



Product Name	Bluetooth Headset
Model No.	BlueAnt T1
FCC ID.	VHFBLUEANTT1

Applicant	BlueAnt Wireless
Address	Level 4, Building 1, 658 Church St, Richmond VICTORIA
	3121 Australia

Date of Receipt	Mar. 12, 2010
Issued Date	Mar. 30, 2010
Report No.	103208R-RFUSP29V01
Report Version	V1.0

The Test Results relate only to the samples tested.

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Test Report Certification

Issued Date: Mar. 30, 2010 Report No.: 103208R-RFUSP29V01



Product Name	Bluetooth Headset		
Applicant	BlueAnt Wireless		
Address	Level 4, Building 1, 658 Church St, Richmond VICTORIA 3121 Australia		
Manufacturer	DONG GUAN G-COM COMPUTER CO., LTD.		
Model No.	BlueAnt T1		
FCC ID.	VHFBLUEANTT1		
EUT Rated Voltage	DC 3.7V (Power by USB)		
EUT Test Voltage	AC 120V/ 60Hz		
Trade Name	BlueAnt T1		
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2009		
	ANSI C63.4: 2003		
Test Result	Complied		

The Test Results relate only to the samples tested.

1

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1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Bluetooth Headset		
Trade Name	BlueAnt T1		
Model No.	BlueAnt T1		
FCC ID.	VHFBLUEANTT1		
Frequency Range	2402 – 2480MHz		
Channel Number	79		
Type of Modulation	FHSS: GFSK(1Mbps) / π /4DQPSK(2Mbps) / 8DPSK(3Mbps)		
Antenna Type	PIFA (solder on PCB)		
Channel Control	Auto		
Antenna Gain	Refer to the table "Antenna List"		
USB Cable	Shielded, 0.3m		
Power Adapter	MFR: BlueAnt, M/N: SSC-5W-05 050050		
	Input: AC 100-240V ~ 50/60Hz, 0.2A		
	Output: DC 5.0V, 500mA		

Antenna List

No.	Manufacturer	Part No.	Peak Gain
1	G-COM	N/A	0.5 dBi for 2.4 GHz

Note: The antenna of EUT is conform to FCC 15.203

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:

- 1. This device is a Bluetooth Headset with a built-in 2.4GHz Bluetooth V2.1+EDR transceiver
- 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.

1.2. Operational Description

The EUT is a Bluetooth Headset with built-in 2.4GHz Bluetooth V2.1+EDR transceiver. The number of the channels is 79 in 2402-2480MHz. The device adapts the frequency hopping spread spectrum modulation. The antenna is PIFA (solder on PCB) and provides diversity function to improve the receiving function.

The system receivers have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shift frequencies in synchronization with the transmitted signals

Frequency hopping spread spectrum systems are not required to employ all available hopping channels during each transmission. The transmitter is presented with a continuous data stream. In addition, a system employing short transmission bursts must comply with the definition of a frequency hopping system and must distribute its 79 channels and over the minimum number of hopping channels (75 channels).

The incorporation of intelligence within a frequency hopping spread spectrum system that permits the system to recognize other users within the spectrum band so that it individually and independently chooses and adapts its hopsets to avoid hopping on occupied channels is permitted. The coordination of frequency hopping systems in any other manner for the express purpose of avoiding the simultaneous occupancy of individual hopping frequencies by multiple transmitters is not permitted.

The device can link with Mobile phone by Bluetooth when in charge mode.

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

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
N/A	N/A	N/A	N/A	N/A	N/A

Signal Cable Type		Signal cable Description		
А	USB Cable	Shielded, 0.3m		

1.4. Configuration of Tested System



1.5. EUT Exercise Software

- (1) Setup the EUT as shown in section 1.4
- (2) Execute the CSR program (BlueSuite V2.2.exe) on the EUT
- (3) Setup the test mode, the test channel, and the data rate.
- (4) Press OK to start the transmission.
- (5) Verify that the EUT works correctly.

1.6. Test Facility

	-	
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

Ambient conditions in the laboratory:

The related certificate for our laboratories about the test site and management system can be downloaded

from QuieTek Corporation's Web Site : <u>http://tw.quietek.com/tw/emc/accreditations/accreditations.htm</u> The address and introduction of QuieTek Corporation's laboratories can be founded in our Web site : <u>http://www.quietek.com/</u>

Site Description:File onFederal Communications CommissionFCC Engineering Laboratory7435 Oakland Mills RoadColumbia, MD 21046Registration Number: 92195Accreditation on NVLAPNVLAP Lab Code: 200533-0Site Name:Quietek CorporationSite Address:No. 5-22, Ruei-Shu Valley, Ruei-Ping Tsuen,
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FC



FCC Accreditation Number: TW1014



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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 30/825442/014	Feb., 2010	
2	L.I.S.N.	R & S	ESH3-Z5/825562/002	Feb., 2010	EUT
3	L.I.S.N.	R & S	ENV4200/848411/010	Feb., 2010	Peripherals
4	Pulse Limiter	R & S	ESH3-Z2/100410	July, 2009	
5	No.1 Shielded Room	n		N/A	

Note: All instruments are calibrated every one year.

2.2. Test Setup



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

2.3. Limits

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

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV	dB	dBuV
LINE 1					
Quasi-Peak					
0.279	9.657	25.430	35.087	-27.227	62.314
0.373	9.650	22.320	31.970	-27.659	59.629
0.494	9.640	21.760	31.400	-24.771	56.171
0.568	9.640	19.340	28.980	-27.020	56.000
1.123	9.670	20.240	29.910	-26.090	56.000
2.017	9.680	17.730	27.410	-28.590	56.000
Average					
0.279	9.657	18.820	28.477	-23.837	52.314
0.373	9.650	14.320	23.970	-25.659	49.629
0.494	9.640	13.700	23.340	-22.831	46.171
0.568	9.640	11.170	20.810	-25.190	46.000
1.123	9.670	11.700	21.370	-24.630	46.000
2.017	9.680	8.820	18.500	-27.500	46.000

1. All Reading Levels are Quasi-Peak and average value.

2. " means the worst emission level.

