

FCC REPORT (WiFi)

Applicant: Corporativo Lanix S.A. de C.V.
Address of Applicant: Carretera internacional Hermosillo-Nogale Km.8.5 Hermosillo,
Sonora, Mexico

Equipment Under Test (EUT)

Product Name: GSM Dual Band GPRS Digital Mobile Phone

Model No.: LX12

Trade mark : LANIX

FCC ID: ZC4LX12

Applicable standards: FCC CFR Title 47 Part 15 Subpart C Section 15.247

Date of sample receipt: Dec. 22, 2011

Date of Test: Dec. 23-27, 2011

Date of report issued: Dec. 28, 2011

Test Result : PASS *

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Stephen Guo
Laboratory Manager

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 GTS 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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2 Version

Version No.	Date	Description
00	Dec. 28, 2011	Original

Prepared By:

Collin He

Date:

Dec. 28, 2011

Project Engineer

Check By:

Hans. Hu

Date:

Dec. 28, 2011

Reviewer

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4 Test Summary

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

Pass: The EUT complies with the essential requirements in the standard.

5 General Information

5.1 Client Information

Applicant:	Corporativo Lanix S.A. de C.V.
Address of Applicant:	Carretera internacional Hermosillo-Nogale Km.8.5 Hermosillo, Sonora, Mexico
Manufacturer:	ShenZhen Konka Telecommunication Technology Co., Ltd
Address of Manufacturer:	No.9008 Shennan Road, Overseas Chinese Town, ShenZhen, Guangdong, China
Factory:	SHENZHEN KONKA TELECOMMUNICATION TECHNOLOGY CO., LTD
Address of Factory:	No.9008 Shennan Road, Overseas Chinese Town, ShenZhen, Guangdong, China

5.2 General Description of E.U.T.

Product Name:	GSM Dual Band GPRS Digital Mobile Phone
Model No.:	LX12
Operation Frequency:	2412MHz~2462MHz (802.11b/802.11g)
Channel numbers:	11 for 802.11b/802.11g
Channel separation:	5MHz
Modulation technology: (IEEE 802.11b)	CCK
Modulation technology: (IEEE 802.11g)	OFDM
Data speed (IEEE 802.11b):	1Mbps, 2Mbps, 5.5Mbps, 11Mbps
Data speed (IEEE 802.11g):	6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps,54Mbps
Antenna Type:	PIFA
Antenna gain:	0.47 dBi
AC adapter:	Model : LX12-C Input: AC 100-240V 50/60Hz Output: DC 5V 500mA
Power supply:	Model : LX12-BAT Type: lithium-ion 3.7V 900mAh Voltage: DC 3.7V

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:

802.11b/802.11g

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

5.3 Test environment and mode

Operating Environment:	
Temperature:	24.0 °C
Humidity:	54 % RH
Atmospheric Pressure:	1010 mbar
Test mode:	
WIFI mode	Keep the EUT in transmitting 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:

Per-scan all kind of data rate in lowest channel, and found the follow list which it was worst case.

Mode	Data rate
802.11b	1Mbps
802.11g	6Mbps

Final Test Mode:

According to ANSI C63.4 standards, the test results are both the “worst case” and “worst setup” 1Mbps for 802.11b, 6Mbps for 802.11g.

5.4 Test Facility

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

● FCC —Registration No.: 600491

Global United Technology 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 600491, July 20, 2010.

● Industry Canada (IC)

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. Has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A-1.

5.5 Test Location

All tests were performed at:

Global United Technology Services Co., Ltd.

Address: 2nd Floor, Block No.2, Laodong Industrial Zone, Xixiang Road Baoan District, Shenzhen, China

Tel: 0755-27798480

Fax: 0755-27798960

5.6 Other Information Requested by the Customer

None.


5.7 Test Instruments list

Radiated Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	Mar. 30 2011	Mar. 29 2012
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	Jul. 04 2011	Jul. 03 2012
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	Feb. 26 2011	Feb. 25 2012
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	9120D-829	GTS208	June 30 2011	June 29 2012
6	Horn Antenna	ETS-LINDGREN	3160	GTS217	Mar. 30 2011	Mar. 29 2012
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
8	Coaxial Cable	GTS	N/A	GTS213	Apr. 01 2011	Mar. 31 2012
9	Coaxial Cable	GTS	N/A	GTS211	Apr. 01 2011	Mar. 31 2012
10	Coaxial cable	GTS	N/A	GTS210	Apr. 01 2011	Mar. 31 2012
11	Coaxial Cable	GTS	N/A	GTS212	Apr. 01 2011	Mar. 31 2012
12	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	Jul. 04 2011	Jul. 03 2012
13	Amplifier(2GHz-20GHz)	HP	8349B	GTS206	Jul. 04 2011	Jul. 03 2012
14	Pre-amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June 30 2011	June 29 2012
15	Band filter	Amindeon	82346	GTS219	June 30 2011	June 29 2012

Conducted Emission/ Disturbance voltages:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Shielding Room	ZhongYu Electron	7.0(L)x3.0(W)x3.0(H)	GTS252	Jul. 04 2011	Jul. 03 2012
2	EMI Test Receiver	Rohde & Schwarz	ESCS30	GTS223	Jul. 04 2011	Jul. 03 2012
3	10dB Pulse Limita	Rohde & Schwarz	N/A	GTS224	Jul. 04 2011	Jul. 03 2012
4	LISN	SCHWARZBECK MESS-ELEKTRONIK	NSLK 8127	GTS226	Jul. 04 2011	Jul. 03 2012
5	Coaxial Cable	GTS	N/A	GTS227	Apr. 01 2011	Mar. 31 2012
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A

6 Test results and Measurement Data

6.1 Antenna requirement:

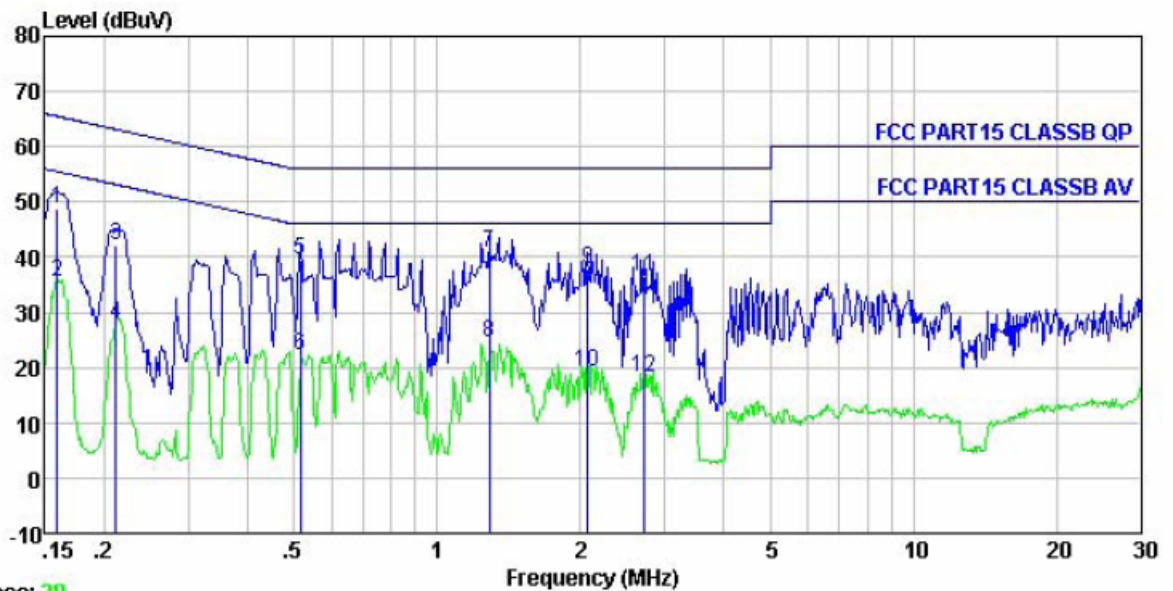
Standard requirement:	FCC Part15 C Section 15.203 /247(c)
<p>15.203 requirement: <i>An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses 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></p> <p>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></p>	
E.U.T Antenna:	
<p>The antenna is a PIFA antenna which fixed on the main board, the best case gain of the antenna is 0.47 dBi</p> <div data-bbox="245 996 1385 1599">  </div>	

6.2 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			
Receiver setup:	RBW=9KHz, VBW=30KHz			
Limit:	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	<div>1. 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.</div> <div>2. 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).</div> <div>3. 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: 2009 on conducted measurement.</div>			
Test setup:	<div><div><div><div>Reference Plane</div><div><div><div>LISN</div><div>AUX Equipment</div><div>E.U.T</div></div><div>40cm</div><div>80cm</div><div>Test table/Insulation plane</div></div><div><div><div>LISN</div><div>Filter</div><div>EMI Receiver</div></div><div>AC power</div></div></div></div><div><div>Remark:</div><div>E.U.T: Equipment Under Test</div><div>LISN: Line Impedance Stabilization Network</div><div>Test table height=0.8m</div></div></div>			
Test Instruments:	Refer to section 5.7 for details			
Test mode:	Refer to section 5.3 for details			
Test results:	Pass			

