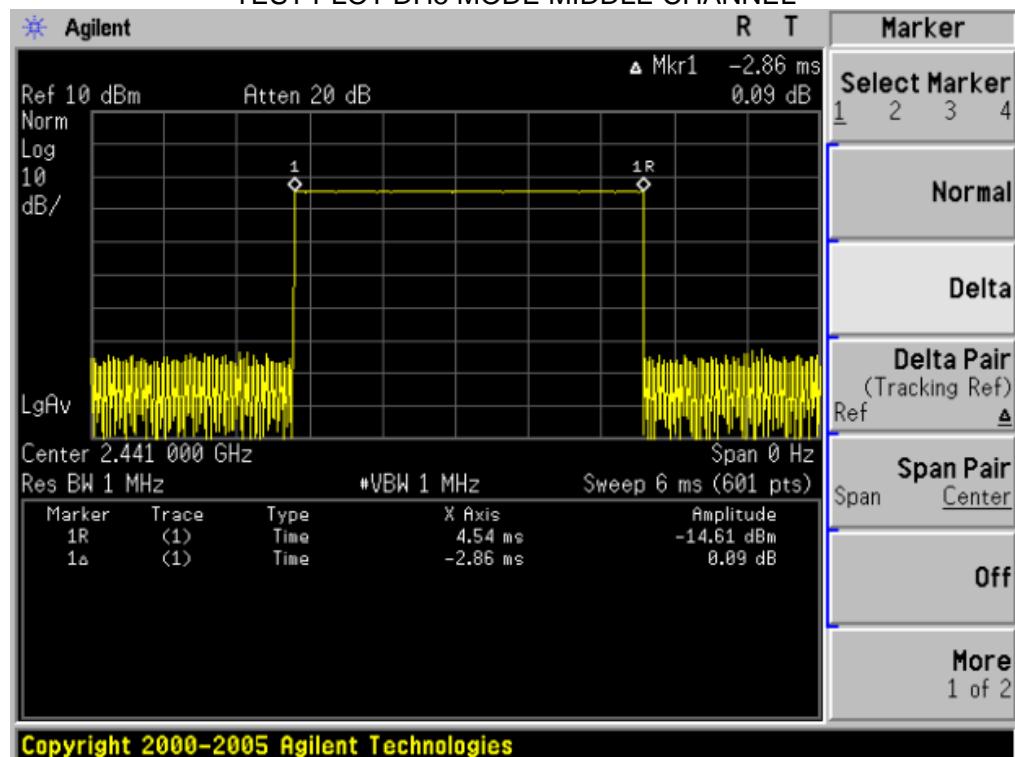
TEST PLOT DH1 MODE MIDDLE CHANNEL



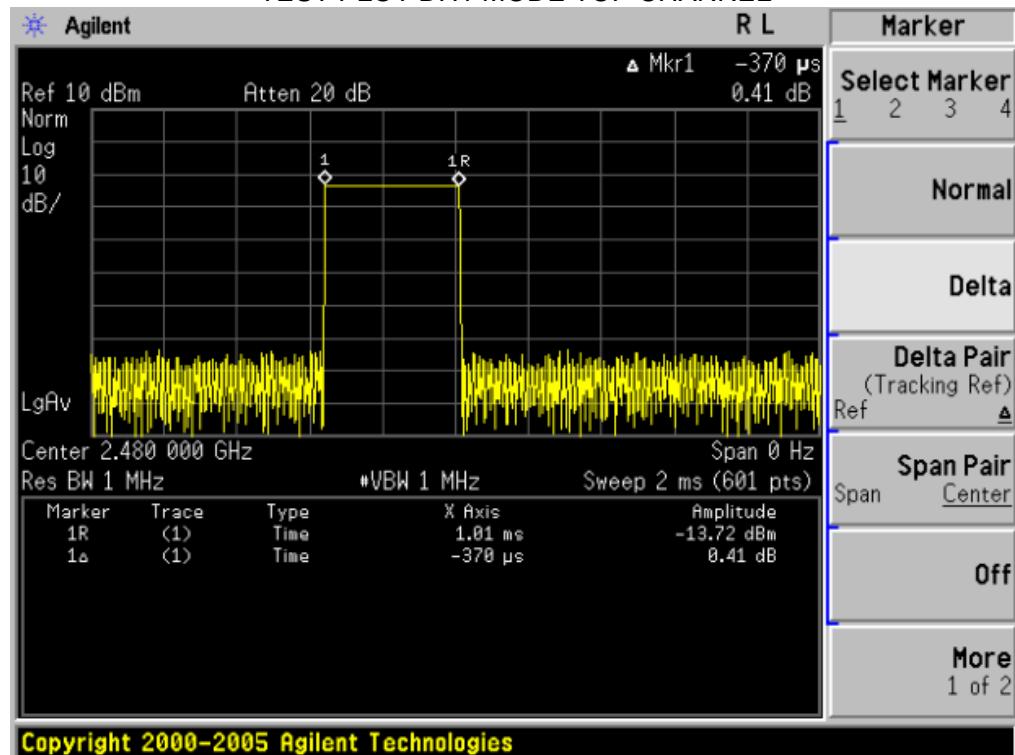
TEST PLOT DH3 MODE MIDDLE CHANNEL



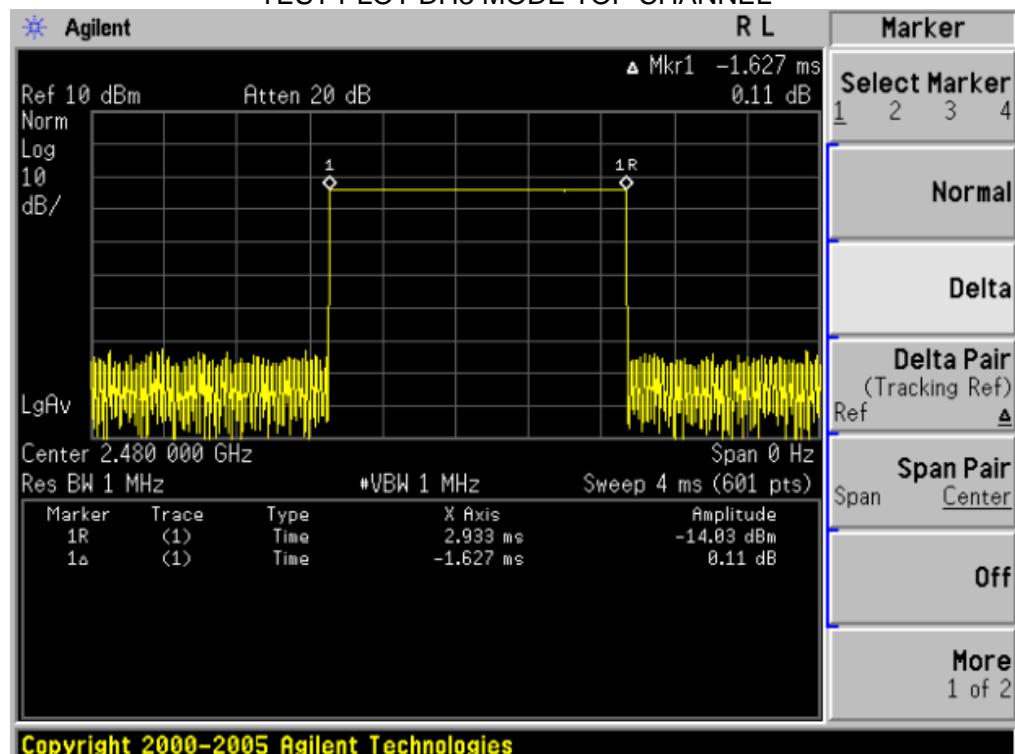
TEST PLOT DH5 MODE MIDDLE CHANNEL



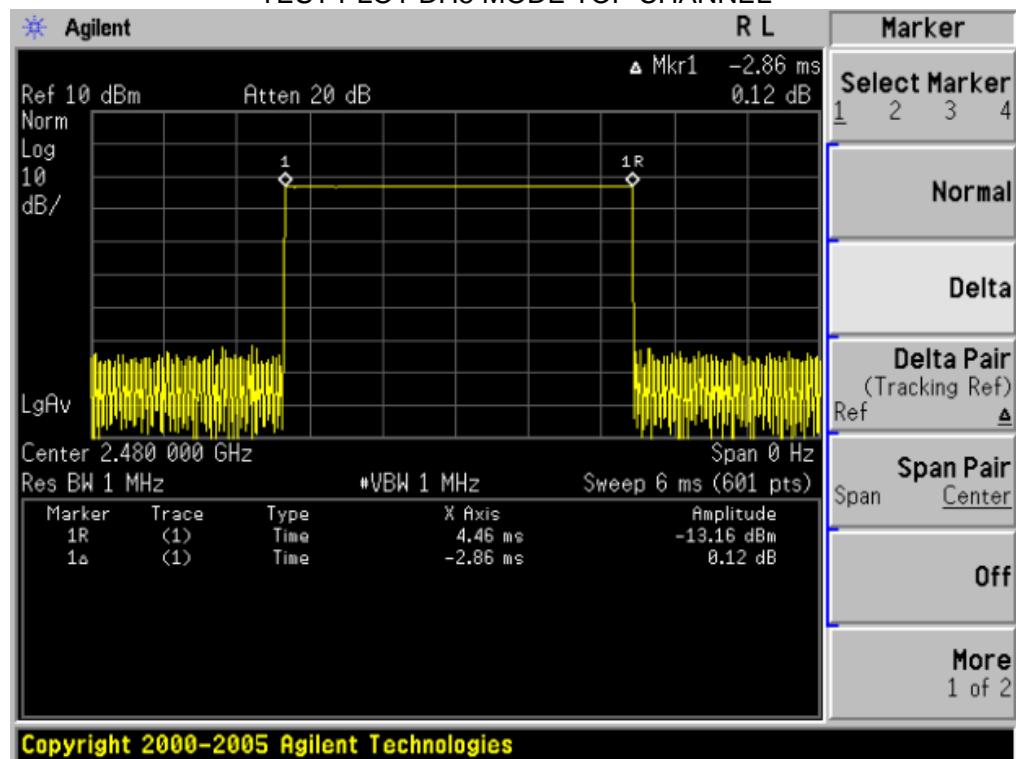
TEST PLOT DH1 MODE TOP CHANNEL



TEST PLOT DH3 MODE TOP CHANNEL



TEST PLOT DH5 MODE TOP CHANNEL



## 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 center frequency of spectrum analyzer = Middle of Operating frequency
4. Set the spectrum analyzer as RBW, VBW=100KHz, Span = 5 MHz,

### 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 6.3

### 12.4 LIMITS AND MEASUREMENT RESULT

CHANNEL(1Mbps)	CHANNEL SEPARATION	LIMIT	RESULT	
	KHz	KHz	Pass	
CH00-CH01	1000	>=25 KHz or 2/3 20 dB BW		
CH39-CH40	1004			
CH77-CH78	1004			

