

Product Name	DOCK FOR iPhone/iPad WITH AirPlay
Model No	DMI-40.4, DS-A5
FCC ID.	PPQ-DSA5

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

Date of Receipt	June 25, 2012
Issue Date	July 12, 2012
Report No.	126416R-RFUSP42V01
Report Version	V1.0



The test results relate only to the samples tested.

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# Test Report Certification

Issue Date: July 12, 2012 Report No.: 126416R-RFUSP42V01



Accredited by NIST (NVLAP)

NVLAP Lab Code: 200533-0

Product Name	DOCK FOR iPhone/iPad WITH AirPlay				
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.	DMI-40.4, DS-A5				
FCC ID.	PPQ-DSA5				
EUT Rated Voltage	AC 100-240V, 50/60Hz				
EUT Test Voltage	AC 120V/60Hz				
Trade Name	Integra, ONKYO				
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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nita Chon Documented By : (Senior Engineering Adm. Specialist / Anita Chou) incent chu Tested By (Assistant Engineer / Vincent Chu) Approved By :

(Manager / Vincent Lin)

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# 1. GENERAL INFORMATION

# 1.1. EUT Description

Product Name	DOCK FOR iPhone/iPad WITH AirPlay			
Trade Name	Integra, ONKYO			
Model No.	DMI-40.4, DS-A5			
FCC ID.	PPQ-DSA5			
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	Dipole Antenna			
Antenna Gain	Refer to the table "Antenna List"			
Channel Control	Auto			
Audio Cable	Non-Shielded, 1.2m			
RCA Cable	Non-Shielded, 1.2m			
Power Adapter	MFR: APD, M/N: WA-15C05R			
	Input: AC 100-240V~50-60Hz, 0.5A			
	Output: DC 5V, 3A			
	Cable Out: Non-shielded, 1.5m			

#### Antenna List

No.	Manufacturer	Model No.	Peak Gain
1	MAG.LAYERS	EDA-6309-2G4C1-A1	2.35 dBi for 2.4GHz

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 DOCK FOR iPhone/iPad WITH AirPlay 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 each model is shown as below:

Model Number	Description		
DMI-40.4	Trade Name: Integra		
DS-A5	Trade Name: ONKYO		

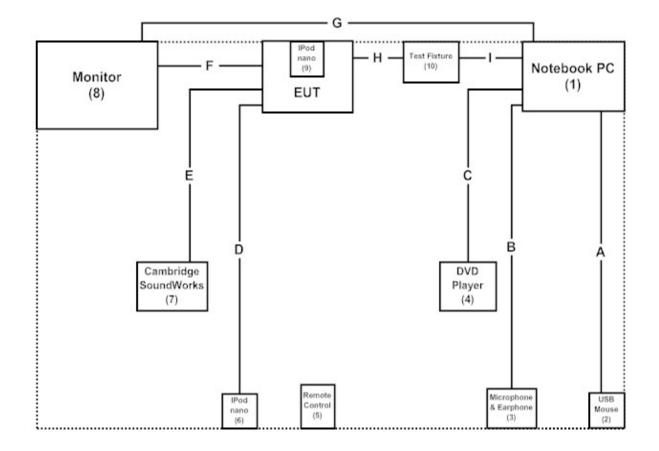
Test Mode:	Mode 1: Transmit (802.11b 1Mbps)
	Mode 2: Transmit (802.11g 6Mbps)

# **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.	FCC ID	Power Cord
1	Notebook PC	DELL	PPT	N/A	DoC	Non-Shielded, 0.8m
2	USB Mouse	Logitech	M-BE58	LZE20852002	DoC	N/A
3	Microphone & Earphone	РСНОМЕ	N/A	N/A	N/A	N/A
4	DVD Player	DELL	PD01S	N/A	N/A	N/A
5	Remote Control	Lite-on	N/A	N/A	N/A	N/A
6	IPod nano	Apple	A1199	SU7047UXVQ5	N/A	N/A
7	Cambridge SoundWorks	Creative	S80130	AM01303200000941	N/A	Non-Shielded, 1.9m
8	Monitor	CHIMEI	N-5221	22T51802N0401	DoC	Non-Shielded, 1.8m
9	IPod nano	Apple	A1199	YM709R27VQ5	N/A	N/A
10	Test Fixture	Lite-on	N/A	N/A	N/A	N/A

	Signal Cable Type	Signal cable Description
А	USB Cable	Shielded, 1.8m
В	Microphone & Earphone Cable	Non-Shielded, 2.0m
С	DVD Player Cable	Shielded, 0.5m
D	Audio Cable	Shielded, 1.2m
Е	Fiber Cable	Non-Shielded, 1.8m
F	RCA Cable	Non-Shielded, 1.2m
G	VGA Cable	Shielded, 1.8m, with two ferrite cores bonded.
Н	Test Fixture Cable	Non-Shielded, 0.15m
Ι	RS-232 Cable	Non-Shielded, 2.0m



# **1.4.** Configuration of Tested System

# **1.5.** EUT Exercise Software

- (1) Setup the EUT as shown in section 1.4.
- (2) Execute HyperTerminal.exe 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

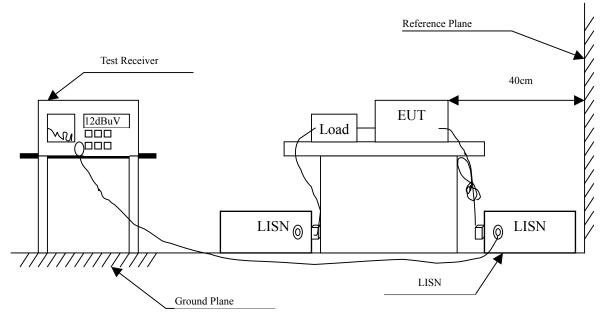
#### 2.1. Test Equipment

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 Room	m		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	I	limits			
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	:	DOCK FOR iPhone/iPad WITH AirPlay
Test Item	:	Conducted Emission Test
Power Line	:	Line 1
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2437MHz)

Frequency	Correct	Reading	Reading Measurement		Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV	dB	dBuV
Line 1					
Quasi-Peak					
0.150	9.720	47.690	57.410	-8.590	66.000
0.197	9.689	42.150	51.839	-12.818	64.657
0.252	9.656	37.040	46.696	-16.390	63.086
0.502	9.640	36.570	46.210	-9.790	56.000
5.818	9.710	19.960	29.670	-30.330	60.000
17.662	9.890	23.320	33.210	-26.790	60.000
Average					
0.150	9.720	38.350	48.070	-7.930	56.000
0.197	9.689	33.270	42.959	-11.698	54.657
0.252	9.656	34.710	44.366	-8.720	53.086
0.502	9.640	28.560	38.200	-7.800	46.000
5.818	9.710	15.030	24.740	-25.260	50.000
17.662	9.890	16.790	26.680	-23.320	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	: DOCK FOR iPhone/iPad WITH AirPlay							
Test Item Power Line	<ul> <li>Conducted Emission Test</li> <li>Line 2</li> </ul>							
Test Mode								
Test Widde	. Wode 2.	11alisiint (002.11	g 0100ps) (2+5710112	.)				
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV	dB	dBuV			
Line 2								
Quasi-Peak								
0.150	9.730	46.760	56.490	-9.510	66.000			
0.197	9.689	40.490	50.179	-14.478	64.657			
0.248	9.657	35.540	45.197	-18.003	63.200			
0.498	9.650	33.040	42.690	-13.367	56.057			
5.611	9.730	19.660	29.390	-30.610	60.000			
18.412	10.060	21.590	31.650	-28.350	60.000			
Average								
0.150	9.730	37.690	47.420	-8.580	56.000			
0.197	9.689	33.400	43.089	-11.568	54.657			
0.248	9.657	25.810	35.467	-17.733	53.200			
0.498	9.650	30.250	39.900	-6.157	46.057			
5.611	9.730	12.100	21.830	-28.170	50.000			
18.412	10.060	16.470	26.530	-23.470	50.000			

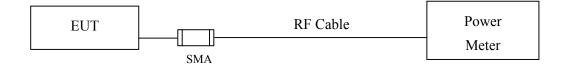
- 1. All Reading Levels are Quasi-Peak and average value.
- 2. "means the worst emission level.
- 3. Measurement Level = Reading Level + Correct Factor

#### 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 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.					

#### 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

± 1.27 dB

# **3.6.** Test Result of Peak Power Output

Product	:	DOCK FOR iPhone/iPad WITH AirPlay
Test Item	:	Peak Power Output Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps)

