



## Test Report

Product Name	ASUS Tablet
Model No.	TF810C
FCC ID.	MSQTF810C

Applicant	ASUSTeK COMPUTER INC.
Address	No. 15, Li-Te Rd., Peitou, Taipei, Taiwan, R.O.C.

Date of Receipt	June. 08, 2012
Issued Date	July. 17, 2012
Report No.	126213R-RFUSP43V01
Report Version	V1.0



The Test Results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of QuieTek Corporation.  
This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

# Test Report Certification

Issued Date: July. 17, 2012

Report No.: 126213R-RFUSP43V01



Product Name	ASUS Tablet
Applicant	ASUSTeK COMPUTER INC.
Address	No. 15, Li-Te Rd., Peitou, Taipei, Taiwan, R.O.C.
Manufacturer	1. PEGATRON CORPORATION Taoyuan Mfg 2. Protek (Shanghai) Limited. 3. Tech-Com(Shanghai) Computer Co.Ltd. 4. Wistron InfoComm(Kunshan) Co., Ltd.
Model No.	TF810C
FCC ID.	MSQTF810C
EUT Rated Voltage	AC 100-240V, 50-60Hz
EUT Test Voltage	AC 120V/60Hz
Trade Name	ASUS
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2010 ANSI C63.4: 2003
Test Result	Complied

The Test Results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of Quietek Corporation.  
This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

Documented By :

A handwritten signature in blue ink that appears to read "Leven Huang".

(Senior Adm. Specialist / Leven Huang )

Tested By :

A handwritten signature in blue ink that appears to read "Henk Huang".

( Engineer / Henk Huang )

Approved By :

A handwritten signature in black ink that appears to read "Vincent Lin".

(Manager / Vincent Lin )

## TABLE OF CONTENTS

Description	Page
<b>1. GENERAL INFORMATION .....</b>	<b>5</b>
1.1. EUT Description.....	5
1.2. Operational Description.....	8
1.3. Tested System Details.....	9
1.4. Configuration of Tested System .....	9
1.5. EUT Exercise Software .....	9
1.6. Test Facility .....	10
<b>2. CONDUCTED EMISSION .....</b>	<b>11</b>
2.1. Test Equipment.....	11
2.2. Test Setup .....	11
2.3. Limits.....	12
2.4. Test Procedure .....	12
2.5. Uncertainty .....	12
2.6. Test Result of Conducted Emission.....	13
<b>3. PEAK POWER OUTPUT .....</b>	<b>17</b>
3.1. Test Equipment.....	17
3.2. Test Setup .....	17
3.3. Limit .....	17
3.4. Test Procedure .....	17
3.5. Uncertainty .....	17
3.6. Test Result of Peak Power Output.....	18
<b>4. RADIATED EMISSION .....</b>	<b>21</b>
4.1. Test Equipment.....	21
4.2. Test Setup .....	21
4.3. Limits.....	22
4.4. Test Procedure .....	23
4.5. Uncertainty .....	23
4.6. Test Result of Radiated Emission.....	24
<b>5. RF ANTENNA CONDUCTED TEST .....</b>	<b>36</b>
5.1. Test Equipment.....	36
5.2. Test Setup .....	36
5.3. Limits.....	36
5.4. Test Procedure .....	36
5.5. Uncertainty .....	36
5.6. Test Result of RF Antenna Conducted Test.....	37
<b>6. BAND EDGE .....</b>	<b>55</b>
6.1. Test Equipment.....	55
6.2. Test Setup .....	56
6.3. Limit .....	57
6.4. Test Procedure .....	57
6.5. Uncertainty .....	57
6.6. Test Result of Band Edge .....	58
<b>7. CHANNEL NUMBER.....</b>	<b>70</b>
7.1. Test Equipment.....	70
7.2. Test Setup .....	70
7.3. Limit .....	70
7.4. Test Procedure .....	70
7.5. Uncertainty .....	70
7.6. Test Result of Channel Number.....	71
<b>8. CHANNEL SEPARATION.....</b>	<b>73</b>
8.1. Test Equipment.....	73
8.2. Test Setup .....	73
8.3. Limit .....	73
8.4. Test Procedure .....	73
8.5. Uncertainty .....	73
8.6. Test Result of Channel Separation.....	74
<b>9. DWELL TIME.....</b>	<b>78</b>
9.1. Test Equipment.....	78

---

9.2.	Test Setup .....	78
9.3.	Limit .....	78
9.4.	Test Procedure .....	78
9.5.	Uncertainty .....	78
9.6.	Test Result of Dwell Time .....	79
<b>10.</b>	<b>OCCUPIED BANDWIDTH (20DB BW).....</b>	<b>83</b>
10.1.	Test Equipment.....	83
10.2.	Test Setup .....	83
10.3.	Limits.....	83
10.4.	Test Procedure .....	83
10.5.	Uncertainty .....	83
10.6.	Test Result of Occupied Bandwidth .....	84
<b>11.</b>	<b>OCCUPIED BANDWIDTH (6DB BW).....</b>	<b>90</b>
11.1.	Test Equipment.....	90
11.2.	Test Setup .....	90
11.3.	Limits.....	90
11.4.	Test Procedure .....	90
11.5.	Uncertainty .....	90
11.6.	Test Result of Occupied Bandwidth .....	91
<b>12.</b>	<b>POWER DENSITY .....</b>	<b>94</b>
12.1.	Test Equipment.....	94
12.2.	Test Setup .....	94
12.3.	Limits.....	94
12.4.	Test Procedure .....	94
12.5.	Uncertainty .....	94
12.6.	Test Result of Power Density .....	95
<b>13.</b>	<b>EMI REDUCTION METHOD DURING COMPLIANCE TESTING .....</b>	<b>98</b>

Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs

## 1. GENERAL INFORMATION

### 1.1. EUT Description

Product Name	ASUS Tablet
Trade Name	ASUS
Model No.	TF810C
FCC ID.	MSQTF810C
Frequency Range	2402 – 2480MHz
Channel Number	V3.0+HS, V2.1+EDR: 79CH V4.0: 40CH
Type of Modulation	V3.0+HS, V2.1+EDR: GFSK(1Mbps) / π /4DQPSK(2Mbps) / 8DPSK(3Mbps) V4.0: GFSK(1Mbps)
Antenna Type	PIFA Antenna
Channel Control	Auto
Antenna Gain	Refer to the table “Antenna List”
Power Adapter	MFR: DELTA, M/N: ADP-18BWA Input: 100-240V~0.5A, 50-60Hz Output: 15V=1.2A or 5V=2A
USB Cable	Shielded, 1.5m
Contain Module	Azurewave / AW-NH665

#### Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	INPAQ	WA-P-LB-02-036	PIFA	0.93dBi for 2.4 GHz

Note:

1. The antenna of EUT is conforming to FCC 15.203.

## Frequency of Each Channel: (For V3.0+HS, V2.1+EDR)

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 00:	2402 MHz	Channel 20:	2422 MHz	Channel 40:	2442 MHz	Channel 60:	2462 MHz
Channel 01:	2403 MHz	Channel 21:	2423 MHz	Channel 41:	2443 MHz	Channel 61:	2463 MHz
Channel 02:	2404 MHz	Channel 22:	2424 MHz	Channel 42:	2444 MHz	Channel 62:	2464 MHz
Channel 03:	2405 MHz	Channel 23:	2425 MHz	Channel 43:	2445 MHz	Channel 63:	2465 MHz
Channel 04:	2406 MHz	Channel 24:	2426 MHz	Channel 44:	2446 MHz	Channel 64:	2466 MHz
Channel 05:	2407 MHz	Channel 25:	2427 MHz	Channel 45:	2447 MHz	Channel 65:	2467 MHz
Channel 06:	2408 MHz	Channel 26:	2428 MHz	Channel 46:	2448 MHz	Channel 66:	2468 MHz
Channel 07:	2409 MHz	Channel 27:	2429 MHz	Channel 47:	2449 MHz	Channel 67:	2469 MHz
Channel 08:	2410 MHz	Channel 28:	2430 MHz	Channel 48:	2450 MHz	Channel 68:	2470 MHz
Channel 09:	2411 MHz	Channel 29:	2431 MHz	Channel 49:	2451 MHz	Channel 69:	2471 MHz
Channel 10:	2412 MHz	Channel 30:	2432 MHz	Channel 50:	2452 MHz	Channel 70:	2472 MHz
Channel 11:	2413 MHz	Channel 31:	2433 MHz	Channel 51:	2453 MHz	Channel 71:	2473 MHz
Channel 12:	2414 MHz	Channel 32:	2434 MHz	Channel 52:	2454 MHz	Channel 72:	2474 MHz
Channel 13:	2415 MHz	Channel 33:	2435 MHz	Channel 53:	2455 MHz	Channel 73:	2475 MHz
Channel 14:	2416 MHz	Channel 34:	2436 MHz	Channel 54:	2456 MHz	Channel 74:	2476 MHz
Channel 15:	2417 MHz	Channel 35:	2437 MHz	Channel 55:	2457 MHz	Channel 75:	2477 MHz
Channel 16:	2418 MHz	Channel 36:	2438 MHz	Channel 56:	2458 MHz	Channel 76:	2478 MHz
Channel 17:	2419 MHz	Channel 37:	2439 MHz	Channel 57:	2459 MHz	Channel 77:	2479 MHz
Channel 18:	2420 MHz	Channel 38:	2440 MHz	Channel 58:	2460 MHz	Channel 78:	2480 MHz
Channel 19:	2421 MHz	Channel 39:	2441 MHz	Channel 59:	2461 MHz		

## Frequency of Each Channel: (For V4.0)

Channel	Frequency	Channel	Frequency
Channel 00:	2402 MHz	Channel 20:	2442 MHz
Channel 01:	2404 MHz	Channel 21:	2444 MHz
Channel 02:	2406 MHz	Channel 22:	2446 MHz
Channel 03:	2408 MHz	Channel 23:	2448 MHz
Channel 04:	2410 MHz	Channel 24:	2450 MHz
Channel 05:	2412MHz	Channel 25:	2452 MHz
Channel 06:	2414 MHz	Channel 26:	2454 MHz
Channel 07:	2416 MHz	Channel 27:	2456 MHz
Channel 08:	2418 MHz	Channel 28:	2458 MHz
Channel 09:	2420 MHz	Channel 29:	2460 MHz
Channel 10:	2422 MHz	Channel 30:	2462 MHz
Channel 11:	2424 MHz	Channel 31:	2464 MHz
Channel 12:	2426 MHz	Channel 32:	2466 MHz
Channel 13:	2428 MHz	Channel 33:	2468 MHz
Channel 14:	2430 MHz	Channel 34:	2470 MHz
Channel 15:	2432 MHz	Channel 35:	2472 MHz
Channel 16:	2434 MHz	Channel 36:	2474 MHz
Channel 17:	2436 MHz	Channel 37:	2476 MHz
Channel 18:	2438 MHz	Channel 38:	2478 MHz
Channel 19:	2440 MHz	Channel 39:	2480 MHz

**Note:**

1. The EUT is an ASUS Pad with a built-in WLAN、Bluetooth and NFC transceiver, this report for Bluetooth.
2. These tests were conducted on a sample for the purpose of demonstrating compliance of Bluetooth transmitter with Part 15 Subpart C Paragraph 15.247 for spread spectrum devices.
3. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
4. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.

Test Mode	Mode 1: Transmit - 1Mbps (GFSK) Mode 2: Transmit - 3Mbps (8DPSK) Mode 3: Transmit - BLE (GFSK)
-----------	--

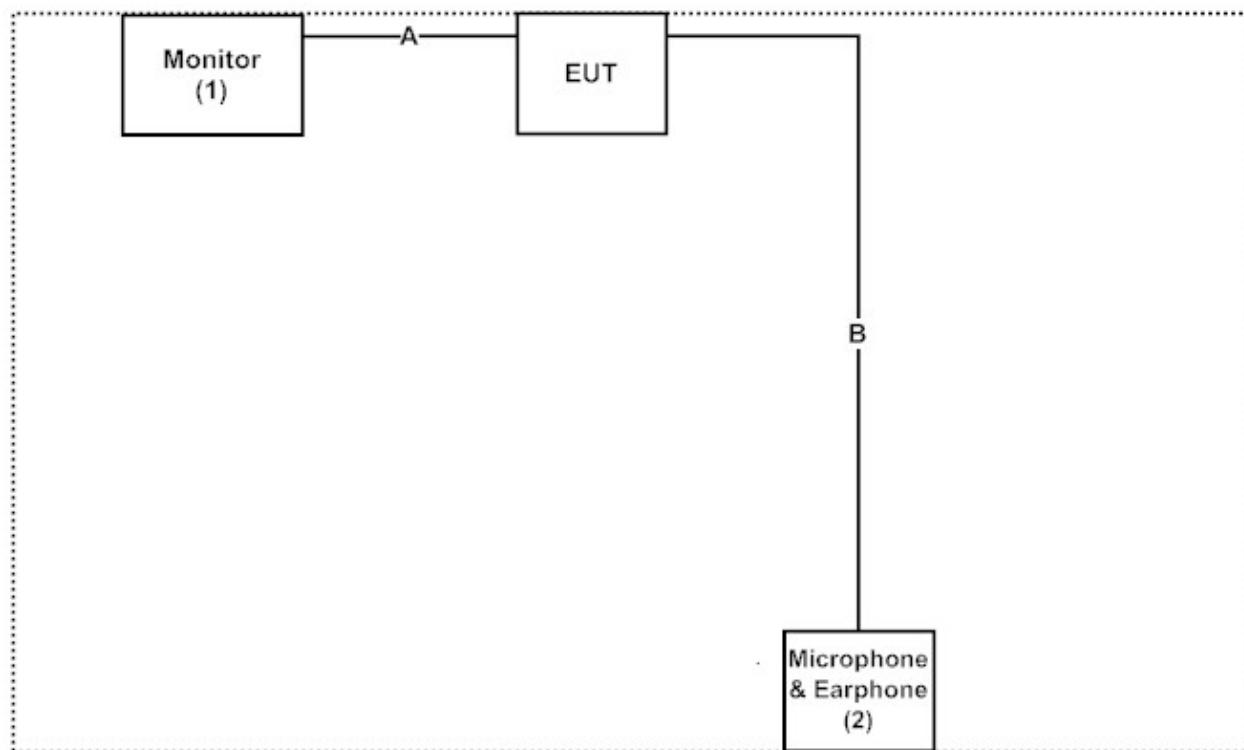
### 1.3. Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product	Manufacturer	Model No.	Serial No.	Power Cord
(1) Monitor	LG	W2261VT	907YHPB07296	Non-Shielded, 1.8m
(2) Microphone & Earphone	PCHOME	N/A	N/A	N/A

Signal Cable Type		Signal cable Description
A	HDMI Cable	Shielded, 1.7m
B	Microphone & Earphone Cable	Non-Shielded, 2.0m

### 1.4. Configuration of Tested System



### 1.5. EUT Exercise Software

- (1) Setup the EUT as shown in Section 1.4.
- (2) Execute program on the EUT.
- (3) Configure the test mode, the test channel, and the data rate.
- (4) Press “OK” to start the continuous Transmit.
- (5) Verify that the EUT works properly.

## 1.6. Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	30-65
Barometric pressure (mbar)	860-1060	950-1000

The related certificate for our laboratories about the test site and management system can be downloaded from QuieTek Corporation's Web Site: <http://www.quietek.com/tw/ctg/cts/accreditations.htm>

The address and introduction of QuieTek Corporation's laboratories can be founded in our Web site: <http://www.quietek.com/>

Site Description: File on  
Federal Communications Commission  
FCC Engineering Laboratory  
7435 Oakland Mills Road  
Columbia, MD 21046  
Registration Number: 92195

Accreditation on NVLAP  
NVLAP Lab Code: 200533-0

Site Name: Quietek Corporation  
Site Address: No.5-22, Ruishukeng,  
Linkou Dist. New Taipei City 24451,  
Taiwan, R.O.C.  
TEL: 886-2-8601-3788 / FAX : 886-2-8601-3789  
E-Mail : [service@quietek.com](mailto:service@quietek.com)

FCC Accreditation Number: TW1014

## 2. Conducted Emission

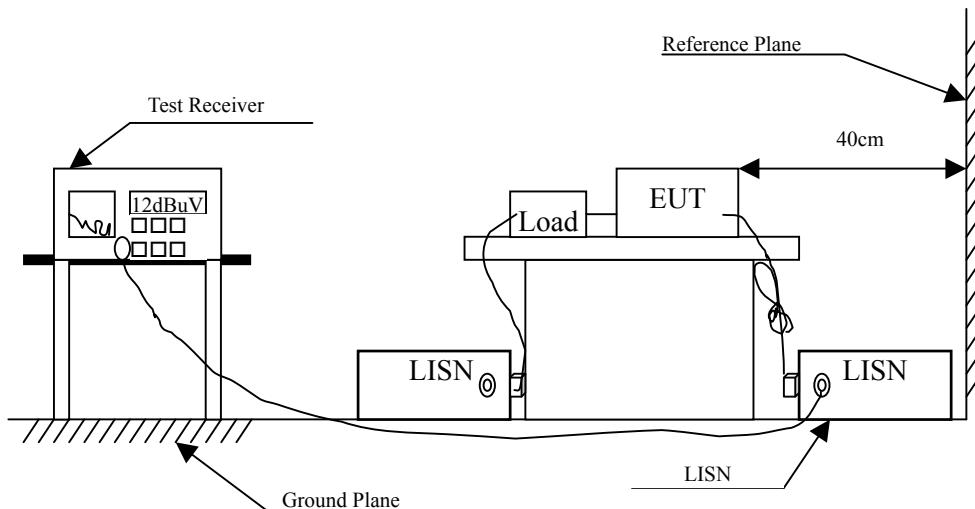
### 2.1. Test Equipment

	Equipment	Manufacturer	Model No. / Serial No.	Last Cal.	Remark
X	Test Receiver	R & S	ESCS 30 / 825442/018	Sep., 2011	
X	Artificial Mains Network	R & S	ENV4200 / 848411/10	Feb., 2012	Peripherals
X	LISN	R & S	ESH3-Z5 / 825562/002	Feb., 2012	EUT
	DC LISN	Schwarzbeck	8226 / 176	Mar, 2012	EUT
X	Pulse Limiter	R & S	ESH3-Z2 / 357.8810.52	Feb., 2012	
	No.1 Shielded Room				

Note:

1. All equipments are calibrated every one year.
2. The test instruments marked by "X" are used to measure the final test results.