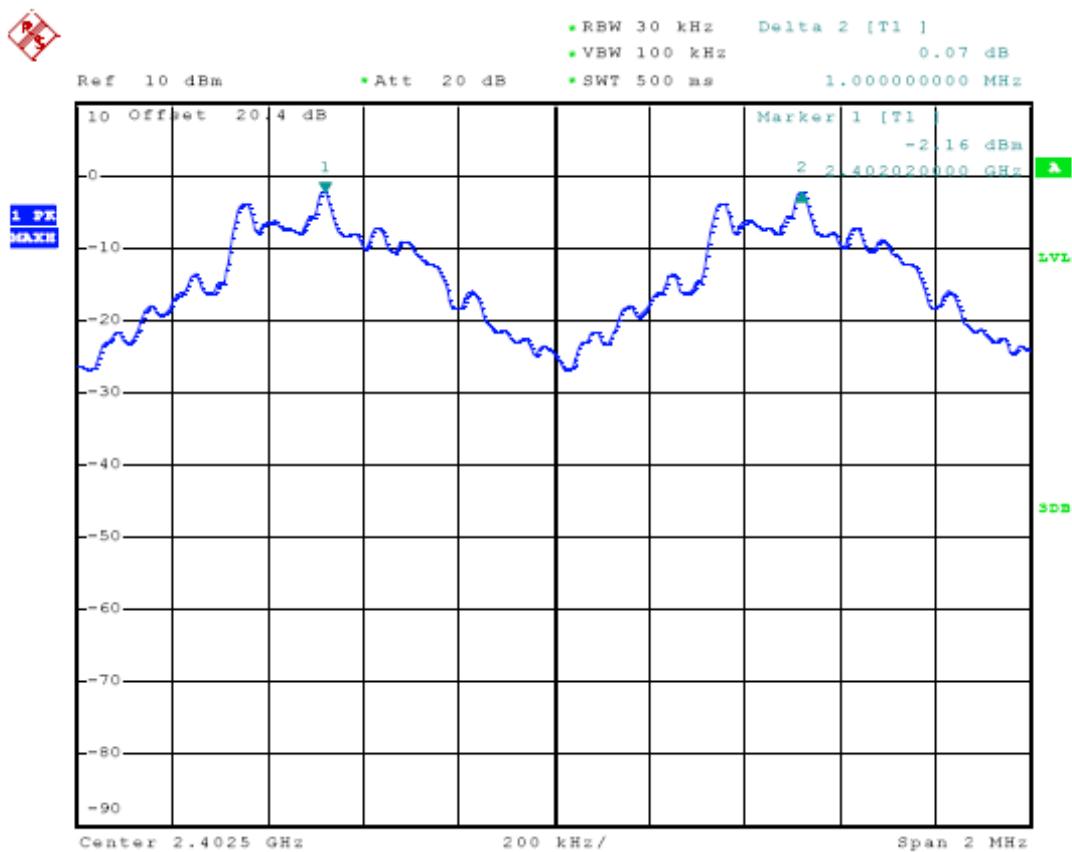
CHANNEL(2Mbps)	CHANNEL SEPARATION	LIMIT	RESULT	
	KHz	KHz	Pass	
CH00-CH01	1008	>=25 KHz or 2/3 20 dB BW		
CH39-CH40	1008			
CH77-CH78	1008			

CHANNEL(3Mbps)	CHANNEL SEPARATION	LIMIT	RESULT	
	KHz	KHz	Pass	
CH00-CH01	1000	>=25 KHz or 2/3 20 dB BW		
CH39-CH40	1000			
CH77-CH78	1000			

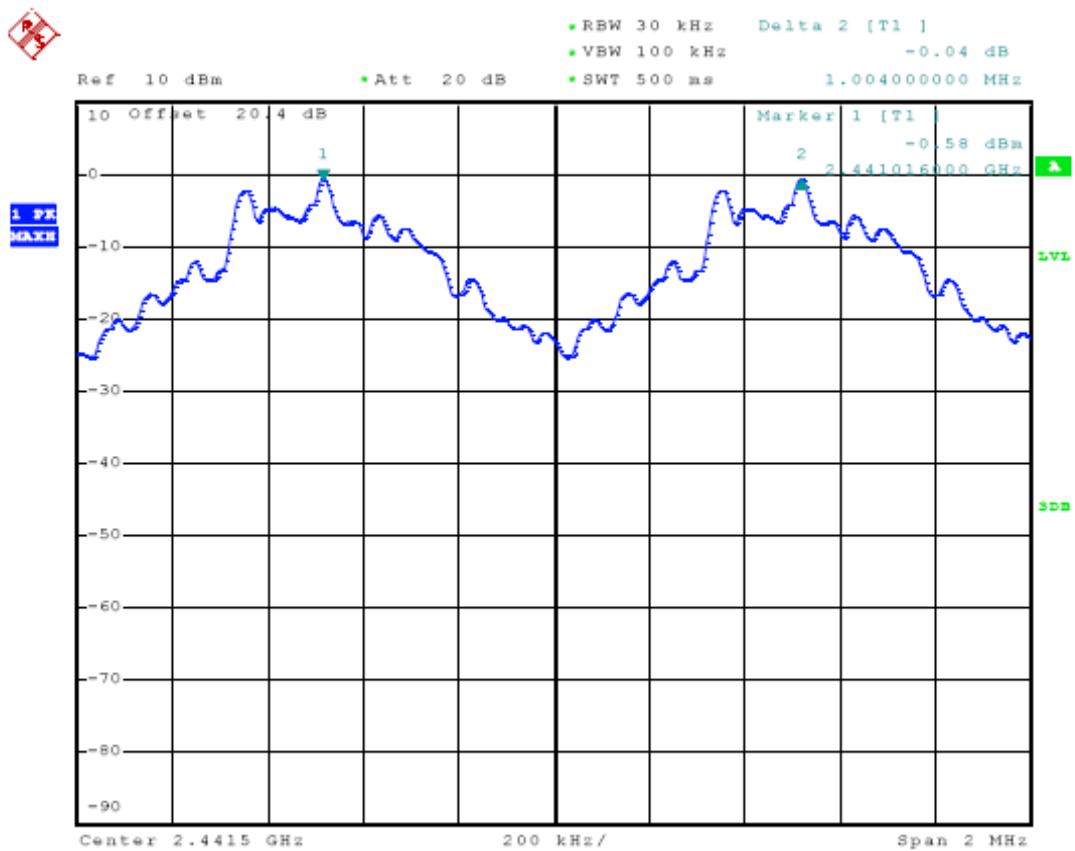
Humidity:	55 % RH	Test Date:	Dec.28, 2010
Temperature:	25°C	Tested by:	Jekey Zhang
Configurations	Channel 0-1, channel39-40, channel78-79		