Channel No	Frequency	Average Power For different Data Rate (Mbps)			Peak Power	Required	Result	
Channel No	(MHz)	1	2	5.5	11	1	Limit	Kesun
			Measur	ement Lev	vel (dBm)			
01	2412	15.60				18.14	<30dBm	Pass
06	2437	15.82	15.75	15.62	15.51	18.28	<30dBm	Pass
11	2462	15.87				18.37	<30dBm	Pass

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

Product	:	DOCK FOR iPhone/iPad WITH AirPlay
Test Item	:	Peak Power Output Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps)

	Engeneration		Average PowerPeakFor different Data Rate (Mbps)Power						Dequired			
Channel No	Frequency (MHz)	6	9	12	18	24	36	48	54	6	Required Limit	Result
Measurement Level (dBm)												
01	2412	12.26							-	22.01	<30dBm	Pass
06	2437	12.17	12.05	11.95	11.86	11.75	11.64	11.53	11.45	22.48	<30dBm	Pass
11	2462	12.01								21.93	<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:

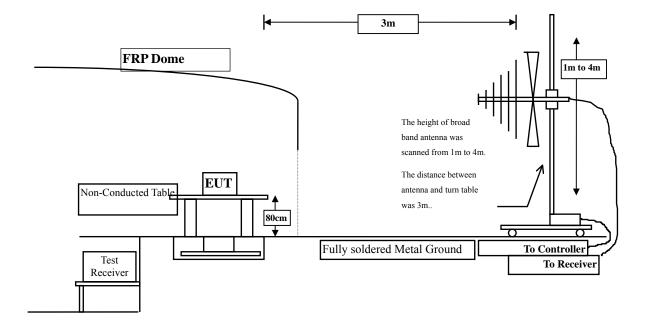
Test Site	Equipment		Manufacturer	Model No./Serial No.	Last Cal.
Site # 3	Х	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2011
	Х	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2011
	Х	Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2012
	Х	Pre-Amplifier	Agilent	8447D/2944A09549	Sep., 2011
	Х	Spectrum 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.

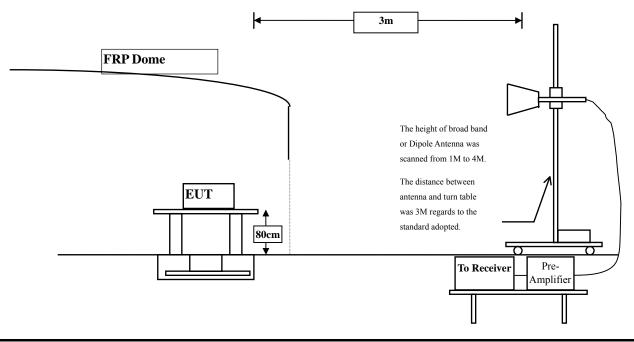
2. The test instruments marked with "X" are used to measure the final test results.

#### 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	:	DOCK FOR iPhone/iPad WITH AirPlay
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2412MHz)

Correct	Reading	Measurement	Margin	Limit
Factor	Level	Level		
dB	dBuV	dBuV/m	dB	dBuV/m
0.428	41.340	41.769	-32.231	74.000
7.177	38.910	46.087	-27.913	74.000
8.019	39.620	47.640	-26.360	74.000
0.836	41.000	41.837	-32.163	74.000
7.676	40.700	48.376	-25.624	74.000
8.556	39.760	48.317	-25.683	74.000
	Factor dB 0.428 7.177 8.019 0.836 7.676	Factor         Level           dB         dBuV           0.428         41.340           7.177         38.910           8.019         39.620           0.836         41.000           7.676         40.700	Factor         Level         Level           dB         dBuV         dBuV/m           0.428         41.340         41.769           7.177         38.910         46.087           8.019         39.620         47.640           0.836         41.000         41.837           7.676         40.700         48.376	Factor         Level         Level           dB         dBuV         dBuV/m         dB           0.428         41.340         41.769         -32.231           7.177         38.910         46.087         -27.913           8.019         39.620         47.640         -26.360           0.836         41.000         41.837         -32.163           7.676         40.700         48.376         -25.624

#### **Average Detector:**

--

- 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	: DOCK FOR iPhone/iPad WITH AirPlay							
Test Item	: Harmonic Radiated Emission Data							
Test Site	te : No.3 OATS							
Test Mode	: Mode 1: Transmit (802.11b 1Mbps) (2437 MHz)							
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
<b>Peak Detector:</b>								
4874.000	0.076	41.310	41.387	-32.613	74.000			
7311.000	7.512	38.350	45.862	-28.138	74.000			
9748.000	7.630	39.000	46.630	-27.370	74.000			
Average Detector:								
Vertical								
<b>Peak Detector:</b>								
4874.000	0.532	41.520	42.052	-31.948	74.000			
7311.000	8.089	38.970	47.059	-26.941	74.000			
9748.000	8.266	38.740	47.007	-26.993	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	: DOCK FOR iPhone/iPad WITH AirPlay						
Test Item	: Harmonic Radiated Emission Data						
Test Site	: No.3 OATS						
Test Mode	: Mode 1:	Transmit (802.11	b 1Mbps) (2462 MH	z)			
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
<b>Peak Detector:</b>							
4924.000	0.191	41.420	41.611	-32.389	74.000		
7386.000	8.373	37.940	46.314	-27.686	74.000		
9848.000	7.964	39.010	46.974	-27.026	74.000		
Average Detector:							
Vertical							
<b>Peak Detector:</b>							
4924.000	0.805	41.550	42.355	-31.645	74.000		
7386.000	9.180	38.010	47.190	-26.810	74.000		
9848.000	8.801	39.350	48.151	-25.849	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 Test Item Test Site Test Mode	<ul> <li>DOCK FOR iPhone/iPad WITH AirPlay</li> <li>Harmonic Radiated Emission Data</li> <li>No.3 OATS</li> <li>Mode 2: Transmit (802.11g 6Mbps) (2412MHz)</li> </ul>							
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
Peak Detector:								
4824.000	0.428	41.120	41.549	-32.451	74.000			
7236.000	7.177	39.330	46.507	-27.493	74.000			
9648.000	8.019	39.570	47.590	-26.410	74.000			
Average Detector:								
Vertical								
Peak Detector:								
4824.000	0.836	41.520	42.357	-31.643	74.000			
7236.000	7.676	38.980	46.656	-27.344	74.000			
9648.000	8.556	39.340	47.897	-26.103	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 Test Item Test Site Test Mode	<ul> <li>DOCK FOR iPhone/iPad WITH AirPlay</li> <li>Harmonic Radiated Emission Data</li> <li>No.3 OATS</li> <li>Mode 2: Transmit (802.11g 6Mbps) (2437 MHz)</li> </ul>							
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
<b>Peak Detector:</b>								
4874.000	0.076	41.480	41.557	-32.443	74.000			
7311.000	7.512	38.500	46.012	-27.988	74.000			
9748.000	7.630	39.420	47.050	-26.950	74.000			
Average Detector:								
Peak Detector:								
4874.000	0.532	41.950	42.482	-31.518	74.000			
7311.000	8.089	38.980	47.069	-26.931	74.000			
9748.000	8.266	38.970	47.237	-26.763	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	: DOCK FOR iPhone/iPad WITH AirPlay						
Test Item	: Harmonic Radiated Emission Data						
Test Site	: No.3 OATS						
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	41.850	42.041	-31.959	74.000		
7386.000	8.373	38.910	47.284	-26.716	74.000		
9848.000	7.964	40.330	48.294	-25.706	74.000		
Average Detector:							
Vertical							
Peak Detector:							
4924.000	0.805	41.940	42.745	-31.255	74.000		
7386.000	9.180	38.830	48.010	-25.990	74.000		
9848.000	8.801	41.850	50.651	-23.349	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 Test Item Test Site Test Mode	<ul> <li>DOCK FOR iPhone/iPad WITH AirPlay</li> <li>General Radiated Emission Data</li> <li>No.3 OATS</li> <li>Mode 1: Transmit (802.11b 1Mbps)(2437 MHz)</li> </ul>							
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
319.060	-4.585	43.511	38.926	-7.074	46.000			
431.580	0.757	37.690	38.447	-7.553	46.000			
602.300	3.794	35.424	39.218	-6.782	46.000			
745.860	3.906	34.449	38.355	-7.645	46.000			
881.660	6.789	30.570	37.359	-8.641	46.000			
961.200	6.810	33.179	39.989	-14.011	54.000			
Vertical								
253.100	-5.039	44.070	39.031	-6.969	46.000			
400.540	-2.868	39.088	36.220	-9.780	46.000			
480.080	-3.390	38.846	35.456	-10.544	46.000			
602.300	1.704	34.759	36.463	-9.537	46.000			
769.140	2.558	34.432	36.990	-9.010	46.000			
961.200	3.310	30.226	33.536	-20.464	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.

