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Report No.: FCC13-RTE041801

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# **FCC REPORT**

Applicant: Lexibook America

Address of Applicant: C/O NATXIS PRAMEX INTERNATIONAL -NORTH AMERICA

1251 avenue of the Americas 34th floor

**Equipment Under Test (EUT)** 

Product Name: Tablet

Model No.: MFC410EN

Trade mark: Lexibook

FCC ID: UU8-MFC05

**Applicable standards:** FCC CFR Title 47 Part 15 Subpart C Section 15.247:2012

Date of sample receipt: April 08, 2013

**Date of Test:** April 08-18, 2013

Date of report issued: April 18, 2013

Test Result: PASS \*

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

Authorized Signature:

Kavin Yu 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 EBO 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	April 18, 2013	Original

Prepared By:	hank. yan Date:		April 18, 2013		
	Project Engineer				
Check By:	Hams. Hu	Date:	April 18, 2013		
	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
Channel 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.



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### 5 General Information

### **5.1 Client Information**

Applicant:	Lexibook America
Address of Applicant:	C/O NATXIS PRAMEX INTERNATIONAL -NORTH AMERICA 1251 avenue of the Americas 34th floor
Manufacturer:	Lexibook America
Address of Manufacturer:	C/O NATXIS PRAMEX INTERNATIONAL -NORTH AMERICA 1251 avenue of the Americas 34th floor

# **5.2 General Description of EUT**

Product Name:	Tablet
Model No.:	MFC410EN
Operation Frequency:	2412MHz~2462MHz (802.11b/802.11g/802.11n(H20))
	2422MHz~2452MHz (802.11n(H40))
Channel numbers:	11 for 802.11b/802.11g /802.11n(H20)
	7 for 802.11(H40)
Channel separation:	5MHz
Modulation technology:	Direct Sequence Spread Spectrum (DSSS)
(IEEE 802.11b)	
Modulation technology:	Orthogonal Frequency Division Multiplexing(OFDM)
(IEEE 802.11g/802.11n)	
Antenna Type:	Integral
Antenna gain:	2dBi (declare by Applicant)
Power supply:	Model No.:SJ-0520-U
	Input: AC 100~240V~50/60Hz 0.5A
	Output: 5.0V, 2.0A
	DC 3.7V Li-ion Battery



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Operation Frequency each of channel							
Channel Frequency Channel Frequency Channel Frequency Channel Frequency						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/802.11n(H20)

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

#### 802.11n(H40)

Channel	Frequency
The lowest channel	2422MHz
The middle channel	2437MHz
The Highest channel	2452MHz



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### 5.3 Test mode

Transmitting mode Keep the EUT in transmitting mode.

Remark: During the test, the test voltage was tuned from 85% to 115% of the nominal rated supply voltage, and found that the worst case was under the nominal rated supply condition. So the report just shows that condition's data.

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
802.11n(H20)	6.5Mbps
802.11n(H40)	13.0Mbps

#### **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, 6.5Mbps for 802.11n(H20), 13Mbps for 802.11n(H40)

### 5.4 Test Facility

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

### • CNAS —Registration No.: CNAS L5775

CNAS has accredited Global United Technology Services Co., Ltd. to ISO/IEC 17025 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.

### • 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 out 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



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# **5.6 Other Information Requested by the Customer**

None.

# 5.7 Description of Support Units

None.

### 5.8 Test Instruments list

Rad	iated 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. 29 2013	Mar. 28 2015
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	Spectrum Analyzer	Agilent	E4440A	GTS533	Dec. 6, 2012	Dec. 5, 2013
4	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	Jul. 03 2012	Jul. 02 2013
5	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	Feb. 24 2013	Feb. 23 2014
6	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	9120D-829	GTS208	Mar. 09 2013	Mar. 08 2014
7	Horn Antenna	ETS-LINDGREN	3160	GTS217	Mar. 29 2013	Mar. 28 2014
8	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
9	Coaxial Cable	GTS	N/A	GTS213	Mar. 30 2013	Mar. 29 2014
10	Coaxial Cable	GTS	N/A	GTS211	Mar. 30 2013	Mar. 29 2014
11	Coaxial cable	GTS	N/A	GTS210	Mar. 30 2013	Mar. 29 2014
12	Coaxial Cable	GTS	N/A	GTS212	Mar. 30 2013	Mar. 29 2014
13	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	Jul. 03 2012	Jul. 02 2013
14	Amplifier(2GHz-20GHz)	HP	8349B	GTS206	Jul. 03 2012	Jul. 02 2013
15	Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June 29 2012	June 28 2013
16	Band filter	Amindeon	82346	GTS219	Mar. 30 2013	Mar. 29 2014

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Conducted Emission:						
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)	GTS264	Sep. 08 2011	Sep. 07 2013
2	EMI Test Receiver	Rohde & Schwarz	ESCS30	GTS223	Jul. 03 2012	Jul. 02 2013
3	10dB Pulse Limita	Rohde & Schwarz	N/A	GTS224	Jul. 03 2012	Jul. 02 2013
4	Coaxial Switch	ANRITSU CORP	MP59B	GTS225	Jul. 03 2012	Jul. 02 2013
5	LISN	SCHWARZBECK MESS-ELEKTRONIK	NSLK 8127	GTS226	Jul. 03 2012	Jul. 02 2013
6	Coaxial Cable	GTS	N/A	GTS227	Jul. 03 2012	Jul. 02 2013
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A

Gene	General used equipment:									
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (dd-mm-yy)	Cal.Due date (dd-mm-yy)				
1	Barometer	ChangChun	DYM3	GTS257	July 10 2012	July 09 2013				



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### 6 Test results and Measurement Data

### 6.1 Antenna requirement:

Standard requirement: FCC Part15 C Section 15.203 /247(c)

#### 15.203 requirement:

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.

#### 15.247(c) (1)(i) requirement:

(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.

#### E.U.T Antenna:

The antenna is Integral antenna, the best case gain of the antenna is 2dBi



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### 6.2 Conducted Emissions

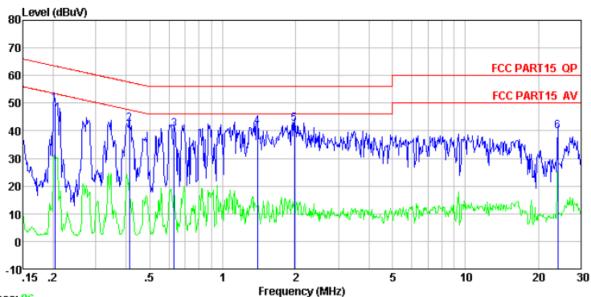
Test Requirement:	FCC Part15 C Section 15.207					
Test Method:	ANSI C63.4:2003					
Test Frequency Range:	150KHz to 30MHz					
Class / Severity:						
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto					
Limit:	Francisco (MILE)	Limit (c	dBuV)			
	Frequency range (MHz)	Quasi-peak	Average			
	0.15-0.5	66 to 56*	56 to 46*			
	0.5-5 56 46					
	5-30 60 50					
<del>-</del>	* Decreases with the logarithm of	the frequency.				
Test setup:	Reference Plane  LISN  40cm  80cm  Filter  AC power  Equipment  Test table/Insulation plane  Remark  E U.T. Equipment Under Test  LISN Line Impedence Stabilization Network  Test table height=0.8m					
Test procedure:	<ol> <li>The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment.</li> <li>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).</li> <li>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.</li> </ol>					
Test Instruments:	Refer to section 5.8 for details					
Test mode:	Refer to section 5.3 for details					
Test results:	Pass					
	1 - 7 - 7					

#### Measurement data:



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### Line:



Trace: 96

Condition : FCC PART15 QP LISN-2012 LINE

Job No. : 347RF Test mode : WiFi mode Test Engineer: Jim

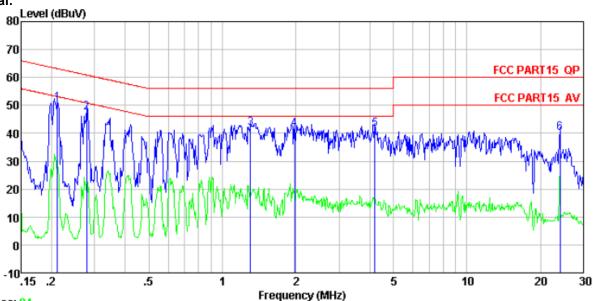
	Freq		LISN Factor					Remark
	MHz	dBu∀	d₿	dB	dBuV	dBuV	dB	
1 2 3 4 5 6	0. 413 0. 630 1. 388 1. 970	42.57 40.56 41.63 42.63	-0. 23 -0. 22 -0. 20 -0. 22 -0. 24 -0. 81	0.10 0.10 0.10 0.10	42. 45 40. 46 41. 51 42. 49	57.59 56.00 56.00 56.00	-15.14 -15.54 -14.49 -13.51	QP QP QP QP

