



## Test Report

Product Name	Skype WiFi Phone
Model No.	SK8178M, F1PP000GN-SK
FCC ID.	HEDSK8178M

Applicant	Accton Technology Corporation
Address	1 Creation 3rd Rd, Science-based Industrial Park, Hsinchu 300, Taiwan R.O.C.

Date of Receipt	Jan. 23, 2007
Issued Date	March 14, 2007
Report No.	072L055-RFUSP05V01

The test results relate only to the samples tested.

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This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

# Test Report Certification

Issued Date: March 14, 2007

Report No.: 072L055-RFUSP05V01



Accredited by NIST (NVLAP)  
NVLAP Lab Code: 200533-0

Product Name	Skype WiFi Phone
Applicant	Accton Technology Corporation
Address	1 Creation 3rd Rd, Science-based Industrial Park, Hsinchu 300, Taiwan R.O.C.
Manufacturer	Accton Technology Corporation
Model No.	SK8178M, F1PP000GN-SK
Rated Voltage	AC 120V/60Hz
Working Voltage	Battery 3.7V or AC 120V/60Hz or USB Charge DC 5V
Trade Name	ACCTON, Belkin
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2005 ANSI C63.4: 2003
Test Result	Complied



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0914

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( President / Gene Chang )



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Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs

## 1. GENERAL INFORMATION

### 1.1. EUT Description

Product Name	Skype WiFi Phone
Trade Name	ACCTON, Belkin
Model No.	SK8178M, F1PP000GN-SK
FCC ID.	HEDSK8178M
Frequency Range	802.11b/g: 2412-2462MHz
Number of Channels	802.11b/g: 11
Data Rate	802.11b: 1 - 11Mbps, 802.11g: 6 - 54Mbps
Type of Modulation	DSSS/OFDM
Antenna Type	PIFA
Antenna Gain	Refer to the table "Antenna List"
Channel Control	Auto
USB Cable	Shielded, 1.2m
Speaker Cable	Non-Shielded, 1.2m
Cradle	ACCTON, CRD1188
Power Adapter	DVE, DSA-5P-05 FUS 050100 Cable out: Shielded, 1.5m
Panel	LCM TFT WDF 1216W8-6FLWb
	LCM TFT CLAA 018QQ C02G

#### Antenna List

No.	Manufacturer	Part No.	Peak Gain
1	Accton	123600004600E	2 dBi for 2.4 GHz

Frequency of Each Channel (802.11b/g):

Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 1:	2412 MHz	Channel 5:	2432 MHz	Channel 9:	2452 MHz
Channel 2:	2417 MHz	Channel 6:	2437 MHz	Channel 10:	2457 MHz
Channel 3:	2422 MHz	Channel 7:	2442 MHz	Channel 11:	2462 MHz
Channel 4:	2427 MHz	Channel 8:	2447 MHz		

Note:

1. The EUT is a Skype WiFi Phone with a built-in 2.4GHz transceiver.
2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
3. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report. (802.11b is 11Mbps and 802.11g is 54Mbps)
4. These tests are conducted on a sample for demonstrating the compliance of 802.11b/g transmitter with Part 15 Subpart C Paragraph 15.247.

## 1.2. Operational Description

The EUT is a Skype WiFi Phone with a built-in 2.4GHz transceiver. It, 802.11b- and 802.11g-compliant, allows you to make VoIP calls wirelessly. It supports 11 channels in 2412-2462 MHz. The data rates are 1, 2, 5.5 and 11 Mbps in 802.11b, and 6, 9, 12, 18, 24, 36, 48 Mbps in 802.11g. The signals are modulated by DSSS in 802.11b and OFDM in 802.11g. The antenna is PIFA.

Test Mode	Mode 1: Transmitter (802.11b 11Mbps)
	Mode 2: Transmitter (802.11g 54Mbps)

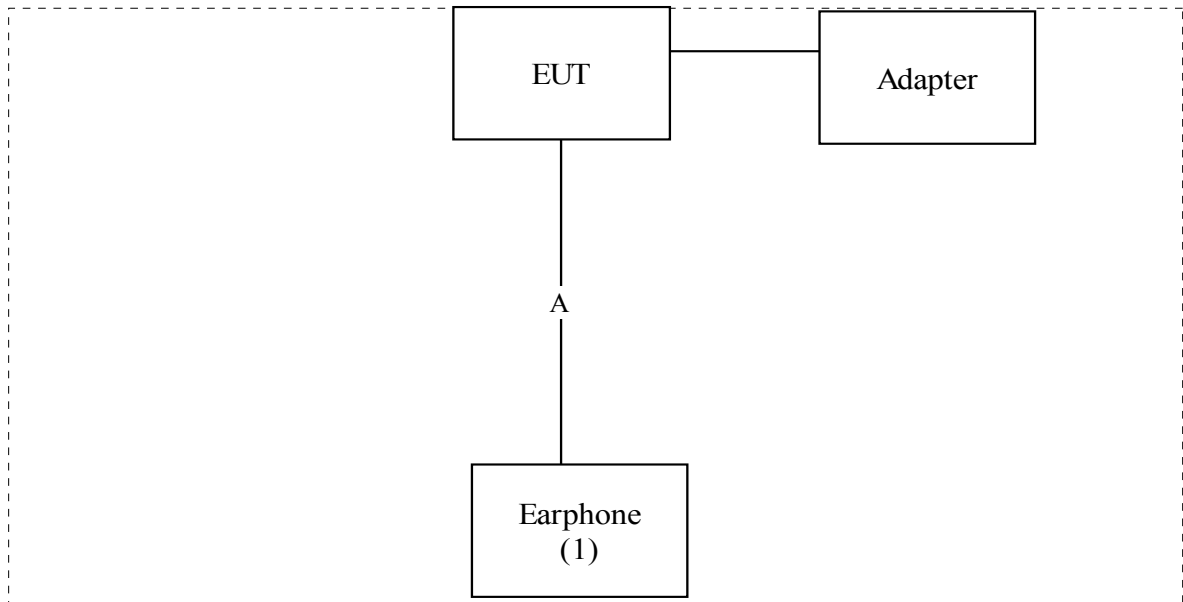
### 1.3. Tested System Details

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.	FCC ID	Power Cord
(1) Earphone	ACCTON	N/A	N/A	N/A	N/A

Signal Cable Type	Signal cable Description
A. Earphone Cable	Non-Shielded, 1.0m

### 1.4. Configuration of Test System



### 1.5. EUT Exercise Software

- (1) Setup the EUT as shown in section 1.4
- (2) Connect the EUT and a notebook via a USB cable.
- (3) Execute DutApiApDualBand.exe on the notebook.
- (4) Setup the test mode, the test channel, and the data rate.
- (5) Verify that the EUT works correctly.
- (6) Disconnect the EUT and the notebook.

**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	50-65
Barometric pressure (mbar)	860-1060	950-1000

Site Description: File on  
 Federal Communications Commission  
 FCC Engineering Laboratory  
 7435 Oakland Mills Road  
 Columbia, MD 21046  
 Reference 31040/SIT1300F2



Accreditation on NVLAP  
 NVLAP Lab Code: 200533-0



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## 2. Conducted Emission

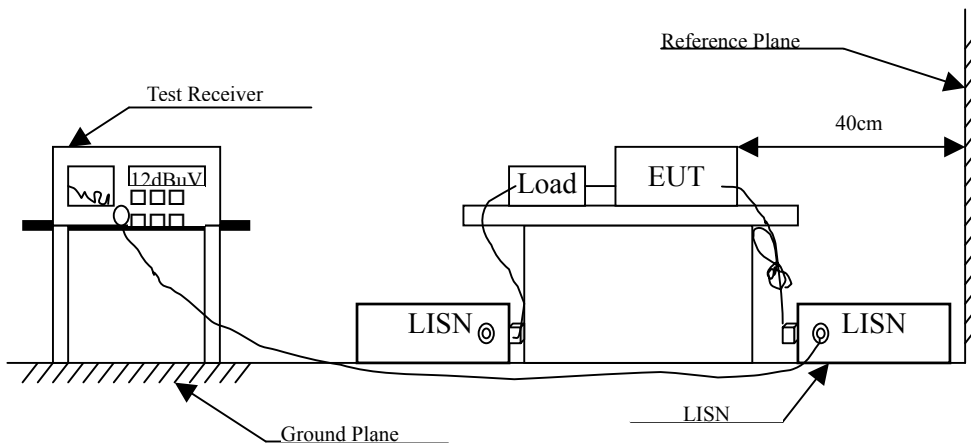
### 2.1. Test Equipment

The following test equipment are used during the conducted emission test:

Item	Instrument	Manufacturer	Type No./Serial No	Last Cal.	Remark
1	Test Receiver	R & S	ESCS 30/825442/17	May, 2006	
2	L.I.S.N.	R & S	ESH3-Z5/825016/6	May, 2006	EUT
3	L.I.S.N.	Kyoritsu	KNW-407/8-1420-3	May, 2006	Peripherals
4	Pulse Limiter	R & S	ESH3-Z2	May, 2006	
5	No.1 Shielded Room			N/A	

Note: All instruments are calibrated every one year.