Product Test Item Test Site Test Mode	<ul> <li>DOCK FOR iPhone/iPad WITH AirPlay</li> <li>General Radiated Emission Data</li> <li>No.3 OATS</li> <li>Mode 2: Transmit (802.11g 6Mbps)(2437 MHz)</li> </ul>							
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
239.520	-6.878	43.686	36.808	-9.192	46.000			
400.540	0.942	34.853	35.795	-10.205	46.000			
602.300	3.794	36.408	40.202	-5.798	46.000			
720.640	3.826	35.458	39.284	-6.716	46.000			
875.840	5.816	31.014	36.830	-9.170	46.000			
961.200	6.810	34.534	41.344	-12.656	54.000			
Vertical								
375.320	0.388	35.480	35.868	-10.132	46.000			
480.080	-3.390	38.470	35.080	-10.920	46.000			
602.300	1.704	35.192	36.896	-9.104	46.000			
769.140	2.558	33.727	36.285	-9.715	46.000			
881.660	1.379	33.089	34.468	-11.532	46.000			
961.200	3.310	30.909	34.219	-19.781	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

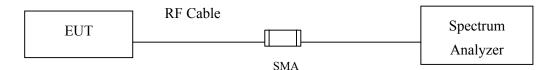
	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2012
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2012
Х	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2012

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	:	DOCK FOR iPhone/iPad WITH AirPlay
Test Item	:	RF antenna conducted test
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps)

#### Channel 01 (2412MHz)

🛙 Agilent Spectrum Analyz	er - Swept SA						10		
K/RL 50Ω		A	C SEI	VSE:INT		ALIGN AUTO		AM Jul 09, 2012	Frequency
Center Freq 515	Input: RF P	IZ NO: Fast 😱 Gain:Low	Trig: Free #Atten: 30		AVG Type	: Log-Pwr	TYP	E 1 2 3 4 5 6 E MWWWWW T P N N N N N	
10 dB/div <b>Ref 20.</b>	00 dBm					Mkr		67 MHz 02 dBm	Auto Tune
									Center Fre
10.0									515.000000 MH
0.00									Start Fre
10.0									30.000000 MH
20.0								-15.89 dBm	
									Stop Fre
30.0									1.00000000 GI
40.0					-				CF Ste
									97.000000 MI Auto Mi
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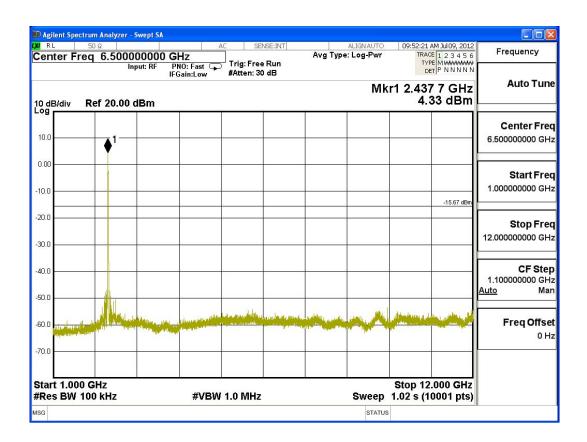
🗊 Agilent Spectrum Analyzer - Sv					
X RL 50 Ω Center Freq 6.50000 Ιηρι	it: RF PNO: Fast 😱 Tri	g: Free Run	ALIGNAUTO vg Type: Log-Pwr	09:40:26 AM Jul 09, 2012 TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P N N N N N	Frequency
10 dB/div Ref 20.00 dl	IFGain:Low #At	ten: 30 dB	Mk	r1 2.414 6 GHz 4.11 dBm	Auto Tune
10.0					Center Fred 6.500000000 GHz
-10.0				-15.89 dBm	Start Free 1.000000000 GH:
-20.0					Stop Free 12.000000000 GH
-40.0					<b>CF Ste</b> 1.100000000 GH <u>Auto</u> Ma
Constanting of the second second	han the state of t				Freq Offse 0 H
-70.0 Start 1.000 GHz #Res BW 100 kHz	#VBW 1.0	MHz	Sweep	Stop 12.000 GHz 1.02 s (10001 pts)	
NSG			STATUS		

Agilent Spectrum Analyzer - S						
RL 50 Ω enter Freg 18.5000		C SENSE:INT	Ava Tv	ALIGNAUTO pe: Log-Pwr	09:41:39 AM Jul 09, 2012 TRACE 1 2 3 4 5 6	Frequency
	ut: RF PNO: Fast 😱 IFGain:Low	Trig: Free Run #Atten: 30 dB			DET P N N N N N	
0 dB/div Ref 20.00 d	Bm			Mkr	1 21.822 8 GHz -48.05 dBm	Auto Tur
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.00				-		Start Fr
0.0						12.000000000 G
			_	_	-15.89 dBm	
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tart 12.000 GHz Res BW 100 kHz	#VBW	1.0 MHz		Sween	Stop 25.000 GHz 1.20 s (10001 pts)	
G 😳 File <image.png> sa</image.png>	KONSKI COLUKI			STATUS		



nter Freq 515.0000		AC SENSE:	Avg	ALIGNAUTO	TRACE	M Jul 09, 2012	Frequency
Input: I	RF PNO: Fast 🖵 IFGain:Low	Trig: Free Ru #Atten: 30 dE			DE		Auto Tun
dB/div Ref 20.00 dBn	n			Mk	1 957.80 -58.5	05 MHz 55 dBm	Auto Tu
							Center Fre
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0							Stop Fre
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		19 X	100				Freq Offs
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0							
art 30.0 MHz es BW 100 kHz		1.0 MHz			Stop 1.0 0.0 ms (10	000 GHz	

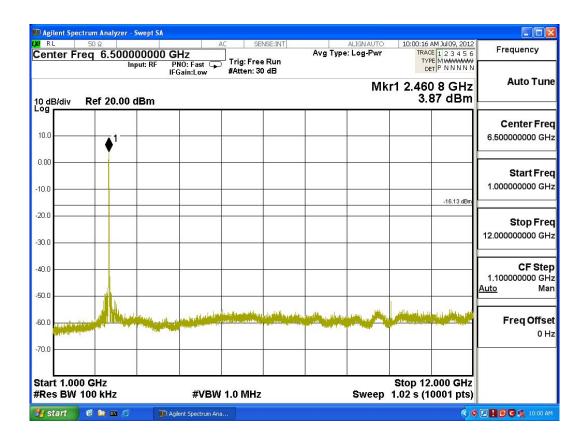
#### Channel 06 (2437MHz)



RL 50 Ω Center Freq 18.50000C Input: F	000 GHz	Trig: Free Rui #Atten: 30 dB	Avg	ALIGN AUTO Type: Log-Pwr	09:53:33 AM Jul09, 2012 TRACE 1 2 3 4 5 6 TYPE MWWWW DET P N N N N N	Frequency
0 dB/div Ref 20.00 dBn	1			Mkr	1 23.180 0 GHz -47.23 dBm	Auto Tune
10.0						Center Fre 18.500000000 GH
0.00					-15.67 dBm	Start Fre 12.000000000 G⊢
0.0						Stop Fre 25.00000000 GH
0.0		dial sector and			1	CF Ste 1.300000000 GF <u>Auto</u> Ma
						Freq Offs 0 H
70.0 tart 12.000 GHz Res BW 100 kHz		1.0 MHz			Stop 25.000 GHz 1.20 s (10001 pts)	

Frequency	E 1 2 3 4 5 6 MWWWWW F N N N N N	TRAC	align auto e: Log-Pwr	Avg Ty	ense:INT			000000 N Input: RF	<sup>50 Ω</sup> req 515.	enter F
Auto Tu	94 MHz 33 dBm	1 408.49 -58.3	Mkr					0 dBm	Ref 20.0	) dB/div
Center Fr 515.000000 M										
Start Fr 30.000000 M	-16,13 dBm									00
<b>Stop Fr</b> 1.000000000 G										D.0 D.0
CF St 97.000000 M Auto M										D.O
Freq Offs 0	ni landa sala nala Malanda kata sala		in for the second s		an parata ang mang mang mang mang mang mang mang				in the grant of the state of th	
	0000 GHz	Stop 1.0	Sweep 90		,	1.0 MHz	#VBW		MHz 100 kHz	tart 30.0