### 2.2. Test Setup



### 2.3. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dBuV) Limit		
Frequency MHz	Limits	
	QP	AV
0.15 - 0.50	66-56	56-46
0.50-5.0	56	46
5.0 - 30	60	50

Remarks: In the above table, the tighter limit applies at the band edges.

### 2.4. Test Procedure

The EUT and Peripherals are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all the interface cables must be changed according to ANSI C63.4: 2003 on conducted measurement.

Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

The EUT was setup to ANSI C63.4, 2003; tested to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements.

### 2.5. Uncertainty

± 2.26 dB

## 2.6. Test Result of Conducted Emission

Product : ASUS Tablet  
 Test Item : Conducted Emission Test  
 Power Line : Line 1  
 Test Mode : Mode 2: Transmit - 3Mbps (8DPSK) (2441MHz)

Frequency MHz	Correct Factor	Reading Level dB	Measurement Level dBuV	Margin dB	Limit dBuV
<b>LINE 1</b>					
<b>Quasi-Peak</b>					
0.224	9.670	39.950	49.620	-14.266	63.886
0.298	9.640	36.490	46.130	-15.641	61.771
0.451	9.640	32.660	42.300	-15.100	57.400
0.920	9.670	18.560	28.230	-27.770	56.000
1.423	9.670	26.810	36.480	-19.520	56.000
7.107	9.740	24.200	33.940	-26.060	60.000
13.560	9.840	30.900	40.740	-19.260	60.000
<b>Average</b>					
0.224	9.670	35.440	45.110	-8.776	53.886
0.298	9.640	21.310	30.950	-20.821	51.771
0.451	9.640	30.680	40.320	-7.080	47.400
0.920	9.670	8.160	17.830	-28.170	46.000
1.423	9.670	21.770	31.440	-14.560	46.000
7.107	9.740	9.020	18.760	-31.240	50.000
13.560	9.840	-0.590	9.250	-40.750	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " █ " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : ASUS Tablet  
 Test Item : Conducted Emission Test  
 Power Line : Line 2  
 Test Mode : Mode 2: Transmit - 3Mbps (8DPSK) (2441MHz)

Frequency MHz	Correct Factor	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
<b>LINE 2</b>					
<b>Quasi-Peak</b>					
0.224	9.670	40.240	49.910	-13.976	63.886
0.314	9.650	31.870	41.520	-19.794	61.314
0.447	9.650	33.370	43.020	-14.494	57.514
1.580	9.700	24.140	33.840	-22.160	56.000
7.279	9.770	19.730	29.500	-30.500	60.000
13.560	9.940	30.900	40.840	-19.160	60.000
<b>Average</b>					
0.224	9.670	33.630	43.300	-10.586	53.886
0.314	9.650	17.110	26.760	-24.554	51.314
0.447	9.650	27.660	37.310	-10.204	47.514
1.580	9.700	19.180	28.880	-17.120	46.000
7.279	9.770	9.290	19.060	-30.940	50.000
13.560	9.940	27.790	37.730	-12.270	50.000

**Note:**

1. All Reading Levels are Quasi-Peak and average value.
2. " █ " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : ASUS Tablet  
 Test Item : Conducted Emission Test  
 Power Line : Line 1  
 Test Mode : Mode 3: Transmit - BLE (GFSK) (2440MHz)

Frequency MHz	Correct Factor	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
<b>LINE 1</b>					
<b>Quasi-Peak</b>					
0.224	9.670	39.530	49.200	-14.686	63.886
0.306	9.640	36.390	46.030	-15.513	61.543
0.513	9.640	28.510	38.150	-17.850	56.000
1.537	9.680	24.230	33.910	-22.090	56.000
6.900	9.730	28.920	38.650	-21.350	60.000
13.560	9.840	30.160	40.000	-20.000	60.000
<b>Average</b>					
0.224	9.670	36.120	45.790	-8.096	53.886
0.306	9.640	21.680	31.320	-20.223	51.543
0.513	9.640	20.730	30.370	-15.630	46.000
1.537	9.680	17.410	27.090	-18.910	46.000
6.900	9.730	16.180	25.910	-24.090	50.000
13.560	9.840	30.150	39.990	-10.010	50.000

**Note:**

1. All Reading Levels are Quasi-Peak and average value.
2. " █ " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : ASUS Tablet  
 Test Item : Conducted Emission Test  
 Power Line : Line 2  
 Test Mode : Mode 3: Transmit - BLE (GFSK) (2440MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
<b>LINE 2</b>					
<b>Quasi-Peak</b>					
0.224	9.670	40.120	49.790	-14.096	63.886
0.298	9.646	33.070	42.716	-19.055	61.771
0.447	9.650	32.820	42.470	-15.044	57.514
1.119	9.690	26.960	36.650	-19.350	56.000
6.767	9.760	24.480	34.240	-25.760	60.000
13.560	9.940	30.420	40.360	-19.640	60.000
<b>Average</b>					
0.224	9.670	35.010	44.680	-9.206	53.886
0.298	9.646	15.250	24.896	-26.875	51.771
0.447	9.650	27.490	37.140	-10.374	47.514
1.119	9.690	7.900	17.590	-28.410	46.000
6.767	9.760	14.010	23.770	-26.230	50.000
13.560	9.940	23.350	33.290	-16.710	50.000

**Note:**

1. All Reading Levels are Quasi-Peak and average value.
2. " █ " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

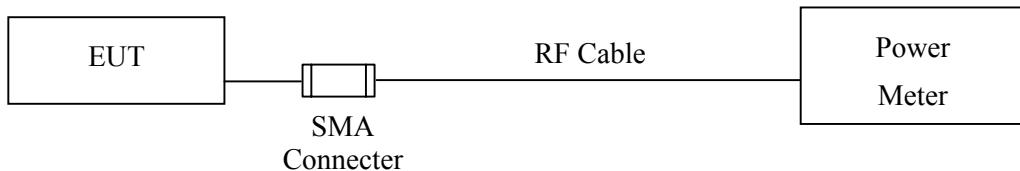
### 3. Peak Power Output

#### 3.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Power Meter	Anritsu	ML2495A/6K00003357	May, 2012
X	Power Sensor	Anritsu	MA2411B/0738448	Jun, 2012

Note: 1. All equipments are calibrated every one year.  
2. The test instruments marked by "X" are used to measure the final test results.

#### 3.2. Test Setup



#### 3.3. Limit

The maximum peak power shall be less 1Watt.

#### 3.4. Test Procedure

The EUT was setup to ANSI C63.4, 2003; tested to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements.

#### 3.5. Uncertainty

± 1.27 dB

### 3.6. Test Result of Peak Power Output

Product : ASUS Tablet  
Test Item : Peak Power Output  
Test Site : No.3 OATS  
Test Mode : Mode 1: Transmit - 1Mbps (GFSK)

Channel No.	Frequency (MHz)	Measurement (dBm)	Required Limit	Result
Channel 00	2402.00	8.49	1 Watt= 30 dBm	Pass
Channel 39	2441.00	8.67	1 Watt= 30 dBm	Pass
Channel 78	2480.00	8.22	1 Watt= 30 dBm	Pass

Product : ASUS Tablet  
Test Item : Peak Power Output  
Test Site : No.3 OATS  
Test Mode : Mode 2: Transmit - 3Mbps (8DPSK)

Channel No.	Frequency (MHz)	Measurement (dBm)	Required Limit	Result
Channel 00	2402.00	8.18	1 Watt= 30 dBm	Pass
Channel 39	2441.00	8.86	1 Watt= 30 dBm	Pass
Channel 78	2480.00	8.39	1 Watt= 30 dBm	Pass

Product : ASUS Tablet  
Test Item : Peak Power Output  
Test Site : No.3 OATS  
Test Mode : Mode 3: Transmit - BLE (GFSK)

Channel No.	Frequency (MHz)	Measurement (dBm)	Required Limit	Result
Channel 00	2402.00	4.65	1 Watt= 30 dBm	Pass
Channel 19	2440.00	4.86	1 Watt= 30 dBm	Pass
Channel 39	2480.00	4.47	1 Watt= 30 dBm	Pass

## 4. Radiated Emission

### 4.1. Test Equipment

The following test equipments are used during the radiated emission test:

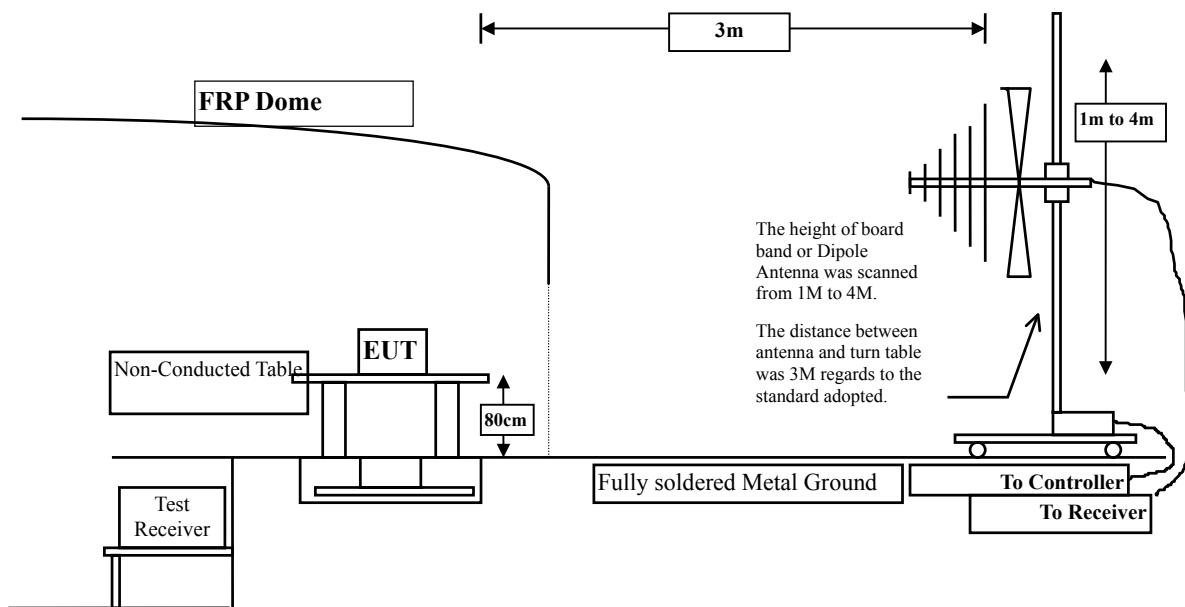
Test Site	Equipment		Manufacturer	Model No./Serial No.	Last Cal.
<input checked="" type="checkbox"/> Site # 3	X	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2011
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2011
	X	Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2012
	X	Pre-Amplifier	Agilent	8447D/2944A09549	Sep., 2011
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2012
	X	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2011
	X	Coaxial Cable	QuiTek	QTK-CABLE/ CAB5	Feb., 2012
	X	Controller	QuiTek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

Note: 1. All equipments are calibrated every one year.

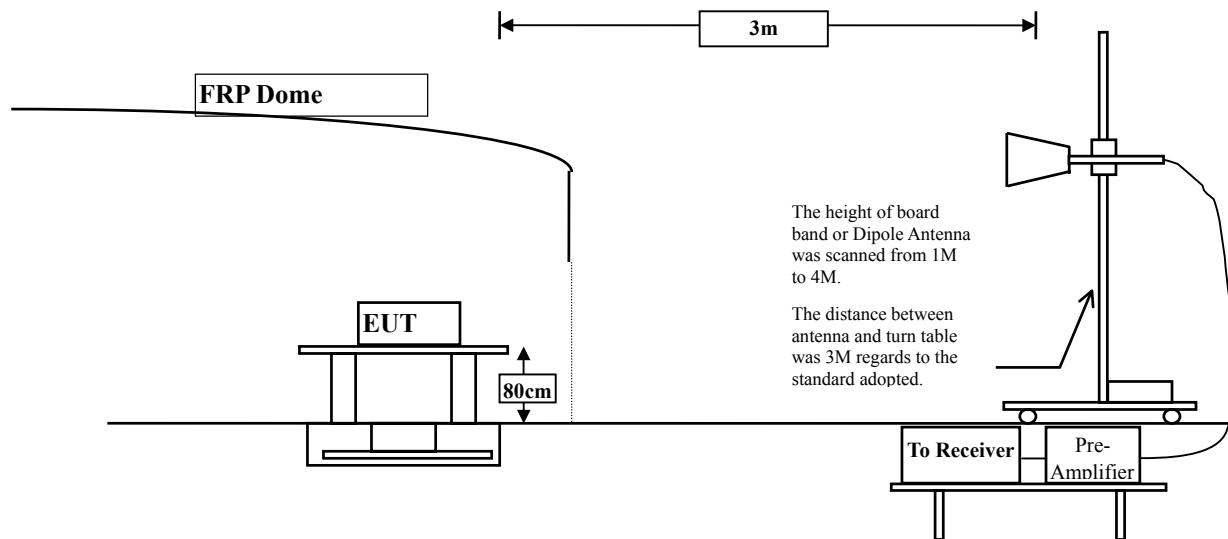
2. The test instruments marked by "X" are used to measure the final test results.

### 4.2. Test Setup

Below 1GHz



Above 1GHz



#### 4.3. Limits

##### ➤ General Radiated Emission Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209 Limits		
Frequency MHz	uV/m @3m	dBuV/m@3m
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

- Remarks:
1. RF Voltage (dBuV) =  $20 \log_{10}$  RF Voltage (uV)
  2. In the Above Table, the tighter limit applies at the band edges.
  3. Distance refers to the distance in meters between the measuring instrument antenna and the closest point of any part of the device or system.

#### **4.4. Test Procedure**

The EUT was setup according to ANSI C63.4, 2003 and tested according to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements.

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4:2003 on radiated measurement.

The resolution bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

Radiated emission measurements below 1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna. The worst radiated emission is measured on the Final Measurement.

The measurement frequency range from 30MHz - 10th Harmonic of fundamental was investigated.

#### **4.5. Uncertainty**

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

#### 4.6. Test Result of Radiated Emission

Product : ASUS Tablet  
 Test Item : Harmonic Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit - 1Mbps (GFSK)(2402MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
------------------	-------------------------	--------------------------	--------------------------------	--------------	-----------------

##### Horizontal

###### Peak Detector:

4804.000	3.327	37.650	40.977	-33.023	74.000
7206.000	10.136	36.560	46.696	-27.304	74.000
9608.000	13.706	35.580	49.286	-24.714	74.000

###### Average

###### Detector:

--

##### Vertical

###### Peak Detector:

4804.000	6.638	37.560	44.197	-29.803	74.000
7206.000	11.005	36.230	47.235	-26.765	74.000
9608.000	14.103	35.160	49.263	-24.737	74.000

###### Average

###### Detector:

--

##### Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss -Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : ASUS Tablet  
 Test Item : Harmonic Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit - 1Mbps (GFSK)(2441MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m

**Horizontal****Peak Detector:**

4882.000	3.001	36.660	39.661	-34.339	74.000
7323.000	11.846	35.560	47.407	-26.593	74.000
9764.000	12.563	36.650	49.213	-24.787	74.000

**Average****Detector:**

--

**Vertical****Peak Detector:**

4882.000	5.713	36.120	41.834	-32.166	74.000
7323.000	12.727	35.720	48.448	-25.552	74.000
9764.000	13.028	36.370	49.398	-24.602	74.000

**Average****Detector:**

--

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss -Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : ASUS Tablet  
 Test Item : Harmonic Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit - 1Mbps (GFSK)(2480MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m

### Horizontal

**Peak Detector:**

4960.000	2.760	36.760	39.520	-34.480	74.000
7440.000	12.567	35.150	47.716	-26.284	74.000
9920.000	13.456	35.410	48.866	-25.134	74.000

**Average**

**Detector:**

--

### Vertical

**Peak Detector:**

4960.000	5.557	36.820	42.377	-31.623	74.000
7440.000	13.426	35.160	48.585	-25.415	74.000
9920.000	13.958	36.010	49.968	-24.032	74.000

**Average**

**Detector:**

--

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss -Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : ASUS Tablet  
 Test Item : Harmonic Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit - 3Mbps (8DPSK)(2402MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m

### Horizontal

**Peak Detector:**

4804.000	3.327	36.600	39.927	-34.073	74.000
7206.000	10.136	35.870	46.006	-27.994	74.000
9608.000	13.706	35.320	49.026	-24.974	74.000

**Average**

**Detector:**

--

### Vertical

**Peak Detector:**

4804.000	6.638	36.920	43.557	-30.443	74.000
7206.000	11.005	35.810	46.815	-27.185	74.000
9608.000	14.103	35.500	49.603	-24.397	74.000

**Average**

**Detector:**

--

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss -Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : ASUS Tablet  
 Test Item : Harmonic Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit - 3Mbps (8DPSK) (2441MHz)

Frequency MHz	Correct Factor	Reading Level dB	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
------------------	-------------------	------------------------	--------------------------------	--------------	-----------------

**Horizontal****Peak Detector:**

4882.000	3.001	36.930	39.931	-34.069	74.000
7323.000	11.846	35.350	47.197	-26.803	74.000
9764.000	12.563	35.910	48.473	-25.527	74.000

**Average****Detector:**

--

**Vertical****Peak Detector:**

4882.000	5.713	36.130	41.844	-32.156	74.000
7323.000	12.727	35.640	48.368	-25.632	74.000
9764.000	13.028	36.100	49.128	-24.872	74.000

**Average****Detector:**

--

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss -Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : ASUS Tablet  
 Test Item : Harmonic Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit - 3Mbps (8DPSK) (2480MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m

**Horizontal****Peak Detector:**

4960.000	2.760	36.230	38.990	-35.010	74.000
7440.000	12.567	35.450	48.016	-25.984	74.000
9920.000	13.456	35.610	49.066	-24.934	74.000

**Average****Detector:**

--

**Vertical****Peak Detector:**

4960.000	5.557	35.980	41.537	-32.463	74.000
7440.000	13.426	35.420	48.845	-25.155	74.000
9920.000	13.958	35.840	49.798	-24.202	74.000

**Average****Detector:**

--

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss -Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : ASUS Tablet  
 Test Item : Harmonic Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit - BLE (GFSK)(2402MHz)

Frequency MHz	Correct Factor	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
------------------	-------------------	--------------------------	--------------------------------	--------------	-----------------

**Horizontal****Peak Detector:**

4804.000	0.511	41.050	41.560	-32.440	74.000
7206.000	7.511	39.590	47.101	-26.899	74.000
9608.000	8.394	39.270	47.664	-26.336	74.000