### 2.2. Test Setup



### 2.3. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dBuV) Limit		
Frequency MHz	Limits	
	uV	dBuV
0.15 - 0.50	66-56 <sub>(註)</sub>	56-46 <sub>(註)</sub>
0.50-5.0	56	46
5.0 - 30	60	50

## 2.4. Test Procedure

The EUT and simulators 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 refers 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 of the interface cables must be changed according to ANSI C63.4: 2003 on conducted measurement.

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

## 2.5. Uncertainty

± 2.26 dB

## 2.6. Test Result of Conducted Emission

Product : Skype WiFi Phone  
 Test Item : Conducted Emission Test  
 Power Line : Line 1  
 Test Mode : Mode 1: Transmitter (802.11b 11Mbps) (2437MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
<b>LINE 1</b>					
<b>Quasi-Peak</b>					
0.412	0.300	45.840	46.140	-12.374	58.514
0.486	0.300	42.240	42.540	-13.860	56.400
0.771	0.310	40.640	40.950	-15.050	56.000
0.990	0.311	41.320	41.631	-14.369	56.000
2.353	0.350	44.500	44.850	-11.150	56.000
3.486	0.380	41.280	41.660	-14.340	56.000
<b>Average</b>					
0.412	0.300	34.080	34.380	-14.134	48.514
0.486	0.300	28.370	28.670	-17.730	46.400
0.771	0.310	25.780	26.090	-19.910	46.000
0.990	0.311	29.420	29.731	-16.269	46.000
2.353	0.350	34.810	35.160	-10.840	46.000
3.486	0.380	27.410	27.790	-18.210	46.000

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 : Skype WiFi Phone  
 Test Item : Conducted Emission Test  
 Power Line : Line 2  
 Test Mode : Mode 1: Transmitter (802.11b 11Mbps) (2437MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
<b>LINE 2</b>					
<b>Quasi-Peak</b>					
0.404	0.310	48.040	48.350	-10.393	58.743
0.564	0.310	41.500	41.810	-14.190	56.000
0.709	0.310	47.180	47.490	-8.510	56.000
0.939	0.320	43.180	43.500	-12.500	56.000
2.423	0.360	48.880	49.240	-6.760	56.000
3.158	0.380	42.660	43.040	-12.960	56.000
<b>Average</b>					
0.404	0.310	36.170	36.480	-12.263	48.743
0.564	0.310	32.630	32.940	-13.060	46.000
0.709	0.310	34.170	34.480	-11.520	46.000
0.939	0.320	29.420	29.740	-16.260	46.000
2.423	0.360	37.760	38.120	-7.880	46.000
3.158	0.380	30.010	30.390	-15.610	46.000

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 : Skype WiFi Phone  
 Test Item : Conducted Emission Test  
 Power Line : Line 1  
 Test Mode : Mode 2: Transmitter (802.11g 54Mbps) (2437MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
<b>LINE 1</b>					
<b>Quasi-Peak</b>					
0.416	0.300	45.720	46.020	-12.380	58.400
0.482	0.300	43.320	43.620	-12.894	56.514
0.634	0.302	40.060	40.362	-15.638	56.000
0.994	0.313	44.420	44.733	-11.267	56.000
2.416	0.350	46.780	47.130	-8.870	56.000
3.548	0.390	39.380	39.770	-16.230	56.000
<b>Average</b>					
0.416	0.300	33.580	33.880	-14.520	48.400
0.482	0.300	31.390	31.690	-14.824	46.514
0.634	0.302	31.860	32.162	-13.838	46.000
0.994	0.313	30.820	31.133	-14.867	46.000
2.416	0.350	36.170	36.520	-9.480	46.000
3.548	0.390	27.170	27.560	-18.440	46.000

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 : Skype WiFi Phone  
 Test Item : Conducted Emission Test  
 Power Line : Line 2  
 Test Mode : Mode 2: Transmitter (802.11g 54Mbps) (2437MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
<b>LINE 2</b>					
<b>Quasi-Peak</b>					
0.420	0.310	47.000	47.310	-10.976	58.286
0.545	0.310	43.080	43.390	-12.610	56.000
0.681	0.310	45.100	45.410	-10.590	56.000
0.791	0.320	43.880	44.200	-11.800	56.000
1.123	0.326	43.740	44.066	-11.934	56.000
2.271	0.351	50.040	50.391	-5.609	56.000
<b>Average</b>					
0.420	0.310	34.810	35.120	-13.166	48.286
0.545	0.310	34.210	34.520	-11.480	46.000
0.681	0.310	35.590	35.900	-10.100	46.000
0.791	0.320	32.030	32.350	-13.650	46.000
1.123	0.326	31.140	31.466	-14.534	46.000
2.271	0.351	36.780	37.131	-8.869	46.000

Note:

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

### 3. Peak Power Output

#### 3.1. Test Equipment

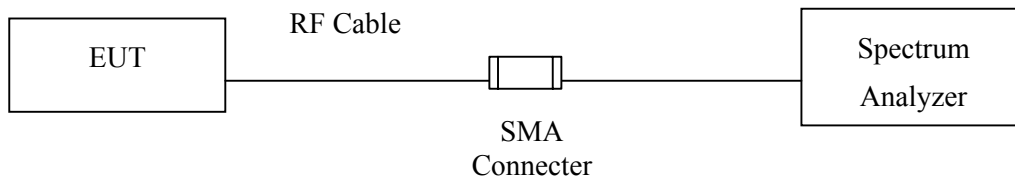
The following test equipments are used during the radiated emission tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Spectrum Analyzer	R & S	FSP40 / 100170	Nov., 2006

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

#### 3.2. Test Setup

##### Conduction Power Measurement



#### 3.3. Limits

The maximum peak power shall be less 1 Watt.

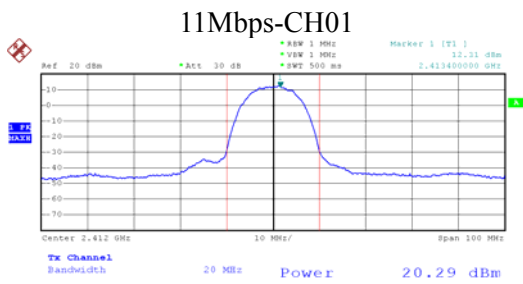
#### 3.4. Uncertainty

$\pm 1.27$  dB

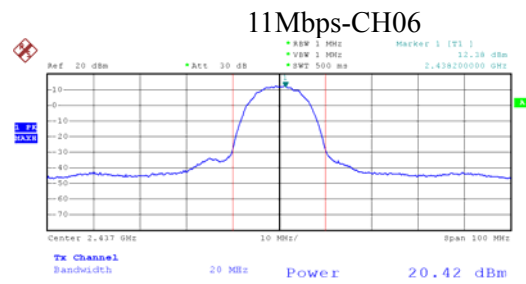
### 3.5. Test Result of Peak Power Output

Product : Skype WiFi Phone  
 Test Item : Peak Power Output Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11b 11Mbps)

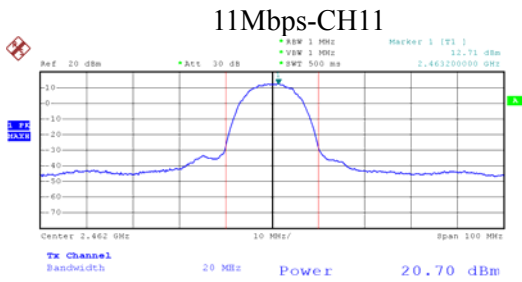
Channel No.	Frequency (MHz)	Measurement	Required Limit	Result
1	2412.00	20.29dBm	1 Watt= 30 dBm	Pass
6	2437.00	20.42dBm	1 Watt= 30 dBm	Pass
11	2462.00	20.70dBm	1 Watt= 30 dBm	Pass



PN1  
 Date: 23.JAN.2007 08:09:09



PN1  
 Date: 23.JAN.2007 07:55:08

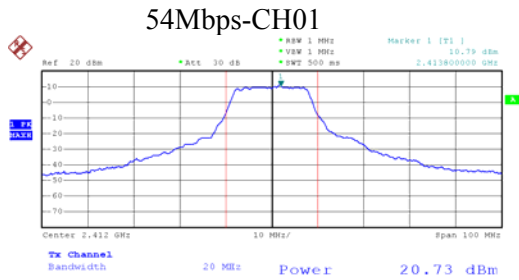


PN1  
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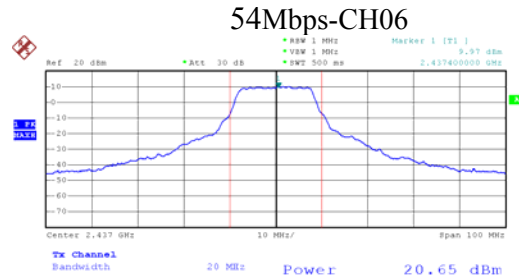


