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Report No.: SZEMO09120708602
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FCC REPORT

Application No: SZEMO091207086RF
Applicant: Realease Ltd.
Product Name: QOOQ Portable Computer
Operation Frequency: 2412MHz to 2462MHz
FCC ID: VTXQQ001001
Standards: FCC CFR Title 47 Part 15 Subpart C Section 15.247: 2008
Date of Receipt: 22 December 2009
Date of Test: 15 January to 18 March 2010
Date of Issue: 22 March 2010

Test Result :	PASS *
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* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:



Robinson Lo
Laboratory Manager

This report refers to the General Conditions for Inspection and Testing Services, printed overleaf. This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the SGS PRODUCT CERTIFICATION MARK.. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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3 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	15.203/15.247 (c)	Passed
AC Power Line Conducted Emission	15.207	Passed
Conducted Peak Output Power	15.247 (b)(3)	Passed
6dB Occupied Bandwidth	15.247 (a)(2)	Passed
Power Spectral Density	15.247 (e)	Passed
Radiated Emission	15.205/15.209	Passed
Band Edge	15.247(d)	Passed

Remark: Passed: The EUT complies with the essential requirements in the standard.

Failed: The EUT does not comply with the essential requirements in the standard.

1. The EUT had Bluetooth function and WiFi function which used the same module and antenna.

When working in Bluetooth, the EUT will not work in Wifi, and vice versa.

4 General Information

4.1 Client Information

Applicant:	Realease Ltd.
Address of Applicant:	Unit 1901 & 1910, 19/F, DOMINION CENTRE, NOS 43-59 QUEEN'S ROAD EAST, HONG KONG
Manufacturer:	Realease Ltd.
Address of Manufacturer:	Unit 1901 & 1910, 19/F, DOMINION CENTRE, NOS 43-59 QUEEN'S ROAD EAST, HONG KONG
Factory:	Uni-V Co. Ltd.
Address of Factory:	Building 19, Jingxiu Road, Heyi Beifang Yong fa Technical Park, Shajing Town, Bao'an District Shenzhen, China

4.2 General Description of E.U.T.

Product Name:	QOOQ Portable Computer
Trade Name:	N/A
Item No.:	QQ001001-XX where XX represents the country letter
Operation Frequency:	2412MHz~2462MHz
Channel numbers:	11
Channel separation:	5MHz
Modulation type: (IEEE 802.11g)	Orthogonal Frequency Division Multiplexing(OFDM)*
*	Only the modulation type (IEEE 802.11g) was adopted by the device which was declared by the client.
Data speed (IEEE 802.11g):	6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps, 54Mbps
Antenna Type:	Integral
Antenna gain:	0.5dBi
Power supply:	Input: AC 100-240V 50/60Hz Output: DC 5.0V 4.0A

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

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency
The lowest channel	2412MHz
The middle channel	2437MHz
The Highest channel	2462MHz

4.3 Test environment and mode

Test Environment:	
Temperature:	24.0 °C
Humidity:	52 % RH
Atmospheric Pressure:	1008 mbar
Test mode:	
Normal operation mode:	Keep the EUT connect to other Wi-Fi device
Transmitting mode:	Keep the EUT in transmitting mode with modulation.

We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

Pre-Test Mode:									
Mode	802.11g								
Data Rate	6Mbps	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps	
Final Test Mode:									
According to ANSI C63.4 standards, the test results are both the "worst case" and "worst setup"									
54Mbps for 802.11g									

4.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

CNAS (No. CNAS L2929)

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

VCCI

The 3m Semi-anechoic chamber and Shielded Room (7.5m x 4.0m x 3.0m) of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-2197 and C-2383 respectively.

Date of Registration: September 29, 2008. Valid until September 28, 2011.

FCC – Registration No.: 556682

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 556682, June 27, 2008.

Industry Canada (IC)

The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1.

4.5 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch E&E Lab

No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China
518057

Telephone: +86 (0) 755 2601 2053 Fax: +86 (0) 755 2671 0594

No tests were sub-contracted.

4.6 Other Information Requested by the Customer

None.

4.7 Description of Support Units

Description	Manufacturer	Model No.
U-Disk	Lenovo	B201i
Earphone	Apple	N/A

4.8 Test Instruments list

RE in Chamber						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (dd-mm-yy)	Cal.Due date (dd-mm-yy)
1	3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEL0017	16-06-2009	15-06-2010
2	EMI Test Receiver	Rohde & Schwarz	ESIB26	SEL0023	12-12-2009	11-12-2010
3	EMI Test software	AUDIX	E3	SEL0050	N/A	N/A
4	Coaxial cable	SGS	N/A	SEL0028	18-06-2009	17-06-2010
6	BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEL0014	12-08-2009	11-08-2010
7	Double-ridged horn (1-18GHz)	ETS-LINDGREN	3117	SEL0005	12-08-2009	11-08-2010
8	Horn Antenna (18-26GHz)	ETS-LINDGREN	3160	SEL0076	12-08-2009	11-08-2010
9	Pre-amplifier (0.1-1300MHz)	Agilent Technologies	8447D	SEL0053	18-06-2009	17-06-2010
10	Pre-amplifier (1-18GHz)	Rohde & Schwarz	AFS42-00101 800-25-S-42	SEL0081	18-06-2009	17-06-2010
11	Pre-amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	SEL0080	18-06-2009	17-06-2010
12	Band filter	Amindeon	82346	SEL0094	18-06-2009	17-06-2010

Conducted Emission						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (dd-mm-yy)	Cal.Due date (dd-mm-yy)
1	Shielding Room	ZhongYu Electron	GB-88	SEL0042	N/A	N/A
2	LISN	ETS-LINDGREN	3816/2	SEL0021	18-06-2009	17-06-2010
3	LISN	Schwarzbeck	NNBM 8125	SEL0119	28-07-2009	28-07-2010
4	EMI Test Receiver	Rohde & Schwarz	ESCI	SEL0022	18-06-2009	17-06-2010
5	Coaxial Cable	SGS	N/A	SEL0024	18-06-2009	17-06-2010

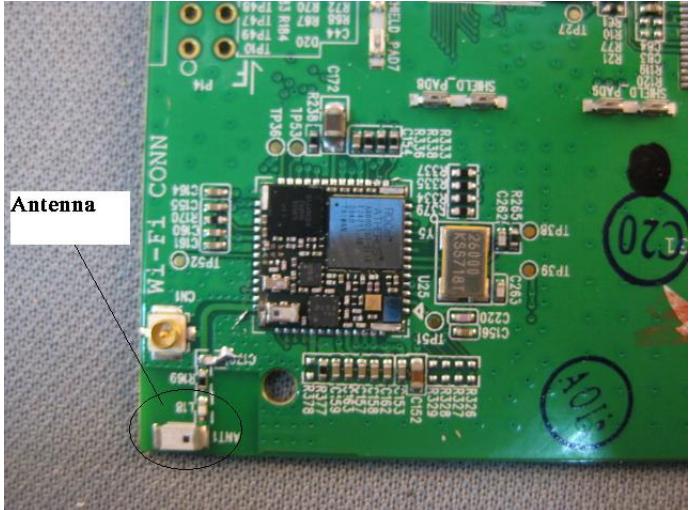
RF conducted						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (dd-mm-yy)	Cal.Due date (dd-mm-yy)
1	Spectrum Analyzer	Rohde & Schwarz	10336/030	EMC0040	16-06-2009	15-06-2010
2	Coaxial cable	SGS	N/A	SEL0029	18-06-2009	17-06-2010

5 Test results and Measurement Data

5.1 Antenna requirement:

Standard requirement:	FCC Part15 C Section 15.203 /247(c)
15.203 requirement: <i>An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.</i>	15.247(c) (1)(i) requirement: <i>(i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.</i>

E.U.T Antenna:



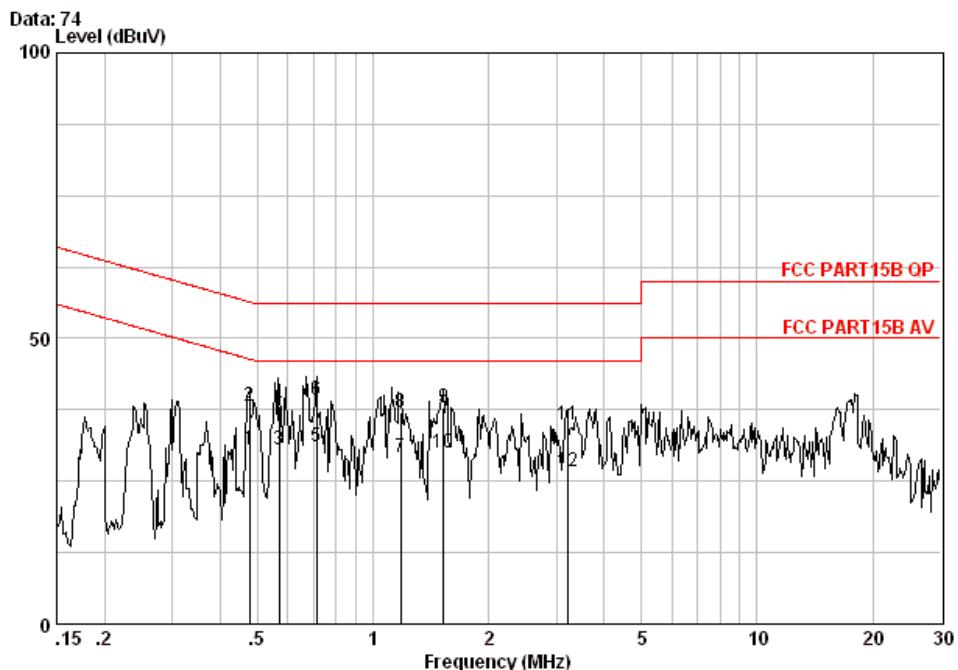
5.2 Conducted Emissions

Test Requirement:	FCC Part15 C Section 15.207																
Test Method:	ANSI C63.4: 2003																
Test Frequency Range:	150KHz to 30MHz																
Class / Severity:	Class B																
Limit:	<table border="1"> <thead> <tr> <th rowspan="2">Frequency range (MHz)</th> <th colspan="2">Limit (dBuV)</th> </tr> <tr> <th>Quasi-peak</th> <th>Average</th> </tr> </thead> <tbody> <tr> <td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td> </tr> <tr> <td>0.5-5</td><td>56</td><td>46</td> </tr> <tr> <td>5-30</td><td>60</td><td>50</td> </tr> </tbody> </table>			Frequency range (MHz)	Limit (dBuV)		Quasi-peak	Average	0.15-0.5	66 to 56*	56 to 46*	0.5-5	56	46	5-30	60	50
Frequency range (MHz)	Limit (dBuV)																
	Quasi-peak	Average															
0.15-0.5	66 to 56*	56 to 46*															
0.5-5	56	46															
5-30	60	50															
	* Decreases with the logarithm of the frequency.																
Test procedure	<p>The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). The provide a 50ohm/50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2003 on conducted measurement.</p>																
Test setup:	<p><i>Remark:</i> <i>E.U.T: Equipment Under Test</i> <i>LISN: Line Impedance Stabilization Network</i> <i>Test table height=0.8m</i></p>																
Test Instruments:	Refer to section 4.7 for details																
Test mode:	Normal operation mode																
Test results:	Passed																

Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector.

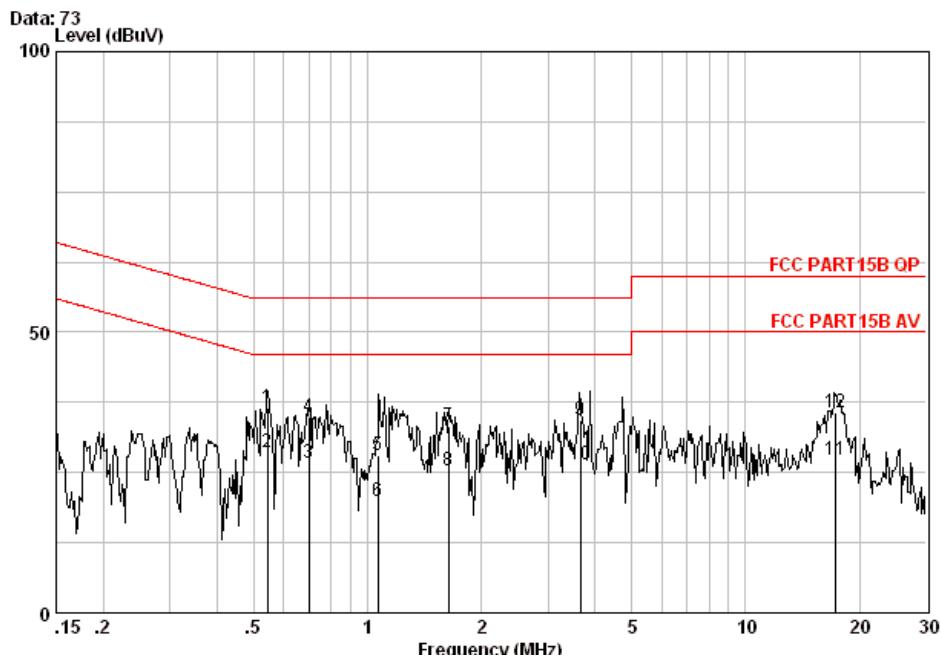
Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

Live Line:

Freq	Cable	LISN	Read	Limit	Over	Remark	
	Loss	Factor	Level				
	MHz	dB	dB	dBuV	dBuV	dB	
1	0.47612	0.06	-0.04	30.50	30.52	46.41	-15.89 Average
2	0.47612	0.06	-0.04	38.10	38.12	56.41	-18.29 QP
3	0.57010	0.06	-0.04	30.40	30.42	46.00	-15.58 Average
4	0.57010	0.06	-0.04	38.20	38.22	56.00	-17.78 QP
5	0.71219	0.06	-0.05	31.10	31.11	46.00	-14.89 Average
6	0.71219	0.06	-0.05	39.20	39.21	56.00	-16.79 QP
7	1.178	0.09	-0.05	29.20	29.24	46.00	-16.76 Average
8	1.178	0.09	-0.05	37.10	37.14	56.00	-18.86 QP
9	1.527	0.10	-0.06	37.80	37.85	56.00	-18.15 QP
10	1.527	0.10	-0.06	29.80	29.85	46.00	-16.15 Average
11	3.207	0.14	-0.08	34.70	34.77	56.00	-21.23 QP
12	3.207	0.14	-0.08	26.70	26.77	46.00	-19.23 Average

Notes:

1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

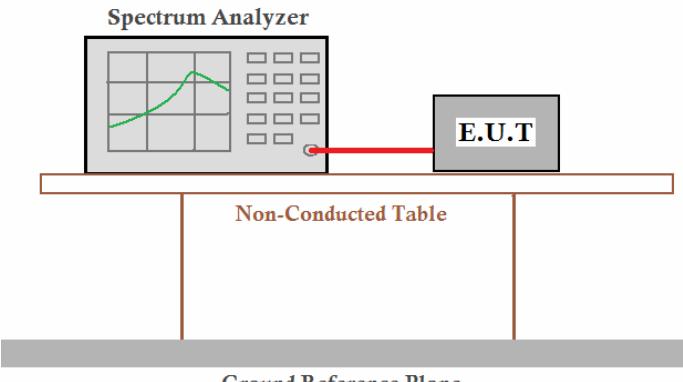
Neutral Line:

Freq	Cable	LISN	Read	Limit	Over	Remark	
	Loss	Factor	Level				
	MHz	dB	dB	dBuV	dBuV	dB	
1	0.54355	0.06	-0.04	36.50	36.52	56.00	-19.48 QP
2	0.54355	0.06	-0.04	28.50	28.52	46.00	-17.48 Average
3	0.70096	0.06	-0.04	26.80	26.82	46.00	-19.18 Average
4	0.70096	0.06	-0.04	34.90	34.92	56.00	-21.08 QP
5	1.065	0.08	-0.05	27.90	27.94	56.00	-28.06 QP
6	1.065	0.08	-0.05	19.80	19.84	46.00	-26.16 Average
7	1.636	0.11	-0.06	33.20	33.25	56.00	-22.75 QP
8	1.636	0.11	-0.06	25.40	25.45	46.00	-20.55 Average
9	3.661	0.15	-0.09	34.40	34.46	56.00	-21.54 QP
10	3.661	0.15	-0.09	26.30	26.36	46.00	-19.64 Average
11	17.291	0.26	-0.58	27.60	27.28	50.00	-22.72 Average
12	17.291	0.26	-0.58	35.90	35.58	60.00	-24.42 QP

