



Product Name	SPEAKER DOCK
Model No	DSD-500
FCC ID.	PPQ-DSD500

Applicant	Lite-On Technology Corp.	
Address	4F,90,Chien 1 Road,Chung-Ho,Taipei Hsien	
	235,Taiwan,R.O.C.	

Date of Receipt	May, 15, 2012
Issue Date	Jun. 19, 2012
Report No.	125285R-RFUSP42V01
Report Version	V1.0



The test results relate only to the samples tested.

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Test Report Certification

Issue Date: Jun. 19, 2012 Report No.: 125285R-RFUSP42V01



Product Name	SPEAKER DOCK		
Applicant	Lite-On Technology Corp.		
Address	4F,90,Chien 1 Road,Chung-Ho,Taipei Hsien 235,Taiwan,R.O.C.		
Manufacturer	DONG GUAN G-COM COMPUTER CO., LTD		
Model No.	DSD-500		
FCC ID.	PPQ-DSD500		
EUT Rated Voltage	AC 100-240V, 50/60Hz		
EUT Test Voltage	AC 120V/60Hz		
Trade Name	DENON		
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2010		
	ANSI C63.4: 2003		
Test Result	Complied		

The test results relate only to the samples tested.

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Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	SPEAKER DOCK	
Trade Name	DENON	
Model No.	DSD-500	
FCC ID.	PPQ-DSD500	
Frequency Range	2412-2462MHz for 802.11b/g	
Number of Channels	802.11b/g: 11	
Data Speed	802.11b: 1-11Mbps, 802.11g: 6-54Mbps	
Type of Modulation	802.11b:DSSS (DBPSK, DQPSK, CCK)	
	802.11g:OFDM (BPSK, QPSK, 16QAM, 64QAM)	
Antenna Type	PIFA Antenna	
Antenna Gain	Refer to the table "Antenna List"	
Channel Control	Auto	

Antenna List

No.	Manufacturer	Model No.	Peak Gain
1	MAGLAYERS	MSA-3610-2G4C1-A3	4.63 dBi for 2.4GHz
		MSA-3610-2G4C1-A6	

Note: The antenna of EUT is conform to FCC 15.203.

802.11b/g Center Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 01:	2412 MHz	Channel 02:	2417 MHz	Channel 03:	2422 MHz	Channel 04:	2427 MHz
Channel 05:	2432 MHz	Channel 06:	2437 MHz	Channel 07:	2442 MHz	Channel 08:	2447 MHz
Channel 09:	2452 MHz	Channel 10:	2457 MHz	Channel 11:	2462 MHz		

- 1. The EUT is a SPEAKER DOCK with a built-in 2.4GHz WLAN 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 1Mbps \$ 802.11g is 6Mbps)
- 4. These tests are conducted on a sample for the purpose of demonstrating compliance of 802.11b/g transmitter with Part 15 Subpart C Paragraph 15.247 of spread spectrum devices.
- 5. The different of the each model is shown as below:

Module	SDRAM brand	Note
#1	Winbond	Two modules are different at SDRAM brand, the
#2	ESMT	other components and PCB layout are identical.

- 6. The SDRAM are digital circuits function and not part of RF circuits.
- 7. The test item conducted emission and 30MHz 1GHz radiated emission are tested at two WLAN modules which describe in above note.
- 8. After tested conducted emission and 30MHz 1GHz radiated emission, the worst case are system include WLAN module #1. The worst case are tested all test item.

Test Mode:	Mode 1: Transmit (802.11b 1Mbps)
	Mode 2: Transmit (802.11g 6Mbps)

1.3. Tested System Details

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

Pro	duct	Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook PC	DELL	PPT	N/A	Non-Shielded, 0.8m
2	IPod nano	Apple	A1199	YM733325VQ5	N/A
3	Test Fixture	Lite-On	N/A	N/A	N/A

Signal Cable Type		Signal cable Description
Α	USB Cable	Non-Shielded, 1.5m, with one ferrite core bonded.
В	Audio Cable	Non-Shielded, 1.5m
С	USB Cable	Non-Shielded, 1.5m

1.4. Configuration of Tested System



1.5. EUT Exercise Software

- (1) Setup the EUT as shown in section 1.4.
- (2) Execute command on the notebook.
- (3) Configure the test mode, the test channel, and the data rate.
- (4) Start the continuous transmission.
- (5) Verify that the EUT works properly.

1.6. Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	50-65
Barometric pressure (mbar)	860-1060	950-1000

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

QuieTek Corporation's Web Site: <u>http://www.quietek.com/tw/ctg/cts/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 on				
	Federal Communications Commission				
	FCC Engineering Laboratory				
	7435 Oakland Mills Road				
	Columbia, MD 21046				
	Registration Number: 92195				
	Accreditation on NVLAP				
	NVLAP Lab Code: 200533-0				
Site Name:	Quietek Corporation				
Site Address:	No.5-22, Ruishukeng,				
	Linkou Dist. New Taipei City 24451,				
	Taiwan, R.O.C.				
	TEL: 886-2-8601-3788 / FAX : 886-2-8601-3789				
	E-Mail : <u>service@quietek.com</u>				

FCC Accreditation Number: TW1014

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, 2012	
2	L.I.S.N.	R & S	ESH3-Z5/825016/6	May, 2012	EUT
3	L.I.S.N.	Kyoritsu	KNW-407/8-1420-3	May, 2012	Peripherals
4	Pulse Limiter	R & S	ESH3-Z2	May, 2012	
5	No.1 Shielded Roor	n		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	L	imits	
MHz	QP	AVG	
0.15 - 0.50	66-56	56-46	
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 invested 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	:	SPEAKER DOCK
Test Item	:	Conducted Emission Test
Power Line	:	Line 1
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2437MHz) (ESMT)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV	dB	dBuV
Line 1					
Quasi-Peak					
0.166	9.710	31.030	40.740	-24.803	65.543
0.197	9.689	31.560	41.249	-23.408	64.657
0.291	9.643	27.810	37.453	-24.518	61.971
0.505	9.640	19.680	29.320	-26.680	56.000
0.673	9.640	32.400	42.040	-13.960	56.000
24.002	9.950	31.100	41.050	-18.950	60.000
Average					
0.166	9.710	21.670	31.380	-24.163	55.543
0.197	9.689	19.010	28.699	-25.958	54.657
0.291	9.643	19.660	29.303	-22.668	51.971
0.505	9.640	11.930	21.570	-24.430	46.000
0.673	9.640	22.330	31.970	-14.030	46.000
24.002	9.950	27.700	37.650	-12.350	50.000

Note:

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

2. " " means the worst emission level.

3. Measurement Level = Reading Level + Correct Factor

Product Test Item Power Line	: SPEAKER : Conducted : Line 2	DOCK Emission Test			
Test Mode	: Mode 2: Tra	ansmit (802.11g	6Mbps) (2437MHz)	(ESMT)	
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV	dB	dBuV
Line 2					
Quasi-Peak					
0.158	9.725	36.560	46.285	-19.486	65.771
0.193	9.691	30.790	40.481	-24.290	64.771
0.306	9.649	30.000	39.649	-21.894	61.543
0.720	9.658	31.600	41.258	-14.742	56.000
1.291	9.690	15.850	25.540	-30.460	56.000
23.998	10.160	31.120	41.280	-18.720	60.000
Average					
0.158	9.725	23.740	33.465	-22.306	55.771
0.193	9.691	16.840	26.531	-28.240	54.771
0.306	9.649	24.440	34.089	-17.454	51.543
0.720	9.658	23.540	33.198	-12.802	46.000
1.291	9.690	7.570	17.260	-28.740	46.000
23.998	10.160	27.530	37.690	-12.310	50.000

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

Product	: SPEAKER DOCK					
Test Item	: Conducted Emission Test					
Power Line	: Line 1					
Test Mode	: Mode 2:	Transmit (802.11	g 6Mbps) (2437MHz	z) (Winbond)		
Frequency	Correct	Reading	Measurement	Margin	Limit	
	Factor	Level	Level			
MHz	dB	dBuV	dBuV	dB	dBuV	
Line 1						
Quasi-Peak						
0.154	9.717	37.140	46.857	-19.029	65.886	
0.193	9.691	31.810	41.501	-23.270	64.771	
0.279	9.647	30.770	40.417	-21.897	62.314	
0.466	9.640	21.510	31.150	-25.821	56.971	
0.775	9.659	34.520	44.179	-11.821	56.000	
23.998	9.950	30.910	40.860	-19.140	60.000	
Average						
0.154	9.717	25.980	35.697	-20.189	55.886	
0.193	9.691	17.780	27.471	-27.300	54.771	
0.279	9.647	24.400	34.047	-18.267	52.314	
0.466	9.640	10.680	20.320	-26.651	46.971	
0.775	9.659	29.400	39.059	-6.941	46.000	
23.998	9.950	27.530	37.480	-12.520	50.000	

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

Product	: SPEAKER DOCK					
Test Item	: Conducted Emission Test					
Power Line	: Line 2					
Test Mode	: Mode 2: Tr	ansmit (802.11g	6Mbps) (2437MHz)	(Winbond)		
Frequency	Correct	Reading	Measurement	Margin	Limit	
	Factor	Level	Level			
MHz	dB	dBuV	dBuV	dB	dBuV	
Line 2						
Quasi-Peak						
0.150	9.730	36.720	46.450	-19.550	66.000	
0.220	9.673	29.800	39.473	-24.527	64.000	
0.306	9.649	29.780	39.429	-22.114	61.543	
0.709	9.653	33.210	42.863	-13.137	56.000	
1.283	9.690	18.170	27.860	-28.140	56.000	
24.002	10.160	31.690	41.850	-18.150	60.000	
Average						
0.150	9.730	24.680	34.410	-21.590	56.000	
0.220	9.673	19.860	29.533	-24.467	54.000	
0.306	9.649	24.860	34.509	-17.034	51.543	
0.709	9.653	25.380	35.033	-10.967	46.000	
1.283	9.690	9.800	19.490	-26.510	46.000	
24.002	10.160	27.810	37.970	-12.030	50.000	

- 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

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Х	Power Meter	Anritsu	ML2495A/6K00003357	May, 2012
Х	Power Sensor	Anritsu	MA2411B/0738448	Jun, 2012
Note:				
1.	All equipments are	calibrated with trac	eable calibrations. Each calibra	ation is traceable to the
	national or internati	onal standards.		
2.	The test instruments	s marked with "X"	are used to measure the final te	est results.