Product : Skype WiFi Phone  
 Test Item : Peak Power Output Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmitter (802.11g 54Mbps)

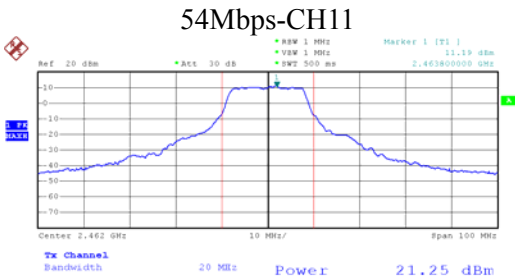
Channel No.	Frequency (MHz)	Measurement	Required Limit	Result
1	2412.00	20.73dBm	1 Watt= 30 dBm	Pass
6	2437.00	20.65dBm	1 Watt= 30 dBm	Pass
11	2462.00	21.25dBm	1 Watt= 30 dBm	Pass



PN1  
 Date: 23.JAN.2007 08:35:21



PN1  
 Date: 23.JAN.2007 08:43:58



PN1  
 Date: 23.JAN.2007 08:52:26

## 4. Radiated Emission

### 4.1. Test Equipment

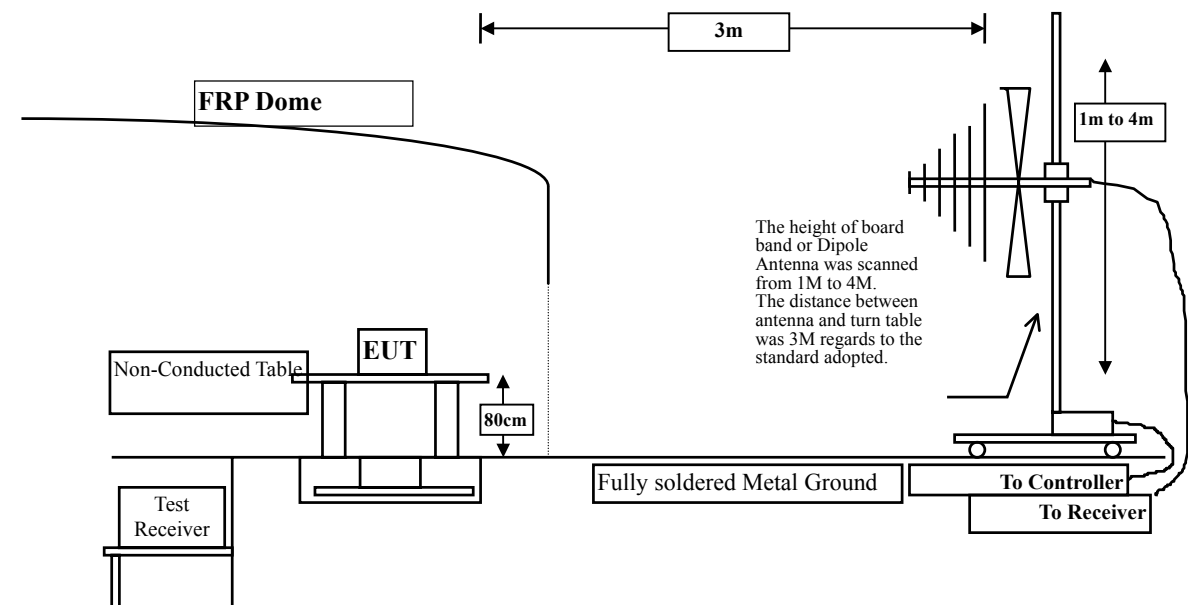
The following test equipment are used during the radiated emission test:

Test Site	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Site # 1	Test Receiver	R & S	ESCS 30 / 825442/14	May, 2006
	Spectrum Analyzer	Advantest	R3261C / 71720140	May, 2006
	Pre-Amplifier	HP	8447D/3307A01812	May, 2006
	Bilog Antenna	Chase	CBL6112B / 12452	Sep., 2006
	Horn Antenna	EM	EM6917 / 103325	May, 2006
Site # 2	Test Receiver	R & S	ESCS 30 / 825442/17	May, 2006
	Spectrum Analyzer	Advantest	R3261C / 71720609	May, 2006
	Pre-Amplifier	HP	8447D/3307A01814	May, 2006
	Bilog Antenna	Chase	CBL6112B / 2455	Sep., 2006
	Horn Antenna	EM	EM6917 / 103325	May, 2006
Site # 3	X Test Receiver	R & S	ESI 26 / 838786 / 004	May, 2006
	X Spectrum Analyzer	Advantest	R3162 / 100803480	May, 2006
	X Pre-Amplifier	QTK	QTK-AMP-03 / 0003	May, 2006
	X Bilog Antenna	SCHAFFNER	CBL6112B / 2697	May, 2006
	X Horn Antenna	ETS	3115 / 0005-6160	July, 2006
	X Pre-Amplifier	QTK	QTK-AMP-01 / 0001	July, 2006

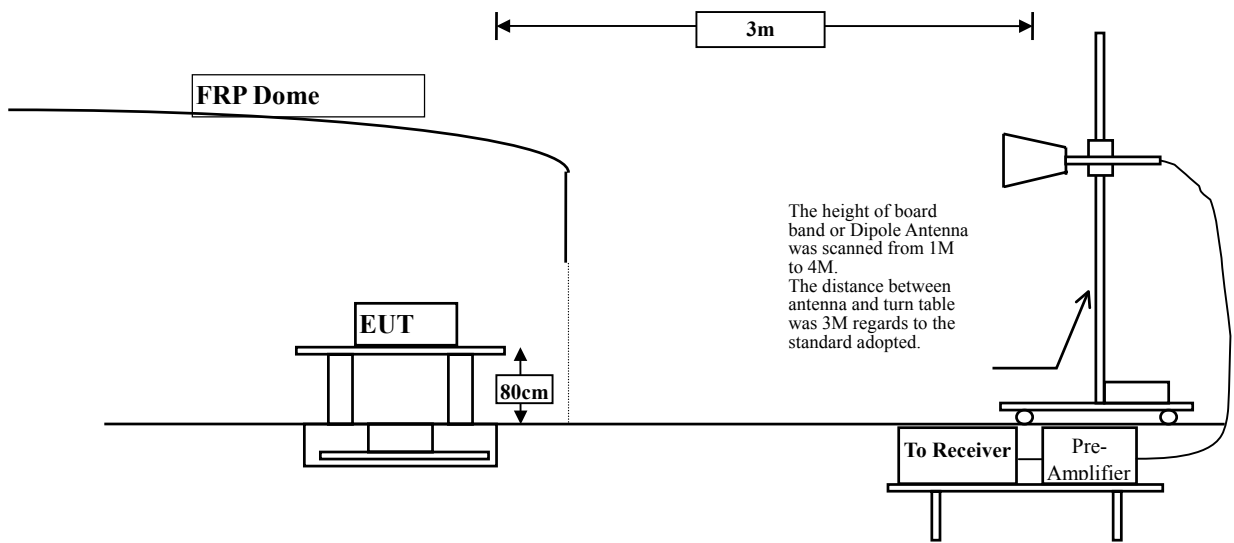
- Note:
1. All instruments are calibrated every one year.
  2. The test instruments marked by "X" are used to measure the final test results.

### 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(a) 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 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 closed point of any part of the device or system.

#### 4.4. 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 additional latch filter below 1GHz was used to measure the level of harmonics radiated emission during field strength of harmonics measurement.

The bandwidth below 1GHz setting on the field strength meter (R&S Test Receiver ESCS 30 )is 120 kHz, above 1GHz are 1 MHz.

The frequency range from 30MHz to 10th harmonics is checked.