Notes:

1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

5.3 Conducted Peak Output Power

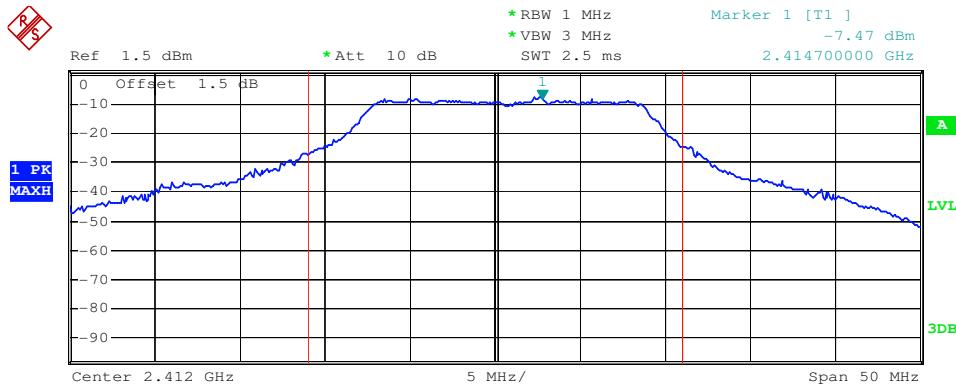
Test Requirement:	FCC Part15 C Section 15.247 (b)(3)
Test Method:	ANSI C63.4:2003 and KDB558074
Limit:	30dBm
Test setup:	 <p>Spectrum Analyzer Non-Conducted Table Ground Reference Plane</p> <p><i>Remark:</i> <i>Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.</i></p>
Test Instruments:	Refer to section 4.7 for details
Test results:	Passed

Measurement Data

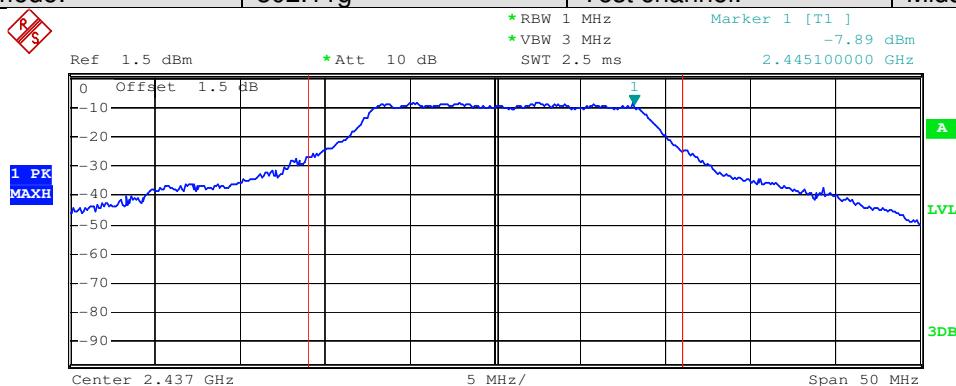
802.11g mode			
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	2.34	30.00	Pass
Middle	2.22	30.00	Pass
Highest	2.06	30.00	Pass

Test plot as follows:

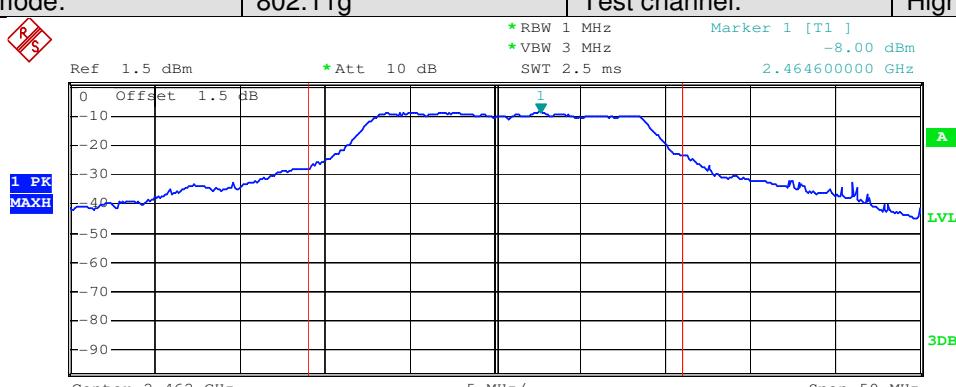
Test mode:	802.11g	Test channel:	Lowest
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Test mode:	802.11g	Test channel:	Middle
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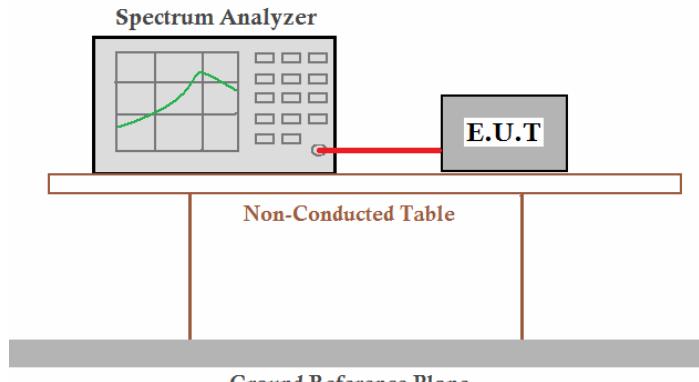


Test mode:	802.11g	Test channel:	Highest
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Tx Channel
Bandwidth 22 MHz Power 2.06 dBm

5.4 6dB Occupy Bandwidth

Test Requirement:	FCC Part15 C Section 15.247 (a)(2)
Test Method:	ANSI C63.4:2003 and KDB558074
Limit:	>500KHz
Test setup:	
	<i>Remark:</i> <i>Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.</i>
Test Instruments:	Refer to section 4.7 for details
Test results:	Passed

Measurement Data

802.11g mode			
Test channel	6dB Occupy Bandwidth (MHz)	Limit (KHz)	Result
Lowest	16.64	>500	Pass
Middle	16.60	>500	Pass
Highest	16.60	>500	Pass

Test plot as follows:

Test mode: 802.11g Test channel: Lowest

Ref 1.5 dBm * Att 10 dB SWT 2.5 ms 14.600000000 MHz

* RBW 100 kHz Delta 3 [T1] -6.59 dB
 * VBW 300 kHz SWT 2.5 ms 14.600000000 MHz

Marker 1 [T1] -16.44 dBm 2.406540000 GHz
 Marker 2 [T1] -7.61 dB 2.406540000 MHz

1 PK VIEW

S1 -22.44 dBm

A

3dB

Offset 1.0 dB

Center 2.4129 GHz 2 MHz / Span 20 MHz

Date: 17.MAR.2010 14:40:06

Test mode: 802.11g Test channel: Middle

Ref 1.5 dBm * Att 10 dB SWT 2.5 ms 14.560000000 MHz

* RBW 100 kHz Delta 3 [T1] -8.29 dB
 * VBW 300 kHz -

Marker 1 [T1] -17.17 dBm 2.431560000 GHz [A]
 Delta 2 [T1] -7.12 dB -0.0000000 MHz [LVL]