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#### **Neutral:**



Trace: 94

Condition : FCC PART15 QP LISN-2012 NEUTRAL

Job No. : 347RF Test mode : WiFi mode

Test Engineer: Jim

	Freq		LISN Factor					Remark
	MHz	dBu₹	dB	dB	dBuV	dBuV	dB	
1	0.212	50.67	-0.09	0.10	50.68	63.14	-12.46	QP
2 3	0.279	47.46	-0.09	0.10	47.47	60.85	-13.38	QP
	1.303	41.82	-0.09	0.10	41.83	56.00	-14.17	QP
4	1.970	41.56	-0.11	0.10	41.55	56.00	-14.45	QP
5	4.202	41.41	-0.15	0.10	41.36	56.00	-14.64	QP
6	24.015	40.60	-0.72	0.21	40.09	60.00	-19.91	QP

#### Notes:

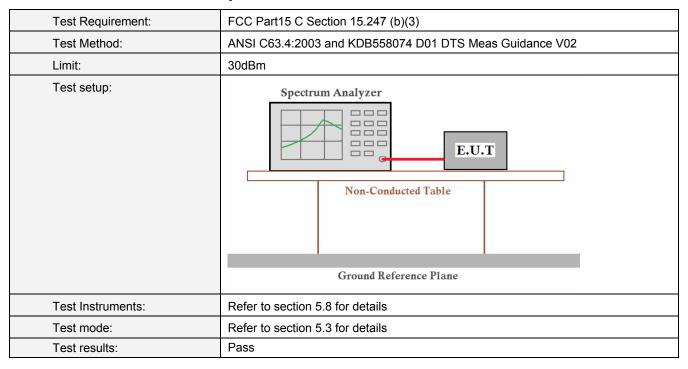
- 1. An initial pre-scan was performed on the line and neutral lines with peak detector.
- 2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
- 3. Final Level =Receiver Read level + LISN Factor + Cable Loss
- 4. If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.



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# 6.3 Conducted Peak Output Power



### **Measurement Data**

Test CH		Peak Output		Limit(dBm) Result			
Test Off	802.11b	802.11g	802.11n(H20)	802.11n(H40)	Limit(dBin)	Nesuit	
Lowest	7.35	6.92	6.95	7.23			
Middle	7.15	6.34	6.14	6.89	30.00	Pass	
Highest	7.22	6.55	5.94	6.38			

### Test plot as follows:

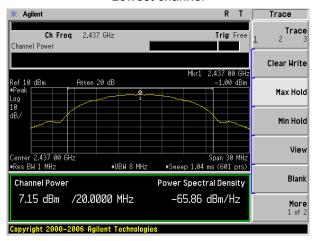


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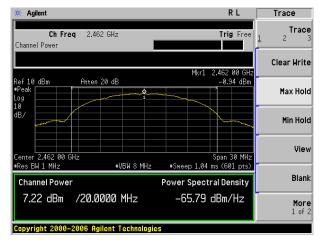
Test mode: 802.11b



#### Lowest channel



#### Middle channel

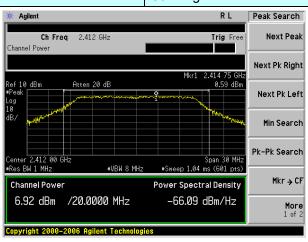


Highest channel

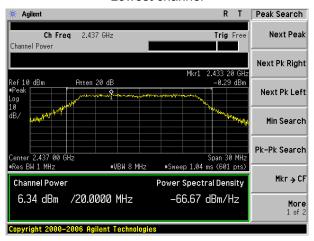


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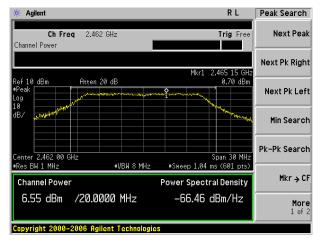
Test mode: 802.11g



#### Lowest channel



#### Middle channel

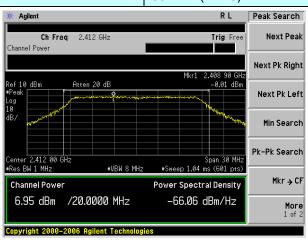


Highest channel

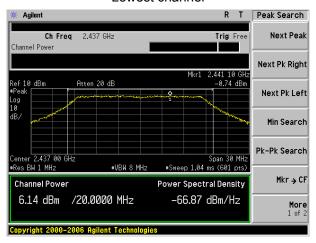


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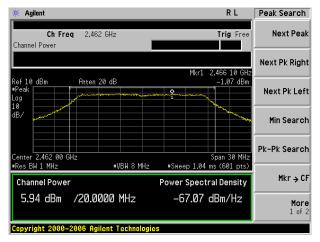
Test mode: 802.11n(HT20)



#### Lowest channel



#### Middle channel

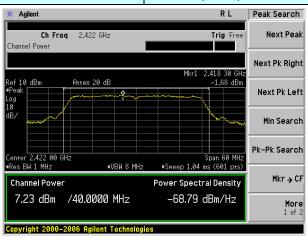


Highest channel

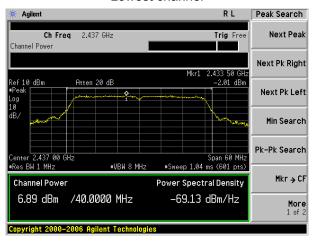


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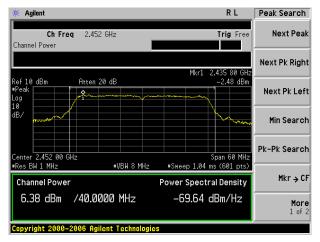
Test mode: 802.11n(HT40)



#### Lowest channel



#### Middle channel



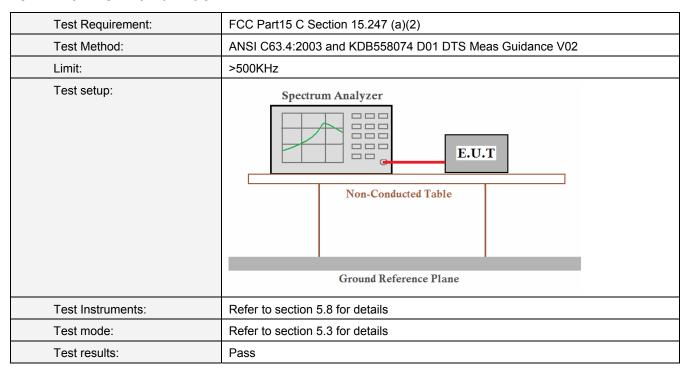
Highest channel



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### 6.4 Channel Bandwidth



### **Measurement Data**

Test CH		Emission Bar	ndwidth (MHz)		Limit(KHz)	Result
Test of t	802.11b	802.11g	802.11n(H20)	802.11n(H40)		Nesuit
Lowest	10.085	16.580	17.848	36.475		
Middle	10.088	16.587	17.841	36.481	>500	Pass
Highest	10.113	16.581	17.832	36.493		

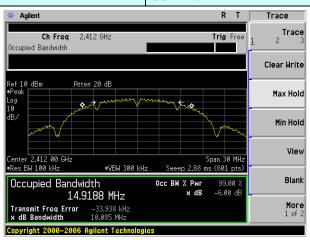
### Test plot as follows:

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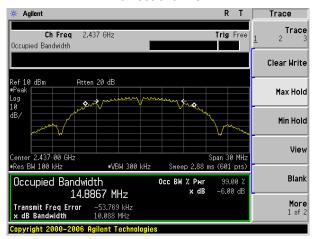


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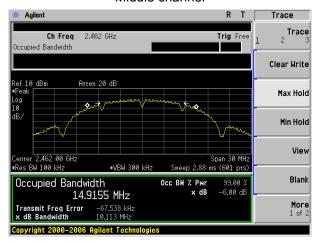
Test mode: 802.11b