#### 4.5. Uncertainty

± 3.8 dB below 1GHz

± 3.9 dB above 1GHz

#### 4.6. Test Result of Radiated Emission

Product : Skype WiFi Phone  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11b 11Mbps) (2412MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4824.000	5.362	40.230	45.591	-28.409	74.000
7236.000	11.867	40.850	52.717	-21.283	74.000
<b>Average Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
4824.000	5.362	40.250	45.611	-28.389	74.000
7236.000	11.867	40.590	52.457	-21.543	74.000
<b>Average Detector:</b>					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz.
3. Receiver setting (Avg Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz.
4. Emission Level = Reading Level + Correct Factor.
5. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product : Skype WiFi Phone  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11b 11Mbps) (2437 MHz)

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

**Horizontal**

**Peak Detector:**

4874.000	5.465	40.850	46.316	-27.684	74.000
7311.000	12.030	40.710	52.740	-21.260	74.000

**Average Detector:**

--

**Vertical**

**Peak Detector:**

4874.000	5.465	40.680	46.146	-27.854	74.000
7311.000	12.030	40.340	52.370	-21.630	74.000

**Average Detector:**

--

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz.
3. Receiver setting (Avg Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz.
4. Emission Level = Reading Level + Correct Factor.
5. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product : Skype WiFi Phone  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11b 11Mbps) (2462 MHz)

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

**Horizontal**

**Peak Detector:**

4924.000	5.578	40.330	45.907	-28.093	74.000
7386.000	12.211	40.870	53.082	-20.918	74.000

**Average Detector:**

--

**Vertical**

**Peak Detector:**

4924.000	5.578	40.660	46.237	-27.763	74.000
7386.000	12.211	40.190	52.402	-21.598	74.000

**Average Detector:**

--

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz
3. Receiver setting (Avg Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz.
4. Emission Level = Reading Level + Correct Factor.
5. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product : Skype WiFi Phone  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3OATS  
 Test Mode : Mode 2: Transmitter (802.11g 54Mbps) (2412 MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4824.000	5.362	40.590	45.951	-28.049	74.000
7236.000	11.867	41.030	52.897	-21.103	74.000
<b>Average Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
4824.000	5.362	40.760	46.121	-27.879	74.000
7236.000	11.867	40.890	52.757	-21.243	74.000
<b>Average Detector:</b>					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz
3. Receiver setting (Avg Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz.
4. Emission Level = Reading Level + Correct Factor.
5. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.



Product : Skype WiFi Phone  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmitter (802.11g 54Mbps) (2437 MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4874.000	5.465	40.320	45.786	-28.214	74.000
7311.000	12.030	40.790	52.820	-21.180	74.000
<b>Average Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
4874.000	5.465	40.390	45.856	-28.144	74.000
7311.000	12.030	40.580	52.610	-21.390	74.000
<b>Average Detector:</b>					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz
3. Receiver setting (Avg Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz.
4. Emission Level = Reading Level + Correct Factor.
5. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product : Skype WiFi Phone  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmitter (802.11g 54Mbps) (2462 MHz)

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

**Horizontal**

**Peak Detector:**

4924.000	5.578	40.740	46.317	-27.683	74.000
7386.000	12.211	40.950	53.162	-20.838	74.000

**Average Detector:**

--

**Vertical**

**Peak Detector:**

4924.000	5.578	40.220	45.797	-28.203	74.000
7386.000	12.211	40.150	52.362	-21.638	74.000

**Average Detector:**

--

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz
3. Receiver setting (Avg Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz.
4. Emission Level = Reading Level + Correct Factor.
5. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product : Skype WiFi Phone  
 Test Item : General Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11b 11Mbps) (2437 MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
84.429	9.577	11.503	21.079	-18.921	40.000
103.868	12.929	14.305	27.234	-16.266	43.500
150.521	11.534	18.925	30.459	-13.041	43.500
218.557	9.657	22.150	31.807	-14.193	46.000
309.920	13.747	25.633	39.380	-6.620	46.000
451.824	18.320	9.112	27.432	-18.568	46.000
<b>Vertical</b>					
99.980	10.707	18.682	29.389	-14.111	43.500
148.577	10.599	22.975	33.574	-9.926	43.500
220.501	10.427	22.738	33.164	-12.836	46.000
306.032	13.755	25.002	38.757	-7.243	46.000
348.798	15.068	17.354	32.422	-13.578	46.000
482.926	18.519	11.001	29.520	-16.480	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. "■" means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The radiated emissions below 1GHz of the lowest, middle, highest frequency are pretested. Only the worst case is shown on the report.

Product : Skype WiFi Phone  
 Test Item : General Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmitter (802.11g 54Mbps) (2437 MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
103.868	12.929	12.771	25.700	-17.800	43.500
150.521	11.534	18.978	30.512	-12.988	43.500
218.557	9.657	21.348	31.005	-14.995	46.000
300.200	14.094	24.574	38.668	-7.332	46.000
640.381	20.909	8.621	29.530	-16.470	46.000
749.238	21.029	1.083	22.112	-23.888	46.000
<b>Vertical</b>					
103.868	10.977	18.868	29.844	-13.656	43.500
148.577	10.599	23.311	33.910	-9.590	43.500
220.501	10.427	21.875	32.301	-13.699	46.000
304.088	13.724	24.666	38.390	-7.610	46.000
397.395	17.887	12.976	30.863	-15.137	46.000
640.381	20.414	7.987	28.401	-17.599	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. “█” means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The radiated emissions below 1GHz of the lowest, middle, highest frequency are pretested. Only the worst case is shown on the report.

## 5. Band Edge

### 5.1. Test Equipment

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

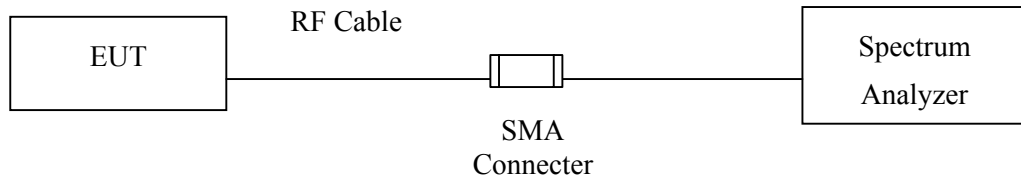
Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X Spectrum Analyzer	HP	E4407B / US39440758	May, 2006
X Test Receiver	R & S	ESCS 30 / 825442/14	May, 2006
X Spectrum Analyzer	R & S	FSP40 / 100170	Nov., 2006
X Pre-Amplifier	HP	8447D/3307A01812	May, 2006
X Bilog Antenna	Chase	CBL6112B / 12452	Sep., 2006
X Horn Antenna	EM	EM6917 / 103325	May, 2006

OATS No.3

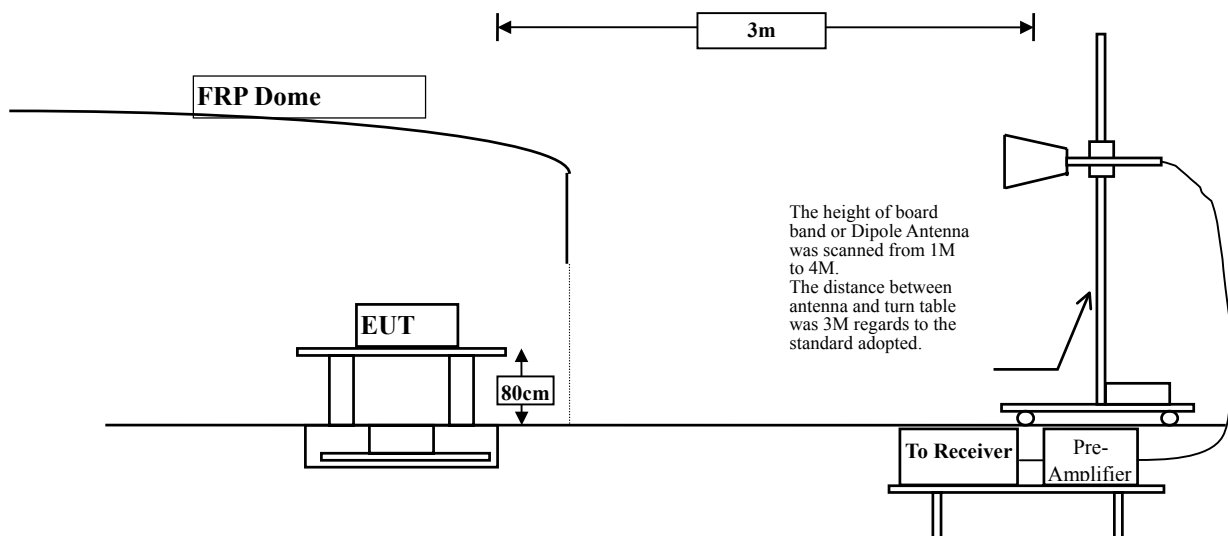
- Note:
1. All instruments are calibrated every one year.
  2. The test instruments marked by “X” are used to measure the final test results.

### 5.2. Test Setup

#### RF Conducted Measurement:



#### RF Radiated Measurement:



### 5.3. Limits

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)).

### 5.4. 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 (R&S Test Receiver ESCS 30 )is 120 kHz, above 1GHz are 1 MHz.