3.2. Test Setup



3.3. Limits

The maximum peak power shall be less 1 Watt.

3.4. Test Procedure

The EUT was tested according to DTS test procedure of Jan. 2012 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

3.5. Uncertainty

 \pm 1.27 dB

3.6. Test Result of Peak Power Output

Product	:	SPEAKER DOCK
Test Item	:	Peak Power Output Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps)

Channel No.	Frequency	For d	Average ifferent Da	e Power ata Rate (N	(lbps)	Peak Power	Required	Pogult
Channel No	(MHz)	1	2	5.5	11	1	Limit	Result
			Measur					
01	2412	18.55				20.94	<30dBm	Pass
06	2437	18.72	18.65	18.52	18.48	21.08	<30dBm	Pass
11	2462	18.52				21.19	<30dBm	Pass

Note: Peak Power Output Value =Reading value on power meter + cable loss

Product	:	SPEAKER DOCK
Test Item	:	Peak Power Output Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps)

		Average Power Peak						Peak				
	Frequency		F	for diffe	erent Da	ata Rate	e (Mbps	5)	-	Power	Required	
Channel No	(MHz)	6	9	12	18	24	36	48	54	6	Limit	Result
			Measurement Level (dBm)									
01	2412	13.45								23.17	<30dBm	Pass
06	2437	13.4	13.34	13.21	13.15	13.04	12.97	12.82	12.73	23.08	<30dBm	Pass
11	2462	13.53								23.14	<30dBm	Pass

Note: Peak Power Output Value =Reading value on power meter + cable loss

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 # 3	Х	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2011
	Х	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2011
	Х	Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2011
	Х	Pre-Amplifier	Agilent	8447D/2944A09549	Sep., 2011
	Х	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2012
	Х	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2011
	Х	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2012
	Х	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	Х	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

Note: 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

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

4.2. Test Setup

Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



4.3. 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: E field strength $(dBuV/m) = 20 \log E$ field strength (uV/m)

4.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003 and tested according to DTS test procedure of Jan. 2012 KDB558074 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 between 1 meter and 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 in the Open Area Test Site 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

4.6. Test Result of Radiated Emission

Product	:	SPEAKER DOCK
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2412MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4824.000	0.428	43.540	43.969	-30.031	74.000
7236.000	7.177	39.350	46.527	-27.473	74.000
9648.000	8.019	40.150	48.170	-25.830	74.000
Average Detector:					
Vertical					
Peak Detector:					
4824.000	0.836	45.510	46.347	-27.653	74.000
7236.000	7.676	39.110	46.786	-27.214	74.000
9648.000	8.556	39.580	48.137	-25.863	74.000

Average Detector:

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

Product	: SPEAKER DOCK						
Test Item	: Harmonic Radiated Emission Data						
Test Site	: No.3 OATS						
Test Mode	: Mode 1:	Transmit (802.11	b 1Mbps) (2437 MH	z)			
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
Peak Detector:							
4874.000	0.076	42.680	42.757	-31.243	74.000		
7311.000	7.512	38.940	46.452	-27.548	74.000		
9748.000	7.630	41.260	48.890	-25.110	74.000		
Avorago Dotostori							
Average Detector:							
vertical							
Peak Detector:							
4874.000	0.532	42.330	42.862	-31.138	74.000		
7311.000	8.089	38.680	46.769	-27.231	74.000		
9748.000	8.266	40.400	48.667	-25.333	74.000		

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

Product	: SPEAKER DOCK							
Test Item	: Harmonic Radiated Emission Data							
Test Site	: No.3 OATS							
Test Mode	: Mode 1: Transmit (802.11b 1Mbps) (2462 MHz)							
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
Peak Detector:								
4924.000	0.191	41.610	41.801	-32.199	74.000			
7386.000	8.373	39.470	47.844	-26.156	74.000			
9848.000	7.964	39.950	47.914	-26.086	74.000			
Average Detector:								
Vertical								
Peak Detector:								
4924.000	0.805	40.820	41.625	-32.375	74.000			
7386.000	9.180	38.810	47.990	-26.010	74.000			
9848.000	8.801	40.200	49.001	-24.999	74.000			

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

Product	: SPEAKER DOCK							
Test Item	: Harmonic Radiated Emission Data							
Test Site	: No.3 OATS							
Test Mode	: Mode 2:	Transmit (802.11	g 6Mbps) (2412MHz	z)				
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
Peak Detector:								
4824.000	0.428	41.110	41.539	-32.461	74.000			
7236.000	7.177	39.170	46.347	-27.653	74.000			
9648.000	8.019	39.650	47.670	-26.330	74.000			
Average Detector:								
Vertical								
Peak Detector:								
4824.000	0.836	41.640	42.477	-31.523	74.000			
7236.000	7.676	39.160	46.836	-27.164	74.000			
9648.000	8.556	39.410	47.967	-26.033	74.000			

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

: SPEAKER DOCK							
: Harmonic Radiated Emission Data							
Test Site : No.3 OATS							
: Mode 2:	Transmit (802.11	lg 6Mbps) (2437 MH	z)				
Correct	Reading	Measurement	Margin	Limit			
Factor	Level	Level					
dB	dBuV	dBuV/m	dB	dBuV/m			
0.076	40.950	41.027	-32.973	74.000			
7.512	38.760	46.272	-27.728	74.000			
7.630	39.020	46.650	-27.350	74.000			
0.532	41.700	42.232	-31.768	74.000			
8.089	38.990	47.079	-26.921	74.000			
8.266	38.610	46.877	-27.123	74.000			
	 SPEAK Harmon No.3 OA Mode 2: Correct Factor dB 0.076 7.512 7.630 0.532 8.089 8.266 	 SPEAKER DOCK Harmonic Radiated Emission No.3 OATS Mode 2: Transmit (802.11) Correct Reading Factor Level dB dBuV 0.076 40.950 7.512 38.760 7.630 39.020 0.532 41.700 8.089 38.990 8.266 38.610 	 SPEAKER DOCK Harmonic Radiated Emission Data No.3 OATS Mode 2: Transmit (802.11g 6Mbps) (2437 MH Correct Reading Measurement Factor Level Level dB dBuV dBuV/m 0.076 40.950 41.027 7.512 38.760 46.272 7.630 39.020 46.650 0.532 41.700 42.232 8.089 38.990 47.079 8.266 38.610 46.877 	 SPEAKER DOCK Harmonic Radiated Emission Data No.3 OATS Mode 2: Transmit (802.11g 6Mbps) (2437 MHz) Correct Reading Measurement Margin Factor Level Level dB dBuV dBuV/m 0.076 40.950 41.027 -32.973 7.512 38.760 46.272 -27.728 7.630 39.020 46.650 -27.350 0.532 41.700 42.232 -31.768 8.089 38.990 47.079 -26.921 8.266 38.610 46.877 -27.123 			

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

Product	: SPEAKER DOCK							
Test Item	: Harmonic Radiated Emission Data							
Test Site	: No.3 OATS							
Test Mode	Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462 MHz)							
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
Peak Detector:								
4924.000	0.191	41.130	41.321	-32.679	74.000			
7386.000	8.373	39.010	47.384	-26.616	74.000			
9848.000	7.964	39.490	47.454	-26.546	74.000			
Average Detector:								
Vertical								
Peak Detector:								
4924.000	0.805	40.440	41.245	-32.755	74.000			
7386.000	9.180	38.610	47.790	-26.210	74.000			
9848.000	8.801	39.580	48.381	-25.619	74.000			

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

Product	: SPEAKER DOCK									
Test Item	: General Radiated Emission Data									
Test Site	: No.3 OATS									
Test Mode	: Mode 1:	Transmit (802.11	E) (ESMI)							
Frequency	Correct	Reading	Measurement	Margin	Limit					
	Factor	Level	Level							
MHz	dB	dBuV	dBuV/m	dB	dBuV/m					
Horizontal										
239.520	-6.878	32.858	25.980	-20.020	46.000					
383.080	1.305	39.107	40.412	-5.588	46.000					
458.740	3.298	37.565	40.863	-5.137	46.000					
565.440	1.957	36.534	38.491	-7.509	46.000					
790.480	6.363	34.956	41.319	-4.681	46.000					
837.040	6.016	36.387	42.403	-3.597	46.000					
Vertical										
189.080	-5.617	41.318	35.701	-7.799	43.500					
383.080	0.195	39.978	40.173	-5.827	46.000					
480.080	-3.390	40.868	37.478	-8.522	46.000					
610.060	2.087	34.574	36.661	-9.339	46.000					
790.480	2.693	33.186	35.879	-10.121	46.000					
875.840	0.516	32.065	32.581	-13.419	46.000					

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

Product	: SPEAKER DOCK										
Test Item	: General I	: General Radiated Emission Data									
Test Site	: No.3 OA	TS									
Test Mode	: Mode 2:										
Frequency	Correct	Reading	Measurement	Margin	Limit						
	Factor	Level	Level								
MHz	dB	dBuV	dBuV/m	dB	dBuV/m						
Horizontal											
191.020	-9.679	32.704	23.025	-20.475	43.500						
319.060	-4.585	46.277	41.692	-4.308	46.000						
458.740	3.298	36.732	40.030	-5.970	46.000						
610.060	3.657	35.988	39.645	-6.355	46.000						
790.480	6.363	35.594	41.957	-4.043	46.000						
837.040	6.016	35.773	41.789	-4.211	46.000						
Vertical											
319.060	-4.135	46.654	42.519	-3.481	46.000						
383.080	0.195	39.966	40.161	-5.839	46.000						
480.080	-3.390	40.932	37.542	-8.458	46.000						
610.060	2.087	34.414	36.501	-9.499	46.000						
790.480	2.693	35.248	37.941	-8.059	46.000						
945.680	3.300	29.328	32.628	-13.372	46.000						