#### Lowest channel



### Middle channel

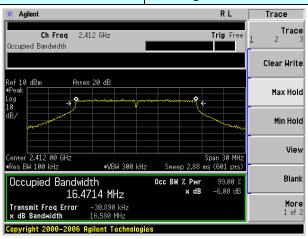


Highest channel

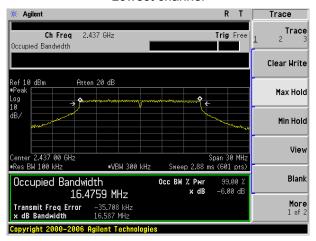


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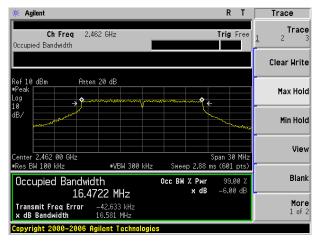
Test mode: 802.11g



#### Lowest channel



#### Middle channel

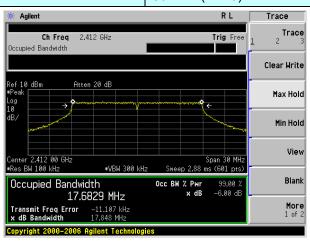


Highest channel

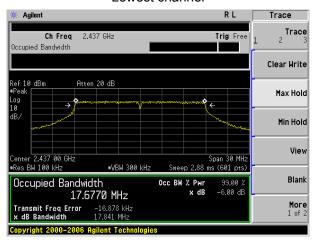


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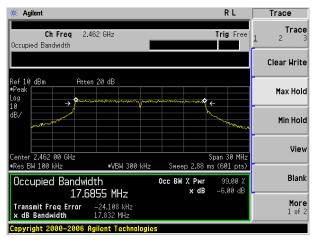
Test mode: 802.11n(HT20)



#### Lowest channel



#### Middle channel

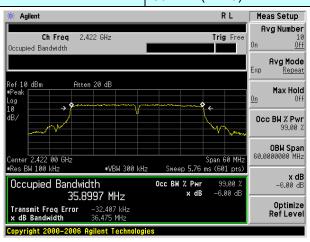


Highest channel

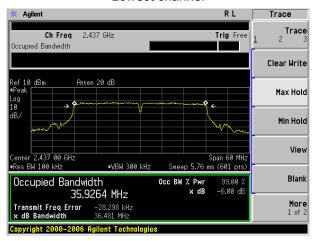


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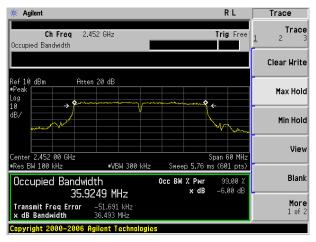
Test mode: 802.11n(HT40)



#### Lowest channel



#### Middle channel



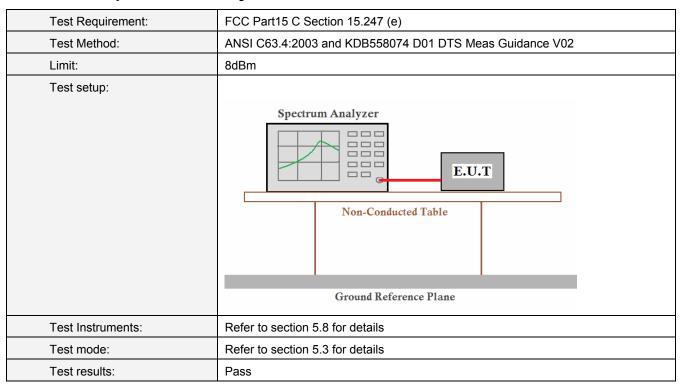
Highest channel



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# 6.5 Power Spectral Density



#### **Measurement Data**

Test CH		Power S	Spectral Density (dB	Bm)	Limit (dBm/3kHz)				
	802.11b	802.11g	802.11n(HT20)	802.11n(HT40)	Ellillit (dBilli/SKI12)	Result			
Lowest	-4.76	-8.08	-8.59	-11.92					
Middle	-5.43	-8.71	-9.16	-12.54	8.00	Pass			
Highest	-6.43	-9.69	-10.25	-13.02					

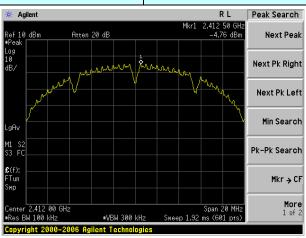
### Test plot as follows:

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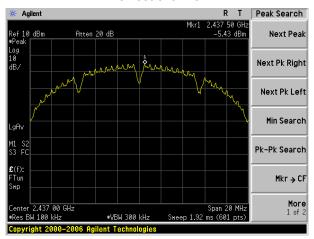


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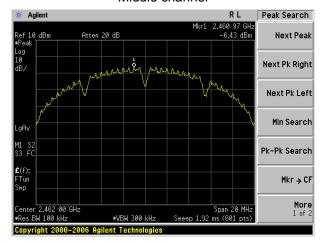
Test mode: 802.11b



#### Lowest channel



### Middle channel

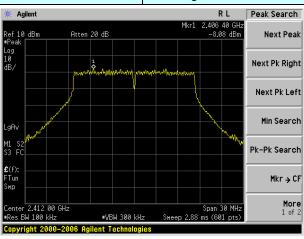


Highest channel

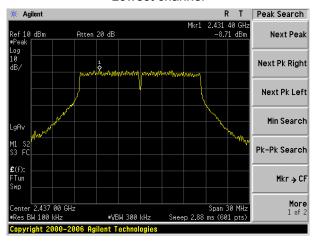


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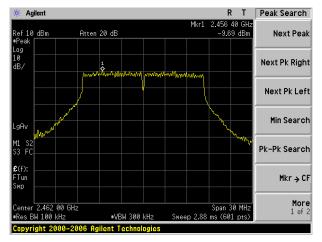
Test mode: 802.11g



#### Lowest channel



#### Middle channel

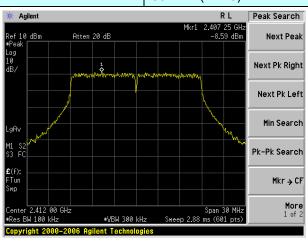


Highest channel

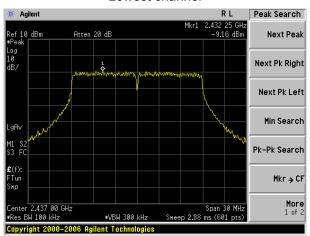


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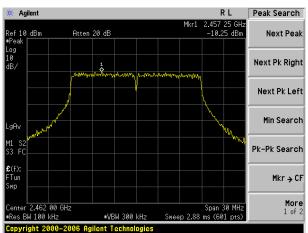
Test mode: 802.11n(HT20)



#### Lowest channel



#### Middle channel

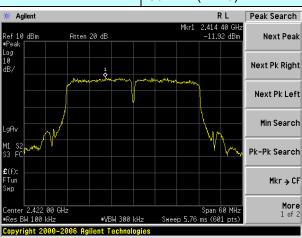


Highest channel

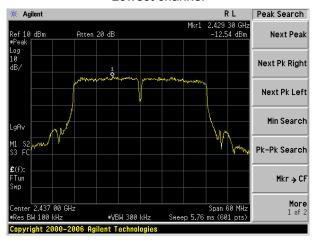


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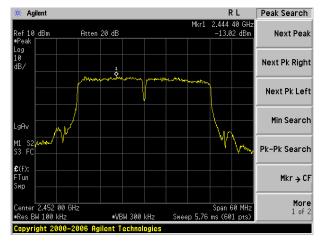
Test mode: 802.11n(HT40)



#### Lowest channel



#### Middle channel



Highest channel



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# 6.6 Band edges

### 6.6.1 Conducted Emission Method

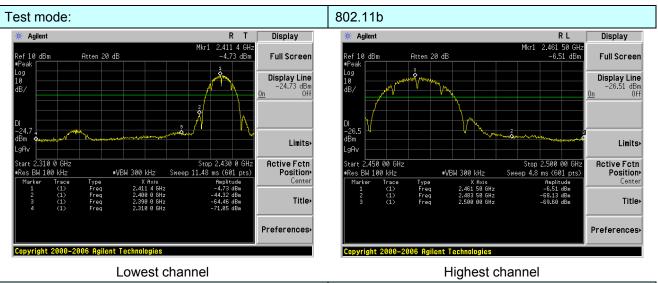
Test Requirement:	FCC Part15 C Section 15.247 (d)				
Test Method:	ANSI C63.4:2003 and KDB558074 D01 DTS Meas Guidance V02				
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional 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:	Spectrum Analyzer  E.U.T  Non-Conducted Table  Ground Reference Plane				
Test Instruments:	Refer to section 5.8 for details				
Test mode:	Refer to section 5.3 for details				
Test results: Pass					