**Average****Detector:**

--

**Vertical****Peak Detector:**

4804.000	0.923	41.580	42.502	-31.498	74.000
7206.000	7.988	39.420	47.409	-26.591	74.000
9608.000	8.847	39.390	48.237	-25.763	74.000

**Average****Detector:**

--

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss -Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : ASUS Tablet  
 Test Item : Harmonic Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit - BLE (GFSK) (2440MHz)

Frequency MHz	Correct Factor	Reading Level dB	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
------------------	-------------------	------------------------	--------------------------------	--------------	-----------------

### Horizontal

**Peak Detector:**

4880.000	0.038	41.750	41.788	-32.212	74.000
7320.000	7.699	38.270	45.969	-28.031	74.000
9760.000	7.665	38.540	46.205	-27.795	74.000

**Average**

**Detector:**

--

### Vertical

**Peak Detector:**

4880.000	0.499	41.180	41.679	-32.321	74.000
7320.000	8.303	38.850	47.153	-26.847	74.000
9760.000	8.299	38.750	47.050	-26.950	74.000

**Average**

**Detector:**

--

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss -Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : ASUS Tablet  
 Test Item : Harmonic Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit - BLE (GFSK) (2480MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m

**Horizontal****Peak Detector:**

4960.000	0.582	41.990	42.572	-31.428	74.000
7440.000	8.555	38.520	47.075	-26.925	74.000
9920.000	8.206	38.550	46.756	-27.244	74.000

**Average****Detector:**

--

**Vertical****Peak Detector:**

4960.000	1.398	41.090	42.489	-31.511	74.000
7440.000	9.214	38.150	47.364	-26.636	74.000
9920.000	9.245	38.480	47.725	-26.275	74.000

**Average****Detector:**

--

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss -Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : ASUS Tablet  
 Test Item : General Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit - 1Mbps (GFSK) (2441MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
198.780	-10.661	29.135	18.474	-25.026	43.500
258.920	-5.050	23.742	18.692	-27.308	46.000
402.480	-2.263	23.707	21.444	-24.556	46.000
575.140	2.923	23.155	26.078	-19.922	46.000
687.660	3.294	22.187	25.481	-20.519	46.000
963.140	6.664	22.355	29.019	-24.981	54.000
<b>Vertical</b>					
286.080	-8.097	25.807	17.710	-28.290	46.000
536.340	-0.305	23.358	23.053	-22.947	46.000
596.480	-3.113	23.294	20.181	-25.819	46.000
804.060	3.587	22.651	26.238	-19.762	46.000
901.060	3.331	25.593	28.924	-17.076	46.000
968.960	8.191	21.663	29.854	-24.146	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : ASUS Tablet  
 Test Item : General Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit - 3Mbps (8DPSK) (2441MHz)

Frequency MHz	Correct Factor	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
	dB				
<b>Horizontal</b>					
198.780	-10.661	29.135	18.474	-25.026	43.500
315.180	-4.186	25.339	21.153	-24.847	46.000
505.300	0.308	23.713	24.021	-21.979	46.000
674.080	2.799	23.071	25.870	-20.130	46.000
796.300	5.161	23.133	28.294	-17.706	46.000
941.800	6.435	22.551	28.986	-17.014	46.000
<b>Vertical</b>					
146.400	-6.248	26.891	20.643	-22.857	43.500
357.860	-3.734	25.220	21.486	-24.514	46.000
520.820	-0.298	23.844	23.546	-22.454	46.000
660.500	-2.233	23.525	21.292	-24.708	46.000
875.840	1.621	22.294	23.915	-22.085	46.000
968.960	8.191	22.082	30.273	-23.727	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : ASUS Tablet  
 Test Item : General Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit - BLE (GFSK) (2440MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
117.300	-7.350	28.186	20.836	-22.664	43.500
284.140	-5.797	25.983	20.186	-25.814	46.000
464.560	2.914	24.268	27.182	-18.818	46.000
542.160	3.925	23.875	27.800	-18.200	46.000
606.180	4.196	23.557	27.753	-18.247	46.000
833.160	6.616	27.915	34.531	-11.469	46.000
<b>Vertical</b>					
177.440	-1.248	23.161	21.913	-21.587	43.500
375.320	0.388	23.560	23.948	-22.052	46.000
540.220	2.169	24.171	26.340	-19.660	46.000
617.820	0.958	29.163	30.121	-15.879	46.000
701.240	-0.541	32.119	31.578	-14.422	46.000
928.220	3.640	22.542	26.182	-19.818	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

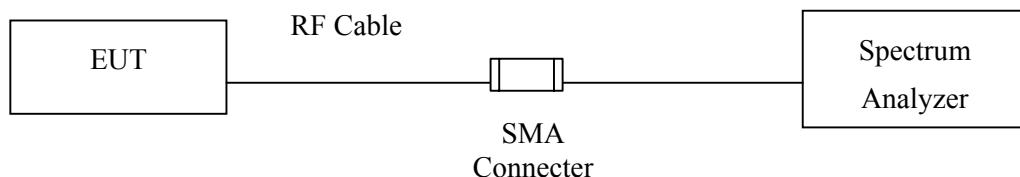
## 5. RF Antenna Conducted Test

### 5.1. Test Equipment

Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2012
Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2012
X Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2012

Note: 1. All equipments are calibrated every one year.  
2. The test instruments Marked "X" are used to measure the final test results.

### 5.2. Test Setup



### 5.3. Limits

According to FCC Section 15.247(d). In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

### 5.4. Test Procedure

The EUT was setup to ANSI C63.4, 2003; tested to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements.

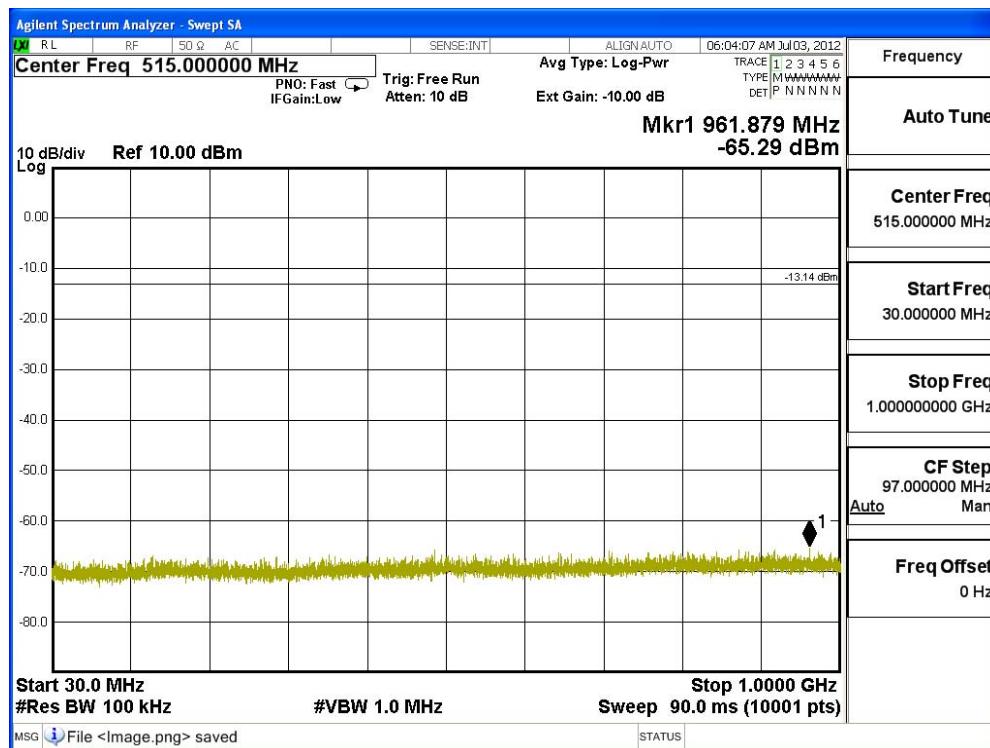
### 5.5. Uncertainty

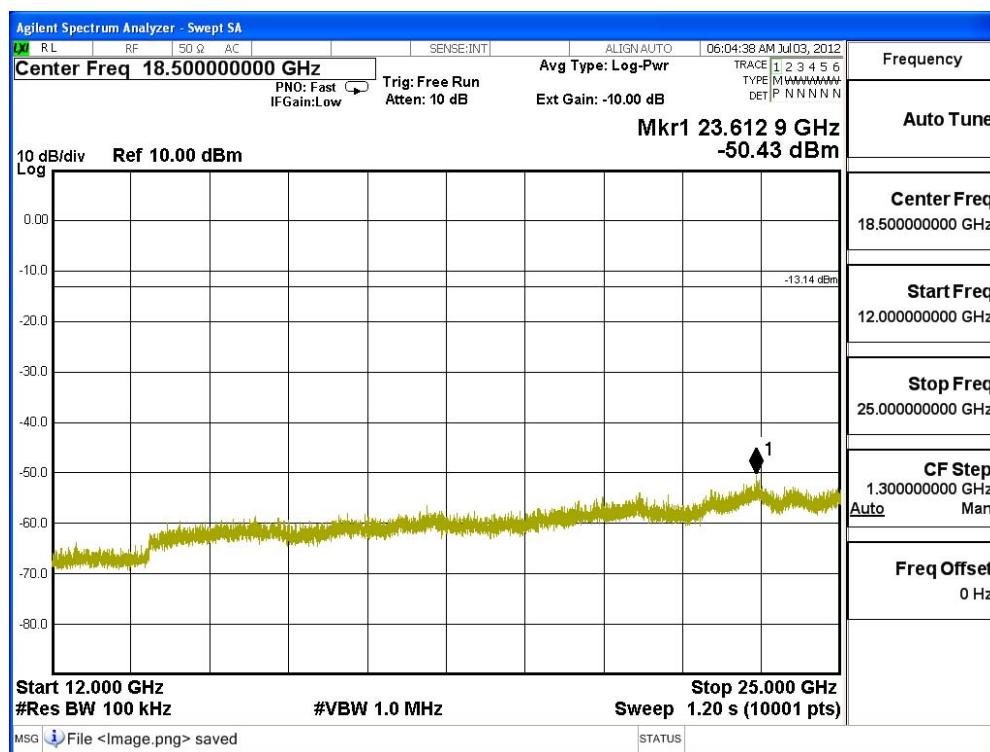
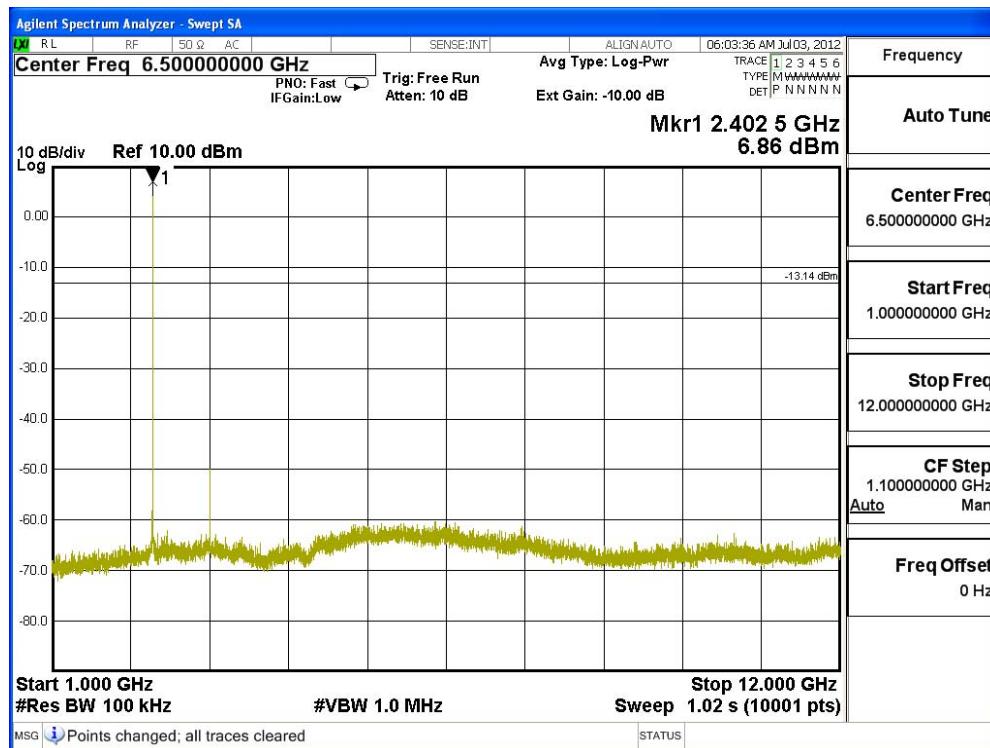
± 150Hz

## 5.6. Test Result of RF Antenna Conducted Test

Product : ASUS Tablet  
 Test Item : RF Antenna Conducted Test  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit - 1Mbps (GFSK)

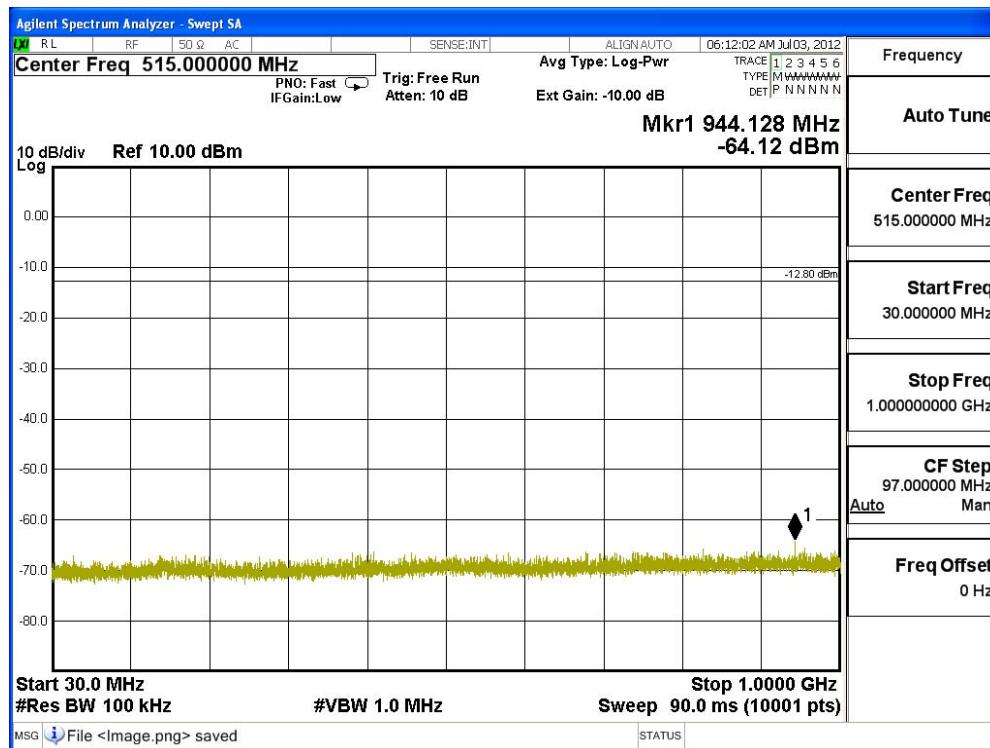
**Figure Channel 00:**

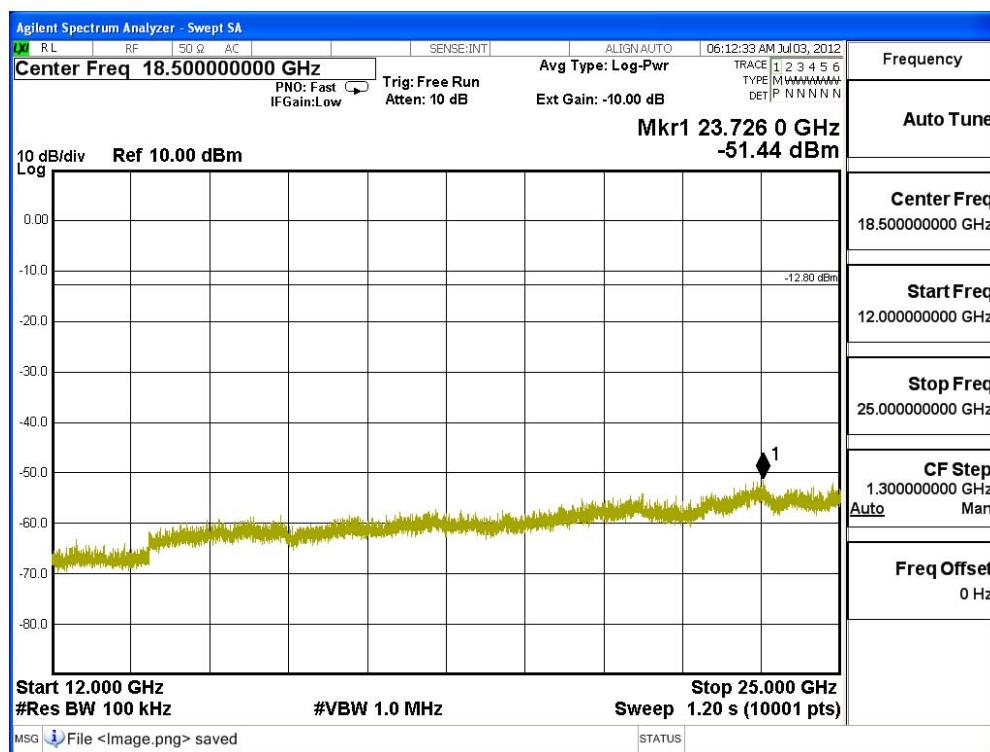
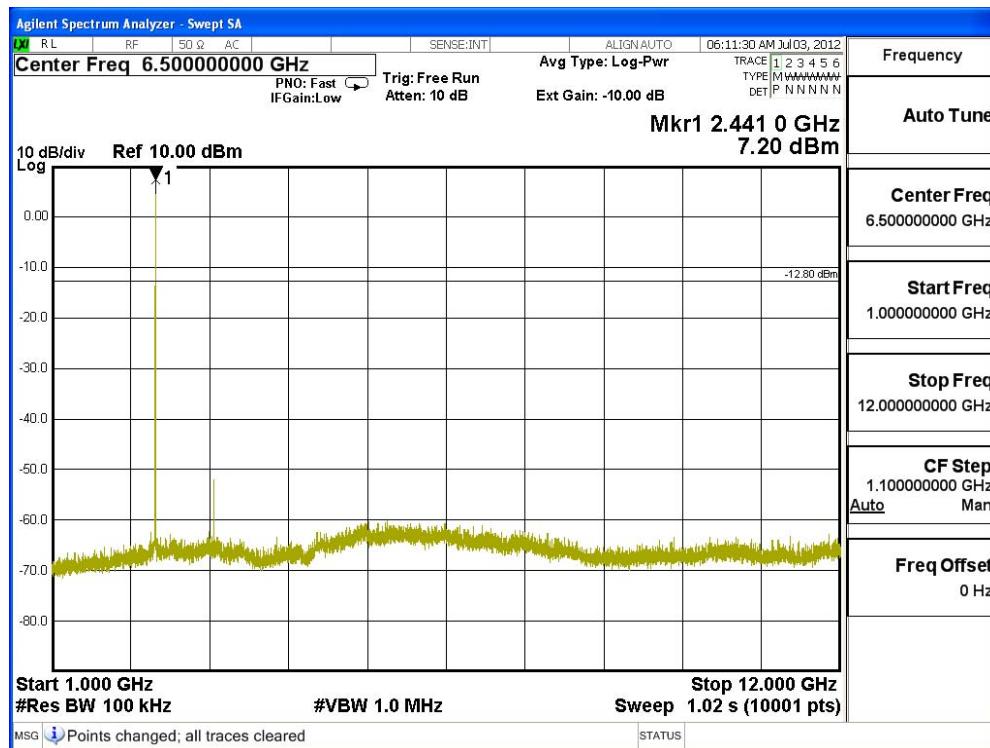