#### Channel 11 (2462MHz)



RL 50 Ω     Center Freq 18.5000000     Input: RF	PNO: Fast D Trig:	SENSE:INT A Free Run n: 30 dB	ALIGNAUTO	10:01:28 AM Jul 09, 2012 TRACE 1 2 3 4 5 6 TYPE M WWWWWW DET P N N N N N	Frequency
10 dB/div Ref 20.00 dBm	IFGalli:Luw Police		Mkr	1 21.185 8 GHz -47.58 dBm	Auto Tune
10.0					Center Free 18.500000000 GH
10.0				-16.13 dBm	Start Free 12.000000000 GH
30.0					<b>Stop Fre</b> 25.000000000 GH
10.0			1		CF Ste 1.300000000 GH <u>Auto</u> Ma
					Freq Offse 0 ⊦
70.0 Start 12.000 GHz Res BW 100 kHz	#VBW 1.0 M	Hz	Sweep	Stop 25.000 GHz 1.20 s (10001 pts)	

Product : DOCK FOR iPhone/iPad WITH Air	Play
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- Test Item : RF Antenna Conducted Spurious
- Test Site : No.3 OATS
- Test Mode : Mode 2: Transmit (802.11g 6Mbps)

# Channel 01 (2412MHz)

RL 50Ω		AC SENSE:IN	ALIGN AUTO	10:06:49 AM Jul 09, 2012	
nter Freq 515.00	DOOOO MHz nput: RF PNO: Fast IFGain:Low	Trig: Free Run #Atten: 30 dB	Avg Type: Log-Pwr	TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P N N N N N	Frequency
dB/div Ref 20.00			Mkı	1 840.920 MHz -57.71 dBm	Auto Tur
					Center Fre
.0					515.000000 M
0					Start Fr
0					30.000000 M
0				-22.86 dBm	Stop Fr
0					1.000000000 G
0					CF St
0					97.000000 M <u>Auto</u> M
0					Freq Offs
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art 30.0 MHz es BW 100 kHz	#V	BW 1.0 MHz	Sweep 9	Stop 1.0000 GHz 0.0 ms (10001 pts)	

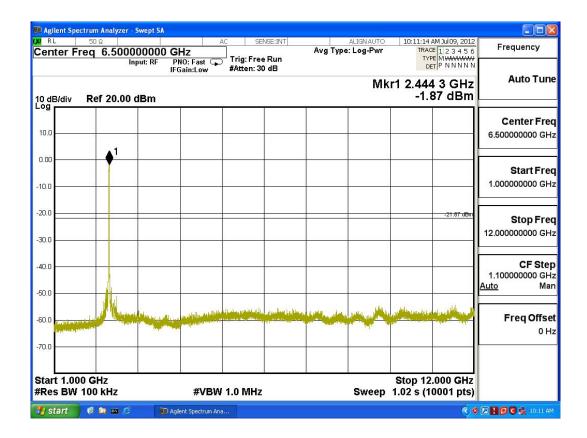
DAgilent Spect	rum Analyzer -	Swept SA								
					NSE:INT	Avg Type	ALIGNAUTO e: Log-Pwr	TRAC	AM Jul 09, 2012 E 1 2 3 4 5 6 E MWWWWW	Frequency
10 dB/div	In Ref 20.00	IFC	NO: Fast 😱 Gain:Low	┘ Trig: Free #Atten: 30			Mk	r1 2.41	I 3 GHz B6 dBm	Auto Tune
10.0	.1									Center Freq 6.50000000 GHz
-10.0	+ <b>•</b> ·									Start Freq 1.00000000 GHz
-20.0									-22.86 dBm	<b>Stop Freq</b> 12.000000000 GHz
-40.0										<b>CF Step</b> 1.100000000 GHz <u>Auto</u> Man
-60.0	الريا المحالي الا			nge bloe te transfe	a ga shi ka ya she ya		~~	and a second		Freq Offset 0 Hz
-70.0 Start 1.000 #Res BW 1			#VBW	1.0 MHz			Sweep	Stop 12 1.02 s (1	.000 GHz 0001 pts)	
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RL enter Fr		0000000	GHz f	1	NSE:INT	ALIGNAUTO E: Log-Pwr	TRAC	AM Jul 09, 2012 E 1 2 3 4 5 6	Frequency
		Input: RF P IF	NO: Fast 🖵 Gain:Low	Trig: Free #Atten: 30					Auto Tur
dB/div	Ref 20.00	0 dBm				Mkr		54 GHz 76 dBm	Auto Tu
<sup>'g</sup>									Center Fr
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art 12.0 les BW	00 GHz 100 kHz		#VBW	1.0 MHz		Sweep	stop 25 1.20 s (1	.000 GHz 0001 pts)	



Frequency	10:11:50 AM Jul 09, 2012 TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P N N N N N	ALIGNAUTO VPe: Log-Pwr	Avg T		1	Z NO: Fast 😱 Gain:Low	Input: RF	50 Ω req 515.0	enter F
Auto Tu	l 924.631 MHz -58.44 dBm	Mkr1		, 40	Written. or	Jam.Luw		Ref 20.0	) dB/div
Center Fr 515.000000 M									og 0.0
Start Fr 30.000000 M									.00
<b>Stop Fr</b> 1.000000000 G	-21.87 dBm								0.0
CF St 97.000000 M Auto M									).0 ——— ).0 ———
Freq Offs 0			l ta nya Universita (Second	i fir i segni pe fini a se se se se a fini pe se se se se film pe fi					
	Stop 1.0000 GHz				1.0 MHz	#VBW		) MHz 100 kHz	tart 30.0

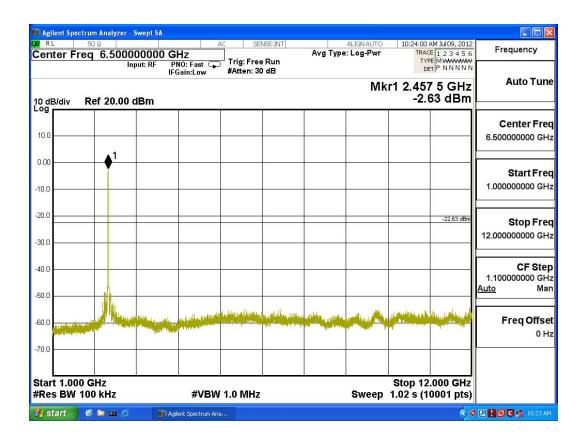
### Channel 06 (2437MHz)



enter F	<sup>50 Ω</sup> req 18.50	Input: RF PI	A GHZ NO: Fast 😱 Gain:Low	⊂ SE Trig: Free #Atten: 30		Avg Ty	ALIGN AUTO pe: Log-Pwr	TRAC	AM Jul 09, 2012 E 1 2 3 4 5 6 PE MWWWWW T P N N N N N	Frequency
0 dB/div	Ref 20.00	) dBm			5.		Mkr		94 GHz 01 dBm	Auto Tun
10.0										Center Fre 18.500000000 G⊦
0.00										<b>Start Fre</b> 12.000000000 GH
0.0									-21.87 dBm	<b>Stop Fre</b> 25.000000000 GR
D.0			a la statistica		lladan lineta an ta			<b>↓</b> 1	a filma <u>La I</u> nn Marin	CF Ste 1.300000000 GI <u>Auto</u> M
0.0 <b>(11) (11)</b>										Freq Offs 01
	000 GHz 100 kHz		#\/B\//	1.0 MHz			Sween		.000 GHz 0001 pts)	

tart 30. Res BW	0 MHz 100 kHz		#VBW	1.0 MHz	1	1	Sweep 9		0000 GHz 0001 pts)	
0.0										
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										Start Fr 30.000000 M
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0.0										Center F 515.000000 N
dB/div	Ref 20.0	0 dBm	Ĩ			1		-58.	25 dBm	
			PNO: Fast 🖵 Gain:Low	#Atten: 30			Mkr	D	52 MHz	Auto Tu
RL enter F	50 Ω req 515.	000000 MI	lz	]		Avg Typ	ALIGNAUTO e: Log-Pwr	TRA	AM Jul 09, 2012 CE 1 2 3 4 5 6 PE MWWWWW	Frequency
						1				(