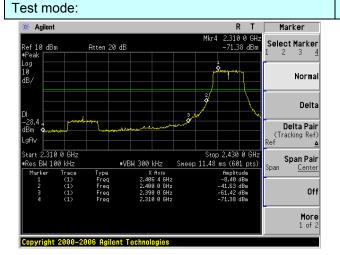
### Test plot as follows:



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Lowest channel



Highest channel

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Test mode: 802.11n(HT20)

\*\* Agilent R L Marker Select Marker 10 dBm Atten 20 dB -70.89 dBm 10 dB/

Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

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Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

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Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

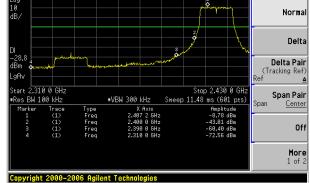
Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

Beta 10 dBm Atten 20 dB -70.89 dBm 10 dB/

Beta 10 dBm 10 10 dBm 10



Lowest channel Highest channel

# 

### Test mode:

### Agilent R T Marker Select Marker ef 10 dBn Atten 20 dE Norma Delta Delta Pair Stop 2.450 0 GHz Sweep 13.4 ms (601 pts) 310 0 GHz Span Pair Res BW 100 kHz #VBW 300 kHz Off More 1 of 2 Copyright 2000-2006 Agilent Technologies

Lowest channel

### 802.11n(HT40)



Highest channel

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### 6.6.2 Radiated Emission Method

Test Requirement:	uirement: FCC Part15 C Section 15.209 and 15.205						
Test Method:	ANSI C63.4: 200	3					
Test Frequency Range:	30MHz to 25GHz	, only worse case	e is reported				
Test site:	Measurement Dis	-					
Receiver setup:	Frequency	Detector	RBW	VBW	Remark		
		Peak	1MHz	3MHz	Peak Value		
	Above 1GHz	Peak	1MHz	10Hz	Average Value		
Limit:	Freque	ency	Limit (dBuV/	m @3m)	Remark		
	Above 2	IGHz	54.0		Average Value		
	71,5000	10112	74.0	0	Peak Value		
Test setup:	Antenna Tower  Horn Antenna  Spectrum Analyzer  Turn Table  Amplifier						
Test Procedure:	<ol> <li>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.</li> <li>The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</li> <li>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.</li> <li>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.</li> <li>The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</li> <li>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</li> </ol>						
Test Instruments:	and then reported in a data sheet.  Refer to section 5.8 for details						
Test mode:	Refer to section 5.3 for details						
Test results:	Pass						
Remark:							

Remark:

Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the X-axis which it is worse case.



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#### Measurement data:

Test mode:	802.11b	Test channel:	Lowest
rest mode.	002.110	1 Cot Gridifici.	LOWCSI

#### Peak value:

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
2390.00	53.78	27.38	3.91	34.83	50.24	74.00	-23.76	Horizontal
2400.00	57.88	27.38	3.93	34.83	54.36	74.00	-19.64	Horizontal
2390.00	55.36	27.38	3.91	34.83	51.82	74.00	-22.18	Vertical
2400.00	58.56	27.38	3.93	34.83	55.04	74.00	-18.96	Vertical

#### Average value:

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
2390.00	37.97	27.38	3.91	34.83	34.43	54.00	-19.57	Horizontal
2400.00	40.52	27.38	3.93	34.83	37.00	54.00	-17.00	Horizontal
2390.00	38.81	27.38	3.91	34.83	35.27	54.00	-18.73	Vertical
2400.00	42.23	27.38	3.93	34.83	38.71	54.00	-15.29	Vertical

Test mode:	802.11b	Test channel:	Highest
1 oot mode.	002.110	1 oot onarmon.	i ligitoot

### Peak value:

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
2483.50	56.01	27.32	3.99	34.86	52.46	74.00	-21.54	Horizontal
2500.00	53.60	27.35	4.00	34.87	50.08	74.00	-23.92	Horizontal
2483.50	56.67	27.32	3.99	34.86	53.12	74.00	-20.88	Vertical
2500.00	55.27	27.35	4.00	34.87	51.75	74.00	-22.25	Vertical

### Average value:

Avorago van								
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
2483.50	41.14	27.32	3.99	34.86	37.59	54.00	-16.41	Horizontal
2500.00	36.65	27.35	4.00	34.87	33.13	54.00	-20.87	Horizontal
2483.50	42.69	27.32	3.99	34.86	39.14	54.00	-14.86	Vertical
2500.00	38.52	27.35	4.00	34.87	35.00	54.00	-19.00	Vertical

### Remark:

- 1. Final Level =Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor
- 2. The emission levels of other frequencies are very lower than the limit and not show in test report.



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Test mode: 802.11g Test channel: Lowest
---

#### Peak value:

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
2390.00	52.56	27.38	3.91	34.83	49.02	74.00	-24.98	Horizontal
2400.00	55.66	27.38	3.93	34.83	52.14	74.00	-21.86	Horizontal
2390.00	54.26	27.38	3.91	34.83	50.72	74.00	-23.28	Vertical
2400.00	57.09	27.38	3.93	34.83	53.57	74.00	-20.43	Vertical

#### Average value:

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
2390.00	36.50	27.38	3.91	34.83	32.96	54.00	-21.04	Horizontal
2400.00	38.57	27.38	3.93	34.83	35.05	54.00	-18.95	Horizontal
2390.00	36.01	27.38	3.91	34.83	32.47	54.00	-21.53	Vertical
2400.00	37.97	27.38	3.93	34.83	34.45	54.00	-19.55	Vertical

Test mode: 8	302.11g	Test channel:	Highest
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#### Peak value:

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
2483.50	53.31	27.32	3.99	34.86	49.76	74.00	-24.24	Horizontal
2500.00	50.00	27.35	4.00	34.87	46.48	74.00	-27.52	Horizontal
2483.50	54.98	27.32	3.99	34.86	51.43	74.00	-22.57	Vertical
2500.00	52.84	27.35	4.00	34.87	49.32	74.00	-24.68	Vertical

### Average value:

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
2483.50	39.11	27.32	3.99	34.86	35.56	54.00	-18.44	Horizontal
2500.00	36.32	27.35	4.00	34.87	32.80	54.00	-21.20	Horizontal
2483.50	40.58	27.32	3.99	34.86	37.03	54.00	-16.97	Vertical
2500.00	38.52	27.35	4.00	34.87	35.00	54.00	-19.00	Vertical

### Remark:

- 1. Final Level =Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor
- 2. The emission levels of other frequencies are very lower than the limit and not show in test report.



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	Ī	Test mode:	802.11n(H20)	Test channel:	Lowest
--	---	------------	--------------	---------------	--------

#### Peak value:

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
2390.00	52.51	27.38	3.91	34.83	48.97	74.00	-25.03	Horizontal
2400.00	55.19	27.38	3.93	34.83	51.67	74.00	-22.33	Horizontal
2390.00	48.39	27.38	3.91	34.83	44.85	74.00	-29.15	Vertical
2400.00	51.43	27.38	3.93	34.83	47.91	74.00	-26.09	Vertical

### Average value:

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
2390.00	36.80	27.38	3.91	34.83	33.26	54.00	-20.74	Horizontal
2400.00	39.05	27.38	3.93	34.83	35.53	54.00	-18.47	Horizontal
2390.00	36.58	27.38	3.91	34.83	33.04	54.00	-20.96	Vertical
2400.00	38.40	27.38	3.93	34.83	34.88	54.00	-19.12	Vertical

Test mode:	802.11n(H20)	Test channel:	Highest
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#### Peak value:

. can varaor								
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
2483.50	51.81	27.32	3.99	34.86	48.26	74.00	-25.74	Horizontal
2500.00	50.07	27.35	4.00	34.87	46.55	74.00	-27.45	Horizontal
2483.50	53.87	27.32	3.99	34.86	50.32	74.00	-23.68	Vertical
2500.00	51.00	27.35	4.00	34.87	47.48	74.00	-26.52	Vertical

### Average value:

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
2483.50	38.64	27.32	3.99	34.86	35.09	54.00	-18.91	Horizontal
2500.00	35.72	27.35	4.00	34.87	32.20	54.00	-21.80	Horizontal
2483.50	39.13	27.32	3.99	34.86	35.58	54.00	-18.42	Vertical
2500.00	37.36	27.35	4.00	34.87	33.84	54.00	-20.16	Vertical

#### Remark:

- 1. Final Level = Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor
- 2. The emission levels of other frequencies are very lower than the limit and not show in test report.