3. Measurement Level = Reading Level + Correct Factor

Product	: Bluetooth Headset					
Test Item	: Conducted Emission Test					
Power Line	: Line 2					
Test Mode	: Mode 2	: Transmit - 3Mbp	s (8DPSK)(2441MHz	z)		
Frequency	Correct	Reading	Measurement	Margin	Limit	
	Factor	Level	Level			
MHz	dB	dBuV	dBuV	dB	dBuV	
LINE 2						
Quasi-Peak						
0.283	9.666	25.510	35.176	-27.024	62.200	
0.369	9.650	22.420	32.070	-27.673	59.743	
0.494	9.640	21.820	31.460	-24.711	56.171	
0.588	9.643	21.890	31.533	-24.467	56.000	
1.099	9.670	20.240	29.910	-26.090	56.000	
2.060	9.680	17.440	27.120	-28.880	56.000	
Average						
0.283	9.666	18.990	28.656	-23.544	52.200	
0.369	9.650	14.320	23.970	-25.773	49.743	
0.494	9.640	13.850	23.490	-22.681	46.171	
0.588	9.643	12.740	22.383	-23.617	46.000	
1.099	9.670	11.790	21.460	-24.540	46.000	
2.060	9.680	8.600	18.280	-27.720	46.000	

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

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

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Х	Power Meter	Anritsu	ML2495A/6K00003357	May, 2009
Х	Power Sensor	Anritsu	MA2411B/0738448	Jun, 2009

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	:	Bluetooth Headset
Test Item	:	Peak Power Output
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit - 1Mbps (GFSK)

Channel No.	Frequency	Measurement	Required Limit	Result
	(MHz)	(dBm)		
Channel 00	2402.00	3.36	1 Watt= 30 dBm	Pass
Channel 39	2441.00	3.06	1 Watt= 30 dBm	Pass
Channel 78	2480.00	2.78	1 Watt= 30 dBm	Pass

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

Channel No.	Frequency	Measurement	Required Limit	Result
	(MHz)	(dBm)		
Channel 00	2402.00	1.74	1 Watt= 30 dBm	Pass
Channel 39	2441.00	1.22	1 Watt= 30 dBm	Pass
Channel 78	2480.00	1.19	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.
Site # 3	Х	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2009
	Х	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2009
	Х	Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2009
	Х	Pre-Amplifier	Agilent	8447D/2944A09549	Sep., 2009
	Х	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2009
	Х	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2009
	Х	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2010
	Х	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	Χ	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 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 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 frequency range from 30MHz to 10th harminics is checked.

4.5. Uncertainty

- ± 3.9 dB above 1GHz
- ± 3.8 dB below 1GHz

Product	: Bluetooth Headset						
Test Item	: Harmonic Radiated Emission						
Test Site	: No.3 OATS						
Test Mode	: Mode 1	: Transmit - 1Mbp	os (GFSK)(2402MHz))			
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
Peak Detector:							
1602.000	-3.258	53.970	50.711	-23.289	74.000		
4804.000	3.327	47.350	50.677	-23.323	74.000		
7206.000	10.136	35.950	46.086	-27.914	74.000		
9608.000	13.706	36.090	49.796	-24.204	74.000		
Vertical							
Peak Detector:							
1602.000	-1.679	49.970	48.290	-25.710	74.000		
4804.000	6.638	46.370	53.007	-20.993	74.000		
7206.000	11.005	36.050	47.055	-26.945	74.000		
9608.000	14.103	36.630	50.733	-23.267	74.000		

4.6. Test Result of Radiated Emission

- 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:10Hz; Span:20MHz \circ
- 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	: Bluetooth Headset						
Test Item	: Harmonic Radiated Emission						
Test Site	: No.3 OA	ATS					
Test Mode	: Mode 1:	: Transmit - 1Mbp	os (GFSK)(2441MHz))			
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
Peak Detector:							
1626.600	-3.267	55.280	52.013	-21.987	74.000		
4882.000	3.001	56.160	59.161	-14.839	74.000		
7323.000	11.846	36.300	48.147	-25.853	74.000		
9764.000	12.563	36.190	48.753	-25.247	74.000		
Vertical							
Peak Detector:							
1626.600	-1.649	51.190	49.540	-24.460	74.000		
4881.000	5.726	46.270	51.996	-22.004	74.000		
7323.000	12.727	35.900	48.628	-25.372	74.000		
9764.000	13.028	36.040	49.068	-24.932	74.000		

- 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:10Hz; 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.

Frequency	Peak	Duty Cycle	Measurement	Margin	Limit
	Measurement	Correct Factor	Level		
MHz	dBuV/m	dB	dBuV/m	dB	dBuV/m
Horizontal					
4882.000	59.161	-6.67	52.491	-1.509	54.000
Vertical					

Average Detector:

- 1. AVG Measurement=Peak Measurement Duty Cycle Correct Factor
- 2. The Duty Cycle is refer to section 11.
- 3. If Duty Cycle is smaller than -20dB,based on FCC part15 the duty cycle correction factor is -20dB for calculating average emission.
- 4. 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	: Bluetooth Headset					
Test Item	Harmonic Radiated Emission					
Test Site	Test Site : No.3 OATS					
Test Mode	: Mode 1:	Transmit - 1Mbp	os (GFSK)(2480MHz))		
Frequency	Correct	Reading	Measurement	Margin	Limit	
	Factor	Level	Level			
MHz	dB	dBuV	dBuV/m	dB	dBuV/m	
Horizontal						
Peak Detector:						
1652.600	-3.283	54.390	51.107	-22.893	74.000	
4960.000	2.760	39.110	41.870	-32.130	74.000	
7440.000	12.567	35.160	47.726	-26.274	74.000	
9920.000	13.456	35.800	49.256	-24.744	74.000	
Vertical						
Peak Detector:						
1652.700	-1.592	53.730	52.138	-21.862	74.000	
4960.000	5.519	39.680	45.199	-28.801	74.000	
7440.000	13.310	35.720	49.030	-24.970	74.000	
9920.000	13.682	35.730	49.413	-24.587	74.000	

- 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:10Hz; 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	: Bluetooth Headset						
Test Item	: Harmonic Radiated Emission						
Test Site	Test Site : No.3 OATS						
Test Mode	: Mode 2	: Transmit - 3Mbp	s (8DPSK)(2402MH	z)			
Frequency	Correct	Reading	Measurement	Margin	Limit		
1 5	Factor	Level	Level	C			
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
Peak Detector:							
1602.000	-3.258	53.280	50.021	-23.979	74.000		
4804.000	3.327	42.040	45.367	-28.633	74.000		
7206.000	10.136	35.750	45.886	-28.114	74.000		
9608.000	13.706	36.110	49.816	-24.184	74.000		
Vertical							
Peak Detector:							
1602.000	-1.679	51.480	49.800	-24.200	74.000		
4804.000	6.638	40.130	46.767	-27.233	74.000		
7206.000	11.005	35.960	46.965	-27.035	74.000		
9608.000	14.103	36.190	50.293	-23.707	74.000		