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

Product	: SPEAKER DOCK										
Test Item	: General	: General Radiated Emission Data									
Test Site	: No.3 OA										
Test Mode	lode : Mode 1: Transmit (802.11b 1Mbps)(2437 MHz) (Winbond)										
Frequency	Correct	Reading	Measurement	Margin	Limit						
	Factor	Level	Level								
MHz	dB	dBuV	dBuV/m	dB	dBuV/m						
Horizontal											
111.480	-7.489	45.887	38.399	-5.101	43.500						
319.060	-4.585	43.791	39.206	-6.794	46.000						
429.640	0.630	36.505	37.134	-8.866	46.000						
610.060	3.657	36.930	40.587	-5.413 -6.648	46.000						
745.860	3.906	35.446	39.352		46.000						
903.000	5.938	30.234	36.172	-9.828	46.000						
Vertical											
70.740	-11.568	46.955	35.387	-4.613	40.000						
159.980	-5.120	37.635	32.514	-10.986	43.500						
338.460	-1.640	39.537	37.896	-8.104	46.000						
544.100	1.503	34.125	35.628	-10.372	46.000						
610.060	2.087	37.380	39.467	-6.533	46.000						
837.040	1.606	38.278	39.884	-6.116	46.000						

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

Product	: SPEAKER DOCK									
Test Item	: General Radiated Emission Data									
Test Site	: No.3 OA									
Test Mode	: Mode 2:	: Mode 2: Transmit (802.11g 6Mbps)(2437 MHz) (Winbond)								
Frequency	Correct	Reading	Measurement	Margin	Limit					
	Factor	Level	Level							
MHz	dB	dBuV	dBuV/m	dB	dBuV/m					
Horizontal										
94.020	-10.730	50.355	39.625	-3.875	43.500					
338.460	-3.380	40.859	37.478	-8.522	46.000					
507.240	2.529	40.156	42.685	-3.315	46.000					
610.060	3.657	36.391	40.048	-5.952	46.000					
790.480	6.363	33.764	40.127	-5.873 -16.426	46.000					
976.720	7.054	30.520	37.574		54.000					
Vertical										
95.960	-6.836	43.024	36.188	-7.312	43.500					
319.060	-4.135	40.513	36.378	-9.622	46.000					
480.080	-3.390	42.787	39.397	-6.603	46.000					
610.060	2.087	35.613	37.700	-8.300	46.000					
790.480	2.693	35.226	37.919	-8.081	46.000					
961.200	3.310	32.829	36.139	-17.861	54.000					

-

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

5. **RF** antenna conducted test

5.1. Test Equipment

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

Note: 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

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

5.2. Test Setup

RF antenna Conducted 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 was tested according to DTS test procedure of Jan. 2012 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

Set RBW = 100 kHz, Set VBW> RBW, scan up through 10th harmonic.

5.5. Uncertainty

The measurement uncertainty Conducted is defined as \pm 1.27dB

5.6. Test Result of RF antenna conducted test

Product	:	SPEAKER DOCK
Test Item	:	RF antenna conducted test
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps)

Channel 01 (2412MHz)

Center Freq 515.000000	MHZ PNO: Fast 🏳 IFGain:Low	SENSE:INT Trig: Free Run Atten: 30 dB	Avg Type:	LIGNAUTO	09:08:35 PM Jun 04, 2012 TRACE 1 2 3 4 5 6	Frequency
	PNO: Fast 😱 IFGain:Low	Atten: 30 dB				4
10 dB/div Ref 20.00 dBm				Mkr1	800.859 MHz -54.40 dBm	Auto Tune
10.0						Center Freq 515.000000 MHz
-10.0					-13.87 dBm	Start Freq 30.000000 MHz
-20.0						Stop Freq 1.000000000 GHz
-40.0						CF Step 97.000000 MHz <u>Auto</u> Man
	a sea da la sida si da si d		n ja laga kang ki kina piliking Maning menang di semi nang ki		ing på ny ny na <mark>ny ny na kata da na ina kata da na Ny na ina ina ina ina ina ina ina ina ina </mark>	Freq Offset 0 Hz
Start 30.0 MHz #Res BW 100 kHz	#VBW 1	.0 MHz	s	weep 90	Stop 1.0000 GHz .0 ms (10001 pts)	

Agilent Spectru	n Analyzer - Swept SA								
LXI RL	RF 50 Ω AC		SEN	ISE:INT)	ALIGN AUTO	09:08:03 P	M Jun 04, 2012	Frequency
Center Fre	eq 6.5000000	00 GHz		-	Avg Type:	Log-Pwr	TRAC	E123456	Frequency
		PNO: Fast 😱	Attom 20	Run			DE	TPNNNNN	
		IFGain:Low	Atten: 30	ab					Auto Tuno
						Mk	r1 2.410	2 GHz	Auto Tune
10 dB/div	Ref 20.00 dBm	1					6.1	13 dBm	
Log									
14030									Contor From
40.0	41								CenterFreq
10.0	•••								6.50000000 GHz
0.00									
									Start Fred
									otarti req
-10.0				5	-			12.97 dBm	1.000000000 GHz
		3						-13.07 ubm	
20.0									
-20.0									Stop Freq
									12 00000000 GHz
-30.0									12.00000000000000
97.00.0									05.044
-40.0								·	CF Step
									1.10000000 GHz
-50.0									<u>Auto</u> Man
-30.0		and a little	n an the state	the shall be deal	dida a trade	In the second se	and a second second		
Table States	a dan pana ang sa	the second states of the secon	adding statement	In the second second	and the second second	and and data for	Notific on other side	and the fair of the states of	
-60.0	100 M	A STATE OF A			A STATEMENT	Address Ridsheed		and the part of the late	Freq Offset
									0 Hz
-70.0									
Start 1.000	GHz						Stop 12	.000 GHz	
#Res BW 1	00 kHz	#VBW	1.0 MHz			Sweep	1.02 s (1	0001 pts)	
	changed: all trace	e cloared				STATUS			
Points	changed; all trace	scieareu				STATUS			10

Agiler	it Spectru	m Analyzer - Sv	vept SA								
Cen	ıter Fr	RF 50 s	2 AC	GHz	SE	NSE:INT	Avg Type	LIGNAUTO	09:09:06 F TRAC TYI	M Jun 04, 2012 E 1 2 3 4 5 6	Frequency
10 di	B/div	Ref 20.00	۳ IF dBm	NU: Fast C	Atten: 30	dB		Mkr	⊓ 1 23.60 -41.	a 8 GHz 22 dBm	Auto Tune
10.0											Center Freq 18.500000000 GHz
0.00 -10.0										-13.87 dBm	Start Freq 12.000000000 GHz
-20.0 -30.0											Stop Freq 25.00000000 GHz
-40.0				a and a state of the	the state of the s	u dan mana da m		na jina si bi ki kana si			CF Step 1.30000000 GHz <u>Auto</u> Man
-60.0				a particular and a start of the	n i an an Anna an Anna Anna Anna Anna An	istantan silay _{ka} din fan					Freq Offset 0 Hz
-70.0 Star #Re	t 12.00 s BW 1	0 GHz 100 kHz		#VBW	1.0 MHz			Sweep	Stop 25 1.20 s (1	.000 GHz 0001 pts)	
MSG 🤇	₽File <	Image.png> s	saved					STATUS		•	u



Agilen	it Spectrum A	nalyzer - Swe	ept SA								
Cen	ter Freq	50 Ω 515.00	AC 0000 MH	z	SEI	NSE:INT	Avg Type	ALIGNAUTO	0 10:34:38 F r TRAI	M Jun 04, 2012	Frequency
10 di	3/div R e	f 20.00 c	PI IFC	NO: Fast 😱 Gain:Low	Atten: 30	dB		М	kr1 796.9 -53.	79 MHz 90 dBm	Auto Tune
10.0											Center Freq 515.000000 MHz
0.00 -10.0										-13.28 dBm	Start Freq 30.000000 MHz
-20.0 -30.0											Stop Freq 1.000000000 GHz
-40.0 -50.0									 ▲1		CF Step 97.000000 MHz <u>Auto</u> Man
-60.0	gini la suplace entre Catangina	and the lines	a na seconda a seconda da seconda A seconda da		n fan hjer ster op h <mark>len ster ster ster ster ster ster ster ster</mark>	Alara (kata, japa) Alara (kata, japa)				n pana kana di kana kata pang pan Pana kana pang pang pang pang pang pang pang p	Freq Offset 0 Hz
-70.0 Star #Re	t 30.0 MH s BW 100	z kHz		#VBW	1.0 MHz			Sweep	Stop 1.0 90.0 ms (1	0000 GHz 0001 pts)	
MSG 🤇	₽File <ima< td=""><td>ge.png> sa</td><td>aved</td><td></td><td></td><td></td><td></td><td>STAT</td><td>rus</td><td></td><td></td></ima<>	ge.png> sa	aved					STAT	rus		

Channel 06 (2437MHz)

Agilen	it Spectrum /	Analyzer - Sv	vept SA								
LXI R	ter Fred	RF 50 \$		CH-7	SE	NSE:INT	Ava Type	ALIGNAUTO	10:34:07 F	M Jun 04, 2012	Frequency
10 di	3/div R	ef 20.00	dBm	PNO: Fast IFGain:Low	Trig: Free Atten: 30	e Run dB		Mk	r1 2.43 6.	7 7 GHz 72 dBm	Auto Tune
10.0		• ¹									Center Freq 6.50000000 GHz
0.00 -10.0										-13.28 dBm	Start Freq 1.000000000 GHz
-20.0 -30.0											Stop Freq 12.000000000 GHz
-40.0 -50.0											CF Step 1.10000000 GHz <u>Auto</u> Man
-60.0								a posti krysti kinjin na doveljena polazi	an da da an		Freq Offset 0 Hz
-70.0 Star	t 1.000 G	Hz KHz		#\/B\/	(10MH=			Sween	Stop 12	.000 GHz	
MSG	Points cl	hanged; all	l traces cle	# UU eared	r 1.0 IVII 12			STATUS	1.02 3 (1	0001 pts)	