Measurement Data

Line:

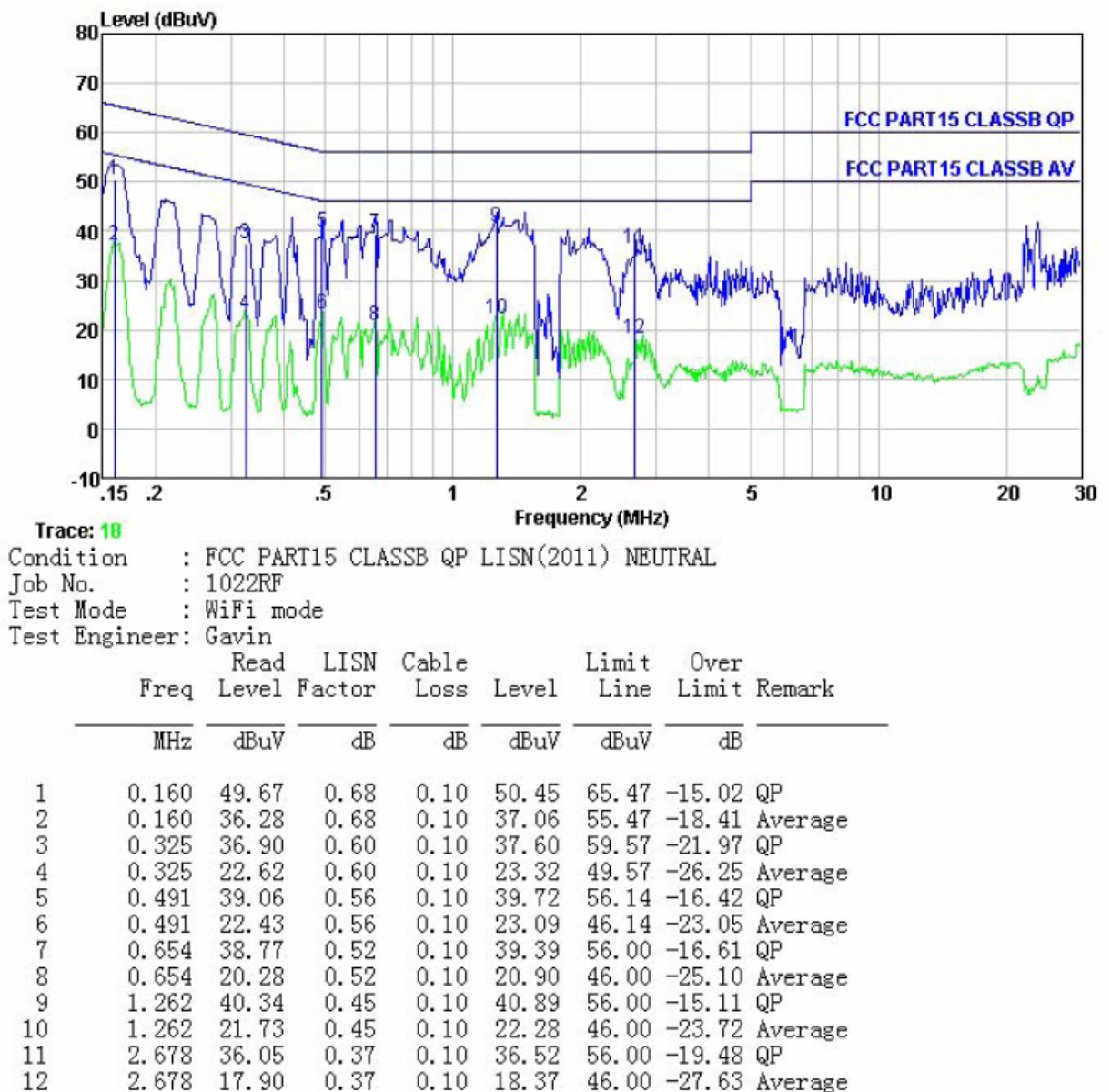


Trace: 20

Condition : FCC PART15 CLASSB QP LISN(2011) LINE
 Job No. : 1022RF
 Test Mode : WiFi mode
 Test Engineer: Gavin

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.159	47.98	0.68	0.10	48.76	65.52	-16.76	QP
2	0.159	34.73	0.68	0.10	35.51	55.52	-20.01	Average
3	0.212	41.52	0.65	0.10	42.27	63.14	-20.87	QP
4	0.212	27.14	0.65	0.10	27.89	53.14	-25.25	Average
5	0.516	38.69	0.55	0.10	39.34	56.00	-16.66	QP
6	0.516	21.63	0.55	0.10	22.28	46.00	-23.72	Average
7	1.289	40.13	0.45	0.10	40.68	56.00	-15.32	QP
8	1.289	23.94	0.45	0.10	24.49	46.00	-21.51	Average
9	2.066	37.39	0.40	0.10	37.89	56.00	-18.11	QP
10	2.066	18.62	0.40	0.10	19.12	46.00	-26.88	Average
11	2.721	35.91	0.37	0.10	36.38	56.00	-19.62	QP
12	2.721	17.71	0.37	0.10	18.18	46.00	-27.82	Average

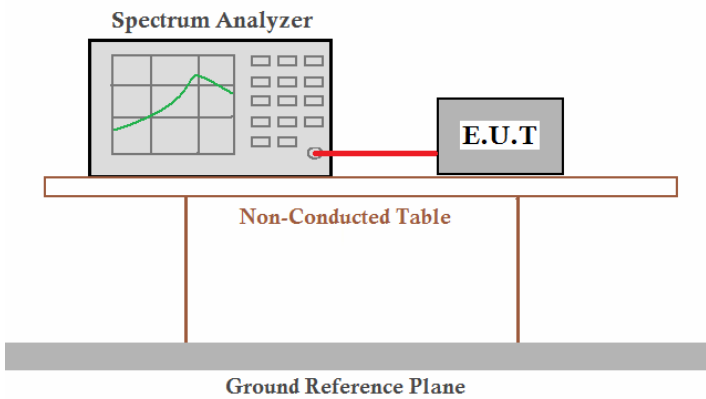
Neutral:



Notes:

1. An initial pre-scan was performed on the live and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level = Receiver Read level + LISN Factor + Cable Loss

6.3 Conducted Peak Output Power

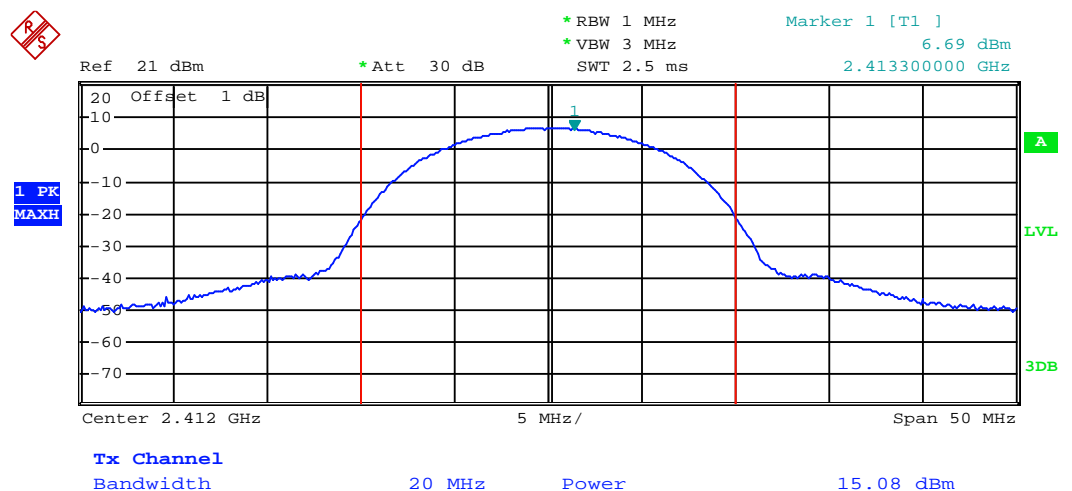
Test Requirement:	FCC Part15 C Section 15.247 (b)(3)
Test Method:	ANSI C63.4:2003 and KDB558074
Limit:	30dBm
Test setup:	
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Measurement Data