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Test mode: 802.11n(H40)	Test channel:	Lowest
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#### Peak value:

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
2390.00	53.70	27.38	3.91	34.83	50.16	74.00	-23.84	Horizontal
2400.00	55.49	27.38	3.93	34.83	51.97	74.00	-22.03	Horizontal
2390.00	54.59	27.38	3.91	34.83	51.05	74.00	-22.95	Vertical
2400.00	59.19	27.38	3.93	34.83	55.67	74.00	-18.33	Vertical

### Average value:

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
2390.00	35.90	27.38	3.91	34.83	32.36	54.00	-21.64	Horizontal
2400.00	39.05	27.38	3.93	34.83	35.53	54.00	-18.47	Horizontal
2390.00	36.01	27.38	3.91	34.83	32.47	54.00	-21.53	Vertical
2400.00	38.83	27.38	3.93	34.83	35.31	54.00	-18.69	Vertical

Test mode:	802.11n(H40)	Test channel:	Highest
------------	--------------	---------------	---------

#### Peak value:

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
2483.50	56.39	27.32	3.99	34.86	52.84	74.00	-21.16	Horizontal
2500.00	52.77	27.35	4.00	34.87	49.25	74.00	-24.75	Horizontal
2483.50	56.07	27.32	3.99	34.86	52.52	74.00	-21.48	Vertical
2500.00	53.04	27.35	4.00	34.87	49.52	74.00	-24.48	Vertical

### Average value:

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
2483.50	40.84	27.32	3.99	34.86	37.29	54.00	-16.71	Horizontal
2500.00	38.73	27.35	4.00	34.87	35.21	54.00	-18.79	Horizontal
2483.50	40.63	27.32	3.99	34.86	37.08	54.00	-16.92	Vertical
2500.00	38.90	27.35	4.00	34.87	35.38	54.00	-18.62	Vertical

#### Remark:

- 1. Final Level = Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor
- 2. The emission levels of other frequencies are very lower than the limit and not show in test report.



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# 6.7 Spurious Emission

## 6.7.1 Conducted Emission Method

Toot Doguiroment:	ECC Part15 C Section 15 247 (d)					
Test Requirement:	FCC Part15 C Section 15.247 (d)					
Test Method:	ANSI C63.4:2003 and KDB558074 D01 DTS Meas Guidance V02					
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:	Spectrum Analyzer  Non-Conducted Table  Ground Reference Plane					
Test Instruments:	Refer to section 5.8 for details					
Test mode:	Refer to section 5.3 for details					
Test results:	Pass					

Test plot as follows:



802.11b

Title

Preferences

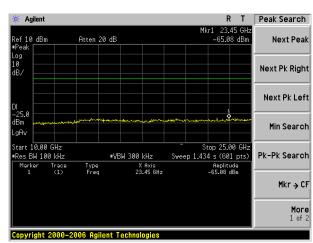
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## Test mode:

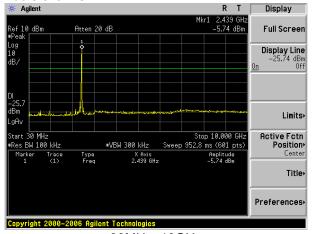
#### 

Copyright 2000-2006 Agilent Technologies
30MHz~10GHz

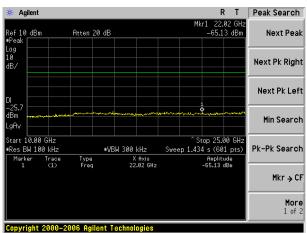


10GHz~25GHz

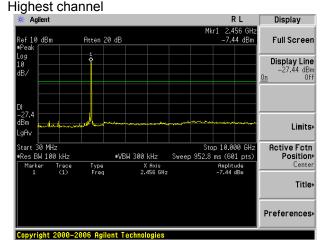
#### Middle channel



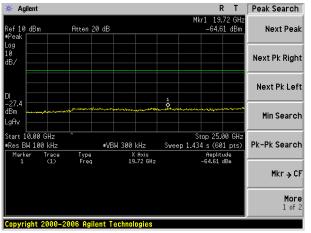
30MHz~10GHz



10GHz~25GHz



30MHz~10GHz



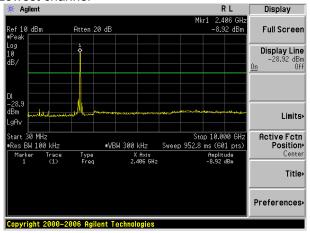
10GHz~25GHz

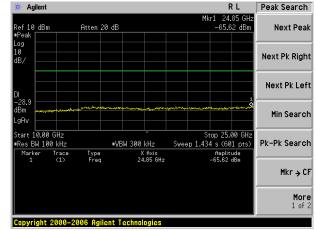


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## Test mode: 802.11g

# Lowest channel

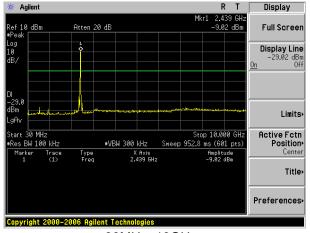


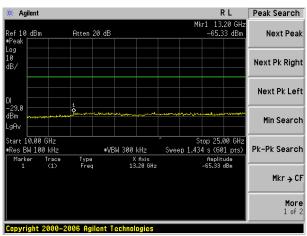


30MHz~10GHz

10GHz~25GHz

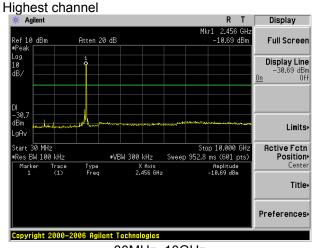
### Middle channel

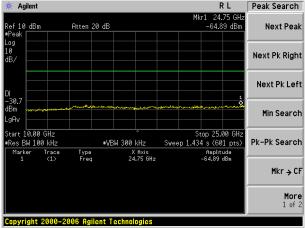




30MHz~10GHz

10GHz~25GHz





30MHz~10GHz

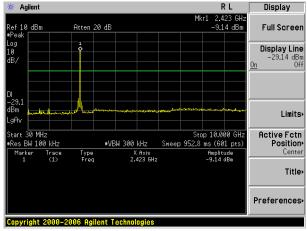
10GHz~25GHz



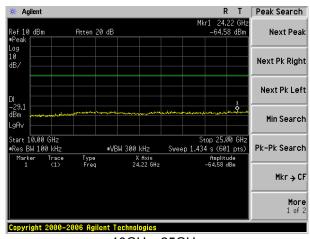
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Test mode: 802.11n(HT20)

### Lowest channel

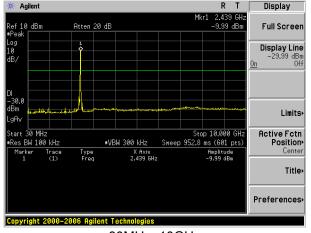


30MHz~10GHz

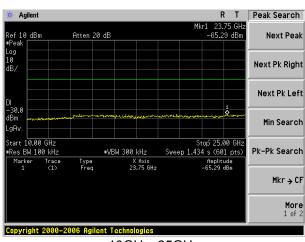


10GHz~25GHz

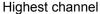
## Middle channel

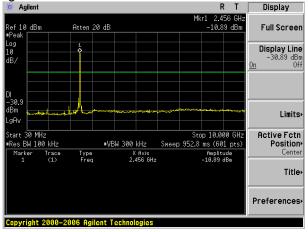


30MHz~10GHz

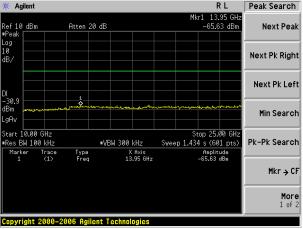


10GHz~25GHz





30MHz~10GHz



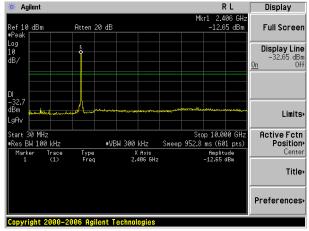
10GHz~25GHz



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Test mode: 802.11n(HT40)

#### Lowest channel

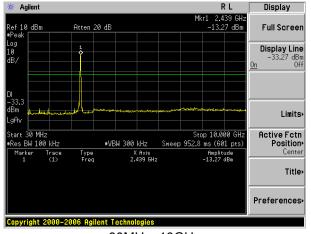


30MHz~10GHz

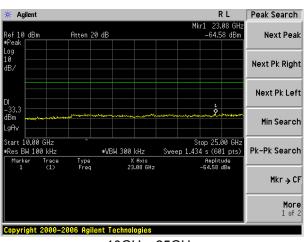
#### Agilent R L Peak Search . 19.82 GH -65.53 dBm Next Peak Atten 20 dB Next Pk Right Next Pk Left Min Search Start 10.00 GHz Stop 25.00 GH; Sweep 1.434 s (601 pts) #VBW 300 kHz Pk-Pk Search Res BW 100 kHz Type Freq Trac (1) Amplitude -65.53 dBm X fixis 19.82 GHz Mkr → CF More 1 of 2 Copyright 2000-2006 Agilent Technologies