Product : ASUS Tablet  
 Test Item : RF Antenna Conducted Test  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit - 1Mbps (GFSK)

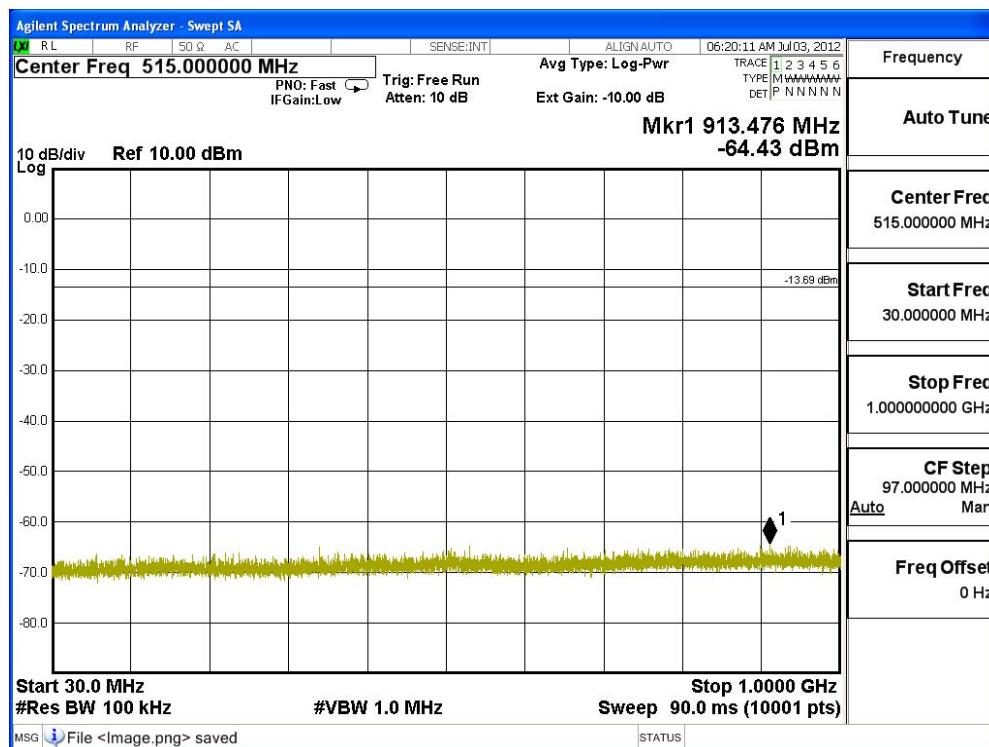
**Figure Channel 39:**

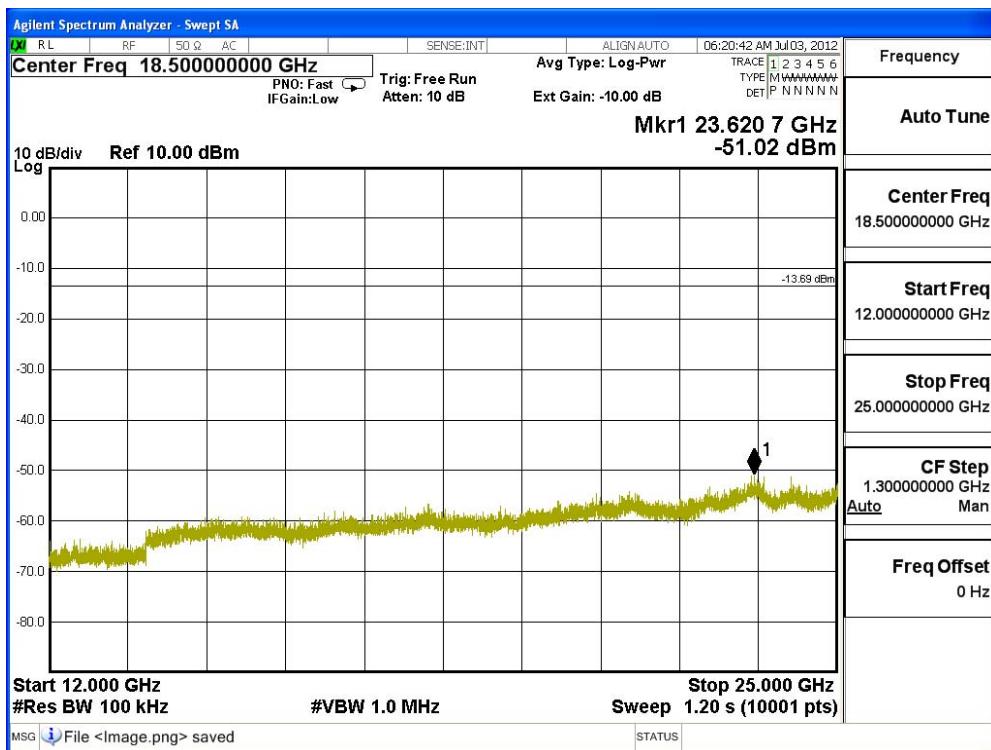
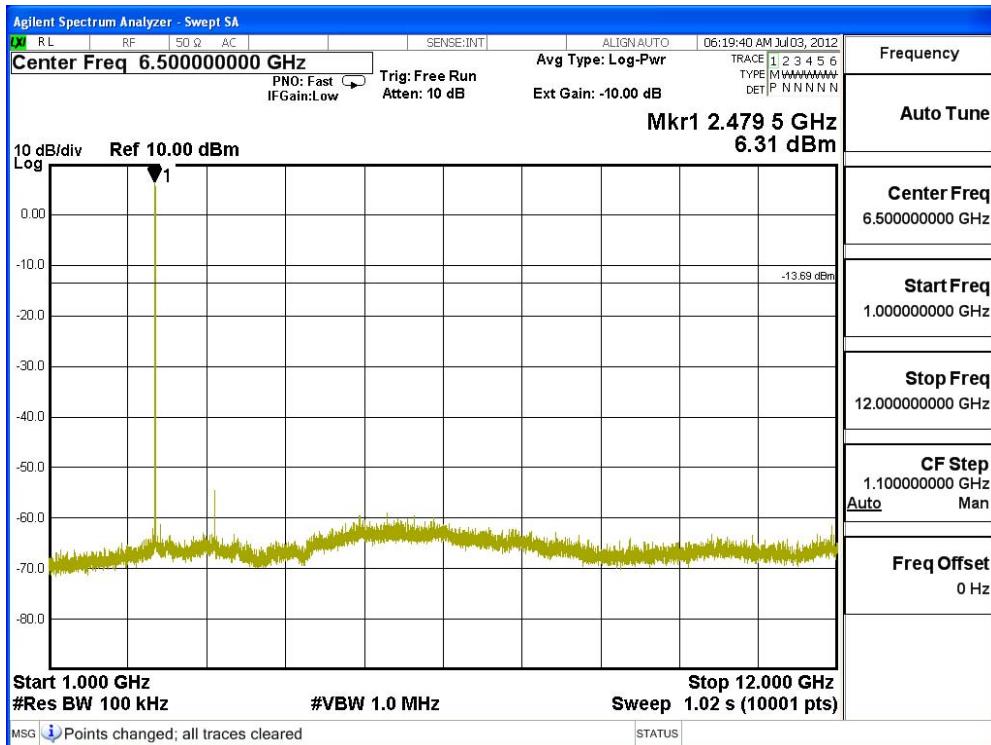




Product : ASUS Tablet  
 Test Item : RF Antenna Conducted Test  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit - 1Mbps (GFSK)

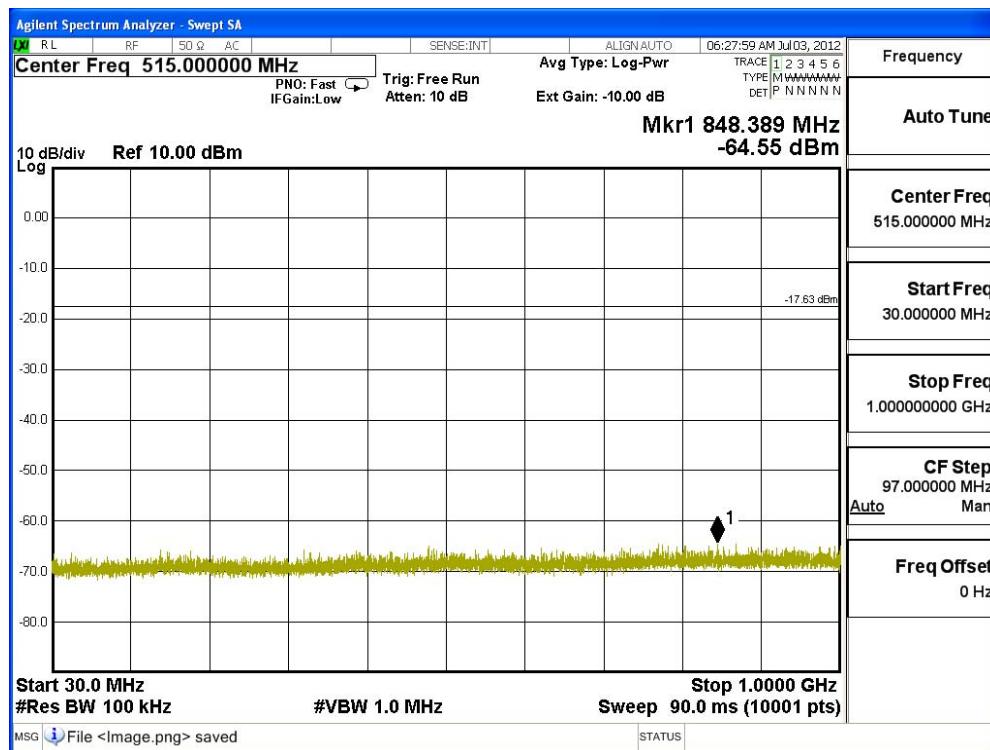
**Figure Channel 78:**

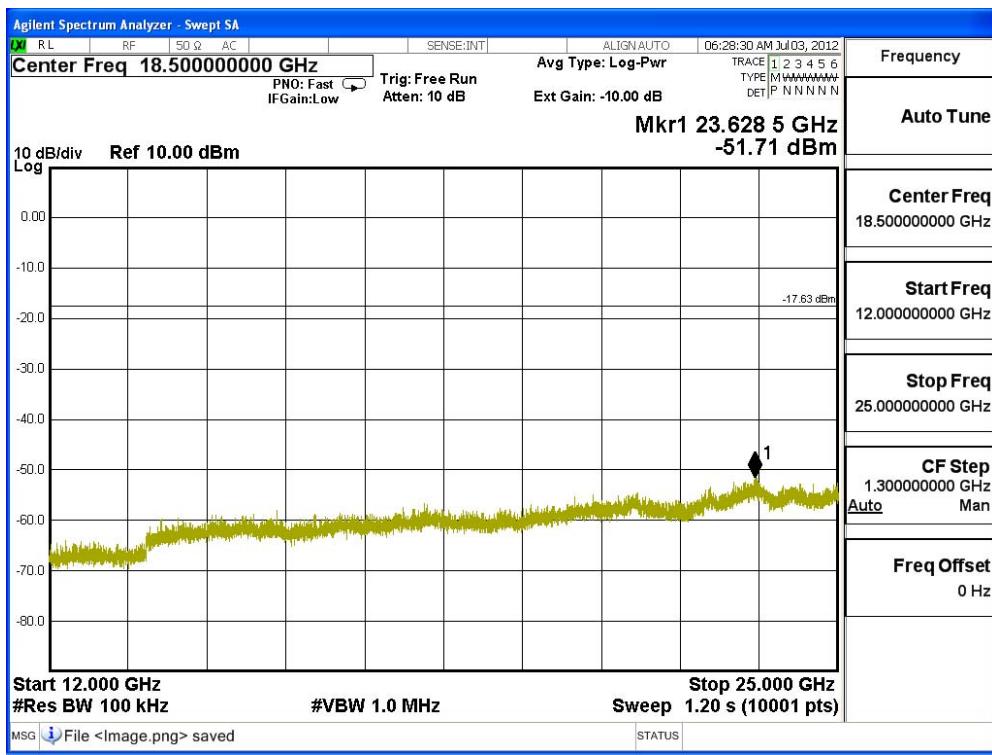
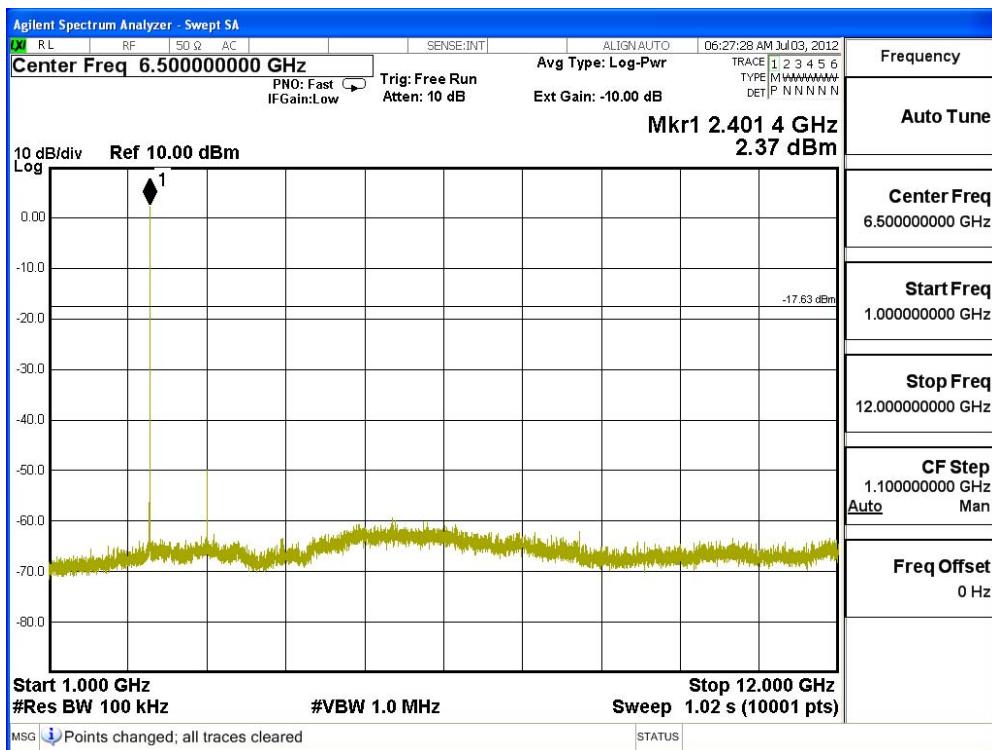




Product : ASUS Tablet  
 Test Item : RF Antenna Conducted Test  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit - 3Mbps (8DPSK)

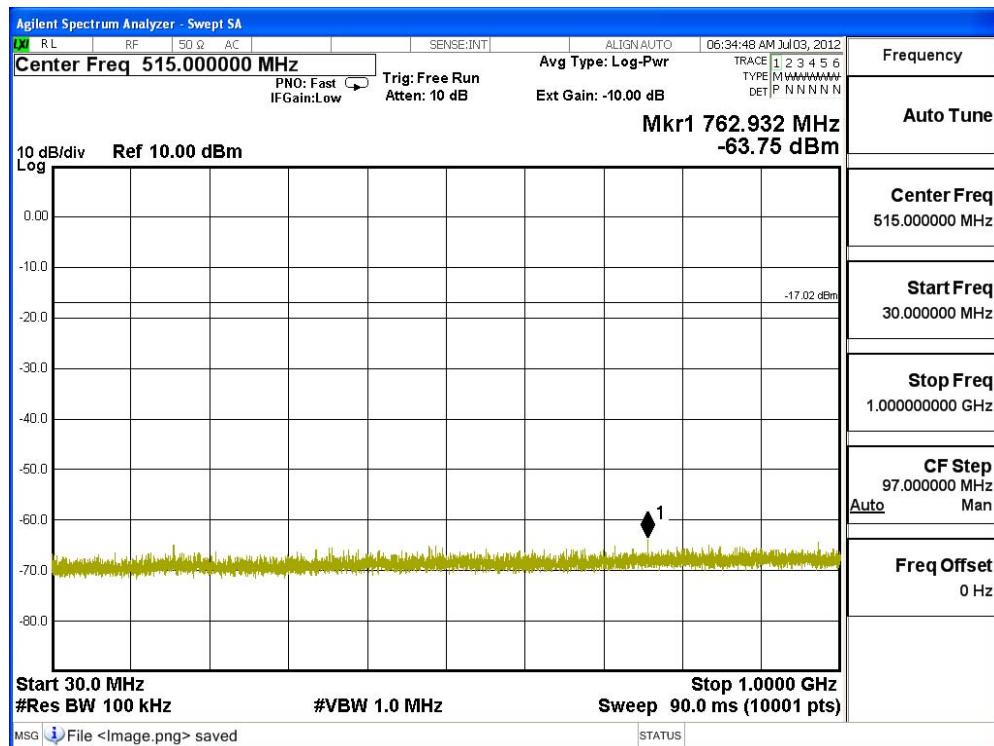
### Figure Channel 00:

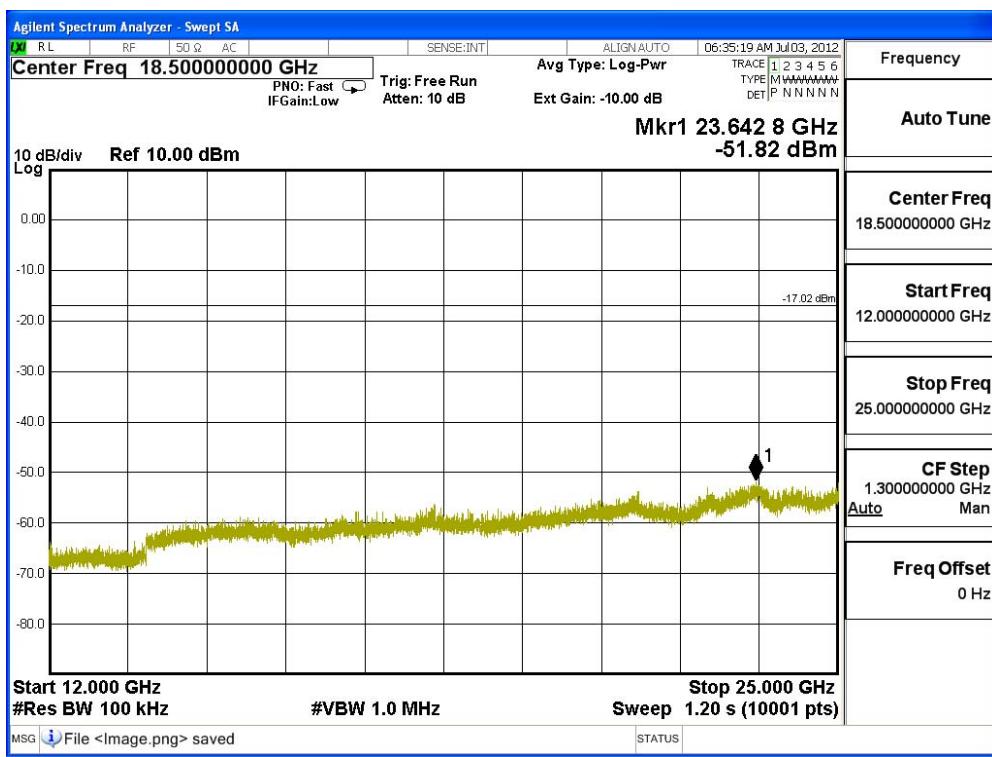
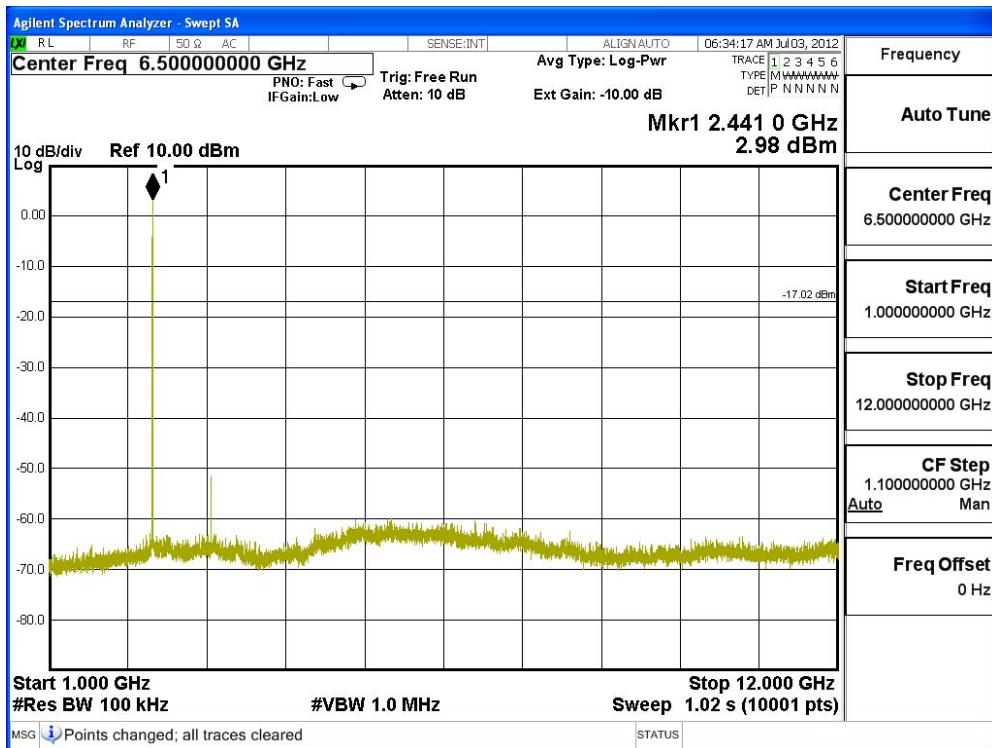




Product : ASUS Tablet  
 Test Item : RF Antenna Conducted Test  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit - 3Mbps (8DPSK)

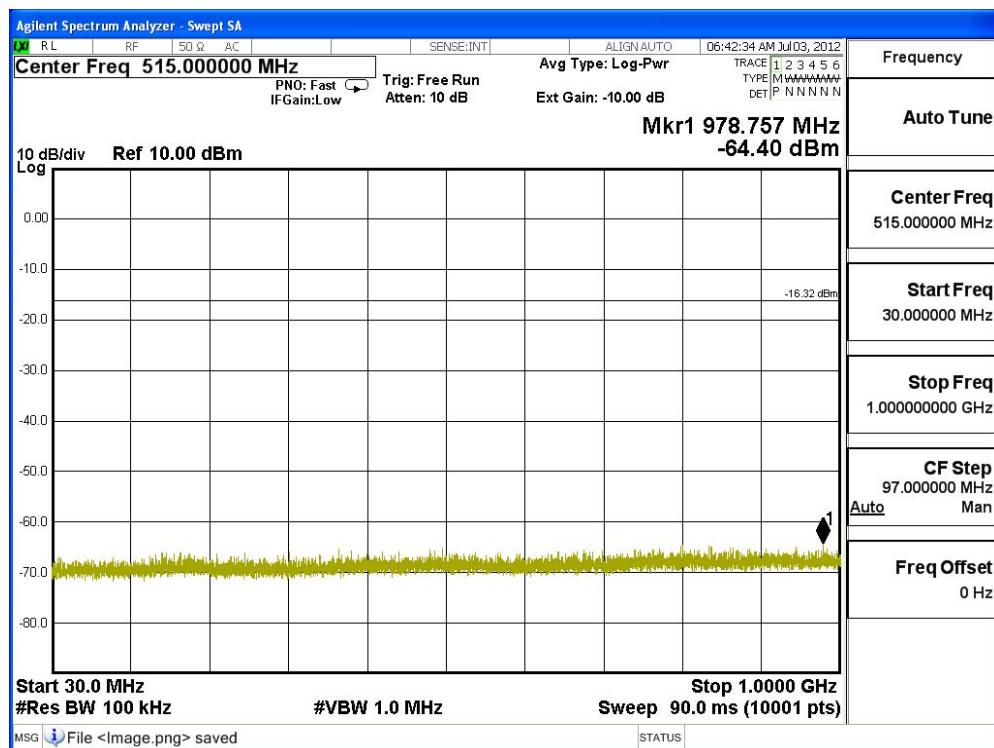
**Figure Channel 39:**

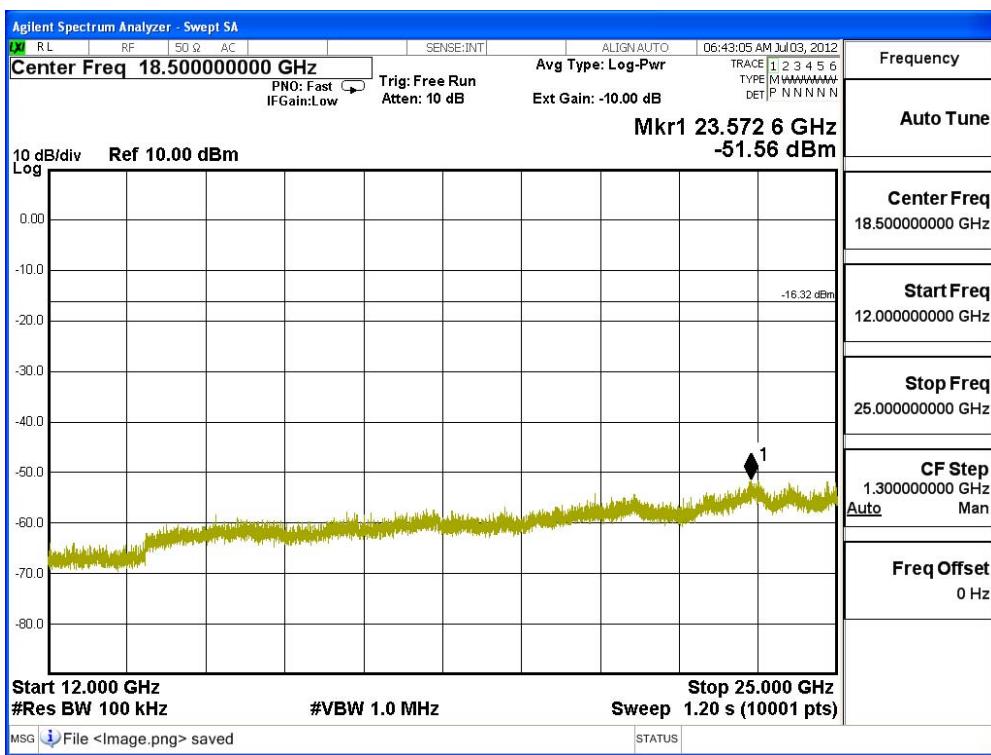
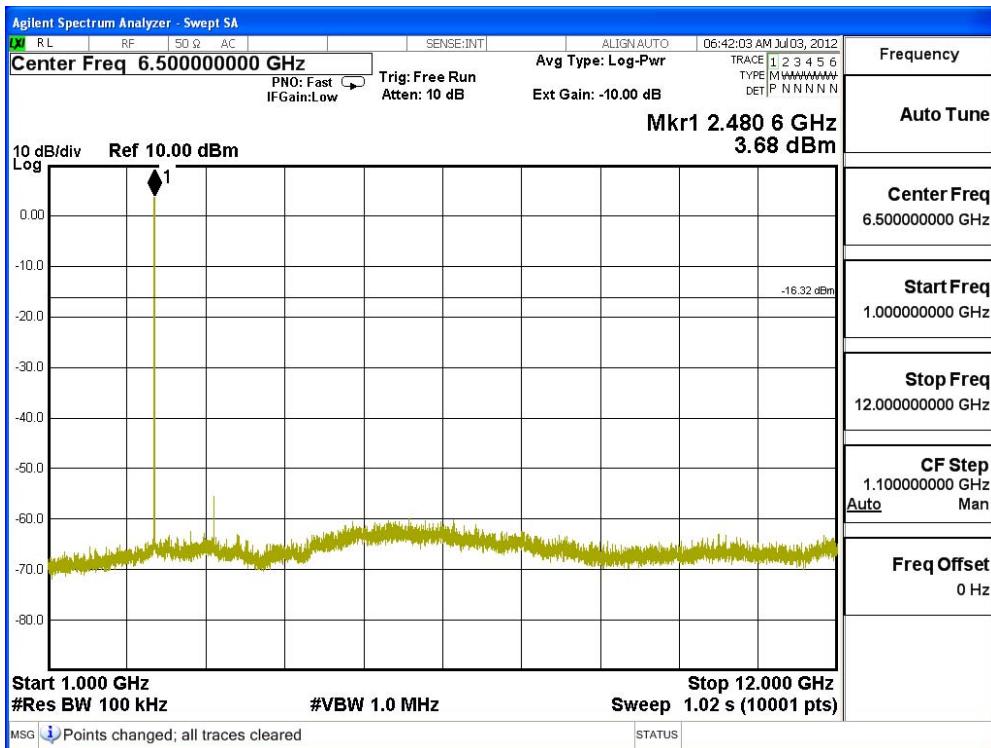




Product : ASUS Tablet  
 Test Item : RF Antenna Conducted Test  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit - 3Mbps (8DPSK)

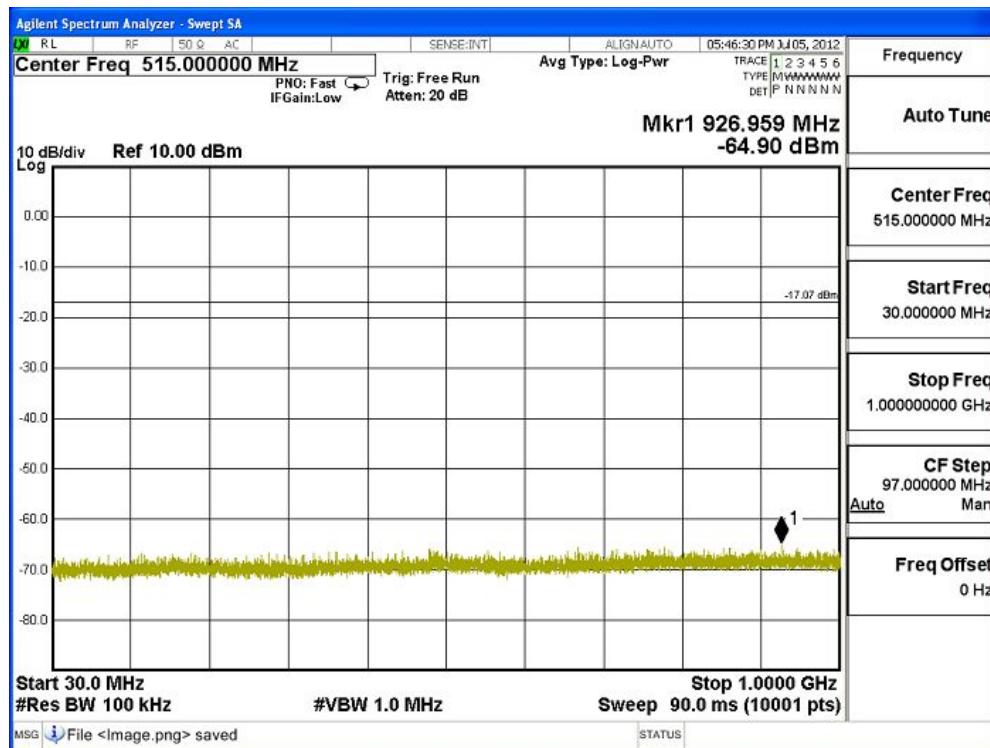
**Figure Channel 78:**

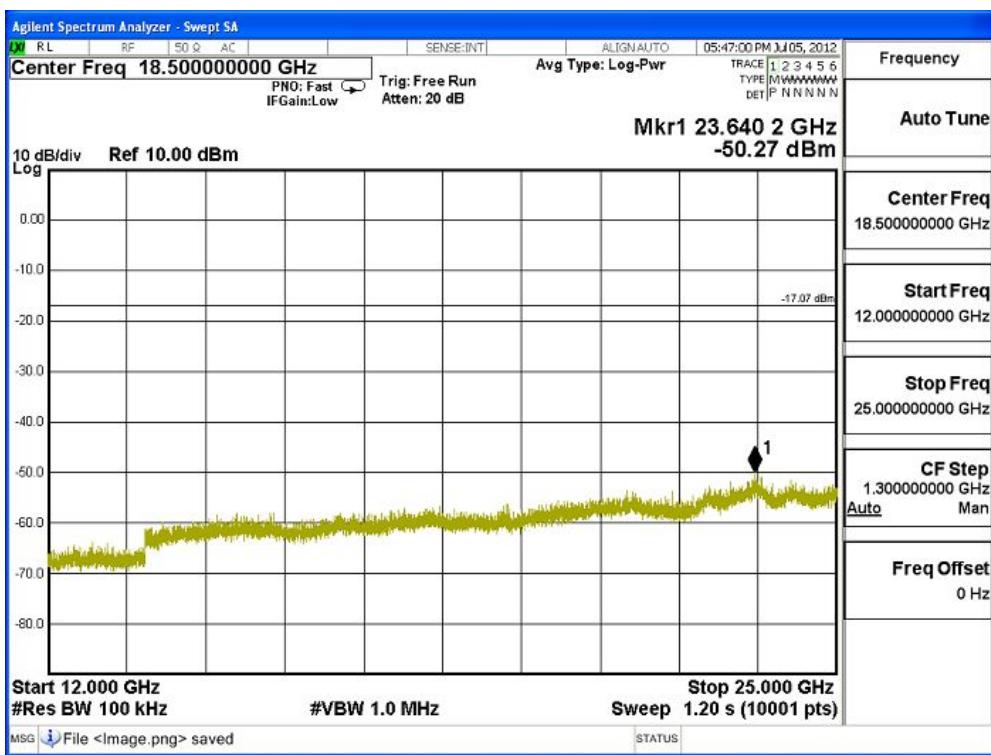
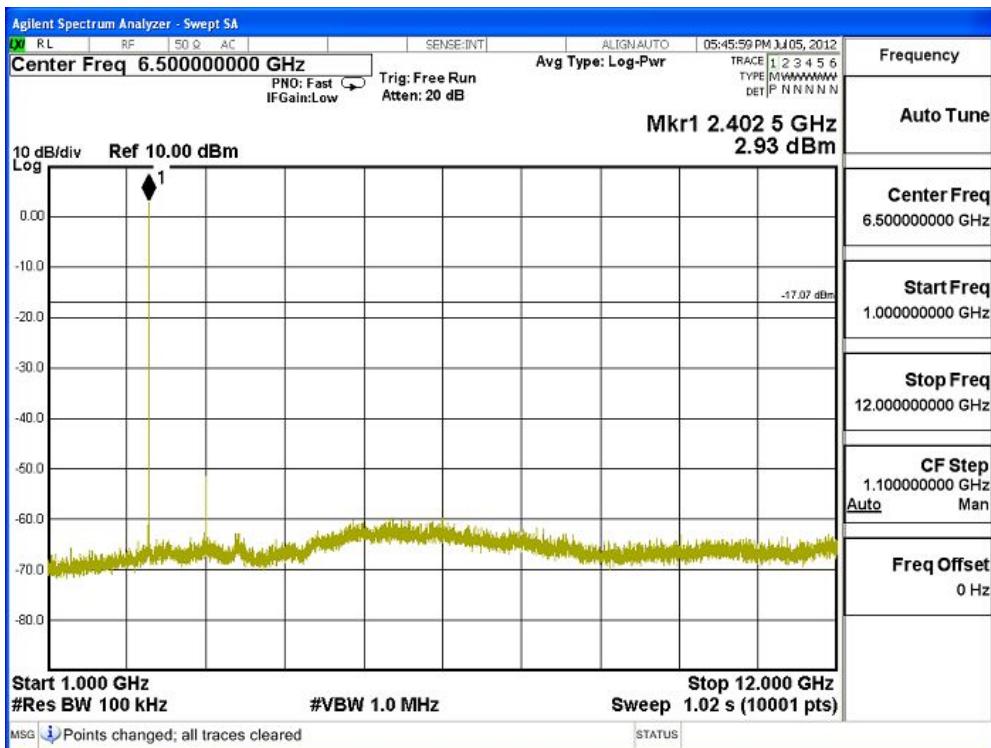