#### Channel 11 (2462MHz)



enter F	50 Ω req 18.50	nput: RF PI	GHz 10: Fast ⊆	Trig: Free	Avg Ty	ALIGN AUTO pe: Log-Pwr	TRACE	M Jul 09, 2012 1 2 3 4 5 6 MWWWWW P N N N N N	Frequency
0 dB/div	Ref 20.00		Gain:Low	#Atten: 30		Mkr	1 23.758		Auto Tun
.og 10.0									Center Fre 18.500000000 GH
0.00					-				Start Fre 12.000000000 G⊦
30.0								-22.63 dBm	<b>Stop Fre</b> 25.000000000 GH
10.0								1	CF Ste 1.300000000 GF <u>Auto</u> Ma
0.0	in the second							and a second	Freq Offs 0 F
tart 12.0			#VBW	1.0 MHz		Sweep	Stop 25. 1.20 s (10		

### 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.
$\Box$ Site # 3		Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2011
	Х	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2011
		Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2012
	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
	Х	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

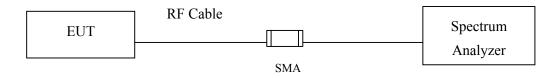
Note:

1. All instruments are calibrated every one year.

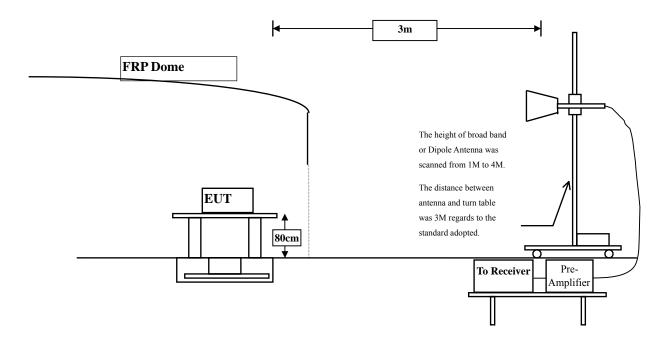
2. The test instruments marked by "X" are used to measure the final test results.

## 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

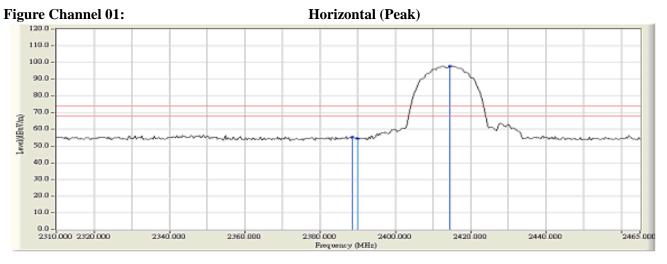
- ± 3.9 dB above 1GHz
- ± 3.8 dB below 1GHz

## 6.6. Test Result of Band Edge

Product	:	DOCK FOR iPhone/iPad WITH AirPlay
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps)

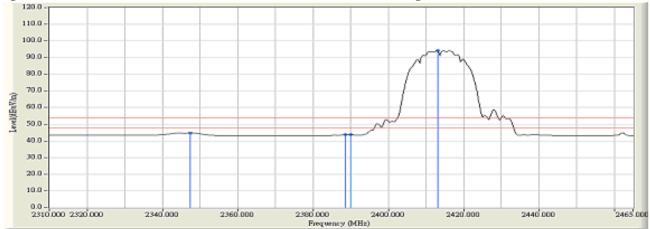
#### **RF Radiated Measurement (Horizontal):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Arerage Limit (dBuV/m)	Result
01 (Peak)	2388.500	31.737	23.534	55.272	74.00	54.00	Pass
01 (Peak)	2390.000	31.739	22.611	54.350	74.00	54.00	Pass
01 (Peak)	2414.600	31.778	66.113	97.891			Pass
01 (Average)	2347.400	31.728	13.023	44.750	74.00	54.00	Pass
01 (Average)	2388.500	31.737	12.048	43.786	74.00	54.00	Pass
01 (Average)	2390.000	31.739	11.910	43.649	74.00	54.00	Pass
01 (Average)	2413.100	31.775	62.413	94.187			Pass



#### Figure Channel 01:

Horizontal (Average)

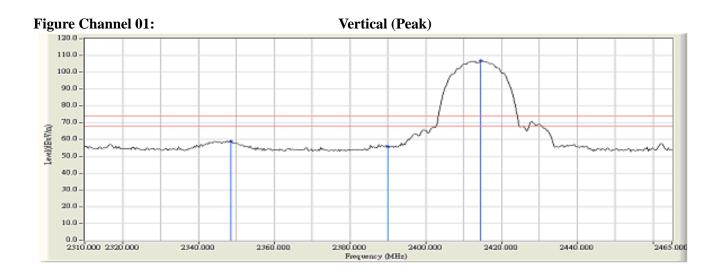


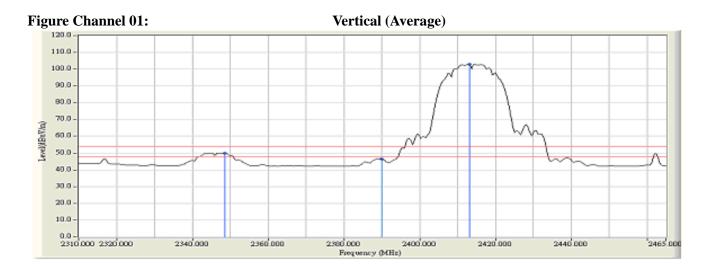
- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level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

Product	:	DOCK FOR iPhone/iPad WITH AirPlay
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps)

#### **RF Radiated Measurement (Vertical):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Arerage Limit (dBuV/m)	Result
01 (Peak)	2348.600	30.577	28.366	58.944	74.00	54.00	Pass
01 (Peak)	2390.000	30.267	25.289	55.556	74.00	54.00	Pass
01 (Peak)	2414.600	30.261	76.471	106.732			Pass
01 (Average)	2348.600	30.577	19.348	49.926	74.00	54.00	Pass
01 (Average)	2390.000	30.267	15.987	46.254	74.00	54.00	Pass
01 (Average)	2413.100	30.254	72.755	103.009			Pass



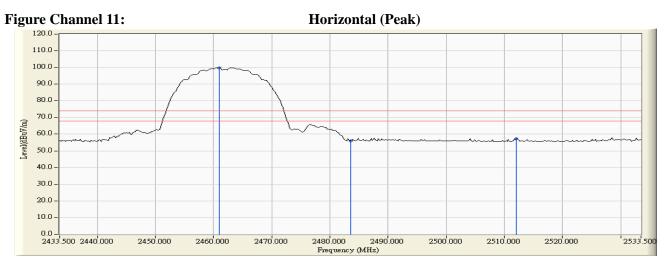


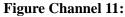
- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level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

Product	:	DOCK FOR iPhone/iPad WITH AirPlay
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps)

#### **RF Radiated Measurement (Horizontal):**

Channel No.	Frequency		U	Emission Level		Ç	Result
Chamiler 100.	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
11 (Peak)	2460.900	31.890	67.902	99.792			Pass
11 (Peak)	2483.500	31.951	24.162	56.112	74.00	54.00	Pass
11 (Peak)	2512.100	31.902	25.225	57.127	74.00	54.00	Pass
11 (Average)	2461.100	31.890	64.295	96.185			Pass
11 (Average)	2483.500	31.951	13.616	45.566	74.00	54.00	Pass
11 (Average)	2511.900	31.903	14.463	46.366	74.00	54.00	Pass





Horizontal (Average)

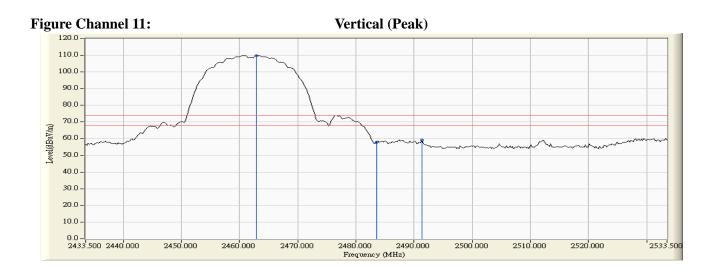


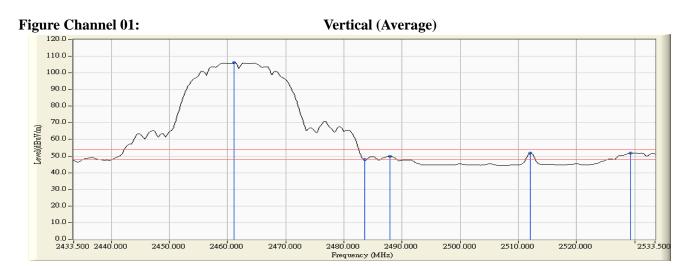
- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level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

