Report No: CCIS13030004101

FCC REPORT

Applicant:	Deliberant LLC
Address of Applicant:	138 Mountain Brook Dr Canton, GA 30115 United States
Equipment Under Test (EUT)	
Product Name:	Broadband Digital Transmission System
Model No.:	FWBD1101
FCC ID:	UB8-FWBD1101
Applicable standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.247:2011
Date of sample receipt:	04 Mar., 2013
Date of Test:	06 Mar., 2013 to 25 Apr., 2013
Date of report issued:	7 May., 2013
Test Result :	PASS *

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

Authorized Signature:

Bruce Zhang
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 CCIS product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

2 Version

Version No.	Date	Description
00	*7 May., 2013*	*Original*

Prepared by:  ***Date:*** 25 Apr., 2013

Report

Reviewed by:  ***Date:*** 25 Apr., 2013

Project Engineer

3 Contents

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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:	Deliberant LLC
Address of Applicant:	138 Mountain Brook Dr Canton, GA 30115 United States
Manufacturer/ Factory:	Deliberant LLC
Address of Manufacturer/ Factory:	138 Mountain Brook Dr Canton, GA 30115 United States

5.2 General Description of E.U.T.

Product Name:	Broadband Digital Transmission System
Model No.:	FWBD1101
Operation Frequency:	5725MHz-5850MHz
Channel numbers:	802.11a/ 802.11n20:5, 802.11n40:2
Channel separation:	802.11a/802.11n20 :20MHz, 802.11n40 :40MHz
Modulation technology: (IEEE 802.11a)	BPSK,QPSK,16-QAM,64-QAM
Modulation technology: (IEEE 802.11n/802.11n)	BPSK,QPSK,16-QAM,64-QAM
Data speed(IEEE 802.11a)	6MHz,9MHz,12MHz,18MHz,24MHz,36MHz,48MHz,54MHz
Data speed (IEEE 802.11n20):	MCS0: 6.5MHz,MCS1:13MHz,MCS2:19.5MHz,MCS3:26MHz, MCS4:39MHz,MCS5:52MHz,MCS6:58.5MHz,MCS7:65MHz
Data speed (IEEE 802.11n40):	MCS0:15MHz,MCS1:30MHz,MCS2:45MHz,MCS3:60MHz, MCS4:90MHz,MCS5:120MHz,MCS6:135MHz,MCS7:150MHz
Antenna Type:	ANT1:Omni-directional,ANT2:Omni-directional, ANT3:Sector,ANT4:Panel,ANT5:Dish
Antenna gain:	ANT1:3 dBi,ANT2:12 dBi,ANT3:19 dBi,ANT4:23 dBi,ANT5:30 dBi
Power supply:	Input:100-240V AC,50/60Hz 0.5A Output:24V DC MAX0.5A

Operation Frequency each of channel

802.11a/802.11n20

Channel	Frequency
149	5745MHz
153	5765MHz
157	5785MHz
161	5805MHz
165	5825MHz

802.11n40

Channel	Frequency
151	5755MHz
159	5795MHz

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:

802.11a/802.11n20

Channel	Frequency
The lowest channel	5745MHz
The middle channel	5785MHz
The Highest channel	5825MHz

802.11n40

Channel	Frequency
The lowest channel	5755MHz
The Highest channel	5795MHz

5.3 Test environment and mode

Operating Environment:	
Temperature:	24.0 °C
Humidity:	54 % RH
Atmospheric Pressure:	1010 mbar
Test mode:	
Continuously transmitting mode	Keep the EUT in 100% duty cycle 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
802.11a	6 Mbps
802.11n20	6.5 Mbps
802.11n40	13 Mbps

Final Test Mode:

According to ANSI C63.4 standards, the test results are both the “worst case” and “worst setup” 6 Mbps for 802.11a, 6.5 Mbps for 802.11n20 and 13 Mbps for 802.11n40. All test items for 802.11a and 802.11n were performed in MIMO mode and duty cycle all above 98%, meet the requirements of KDB 558074.

5.4 Laboratory Facility

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

- **FCC - Registration No.: 817957**

Shenzhen Zhongjian Nanfang Testing Co., Ltd. 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 817957, February 27, 2012.

- **IC - Registration No.: 10106A-1**

The 3m Semi-anechoic chamber of Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

- **CNAS - Registration No.: CNAS L6048**

Shenzhen Zhongjian Nanfang Testing Co., Ltd. is accredited to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L6048.

5.5 Laboratory Location

Shenzhen Zhongjian Nanfang Testing Co., Ltd.
Address: No.B-C, 1/F., Building 2, Laodong No.2 Industrial Park, Xixiang Road,
Bao’an District, Shenzhen, Guangdong, China
Tel: 0755-23118282
Fax: 0755-23116366

5.6 Test Instruments list

Radiated Emission:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal. Date (dd-mm-yy)**	**Cal. Due date (dd-mm-yy)**
1	3m Semi- Anechoic Chamber	SAEMC	9(L)*6(W)* 6(H)	CCIS0001	June 09 2012	June 08 2013
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	CCIS0002	N/A	N/A
3	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	CCIS0005	June 04 2012	June 03 2013
4	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	CCIS0006	May 30 2012	May 29 2013
5	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
6	Coaxial Cable	CCIS	N/A	CCIS0016	Apr. 01 2013	Mar. 31 2014
7	Coaxial Cable	CCIS	N/A	CCIS0017	Apr. 01 2013	Mar. 31 2014
8	Coaxial cable	CCIS	N/A	CCIS0018	Apr. 01 2013	Mar. 31 2014
9	Coaxial Cable	CCIS	N/A	CCIS0019	Apr. 01 2013	Mar. 31 2014
10	Coaxial Cable	CCIS	N/A	CCIS0087	Apr. 01 2013	Mar. 31 2014
11	Amplifier(10kHz-1.3GHz)	HP	8447D	CCIS0003	Apr. 01 2013	Mar. 31 2014
12	Amplifier(1GHz-18GHz)	Compliance Direction Systems Inc.	PAP-1G18	CCIS0011	June 09 2012	June 08 2013
13	Pre-amplifier (18-40GHz)	A.H System	PAM-1840	GTS219	Apr. 01 2013	Mar. 31 2014
14	Horn Antenna	ETS-LINDGREN	3160	GTS217	Mar. 30 2013	Mar. 29 2014
15	Printer	HP	HP LaserJet P1007	N/A	N/A	N/A
16	Positioning Controller	UC	UC3000	CCIS0015	N/A	N/A
17	Spectrum analyzer 9k-30GHz	Rohde & Schwarz	FSP	CCIS0023	May. 28 2013	May. 27 2014
18	Loop antenna	Laplace instrument	RF300	EMC0701	Aug. 11 2013	Aug. 10 2014
19	EMI Test Receiver	Rohde & Schwarz	ESPI	CCIS0022	Apr 01 2013	Mar. 31 2014
20	Spectrum Analyzer	HP	8564E	CCIS0150	May 24 2013	May 23 2014

Conducted Emission:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal. Date (dd-mm-yy)**	**Cal. Due date (dd-mm-yy)**
1	Shielding Room	ZhongShuo Electron	11.0(L)x4.0(W)x3.0(H)	CCIS0061	June 09 2012	June 08 2013
2	EMI Test Receiver	Rohde & Schwarz	ESCI	CCIS0002	May 24 2013	May 23 2014
3	LISN	CHASE	MN2050D	CCIS0074	Apr 01 2013	Mar. 31 2014
4	Coaxial Cable	CCIS	N/A	CCIS0086	Apr. 01 2013	Mar. 31 2014
5	EMI Test Software	AUDIX	E3	N/A	N/A	N/A

6 Test results and Measurement Data

6.1 Justification

According to section 5.2 of this report, the EUT have five types of antenna, so we test the maximum output power item base on the different antennas, and we selected the worst case one to perform the other conducted method test items. The worst case for the conducted method tests is EUT with 3 dBi Omni-directional antenna (maximum conducted output power). For radiated method tests, all cases were tested.

6.2 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.

This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, § 15.213, § 15.217, § 15.219, or § 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with § 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

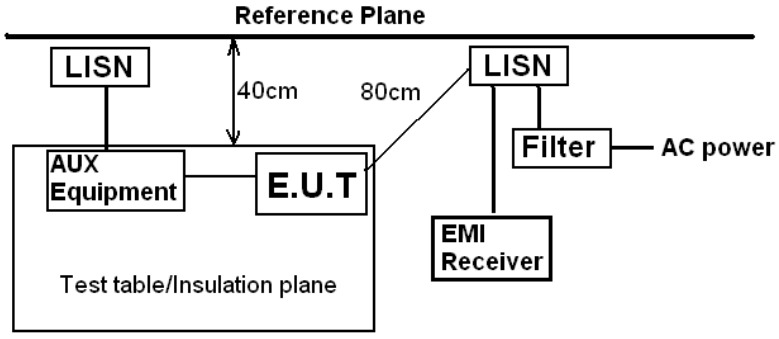
E.U.T Antenna:	

The product is a professionally installed device which has five types of antenna for the application. The antenna information as below table:

Antenna No.	Antenna Type	Antenna Gain (dBi)	Antenna Connector Type
Antenna 1	Omni-directional	3	SMA
Antenna 2	Omni-directional	12	N type
Antenna 3	Sector	19	MCX
Antenna 4	Panel	23	MCX
Antenna 5	Dish	30	MCX

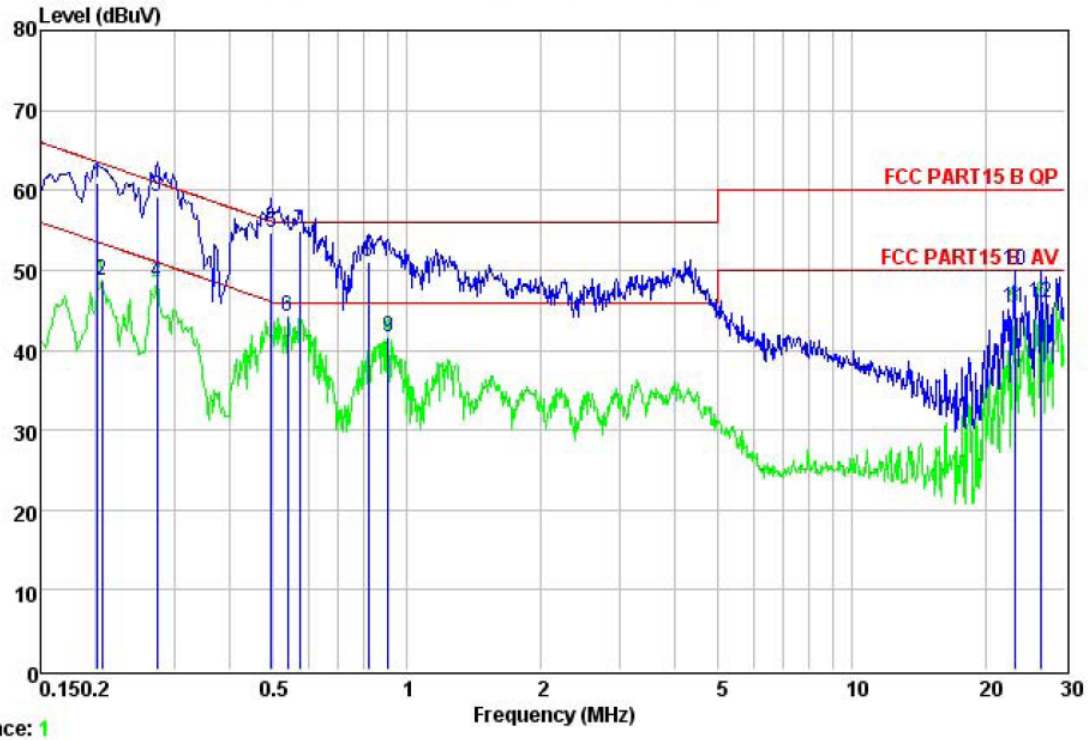
According to above information, the antennas meet the requirements of this section. The details of antenna plots please refer to section 8 of this report.

6.3 Conducted Emission

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	1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). It provides a 50ohm/50uH coupling impedance for the measuring equipment. 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). 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: 2003 on conducted measurement.
Test setup:	 *Remark:* *E.U.T: Equipment Under Test* *LISN: Line Impedence Stabilization Network* *Test table height=0.8m*
Test Instruments:	Refer to section 5.6 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data

Line:

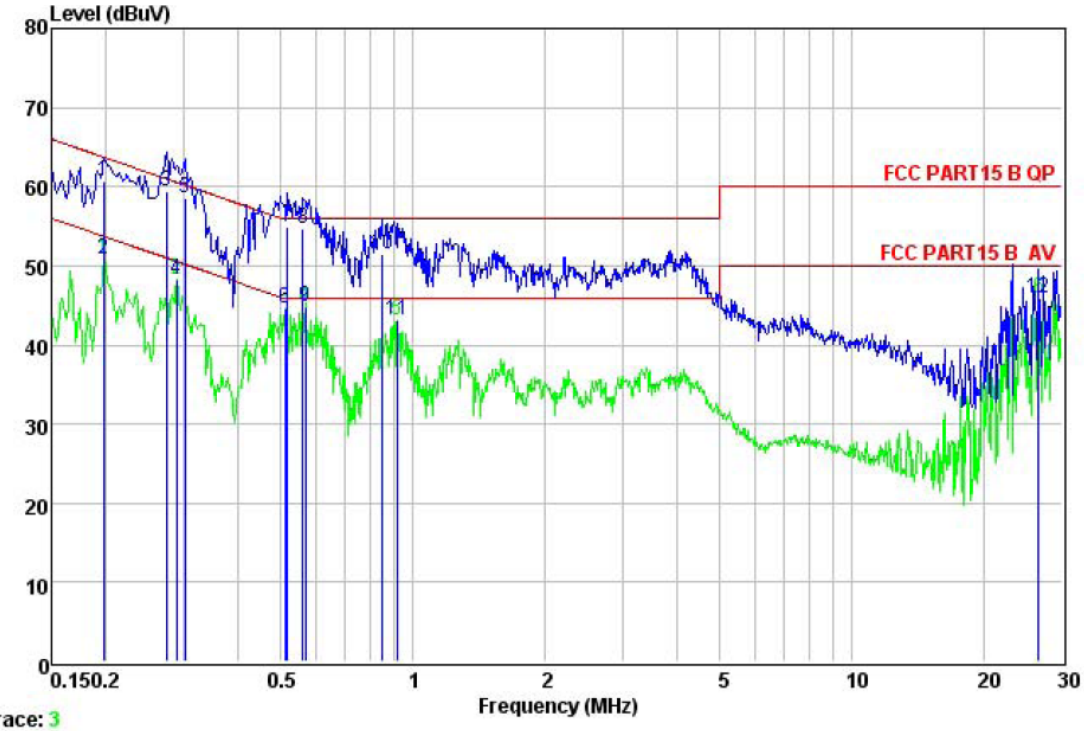


Trace: 1

Site : CCIS Conducted Test Site
Condition : FCC PART15 B QP LISN LINE
Job. no : 041RF
EUT : Broadband Digital Transmission System
Model : FWBD1101
Test Mode : 802.11 mode
Power Rating : AC 120V/60Hz
Environment : Temp: 23 ℃ Huni:56% Atmos:101KPa
Test Engineer: Winner
Remark : 19dBi ANT

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.202	49.90	10.21	0.76	60.87	63.54	-2.67	QP
2	0.206	37.71	10.21	0.76	48.68	53.36	-4.68	Average
3	0.274	48.30	10.25	0.74	59.29	60.98	-1.69	QP
4	0.274	37.58	10.25	0.74	48.57	50.98	-2.41	Average
5	0.494	43.60	10.27	0.76	54.63	56.10	-1.47	QP
6	0.538	33.21	10.25	0.76	44.22	46.00	-1.78	Average
7	0.573	43.91	10.23	0.76	54.90	56.00	-1.10	QP
8	0.817	40.00	10.19	0.81	51.00	56.00	-5.00	QP
9	0.904	30.47	10.20	0.85	41.52	46.00	-4.48	Average
10	23.140	38.67	10.47	0.89	50.03	60.00	-9.97	QP
11	23.140	34.00	10.47	0.89	45.36	50.00	-4.64	Average
12	26.558	34.48	10.65	0.87	46.00	50.00	-4.00	Average

Neutral:



Trace: 3

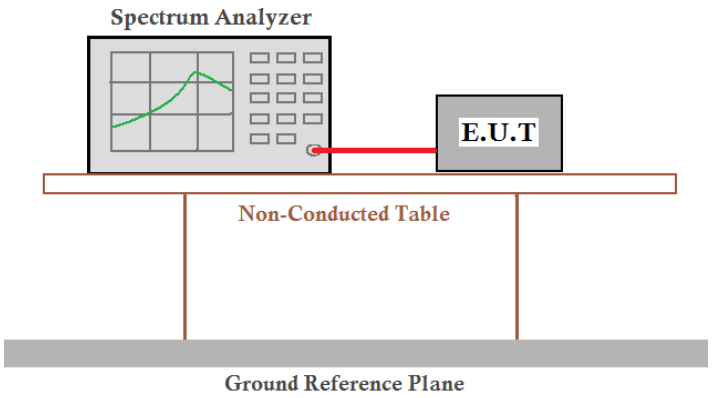
```
Site          : CCIS Conducted Test Site
Condition     : FCC PART15 B QP LISN NEUTRAL
Job. no       : 041RF
EUT           : Broadband Digital Transmission System
Model         : FWBD1101
Test Mode     : 802.11 mode
Power Rating  : AC 120V/60Hz
Environment   : Temp: 23 'C Huni:56%  Atmos:101KPa
Test Engineer: Winner
Remark        : 19dBi ANT
```

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.198	49.80	10.23	0.76	60.79	63.71	-2.92	QP
2	0.198	39.88	10.23	0.76	50.87	53.71	-2.84	Average
3	0.274	48.50	10.24	0.74	59.48	60.98	-1.50	QP
4	0.289	37.17	10.24	0.74	48.15	50.54	-2.39	Average
5	0.302	47.60	10.24	0.74	58.58	60.19	-1.61	QP
6	0.510	33.65	10.27	0.76	44.68	46.00	-1.32	Average
7	0.518	43.80	10.27	0.76	54.83	56.00	-1.17	QP
8	0.561	43.70	10.24	0.76	54.70	56.00	-1.30	QP
9	0.567	33.88	10.23	0.76	44.87	46.00	-1.13	Average
10	0.848	40.41	10.18	0.82	51.41	56.00	-4.59	QP
11	0.918	32.04	10.19	0.85	43.08	46.00	-2.92	Average
12	26.558	34.46	10.65	0.87	45.98	50.00	-4.02	Average

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

6.4 Conducted 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 5.6 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data

3dBi Omni-directional Antenna

Mode	Test CH	Ant. Port	Conducted Output power (dBm)	Total power (dBm)	Limit (dBm)	Result
802.11a	Lowest	Chain 1	25.60	28.43	30.00	Pass
		Chain 2	25.24			
	Middle	Chain 1	25.58	28.51	30.00	Pass
		Chain 2	25.42			
	Highest	Chain 1	25.68	28.60	30.00	Pass
		Chain 2	25.50			
802.11n20	Lowest	Chain 1	25.76	28.68	30.00	Pass
		Chain 2	25.58			
	Middle	Chain 1	25.78	28.66	30.00	Pass
		Chain 2	25.52			
	Highest	Chain 1	25.74	28.55	30.00	Pass
		Chain 2	25.33			
802.11n40	Lowest	Chain 1	25.40	28.37	30.00	Pass
		Chain 2	25.32			
	Highest	Chain 1	25.84	28.72	30.00	Pass
		Chain 2	25.58			

12dBi Omni-directional Antenna

Mode	Test CH	Ant. Port	Conducted Output power (dBm)	Total power (dBm)	Limit (dBm)	Result
802.11a	Lowest	Chain 1	23.78	26.56	28.00	Pass
		Chain 2	23.30			
	Middle	Chain 1	23.84	26.60	28.00	Pass
		Chain 2	23.33			
	Highest	Chain 1	23.92	26.73	28.00	Pass
		Chain 2	23.51			
802.11n20	Lowest	Chain 1	23.90	26.78	28.00	Pass
		Chain 2	23.64			
	Middle	Chain 1	23.89	26.64	28.00	Pass
		Chain 2	23.35			
	Highest	Chain 1	23.82	26.55	28.00	Pass
		Chain 2	23.25			
802.11n40	Lowest	Chain 1	23.91	26.60	28.00	Pass
		Chain 2	23.24			
	Highest	Chain 1	23.77	26.73	28.00	Pass
		Chain 2	23.66			

Remark: For PTMP, Power limit = 30 dBm – (antenna gain - 6)/3 = 28 dBm

19dBi Sector Antenna

Mode	Test CH	Ant. Port	Conducted Output power (dBm)	Total power (dBm)	Limit (dBm)	Result
802.11a	Lowest	Chain 1	20.91	23.71	30.00	Pass
		Chain 2	20.48			
	Middle	Chain 1	20.85	23.64	30.00	Pass
		Chain 2	20.40			
	Highest	Chain 1	20.92	23.72	30.00	Pass
		Chain 2	20.48			
802.11n20	Lowest	Chain 1	20.86	23.69	30.00	Pass
		Chain 2	20.49			
	Middle	Chain 1	20.94	23.66	30.00	Pass
		Chain 2	20.34			
	Highest	Chain 1	20.87	23.69	30.00	Pass
		Chain 2	20.49			
802.11n40	Lowest	Chain 1	20.76	23.56	30.00	Pass
		Chain 2	20.33			
	Highest	Chain 1	20.76	23.49	30.00	Pass
		Chain 2	20.17			

23dBi Panel Antenna

Mode	Test CH	Ant. Port	Conducted Output power (dBm)	Total power (dBm)	Limit (dBm)	Result
802.11a	Lowest	Chain 1	19.93	22.59	30.00	Pass
		Chain 2	19.20			
	Middle	Chain 1	19.84	22.68	30.00	Pass
		Chain 2	19.49			
	Highest	Chain 1	19.75	22.62	30.00	Pass
		Chain 2	19.46			
802.11n20	Lowest	Chain 1	19.69	22.62	30.00	Pass
		Chain 2	19.53			
	Middle	Chain 1	19.85	22.55	30.00	Pass
		Chain 2	19.21			
	Highest	Chain 1	19.83	22.57	30.00	Pass
		Chain 2	19.28			
802.11n40	Lowest	Chain 1	19.86	22.59	30.00	Pass
		Chain 2	19.28			
	Highest	Chain 1	19.85	22.72	30.00	Pass
		Chain 2	19.57			

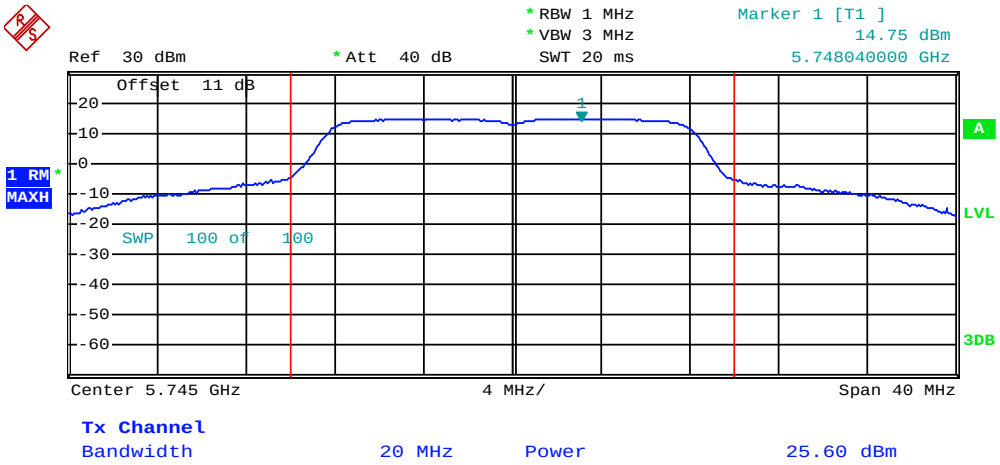
30dBi Dish Antenna

Mode	Test CH	Ant. Port	Conducted Output power (dBm)	Total power (dBm)	Limit (dBm)	Result
802.11a	Lowest	Chain 1	17.97	20.63	30.00	Pass
		Chain 2	17.24			
	Middle	Chain 1	17.84	20.67	30.00	Pass
		Chain 2	17.47			
	Highest	Chain 1	17.90	20.69	30.00	Pass
		Chain 2	17.45			
802.11n20	Lowest	Chain 1	17.68	20.49	30.00	Pass
		Chain 2	17.28			
	Middle	Chain 1	17.75	20.69	30.00	Pass
		Chain 2	17.60			
	Highest	Chain 1	17.67	20.44	30.00	Pass
		Chain 2	17.18			
802.11n40	Lowest	Chain 1	17.70	20.48	30.00	Pass
		Chain 2	17.22			
	Highest	Chain 1	17.90	20.67	30.00	Pass
		Chain 2	17.40			

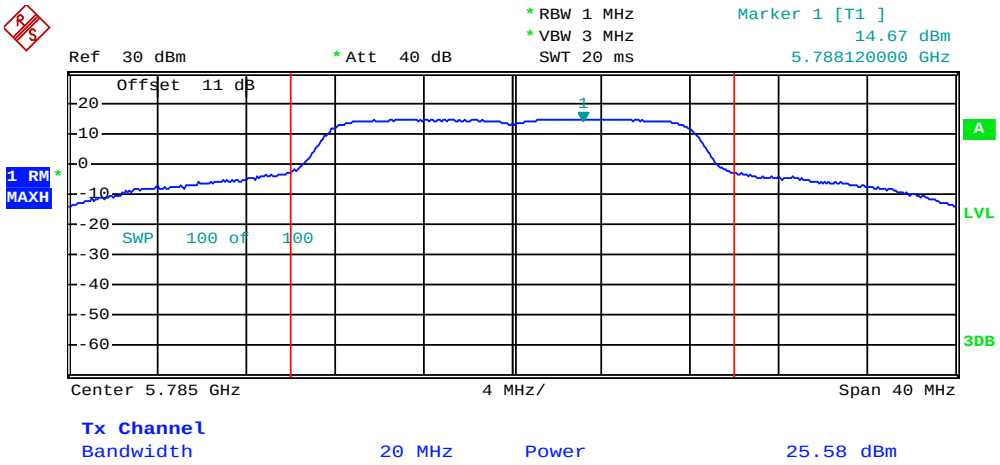
Test plot as follows:

3dBi Antenna (Chain 1)

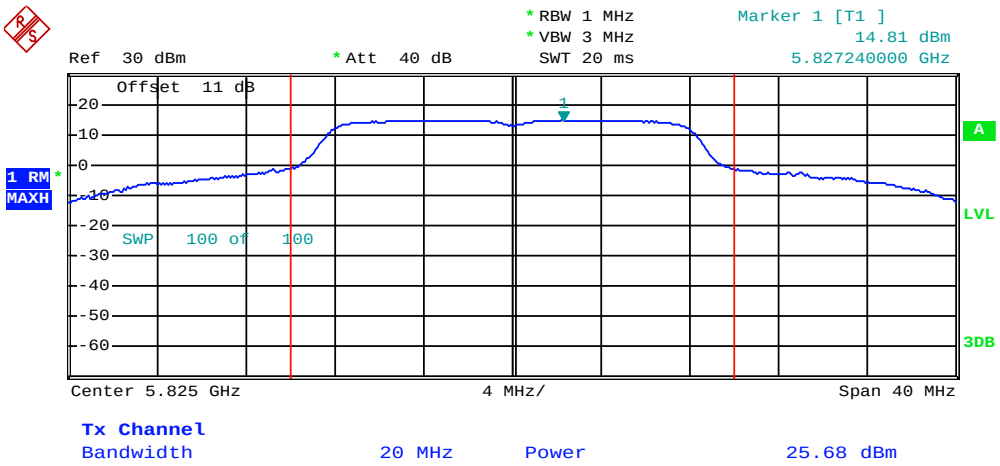
Test mode: 802.11a



Lowest channel



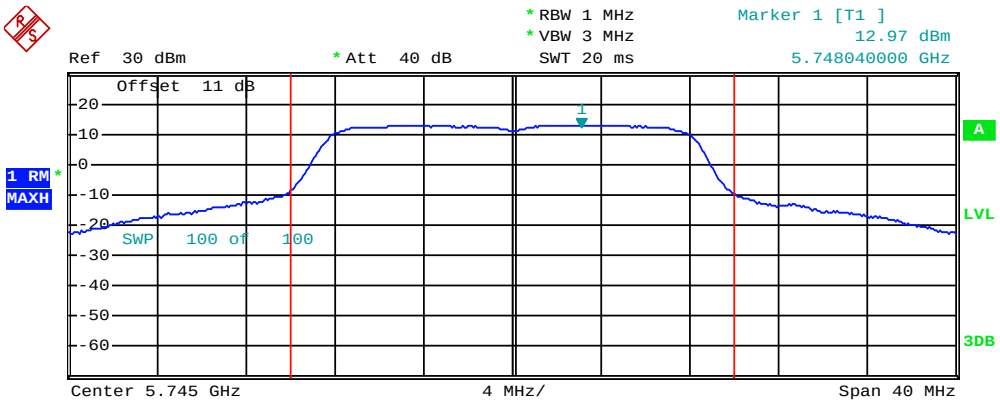
Middle channel



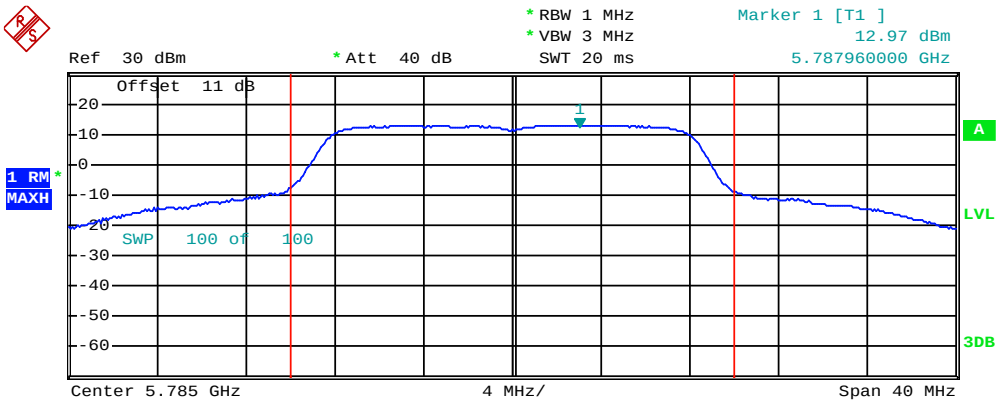
Highest channel

12dBi Antenna (Chain 1)

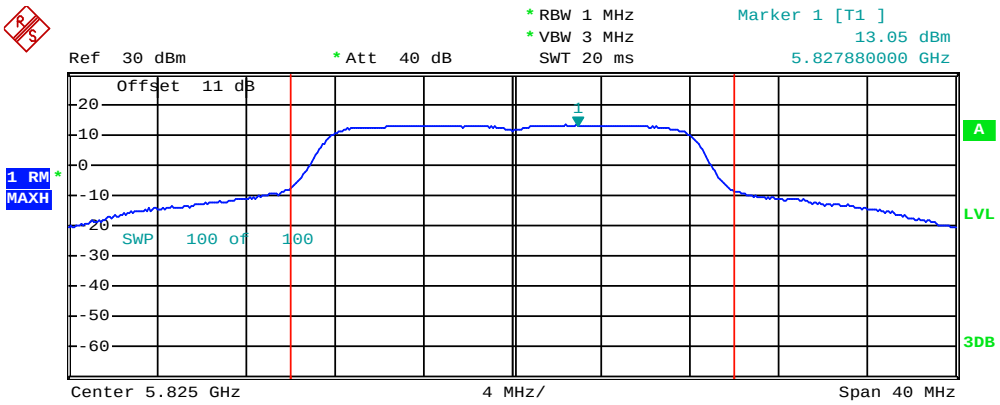
Test mode: 802.11a



Lowest channel



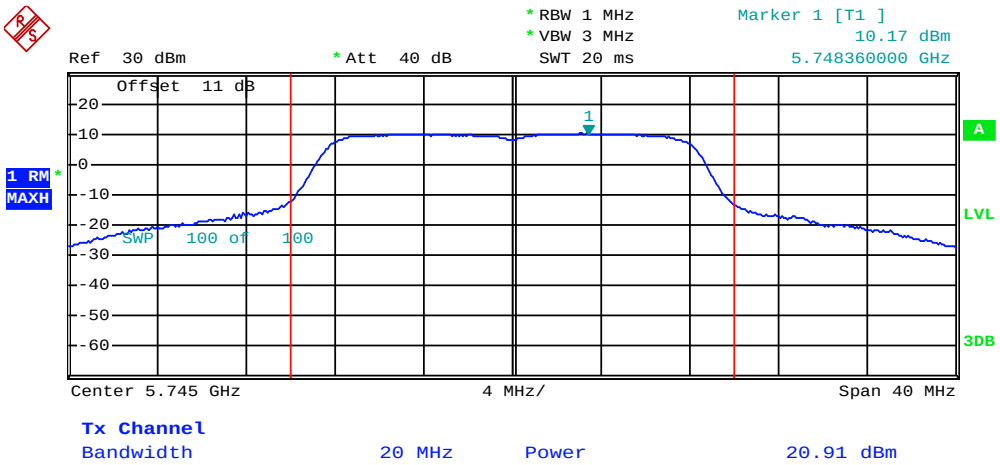
Middle channel



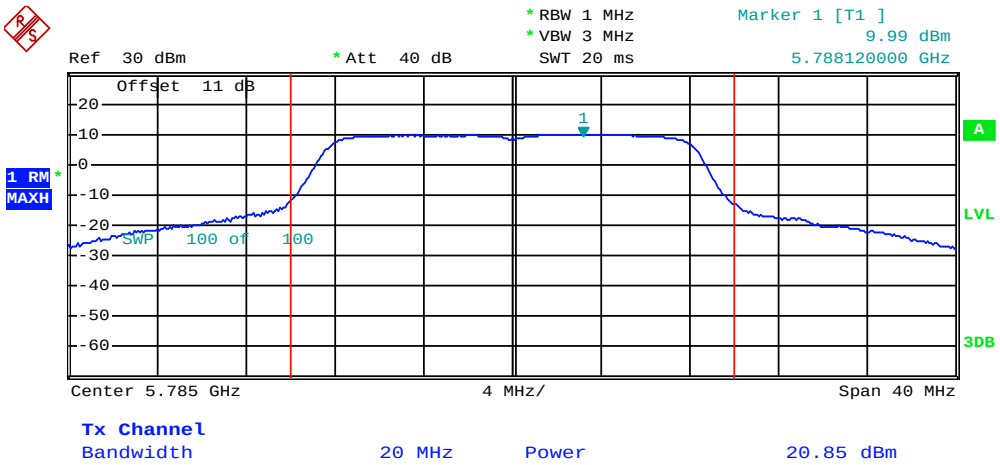
Highest channel

19dBi Antenna (Chain 1)

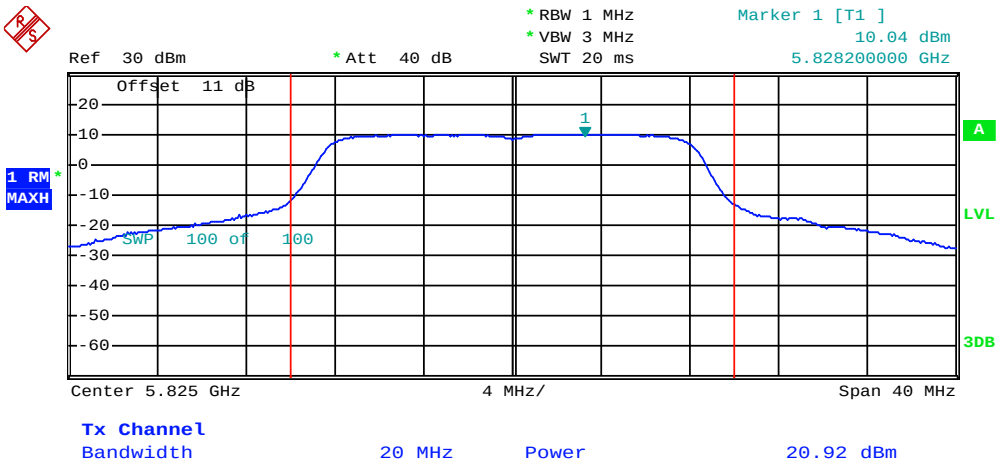
Test mode: 802.11a



Lowest channel



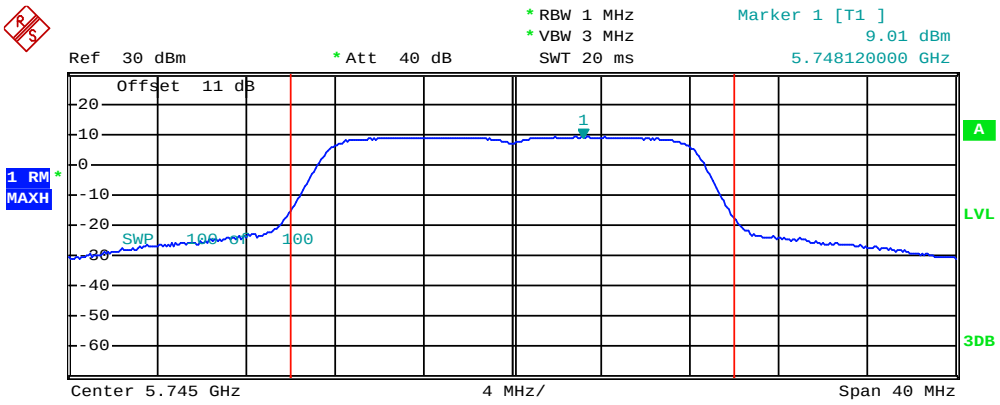
Middle channel



Highest channel

23dBi Antenna (Chain 1)