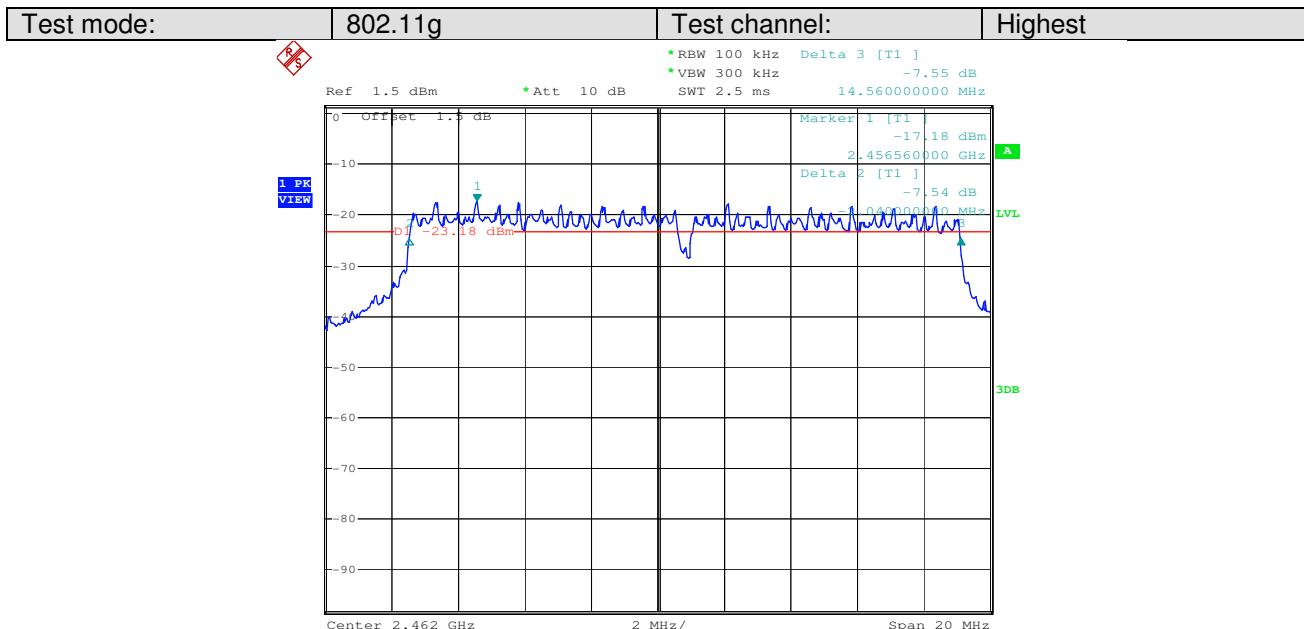
1 PK VIEW

3DB

Offset 1.0 dB

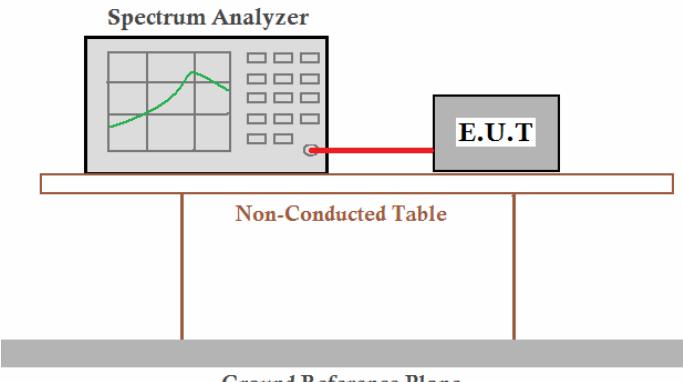
Center 2.437 GHz 2 MHz / Span 20 MHz

Date: 17.MAR.2010 15:53:51



Date: 17.MAR.2010 16:08:23

5.5 Power Spectral Density

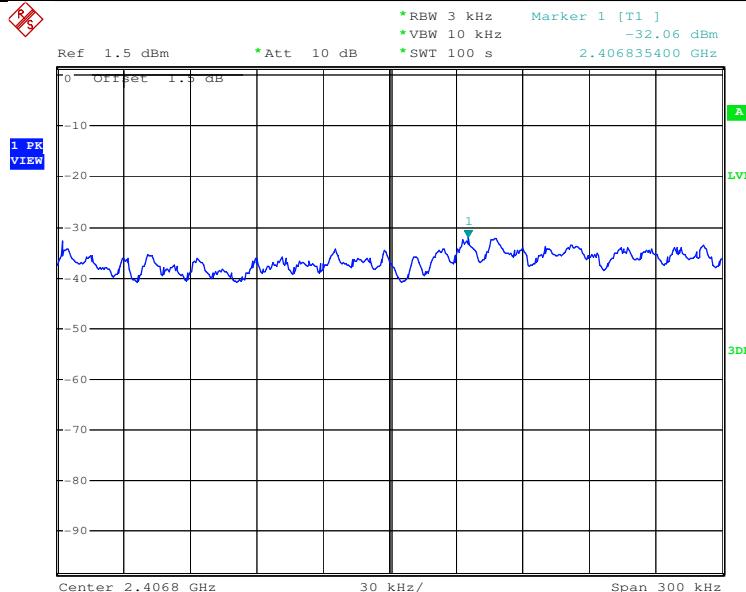
Test Requirement:	FCC Part15 C Section 15.247 (e)
Test Method:	ANSI C63.4:2003 and KDB558074
Limit:	<8dBm
Test setup:	 <p>Spectrum Analyzer Non-Conducted Table Ground Reference Plane</p>
Remark:	<i>Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.</i>
Test Instruments:	Refer to section 4.7 for details
Test results:	Passed

Measurement Data

802.11g mode			
Test channel	Power Spectral Density (dBm)	Limit (dBm)	Result
Lowest	-32.06	<8.00	Pass
Middle	-32.22	<8.00	Pass
Highest	-33.02	<8.00	Pass

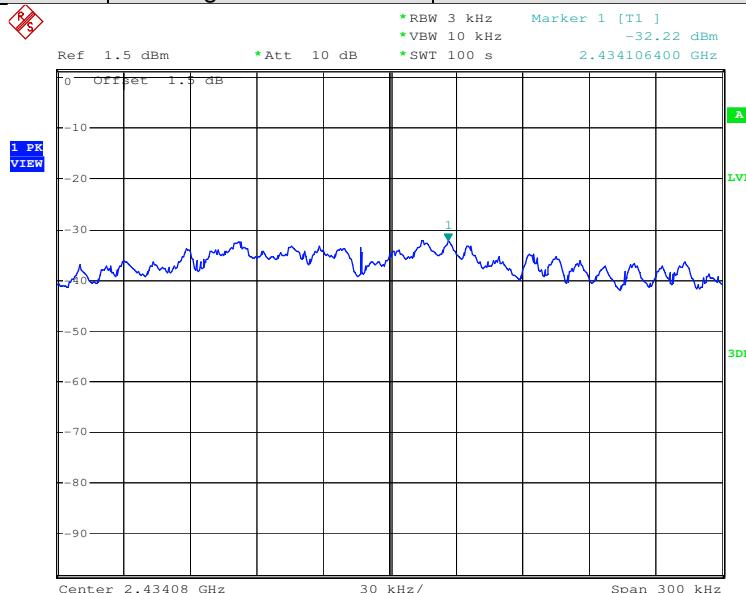
Test plot as follows:

Test mode:	802.11g	Test channel:	Lowest
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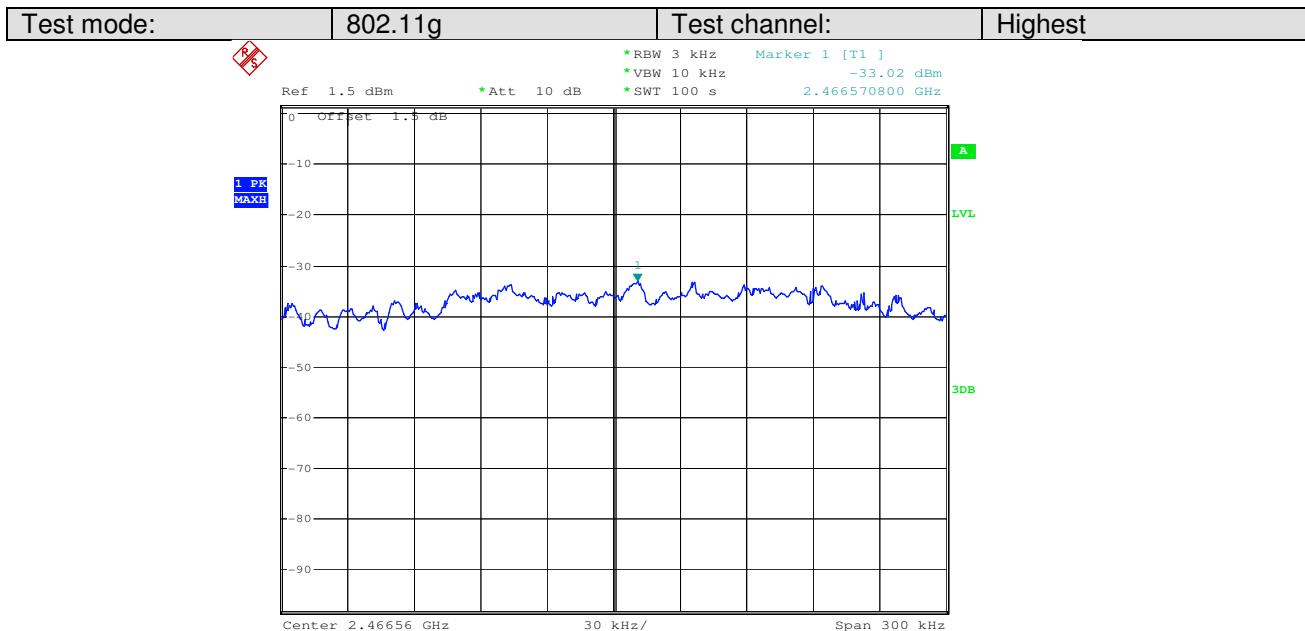


Date: 17.MAR.2010 14:54:57

Test mode:	802.11g	Test channel:	Middle
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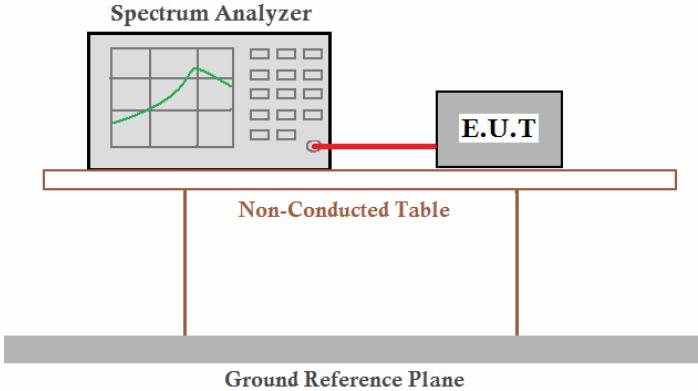


Date: 17.MAR.2010 15:58:31



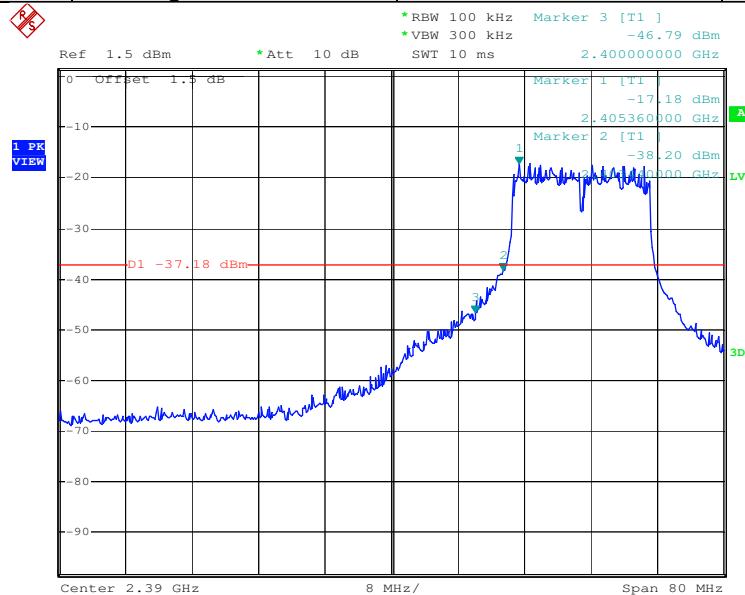
Date: 17.MAR.2010 16:12:33

5.6 Band Edge

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.4:2003 and KDB558074
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Test setup:	 <p>Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane</p> <p><i>Remark:</i> <i>Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.</i></p>
Test Instruments:	Refer to section 4.7 for details
Test results:	Passed

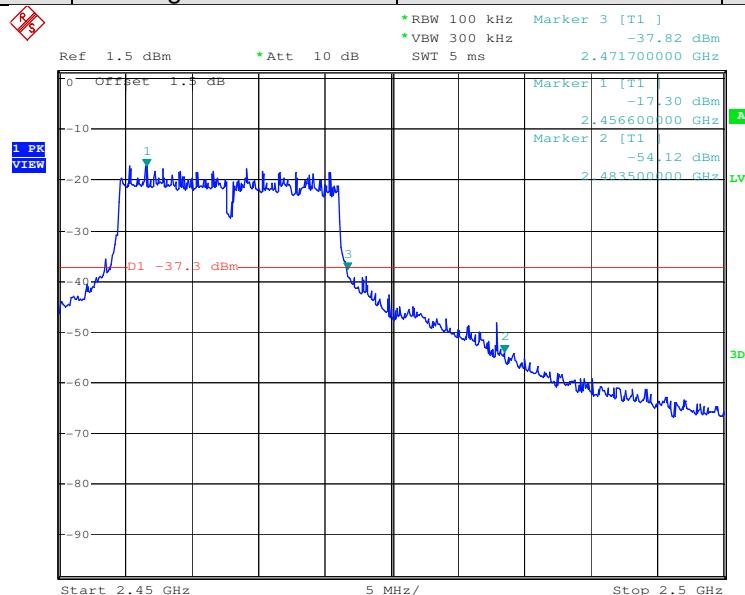
Test plot as follows:

Test mode:	802.11g	Test channel:	Lowest
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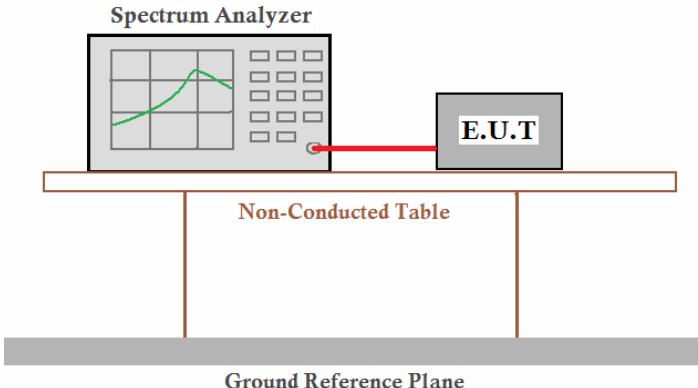
Date: 17.MAR.2010 14:47:09

Test mode:	802.11g	Test channel:	Highest
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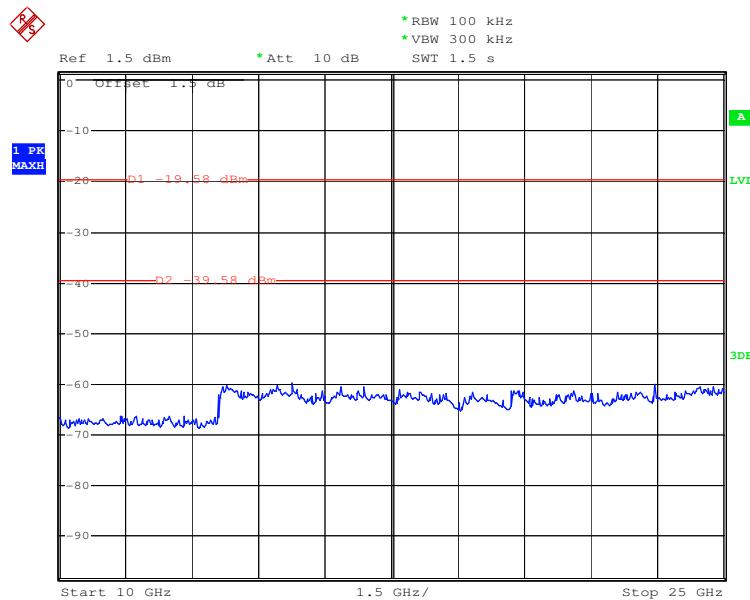
Date: 17.MAR.2010 16:15:18