Product	:	DOCK FOR iPhone/iPad WITH AirPlay
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps)

#### **RF Radiated Measurement (Vertical):**

Channel No. F	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Result
	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
11 (Peak)	2462.900	30.485	79.281	109.766			Pass
11 (Peak)	2483.500	30.586	27.325	57.910	74.00	54.00	Pass
11 (Peak)	2491.300	30.623	28.415	59.038	74.00	54.00	Pass
11 (Average)	2461.100	30.476	75.684	106.160			Pass
11 (Average)	2483.500	30.586	17.322	47.907	74.00	54.00	Pass
11 (Average)	2487.900	30.607	19.320	49.926	74.00	54.00	Pass
11 (Average)	2512.100	30.723	21.077	51.801	74.00	54.00	Pass
11 (Average)	2529.300	30.807	20.989	51.796	74.00	54.00	Pass





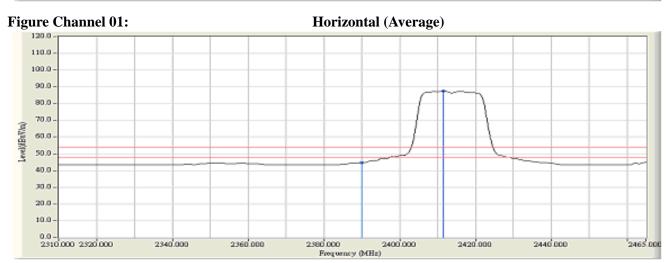
- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level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

Product	:	DOCK FOR iPhone/iPad WITH AirPlay
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps)

#### **RF Radiated Measurement (Horizontal):**

Channel No.	Frequency	Correct Factor	Reading Level	<b>Emission Level</b>	Peak Limit	Arerage Limit	Result
Channel No.	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
01 (Peak)	2390.000	31.739	28.028	59.767	74.00	54.00	Pass
01 (Peak)	2417.600	31.785	67.546	99.331			Pass
01(Average)	2390.000	31.739	13.021	44.760	74.00	54.00	Pass
01 (Average)	2411.600	31.771	55.651	87.422			Pass

**Figure Channel 01:** Horizontal (Peak) 120.0 110.0 100.0 90.0 80.0 -70.0 Level/(BuT/la) 60.0 50.0 40.0 -30.0 20.0 10.0 0.0-2310.000 2320.000 2380 000 Frequency (MHz) 2340,000 2360,000 2400,000 2420,000 2440,000 2465.000

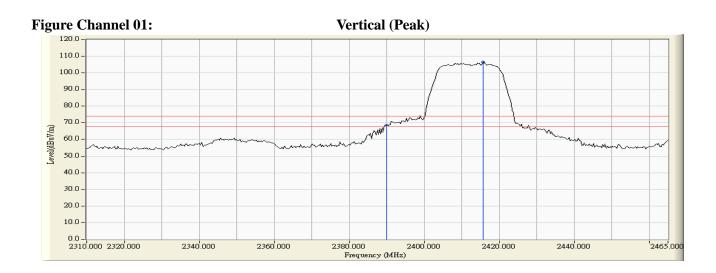


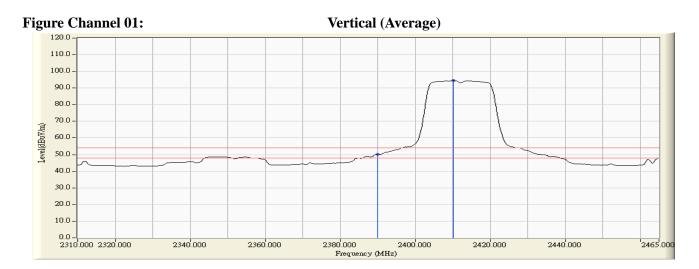
- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level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

Product	:	DOCK FOR iPhone/iPad WITH AirPlay
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps)

#### **RF Radiated Measurement (Vertical):**

Channel No.	Frequency	Correct Factor	Reading Level	<b>Emission Level</b>	Peak Limit	Arerage Limit	Result
Chalinel No.	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
01 (Peak)	2390.000	30.267	38.345	68.612	74.00	54.00	Pass
01 (Peak)	2415.710	30.266	76.218	106.484			Pass
01 (Average)	2390.000	30.267	20.001	50.268	74.00	54.00	Pass
01 (Average)	2410.130	30.244	64.243	94.487			Pass



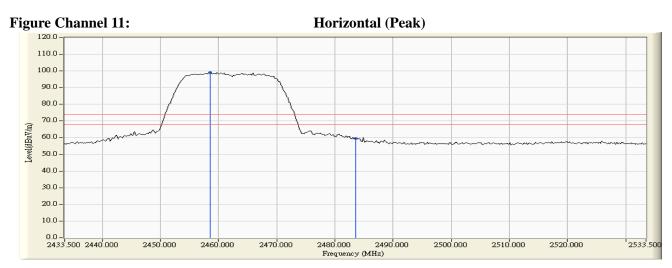


- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level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

Product	:	DOCK FOR iPhone/iPad WITH AirPlay
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps)

#### **RF Radiated Measurement (Horizontal):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Arerage Limit (dBuV/m)	Result
11 (Peak)	2458.500	31.883	67.224	99.108			Pass
11 (Peak)	2483.500	31.951	27.686	59.636	74.00	54.00	Pass
11(Average)	2459.500	31.886	56.153	88.039			Pass
11 (Average)	2483.500	31.951	14.953	46.903	74.00	54.00	Pass





Horizontal (Average)

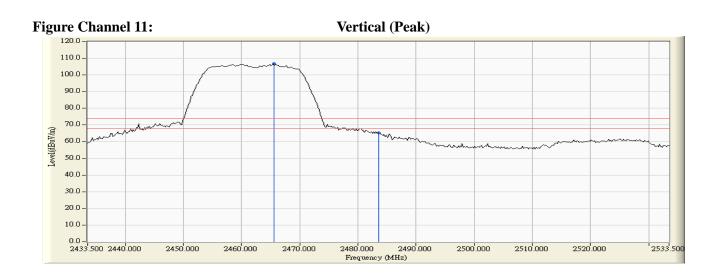


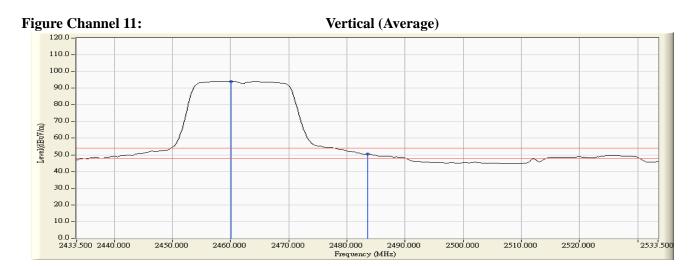
- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level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

Product	:	DOCK FOR iPhone/iPad WITH AirPlay
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps)

#### **RF** Radiated Measurement (Vertical):

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Result
Channel NO.	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
11 (Peak)	2465.500	30.497	76.154	106.651			Pass
11 (Peak)	2483.500	30.586	34.843	65.428	74.00	54.00	Pass
11 (Average)	2460.100	30.471	63.626	94.097			Pass
11 (Average)	2483.500	30.586	19.839	50.424	74.00	54.00	Pass





- 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.