- 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:10Hz; Span:20MHz \circ
- 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	: Bluetooth Headset						
Test Item	: Harmonic Radiated Emission						
Test Site : No.3 OATS							
Test Mode	: Mode 2	: Transmit - 3Mbp	os (8DPSK) (2441MH	[z)			
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
Peak Detector:							
1626.600	-3.267	54.630	51.363	-22.637	74.000		
4882.000	3.001	39.990	42.991	-31.009	74.000		
7323.000	11.846	35.480	47.327	-26.673	74.000		
9764.000	12.563	36.160	48.723	-25.277	74.000		
Vertical							
Peak Detector:							
1626.700	-1.650	51.810	50.160	-23.840	74.000		
4882.000	5.713	38.950	44.664	-29.336	74.000		
7323.000	12.727	35.100	47.828	-26.172	74.000		
9764.000	13.028	36.240	49.268	-24.732	74.000		

- 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 \circ
- 3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:10Hz; 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	duct : Bluetooth Headset					
Test Item	: Harmon	ic Radiated Emis	sion			
Test Site	: No.3 O	ATS				
Test Mode	: Mode 2	: Transmit - 3Mbp	os (8DPSK) (2480MH	[z)		
Frequency	Correct	Reading	Measurement	Margin	Limit	
	Factor	Level	Level			
MHz	dB	dBuV	dBuV/m	dB	dBuV/m	
Horizontal						
Peak Detector:						
1652.640	-3.283	56.850	53.567	-20.433	74.000	
4960.000	2.760	48.660	51.420	-22.580	74.000	
7440.000	12.567	35.700	48.266	-25.734	74.000	
9920.000	13.456	35.740	49.196	-24.804	74.000	
Vertical						
Pools Dotootom						
reak Delector:						
1652.640	-1.592	53.630	52.038	-21.962	74.000	
4960.000	5.557	41.010	46.567	-27.433	74.000	
7440.000	13.426	36.310	49.735	-24.265	74.000	
9920.000	13.958	35.910	49.868	-24.132	74.000	

=

- 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:10Hz; Span:20MHz \circ
- 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	: Bluetooth Headset						
Test Item	: General Radiated Emission						
Test Site	: No.3 OATS						
Test Mode	: Mode 1:	: Transmit - 1Mbp	s (GFSK) (2441MHz	;)			
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
344.280	-2.591	25.344	22.754	-23.246	46.000		
515.000	1.610	24.966	26.576	-19.424	46.000		
606.180	4.666	21.856	26.522	-19.478	46.000		
745.860	3.308	24.567	27.875	-18.125	46.000		
829.280	6.344	23.205	29.549	-16.451	46.000		
986.420	7.773	21.896	29.669	-24.331	54.000		
Vertical							
344.280	-3.171	26.988	23.818	-22.182	46.000		
458.740	-3.887	26.146	22.259	-23.741	46.000		
515.000	-1.090	25.486	24.396	-21.604	46.000		
681.840	1.484	23.392	24.876	-21.124	46.000		
811.820	3.121	23.242	26.362	-19.638	46.000		
968.960	8.191	22.377	30.568	-23.432	54.000		

- 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	: Bluetooth Headset						
Test Item	: General Radiated Emission						
Test Site	: No.3 OATS						
Test Mode	: Mode 2	: Transmit - 3Mbp	s (8DPSK) (2441MH	[z)			
		-					
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
256.980	-5.073	27.466	22.393	-23.607	46.000		
344.280	-2.591	26.988	24.398	-21.602	46.000		
458.740	0.833	26.146	26.979	-19.021	46.000		
608.120	4.384	22.581	26.965	-19.035	46.000		
798.240	5.148	23.204	28.352	-17.648	46.000		
881.660	6.307	22.957	29.264	-16.736	46.000		
Vertical							
344.280	-3.171	26.988	23.818	-22.182	46.000		
515.000	-1.090	25.486	24.396	-21.604	46.000		
691.540	2.421	22.867	25.288	-20.712	46.000		
771.080	3.115	22.743	25.858	-20.142	46.000		
844.800	3.181	23.456	26.637	-19.363	46.000		
968.960	8.191	22.377	30.568	-23.432	54.000		

- 1. The reading levels below 1GHz are quasi-peak values.
- 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. **RF** Antenna Conducted Test

5.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40/ 100339	Jun, 2009
Х	Spectrum Analyzer	Agilent	N9010A / MY48030495	Jun, 2009
	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2009

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	:	Bluetooth Headset
Test Item	:	RF Antenna Conducted Test
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit - 1Mbps (GFSK)

Figure Channel 00: 30MHz-25GHz

D Agiler	nt Spectrum Analyzer -	Swept SA					90)			
<mark>⊯</mark> Displa	50 Ω ay Line -17.32	dBm	AC SE		Avg Type	ALIGNAUTO : Log-Pwr	11:03:37 F	M Jan 06, 2010		Display
10 dB/c	div Ref 10.00 div	put: RF PNO: IFGair d B m	Fast L Hig. He I:Low #Atten: 2	0 dB		Μ	lkr1 2.4 2.0	02 GHz 67 dBm		Annotation►
0.00	• ¹									Title►
-10.0								-17.32 dBm	<u>On</u>	Graticule Off
-30.0									<u>On</u>	Display Line -17.32 dBm Off
-50.0 -						مى ئامەر يەمار	And have have been been been been been been been be	han the state		
-70.0	words and the of the second	for an approximately and	Www.aparterlanderlanderlanderlanderlanderlanderlanderlanderlanderlanderlanderlanderlanderlanderlanderlanderlander	alogun Hillinnin	a an					System Display▶ Settings
Start : #Res	30 MHz BW 100 kHz		#VBW 1.0 MHz			Sweep	Stop 2 2.30 s (5.00 GHz 1001 pts)		
MSG						STATUS				

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

Figure Channel 39: 30MHz-25GHz

D Agilent S	Spectrum Analyzer - S	Swept SA		10				900			- 6 🛛
🕅 Display	50 Ω Line -16.10	dBm	۵	C SE		Avg Type	ALIGN AUTO	11:10:39 F TRAC	M Jan 06, 2010 E 1 2 3 4 5 6		Display
10 dB/div	dB/div Ref 10.00 dBm 4Atten: 20 dB 000 dBm										Annotation►
0.00	¢1										Title►
-10.0									-16.10 dBm	<u>On</u>	Graticule Off
-30.0										<u>On</u>	Display Line -16.10 dBm Off
-50.0	1						1. d	aler house all willing	and the applications		
-70.0	when have when you	and a second	longer of allevery	u-aldy, y _{y, d} erddydd	ien Marmanile	lerinthal _{lad} ition ^{ener} eda	adh, anti-da -				System Display► Settings
-80.0 Start 30 #Res B1) MHz W 100 kHz		#VBW	1.0 MHz			Sweep	Stop 2 2.30 s (5.00 GHz 1001 pts)		
MSG	Ann		er men en ditte				STATUS				