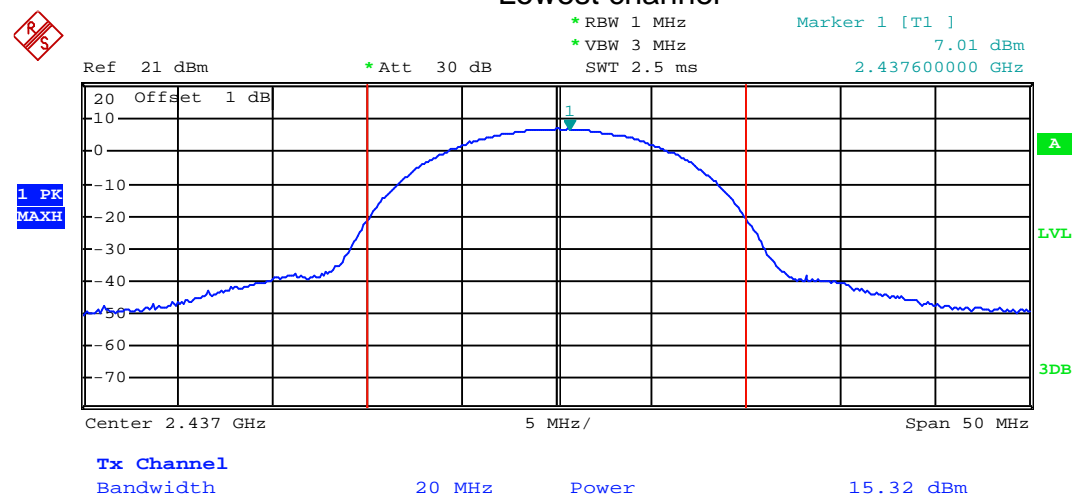
Test CH	Average Output Power (dBm)		Peak Output Power (dBm)		Limit(dBm)	Result
	802.11b	802.11g	802.11b	802.11g		
Lowest	10.52	8.43	15.08	12.47	30.00	Pass
Middle	10.86	8.68	15.32	13.08		
Highest	11.38	9.06	15.69	13.40		

Test plot as follows:

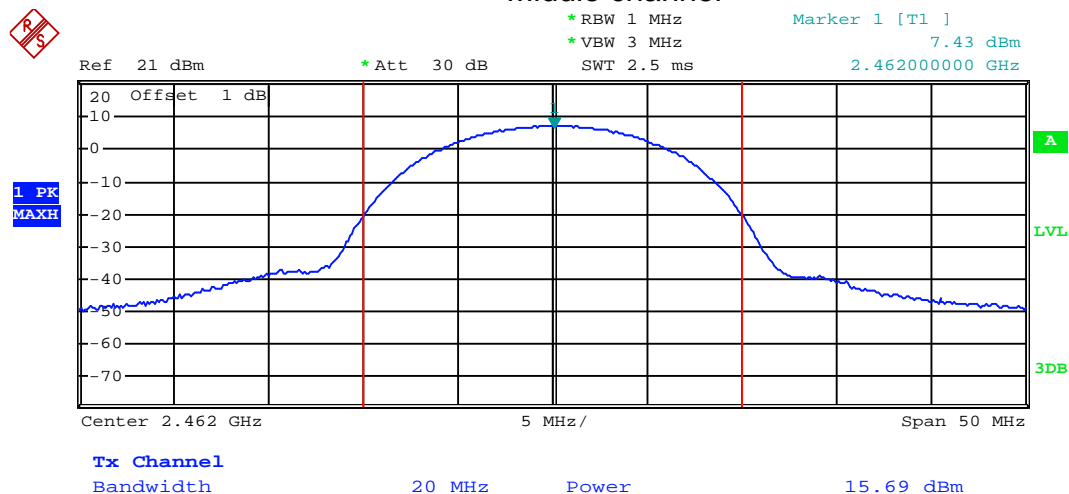
Test mode:	802.11b
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Lowest channel

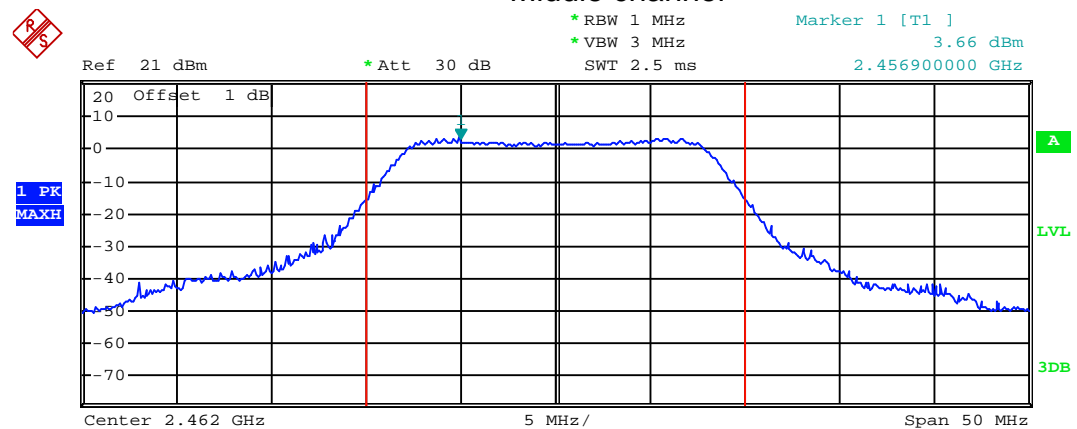
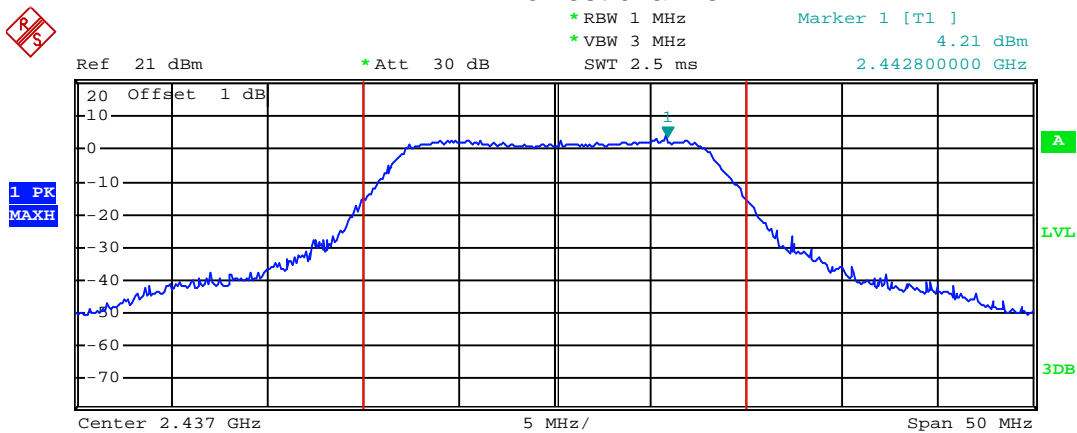
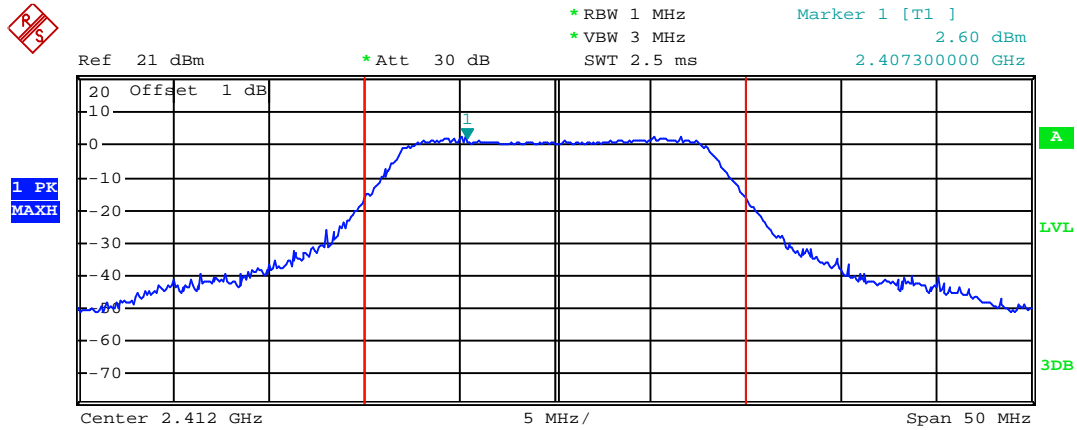