Agilen	t Spectrum	1 Analyzer - Sv	vept SA								
Cen	ter Fre	eq 18.500	2 AC 0000000 (PI	GHz 10: Fast 😱	Trig: Free	SENSE:INT ALIG Avg Type: Lo Trig: Free Run		ALIGNAUTO : Log-Pwr	.og-Pwr TRACE 1 2 3 4 TYPE MWW DET P N N		Frequency
10 dE	3/div l	Ref 20.00	dBm	ain:Low	Atten: 50	uD		Mkr	1 24.32 -40.	01 GHz 80 dBm	Auto Tune
10.0											Center Freq 18.50000000 GHz
0.00											Start Freq 12.00000000 GHz
-20.0										-13.28 dBm	Stop Freq
-30.0										▲1	25.00000000 GHz
-40.0			ال العام ال	a da dalar	A constraint a feature	وبالباب	and the second sec		المغاولة والمغاولة		CF Step 1.30000000 GHz <u>Auto</u> Man
-60.0	a programba Antonio de la c				an de la finne estader	and and an other of					Freq Offset 0 Hz
-70.0											
Star #Res	t 12.000 s BW 10	0 GHz 00 kHz		#VBW	1.0 MHz			Sweep	Stop 25 1.20 s (1	.000 GHz 0001 pts)	
MSG 🤇	File <ir< td=""><td>mage.png> s</td><td>aved</td><td></td><td></td><td></td><td></td><td>STATUS</td><td></td><td></td><td></td></ir<>	mage.png> s	aved					STATUS			



Agilen	it Spectrum Ar	nalyzer - Swept	SA							
LXI R	L RF	F 50 Ω	AC	SE	NSE:INT		ALIGN AUTO	10:48:45 F	M Jun 04, 2012	Frequency
Cen	ter Freq	515.0000	DOO MHZ PNO: Fast IFGain:Low	Trig: Free Atten: 30	e Run ∣dB	Avg Type	: Log-Pwr	TRAC TYP DE	E 1 2 3 4 5 6 E MWWWWW T P N N N N N	Trequency
10 di Log	3/div Re	f 20.00 dB	m				Mk	r1 886.0 -54.	25 MHz 98 dBm	Auto Tune
3										Center Freq
10.0										515.000000 MHz
0.00										Start Freq
-10.0									-14.83 dBm	30.000000 MHZ
-20.0										Stop Freq
-30.0										1.00000000 GHz
-40.0										CF Step 97.000000 MHz Auto Man
-50.0									1	
-60.0							a para la frances	alle alle alle alle alle alle alle alle		Freq Offset 0 Hz
-70.0										
Star	t 30.0 MH	z						Stop 1.0	0000 GHz	
#Re	s BW 100		#VBV	V 1.0 MHz			Sweep	90.0 ms (1	0001 pts)	
	- 1 10 - 111d	goiping- buve						-		

Channel 11 (2462MHz)



Agilent Spectrum Analyzer - Swept SA											
Center Freq	50 Ω AC) GHz	SEI		Avg Type:	Log-Pwr	10:49:15 P TRAC	M Jun 04, 2012 E 1 2 3 4 5 6	Frequency		
10 dB/div R ei	f 20.00 dBm	PNO: Fast ()	Atten: 30	dB		Mkr	^{ته} 1 23.619 -39.1	9 4 GHz 92 dBm	Auto Tune		
10.0									Center Freq 18.50000000 GHz		
-10.0								-14.83 dBm	Start Freq 12.000000000 GHz		
-20.0									Stop Freq 25.000000000 GHz		
-40.0	Lastante			Sanda Santa a Santa a Santa a					CF Step 1.30000000 GHz <u>Auto</u> Man		
-60.0									Freq Offset 0 Hz		
Start 12.000 G #Res BW 100	GHz kHz	#VBW	1.0 MHz			Sweep	Stop 25 1.20 s (1	.000 GHz 0001 pts)			
Mag Tile <imag< td=""><td>je.png> saved</td><td></td><td></td><td></td><td></td><td>STATUS</td><td></td><td></td><td>2</td></imag<>	je.png> saved					STATUS			2		

Product	:	SPEAKER DOCK
Test Item	:	RF Antenna Conducted Spurious
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps)

Channel 01 (2412MHz)

Agilent Spectrum Analyzer - Swept SA										
Center Free	RF 50 Ω	AC 000 MHz		NSE:INT	Avg Type	ALIGNAUTO	0 10:57:10 F	M Jun 04, 2012 E 1 2 3 4 5 6	Frequency	
10 dB/div F	tef 20.00 d	PNO: Fast 🖵 IFGain:Low BM	Atten: 30	dB		М	kr1 806.8 -54.	73 MHz 89 dBm	Auto Tune	
10.0									Center Freq 515.000000 MHz	
-10.0									Start Freq 30.000000 MHz	
-20.0								21.38 dBm	Stop Freq 1.000000000 GHz	
-40.0							1		CF Step 97.000000 MHz <u>Auto</u> Man	
-60.0	n an	(1,41,121,22,43)). If all of a second s			han jana ya Kangola Juni Kangana Sangana Sangana ya Kangola Sangana Sangana Sangana Sangana Sangana Sangana Sang	and the state of		a berrig ter bin son in. Inden gestenden och d	Freq Offset 0 Hz	
Start 30.0 M #Res BW 10	Hz 0 kHz	#VBW	1.0 MHz			Sweep	Stop 1.0 90.0 ms (1	0000 GHz 0001 pts)		
мsg 🗼 File <im< td=""><td>age.png> sa</td><td>ved</td><td></td><td></td><td></td><td>STAT</td><td>us</td><td></td><td></td></im<>	age.png> sa	ved				STAT	us			

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Agilent Spectrum Analyzer - Swept SA											
Center Freq 6.500	0000000 GHz	SENSE	E:INT Avg Type Run	ALIGNAUTO : Log-Pwr	10:56:39 PM Jun 04, 2012 TRACE 1 2 3 4 5 6 TYPE MWWWWM	Frequency					
10 dB/div Ref 20.0	IFGain:Low	Atten: 30 dE	В	Mk	r1 2.414 6 GHz -1.38 dBm	Auto Tune					
10.0						Center Freq 6.50000000 GHz					
-10.0						Start Freq 1.000000000 GHz					
-20.0					21.38 dBm	Stop Freq 12.00000000 GHz					
-40.0		ay databa in di sahata				CF Step 1.100000000 GHz <u>Auto</u> Man					
-60.0		(Van Miller Marker (Miller)		a an		Freq Offset 0 Hz					
Start 1.000 GHz #Res BW 100 kHz	#VBW	1.0 MHz		Sweep	Stop 12.000 GHz 1.02 s (10001 pts)						
MSG 🕹 Points changed; a	all traces cleared			STATUS							

Agilent Spectrum Analyzer - Swept SA											
tx∥ ℝ Cer	L nter Fre	RF 50 ຊ q 18.500	AC	GHz	SEI		Avg Type	LIGNAUTO	10:57:41 P TRAC TYP	M Jun 04, 2012 E 1 2 3 4 5 6	Frequency
10 di Log	B/div F	Ref 20.00	dBm	NU: Fast C	Atten: 30	dB		Mkr	₀ 1 23.62 _41.2	5 9 GHz 29 dBm	Auto Tune
10.0											Center Freq 18.50000000 GHz
0.00 -10.0											Start Freq 12.000000000 GHz
-20.0										21.38 dBm	Stop Freq 25.000000000 GHz
-40.0		(1) IA (1) IA			da da kata kata da kata kata kata kata k	litera de la provinte la co				1	CF Step 1.30000000 GHz <u>Auto</u> Man
-60.0	and the provident	lan na H <mark>asan sa </mark>									Freq Offset 0 Hz
-70.0 Stai #Re	rt 12.000 s BW 10) GHz)0 kHz		#VBW	1.0 MHz			Sweep	Stop 25 1.20 s (1	.000 GHz 0001 pts)	
MSG	IJFile <in< td=""><td>nage.png> s</td><td>aved</td><td></td><td></td><td></td><td></td><td>STATUS</td><td></td><td></td><td></td></in<>	nage.png> s	aved					STATUS			



Channel 06 (24	437MHz)
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Agilen	t Spectrum	Analyzer - Sw	vept SA								
Cen	ter Fred	RF 50 G	2 AC	MHz	SEI	NSE:INT	Ava Tvpe	ALIGNAUT	0 11:11:09 F	M Jun 04, 2012	Frequency
10 dE	3/div R	ef 20.00	dBm	PNO: Fast 🕞 IFGain:Low	J Trig: Free Atten: 30	dB		М	™ ⊳ kr1 967.5 -54.	et P N N N N N 05 MHz 03 dBm	Auto Tune
10.0											Center Freq 515.000000 MHz
0.00 -10.0											Start Freq 30.000000 MHz
-20.0 -30.0										-21.50 dBm	Stop Freq 1.000000000 GHz
-40.0 -50.0										1 .	CF Step 97.000000 MHz <u>Auto</u> Man
-60.0	an an har pailt ha ann a dao han amarta na		in 10050 80141	hy Diry et an and the deal of the last an an a	anty alog hile of	l an being old	a and an an alter	legter og til benør som en forskende	na internet and a second s	lande Herlf Adalasia des des 19 des 19 des des des des des	Freq Offset 0 Hz
Star #Re:	t 30.0 M s BW 10 File <im< td=""><td>Hz 0 kHz age.png> s</td><td>aved</td><td>#VBW</td><td>1.0 MHz</td><td></td><td></td><td>Sweep</td><td>Stop 1.0 90.0 ms (1</td><td>0000 GHz 0001 pts)</td><td></td></im<>	Hz 0 kHz age.png> s	aved	#VBW	1.0 MHz			Sweep	Stop 1.0 90.0 ms (1	0000 GHz 0001 pts)	