5.7 RF Antenna Conducted spurious emissions

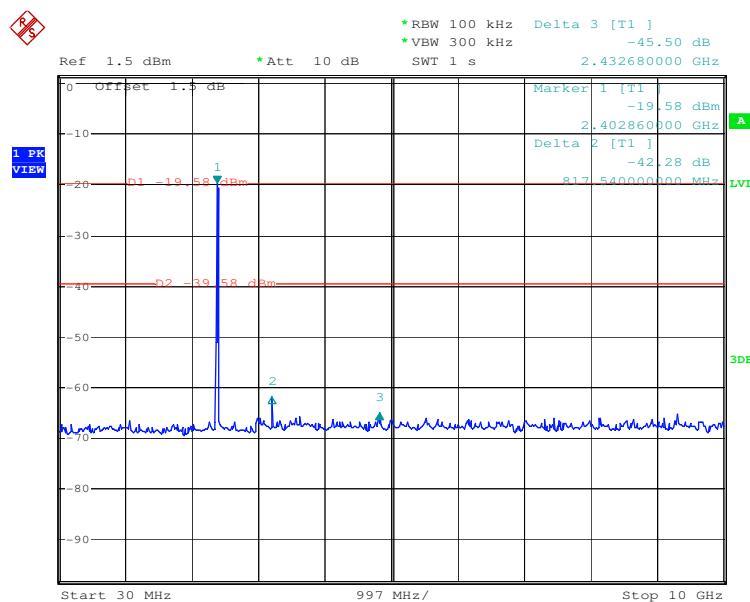
Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.4:2003 and KDB558074
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Test setup:	 <p>Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane</p> <p><i>Remark: Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.</i></p>
Test Instruments:	Refer to section 4.7 for details
Test results:	Passed

Test plot as follows:

Test mode: 802.11g Test channel: Lowest

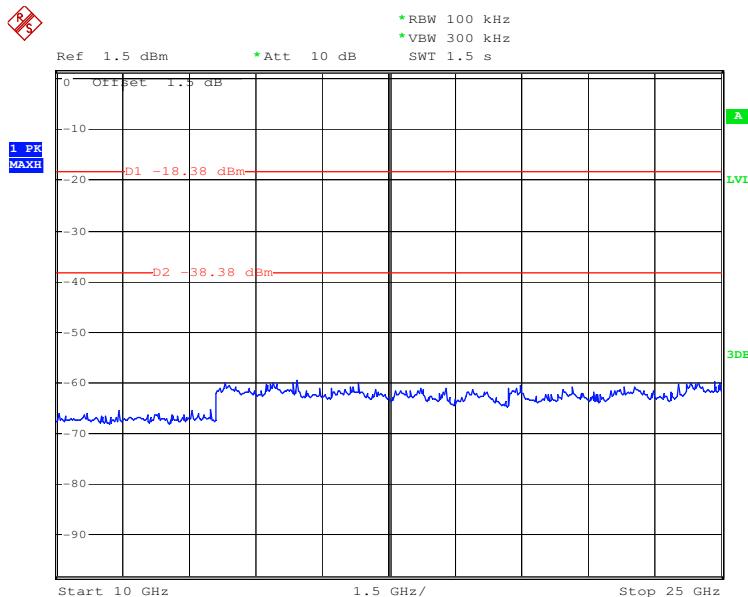


Date: 17.MAR.2010 14:50:15

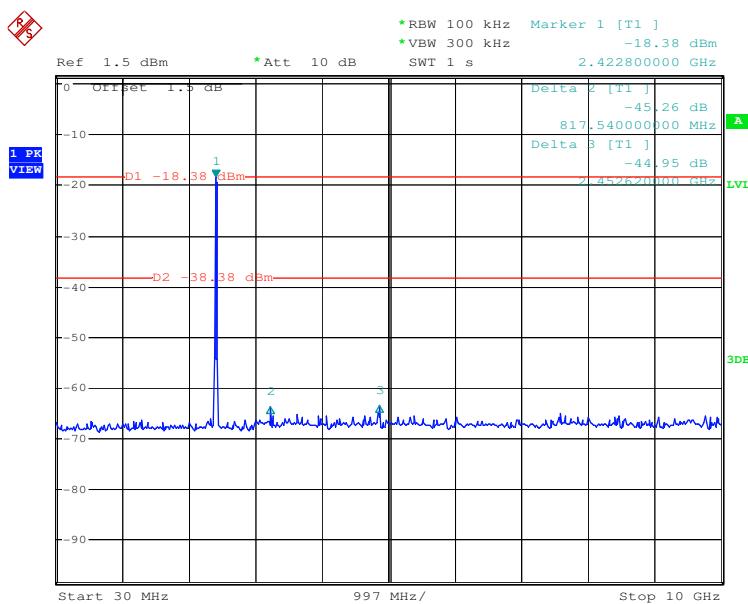


Date: 17.MAR.2010 14:49:35

Test mode:	802.11g	Test channel:	Middle
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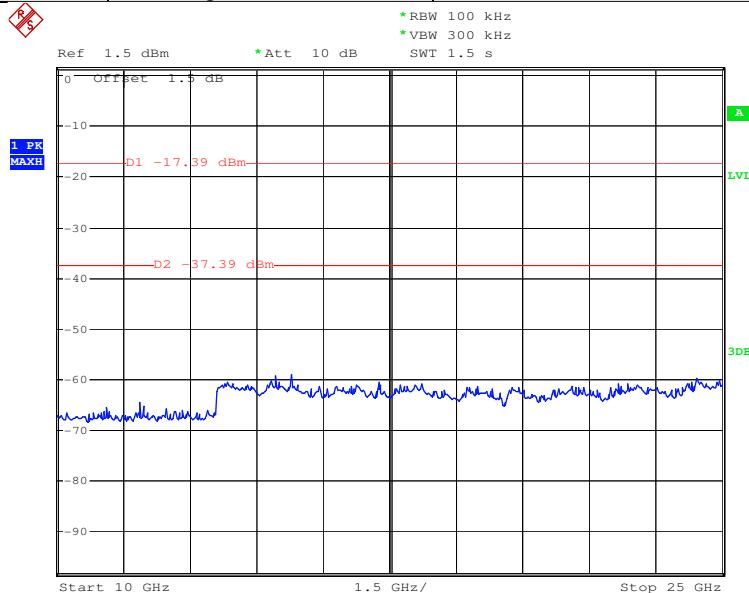