## BT (1Mbps)

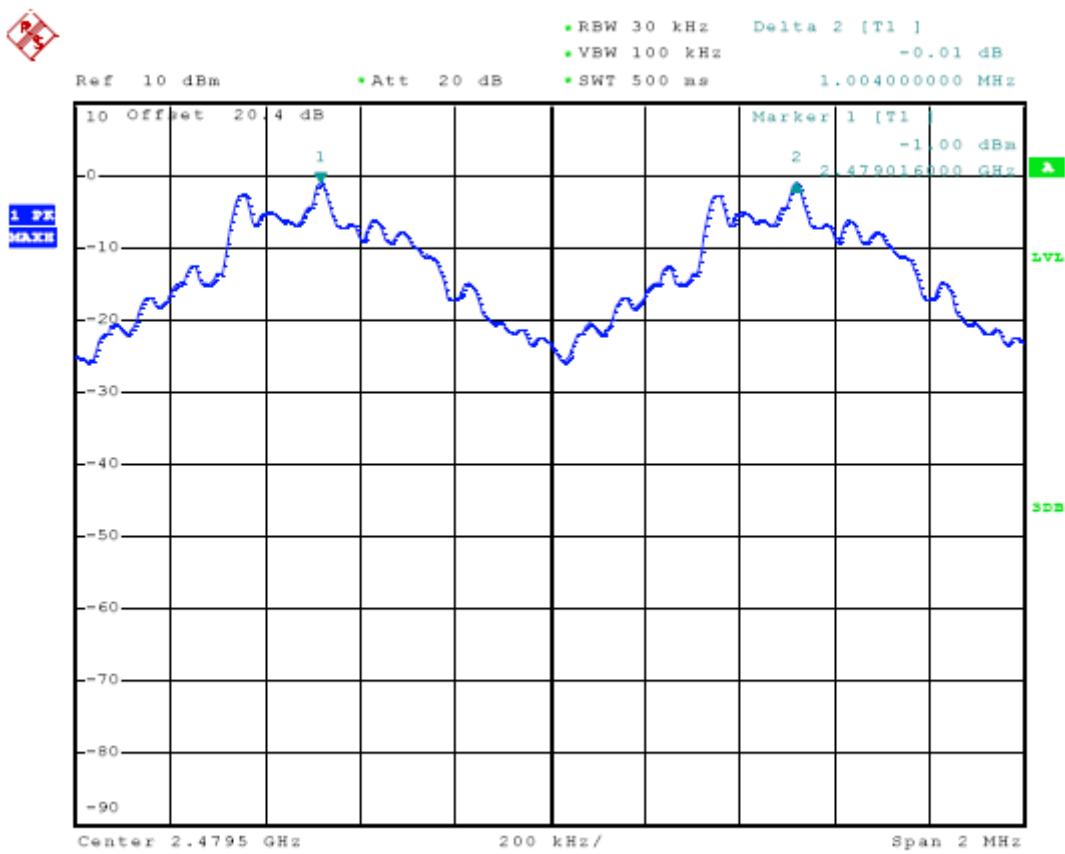
### TEST PLOT FOR FREQUENCY SEPARATION –CHANNEL0-1(1Mbps)



TEST PLOT FOR FREQUENCY SEPARATION -CHANNEL39-40(1Mbps)

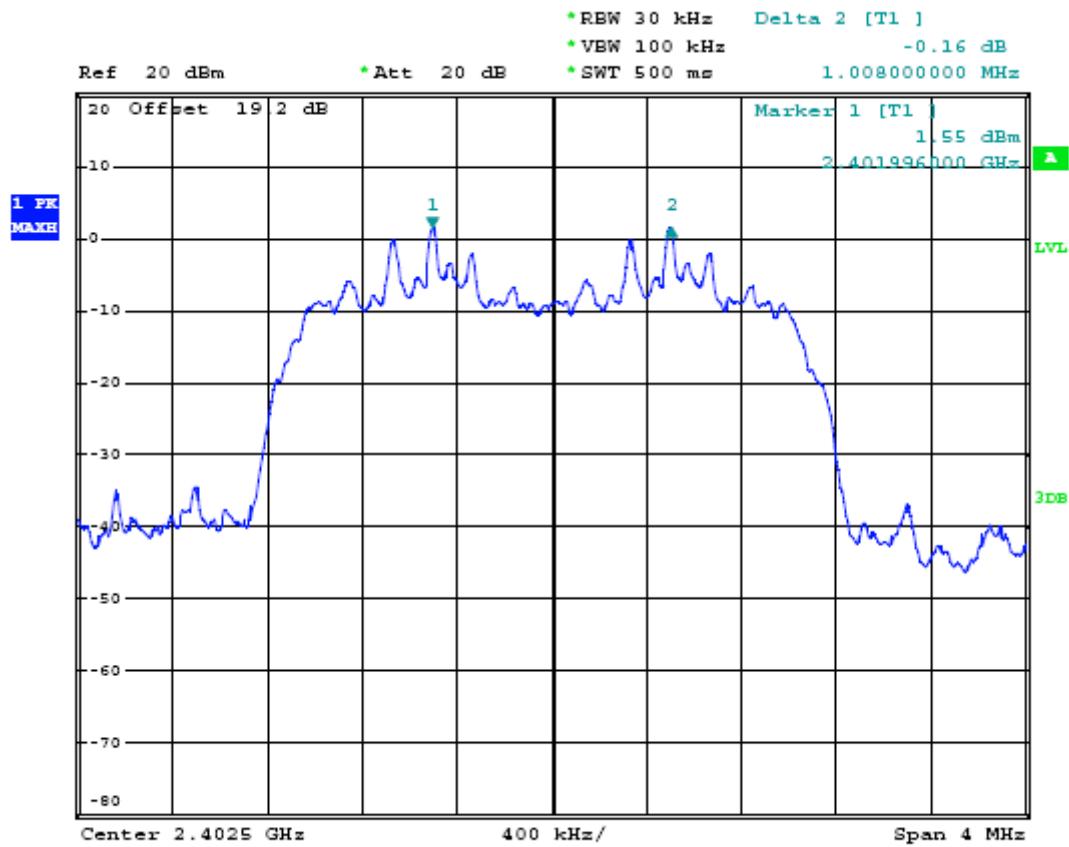


TEST PLOT FOR FREQUENCY SEPARATION -CHANNEL77-78(1Mbps)