Agilent Spectrum Analyzer - Swept SA											
Cen	ter Fre	RF 50	Ω AC 000000 G	iHz	SEI		Avg Type	LIGNAUTO	11:10:38 P TRAC TYP	M Jun 04, 2012 E 1 2 3 4 5 6 E M MANANAN	Frequency
10 dE	IFGain:Low Atten: 30 dB Mkr1 2.435 5 GHz 10 dB/div Ref 20.00 dBm -1.59 dBm										
10.0		▲1									Center Freq 6.50000000 GHz
0.00 -10.0											Start Freq 1.000000000 GHz
-20.0 -30.0										-21.59 dBm	Stop Freq 12.000000000 GHz
-40.0											CF Step 1.10000000 GHz <u>Auto</u> Man
-60.0	annan an P				ang kan da ing pang ang pang ang pang ang pang ang pang ang pang p			egiegt het des bie geographiese	plane billing	r produkcij na jeste pro- la poslaka zako poslaka s	Freq Offset 0 Hz
-70.0 Star	t 1.000	GHz 00 kHz		#VBM	1.0 MHz			Sween	Stop 12	.000 GHz	
MSG	Points	changed; al	l traces clea	red	1.0 10112			STATUS	1.02.3 (1	0001 pt3)	

Agilent Spectrum Analyzer - Swept SA											
Cen	ter Fr	eq 18.50	Ω AC	GHz	SE	NSE:INT	Avg Type	ALIGNAUTO	11:11:40 P TRAC	M Jun 04, 2012 E 1 2 3 4 5 6	Frequency
10 de	3/div	Ref 20.0	P ⊮)dBm	NO: Fast () Gain:Low	Atten: 30	dB		Mkr	1 23.63 -41.0	1 1 GHz 02 dBm	Auto Tune
10.0											Center Freq 18.50000000 GHz
0.00 -10.0											Start Freq 12.000000000 GHz
-20.0 -30.0										-21.59 dBm	Stop Freq 25.000000000 GHz
-40.0						N-arran and a state	Reading the other of the		and the second second		CF Step 1.30000000 GHz <u>Auto</u> Man
-60.0	olpfalann blach _{Chail} Mileannala				Visit in the second						Freq Offset 0 Hz
-70.0 Star #Re:	t 12.00 s BW 1	00 GHz 100 kHz		#VBW	1.0 MHz			Sweep	Stop 25 1.20 s (1	.000 GHz 0001 pts)	
MSG 🤇	File <	Image.png>	saved					STATUS			



Agilent Spectrum Analyzer - Swept SA											
Cent	ter Fr	RF 5	0 0 0 AC	AHz	SEI	NSE:INT	Avg Type	ALIGNAUTO	0 11:18:58 F	M Jun 04, 2012	Frequency
10 dE	3/div	Ref 20.0	0 dBm	PNO: Fast 🕞 IFGain:Low	d Trig: Free Atten: 30	e Run dB		Mł	∾ ∿ ¢r1 997.4 -54.	78 MHz 35 dBm	Auto Tune
10.0											Center Freq 515.000000 MHz
-10.0											Start Freq 30.000000 MHz
-20.0 s										-20.79 dBm	Stop Freq 1.000000000 GHz
-40.0 -50.0										1	CF Step 97.000000 MHz <u>Auto</u> Man
-60.0			la della		a la line de persona a del ser Manage		landar (na ang kata		de instanting data data data data data data data dat		Freq Offset 0 Hz
Start #Res	t 30.0 s BW *	MHz 100 kHz Image.png?	> saved	#VBW	1.0 MHz			Sweep	Stop 1.0 90.0 ms (1	0000 GHz 0001 pts)	

Channel 11 (2462MHz)

Agilent Spectrum Analyzer - Swept SA											
Center Freq 6.50000	AC SI 0000 GHz Tuin End	Avg Typ	e: Log-Pwr	11:18:27 PM Jun 04, 2012 TRACE 1 2 3 4 5	Frequency						
10 dB/div Ref 20.00 dE	PNO: Fast CD 1119.Fre IFGain:Low Atten: 3 3m	0 dB	Mk	r1 2.460 8 GHz -0.79 dBm	Auto Tune						
10.0					Center Freq 6.50000000 GHz						
-10.0					Start Freq 1.000000000 GHz						
-20.0				-20.79 dBr	Stop Freq 12.000000000 GHz						
-40.0	, , , (1) , strategical				CF Step 1.100000000 GHz <u>Auto</u> Man						
-60.0			ing anny ng ang ang ang ang ang ang ang ang ang	n pri sul all'in est in in provinsi provinsi dalla secola dalla secola dalla secola della secola della secola d Internationalitativa	Freq Offset 0 Hz						
-70.0 Start 1.000 GHz				Stop 12.000 GHz							
#Res BW 100 kHz	#VBW 1.0 MHz aces cleared	Z	Sweep status	1.02 s (10001 pts							

Agilent Spectr	ım Analyzer - Sw	ept SA								
Center Fr	req 18.500	AC 000000 (GHz	SEI	NSE:INT	Avg Type:	LIGNAUTO	11:19:29 P TRAC	M Jun 04, 2012 E 1 2 3 4 5 6	Frequency
10 dB/div	Ref 20.00	PI IFC	NO: Fast 😱 Gain:Low	Atten: 30	dB		Mkr	1 23.644 -40.5	4 1 GHz 83 dBm	Auto Tune
10.0										Center Freq 18.50000000 GHz
-10.0										Start Freq 12.000000000 GHz
-20.0									-20.79 dBm	Stop Freq 25.00000000 GHz
-40.0		. Idaada bat	ni	1 Specific and the second	na seren parte la la	a para palatin				CF Step 1.30000000 GHz <u>Auto</u> Man
-60.0										Freq Offset 0 Hz
-70.0 Start 12.00 #Res BW	00 GHz 100 kHz		#VBW	1.0 MHz			Sweep	Stop 25 1.20 s (1	.000 GHz 0001 pts)	
MSG 🥹 File <	Image.png> s	aved					STATUS			2

6. Band Edge

6.1. Test Equipment

RF Conducted Measurement

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

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

Note:

- 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
- 2. The test instruments marked with "X" are used to measure the final test results.

RF Radiated Measurement:

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

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

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

RF Conducted Measurement:



RF Radiated Measurement:



6.3. 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.

6.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003 and tested according to DTS test procedure of Jan. 2012 KDB558074 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.

6.5. Uncertainty

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

6.6. Test Result of Band Edge

Product	:	SPEAKER DOCK
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps)

RF Radiated Measurement (Horizontal):

	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Dogult
Channel No.	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
01 (Peak)	2386.400	31.736	27.290	59.026	74.00	54.00	Pass
01 (Peak)	2390.000	31.739	24.409	56.148	74.00	54.00	Pass
01 (Peak)	2411.000	31.769	72.638	104.407			Pass
01 (Average)	2386.800	31.736	17.425	49.161	74.00	54.00	Pass
01 (Average)	2390.000	31.739	14.121	45.860	74.00	54.00	Pass
01 (Average)	2411.200	31.770	68.931	100.701			Pass



Horizontal (Peak)





Horizontal (Average)



- 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. "*", 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	:	SPEAKER DOCK
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps)

RF Radiated Measurement (VERTICAL):

	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Dogult
Channel No.	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
01 (Peak)	2386.200	30.293	29.165	59.458	74.00	54.00	Pass
01 (Peak)	2390.000	30.267	26.412	56.679	74.00	54.00	Pass
01 (Peak)	2413.000	30.254	76.722	106.975			Pass
01 (Average)	2387.000	30.288	20.027	50.315	74.00	54.00	Pass
01 (Average)	2390.000	30.267	15.889	46.156	74.00	54.00	Pass
01 (Average)	2411.200	30.245	72.758	103.003			Pass

Figure Channel 01:

VERTICAL (Peak)





VERTICAL (Average)



- 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	:	SPEAKER DOCK
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps)

RF Radiated Measurement (Horizontal):

	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Dogult
Channel No.	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
11 (Peak)	2460.900	31.890	70.741	102.631	74.00	54.00	Pass
11 (Peak)	2483.500	31.951	25.411	57.361			Pass
11 (Average)	2462.700	31.895	65.997	97.891	74.00	54.00	Pass
11 (Average)	2483.500	31.951	14.301	46.251			Pass

Figure Channel 11:

Horizontal (Peak)



Figure Channel 11:





- 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. "*", 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	:	SPEAKER DOCK
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps)

RF Radiated Measurement (VERTICAL):

	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Degult
Channel No.	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
11 (Peak)	2462.900	30.485	76.237	106.722			Pass
11 (Peak)	2483.500	30.586	27.409	57.994	74.00	54.00	Pass
11 (Peak)	2487.500	30.605	29.237	59.841	74.00	54.00	Pass
11 (Average)	2461.100	30.476	72.533	103.009			Pass
11 (Average)	2483.500	30.586	18.324	48.909	74.00	54.00	Pass
11 (Average)	2487.900	30.607	20.750	51.356	74.00	54.00	Pass

Figure Channel 11:

VERTICAL (Peak)



Figure Channel 11:

VERTICAL (Average)



- 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	:	SPEAKER DOCK
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps)

RF Radiated Measurement (Horizontal):

	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Dogult
Channel No.	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
01 (Peak)	2390.000	31.739	36.769	68.508	74.00	54.00	Pass
01 (Peak)	2410.000	31.768	74.107	105.875			Pass
01 (Average)	2390.000	31.739	16.750	48.489	74.00	54.00	Pass
01 (Average)	2413.600	31.776	57.897	89.673			Pass

Figure Channel 01:

Horizontal (Peak)





Horizontal (Average)



- 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. "*", 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	:	SPEAKER DOCK
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps)

RF Radiated Measurement (VERTICAL):