### 5.5. Uncertainty

Conducted is  $\pm 1$  MHz

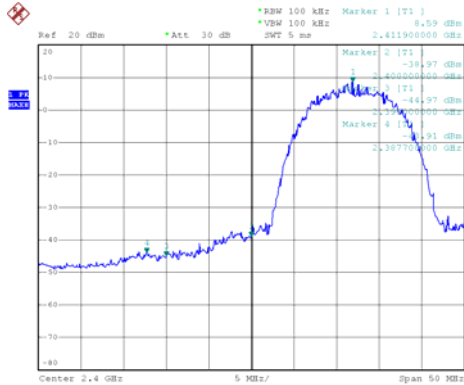
Radiated is  $\pm 3.9$  dB.

### 5.6. Test Result of Band Edge

Product : Skype WiFi Phone  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11b 11Mbps) (2412 MHz)

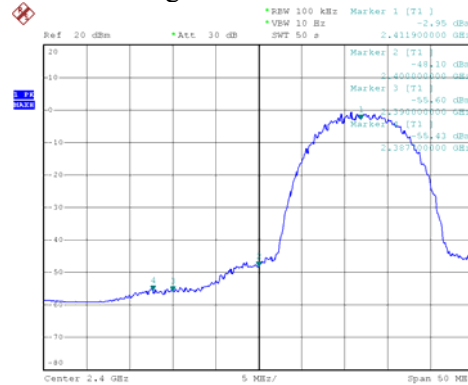
Channel No.	Frequency (MHz)	Required Limit (dBc)	Result
01	<2400	>20	Pass

Peak



FN1  
 Date: 23.JAN.2007 09:13:06

Average



FN1  
 Date: 23.JAN.2007 09:15:11

### Fundamental Field Strength:

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)
<b>Horizontal</b>				
01 (Peak)	2413.352	32.986	78.364	111.350
01 (Avg)	2413.355	32.986	69.144	102.130
<b>Vertical</b>				
01(Peak)	2413.352	32.986	76.334	109.320
01 (Avg)	2413.553	32.987	68.253	101.240

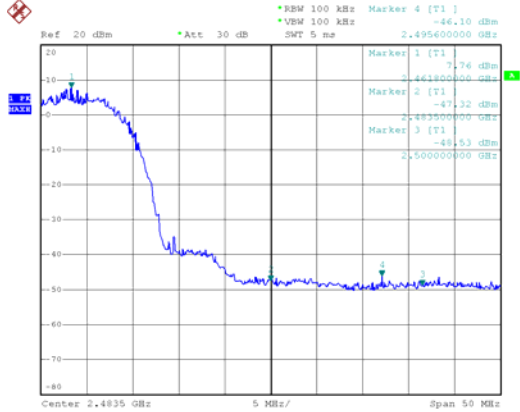
Note:

- The peak conducted emission plot shows 52.50 dBc between the carrier and the maximum emission in the restricted band. The maximum fundamental field strength in the peak measurement is 111.350 dBuV/m. So the maximum field strength in the restricted band is  $111.350 - 52.50 = 58.85$  dBuV/m which is under 74 dBuV/m.
- The average conducted emission plot shows 52.48 dBc between the carrier and the maximum emission in the restricted band. The maximum fundamental field strength in the average measurement is 102.130 dBuV/m. So the maximum field strength in the restricted band is  $102.130 - 52.48 = 49.65$  dBuV/m which is under 54 dBuV/m.

Product : Skype WiFi Phone  
 Test Item : Band Edge  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11b 11Mbps) (2462 MHz)

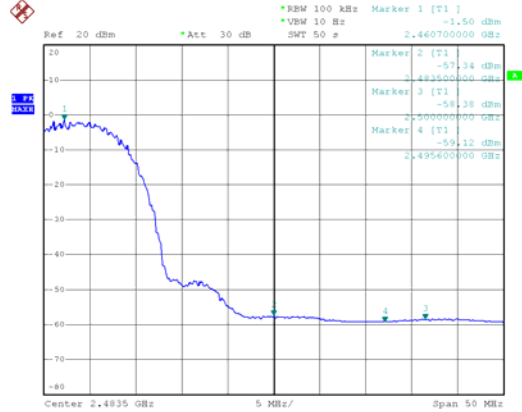
Channel No.	Frequency (MHz)	Required Limit (dBc)	Result
11	>2483.5	>20	Pass

**Peak**



PN1  
 Date: 23.JAN.2007 09:20:15

**Average**



PN1  
 Date: 23.JAN.2007 09:21:36

**Fundamental Field Strength:**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)
<b>Horizontal</b>				
11 (Peak)	2463.352	33.216	77.315	110.530
11 (Avg)	2463.653	33.217	69.243	102.460
<b>Vertical</b>				
11 (Peak)	2463.352	33.216	74.935	108.150
11 (Avg)	2463.452	33.216	67.764	100.980

**Note:**

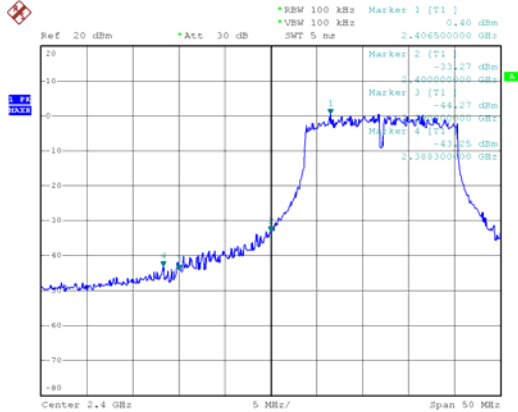
- The peak conducted emission plot shows 53.86 dBc between the carrier and the maximum emission in the restricted band. The maximum fundamental field strength in the peak measurement is 110.530dBuV/m. So the maximum field strength in the restricted band is  $110.530 - 53.86 = 56.67$  dBuV/m which is under 74 dBuV/m.
- The average conducted emission plot shows 57.62 dBc between the carrier and the maximum emission in the restricted band. The maximum fundamental field strength in the average measurement is 102.460 dBuV/m. So the maximum field strength in the restricted band is  $102.460 - 57.62 = 44.84$  dBuV/m which is under 54 dBuV/m.



Product : Skype WiFi Phone  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmitter (802.11g 54Mbps) (2412 MHz)

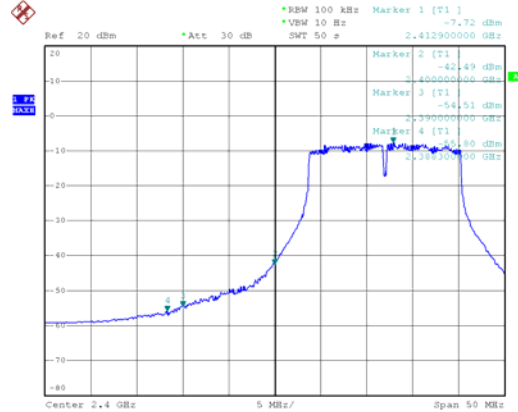
Channel No.	Frequency (MHz)	Required Limit (dBc)	Result
01	<2400	>20	Pass

**Peak**



PN1  
 Date: 23.JAN.2007 09:17:07

**Average**



PN1  
 Date: 23.JAN.2007 09:18:49

**Fundamental Field Strength:**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)
<b>Horizontal</b>				
01 (Peak)	2413.753	32.988	75.242	108.230
01 (Avg)	2415.757	32.997	63.333	96.330
<b>Vertical</b>				
01(Peak)	2406.338	32.954	73.516	106.470
01 (Avg)	2415.957	32.997	62.222	95.220

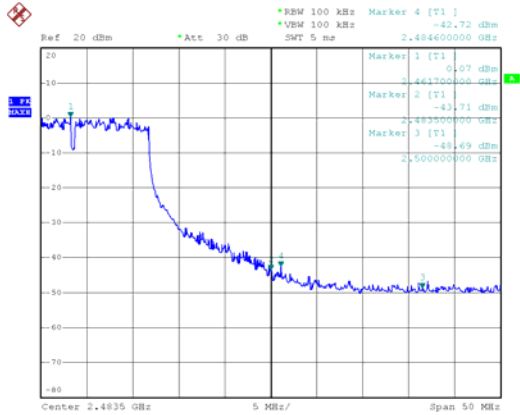
**Note:**

- The peak conducted emission plot shows 43.65 dBc between the carrier and the maximum emission in the restricted band. The maximum fundamental field strength in the peak measurement is 108.230 dBuV/m. So the maximum field strength in the restricted band is  $108.230 - 43.65 = 64.58$  dBuV/m which is under 74 dBuV/m.
- The average conducted emission plot shows 48.08 dBc between the carrier and the maximum emission in the restricted band. The maximum fundamental field strength in the average measurement is 96.330 dBuV/m. So the maximum field strength in the restricted band is  $96.330 - 48.08 = 48.25$  dBuV/m which is under 54 dBuV/m.