Date: 17.MAR.2010 15:52:20

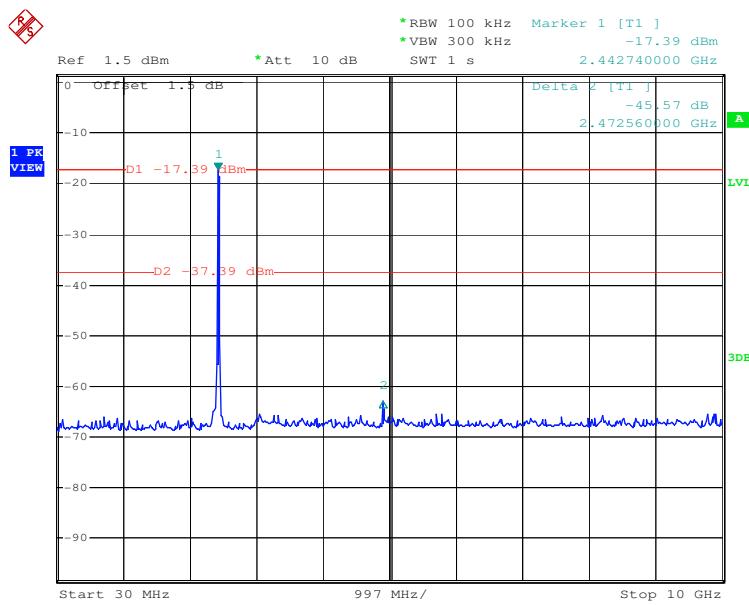


Date: 17.MAR.2010 15:51:38

Test mode:	802.11g	Test channel:	Highest
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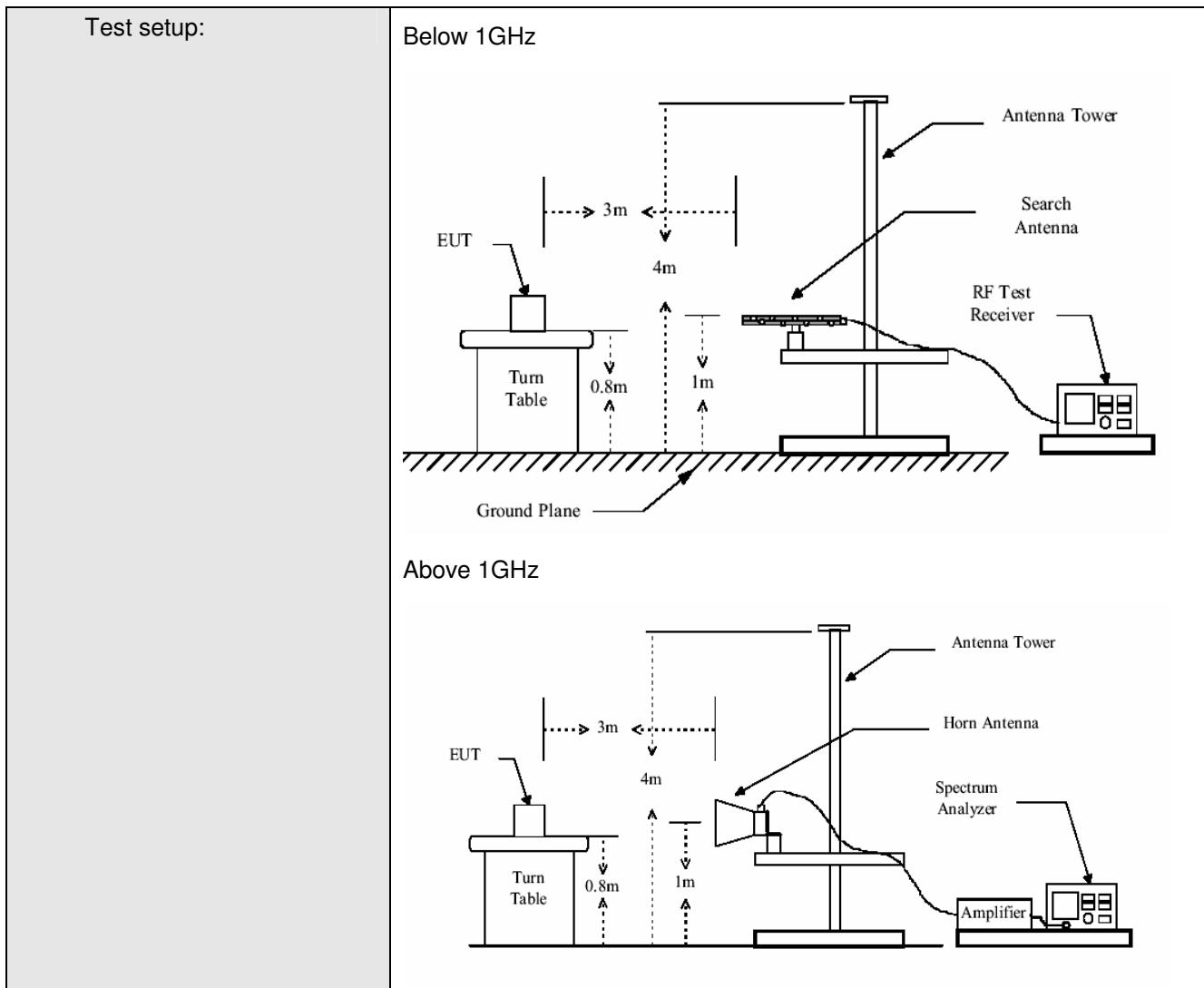
Date: 17.MAR.2010 16:17:49



Date: 17.MAR.2010 16:17:18

5.8 Radiated Emission

Test Requirement:	FCC Part15 C Section 15.209 and 15.205																								
Test Method:	ANSI C63.4: 2003																								
Test Frequency Range:	30MHz to 25GHz																								
Test site:	Measurement Distance: 3m (Semi-Anechoic Chamber)																								
Receiver setup:	<table border="1"><thead><tr><th>Frequency</th><th>Detector</th><th>RBW</th><th>VBW</th><th>Remark</th></tr></thead><tbody><tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>100KHz</td><td>300KHz</td><td>Quasi-peak Value</td></tr><tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr><tr><td>Peak</td><td>1MHz</td><td>10Hz</td><td>Average Value</td></tr></tbody></table>					Frequency	Detector	RBW	VBW	Remark	30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value	Above 1GHz	Peak	1MHz	3MHz	Peak Value	Peak	1MHz	10Hz	Average Value	
Frequency	Detector	RBW	VBW	Remark																					
30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value																					
Above 1GHz	Peak	1MHz	3MHz	Peak Value																					
	Peak	1MHz	10Hz	Average Value																					
Limit:	<table border="1"><thead><tr><th>Frequency</th><th>Limit (dBuV/m @3m)</th><th>Remark</th></tr></thead><tbody><tr><td>30MHz-88MHz</td><td>40.0</td><td>Quasi-peak Value</td></tr><tr><td>88MHz-216MHz</td><td>43.5</td><td>Quasi-peak Value</td></tr><tr><td>216MHz-960MHz</td><td>46.0</td><td>Quasi-peak Value</td></tr><tr><td>960MHz-1GHz</td><td>54.0</td><td>Quasi-peak Value</td></tr><tr><td rowspan="2">Above 1GHz</td><td>54.0</td><td>Average Value</td></tr><tr><td>74.0</td><td>Peak Value</td></tr></tbody></table>					Frequency	Limit (dBuV/m @3m)	Remark	30MHz-88MHz	40.0	Quasi-peak Value	88MHz-216MHz	43.5	Quasi-peak Value	216MHz-960MHz	46.0	Quasi-peak Value	960MHz-1GHz	54.0	Quasi-peak Value	Above 1GHz	54.0	Average Value	74.0	Peak Value
Frequency	Limit (dBuV/m @3m)	Remark																							
30MHz-88MHz	40.0	Quasi-peak Value																							
88MHz-216MHz	43.5	Quasi-peak Value																							
216MHz-960MHz	46.0	Quasi-peak Value																							
960MHz-1GHz	54.0	Quasi-peak Value																							
Above 1GHz	54.0	Average Value																							
	74.0	Peak Value																							
Test Procedure:	<p>The E.U.T and its simulators are placed on a turn table which is 0.8meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.</p> <p>Both horizontal and vertical polarization of the antenna is set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4:2003 on radiated measurement.</p>																								
Test Instruments:	Refer to section 4.7 for details																								
Test mode:	Normal operation mode																								
Test results:	Passed																								


Note:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor

5.8.1 Radiated emission below 1GHz**Test in WIFI mode.**

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
37.760	0.60	11.95	28.11	45.85	30.29	40.00	-9.71	Vertical
76.560	1.00	7.43	28.00	49.87	30.30	40.00	-9.70	Vertical
95.960	1.16	8.95	27.91	47.99	30.19	43.50	-13.31	Vertical
265.710	1.75	12.63	26.85	45.95	33.48	46.00	-12.52	Vertical
346.220	2.05	15.31	27.06	43.77	34.07	46.00	-11.93	Vertical
744.890	3.04	21.68	27.12	39.16	36.76	46.00	-9.24	Vertical
64.920	0.80	7.04	28.02	54.45	34.27	40.00	-5.73	Horizontal
83.350	1.10	8.04	27.98	46.87	28.03	40.00	-11.97	Horizontal
240.490	1.63	12.01	26.95	46.52	33.21	46.00	-12.79	Horizontal
266.021	1.75	12.63	26.85	55.20	42.73	46.00	-3.27	Horizontal
284.140	1.83	13.21	26.78	51.94	40.20	46.00	-5.80	Horizontal
851.590	3.41	22.40	26.67	38.00	37.14	46.00	-8.86	Horizontal