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

Figure Channel 78: 30MHz-25GHz

🗩 Agilen	it Spectrum	Analyzer - S	Swept SA		18				90)		-	- 7 🛛
<mark>⊯</mark> Displa	so s ay Line	-16.39	dBm	A	C SE		Avg Type	ALIGNAUTO : Log-Pwr	11:12:51 P TRAC	M Jan 06, 2010 E 1 2 3 4 5 6		Display
10 dB/c	0 dB/div Ref 10.00 dBm 3.61 dBm 3.61 dBm											Annotation►
0.00		1										Title►
-10.0 — -20.0 —										-16.39 dBm	<u>On</u>	Graticule Off
-30.0											<u>On</u>	Display Line -16.39 dBm Off
-50.0				s			als . Maine	alar ballation to perform to perf	Lage hope and high - grow	Martyphys		
-70.0	phindrallal 1	would have and	ft - mare Vidyel	Work Jaco Marin	unhalananhar	all and the second s	a sunnah a					System Display▶ Settings
Start : #Res	30 MHz BW 100	kHz		#VBW	1.0 MHz			Sweep	Stop 2 2.30 s (5.00 GHz 1001 pts)		
MSG								STATUS	•			

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

Figure Channel 00: 30MHz-25GHz

💴 Agilent S	ipectrum Analyzer - Swept S	54			
<mark>w</mark> Display	50 Ω Line -20.99 dBm		INT ALIGNAUTO Avg Type: Log-Pwr	11:46:01 PM Jan 06, 2010 TRACE 1 2 3 4 5 6	Display
10 dB/div	Ref 10.00 dBm	IFGain:Low #Atten: 20 dE	3	ter P NNNNN Mkr1 2.402 GHz -0.99 dBm	Annotation
0.00	1				Title►
-10.0				-20.99.dBm	Graticule On Off
-30.0					Display Line -20.99 dBm On Off
-50.0		Ndu, u	- 1000 m - 11 m what have show	and the second of the second	
-70.0	he want hat when a song the series	and the second	hyper-rest and the second		System Display▶ Settings
Start 30 #Res B) MHz N 100 kHz	#VBW 1.0 MHz	Swee	Stop 25.00 GHz p 2.30 s (1001 pts)	
MSG			STAT	US	

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

Figure Channel 39: 30MHz-25GHz

🎾 Agilent Spe	ctrum Analyzer - S	wept SA									- 7 🛛
<mark>Ø</mark> Display L	50 Ω .ine -21.35 (dBm	β			Avg Type	ALIGNAUTO e: Log-Pwr	11:52:52 P TRAC	M Jan 06, 2010		Display
10 dB/div	Ref 10.00 d	ut: RF PN IFG Bm	IO: Fast 😱 ain:Low	#Atten: 20	dB		N	lkr1 2.4 -1.3	52 GHz 55 dBm		Annotation►
0.00	1										Title►
-10.0									21.35 dBm	<u>On</u>	Graticule Off
-30.0										<u>0n</u>	Display Line -21.35 dBm Off
-50.0		ALCONTRACTOR NO			u	and the second		the transfer and	pharoohistophi		
-70.0	Anny a support		anarran anaphra	Y HANKLIN WAYNA	ar through the later						System Display▶ Settings
Start 30 M #Res BW	/IHz 100 kHz		#VBW	1.0 MHz			Sweep	Stop 2 2.30 s (5.00 GHz 1001 pts)		

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

Figure Channel 78: 30MHz-25GHz

D Agilent Sp	ectrum Analyzer - Swe	ept SA								
<mark>₩</mark> Display	^{50 Ω} Line -21.63 d	Bm	C SEP		Avg Type	ALIGN AUTO : Log-Pwr	11:56:41 P TRAC	M Jan 06, 2010 E 1 2 3 4 5 6 E M MANANAN		Display
10 dB/div	Ref 10.00 dB	IFGain:Low	#Atten: 20	dB		M	lkr1 2.4 -1.0	77 GHz 63 dBm		Annotation►
0.00	1									Title►
-10.0								-21.63 dBm	<u>On</u>	Graticule Off
-30.0									<u>On</u>	Display Line -21.63 dBm Off
-50.0		A Barris Law		n	Wall with tomat and a sta	Julio sono contesti	unititue datanto	y my strange that		
-70.0	uhlady we have t	and a set a set of the	mationstation	additure.						System Display▶ Settings
Start 30 #Res BW	MHz / 100 kHz	#VBW	1.0 MHz			Sweep	Stop 2 2.30 s (5.00 GHz 1001 pts)		

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, 2009
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2009
Х	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2009

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., 2009
	Х	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2009
	Horn Antenna		Schwarzbeck	BBHA9170/208	Jul., 2009
	Х	Pre-Amplifier	Agilent	8447D/2944A09549	Sep., 2009
	Х	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2009
		Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2009
	Х	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2010
	Х	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	Χ	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	:	Bluetooth Headset
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit - 1Mbps (GFSK)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
00 (Peak)	2385.700	-1.148	40.893	39.745	74.00	54.00	Pass
00 (Peak)	2390.000	-1.131	39.728	38.597	74.00	54.00	Pass
00 (Peak)	2400.000	-1.084	69.787	68.704			
00 (Peak)	2402.000	-1.073	92.059	90.987			

Figure Channel 00:

HORIZONTAL (Peak)



- 1. All readings 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. The average measurement was not performed when the peak measured data under the limit of average detection.

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

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
00 (Peak)	2385.800	-1.705	42.606	40.901	74.00	54.00	Pass
00 (Peak)	2390.000	-1.725	40.231	38.506	74.00	54.00	Pass
00 (Peak)	2400.000	-1.733	73.682	71.950			
00 (Peak)	2402.000	-1.729	95.958	94.229			



- 1. All readings 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. The average measurement was not performed when the peak measured data under the limit of average detection.



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

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
78 (Peak)	2480.000	-0.581	97.422	96.841			
78 (Peak)	2483.500	-0.558	59.347	58.789	74.00	54.00	Pass

Figure Channel 78:

HORIZONTAL (Peak)



- 1. All readings 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. The average measurement was not performed when the peak measured data under the limit of average detection.



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

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
78 (Peak)	2480.000	-1.324	96.731	95.407			
78 (Peak)	2483.500	-1.305	58.569	57.264	74.00	54.00	Pass

Figure Channel 78:

Vertical (Peak)



- 1. All readings 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. The average measurement was not performed when the peak measured data under the limit of average detection.