10GHz~25GHz

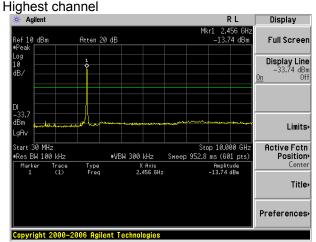
## Middle channel



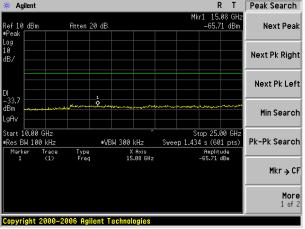
30MHz~10GHz



10GHz~25GHz



30MHz~10GHz



10GHz~25GHz



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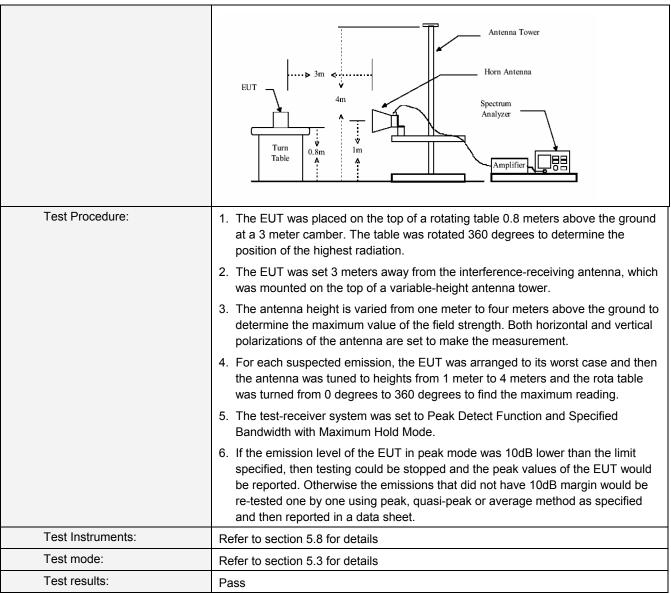
## 6.7.2 Radiated Emission Method

Test Requirement:	FCC Part15 C Se	ection 15.209				
Test Method:	ANSI C63.4: 2003	3				
Test Frequency Range:	30MHz to 25GHz					
Test site:	Measurement Dis	stance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Remark	
	30MHz-1GHz Quasi-peak		100KHz	300KHz	Quasi-peak Value	
	Above 1GHz Peak		1MHz	3MHz	Peak Value	
	Above IGHZ	Peak	1MHz	10Hz	Average Value	
Limit:	Freque	ency	Limit (dBuV/	m @3m)	Remark	
	30MHz-8	8MHz	40.0	)	Quasi-peak Value	
	88MHz-21	16MHz	43.5	5	Quasi-peak Value	
	216MHz-9	60MHz	46.0	)	Quasi-peak Value	
	960MHz-	1GHz	54.0		Quasi-peak Value	
	Above 1	GHz	54.0		Average Value	
	7,0000	OFIZ	74.0		Peak Value	
Test setup:	EUT	4m 4m 0.8m Im		Anten Sea Ante		

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Remark:

Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the X-axis which it is worse case.



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#### ■ 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
61.35	52.04	15.52	0.87	31.93	36.50	40.00	-3.50	Vertical
216.02	50.85	14.12	1.93	32.15	34.75	46.00	-11.25	Vertical
307.83	52.96	16.18	2.40	32.15	39.39	46.00	-6.61	Vertical
361.71	49.04	16.43	2.68	31.99	36.16	46.00	-9.84	Vertical
431.03	48.68	17.53	3.00	31.78	37.43	46.00	-8.57	Vertical
860.04	43.73	23.69	4.69	31.23	40.88	46.00	-5.12	Vertical
61.35	49.26	15.52	0.87	31.93	33.72	40.00	-6.28	Horizontal
249.43	53.22	15.07	2.12	32.16	38.25	46.00	-7.75	Horizontal
306.75	50.83	16.15	2.39	32.16	37.21	46.00	-8.79	Horizontal
361.71	51.10	16.43	2.68	31.99	38.22	46.00	-7.78	Horizontal
431.03	51.43	17.53	3.00	31.78	40.18	46.00	-5.82	Horizontal
860.04	43.30	23.69	4.69	31.23	40.45	46.00	-5.55	Horizontal



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### **Above 1GHz**

Test mode:	802.11b	Test channel:	Lowest
Poak valuo:			

## Peak value:

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	32.25	31.28	8.62	24.17	47.98	74.00	-26.02	Vertical
7236.00	35.11	35.36	11.68	26.52	55.63	74.00	-18.37	Vertical
9648.00	34.89	37.44	14.16	25.44	61.05	74.00	-12.95	Vertical
12060.00	*					74.00		Vertical
14472.00	*					74.00		Vertical
16884.00	*					74.00		Vertical
4824.00	33.67	31.28	8.62	24.17	49.40	74.00	-24.60	Horizontal
7236.00	36.23	35.36	11.68	26.52	56.75	74.00	-17.25	Horizontal
9648.00	33.38	37.44	14.16	25.44	59.54	74.00	-14.46	Horizontal
12060.00	*					74.00		Horizontal
14472.00	*					74.00		Horizontal
16884.00	*					74.00		Horizontal

### Average value:

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	18.86	31.28	8.62	24.17	34.59	54.00	-19.41	Vertical
7236.00	19.79	35.36	11.68	26.52	40.31	54.00	-13.69	Vertical
9648.00	19.41	37.44	14.16	25.44	45.57	54.00	-8.43	Vertical
12060.00	*					54.00		Vertical
14472.00	*					54.00		Vertical
16884.00	*					54.00		Vertical
4824.00	19.81	31.28	8.62	24.17	35.54	54.00	-18.46	Horizontal
7236.00	21.13	35.36	11.68	26.52	41.65	54.00	-12.35	Horizontal
9648.00	18.13	37.44	14.16	25.44	44.29	54.00	-9.71	Horizontal
12060.00	*					54.00		Horizontal
14472.00	*					54.00		Horizontal
16884.00	*					54.00		Horizontal

### Remark:

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



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Test mode:	802.11b	Test channel:	Middle

#### Peak value:

i cak value.								
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	32.68	32.02	8.66	24.12	49.24	74.00	-24.76	Vertical
7311.00	35.03	36.64	11.71	26.71	56.67	74.00	-17.33	Vertical
9748.00	32.10	38.54	14.25	25.38	59.51	74.00	-14.49	Vertical
12185.00	*					74.00		Vertical
14622.00	*					74.00		Vertical
17059.00	*					74.00		Vertical
4874.00	33.63	32.02	8.66	24.12	50.19	74.00	-23.81	Horizontal
7311.00	35.05	36.64	11.71	26.71	56.69	74.00	-17.31	Horizontal
9748.00	31.94	38.54	14.25	25.38	59.35	74.00	-14.65	Horizontal
12185.00	*					74.00		Horizontal
14622.00	*					74.00		Horizontal
17059.00	*					74.00		Horizontal

#### Average value:

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	19.29	32.02	8.66	24.12	35.85	54.00	-18.15	Vertical
7311.00	19.71	36.64	11.71	26.71	41.35	54.00	-12.65	Vertical
9748.00	16.62	38.54	14.25	25.38	44.03	54.00	-9.97	Vertical
12185.00	*					54.00		Vertical
14622.00	*					54.00		Vertical
17059.00	*					54.00		Vertical
4874.00	19.77	32.02	8.66	24.12	36.33	54.00	-17.67	Horizontal
7311.00	19.95	36.64	11.71	26.71	41.59	54.00	-12.41	Horizontal
9748.00	16.69	38.54	14.25	25.38	44.10	54.00	-9.90	Horizontal
12185.00	*					54.00		Horizontal
14622.00	*					54.00		Horizontal
17059.00	*					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.