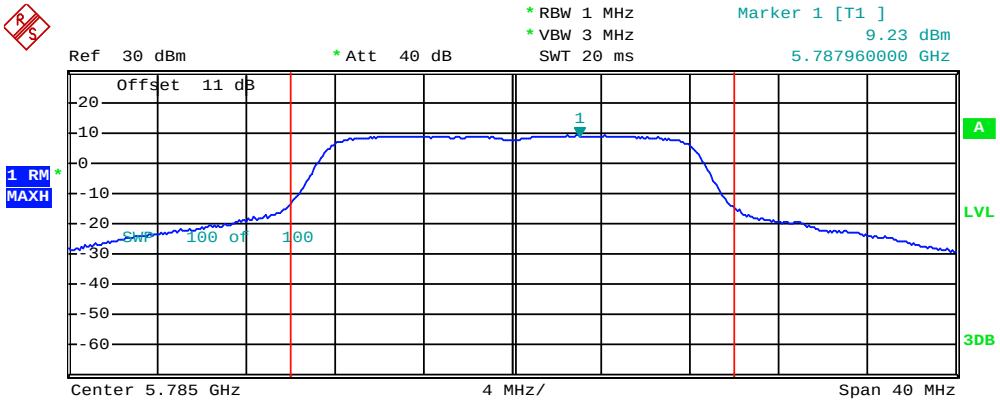
Test mode: 802.11a



Tx Channel

Bandwidth 20 MHz Power 19.93 dBm

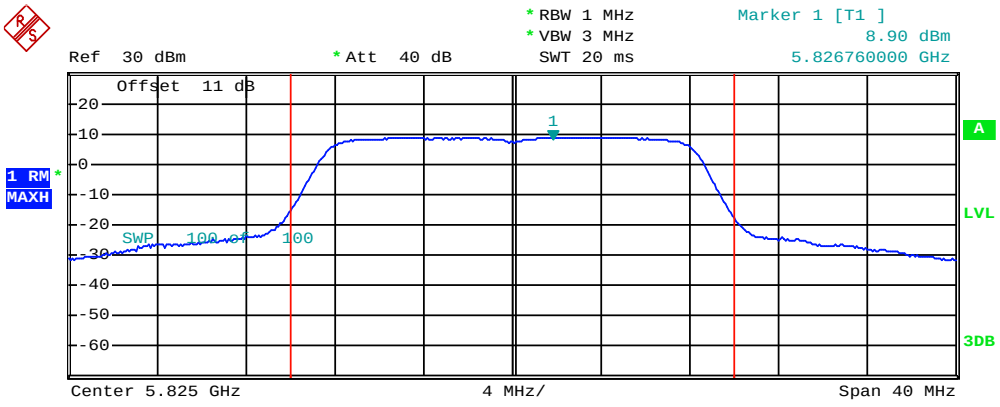
Lowest channel



Tx Channel

Bandwidth 20 MHz Power 19.84 dBm

Middle channel



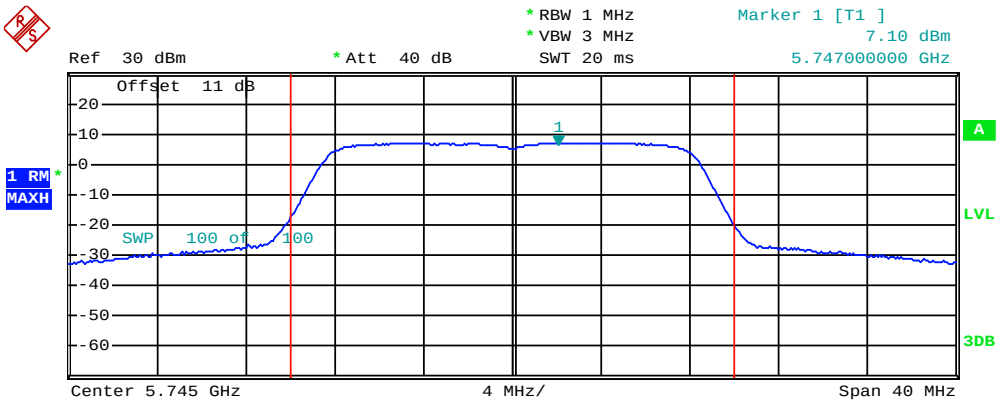
Tx Channel

Bandwidth 20 MHz Power 19.75 dBm

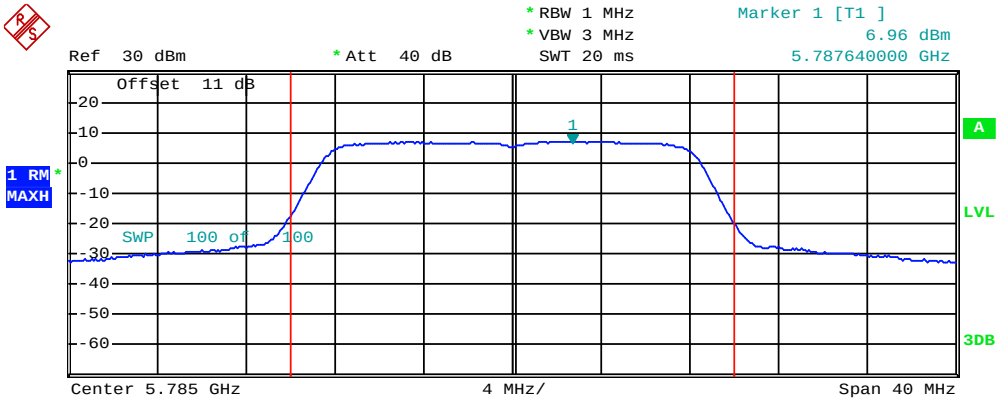
Highest channel

30dBi Antenna (Chain 1)

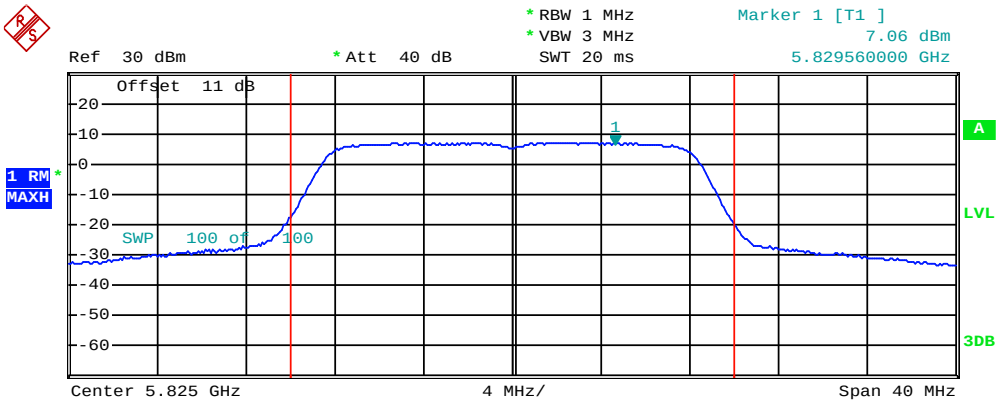
Test mode: 802.11a



Lowest channel



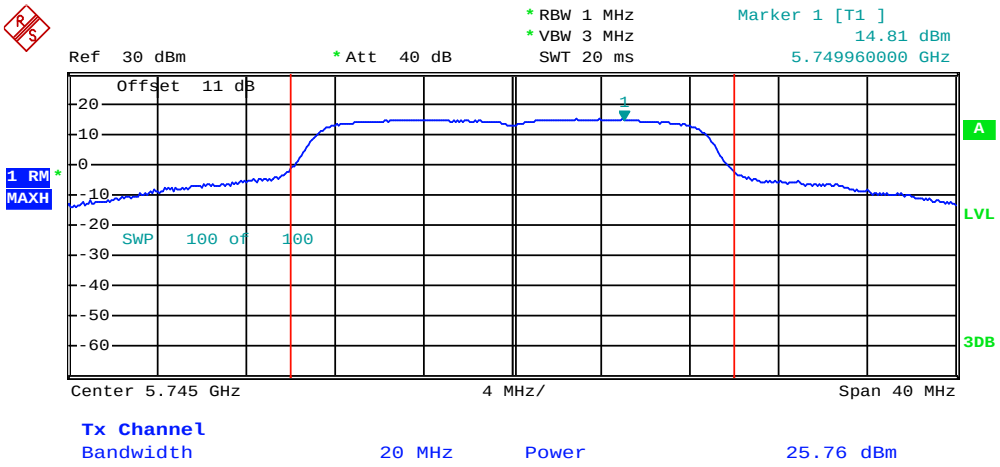
Middle channel



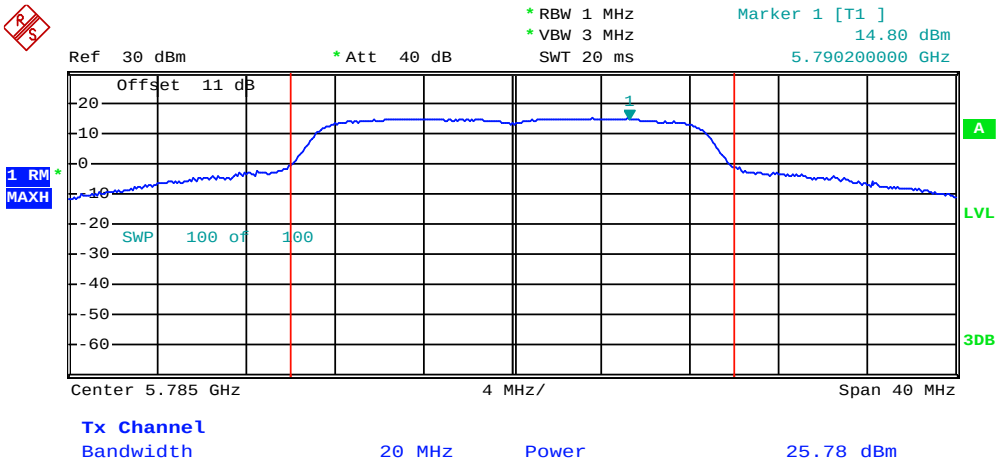
Highest channel

3dBi Antenna (Chain 1)

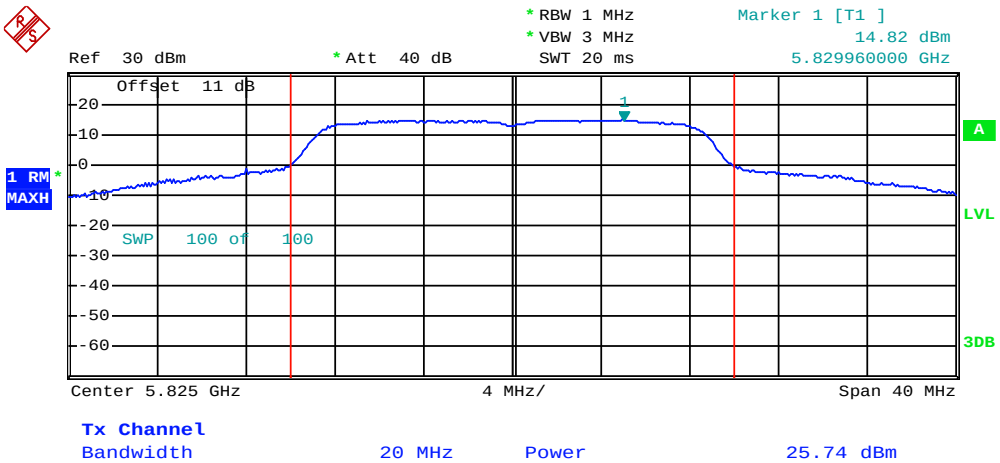
Test mode: 802.11n20



Lowest channel



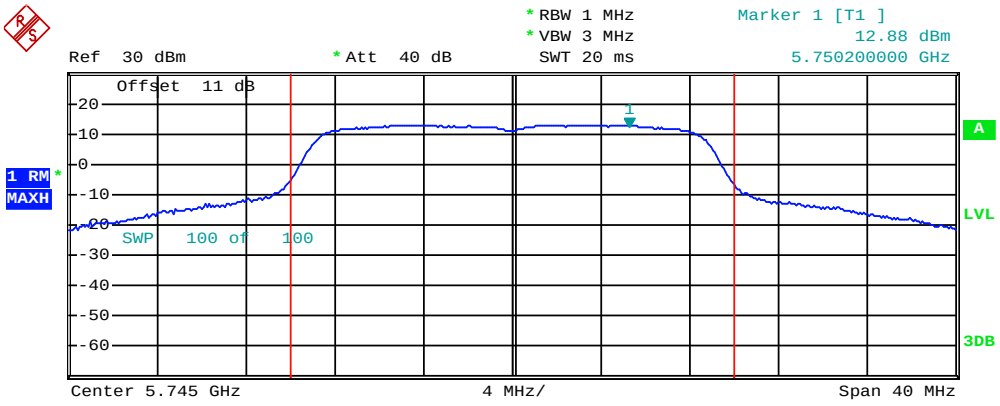
Middle channel



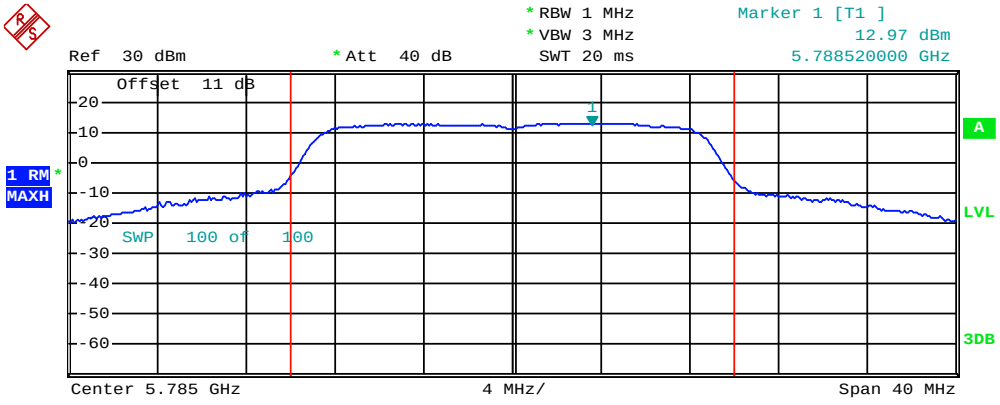
Highest channel

12dBi Antenna (Chain 1)

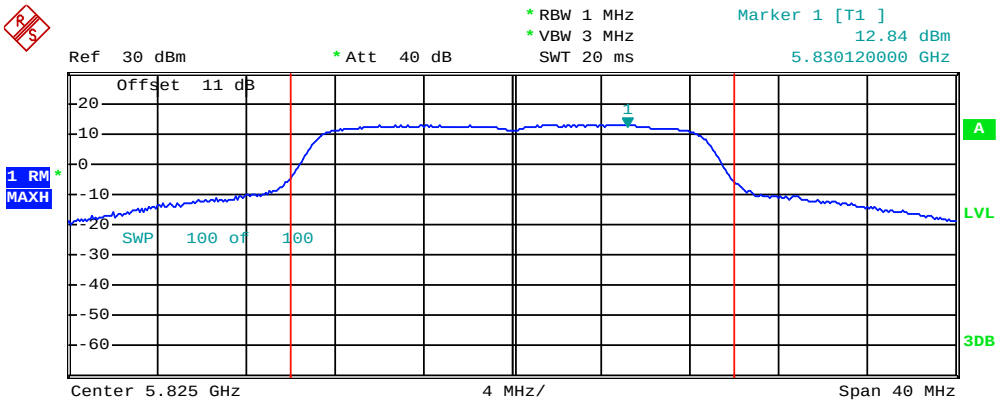
Test mode: 802.11n20



Lowest channel



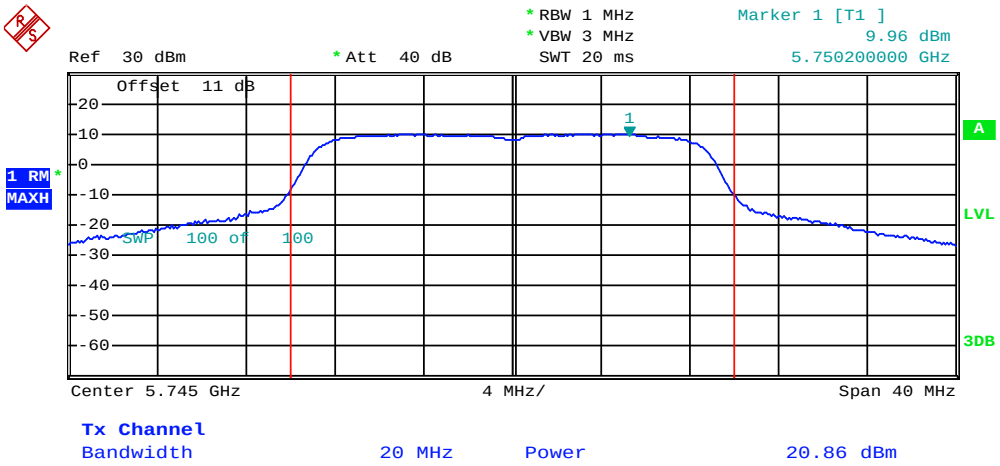
Middle channel



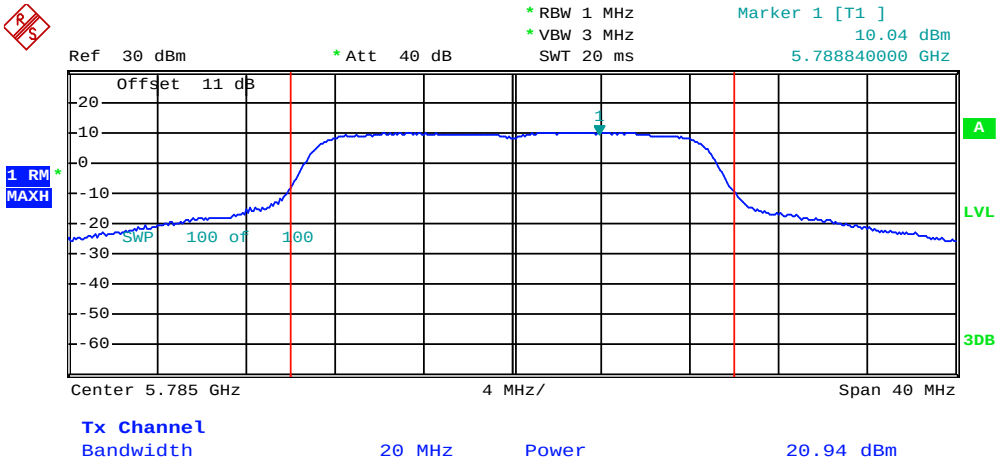
Highest channel

19dBi Antenna (Chain 1)

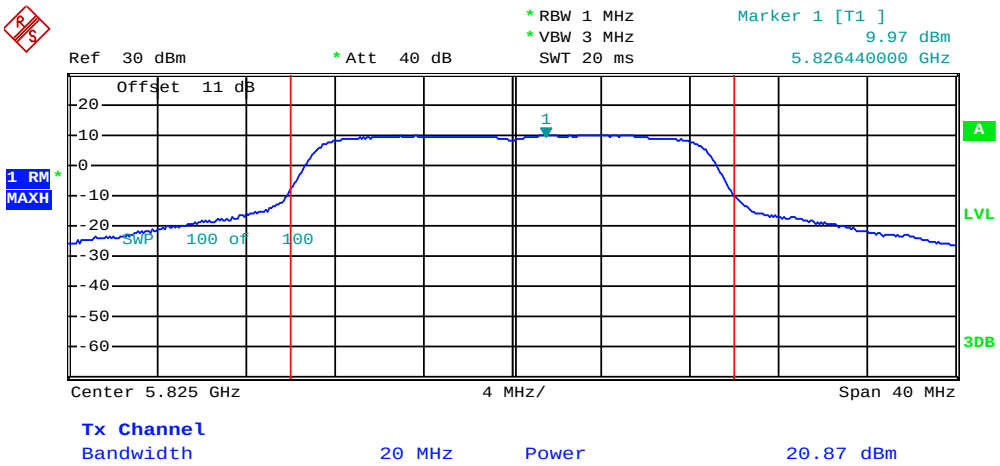
Test mode: 802.11n20



Lowest channel



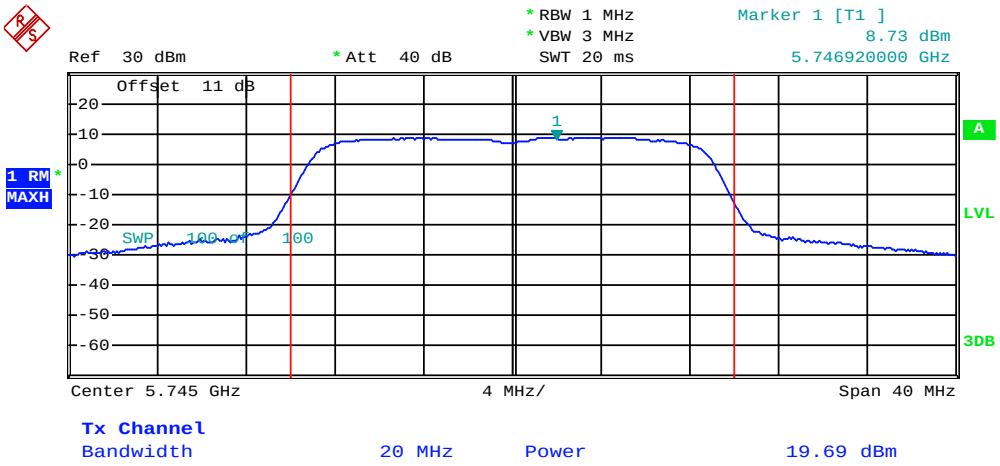
Middle channel



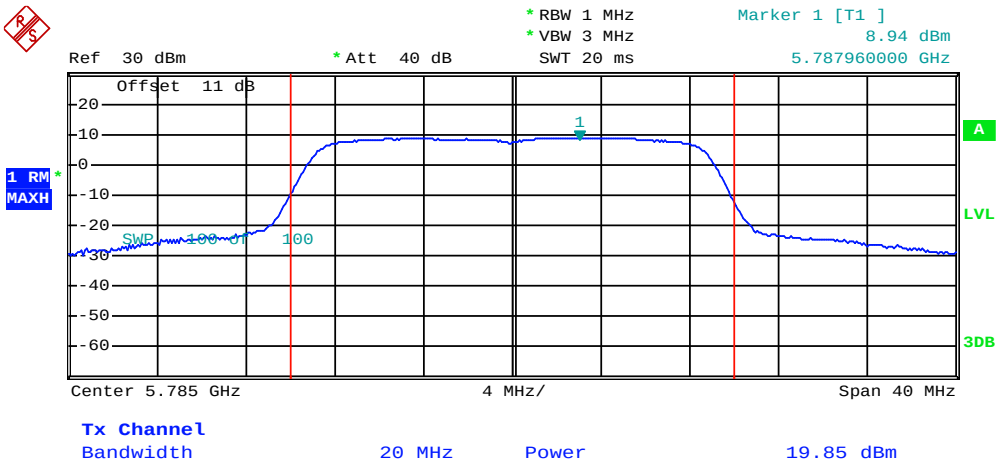
Highest channel

23dBi Antenna (Chain 1)

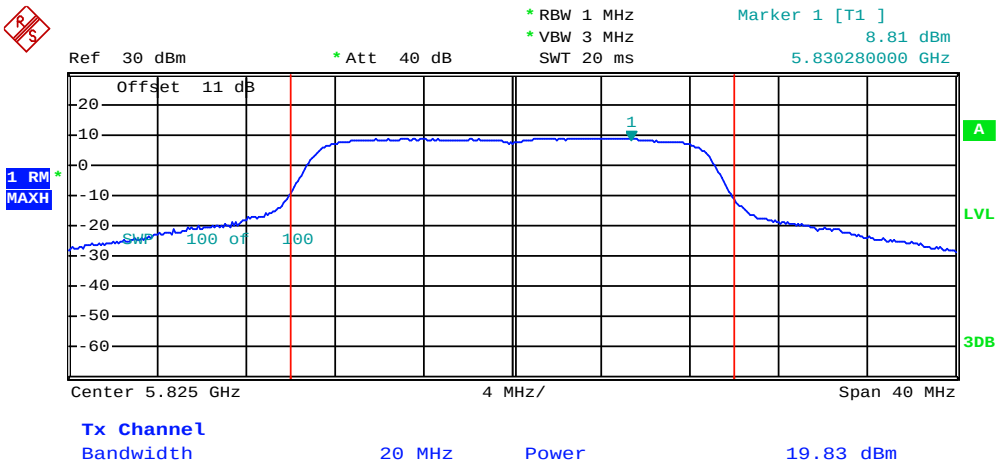
Test mode: 802.11n20



Lowest channel



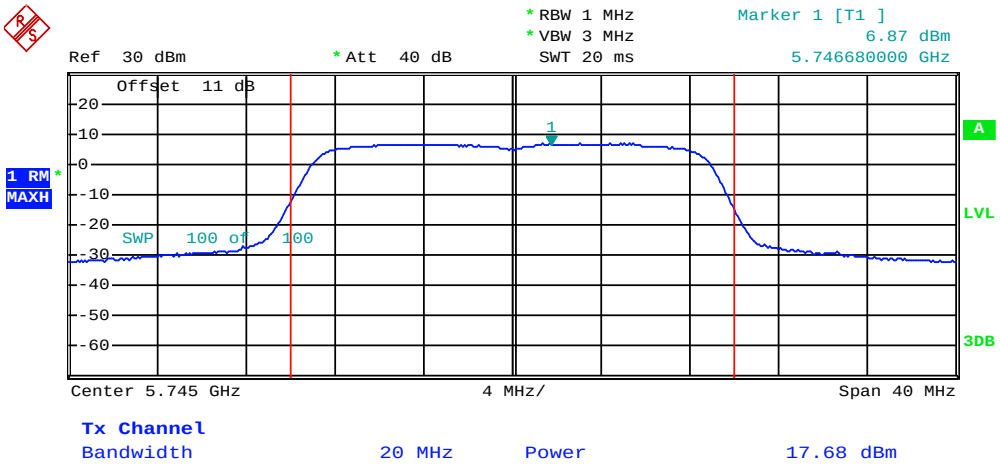
Middle channel



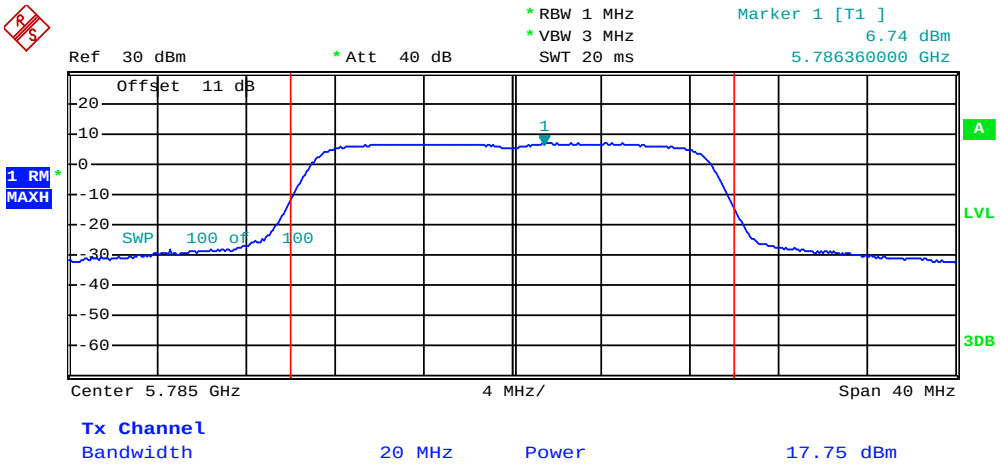
Highest channel

30dBi Antenna (Chain 1)

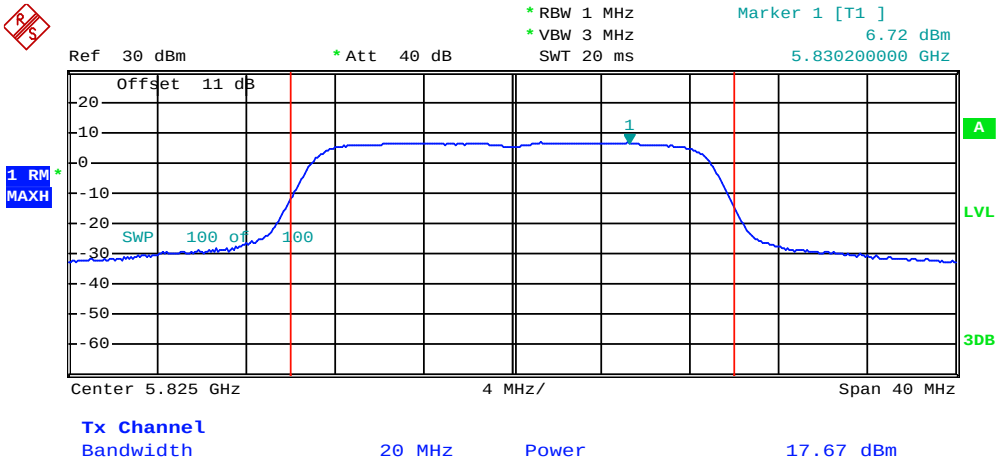
Test mode: 802.11n20



Lowest channel



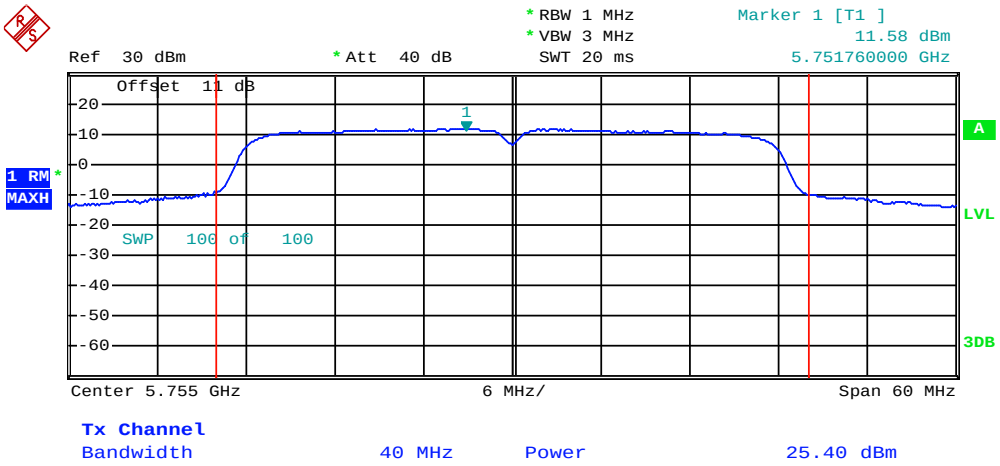
Middle channel



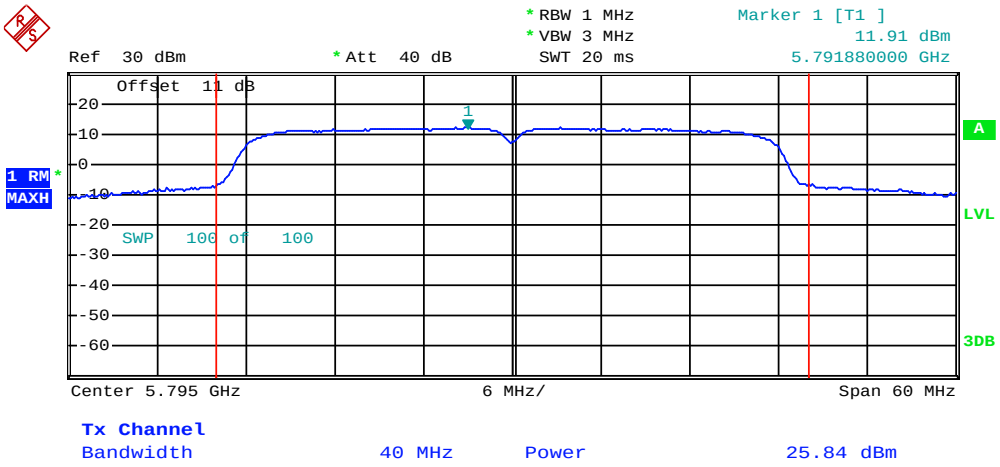
Highest channel

3dBi Antenna (Chain 1)

Test mode: 802.11n40



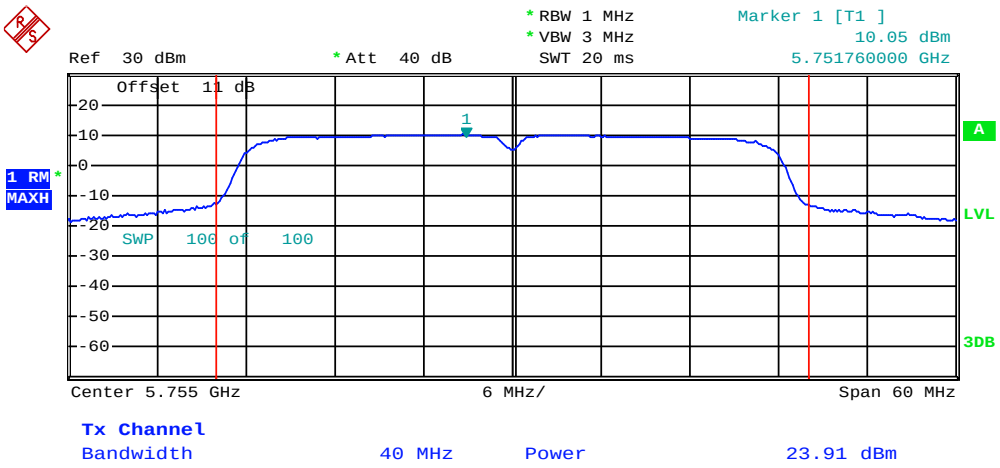
Lowest channel



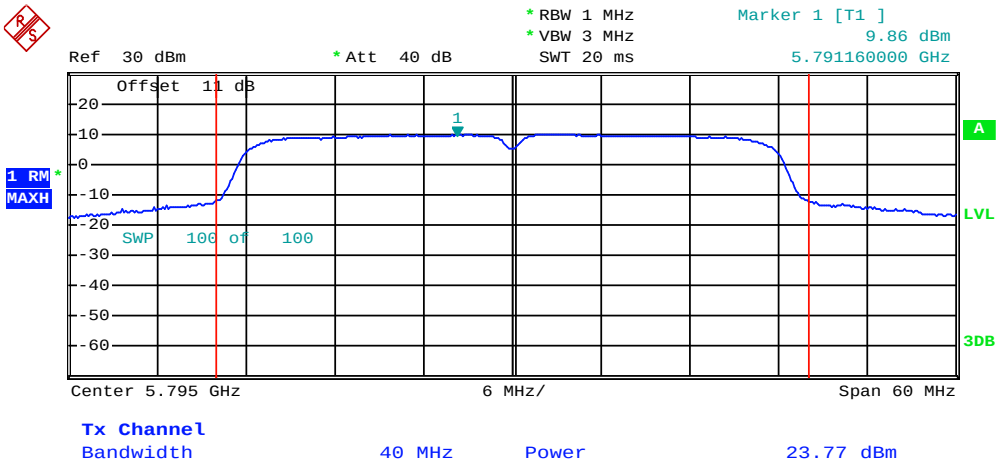
Highest channel

12dBi Antenna (Chain 1)

Test mode: 802.11n40



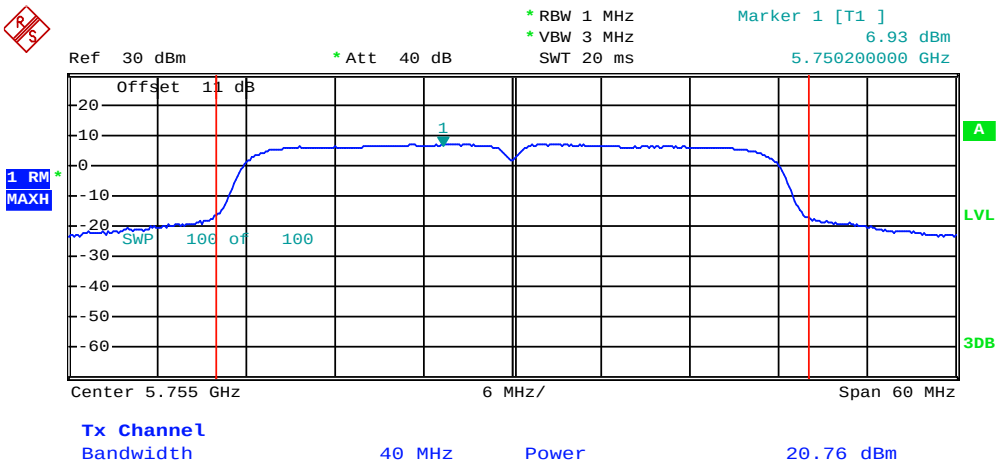
Lowest channel



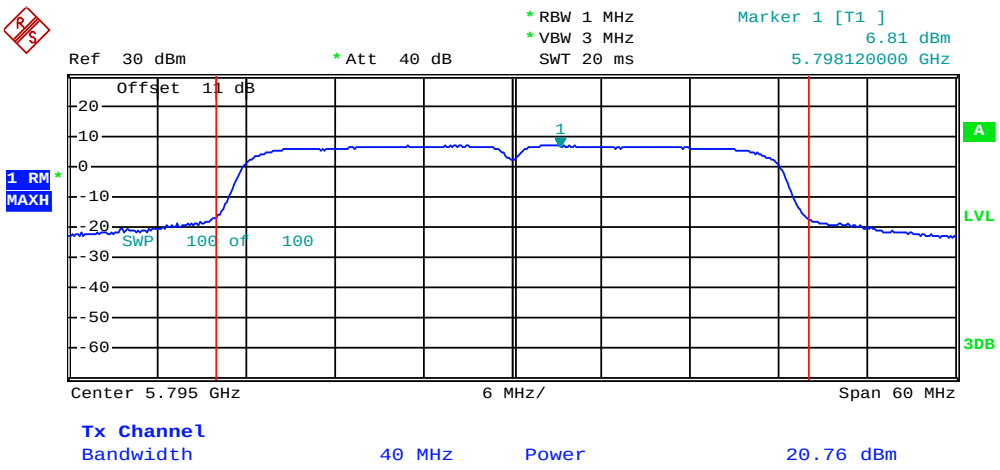
Highest channel

19dBi Antenna (Chain 1)