Frequency	Peak	Duty Cycle	Measurement	Margin	Limit
	Measurement	Correct Factor	Level		
MHz	dBuV/m	dB	dBuV/m	dB	dBuV/m
Horizontal					
2483.5	58.789	-6.670	52.119	-1.881	54.000
Vertical					
2483.5	57.264	-6.670	50.594	-3.406	54.000

Average Detector:

- 1. AVG Measurement=Peak Measurement Duty Cycle Correct Factor
- 2. The Duty Cycle is refer to section 11.
- If Duty Cycle is smaller than -20dB,based on FCC part15 the duty cycle correction factor is -20dB for calculating average emission.
- 4. 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	:	Bluetooth Headset
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit - 3Mbps (8DPSK)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
00 (Peak)	2385.900	-1.147	44.658	43.511	74.00	54.00	Pass
00 (Peak)	2390.000	-1.131	39.812	38.681	74.00	54.00	Pass
00 (Peak)	2400.000	-1.084	76.224	75.141			
00 (Peak)	2402.000	-1.073	97.061	95.989			

Figure Channel 00:

Horizontal (Peak)



- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. The average measurement was not performed when the peak measured data under the limit of average detection.



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

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
00 (Peak)	2386.100	-1.707	42.176	40.469	74.00	54.00	Pass
00 (Peak)	2390.000	-1.725	40.608	38.883	74.00	54.00	Pass
00 (Peak)	2400.000	-1.733	72.850	71.118			
00 (Peak)	2402.000	-1.729	93.552	91.823			



Vertical (Peak)



- 1. All readings 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. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

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

RF Radiated Measurement (Horizontal):

Channel No.	Frequency Correct Fac (MHz) (dB)		rrect Factor Reading Level (dB) (dBuV)		Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
78 (Peak)	2480.000	-0.581	95.032	94.451			
78 (Average)	2483.500	-0.558	56.974	56.416	74.00	54.00	Pass

Figure Channel 78:

Horizontal (Peak)



- 1. All readings 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. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

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

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Reading LevelEmission Level(dBuV)(dBuV/m)		Average Limit (dBuV/m)	Result
78 (Peak)	2480.000	-1.324	89.069	87.745			
78 (Average)	2483.500	-1.305	50.905	49.600	74.00	54.00	Pass

Figure Channel 78:

Vertical (Peak)



- 1. All readings 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. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Frequency	Peak	Duty Cycle Measurement		Margin	Limit
	Measurement	Correct Factor	Level		
MHz	dBuV/m	dB	dBuV/m	dB	dBuV/m
Horizontal					
2483.500	56.416	-6.558	49.858	-4.142	54.000
Vertical					

Average Detector:

- 1. AVG Measurement=Peak Measurement Duty Cycle Correct Factor
- 2. The Duty Cycle is refer to section 11.
- 3. If Duty Cycle is smaller than -20dB,based on FCC part15 the duty cycle correction factor is -20dB for calculating average emission.
- 4. 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.

7. Channel Number

7.1. Test Equipment

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

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40/ 100339	Jun, 2009
Х	Spectrum Analyzer	Agilent	N9010A / MY48030495	Jun, 2009
	Spectrum Analyzer	Agilent	_ E4407B / US39440758	May, 2009

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. Limit

Frequency hopping systems operating in the 2400-2483.5 MHz bands shall use at least 75 hopping frequencies.

7.4. 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.

7.5. Uncertainty

N/A

7.6. Test Result of Channel Number

Product	:	Bluetooth Headset
Test Item	:	Channel Number
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit - 1Mbps (GFSK)

Frequency Range	Measurement	Required Limit	Popult	
(MHz)	(Hopping Channel)	(Hopping Channel)	Result	
2402 ~ 2480 79		>75	Pass	

📕 Agi	lent Spec	strum	Analyzer - S	Swept SA								
µø Mari	ker 2	50 : 2.4	210000	00000 G	Hz	AC SE	NSE:INT	Avg Ty	ALIGNAUTO	02:48:51 P	MDec 28, 2009	Marker
			Ing	put: RF IF(iain:Low	#Atten: 20	dB	Avgino	10.2100/100	D	PNNNNN	Select Marker
10 4		Ba	f 10 00 /	Bm					Mkr	2 2.421 0 2	00 GHz 50 dBm	2
Log		Re	1 10.00 (0.2		
0.00	ň.	nt	nn	$\Lambda\Lambda$	$\Lambda \Lambda$	Inn	nπ	h r	1 n n	hΛ	ΛŇ	Normal
-10.0	ΥV	-Ψ	$\vee \vee \vee$	$\gamma \vee \gamma$	/ V '	$\forall \lor \lor$		γv	$\forall \lor \lor$	∦ V ∖	$V \vee V$	
-2010												
-40.0												Delta
50.0												
-6U.U												L
70.0		-							_			Fixed
nn n												
Star	t 2.40	150	GHz							Stop 2.42	2150 GHz	
#Re	s BW	100	kHz		#VB\	N 100 kHz			#Sweep	500 ms (1001 pts)	0ff
	<u>2000 111</u>			х		Y	ΓUN	CTION	FUNCTION WIDTH	FUNCTION	IN VALUE	
2	N 1 N 1	f		2.402.0	0 GHZ 0 GHZ	-0.026 di 0.250 di	Bm					
3	+	+										Properties >
5	-	+										Properties
Ž												
9		+										More
10	-	+						-				1 of 2
12		1										I
MSG									STATUS	5		

2402-2421MHz

2422-2441MHz

🂵 Ag	tlent S	ipect	rum	Analyzer - S	Swept SA									
w Mar	ker	2	50 s 2.4	2 410000	00000 G	Hz	AC	SENSE	:INT	Avg Ty	ALIGNAUTO	02:53:43 P	MDec 20, 2009	Marker
				Inp	put: RF IFC	iain:Low	#Atte	n: 20 di	un 9	AVGIHO	Mkr	2 2.441		Select Marker 2
10 d U.UU 1U.U 20 0		V	Rel	<u> 10.00 c</u> √√\		N	Ŵ	ιV	M	N	γv	10.5		Normal
30.0 -40.0 -50.0														Deita
-/U.U -8U.U	L			0.11-								0.000		Fixed⊳
Stat #Re	N 1000	+21 N 1	50 00 500	GHZ kHz	× 2.422 0	#VI	BW 100 0.1	kHz 74 dBm	FUN	TION	#Sweep	500 ms (1001 pts)	Off
2 3 4 5 6 7	N	1	ſ		2.441 0	0 GHz	0.6	36 dBm						Properties►
8 9 10 11 12														More 1 of 2
MSG											STATUS	5		