Middle channel

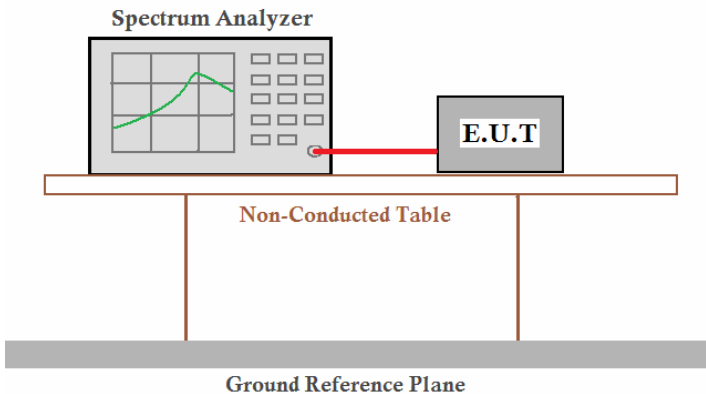


Highest channel

Test mode:	802.11g
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6.4 6dB Occupy Bandwidth

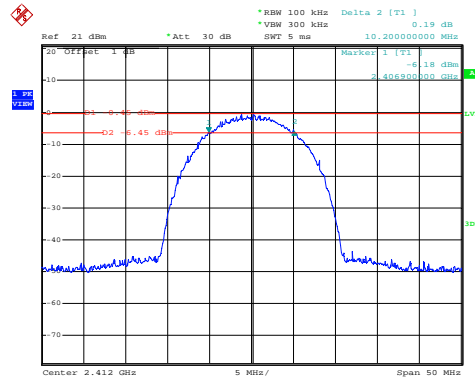
Test Requirement:	FCC Part15 C Section 15.247 (a)(2)
Test Method:	ANSI C63.4:2003 and KDB558074
Limit:	>500KHz
Test setup:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T. are placed on a Non-Conducted Table. The table is supported by a Ground Reference Plane.</p>
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Measurement Data

Test CH	6dB Occupy Bandwidth (MHz)		Limit(kHz)	Result
	802.11b	802.11g		
Lowest	10.20	16.60	>500	Pass
Middle	10.60	16.50		
Highest	10.40	16.60		

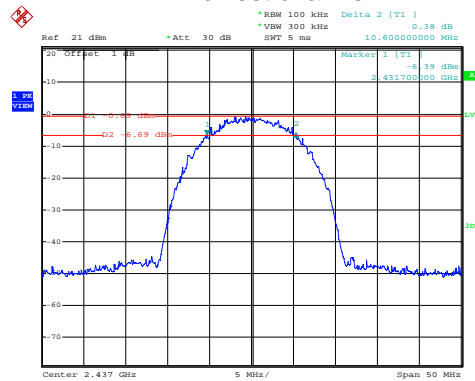
Test plot as follows:

Test mode:	802.11b
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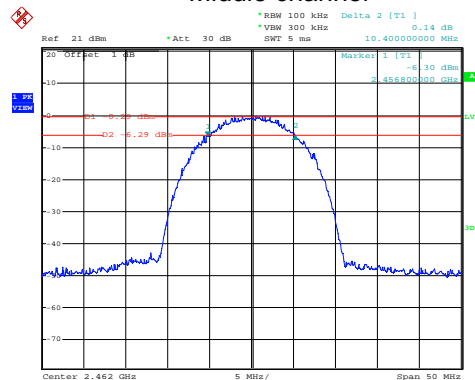
Date: 23.DEC.2011 03:18:07

Lowest channel



Date: 23.DEC.2011 03:24:15

Middle channel

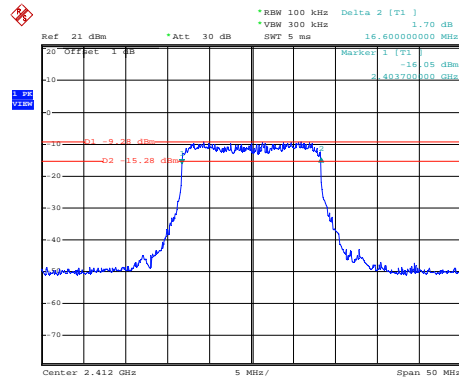


Date: 23.DEC.2011 03:32:01

Highest channel

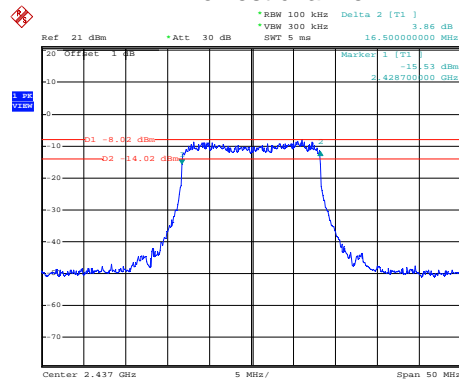
Test mode:

802.11g



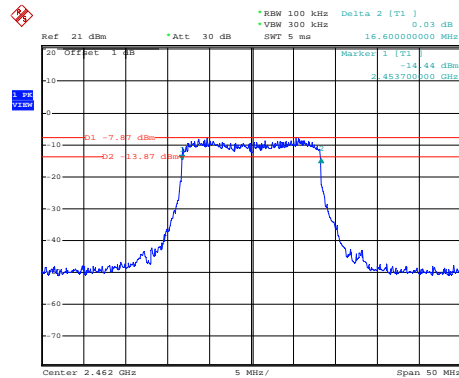
Date: 23.DEC.2011 03:37:26

Lowest channel



Date: 23.DEC.2011 03:42:48

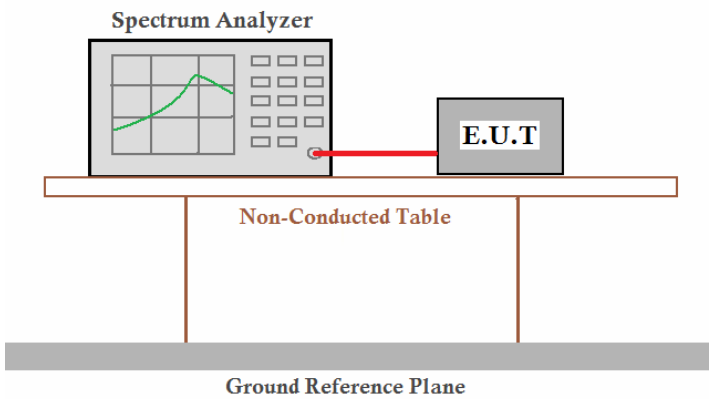
Middle channel



Date: 23.DEC.2011 03:47:57

Highest channel

6.5 Power Spectral Density

Test Requirement:	FCC Part15 C Section 15.247 (e)
Test Method:	ANSI C63.4:2003 and KDB558074
Limit:	8dBm
Test setup:	
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

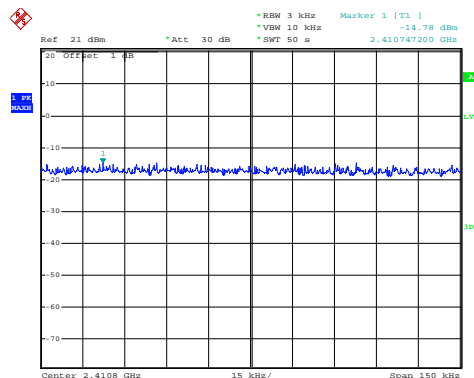
Measurement Data

Test CH	Power Spectral Density (dBm)		Limit(dBm)	Result
	802.11b	802.11g		
Lowest	-14.78	-20.37	8.00	Pass
Middle	-14.18	-20.07		
Highest	-13.90	-18.99		

Test plot as follows:

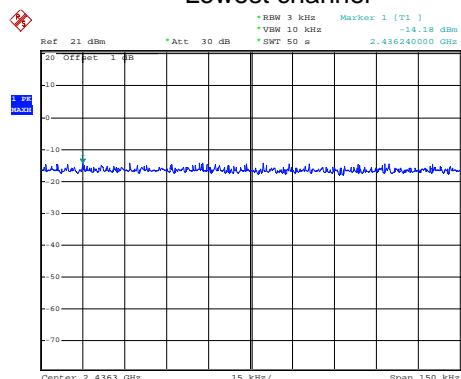
Test mode:

802.11b



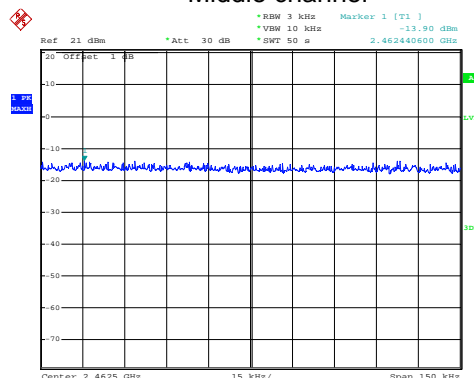
Date: 23.DEC.2011 03:20:07

Lowest channel



Date: 23.DEC.2011 03:26:45

Middle channel

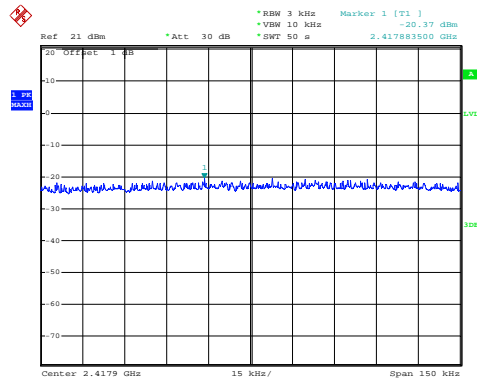


Date: 23.DEC.2011 03:33:32

Highest channel

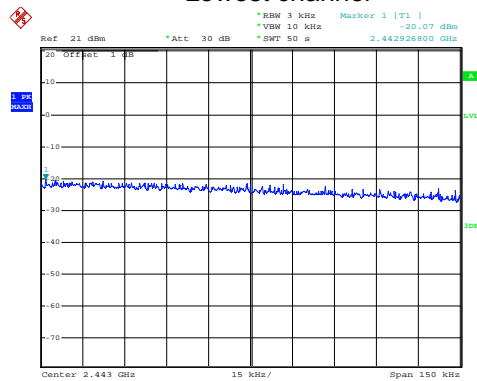
Test mode:

802.11g



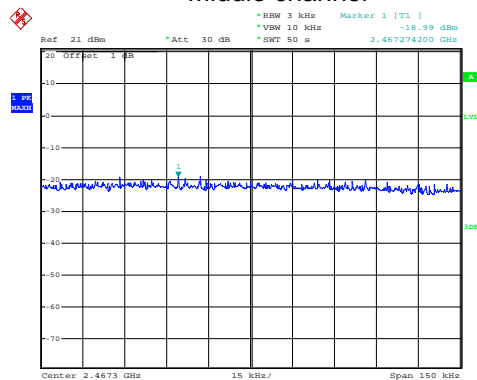
Date: 23.DEC.2011 03:38:48

Lowest channel



Date: 23.DEC.2011 03:44:49

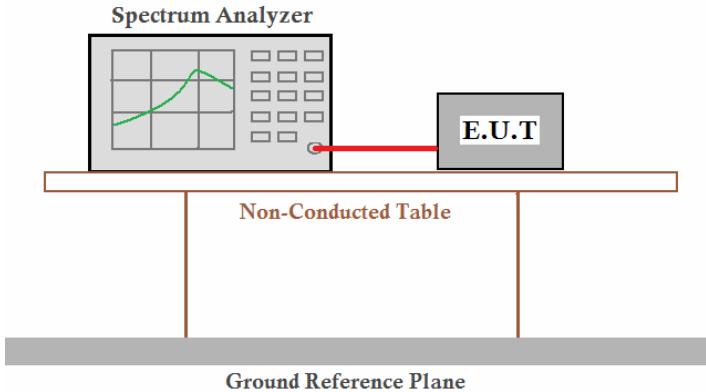
Middle channel



Date: 23.DEC.2011 03:49:22

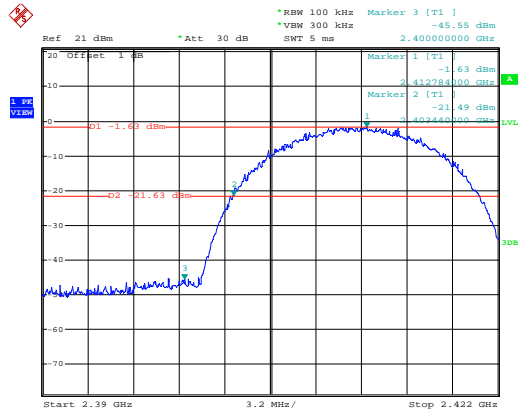
Highest channel

6.6 Band edges

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>The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T. are placed on a Non-Conducted Table. Below the table is a Ground Reference Plane.</p>
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

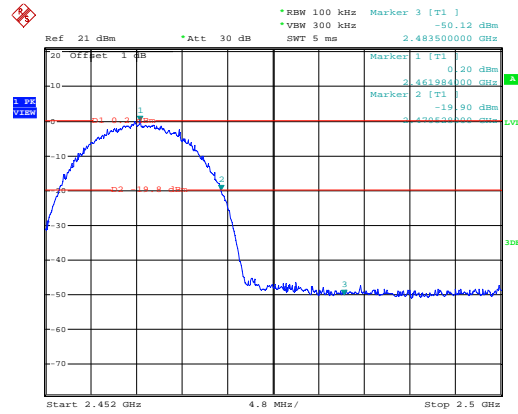
Test plot as follows:

Test mode:	802.11b
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Date: 23.DEC.2011 03:21:22

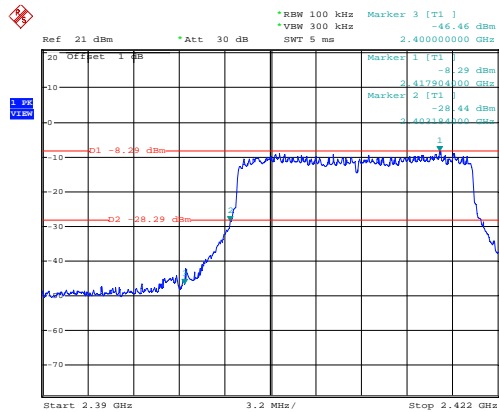
Lowest channel



Date: 23.DEC.2011 03:34:48

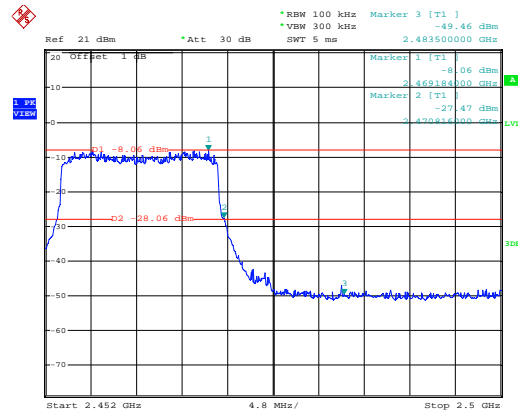
Highest channel

Test mode:	802.11g
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Date: 23.DEC.2011 03:39:51

Lowest channel

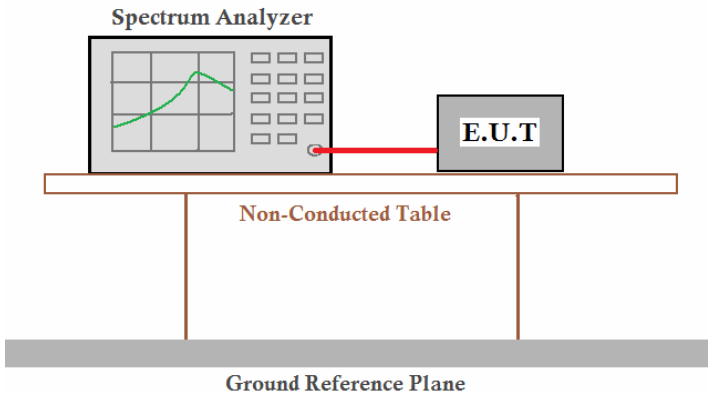


Date: 23.DEC.2011 03:50:14

Highest channel

6.7 Spurious Emission

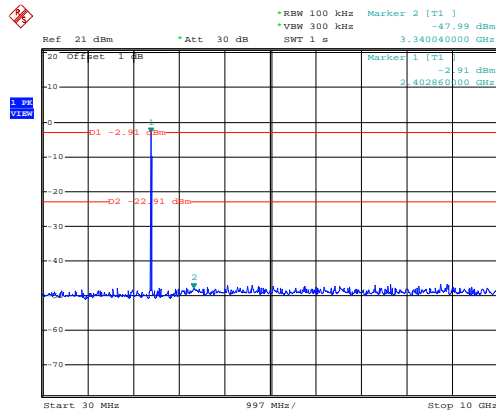
6.7.1 Conducted Emission Method

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>The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T. are placed on a Non-Conducted Table. The table is supported by a Ground Reference Plane.</p>
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

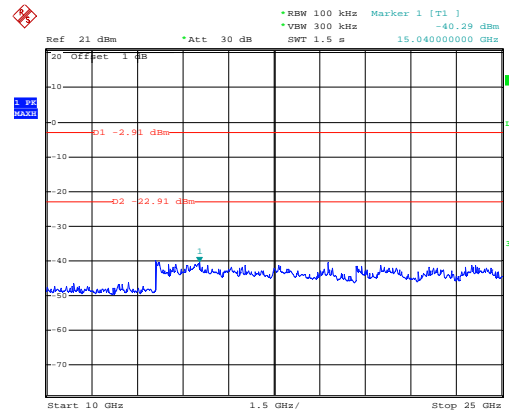
Test plot as follows:

Test mode:	802.11b
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Lowest channel