Test mode: 802.11n40



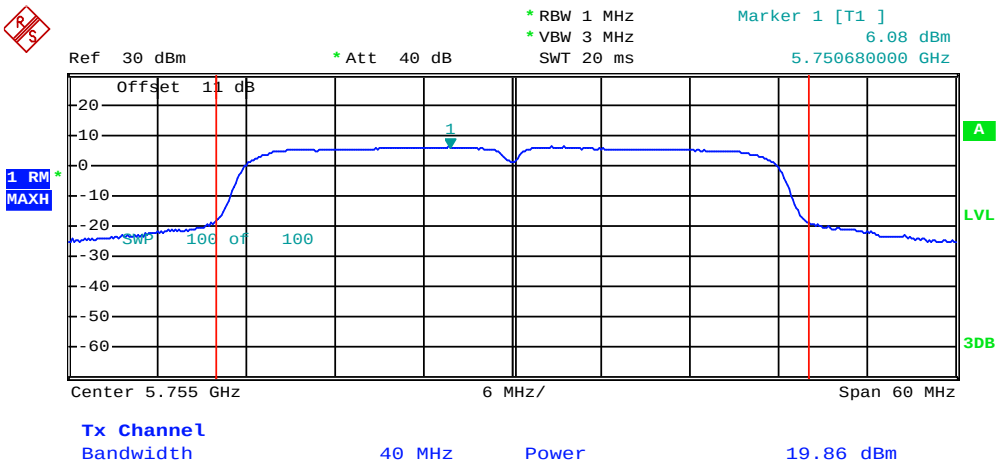
Lowest channel



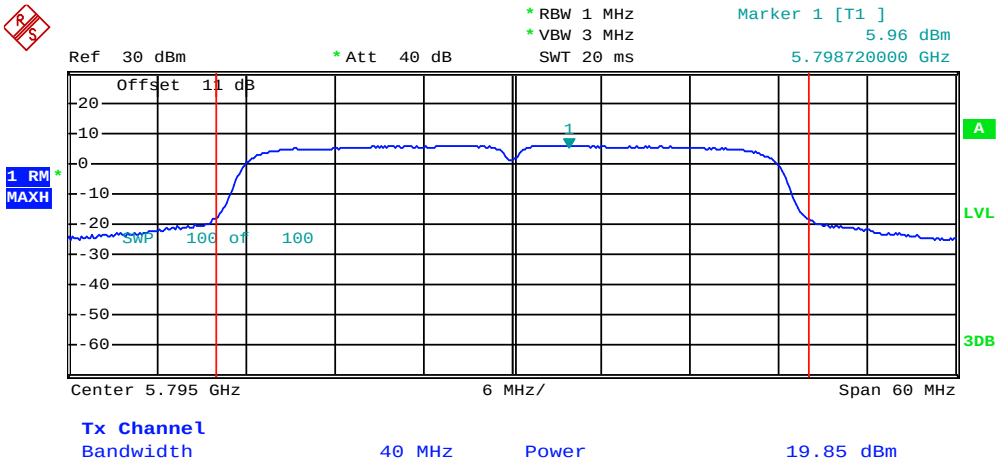
Highest channel

23dBi Antenna (Chain 1)

Test mode: 802.11n40



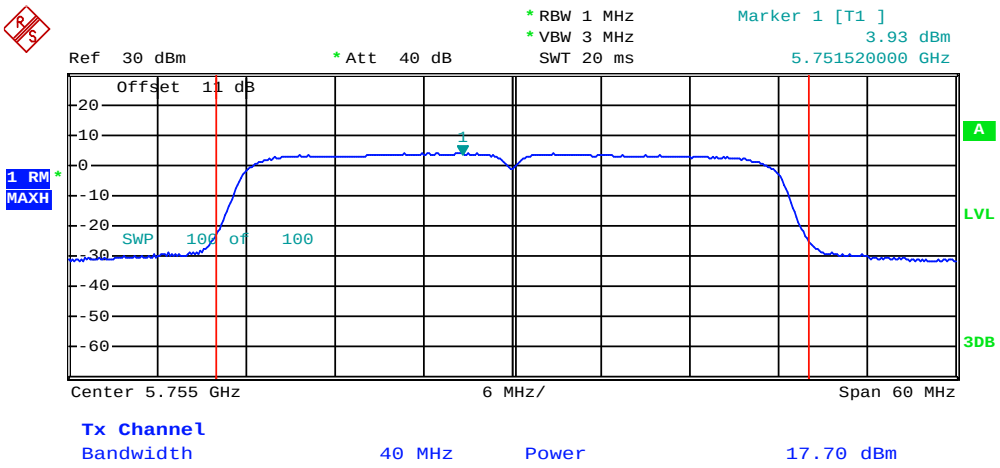
Lowest channel



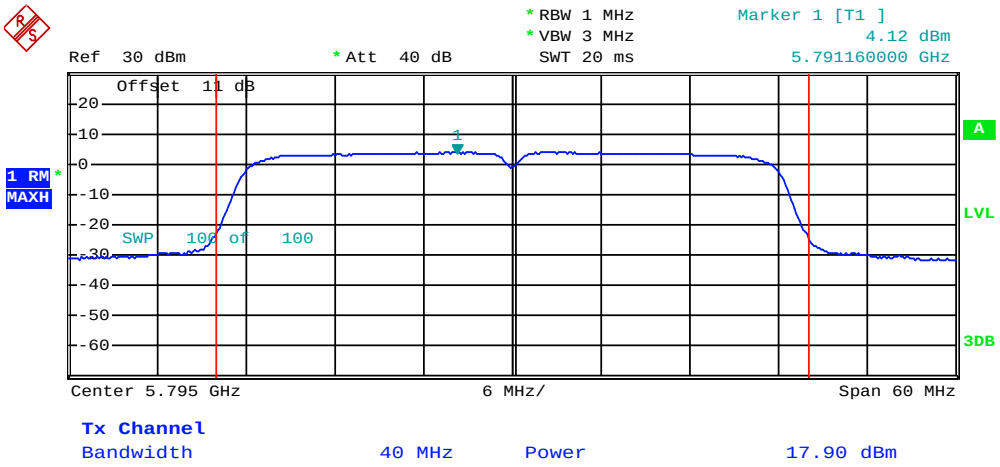
Highest channel

30dBi Antenna (Chain 1)

Test mode: 802.11n40



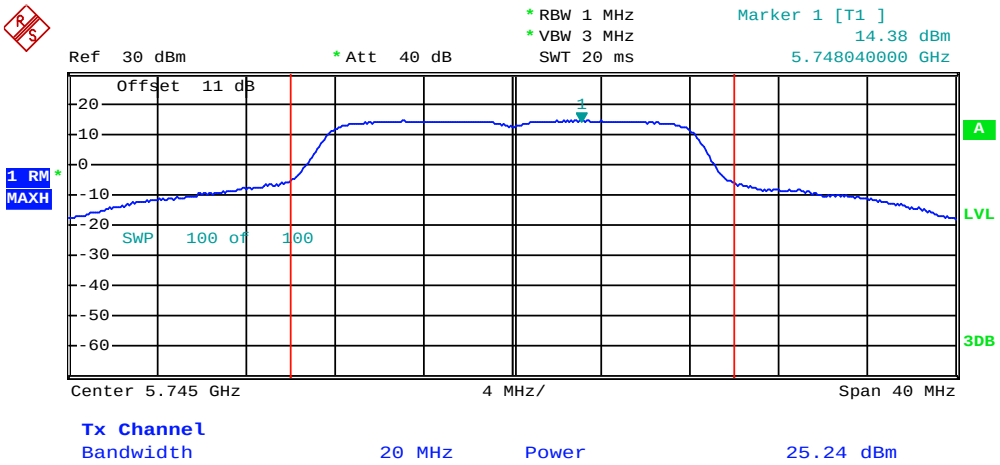
Lowest channel



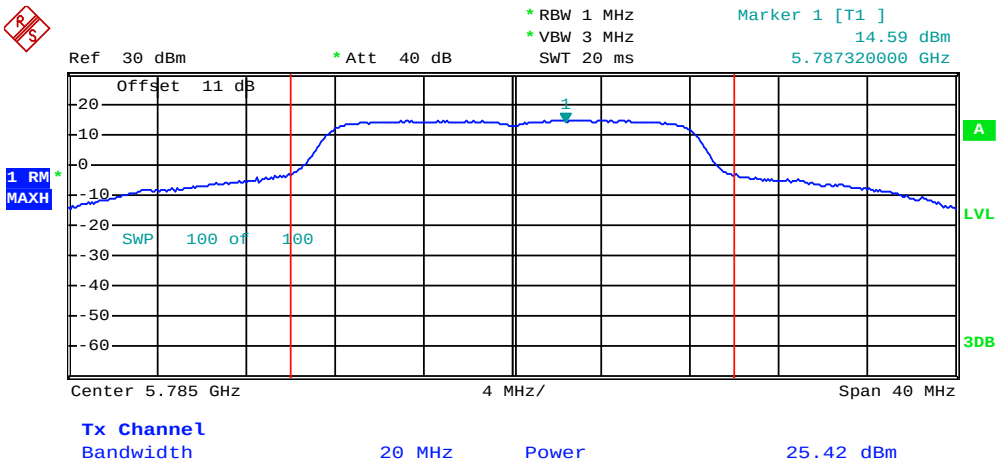
Highest channel

3dBi Antenna (Chain 2)

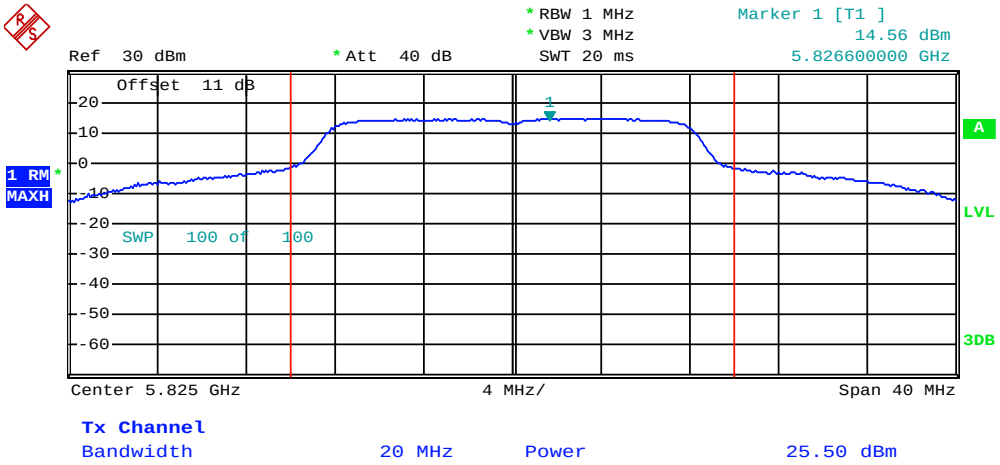
Test mode: 802.11a



Lowest channel



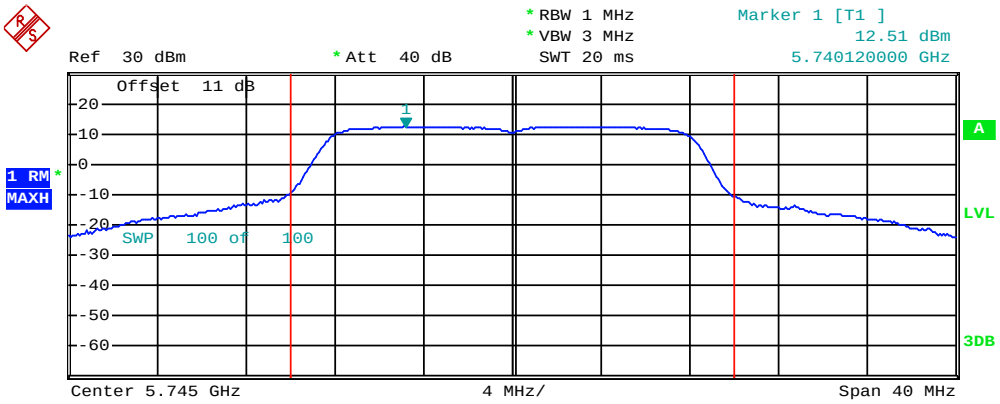
Middle channel



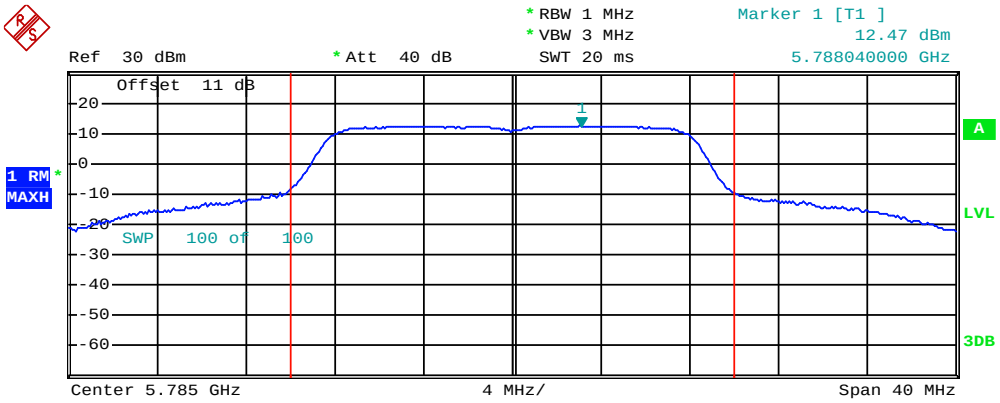
Highest channel

12dBi Antenna (Chain 2)

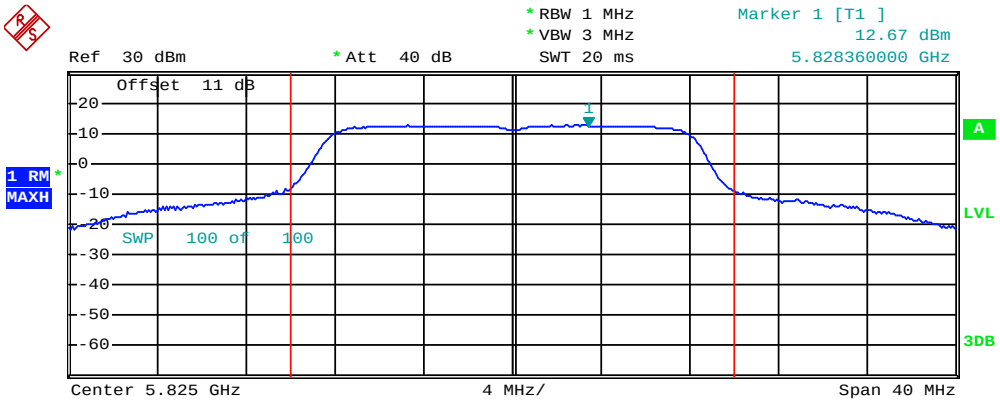
Test mode: 802.11a



Lowest channel



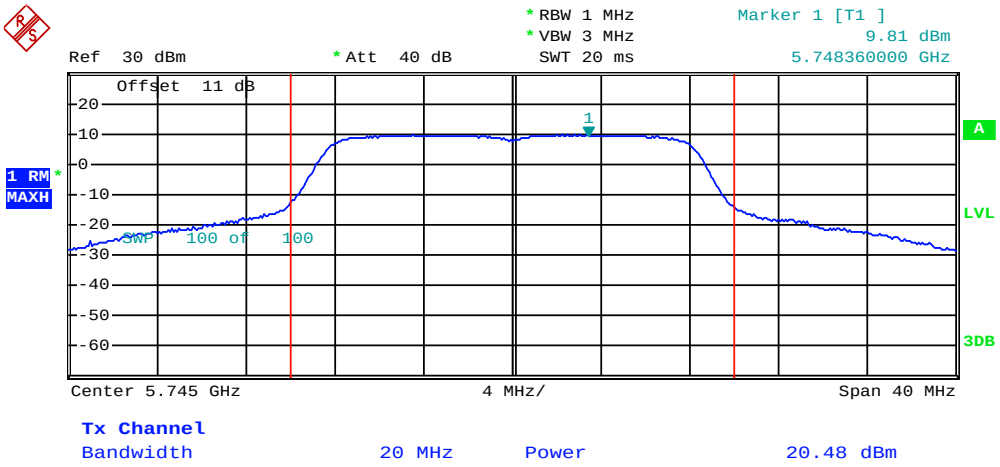
Middle channel



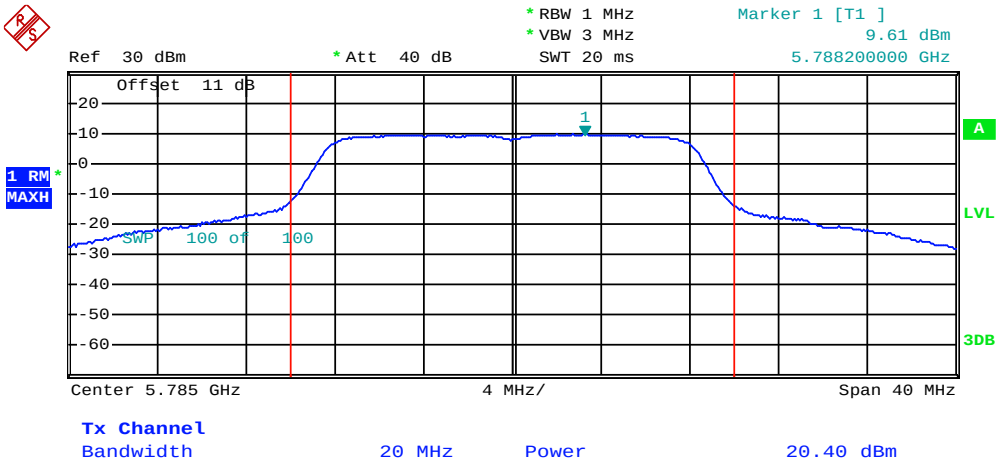
Highest channel

19dBi Antenna (Chain 2)

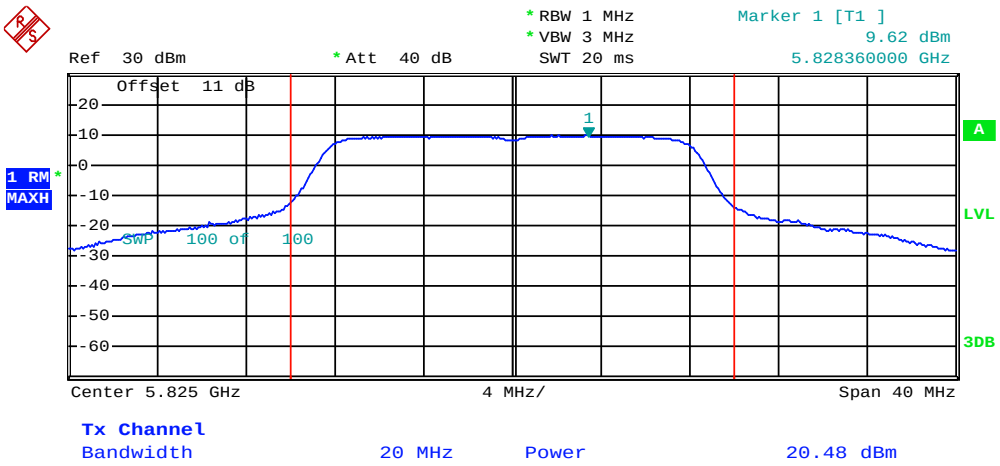
Test mode: 802.11a



Lowest channel



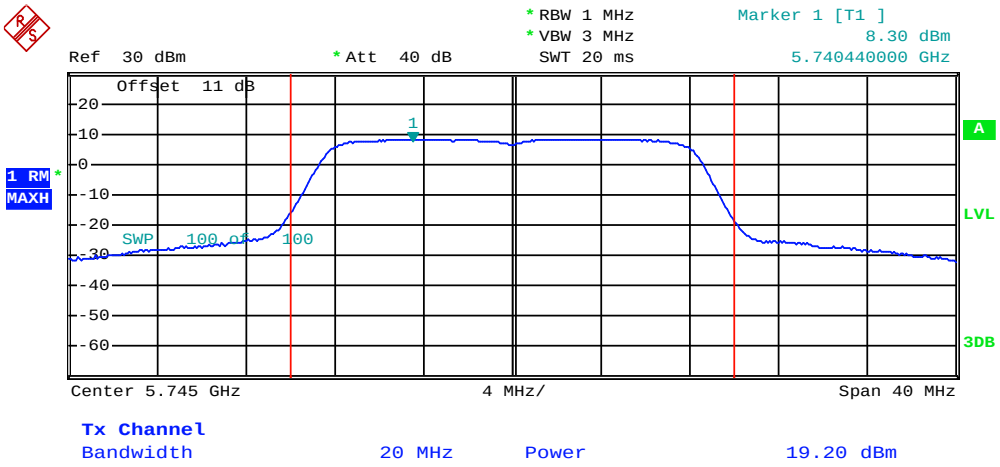
Middle channel



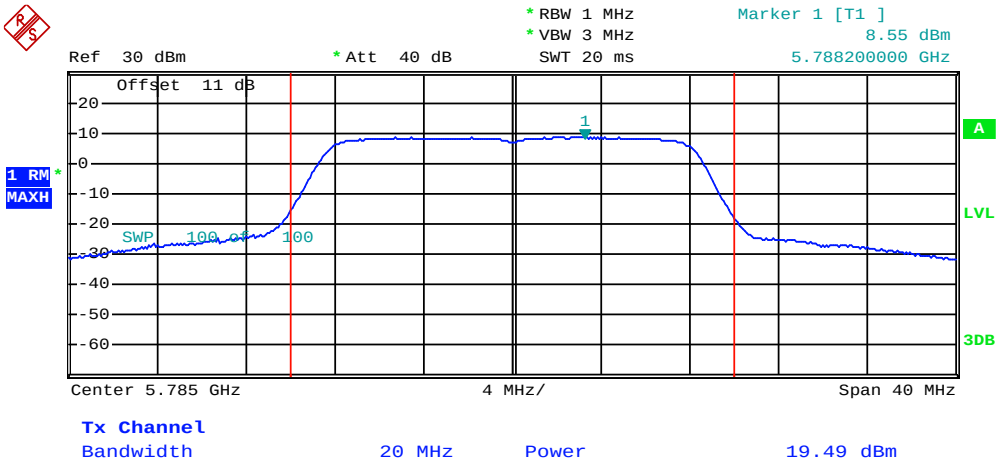
Highest channel

23dBi Antenna (Chain 2)

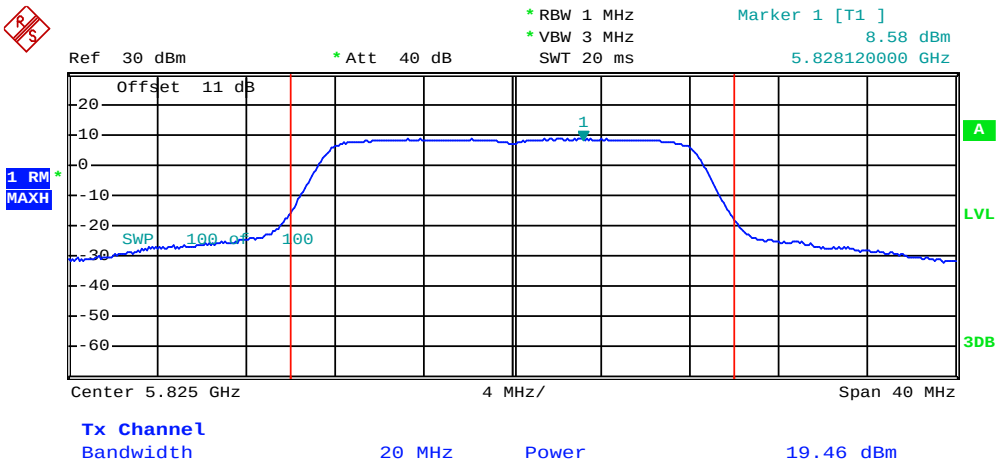
Test mode: 802.11a



Lowest channel



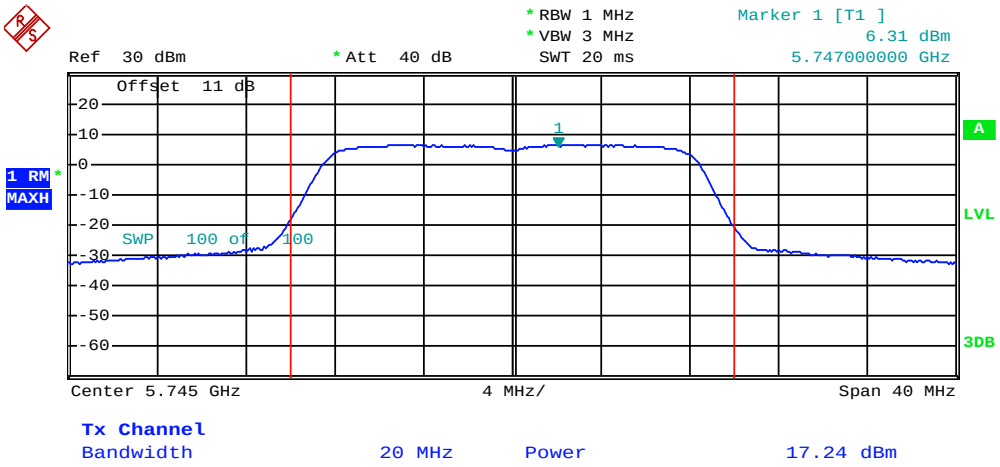
Middle channel



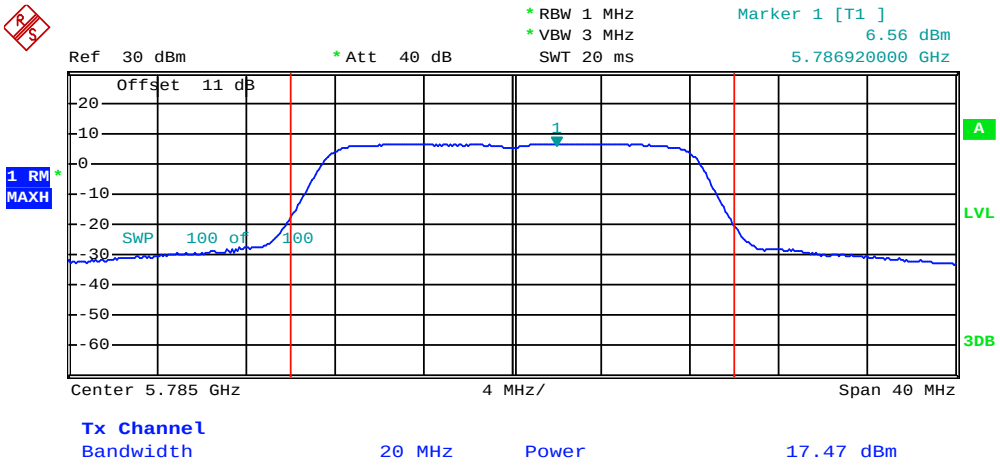
Highest channel

30dBi Antenna (Chain 2)

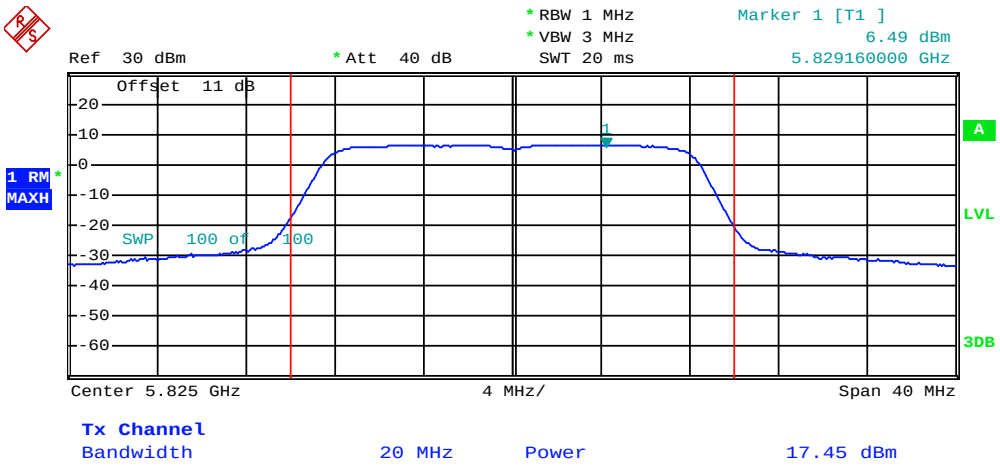
Test mode: 802.11a



Lowest channel



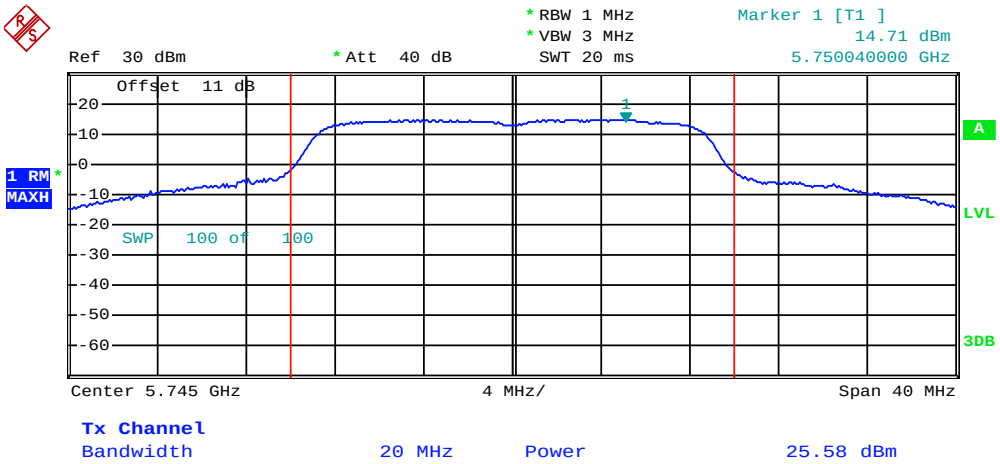
Middle channel



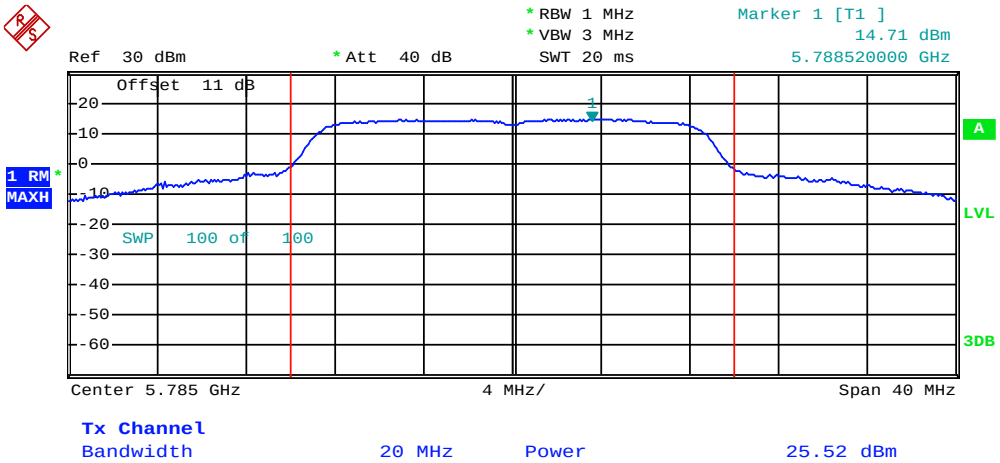
Highest channel

3dBi Antenna (Chain 2)

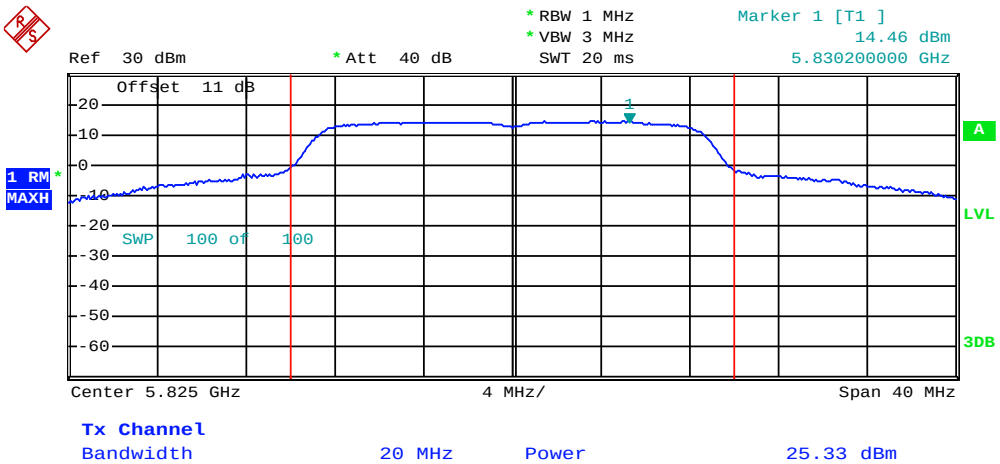
Test mode: 802.11n20



Lowest channel



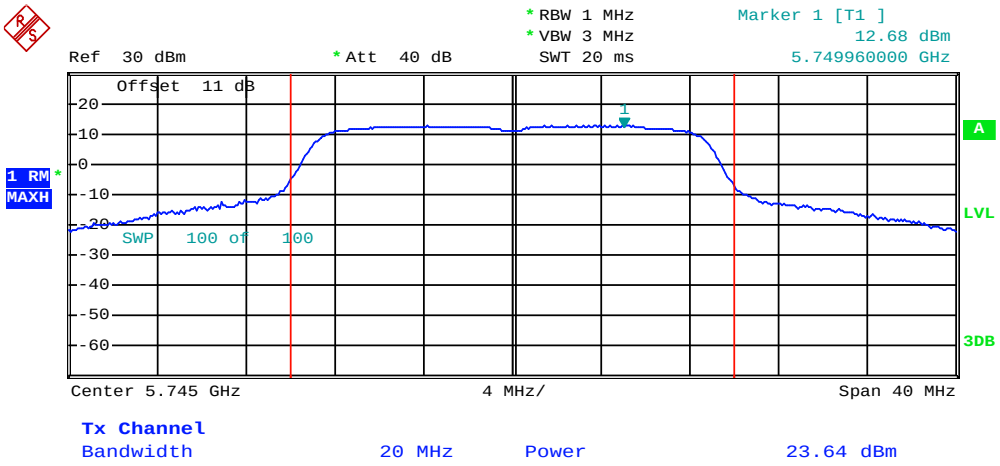
Middle channel



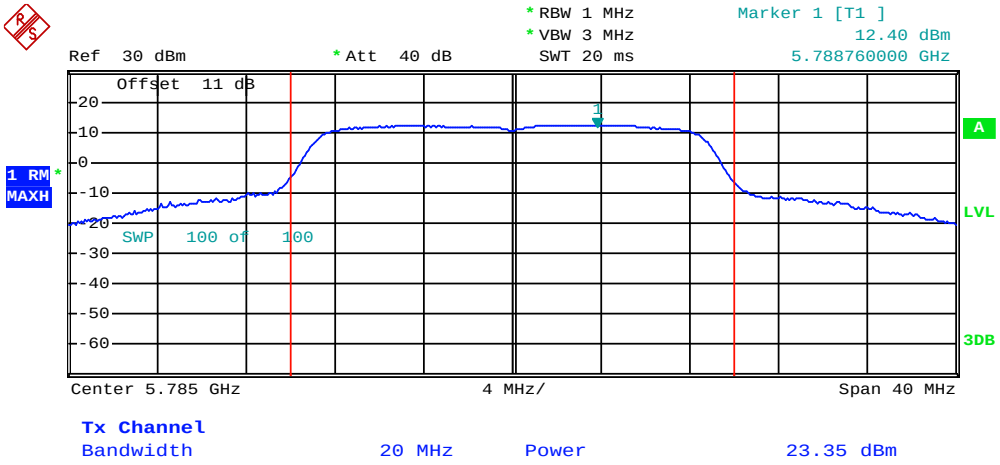
Highest channel

12dBi Antenna (Chain 2)

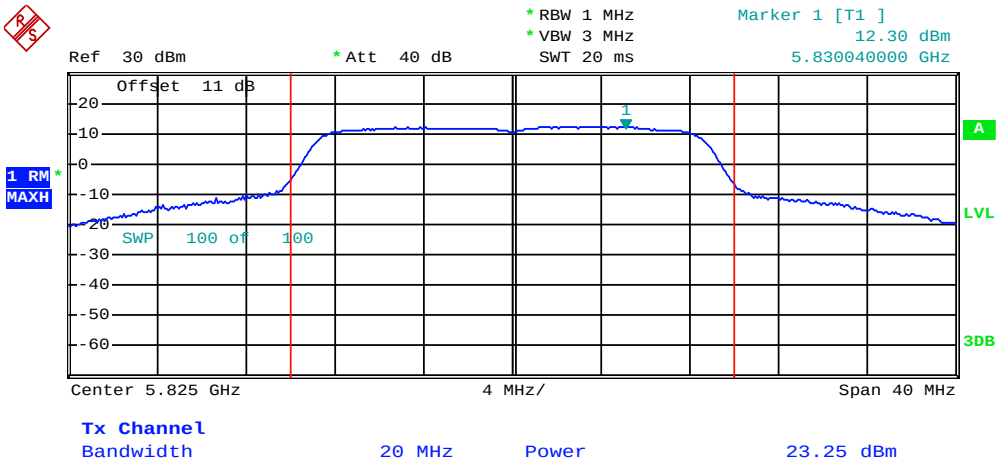
Test mode: 802.11n20



Lowest channel



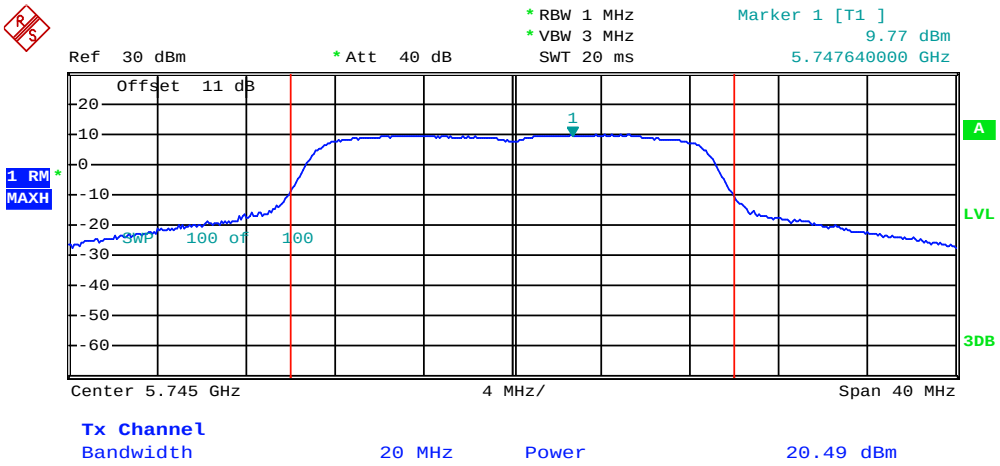
Middle channel



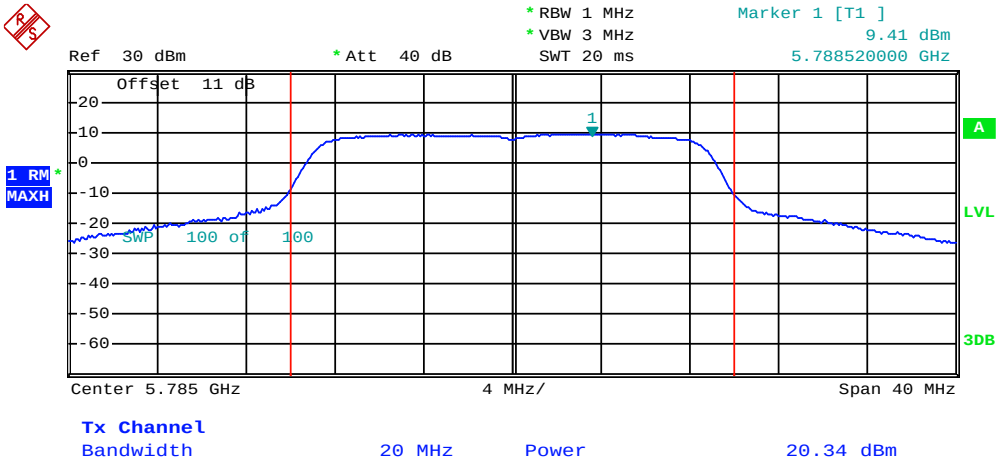
Highest channel

19dBi Antenna (Chain 2)