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Test mode:	802.11b	Test channel:	Highest
	00=		1.19.1001

#### Peak value:

Peak value:								
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	33.18	32.14	8.70	24.05	49.97	74.00	-24.03	Vertical
7386.00	36.92	36.75	11.76	26.90	58.53	74.00	-15.47	Vertical
9848.00	31.66	38.79	14.31	25.30	59.46	74.00	-14.54	Vertical
12310.00	*					74.00		Vertical
14772.00	*					74.00		Vertical
17234.00	*					74.00		Vertical
4924.00	34.44	32.14	8.70	24.05	51.23	74.00	-22.77	Horizontal
7386.00	37.07	36.75	11.76	26.90	58.68	74.00	-15.32	Horizontal
9848.00	32.15	38.79	14.31	25.30	59.95	74.00	-14.05	Horizontal
12310.00	*					74.00		Horizontal
14772.00	*					74.00		Horizontal
17234.00	*					74.00		Horizontal

### Average value:

Avolugo vala	Average value.								
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	19.79	32.14	8.70	24.05	36.58	54.00	-17.42	Vertical	
7386.00	21.60	36.75	11.76	26.90	43.21	54.00	-10.79	Vertical	
9848.00	16.18	38.79	14.31	25.30	43.98	54.00	-10.02	Vertical	
12310.00	*					54.00		Vertical	
14772.00	*					54.00		Vertical	
17234.00	*					54.00		Vertical	
4924.00	20.58	32.14	8.70	24.05	37.37	54.00	-16.63	Horizontal	
7386.00	21.97	36.75	11.76	26.90	43.58	54.00	-10.42	Horizontal	
9848.00	16.90	38.79	14.31	25.30	44.70	54.00	-9.30	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.



802.11g

31.28

35.36

37.44

8.62

11.68

14.16

Test mode:

12060.00

14472.00

16884.00

4824.00

7236.00

9648.00

12060.00

14472.00

16884.00

\*

34.41

36.92

33.96

\*

## Shenzhen EBO Technology Co., Ltd.

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lowest

74.00

74.00

74.00

74.00

74.00

74.00

74.00

74.00

74.00

-23.86

-16.56

-13.88

Vertical

Vertical

Vertical

Horizontal

Horizontal

Horizontal

Horizontal

Horizontal

Horizontal

Peak value:								
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	32.79	31.28	8.62	24.17	48.52	74.00	-25.48	Vertical
7236.00	35.74	35.36	11.68	26.52	56.26	74.00	-17.74	Vertical
9648.00	35.61	37.44	14.16	25.44	61.77	74.00	-12.23	Vertical

24.17

26.52

25.44

50.14

57.44

60.12

Test channel:

## Average value:

Average value	<b>.</b>							
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	19.40	31.28	8.62	24.17	35.13	54.00	-18.87	Vertical
7236.00	20.42	35.36	11.68	26.52	40.94	54.00	-13.06	Vertical
9648.00	20.13	37.44	14.16	25.44	46.29	54.00	-7.71	Vertical
12060.00	*					54.00		Vertical
14472.00	*					54.00		Vertical
16884.00	*					54.00		Vertica
4824.00	20.55	31.28	8.62	24.17	36.28	54.00	-17.72	Horizontal
7236.00	21.82	35.36	11.68	26.52	42.34	54.00	-11.66	Horizontal
9648.00	18.71	37.44	14.16	25.44	44.87	54.00	-9.13	Horizontal
12060.00	*					54.00		Horizontal
14472.00	*					54.00		Horizontal
16884.00	*					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.



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Test mode:	802.11g	Test channel:	Middle

#### Peak value:

i cak value.								
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	33.15	32.02	8.66	24.12	49.71	74.00	-24.29	Vertical
7311.00	35.65	36.64	11.71	26.71	57.29	74.00	-16.71	Vertical
9748.00	32.49	38.54	14.25	25.38	59.90	74.00	-14.10	Vertical
12185.00	*					74.00		Vertical
14622.00	*					74.00		Vertical
17059.00	*					74.00		Vertical
4874.00	34.24	32.02	8.66	24.12	50.80	74.00	-23.20	Horizontal
7311.00	35.80	36.64	11.71	26.71	57.44	74.00	-16.56	Horizontal
9748.00	32.28	38.54	14.25	25.38	59.69	74.00	-14.31	Horizontal
12185.00	*					74.00		Horizontal
14622.00	*					74.00		Horizontal
17059.00	*					74.00		Horizontal

#### Average value:

		1					1	
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	19.76	32.02	8.66	24.12	36.32	54.00	-17.68	Vertical
7311.00	20.33	36.64	11.71	26.71	41.97	54.00	-12.03	Vertical
9748.00	17.01	38.54	14.25	25.38	44.42	54.00	-9.58	Vertical
12185.00	*					54.00		Vertical
14622.00	*					54.00		Vertical
17059.00	*					54.00		Vertical
4874.00	20.38	32.02	8.66	24.12	36.94	54.00	-17.06	Horizontal
7311.00	20.70	36.64	11.71	26.71	42.34	54.00	-11.66	Horizontal
9748.00	17.03	38.54	14.25	25.38	44.44	54.00	-9.56	Horizontal
12185.00	*					54.00		Horizontal
14622.00	*					54.00		Horizontal
17059.00	*					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.



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Test mode:	802.11a	Test channel:	Highest
	009		g

#### Peak value:

reak value.								
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	34.02	32.14	8.70	24.05	50.81	74.00	-23.19	Vertical
7386.00	37.64	36.75	11.76	26.90	59.25	74.00	-14.75	Vertical
9848.00	32.32	38.79	14.31	25.30	60.12	74.00	-13.88	Vertical
12310.00	*					74.00		Vertical
14772.00	*					74.00		Vertical
17234.00	*					74.00		Vertical
4924.00	35.01	32.14	8.70	24.05	51.80	74.00	-22.20	Horizontal
7386.00	37.55	36.75	11.76	26.90	59.16	74.00	-14.84	Horizontal
9848.00	32.78	38.79	14.31	25.30	60.58	74.00	-13.42	Horizontal
12310.00	*					74.00		Horizontal
14772.00	*					74.00		Horizontal
17234.00	*					74.00		Horizontal

### Average value:

Average value	,·							
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	20.63	32.14	8.70	24.05	37.42	54.00	-16.58	Vertical
7386.00	22.32	36.75	11.76	26.90	43.93	54.00	-10.07	Vertical
9848.00	16.84	38.79	14.31	25.30	44.64	54.00	-9.36	Vertical
12310.00	*					54.00		Vertical
14772.00	*					54.00		Vertical
17234.00	*					54.00		Vertical
4924.00	21.15	32.14	8.70	24.05	37.94	54.00	-16.06	Horizontal
7386.00	22.45	36.75	11.76	26.90	44.06	54.00	-9.94	Horizontal
9848.00	17.53	38.79	14.31	25.30	45.33	54.00	-8.67	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.



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Test mode:	802.11n(H20)	Test channel:	Lowest
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#### Peak value:

i cak value.								
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	31.99	31.28	8.62	24.17	47.72	74.00	-26.28	Vertical
7236.00	34.74	35.36	11.68	26.52	55.26	74.00	-18.74	Vertical
9648.00	34.45	37.44	14.16	25.44	60.61	74.00	-13.39	Vertical
12060.00	*					74.00		Vertical
14472.00	*					74.00		Vertical
16884.00	*					74.00		Vertical
4824.00	33.34	31.28	8.62	24.17	49.07	74.00	-24.93	Horizontal
7236.00	36.04	35.36	11.68	26.52	56.56	74.00	-17.44	Horizontal
9648.00	33.13	37.44	14.16	25.44	59.29	74.00	-14.71	Horizontal
12060.00	*					74.00		Horizontal
14472.00	*					74.00		Horizontal
16884.00	*					74.00		Horizontal

#### Average value:

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	18.60	31.28	8.62	24.17	34.33	54.00	-19.67	Vertical
7236.00	19.42	35.36	11.68	26.52	39.94	54.00	-14.06	Vertical
9648.00	18.97	37.44	14.16	25.44	45.13	54.00	-8.87	Vertical
12060.00	*					54.00		Vertical
14472.00	*					54.00		Vertical
16884.00	*					54.00		Vertical
4824.00	19.48	31.28	8.62	24.17	35.21	54.00	-18.79	Horizontal
7236.00	20.94	35.36	11.68	26.52	41.46	54.00	-12.54	Horizontal
9648.00	17.88	37.44	14.16	25.44	44.04	54.00	-9.96	Horizontal
12060.00	*					54.00		Horizontal
14472.00	*					54.00		Horizontal
16884.00	*					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.