Product : ASUS Tablet  
 Test Item : RF Antenna Conducted Test  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit - BLE (GFSK)

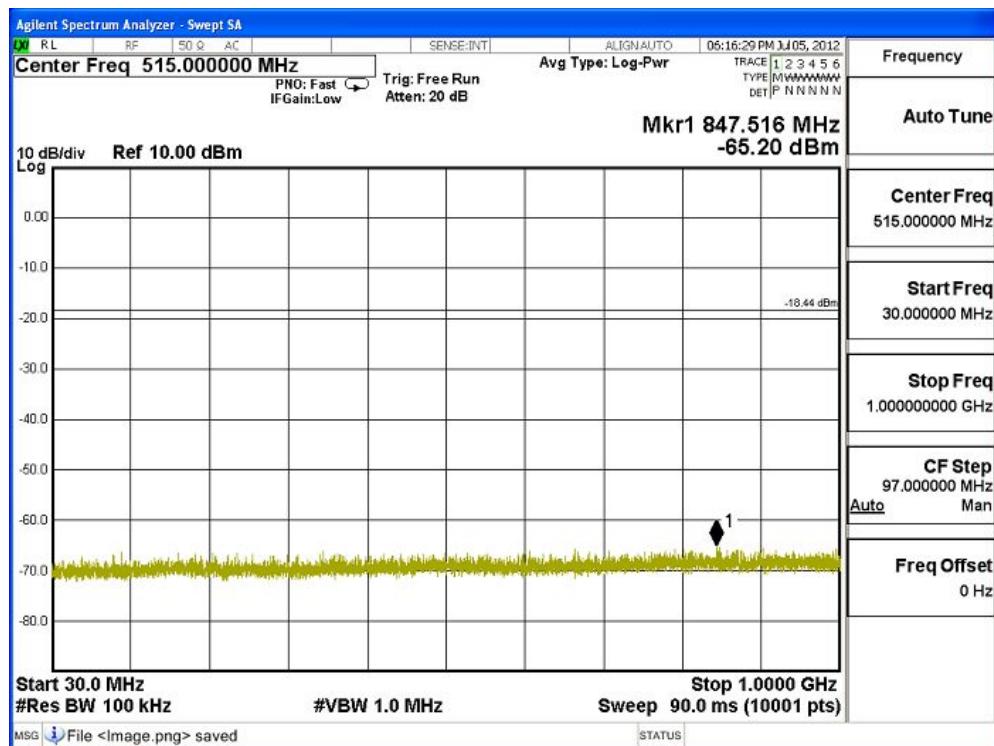
**Figure Channel 00:**

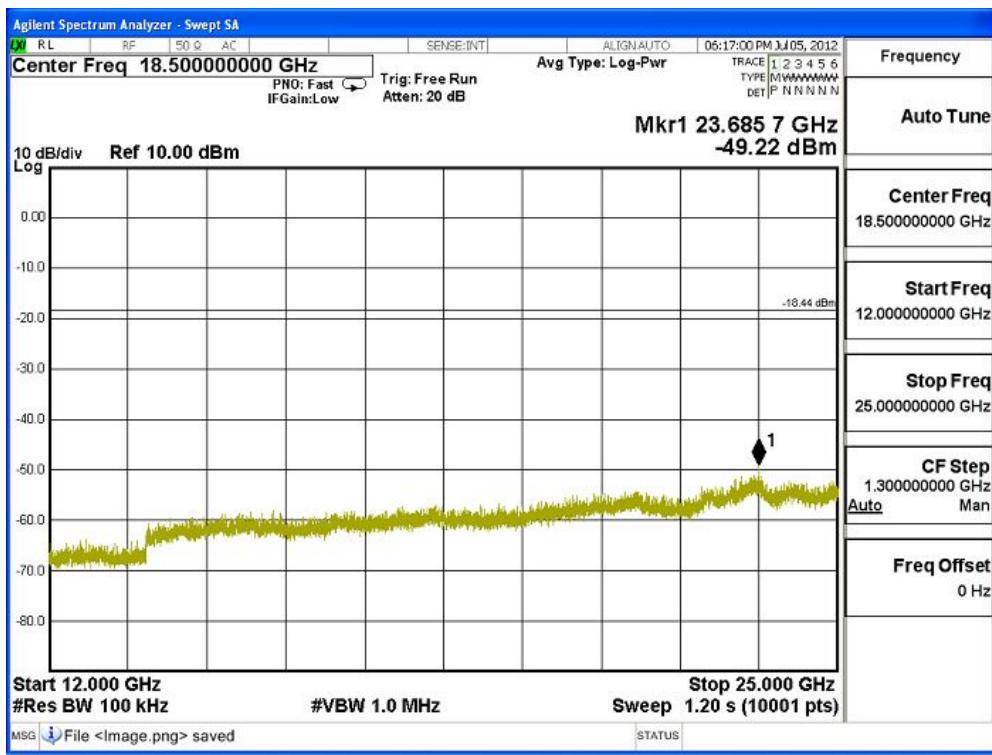
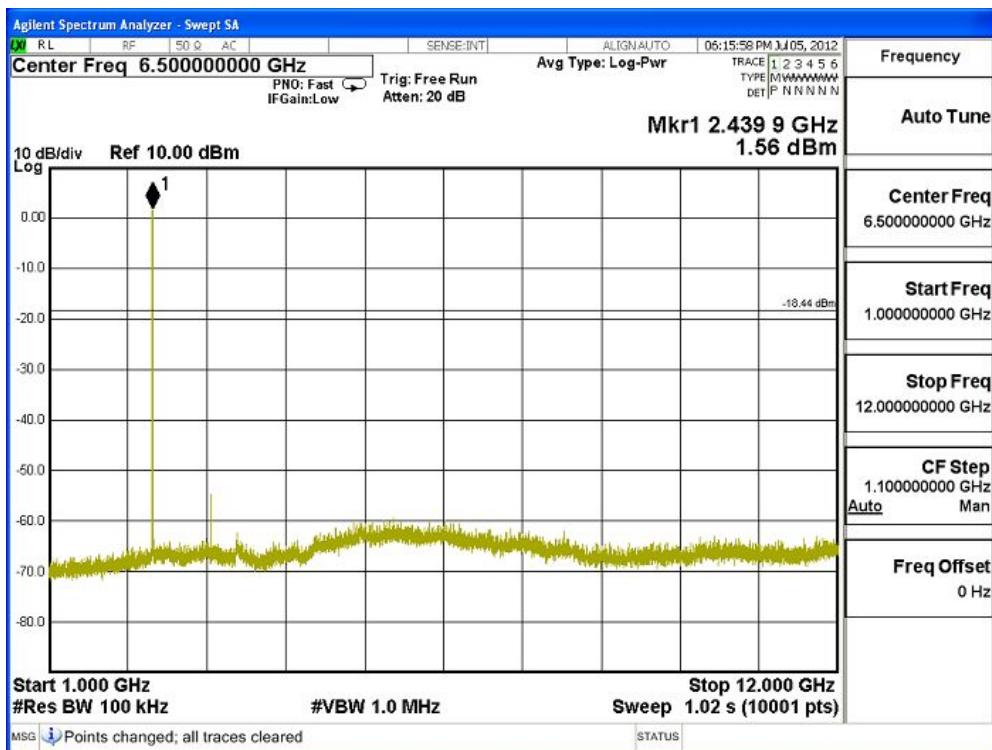




Product : ASUS Tablet  
 Test Item : RF Antenna Conducted Test  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit - BLE (GFSK)

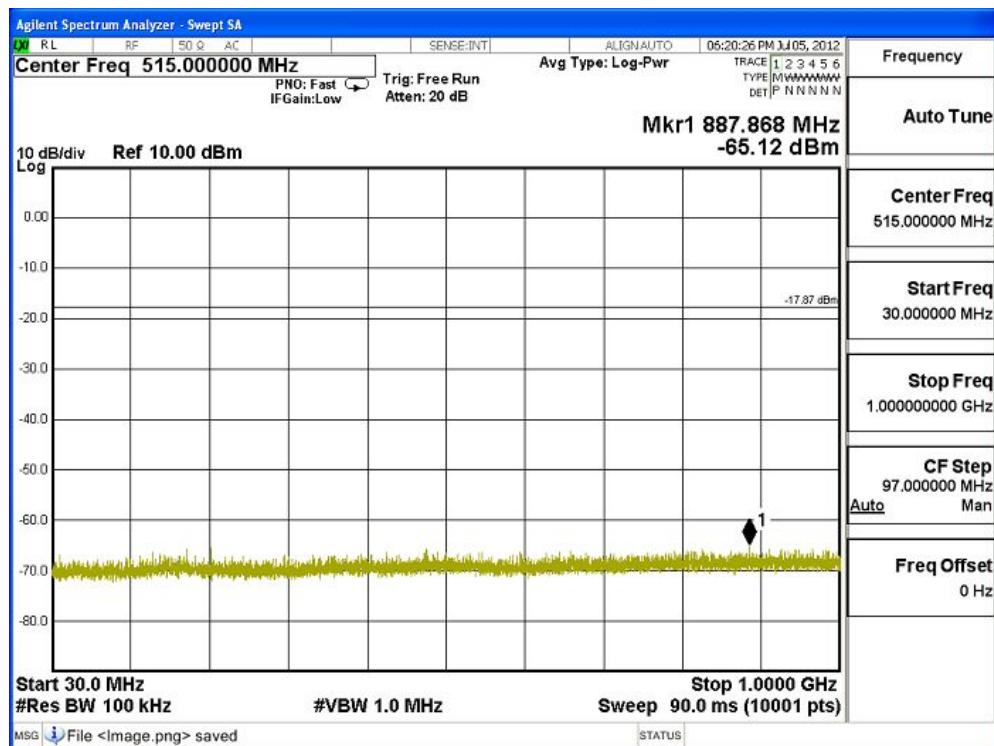
**Figure Channel 19:**

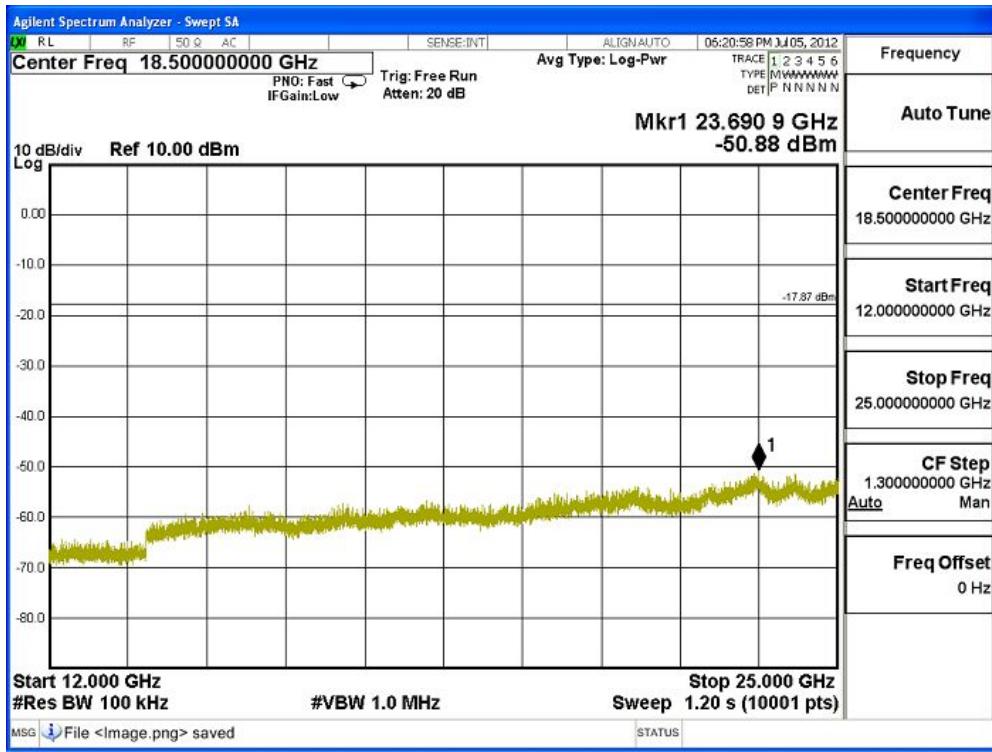
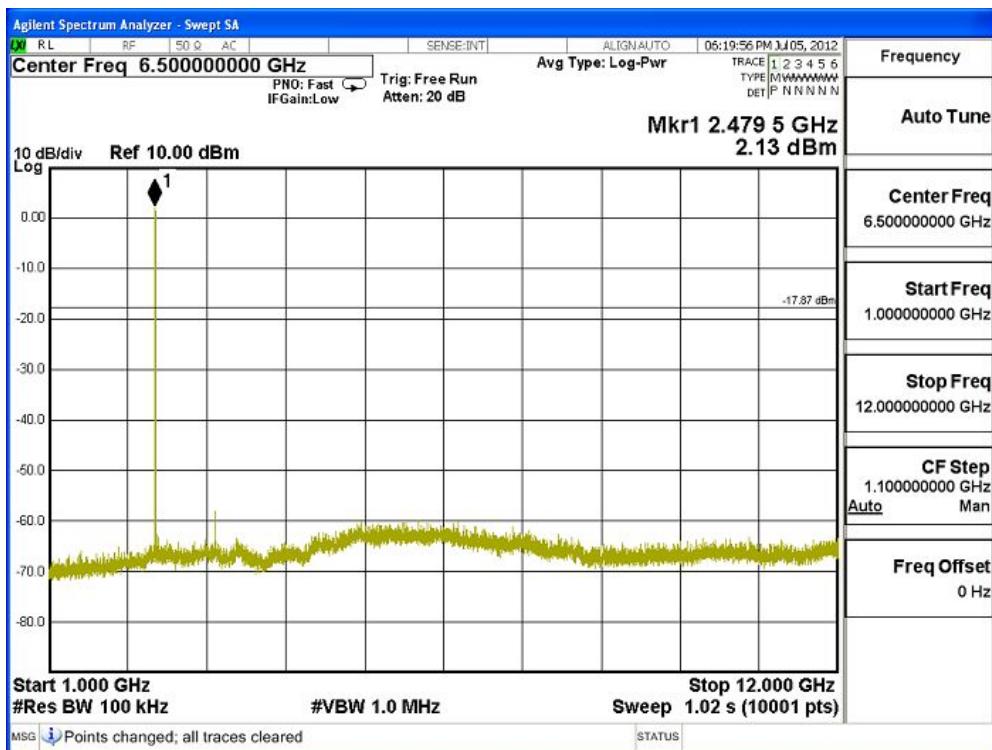




Product : ASUS Tablet  
 Test Item : RF Antenna Conducted Test  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit - BLE (GFSK)

**Figure Channel 39:**





## 6. Band Edge

### 6.1. Test Equipment

#### RF Conducted Measurement

The following test equipments are used during the band edge tests:

Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2012
Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2012
X Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2012

#### RF Radiated Measurement:

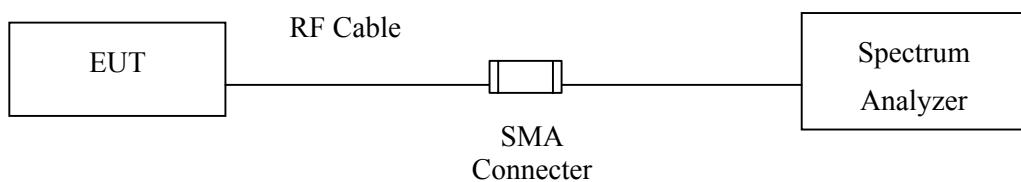
The following test equipments are used during the band edge tests:

Test Site	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒Site # 3	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2011
	X Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2011
	Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2012
	X Pre-Amplifier	Agilent	8447D/2944A09549	Sep., 2011
	X Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2012
	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2011
	X Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2012
	X Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	X Coaxial Switch	Anritsu	MP59B/6200265729	N/A

- Note:
1. All equipments are calibrated every one year.
  2. The test instruments marked by “X” are used to measure the final test results.

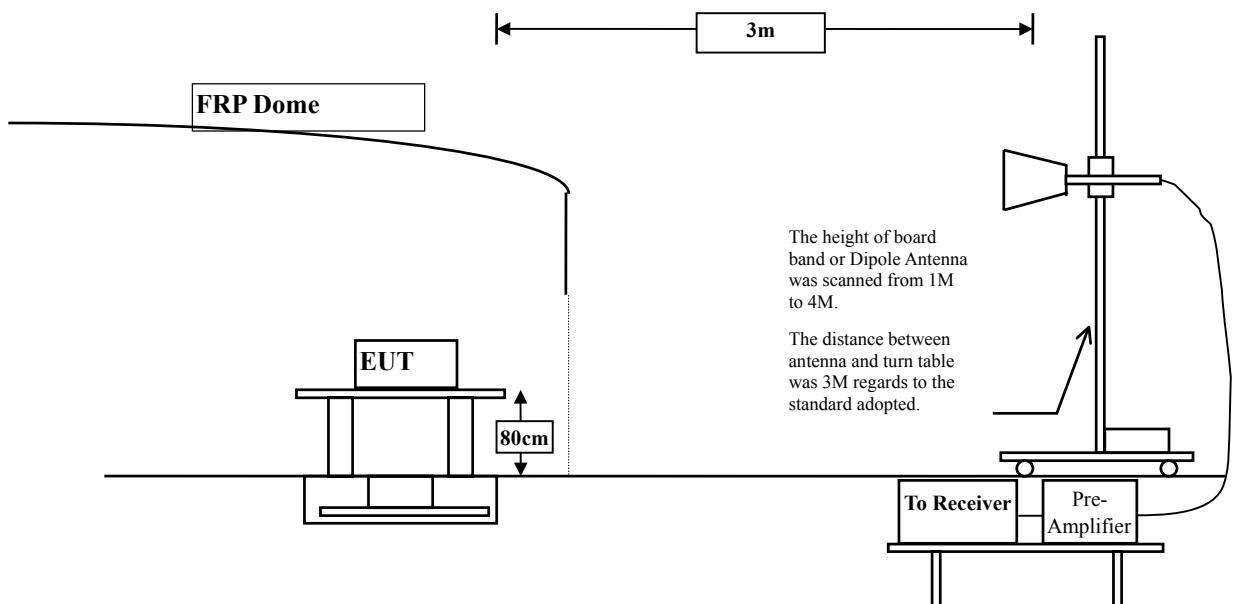
## 6.2. Test Setup

### RF Conducted Measurement



### RF Radiated Measurement:

Above 1GHz



### 6.3. Limit

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 the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

### 6.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4:2003 on radiated measurement.

The bandwidth below 1GHz setting on the field strength meter is 120 kHz, above 1GHz are 1 MHz. The EUT was setup to ANSI C63.4, 2003; tested to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements.