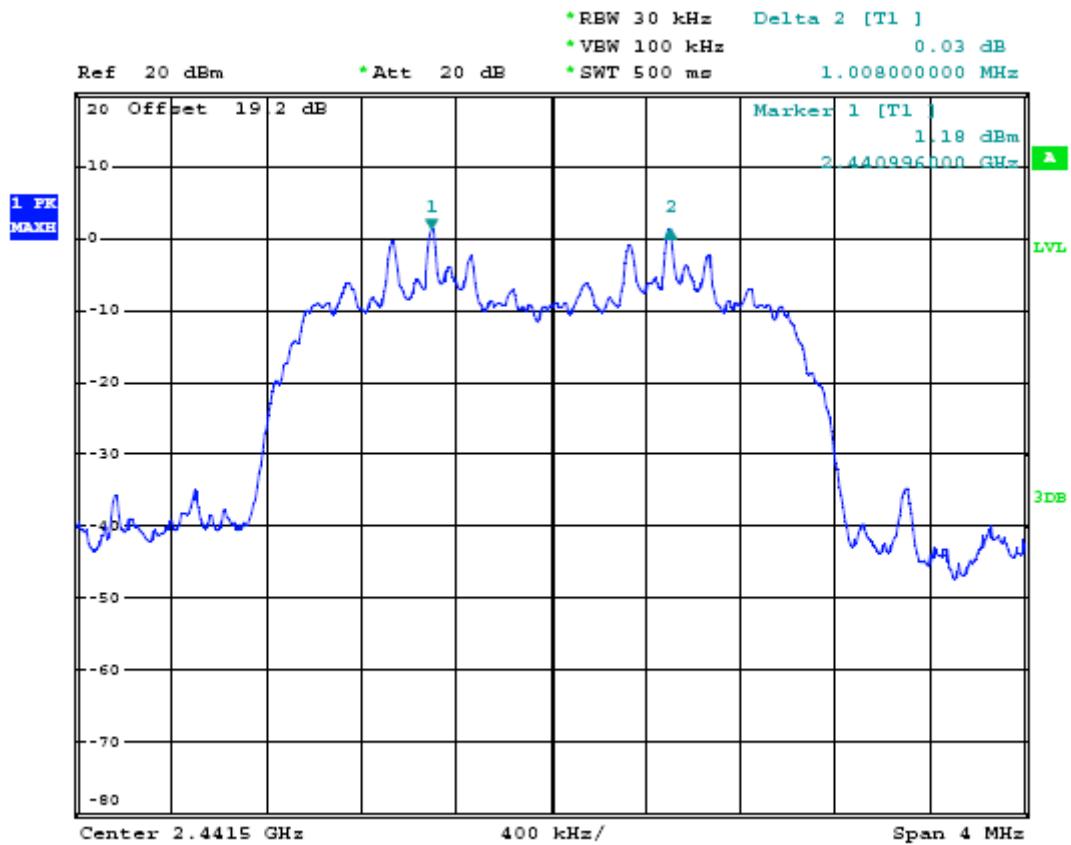


**BT EDR (2Mbps)**

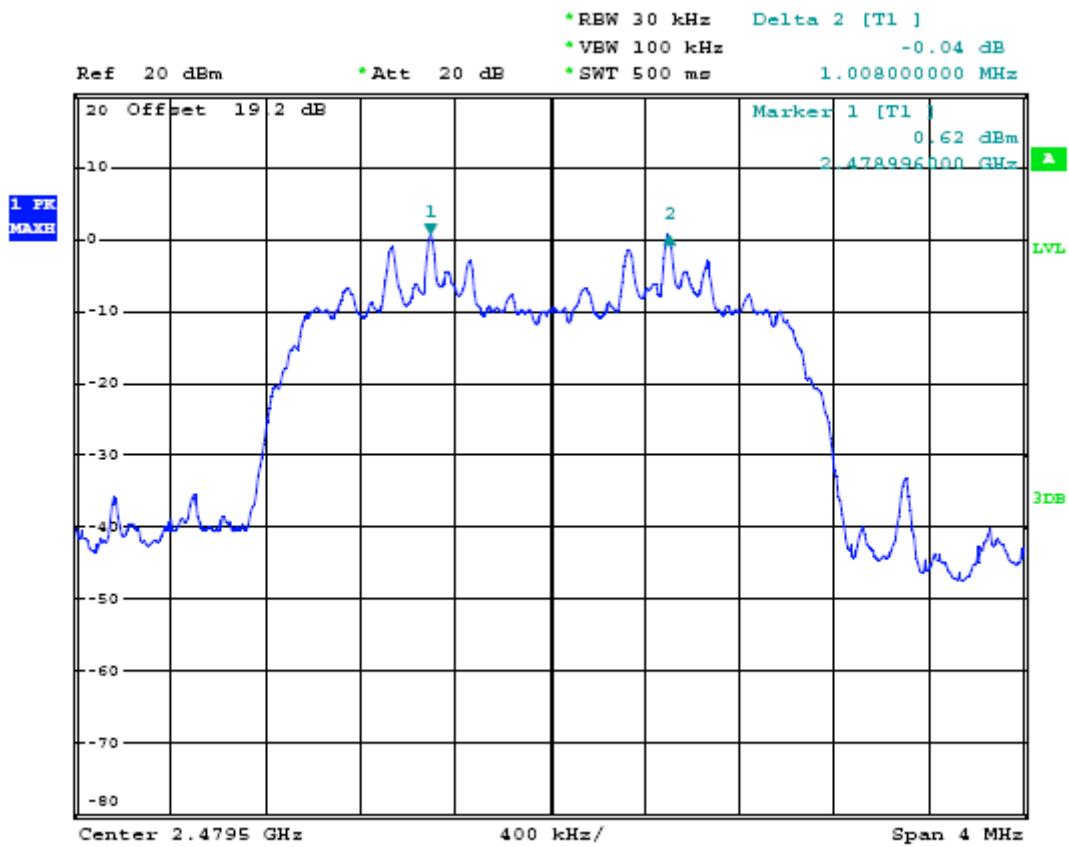
TEST PLOT FOR FREQUENCY SEPARATION –CHANNEL0-1(2Mbps)



TEST PLOT FOR FREQUENCY SEPARATION –CHANNEL39-40(2Mbps)