	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Dogult
Channel No.	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
01 (Peak)	2389.400	30.271	37.514	67.785	74.00	54.00	Pass
01 (Peak)	2390.000	30.267	35.848	66.115	74.00	54.00	Pass
01 (Peak)	2409.400	30.245	78.288	108.532			Pass
01 (Average)	2390.000	30.267	19.396	49.663	74.00	54.00	Pass
01 (Average)	2410.000	30.244	61.231	91.475			Pass

Figure Channel 01:

VERTICAL (Peak)





VERTICAL (Average)



- 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. "*", 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	:	SPEAKER DOCK
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps)

RF Radiated Measurement (Horizontal):

	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Dogult
Channel No.	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
11 (Peak)	2465.700	31.902	74.905	106.807			Pass
11 (Peak)	2483.500	31.951	40.113	72.063	74.00	54.00	Pass
11 (Peak)	2483.900	31.951	41.428	73.379	74.00	54.00	Pass
11 (Average)	2456.700	31.879	60.107	91.986			Pass
11 (Average)	2483.500	31.951	21.005	52.955	74.00	54.00	Pass

Figure Channel 11:

Horizontal (Peak)



Figure Channel 11:

Horizontal (Average)



- 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. "*", 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	:	SPEAKER DOCK
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps)

RF Radiated Measurement (VERTICAL):

	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Degult
Channel No.	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	BuV/m) (dBuV/m)	
11 (Peak)	2466.700	30.503	77.297	107.800	74.00	54.00	Pass
11 (Peak)	2483.500	30.586	40.323	70.908			Pass
11 (Average)	2460.500	30.473	61.377	91.850	74.00	54.00	Pass
11 (Average)	2483.500	30.586	20.290	50.875			Pass

Figure Channel 11:

VERTICAL (Peak)





VERTICAL (Average)



- 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. "*", 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.

7. Occupied Bandwidth

7.1. Test Equipment

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

Note:

- 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
- 2. The test instruments marked with "X" are used to measure the final test results.

7.2. Test Setup



7.3. Limits

The minimum bandwidth shall be at least 500 kHz.

7.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003; tested according to DTS test procedure of Jan. 2012 KDB558074 for compliance to FCC 47CFR 15.247 requirements. Set RBW = 1-5% of the emission bandwidth, VBW \geq 3*RBW

7.5. Uncertainty

± 150Hz

7.6. Test Result of Occupied Bandwidth

Product	:	SPEAKER DOCK
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2412MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1	2412	13250	>500	Pass

Figure Channel 1:

Agilen	it Spe	ctrun	1 Ani	alyzer - Sw	ept SA			-					
₩ Mar	∟ ker	1 2	RF 2.4	50 Ω 116000	AC 000000	GHz	SI Tuin Fu	ENSE:INT	Avg Ty	ALIGNAUTO pe: Log-Pwr	06:31:55/ TRA	M Jun 05, 2012 E 1 2 3 4 5 6	Marker
					P IF	NO: Fast (Gain:Low	#Atten: 3	e Run 0 dB			D		Select Marker
10 di	B/div	,	Ref	20.00 (dBm					Mkr	1 2.411 7.	60 GHz 56 dBm	1
10.0 0.00						www	2 V	1	Marine 3			1.56 dBm	Normal
-20.0 -30.0 -40.0				1 		<i>(</i> *				Working	Chillow W		Delta
-50.0 -60.0 -70.0	rw L	,,,,,	¥ سئ									19 - Way	Fixed⊳
Cen #Re	ter : s B\	2.41 N 3	20 00	0 GHz kHz	×	#VB	W 1.0 MH2	· ·		Sweep	Span 5 1.00 ms (0.00 MHz 1001 pts)	Off
1 2 3 4 5 6	N N N	1 1 1	f f		2.411 6 2.405 4 2.418 6	60 GHz 10 GHz 65 GHz	7.56 c 0.51 c -0.09 c	IBm IBm IBm					Properties►
7 8 9 10 11													More 1 of 2
MSG		_								STATUS	5		

Product	:	SPEAKER DOCK
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2437MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
6	2437	12150	>500	Pass

Figure Channel 6:

Agile	nt Spe	ectrun	n An	alyzer - Swe	ept SA									
w Mai	⊥ ′ker	1 :	RF 2.4	50 Ω 367000	AC 00000 G	Hz		NSE:INT	Avg T	¢ ype:	LIGN AUTO	06:33:15 A TRAC	M Jun 05, 2012	Marker
					PI IFC	10: Fast G Gain:Low	#Atten: 30	dB				D	PNNNNN	Select Marker
10 d	B/div	,	Ref	20.00 c	lBm						Mkr	1 2.436 9.	70 GHz 62 dBm	1
Log 10.0				_		$ \rightarrow 0 $	2	1	$aab a^3$				3.62 dBm	Normal
0.00 -10.0						mont			a Deserver	2,				Norma
-20.0			_	~		ſ			_	5	1		· · · · · · ·	
-30.0 -40.0	M		1	1 1 mil	W						will	Warny	l minin	Delta
-50.0	~1 II	Ular	"here"	8									י עגרי ערייעט יי	
-50.0														Fixed⊳
Cer	L nter	2.43	370	0 GHz			nara ne selecció			-	191	Span 5	0.00 MHz	
#Re	es B	W 3	00	kHz		#VBV	V 1.0 MHz			;	Sweep	1.00 ms (1001 pts)	Off
	N	1	f		2.436 7	0 GHz	9.62 dl	3m	UNCTION	FUN	JIIUN WIDTH	FUNCTI	JN VALUE	
2 3 4	N	1	f		2.443 1	0 GHz	2.48 di	3m 3m			_			Properties •
567														Toperacar
/ 8 9				9 10										More
10 11										_				1 of 2
MSG										2	STATUS			

Product	:	SPEAKER DOCK
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2462MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
11	2462	12100	>500	Pass

Figure Channel 11:

								ept SA	alyzer - Swe	ctrum Ar	it Spe	lgiler
Marker	M Jun 05, 2012	06:35:15 A TRAC	LIGNAUTO	Avg Type		SEN	Hz	AC 00000 G	50 Ω 616500	1 2.4	∟ ker	ø Mar
Select Marker			Milar) dB	#Atten: 30	iO: Fast 🕞 Gain:Low	PI IFC				
1	65 GH2 79 dBm	9.	IVINI					IBm	f 20.00 d	Re	B/div	10 d
Norma	3.79 dBm			\Diamond^3	1 MMAAR	mmm	() ²					10.0
Norma				Unon has			mont					0.00 -10.0
			1	4			ſ				<u> </u>	20.0
Delta	NAA NAR	MARY-M	Why M					M	MM	11	1	-30.0 -40.0
	MMMMM -		V					*		NUM	willow In	-50.0
Fixed												-60.0 -70.0
	0.00 MHz	Span 5				c. 7			0 GHz	2.4620	L	Cen
Of	1001 pts)	1.00 ms (Sweep			1.0 MHz	#VBW		kHz	N 300	s B\	≠Re
	IN VALUE	FUNCTIO	NCTION WIDTH	CTION FU	FUN Bm	9.79 dE	5 GHz	2.461.6		TRC SOL	N	MKR 1
Properties					Bm	3.00 dE	5 GHz	2.468 0		1 f	N	2 3 4
Toperaca												5
Mor												8
1 of 2												10
			STATUS	L					1			SG

Product	:	SPEAKER DOCK
Test Item	•	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2412MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1	2412	16400	>500	Pass

Figure Channel 1:

Agilent Spect	rum Analyzer - Sw	rept SA						
wu⊥ Marker 1	RF 50 G	2 AC 000000 GHz	SENSE:IN	T Avg Typ	e: Log-Pwr	06:40:05 A TRAC	M Jun 05, 2012 E 1 2 3 4 5 6	Marker
10 dB/div	Ref 20.00	PNO: Fast O IFGain:Low	#Atten: 30 dB		Mkr	1 2.405 5.:	35 GHz 29 dBm	Select Marker
10.0 0.00		<u>A</u>	1	munerell 3			-0.71 dBm	Normal
-20.0 -30.0 -40.0 <mark>John - 14</mark>	apprological	and the second s			www.word.humed	fladhur yr fri	Mrithledagter	Delta
-50.0 -60.0 -70.0								Fixed⊳
Center 2. #Res BW	41200 GHz 300 kHz	#VB	W 1.0 MHz	FUNCTION	Sweep	Span 5 1.00 ms (0.00 MHz 1001 pts) NVALUE	Off
2 N 3 N 4 5 6	1 f 1 f	2.403 80 GHz 2.420 20 GHz	-1.61 dBm -1.51 dBm					Properties▶
8 9 10 11 12								More 1 of 2
MSG					STATUS			

Product	:	SPEAKER DOCK
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2437MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
6	2437	16350	>500	Pass

Figure Channel 6:

								ept SA	alyzer - Swe	trum An	nt Spec	Agile
Marker	M Jun 05, 2012 E 1 2 3 4 5 6	06:38:47 A TRAC	ALIGNAUTO : Log-Pwr	Avg Type	NSE:INT	SE	Hz	AC 00000 G	50 Ω 349000	RF 1 2.4	∟ ker	<mark>,xı</mark> Mar
Select Marker	90 GHz	1 2.434	Mkr		e Run D dB	#Atten: 30	NO: Fast 🕞 Gain:Low	PI IFC				
	56 dBm	5.0						IBm	f 20.00 d	Re	B/div	10 d
Norma	-0.44 dBm			{3	mannen	- Marilinia	2 mar					10.0
			2	hay			June Port	, in the second s				-10.0
Delta	aproximents all and	howwww.	hourseling					monter	watersta	uchabet	www	-30.0 -40.0
Fixed												-50.0 -60.0 -70.0
Of	0.00 MHz 1001 pts)	Span 5 I.00 ms (Sweep			1.0 MHz	#VBW		0 GHz kHz	2.4370 V 300	ter 2 s BV	Cer #Re
	IN VALUE	FUNCTIL	NCTION WIDTH	TIUN FUI	Bm	5.557 d	0 GHz	2.434 9		1 f	N	MKH
Properties					Bm Bm	-0.85 d -0.68 d	0 GHz 5 GHz	2.428 8 2.445 1		1 f	N	23456
Mor 1 of:												7 9 10 11
			STATUS								_	