5.8.2 Transmitter emission above 1GHz

Test mode:	802.11g	Test channel:	Lowest	Remark:	Peak
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Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2316.00	6.00	29.74	39.83	50.31	46.22	74.00	-27.78	Vertical
4513.25	8.96	33.85	39.88	47.89	50.82	74.00	-23.18	Vertical
6252.25	14.45	36.14	41.65	47.68	56.62	74.00	-17.38	Vertical
8919.50	13.35	37.79	37.40	46.10	59.84	74.00	-14.16	Vertical
10482.25	14.48	38.20	36.39	44.68	60.97	74.00	-13.03	Vertical
12174.25	18.03	39.21	39.27	44.35	62.32	74.00	-11.68	Vertical
2327.75	6.02	29.76	39.75	48.8	44.83	74.00	-29.17	Horizontal
3902.25	7.89	32.99	39.76	46.54	47.66	74.00	-26.34	Horizontal
5206.50	11.73	34.79	41.19	47.18	52.51	74.00	-21.49	Horizontal
6945.50	13.69	37.05	40.86	47.18	57.06	74.00	-16.94	Horizontal
8919.50	13.35	37.79	37.40	45.60	59.34	74.00	-14.66	Horizontal
10482.25	14.48	38.20	36.39	44.87	61.16	74.00	-12.84	Horizontal

Test mode:	802.11g	Test channel:	Lowest	Remark:	Average
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Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamp factor (dB)	Reading Level (dB μ V)	Emission Level (dB μ V/m)	Limit (dB μ V/m)	Over limit	polarization
2327.75	6.02	29.76	39.75	41.32	37.35	54.00	-16.65	Vertical
2891.75	6.28	31.58	39.48	45.15	43.53	54.00	-10.47	Vertical
3784.75	7.49	32.86	40.11	35.93	36.17	54.00	-17.83	Vertical
5183.00	11.56	34.75	41.19	34.97	40.09	54.00	-13.91	Vertical
6452.00	14.07	36.41	41.42	34.82	43.88	54.00	-10.12	Vertical
10129.75	14.34	38.12	37.25	32.69	47.90	54.00	-6.10	Vertical
2316.00	6.00	29.74	39.83	39.8	35.71	54.00	-18.29	Horizontal
3185.50	7.08	32.15	39.48	38.98	38.73	54.00	-15.27	Horizontal
4160.75	8.37	33.34	40.63	40.69	41.77	54.00	-12.23	Horizontal
5735.25	12.89	35.47	42.00	35.34	41.70	54.00	-12.30	Horizontal
7227.50	13.30	37.24	40.88	32.25	41.91	54.00	-12.09	Horizontal
11751.25	15.73	38.89	38.74	30.55	46.43	54.00	-7.57	Horizontal



Test mode:	802.11g	Test channel:	Middle	Remark:	Peak
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Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2163.25	5.54	29.16	39.01	45.02	40.71	74.00	-33.29	Vertical
3138.50	7.31	32.09	39.71	47.09	46.78	74.00	-27.22	Vertical
4454.50	8.92	33.77	40.30	47.48	49.87	74.00	-24.13	Vertical
5594.25	12.72	35.30	42.02	48.29	54.29	74.00	-19.71	Vertical
7791.50	14.18	37.58	39.61	45.62	57.77	74.00	-16.23	Vertical
10482.25	14.48	38.20	36.39	44.88	61.17	74.00	-12.83	Vertical
1693.25	5.06	27.70	39.89	49.07	41.94	74.00	-32.06	Horizontal
2997.50	6.68	31.90	38.96	48.60	48.22	74.00	-25.78	Horizontal
4278.25	8.72	33.52	40.02	46.59	48.81	74.00	-25.19	Horizontal
6252.25	14.45	36.14	41.65	47.41	56.35	74.00	-17.65	Horizontal
8590.50	13.11	37.76	37.94	45.26	58.19	74.00	-15.81	Horizontal
10470.50	14.48	38.20	36.39	44.73	61.02	74.00	-12.98	Horizontal

Test mode:	802.11g	Test channel:	Middle	Remark:	Average
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Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamp factor (dB)	Reading Level (dB μ V)	Emission Level (dB μ V/m)	Limit (dB μ V/m)	Over limit	polarization
1775.50	5.52	27.94	38.94	42.26	36.78	54.00	-17.22	Vertical
3115.00	7.46	32.06	39.86	41.86	41.52	54.00	-12.48	Vertical
3679.00	7.61	32.75	39.51	43.20	44.05	54.00	-9.95	Vertical
5500.25	12.36	35.18	41.75	40.61	46.40	54.00	-7.60	Vertical
7932.50	13.24	37.67	39.91	35.09	46.09	54.00	-7.91	Vertical
9988.75	14.32	38.09	37.62	33.51	48.30	54.00	-5.70	Vertical
1787.25	5.59	27.96	38.80	46.40	41.15	54.00	-12.85	Horizontal
3126.75	7.41	32.07	39.81	38.71	38.38	54.00	-15.62	Horizontal
4090.25	8.09	33.23	40.24	40.25	41.33	54.00	-12.67	Horizontal
5923.25	13.07	35.70	41.96	36.32	43.13	54.00	-10.87	Horizontal
6875.00	13.58	36.95	40.52	36.60	46.61	54.00	-7.39	Horizontal
9612.75	13.39	37.99	37.56	34.06	47.88	54.00	-6.12	Horizontal



Test mode:	802.11g	Test channel:	Highest	Remark:	Peak
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Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2997.50	6.68	31.90	38.96	49.33	48.95	74.00	-25.05	Vertical
3679.00	7.61	32.75	39.51	47.26	48.11	74.00	-25.89	Vertical
4466.25	8.90	33.79	40.07	48.81	51.43	74.00	-22.57	Vertical
5394.50	11.93	35.04	41.45	48.21	53.73	74.00	-20.27	Vertical
6193.50	14.47	36.07	41.71	48.00	56.83	74.00	-17.17	Vertical
9448.25	13.79	37.94	37.46	46.55	60.82	74.00	-13.18	Vertical
1787.25	5.59	27.96	38.80	46.57	41.32	74.00	-32.68	Horizontal
3702.50	7.40	32.78	39.14	47.58	48.62	74.00	-25.38	Horizontal
5359.25	11.90	35.00	41.36	47.67	53.21	74.00	-20.79	Horizontal
6863.25	13.55	36.93	40.44	47.40	57.44	74.00	-16.56	Horizontal
9342.50	13.73	37.91	37.85	46.48	60.27	74.00	-13.73	Horizontal
10435.25	14.26	38.18	36.54	45.51	61.41	74.00	-12.59	Horizontal

Test mode:	802.11g	Test channel:	Highest	Remark:	Average
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Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamp factor (dB)	Reading Level (dB μ V)	Emission Level (dB μ V/m)	Limit (dB μ V/m)	Over limit	polarization
1587.50	5.08	27.40	38.94	46.09	39.63	54.00	-14.37	Vertical
3338.25	7.02	32.34	39.39	40.59	40.56	54.00	-13.44	Vertical
3984.50	8.06	33.08	40.70	39.66	40.10	54.00	-13.90	Vertical
4983.25	10.67	34.48	41.15	39.86	43.86	54.00	-10.14	Vertical
6687.00	13.29	36.71	40.65	32.24	41.59	54.00	-12.41	Vertical
10599.75	14.91	38.22	36.57	30.60	47.16	54.00	-6.84	Vertical
1787.25	5.59	27.96	38.80	43.57	38.32	54.00	-15.68	Horizontal
2915.25	6.34	31.66	39.43	39.34	37.91	54.00	-16.09	Horizontal
3961.00	8.01	33.05	40.43	40.43	41.06	54.00	-12.94	Horizontal
6099.50	13.87	35.95	41.79	35.53	43.56	54.00	-10.44	Horizontal
7321.50	12.91	37.31	40.40	36.27	46.09	54.00	-7.91	Horizontal
10129.75	14.34	38.12	37.25	32.75	47.96	54.00	-6.04	Horizontal