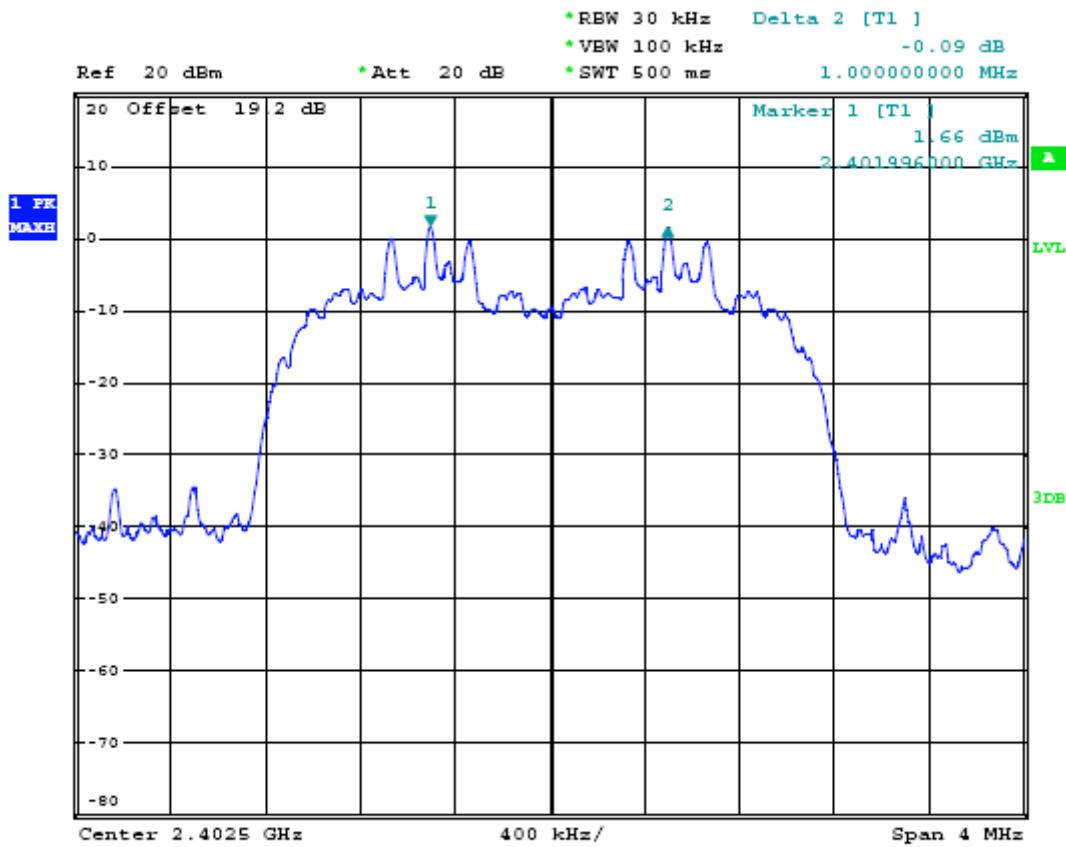


TEST PLOT FOR FREQUENCY SEPARATION -CHANNEL77-78(2Mbps)