# 7. Occupied Bandwidth

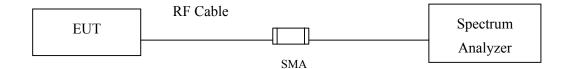
### 7.1. Test Equipment

	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

 $\pm$  150Hz

# 7.6. Test Result of Occupied Bandwidth

Product	:	DOCK FOR iPhone/iPad WITH AirPlay
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2412MHz)

Channel N	Frequen (MHz)	5	Required Limit (kHz)	Result
1	2412	13200	>500	Pass

# Figure Channel 1:

Agilent Spectrum Analyzer - S					
Center Freq 2.4120 Ing		AC SENSE:INT Trig: Free Run #Atten: 30 dB	ALIGNAUTO Avg Type: Log-Pwr	09:39:07 AM Jul09, 2012 TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P N N N N N	Frequency
10 dB/div Ref 20.00 c	lBm		Mki	2 2.405 40 GHz -1.03 dBm	Auto Tune
10.0 0.00 -10.0	2 mml	1 	my 33	-0.61 dBm	Center Free 2.412000000 GH
-20.0 -30.0 -40.0	M Program				Start Fre 2.387000000 GH
-50.0					Stop Fre 2.437000000 GH
Center 2.41200 GHz #Res BW 300 kHz	#VBV	/ 1.0 MHz	•	Span 50.00 MHz 1.00 ms (1001 pts)	CF Ste 5.000000 MH
MKR MODE TRC SCL 1 N 1 f 2 N 1 f 3 N 1 f	× 2.412 50 GHz 2.405 40 GHz 2.418 60 GHz	5.39 dBm -1.03 dBm -1.30 dBm	FUNCTION FUNCTION WIDTH	FUNCTION VALUE	Auto Ma Freq Offse
4 5 6 7 8					он
8 9 10 11 12					
ISG			STATU	s	

Product	:	DOCK FOR iPhone/iPad WITH AirPlay
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	12200	>500	Pass

# **Figure Channel 6:**

DET P N N N N N
Mkr2 2.430 90 GHz Auto Tu 0.05 dBm
0.00 dBm Center F 2.437000000 (
Start F 2.412000000 0
Stop F 2.462000000 (
Span 50.00 MHz Sweep 1.00 ms (1001 pts) UNCTION FUNCTION WIDTH FUNCTION VALUE
Freq Off

Product	:	DOCK FOR iPhone/iPad WITH AirPlay
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	12150	>500	Pass

# Figure Channel 11:

Agilent Spectrum Analyzer RL 50 Ω Center Freq 2.462	000000 GHz	SENSE:INT	Avg Type:	LIGNAUTO Log-Pwr	TRACE	M Jul 09, 2012 1 2 3 4 5 6	Frequency
0 dB/div Ref 20.00	IFGain:Low #	Atten: 30 dB		Mkr2	DE 2.455	90 GHz 13 dBm	Auto Tune
•9 10.0 0.00 10.0	2	N1	J <sup>3</sup>			0.85 dBm	Center Fre 2.462000000 GH
				Mar Mar	Jun way		Start Fre 2.437000000 G⊦
50.0 1/ 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4						····	<b>Stop Fre</b> 2.487000000 GH
Center 2.46200 GHz Res BW 300 kHz IKE MODE TRE SCL	#VBW 1.	Y FUND		Sweep 1		0.00 MHz 1001 pts) NVALUE	CF Ste 5.000000 Mi Auto Ma
2 N 1 f 3 N 1 f 4 5 6 7	2.455 90 GHz 2.468 05 GHz	0.43 dBm 0.83 dBm					Freq Offs 01
7 8 9 9 10 10 11 12 12 10 10 10 10 10 10 10 10 10 10 10 10 10							
ystart 📄 🧭 🔤 🥌	Agilent Spectrum Ana	Ì				<t< td=""><td>🔎 🚺 🞯 🕞 🌺 9:58 A</td></t<>	🔎 🚺 🞯 🕞 🌺 9:58 A

Product	:	DOCK FOR iPhone/iPad WITH AirPlay
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	16450	>500	Pass

# Figure Channel 1:

		AC SENSE:INT	ALIGNAUTO	10:04:55 AM Jul 09, 2012	Frequency
enter Freq 2.412	000000 GHz Input: RF PNO: Fast G IFGain:Low	Trig: Free Run #Atten: 30 dB	Avg Type: Log-Pwr	TRACE 123456 TYPE MWWWWW DET P N N N N N	
) dB/div Ref 20.00	dBm		Mkr2	2.403 75 GHz -2.33 dBm	Auto Tun
	2		3	-2.17 dBm	Center Fre 2.412000000 GH
0.0 0.0 0.0 m/unthalangonalphone	wigaway A		the second	Margard to and your with the	Start Fre 2.387000000 GH
0.0					<b>Stop Fr</b> 2.437000000 Gi
enter 2.41200 GHz Res BW 300 kHz	#VBW	( 1.0 MHz	Sweep 1	Span 50.00 MHz .00 ms (1001 pts)	CF Ste 5.000000 M
(R MODE TRC SCL 1 N 1 f 2 N 1 f	× 2.414 25 GHz 2.403 75 GHz	¥ F 3.82 dBm -2.33 dBm	JNCTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> M
3 N 1 F 4 5 5 5	2.403 73 GHz 2.420 20 GHz	-2.59 dBm			Freq Offs 0
7					

Product	:	DOCK FOR iPhone/iPad WITH AirPlay
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	16450	>500	Pass

# **Figure Channel 6:**

RL 50 Ω enter Freq 2.437	000000 GHz Input: RF PNO: Fast G	AC SENSE:INT	ALIGNAUTO Avg Type: Log-Pwr	10:09:55 AM Jul 09, 2012 TRACE 1 2 3 4 5 6 TYPE MWWWWW	Frequency
	IFGain:Low	#Atten: 30 dB	Mkr2	2.428 75 GHz -2.66 dBm	Auto Tur
0 dB/div Ref 20.00	авт 2			-2.20 dBin	<b>Center Fr</b> 2.437000000 GI
0.0 0.0 1.0	n la na		and a second sec	-Mancherry address	<b>Start Fr</b> 2.412000000 G
0.0 0.0 0.0					<b>Stop Fr</b> 2.462000000 G
enter 2.43700 GHz Res BW 300 kHz R 1009 TRO SCI		V 1.0 MHz	Sweep 1	Span 50.00 MHz .00 ms (1001 pts) FUNCTION VALUE	CF St 5.000000 M <u>Auto</u> M
2 N 1 f 3 N 1 f 4 5 6 8	2.428 75 GHz 2.445 20 GHz	-2.66 dBm -2.53 dBm			Freq Offs 0
7 3 9 0 1					

Product	:	DOCK FOR iPhone/iPad WITH AirPlay
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	16500	>500	Pass

# Figure Channel 11:

Agilent Spectrum An RL 50 Ω	alyzer - Swept SA 462000000 GHz			ALIGNAUTO e: Log-Pwr	10:22:51 AM Jul TRACE 1 2	09, 2012	ncy
enter Freq 2		ast Trig: Free Low #Atten: 30	Run		DET P N		o Tur
dB/div Ref 2	20.00 dBm			Mkr2	2.453 70 ( -3.77 c	GHZ	0 Tu
0.0		2				Cente	er Fr
.00		an along and an and a second and	- t			2.4620000	)00 G
0.0	- John			N C		Sta	rtFr
0.0	alarman			margan	where the stand of	2.4370000	)00 G
0.0						Sto	op Fr
0.0						2.4870000	
enter 2.46200 Res BW 300 kl		#VBW 1.0 MHz		Sween 1	Span 50.00 .00 ms (1001		FSt
R MODE TRC SCL	×	Y			FUNCTION VALUE	5.0000	N 000
1 N 1 F 2 N 1 F	2.464 25 GH 2.453 70 GH	lz -3.77 dB	m				
3 N 1 f 4	2.470 20 GH	lz -2.59 dB	m			Freq	Offs 0
5 7		N					
3							
0 1 2							
	en 🥴 🌆 Aailent Sp	actrum Ana	- J J.			() Ø [] [] Ø [] Ø	10:22

## 8. Power Density

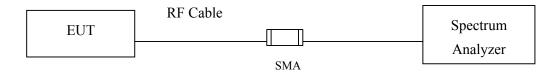
### 8.1. Test Equipment

	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	:	DOCK FOR iPhone/iPad WITH AirPlay
Test Item	:	Power Density Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2412MHz)

Chan	nnel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
	1	2412	-10.267	< 8dBm	Pass

# Figure Channel 1:

RL 50 Ω enter Freq 2.41200000( Input: RF	PNO: Fast 😱 Trig: Free Run	ALIGN AUTO Avg Type: Log-Pwr Avg Hold:>100/100	09:42:16 AM Jul 09, 2012 TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P N N N N N	Frequency
Ref Offset -15.2 dB dB/div <b>Ref 4.80 dBm</b>	IFGain:Low #Atten: 30 dB	Mkr	1 2.410 98 GHz -10.267 dBm	Auto Tune
20	1			Center Fre 2.412000000 GH
5.2 5.2	annan ma	hundry	MANA	Start Fre 2.402000000 G⊦
5.2				<b>Stop Fre</b> 2.422000000 GH
5.2				CF Ste 2.000000 MI <u>Auto</u> Mi
5.2				Freq Offs 0 F
5.2 enter 2.41200 GHz Res BW 100 kHz	#VBW 300 kHz	Sween	Span 20.00 MHz 1.93 ms (1001 pts)	
G G	#1011 000 KHZ	STATUS		