Product : Skype WiFi Phone  
 Test Item : Band Edge  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmitter (802.11g 54Mbps) (2462 MHz)

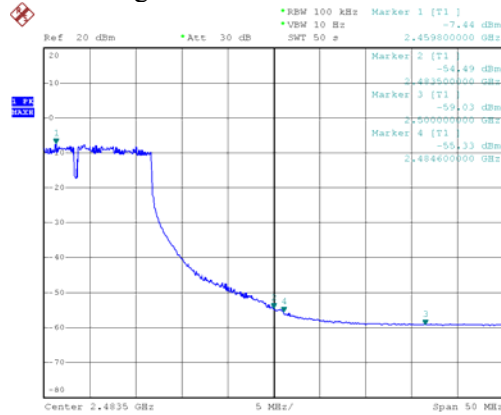
Channel No.	Frequency (MHz)	Required Limit (dBc)	Result
11	>2483.5	>20	Pass

Peak



PN1  
 Date: 23.JAN.2007 09:22:35

Average



PN1  
 Date: 23.JAN.2007 09:23:48

**Fundamental Field Strength:**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)
<b>Horizontal</b>				
11 (Peak)	2462.450	33.211	75.969	109.180
11 (Avg)	2461.248	33.205	63.524	96.730
<b>Vertical</b>				
11 (Peak)	2462.450	33.211	71.579	104.790
11 (Avg)	2461.148	33.205	61.875	95.080

Note:

- The peak conducted emission plot shows 42.79 dBc between the carrier and the maximum emission in the restricted band. The maximum fundamental field strength in the peak measurement is 109.180 dBuV/m. So the maximum field strength in the restricted band is  $109.180 - 42.79 = 66.39$  dBuV/m which is under 74 dBuV/m.
- The average conducted emission plot shows 47.89dBc between the carrier and the maximum emission in the restricted band. The maximum fundamental field strength in the average measurement is 96.730 dBuV/m. So the maximum field strength in the restricted band is  $96.730 - 47.89 = 48.84$  dBuV/m which is under 54 dBuV/m.

## 6. Occupied Bandwidth

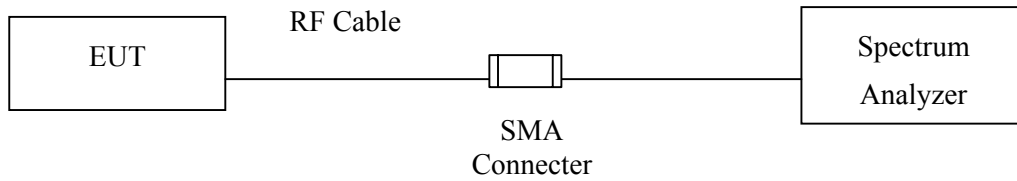
### 6.1. Test Equipment

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

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Spectrum Analyzer	R & S	FSP40 / 100170	Nov., 2006

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

### 6.2. Test Setup



### 6.3. Limits

The minimum bandwidth shall be at least 500kHz.

### 6.4. Uncertainty

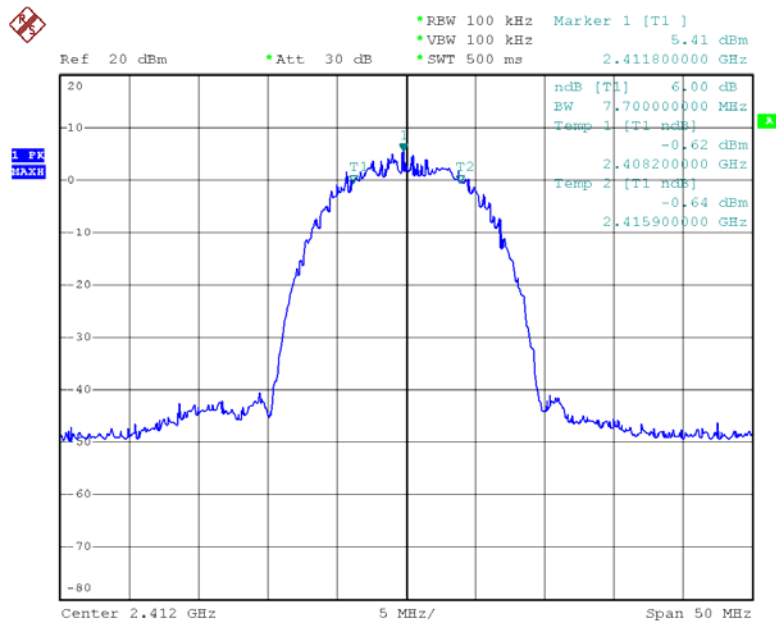
± 150Hz

### 6.5. Test Result of Occupied Bandwidth

Product : Skype WiFi Phone  
 Test Item : Occupied Bandwidth Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11b 11Mbps) (2412MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1	2412.00	7700	>500	Pass

Figure Channel 1:

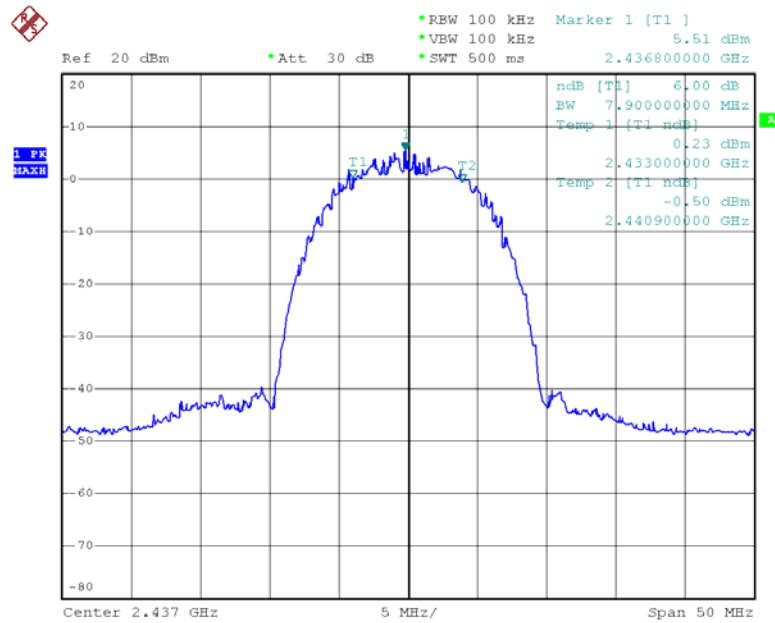


PN1  
 Date: 23.JAN.2007 08:10:01

Product : Skype WiFi Phone  
 Test Item : Occupied Bandwidth Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11b 11Mbps) (2437MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
6	2437.00	7900	>500	Pass

Figure Channel 6:

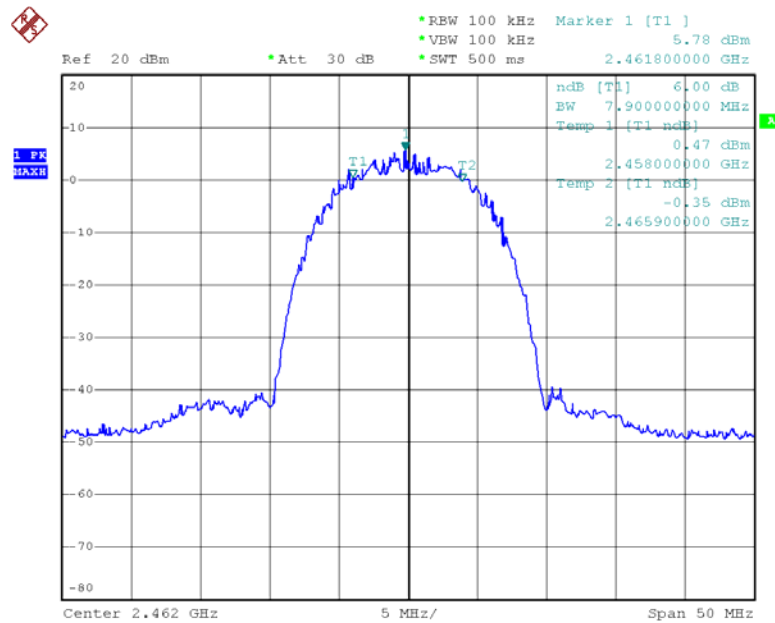


PN1  
 Date: 23.JAN.2007 07:57:30

Product : Skype WiFi Phone  
 Test Item : Occupied Bandwidth Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11b 11Mbps) (2462MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
11	2462.00	7900	>500	Pass

Figure Channel 11:

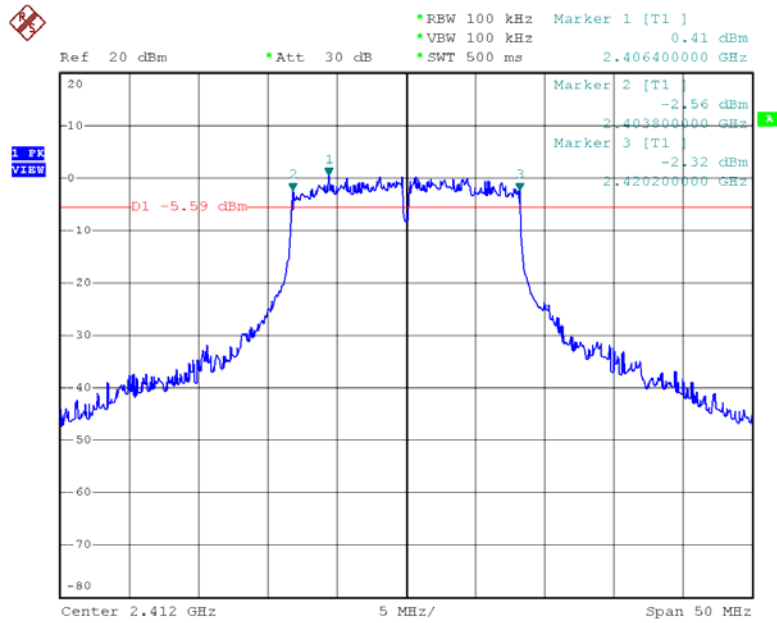


PN1  
 Date: 23.JAN.2007 08:17:52

Product : Skype WiFi Phone  
 Test Item : Occupied Bandwidth Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmitter (802.11g 54Mbps) (2412MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1	2412.00	16400	>500	Pass

Figure Channel 1:

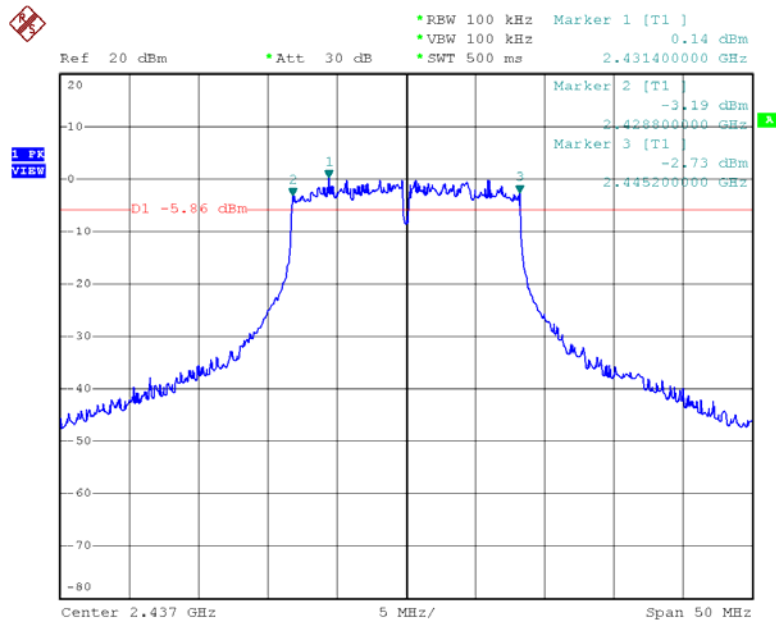


PN1  
 Date: 23.JAN.2007 09:29:58

Product : Skype WiFi Phone  
 Test Item : Occupied Bandwidth Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmitter (802.11g 54Mbps) (2437MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
6	2437.00	16400	>500	Pass

Figure Channel 6:



PN1

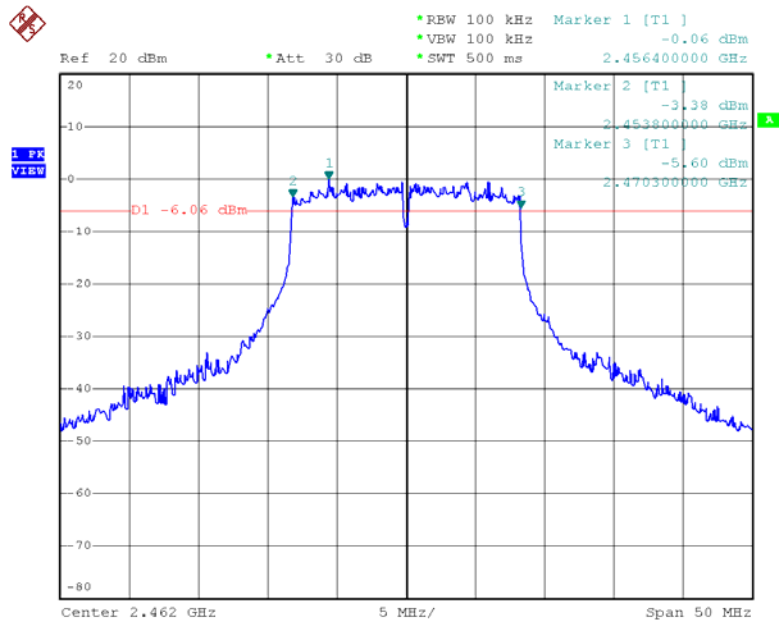
Date: 23.JAN.2007 09:28:46



Product : Skype WiFi Phone  
 Test Item : Occupied Bandwidth Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmitter (802.11g 54Mbps) (2462MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
11	2462.00	16500	>500	Pass

**Figure Channel 11:**



PN1  
 Date: 23.JAN.2007 09:27:15

**7. Power Density**

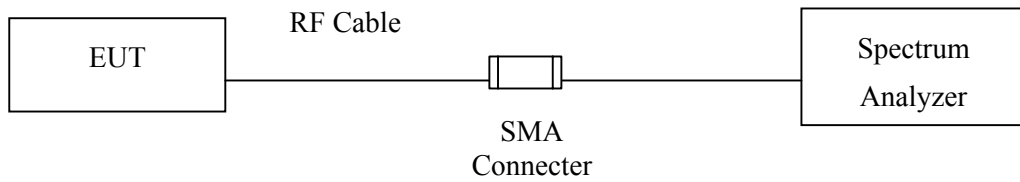
**7.1. Test Equipment**

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

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Spectrum Analyzer	R & S	FSP40 / 100170	Nov., 2006

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

**7.2. Test Setup**



**7.3. Limits**

The transmitted power density averaged over any 1 second interval shall not be greater +8dBm in any 3kHz bandwidth.

**7.4. Uncertainty**

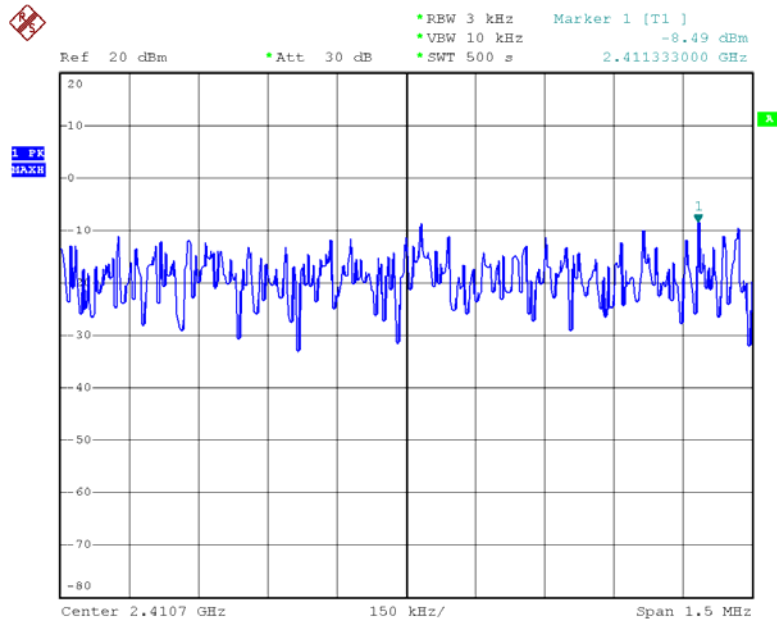
± 1.27 dB

**7.5. Test Result of Power Density**

Product : Skype WiFi Phone  
 Test Item : Power Density Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11b 11Mbps) (2412MHz)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412.00	-8.49	< 8dBm	Pass