Product	:	SPEAKER DOCK
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2462MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
11	2462	16300	>500	Pass

Figure Channel 11:

							ept SA	lyzer - Sw	m Ana	Spectru	ilent		
M Jun 05, 2012 E 1 2 3 4 5 6	06:37:26 Al TRAC	ALIGNAUTO : Log-Pwr	Avg Type	NSE:INT	SEI	Hz	AC 00000 G	50 Ω	RF 2.46	er 1	L ark		
35 GHz	2.468	Mkr1		e Run)dB	#Atten: 30	NO: Fast 🕞 Gain:Low	PI IFC						
12 dBm	6.4		T.1		2	1	dBm	20.00 (Ref	div	od Ba		
0.42 dBm			1 3	monum	mmm	Julan			_		10.0).00 =		
			he h	<i></i>		J.					0.0		
Venyolecom	and the property of the second	Contrapolicies					wordhite	up hor washing	ntrin	roladir	20.0 20.0 40.0		
											i0.0 - i0.0 - '0.0 -		
0.00 MHz 1001 pts)	Span 5 .00 ms ('	Sweep 1			1.0 MHz	#VBV) GHz (Hz	6200 300 k	er 2.40 BW 3	ente Res		
N VALUE	FUNCTIO	NCTION WIDTH	CTION FU	FUN Bm	¥ 6.42 di	5 GHz	× 2.468 3		SCL	ide tro N 1	KR MO		
				Bm Bm	-0.12 di -0.12 di	5 GHz 5 GHz	2.453 8 2.470 1		f	N 1 N 1	2 3 4 5 6		
			6	-				s			7		
	MJUND5,2012 E 1123456 E MWWWWWW 35 GHz 12 dBm 0.42 dBm 0.42 dBm 0.42 dBm 0.42 dBm	06:37:26 AM Jun 05, 2012 TRACE 1 2 3 4 5 6 TYPE MINNINN 2.468 35 GHz 6.42 dBm 0.42 dBm 0.42 dBm 0.42 dBm 0.42 dBm 0.42 dBm 0.42 dBm 0.42 dBm 0.42 dBm	ALIGNAUTO DG:37:26 AM Jun 05, 2012 E: Log-Pwr TRACE 11 2 3 4 5 6 TYPE MWWWWW DET P N N N N Mkr1 2.468 35 GHz 6.42 dBm 0.42 dBm 0.4	ALIGNAUTO [06:37:26 AM Jun 05, 2012] Avg Type: Log-Pwr TRACE [1 2 3 4 5 6 TYPE Mkr1 2.468 35 GHz 6.42 dBm 0.42 dBm 0.42 dBm 0.42 dBm 1 3 0.42 dBm Span 50.00 MHz Span 50.00 MHz Sweep 1.00 ms (1001 pts) EUNCTION VALUE	ALIGNAUTO [06:37:26AM Jun 05, 2012] Avg Type: Log-Pwr TRACE [1 2 3 4 5 6 Run TYPE MWWWWW JB Mkr1 2.468 35 GHz 6.42 dBm 6.42 dBm J J <td>SENSE:INT ALIGNAUTO 06:37:26 AM Jun 05, 2012 Avg Type: Log-Pwr TRACE [1 2 3 4 5 6 Trig: Free Run Mkr1 2.468 35 GHz 6.42 dBm 042 dBm 0 1 1 0 1</td> <td>SENSE:INT ALIGNAUTO 06:37:26AM Jun 05, 2012 HZ Trig: Free Run #Atten: 30 dB Trig: Free Run #Atten: 30 dB Trig: Free Run #Atten: 30 dB Mkr1 2.468 35 GHz 6.42 dBm 2 1 3 0.42 dBm 2 1 3 0.42 dBm 3 0.42 dBm 0 0 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 5 5 6 4 4 4 5 6 4 4 4 4 5<!--</td--><td>AC SENSEINT ALIGNAUTO 06:37:26AM Jun05, 2012 100000 GHz PN0: Fast PN0: Free Run #Atten: 30 dB Mkr1 2.468 35 GHz 6.42 dBm 0.42 dBm</td><td>lyzer - Swept SA S0 Q AC SENSE:INT ALIGNAUTO 06:37:26 AM Jun 05, 2012 28350000000 GHz Trig: Free Run Avg Type: Log-Pwr TRACE [1 2 3 4 5 6 TYPE MWWWWW PN0: Fast #Atten: 30 dB Mkr1 2.468 35 GHz 6.42 dBm 20.00 dBm 0.42 dBm 0.42 dBm 0.42 dBm 20.00 dBm 2 1 3 0.42 dBm 20.00 dBm 2 1 3 0.42 dBm 0 2 1 3 0.42 dBm</td><td>n Analyzer - Swept SA PF 50 & AC SENSE:INT ALIGNAUTO 06:37:26 AM Jun05, 2012 2.46835000000 GHz Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 2.468 35 GHz 6.42 dBm 6.42 dBm 0.42 dbm 0.42 dbm 1.41 dbm</td><td>Spectrum Analyzer - Swept SA RF 50 Q AC ALIGNAUTO 06:37:26AM Jun05, 2012 Arg Type: Log-Pwr TRACE [1 2 3 4 5 6 PN0: Fast Infig: Free Run IFGain:Low Arg Type: Log-Pwr TRACE [1 2 3 4 5 6 OB: 7:26AM Jun05, 2012 Arg Type: Log-Pwr TRACE [1 2 3 4 5 6 TYPE [MWWWWW MKr1 2.468 35 GHz OB: 7:26AM Jun05, 2012 MKr1 2.468 35 GHz OB: 7:26AM Jun05, 2012 MKr1 2.468 35 GHz OB: 7:26AM Jun05, 2012 MKr1 2.468 35 GHz OL: 7:26AM Jun05, 2012 MM Jun05, 2012 MM Jun05, 2012 Span 50.00 MHz Span 50.00 MHz Span 50.00 MHz <th <="" colspan="2" td=""></th></td></td>	SENSE:INT ALIGNAUTO 06:37:26 AM Jun 05, 2012 Avg Type: Log-Pwr TRACE [1 2 3 4 5 6 Trig: Free Run Mkr1 2.468 35 GHz 6.42 dBm 042 dBm 0 1 1 0 1	SENSE:INT ALIGNAUTO 06:37:26AM Jun 05, 2012 HZ Trig: Free Run #Atten: 30 dB Trig: Free Run #Atten: 30 dB Trig: Free Run #Atten: 30 dB Mkr1 2.468 35 GHz 6.42 dBm 2 1 3 0.42 dBm 2 1 3 0.42 dBm 3 0.42 dBm 0 0 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 5 5 6 4 4 4 5 6 4 4 4 4 5 </td <td>AC SENSEINT ALIGNAUTO 06:37:26AM Jun05, 2012 100000 GHz PN0: Fast PN0: Free Run #Atten: 30 dB Mkr1 2.468 35 GHz 6.42 dBm 0.42 dBm</td> <td>lyzer - Swept SA S0 Q AC SENSE:INT ALIGNAUTO 06:37:26 AM Jun 05, 2012 28350000000 GHz Trig: Free Run Avg Type: Log-Pwr TRACE [1 2 3 4 5 6 TYPE MWWWWW PN0: Fast #Atten: 30 dB Mkr1 2.468 35 GHz 6.42 dBm 20.00 dBm 0.42 dBm 0.42 dBm 0.42 dBm 20.00 dBm 2 1 3 0.42 dBm 20.00 dBm 2 1 3 0.42 dBm 0 2 1 3 0.42 dBm</td> <td>n Analyzer - Swept SA PF 50 & AC SENSE:INT ALIGNAUTO 06:37:26 AM Jun05, 2012 2.46835000000 GHz Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 2.468 35 GHz 6.42 dBm 6.42 dBm 0.42 dbm 0.42 dbm 1.41 dbm</td> <td>Spectrum Analyzer - Swept SA RF 50 Q AC ALIGNAUTO 06:37:26AM Jun05, 2012 Arg Type: Log-Pwr TRACE [1 2 3 4 5 6 PN0: Fast Infig: Free Run IFGain:Low Arg Type: Log-Pwr TRACE [1 2 3 4 5 6 OB: 7:26AM Jun05, 2012 Arg Type: Log-Pwr TRACE [1 2 3 4 5 6 TYPE [MWWWWW MKr1 2.468 35 GHz OB: 7:26AM Jun05, 2012 MKr1 2.468 35 GHz OB: 7:26AM Jun05, 2012 MKr1 2.468 35 GHz OB: 7:26AM Jun05, 2012 MKr1 2.468 35 GHz OL: 7:26AM Jun05, 2012 MM Jun05, 2012 MM Jun05, 2012 Span 50.00 MHz Span 50.00 MHz Span 50.00 MHz <th <="" colspan="2" td=""></th></td>	AC SENSEINT ALIGNAUTO 06:37:26AM Jun05, 2012 100000 GHz PN0: Fast PN0: Free Run #Atten: 30 dB Mkr1 2.468 35 GHz 6.42 dBm 0.42 dBm	lyzer - Swept SA S0 Q AC SENSE:INT ALIGNAUTO 06:37:26 AM Jun 05, 2012 28350000000 GHz Trig: Free Run Avg Type: Log-Pwr TRACE [1 2 3 4 5 6 TYPE MWWWWW PN0: Fast #Atten: 30 dB Mkr1 2.468 35 GHz 6.42 dBm 20.00 dBm 0.42 dBm 0.42 dBm 0.42 dBm 20.00 dBm 2 1 3 0.42 dBm 20.00 dBm 2 1 3 0.42 dBm 0 2 1 3 0.42 dBm	n Analyzer - Swept SA PF 50 & AC SENSE:INT ALIGNAUTO 06:37:26 AM Jun05, 2012 2.46835000000 GHz Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 2.468 35 GHz 6.42 dBm 6.42 dBm 0.42 dbm 0.42 dbm 1.41 dbm	Spectrum Analyzer - Swept SA RF 50 Q AC ALIGNAUTO 06:37:26AM Jun05, 2012 Arg Type: Log-Pwr TRACE [1 2 3 4 5 6 PN0: Fast Infig: Free Run IFGain:Low Arg Type: Log-Pwr TRACE [1 2 3 4 5 6 OB: 7:26AM Jun05, 2012 Arg Type: Log-Pwr TRACE [1 2 3 4 5 6 TYPE [MWWWWW MKr1 2.468 35 GHz OB: 7:26AM Jun05, 2012 MKr1 2.468 35 GHz OB: 7:26AM Jun05, 2012 MKr1 2.468 35 GHz OB: 7:26AM Jun05, 2012 MKr1 2.468 35 GHz OL: 7:26AM Jun05, 2012 MM Jun05, 2012 MM Jun05, 2012 Span 50.00 MHz Span 50.00 MHz Span 50.00 MHz <th <="" colspan="2" td=""></th>		

8. Power Density

8.1. Test Equipment

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

Note:

- 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
- 2. The test instruments marked with "X" are used to measure the final test results.