### 6.5. Uncertainty

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

## 6.6. Test Result of Band Edge

Product : ASUS Tablet  
 Test Item : Band Edge  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit - 1Mbps (GFSK)

### Fundamental Filed Strength

Antenna Pole	Frequency [MHz]	Correction Factor [dB/m]	Reading Level [dB $\mu$ V]	Emission Level [dB $\mu$ V/m]	Detector
Horizontal	2402	31.573	73.46	105.034	Peak
Horizontal	2402	31.573	59.31	90.884	Average
Vertical	2402	30.917	73.75	104.667	Peak
Vertical	2402	30.917	59.42	90.337	Average

Note: 1:Spectrum Analyzer setting:

Peak detector: RBW=1MHz, VBW=1MHz

Average detector: RBW=1MHz, VBW=10Hz

### Band Edge Test Data

Antenna Pole	Test Frequency (MHz)	Fundamental (dBuV/m)	$\Delta$ (dB)	Band Edge Field Strength (dBuV/m)	Limit (dBuV/m)	Detector
Horizontal	2387.7	105.034	61.43	43.604	74.000	Peak
Horizontal	2388.4	90.884	58.49	32.394	54.000	Average
Vertical	2387.7	104.667	61.43	43.237	74.000	Peak
Vertical	2388.4	90.337	58.49	31.847	54.000	Average

#### Note:

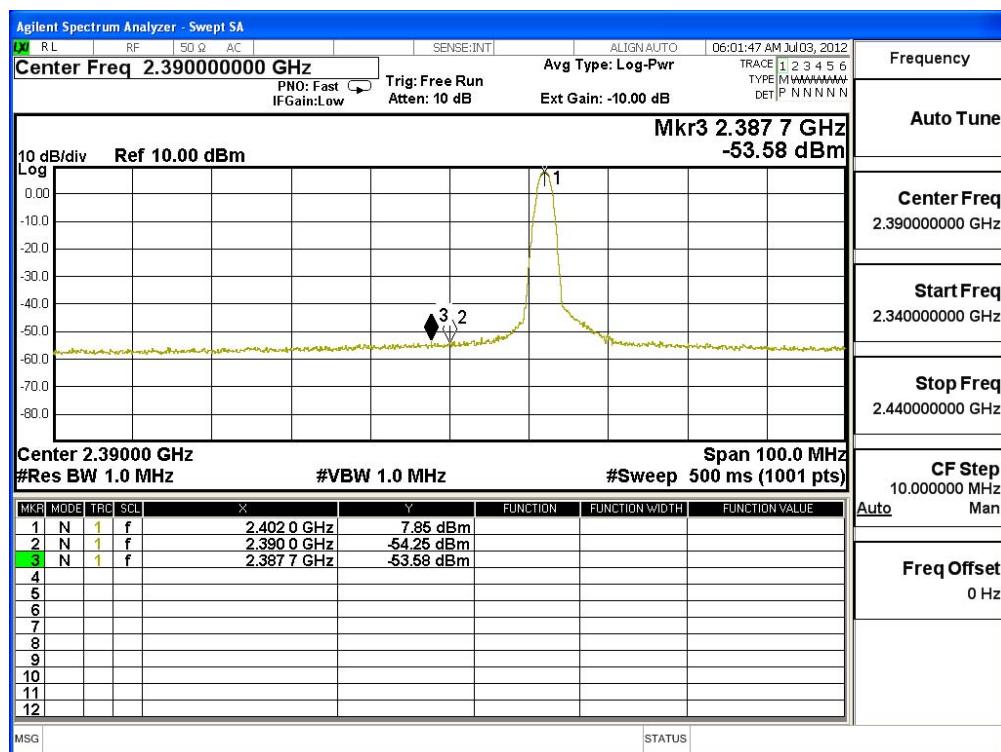
The Band Edge Field Strength was calculated using the Fundamental and Conducted Band Edge measurements per the Marker-Delta Method with the following formula:

$$\text{Band Edge field Strength} = F - \Delta$$

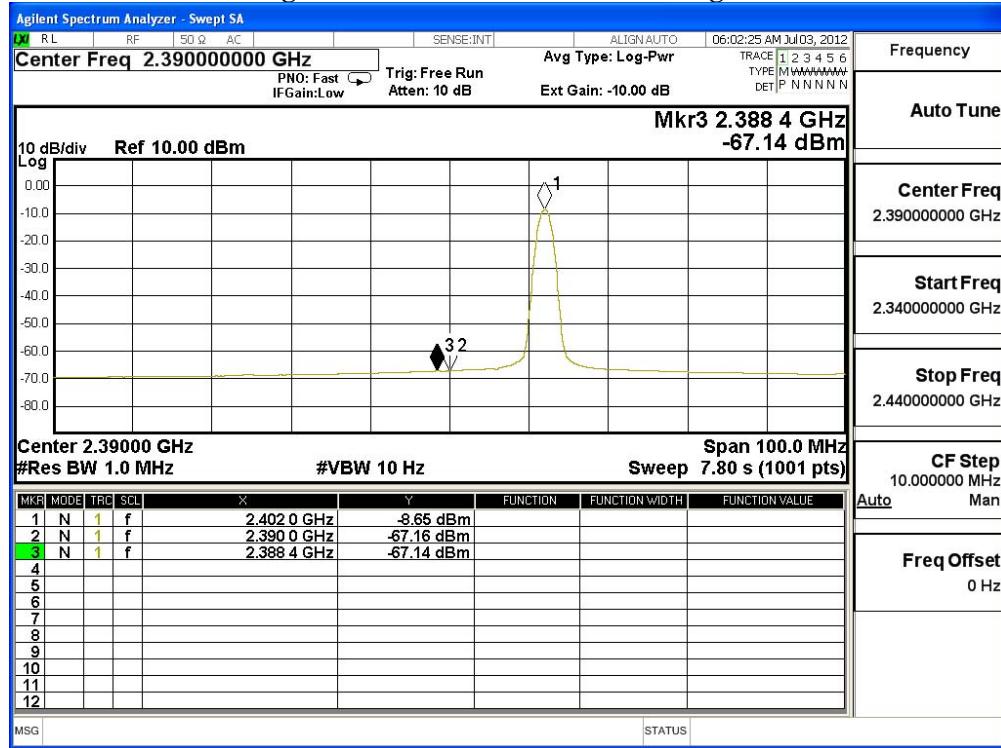
F = Fundamental field Strength (Peak or Average)

$\Delta$  = Conducted Band Edge Delta (Peak or Average)

### Peak Detector of conducted Band Edge Delta



### Average Detector of conducted Band Edge Delta



Product : ASUS Tablet  
 Test Item : Band Edge  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit - 1Mbps (GFSK)

### Fundamental Filed Strength

Antenna Pole	Frequency [MHz]	Correction Factor [dB/m]	Reading Level [dB(uV)]	Emission Level [dB(uV/m)]	Detector
Horizontal	2480	32.155	75.17	107.326	Peak
Horizontal	2480	32.155	60.54	92.696	Average
Vertical	2480	31.412	74.59	106.002	Peak
Vertical	2480	31.412	60.07	91.482	Average

Note: 1:Spectrum Analyzer setting:

Peak detector: RBW=1MHz, VBW=1MHz

Average detector: RBW=1MHz, VBW=10Hz

### Band Edge Test Data

Antenna Pole	Test Frequency (MHz)	Fundamental (dBuV/m)	$\Delta$ (dB)	Band Edge Field Strength (dBuV/m)	Limit (dBuV/m)	Detector
Horizontal	2483.5	107.326	53.35	53.976	74.000	Peak
Horizontal	2483.5	92.696	55.43	37.266	54.000	Average
Vertical	2483.5	106.002	53.35	52.652	74.000	Peak
Vertical	2483.5	91.482	55.43	36.052	54.000	Average

#### Note:

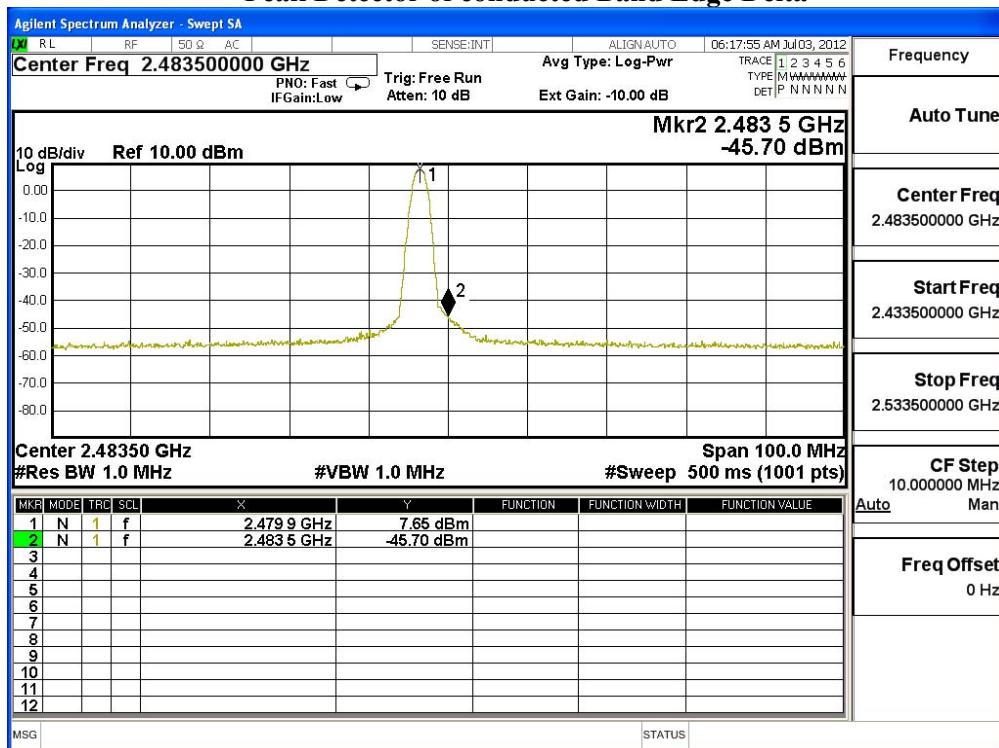
The Band Edge Field Strength was calculated using the Fundamental and Conducted Band Edge measurements per the Marker-Delta Method with the following formula:

$$\text{Band Edge field Strength} = F - \Delta$$

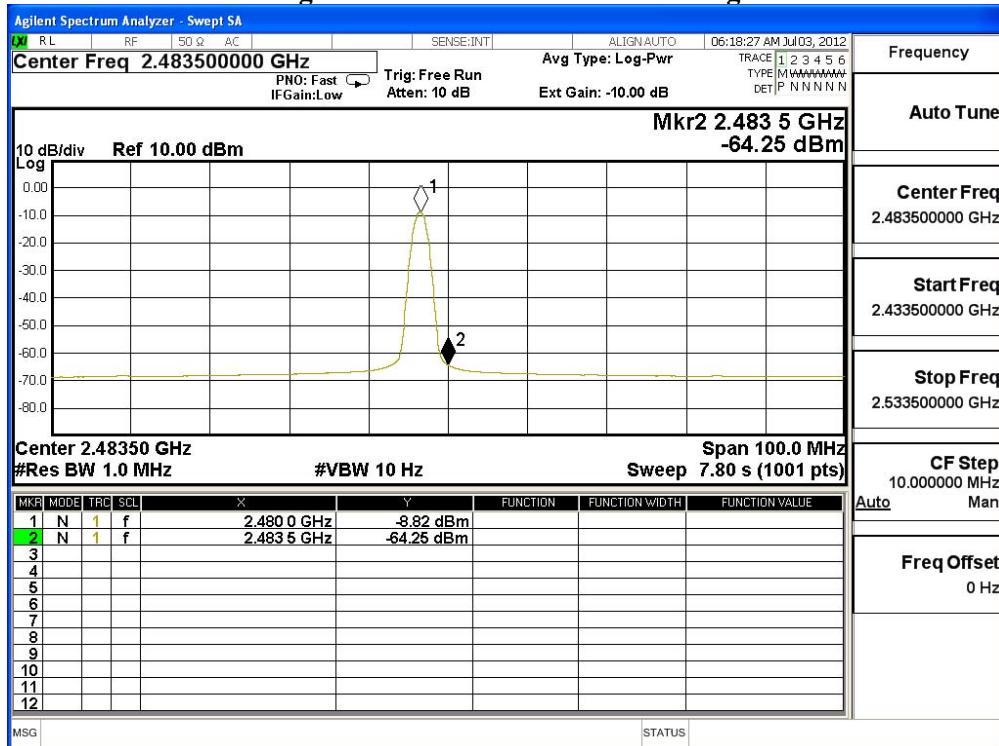
F = Fundamental field Strength (Peak or Average)

$\Delta$  = Conducted Band Edge Delta (Peak or Average)

### Peak Detector of conducted Band Edge Delta



### Average Detector of conducted Band Edge Delta



Product : ASUS Tablet  
 Test Item : Band Edge  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit - 3Mbps (8DPSK)

### Fundamental Filed Strength

Antenna Pole	Frequency [MHz]	Correction Factor [dB/m]	Reading Level [dB(uV)]	Emission Level [dB(uV/m)]	Detector
Horizontal	2402	31.573	72.86	104.434	Peak
Horizontal	2402	31.573	56.12	87.694	Average
Vertical	2402	30.917	73.13	104.047	Peak
Vertical	2402	30.917	56.39	87.307	Average

Note: 1:Spectrum Analyzer setting:

Peak detector: RBW=1MHz, VBW=1MHz

Average detector: RBW=1MHz, VBW=10Hz

### Band Edge Test Data

Antenna Pole	Test Frequency (MHz)	Fundamental (dBuV/m)	$\Delta$ (dB)	Band Edge Field Strength (dBuV/m)	Limit (dBuV/m)	Detector
Horizontal	2389.5	104.434	61.29	43.144	74.000	Peak
Horizontal	2390	87.694	56.05	31.644	54.000	Average
Vertical	2389.5	104.047	61.29	42.757	74.000	Peak
Vertical	2390	87.307	56.05	31.257	54.000	Average

Note:

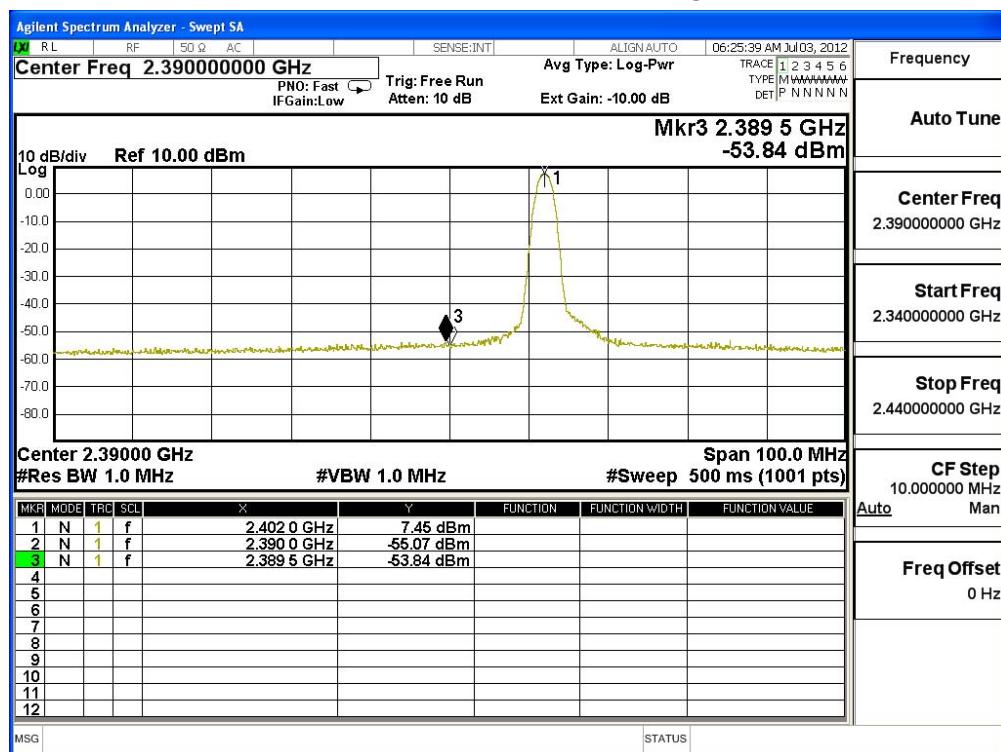
The Band Edge Field Strength was calculated using the Fundamental and Conducted Band Edge measurements per the Marker-Delta Method with the following formula:

$$\text{Band Edge field Strength} = F - \Delta$$

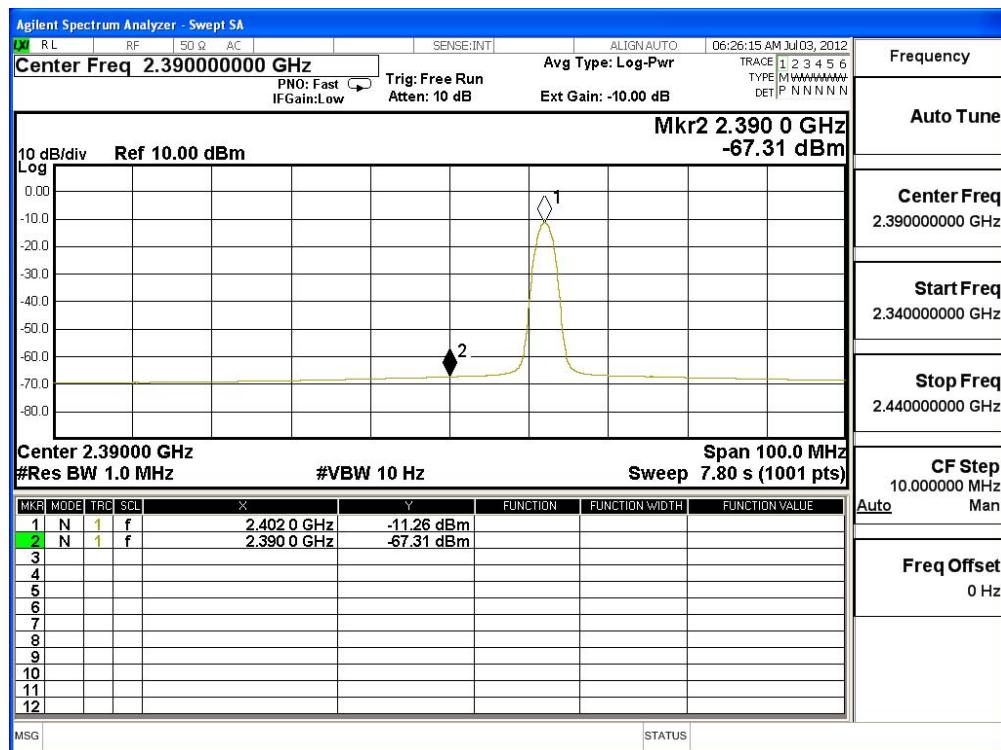
F = Fundamental field Strength (Peak or Average)