Date: 23.DEC.2011 03:22:02

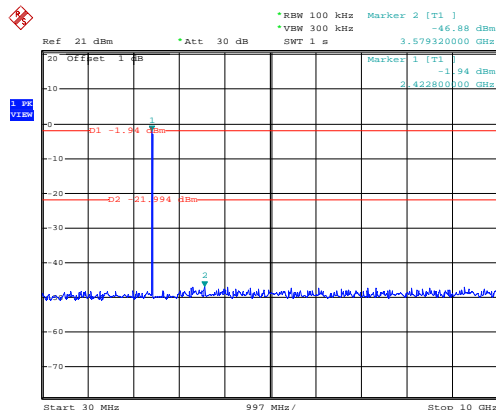


Date: 23.DEC.2011 03:22:21

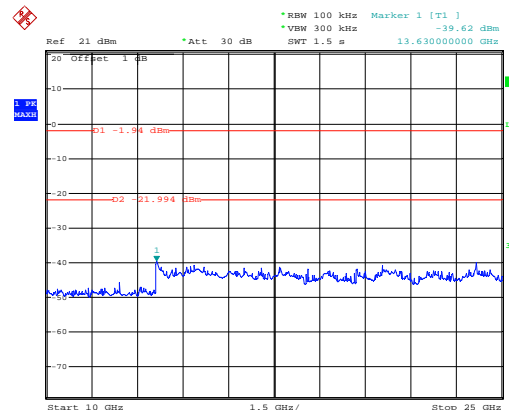
30MHz~10GHz

10GHz~25GHz

Middle channel



Date: 23.DEC.2011 03:28:13

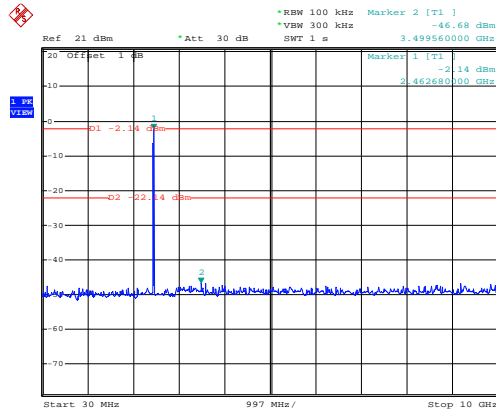


Date: 23.DEC.2011 03:28:27

30MHz~10GHz

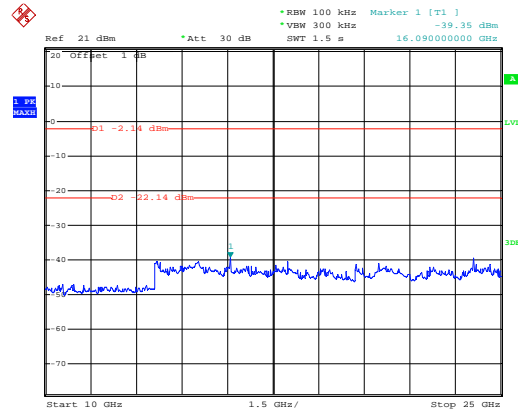
10GHz~25GHz

Highest channel



Date: 23.DEC.2011 03:35:29

30MHz~10GHz



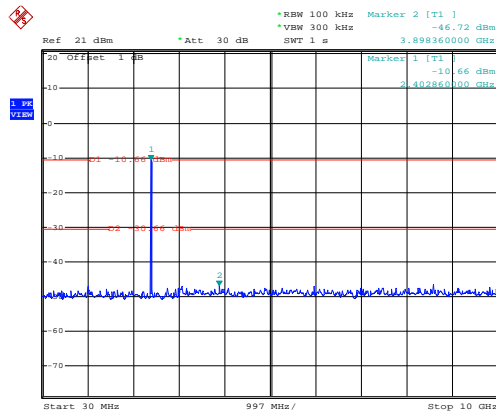
Date: 23.DEC.2011 03:35:46

10GHz~25GHz

Test mode:

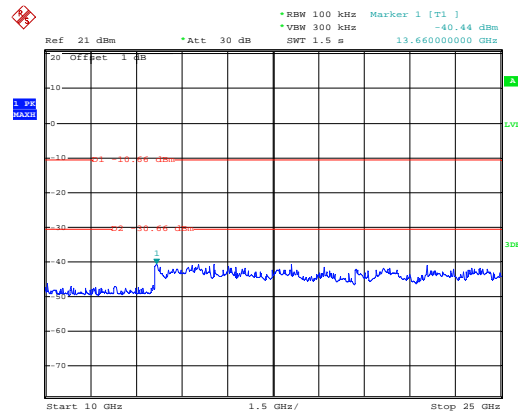
802.11g

Lowest channel



Date: 23.DEC.2011 03:40:34

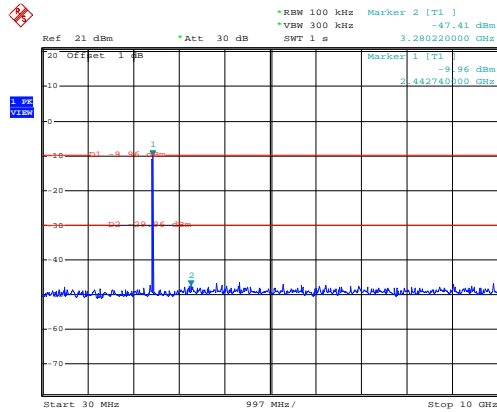
30MHz~10GHz



Date: 23.DEC.2011 03:40:49

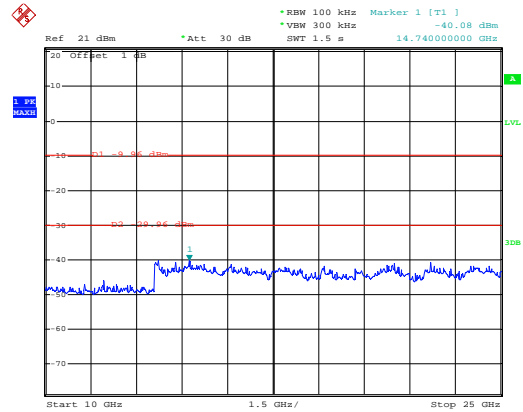
10GHz~25GHz

Middle channel



Date: 23.DEC.2011 03:45:55

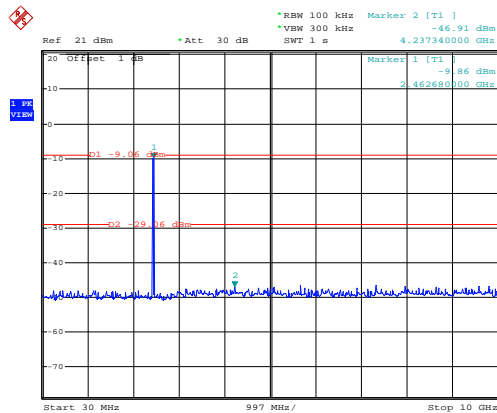
30MHz~10GHz



Date: 23.DEC.2011 03:46:12

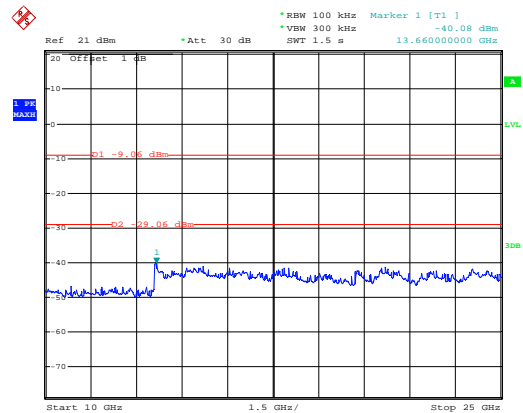
10GHz~25GHz

Highest channel



Date: 23.DEC.2011 03:50:53

30MHz~10GHz

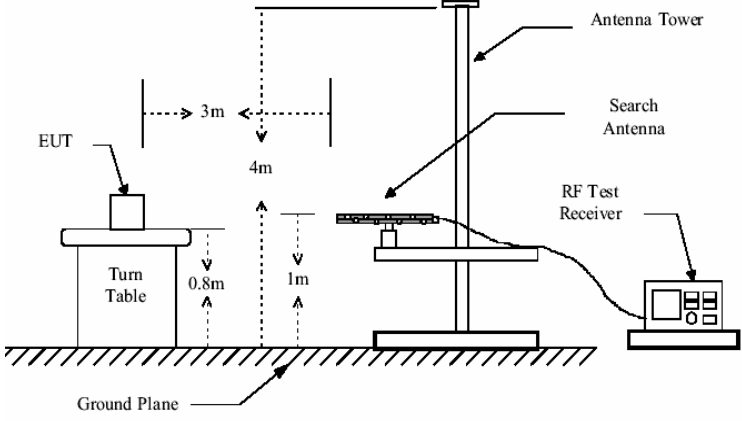
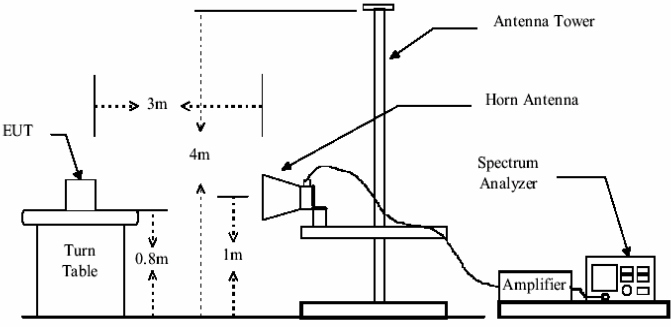


