

Test Report

Applicant: DEMOPAD SOFTWARE LIMITED

Address of Applicant: INFOLAB21 BAILRIGG ROAD LANCASTER LA1 4WA
UNITED KINGDOM

Manufacturer/Factory: DEMOPAD SOFTWARE LIMITED

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Equipment Under Test (EUT)

Product Name: Control and automation

Model No.: Centro-8M

Trade Mark: DEMOPAD

FCC ID: 2ATJUCENTRO-8M

Applicable standards: FCC CFR Title 47 Part 15 Subpart E Section 15.407

Date of sample receipt: May 10, 2019

Date of Test: May 11-May 31, 2019

Date of report issue: June 03, 2019

Test Result : PASS *

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

Authorized Signature:

Robinson Lo
Laboratory Manager

This results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

2 Version

Version No.	Date	Description
00	June 03, 2019	Original

Prepared By:

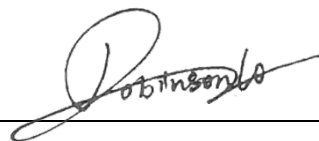


Date:

June 03, 2019

Project Engineer

Check By:



Date:

June 03, 2019

Reviewer

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4 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	Subpart C 15.203	PASS
AC Power Line Conducted Emission	Subpart C 15.207 & Subpart E 15.407 b(6)	PASS
Maximum Conducted Output Power	Subpart E 15.407(a)	PASS
99% Bandwidth	Subpart E 15.407	PASS
26dB Emission bandwidth	Subpart E 15.407(a)	PASS
Power Spectral Density	Subpart E 15.407(a)	PASS
Undesirable Emission	Subpart E 15.407(b)(6), Subpart C 15.205/15.209	PASS
Radiated Emission	Subpart C 15.209 & Subpart E 15.407(b)	PASS
Band Edge	Subpart C 15.205 & Subpart E 15.407(b)	PASS
Frequency Stability	Subpart E 15.407(g)	PASS

Remark: Test according to ANSI C63.10:2013.

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

4.1 Measurement Uncertainty

Test Item	Frequency Range	Measurement Uncertainty	Notes
Radiated Emission	9kHz ~ 30MHz	$\pm 4.34\text{dB}$	(1)
Radiated Emission	30MHz ~ 1000MHz	$\pm 4.24\text{dB}$	(1)
Radiated Emission	1GHz ~ 40GHz	$\pm 4.68\text{dB}$	(1)
AC Power Line Conducted Emission	0.15MHz ~ 30MHz	$\pm 3.45\text{dB}$	(1)

Note (1): The measurement uncertainty is for coverage factor of $k=2$ and a level of confidence of 95%.

5 General Information

5.1 General Description of EUT

Product Name:	Control and automation			
Model No.:	Centro-8M			
Serial No.:	#00000001			
Test sample(s) ID:	GTS201905000044-1			
Sample(s) Status:	Engineer sample			
Hardware version:	2.0			
Software version:	2.6.5			
Operation Frequency:	Band	Mode	Frequency Range(MHz)	Number of channels
	U-NII Band I	IEEE 802.11a/n/ac 20MHz	5180-5240	4
		IEEE 802.11n/ac 40MHz	5190-5230	2
		IEEE 802.11ac 80MHz	5210	1
	U-NII Band II-A	IEEE 802.11a/n/ac 20MHz	5260-5320	4
		IEEE 802.11n/ac 40MHz	5270-5310	2
		IEEE 802.11ac 80MHz	5290	1
	U-NII Band II-C	IEEE 802.11a/n/ac 20MHz	5500-5700	11
		IEEE 802.11n/ac 40MHz	5510-5670	5
		IEEE 802.11ac 80MHz	5530-5610	2
Modulation technology:	OFDM			
Antenna Type:	Integral Antenna			
Antenna gain:	0dBi			
Power supply:	DC 5V, 2A			

Channel list for 802.11a/n(HT20)/ac(HT20)							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180MHz	40	5200MHz	44	5220MHz	48	5240MHz
52	5260MHz	56	5280MHz	60	5300MHz	64	5320MHz
100	5500MHz	104	5520MHz	108	5540MHz	112	5560MHz
116	5580MHz	120	5600MHz	124	5620MHz	128	5640MHz
132	5660MHz	136	5680MHz	140	5700MHz		

Channel list for 802.11n(HT40)/ac(HT40)							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
38	5190MHz	46	5230MHz	54	5270MHz	62	5310MHz
102	5510MHz	110	5550MHz	118	5590MHz	126	5630MHz
134	5670MHz						

Channel list for 802.11ac(HT80)							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
42	5210MHz	58	5290MHz	106	5530MHz	122	5610MHz

Selected Test Channel for 802.11a/n(HT20)/ac(HT20)		
Band	Channel	Frequency
U-NII Band I	The lowest channel (CH36)	5180MHz
	The middle channel (CH40)	5200MHz
	The highest channel (CH48)	5240MHz
U-NII Band II-A	The lowest channel (CH52)	5260MHz
	The middle channel (CH60)	5300MHz
	The highest channel (CH64)	5320MHz
U-NII Band II-C	The lowest channel (CH100)	5500MHz
	The middle channel (CH116)	5580MHz
	The highest channel (CH140)	5700MHz

Selected Test Channel for 802.11n(HT40)/ac(HT40)		
Band	Channel	Frequency
U-NII Band I	The lowest channel (CH38)	5190MHz
	The highest channel (CH46)	5230MHz
U-NII Band II-A	The lowest channel (CH54)	5270MHz
	The highest channel (CH62)	5310MHz
U-NII Band II-C	The lowest channel (CH102)	5510MHz
	The middle channel (CH110)	5550MHz
	The highest channel (CH134)	5670MHz

Selected Test Channel for 802.11ac(HT80)		
Band	Channel	Frequency
U-NII Band I	One channel (CH42)	5210MHz
U-NII Band II-A	One channel(CH58)	5290MHz
U-NII Band II-C	The lowest channel (CH106)	5530MHz
	The highest channel (CH122)	5610MHz

5.2 Test mode

Transmitting mode	Keep the EUT in transmitting with modulation. EUT was test with 99% duty cycle at its maximum power control level.
<i>Remark: During the test, the test voltage was tuned from 85% to 115% of the nominal rated supply voltage, and found that the worst case was under the nominal rated supply condition. So the report just shows that condition's data.</i>	

We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:	
Pre-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
802.11n(HT20)	6.5 Mbps
802.11n(HT40)	13.5 Mbps
802.11ac(HT20)	6.5 Mbps
802.11ac(HT40)	13.5 Mbps
802.11ac(HT80)	29.3 Mbps

5.3 Test Facility

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

- **FCC —Registration No.: 381383**

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files. Registration 381383.

- **Industry Canada (IC) —Registration No.: 9079A-2**

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A-2.

- **NVLAP (LAB CODE:600179-0)**

Global United Technology Services Co., Ltd., is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP). LAB CODE:600179-0

5.4 Test Location

All tests were performed at:

Global United Technology Services Co., Ltd.

Address: No. 301-309, 3/F., Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, sBaoan District, Shenzhen, Guangdong, China 518102

Tel: 0755-27798480

Fax: 0755-27798960

5.5 Description of Support Units

Manufacturer	Description	Model	Serial Number
DYS	POWER SUPPLY	DYS152-050200W-K	N/A
KKTV	LCD TV	U40	MSM1740W0008478

5.6 Additional Instructions

Test Software	Special test command provided by manufacturer, version 1.0
Power level setup	Default

6 Test Instruments list

Radiated Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	July. 03 2015	July. 02 2020
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	June. 27 2018	June. 26 2019
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	June. 27 2018	June. 26 2019
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120 D	GTS208	June. 27 2018	June. 26 2019
6	Horn Antenna	ETS-LINDGREN	3160	GTS217	June. 27 2018	June. 26 2019
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
8	Coaxial Cable	GTS	N/A	GTS213	June. 27 2018	June. 26 2019
9	Coaxial Cable	GTS	N/A	GTS211	June. 27 2018	June. 26 2019
10	Coaxial cable	GTS	N/A	GTS210	June. 27 2018	June. 26 2019
11	Coaxial Cable	GTS	N/A	GTS212	June. 27 2018	June. 26 2019
12	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	June. 27 2018	June. 26 2019
13	Amplifier(2GHz-20GHz)	HP	84722A	GTS206	June. 27 2018	June. 26 2019
14	Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June. 27 2018	June. 26 2019
15	Band filter	Amindeon	82346	GTS219	June. 27 2018	June. 26 2019
16	Power Meter	Anritsu	ML2495A	GTS540	June. 27 2018	June. 26 2019
17	Power Sensor	Anritsu	MA2411B	GTS541	June. 27 2018	June. 26 2019
18	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	GTS575	June. 27 2018	June. 26 2019
19	Splitter	Agilent	11636B	GTS237	June. 27 2018	June. 26 2019
20	Loop Antenna	ZHINAN	ZN30900A	GTS534	June. 27 2018	June. 26 2019
21	Breitband hornantenne	SCHWARZBECK	BBHA 9170	GTS579	Oct. 20 2018	Oct. 19 2019
22	Amplifier	TDK	PA-02-02	GTS574	Oct. 20 2018	Oct. 19 2019
23	Amplifier	TDK	PA-02-03	GTS576	Oct. 20 2018	Oct. 19 2019
24	PSA Series Spectrum Analyzer	Rohde & Schwarz	FSP	GTS578	June. 27 2018	June. 26 2019

Conducted Emission						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Shielding Room	ZhongYu Electron	7.3(L)x3.1(W)x2.9(H)	GTS252	May.15 2019	May.14 2022
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June. 27 2018	June. 26 2019
3	Coaxial Switch	ANRITSU CORP	MP59B	GTS225	June. 27 2018	June. 26 2019
4	Artificial Mains Network	SCHWARZBECK MESS	NSLK8127	GTS226	June. 27 2018	June. 26 2019
5	Coaxial Cable	GTS	N/A	GTS227	N/A	N/A
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
7	Thermo meter	KTJ	TA328	GTS233	June. 27 2018	June. 26 2019
8	Absorbing clamp	Elektronik-Feinmechanik	MDS21	GTS229	June. 27 2018	June. 26 2019

RF Conducted:						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	MXA Signal Analyzer	Agilent	N9020A	GTS566	June. 27 2018	June. 26 2019
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June. 27 2018	June. 26 2019
3	Spectrum Analyzer	Agilent	E4440A	GTS533	June. 27 2018	June. 26 2019
4	MXG vector Signal Generator	Agilent	N5182A	GTS567	June. 27 2018	June. 26 2019
5	ESG Analog Signal Generator	Agilent	E4428C	GTS568	June. 27 2018	June. 26 2019
6	USB RF Power Sensor	DARE	RPR3006W	GTS569	June. 27 2018	June. 26 2019
7	RF Switch Box	Shongyi	RFSW3003328	GTS571	June. 27 2018	June. 26 2019
8	Programmable Constant Temp & Humi Test Chamber	WEWON	WHTH-150L-40-880	GTS572	June. 27 2018	June. 26 2019

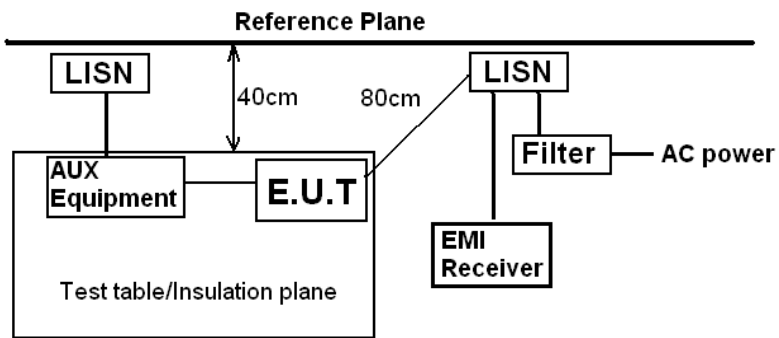
General used equipment:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Humidity/ Temperature Indicator	KTJ	TA328	GTS243	June. 27 2018	June. 26 2019
2	Barometer	ChangChun	DYM3	GTS255	June. 27 2018	June. 26 2019

7 Test results and Measurement Data

7.1 Antenna requirement:

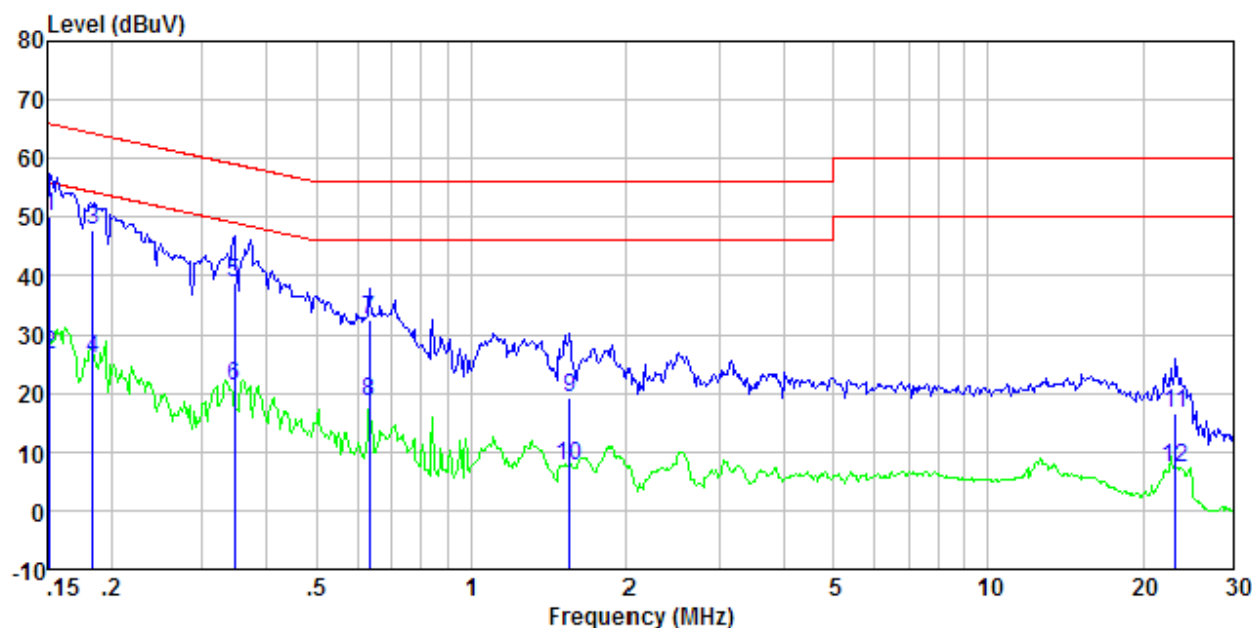
Standard requirement:	FCC Part15 C Section 15.203 /247(c)
15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.	
15.247(c) (1)(i) requirement: (i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.	
EUT Antenna:	
<i>The antenna is integral antenna, the best case gain of the antenna is 0dBi, reference to the appendix II for details</i>	

7.2 Conducted Emissions

Test Requirement:	47 CFR Part 15, Subpart C 15.207		
Test Method:	ANSI C63.10:2013		
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 setup:	 Remark E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m		
Test Instruments:	Refer to section 5.10 for details		
Test mode:	Refer to section 5.2 for details		
Test results:	Pass		

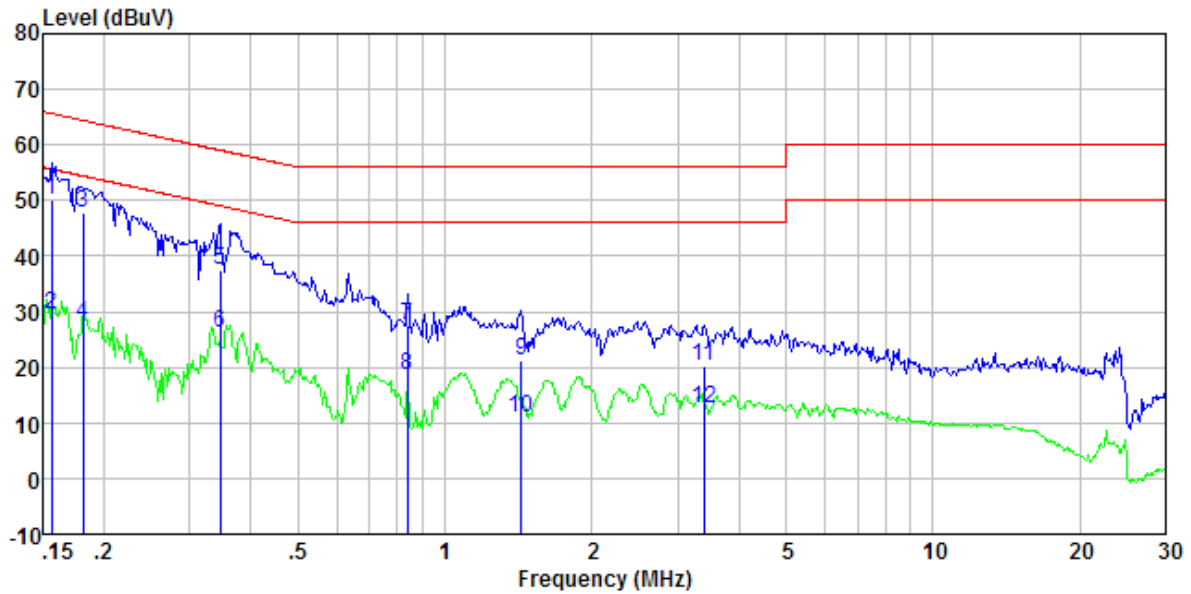
Measurement Data

Line:



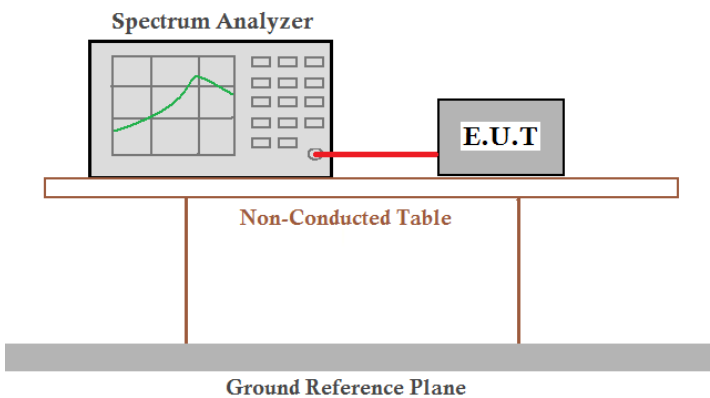
Freq MHz	Reading level dBuV	LISN/ISN factor dB/m	Cable loss dB	Level dBuV	Limit level dBuV	Over limit dB	Remark
0.15	49.69	0.40	0.07	50.16	65.91	-15.75	QP
0.15	26.22	0.40	0.07	26.69	55.91	-29.22	Average
0.18	47.35	0.40	0.10	47.85	64.33	-16.48	QP
0.18	25.44	0.40	0.10	25.94	54.33	-28.39	Average
0.35	38.37	0.38	0.10	38.85	59.05	-20.20	QP
0.35	20.77	0.38	0.10	21.25	49.05	-27.80	Average
0.63	32.23	0.28	0.12	32.63	56.00	-23.37	QP
0.63	18.29	0.28	0.12	18.69	46.00	-27.31	Average
1.55	18.74	0.20	0.17	19.11	56.00	-36.89	QP
1.55	7.22	0.20	0.17	7.59	46.00	-38.41	Average
23.14	16.07	0.34	0.23	16.64	60.00	-43.36	QP
23.14	6.81	0.34	0.23	7.38	50.00	-42.62	Average

Neutral:



Freq MHz	Reading level dBuV	LISN/ISN factor dB/m	Cable loss dB	Level dBuV	Limit level dBuV	Over limit dB	Remark
0.16	49.60	0.40	0.08	50.08	65.65	-15.57	QP
0.16	29.12	0.40	0.08	29.60	55.65	-26.05	Average
0.18	47.44	0.40	0.10	47.94	64.42	-16.48	QP
0.18	27.50	0.40	0.10	28.00	54.42	-26.42	Average
0.35	36.87	0.38	0.10	37.35	59.05	-21.70	QP
0.35	25.73	0.38	0.10	26.21	49.05	-22.84	Average
0.84	27.04	0.23	0.14	27.41	56.00	-28.59	QP
0.84	18.10	0.23	0.14	18.47	46.00	-27.53	Average
1.43	20.83	0.20	0.16	21.19	56.00	-34.81	QP
1.43	10.47	0.20	0.16	10.83	46.00	-35.17	Average
3.40	19.98	0.20	0.18	20.36	56.00	-35.64	QP
3.40	12.09	0.20	0.18	12.47	46.00	-33.53	Average

7.3 Emission Bandwidth and 99% Occupied Bandwidth

Test Requirement:	47 CFR Part 15, Subpart E 15.407
Test Method:	KDB 789033 D02 General U-NII Test Procedures New Rules v02r01
Limit:	N/A
Test setup:	 The diagram illustrates the test setup. A Spectrum Analyzer, shown with a grid and a green curve on its screen, is connected to an E.U.T. (Equipment Under Test) box by a red cable. Both the Spectrum Analyzer and the E.U.T. are positioned on a table labeled 'Non-Conducted Table'. This table is supported by two vertical legs. Below the table, there is a horizontal grey bar representing the 'Ground Reference Plane'.
Test procedure:	According to KDB 789033 D02 General U-NII Test Procedures New Rules v02r01.
Test Instruments:	Refer to section 5.10 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data:

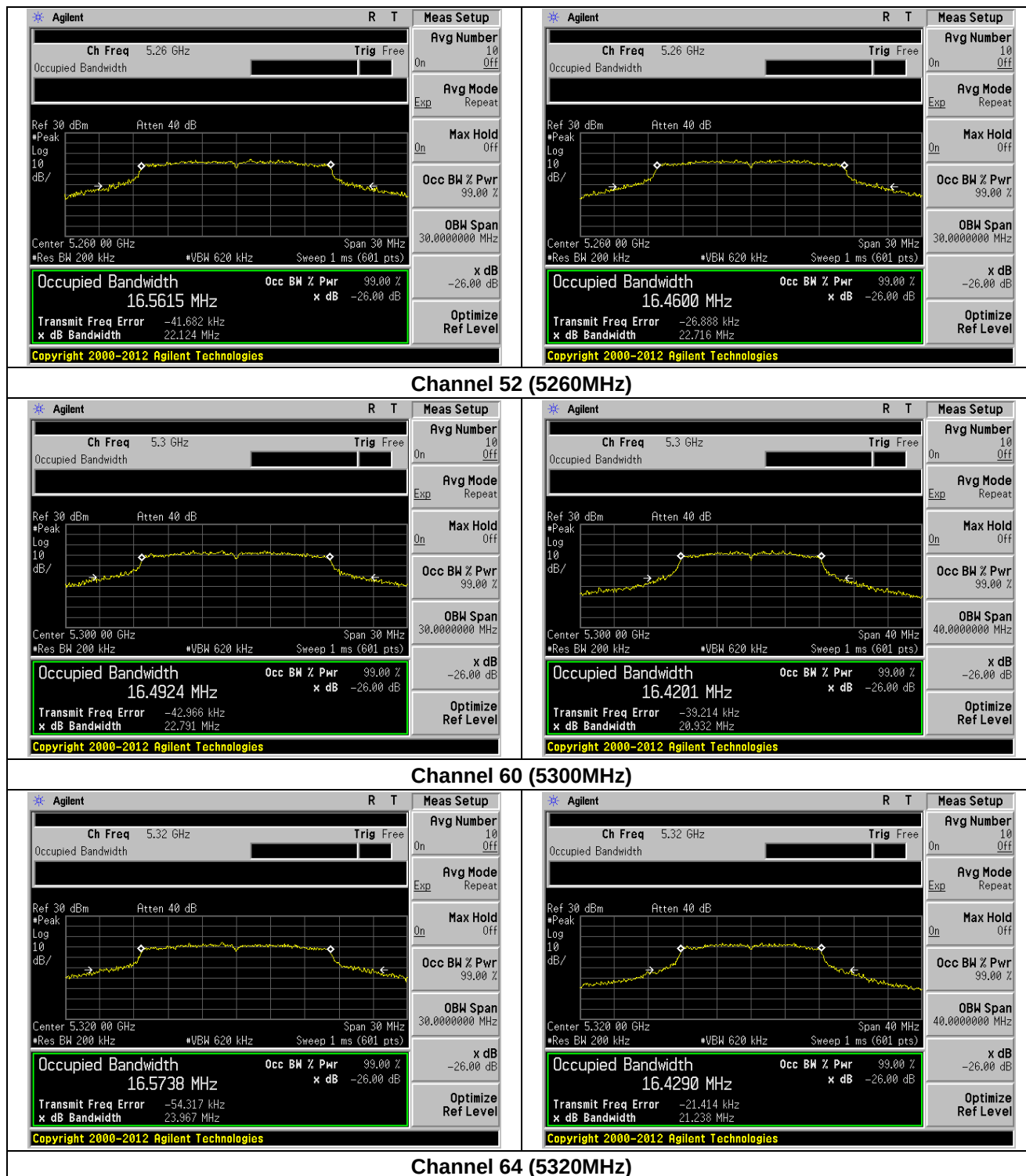
U-NII Band I							
CH. No.	Frequency (MHz)	99% Occupied Bandwidth (MHz)			26dB Occupied Bandwidth (MHz)		
		802.11a	802.11n(HT 20)	802.11ac(H T20)	802.11a	802.11n(HT 20)	802.11ac(H T20)
36	5180.00	16.7096	18.1609	16.4382	27.127	29.417	22.255
40	5200.00	16.7434	17.9404	16.4421	26.431	28.069	22.542
48	5240.00	17.3147	18.5889	16.4006	27.572	31.629	21.475
CH. No.	Frequency (MHz)	99% Occupied Bandwidth (MHz)		26dB Occupied Bandwidth (MHz)			
		802.11n(HT40)	802.11ac(HT40)	802.11n(HT40)	802.11ac(HT40)		
38	5190.00	35.8591	35.8561	41.596	40.800		
46	5230.00	35.8453	35.8442	40.117	41.395		
CH. No.	Frequency (MHz)	99% Occupied Bandwidth (MHz)		26dB Occupied Bandwidth (MHz)			
		802.11ac(HT80)		802.11ac(HT80)			
42	5210.00	75.1463		79.513			

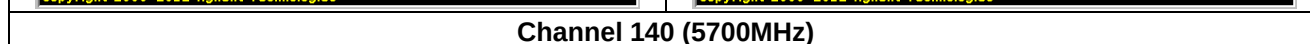
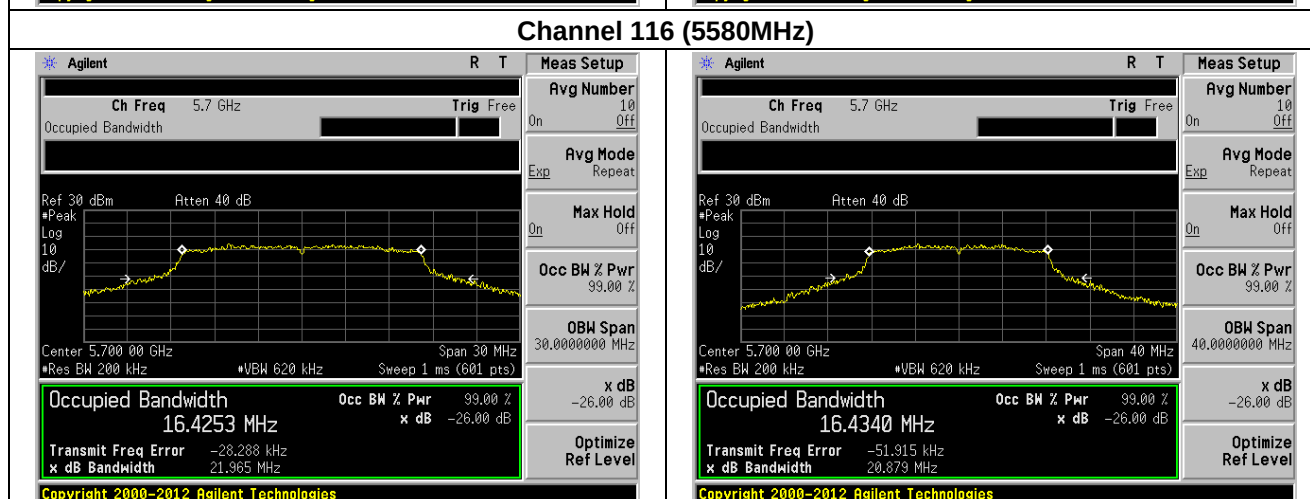
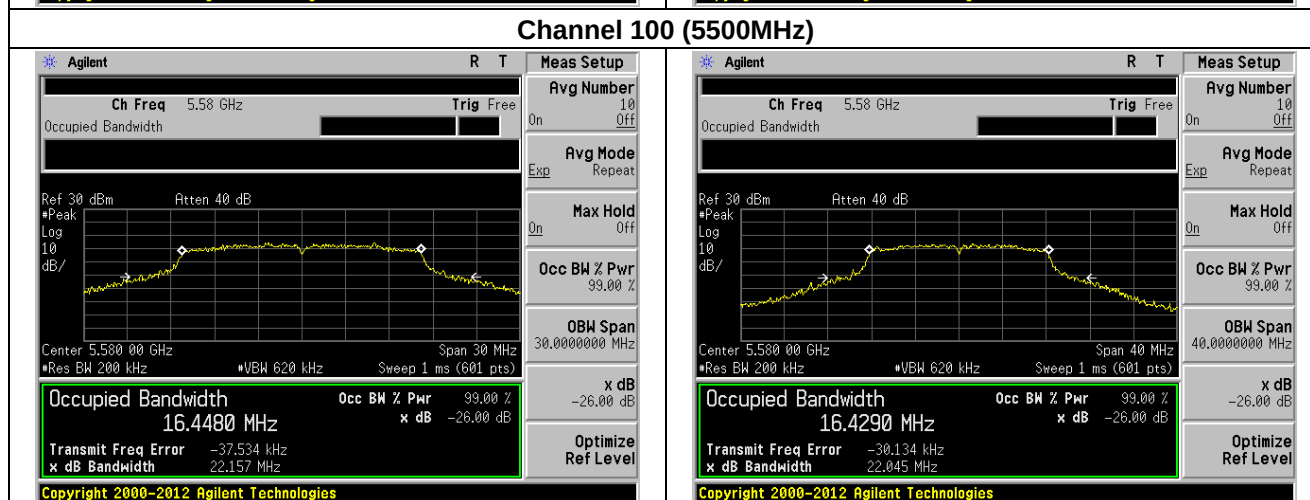
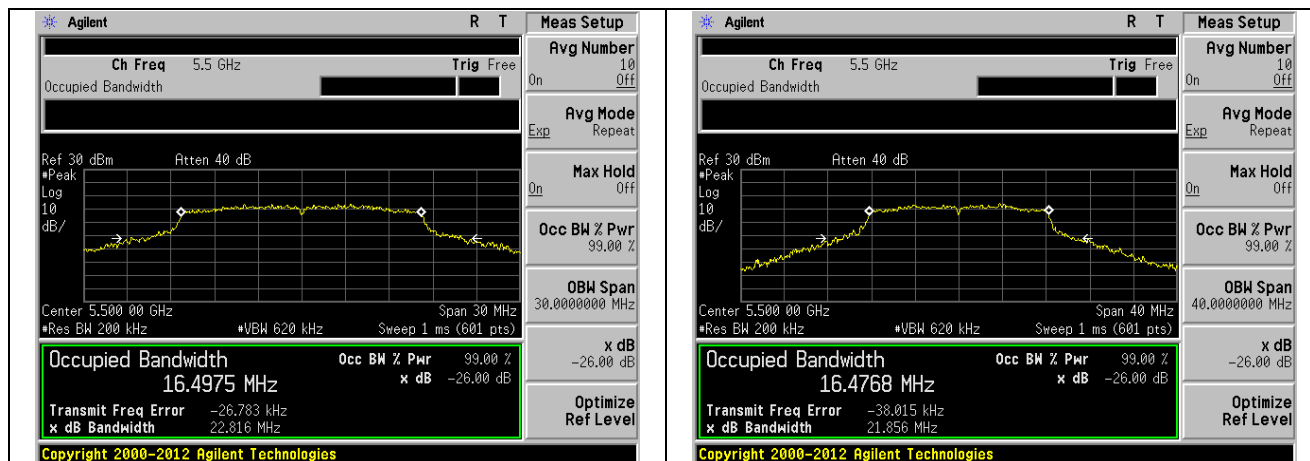
U-NII Band II-A							
CH. No.	Frequency (MHz)	99% Occupied Bandwidth (MHz)			26dB Occupied Bandwidth (MHz)		
		802.11a	802.11n(HT 20)	802.11ac(H T20)	802.11a	802.11n(HT 20)	802.11ac(H T20)
52	5260.00	16.5615	16.4600	16.4327	22.124	22.716	22.233
60	5300.00	16.4924	16.4201	16.4404	22.791	20.932	22.032
64	5320.00	16.5738	16.4290	16.4275	23.967	21.238	22.375
CH. No.	Frequency (MHz)	99% Occupied Bandwidth (MHz)		26dB Occupied Bandwidth (MHz)			
		802.11n(HT40)	802.11ac(HT40)	802.11n(HT40)	802.11ac(HT40)		
54	5270.00	35.8783	35.8868	41.390	41.261		
62	5310.00	35.8929	35.9163	40.257	41.316		
CH. No.	Frequency (MHz)	99% Occupied Bandwidth (MHz)		26dB Occupied Bandwidth (MHz)			
		802.11ac(HT80)		802.11ac(HT80)			
58	5290.00	75.1630		79.354			

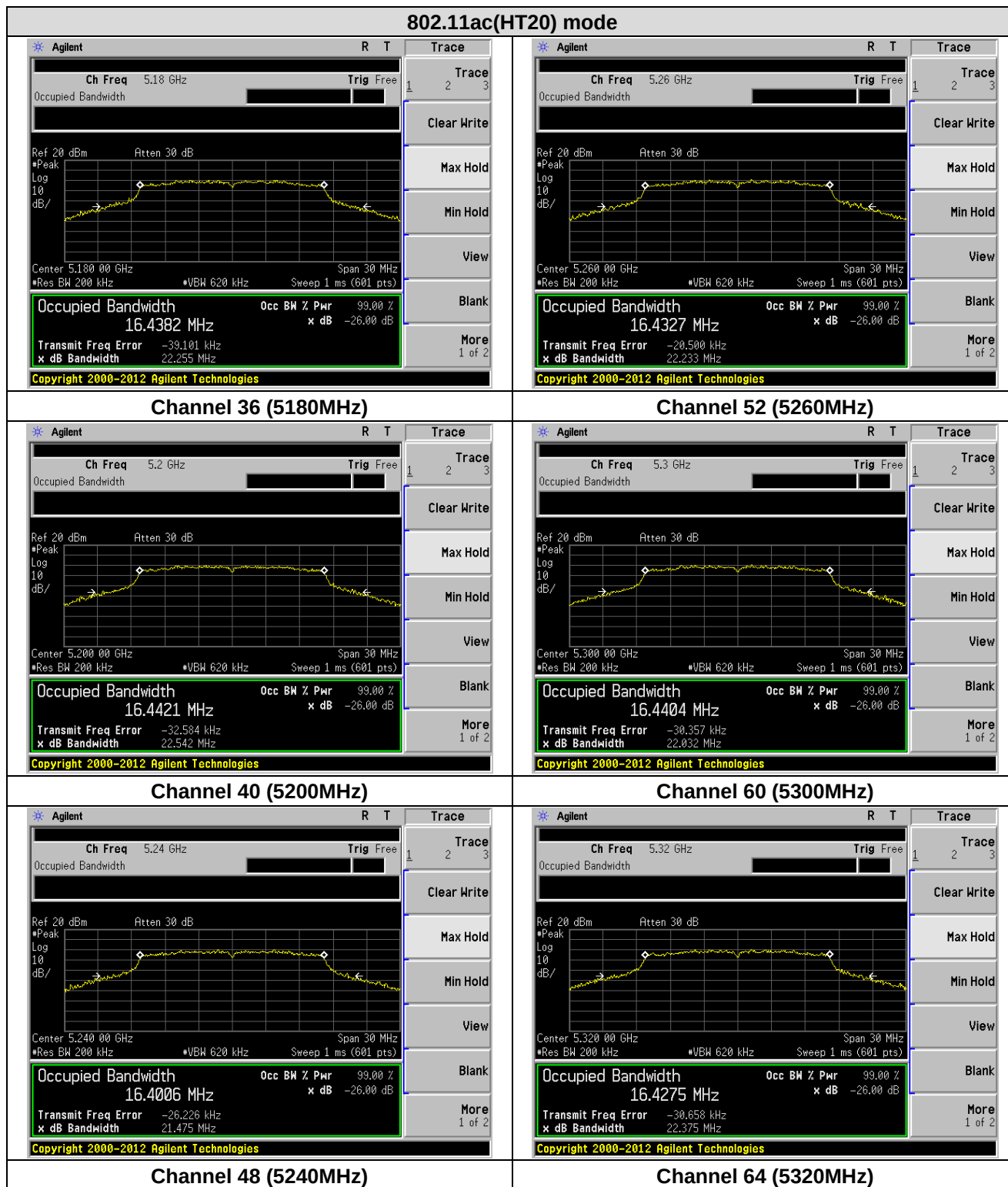
U-NII Band II-C							
CH. No.	Frequency (MHz)	99% Occupied Bandwidth (MHz)			26dB Occupied Bandwidth (MHz)		
		802.11a	802.11n(HT 20)	802.11ac(H T20)	802.11a	802.11n(HT 20)	802.11ac(H T20)
100	5500.00	16.4975	16.4768	16.4837	22.816	21.856	21.805
116	5580.00	16.4480	16.4290	16.4857	22.157	22.045	22.726
140	5700.00	16.4253	16.4340	16.4906	21.965	20.879	22.733
CH. No.	Frequency (MHz)	99% Occupied Bandwidth (MHz)		26dB Occupied Bandwidth (MHz)			
		802.11n(HT40)	802.11ac(HT40)	802.11n(HT40)	802.11ac(HT40)		
102	5510.00	35.8804	35.9028	41.679	40.634		
110	5550.00	35.8787	35.8897	41.077	40.637		
134	5670.00	35.8561	35.8845	40.974	40.842		
CH. No.	Frequency (MHz)	99% Occupied Bandwidth (MHz)		26dB Occupied Bandwidth (MHz)			
		802.11ac(HT80)		802.11ac(HT80)			
106	5530.00	75.1758		79.164			
122	5610.00	75.1750		79.598			

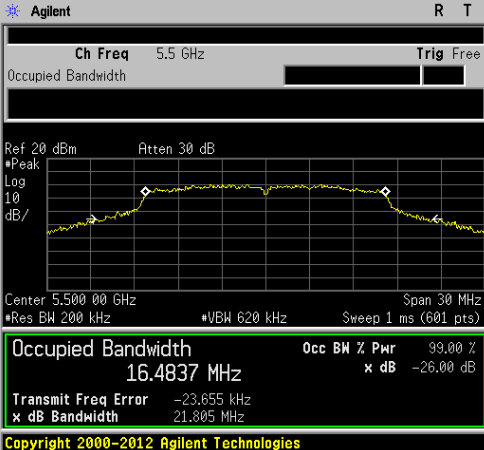
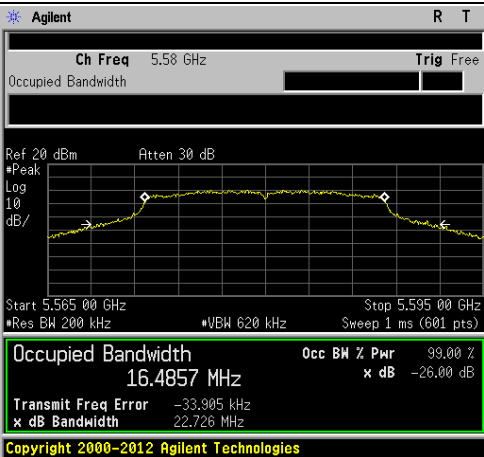
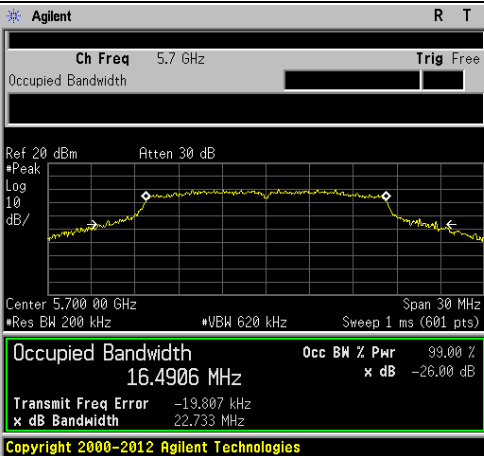
Test plots as followed:

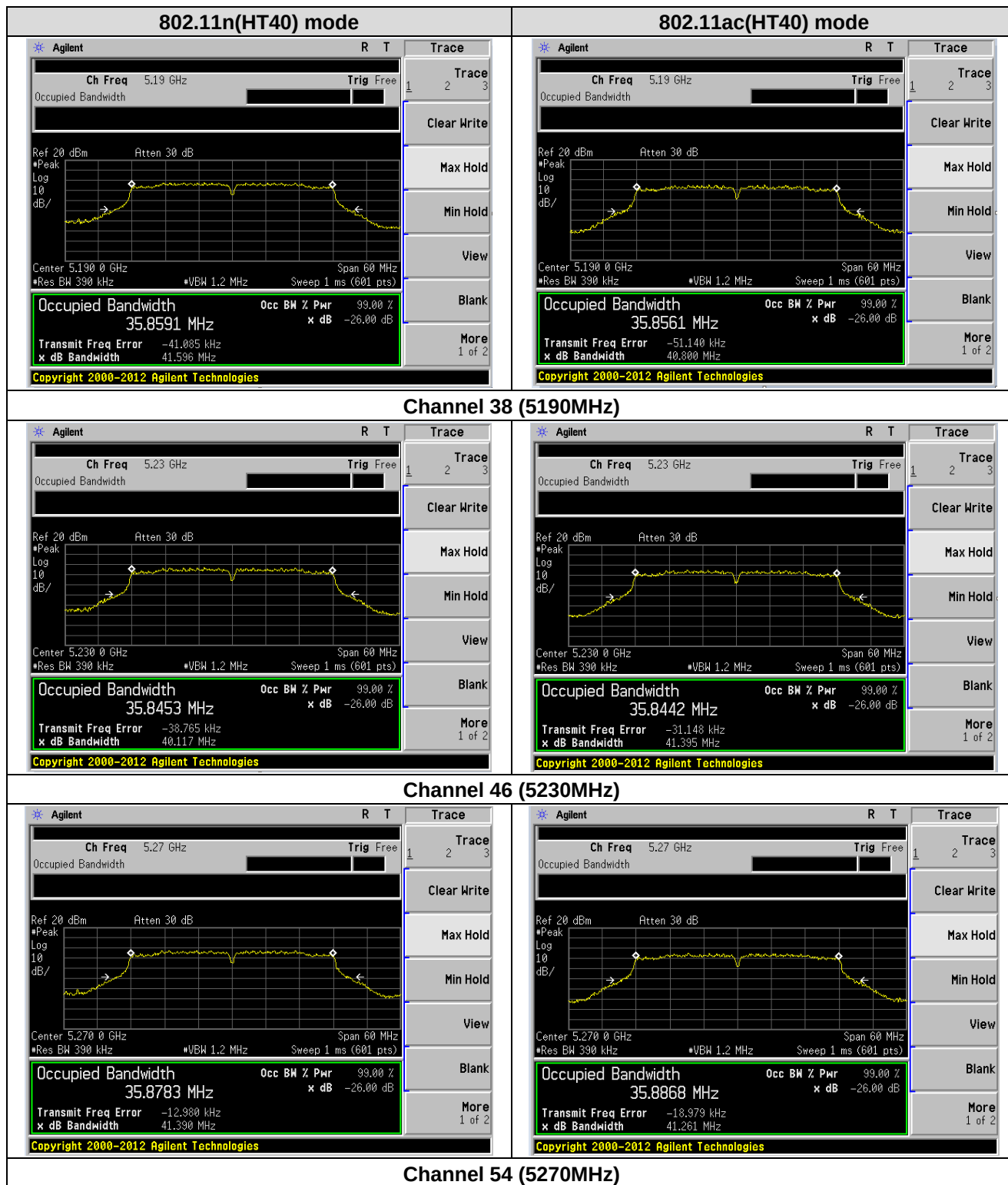


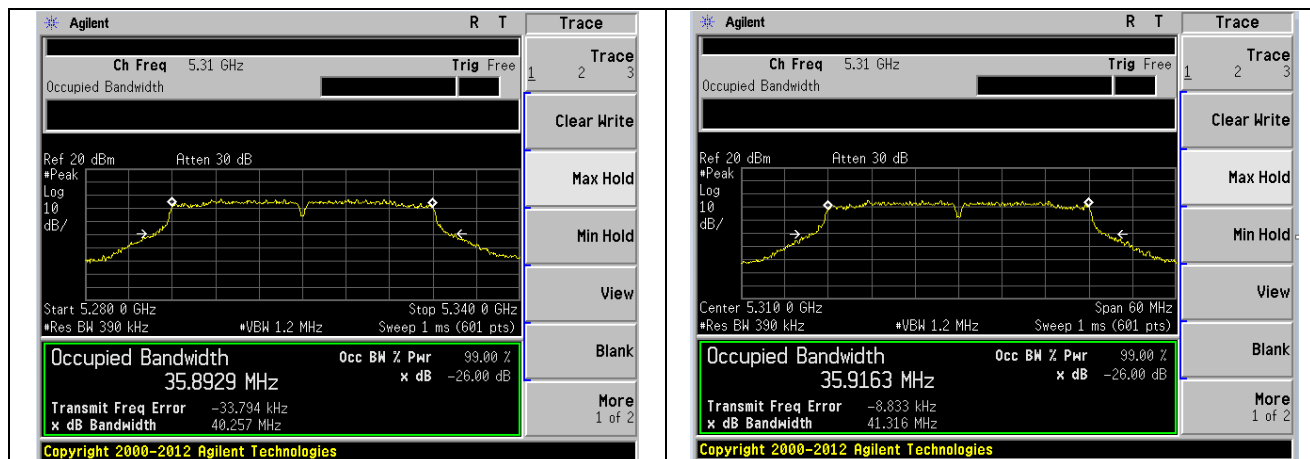




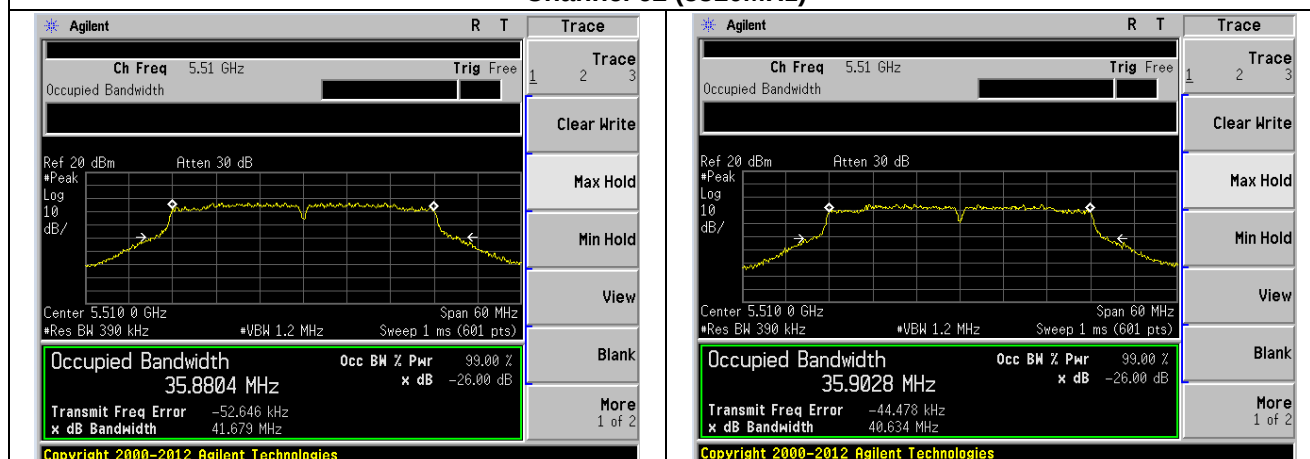


 Agilent R T Trace Ch Freq 5.5 GHz Trig Free Occupied Bandwidth Ref 20 dBm Atten 30 dB #Peak Log 10 dB/ Center 5.500 00 GHz Span 30 MHz *Res BW 200 kHz *VBW 620 kHz Sweep 1 ms (601 pts) Occupied Bandwidth 16.4837 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -23.655 kHz x dB Bandwidth 21.805 MHz Copyright 2000-2012 Agilent Technologies	
Channel 100 (5500MHz)  Agilent R T Trace Ch Freq 5.58 GHz Trig Free Occupied Bandwidth Ref 20 dBm Atten 30 dB #Peak Log 10 dB/ Start 5.565 00 GHz Stop 5.595 00 GHz *Res BW 200 kHz *VBW 620 kHz Sweep 1 ms (601 pts) Occupied Bandwidth 16.4857 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -33.905 kHz x dB Bandwidth 22.726 MHz Copyright 2000-2012 Agilent Technologies	
Channel 116 (5580MHz)  Agilent R T Trace Ch Freq 5.7 GHz Trig Free Occupied Bandwidth Ref 20 dBm Atten 30 dB #Peak Log 10 dB/ Center 5.700 00 GHz Span 30 MHz *Res BW 200 kHz *VBW 620 kHz Sweep 1 ms (601 pts) Occupied Bandwidth 16.4906 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -19.807 kHz x dB Bandwidth 22.733 MHz Copyright 2000-2012 Agilent Technologies	
Channel 140 (5700MHz)	

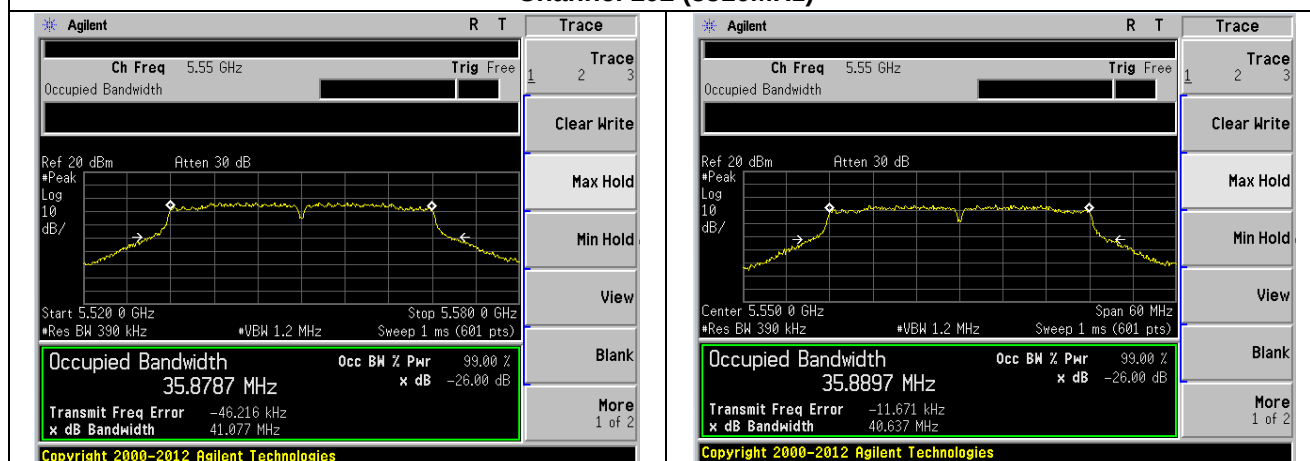




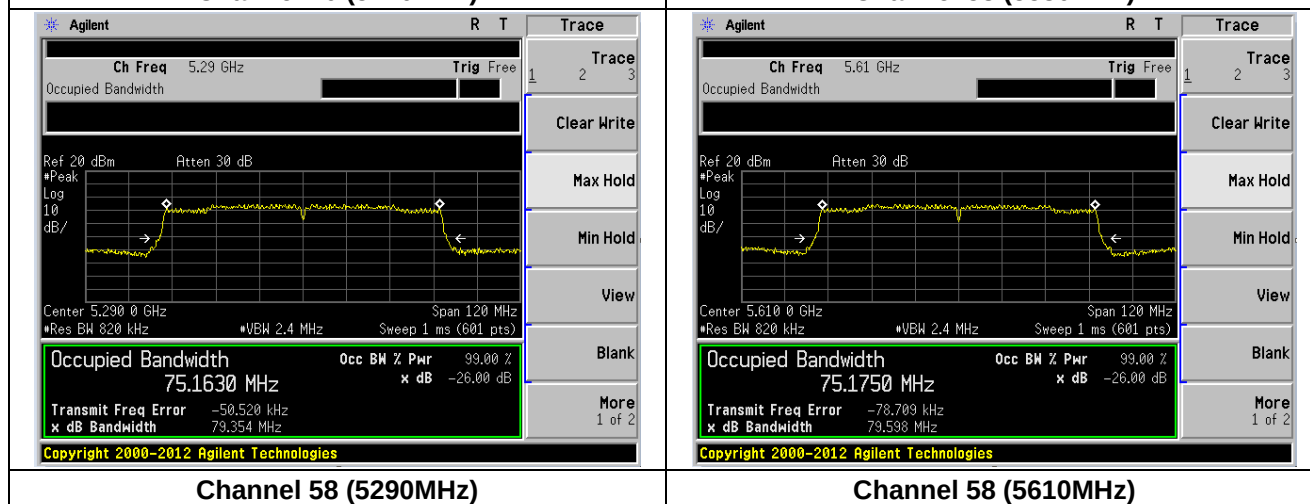
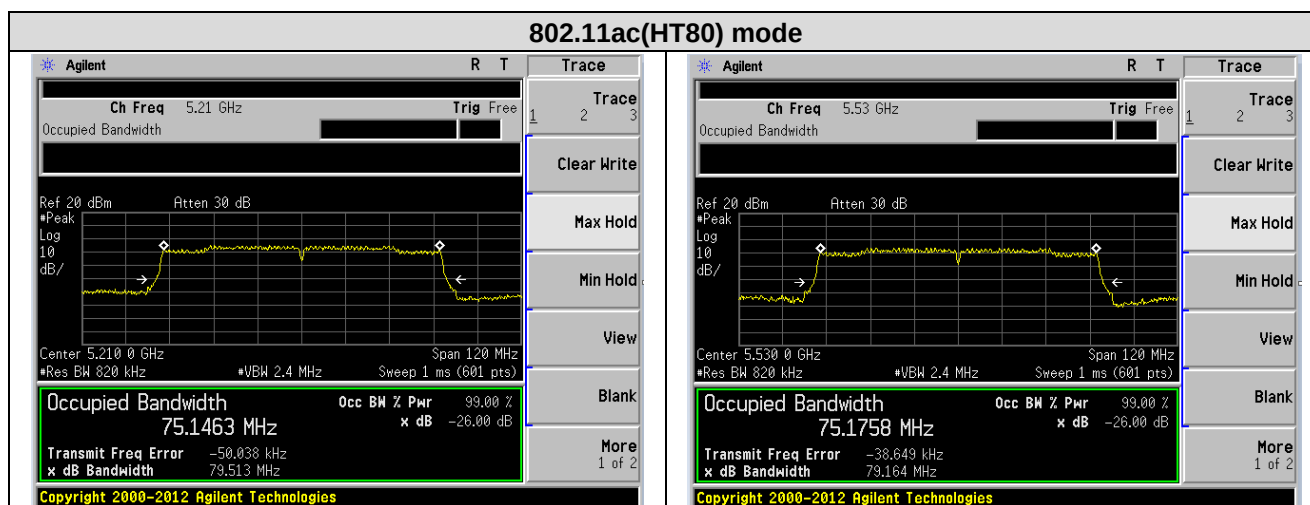
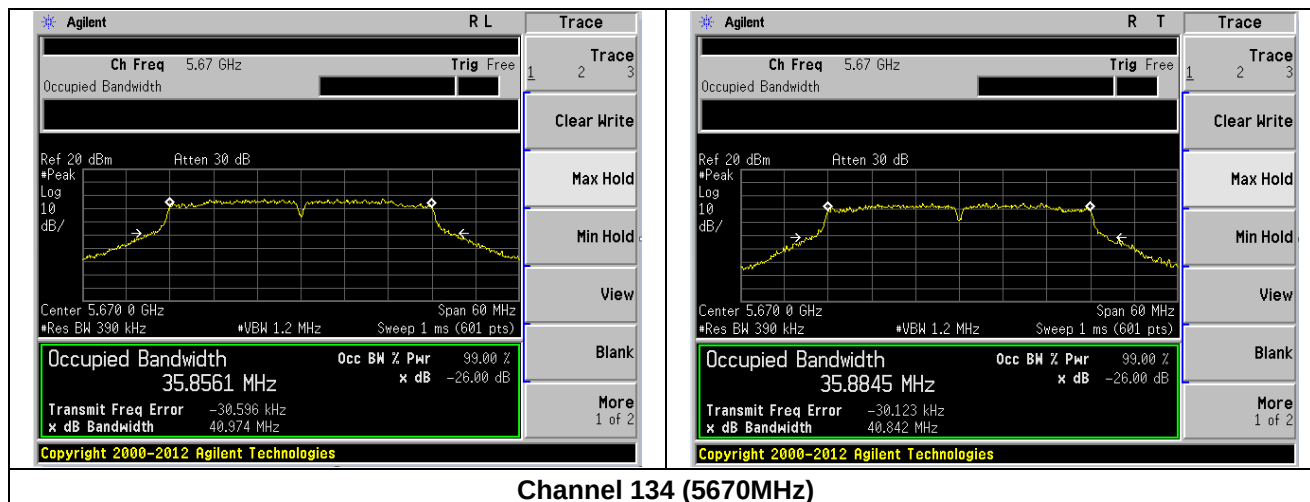
Channel 62 (5310MHz)



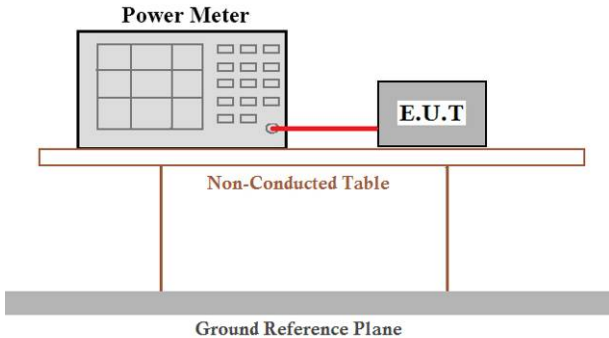
Channel 102 (5510MHz)



Channel 110 (5550MHz)



7.4 Output Power

Test Requirement:	47 CFR Part 15, Subpart E 15.407 (a)	
Test Method:	KDB 789033 D02 General U-NII Test Procedures New Rules v02r01	
Limit:	Frequency band (MHz)	Limit
	5150-5250	$\leq 1\text{W}(30\text{dBm})$ for master device
		$\leq 250\text{mW}(23.98\text{dBm})$ for client device
	5250-5350	$\leq 250\text{mW}(23.98\text{dBm})$ for client device or $11\text{dBm}+10\log B^*$
	5470-5725	$\leq 250\text{mW}(23.98\text{dBm})$ for client device or $11\text{dBm}+10\log B^*$
Remark: *Where B is the 26dB emission bandwidth in MHz. The maximum conducted output power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage.		
Test setup:	 The diagram illustrates the test setup. A Power Meter is connected to an E.U.T. (Equipment Under Test) via a red cable. Both the Power Meter and the E.U.T. are placed on a Non-Conducted Table. The table is supported by two vertical legs. Below the table is a Ground Reference Plane.	
Test Instruments:	Refer to section 5.10 for details	
Test mode:	Refer to section 5.2 for details	
Test results:	Pass	

Measurement Data

Modulation	Duty cycle	Duty Factor
802.11a	98.8%	0.05
802.11n(HT20)	98.8%	0.05
802.11n(HT40)	97.5%	0.11
802.11ac(HT20)	98.9%	0.05
802.11ac(HT40)	97.4%	0.11
802.11ac(HT80)	95.2%	0.21

U-NII Band I

Test CH	Peak Output Power (dBm)						Limit(dBm)	Result
	802.11a	802.11n (HT20)	802.11ac (HT20)	802.11n (HT40)	802.11ac (HT40)	802.11ac (HT80)		
Lowest	14.28	14.91	14.28	13.04	13.49	---	23.98	Pass
Middle	14.71	15.74	14.71	---	---	12.21		
Highest	14.02	15.52	14.02	13.52	13.04	---		

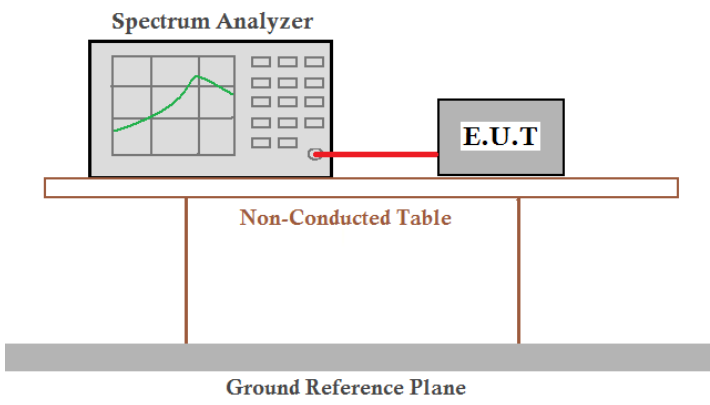
U-NII Band II-A

Test CH	Peak Output Power (dBm)						Limit(dBm)	Result
	802.11a	802.11n (HT20)	802.11ac (HT20)	802.11n (HT40)	802.11ac (HT40)	802.11ac (HT80)		
Lowest	14.76	15.22	14.71	13.49	13.28	---	23.98	Pass
Middle	15.22	15.77	14.45	---	---	11.36		
Highest	14.80	14.83	15.50	13.70	13.90	---		

U-NII Band II-C

Test CH	Peak Output Power (dBm)						Limit(dBm)	Result
	802.11a	802.11n (HT20)	802.11ac (HT20)	802.11n (HT40)	802.11ac (HT40)	802.11ac (HT80)		
Lowest	15.65	15.59	15.85	13.05	13.63	11.40	23.98	Pass
Middle	14.09	15.85	14.18	13.40	13.36	---		
Highest	14.87	14.52	15.92	13.08	13.28	11.90		

7.5 Power Spectral Density

Test Requirement:	47 CFR Part 15, Subpart E 15.407 (a)	
Test Method:	KDB 789033 D02 General U-NII Test Procedures New Rules v02r01	
Limit:	Frequency band (MHz)	Limit
	5150-5250	≤17dBm in 1MHz for master device
		≤11dBm in 1MHz for client device
	5250-5350	≤11dBm in 1MHz for client device
	5470-5725	≤11dBm in 1MHz for client device
Remark: The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test.		
Test setup:	 The diagram illustrates the test setup. A Spectrum Analyzer is connected to an Equipment Under Test (E.U.T.) using a red cable. Both the Spectrum Analyzer and the E.U.T. are positioned on a Non-Conducted Table. The table is supported by two vertical legs. Below the table, there is a thick grey bar representing the Ground Reference Plane.	
Test Instruments:	Refer to section 5.10 for details	
Test mode:	Refer to section 5.2 for details	
Test results:	Pass	

Measurement Data

Modulation	Duty cycle	Duty Factor
802.11a	98.8%	0.05
802.11n(HT20)	98.8%	0.05
802.11n(HT40)	97.5%	0.11
802.11ac(HT20)	98.9%	0.05
802.11ac(HT40)	97.4%	0.11
802.11ac(HT80)	95.2%	0.21

U-NII Band I

Test CH	Peak Output Power (dBm)						Limit (dBm/MHz)	Result
	802.11a	802.11n (HT20)	802.11ac (HT20)	802.11n (HT40)	802.11ac (HT40)	802.11ac (HT80)		
Lowest	7.88	7.38	7.73	4.87	7.87	---	11	Pass
Middle	7.28	7.59	7.45	---	---	1.60		
Highest	7.30	7.32	7.74	4.34	4.51	---		

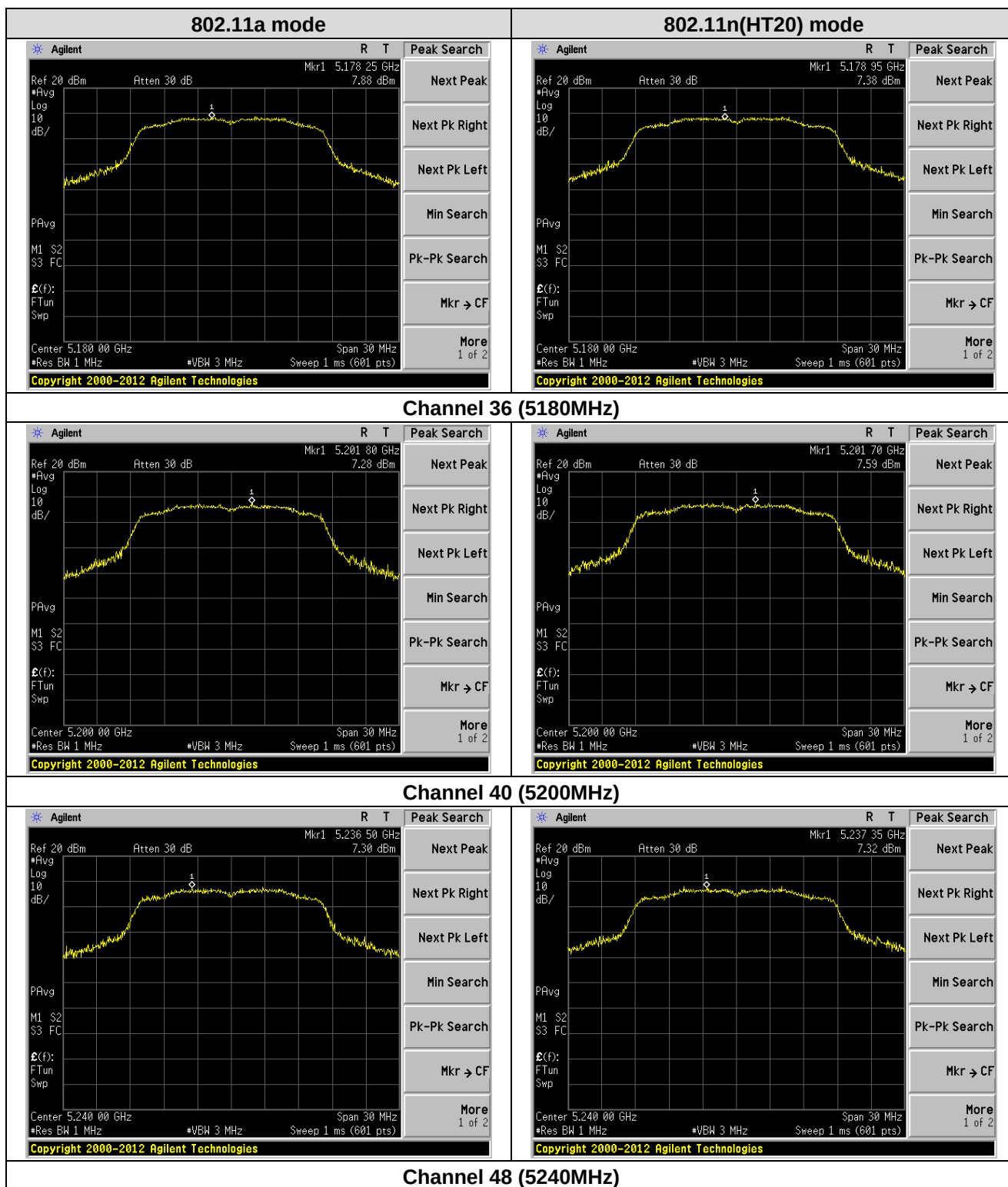
U-NII Band II-A

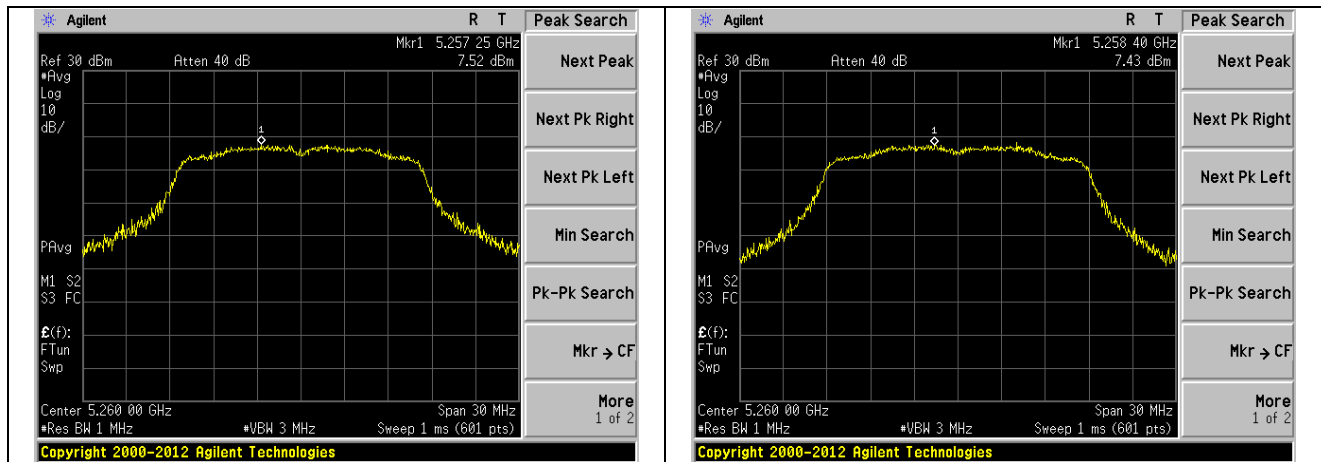
Test CH	Peak Output Power (dBm)						Limit (dBm/MHz)	Result
	802.11a	802.11n (HT20)	802.11ac (HT20)	802.11n (HT40)	802.11ac (HT40)	802.11ac (HT80)		
Lowest	7.52	7.43	7.69	4.48	4.34	---	11	Pass
Middle	7.81	7.10	7.53	---	---	1.50		
Highest	7.39	7.13	7.67	4.46	4.35	---		

U-NII Band II-C

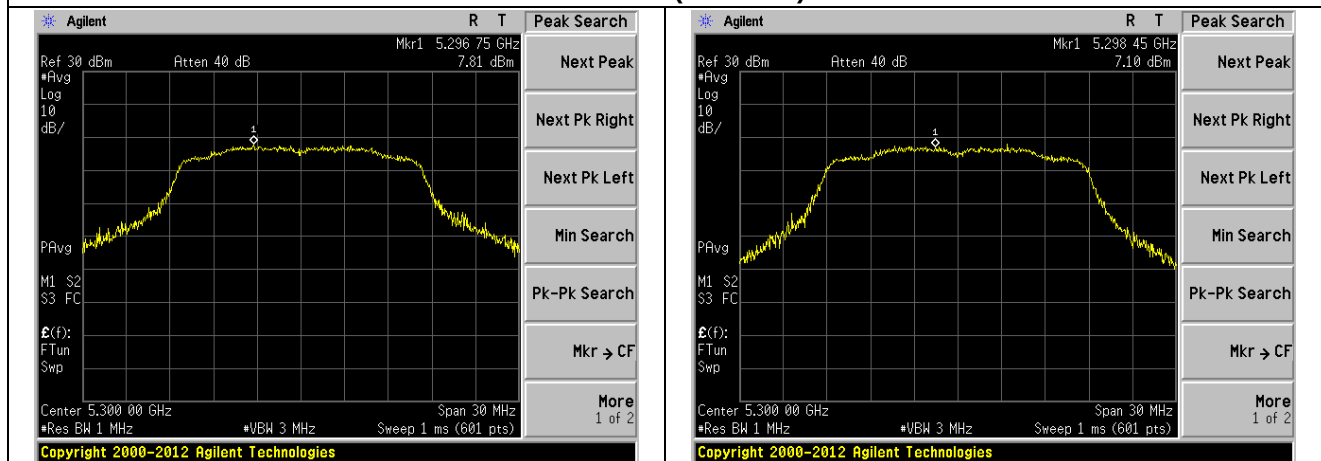
Test CH	Peak Output Power (dBm)						Limit (dBm/MHz)	Result
	802.11a	802.11n (HT20)	802.11ac (HT20)	802.11n (HT40)	802.11ac (HT40)	802.11ac (HT80)		
Lowest	7.51	6.99	7.59	4.09	4.04	1.59	11	Pass
Middle	7.72	6.97	7.73	4.41	4.20	---		
Highest	7.81	7.47	7.75	4.29	4.50	1.65		

Test plots as followed:

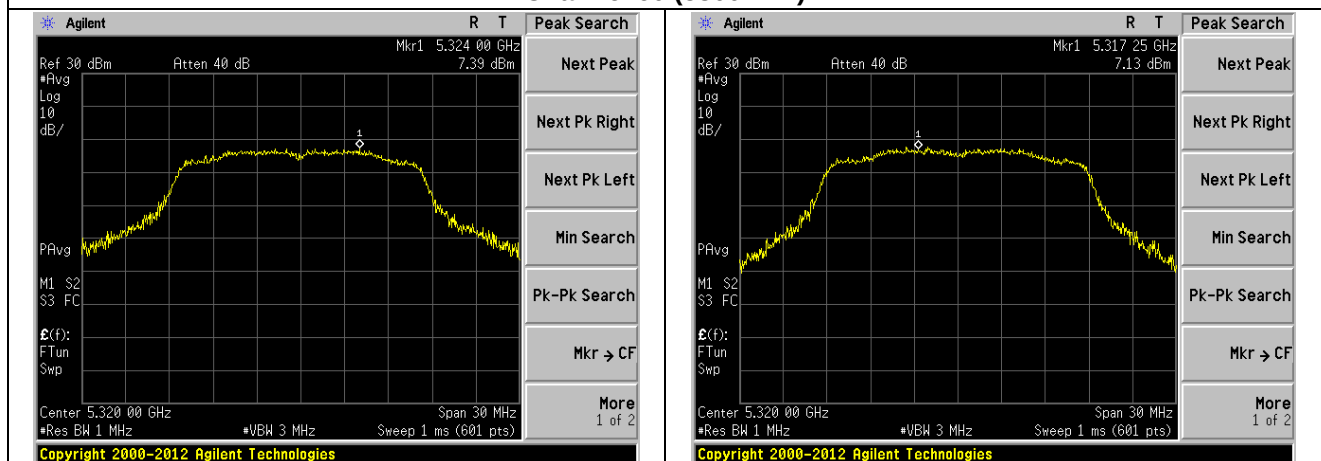




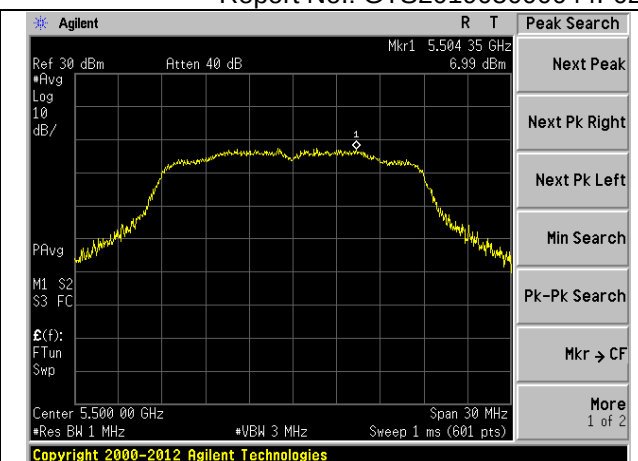
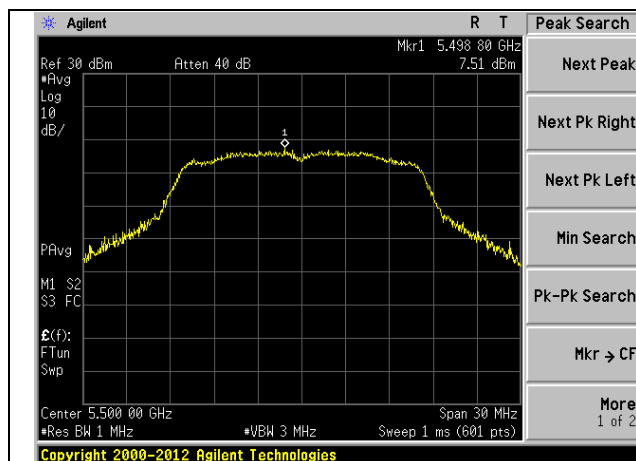
Channel 52 (5260MHz)



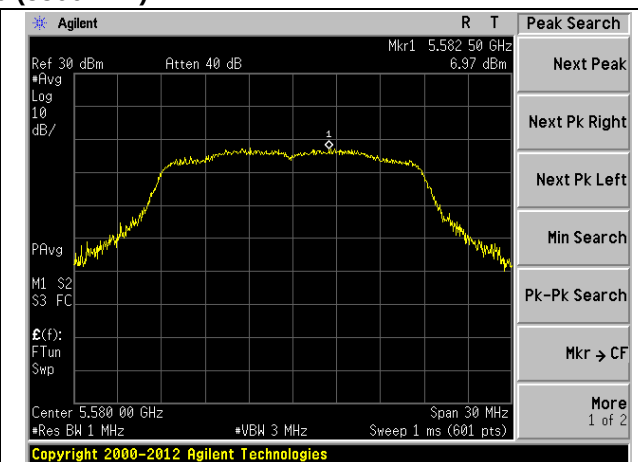
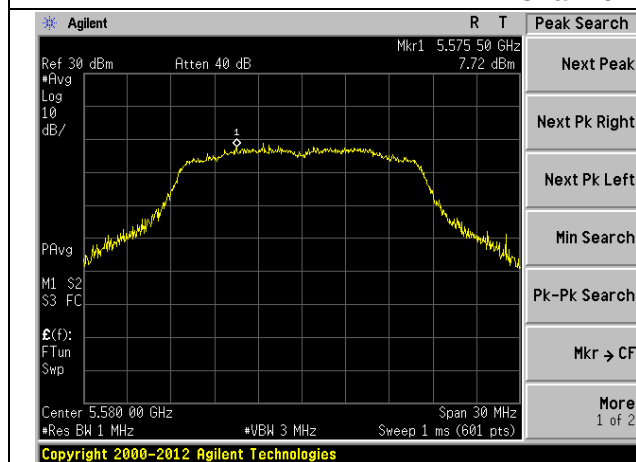
Channel 60 (5300MHz)



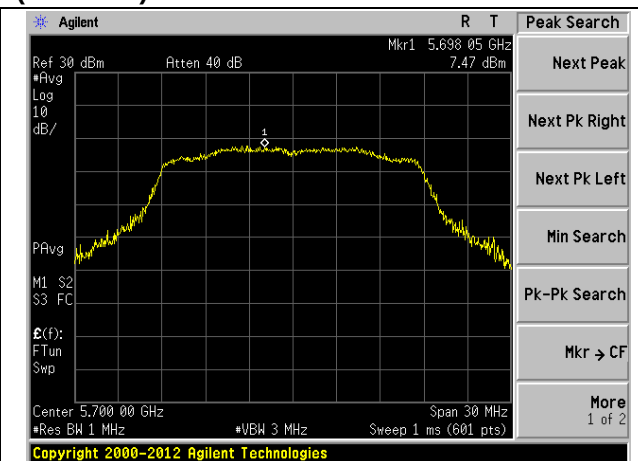
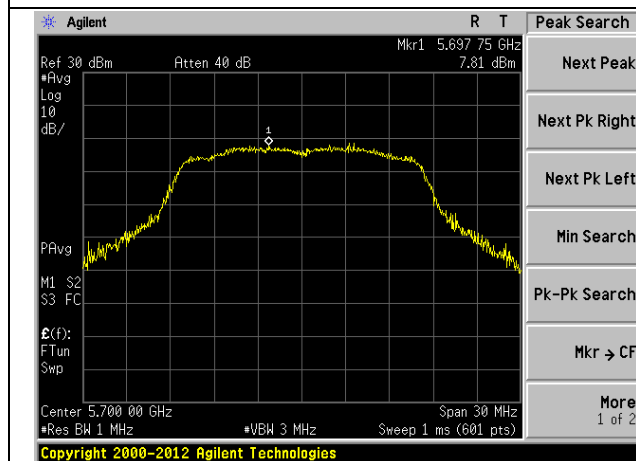
Channel 64 (5320MHz)



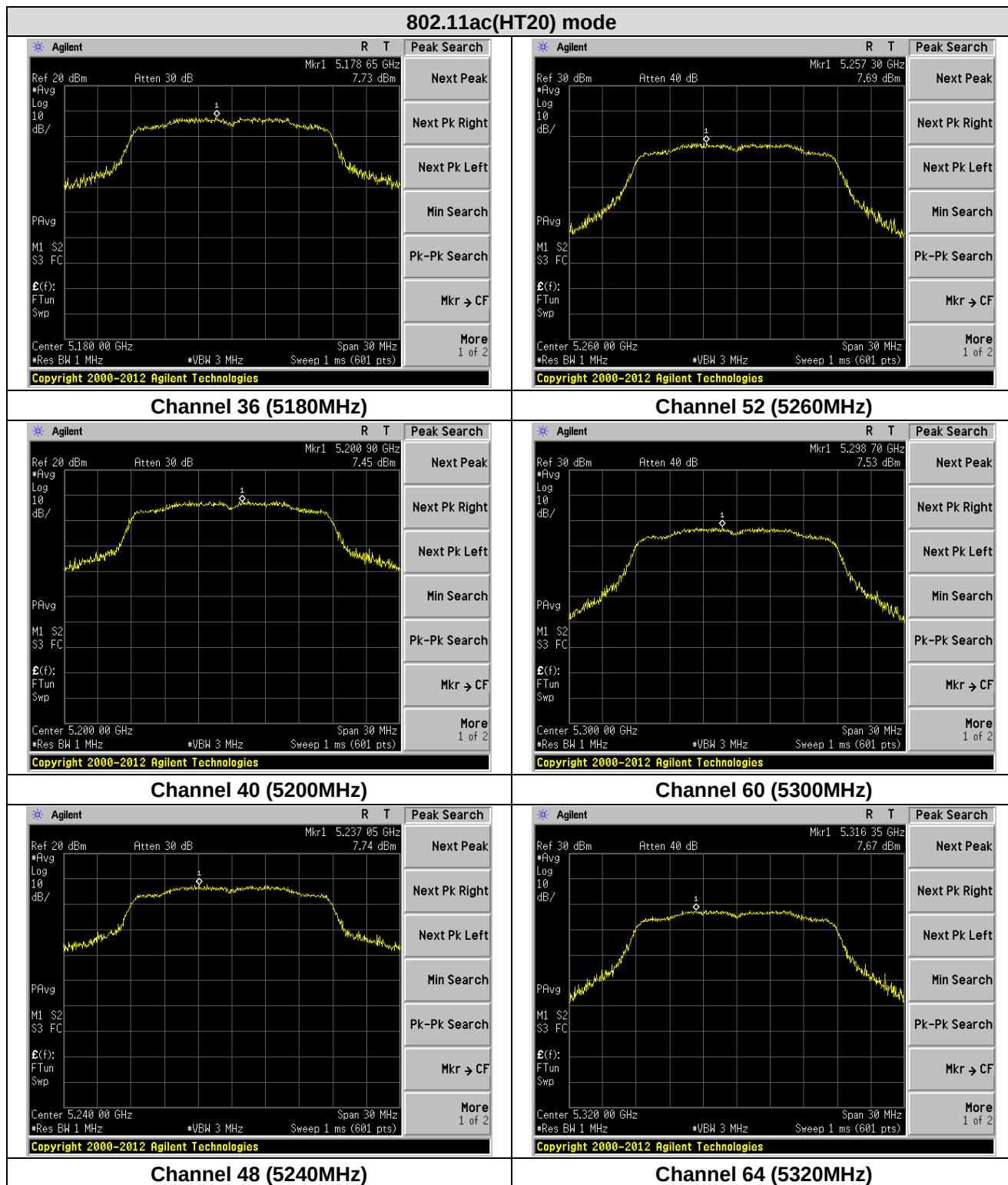
Channel 100 (5500MHz)

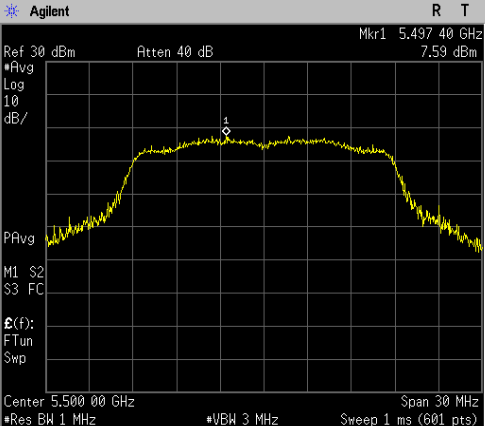
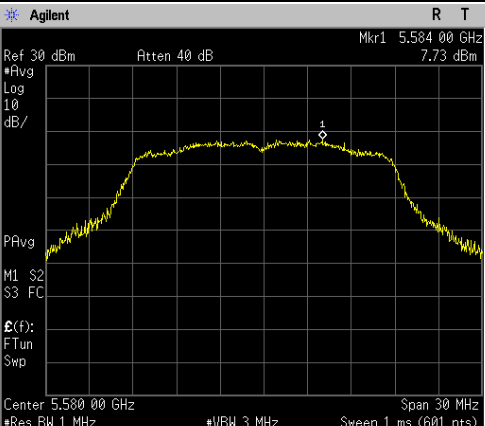
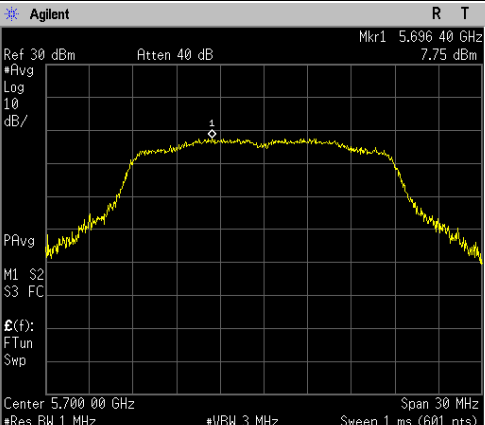


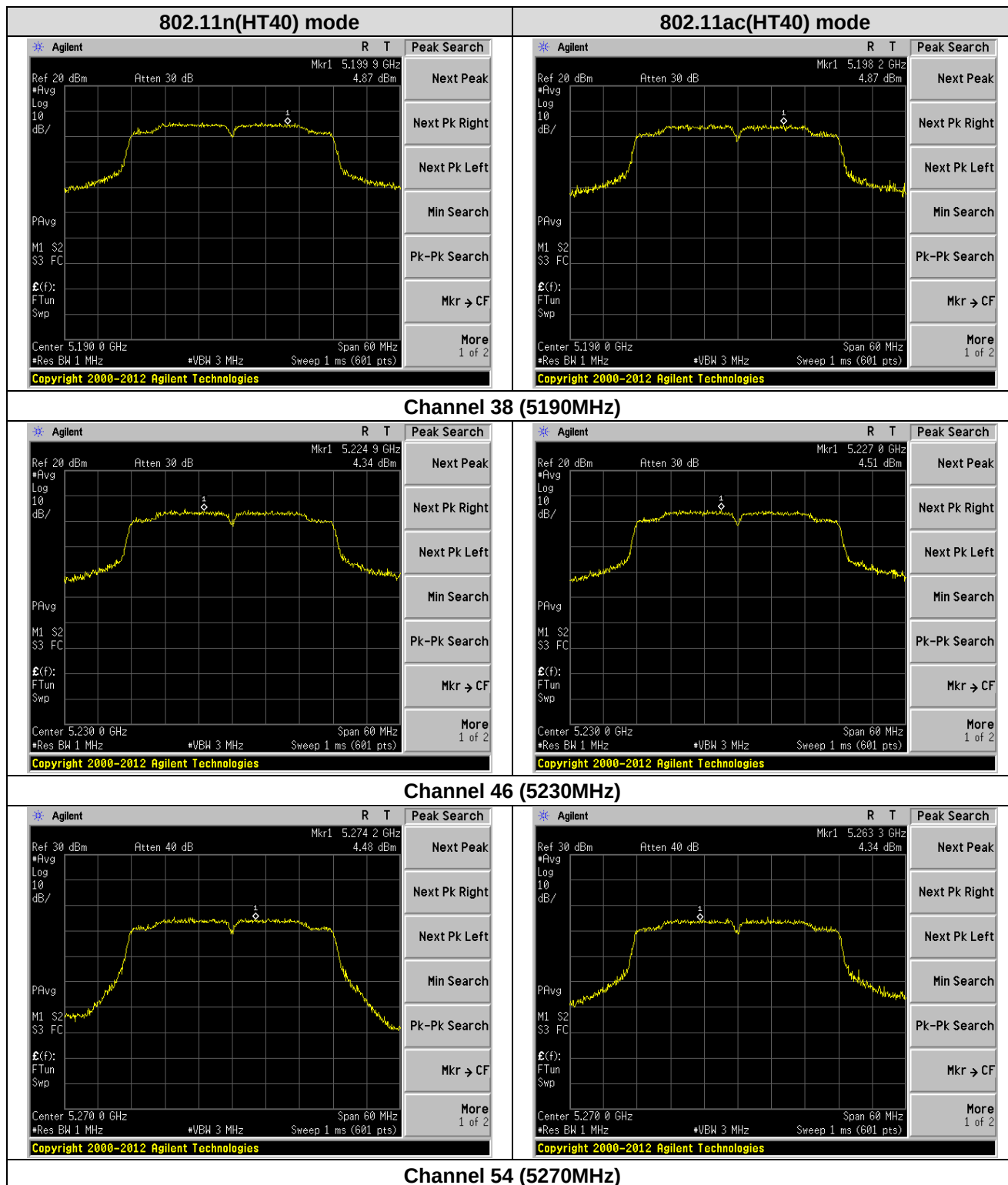
Channel 116 (5580MHz)

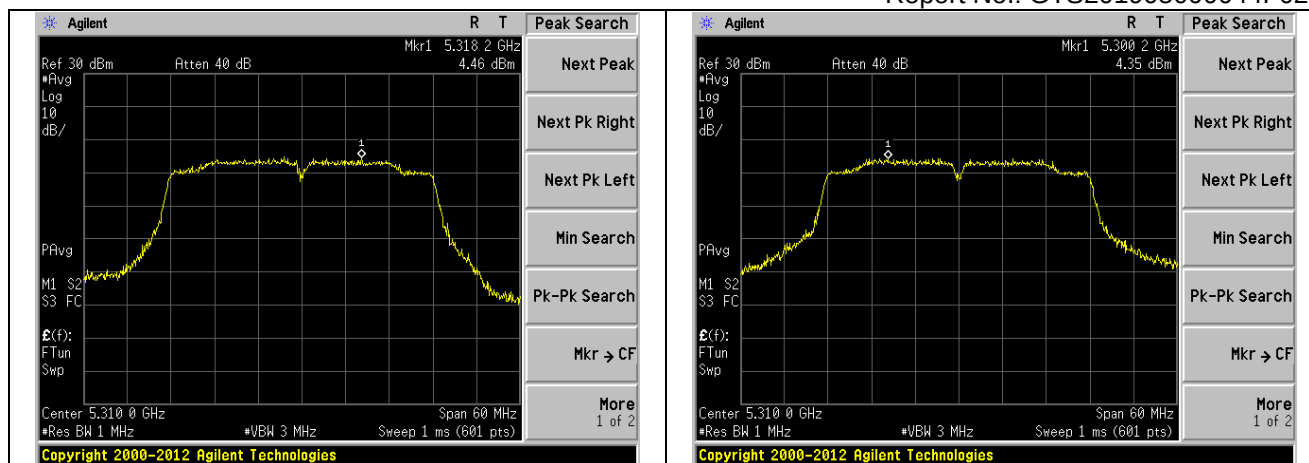


Channel 140 (5700MHz)

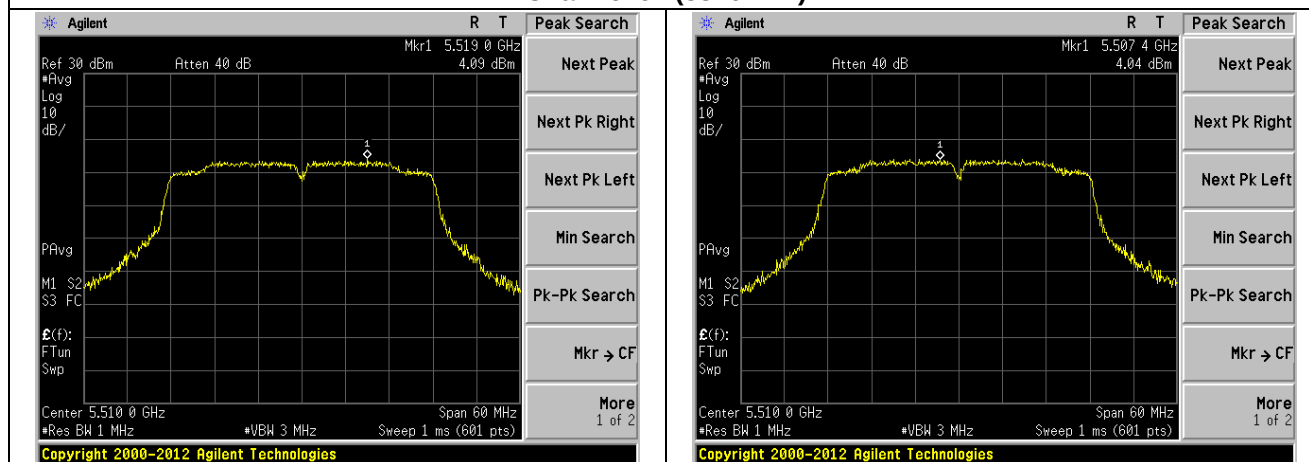


 Copyright 2000-2012 Agilent Technologies	
Channel 100 (5500MHz)  Copyright 2000-2012 Agilent Technologies	
Channel 116 (5580MHz)  Copyright 2000-2012 Agilent Technologies	
Channel 140 (5700MHz)	

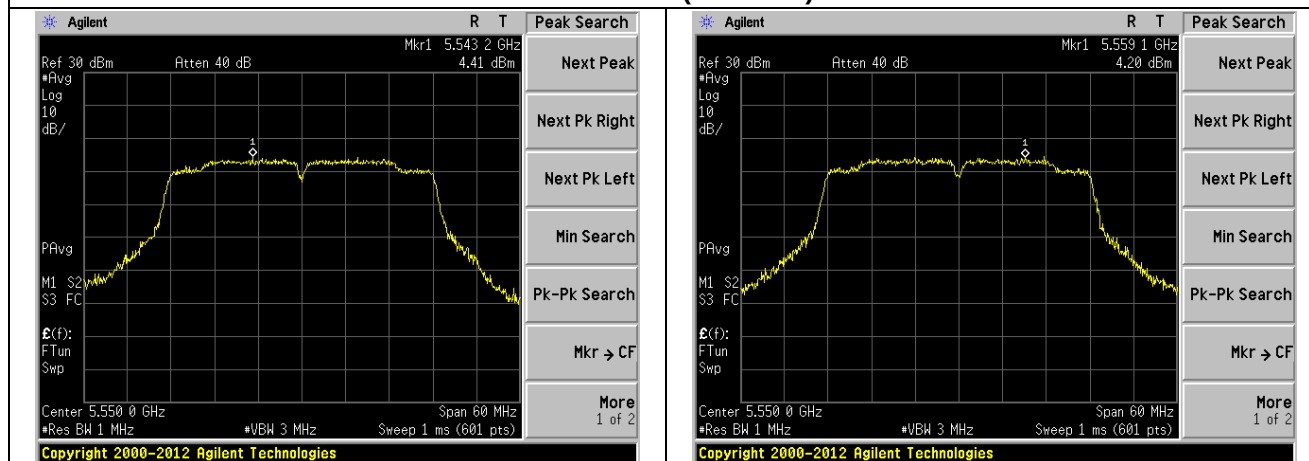




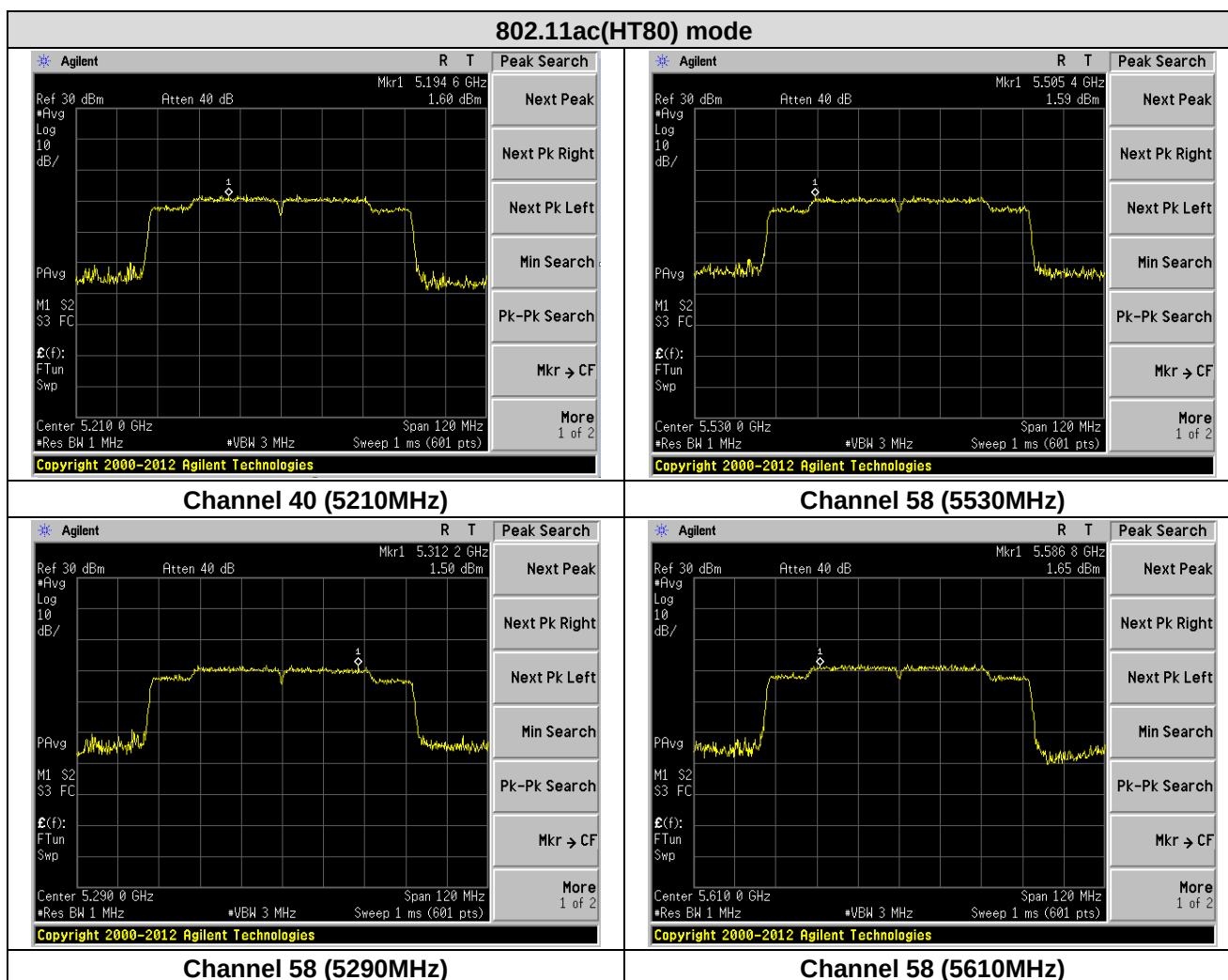
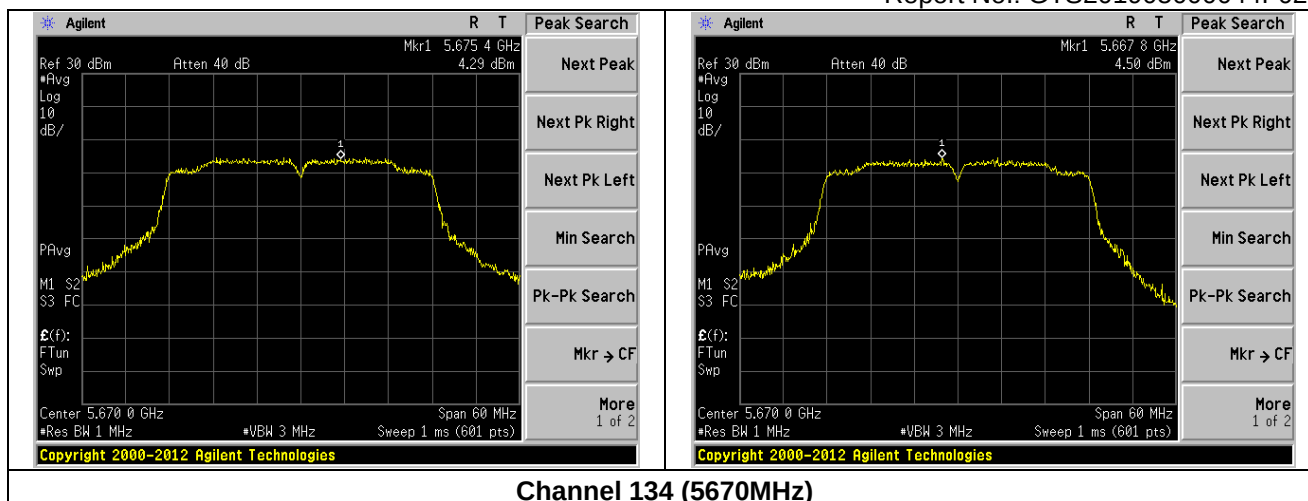
Channel 62 (5310MHz)



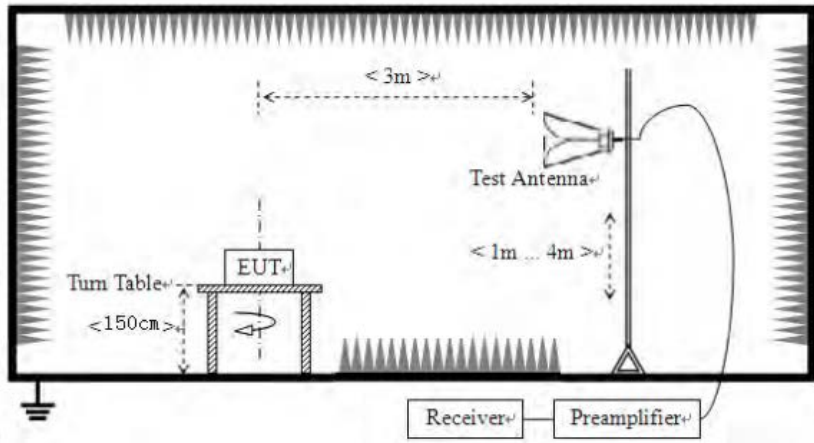
Channel 102 (5510MHz)



Channel 110 (5550MHz)



7.6 Band Edge

Test Requirement:	47 CFR Part 15, Subpart C 15.205 & Subpart E 15.407(b)				
Test Method:	ANSI C63.10:2013				
Test site:	Measurement Distance: 3m (Semi-Anechoic Chamber)				
Receiver setup:	Frequency	Detector	RBW	VBW	Remark
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		AV	1MHz	3MHz	Average Value
Limit:	Frequency		Limit (dBuV/m @3m)		Remark
	30MHz-88MHz		40.0		Quasi-peak Value
	88MHz-216MHz		43.5		Quasi-peak Value
	216MHz-960MHz		46.0		Quasi-peak Value
	960MHz-1GHz		54.0		Quasi-peak Value
	Above 1GHz		54.0		Average Value
			68.2		Peak Value
	Undesirable emission limits:				
	(1) For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.				
	(2) For transmitters operating in the 5.25-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5.25-5.35 GHz band that generate emissions in the 5.15-5.25 GHz band must meet all applicable technical requirements for operation in the 5.15-5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5.15-5.25 GHz band.				
(3) For transmitters operating in the 5.47-5.725 GHz band: all emissions outside of the 5.47-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz.					
Test setup:	Above 1GHz				
					
Test Instruments:	Refer to section 5.10 for details				
Test mode:	Refer to section 5.2 for details				

Test results:	Pass
---------------	------

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.*
3. *Two antennas are tested, only the worst case's (Main Antenna) data was showed.*
4. *The pre-test were performed on lowest, middle and highest frequencies, only the worst case's (lowest and highest frequencies) data was showed.*
5. *According to KDB 789033 D02v02r01 section G) 1) d), for measurements above 1000 MHz @3m distance, the limit of field strength is computed as follows:*
 $E[\text{dBuV/m}] = \text{EIRP}[\text{dBm}] + 95.2;$
For example, if EIRP = -27dBm
 $E[\text{dBuV/m}] = -27 + 95.2 = 68.2\text{dBuV/m}.$

Measurement Data:

Band I & Band II-A & Band II-C

IEEE 802.11a								
Peak value:								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5150.00	45.96	32.07	8.99	37.49	49.53	68.20	-18.67	Horizontal
5350.00	45.56	31.75	9.29	37.20	49.40	68.20	-18.80	Horizontal
5470.00	47.22	31.95	9.56	36.95	51.78	68.20	-16.42	Horizontal
5725.00	46.19	32.53	9.83	35.86	52.69	68.20	-15.51	Horizontal
5150.00	45.56	32.07	8.99	37.49	49.13	68.20	-19.07	Vertical
5350.00	46.66	31.75	9.29	37.20	50.50	68.20	-17.70	Vertical
5470.00	46.58	31.95	9.56	36.95	51.14	68.20	-17.06	Vertical
5725.00	47.63	32.53	9.83	35.86	54.13	68.20	-14.07	Vertical

IEEE 802.11a								
Average value:								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5150.00	36.82	32.07	8.99	37.49	40.39	54.00	-13.61	Horizontal
5350.00	39.12	31.75	9.29	37.20	42.96	54.00	-11.04	Horizontal
5470.00	38.22	31.95	9.56	36.95	42.78	54.00	-11.22	Horizontal
5725.00	36.20	32.53	9.83	35.86	42.70	54.00	-11.30	Horizontal
5150.00	37.81	32.07	8.99	37.49	41.38	54.00	-12.62	Vertical
5350.00	37.69	31.75	9.29	37.20	41.53	54.00	-12.47	Vertical
5470.00	38.83	31.95	9.56	36.95	43.39	54.00	-10.61	Vertical
5725.00	38.31	32.53	9.83	35.86	44.81	54.00	-9.19	Vertical

IEEE 802.11n HT20								
Peak value:								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5150.00	47.35	32.07	8.99	37.49	50.92	68.20	-17.28	Horizontal
5350.00	46.42	31.75	9.29	37.20	50.26	68.20	-17.94	Horizontal
5470.00	46.70	31.95	9.56	36.95	51.26	68.20	-16.94	Horizontal
5725.00	46.86	32.53	9.83	35.86	53.36	68.20	-14.84	Horizontal
5150.00	45.40	32.07	8.99	37.49	48.97	68.20	-19.23	Vertical
5350.00	45.27	31.75	9.29	37.20	49.11	68.20	-19.09	Vertical
5470.00	46.82	31.95	9.56	36.95	51.38	68.20	-16.82	Vertical
5725.00	47.69	32.53	9.83	35.86	54.19	68.20	-14.01	Vertical

IEEE 802.11n HT20								
Average value:								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5150.00	37.80	32.07	8.99	37.49	41.37	54.00	-12.63	Horizontal
5350.00	38.13	31.75	9.29	37.20	41.97	54.00	-12.03	Horizontal
5470.00	37.73	31.95	9.56	36.95	42.29	54.00	-11.71	Horizontal
5725.00	38.04	32.53	9.83	35.86	44.54	54.00	-9.46	Horizontal
5150.00	39.37	32.07	8.99	37.49	42.94	54.00	-11.06	Vertical
5350.00	38.25	31.75	9.29	37.20	42.09	54.00	-11.91	Vertical
5470.00	39.30	31.95	9.56	36.95	43.86	54.00	-10.14	Vertical
5725.00	39.62	32.53	9.83	35.86	46.12	54.00	-7.88	Vertical

IEEE 802.11ac HT20								
Peak value:								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5150.00	46.65	32.07	8.99	37.49	50.22	68.20	-17.98	Horizontal
5350.00	45.26	31.75	9.29	37.20	49.10	68.20	-19.10	Horizontal
5470.00	46.56	31.95	9.56	36.95	51.12	68.20	-17.08	Horizontal
5725.00	46.74	32.53	9.83	35.86	53.24	68.20	-14.96	Horizontal
5150.00	47.88	32.07	8.99	37.49	51.45	68.20	-16.75	Vertical
5350.00	46.63	31.75	9.29	37.20	50.47	68.20	-17.73	Vertical
5470.00	47.71	31.95	9.56	36.95	52.27	68.20	-15.93	Vertical
5725.00	45.76	32.53	9.83	35.86	52.26	68.20	-15.94	Vertical

IEEE 802.11ac HT20								
Average value:								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5150.00	37.46	32.07	8.99	37.49	41.03	54.00	-12.97	Horizontal
5350.00	36.48	31.75	9.29	37.20	40.32	54.00	-13.68	Horizontal
5470.00	37.91	31.95	9.56	36.95	42.47	54.00	-11.53	Horizontal
5725.00	38.21	32.53	9.83	35.86	44.71	54.00	-9.29	Horizontal
5150.00	38.23	32.07	8.99	37.49	41.80	54.00	-12.20	Vertical
5350.00	36.42	31.75	9.29	37.20	40.26	54.00	-13.74	Vertical
5470.00	38.26	31.95	9.56	36.95	42.82	54.00	-11.18	Vertical
5725.00	37.74	32.53	9.83	35.86	44.24	54.00	-9.76	Vertical

IEEE 802.11n HT40								
Peak value:								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5150.00	47.65	32.07	8.99	37.49	51.22	68.20	-16.98	Horizontal
5350.00	47.15	31.75	9.29	37.20	50.99	68.20	-17.21	Horizontal
5470.00	46.78	31.95	9.56	36.95	51.34	68.20	-16.86	Horizontal
5725.00	46.46	32.53	9.83	35.86	52.96	68.20	-15.24	Horizontal
5150.00	45.42	32.07	8.99	37.49	48.99	68.20	-19.21	Vertical
5350.00	47.83	31.75	9.29	37.20	51.67	68.20	-16.53	Vertical
5470.00	47.51	31.95	9.56	36.95	52.07	68.20	-16.13	Vertical
5725.00	46.75	32.53	9.83	35.86	53.25	68.20	-14.95	Vertical

IEEE 802.11n HT40								
Average value:								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5150.00	38.36	32.07	8.99	37.49	41.93	54.00	-12.07	Horizontal
5350.00	36.74	31.75	9.29	37.20	40.58	54.00	-13.42	Horizontal
5470.00	36.04	31.95	9.56	36.95	40.60	54.00	-13.40	Horizontal
5725.00	37.68	32.53	9.83	35.86	44.18	54.00	-9.82	Horizontal
5150.00	37.77	32.07	8.99	37.49	41.34	54.00	-12.66	Vertical
5350.00	39.46	31.75	9.29	37.20	43.30	54.00	-10.70	Vertical
5470.00	39.55	31.95	9.56	36.95	44.11	54.00	-9.89	Vertical
5725.00	37.91	32.53	9.83	35.86	44.41	54.00	-9.59	Vertical

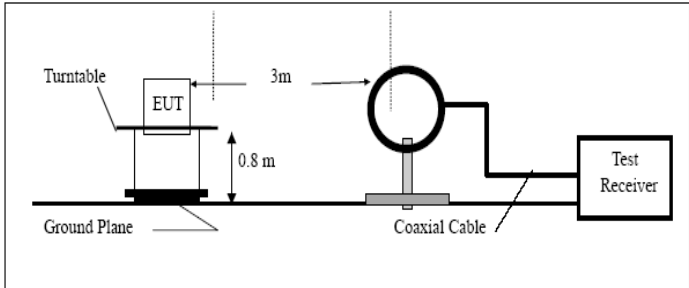
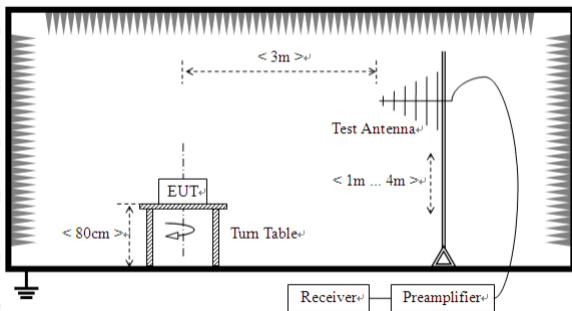
IEEE 802.11ac HT40								
Peak value:								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5150.00	45.35	32.07	8.99	37.49	48.92	68.20	-19.28	Horizontal
5350.00	47.58	31.75	9.29	37.20	51.42	68.20	-16.78	Horizontal
5470.00	45.04	31.95	9.56	36.95	49.60	68.20	-18.60	Horizontal
5725.00	46.86	32.53	9.83	35.86	53.36	68.20	-14.84	Horizontal
5150.00	47.27	32.07	8.99	37.49	50.84	68.20	-17.36	Vertical
5350.00	45.76	31.75	9.29	37.20	49.60	68.20	-18.60	Vertical
5470.00	46.09	31.95	9.56	36.95	50.65	68.20	-17.55	Vertical
5725.00	47.64	32.53	9.83	35.86	54.14	68.20	-14.06	Vertical

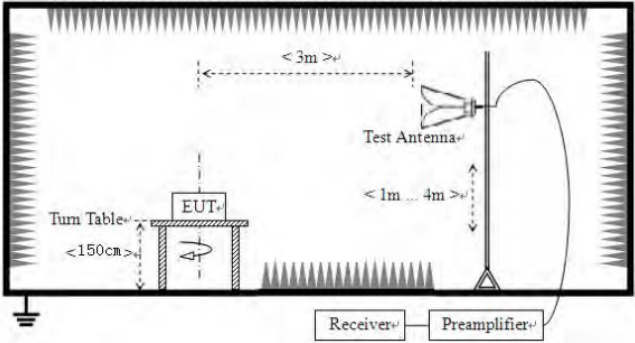
IEEE 802.11ac HT40								
Average value:								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5150.00	39.24	32.07	8.99	37.49	42.81	54.00	-11.19	Horizontal
5350.00	37.45	31.75	9.29	37.20	41.29	54.00	-12.71	Horizontal
5470.00	39.80	31.95	9.56	36.95	44.36	54.00	-9.64	Horizontal
5725.00	38.53	32.53	9.83	35.86	45.03	54.00	-8.97	Horizontal
5150.00	39.97	32.07	8.99	37.49	43.54	54.00	-10.46	Vertical
5350.00	38.38	31.75	9.29	37.20	42.22	54.00	-11.78	Vertical
5470.00	36.09	31.95	9.56	36.95	40.65	54.00	-13.35	Vertical
5725.00	36.31	32.53	9.83	35.86	42.81	54.00	-11.19	Vertical

IEEE 802.11ac HT80								
Peak value:								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5150.00	45.23	32.07	8.99	37.49	48.80	68.20	-19.40	Horizontal
5350.00	47.72	31.75	9.29	37.20	51.56	68.20	-16.64	Horizontal
5470.00	47.73	31.95	9.56	36.95	52.29	68.20	-15.91	Horizontal
5725.00	47.45	32.53	9.83	35.86	53.95	68.20	-14.25	Horizontal
5150.00	47.61	32.07	8.99	37.49	51.18	68.20	-17.02	Vertical
5350.00	46.46	31.75	9.29	37.20	50.30	68.20	-17.90	Vertical
5470.00	47.57	31.95	9.56	36.95	52.13	68.20	-16.07	Vertical
5725.00	47.25	32.53	9.83	35.86	53.75	68.20	-14.45	Vertical

IEEE 802.11ac HT80								
Average value:								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5150.00	38.34	32.07	8.99	37.49	41.91	54.00	-12.09	Horizontal
5350.00	38.86	31.75	9.29	37.20	42.70	54.00	-11.30	Horizontal
5470.00	38.50	31.95	9.56	36.95	43.06	54.00	-10.94	Horizontal
5725.00	39.01	32.53	9.83	35.86	45.51	54.00	-8.49	Horizontal
5150.00	37.46	32.07	8.99	37.49	41.03	54.00	-12.97	Vertical
5350.00	39.53	31.75	9.29	37.20	43.37	54.00	-10.63	Vertical
5470.00	36.60	31.95	9.56	36.95	41.16	54.00	-12.84	Vertical
5725.00	38.27	32.53	9.83	35.86	44.77	54.00	-9.23	Vertical

7.7 Radiated Emission

Test Requirement:	47 CFR Part 15, Subpart C 15.209 & Subpart E 15.407(b)				
Test Method:	ANSI C63.10:2013				
Test Frequency Range:	9kHz to 40GHz				
Test site:	Measurement Distance: 3m (Semi-Anechoic Chamber)				
Receiver setup:	Frequency	Detector	RBW	VBW	Value
	9kHz-150KHz	Quasi-peak	200Hz	1kHz	Quasi-peak Value
	150kHz-30MHz	Quasi-peak	9kHz	30kHz	Quasi-peak Value
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		AV	1MHz	3MHz	Average Value
Limit:	Frequency	Limit (uV/m)		Value	Measurement Distance
	0.009MHz-0.490MHz	2400/F(KHz)		QP	300m
	0.490MHz-1.705MHz	24000/F(KHz)		QP	30m
	1.705MHz-30MHz	30		QP	30m
	30MHz-88MHz	100		QP	3m
	88MHz-216MHz	150		QP	
	216MHz-960MHz	200		QP	
	960MHz-1GHz	500		QP	
	Above 1GHz	500		Average	
		5000		Peak	
Test setup:	Below 30MHz				
					
Test setup:	Below 1GHz				
					

	Above 1GHz 
Test Instruments:	Refer to section 5.10 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Remark:

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

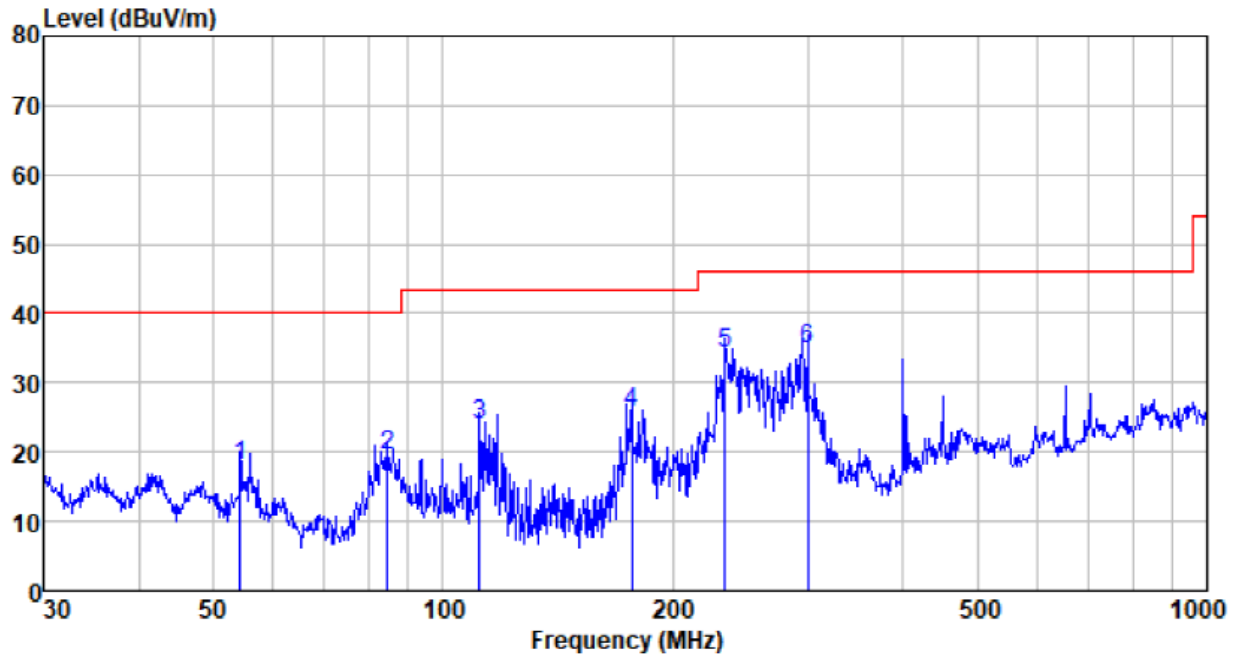
Measurement Data:

9 kHz ~ 30 MHz

The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.

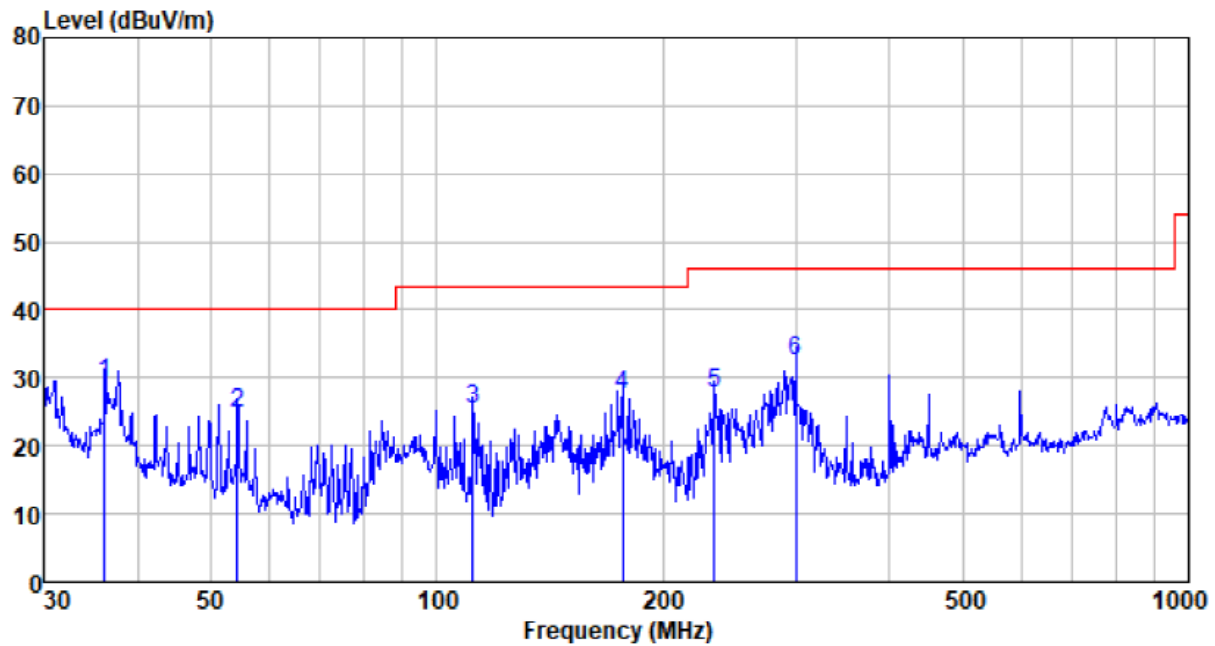
Below 1GHz

Horizontal:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
54.261	41.54	11.85	0.81	36.24	17.96	40.00	-22.04	QP
84.702	45.96	8.92	1.07	36.59	19.36	40.00	-20.64	QP
111.738	48.55	10.76	1.29	36.82	23.78	43.50	-19.72	QP
176.888	52.31	8.77	1.72	37.22	25.58	43.50	-17.92	QP
234.168	57.93	11.64	2.04	37.37	34.24	46.00	-11.76	QP
300.367	56.42	13.60	2.36	37.42	34.96	46.00	-11.04	QP

Vertical:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
36.127	52.46	11.52	0.62	35.43	29.17	40.00	-10.83	QP
54.261	48.38	11.85	0.81	36.24	24.80	40.00	-15.20	QP
111.738	50.03	10.76	1.29	36.82	25.26	43.50	-18.24	QP
176.888	54.08	8.77	1.72	37.22	27.35	43.50	-16.15	QP
234.168	51.34	11.64	2.04	37.37	27.65	46.00	-18.35	QP
300.367	54.01	13.60	2.36	37.42	32.55	46.00	-13.45	QP

Above 1GHz:

802.11a 5180MHz

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
10360.00	29.12	39.67	14.62	32.65	50.76	74.00	-23.24	Vertical
15540.00	29.67	38.60	17.66	34.46	51.47	74.00	-22.53	Vertical
10360.00	29.94	39.67	14.62	32.65	51.58	74.00	-22.42	Horizontal
15540.00	30.42	38.60	17.66	34.46	52.22	74.00	-21.78	Horizontal

802.11a 5260MHz

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
10520.00	28.87	39.86	14.70	32.92	50.51	74.00	-23.49	Vertical
15780.00	30.59	38.07	17.75	33.60	52.81	74.00	-21.19	Vertical
10520.00	29.75	39.86	14.70	32.92	51.39	74.00	-22.61	Horizontal
15780.00	29.05	38.07	17.75	33.60	51.27	74.00	-22.73	Horizontal

802.11a 5320MHz

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
10640.00	29.21	40.06	14.80	33.22	50.85	74.00	-23.15	Vertical
15960.00	29.14	37.97	17.85	33.30	51.66	74.00	-22.34	Vertical
10640.00	30.08	40.06	14.80	33.22	51.72	74.00	-22.28	Horizontal
15960.00	30.62	37.97	17.85	33.30	53.14	74.00	-20.86	Horizontal

802.11a 5500MHz

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
11000.00	30.74	40.10	14.82	33.28	52.38	74.00	-21.62	Vertical
16500.00	29.50	37.95	17.87	33.24	52.08	74.00	-21.92	Vertical
11000.00	28.18	40.10	14.82	33.28	49.82	74.00	-24.18	Horizontal
16500.00	28.14	37.95	17.87	33.24	50.72	74.00	-23.28	Horizontal

802.11a 5580MHz

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
11160.00	30.93	40.26	14.90	33.52	52.57	74.00	-21.43	Vertical
16740.00	30.81	37.87	17.95	33.00	53.63	74.00	-20.37	Vertical
11160.00	30.62	40.26	14.90	33.52	52.26	74.00	-21.74	Horizontal
16740.00	30.15	37.87	17.95	33.00	52.97	74.00	-21.03	Horizontal

802.11a 5700MHz

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
11400.00	30.20	40.38	14.96	33.70	51.84	74.00	-22.16	Vertical
17100.00	30.27	37.81	18.01	32.82	53.27	74.00	-20.73	Vertical
11400.00	28.93	40.38	14.96	33.70	50.57	74.00	-23.43	Horizontal
17100.00	30.68	37.81	18.01	32.82	53.68	74.00	-20.32	Horizontal

802.11n(HT20) 5180MHz

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
10360.00	29.72	39.67	14.62	32.65	51.36	74.00	-22.64	Vertical
15540.00	30.79	38.60	17.66	34.46	52.59	74.00	-21.41	Vertical
10360.00	28.14	39.67	14.62	32.65	49.78	74.00	-24.22	Horizontal
15540.00	29.67	38.60	17.66	34.46	51.47	74.00	-22.53	Horizontal

802.11n(HT20) 5260MHz

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
10520.00	30.31	39.86	14.70	32.92	51.95	74.00	-22.05	Vertical
15780.00	28.70	38.07	17.75	33.60	50.92	74.00	-23.08	Vertical
10520.00	30.30	39.86	14.70	32.92	51.94	74.00	-22.06	Horizontal
15780.00	29.18	38.07	17.75	33.60	51.40	74.00	-22.60	Horizontal

802.11n(HT20) 5320MHz

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
10640.00	30.95	40.06	14.80	33.22	52.59	74.00	-21.41	Vertical
15960.00	28.66	37.97	17.85	33.30	51.18	74.00	-22.82	Vertical
10640.00	28.45	40.06	14.80	33.22	50.09	74.00	-23.91	Horizontal
15960.00	28.78	37.97	17.85	33.30	51.30	74.00	-22.70	Horizontal

802.11n(HT20) 5500MHz

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
11000.00	30.62	40.10	14.82	33.28	52.26	74.00	-21.74	Vertical
16500.00	30.89	37.95	17.87	33.24	53.47	74.00	-20.53	Vertical
11000.00	30.75	40.10	14.82	33.28	52.39	74.00	-21.61	Horizontal
16500.00	30.60	37.95	17.87	33.24	53.18	74.00	-20.82	Horizontal

802.11n(HT20) 5580MHz

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
11160.00	30.76	40.26	14.90	33.52	52.40	74.00	-21.60	Vertical
16740.00	30.15	37.87	17.95	33.00	52.97	74.00	-21.03	Vertical
11160.00	30.76	40.26	14.90	33.52	52.40	74.00	-21.60	Horizontal
16740.00	30.81	37.87	17.95	33.00	53.63	74.00	-20.37	Horizontal

802.11n(HT20) 5700MHz

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
11400.00	30.31	40.38	14.96	33.70	51.95	74.00	-22.05	Vertical
17100.00	28.68	37.81	18.01	32.82	51.68	74.00	-22.32	Vertical
11400.00	28.74	40.38	14.96	33.70	50.38	74.00	-23.62	Horizontal
17100.00	29.20	37.81	18.01	32.82	52.20	74.00	-21.80	Horizontal

802.11ac(HT20) 5180MHz

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
10360.00	30.74	39.67	14.62	32.65	52.38	74.00	-21.62	Vertical
15540.00	30.53	38.60	17.66	34.46	52.33	74.00	-21.67	Vertical
10360.00	30.06	39.67	14.62	32.65	51.70	74.00	-22.30	Horizontal
15540.00	30.52	38.60	17.66	34.46	52.32	74.00	-21.68	Horizontal
15720.00	30.74	39.67	14.62	32.65	52.38	74.00	-21.62	Horizontal

802.11ac(HT20) 5260MHz

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
10520.00	29.72	39.86	14.70	32.92	51.36	74.00	-22.64	Vertical
15780.00	30.19	38.07	17.75	33.60	52.41	74.00	-21.59	Vertical
10520.00	30.36	39.86	14.70	32.92	52.00	74.00	-22.00	Horizontal
15780.00	28.76	38.07	17.75	33.60	50.98	74.00	-23.02	Horizontal

802.11ac(HT20) 5320MHz

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
10640.00	30.61	40.06	14.80	33.22	52.25	74.00	-21.75	Vertical
15960.00	29.19	37.97	17.85	33.30	51.71	74.00	-22.29	Vertical
10640.00	28.50	40.06	14.80	33.22	50.14	74.00	-23.86	Horizontal
15960.00	29.53	37.97	17.85	33.30	52.05	74.00	-21.95	Horizontal

802.11ac(HT20) 5500MHz

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
11000.00	29.76	40.10	14.82	33.28	51.40	74.00	-22.60	Vertical
16500.00	30.38	37.95	17.87	33.24	52.96	74.00	-21.04	Vertical
11000.00	28.50	40.10	14.82	33.28	50.14	74.00	-23.86	Horizontal
16500.00	28.56	37.95	17.87	33.24	51.14	74.00	-22.86	Horizontal

802.11ac(HT20) 5580MHz

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
11160.00	28.62	40.26	14.90	33.52	50.26	74.00	-23.74	Vertical
16740.00	30.50	37.87	17.95	33.00	53.32	74.00	-20.68	Vertical
11160.00	29.90	40.26	14.90	33.52	51.54	74.00	-22.46	Horizontal
16740.00	30.39	37.87	17.95	33.00	53.21	74.00	-20.79	Horizontal

802.11ac(HT20) 5700MHz

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
11400.00	30.83	40.38	14.96	33.70	52.47	74.00	-21.53	Vertical
17100.00	30.78	37.81	18.01	32.82	53.78	74.00	-20.22	Vertical
11400.00	28.12	40.38	14.96	33.70	49.76	74.00	-24.24	Horizontal
17100.00	28.93	37.81	18.01	32.82	51.93	74.00	-22.07	Horizontal

802.11n(HT40) 5190MHz

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
10380.00	28.95	39.71	14.63	32.68	50.61	74.00	-23.39	Vertical
15570.00	29.31	38.46	17.67	34.32	51.12	74.00	-22.88	Vertical
10380.00	28.25	39.71	14.63	32.68	49.91	74.00	-24.09	Horizontal
15570.00	28.94	38.46	17.67	34.32	50.75	74.00	-23.25	Horizontal

802.11n(HT40) 5270MHz

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
10540.00	29.71	39.9	14.72	32.98	51.35	74.00	-22.65	Vertical
15810.00	28.67	38.05	17.77	33.54	50.95	74.00	-23.05	Vertical
10540.00	29.53	39.9	14.72	32.98	51.17	74.00	-22.83	Horizontal
15810.00	28.21	38.05	17.77	33.54	50.49	74.00	-23.51	Horizontal

802.11n(HT40) 5310MHz

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
10620.00	28.67	40.02	14.78	33.16	50.31	74.00	-23.69	Vertical
15930.00	29.90	37.99	17.83	33.36	52.36	74.00	-21.64	Vertical
10620.00	30.92	40.02	14.78	33.16	52.56	74.00	-21.44	Horizontal
15930.00	30.19	37.99	17.83	33.36	52.65	74.00	-21.35	Horizontal

802.11n(HT40) 5510MHz

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
11020.00	30.18	40.14	14.84	33.34	51.82	74.00	-22.18	Vertical
16530.00	29.58	37.93	17.89	33.18	52.22	74.00	-21.78	Vertical
11020.00	30.81	40.14	14.84	33.34	52.45	74.00	-21.55	Horizontal
16530.00	30.43	37.93	17.89	33.18	53.07	74.00	-20.93	Horizontal

802.11n(HT40) 5550MHz

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
11100.00	29.65	40.22	14.88	33.46	51.29	74.00	-22.71	Vertical
16650.00	30.59	37.89	17.93	33.06	53.35	74.00	-20.65	Vertical
11100.00	30.81	40.22	14.88	33.46	52.45	74.00	-21.55	Horizontal
16650.00	28.81	37.89	17.93	33.06	51.57	74.00	-22.43	Horizontal

802.11n(HT40) 5670MHz

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
11340.00	29.63	40.34	14.94	33.64	51.27	74.00	-22.73	Vertical
17010.00	29.02	37.83	17.99	32.88	51.96	74.00	-22.04	Vertical
11340.00	28.18	40.34	14.94	33.64	49.82	74.00	-24.18	Horizontal
17010.00	29.02	37.83	17.99	32.88	51.96	74.00	-22.04	Horizontal

802.11ac(HT40) 5190MHz

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
10380.00	29.27	39.71	14.63	32.68	50.93	74.00	-23.07	Vertical
15570.00	29.74	38.46	17.67	34.32	51.55	74.00	-22.45	Vertical
10380.00	29.87	39.71	14.63	32.68	51.53	74.00	-22.47	Horizontal
15570.00	29.94	38.46	17.67	34.32	51.75	74.00	-22.25	Horizontal

802.11ac(HT40) 5270MHz

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
10540.00	29.02	39.9	14.72	32.98	50.66	74.00	-23.34	Vertical
15810.00	28.34	38.05	17.77	33.54	50.62	74.00	-23.38	Vertical
10540.00	30.07	39.9	14.72	32.98	51.71	74.00	-22.29	Horizontal
15810.00	29.36	38.05	17.77	33.54	51.64	74.00	-22.36	Horizontal

802.11ac(HT40) 5310MHz

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
10620.00	30.54	40.02	14.78	33.16	52.18	74.00	-21.82	Vertical
15930.00	30.93	37.99	17.83	33.36	53.39	74.00	-20.61	Vertical
10620.00	28.79	40.02	14.78	33.16	50.43	74.00	-23.57	Horizontal
15930.00	29.88	37.99	17.83	33.36	52.34	74.00	-21.66	Horizontal

802.11ac(HT40) 5510MHz

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
11020.00	29.11	40.14	14.84	33.34	50.75	74.00	-23.25	Vertical
16530.00	28.29	37.93	17.89	33.18	50.93	74.00	-23.07	Vertical
11020.00	29.98	40.14	14.84	33.34	51.62	74.00	-22.38	Horizontal
16530.00	29.57	37.93	17.89	33.18	52.21	74.00	-21.79	Horizontal

802.11ac(HT40) 5550MHz

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
11100.00	29.76	40.22	14.88	33.46	51.40	74.00	-22.60	Vertical
16650.00	30.70	37.89	17.93	33.06	53.46	74.00	-20.54	Vertical
11100.00	30.61	40.22	14.88	33.46	52.25	74.00	-21.75	Horizontal
16650.00	29.75	37.89	17.93	33.06	52.51	74.00	-21.49	Horizontal

802.11ac(HT40) 5670MHz

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
11340.00	30.15	40.34	14.94	33.64	51.79	74.00	-22.21	Vertical
17010.00	30.52	37.83	17.99	32.88	53.46	74.00	-20.54	Vertical
11340.00	30.86	40.34	14.94	33.64	52.50	74.00	-21.50	Horizontal
17010.00	29.76	37.83	17.99	32.88	52.70	74.00	-21.30	Horizontal

802.11ac(HT80) 5210MHz

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
10420.00	28.30	39.82	14.66	32.8	49.98	74.00	-24.02	Vertical
15630.00	30.92	38.09	17.71	33.81	52.91	74.00	-21.09	Vertical
10420.00	29.26	39.82	14.66	32.8	50.94	74.00	-23.06	Horizontal
15630.00	28.75	38.09	17.71	33.81	50.74	74.00	-23.26	Horizontal

802.11ac(HT80) 5290MHz

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
10580.00	30.36	39.94	14.74	33.04	52.00	74.00	-22.00	Vertical
15870.00	30.13	38.03	17.79	33.48	52.47	74.00	-21.53	Vertical
10580.00	29.31	39.94	14.74	33.04	50.95	74.00	-23.05	Horizontal
15870.00	30.80	38.03	17.79	33.48	53.14	74.00	-20.86	Horizontal

802.11ac(HT80) 5530MHz

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
11060.00	30.72	40.18	14.86	33.4	52.36	74.00	-21.64	Vertical
16590.00	28.44	37.91	17.91	33.12	51.14	74.00	-22.86	Vertical
11060.00	30.60	40.18	14.86	33.4	52.24	74.00	-21.76	Horizontal
16590.00	28.27	37.91	17.91	33.12	50.97	74.00	-23.03	Horizontal

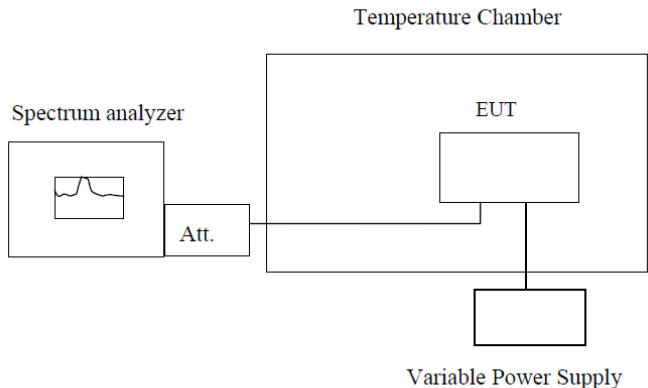
802.11ac(HT80) 5610MHz

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
11220.00	28.82	40.3	14.92	33.58	50.46	74.00	-23.54	Vertical
16830.00	28.23	37.85	17.97	32.94	51.11	74.00	-22.89	Vertical
11220.00	29.25	40.3	14.92	33.58	50.89	74.00	-23.11	Horizontal
16830.00	30.78	37.85	17.97	32.94	53.66	74.00	-20.34	Horizontal

Note:

1. Level = Read Level + Antenna Factor+ Cable loss- Preamp Factor.
2. The test trace is same as the ambient noise (the test frequency range: 18GHz~40GHz), therefore no data appear in the report.
3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

7.8 Frequency stability

Test Requirement:	47 CFR Part 15, Subpart C 15.407 (g)
Test Method:	ANSI C63.10:2013, FCC Part 2.1055
Limit:	Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified
Test setup:	 Note : Measurement setup for testing on Antenna connector
Test Instruments:	Refer to section 5.10 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Remark: Set the EUT transmits at un-modulation mode to test frequency stability.

Measurement data:

HT 20MHz									
Frequency stability versus Temp.									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vac)	0 minute		2 minute		5 minute		10 minute	
		Measured Frequency (MHz)	Pass /Fail	Measured Frequency (MHz)	Pass /Fail	Measured Frequency (MHz)	Pass /Fail	Measured Frequency (MHz)	Pass /Fail
-30	120	5178.2400	Pass	5178.8890	Pass	5178.3778	Pass	5179.5753	Pass
-20	120	5180.9254	Pass	5178.2248	Pass	5180.4226	Pass	5180.6019	Pass
-10	120	5180.9163	Pass	5180.6097	Pass	5179.8493	Pass	5179.9739	Pass
0	120	5180.3231	Pass	5180.8560	Pass	5180.5658	Pass	5179.8092	Pass
10	120	5178.2396	Pass	5178.0578	Pass	5179.1700	Pass	5179.5895	Pass
20	120	5180.5247	Pass	5178.0939	Pass	5178.0790	Pass	5178.5698	Pass
30	120	5179.8291	Pass	5181.0016	Pass	5180.0278	Pass	5178.1316	Pass
40	120	5180.1565	Pass	5179.1069	Pass	5178.6833	Pass	5181.5363	Pass
50	120	5181.6119	Pass	5178.8424	Pass	5180.6961	Pass	5179.7885	Pass
Frequency stability versus Temp.									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vac)	0 minute		2 minute		5 minute		10 minute	
		Measured Frequency (MHz)	Pass /Fail	Measured Frequency (MHz)	Pass /Fail	Measured Frequency (MHz)	Pass /Fail	Measured Frequency (MHz)	Pass /Fail
25	108	5178.7162	Pass	5181.1089	Pass	5178.2580	Pass	5181.2070	Pass
25	120	5181.3716	Pass	5181.7005	Pass	5181.0132	Pass	5181.8926	Pass
25	132	5181.3943	Pass	5178.1133	Pass	5178.6226	Pass	5180.0098	Pass

HT40									
Frequency stability versus Temp.									
Operating Frequency: 5190MHz									
Temp. (°C)	Power Supply (Vac)	0 minute		2 minute		5 minute		10 minute	
		Measured Frequency (MHz)	Pass /Fail	Measured Frequency (MHz)	Pass /Fail	Measured Frequency (MHz)	Pass /Fail	Measured Frequency (MHz)	Pass /Fail
-30	120	5190.7685	Pass	5190.0469	Pass	5190.4431	Pass	5190.7492	Pass
-20	120	5189.7772	Pass	5189.9676	Pass	5190.8413	Pass	5189.6859	Pass
-10	120	5190.7981	Pass	5188.2663	Pass	5188.5871	Pass	5190.0393	Pass
0	120	5189.1701	Pass	5191.8219	Pass	5190.8644	Pass	5191.7400	Pass
10	120	5189.8973	Pass	5188.9052	Pass	5190.2786	Pass	5189.8628	Pass
20	120	5189.0822	Pass	5189.0394	Pass	5189.0097	Pass	5190.1449	Pass
30	120	5189.6075	Pass	5191.3226	Pass	5190.4861	Pass	5189.0966	Pass
40	120	5188.5762	Pass	5190.2737	Pass	5189.8334	Pass	5191.0281	Pass
50	120	5191.8418	Pass	5188.8301	Pass	5190.0376	Pass	5188.9767	Pass
Frequency stability versus Temp.									
Operating Frequency: 5190MHz									
Temp. (°C)	Power Supply (Vac)	0 minute		2 minute		5 minute		10 minute	
		Measured Frequency (MHz)	Pass /Fail	Measured Frequency (MHz)	Pass /Fail	Measured Frequency (MHz)	Pass /Fail	Measured Frequency (MHz)	Pass /Fail
25	108	5189.1932	Pass	5188.2655	Pass	5189.5797	Pass	5190.9206	Pass
25	120	5190.8010	Pass	5190.7860	Pass	5191.2664	Pass	5190.8828	Pass
25	132	5190.4536	Pass	5190.4862	Pass	5190.1746	Pass	5188.2675	Pass

HT80									
Frequency stability versus Temp.									
Operating Frequency: 5210MHz									
Temp. (°C)	Power Supply (Vac)	0 minute		2 minute		5 minute		10 minute	
		Measured Frequency (MHz)	Pass /Fail	Measured Frequency (MHz)	Pass /Fail	Measured Frequency (MHz)	Pass /Fail	Measured Frequency (MHz)	Pass /Fail
-30	120	5209.0639	Pass	5209.6026	Pass	5209.2456	Pass	5209.4607	Pass
-20	120	5210.1207	Pass	5211.7411	Pass	5209.3103	Pass	5211.6661	Pass
-10	120	5211.8284	Pass	5209.5343	Pass	5209.4018	Pass	5211.0359	Pass
0	120	5209.8344	Pass	5209.6200	Pass	5209.4361	Pass	5211.3742	Pass
10	120	5210.3589	Pass	5210.2221	Pass	5211.8704	Pass	5210.2273	Pass
20	120	5211.4887	Pass	5210.1877	Pass	5211.3472	Pass	5211.4738	Pass
30	120	5210.4611	Pass	5211.3769	Pass	5209.4864	Pass	5209.3514	Pass
40	120	5211.4317	Pass	5211.1343	Pass	5210.7503	Pass	5211.5531	Pass
50	120	5209.6474	Pass	5209.6111	Pass	5211.9616	Pass	5209.2000	Pass
Frequency stability versus Temp.									
Operating Frequency: 5210MHz									
Temp. (°C)	Power Supply (Vac)	0 minute		2 minute		5 minute		10 minute	
		Measured Frequency (MHz)	Pass /Fail	Measured Frequency (MHz)	Pass /Fail	Measured Frequency (MHz)	Pass /Fail	Measured Frequency (MHz)	Pass /Fail
25	108	5209.6262	Pass	5209.2873	Pass	5211.0520	Pass	5211.4620	Pass
25	120	5209.1470	Pass	5210.5326	Pass	5211.6588	Pass	5211.4978	Pass
25	132	5209.6287	Pass	5211.7454	Pass	5211.0327	Pass	5210.6488	Pass

8 Test Setup Photo

Reference to the **appendix I** for details.

9 EUT Constructional Details

Reference to the **appendix II** for details.

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