$\Delta$  = Conducted Band Edge Delta (Peak or Average)

### Peak Detector of conducted Band Edge Delta



### Average Detector of conducted Band Edge Delta



Product : ASUS Tablet  
 Test Item : Band Edge  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit - 3Mbps (8DPSK)

### Fundamental Filed Strength

Antenna Pole	Frequency [MHz]	Correction Factor [dB/m]	Reading Level [dB(uV)]	Emission Level [dB(uV/m)]	Detector
Horizontal	2480	32.155	74.78	106.936	Peak
Horizontal	2480	32.155	57.88	90.036	Average
Vertical	2480	31.412	73.82	105.232	Peak
Vertical	2480	31.412	56.9	88.312	Average

Note: 1:Spectrum Analyzer setting:

Peak detector: RBW=1MHz, VBW=1MHz

Average detector: RBW=1MHz, VBW=10Hz

### Band Edge Test Data

Antenna Pole	Test Frequency (MHz)	Fundamental (dBuV/m)	$\Delta$ (dB)	Band Edge Field Strength (dBuV/m)	Limit (dBuV/m)	Detector
Horizontal	2483.5	106.936	52.9	54.036	74.000	Peak
Horizontal	2483.5	90.036	52.87	37.166	54.000	Average
Vertical	2483.5	105.232	52.9	52.332	74.000	Peak
Vertical	2483.5	88.312	52.87	35.442	54.000	Average

Note:

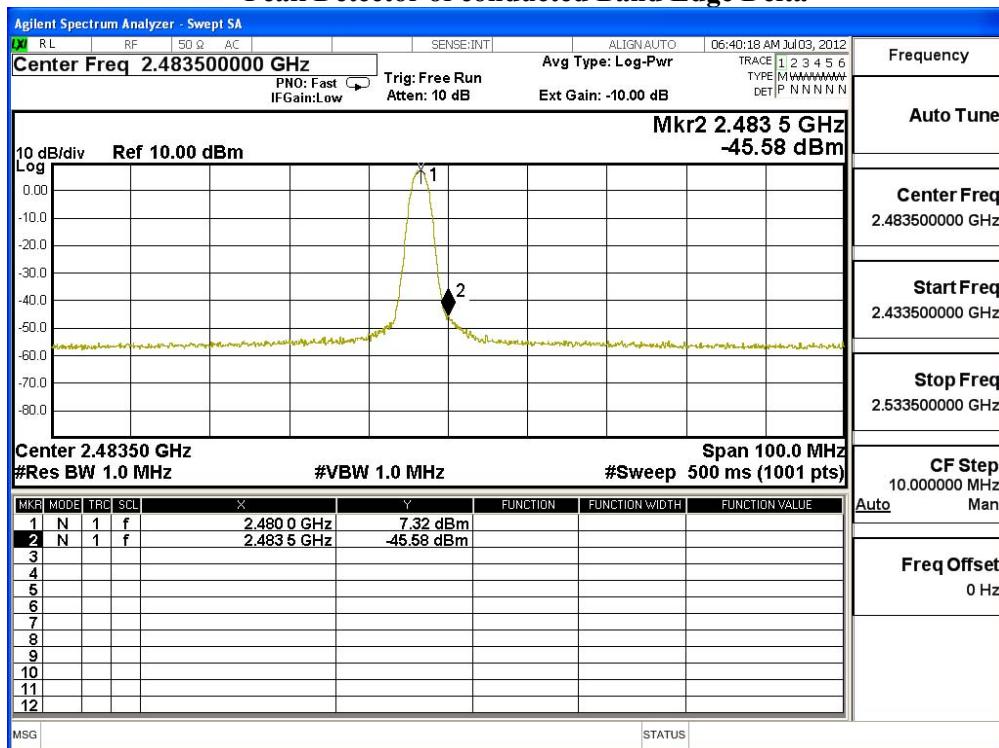
The Band Edge Field Strength was calculated using the Fundamental and Conducted Band Edge measurements per the Marker-Delta Method with the following formula:

$$\text{Band Edge field Strength} = F - \Delta$$

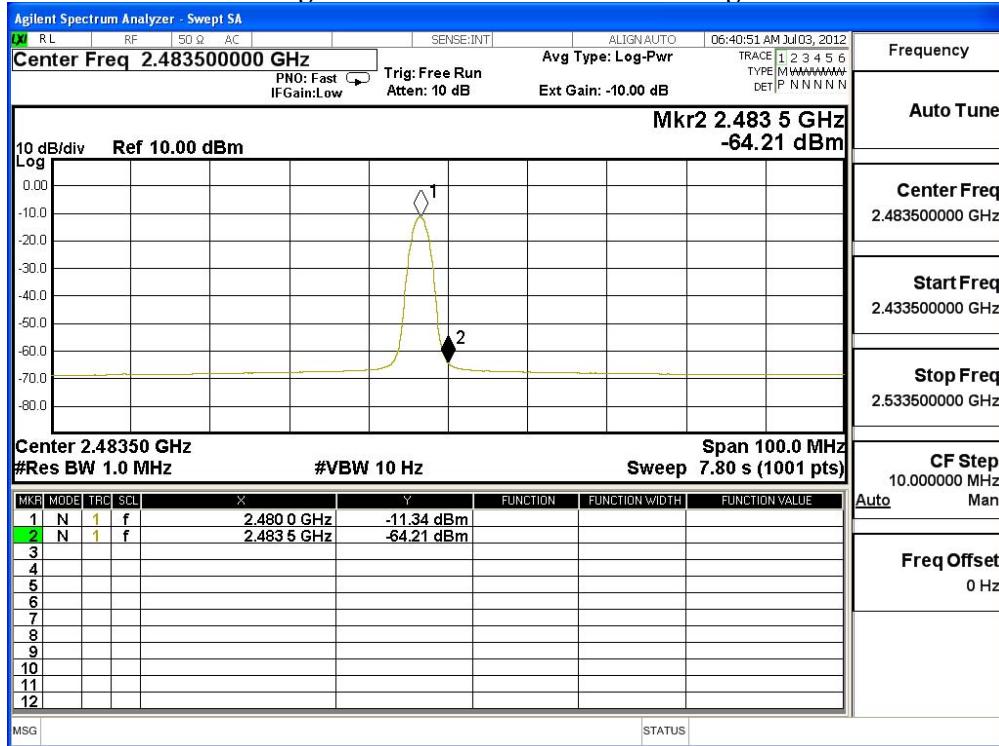
F = Fundamental field Strength (Peak or Average)

$\Delta$  = Conducted Band Edge Delta (Peak or Average)

### Peak Detector of conducted Band Edge Delta



### Average Detector of conducted Band Edge Delta



Product : ASUS Tablet  
 Test Item : Band Edge  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit - BLE (GFSK)

### Fundamental Filed Strength

Antenna Pole	Frequency [MHz]	Correction Factor [dB/m]	Reading Level [dB(uV)]	Emission Level [dB(uV/m)]	Detector
Horizontal	2402	31.755	69.26	101.014	Peak
Horizontal	2402	31.755	47.36	79.114	Average
Vertical	2402	30.241	70.16	100.401	Peak
Vertical	2402	30.241	48.08	78.321	Average

Note: 1:Spectrum Analyzer setting:

Peak detector: RBW=1MHz, VBW=1MHz

Average detector: RBW=1MHz, VBW=10Hz

### Band Edge Test Data

Antenna Pole	Test Frequency (MHz)	Fundamental (dBuV/m)	$\Delta$ (dB)	Band Edge Field Strength (dBuV/m)	Limit (dBuV/m)	Detector
Horizontal	2381.6	101.014	59.19	41.824	74.000	Peak
Horizontal	2388.2	79.114	44.81	34.304	54.000	Average
Vertical	2381.6	100.401	59.19	41.211	74.000	Peak
Vertical	2388.2	78.321	44.81	33.511	54.000	Average

Note:

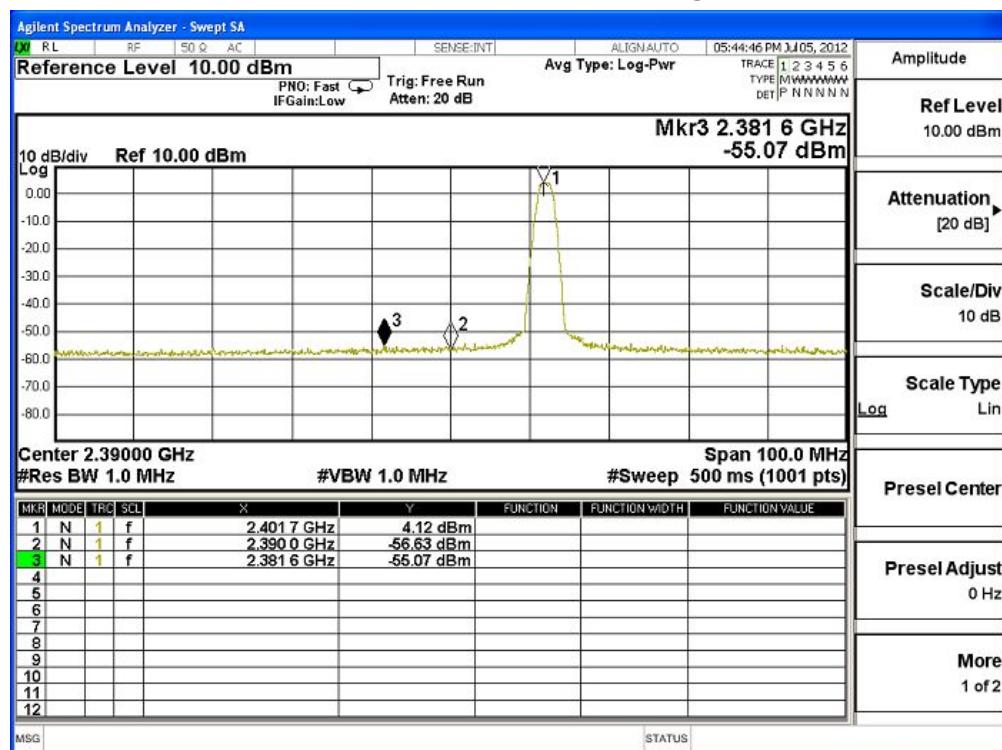
The Band Edge Field Strength was calculated using the Fundamental and Conducted Band Edge measurements per the Marker-Delta Method with the following formula:

$$\text{Band Edge field Strength} = F - \Delta$$

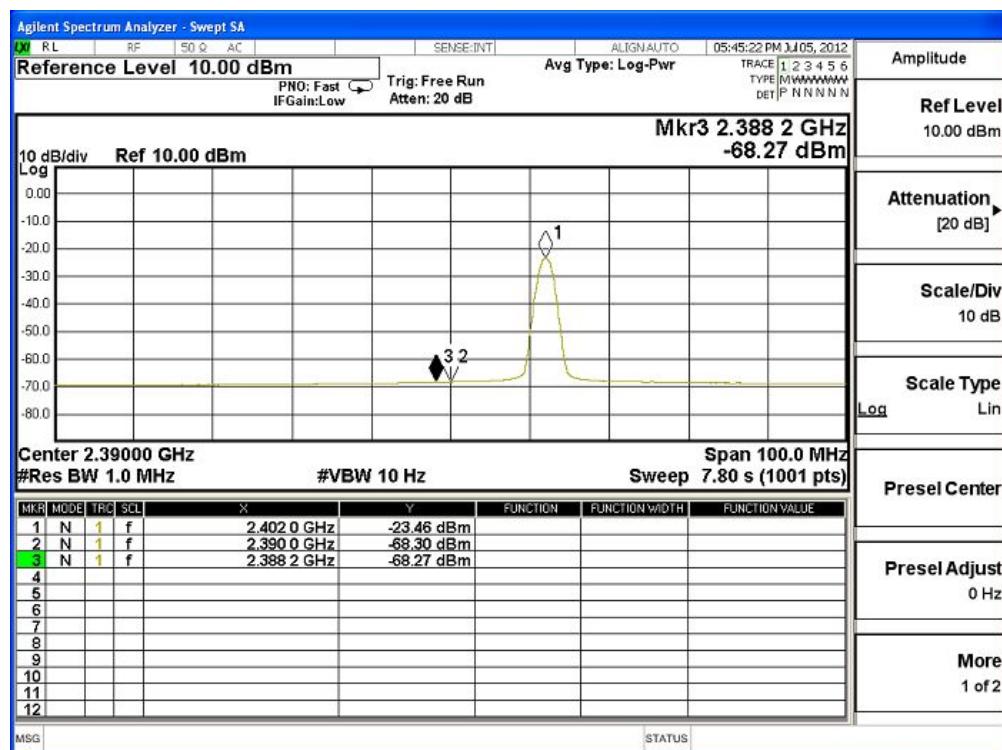
F = Fundamental field Strength (Peak or Average)

$\Delta$  = Conducted Band Edge Delta (Peak or Average)

### Peak Detector of conducted Band Edge Delta



### Average Detector of conducted Band Edge Delta



Product : ASUS Tablet  
 Test Item : Band Edge  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit - BLE (GFSK)

### Fundamental Filed Strength

Antenna Pole	Frequency [MHz]	Correction Factor [dB/m]	Reading Level [dB(uV)]	Emission Level [dB(uV/m)]	Detector
Horizontal	2480	31.941	71.95	103.891	Peak
Horizontal	2480	31.941	49.17	81.111	Average
Vertical	2480	30.568	71.54	102.108	Peak
Vertical	2480	30.568	48.91	79.478	Average

Note: 1:Spectrum Analyzer setting:

Peak detector: RBW=1MHz, VBW=1MHz

Average detector: RBW=1MHz, VBW=10Hz

### Band Edge Test Data

Antenna Pole	Test Frequency (MHz)	Fundamental (dBuV/m)	$\Delta$ (dB)	Band Edge Field Strength (dBuV/m)	Limit (dBuV/m)	Detector
Horizontal	2483.5	103.891	56.3	47.591	74.000	Peak
Horizontal	2483.5	81.111	43.06	38.051	54.000	Average
Vertical	2483.5	102.108	56.3	45.808	74.000	Peak
Vertical	2483.5	79.478	43.06	36.418	54.000	Average

Note:

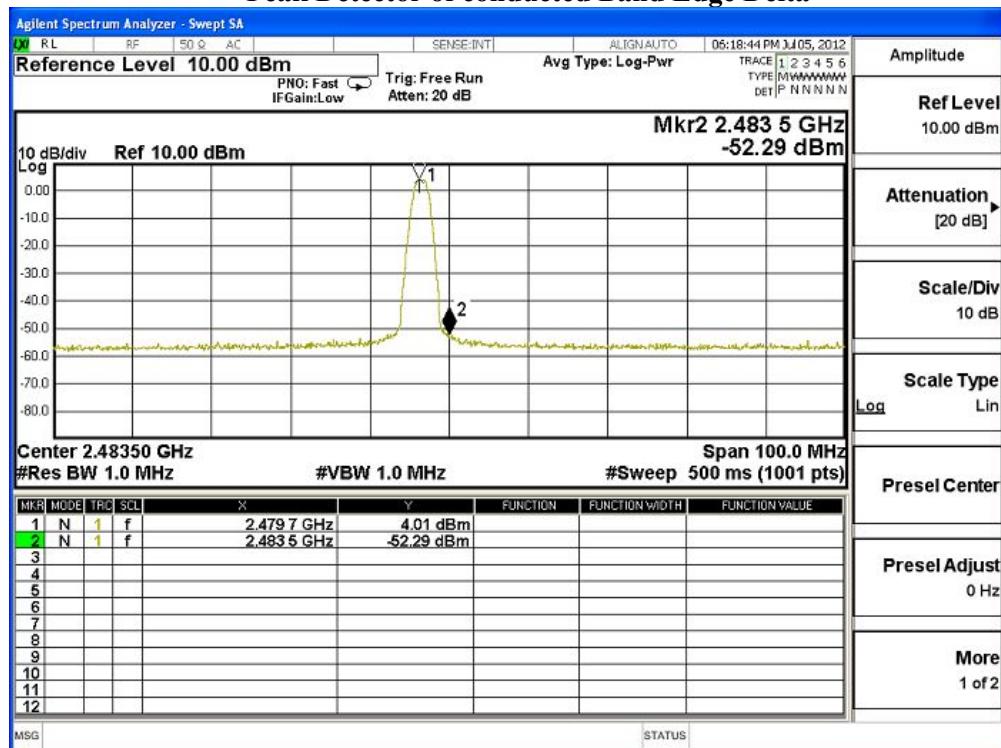
The Band Edge Field Strength was calculated using the Fundamental and Conducted Band Edge measurements per the Marker-Delta Method with the following formula:

$$\text{Band Edge field Strength} = F - \Delta$$

F = Fundamental field Strength (Peak or Average)

$\Delta$  = Conducted Band Edge Delta (Peak or Average)

### Peak Detector of conducted Band Edge Delta



### Average Detector of conducted Band Edge Delta