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Test mode: 802.11n(H20) Test channel: Middle
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#### Peak value:

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	32.27	32.02	8.66	24.12	48.83	74.00	-25.17	Vertical
7311.00	34.67	36.64	11.71	26.71	56.31	74.00	-17.69	Vertical
9748.00	31.79	38.54	14.25	25.38	59.20	74.00	-14.80	Vertical
12185.00	*					74.00		Vertical
14622.00	*					74.00		Vertical
17059.00	*					74.00		Vertical
4874.00	33.12	32.02	8.66	24.12	49.68	74.00	-24.32	Horizontal
7311.00	34.67	36.64	11.71	26.71	56.31	74.00	-17.69	Horizontal
9748.00	31.65	38.54	14.25	25.38	59.06	74.00	-14.94	Horizontal
12185.00	*					74.00		Horizontal
14622.00	*					74.00		Horizontal
17059.00	*					74.00		Horizontal

### Average value:

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	18.88	32.02	8.66	24.12	35.44	54.00	-18.56	Vertical
7311.00	19.35	36.64	11.71	26.71	40.99	54.00	-13.01	Vertical
9748.00	16.31	38.54	14.25	25.38	43.72	54.00	-10.28	Vertical
12185.00	*					54.00		Vertical
14622.00	*					54.00		Vertical
17059.00	*					54.00		Vertical
4874.00	19.26	32.02	8.66	24.12	35.82	54.00	-18.18	Horizontal
7311.00	19.57	36.64	11.71	26.71	41.21	54.00	-12.79	Horizontal
9748.00	16.40	38.54	14.25	25.38	43.81	54.00	-10.19	Horizontal
12185.00	*					54.00		Horizontal
14622.00	*					54.00		Horizontal
17059.00	*					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.



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Ī	Test mode:	802.11n(H20)	Test channel:	Highest
- 1				1

#### Peak value:

Peak value:								
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	32.73	32.14	8.70	24.05	49.52	74.00	-24.48	Vertical
7386.00	36.36	36.75	11.76	26.90	57.97	74.00	-16.03	Vertical
9848.00	31.36	38.79	14.31	25.30	59.16	74.00	-14.84	Vertical
12310.00	*					74.00		Vertical
14772.00	*					74.00		Vertical
17234.00	*					74.00		Vertical
4924.00	33.73	32.14	8.70	24.05	50.52	74.00	-23.48	Horizontal
7386.00	36.25	36.75	11.76	26.90	57.86	74.00	-16.14	Horizontal
9848.00	31.47	38.79	14.31	25.30	59.27	74.00	-14.73	Horizontal
12310.00	*					74.00		Horizontal
14772.00	*					74.00		Horizontal
17234.00	*					74.00		Horizontal

### Average value:

Avorago vara		A . (	0.11				0	
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	19.34	32.14	8.70	24.05	36.13	54.00	-17.87	Vertical
7386.00	21.04	36.75	11.76	26.90	42.65	54.00	-11.35	Vertical
9848.00	15.88	38.79	14.31	25.30	43.68	54.00	-10.32	Vertical
12310.00	*					54.00		Vertical
14772.00	*					54.00		Vertical
17234.00	*					54.00		Vertical
4924.00	19.87	32.14	8.70	24.05	36.66	54.00	-17.34	Horizontal
7386.00	21.15	36.75	11.76	26.90	42.76	54.00	-11.24	Horizontal
9848.00	16.22	38.79	14.31	25.30	44.02	54.00	-9.98	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.



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Test mode:	802.11n(H40)	Test channel:	Lowest
	( - )		

### Peak value:

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
4844.00	33.10	31.40	8.63	24.04	49.09	74.00	-24.91	Vertical
7266.00	35.87	35.96	11.69	26.47	57.05	74.00	-16.95	Vertical
9688.00	35.56	37.71	14.21	25.30	62.18	74.00	-11.82	Vertical
12060.00	*					74.00		Vertical
14472.00	*					74.00		Vertical
16884.00	*					74.00		Vertical
4844.00	34.44	31.40	8.63	24.04	50.43	74.00	-23.57	Horizontal
7266.00	36.77	35.96	11.69	26.47	57.95	74.00	-16.05	Horizontal
9688.00	34.21	37.71	14.21	25.30	60.83	74.00	-13.17	Horizontal
12060.00	*					74.00		Horizontal
14472.00	*				_	74.00		Horizontal
16884.00	*					74.00		Horizontal

### Average value:

Average value	ŧ.							
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
4844.00	19.71	31.40	8.63	24.04	35.70	54.00	-18.30	Vertical
7266.00	20.55	35.96	11.69	26.47	41.73	54.00	-12.27	Vertical
9688.00	20.08	37.71	14.21	25.30	46.70	54.00	-7.30	Vertical
12060.00	*					54.00		Vertical
14472.00	*					54.00		Vertical
16884.00	*					54.00		Vertical
4844.00	20.58	31.40	8.63	24.04	36.57	54.00	-17.43	Horizontal
7266.00	21.67	35.96	11.69	26.47	42.85	54.00	-11.15	Horizontal
9688.00	18.96	37.71	14.21	25.30	45.58	54.00	-8.42	Horizontal
12060.00	*					54.00		Horizontal
14472.00	*					54.00		Horizontal
16884.00	*					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.



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Test mode:	802.11n(H40)	Test channel:	Middle

### Peak value:

i cak value.								
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	33.80	32.02	8.66	24.12	50.36	74.00	-23.64	Vertical
7311.00	36.07	36.64	11.71	26.71	57.71	74.00	-16.29	Vertical
9748.00	33.35	38.54	14.25	25.38	60.76	74.00	-13.24	Vertical
12185.00	*					74.00		Vertical
14622.00	*					74.00		Vertical
17059.00	*					74.00		Vertical
4874.00	34.71	32.02	8.66	24.12	51.27	74.00	-22.73	Horizontal
7311.00	36.27	36.64	11.71	26.71	57.91	74.00	-16.09	Horizontal
9748.00	33.10	38.54	14.25	25.38	60.51	74.00	-13.49	Horizontal
12185.00	*					74.00		Horizontal
14622.00	*					74.00		Horizontal
17059.00	*					74.00		Horizontal

### Average value:

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	20.41	32.02	8.66	24.12	36.97	54.00	-17.03	Vertical
7311.00	20.75	36.64	11.71	26.71	42.39	54.00	-11.61	Vertical
9748.00	17.87	38.54	14.25	25.38	45.28	54.00	-8.72	Vertical
12185.00	*					54.00		Vertical
14622.00	*					54.00		Vertical
17059.00	*					54.00		Vertical
4874.00	20.85	32.02	8.66	24.12	37.41	54.00	-16.59	Horizontal
7311.00	21.17	36.64	11.71	26.71	42.81	54.00	-11.19	Horizontal
9748.00	17.85	38.54	14.25	25.38	45.26	54.00	-8.74	Horizontal
12185.00	*					54.00		Horizontal
14622.00	*					54.00		Horizontal
17059.00	*					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.



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Test mode:	802.11n(H40)	Test channel:	Highest
			9

#### Peak value:

Peak value:								
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
4904.00	34.73	32.08	8.68	23.97	51.52	74.00	-22.48	Vertical
7356.00	38.66	36.69	11.74	26.73	60.36	74.00	-13.64	Vertical
9808.00	33.64	38.60	14.29	25.22	61.31	74.00	-12.69	Vertical
12310.00	*					74.00		Vertical
14772.00	*					74.00		Vertical
17234.00	*					74.00		Vertical
4904.00	35.80	32.08	8.68	23.97	52.59	74.00	-21.41	Horizontal
7356.00	38.34	36.69	11.74	26.73	60.04	74.00	-13.96	Horizontal
9808.00	34.02	38.60	14.29	25.22	61.69	74.00	-12.31	Horizontal
12310.00	*					74.00		Horizontal
14772.00	*					74.00		Horizontal
17234.00	*					74.00		Horizontal

### Average value:

Average value.									
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	
4904.00	21.34	32.08	8.68	23.97	38.13	54.00	-15.87	Vertical	
7356.00	23.34	36.69	11.74	26.73	45.04	54.00	-8.96	Vertical	
9808.00	18.16	38.60	14.29	25.22	45.83	54.00	-8.17	Vertical	
12310.00	*					54.00		Vertical	
14772.00	*					54.00		Vertical	
17234.00	*					54.00		Vertical	
4904.00	21.94	32.08	8.68	23.97	38.73	54.00	-15.27	Horizontal	
7356.00	23.24	36.69	11.74	26.73	44.94	54.00	-9.06	Horizontal	
9808.00	18.77	38.60	14.29	25.22	46.44	54.00	-7.56	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.