								112			
🗊 Agtlent Sp	actrum A	nalyzer - t	Swept SA								
Marker 2	50 Ω 2.46	510000	00000 G	Hz		NGE:INT	Avg Ty	ALIGNAUTO	02:59:29 P	MDec 20, 2009 ≥ 1 2 3 4 5 6	Marker
		Ing	put: RF IF(Galn:Low	#Atten: 20	≥Run)dB	Avg Ho	ld>100/100	0		Select Marker
10 dB/div	Ref	10.00 c	Bm					Mkr	2 2.461 0.7	00 GHz 61 dBm	2'
	N	\mathcal{N}	\mathcal{N}	\mathcal{N}		\mathcal{N}	Ŵ	$\sqrt{}$	$\overline{\mathcal{M}}$	\sim	Norma
.nn.											Delta
-50.0											
-/U.U -8U.U											Fixed
Start 2.44 #Res BW	1150 G	Hz		#VBV	V 100 kHz			#Sweep	Stop 2.4 500 ms (6150 GHz (1001 pts)	
	1 f		× 2.442 0	0 GHz	0.672 di	run Bm	CTION	FUNCTION WIDTH	runcti	DN YALUE	
2 N 7 3 4 5 6 7 7			2.461 0	0 GHz	0.761 dl	Bm					Properties
8 9 10 11 12											More 1 of 2
MSG								STATUS			

2442-2461MHz

2462-2480MHz

💷 Agilent Sj	pectrum	Analyzer - S	Swept S&								
Marker :	50 2 2.4	ະ 800000	00000 G	Hz		NGE:INT	Avg Ty	ALIGNAUTO pe: Log-Pwr	00:05:10 P	MDec 20, 2009	Marker
		Ing	ut: RF IFG	ر) aln:Low	#Atten: 20	dB	Avgine	Mkr	2 2.480		Select Marker 2
10 dB/div Log 1751	Re	f 10.00 d	iBm						0.0		
10.0 X	Λ	\mathbb{N}	\mathcal{N}	$\int \int \int$		\mathcal{N}	Ŵ	$\sqrt{\gamma}$	$\gamma \gamma \gamma$	\bigwedge	Normal
30.0							L				
40.0										- 4	Delta
										~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
70.0											
											Fixed⊳
Start 2.4 #Res BV	6150 V 100	GHz kHz		#VBW	/ 100 kHz			#Sweep	Stop 2.4 500 ms (	3150 GHz 1001 pts)	Off
MKR MIDE	INC SD		×		Y	FUN		HINCHIN WOTH	FUNCT	IN VALTIF	•
1 N 2 N	1 f 1 f		2.462 0	D GHZ D GHZ	0.649 d 0.663 d	Bm Bm					
3 4											Properties •
6											Topeness
- Ž	_	ļ				_					
9											More
10											1 of 2
12		I									
MSG								STATUS			

Product	:	Bluetooth Headset
Test Item	:	Channel Number
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit - 3Mbps (8DPSK)

Frequency Range	Measurement	Required Limit	Popult
(MHz)	(Hopping Channel)	(Hopping Channel)	Kesult
2402 ~ 2480	79	>75	Pass

#### 2402-2421MHz

<b>BR</b> A	gilent S	Spiece)	0.000	Analyzer	- Swept S	SA.											
<mark>и</mark> Ма	rker	2	50 s 2.4	21000	0000	00 G	Hz	A	C SB	VSE:UN	1	Avg Ty	ALIGNAUI pe: Log-Pw	nr	U3:UU:231 TRAI	MDoc 28, 2000	Marker
10	B/div	,	Ref	10.00	dBm	пс	jain:Luw	<u>ب</u>	#Atten: 20	dB		Avgino	MI	kr2 2	2.421 -0.6	00 GHz 80 dBm	Select Marker
-10) -20.		1	-	~~~~		~	~~~	~	, and	~	مرم	,		+		<u> </u>	Normal
-30. -40. 50.																	Delta
-60. -70. คก	, ,																Fixed⊳
Sta #R	nt 2.4 es Bi	401 W 1	50 00	GHz kHz	×		#V	BW	100 kHz Y		FUNC	TION I I	#Swee	Sto p 50	op 2.4: 10 ms (	2150 GHz 1001 pts)	Off
1 3 4 5 7	N	1	f		2.	<u>402 0</u> 421 0	0 GHz 0 GHz		-1.264 d8 -0.680 d8	3m 3m							Properties►
8 9 10 11 12																	More 1 of 2
MSG													STA	TUS			

#### 2422-2441MHz

💷 Agilen	t Spech	um Ar	nalyzer -	Swept Si	A											
<mark>va</mark> Marke	er 2 2	50 ມ 2.44	10000	00000	00 GI	Hz	AC	:   00	NOE:1	NT]	Avg	Type:	Log-Pwr	00:14:49 F	MDec 20, 2009 A 1 2 3 4 5 0	Marker
			In	put: RF	II G	ain:Low	<b>,</b>	#Atten: 20	) dB	n	Avgin	1010.2	100/100	0		Select Marker
10 dB/d	4B/div Ref 10.00 dBm -0.002 dBm													2		
Log	<u>)</u> 1														₽	
-10.0	~~~~	T		t and	$\sim$	,41~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~+	~~~	r		- w	~			1	Normal
-20.0		+			_		_					_				
-30.0																
4U.U		+		-	-		+		-			-				Delta
50.0																
6U.U		+					-									
00.0																Fixed⊳
Ē																
Start : #Res l	2.421	50 G	iHz Hz			#V	BIA	100 kHz				4	Sween	Stop 2.4	4150 GHz	
INKSIMI		SDI		×				Y		FUN						off
1 N	1	f		2.4	422 00	) GHz		-0.853 d	Bm							
3		-		2.4	14 I UL	JGHZ		-0.002 di	2III							
4																Properties►
6	+ +	+							-			-				
8	+ +	+							-			-				More
10	+ +	+				_			-			<u> </u>				1 of 2
12																├
MSG													STATUS	i		



D Agil	lent Sj	pact	rum	Analyzer	- Swep	i sa										
Mark	ker	2 2	50 g 2.4	61000	0000	000 G	Hz		IC   SE	NSE:INT	Avg 1 AvgH	AL Type: L fold:51	IGNAUTO	03:18:02 P TRAC	MDuc 28, 2000	Marker
					input: I	a II.	Gain:Lu	w	#Atten: 2	0 dB	CLARK 1			U	PNNNNN	Select Marker
10 dE	Ninliv		Ref	10.00	l dBn	n							Mkr	2 2.461 0.0	00 GHz 03 dBm	2
Log	01			10.00											<b>₽</b>	
-10.0		V-**	Ŷ	~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~	1	اسعدا			~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		4		Normal
-20.0			+		_						_					
-70.0			+		+		-					-				
-10.0																Delta
-50.0			+		+											
-80.0 -70.0																
80.0																FixedP
	t 2.4	41	50 (	GHz										Stop 2.4	5150 GHz	
#Res	s BV	V 1	00	kHz			#	VBW	100 kHz			#\$	Sweep	500 ms (	1001 pts)	Off
MAN			501			×			Y	n Pres	INCTION	FUNCT	TION WIDTH	FUNCTION	IN VALUE	<b>•</b>
2	N	1	f			2.442 0	0 GH2	z	0.003 d	Bm Bm						
4	-							+								Properties►
6	-															
8										_						
10										_						1 of 2
11 12																
MSG													STATUS	ō		