Date: 23.DEC.2011 03:51:08

10GHz~25GHz

6.7.2 Radiated Emission Method

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				
Receiver setup:					
	Frequency	Detector	RBW	VBW	Remark
	30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
Average		1MHz	10Hz	Average Value	
Limit:					
	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:	<div>1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.</div> <div>2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</div> <div>3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.</div> <div>4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.</div> <div>5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</div> <div>6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.</div>				

Test setup:	<p>Below 1GHz</p>  <p>Above 1GHz</p> 
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Below 1GHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
30.11	53.31	12.35	0.20	32.27	33.59	40.00	-6.41	Vertical
38.62	49.71	15.24	0.26	32.16	33.05	40.00	-6.95	Vertical
41.57	48.08	15.57	0.27	32.12	31.80	40.00	-8.20	Vertical
46.83	44.03	16.11	0.30	32.05	28.39	40.00	-11.61	Vertical
51.66	40.33	16.18	0.32	32.01	24.82	40.00	-15.18	Vertical
69.60	41.53	11.94	0.39	31.89	21.97	40.00	-18.03	Vertical
30.00	39.96	12.36	0.20	32.27	20.25	40.00	-19.75	Horizontal
38.75	36.73	15.24	0.26	32.16	20.07	40.00	-19.93	Horizontal
47.33	38.88	16.19	0.30	32.05	23.32	40.00	-16.68	Horizontal
59.86	36.04	15.61	0.36	31.95	20.06	40.00	-19.94	Horizontal
92.14	35.04	13.90	0.46	31.73	17.67	43.50	-25.83	Horizontal
113.32	34.01	11.63	0.52	31.78	14.38	43.50	-29.12	Horizontal

Above 1GHz

Test mode:		802.11b		Test channel:		Lowest		Remark:	Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization		
4824.00	44.24	31.55	5.89	35.47	46.21	74.00	-27.79	Vertical		
7236.00	44.52	36.50	7.10	35.30	52.82	74.00	-21.18	Vertical		
9648.00	42.92	38.14	9.01	35.73	54.34	74.00	-19.66	Vertical		
12060.00	*					74.00		Vertical		
14472.00	*					74.00		Vertical		
16884.00	*					74.00		Vertical		
4824.00	43.98	31.55	5.89	35.47	45.95	74.00	-28.05	Horizontal		
7236.00	44.26	36.50	7.10	35.30	52.56	74.00	-21.44	Horizontal		
9648.00	42.66	38.14	9.01	35.73	54.08	74.00	-19.92	Horizontal		
12060.00	*					74.00		Horizontal		
14472.00	*					74.00		Horizontal		
16884.00	*					74.00		Horizontal		

Test mode:		802.11b		Test channel:		Lowest		Remark:	Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization		
4824.00	34.19	31.55	5.89	35.47	36.16	54.00	-17.84	Vertical		
7236.00	35.16	36.50	7.10	35.30	43.46	54.00	-10.54	Vertical		
9648.00	33.38	38.14	9.01	35.73	44.80	54.00	-9.20	Vertical		
12060.00	*					54.00		Vertical		
14472.00	*					54.00		Vertical		
16884.00	*					54.00		Vertical		
4824.00	33.93	31.55	5.89	35.47	35.90	54.00	-18.10	Horizontal		
7236.00	34.90	36.50	7.10	35.30	43.20	54.00	-10.80	Horizontal		
9648.00	33.12	38.14	9.01	35.73	44.54	54.00	-9.46	Horizontal		
12060.00	*					54.00		Horizontal		
14472.00	*					54.00		Horizontal		
16884.00	*					54.00		Horizontal		

Test mode:		802.11b		Test channel:		Middle		Remark:	Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization		
4874.00	46.54	31.57	5.91	35.48	48.54	74.00	-25.46	Vertical		
7311.00	46.82	36.48	7.14	35.28	55.16	74.00	-18.84	Vertical		
9748.00	45.22	38.45	9.06	35.75	56.98	74.00	-17.02	Vertical		
12185.00	*					74.00		Vertical		
14622.00	*					74.00		Vertical		
17059.00	*					74.00		Vertical		
4874.00	45.32	31.57	5.91	35.48	47.32	74.00	-26.68	Horizontal		
7311.00	45.60	36.48	7.14	35.28	53.94	74.00	-20.06	Horizontal		
9748.00	44.00	38.45	9.06	35.75	55.76	74.00	-18.24	Horizontal		
12185.00	*					74.00		Horizontal		
14622.00	*					74.00		Horizontal		
17059.00	*					74.00		Horizontal		

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Pre-amplifier Factor
2. “*” means this data is too weak instrument of signal is unable to test.

Test mode:		802.11b		Test channel:		Middle		Remark:	Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization		
4874.00	36.49	31.57	5.91	35.48	38.49	54.00	-15.51	Vertical		
7311.00	37.46	36.48	7.14	35.28	45.80	54.00	-8.20	Vertical		
9748.00	35.68	38.45	9.06	35.75	47.44	54.00	-6.56	Vertical		
12185.00	*					54.00		Vertical		
14622.00	*					54.00		Vertical		
17059.00	*					54.00		Vertical		
4874.00	35.27	31.57	5.91	35.48	37.27	54.00	-16.73	Horizontal		
7311.00	36.24	36.48	7.14	35.28	44.58	54.00	-9.42	Horizontal		
9748.00	34.46	38.45	9.06	35.75	46.22	54.00	-7.78	Horizontal		
12185.00	*					54.00		Horizontal		
14622.00	*					54.00		Horizontal		
17059.00	*					54.00		Horizontal		

Test mode:		802.11b		Test channel:		Highest		Remark:	Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization		
4924.00	46.09	31.61	5.93	35.49	48.14	74.00	-25.86	Vertical		
7386.00	46.37	36.52	7.16	35.24	54.81	74.00	-19.19	Vertical		
9848.00	44.77	38.70	9.08	35.77	56.78	74.00	-17.22	Vertical		
12310.00	*					74.00		Vertical		
14772.00	*					74.00		Vertical		
17234.00	*					74.00		Vertical		
4924.00	45.41	31.61	5.93	35.49	47.46	74.00	-26.54	Horizontal		
7386.00	45.69	36.52	7.16	35.24	54.13	74.00	-19.87	Horizontal		
9848.00	44.09	38.70	9.08	35.77	56.10	74.00	-17.90	Horizontal		
12310.00	*					74.00		Horizontal		
14772.00	*					74.00		Horizontal		
17234.00	*					74.00		Horizontal		

Test mode:		802.11b		Test channel:		Highest		Remark:	Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization		
4924.00	36.04	31.61	5.93	35.49	38.09	54.00	-15.91	Vertical		
7386.00	37.01	36.52	7.16	35.24	45.45	54.00	-8.55	Vertical		
9848.00	35.23	38.70	9.08	35.77	47.24	54.00	-6.76	Vertical		
12310.00	*					54.00		Vertical		
14772.00	*					54.00		Vertical		
17234.00	*					54.00		Vertical		
4924.00	35.36	31.61	5.93	35.49	37.41	54.00	-16.59	Horizontal		
7386.00	36.33	36.52	7.16	35.24	44.77	54.00	-9.23	Horizontal		
9848.00	34.55	38.70	9.08	35.77	46.56	54.00	-7.44	Horizontal		
12310.00	*					54.00		Horizontal		
14772.00	*					54.00		Horizontal		
17234.00	*					54.00		Horizontal		

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Pre-amplifier Factor
2. “*”, means this data is too weak instrument of signal is unable to test.