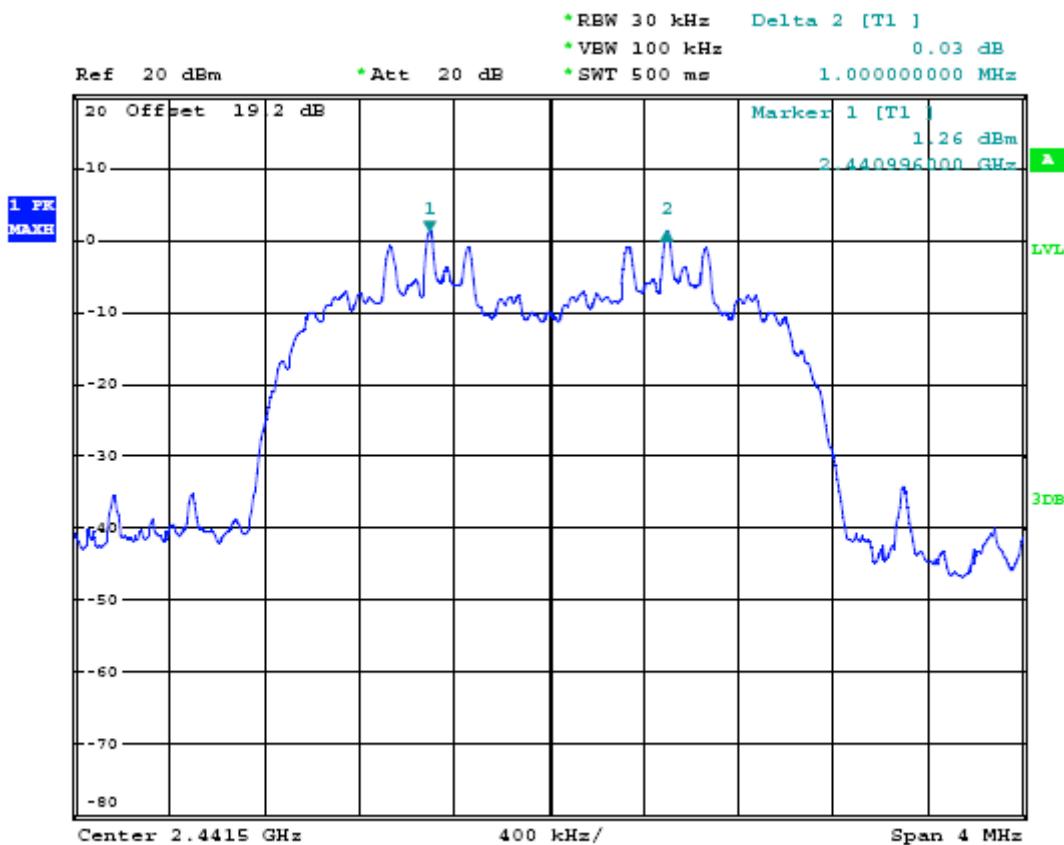


## BT EDR (3Mbps)

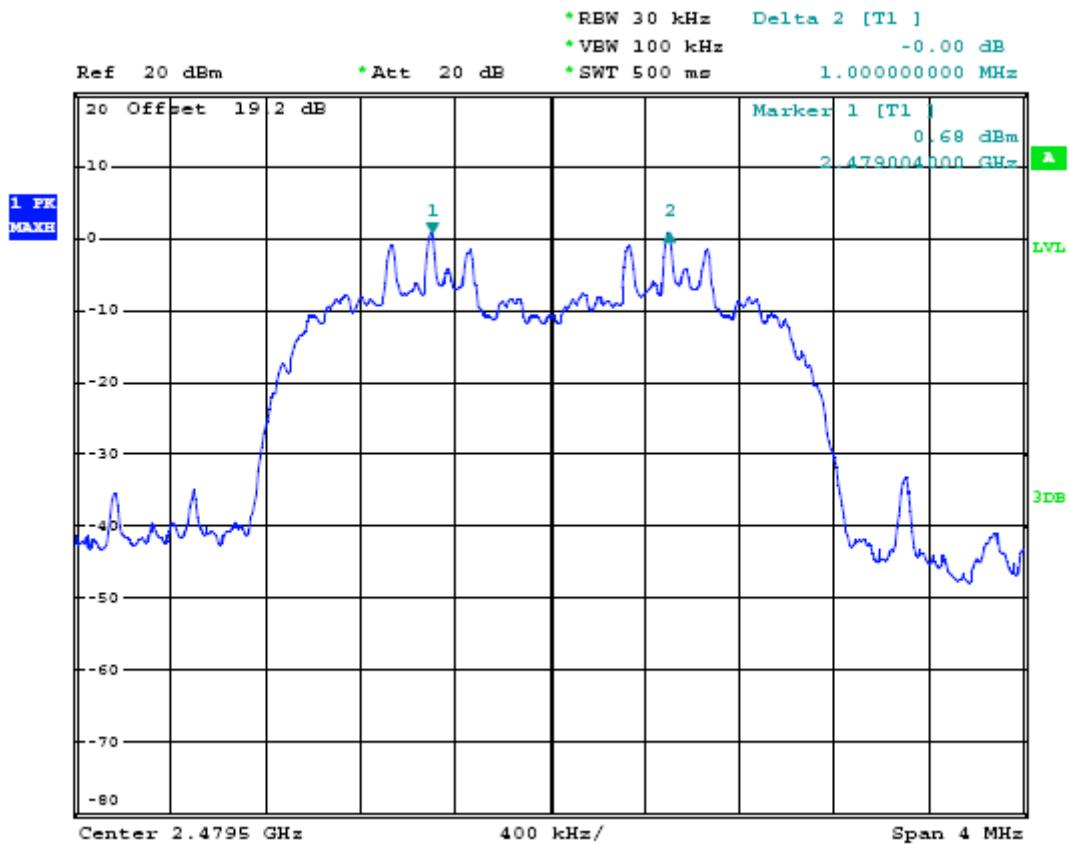
### TEST PLOT FOR FREQUENCY SEPARATION –CHANNEL0-1(3Mbps)



TEST PLOT FOR FREQUENCY SEPARATION -CHANNEL39-40(3Mbps)



TEST PLOT FOR FREQUENCY SEPARATION -CHANNEL77-78(3Mbps)