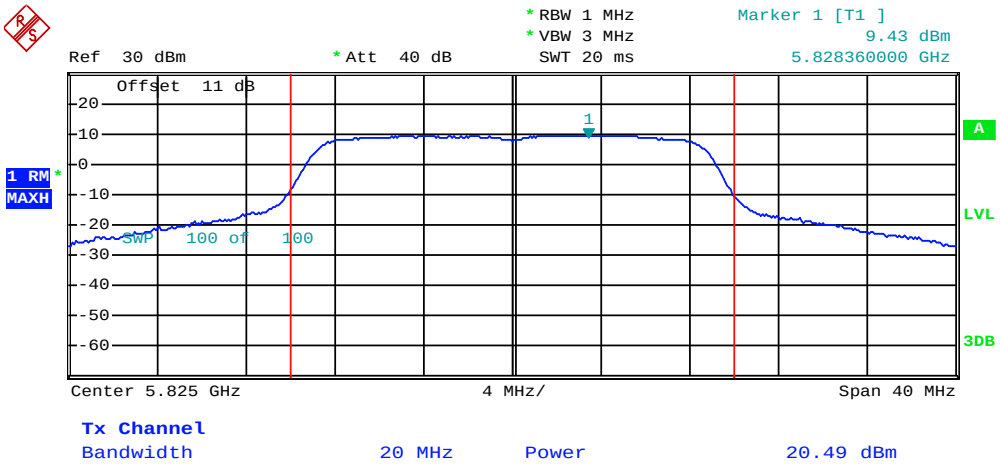
Test mode: 802.11n20



Lowest channel



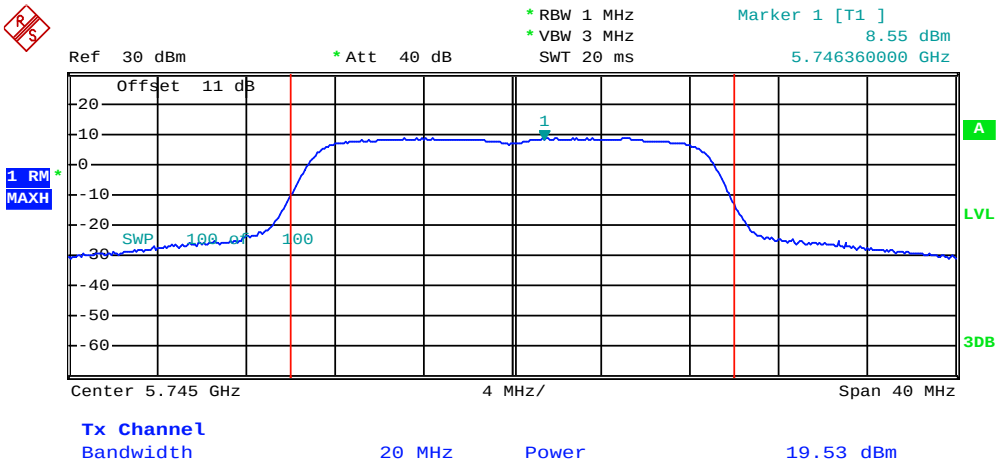
Middle channel



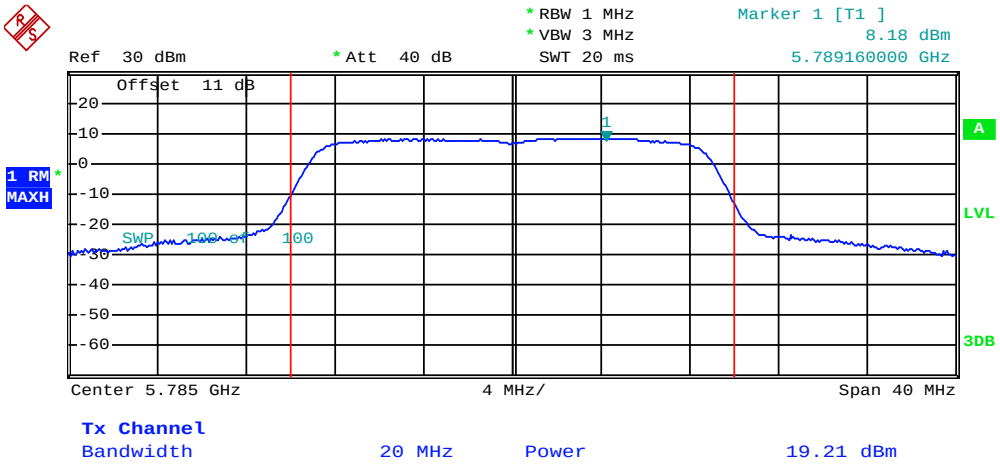
Highest channel

23dBi Antenna (Chain 2)

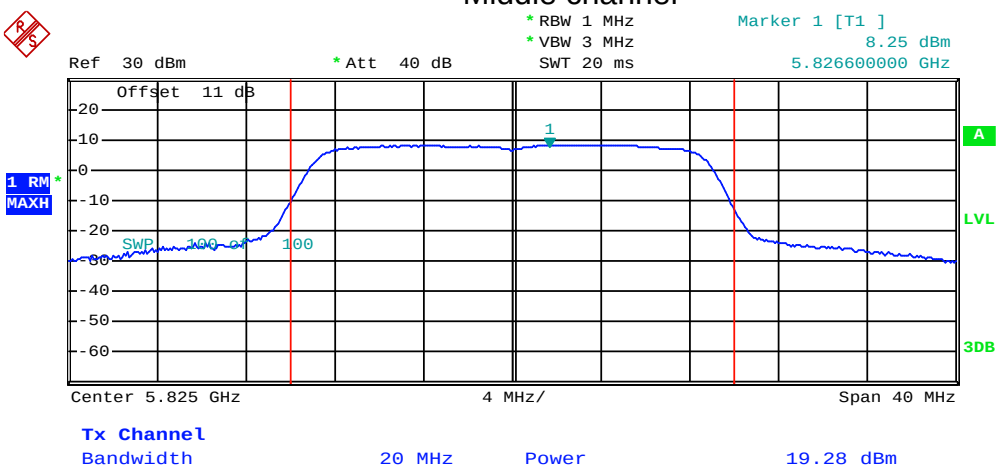
Test mode: 802.11n20



Lowest channel



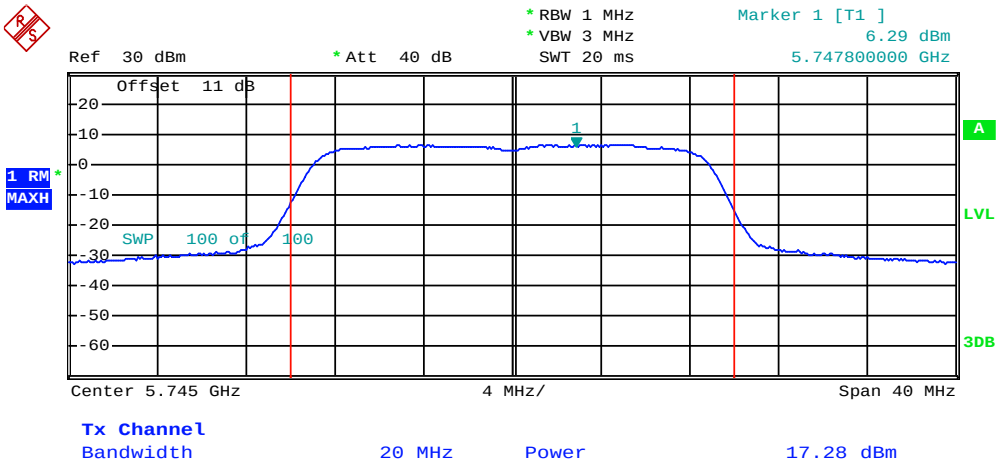
Middle channel



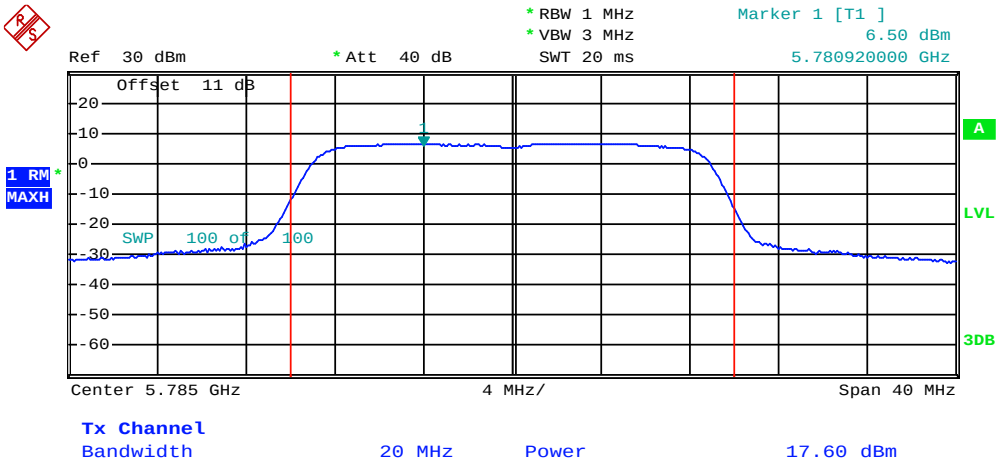
Highest channel

30dBi Antenna (Chain 2)

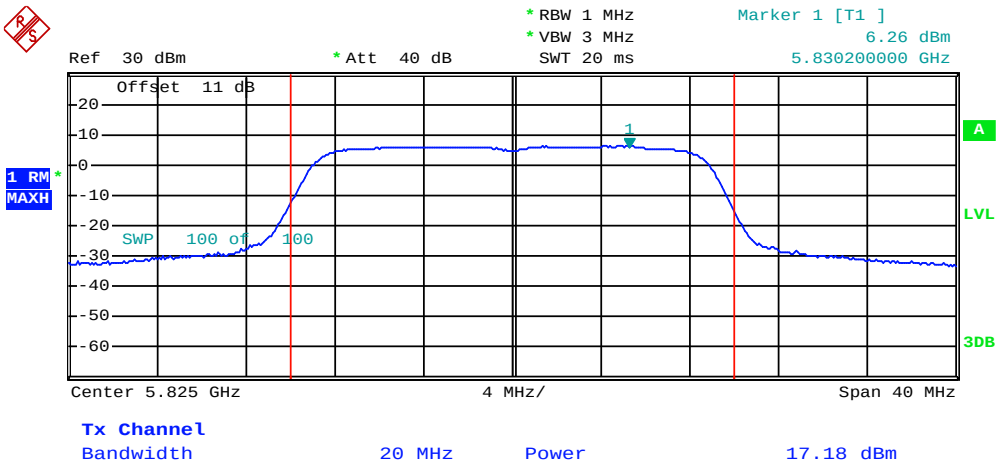
Test mode: 802.11n20



Lowest channel



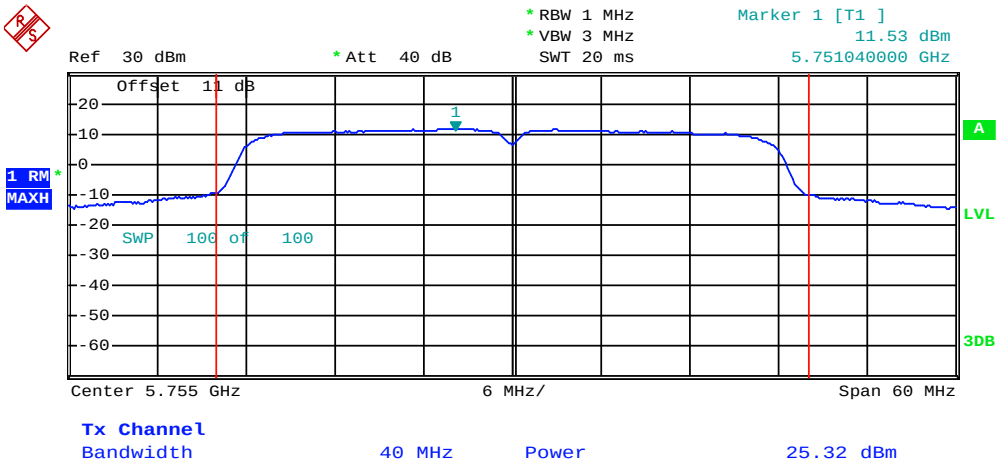
Middle channel



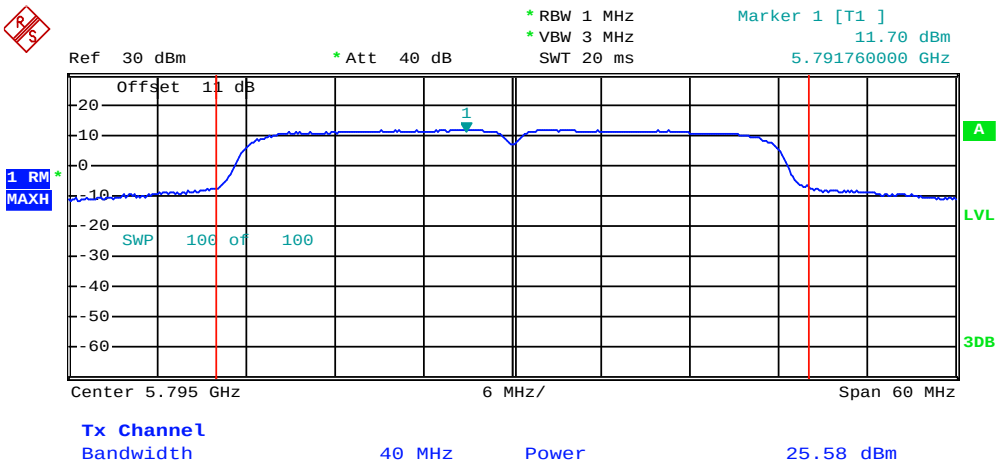
Highest channel

3dBi Antenna (Chain 2)

Test mode: 802.11n40



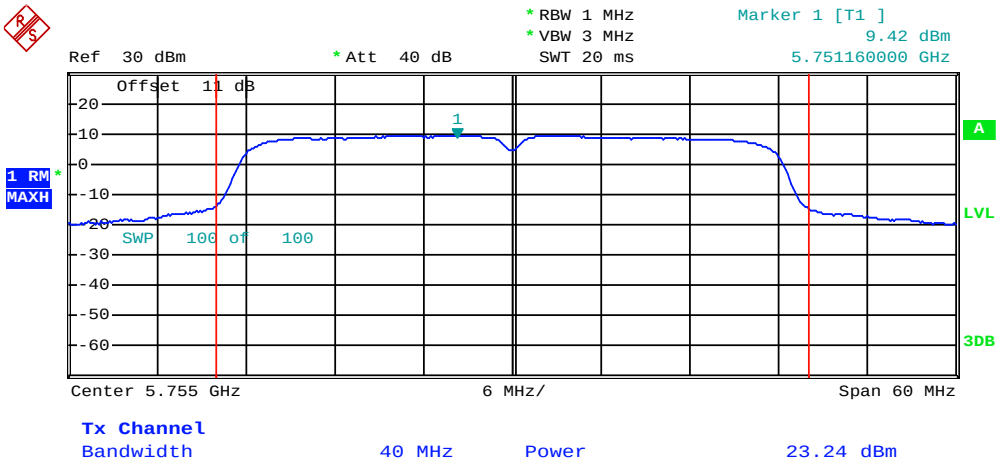
Lowest channel



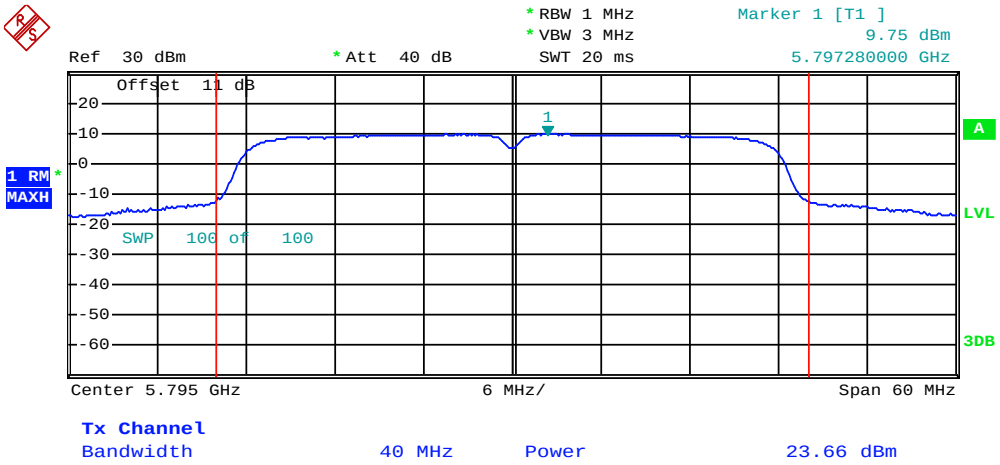
Highest channel

12dBi Antenna (Chain 2)

Test mode: 802.11n40



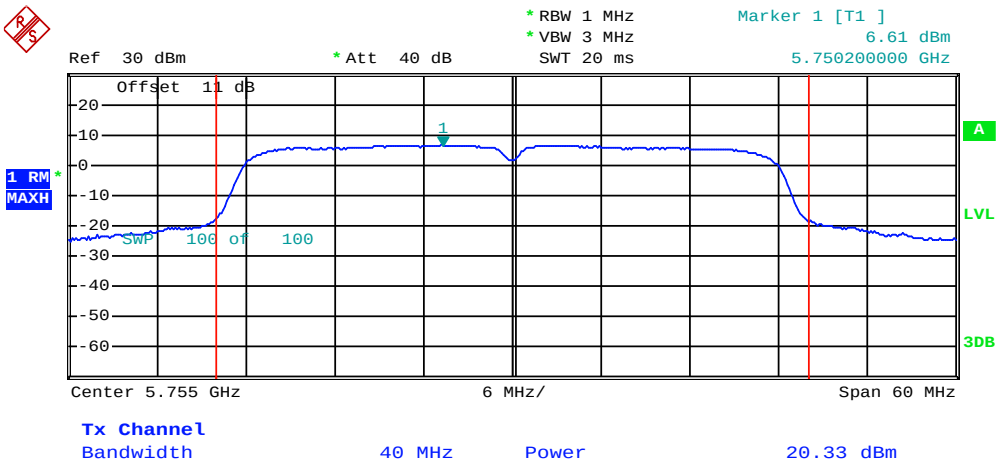
Lowest channel



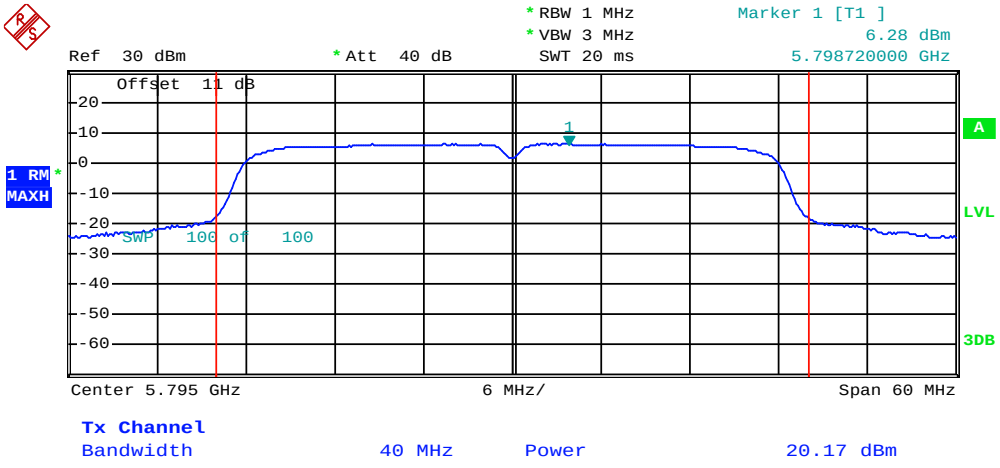
Highest channel

19dBi Antenna (Chain 2)

Test mode: 802.11n40



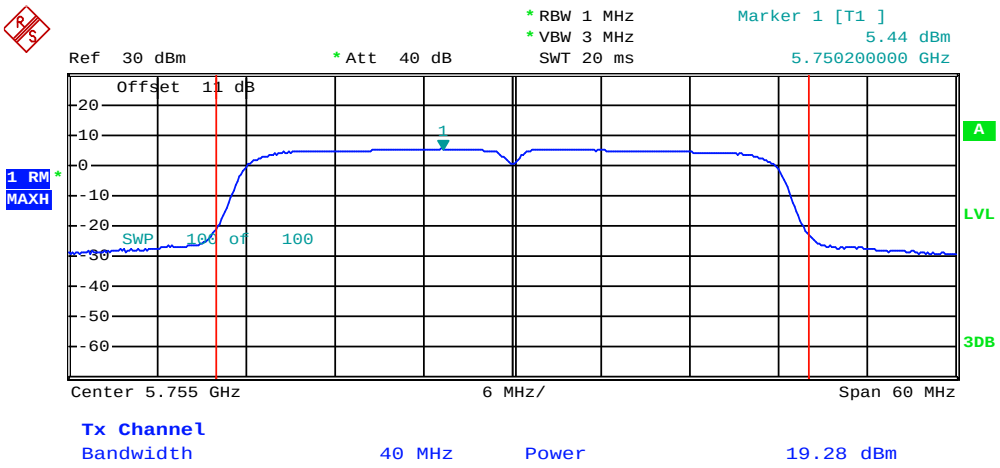
Lowest channel



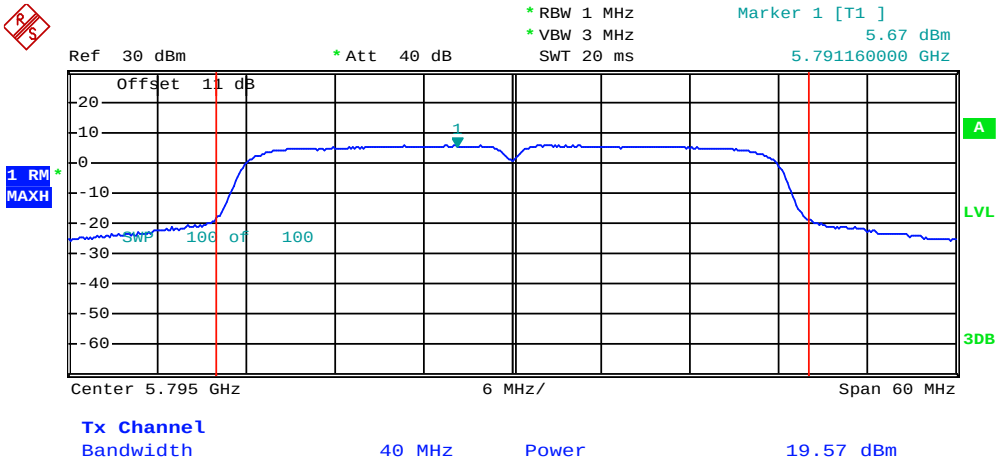
Highest channel

23dBi Antenna (Chain 2)

Test mode: 802.11n40



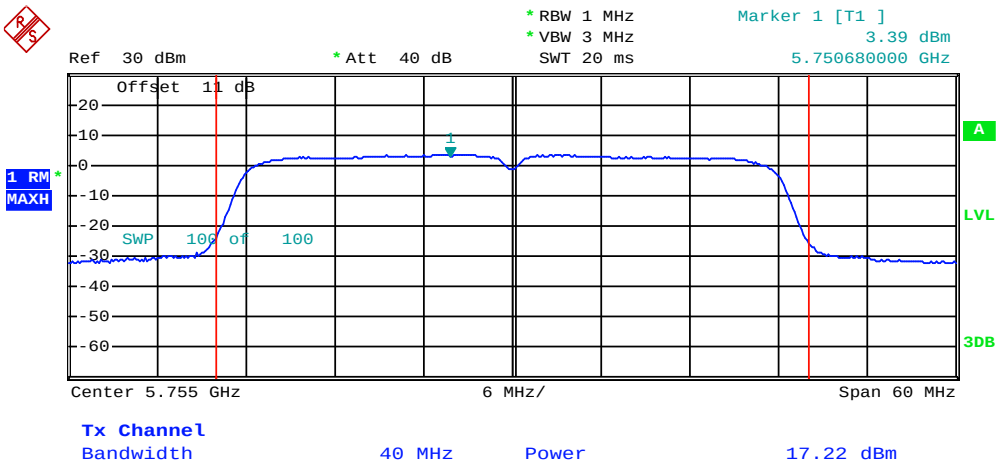
Lowest channel



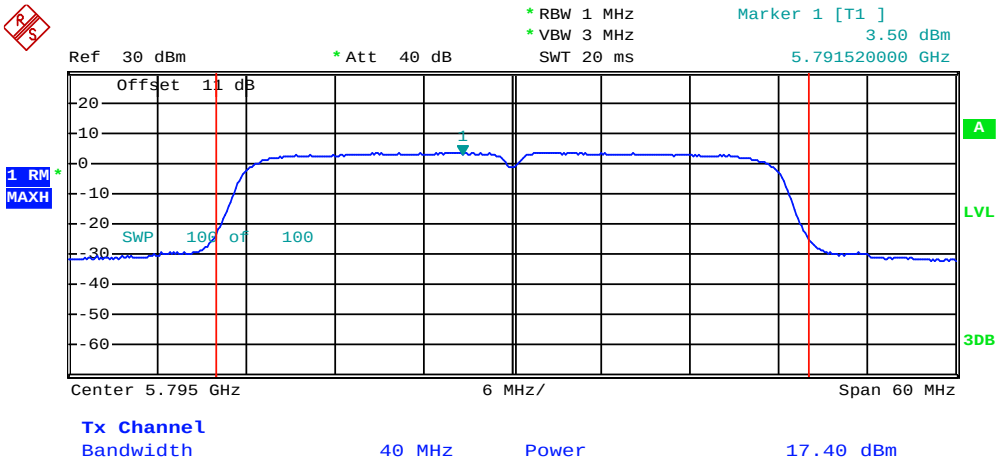
Highest channel

30dBi Antenna (Chain 2)

Test mode: 802.11n40

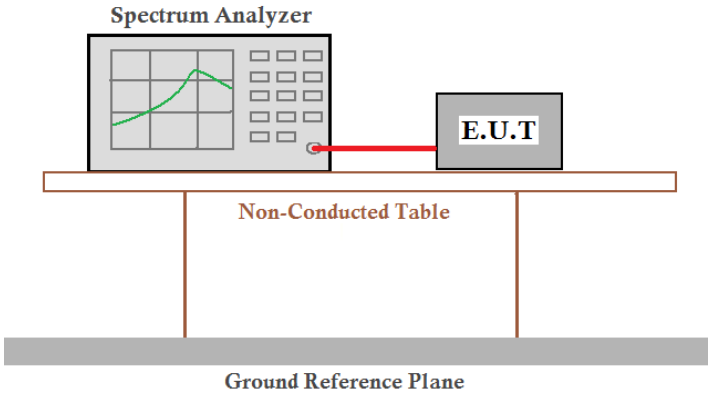


Lowest channel



Highest channel

6.5 Occupy Bandwidth

Test Requirement:	FCC Part15 C Section 15.247 (a)(2)
Test Method:	ANSI C63.4:2003 and KDB558074
Limit:	>500kHz
Test setup:	
Test Instruments:	Refer to section 5.6 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data

Chain 1

Test CH	6dB Occupy Bandwidth (MHz)			Limit(kHz)	Result
	802.11a	802.11n20	802.11n40		
Lowest	16.56	17.20	35.40	>500	Pass
Middle	16.56	17.20	---		
Highest	16.56	17.20	35.40		

Test CH	99% Occupy Bandwidth (MHz)			Limit(kHz)	Result
	802.11a	802.11n20	802.11n40		
Lowest	16.56	17.52	35.64	N/A	N/A
Middle	16.48	17.52	---		
Highest	16.56	17.52	35.64		

Chain 2

Test CH	6dB Occupy Bandwidth (MHz)			Limit(kHz)	Result
	802.11a	802.11n20	802.11n40		
Lowest	16.56	17.20	35.40	>500	Pass
Middle	16.56	17.20	---		
Highest	16.56	17.20	35.40		

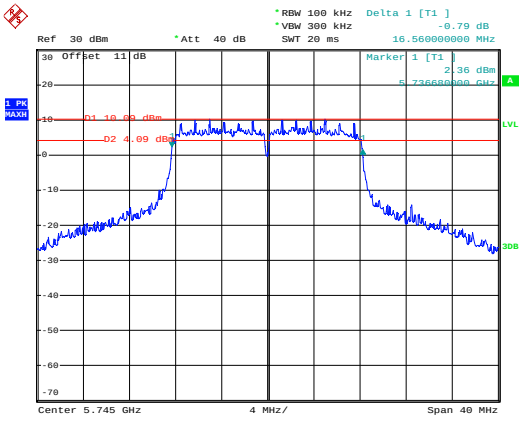
Test CH	99% Occupy Bandwidth (MHz)			Limit(kHz)	Result
	802.11a	802.11n20	802.11n40		
Lowest	16.56	17.52	35.64	N/A	N/A
Middle	16.48	17.60	---		
Highest	16.56	17.52	35.64		

Test plot as follows:

Chain 1

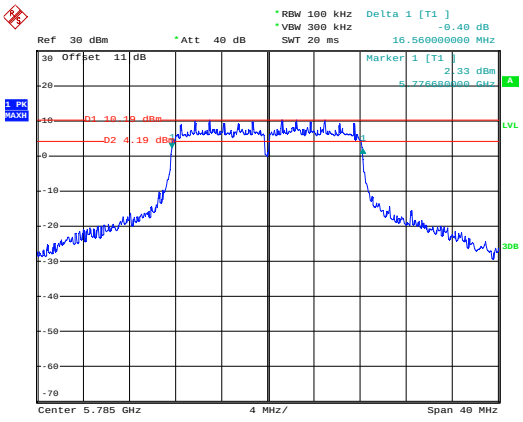
Test mode: 6dB BW

802.11a



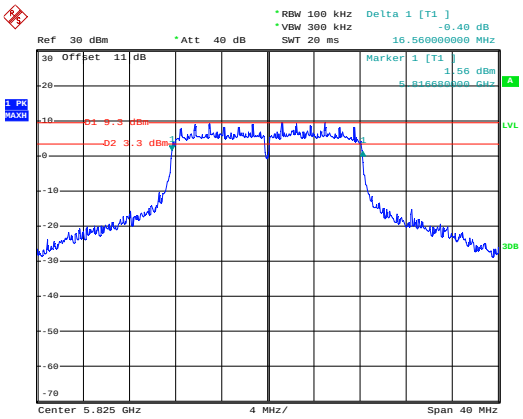
Date: 20.APR.2013 11:48:15

Lowest channel



Date: 20.APR.2013 12:16:01

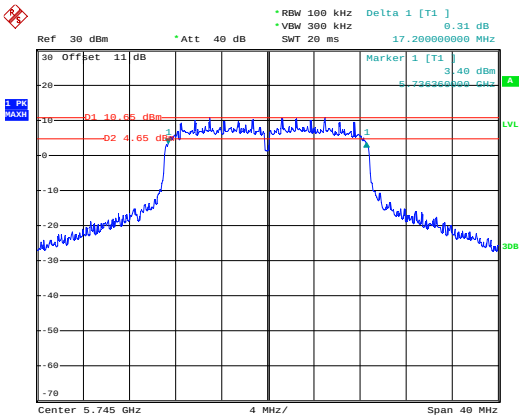
Middle channel



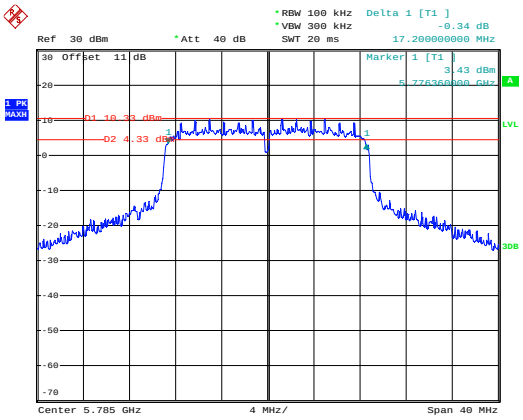
Date: 20.APR.2013 12:29:03

Highest channel

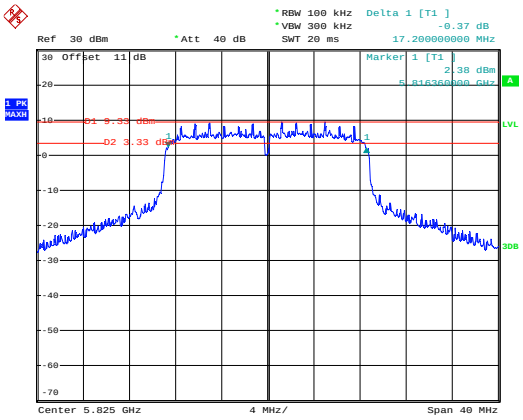
Test mode: 6dB BW 802.11n20



Lowest channel

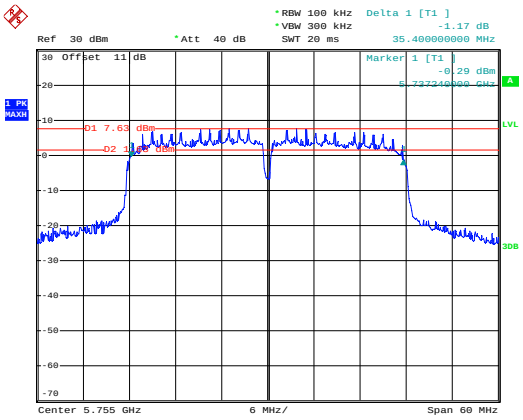


Middle channel



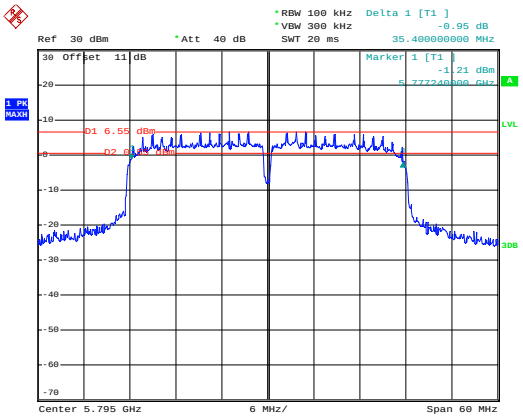
Highest channel

Test mode: 6dB BW 802.11n40



Date: 19.APR.2013 17:58:27

Lowest channel

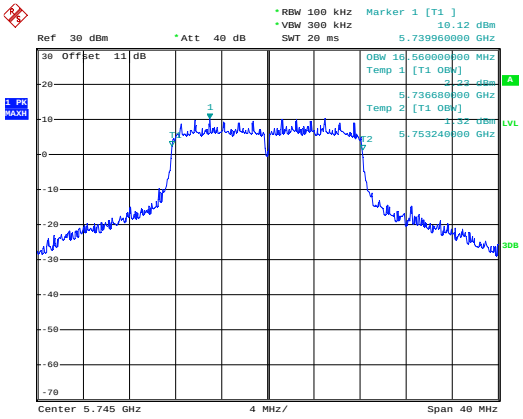


Date: 19.APR.2013 18:52:52

Highest channel

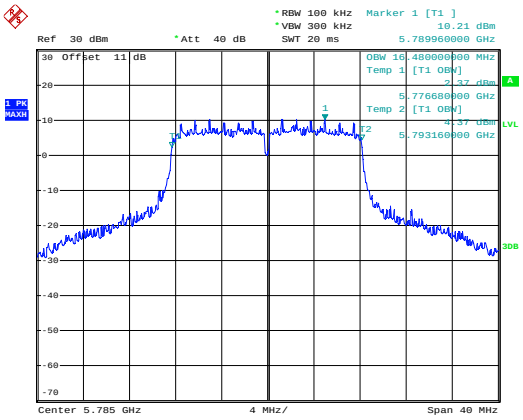
Test mode:99% BW

802.11a



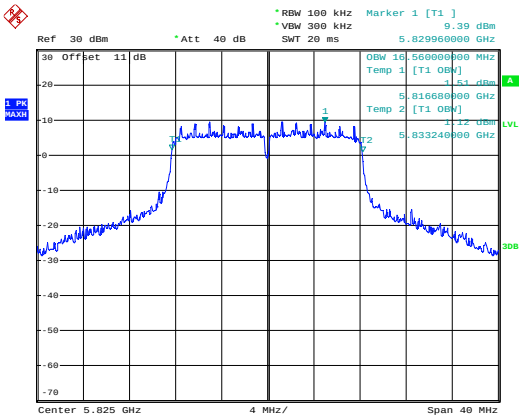
Date: 20.APR.2013 11:49:12

Lowest channel



Date: 20.APR.2013 12:17:18

Middle channel

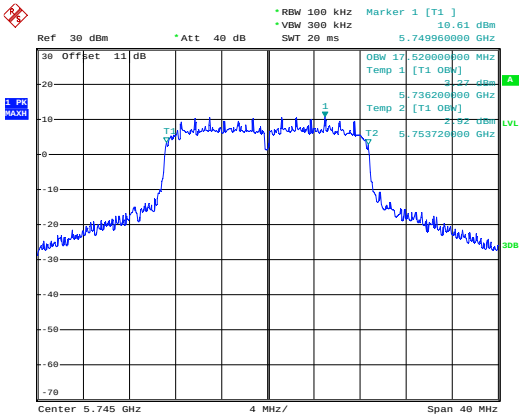


Date: 20.APR.2013 12:31:32

Highest channel

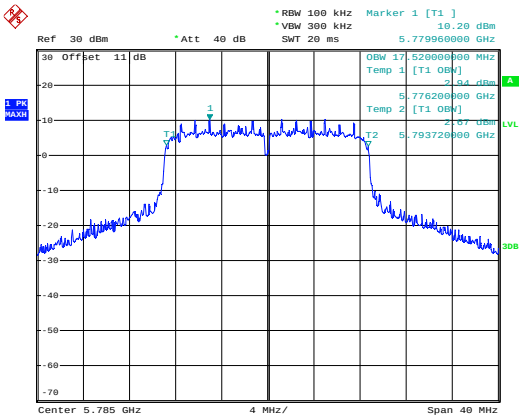
Test mode: 99% BW

802.11n20



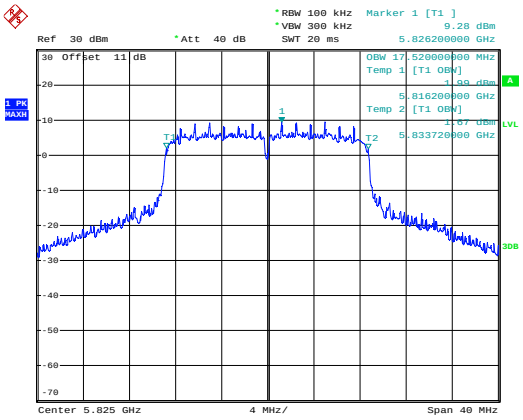
Date: 20.APR.2013 13:39:05

Lowest channel



Date: 20.APR.2013 13:26:03

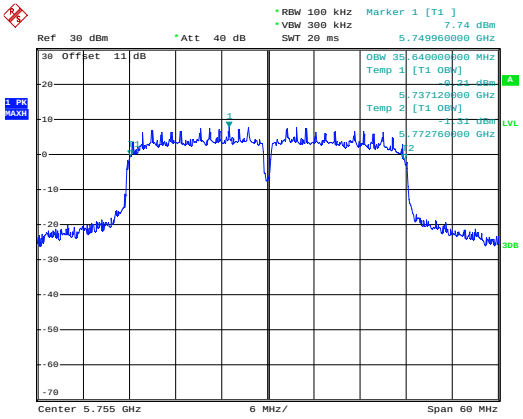
Middle channel



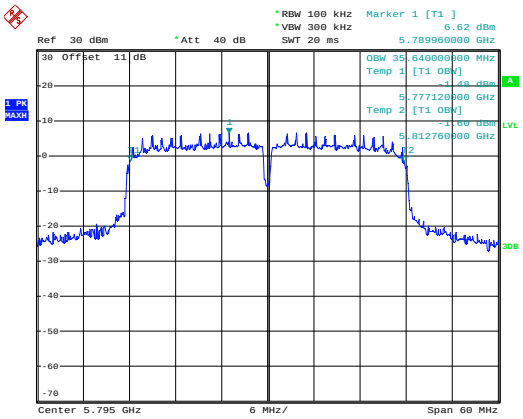
Date: 20.APR.2013 12:56:16

Highest channel

Test mode: 99% BW 802.11n40



Lowest channel

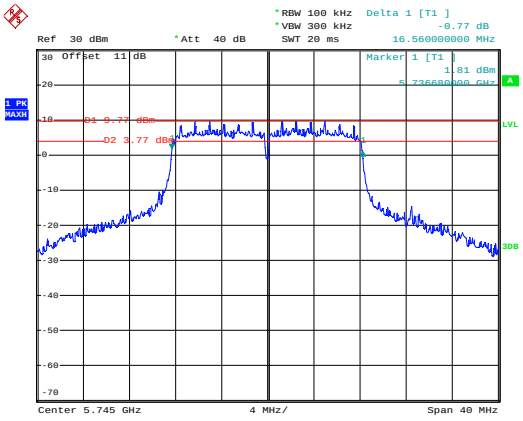


Highest channel

Chain 2

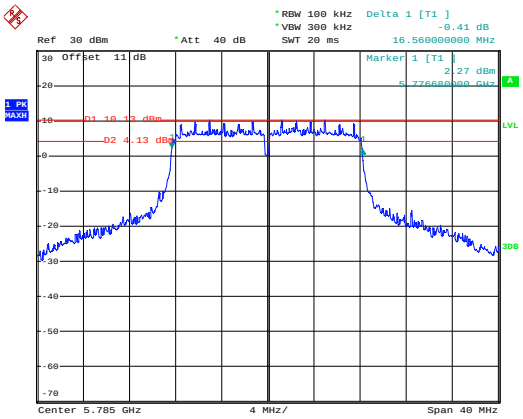
Test mode: 6dB BW

802.11a



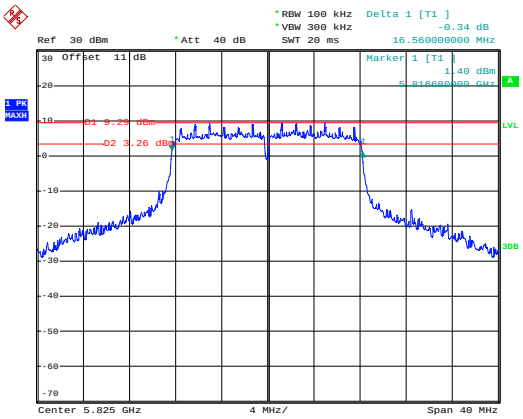
Date: 20.APR.2013 11:58:33

Lowest channel



Date: 20.APR.2013 12:14:27

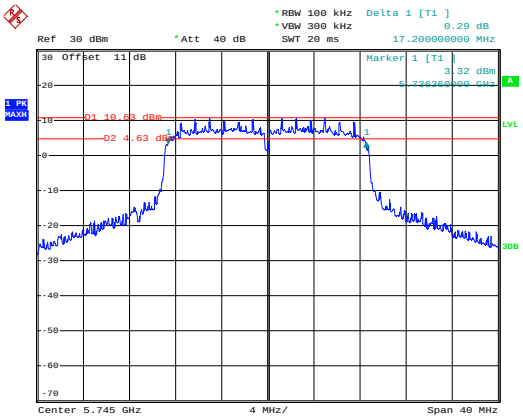
Middle channel



Date: 20.APR.2013 12:27:58

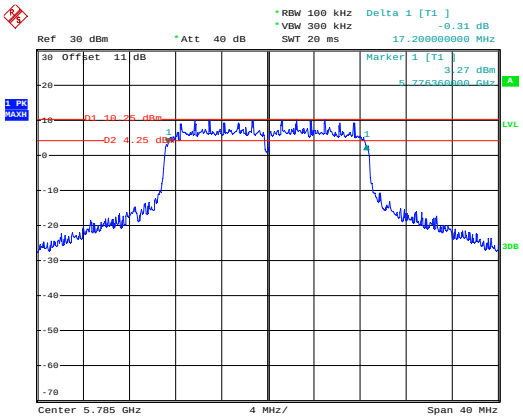
Highest channel

Test mode: 6dB BW 802.11n20



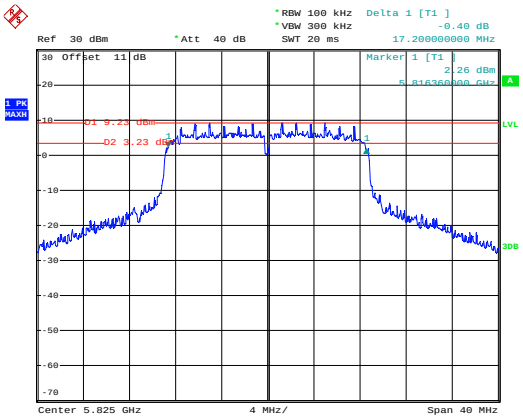
Date: 20.APR.2013 13:35:40

Lowest channel



Date: 20.APR.2013 13:25:26

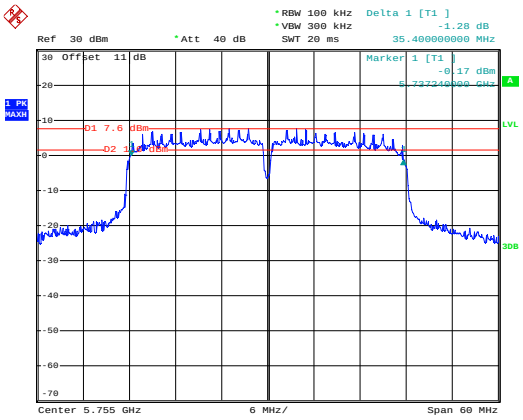
Middle channel



Date: 20.APR.2013 12:54:14

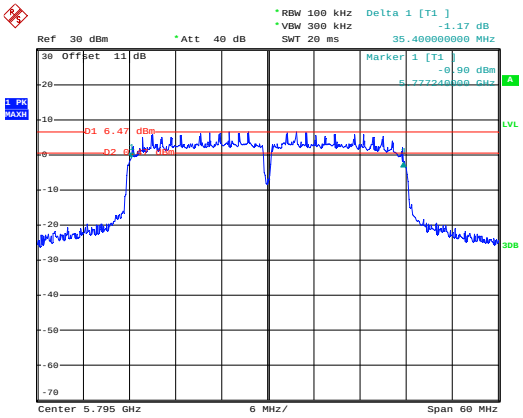
Highest channel

Test mode: 6dB BW 802.11n40



Date: 19.APR.2013 18:11:58

Lowest channel

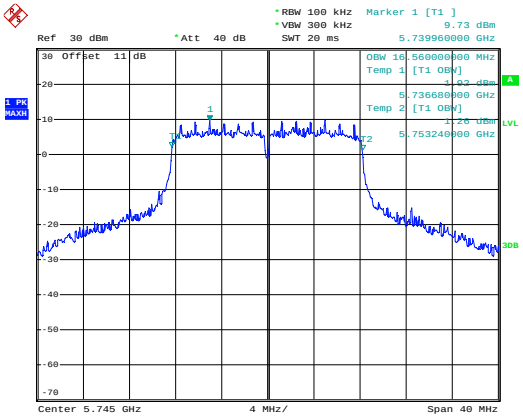


Date: 19.APR.2013 18:51:44

Highest channel

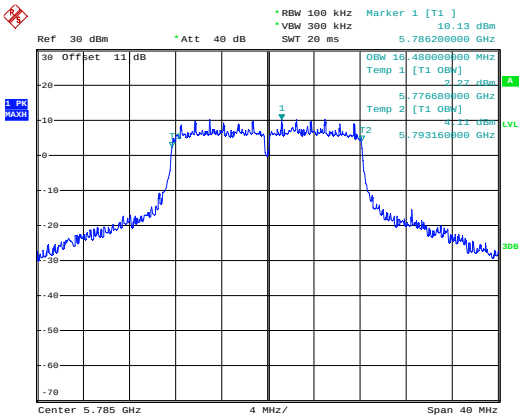
Test mode:99% BW

802.11a



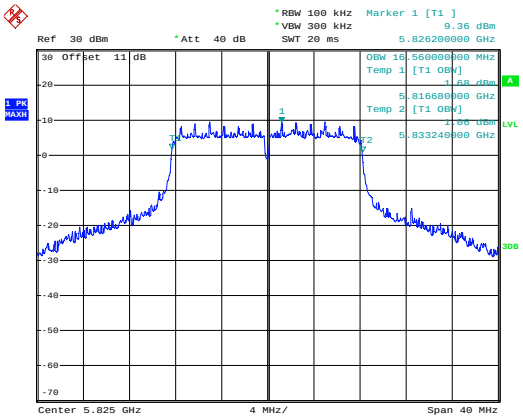
Date: 20.APR.2013 11:59:21

Lowest channel



Date: 20.APR.2013 12:17:51

Middle channel

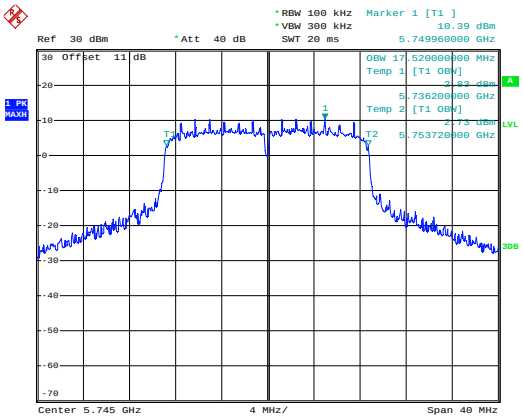


Date: 20.APR.2013 12:30:06

Highest channel

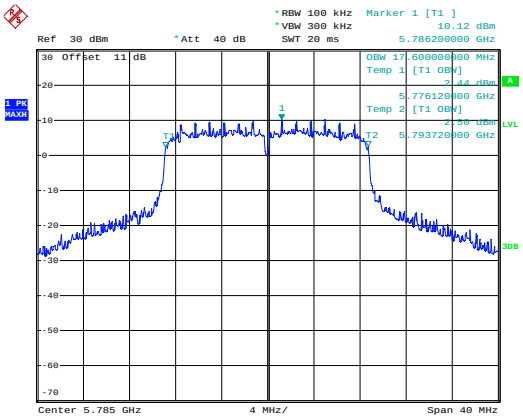
Test mode: 99% BW

802.11n20



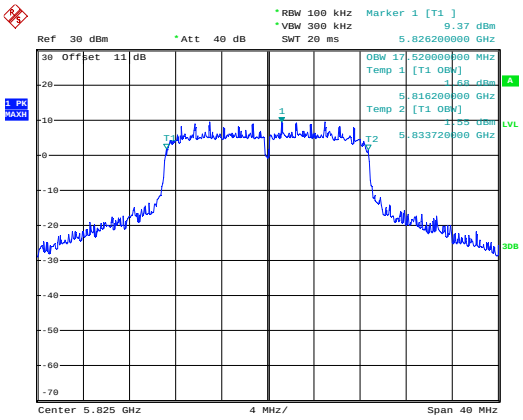
Date: 20.APR.2013 13:41:47

Lowest channel



Date: 20.APR.2013 13:26:31

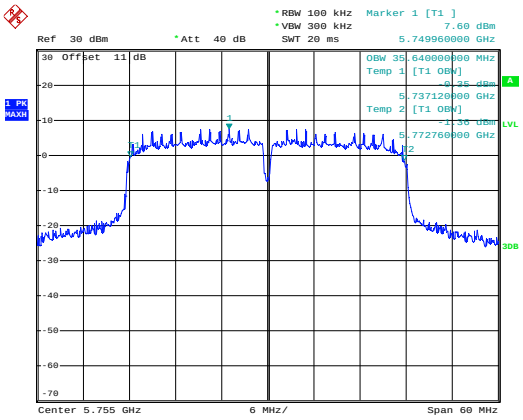
Middle channel



Date: 20.APR.2013 12:56:39

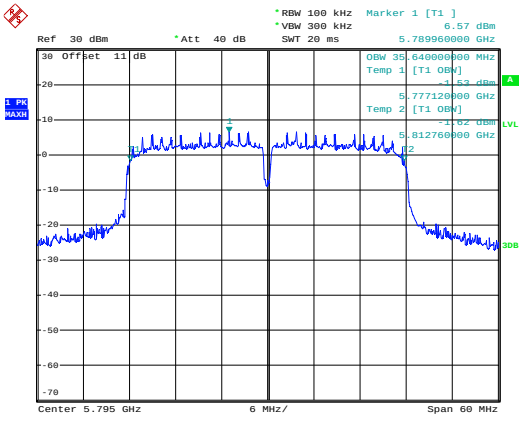
Highest channel

Test mode: 99% BW 802.11n40



Date: 19.APR.2013 18:14:50

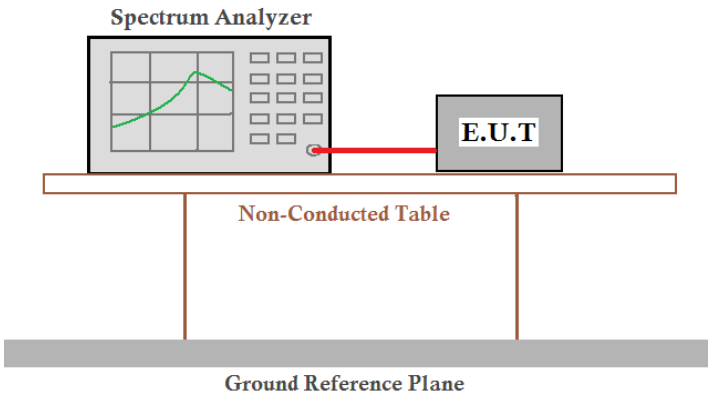
Lowest channel



Date: 19.APR.2013 18:53:51

Highest channel

6.6 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 5.6 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

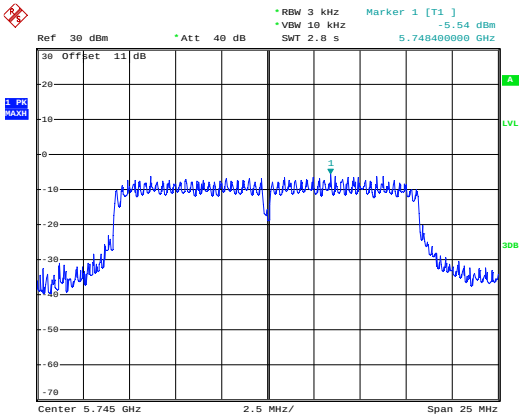
Measurement Data

Mode	Test CH	Ant. Port	PSD (dBm)	Total PSD (dBm)	Limit (dBm)	Result
802.11a	Lowest	Ant 1	-5.54	-3.28	8.00	Pass
		Ant 2	-7.11			
	Middle	Ant 1	-4.88	-2.15	8.00	Pass
		Ant 2	-5.39			
	Highest	Ant 1	-6.72	-3.98	8.00	Pass
		Ant 2	-7.23			
802.11n 20	Lowest	Ant 1	-5.77	-2.68	8.00	Pass
		Ant 2	-5.55			
	Middle	Ant 1	-6.27	-2.92	8.00	Pass
		Ant 2	-5.63			
	Highest	Ant 1	-6.47	-3.47	8.00	Pass
		Ant 2	-6.40			
802.11n 40	Lowest	Ant 1	-7.46	-4.81	8.00	Pass
		Ant 2	-8.29			
	Highest	Ant 1	-8.43	-5.38	8.00	Pass
		Ant 2	-8.38			

Test plot as follows:

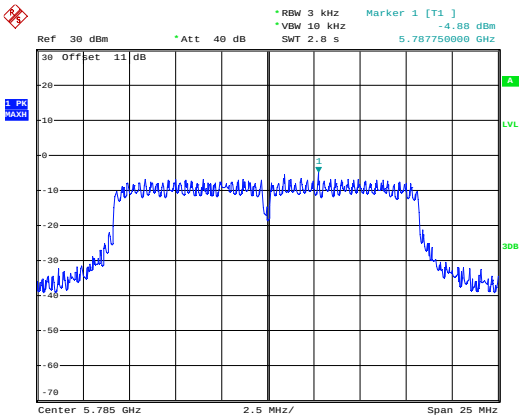
Chain 1

Test mode: 802.11a



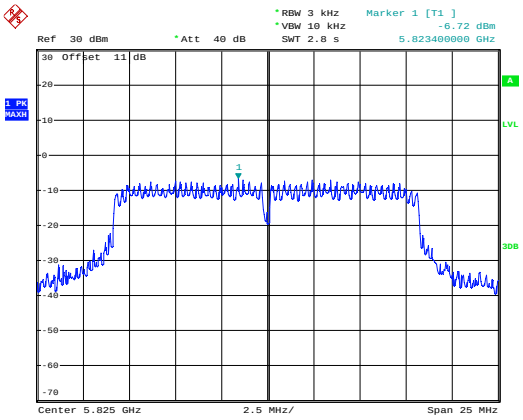
Date: 20.APR.2013 11:50:55

Lowest channel



Date: 20.APR.2013 12:18:51

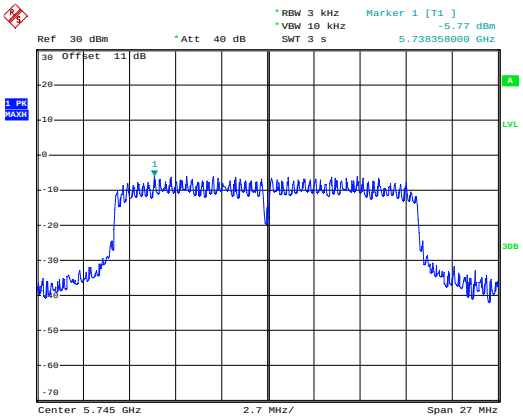
Middle channel



Date: 20.APR.2013 12:33:46

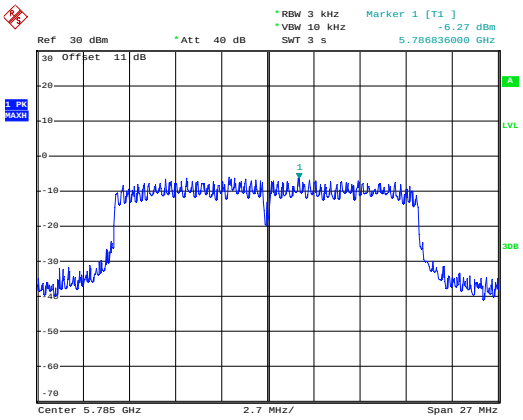
Highest channel

Test mode: 802.11n20



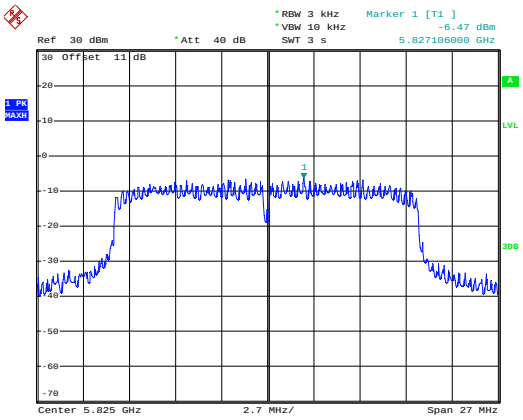
Date: 20.APR.2013 13:48:27

Lowest channel



Date: 20.APR.2013 13:27:26

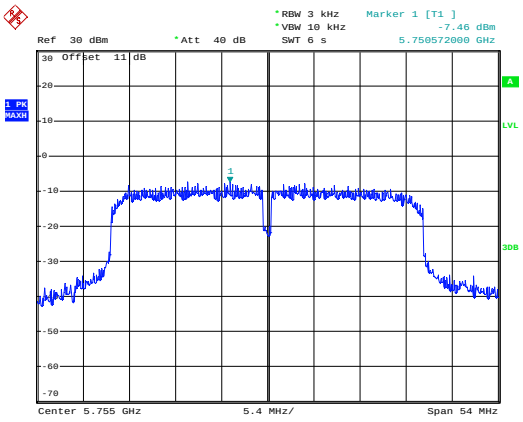
Middle channel



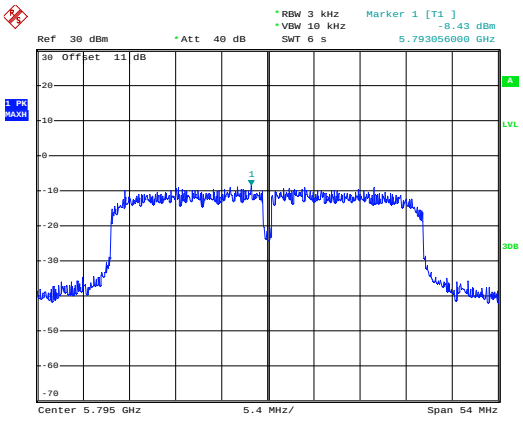
Date: 20.APR.2013 12:57:43

Highest channel

Test mode: 802.11n40



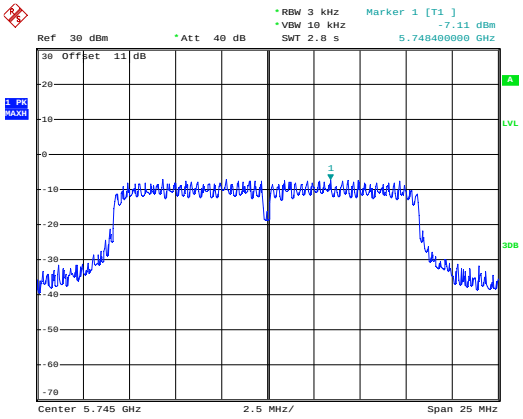
Lowest channel



Highest channel

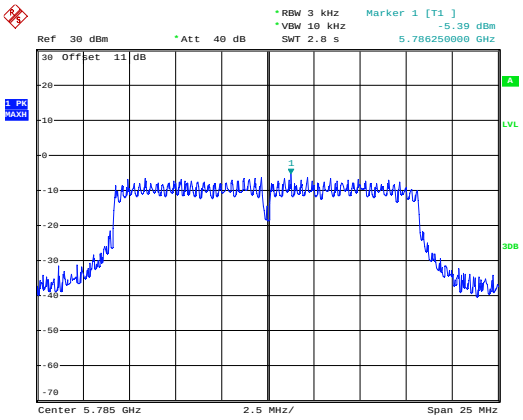
Chain 2

Test mode: 802.11a



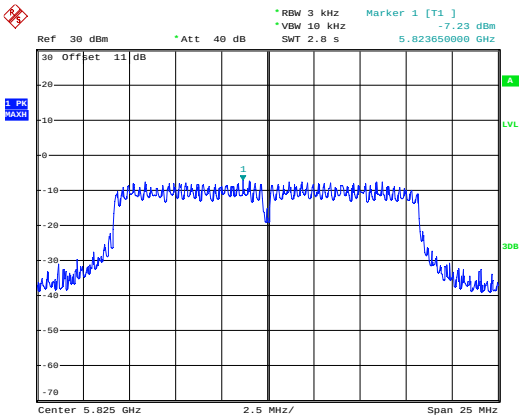
Date: 20.APR.2013 12:00:21

Lowest channel



Date: 20.APR.2013 12:19:08

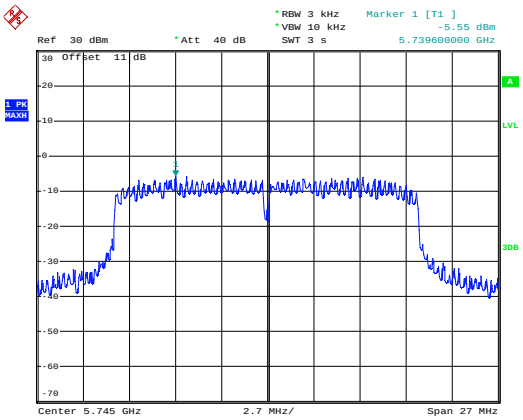
Middle channel



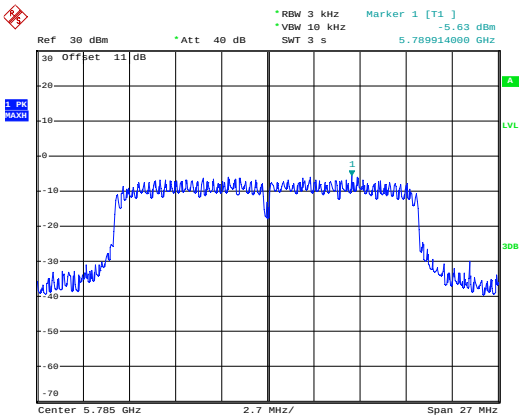
Date: 20.APR.2013 12:34:11

Highest channel

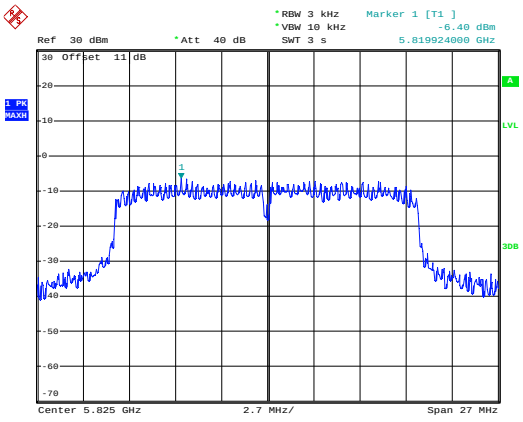
Test mode: 802.11n20



Lowest channel

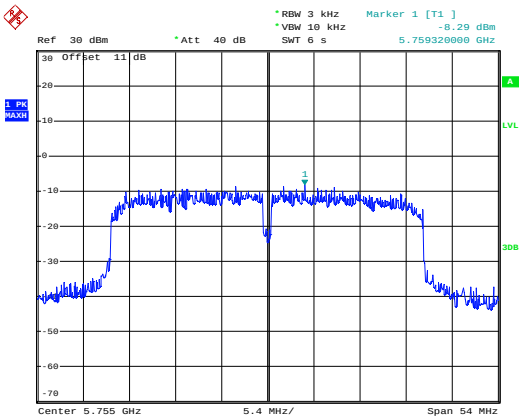


Middle channel



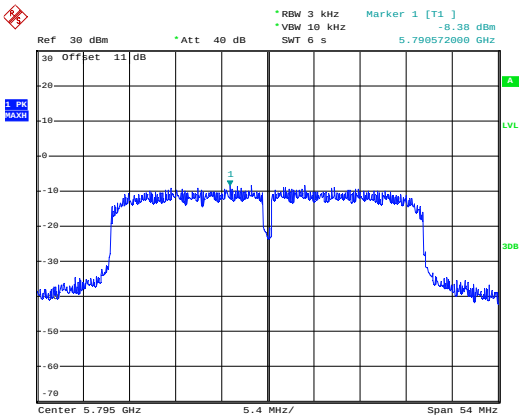
Highest channel

Test mode: 802.11n40



Date: 19.APR.2013 18:18:40

Lowest channel

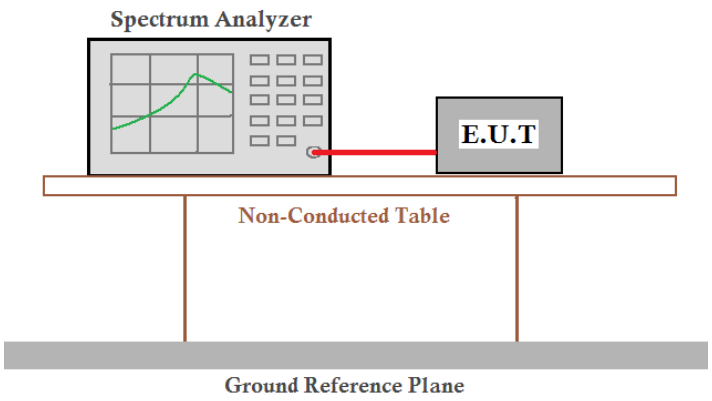


Date: 19.APR.2013 18:59:24

Highest channel

6.7 Band Edge

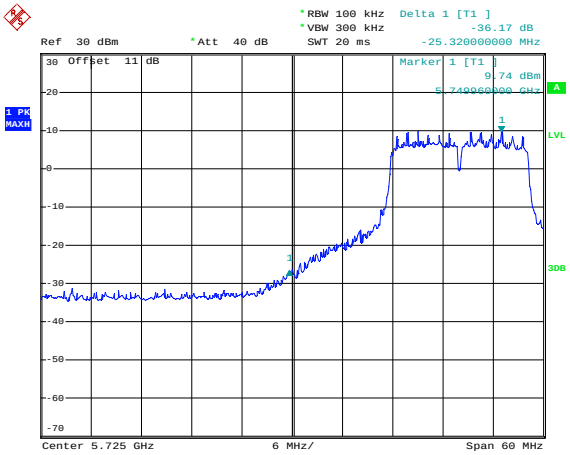
6.7.1 Conducted Emission Method

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.4:2003 and KDB 558074
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 30 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:	
Test Instruments:	Refer to section 5.6 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Test plot as follows:

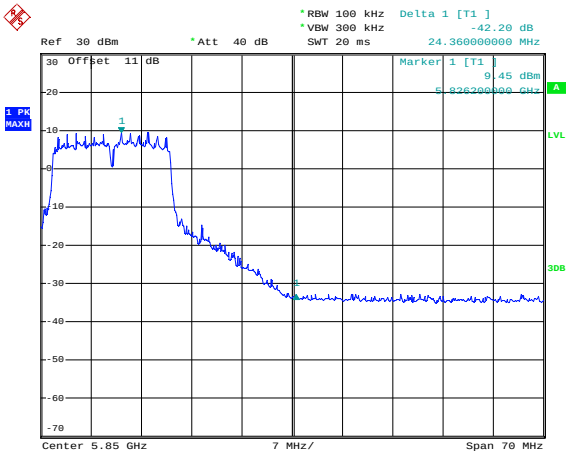
Chain 1

Test mode: 802.11a



Date: 20.APR.2013 12:03:30

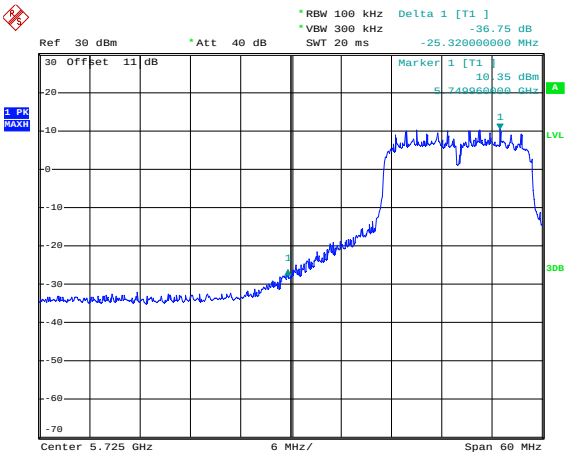
Lowest channel



Date: 20.APR.2013 12:37:11

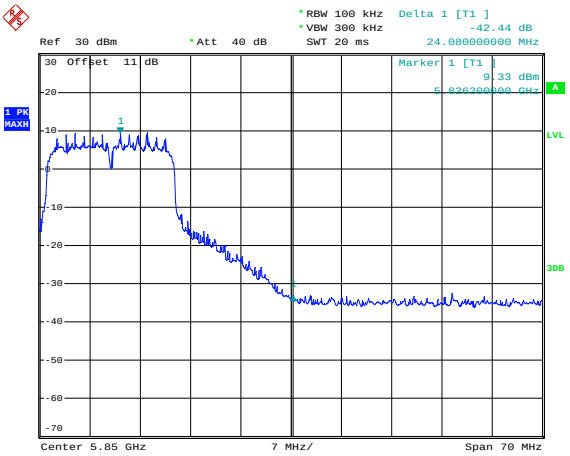
Highest channel

Test mode: 802.11n20



Date: 20.APR.2013 13:50:50

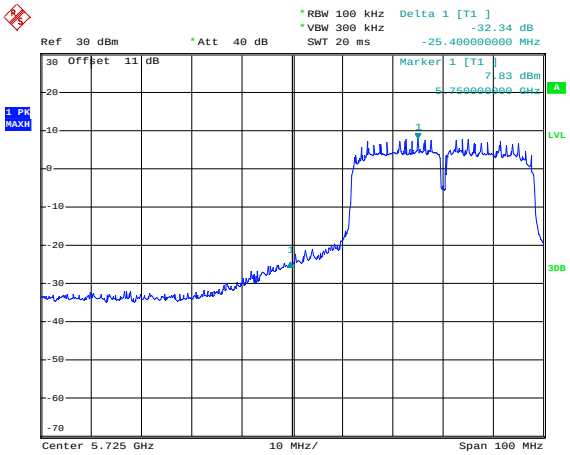
Lowest channel



Date: 20.APR.2013 13:00:43

Highest channel

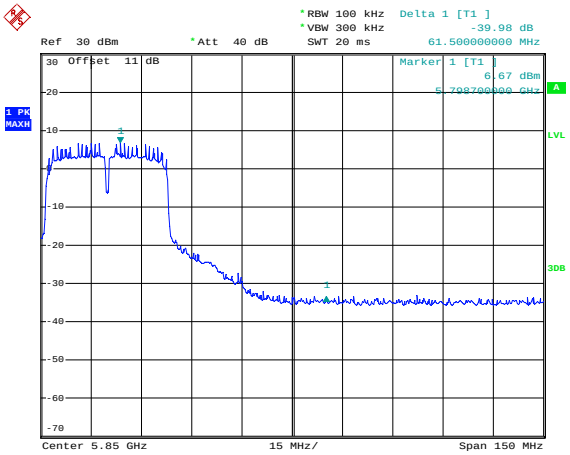
Test mode:



Date: 20.APR.2013 14:53:14

Lowest channel

802.11n40



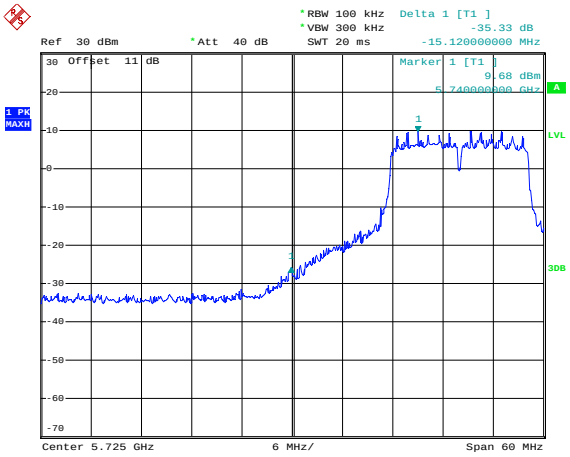
Date: 19.APR.2013 19:04:25

Highest channel

Chain 2

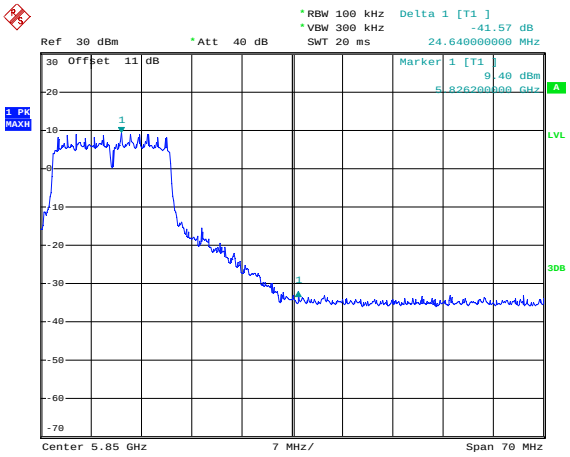
Test mode:

802.11a



Date: 20.APR.2013 12:01:46

Lowest channel

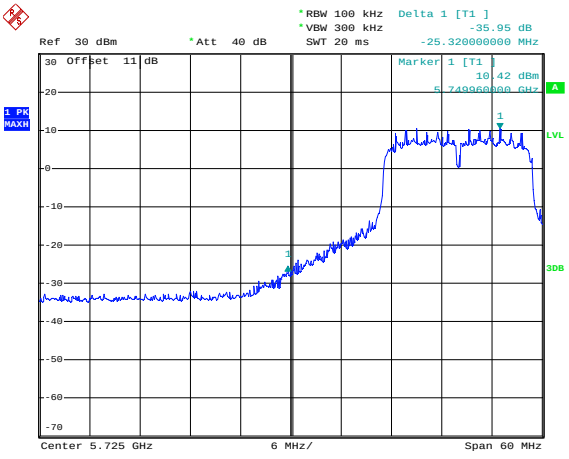


Date: 20.APR.2013 12:38:25

Highest channel

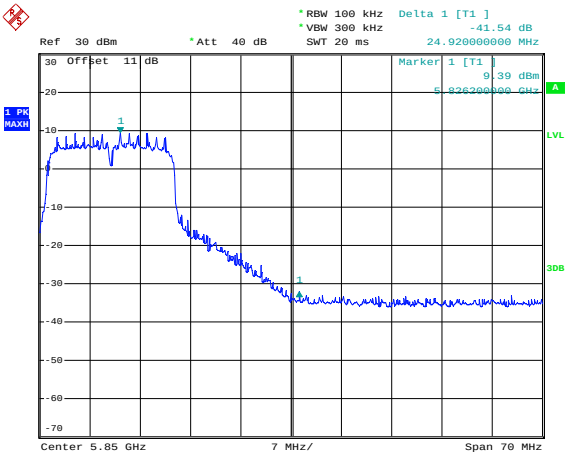
Test mode:

802.11n20



Date: 20.APR.2013 13:51:39

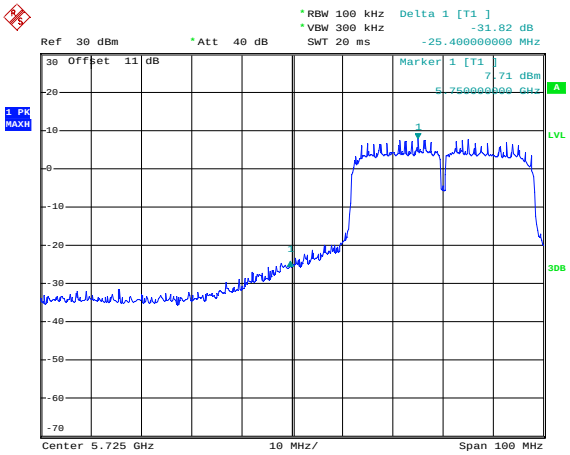
Lowest channel



Date: 20.APR.2013 13:02:09

Highest channel

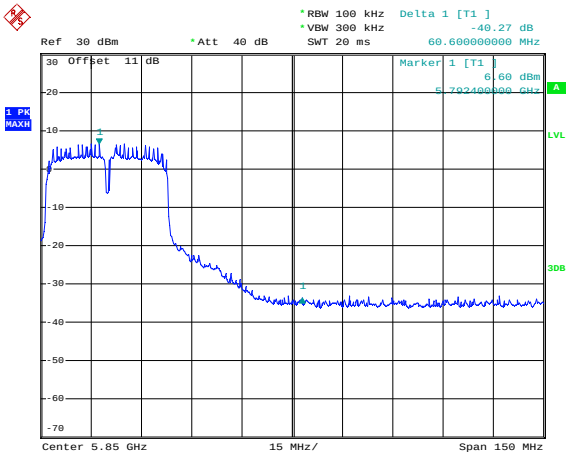
Test mode:



Date: 20.APR.2013 14:57:33

Lowest channel

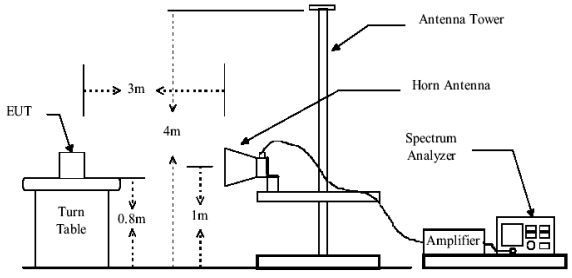
802.11n40



Date: 19.APR.2013 19:02:58

Highest channel

6.7.2 Radiated Emission Method

<table>
<tr><td>Test Requirement:</td><td>FCC Part15 C Section 15.209 and 15.205</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.4: 2003</td></tr>
<tr><td>Test Frequency Range:</td><td>5.35 GHz to 5.46 GHz</td></tr>
<tr><td>Test site:</td><td>Measurement Distance: 3m</td></tr>
<tr><td>Receiver setup:</td><td>
<table>
<tr><th>Frequency</th><th>Detector</th><th>RBW</th><th>VBW</th><th>Remark</th></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr>
<tr><td>Peak</td><td>1MHz</td><td>10Hz</td><td>Average Value</td></tr>
</table>
</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><th>Frequency</th><th>Limit (dBuV/m @3m)</th><th>Remark</th></tr>
<tr><td rowspan="2">Above 1GHz</td><td>54.00</td><td>Average Value</td></tr>
<tr><td>74.00</td><td>Peak Value</td></tr>
</table>
</td></tr>
<tr><td>Test Procedure:</td><td>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.
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.
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.
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.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
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.</td></tr>
<tr><td>Test setup:</td><td> 
</td></tr>
<tr><td>Test Instruments:</td><td>Refer to section 5.6 for details</td></tr>
<tr><td>Test mode:</td><td>Refer to section 5.3 for details</td></tr>
<tr><td>Test results:</td><td>Passed</td></tr>
</table>

3 dBi Omni-directional antenna

802.11a

Test channel:		Lowest			Level:		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
5350.00	44.32	31.78	9.15	40.18	45.07	74	-28.93	Horizontal
5460.00	43.17	31.99	9.16	40.23	44.09	74	-29.91	Horizontal
5350.00	44.35	31.78	9.15	40.18	45.1	74	-28.9	Vertical
5460.00	43.86	31.99	9.16	40.23	44.78	74	-29.22	Vertical

Test channel:		Lowest			Level:		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
5350.00	30.38	31.78	9.15	40.18	31.13	54	-22.87	Horizontal
5460.00	29.11	31.99	9.16	40.23	30.03	54	-23.97	Horizontal
5350.00	31.09	31.78	9.15	40.18	31.84	54	-22.16	Vertical
5460.00	33.23	31.99	9.16	40.23	34.15	54	-19.85	Vertical

802.11n20

Test channel:		Lowest			Level:		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
5350.00	43.78	31.78	9.15	40.18	44.53	74	-29.47	Horizontal
5460.00	42.33	31.99	9.16	40.23	43.25	74	-30.75	Horizontal
5350.00	43.53	31.78	9.15	40.18	44.28	74	-29.72	Vertical
5460.00	43.16	31.99	9.16	40.23	44.08	74	-29.92	Vertical

Test channel:		Lowest			Level:		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
5350.00	31.06	31.78	9.15	40.18	31.81	54	-22.19	Horizontal
5460.00	29.88	31.99	9.16	40.23	30.8	54	-23.20	Horizontal
5350.00	31.24	31.78	9.15	40.18	31.99	54	-22.01	Vertical
5460.00	30.56	31.99	9.16	40.23	31.48	54	-22.52	Vertical

802.11n40

Test channel:		Lowest		Level:		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
5350.00	44.67	31.78	9.15	40.18	45.42	74	-28.58	Horizontal
5460.00	42.58	31.99	9.16	40.23	43.5	74	-30.5	Horizontal
5350.00	44.37	31.78	9.15	40.18	45.12	74	-28.88	Vertical
5460.00	43.21	31.99	9.16	40.23	44.13	74	-29.87	Vertical

Test channel:		Lowest		Level:		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
5350.00	30.21	31.78	9.15	40.18	30.96	54	-23.04	Horizontal
5460.00	29.78	31.99	9.16	40.23	30.7	54	-23.3	Horizontal
5350.00	31.09	31.78	9.15	40.18	31.84	54	-22.16	Vertical
5460.00	29.34	31.99	9.16	40.23	30.26	54	-23.74	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.*

12 dBi Omni-directional antenna

802.11a

Test channel:		Lowest			Level:		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
5350.00	44.87	31.78	9.15	40.18	45.62	74	-28.38	Horizontal
5460.00	43.67	31.99	9.16	40.23	44.59	74	-29.41	Horizontal
5350.00	44.74	31.78	9.15	40.18	45.49	74	-28.51	Vertical
5460.00	44.02	31.99	9.16	40.23	44.94	74	-29.06	Vertical

Test channel:		Lowest			Level:		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
5350.00	30.76	31.78	9.15	40.18	31.51	54	-22.49	Horizontal
5460.00	29.45	31.99	9.16	40.23	30.37	54	-23.63	Horizontal
5350.00	31.56	31.78	9.15	40.18	32.31	54	-21.69	Vertical
5460.00	33.65	31.99	9.16	40.23	34.57	54	-19.43	Vertical

802.11n20

Test channel:		Lowest			Level:		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
5350.00	43.95	31.78	9.15	40.18	44.7	74	-29.3	Horizontal
5460.00	42.69	31.99	9.16	40.23	43.61	74	-30.39	Horizontal
5350.00	43.97	31.78	9.15	40.18	44.72	74	-29.28	Vertical
5460.00	43.78	31.99	9.16	40.23	44.7	74	-29.3	Vertical

Test channel:		Lowest			Level:		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
5350.00	31.76	31.78	9.15	40.18	32.51	54	-21.49	Horizontal
5460.00	30.21	31.99	9.16	40.23	31.13	54	-22.87	Horizontal
5350.00	31.67	31.78	9.15	40.18	32.42	54	-21.58	Vertical
5460.00	30.89	31.99	9.16	40.23	31.81	54	-22.19	Vertical

802.11n40

Test channel:		Lowest		Level:		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
5350.00	44.98	31.78	9.15	40.18	45.73	74	-28.27	Horizontal
5460.00	42.86	31.99	9.16	40.23	43.78	74	-30.22	Horizontal
5350.00	44.81	31.78	9.15	40.18	45.56	74	-28.44	Vertical
5460.00	43.69	31.99	9.16	40.23	44.61	74	-29.39	Vertical

Test channel:		Lowest		Level:		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
5350.00	30.65	31.78	9.15	40.18	31.4	54	-22.6	Horizontal
5460.00	30.22	31.99	9.16	40.23	31.14	54	-22.86	Horizontal
5350.00	31.47	31.78	9.15	40.18	32.22	54	-21.78	Vertical
5460.00	30.09	31.99	9.16	40.23	31.01	54	-22.99	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.*

19 dBi sector antenna

802.11a

Test channel:	Lowest	Level:	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
5350.00	45.22	31.78	9.15	40.18	45.97	74	-28.03	Horizontal
5460.00	43.98	31.99	9.16	40.23	44.9	74	-29.1	Horizontal
5350.00	45.07	31.78	9.15	40.18	45.82	74	-28.18	Vertical
5460.00	44.56	31.99	9.16	40.23	45.48	74	-28.52	Vertical

Test channel:	Lowest	Level:	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
5350.00	31.16	31.78	9.15	40.18	31.91	54	-22.09	Horizontal
5460.00	30.09	31.99	9.16	40.23	31.01	54	-22.99	Horizontal
5350.00	31.88	31.78	9.15	40.18	32.63	54	-21.37	Vertical
5460.00	34.02	31.99	9.16	40.23	34.94	54	-19.06	Vertical

802.11n20

Test channel:	Lowest	Level:	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
5350.00	44.23	31.78	9.15	40.18	44.98	74	-29.02	Horizontal
5460.00	43.31	31.99	9.16	40.23	44.23	74	-29.77	Horizontal
5350.00	44.15	31.78	9.15	40.18	44.9	74	-29.1	Vertical
5460.00	44.08	31.99	9.16	40.23	45	74	-29	Vertical

Test channel:	Lowest	Level:	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
5350.00	32.03	31.78	9.15	40.18	32.78	54	-21.22	Horizontal
5460.00	31.05	31.99	9.16	40.23	31.97	54	-22.03	Horizontal
5350.00	31.92	31.78	9.15	40.18	32.67	54	-21.33	Vertical
5460.00	31.11	31.99	9.16	40.23	32.03	54	-21.97	Vertical

802.11n40

Test channel:		Lowest		Level:		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
5350.00	45.33	31.78	9.15	40.18	46.08	74	-27.92	Horizontal
5460.00	43.21	31.99	9.16	40.23	44.13	74	-29.87	Horizontal
5350.00	45.15	31.78	9.15	40.18	45.9	74	-28.1	Vertical
5460.00	44.02	31.99	9.16	40.23	44.94	74	-29.06	Vertical

Test channel:		Lowest		Level:		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
5350.00	30.89	31.78	9.15	40.18	31.64	54	-22.36	Horizontal
5460.00	30.78	31.99	9.16	40.23	31.7	54	-22.3	Horizontal
5350.00	32.03	31.78	9.15	40.18	32.78	54	-21.22	Vertical
5460.00	30.66	31.99	9.16	40.23	31.58	54	-22.42	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.*

23 dBi pannel antenna

802.11a

Test channel:	Lowest	Level:	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
5350.00	46.53	31.78	9.15	40.18	47.28	74	-26.72	Horizontal
5460.00	45.08	31.99	9.16	40.23	46	74	-28	Horizontal
5350.00	45.79	31.78	9.15	40.18	46.54	74	-27.46	Vertical
5460.00	45.21	31.99	9.16	40.23	46.13	74	-27.87	Vertical

Test channel:	Lowest	Level:	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
5350.00	32.88	31.78	9.15	40.18	33.63	54	-20.37	Horizontal
5460.00	31.75	31.99	9.16	40.23	32.67	54	-21.33	Horizontal
5350.00	33.13	31.78	9.15	40.18	33.88	54	-20.12	Vertical
5460.00	34.64	31.99	9.16	40.23	35.56	54	-18.44	Vertical

802.11n20

Test channel:	Lowest	Level:	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
5350.00	45.11	31.78	9.15	40.18	45.86	74	-28.14	Horizontal
5460.00	44.54	31.99	9.16	40.23	45.46	74	-28.54	Horizontal
5350.00	45.08	31.78	9.15	40.18	45.83	74	-28.17	Vertical
5460.00	44.87	31.99	9.16	40.23	45.79	74	-28.21	Vertical

Test channel:	Lowest	Level:	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
5350.00	33.23	31.78	9.15	40.18	33.98	54	-20.02	Horizontal
5460.00	32.09	31.99	9.16	40.23	33.01	54	-20.99	Horizontal
5350.00	33.11	31.78	9.15	40.18	33.86	54	-20.14	Vertical
5460.00	32.14	31.99	9.16	40.23	33.06	54	-20.94	Vertical

802.11n40

Test channel:		Lowest		Level:		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
5350.00	46.16	31.78	9.15	40.18	46.91	74	-27.09	Horizontal
5460.00	44.35	31.99	9.16	40.23	45.27	74	-28.73	Horizontal
5350.00	46.32	31.78	9.15	40.18	47.07	74	-26.93	Vertical
5460.00	45.41	31.99	9.16	40.23	46.33	74	-27.67	Vertical

Test channel:		Lowest		Level:		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
5350.00	32.87	31.78	9.15	40.18	33.62	54	-20.38	Horizontal
5460.00	32.21	31.99	9.16	40.23	33.13	54	-20.87	Horizontal
5350.00	33.63	31.78	9.15	40.18	34.38	54	-19.62	Vertical
5460.00	32.02	31.99	9.16	40.23	32.94	54	-21.06	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.*

30 dBi dish antenna

802.11a

Test channel:	Lowest		Level:		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
5350.00	46.35	31.78	9.15	40.18	47.10	74.00	-26.90	Horizontal
5460.00	45.69	31.99	9.16	40.23	46.61	74.00	-27.39	Horizontal
5350.00	46.87	31.78	9.15	40.18	47.62	74.00	-26.38	Vertical
5460.00	46.05	31.99	9.16	40.23	46.97	74.00	-27.03	Vertical

Test channel:	Lowest		Level:		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
5350.00	33.45	31.78	9.15	40.18	34.20	54.00	-19.80	Horizontal
5460.00	32.54	31.99	9.16	40.23	33.46	54.00	-20.54	Horizontal
5350.00	34.52	31.78	9.15	40.18	35.27	54.00	-18.73	Vertical
5460.00	33.64	31.99	9.16	40.23	34.56	54.00	-19.44	Vertical

802.11n20

Test channel:	Lowest		Level:		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
5350.00	46.98	31.78	9.15	40.18	47.73	74.00	-26.27	Horizontal
5460.00	45.13	31.99	9.16	40.23	46.05	74.00	-27.95	Horizontal
5350.00	46.84	31.78	9.15	40.18	47.59	74.00	-26.41	Vertical
5460.00	46.03	31.99	9.16	40.23	46.95	74.00	-27.05	Vertical

Test channel:	Lowest		Level:		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
5350.00	33.64	31.78	9.15	40.18	34.39	54.00	-19.61	Horizontal
5460.00	32.61	31.99	9.16	40.23	33.53	54.00	-20.47	Horizontal
5350.00	34.08	31.78	9.15	40.18	34.83	54.00	-19.17	Vertical
5460.00	33.64	31.99	9.16	40.23	34.56	54.00	-19.44	Vertical

802.11n40

Test channel:		Lowest		Level:		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
5350.00	47.01	31.78	9.15	40.18	47.76	74.00	-26.24	Horizontal
5460.00	45.75	31.99	9.16	40.23	46.67	74.00	-27.33	Horizontal
5350.00	47.81	31.78	9.15	40.18	48.56	74.00	-25.44	Vertical
5460.00	46.37	31.99	9.16	40.23	47.29	74.00	-26.71	Vertical

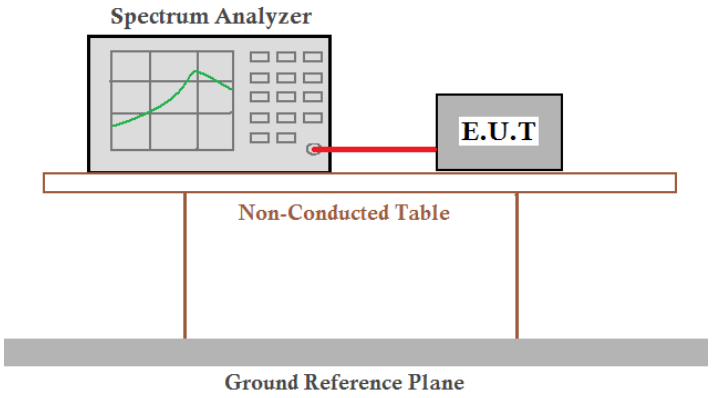
Test channel:		Lowest		Level:		Average		
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5350.00	33.45	31.78	9.15	40.18	34.20	54.00	-19.80	Horizontal
5460.00	33.08	31.99	9.16	40.23	34.00	54.00	-20.00	Horizontal
5350.00	34.21	31.78	9.15	40.18	34.96	54.00	-19.04	Vertical
5460.00	32.64	31.99	9.16	40.23	33.56	54.00	-20.44	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.*

6.8 Spurious Emission

6.8.1 Conducted Emission Method

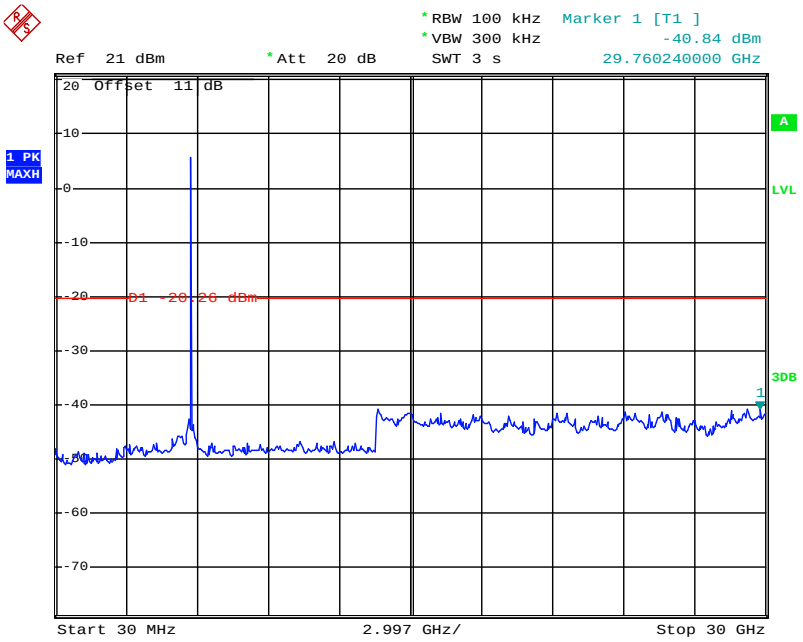
Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.4:2003 and KDB558074
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 30 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:	
Test Instruments:	Refer to section 5.6 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Test plot as follows:

Chain 1

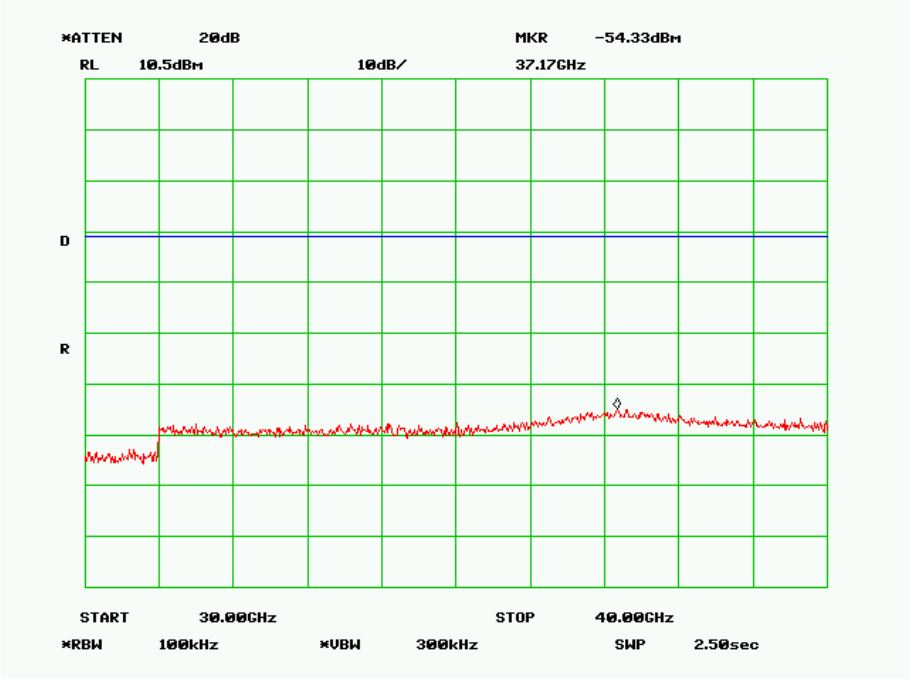
Test mode: 802.11a

Lowest channel



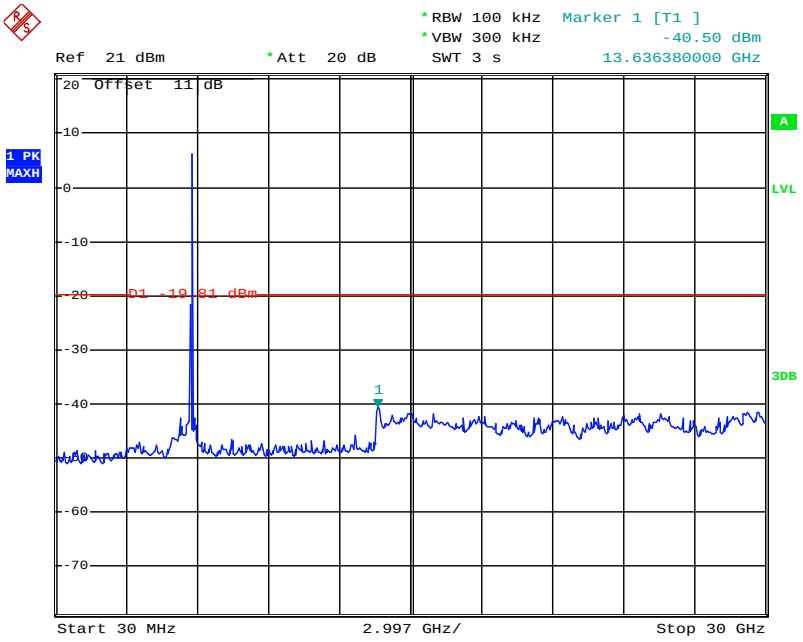
Date: 20.APR.2013 12:05:12

30MHz~30GHz



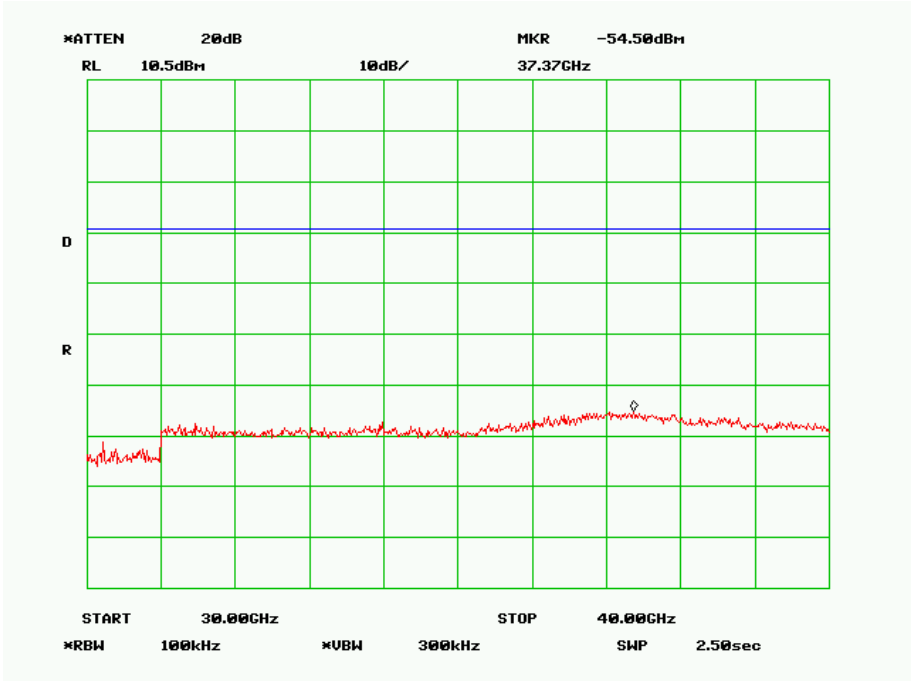
30GHz-40GHz

Middle channel



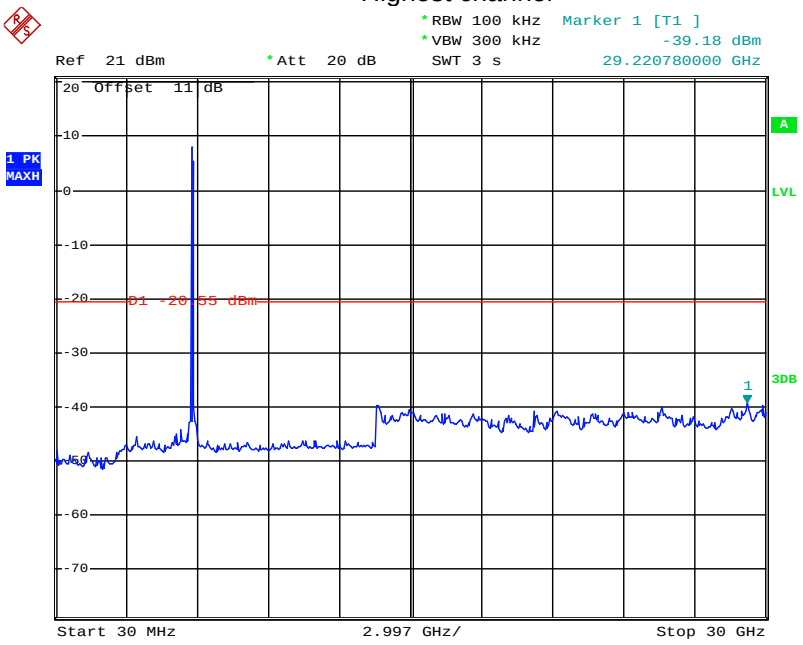
Date: 20.APR.2013 12:20:31

30MHz~30GHz



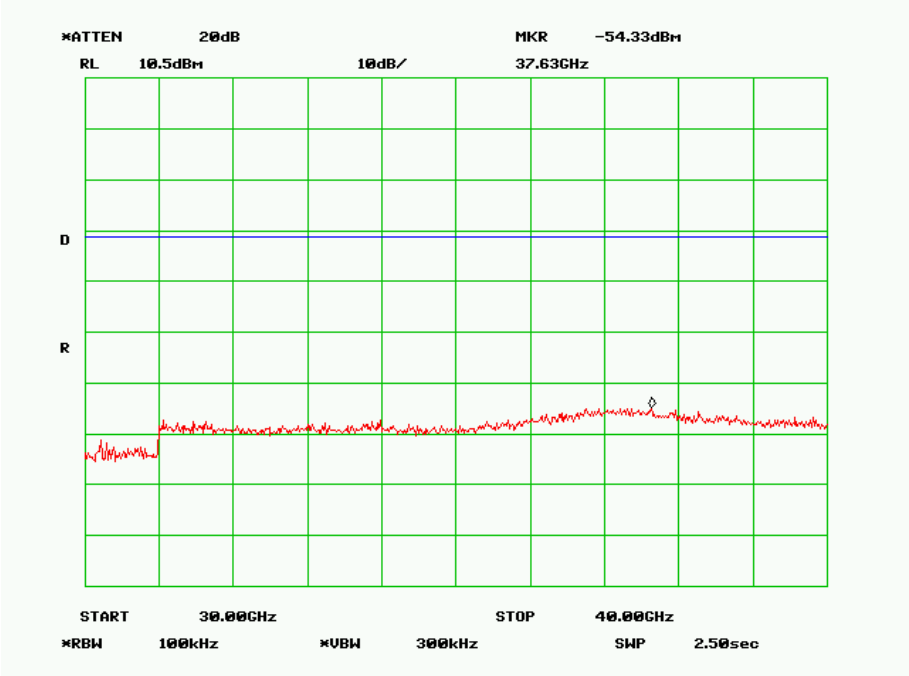
30GHz-40GHz

Highest channel



Date: 20.APR.2013 12:42:39

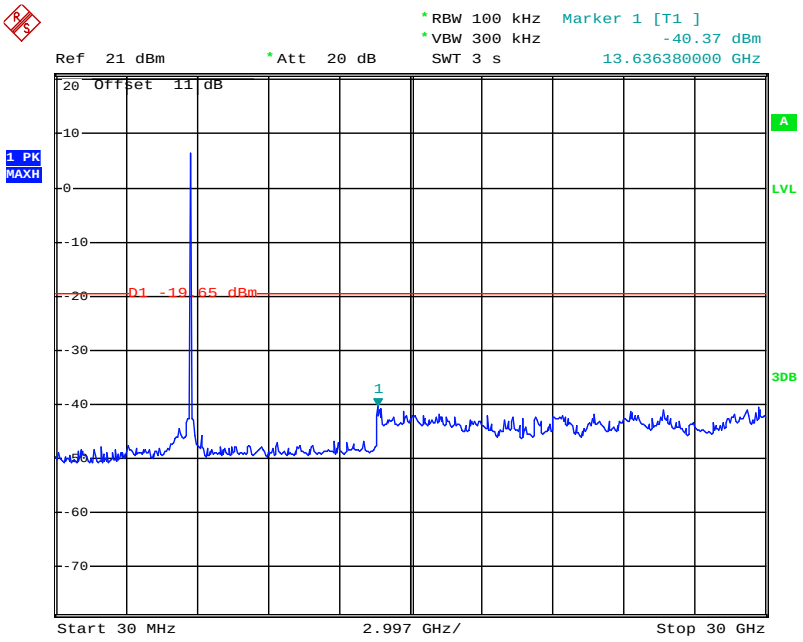
30MHz~30GHz



30GHz-40GHz

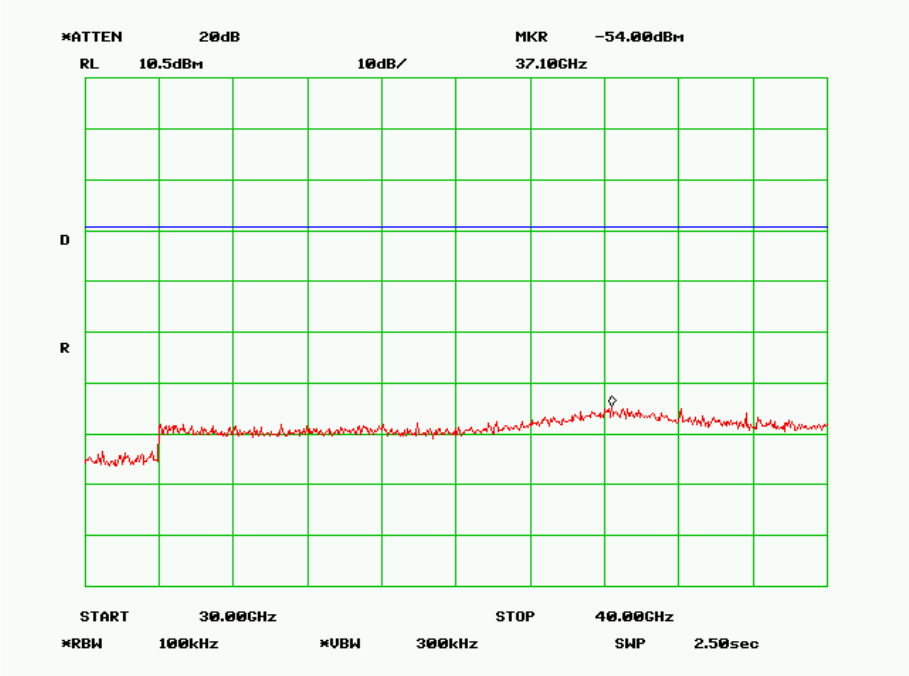
Test mode: 802.11n20

Lowest channel



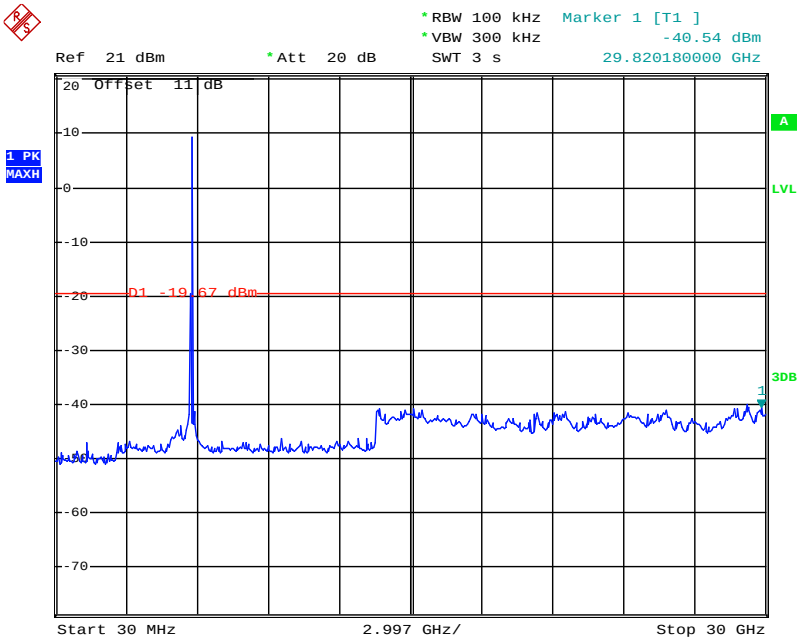
Date: 20.APR.2013 13:53:05

30MHz~30GHz



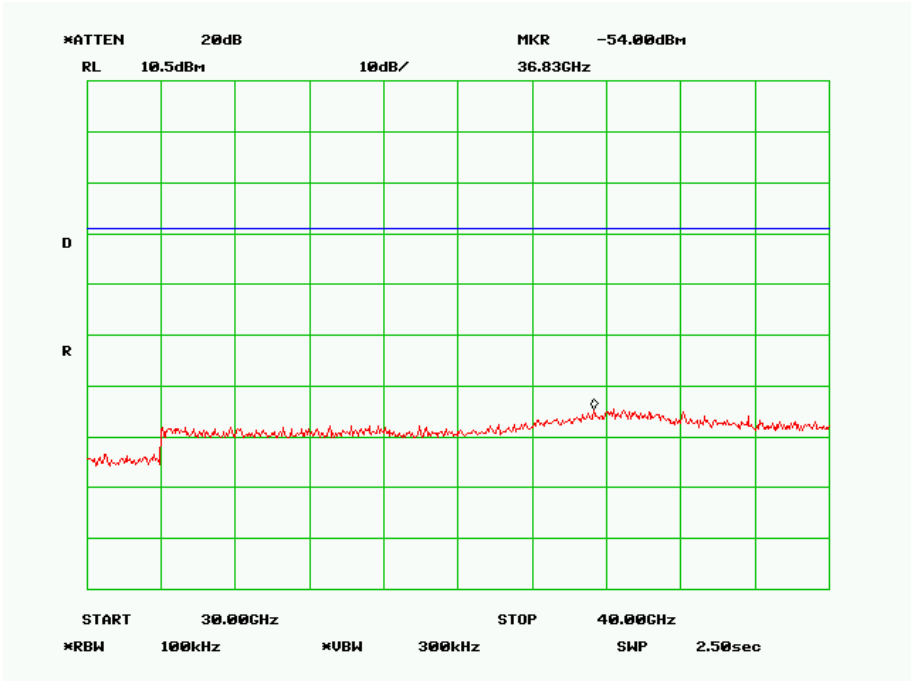
30GHz-40GHz

Middle channel



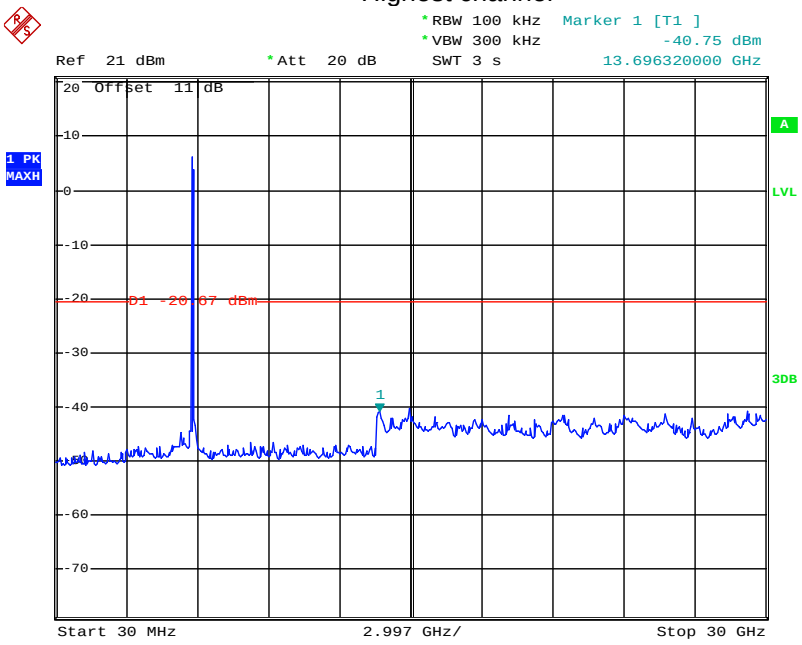
Date: 20.APR.2013 13:29:19

30MHz~30GHz



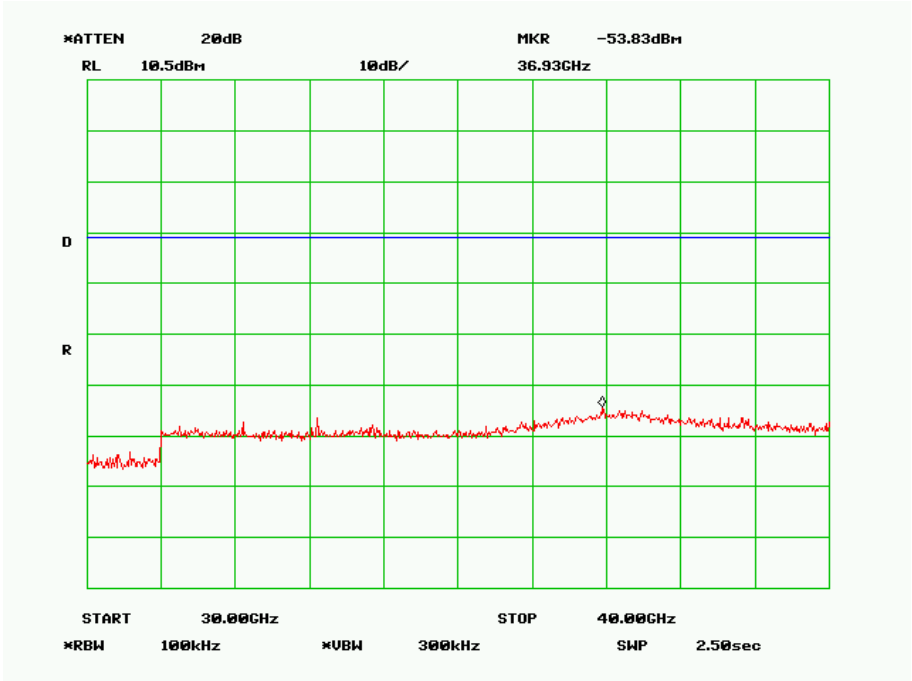
30GHz-40GHz

Highest channel



Date: 20.APR.2013 13:03:29

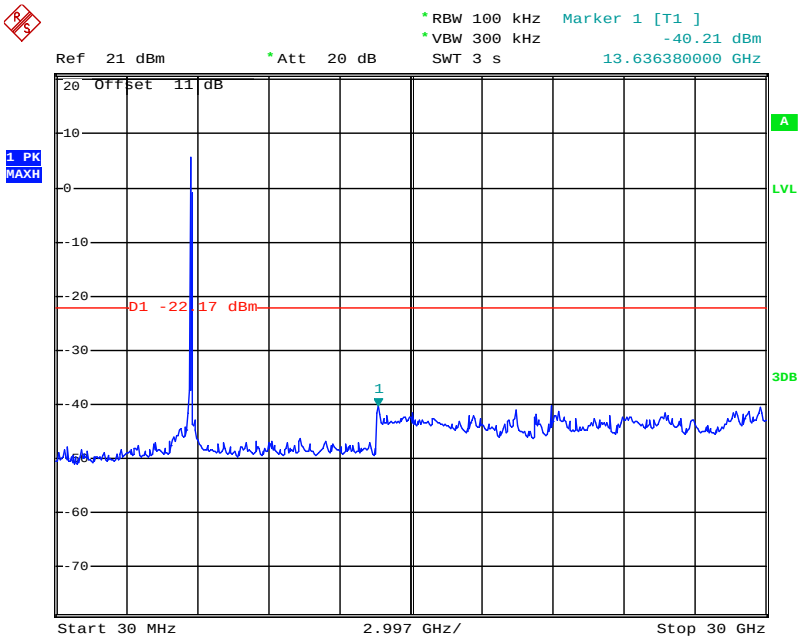
30MHz~30GHz



30GHz-40GHz

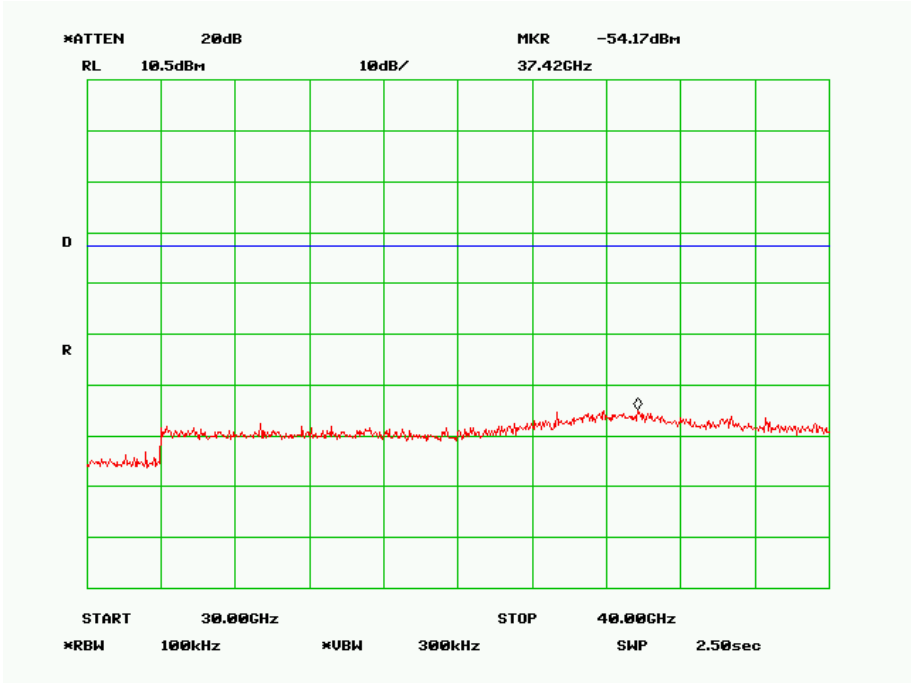
Test mode: 802.11n40

Lowest channel



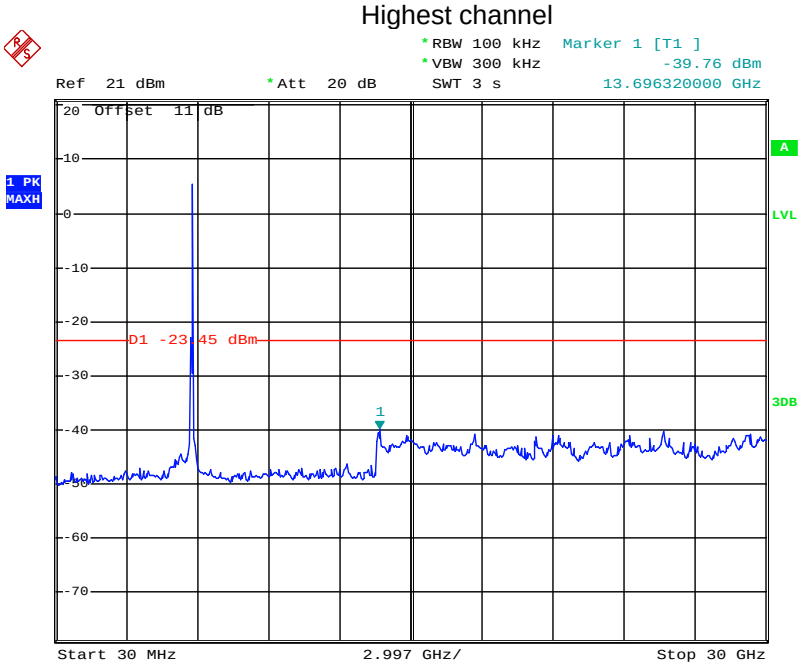
Date: 20.APR.2013 14:54:37

30MHz~30GHz



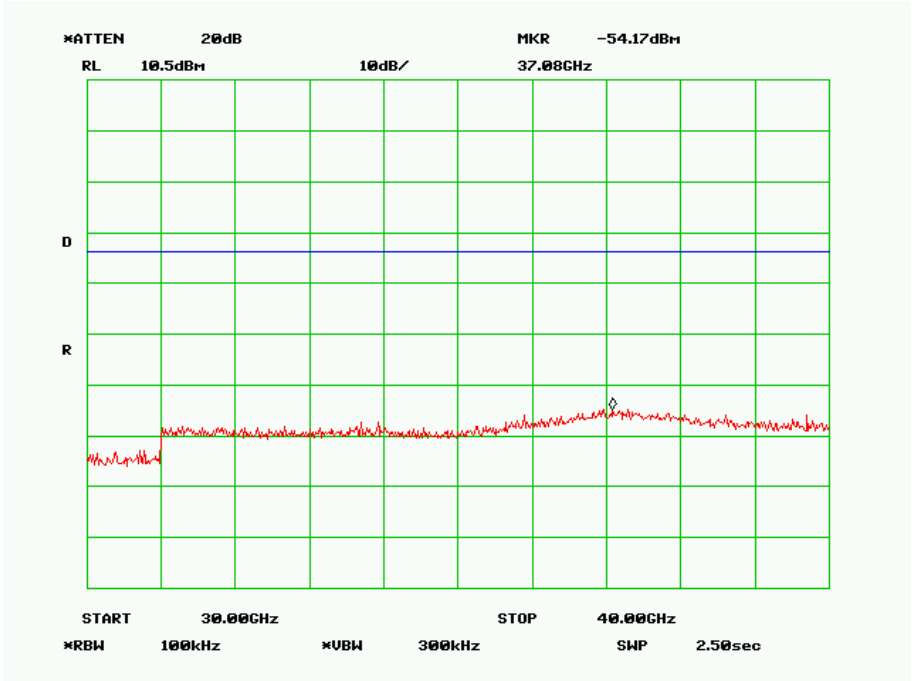
30GHz-40GHz

Highest channel



Date: 20.APR.2013 15:01:21

30MHz~30GHz

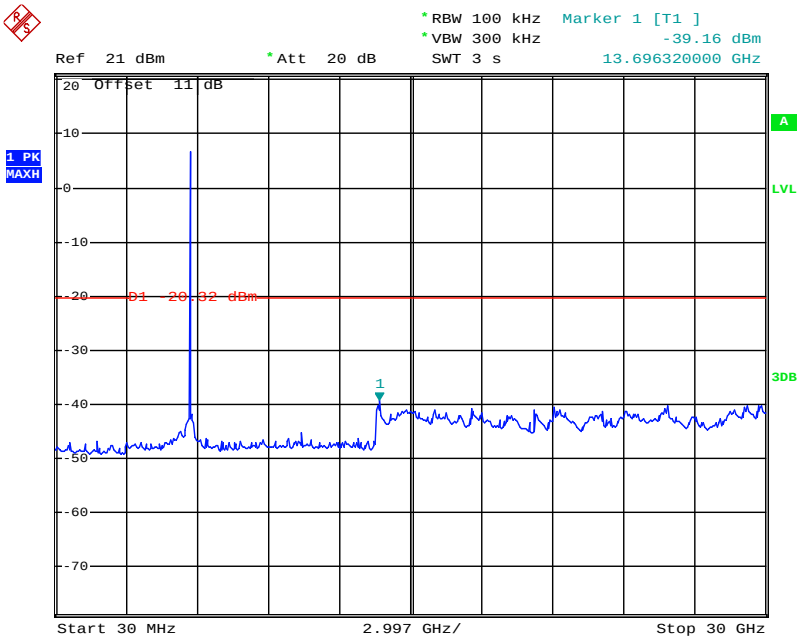


30GHz-40GHz

Chain 2

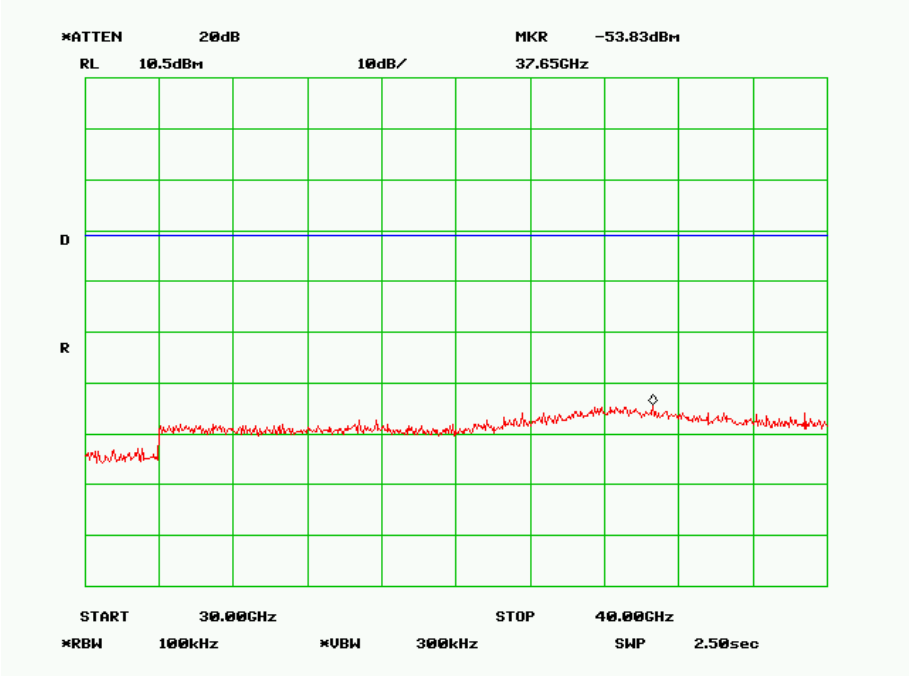
Test mode: 802.11a

Lowest channel



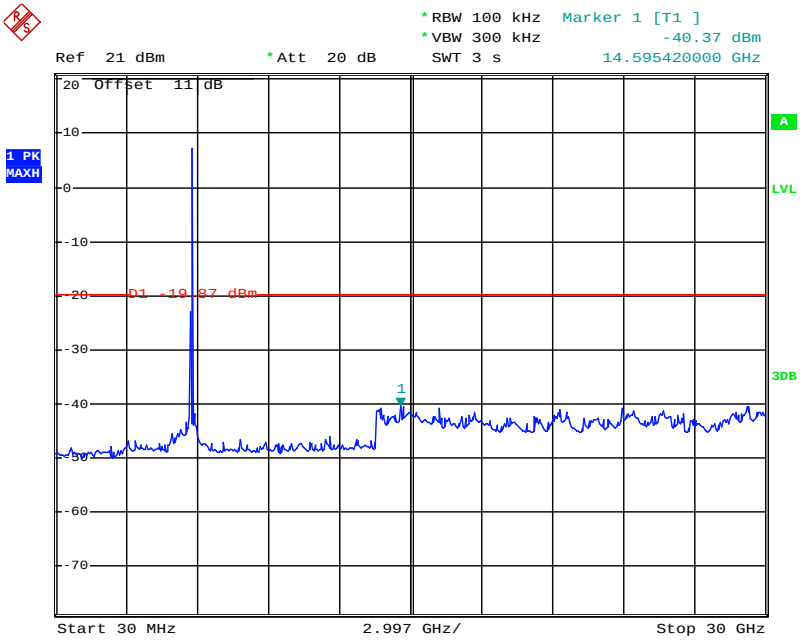
Date: 20.APR.2013 12:07:24

30MHz~30GHz



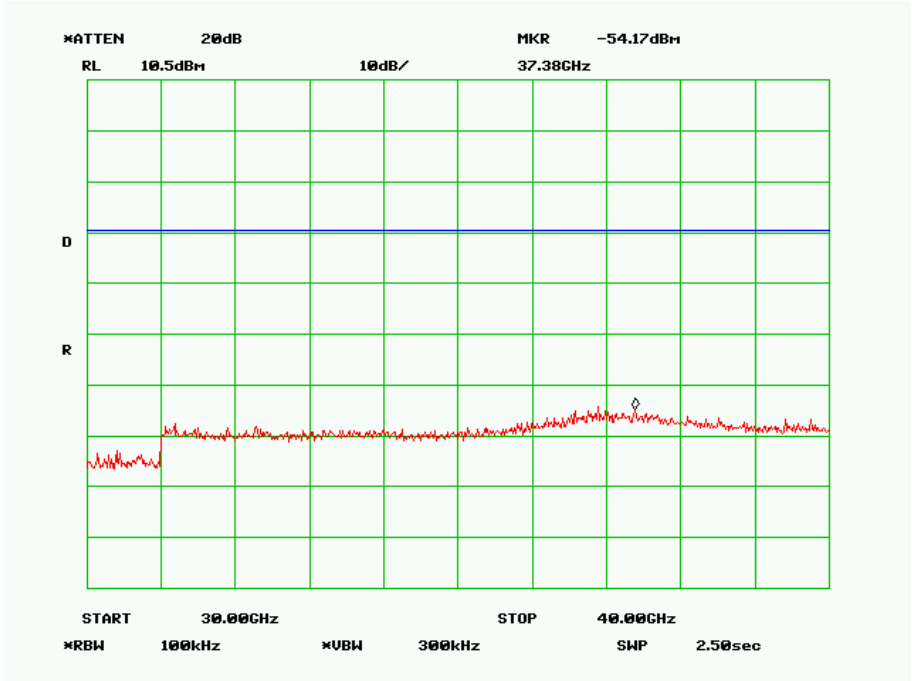
30GHz-40GHz

Middle channel



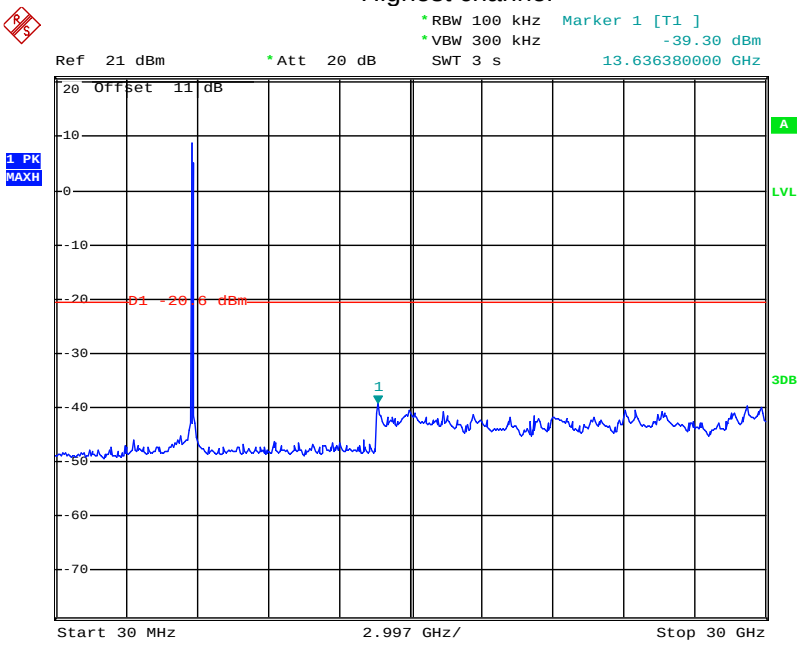
Date: 20.APR.2013 12:22:04

30MHz~30GHz



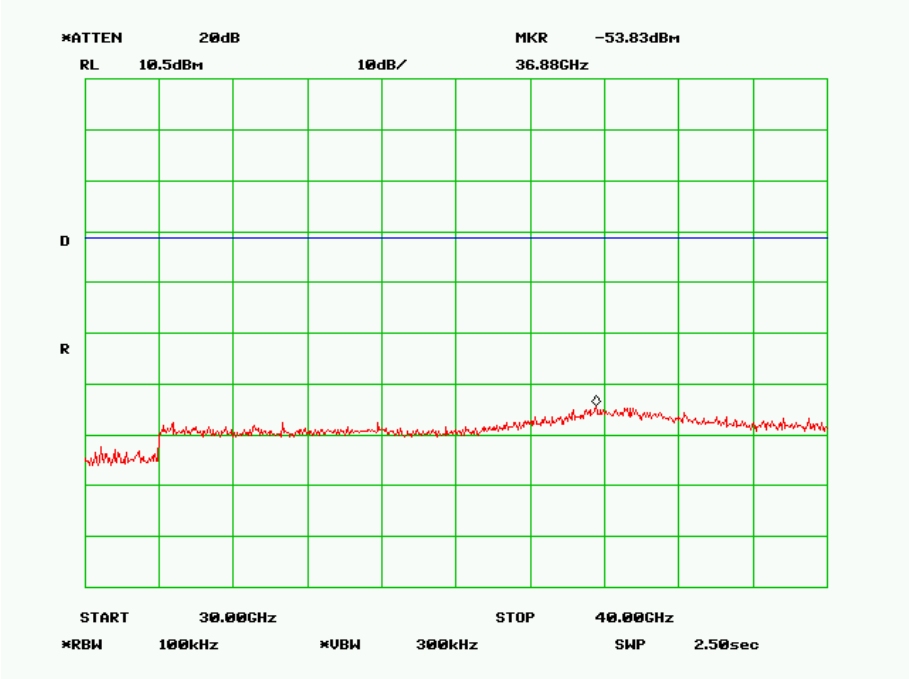
30GHz-40GHz

Highest channel



Date: 20.APR.2013 12:45:48

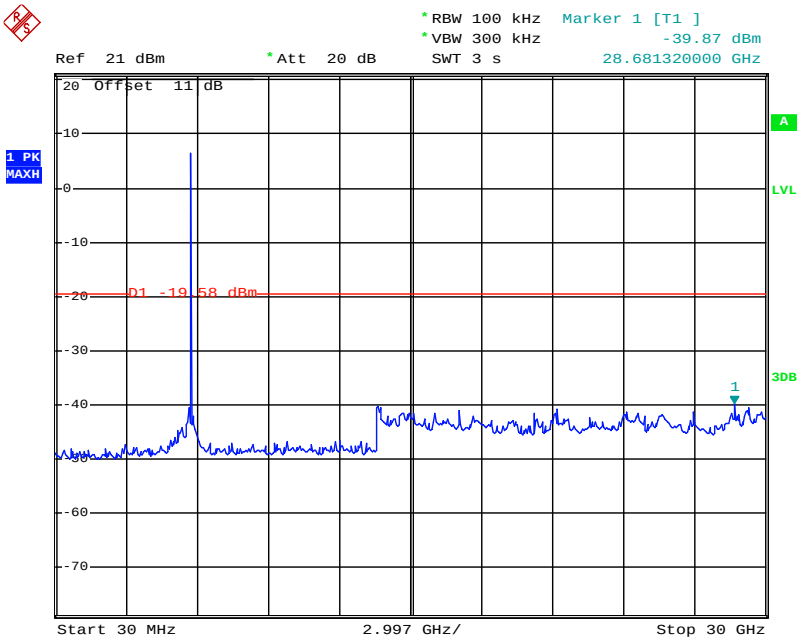
30MHz~30GHz



30GHz-40GHz

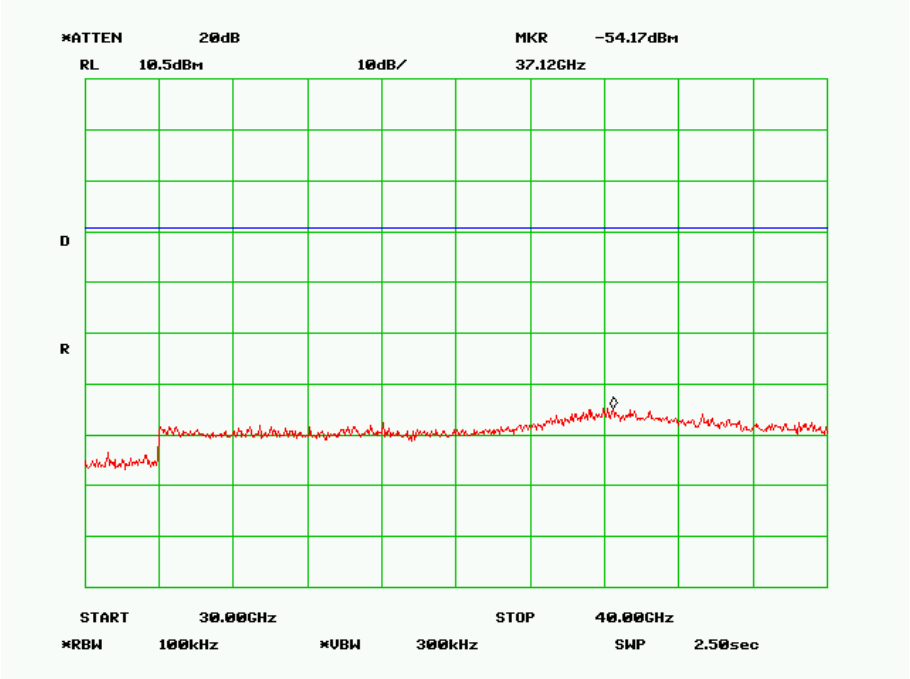
Test mode: 802.11n20

Lowest channel



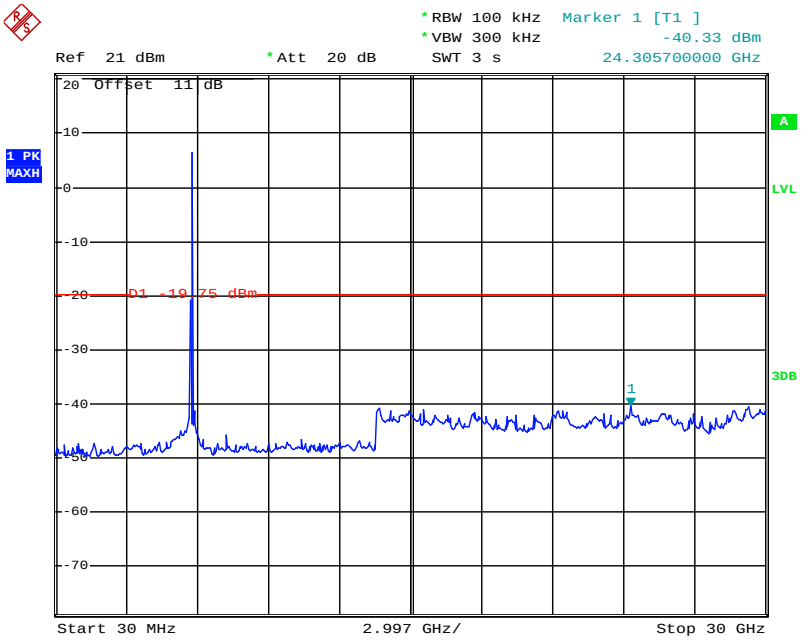
Date: 20.APR.2013 13:54:20

30MHz~30GHz



30GHz-40GHz

Middle channel



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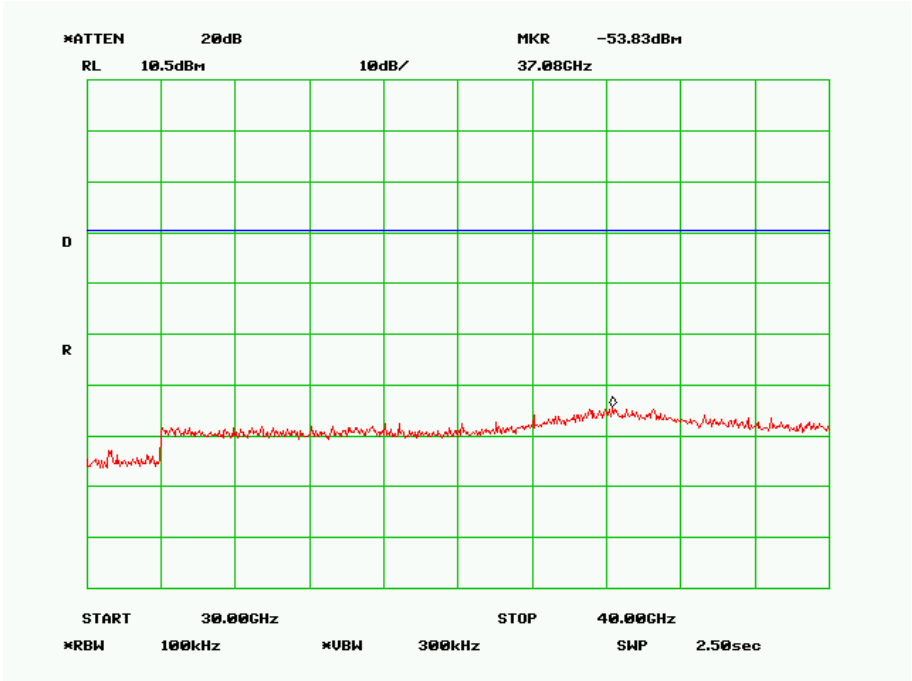
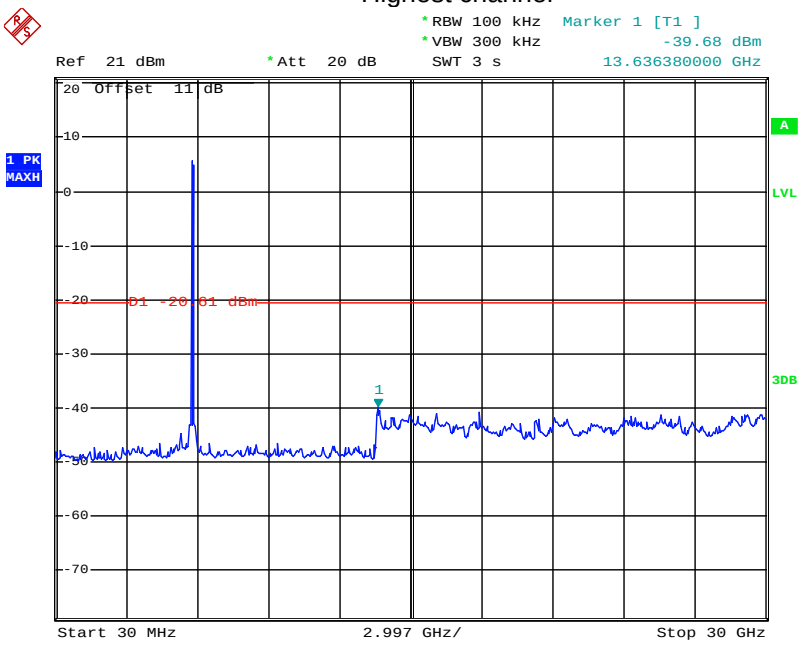
30MHz~30GHz



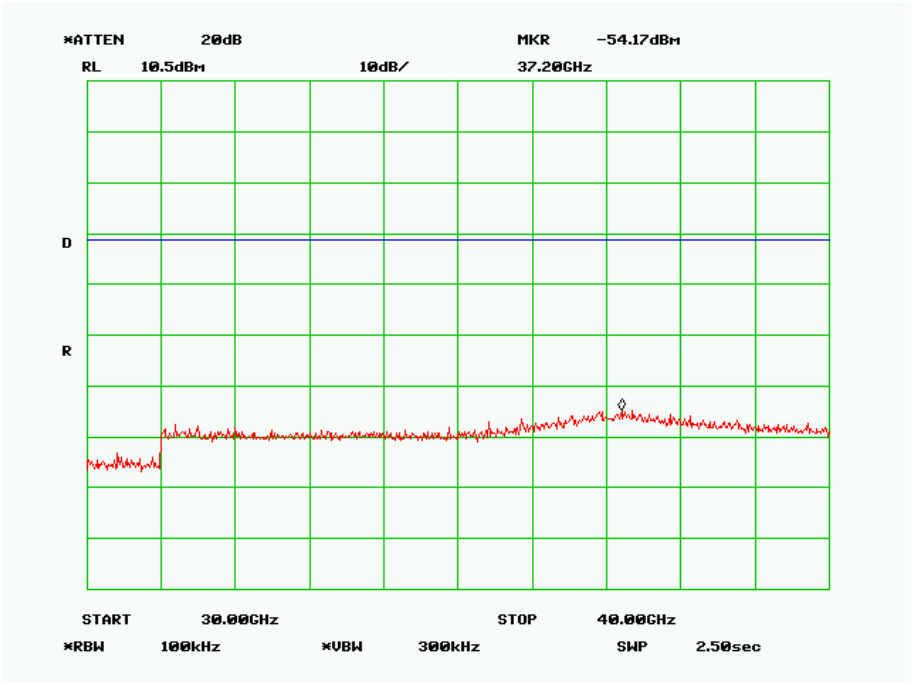
30GHz-40GHz

Highest channel



Date: 20.APR.2013 13:04:52

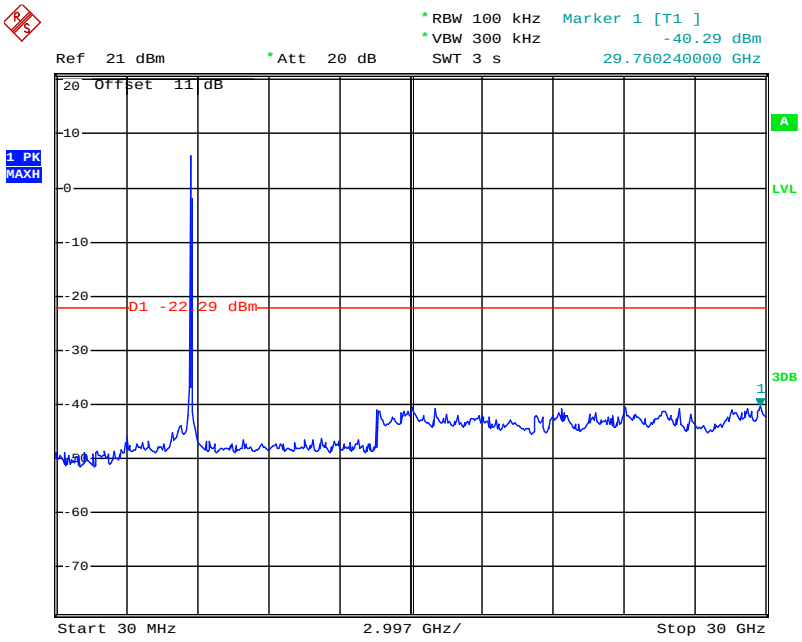
30MHz~30GHz



30GHz-40GHz

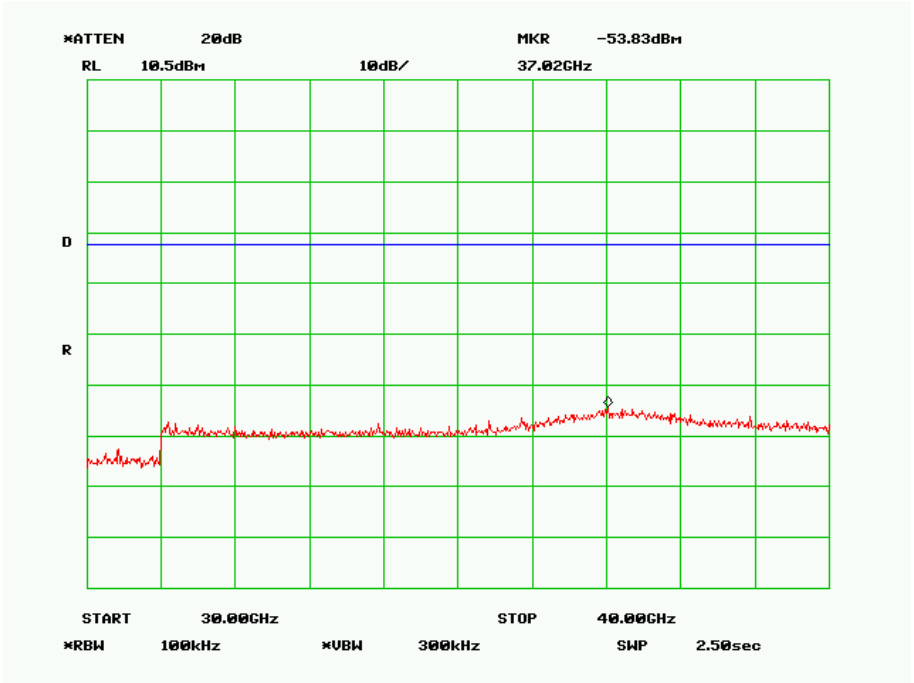
Test mode: 802.11n40

Lowest channel



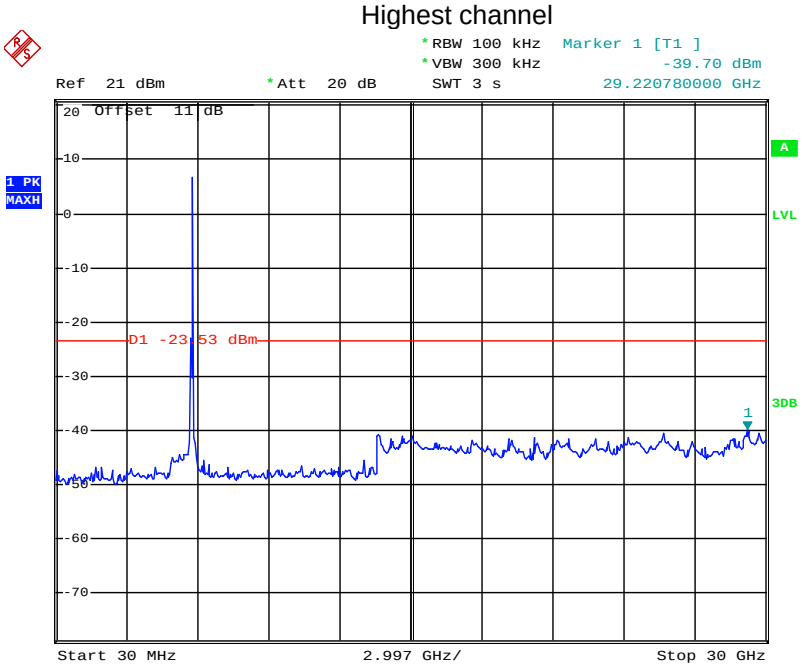
Date: 20.APR.2013 14:59:23

30MHz~30GHz



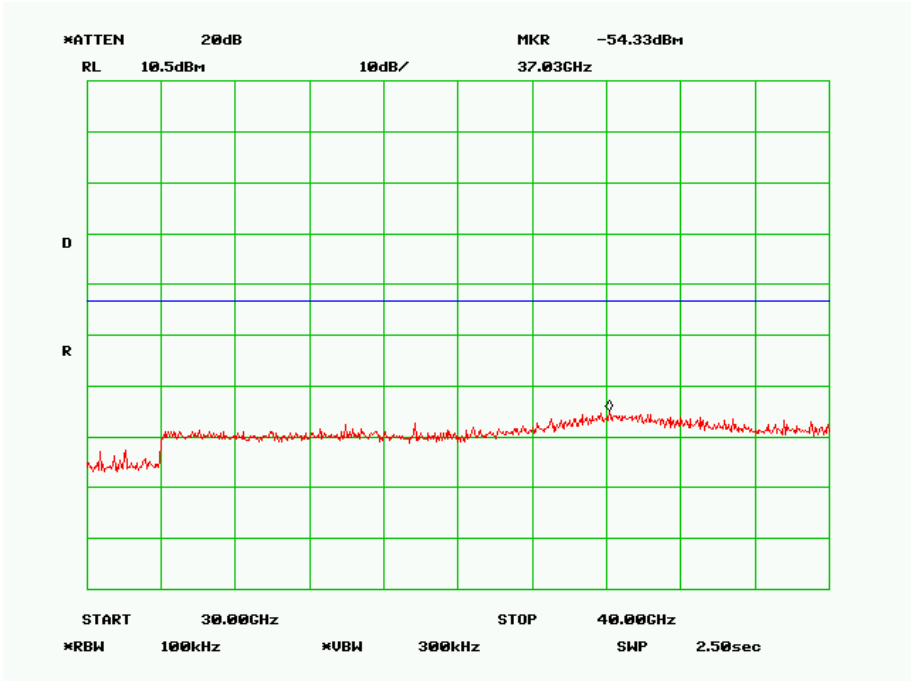
30GHz-40GHz

Highest channel



Date: 20.APR.2013 15:02:35

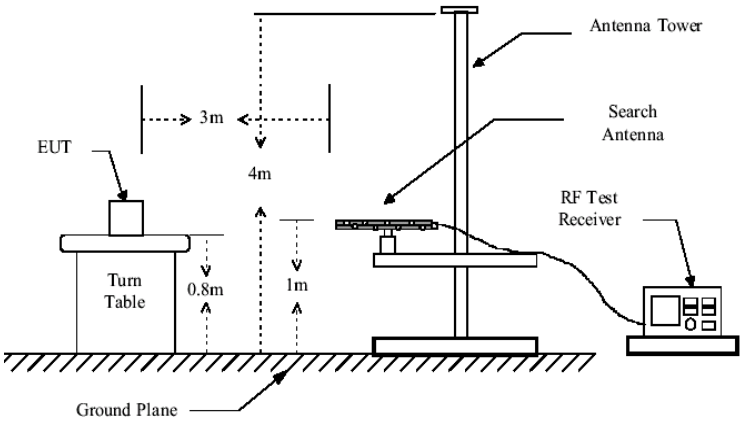
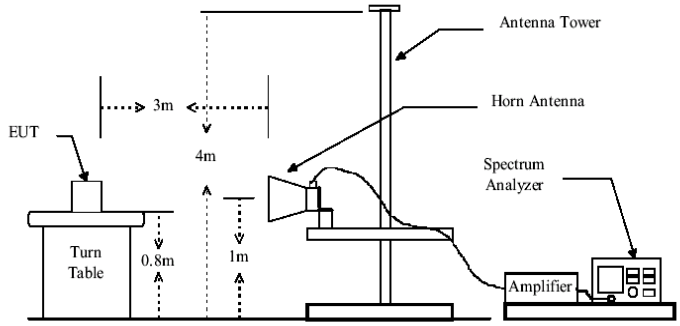
30MHz~30GHz



30GHz-40GHz

6.8.2 Radiated Emission Method

<table>
<tr><td>Test Requirement:</td><td>FCC Part15 C Section 15.209 and 15.205</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.4:2003</td></tr>
<tr><td>Test Frequency Range:</td><td>30MHz to 40GHz</td></tr>
<tr><td>Test site:</td><td>Measurement Distance: 3m</td></tr>
<tr><td>Receiver setup:</td><td>
<table>
<tr><th>Frequency</th><th>Detector</th><th>RBW</th><th>VBW</th><th>Remark</th></tr>
<tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>100kHz</td><td>300kHz</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr>
<tr><td>Peak</td><td>1MHz</td><td>10Hz</td><td>Average Value</td></tr>
</table>
</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><th>Frequency</th><th>Limit (dBuV/m @3m)</th><th>Remark</th></tr>
<tr><td>30MHz-88MHz</td><td>40.0</td><td>Quasi-peak Value</td></tr>
<tr><td>88MHz-216MHz</td><td>43.5</td><td>Quasi-peak Value</td></tr>
<tr><td>216MHz-960MHz</td><td>46.0</td><td>Quasi-peak Value</td></tr>
<tr><td>960MHz-1GHz</td><td>54.0</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>54.0</td><td>Average Value</td></tr>
<tr><td>74.0</td><td>Peak Value</td></tr>
</table>
</td></tr>
<tr><td>Test Procedure:</td><td>
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.
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.
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.
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.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
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.
</td></tr>
</table>

Test setup:	Below 1GHz  Above 1GHz 
Test Instruments:	Refer to section 5.6 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

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
33.33	42.19	12.31	0.98	26.63	28.85	40.00	-11.15	Vertical
39.30	43.75	13.39	1.21	27.20	31.15	40.00	-8.85	Vertical
52.03	42.72	13.17	1.29	28.48	28.70	40.00	-11.30	Vertical
91.50	47.01	12.24	2.03	30.07	31.21	43.50	-12.29	Vertical
185.79	44.70	10.16	2.77	28.55	29.08	43.50	-14.42	Vertical
239.99	41.74	12.09	2.82	29.64	27.01	46.00	-18.99	Vertical
32.41	37.19	12.32	0.91	26.53	23.89	40.00	-16.11	Horizontal
54.64	35.60	13.06	1.34	28.74	21.26	40.00	-18.74	Horizontal
93.44	45.61	12.58	2.02	30.08	30.13	43.50	-13.37	Horizontal
184.49	46.40	10.08	2.76	28.04	31.20	43.50	-12.30	Horizontal
239.99	50.47	12.09	2.82	29.64	35.74	46.00	-10.26	Horizontal
494.20	33.43	16.45	3.57	30.52	22.93	46.00	-23.07	Horizontal

3 dBi Omni-directional antenna
Above 1GHz

Test mode:	802.11a	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
11490.00	39.54	40.23	13.81	40.73	52.85	74.00	-21.15	Vertical
17235.00	31.25	41.43	16.12	37.83	50.97	74.00	-23.03	Vertical
11490.00	40.14	40.23	13.81	40.73	53.45	74.00	-20.55	Horizontal
17235.00	32.11	41.43	16.12	37.83	51.83	74.00	-22.17	Horizontal

Test mode:	802.11a	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
11490.00	31.22	40.23	13.81	40.73	44.53	54.00	-9.47	Vertical
17235.00	22.65	41.43	16.12	37.83	42.37	54.00	-11.63	Vertical
11490.00	32.10	40.23	13.81	40.73	45.41	54.00	-8.59	Horizontal
17235.00	22.99	41.43	16.12	37.83	42.71	54.00	-11.29	Horizontal

Test mode:	802.11a	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
11570.00	41.25	40.17	13.78	40.91	54.29	74.00	-19.71	Vertical
17355.00	32.64	42.22	16.37	37.63	53.60	74.00	-20.40	Vertical
11570.00	42.14	40.17	13.78	40.91	55.18	74.00	-18.82	Horizontal
17355.00	33.25	42.22	16.37	37.63	54.21	74.00	-19.79	Horizontal

Test mode:	802.11a	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
11570.00	33.65	40.17	13.78	40.91	46.69	54.00	-7.31	Vertical
17355.00	23.12	42.22	16.37	37.63	44.08	54.00	-9.92	Vertical
11570.00	33.65	40.17	13.78	40.91	46.69	54.00	-7.31	Horizontal
17355.00	23.12	42.22	16.37	37.63	44.08	54.00	-9.92	Horizontal

Test mode:	802.11a	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
11650.00	40.16	39.75	13.71	41.13	52.49	74.00	-21.51	Vertical
17475.00	28.42	43.33	16.65	37.48	50.92	74.00	-23.08	Vertical
11650.00	40.94	39.75	13.71	41.13	53.27	74.00	-20.73	Horizontal
17475.00	27.95	43.33	16.65	37.48	50.45	74.00	-23.55	Horizontal

Test mode:	802.11a	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
11650.00	33.45	39.75	13.71	41.13	45.78	54.00	-8.22	Vertical
17475.00	21.34	43.33	16.65	37.48	43.84	54.00	-10.16	Vertical
11650.00	33.65	39.75	13.71	41.13	45.98	54.00	-8.02	Horizontal
17475.00	21.49	43.33	16.65	37.48	43.99	54.00	-10.01	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.*
3. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

Test mode:	802.11n-HT20	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
11490.00	41.02	40.23	13.81	40.73	54.33	74.00	-19.67	Vertical
17235.00	32.65	41.43	16.12	37.83	52.37	74.00	-21.63	Vertical
11490.00	41.52	40.23	13.81	40.73	54.83	74.00	-19.17	Horizontal
17235.00	32.15	41.43	16.12	37.83	51.87	74.00	-22.13	Horizontal

Test mode:	802.11n-HT20	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
11490.00	31.26	40.23	13.81	40.73	44.57	54.00	-9.43	Vertical
17235.00	22.43	41.43	16.12	37.83	42.15	54.00	-11.85	Vertical
11490.00	31.24	40.23	13.81	40.73	44.55	54.00	-9.45	Horizontal
17235.00	22.43	41.43	16.12	37.83	42.15	54.00	-11.85	Horizontal

Test mode:	802.11n-HT20	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
11570.00	41.02	40.17	13.78	40.91	54.06	74.00	-19.94	Vertical
17355.00	31.67	42.22	16.37	37.63	52.63	74.00	-21.37	Vertical
11570.00	41.53	40.17	13.78	40.91	54.57	74.00	-19.43	Horizontal
17355.00	31.24	42.22	16.37	37.63	52.20	74.00	-21.80	Horizontal

Test mode:	802.11n-HT20	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
11570.00	32.52	40.17	13.78	40.91	45.56	54.00	-8.44	Vertical
17355.00	21.54	42.22	16.37	37.63	42.50	54.00	-11.50	Vertical
11570.00	32.66	40.17	13.78	40.91	45.70	54.00	-8.30	Horizontal
17355.00	22.42	42.22	16.37	37.63	43.38	54.00	-10.62	Horizontal

Test mode:	802.11n-HT20	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
11650.00	41.25	39.75	13.71	41.13	53.58	74.00	-20.42	Vertical
17475.00	29.45	43.33	16.65	37.48	51.95	74.00	-22.05	Vertical
11650.00	41.10	39.75	13.71	41.13	53.43	74.00	-20.57	Horizontal
17475.00	29.36	43.33	16.65	37.48	51.86	74.00	-22.14	Horizontal

Test mode:	802.11n-HT20	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
11650.00	33.65	39.75	13.71	41.13	45.98	54.00	-8.02	Vertical
17475.00	21.54	43.33	16.65	37.48	44.04	54.00	-9.96	Vertical
11650.00	33.65	39.75	13.71	41.13	45.98	54.00	-8.02	Horizontal
17475.00	22.04	43.33	16.65	37.48	44.54	54.00	-9.46	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.*
3. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

Test mode:	802.11n-HT40	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
11510.00	40.21	40.25	13.82	40.75	53.53	74.00	-20.47	Vertical
17265.00	32.65	41.58	16.18	37.79	52.62	74.00	-21.38	Vertical
11510.00	40.95	40.25	13.82	40.75	54.27	74.00	-19.73	Horizontal
17265.00	32.31	41.58	16.18	37.79	52.28	74.00	-21.72	Horizontal

Test mode:	802.11n-HT40	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
11510.00	32.65	40.25	13.82	40.75	45.97	54.00	-8.03	Vertical
17265.00	23.41	41.58	16.18	37.79	43.38	54.00	-10.62	Vertical
11510.00	32.45	40.25	13.82	40.75	45.77	54.00	-8.23	Horizontal
17265.00	23.41	41.58	16.18	37.79	43.38	54.00	-10.62	Horizontal

Test mode:	802.11n-HT40	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
11590.00	40.12	40.17	13.78	40.91	53.16	74.00	-20.84	Vertical
17385.00	31.11	42.22	16.37	37.63	52.07	74.00	-21.93	Vertical
11590.00	40.54	40.17	13.78	40.91	53.58	74.00	-20.42	Horizontal
17385.00	31.62	42.22	16.37	37.63	52.58	74.00	-21.42	Horizontal

Test mode:	802.11n-HT40	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
11590.00	32.44	40.17	13.78	40.91	45.48	54.00	-8.52	Vertical
17385.00	21.98	42.22	16.37	37.63	42.94	54.00	-11.06	Vertical
11590.00	31.78	40.17	13.78	40.91	44.82	54.00	-9.18	Horizontal
17385.00	22.05	42.22	16.37	37.63	43.01	54.00	-10.99	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.*
3. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

12 dBi Omni-directional antenna
Above 1GHz

Test mode:	802.11a	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
11490.00	40.32	40.23	13.81	40.73	53.63	74.00	-20.37	Vertical
17235.00	32.65	41.43	16.12	37.83	52.37	74.00	-21.63	Vertical
11490.00	40.23	40.23	13.81	40.73	53.54	74.00	-20.46	Horizontal
17235.00	32.52	41.43	16.12	37.83	52.24	74.00	-21.76	Horizontal

Test mode:	802.11a	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
11490.00	32.08	40.23	13.81	40.73	45.39	54.00	-8.61	Vertical
17235.00	23.50	41.43	16.12	37.83	43.22	54.00	-10.78	Vertical
11490.00	32.65	40.23	13.81	40.73	45.96	54.00	-8.04	Horizontal
17235.00	22.46	41.43	16.12	37.83	42.18	54.00	-11.82	Horizontal

Test mode:	802.11a	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
11570.00	40.12	40.17	13.78	40.91	53.16	74.00	-20.84	Vertical
17355.00	31.25	42.22	16.37	37.63	52.21	74.00	-21.79	Vertical
11570.00	40.22	40.17	13.78	40.91	53.26	74.00	-20.74	Horizontal
17355.00	31.76	42.22	16.37	37.63	52.72	74.00	-21.28	Horizontal

Test mode:	802.11a	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
11570.00	32.15	40.17	13.78	40.91	45.19	54.00	-8.81	Vertical
17355.00	22.60	42.22	16.37	37.63	43.56	54.00	-10.44	Vertical
11570.00	32.42	40.17	13.78	40.91	45.46	54.00	-8.54	Horizontal
17355.00	22.50	42.22	16.37	37.63	43.46	54.00	-10.54	Horizontal

Test mode:	802.11a	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
11650.00	41.22	39.75	13.71	41.13	53.55	74.00	-20.45	Vertical
17475.00	30.15	43.33	16.65	37.48	52.65	74.00	-21.35	Vertical
11650.00	41.84	39.75	13.71	41.13	54.17	74.00	-19.83	Horizontal
17475.00	29.63	43.33	16.65	37.48	52.13	74.00	-21.87	Horizontal

Test mode:	802.11a	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
11650.00	32.65	39.75	13.71	41.13	44.98	54.00	-9.02	Vertical
17475.00	21.34	43.33	16.65	37.48	43.84	54.00	-10.16	Vertical
11650.00	32.65	39.75	13.71	41.13	44.98	54.00	-9.02	Horizontal
17475.00	21.45	43.33	16.65	37.48	43.95	54.00	-10.05	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.*
3. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

Test mode:	802.11n-HT20	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
11490.00	40.21	40.23	13.81	40.73	53.52	74.00	-20.48	Vertical
17235.00	31.45	41.43	16.12	37.83	51.17	74.00	-22.83	Vertical
11490.00	40.12	40.23	13.81	40.73	53.43	74.00	-20.57	Horizontal
17235.00	32.65	41.43	16.12	37.83	52.37	74.00	-21.64	Horizontal

Test mode:	802.11n-HT20	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
11490.00	32.65	40.23	13.81	40.73	45.96	54.00	-8.04	Vertical
17235.00	23.65	41.43	16.12	37.83	43.37	54.00	-10.63	Vertical
11490.00	32.65	40.23	13.81	40.73	45.96	54.00	-8.04	Horizontal
17235.00	23.99	41.43	16.12	37.83	43.71	54.00	-10.29	Horizontal

Test mode:	802.11n-HT20	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
11570.00	40.12	40.17	13.78	40.91	53.16	74.00	-20.84	Vertical
17355.00	30.25	42.22	16.37	37.63	51.21	74.00	-22.79	Vertical
11570.00	41.25	40.17	13.78	40.91	54.29	74.00	-19.71	Horizontal
17355.00	32.65	42.22	16.37	37.63	53.61	74.00	-20.39	Horizontal

Test mode:	802.11n-HT20	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
11570.00	31.22	40.17	13.78	40.91	44.26	54.00	-9.74	Vertical
17355.00	22.65	42.22	16.37	37.63	43.61	54.00	-10.39	Vertical
11570.00	31.26	40.17	13.78	40.91	44.30	54.00	-9.70	Horizontal
17355.00	22.65	42.22	16.37	37.63	43.61	54.00	-10.39	Horizontal

Test mode:	802.11n-HT20	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
11650.00	40.20	39.75	13.71	41.13	52.53	74.00	-21.47	Vertical
17475.00	28.98	43.33	16.65	37.48	51.48	74.00	-22.52	Vertical
11650.00	41.25	39.75	13.71	41.13	53.58	74.00	-20.42	Horizontal
17475.00	29.87	43.33	16.65	37.48	52.37	74.00	-21.63	Horizontal

Test mode:	802.11n-HT20	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
11650.00	33.44	39.75	13.71	41.13	45.77	54.00	-8.23	Vertical
17475.00	21.55	43.33	16.65	37.48	44.05	54.00	-9.95	Vertical
11650.00	33.65	39.75	13.71	41.13	45.98	54.00	-8.02	Horizontal
17475.00	21.22	43.33	16.65	37.48	43.72	54.00	-10.29	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.*
3. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

Test mode:	802.11n-HT40		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
11510.00	39.45	40.25	13.82	40.75	52.77	74.00	-21.23	Vertical
17265.00	31.22	41.58	16.18	37.79	51.19	74.00	-22.81	Vertical
11510.00	39.55	40.25	13.82	40.75	52.87	74.00	-21.13	Horizontal
17265.00	31.25	41.58	16.18	37.79	51.22	74.00	-22.78	Horizontal

Test mode:	802.11n-HT40		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
11510.00	31.52	40.25	13.82	40.75	44.84	54.00	-9.16	Vertical
17265.00	22.33	41.58	16.18	37.79	42.30	54.00	-11.70	Vertical
11510.00	31.21	40.25	13.82	40.75	44.53	54.00	-9.47	Horizontal
17265.00	22.65	41.58	16.18	37.79	42.62	54.00	-11.38	Horizontal

Test mode:	802.11n-HT40		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
11590.00	39.84	40.17	13.78	40.91	52.88	74.00	-21.12	Vertical
17385.00	30.25	42.22	16.37	37.63	51.21	74.00	-22.79	Vertical
11590.00	40.10	40.17	13.78	40.91	53.14	74.00	-20.86	Horizontal
17385.00	30.25	42.22	16.37	37.63	51.21	74.00	-22.79	Horizontal

Test mode:	802.11n-HT40		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
11590.00	32.54	40.17	13.78	40.91	45.58	54.00	-8.42	Vertical
17385.00	22.35	42.22	16.37	37.63	43.31	54.00	-10.69	Vertical
11590.00	32.65	40.17	13.78	40.91	45.69	54.00	-8.31	Horizontal
17385.00	22.65	42.22	16.37	37.63	43.61	54.00	-10.39	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.*
3. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

19 dBi Omni-directional antenna
Above 1GHz

Test mode:	802.11a	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
11490.00	41.05	40.23	13.81	40.73	54.36	74.00	-19.64	Vertical
17235.00	32.45	41.43	16.12	37.83	52.17	74.00	-21.83	Vertical
11490.00	40.25	40.23	13.81	40.73	53.56	74.00	-20.44	Horizontal
17235.00	32.68	41.43	16.12	37.83	52.40	74.00	-21.60	Horizontal

Test mode:	802.11a	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
11490.00	32.41	40.23	13.81	40.73	45.72	54.00	-8.28	Vertical
17235.00	23.16	41.43	16.12	37.83	42.88	54.00	-11.12	Vertical
11490.00	32.25	40.23	13.81	40.73	45.56	54.00	-8.44	Horizontal
17235.00	23.45	41.43	16.12	37.83	43.17	54.00	-10.83	Horizontal

Test mode:	802.11a	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
11570.00	41.22	40.17	13.78	40.91	54.26	74.00	-19.74	Vertical
17355.00	31.21	42.22	16.37	37.63	52.17	74.00	-21.83	Vertical
11570.00	41.50	40.17	13.78	40.91	54.54	74.00	-19.46	Horizontal
17355.00	31.10	42.22	16.37	37.63	52.06	74.00	-21.94	Horizontal

Test mode:	802.11a	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
11570.00	32.06	40.17	13.78	40.91	45.10	54.00	-8.90	Vertical
17355.00	22.54	42.22	16.37	37.63	43.50	54.00	-10.50	Vertical
11570.00	31.61	40.17	13.78	40.91	44.65	54.00	-9.35	Horizontal
17355.00	22.45	42.22	16.37	37.63	43.41	54.00	-10.59	Horizontal

Test mode:	802.11a	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
11650.00	41.66	39.75	13.71	41.13	53.99	74.00	-20.01	Vertical
17475.00	29.51	43.33	16.65	37.48	52.01	74.00	-21.99	Vertical
11650.00	41.54	39.75	13.71	41.13	53.87	74.00	-20.13	Horizontal
17475.00	29.87	43.33	16.65	37.48	52.37	74.00	-21.63	Horizontal

Test mode:	802.11a	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
11650.00	32.49	39.75	13.71	41.13	44.82	54.00	-9.18	Vertical
17475.00	21.06	43.33	16.65	37.48	43.56	54.00	-10.44	Vertical
11650.00	32.96	39.75	13.71	41.13	45.29	54.00	-8.71	Horizontal
17475.00	20.54	43.33	16.65	37.48	43.04	54.00	-10.96	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.*
3. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

Test mode:	802.11n-HT20		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
11490.00	40.23	40.23	13.81	40.73	53.54	74.00	-20.46	Vertical
17235.00	32.62	41.43	16.12	37.83	52.34	74.00	-21.66	Vertical
11490.00	40.12	40.23	13.81	40.73	53.43	74.00	-20.57	Horizontal
17235.00	32.51	41.43	16.12	37.83	52.23	74.00	-21.77	Horizontal

Test mode:	802.11n-HT20		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
11490.00	32.65	40.23	13.81	40.73	45.96	54.00	-8.04	Vertical
17235.00	24.15	41.43	16.12	37.83	43.87	54.00	-10.13	Vertical
11490.00	31.56	40.23	13.81	40.73	44.87	54.00	-9.13	Horizontal
17235.00	23.65	41.43	16.12	37.83	43.37	54.00	-10.63	Horizontal

Test mode:	802.11n-HT20		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
11570.00	40.83	40.17	13.78	40.91	53.87	74.00	-20.13	Vertical
17355.00	30.25	42.22	16.37	37.63	51.21	74.00	-22.79	Vertical
11570.00	40.54	40.17	13.78	40.91	53.58	74.00	-20.42	Horizontal
17355.00	31.25	42.22	16.37	37.63	52.21	74.00	-21.79	Horizontal

Test mode:	802.11n-HT20		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
11570.00	31.68	40.17	13.78	40.91	44.72	54.00	-9.28	Vertical
17355.00	22.16	42.22	16.37	37.63	43.12	54.00	-10.88	Vertical
11570.00	31.47	40.17	13.78	40.91	44.51	54.00	-9.49	Horizontal
17355.00	21.41	42.22	16.37	37.63	42.37	54.00	-11.63	Horizontal

Test mode:	802.11n-HT20		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
11650.00	41.88	39.75	13.71	41.13	54.21	74.00	-19.79	Vertical
17475.00	29.74	43.33	16.65	37.48	52.24	74.00	-21.76	Vertical
11650.00	41.25	39.75	13.71	41.13	53.58	74.00	-20.42	Horizontal
17475.00	29.56	43.33	16.65	37.48	52.06	74.00	-21.94	Horizontal

Test mode:	802.11n-HT20		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
11650.00	33.25	39.75	13.71	41.13	45.58	54.00	-8.42	Vertical
17475.00	21.42	43.33	16.65	37.48	43.92	54.00	-10.08	Vertical
11650.00	33.65	39.75	13.71	41.13	45.98	54.00	-8.02	Horizontal
17475.00	21.45	43.33	16.65	37.48	43.95	54.00	-10.05	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.*
3. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

Test mode:	802.11n-HT40		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
11510.00	41.05	40.25	13.82	40.75	54.37	74.00	-19.63	Vertical
17265.00	31.74	41.58	16.18	37.79	51.71	74.00	-22.29	Vertical
11510.00	40.19	40.25	13.82	40.75	53.51	74.00	-20.49	Horizontal
17265.00	32.55	41.58	16.18	37.79	52.52	74.00	-21.48	Horizontal

Test mode:	802.11n-HT40		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
11510.00	32.05	40.25	13.82	40.75	45.37	54.00	-8.63	Vertical
17265.00	22.14	41.58	16.18	37.79	42.11	54.00	-11.89	Vertical
11510.00	32.56	40.25	13.82	40.75	45.88	54.00	-8.12	Horizontal
17265.00	23.10	41.58	16.18	37.79	43.07	54.00	-10.93	Horizontal

Test mode:	802.11n-HT40		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
11590.00	40.25	40.17	13.78	40.91	53.29	74.00	-20.71	Vertical
17385.00	31.25	42.22	16.37	37.63	52.21	74.00	-21.79	Vertical
11590.00	40.12	40.17	13.78	40.91	53.16	74.00	-20.84	Horizontal
17385.00	31.54	42.22	16.37	37.63	52.50	74.00	-21.50	Horizontal

Test mode:	802.11n-HT40		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
11590.00	32.36	40.17	13.78	40.91	45.40	54.00	-8.60	Vertical
17385.00	23.14	42.22	16.37	37.63	44.10	54.00	-9.90	Vertical
11590.00	32.41	40.17	13.78	40.91	45.45	54.00	-8.55	Horizontal
17385.00	23.65	42.22	16.37	37.63	44.61	54.00	-9.39	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.*
3. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

23dBi Omni-directional antenna
Above 1GHz

Test mode:	802.11a	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
11490.00	39.84	40.23	13.81	40.73	53.15	74.00	-20.85	Vertical
17235.00	31.54	41.43	16.12	37.83	51.26	74.00	-22.74	Vertical
11490.00	39.45	40.23	13.81	40.73	52.76	74.00	-21.24	Horizontal
17235.00	31.52	41.43	16.12	37.83	51.24	74.00	-22.76	Horizontal

Test mode:	802.11a	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
11490.00	31.52	40.23	13.81	40.73	44.83	54.00	-9.17	Vertical
17235.00	23.65	41.43	16.12	37.83	43.37	54.00	-10.63	Vertical
11490.00	31.52	40.23	13.81	40.73	44.83	54.00	-9.17	Horizontal
17235.00	23.65	41.43	16.12	37.83	43.37	54.00	-10.63	Horizontal

Test mode:	802.11a	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
11570.00	40.31	40.17	13.78	40.91	53.35	74.00	-20.65	Vertical
17355.00	30.25	42.22	16.37	37.63	51.21	74.00	-22.79	Vertical
11570.00	39.65	40.17	13.78	40.91	52.69	74.00	-21.31	Horizontal
17355.00	30.25	42.22	16.37	37.63	51.21	74.00	-22.79	Horizontal

Test mode:	802.11a	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
11570.00	31.22	40.17	13.78	40.91	44.26	54.00	-9.74	Vertical
17355.00	21.57	42.22	16.37	37.63	42.53	54.00	-11.47	Vertical
11570.00	31.54	40.17	13.78	40.91	44.58	54.00	-9.42	Horizontal
17355.00	21.54	42.22	16.37	37.63	42.50	54.00	-11.50	Horizontal

Test mode:	802.11a	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
11650.00	41.55	39.75	13.71	41.13	53.88	74.00	-20.12	Vertical
17475.00	28.65	43.33	16.65	37.48	51.15	74.00	-22.85	Vertical
11650.00	40.32	39.75	13.71	41.13	52.65	74.00	-21.35	Horizontal
17475.00	28.64	43.33	16.65	37.48	51.14	74.00	-22.86	Horizontal

Test mode:	802.11a	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
11650.00	32.05	39.75	13.71	41.13	44.38	54.00	-9.62	Vertical
17475.00	20.11	43.33	16.65	37.48	42.61	54.00	-11.39	Vertical
11650.00	32.65	39.75	13.71	41.13	44.98	54.00	-9.02	Horizontal
17475.00	20.23	43.33	16.65	37.48	42.73	54.00	-11.27	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.*
3. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

Test mode:	802.11n-HT20	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
11490.00	39.54	40.23	13.81	40.73	52.85	74.00	-21.15	Vertical
17235.00	31.52	41.43	16.12	37.83	51.24	74.00	-22.76	Vertical
11490.00	39.74	40.23	13.81	40.73	53.05	74.00	-20.95	Horizontal
17235.00	31.58	41.43	16.12	37.83	51.30	74.00	-22.70	Horizontal

Test mode:	802.11n-HT20	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
11490.00	31.54	40.23	13.81	40.73	44.85	54.00	-9.15	Vertical
17235.00	23.69	41.43	16.12	37.83	43.41	54.00	-10.59	Vertical
11490.00	31.87	40.23	13.81	40.73	45.18	54.00	-8.82	Horizontal
17235.00	24.58	41.43	16.12	37.83	44.30	54.00	-9.70	Horizontal

Test mode:	802.11n-HT20	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
11570.00	39.65	40.17	13.78	40.91	52.69	74.00	-21.31	Vertical
17355.00	29.78	42.22	16.37	37.63	50.74	74.00	-23.26	Vertical
11570.00	39.46	40.17	13.78	40.91	52.50	74.00	-21.50	Horizontal
17355.00	30.55	42.22	16.37	37.63	51.51	74.00	-22.49	Horizontal

Test mode:	802.11n-HT20	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
11570.00	31.05	40.17	13.78	40.91	44.09	54.00	-9.91	Vertical
17355.00	22.10	42.22	16.37	37.63	43.06	54.00	-10.94	Vertical
11570.00	31.65	40.17	13.78	40.91	44.69	54.00	-9.31	Horizontal
17355.00	22.81	42.22	16.37	37.63	43.77	54.00	-10.23	Horizontal

Test mode:	802.11n-HT20	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
11650.00	41.66	39.75	13.71	41.13	53.99	74.00	-20.01	Vertical
17475.00	29.54	43.33	16.65	37.48	52.04	74.00	-21.96	Vertical
11650.00	41.25	39.75	13.71	41.13	53.58	74.00	-20.42	Horizontal
17475.00	29.78	43.33	16.65	37.48	52.28	74.00	-21.72	Horizontal

Test mode:	802.11n-HT20	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
11650.00	33.20	39.75	13.71	41.13	45.53	54.00	-8.47	Vertical
17475.00	20.65	43.33	16.65	37.48	43.15	54.00	-10.85	Vertical
11650.00	32.80	39.75	13.71	41.13	45.13	54.00	-8.87	Horizontal
17475.00	21.12	43.33	16.65	37.48	43.62	54.00	-10.38	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.*
3. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

Test mode:	802.11n-HT40		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
11510.00	40.76	40.25	13.82	40.75	54.08	74.00	-19.92	Vertical
17265.00	32.65	41.58	16.18	37.79	52.62	74.00	-21.38	Vertical
11510.00	40.05	40.25	13.82	40.75	53.37	74.00	-20.63	Horizontal
17265.00	32.56	41.58	16.18	37.79	52.53	74.00	-21.47	Horizontal

Test mode:	802.11n-HT40		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
11510.00	31.06	40.25	13.82	40.75	44.38	54.00	-9.62	Vertical
17265.00	23.94	41.58	16.18	37.79	43.91	54.00	-10.09	Vertical
11510.00	31.20	40.25	13.82	40.75	44.52	54.00	-9.48	Horizontal
17265.00	23.26	41.58	16.18	37.79	43.23	54.00	-10.77	Horizontal

Test mode:	802.11n-HT40		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
11590.00	41.54	40.17	13.78	40.91	54.58	74.00	-19.42	Vertical
17385.00	31.22	42.22	16.37	37.63	52.18	74.00	-21.82	Vertical
11590.00	40.21	40.17	13.78	40.91	53.25	74.00	-20.75	Horizontal
17385.00	31.84	42.22	16.37	37.63	52.80	74.00	-21.20	Horizontal

Test mode:	802.11n-HT40		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
11590.00	33.69	40.17	13.78	40.91	46.73	54.00	-7.27	Vertical
17385.00	24.21	42.22	16.37	37.63	45.17	54.00	-8.83	Vertical
11590.00	32.97	40.17	13.78	40.91	46.01	54.00	-7.99	Horizontal
17385.00	25.02	42.22	16.37	37.63	45.98	54.00	-8.02	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.*
3. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

30 dBi Omni-directional antenna
Above 1GHz

Test mode:	802.11a	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
11490.00	40.21	40.23	13.81	40.73	53.52	74.00	-20.48	Vertical
17235.00	32.34	41.43	16.12	37.83	52.06	74.00	-21.94	Vertical
11490.00	40.22	40.23	13.81	40.73	53.53	74.00	-20.47	Horizontal
17235.00	31.58	41.43	16.12	37.83	51.30	74.00	-22.70	Horizontal

Test mode:	802.11a	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
11490.00	32.65	40.23	13.81	40.73	45.96	54.00	-8.04	Vertical
17235.00	24.57	41.43	16.12	37.83	44.29	54.00	-9.71	Vertical
11490.00	32.59	40.23	13.81	40.73	45.90	54.00	-8.10	Horizontal
17235.00	24.58	41.43	16.12	37.83	44.30	54.00	-9.70	Horizontal

Test mode:	802.11a	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
11570.00	39.99	40.17	13.78	40.91	53.03	74.00	-20.97	Vertical
17355.00	31.54	42.22	16.37	37.63	52.50	74.00	-21.50	Vertical
11570.00	40.68	40.17	13.78	40.91	53.72	74.00	-20.28	Horizontal
17355.00	32.08	42.22	16.37	37.63	53.04	74.00	-20.96	Horizontal

Test mode:	802.11a	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
11570.00	32.88	40.17	13.78	40.91	45.92	54.00	-8.08	Vertical
17355.00	23.68	42.22	16.37	37.63	44.64	54.00	-9.36	Vertical
11570.00	32.66	40.17	13.78	40.91	45.70	54.00	-8.30	Horizontal
17355.00	24.05	42.22	16.37	37.63	45.01	54.00	-8.99	Horizontal

Test mode:	802.11a	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
11650.00	41.02	39.75	13.71	41.13	53.35	74.00	-20.65	Vertical
17475.00	30.55	43.33	16.65	37.48	53.05	74.00	-20.95	Vertical
11650.00	42.12	39.75	13.71	41.13	54.45	74.00	-19.55	Horizontal
17475.00	30.98	43.33	16.65	37.48	53.48	74.00	-20.52	Horizontal

Test mode:	802.11a	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
11650.00	33.65	39.75	13.71	41.13	45.98	54.00	-8.02	Vertical
17475.00	22.57	43.33	16.65	37.48	45.07	54.00	-8.93	Vertical
11650.00	33.60	39.75	13.71	41.13	45.93	54.00	-8.07	Horizontal
17475.00	22.87	43.33	16.65	37.48	45.37	54.00	-8.63	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.*
3. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

Test mode:	802.11n-HT20		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
11490.00	41.32	40.23	13.81	40.73	54.63	74.00	-19.37	Vertical
17235.00	34.10	41.43	16.12	37.83	53.82	74.00	-20.18	Vertical
11490.00	41.25	40.23	13.81	40.73	54.56	74.00	-19.44	Horizontal
17235.00	33.64	41.43	16.12	37.83	53.36	74.00	-20.64	Horizontal

Test mode:	802.11n-HT20		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
11490.00	33.69	40.23	13.81	40.73	47.00	54.00	-7.00	Vertical
17235.00	25.41	41.43	16.12	37.83	45.13	54.00	-8.87	Vertical
11490.00	33.67	40.23	13.81	40.73	46.98	54.00	-7.02	Horizontal
17235.00	26.12	41.43	16.12	37.83	45.84	54.00	-8.16	Horizontal

Test mode:	802.11n-HT20		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
11570.00	41.25	40.17	13.78	40.91	54.29	74.00	-19.71	Vertical
17355.00	31.54	42.22	16.37	37.63	52.50	74.00	-21.50	Vertical
11570.00	41.36	40.17	13.78	40.91	54.40	74.00	-19.60	Horizontal
17355.00	32.64	42.22	16.37	37.63	53.60	74.00	-20.40	Horizontal

Test mode:	802.11n-HT20		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
11570.00	33.01	40.17	13.78	40.91	46.05	54.00	-7.95	Vertical
17355.00	24.54	42.22	16.37	37.63	45.50	54.00	-8.50	Vertical
11570.00	33.75	40.17	13.78	40.91	46.79	54.00	-7.21	Horizontal
17355.00	24.68	42.22	16.37	37.63	45.64	54.00	-8.36	Horizontal

Test mode:	802.11n-HT20		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
11650.00	41.51	39.75	13.71	41.13	53.84	74.00	-20.16	Vertical
17475.00	30.22	43.33	16.65	37.48	52.72	74.00	-21.28	Vertical
11650.00	42.33	39.75	13.71	41.13	54.66	74.00	-19.34	Horizontal
17475.00	30.27	43.33	16.65	37.48	52.77	74.00	-21.23	Horizontal

Test mode:	802.11n-HT20		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
11650.00	34.66	39.75	13.71	41.13	46.99	54.00	-7.01	Vertical
17475.00	23.15	43.33	16.65	37.48	45.65	54.00	-8.35	Vertical
11650.00	34.51	39.75	13.71	41.13	46.84	54.00	-7.16	Horizontal
17475.00	22.91	43.33	16.65	37.48	45.41	54.00	-8.59	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.*
3. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

Test mode:	802.11n-HT40	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
11510.00	40.12	40.25	13.82	40.75	53.44	74.00	-20.56	Vertical
17265.00	32.65	41.58	16.18	37.79	52.62	74.00	-21.38	Vertical
11510.00	41.22	40.25	13.82	40.75	54.54	74.00	-19.46	Horizontal
17265.00	33.65	41.58	16.18	37.79	53.62	74.00	-20.38	Horizontal

Test mode:	802.11n-HT40	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
11510.00	33.25	40.25	13.82	40.75	46.57	54.00	-7.43	Vertical
17265.00	25.64	41.58	16.18	37.79	45.61	54.00	-8.39	Vertical
11510.00	33.02	40.25	13.82	40.75	46.34	54.00	-7.66	Horizontal
17265.00	24.51	41.58	16.18	37.79	44.48	54.00	-9.52	Horizontal

Test mode:	802.11n-HT40	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
11590.00	41.54	40.17	13.78	40.91	54.58	74.00	-19.42	Vertical
17385.00	32.95	42.22	16.37	37.63	53.91	74.00	-20.09	Vertical
11590.00	40.21	40.17	13.78	40.91	53.25	74.00	-20.75	Horizontal
17385.00	31.84	42.22	16.37	37.63	52.80	74.00	-21.20	Horizontal

Test mode:	802.11n-HT40	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
11590.00	33.69	40.17	13.78	40.91	46.73	54.00	-7.27	Vertical
17385.00	24.21	42.22	16.37	37.63	45.17	54.00	-8.83	Vertical
11590.00	32.97	40.17	13.78	40.91	46.01	54.00	-7.99	Horizontal
17385.00	25.02	42.22	16.37	37.63	45.98	54.00	-8.02	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.*
3. *The emission levels of other frequencies are very lower than the limit and not show in test report.*