#### 2442-2461MHz

#### 2462-2480MHz

📕 Ag	ilent S	pect	rum	Analyzer -	Swept SA									
µ Mar	ker	2 :	50 C	, 800000	000000	SHz	AC 3	ENSE:IN	Т	Avg T		03:22:34 P	MDer 28, 2009	Marker
_				In	iput: RF IF	Gain:Low	#Atten:	20 dB		Avgin	Mkr	2 2 4 90		Select Marker
10 d	Bídiv	,	Ref	10.00	dBm						IVINI	-0.3	96 dBm	2
U.UU	Q1	1	┯	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	$\leftarrow$	maran	$\rightarrow$	~~~~		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			Normal
20.0	Γ													
-30.0 40.0	┝		+			-	_	-						Delta
-00.0														
70 N			+								_			Fixed⊳
-00.0	E		+											
Stai #Re	t 2.4 s Bl	161 N 1	50 ( 00	GHz KHz		#VE	3W 100 KH	z			#Sweep	Stop 2.4 500 ms (	8150 GHz (1001 pts)	off
1 1	N	160 1	SD f		× 2.462	00 GHz	0.425	dBm	HIND	:THIN	EINCLUNWIDTH	FUNCT	IN VALTE	
2 3 4	N	1	f		2,480	00 GHz	-0.396	dBm						Bronartias
6 6														Properues
7 8 9														More
10 11 12														1 of 2
MSC											STATUS	1		

## 8. Channel Separation

## 8.1. Test Equipment

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

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.	
	Spectrum Analyzer	R&S	FSP40/ 100339	Jun, 2009	
Х	Spectrum Analyzer	Agilent	N9010A/MY48030495	Jun, 2009	
	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2009	

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

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

## 8.2. Test Setup



#### 8.3. Limit

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

## 8.4. 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.

## 8.5. Uncertainty

± 150Hz

## 8.6. Test Result of Channel Separation

Product	:	Bluetooth Headset
Test Item	:	Channel Separation
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit - 1Mbps (GFSK)

	Encauchau	Measurement	Limit	Limit of (2/3)*20dB	
Channel No.	(MHz)	Level	(1-11-)	Dondwidth (111-)	Result
	(MHZ)	(kHz)	(KHZ)	Bandwidth (KHZ)	
00	2402	1000	>25 kHz	733.3	Pass
39	2441	1000	>25 kHz	746.7	Pass
78	2480	1000	>25 kHz	740.0	Pass

NOTE: The 20dB Bandwidth is refer to section 10.

D Ag	ilent S	Spect	rum	Analyzer -	Swept SA						ter de la companya de		
<mark>ж</mark> Mar	ker	2	50 ຊ <b>2.4</b>	030000	)00000 G		AC SE	NSE:INT	Avg Typ AvgHol	ALIGNAUTO e: Log-Pwr d:>1/1	11:25:39 F TRAC TY	M Jan 06, 2010 E 1 2 3 4 5 6 PE MWWWWW	Marker
					put: KF FR	Jain:Low	#Atten: 20	) dB			Di		Marker Table
										Mkr	2 2.403	00 GHz	<u>On</u> Off
10 d Log	Bidiv	<u> </u>	Ref	10.00 (	dBm						4.1		
0.00	<u> </u>		+		<u> </u> '	<u> </u>	ئم	₩ /t_	+				Marker Count
-10.0	· —		+		<u> </u> '	<u> </u>	///////////////////////////////////	$\downarrow \downarrow \downarrow \downarrow$					[Off]
-20.0			+		<u> </u> '	<u> </u>		+		_	_		
-30.0			+		<u> </u> '	<b></b>		<u>↓</u>	4				Couple
-40.0			$\downarrow$		<u> </u>	<u> </u>	N°	<u>۲</u>	A.				Markers
-50.0			_			1 Ant	m		m				On <u>Off</u>
-60.0		- 1-			لمريد ويستعلم والمستع	w				" When a have	Allowing - Low And		
-70.0		A.Mron	- mb	Telebolar	[							and see the second s	
-90.0					!	1							
-00.0													
Cer	iter :	2.40	520	0 GHz							Span 2	0.00 MHz	
#Re	s B	<u>N 1</u>	00	<u>kHz</u>		#VB	N 100 kHz			#Sweep	500 ms (	1001 pts)	
MKR	MODE	TRC	SCL		X		Y	FUN	ICTION F	UNCTION WIDTH	FUNCTIO	ON VALUE	
1	N		f	<u> </u>	2.402.00	J GHZ	4.453 di 4.111 d	Bm Bm			<u>+</u>		
3		$\square$	$\square$	<u> </u>									All Markers Off
5													An warkers en
6	$\rightarrow$	$\vdash$	$\vdash$	<u> </u>							+		
8			$\square$	<u> </u>		_		_					More
10				<u> </u>							<u>+</u>		2 of 2
11	$ \rightarrow$	$\square$	P	<u> </u>							<b>—</b>		
			_										
MSG										STATU	JS		

#### Channel 00 2402MHz



					Cinaini	01 0 / 1		1112			
💴 Agilent	Spectru	m Analyzer -	Swept SA		4.2	15				12	- 8 🛛
<mark>w</mark> Marker	50 r 2 2.	^Ω 4420000	000000 G	iHz	AC SE	NSE:INT	Avg Typ	ALIGN AUTO	11:27:15   TRA	M Jan 06, 2010	Marker
		In	put: RF PI IF(	NO: Fast G Gain:Low	#Atten: 20	dB	Avginoi	12 171	D	ET P N N N N N	Select Marker
10 dB/di	v R	ef 10.00 (	dBm					Mk	r2 2.442 4.5	00 GHz 15 dBm	2
					r r	2 1 2					
-10.0						$\vee \setminus$					Normal
-20.0								-			
-30.0					N		1				Delta
-40.0			A	hornor	mw/		www				Denta
-60.0	lq1,=~1,shqray?	and the state of t	a garment				-	ward with the state of the state	ale in the offering we	-	
-70.0											Fixed⊳
-80.0											
Center #Res B	2.441 W 100	00 GHZ 0 kHz		#VB۱	V 100 kHz			#Sweep	Span 2 500 ms (	0.00 MHz 1001 pts)	Off
MKR MODE	TRC SI		×		Y	FUN	ICTION F	JNCTION WIDTH	H FUNCTI	ON VALUE	0
1 N 2 N	1 f		2.441 0	0 GHz 0 GHz	4.508 d 4.515 d	Bm Bm					
4											Properties►
6											
8											More
10											1 of 2
MSG						2		STAT	us		
0.04									2.2		