**APPENDIX I**  
**PHOTOGRAPHS OF THE EUT**  
**TOP VIEW OF SAMPLE**



BOTTOM VIEW OF SAMPLE



LEFT VIEW OF SAMPLE



RIGHT VIEW OF SAMPLE



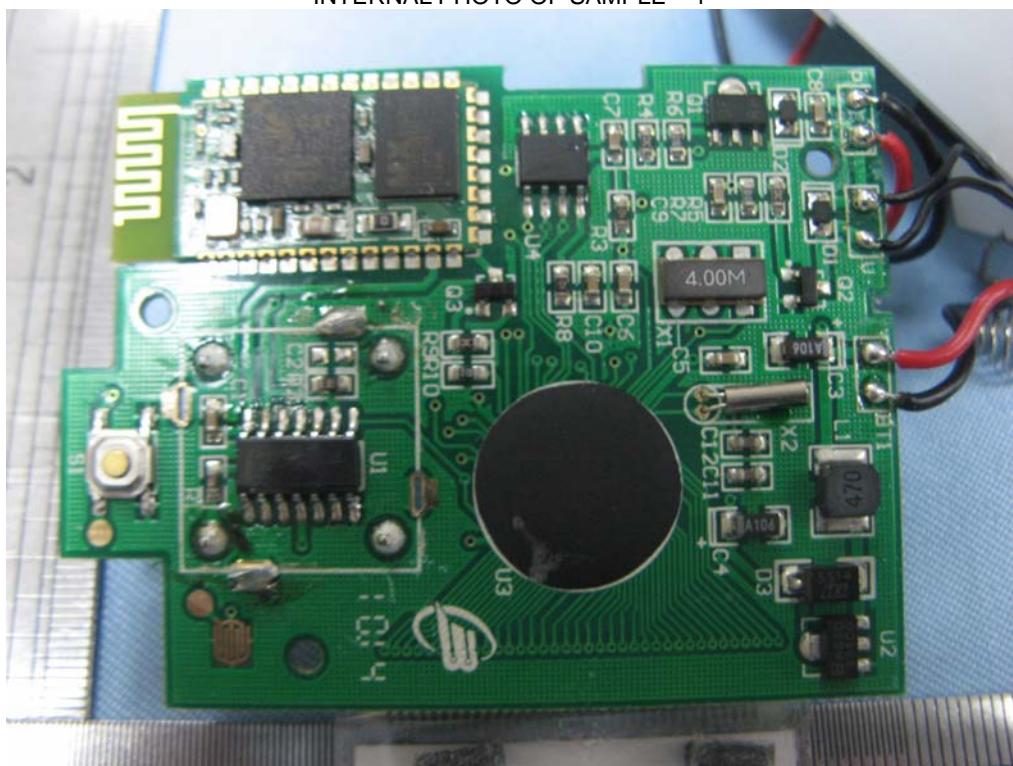
FRONT VIEW OF SAMPLE



BACK VIEW OF SAMPLE



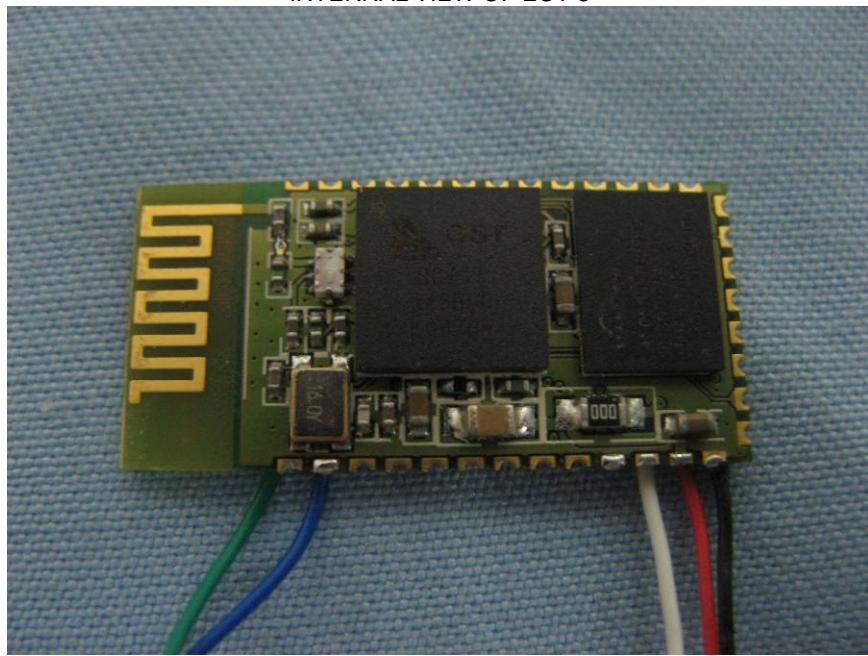
INTERNAL PHOTO OF SAMPLE – 1



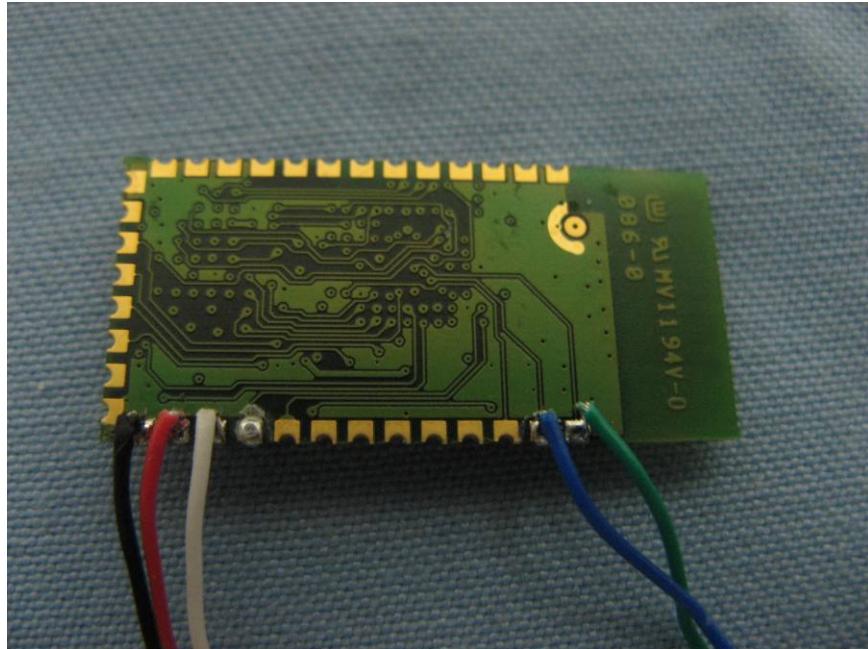
INTERNAL PHOTO OF SAMPLE – 2



INTERNAL VIEW OF EUT-3

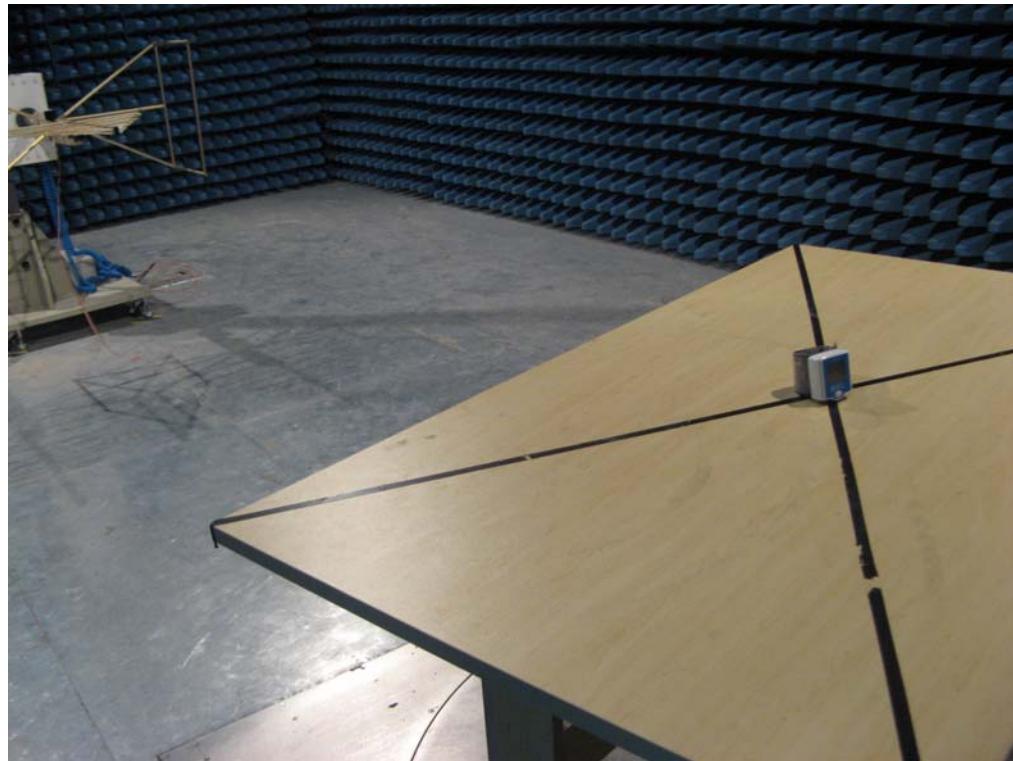


INTERNAL VIEW OF EUT-3



**PPENDIX II**

**PHOTOGRAPHS OF THE TEST SETUP**  
**RADIATED EMISSION TEST SETUP**



----END OF REPORT----