**Figure Channel 1:**

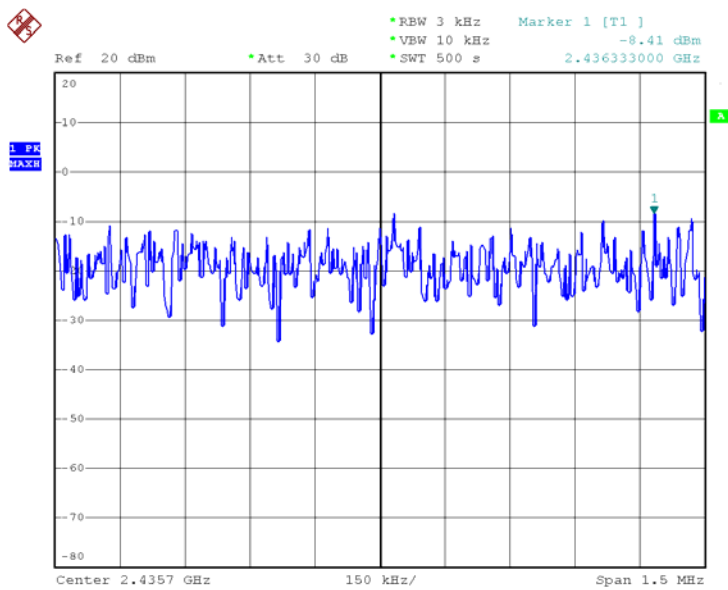


PN1  
 Date: 23.JAN.2007 08:11:10

Product : Skype WiFi Phone  
 Test Item : Power Density Data  
 Test Site : No.3OATS  
 Test Mode : Mode 1: Transmitter (802.11b 11Mbps) (2437MHz)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
6	2437.000	-8.41	< 8dBm	Pass

Figure Channel 6:

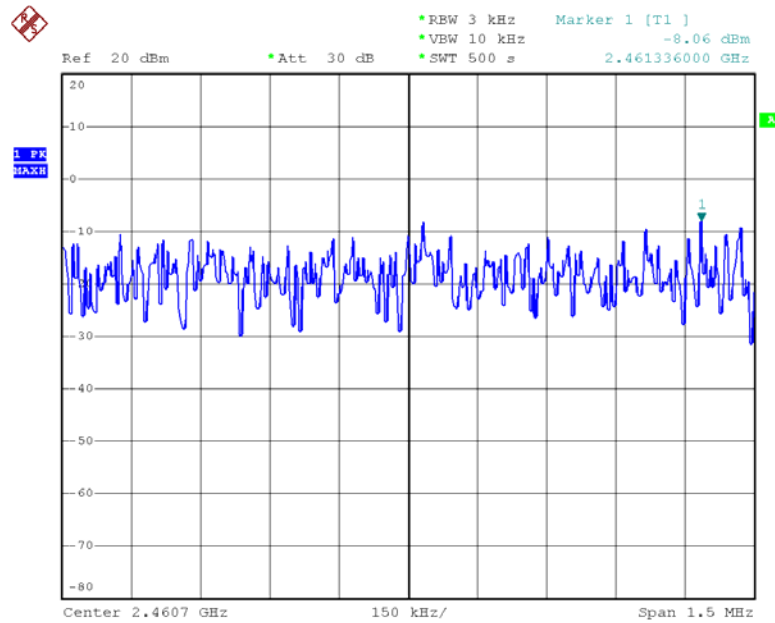


PN1  
 Date: 23.JAN.2007 08:06:28

Product : Skype WiFi Phone  
 Test Item : Density Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11b 11Mbps) (2462MHz)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
11	2462.00	-8.06	< 8dBm	Pass

**Figure Channel 11:**

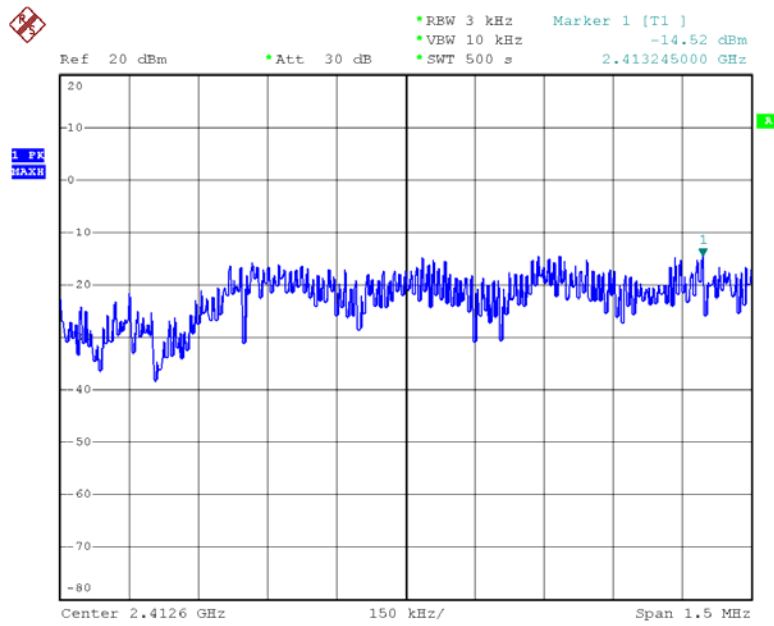


PN1  
 Date: 23.JAN.2007 08:27:53

Product : Skype WiFi Phone  
 Test Item : Power Density Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmitter (802.11g 54Mbps) (2412MHz)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412.00	-14.52	< 8dBm	Pass

Figure Channel 1:

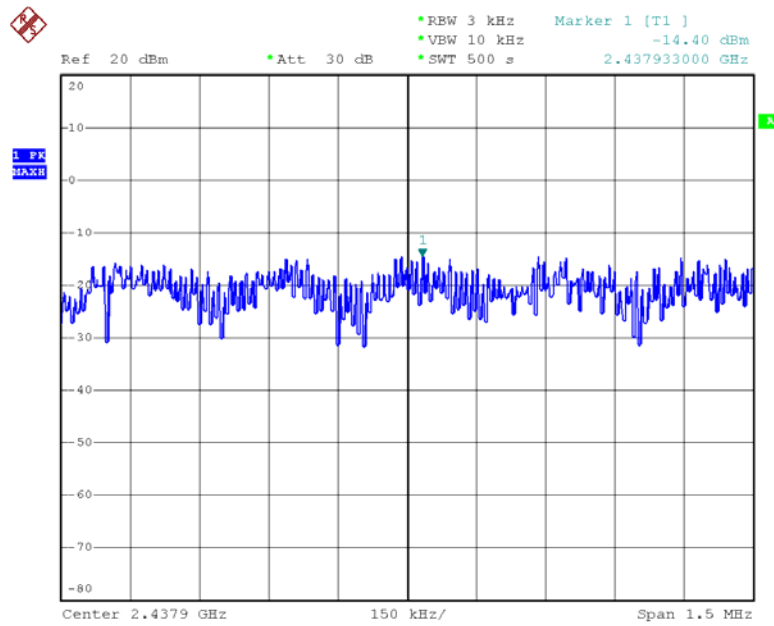


PN1  
 Date: 23.JAN.2007 08:41:10

Product : Skype WiFi Phone  
 Test Item : Power Density Data  
 Test Site : No.3OATS  
 Test Mode : Mode 2: Transmitter (802.11g 54Mbps) (2437MHz)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
6	2437.000	-14.40	< 8dBm	Pass

**Figure Channel 6:**

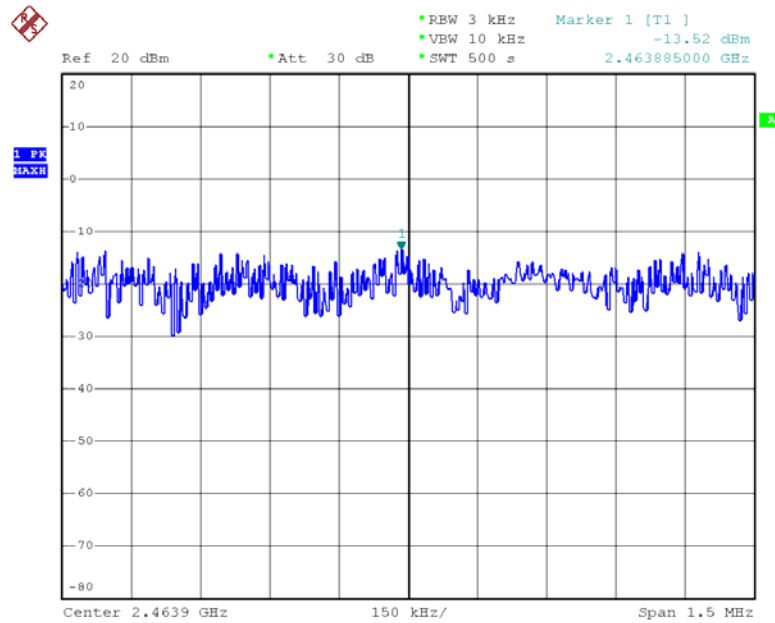


PN1  
 Date: 23.JAN.2007 08:46:36

Product : Skype WiFi Phone  
 Test Item : Density Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmitter (802.11g 54Mbps) (2462MHz)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
11	2462.00	-13.52	< 8dBm	Pass

**Figure Channel 11:**



PN1  
 Date: 23.JAN.2007 08:54:43



## 8. EMI Reduction Method During Compliance Testing

No modification was made during testing.