## Channel 39 2441MHz

#### Channel 78 2480 MHz

D Agi	lent S	Spect	rum	Analyzer - S	Swept SA								2	
Mar	ker	2	50 s	2 800000	00000 G	Hz	AC Tria: Fr	ee Run	Avg Avgl	A Type: I fold:>*	LIGN AUTO Log-Pwr 1/1	11:29:05 F TRAC TYI	M Jan 06, 2010 E 1 2 3 4 5 6 E M WWWWWW	Marker
				IN	PUCRE PI	NO: Fast Gain:Low	#Atten:	20 dB	al.			Di	PNNNNN	Select Marker
10 di	B/div	,	Ref	f 10.00 c	lBm						Mkr	2 2.480 4.6	00 GHz 04 dBm	2
Log 0.00 -10.0							- A							Normal
-20.0	-							+		-				
-30.0							N	h	<u>م</u>					Delta
-50.0					And	$\psi_{\mu}\psi^{\mu}\psi^{\mu}\psi^{\mu}\psi^{\mu}\psi^{\mu}\psi^{\mu}\psi^{\mu}\psi^$	rlevi		how	-	wether.			
-60.0 -70.0	without	ullhar	n fair a	and a little states								and the second second second	hilor-oldalpolative	Fixed
-80.0			+					_		_				
Cen #Re	ter : s B\	2.48 W 1	800 00	0 GHz kHz		#VI	BW 100 kH	z		#	Sweep	Span 2 500 ms (	0.00 MHz 1001 pts)	Off
MKR 1	MODE	TRC 1	SCL f		× 2.479 0	0 GHz	¥ 4.954	dBm	FUNCTION	FUNC	TION WIDTH	FUNCTIO	IN VALUE	
2 3 4	N	1	f		2.480 0	0 GHz	4.604	dBm						Properties▶
5 6 7														
8														More
10 11 12														1 of 2
MSG	0		l.								STATU	5		

Product	:	Bluetooth Headset
Test Item	:	Channel Separation
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit - 3Mbps (8DPSK)

	Frequency	Measurement	Limit	Limit of (2/3)*20dB	
Channel No.	(MHz)	Level	(kH7)	Bandwidth (kHz)	Result
	(IVIIIZ)	(kHz)	(KIIZ)	Daliuwiuui (KHZ)	
00	2402	1000	>25 kHz	926.7	Pass
39	2441	1000	>25 kHz	926.7	Pass
78	2480	1000	>25 kHz	920.0	Pass

NOTE: The 20dB Bandwidth is refer to section 10.

D Ag	ilent S	ipect	rum	Analyzer - !	Swept SA			442							
<mark>ixi</mark> Mai	ker	2	50 s	030000	00000 G	Hz	AC	SEI		Avg T AvalH	Type:	ALIGNAUTO	11:51:19 F	M Jan 06, 2010	Marker
_				Inj	put: RF PI IF(	NO: Fast Gain:Low	ц,	#Atten: 20	dB		loru.>		DE	PNNNNN	Select Marker
10 d	B/div		Ref	f 10.00 d	dBm							MKC	2 2.403 4.6	00 GHZ 54 dBm	2
Log 0.00								لأكرير	41 M2						
-10.0	-						_			le le	_				Normal
-20.0															
-40.0						أأكارهم	en D	<u>, , , , , , , , , , , , , , , , , , , </u>			ኮጎጠ	10000			Delta
-50.0	hin		T) I			<b>H</b> ink is	1 101				. offi			Minnen	
-60.0 -70.0				tî de batu									a second fully etc.	₩₩₩₩₩₩₩	Fixed
-80.0	_		_								_				Fixed
Cer	nter :	2.40	020	0 GHz									Span 2	0.00 MHz	
#Re	s Bl	N 1	00	kHz		#VI	3W 1	00 kHz			7	#Sweep	500 ms (	1001 pts)	Off
	N	1	f		2.402.0	0 GHz		4.676 dl	3m	NCTION	FUN	CTION WIDTH	FUNCTIL	IN VALUE	
3		-			2.403 0			4.004 ui	2111		_				Properties ►
5		_													
7															Moro
9 10				2							-				1 of 2
12											-				
MSG												STATUS	5		

#### Channel 00 2402MHz



D Agi	lent S	pectr	um /	Analyz	er - S	Swe	pt SA						e.													
<mark>w</mark> Marl	ker	2 2	50 Ω 2.44	4200	000	00	000	) G	Hz		A	C ]	SE SE	NSE:I	NT	A	vg Ty	/pe:	ALIGN /	NUTO Pwr	11	:55:22 TRA TY	PM Ja CE 1	an 06, 2010 2 3 4 5 6		Marker
					Inp	put:	RF	IFG	40: Gain	Fast :Low	Ģ	#Att	en: 20	dB		0	'gli io		- 11			C	ET P	NNNNN		Select Marker
10 dE	3/div		Ref	10.0	)0 c	B	n												r	/lkr	2 2.	442	00 56	dBm		2
Log 0.00 -10.0												-	( A	√1 ~~~	M ²											Normal
-20.0 -30.0 -40.0							white	rTÍ	-	¥.¥	a v	J.J.	J			<b>1</b> -1	ηĮĮ	m	nm	<b>Tim</b> ri	11m	the second	<b>i</b>			Delta
-50.0 -60.0 -70.0	M	T	ŢΙΪΪ	Ĩ			<u>ih</u> t												****	ijĮĮĮ						Fixed⊳
Cent #Res	ter 2 s BV	2.44 N 10	10	0 GH kHz	z					#VI	вw	100	kHz					3	#Sw(	eep	Sp 500	oan 2 ms	20.0	00 MHz 01 pts)		Off
MKR N	MODE	TRC 1	SCL				× 2 44	11.00	0.6	Hz		4.5	11 d	Bm	FUI	NCTION		FUN	ICTION ^V	width		FUNCTI	ION V	ALUE	L	
2 3 4 5 6	Ň	1	f				2.44	2 00	ŌĞ	Hz		4.4	156 d	Bm												Properties►
7 8 9 10 11 12																										More 1 of 2
MSG		l No		8							*									STATU	S					

## Channel 39 2441MHz

## Channel 78 2480 MHz