Product	:	DOCK FOR iPhone/iPad WITH AirPlay
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	-10.239	< 8dBm	Pass

# Figure Channel 6:

enter Fred		out: RF P		]		Avg Type Avg Hold:		TRAC	AM Jul 09, 2012 E 1 2 3 4 5 6 PE MWWWWW T P N N N N N	Frequency
dB/div R	ef Offset -16 ef 4.80 di	5.2 dB	Jain:Luw	Friten. or			Mkr1		98 GHz 39 dBm	Auto Tur
.20				a o n	•1-					<b>Center Fr</b> 2.437000000 G
5.2 5.2	part	V	hrm			WWW		MM	Ly	Start Fr 2.427000000 G
5.2										<b>Stop Fr</b> 2.447000000 G
5.2										CF St 2.000000 M <u>Auto</u> M
5.2										Freq Offs 0
5.2										
enter 2.437 Res BW 10			#VBW	300 kHz			Sweep 1		0.00 MHz 1001 pts)	

Product	:	DOCK FOR iPhone/iPad WITH AirPlay
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	-9.917	< 8dBm	Pass

## Figure Channel 11:

enter F	50 Ω Freq 2.4620 In	put: RF P	Hz NO: Fast 🖵	]			ALIGNAUTO : Log-Pwr >100/100	TRACI	E 1 2 3 4 5 6 MWWWWWW F P N N N N N	Frequency
0 dB/div	Ref Offset -1 Ref 4.80 dl	5.2 dB	Gain:Low	#Atten: 30			Mkr1	2.462	98 GHz I7 dBm	Auto Tur
<b>og</b> 5.20					1					<b>Center Fr</b> 2.462000000 G
5.2 5.2	Maria	V	m		- Multi	hhh	why /	~~~~~	LA A	Start Fr 2.452000000 G
5.2									Y	<b>Stop Fr</b> 2.472000000 G
5.2										CF St 2.000000 M <u>Auto</u> M
5.2 ——										Freq Offs 0
5.2										
	46200 GHz 100 kHz		#VBW	300 kHz			Sweep 1	Span 2 .93 ms (*	0.00 MHz 1001 pts)	

Product	:	DOCK FOR iPhone/iPad WITH AirPlay
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	-14.800	< 8dBm	Pass

## Figure Channel 1:

enter F	<sup>50 Ω</sup> req 2.41	2000000 (		Trig: Free		Avg Type Avg Hold:	ALIGNAUTO :: Log-Pwr :>100/100	10:08:03 AM Jul 09, 2 TRACE 1 2 3 4 TYPE MWWW	5 6 Frequency
0 dB/div	Ref Offse Ref 4.80	t -15.2 dB	FGain:Low	#Atten: 30	) dB		Mkr	DET P NNN 1 2.413 24 GH -14.800 dB	z Auto Tur
5.20	-			2 2	<b>▲</b> 1				Center Fre 2.412000000 G
5.2	Julia	nthinth	ndranden	www.	mmlm	mann	mm	Marmalany	Start Fr 2.402000000 G
5.2 .2 5.2	,r								Stop Fr 2.422000000 G
5.2									CF St 2.000000 M Auto W
5.2									Freq Offs
5.2									_
	41200 GH 100 kHz	z	#VBW	300 kHz	1		Sweep	Span 20.00 M 1.93 ms (1001 pt	

Product	:	DOCK FOR iPhone/iPad WITH AirPlay
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	-14.836	< 8dBm	Pass

# Figure Channel 6:

RL 50 Ω enter Freq 2	437000000 Input: RF	PNO: Fast 😱	SENSE:INT Trig: Free Run #Atten: 30 dB		ALIGN AUTO e: Log-Pwr d:>100/100	10:13:03 AM TRACE TYPE DET	Jul 09, 2012 1 2 3 4 5 6 MWWWWW P N N N N N	Frequency
0 dB/div Ref 4	ffset -15.2 dB I. <b>80 dBm</b>	IFGain:Low	#Atten: 30 dB		Mkr1	2.438 2	4 GHz	Auto Tur
<b>°g</b> 20				1				<b>Center Fr</b> 2.437000000 G
5.2	mmharalm	an Arwana an	mbany prom	handram	brown	Manshing		<b>Start Fr</b> 2.427000000 G
5.2							- W	<b>Stop Fr</b> 2.447000000 G
5.2								CF St 2.000000 M <u>Auto</u> M
5.2								Freq Offs 0
95.2								
enter 2.43700 Res BW 100 ki		#VBW	300 kHz		Sweep 1	Span 20. .93 ms (10		

Product	:	DOCK FOR iPhone/iPad WITH AirPlay
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	-14.923	< 8dBm	Pass	

# Figure Channel 11:

Ref Offset -15.2 dB     Mkr1 2.463 24 GHz       10 dB/div     Ref 4.80 dBm       -9     -1       -22     -1       -22     -1       -22     -1       -22     -1       -22     -1       -22     -1       -22     -1       -22     -1       -22     -1       -22     -1       -22     -1       -23     -1       -24     -1       -25     -1       -26     -1       -27     -1       -28     -1       -29     -1       -45.2     -1       -26     -1       -27     -1       -28     -1       -29     -1       -20     -1       -41     -1       -52     -1       -42     -1       -45.2     -1       -45.2     -1       -45.2     -1       -45.2     -1       -52     -1       -52     -1       -52     -1       -52     -1       -52     -1       -52     -1       -52     -1       -52 </th <th></th> <th>46200 GH 100 kHz</th> <th>lz</th> <th>#VBW</th> <th>( 300 kHz</th> <th>1</th> <th></th> <th>Sweep</th> <th>Span 20 1.93 ms (1</th> <th>0.00 MHz 1001 pts)</th> <th></th>		46200 GH 100 kHz	lz	#VBW	( 300 kHz	1		Sweep	Span 20 1.93 ms (1	0.00 MHz 1001 pts)	
Ref Offset -16.2 dB     Mkr1 2.463 24 GHz       0 dB/div     Ref 4.80 dBm       <	35.2										
Ref Offset -15.2 dB     Mkr1 2.463 24 GHz       0 dB/div     Ref 4.80 dBm       <	75.2										Freq Offs 0
Ref Offset -15.2 dB     Mkr1 2.463 24 GHz       0 dB/div     Ref 4.80 dBm       <	65.2					z					<u>Auto</u> M
Ref Offset -15.2 dB     Mkr1 2.463 24 GHz -14.923 dBm       O dB/div     Ref 0.ffset -15.2 dB       O dB/div     Ref 4.80 dBm       O dB/div     AvglHold>1000000000000000000000000000000000000	55.2				-						CF St 2.000000 M
Ref Offset -15.2 dB     Mkr1 2.463 24 GHz       0 dB/div     Ref 4.80 dBm	45.2									"WN	Stop Fr 2.472000000 G
Ref Offset -15.2 dB     Mkr1 2.463 24 GHz       0dB/div     Ref 4.80 dBm		Jan								W Law	
Ref Offset -15.2 dB     Mkr1 2.463 24 GHz       0 dB/div     Ref 4.80 dBm		hur	manna	nhonn	mmm	man	mhrman	ᡙᠷ᠕᠇ᢑᡎᡑ	Ann An	١	Start Fr 2.452000000 G
Ref Offset -15.2 dB     Mkr1 2.463 24 GHz     Auto Ti       0 dB/div     Ref 4.80 dBm     -14.923 dBm						<b>♦</b> <sup>1</sup>					2.462000000 G
Input: RF PNO: Fast Frig: Free Run Avg Hold>100/100 Free Run Avg Hold>									-14.92	23 dBm	Center Fr
teriter Freq 2.48200000 GHZ		Ref Offse			#Atten: 30	dB		Mkr	1 2.463	24 GHz	Auto Tu
RL 50 Ω AC SENSE:INT ALIGNAUTO 10:25:35 AM Jul 09, 2012	Concernance of the second s			GHz	]			: Log-Pwr	TRACE	123456	Frequency

# 9. EMI Reduction Method During Compliance Testing

No modification was made during testing.