8.2. Test Setup



8.3. Limits

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

8.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003; tested according to DTS test procedure of Jan. 2012 KDB558074 for compliance to FCC 47CFR 15.247 requirements. Set RBW= 100 kHz, VBW \geq 300KHz, SPAN to 5-30 % greater than the EBW, Scale the observed power level to an equivalent value in 3 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where BWCF = 10log (3 kHz/100 kHz = -15.2 dB).

8.5. Uncertainty

 \pm 1.27 dB

8.6. Test Result of Power Density

Product	:	SPEAKER DOCK
Test Item	:	Power Density Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2412MHz)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	-8.215	< 8dBm	Pass

Figure Channel 1:

Agiler	it Spectri	ım Analyzer - Sw	ept SA									
⊯ Mar	د ker 1	RF 50 Ω 2.4129800	AC 000000 G	iHz	SE		Avg Type	ALIGNAUTO	06:45:18 A TRAC	M Jun 05, 2012 E 1 2 3 4 5 6	F	² eak Search
10 di Log	B/div	Ref Offset -1 Ref 4.80 di	5.2 dB Bm	NO: Fast C	#Atten: 3	D dB		Mkr	^{ته} 1 2.412 -8.2	98 GHz 15 dBm	P	Peak Criteria►
-5.20					0.0.0	↓ 1	100.					PeakTable►
-15.2		man	V	han	www.			\sim	ww	L ₁		Continuous Peak Search
-25.2	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~									N N	on	ОП
-45.2										21		
-55.2												Pk-Pk Search
-65.2			2									Min Search
-85.2												
Cen #Re	ter 2.4	1200 GHz		#\/R\/	300 kHz			Sween	Span 2	0.00 MHz		More 2 of 2
MSG	3 674			#VDV	000 M12			STATUS	1.50 115 (1001 pt3)		

Product	:	SPEAKER DOCK
Test Item	:	Power Density Data
Test Site	:	No.3OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2437MHz)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
6	2437	-8.028	< 8dBm	Pass

Figure Channel 6:

Agilent Spectr	um Analyzer - Swept SA	01. 11.						
Center F	req 2.43700000) GHz	SENSE:IN	T Avg Type	LIGNAUTO	06:46:03 A TRAC	M Jun 05, 2012 E 1 2 3 4 5 6	Frequency
10 dB/div	Ref Offset -15.2 dB Ref 4.80 dBm	PNO: Fast 🦕 IFGain:Low	^a Trig: Free Run #Atten: 30 dB	Avg Hold:	>100/100 Mkr1	L 2.437 -8.02	48 GHz 28 dBm	Auto Tune
-5.20		1 mm	m fi	man	Λ_Λ			Center Fre 2.437000000 GH
-15.2	Martin					- And	L.	Start Fre 2.427000000 GH
-45.2								Stop Fre 2.447000000 GH
65.2								CF Ste 2.000000 MH <u>Auto</u> Ma
75.2								Freq Offs 0 F
Center 2.4	43700 GHz 100 kHz	#VBW	300 kHz		Sweep	Span 2 1.93 ms (0.00 MHz 1001 pts)	
ISG					STATUS		•	1

Product	:	SPEAKER DOCK
Test Item	:	Power Density Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2462MHz)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
11	2462	-7.870	< 8dBm	Pass

Figure Channel 11:

Agilent	Spectrum Analyzer -	Swept SA								
Cent	er Freg 2.462	DΩ AC	Hz	SE	NSE:INT	Avg Type	ALIGNAUTO : Log-Pwr	06:46:27 A TRAC	M Jun 05, 2012 E 1 2 3 4 5 6	Frequency
10 dB	Ref Offset /div Ref 4.80	PI IF(-15.2 dB dBm	NO: Fast 😱 Gain:Low	d Trig: Free #Atten: 30	e Run) dB	Avg Hold:	-100/100 Mkr	۳۲ 06 1 2.460 -7.8	98 GHz 70 dBm	Auto Tune
-5.20 -			I A AAS	1 wr M	Mar	WA NI				Center Freq 2.462000000 GHz
-15.2 - -25.2 -	MAN			1	/			W.	Wy.	Start Freq 2.452000000 GHz
-35.2 - -45.2 -										Stop Freq 2.472000000 GHz
-55.2 - -65.2 -										CF Step 2.000000 MHz <u>Auto</u> Man
-75.2 -										Freq Offset 0 Hz
-85.2 -	er 2 46200 CHz							Snan 2	0.00 MHz	
#Res	BW 100 kHz	-	#VBW	300 kHz			Sweep ′	1.93 ms (1001 pts)	
MSG							STATUS			

Product	:	SPEAKER DOCK
Test Item	:	Power Density Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2412MHz)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	-13.019	< 8dBm	Pass

Figure Channel 1:

Agilent Spect	rum Analyzer - Swept S	5A					50		
	RF 50 Ω Α	.C	SE	NSE:INT	Avg Type	ALIGNAUTO	06:48:21 A TRAC	M Jun 05, 2012 E 1 2 3 4 5 6	Trace/Det
10 dB/div	Ref Offset -15.2 o Ref 4.80 dBm	PNO: Fast 🖵 IFGain:Low dB	#Atten: 30	dB	Avg Hold:	Mkr	1 2.418 -13.0	28 GHz 19 dBm	Select Trace Trace 1
-5.20							∳ ¹		Clear Write
-15.2	professionalities	rolowing	www.	Juliu	Mmm	mmlunn	Mun	M lq	Trace Average
-35.2								Wind Ville	Max Hold
-55.2									Min Hold
-75.2									View/Blank Trace On
Center 2 #Res BW	41200 GHz 100 kHz	#VBW	/ 300 kHz			Sweep	Span 2 1.93 ms (0.00 MHz 1001 pts)	More 1 of 3
MSG						STATUS			

Product	:	SPEAKER DOCK
Test Item	:	Power Density Data
Test Site	:	No.3OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2437MHz)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
6	2437	-11.382	< 8dBm	Pass

Figure Channel 6:

Agilent Spect	rum Analyzer - Swept SA								18
Center F	RF 50 Ω AC) GHz		ISE:INT	Avg Type	ALIGNAUTO	06:51:45 A	M Jun 05, 2012 E 1 2 3 4 5 6	Frequency
10 dB/div	Ref Offset -15.2 dB Ref 4.80 dBm	PNO: Fast 🖵 IFGain:Low	#Atten: 30	dB	Avg Hold:	Mkr1	2.434 -11.3	50 GHz 82 dBm	Auto Tune
-5.20		∳ 1							Center Freq 2.437000000 GHz
-15.2	monarcharanth	erand from the	Apany	porto	whan Mult	hoyphyl yng gang	Munh	n 4	Start Fred 2.427000000 GHz
-35.2								Mar Andrewski and	Stop Fred 2.447000000 GHz
-55.2									CF Step 2.000000 MH <u>Auto</u> Mar
-75.2									Freq Offset 0 Hz
Center 2. #Res BW	43700 GHz 100 kHz	#VBW	300 kHz			Sweep 1	Span 2 .93 ms (0.00 MHz 1001 pts)	

Due due 4		CDEAKED DOCK
Product	:	SPEAKER DUCK
Test Item	:	Power Density Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2462MHz)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
11	2462	-13.191	< 8dBm	Pass

Figure Channel 11:

Agilent Sp	ectrum Analyzer - Swept SA								
Kørter Center	RF 50 Ω AC r Freq 2.46200000	0 GHz	SEI		Avg Type Avg/Hold:	ALIGNAUTO : Log-Pwr >100/100	06:47:05 A TRAC TYI	M Jun 05, 2012 E 1 2 3 4 5 6 E M WWWWW	Frequency
10 dB/di	Ref Offset -15.2 dB v Ref 4.80 dBm	IFGain:Low	#Atten: 30	dB		Mkr	⊓ 1 2.468 -13.1	28 GHz 91 dBm	Auto Tune
-5.20 —							∳ ¹		Center Freq 2.462000000 GHz
-15.2 — -25.2 —	Anglen Werman Man	ulunadanta	van ballour V	Junitra	Marrows	www	Amanda	h.	Start Freq 2.452000000 GHz
-35.2 	popular							^{Volut} ul ^{Vit} ul	Stop Freq 2.472000000 GHz
-55.2 — -65.2 —									CF Step 2.000000 MHz <u>Auto</u> Man
-75.2 —									Freq Offset 0 Hz
-85.2 Center	2.46200 GHz						Span 2	0.00 MHz	
#Res B	SW 100 kHz	#VBW	300 kHz			Sweep '	1.93 ms (1001 pts)	

9. EMI Reduction Method During Compliance Testing

No modification was made during testing.