Test mode:		802.11g		Test channel:		Lowest		Remark:	Peak
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization	
4824.00	43.88	31.55	5.89	35.47	45.85	74.00	-28.15	Vertical	
7236.00	44.16	36.50	7.10	35.30	52.46	74.00	-21.54	Vertical	
9648.00	42.56	38.14	9.01	35.73	53.98	74.00	-20.02	Vertical	
12060.00	*					74.00		Vertical	
14472.00	*					74.00		Vertical	
16884.00	*					74.00		Vertical	
4824.00	43.64	31.55	5.89	35.47	45.61	74.00	-28.39	Horizontal	
7236.00	43.92	36.50	7.10	35.30	52.22	74.00	-21.78	Horizontal	
9648.00	42.32	38.14	9.01	35.73	53.74	74.00	-20.26	Horizontal	
12060.00	*					74.00		Horizontal	
14472.00	*					74.00		Horizontal	
16884.00	*					74.00		Horizontal	

Test mode:		802.11g		Test channel:		Lowest		Remark:	Average
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization	
4824.00	33.83	31.55	5.89	35.47	35.80	54.00	-18.20	Vertical	
7236.00	34.80	36.50	7.10	35.30	43.10	54.00	-10.90	Vertical	
9648.00	33.02	38.14	9.01	35.73	44.44	54.00	-9.56	Vertical	
12060.00	*					54.00		Vertical	
14472.00	*					54.00		Vertical	
16884.00	*					54.00		Vertical	
4824.00	33.59	31.55	5.89	35.47	35.56	54.00	-18.44	Horizontal	
7236.00	34.56	36.50	7.10	35.30	42.86	54.00	-11.14	Horizontal	
9648.00	32.78	38.14	9.01	35.73	44.20	54.00	-9.80	Horizontal	
12060.00	*					54.00		Horizontal	
14472.00	*					54.00		Horizontal	
16884.00	*					54.00		Horizontal	

Test mode:		802.11g		Test channel:		Middle		Remark:	Peak
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization	
4874.00	42.56	31.57	5.91	35.48	44.56	74.00	-29.44	Vertical	
7311.00	42.84	36.48	7.14	35.28	51.18	74.00	-22.82	Vertical	
9748.00	41.24	38.45	9.06	35.75	53.00	74.00	-21.00	Vertical	
12185.00	*					74.00		Vertical	
14622.00	*					74.00		Vertical	
17059.00	*					74.00		Vertical	
4874.00	42.32	31.57	5.91	35.48	44.32	74.00	-29.68	Horizontal	
7311.00	42.60	36.48	7.14	35.28	50.94	74.00	-23.06	Horizontal	
9748.00	41.00	38.45	9.06	35.75	52.76	74.00	-21.24	Horizontal	
12185.00	*					74.00		Horizontal	
14622.00	*					74.00		Horizontal	
17059.00	*					74.00		Horizontal	

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Pre-amplifier Factor
2. “*”, means this data is too weak instrument of signal is unable to test.

Test mode:		802.11g		Test channel:		Middle		Remark:	Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)		polarization	
4874.00	32.51	31.57	5.91	35.48	34.51	54.00	-19.49		Vertical	
7311.00	33.48	36.48	7.14	35.28	41.82	54.00	-12.18		Vertical	
9748.00	31.70	38.45	9.06	35.75	43.46	54.00	-10.54		Vertical	
12185.00	*					54.00			Vertical	
14622.00	*					54.00			Vertical	
17059.00	*					54.00			Vertical	
4874.00	32.27	31.57	5.91	35.48	34.27	54.00	-19.73		Horizontal	
7311.00	33.24	36.48	7.14	35.28	41.58	54.00	-12.42		Horizontal	
9748.00	31.46	38.45	9.06	35.75	43.22	54.00	-10.78		Horizontal	
12185.00	*					54.00			Horizontal	
14622.00	*					54.00			Horizontal	
17059.00	*					54.00			Horizontal	

Test mode:		802.11g		Test channel:		Highest		Remark:	Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)		polarization	
4924.00	42.86	31.61	5.93	35.49	44.91	74.00	-29.09		Vertical	
7386.00	43.14	36.52	7.16	35.24	51.58	74.00	-22.42		Vertical	
9848.00	41.54	38.70	9.08	35.77	53.55	74.00	-20.45		Vertical	
12310.00	*					74.00			Vertical	
14772.00	*					74.00			Vertical	
17234.00	*					74.00			Vertical	
4924.00	42.38	31.61	5.93	35.49	44.43	74.00	-29.57		Horizontal	
7386.00	42.66	36.52	7.16	35.24	51.10	74.00	-22.90		Horizontal	
9848.00	41.06	38.70	9.08	35.77	53.07	74.00	-20.93		Horizontal	
12310.00	*					74.00			Horizontal	
14772.00	*					74.00			Horizontal	
17234.00	*					74.00			Horizontal	

Test mode:		802.11g		Test channel:		Highest		Remark:	Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)		polarization	
4924.00	32.81	31.61	5.93	35.49	34.86	54.00	-19.14		Vertical	
7386.00	33.78	36.52	7.16	35.24	42.22	54.00	-11.78		Vertical	
9848.00	32.00	38.70	9.08	35.77	44.01	54.00	-9.99		Vertical	
12310.00	*					54.00			Vertical	
14772.00	*					54.00			Vertical	
17234.00	*					54.00			Vertical	
4924.00	32.33	31.61	5.93	35.49	34.38	54.00	-19.62		Horizontal	
7386.00	33.30	36.52	7.16	35.24	41.74	54.00	-12.26		Horizontal	
9848.00	31.52	38.70	9.08	35.77	43.53	54.00	-10.47		Horizontal	
12310.00	*					54.00			Horizontal	
14772.00	*					54.00			Horizontal	
17234.00	*					54.00			Horizontal	

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.

Restrict band emissions

802.11b

Test channel:		Lowest			Level:		Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2310.00	41.88	27.58	3.81	34.83	38.44	74.00	-35.56	Horizontal
2390.00	42.29	27.58	3.83	34.83	38.87	74.00	-35.13	Horizontal
2310.00	44.21	27.58	3.81	34.83	40.77	74.00	-33.23	Vertical
2390.00	44.62	27.58	3.83	34.83	41.20	74.00	-32.80	Vertical

Test channel:		Lowest			Level:		Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2310.00	32.50	27.58	3.81	34.83	29.06	54.00	-24.94	Horizontal
2390.00	32.72	27.58	3.83	34.83	29.30	54.00	-24.70	Horizontal
2310.00	34.83	27.58	3.81	34.83	31.39	54.00	-22.61	Vertical
2390.00	35.05	27.58	3.83	34.83	31.63	54.00	-22.37	Vertical

Test channel:		Highest			Level:		Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	42.75	27.52	3.89	34.86	39.30	74.00	-34.70	Horizontal
2500.00	42.01	27.55	3.90	34.87	38.59	74.00	-35.41	Horizontal
2483.50	45.08	27.52	3.89	34.86	41.63	74.00	-32.37	Vertical
2500.00	44.34	27.55	3.90	34.87	40.92	74.00	-33.08	Vertical

Test channel:		Highest			Level:		Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	33.68	27.52	3.89	34.86	30.23	54.00	-23.77	Horizontal
2500.00	32.96	27.55	3.90	34.87	29.54	54.00	-24.46	Horizontal
2483.50	36.01	27.52	3.89	34.86	32.56	54.00	-21.44	Vertical
2500.00	35.29	27.55	3.90	34.87	31.87	54.00	-22.13	Vertical

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor

802.11g

Test channel:		Lowest			Level:		Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2310.00	43.93	27.58	3.81	34.83	40.49	74.00	-33.51	Horizontal
2390.00	44.34	27.58	3.83	34.83	40.92	74.00	-33.08	Horizontal
2310.00	43.88	27.58	3.81	34.83	40.44	74.00	-33.56	Vertical
2390.00	44.29	27.58	3.83	34.83	40.87	74.00	-33.13	Vertical

Test channel:		Lowest			Level:		Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2310.00	34.55	27.58	3.81	34.83	31.11	54.00	-22.89	Horizontal
2390.00	34.77	27.58	3.83	34.83	31.35	54.00	-22.65	Horizontal
2310.00	34.50	27.58	3.81	34.83	31.06	54.00	-22.94	Vertical
2390.00	34.72	27.58	3.83	34.83	31.30	54.00	-22.70	Vertical

Test channel:		Highest			Level:		Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	44.80	27.52	3.89	34.86	41.35	74.00	-32.65	Horizontal
2500.00	44.06	27.55	3.90	34.87	40.64	74.00	-33.36	Horizontal
2483.50	44.75	27.52	3.89	34.86	41.30	74.00	-32.70	Vertical
2500.00	44.01	27.55	3.90	34.87	40.59	74.00	-33.41	Vertical

Test channel:		Highest			Level:		Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	35.73	27.52	3.89	34.86	32.28	54.00	-21.72	Horizontal
2500.00	35.01	27.55	3.90	34.87	31.59	54.00	-22.41	Horizontal
2483.50	35.68	27.52	3.89	34.86	32.23	54.00	-21.77	Vertical
2500.00	34.96	27.55	3.90	34.87	31.54	54.00	-22.46	Vertical

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor