

FCC REPORT

Applicant: Shenzhen YIDONG Technology Co.,Ltd.

Address of Applicant: Floor 1-5,Building B, Area B, Yuanfen Industrial Zone, Dalang,
Bao'an District, Shenzhen, China

Equipment Under Test (EUT)

Product Name: Flat Computer

Model No.: XR2N1

FCC ID: LU7-XR2N1

Applicable standards: FCC CFR Title 47 Part 15 Subpart C Section 15.407:2014

Date of sample receipt: November 23, 2015

Date of Test: November 24-December 01, 2015

Date of report issue: December 02, 2015

Test Result : PASS *

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

Authorized Signature:

A circular blue ink stamp for GTS Global United Technology Services Co., Ltd. is visible. The stamp contains the text "GTS", "GLOBAL TESTING", and "18019". A handwritten signature in black ink is written across the stamp.

Robinson Lo

Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the GTS product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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2 Version

Version No.	Date	Description
00	December 02, 2015	Original

Prepared By:

Sam. Gao

Date:

December 02, 2015

Project Engineer

Check By:

Hank. yan

Date:

December 02, 2015

Reviewer

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4 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	15.203	PASS
AC Power Line Conducted Emission	15.207	PASS
Peak Transmit Power	15.407(a)(1)	PASS
Power Spectral Density	15.407(a)(1)	PASS
Undesirable Emission	15.407(b)(6), 15.205/15.209	PASS
Radiated Emission	15.205/15.209	PASS
Band Edge	15.205	PASS
Frequency Stability	15.407(f)	PASS

Remark:

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

Fail: The EUT does not comply 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%.

Remark: Test according to ANSI C63.10:2013 and ANSI C63.4:2014

5 General Information

5.1 Client Information

Applicant:	Shenzhen YIDONG Technology Co.,Ltd.
Address of Applicant:	Floor 1-5,Building B, Area B, Yuanfen Industrial Zone, Dalang, Bao'an District, Shenzhen, China
Manufacturer/ Factory:	Shenzhen YIDONG Technology Co.,Ltd.
Address of Manufacturer Factory:	Floor 1-5,Building B, Area B, Yuanfen Industrial Zone, Dalang, Bao'an District, Shenzhen, China

5.2 General Description of EUT

Product Name:	Flat Computer
Model No.:	XR2N1
Operation Frequency:	802.11a/802.11n(HT20): 5180MHz ~ 5240MHz; 802.11n(HT40): 5190MHz ~ 5230MHz
Channel numbers:	802.11a/802.11n(HT20): 4; 802.11n(HT40): 2
Channel separation:	802.11a/802.11n(HT20): 20MHz; 802.11n(HT40): 40MHz
Modulation technology:	OFDM
Antenna Type:	Integral Antenna
Antenna gain:	0.85dBi (declare by Applicant)
Power supply:	Adapter: Model No.: STC-C0503000-Z Input: AC 100~240V~50/60Hz 0.4A Output: DC 5.0V 3000mA 7500mAh Battery

5.3 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>	

5.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations: ● FCC —Registration No.: 600491 Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files. Registration 600491, June 28, 2013. ● 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, June 26, 2013.

5.5 Test Location

All tests were performed at:
Global United Technology Services Co., Ltd. Address: Room 301-309, 3th Floor, Block A, Huafeng Jinyuan Business Building, No. 300 Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen 518102 Tel: 0755-27798480 Fax: 0755-27798960

5.6 Description of Support Units

None.

5.7 Deviation from Standards

None.

5.8 Abnormalities from Standard Conditions

None.

5.9 Other Information Requested by the Customer

None.

5.10 Test Instruments list

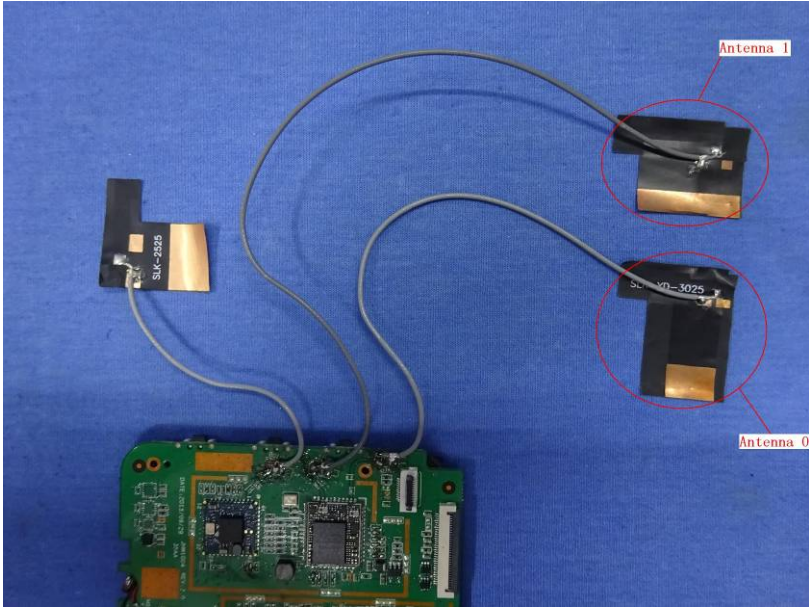
Radiated Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	Mar. 28 2015	Mar. 27 2016
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	June 30 2015	June 29 2016
4	Spectrum analyzer	Agilent	E4447A	GTS516	June 30 2015	June 29 2016
5	Spectrum Analyzer	Agilent	E4440A	GTS533	Nov. 18 2015	Nov. 17 2016
6	BiConiLog Antenna	SCHWARZBECK MESS- ELEKTRONIK	VULB9163	GTS214	Feb. 22 2015	Feb. 21 2016
7	Double -ridged waveguide horn	SCHWARZBECK MESS- ELEKTRONIK	9120D-829	GTS208	June 30 2015	June 29 2016
8	Horn Antenna	ETS-LINDGREN	3160	GTS217	Mar. 28 2015	Mar. 27 2016
9	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
10	Coaxial Cable	GTS	N/A	GTS213	Mar. 28 2015	Mar. 27 2016
11	Coaxial Cable	GTS	N/A	GTS211	Mar. 28 2015	Mar. 27 2016
12	Coaxial cable	GTS	N/A	GTS210	Mar. 28 2015	Mar. 27 2016
13	Coaxial Cable	GTS	N/A	GTS212	Mar. 28 2015	Mar. 27 2016
14	Amplifier(100kHz- 3GHz)	HP	8347A	GTS204	June 30 2015	June 29 2016
15	Amplifier(2GHz- 20GHz)	HP	8349B	GTS206	June 30 2015	June 29 2016
16	Amplifier (18-40GHz)	MITEQ	AMF-6F-18004000- 29-8P	GTS534	June 30 2015	June 29 2016
17	Band filter	Amindeon	82346	GTS219	Mar. 28 2015	Mar. 27 2016
18	Constant temperature and humidity box	Oregon Scientific	BA-888	GTS248	Mar. 28 2015	Mar. 27 2016
19	D.C. Power Supply	Instek	PS-3030	GTS232	Mar. 28 2015	Mar. 27 2016
20	Universal radio communication tester	Rohde & Schwarz	CMU200	GTS235	Mar. 28 2015	Mar. 27 2016
21	Splitter	Agilent	11636B	GTS237	Mar. 28 2015	Mar. 27 2016
22	Power Meter	Anritsu	ML2495A	GTS540	June 30 2015	June 29 2016
23	Power Sensor	Anritsu	MA2411B	GTS541	June 30 2015	June 29 2016

Conducted Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Shielding Room	ZhongYu Electron	7.0(L)x3.0(W)x3.0(H)	GTS264	June 30 2015	June 29 2016
2	EMI Test Receiver	Rohde & Schwarz	ESCS30	GTS223	June 30 2015	June 29 2016
3	10dB Pulse Limita	Rohde & Schwarz	N/A	GTS224	June 30 2015	June 29 2016
4	Coaxial Switch	ANRITSU CORP	MP59B	GTS225	June 30 2015	June 29 2016
5	LISN	SCHWARZBECK MESS- ELEKTRONIK	NSLK 8127	GTS226	June 30 2015	June 29 2016
6	Coaxial Cable	GTS	N/A	GTS227	June 30 2015	June 29 2016
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A

General used equipment:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Barometer	ChangChun	DYM3	GTS257	July 07 2015	July 06 2016

5 Test results and Measurement Data

5.1 Antenna requirement:

Standard requirement:	FCC Part15 C Section 15.203
<i>15.203 requirement:</i> <i>An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.</i>	
E.U.T Antenna:	
<i>The antenna is Integral antenna. The best case gain of the antenna is 0.85dBi.</i>  Directional Gain Calculations is below: The same digital data are transmitted from the two antennas in a given symbol period, thus the antennas is categorization as correlated. Accroding to KDB 662911 D01 Multiple Transmitter Output v02r01 Section F)2)a)(i), the Directional Gain = $G_{ANT} + 10\log(2)$ dBi = 0.85 + 3.01 dBi = 3.86dBi.	

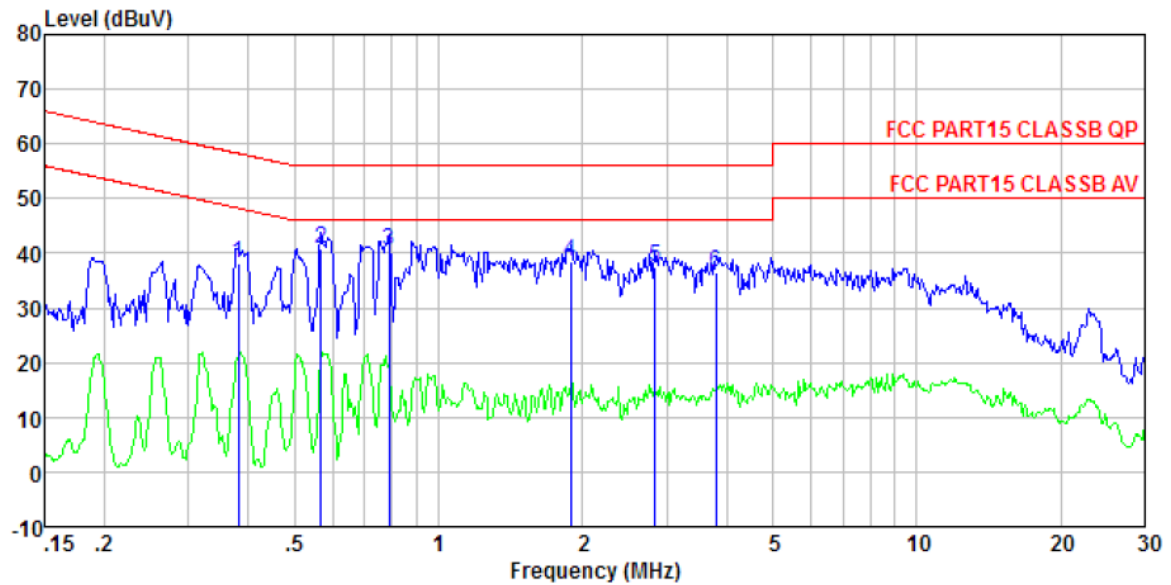
5.2 Conducted Emissions

Test Requirement:	FCC Part15 C Section 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 procedure	The E.U.T and simulators are connected to the main power through a line impedance stabilization network(L.I.S.N.). The provide a 50ohm/50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs). Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10:2013 on conducted measurement.		
Test setup:	Reference Plane LISN AUX Equipment E.U.T 40cm 80cm LISN Filter EMI Receiver AC power Test table/Insulation plane 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 5.3 for details. All of list mode were tested, and found the 802.11n(HT40) mode as the worst case. Only the data of worst case is reported.		
Test results:	Pass		

Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

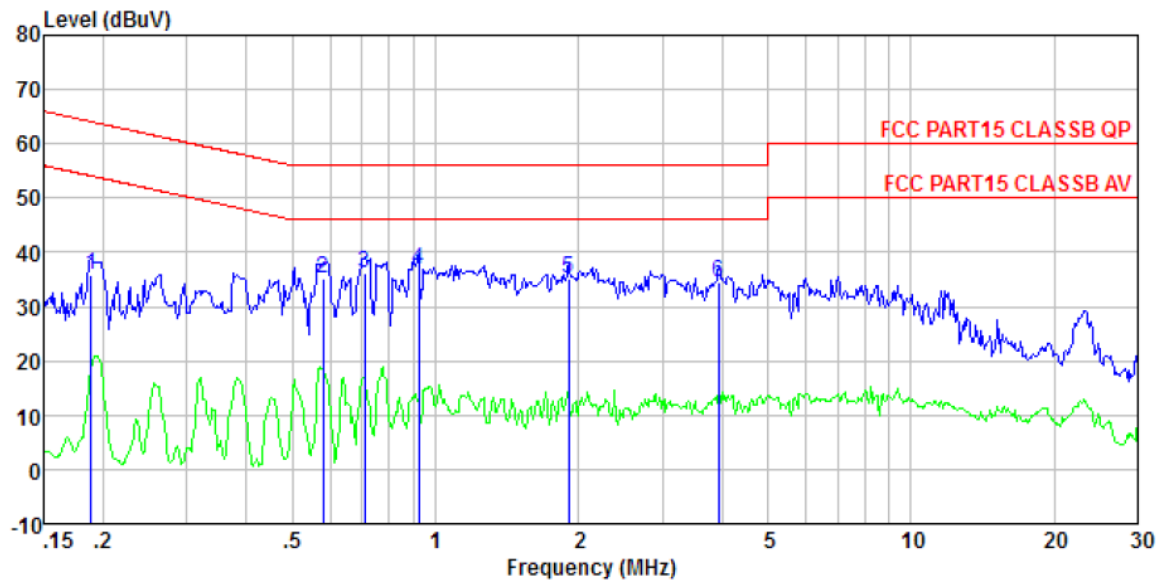
Line:



Site : Shielded room
Condition : FCC PART15 CLASSB QP LISN-2013 LINE
Job No. : 1944RF
Test mode : WiFi 5G mode
Test Engineer: Joe

	Freq	Read Level	LISN Level	Factor	Cable Loss	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	dB	dBuV	dB	
1	0.381	37.95	38.16	0.11	0.10	58.25	-20.09	QP
2	0.567	40.54	40.79	0.13	0.12	56.00	-15.21	QP
3	0.788	40.21	40.48	0.14	0.13	56.00	-15.52	QP
4	1.888	38.07	38.33	0.12	0.14	56.00	-17.67	QP
5	2.839	37.05	37.35	0.15	0.15	56.00	-18.65	QP
6	3.799	36.13	36.47	0.19	0.15	56.00	-19.53	QP

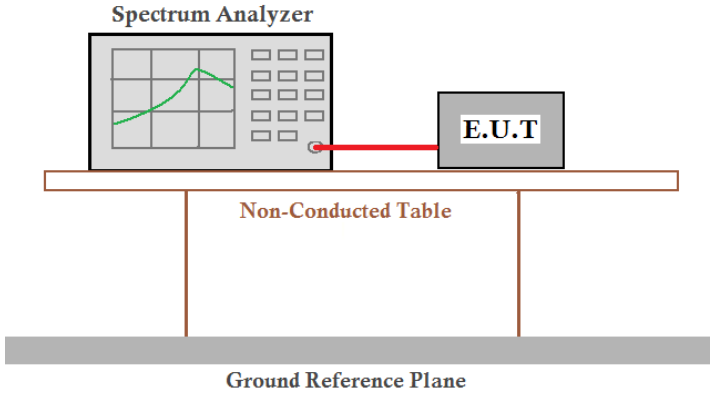
Neutral:



Site : Shielded room
 Condition : FCC PART15 CLASSB QP LISN-2013 NEUTRAL
 Job No. : 1944RF
 Test mode : WiFi 5G mode
 Test Engineer: Joe

	Freq	Read Level	LISN Level	Cable Factor	Cable Loss	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	dB	dBuV	dB	
1	0.188	35.67	35.87	0.07	0.13	64.11	-28.24	QP
2	0.579	34.99	35.18	0.07	0.12	56.00	-20.82	QP
3	0.708	36.02	36.22	0.07	0.13	56.00	-19.78	QP
4	0.923	36.55	36.75	0.07	0.13	56.00	-19.25	QP
5	1.908	34.84	35.07	0.09	0.14	56.00	-20.93	QP
6	3.943	34.08	34.37	0.14	0.15	56.00	-21.63	QP

5.3 Emission Bandwidth and 99% Occupied Bandwidth

Test Requirement:	FCC Part15 E Section 15.407
Test Method:	ANSI C63.10:2013 and KDB 789033 D02 General UNII Test Procedures New Rules v01
Limit:	N/A
Test setup:	 The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both are placed on a Non-Conducted Table, which is supported by a Ground Reference Plane.
Test procedure:	According to KDB 789033 D02 General UNII Test Procedures New Rules v01.
Test Instruments:	Refer to section 5.10 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Measurement Data:
ANT:0

CH. No.	Frequency (MHz)	99% Occupied Bandwidth (MHz)		26dB Occupied Bandwidth (MHz)	
		802.11a	802.11n(HT20)	802.11a	802.11n(HT20)
6	5180.00	16.370	17.470	21.315	21.061
40	5200.00	16.335	17.408	19.477	20.927
48	5240.00	16.333	17.435	19.468	20.955

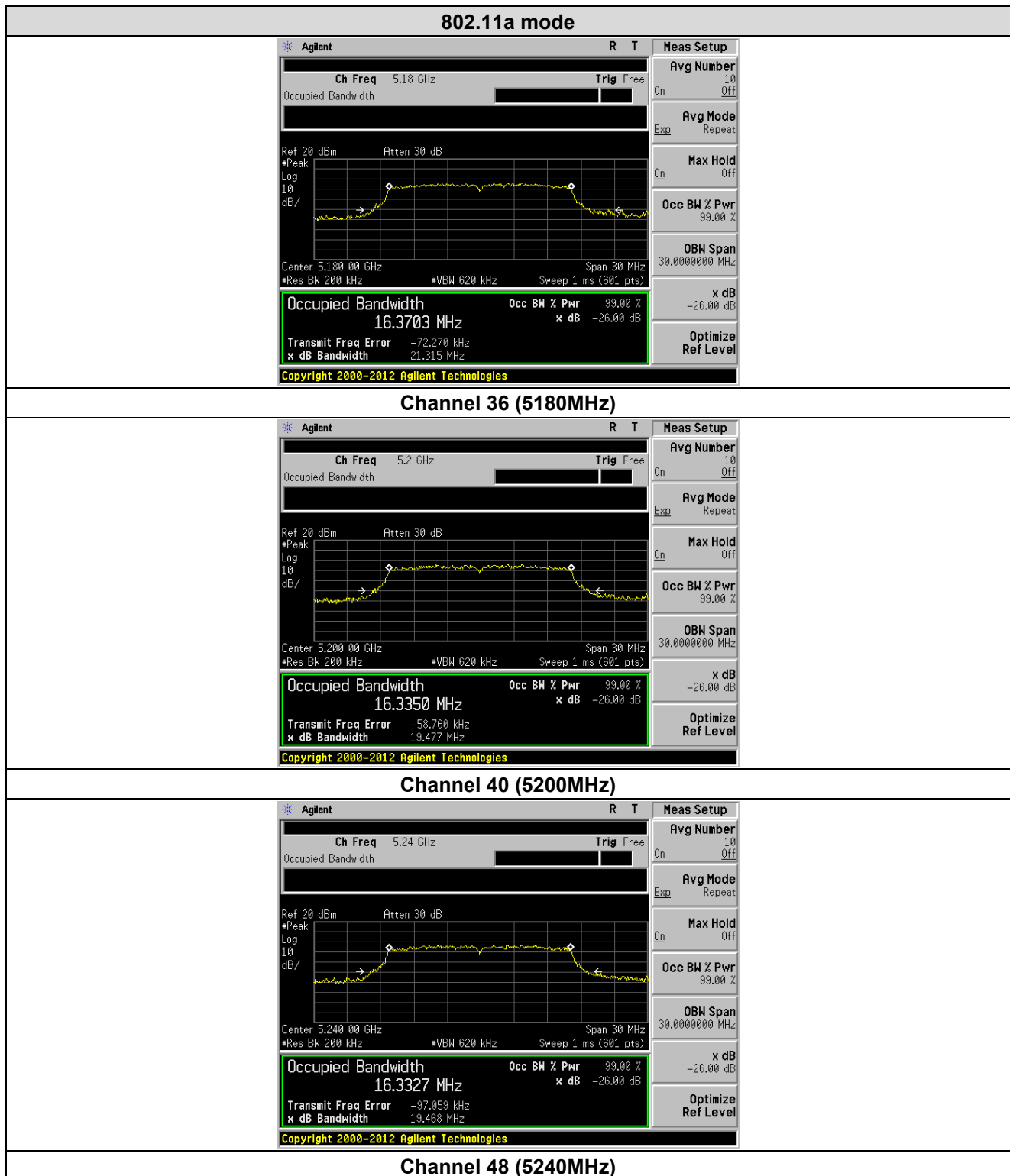
CH. No.	Frequency (MHz)	99% Occupied Bandwidth (MHz)	26dB Occupied Bandwidth (MHz)
		802.11n(HT40)	802.11n(HT40)
38	5190.00	36.257	51.696
46	5230.00	36.256	51.909

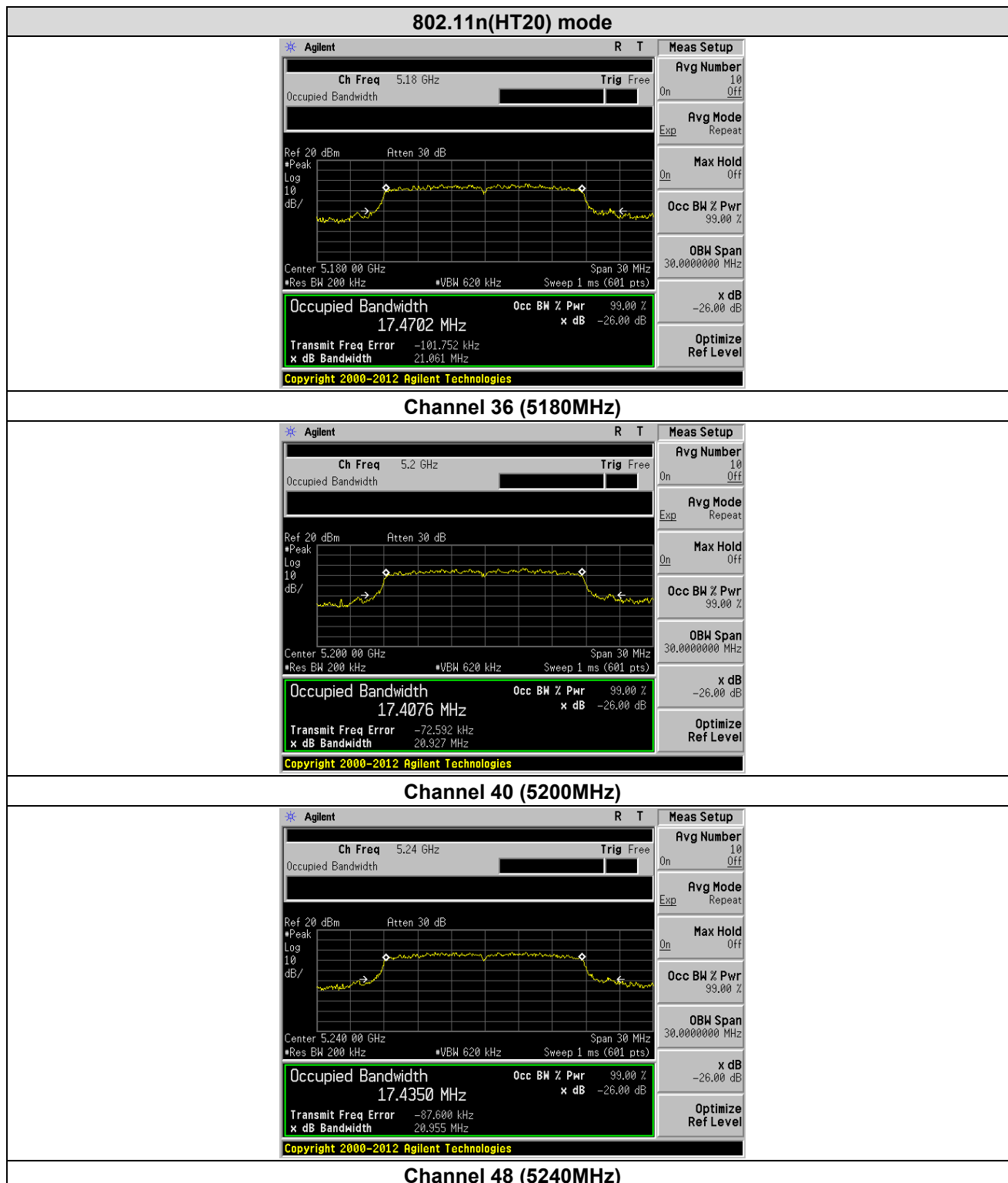
ANT:1

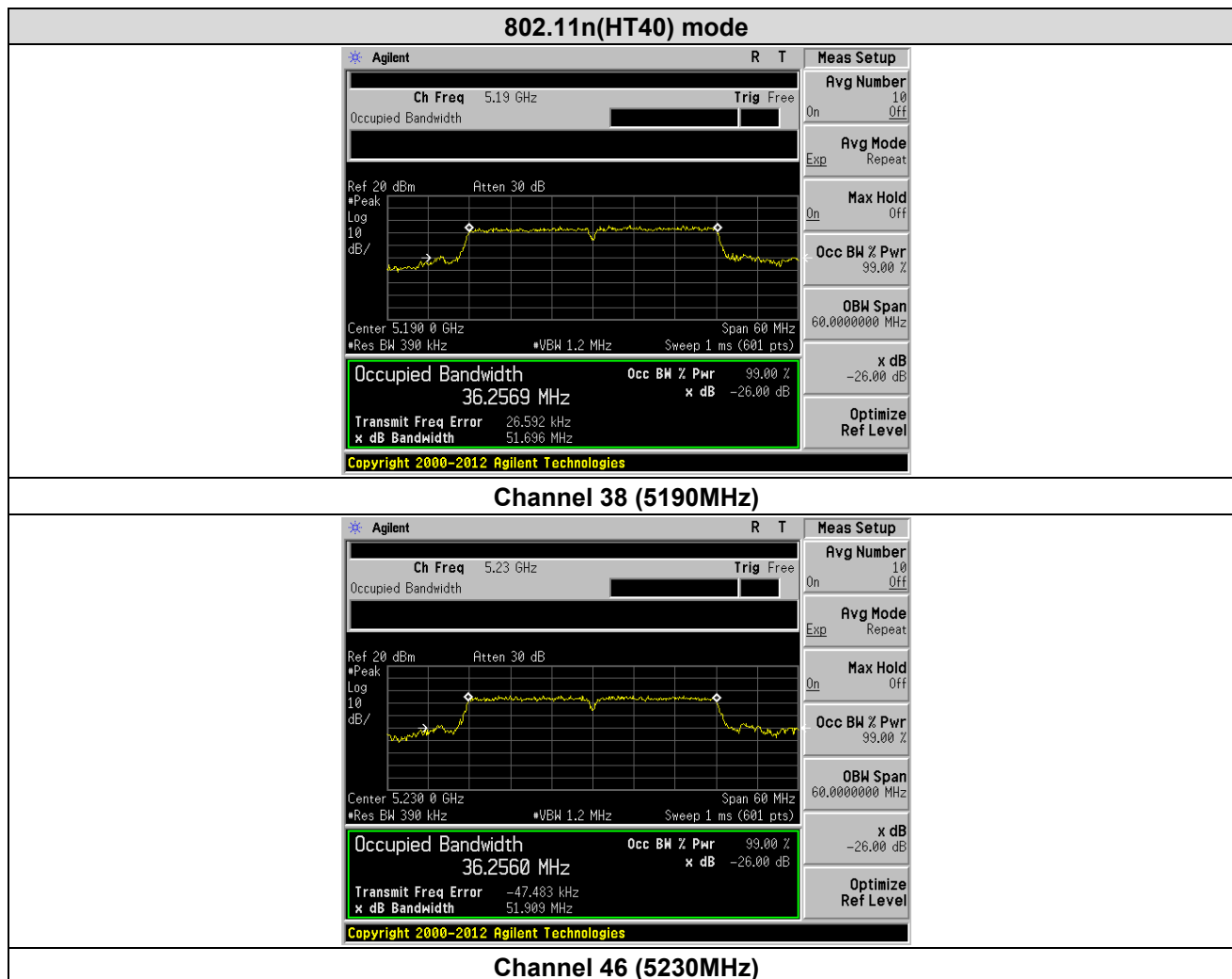
CH. No.	Frequency (MHz)	99% Occupied Bandwidth (MHz)		26dB Occupied Bandwidth (MHz)	
		802.11a	802.11n(HT20)	802.11a	802.11n(HT20)
6	5180.00	16.392	17.469	21.032	19.403
40	5200.00	16.356	17.483	18.607	18.983
48	5240.00	16.514	17.463	24.251	19.098

CH. No.	Frequency (MHz)	99% Occupied Bandwidth (MHz)	26dB Occupied Bandwidth (MHz)
		802.11n(HT40)	802.11n(HT40)
38	5190.00	36.252	52.147
46	5230.00	36.356	50.685

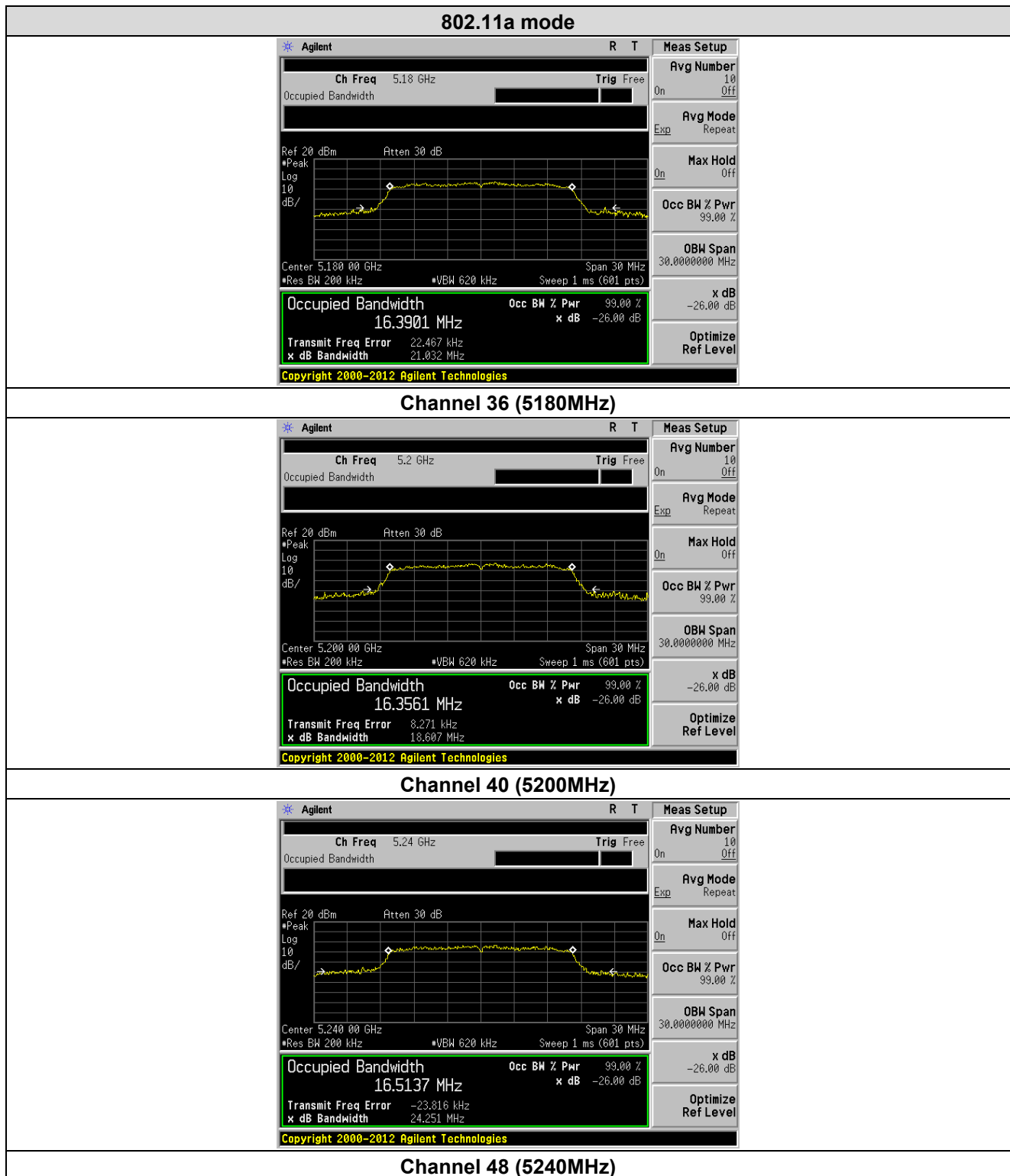
Test plots as followed:
ANT:0

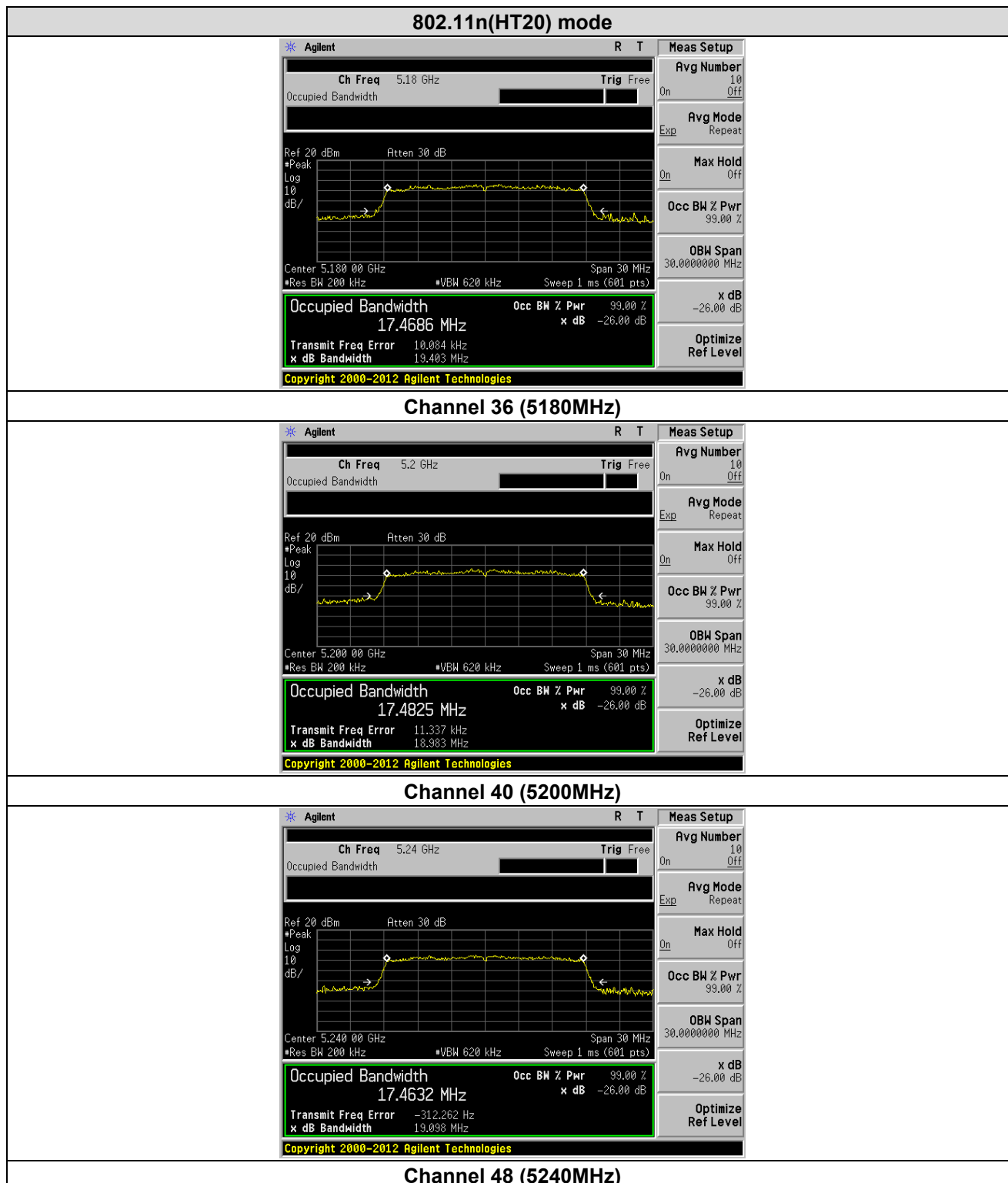


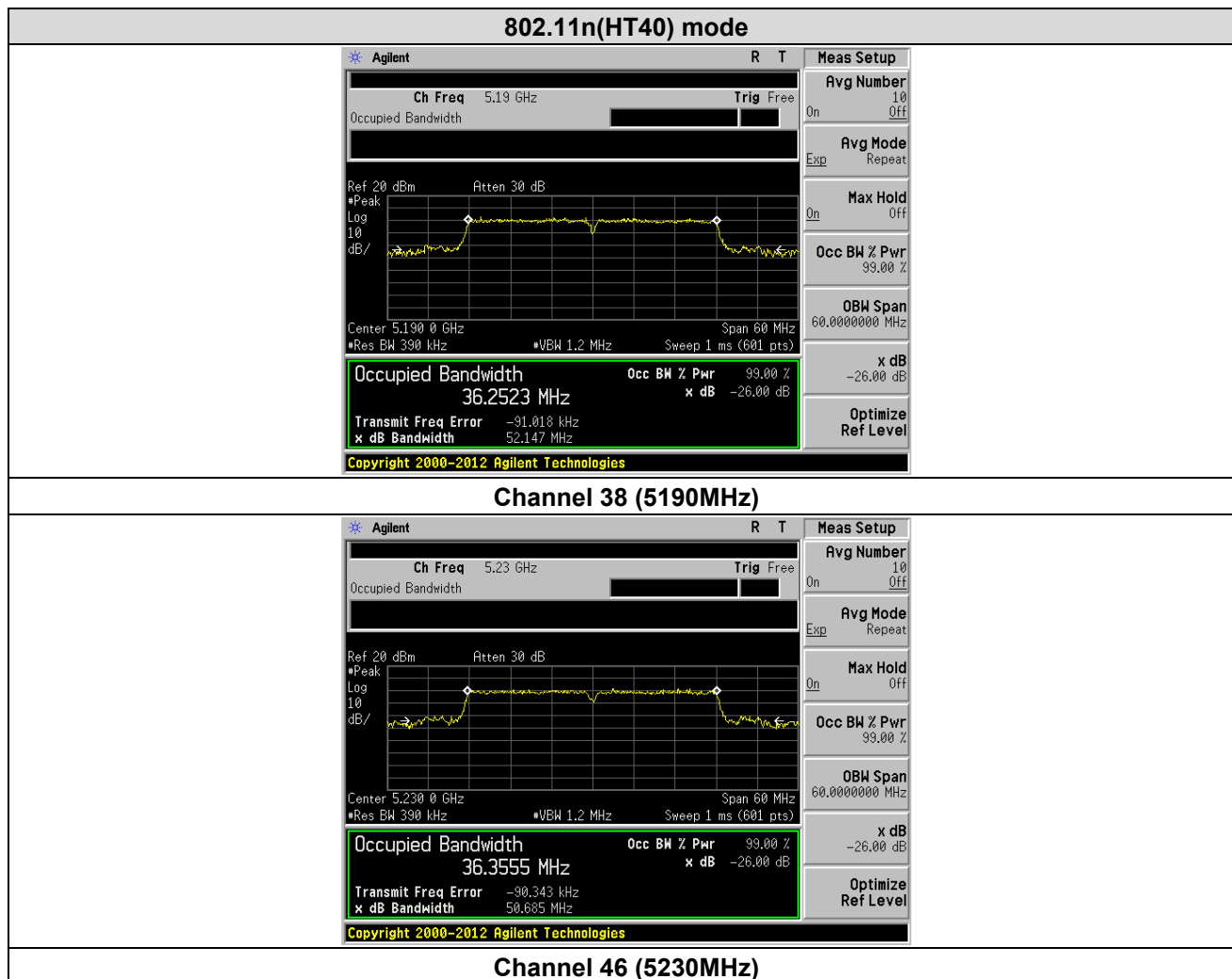




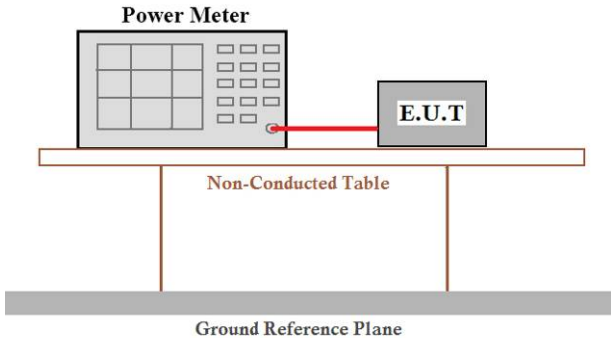
ANT:1







5.4 Peak Transmit Power

Test Requirement:	FCC Part15 E Section 15.407
Test Method:	ANSI C63.10:2013 and KDB 789033 D02 General UNII Test Procedures New Rules v01
Limit:	For the band 5.15-5.25 GHz, the maximum conducted output power over the frequency bands of operation shall not exceed 250 mW.
Test setup:	 The diagram illustrates the test setup. A 'Power Meter' is connected to an 'E.U.T.' (Equipment Under Test) by a red cable. Both the power meter and the E.U.T. are placed on a 'Non-Conducted Table'. This table is supported by a 'Ground Reference Plane'.
Test procedure:	Measurement using an RF average power meter (i) Measurements may be performed using a wideband RF power meter with a thermocouple detector or equivalent if all of the conditions listed below are satisfied a) The EUT is configured to transmit continuously or to transmit with a constant duty cycle. b) At all times when the EUT is transmitting, it must be transmitting at its maximum power control level. c) The integration period of the power meter exceeds the repetition period of the transmitted signal by at least a factor of five. (ii) If the transmitter does not transmit continuously, measure the duty cycle, x, of the transmitter output signal as described in section B). (iii) Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter. (iv) Adjust the measurement in dBm by adding $10 \log(1/x)$ where x is the duty cycle (e.g., $10 \log(1/0.25)$ if the duty cycle is 25 percent).
Test Instruments:	Refer to section 5.10 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Measurement Data

802.11a(HT20) mode (SISO)								
CH No.	Frequency (MHz)	Measured Power (dBm)					Limit (dBm)	Result
		ANT0	ANT1	Duty Factor	Total ANT0 Output Power (dBm)	Total ANT1 Output Power (dBm)		
36	5180.00	13.50	11.36	0.04	13.54	11.40	23.98	Pass
40	5200.00	13.69	11.47	0.04	13.73	11.51	23.98	Pass
48	5240.00	13.76	11.58	0.04	13.80	11.62	23.98	Pass

ANT0 + ANT1:

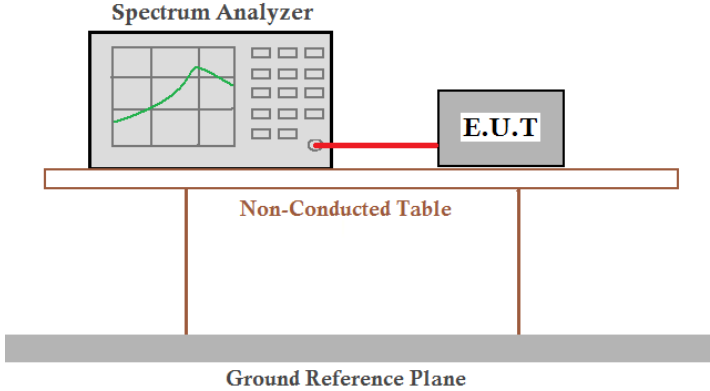
802.11n(HT20) mode (MIMO)									
CH No.	Frequency (MHz)	Measured Power (dBm)					Output Power (dBm)	Limit (dBm)	Result
		ANT0	ANT1	Duty Factor	Total ANT0	Total ANT1			
36	5180.00	9.11	8.20	0.04	9.15	8.24	11.73	23.98	Pass
40	5200.00	9.25	8.34	0.04	9.29	8.38	11.87	23.98	Pass
48	5240.00	9.42	8.39	0.04	9.46	8.43	11.99	23.98	Pass

802.11n(HT40) mode (MIMO)									
CH No.	Frequency (MHz)	Measured Power (dBm)					Output Power (dBm)	Limit (dBm)	Result
		ANT0	ANT1	Duty Factor	Total ANT0	Total ANT1			
38	5190.00	8.33	7.42	0.04	8.37	7.46	10.95	23.98	Pass
46	5230.00	8.38	7.53	0.04	8.42	7.57	11.03	23.98	Pass

Note: Output Power = Measured Power + Duty Factor

Duty Factor = 10 log (1/Duty Cycle)

5.5 Peak Power Spectral Density

Test Requirement:	FCC Part15 E Section 15.407
Test Method:	ANSI C63.10:2013 and KDB 789033 D02 General UNII Test Procedures New Rules v01
Limit:	11dBm/MHz
Test setup:	 The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T. are placed on a Non-Conducted Table. The table is supported by a Ground Reference Plane.
Test procedure:	1) Create an average power spectrum for the EUT operating mode being tested by following the instructions in section E)2) for measuring maximum conducted output power using a spectrum analyzer or EMI receiver: select the appropriate test method (SA-1, SA-2, SA-3, or alternatives to each) and apply it up to, but not including, the step labeled, "Compute power...". 2) Use the peak search function on the instrument to find the peak of the spectrum. 3) Make the following adjustments to the peak value of the spectrum, if applicable: a) If Method SA-2 or SA-2 Alternative was used, add $10 \log(1/x)$, where x is the duty cycle, to the peak of the spectrum. b) If Method SA-3 Alternative was used and the linear mode was used in step E)2)g)(viii), add 1 dB to the final result to compensate for the difference between linear averaging and power averaging. 4) The result is the PPSD.
Test Instruments:	Refer to section 5.10 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Measurement Data

ANT: 0

802.11a mode					
Channel No.	Frequency (MHz)	Measured PPSP (dBm/MHz)	Total PPSP (dBm/MHz)	Limit (dBm/MHz)	Result
36	5180.00	-0.05	-0.01	11.00	Pass
40	5200.00	1.09	1.13	11.00	Pass
48	5240.00	1.87	1.91	11.00	Pass

802.11n(HT20) mode (MIMO)					
Channel No.	Frequency (MHz)	Measured PPSP (dBm/MHz)	Total PPSP (dBm/MHz)	Limit (dBm/MHz)	Result
36	5180.00	0.91	0.95	11.00	Pass
40	5200.00	1.69	1.73	11.00	Pass
48	5240.00	2.18	2.22	11.00	Pass

802.11n(HT40) mode (MIMO)					
Channel No.	Frequency (MHz)	Measured PPSP (dBm/MHz)	Total PPSP - (dBm/MHz)	Limit (dBm/MHz)	Result
38	5190.00	-4.12	-4.08	11.00	Pass
46	5230.00	-2.59	-2.55	11.00	Pass

ANT: 1

802.11a mode					
Channel No.	Frequency (MHz)	Measured PPSP (dBm/MHz)	Total PPSP (dBm/MHz)	Limit (dBm/MHz)	Result
36	5180.00	0.92	0.96	11.00	Pass
40	5200.00	0.68	0.72	11.00	Pass
48	5240.00	0.49	0.53	11.00	Pass

802.11n(HT20) mode (MIMO)					
Channel No.	Frequency (MHz)	Measured PPSP (dBm/MHz)	Total PPSP (dBm/MHz)	Limit (dBm/MHz)	Result
36	5180.00	0.91	0.95	11.00	Pass
40	5200.00	0.03	0.07	11.00	Pass
48	5240.00	-0.91	-0.87	11.00	Pass

802.11n(HT40) mode (MIMO)					
Channel No.	Frequency (MHz)	Measured PPSP (dBm/MHz)	Total PPSP (dBm/MHz)	Limit (dBm/MHz)	Result
38	5190.00	3.16	3.20	11.00	Pass
46	5230.00	1.80	1.84	11.00	Pass

ANT 0+ANT 1

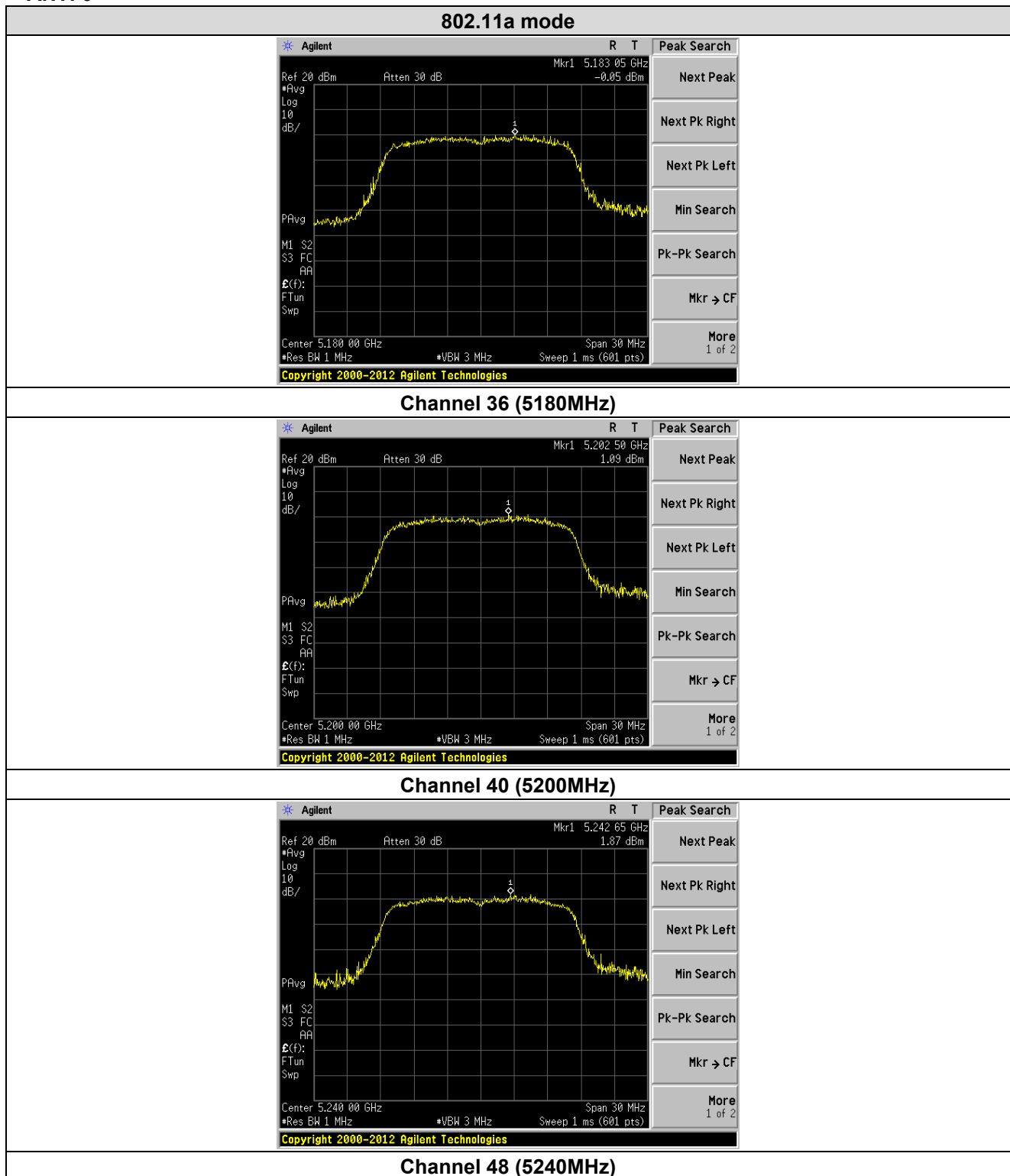
802.11n(HT20) mode (MIMO)						
Channel No.	Frequency (MHz)	ANT 0 Total PPSD (dBm/MHz)	ANT 1 Total PPSD (dBm/MHz)	Total	(dBm/MHz)	Result
36	5180.00	0.95	0.95	3.96	11.00	Pass
40	5200.00	1.73	0.07	3.99	11.00	Pass
48	5240.00	2.22	-0.87	3.95	11.00	Pass

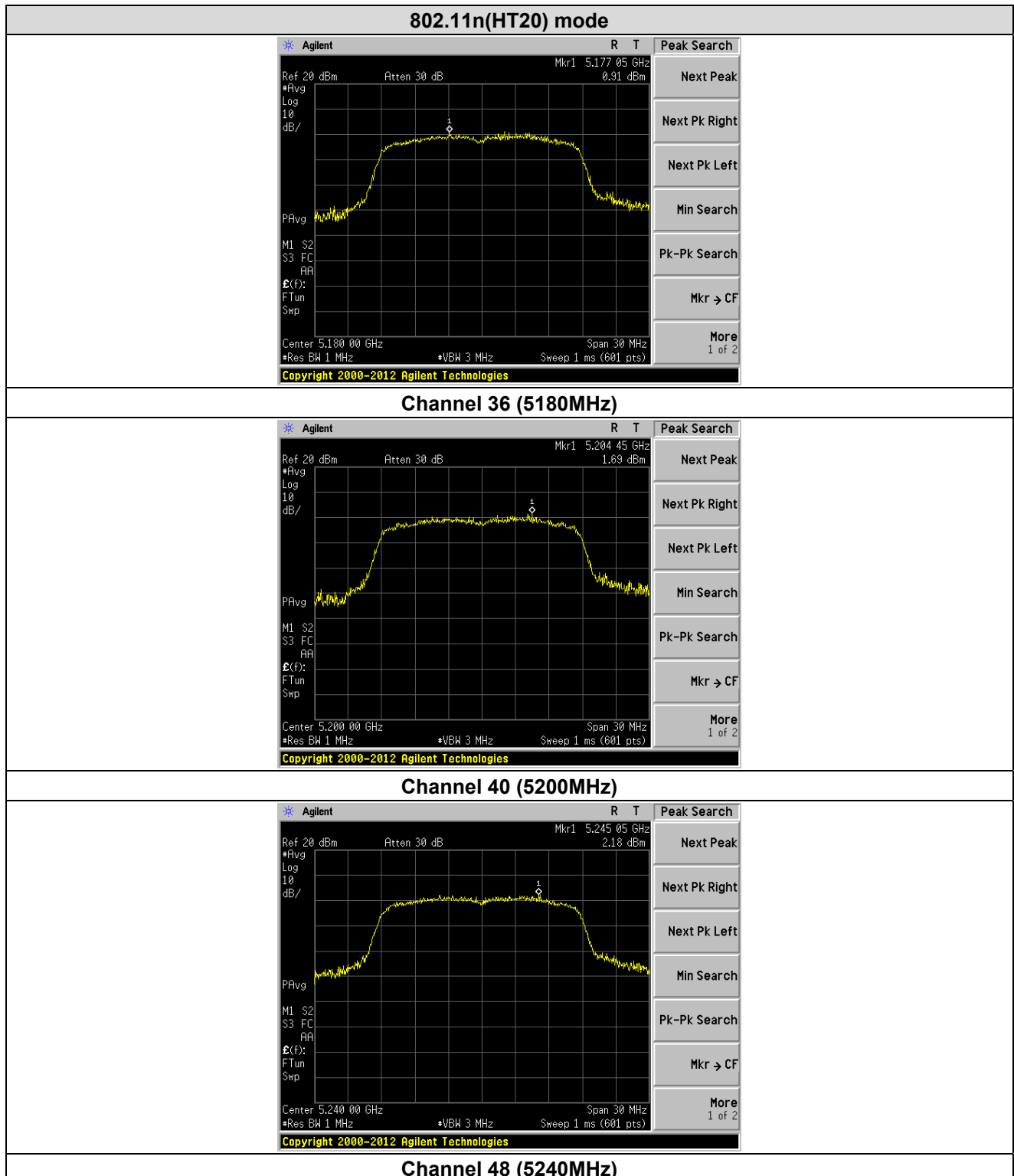
802.11n(HT40) mode (MIMO)						
Channel No.	Frequency (MHz)	ANT 0 Total PPSD (dBm/MHz)	ANT 1 Total PPSD (dBm/MHz)	Total	(dBm/MHz)	Result
38	5190.00	-4.08	3.20	3.94	11.00	Pass
46	5230.00	-2.55	1.84	3.19	11.00	Pass

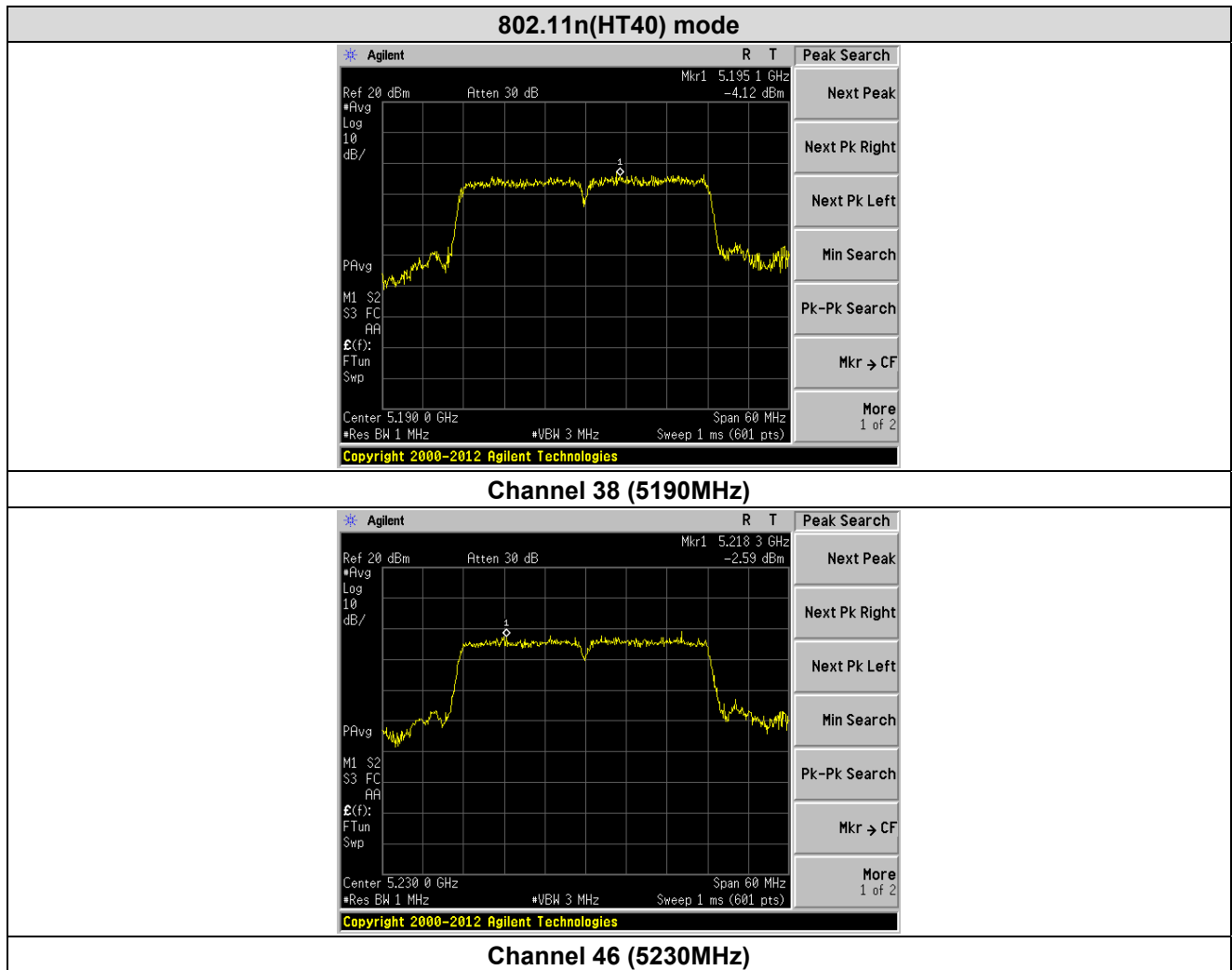
Note: Total PPSD = Measured PPSD + 10 log (1/Duty Cycle)

Test plots as followed:

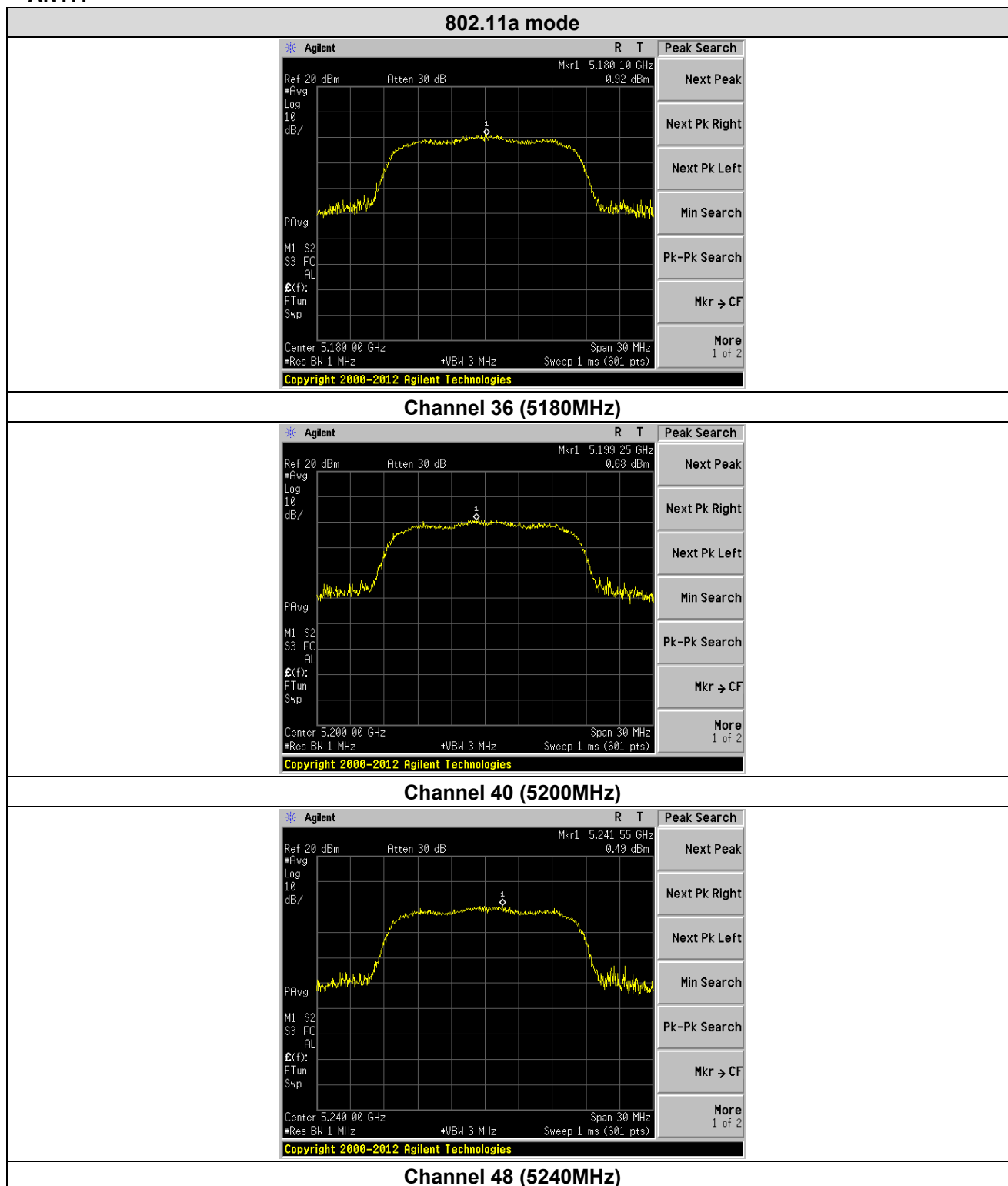
ANT: 0

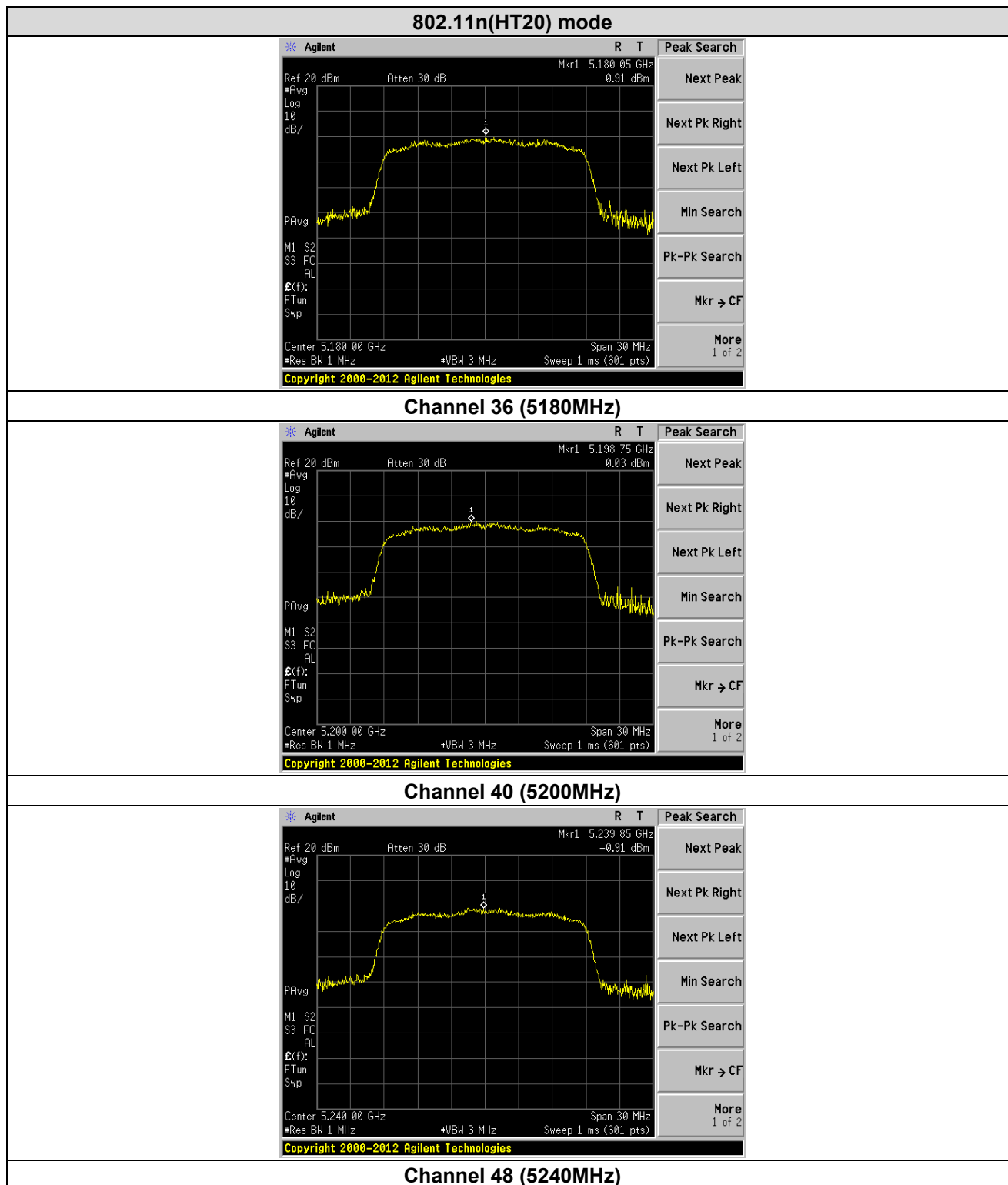


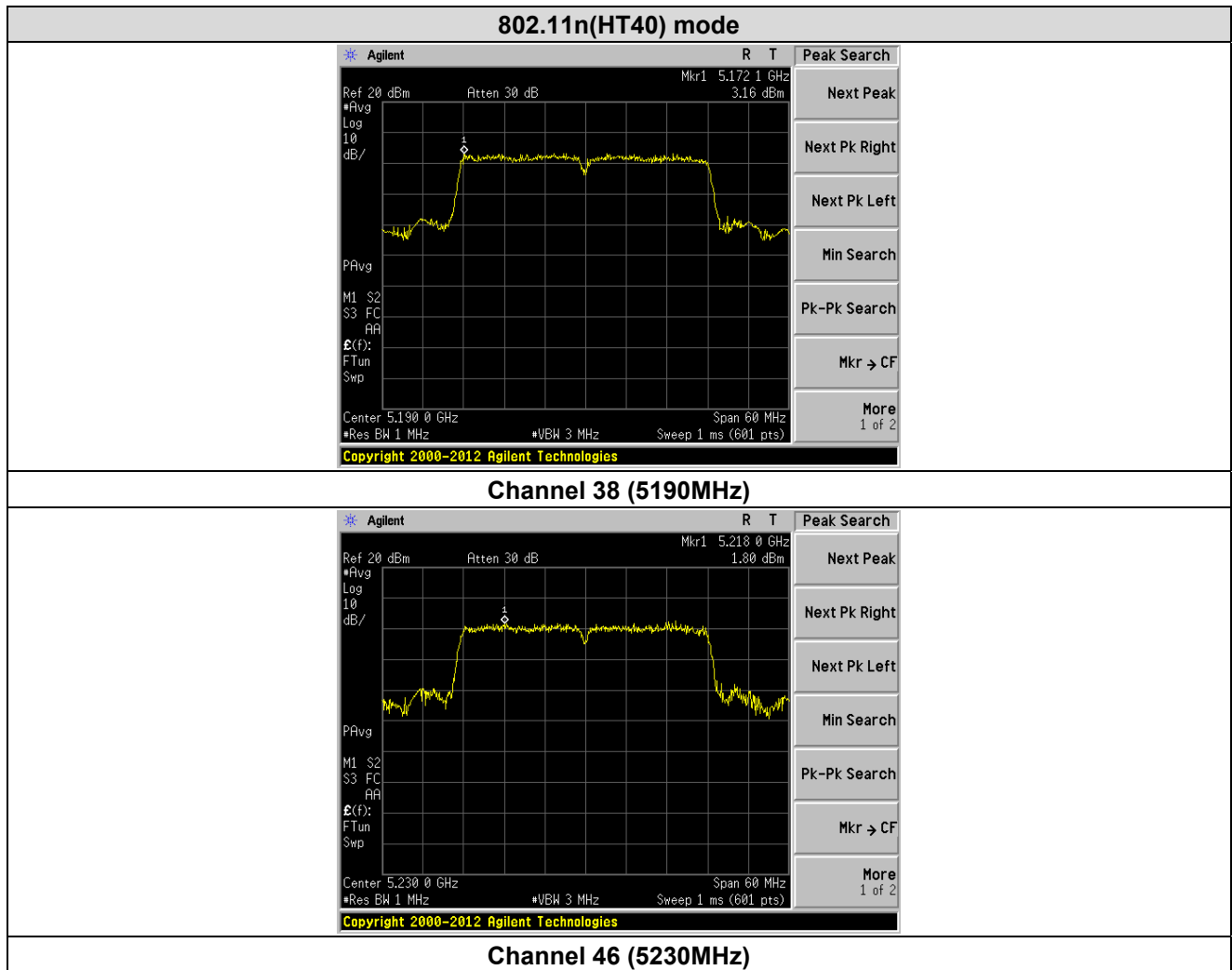




ANT:1

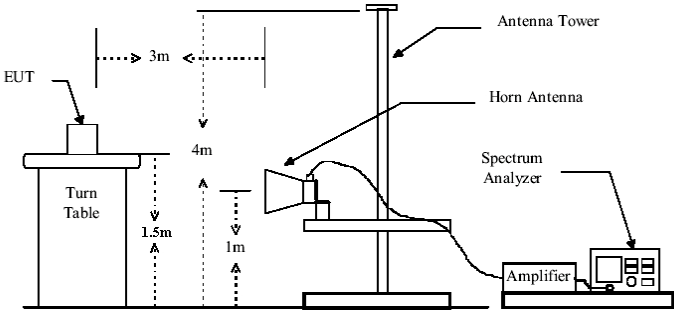






5.6 Band Edge

Test Requirement:	FCC Part15 E Section 15.407 and 5.205																								
Test Method:	ANSI C63.10:2013																								
Test site:	Measurement Distance: 3m (Semi-Anechoic Chamber)																								
Receiver setup:	<table><tr><td>Frequency</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Remark</td></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>AV</td><td>1MHz</td><td>3MHz</td><td>Average Value</td></tr></table>					Frequency	Detector	RBW	VBW	Remark	30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value	Above 1GHz	Peak	1MHz	3MHz	Peak Value	AV	1MHz	3MHz	Average Value	
Frequency	Detector	RBW	VBW	Remark																					
30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value																					
Above 1GHz	Peak	1MHz	3MHz	Peak Value																					
	AV	1MHz	3MHz	Average Value																					
Limit:	<table><tr><td>Frequency</td><td>Limit (dBuV/m @3m)</td><td>Remark</td></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> 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.					Frequency	Limit (dBuV/m @3m)	Remark	30MHz-88MHz	40.0	Quasi-peak Value	88MHz-216MHz	43.5	Quasi-peak Value	216MHz-960MHz	46.0	Quasi-peak Value	960MHz-1GHz	54.0	Quasi-peak Value	Above 1GHz	54.0	Average Value	74.0	Peak Value
Frequency	Limit (dBuV/m @3m)	Remark																							
30MHz-88MHz	40.0	Quasi-peak Value																							
88MHz-216MHz	43.5	Quasi-peak Value																							
216MHz-960MHz	46.0	Quasi-peak Value																							
960MHz-1GHz	54.0	Quasi-peak Value																							
Above 1GHz	54.0	Average Value																							
	74.0	Peak Value																							
Test Procedure:	a. The EUT was placed on the top of a rotating table 1.5 m above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. c. 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. d. 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 rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. f. 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.
Test setup:	Above 1GHz 
Test Instruments:	Refer to section 5.10 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Remark:

According to KDB 789033 D02V01 section G) 1) (d), for 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 $\text{EIRP} = -27\text{dBm}$

$$E[\text{dBuV/m}] = -27 + 95.2 = 68.2\text{dBuV/m}.$$

Measurement Data:

ANT 0:

Mode:		802.11a		Frequency:		5180MHz	
Antenna Pol.	Frequency (MHz)	Reading Level	Factor	Measure Level	Limit (dBuV/m)	Margin (dB)	Detector
H	5150.00	35.92	17.18	53.10	68.20	-15.10	PK
H	5178.00	77.58	17.16	94.74	N/A	N/A	PK
V	5150.00	39.01	17.18	56.19	68.20	-12.01	PK
V	5178.00	84.46	17.16	101.62	N/A	N/A	PK
Mode:		802.11a		Frequency:		5180MHz	
Antenna Pol.	Frequency (MHz)	Reading Level	Factor	Measure Level	Limit (dBuV/m)	Margin (dB)	Detector
H	5150.00	27.10	17.18	44.28	54.00	-9.72	AV
H	5178.00	68.87	17.16	86.03	N/A	N/A	AV
V	5150.00	28.91	17.18	46.09	54.00	-7.91	AV
V	5178.00	76.24	17.16	93.40	N/A	N/A	AV
Mode:		802.11a		Frequency:		5240MHz	
Antenna Pol.	Frequency (MHz)	Reading Level	Factor	Measure Level	Limit (dBuV/m)	Margin (dB)	Detector
H	5237.94	77.40	17.11	94.51	N/A	N/A	PK
H	5350.00	34.53	17.20	51.73	68.20	-16.47	PK
V	5237.94	84.35	17.11	101.46	N/A	N/A	PK
V	5350.00	35.21	17.20	52.41	68.20	-15.79	PK
Mode:		802.11a		Frequency:		5240MHz	
Antenna Pol.	Frequency (MHz)	Reading Level	Factor	Measure Level	Limit (dBuV/m)	Margin (dB)	Detector
H	5237.94	69.00	17.11	86.11	N/A	N/A	AV
H	5350.00	25.34	17.20	42.54	54.00	-11.46	AV
V	5237.94	75.33	17.11	92.44	N/A	N/A	AV
V	5350.00	26.61	17.20	43.81	54.00	-10.19	AV

ANT 1:

Mode:		802.11a		Frequency:		5180MHz	
Antenna Pol.	Frequency (MHz)	Reading Level	Factor	Measure Level	Limit (dBuV/m)	Margin (dB)	Detector
H	5150.00	36.88	17.18	54.06	68.20	-14.14	PK
H	5178.00	77.30	17.16	94.46	N/A	N/A	PK
V	5150.00	37.48	17.18	54.66	68.20	-13.54	PK
V	5178.00	84.09	17.16	101.25	N/A	N/A	PK
Mode:		802.11a		Frequency:		5180MHz	
Antenna Pol.	Frequency (MHz)	Reading Level	Factor	Measure Level	Limit (dBuV/m)	Margin (dB)	Detector
H	5150.00	27.55	17.18	44.73	54.00	-9.27	AV
H	5178.00	67.72	17.16	84.88	N/A	N/A	AV
V	5150.00	28.03	17.18	45.21	54.00	-8.79	AV
V	5178.00	75.31	17.16	92.47	N/A	N/A	AV
Mode:		802.11a		Frequency:		5240MHz	
Antenna Pol.	Frequency (MHz)	Reading Level	Factor	Measure Level	Limit (dBuV/m)	Margin (dB)	Detector
H	5237.94	76.71	17.11	93.82	N/A	N/A	PK
H	5350.00	34.35	17.20	51.55	68.20	-16.65	PK
V	5237.94	83.90	17.11	101.01	N/A	N/A	PK
V	5350.00	35.14	17.20	52.34	68.20	-15.86	PK
Mode:		802.11a		Frequency:		5240MHz	
Antenna Pol.	Frequency (MHz)	Reading Level	Factor	Measure Level	Limit (dBuV/m)	Margin (dB)	Detector
H	5237.94	67.64	17.11	84.75	N/A	N/A	AV
H	5350.00	25.67	17.20	42.87	54.00	-11.13	AV
V	5237.94	74.91	17.11	92.02	N/A	N/A	AV
V	5350.00	26.14	17.20	43.34	54.00	-10.66	AV

ANT 0 + ANT 1:

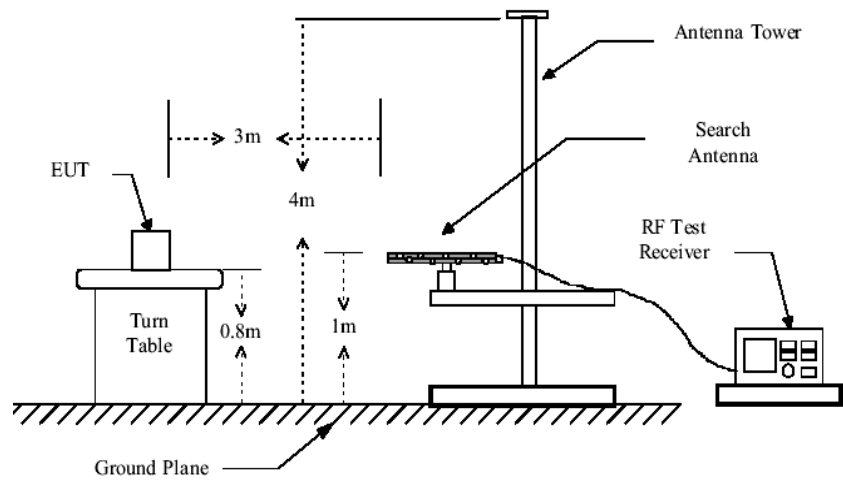
Mode:		802.11n(HT20)		Frequency:		5180MHz	
Antenna Pol.	Frequency (MHz)	Reading Level	Factor	Measure Level	Limit (dBuV/m)	Margin (dB)	Detector
H	5150.00	36.68	17.18	53.86	68.20	-14.34	PK
H	5178.00	78.25	17.16	95.41	N/A	N/A	PK
V	5150.00	38.61	17.18	55.79	68.20	-12.41	PK
V	5178.00	85.17	17.16	102.33	N/A	N/A	PK
Mode:		802.11n(HT20)		Frequency:		5180MHz	
Antenna Pol.	Frequency (MHz)	Reading Level	Factor	Measure Level	Limit (dBuV/m)	Margin (dB)	Detector
H	5150.00	26.54	17.18	43.72	54.00	-10.28	AV
H	5178.00	69.16	17.16	86.32	N/A	N/A	AV
V	5150.00	28.49	17.18	45.67	54.00	-8.33	AV
V	5178.00	76.57	17.16	93.73	N/A	N/A	AV
Mode:		802.11n(HT20)		Frequency:		5240MHz	
Antenna Pol.	Frequency (MHz)	Reading Level	Factor	Measure Level	Limit (dBuV/m)	Margin (dB)	Detector
H	5238.00	78.28	17.11	95.39	N/A	N/A	PK
H	5350.00	35.05	17.20	52.25	68.20	-15.95	PK
V	5238.00	84.67	17.11	101.78	N/A	N/A	PK
V	5350.00	35.99	17.20	53.19	68.20	-15.01	PK
Mode:		802.11n(HT20)		Frequency:		5240MHz	
Antenna Pol.	Frequency (MHz)	Reading Level	Factor	Measure Level	Limit (dBuV/m)	Margin (dB)	Detector
H	5238.00	68.90	17.11	86.01	N/A	N/A	AV
H	5350.00	25.82	17.20	43.02	54.00	-10.98	AV
V	5238.00	77.18	17.11	94.29	N/A	N/A	AV
V	5350.00	26.55	17.20	43.75	54.00	-10.25	AV

Mode:		802.11n(HT40)		Frequency:		5190MHz	
Antenna Pol.	Frequency (MHz)	Reading Level	Factor	Measure Level	Limit (dBuV/m)	Margin (dB)	Detector
H	5150.00	39.36	17.18	56.54	68.20	-11.66	PK
H	5185.20	74.66	17.16	91.82	N/A	N/A	PK
V	5150.00	40.81	17.18	57.99	68.20	-10.21	PK
V	5185.20	82.46	17.16	99.62	N/A	N/A	PK
Mode:		802.11n(HT40)		Frequency:		5190MHz	
Antenna Pol.	Frequency (MHz)	Reading Level	Factor	Measure Level	Limit (dBuV/m)	Margin (dB)	Detector
H	5150.00	29.70	17.18	46.88	54.00	-7.12	AV
H	5185.20	65.77	17.16	82.93	N/A	N/A	AV
V	5150.00	30.43	17.18	47.61	54.00	-6.39	AV
V	5185.20	73.35	17.16	90.51	N/A	N/A	AV
Mode:		802.11n(HT40)		Frequency:		5230MHz	
Antenna Pol.	Frequency (MHz)	Reading Level	Factor	Measure Level	Limit (dBuV/m)	Margin (dB)	Detector
H	5226.25	74.89	17.12	92.01	N/A	N/A	PK
H	5350.00	40.38	17.20	57.58	68.20	-10.62	PK
V	5226.25	82.39	17.12	99.51	N/A	N/A	PK
V	5350.00	41.75	17.20	58.95	68.20	-9.25	PK
Mode:		802.11n(HT40)		Frequency:		5230MHz	
Antenna Pol.	Frequency (MHz)	Reading Level	Factor	Measure Level	Limit (dBuV/m)	Margin (dB)	Detector
H	5226.25	65.40	17.12	82.52	N/A	N/A	AV
H	5350.00	29.31	17.20	46.51	54.00	-7.49	AV
V	5226.25	73.25	17.12	90.37	N/A	N/A	AV
V	5350.00	30.34	17.20	47.54	54.00	-6.46	AV

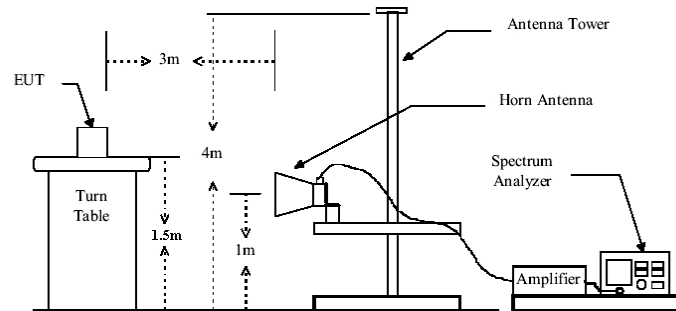
5.7 Radiated Emission

Test Requirement:	FCC Part15 C Section 15.209 and 15.205				
Test Method:	ANSI C63.10:2013				
Test Frequency Range:	30MHz to 40GHz				
Test site:	Measurement Distance: 3m (Semi-Anechoic Chamber)				
Receiver setup:	Frequency	Detector	RBW	VBW	Value
	30MHz-1GHz	Quasi-peak	100KHz	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
	Frequency		Limit (dBm/MHz)		Remark
	Above 1GHz		-27.0		Peak Value
Test Procedure:	Substitution method was performed to determine the actual ERP emission levels of the EUT. The following test procedure as below:				
	1>.Below 1GHz test procedure:				
	1. The EUT was placed on the top of a rotating table (0.8m for below 1GHz and 1.5 meters for above 1GHz) 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 rotatable 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.				
	2>.Above 1GHz test procedure:				
	1. On the test site as test setup graph above,the EUT shall be placed at the 0.8m support on the turntable and in the position closest to normal use as declared by the provider. 2. The test antenna shall be oriented initially for vertical polarization and				

	shall be chosen to correspond to the frequency of the transmitter. The output of the test antenna shall be connected to the measuring receiver. 3. The transmitter shall be switched on, if possible, without modulation and the measuring receiver shall be tuned to the frequency of the transmitter under test. 4. The test antenna shall be raised and lowered from 1m to 4m until a maximum signal level is detected by the measuring receiver. Then the turntable should be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver. 5. Repeat step 4 for test frequency with the test antenna polarized horizontally. 6. Remove the transmitter and replace it with a substitution antenna 7. Feed the substitution antenna at the transmitter end with a signal generator connected to the antenna by means of a nonradiating cable. With the antennas at both ends vertically polarized, and with the signal generator tuned to a particular test frequency, raise and lower the test antenna to obtain a maximum reading at the spectrum analyzer. Adjust the level of the signal generator output until the previously recorded maximum reading for this set of conditions is obtained. This should be done carefully repeating the adjustment of the test antenna and generator output. 8. Repeat step 7 with both antennas horizontally polarized for each test frequency. 9. Calculate power in dBm into a reference ideal half-wave dipole antenna by reducing the readings obtained in steps 7 and 8 by the power loss in the cable between the generator and the antenna, and further corrected for the gain of the substitution antenna used relative to an ideal half-wave dipole antenna by the following formula: $EIRP(dBm) = P_g(dBm) - \text{cable loss (dB)} + \text{antenna gain (dBi)}$ where: P_g is the generator output power into the substitution antenna.
Test setup:	Below 1GHz



Above 1GHz



Test Instruments:	Refer to section 5.10 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Measurement Data:

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
49.36	39.92	15.29	0.77	30.00	25.98	40.00	-14.02	Vertical
85.30	33.35	12.45	1.07	29.77	17.10	40.00	-22.90	Vertical
160.35	39.61	10.67	1.63	29.36	22.55	43.50	-20.95	Vertical
272.28	35.67	14.46	2.24	29.81	22.56	46.00	-23.44	Vertical
472.18	32.02	17.89	3.19	29.35	23.75	46.00	-22.25	Vertical
863.06	26.50	22.73	4.71	29.13	24.81	46.00	-21.19	Vertical
66.73	37.59	12.02	0.91	29.87	20.65	40.00	-19.35	Horizontal
104.54	36.92	14.73	1.23	29.67	23.21	43.50	-20.29	Horizontal
168.41	41.67	10.92	1.68	29.32	24.95	43.50	-18.55	Horizontal
262.90	43.46	14.17	2.19	29.74	30.08	46.00	-15.92	Horizontal
435.59	29.18	17.54	3.03	29.42	20.33	46.00	-25.67	Horizontal
696.86	30.42	20.80	4.08	29.20	26.10	46.00	-19.90	Horizontal

Above 1GHz:

Only the data of worst case at each channel plan (nominal bandwidth =20MHz, 40MHz) is reported.

ANT0:

802.11 a mode								
CH. No.	Antenna Pol.	Frequency (MHz)	Reading Level	Factor	Measure Level	Limit (dBuV/m)	Margin (dB)	Detector
36	H	10360.00	26.36	21.64	48.00	54(Note3)	-6.00	PK
	H	15540.00	26.79	21.80	48.59	54(Note3)	-5.41	PK
	V	10360.00	28.21	21.64	49.85	54(Note3)	-4.15	PK
	V	15540.00	28.35	21.80	50.15	54(Note3)	-3.85	PK
40	H	10400.00	26.88	21.67	48.55	54(Note3)	-5.45	PK
	H	15600.00	27.86	21.83	49.69	54(Note3)	-4.31	PK
	V	10400.00	28.39	21.67	50.06	54(Note3)	-3.94	PK
	V	15600.00	26.90	21.83	48.73	54(Note3)	-5.27	PK
48	H	10480.00	26.81	21.64	48.45	54(Note3)	-5.55	PK
	H	15720.00	25.08	22.16	47.24	54(Note3)	-6.76	PK
	V	10480.00	26.51	21.64	48.15	54(Note3)	-5.85	PK
	V	15720.00	25.65	22.16	47.81	54(Note3)	-6.19	PK

ANT1:

802.11 a mode								
CH. No.	Antenna Pol.	Frequency (MHz)	Reading Level	Factor	Measure Level	Limit (dBuV/m)	Margin (dB)	Detector
36	H	10360.00	26.40	21.64	48.04	54(Note3)	-5.96	PK
	H	15540.00	26.84	21.80	48.64	54(Note3)	-5.36	PK
	V	10360.00	28.25	21.64	49.89	54(Note3)	-4.11	PK
	V	15540.00	28.39	21.80	50.19	54(Note3)	-3.81	PK
40	H	10400.00	26.93	21.67	48.60	54(Note3)	-5.40	PK
	H	15600.00	27.91	21.83	49.74	54(Note3)	-4.26	PK
	V	10400.00	28.43	21.67	50.10	54(Note3)	-3.90	PK
	V	15600.00	26.96	21.83	48.79	54(Note3)	-5.21	PK
48	H	10480.00	26.85	21.64	48.49	54(Note3)	-5.51	PK
	H	15720.00	25.12	22.16	47.28	54(Note3)	-6.72	PK
	V	10480.00	26.54	21.64	48.18	54(Note3)	-5.82	PK
	V	15720.00	25.71	22.16	47.87	54(Note3)	-6.13	PK

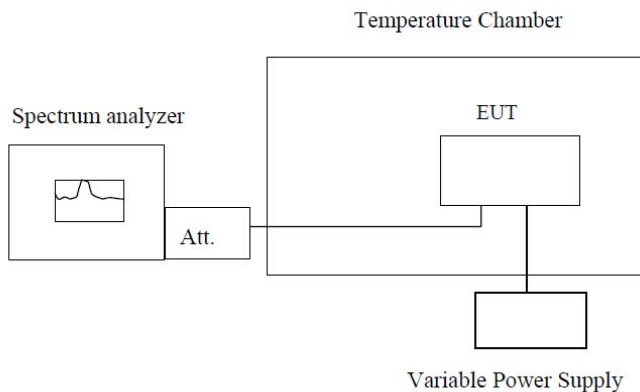
ANT0 + ANT1:

802.11 n(HT20) mode								
CH. No.	Antenna Pol.	Frequency (MHz)	Reading Level	Factor	Measure Level	Limit (dBuV/m)	Margin (dB)	Detector
36	H	10360.00	25.66	21.64	47.30	54(Note3)	-6.70	25.66
	H	15540.00	25.84	21.80	47.64	54(Note3)	-6.36	25.84
	V	10360.00	27.33	21.64	48.97	54(Note3)	-5.03	27.33
	V	15540.00	27.56	21.80	49.36	54(Note3)	-4.64	27.56
40	H	10400.00	25.78	21.67	47.45	54(Note3)	-6.55	25.78
	H	15600.00	26.83	21.83	48.66	54(Note3)	-5.34	26.83
	V	10400.00	27.52	21.67	49.19	54(Note3)	-4.81	27.52
	V	15600.00	25.63	21.83	47.46	54(Note3)	-6.54	25.63
48	H	10480.00	26.06	21.64	47.70	54(Note3)	-6.30	26.06
	H	15720.00	24.24	22.16	46.40	54(Note3)	-7.60	24.24
	V	10480.00	25.73	21.64	47.37	54(Note3)	-6.63	25.73
	V	15720.00	24.57	22.16	46.73	54(Note3)	-7.27	24.57
802.11n(HT40) mode								
CH. No.	Antenna Pol.	Frequency (MHz)	Reading Level	Factor	Measure Level	Limit (dBuV/m)	Margin (dB)	Detector
38	H	10380.00	27.34	21.64	48.98	54(Note3)	-5.02	PK
	H	15570.00	27.20	21.80	49.00	54(Note3)	-5.00	PK
	V	10380.00	25.74	21.64	47.38	54(Note3)	-6.62	PK
	V	15570.00	26.89	21.80	48.69	54(Note3)	-5.31	PK
46	H	10460.00	27.07	21.67	48.74	54(Note3)	-5.26	PK
	H	15690.00	25.98	21.83	47.81	54(Note3)	-6.19	PK
	V	10460.00	25.92	21.67	47.59	54(Note3)	-6.41	PK
	V	15690.00	24.22	21.83	46.05	54(Note3)	-7.95	PK

Note:

1. Measure Level = Reading Level + 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.

5.8 Frequency stability

Test Requirement:	FCC Part15 C Section 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 Procedure:	The EUT was setup to ANSI C63.4, 2003; tested to 2.1055 for compliance to FCC Part 15.407(g) requirements.
Test setup:	 Note : Measurement setup for testing on Antenna connector
Test Instruments:	Refer to section 5.10 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Measurement data:
ANT:0

Frequency stability versus Temp.					
Power Supply: DC 3.7V					
Temp. (°C)	Operating Frequency (MHz)	0 minute Measured Frequency (MHz)	2 minute Measured Frequency (MHz)	5 minute Measured Frequency (MHz)	10 minute Measured Frequency (MHz)
-30	5180	5179.9750	5179.9762	5179.9781	5179.9792
	5200	5199.9758	5199.9769	5199.9787	5199.9798
	5220	5219.9765	5219.9776	5219.9794	5219.9804
	5240	5239.9772	5239.9783	5239.9800	5239.9810
-20	5180	5179.9778	5179.9789	5179.9806	5179.9815
	5200	5199.9785	5199.9795	5199.9811	5199.9821
	5220	5219.9791	5219.9801	5219.9817	5219.9826
	5240	5239.9797	5239.9807	5239.9822	5239.9831
-10	5180	5179.9803	5179.9812	5179.9827	5179.9836
	5200	5199.9809	5199.9818	5199.9832	5199.9841
	5220	5219.9814	5219.9823	5219.9837	5219.9845
	5240	5239.9820	5239.9828	5239.9842	5239.9850
0	5180	5179.9758	5179.9769	5179.9787	5179.9798
	5200	5199.9765	5199.9776	5199.9793	5199.9804
	5220	5219.9771	5219.9782	5219.9800	5219.9810
	5240	5239.9778	5239.9789	5239.9805	5239.9815
10	5180	5179.9785	5179.9795	5179.9811	5179.9821
	5200	5199.9791	5199.9801	5199.9817	5199.9826
	5220	5219.9797	5219.9807	5219.9822	5219.9831
	5240	5239.9803	5239.9812	5239.9827	5239.9836
20	5180	5179.9809	5179.9818	5179.9832	5179.9841
	5200	5199.9814	5199.9823	5199.9837	5199.9845
	5220	5219.9820	5219.9828	5219.9842	5219.9850
	5240	5239.9825	5239.9833	5239.9846	5239.9854
30	5180	5179.9748	5179.9760	5179.9779	5179.9790
	5200	5199.9755	5199.9767	5199.9785	5199.9796
	5220	5219.9762	5219.9774	5219.9792	5219.9802
	5240	5239.9769	5239.9780	5239.9798	5239.9808
40	5180	5179.9776	5179.9787	5179.9804	5179.9814
	5200	5199.9783	5199.9793	5199.9809	5199.9819
	5220	5219.9789	5219.9799	5219.9815	5219.9824
	5240	5239.9795	5239.9805	5239.9820	5239.9829
50	5180	5179.9801	5179.9811	5179.9826	5179.9834
	5200	5199.9807	5199.9816	5199.9831	5199.9839
	5220	5219.9813	5219.9821	5219.9836	5219.9844
	5240	5239.9818	5239.9827	5239.9840	5239.9848

Frequency stability versus Voltage					
Temperature: 25°C					
Power Supply (VDC)	Operating Frequency (MHz)	0 minute Measured Frequency (MHz)	2 minute Measured Frequency (MHz)	5 minute Measured Frequency (MHz)	10 minute Measured Frequency (MHz)
3.3	5180	5179.9793	5179.9802	5179.9818	5179.9827
	5200	5199.9797	5199.9806	5199.9822	5199.9831
	5220	5219.9801	5219.9810	5219.9825	5219.9834
	5240	5239.9804	5239.9814	5239.9829	5239.9837
3.7	5180	5179.9808	5179.9817	5179.9832	5179.9840
	5200	5199.9812	5199.9821	5199.9835	5199.9844
	5220	5219.9816	5219.9825	5219.9838	5219.9847
	5240	5239.9819	5239.9828	5239.9842	5239.9850
4.1	5180	5179.9823	5179.9831	5179.9845	5179.9853
	5200	5199.9826	5199.9835	5199.9848	5199.9855
	5220	5219.9830	5219.9838	5219.9851	5219.9858
	5240	5239.9833	5239.9841	5239.9854	5239.9861

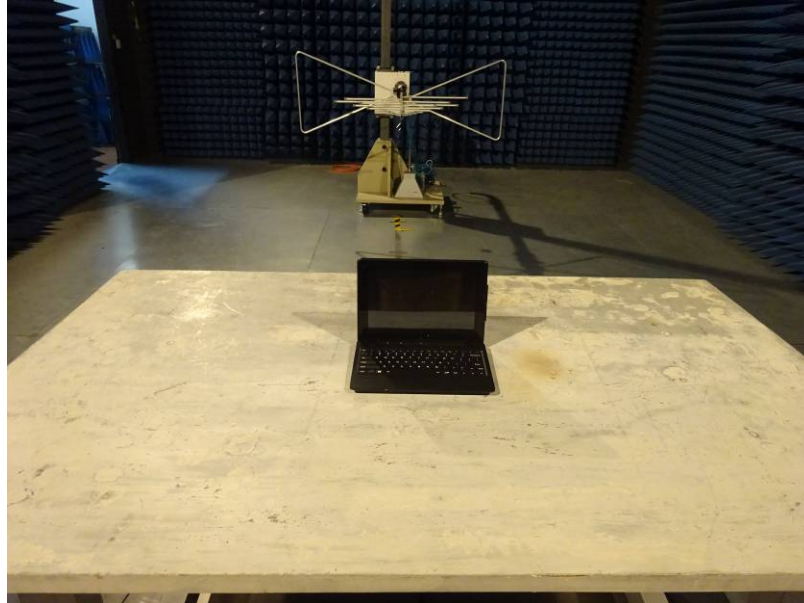
ANT:1

Frequency stability versus Temp.					
Power Supply: DC 3.7V					
Temp. (°C)	Operating Frequency (MHz)	0 minute Measured Frequency (MHz)	2 minute Measured Frequency (MHz)	5 minute Measured Frequency (MHz)	10 minute Measured Frequency (MHz)
-30	5180	5179.9799	5179.9808	5179.9823	5179.9832
	5200	5199.9804	5199.9814	5199.9828	5199.9837
	5220	5219.9810	5219.9819	5219.9833	5219.9842
	5240	5239.9816	5239.9825	5239.9838	5239.9847
-20	5180	5179.9821	5179.9830	5179.9843	5179.9851
	5200	5199.9826	5199.9835	5199.9848	5199.9855
	5220	5219.9831	5219.9839	5219.9852	5219.9860
	5240	5239.9836	5239.9844	5239.9856	5239.9864
-10	5180	5179.9841	5179.9849	5179.9861	5179.9868
	5200	5199.9846	5199.9853	5199.9865	5199.9871
	5220	5219.9850	5219.9857	5219.9869	5219.9875
	5240	5239.9855	5239.9861	5239.9872	5239.9879
0	5180	5179.9804	5179.9814	5179.9828	5179.9837
	5200	5199.9810	5199.9819	5199.9833	5199.9842
	5220	5219.9816	5219.9824	5219.9838	5219.9846
	5240	5239.9821	5239.9829	5239.9843	5239.9851
10	5180	5179.9826	5179.9834	5179.9847	5179.9855
	5200	5199.9831	5199.9839	5199.9852	5199.9859
	5220	5219.9836	5219.9844	5219.9856	5219.9864
	5240	5239.9841	5239.9849	5239.9860	5239.9868
20	5180	5179.9846	5179.9853	5179.9864	5179.9871
	5200	5199.9850	5199.9857	5199.9868	5199.9875
	5220	5219.9854	5219.9861	5219.9872	5219.9879
	5240	5239.9859	5239.9865	5239.9876	5239.9882
30	5180	5179.9797	5179.9806	5179.9822	5179.9831
	5200	5199.9803	5199.9812	5199.9827	5199.9836
	5220	5219.9808	5219.9817	5219.9832	5219.9840
	5240	5239.9814	5239.9823	5239.9837	5239.9845
40	5180	5179.9819	5179.9828	5179.9842	5179.9850
	5200	5199.9825	5199.9833	5199.9846	5199.9854
	5220	5219.9830	5219.9838	5219.9851	5219.9858
	5240	5239.9835	5239.9843	5239.9855	5239.9862
50	5180	5179.9839	5179.9847	5179.9859	5179.9866
	5200	5199.9844	5199.9852	5199.9863	5199.9870
	5220	5219.9849	5219.9856	5219.9867	5219.9874
	5240	5239.9853	5239.9860	5239.9871	5239.9878

Frequency stability versus Voltage					
Temperature: 25°C					
Power Supply (VDC)	Operating Frequency (MHz)	0 minute Measured Frequency (MHz)	2 minute Measured Frequency (MHz)	5 minute Measured Frequency (MHz)	10 minute Measured Frequency (MHz)
3.3	5180	5179.9775	5179.9786	5179.9802	5179.9812
	5200	5199.9779	5199.9790	5199.9806	5199.9816
	5220	5219.9783	5219.9794	5219.9810	5219.9820
	5240	5239.9788	5239.9798	5239.9814	5239.9823
3.7	5180	5179.9792	5179.9802	5179.9817	5179.9827
	5200	5199.9796	5199.9806	5199.9821	5199.9830
	5220	5219.9800	5219.9810	5219.9825	5219.9833
	5240	5239.9804	5239.9813	5239.9828	5239.9837
4.1	5180	5179.9808	5179.9817	5179.9831	5179.9840
	5200	5199.9812	5199.9821	5199.9835	5199.9843
	5220	5219.9815	5219.9824	5219.9838	5219.9846
	5240	5239.9819	5239.9827	5239.9841	5239.9849

6 Test Setup Photo

Radiated Emission

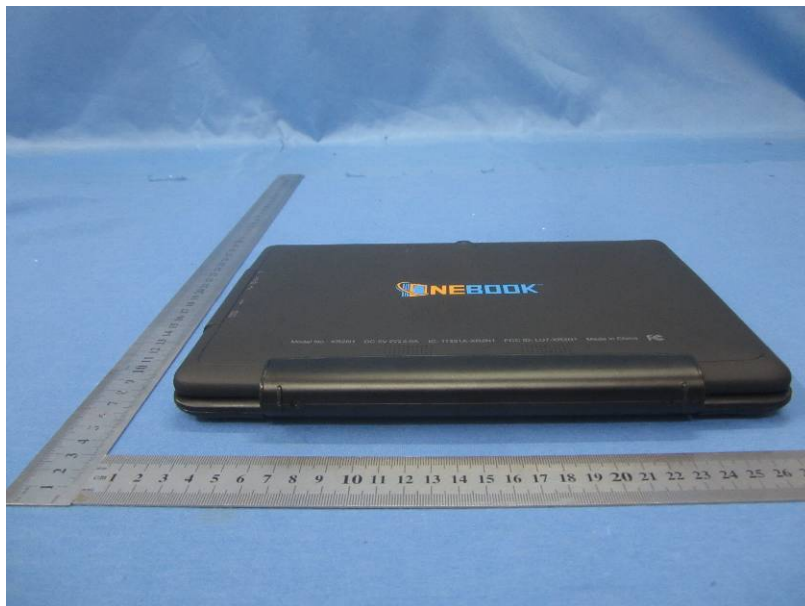


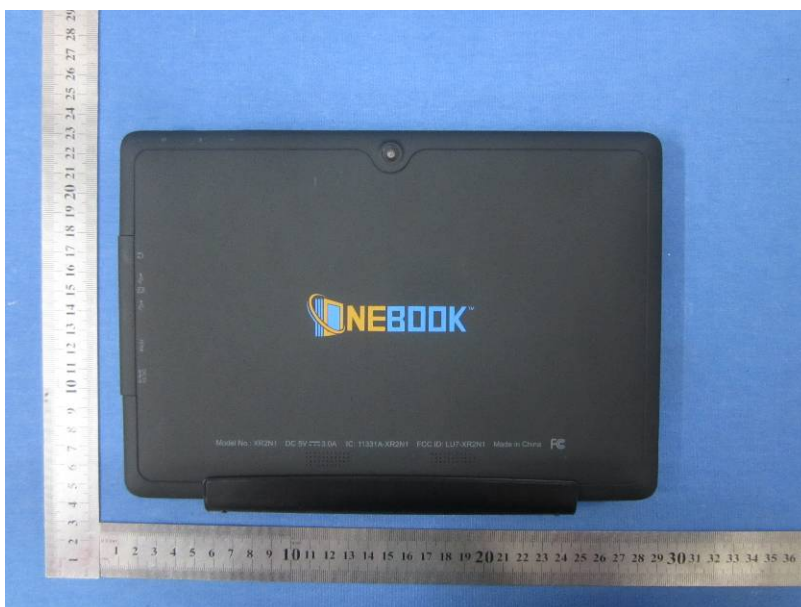
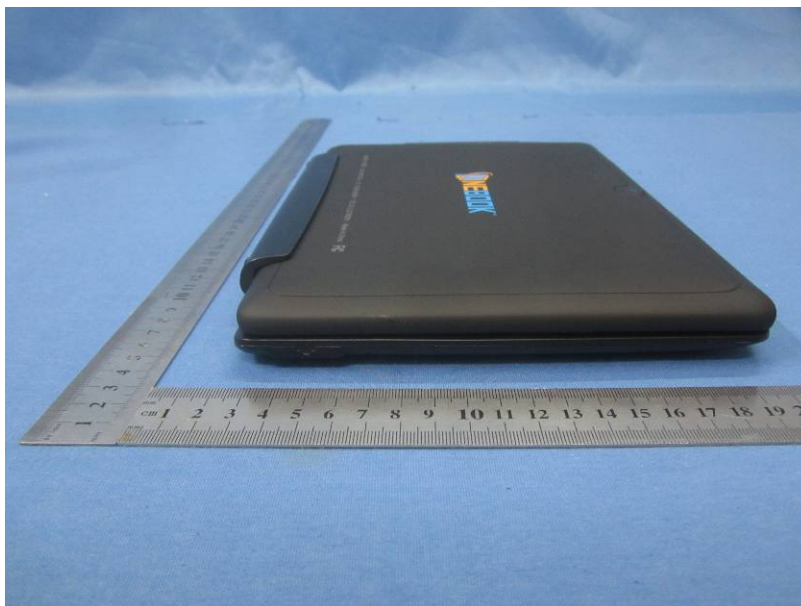
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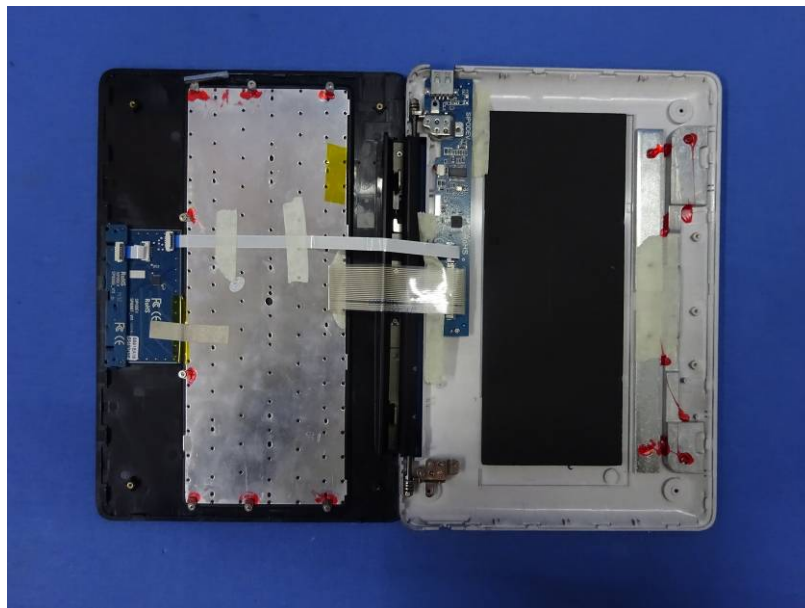


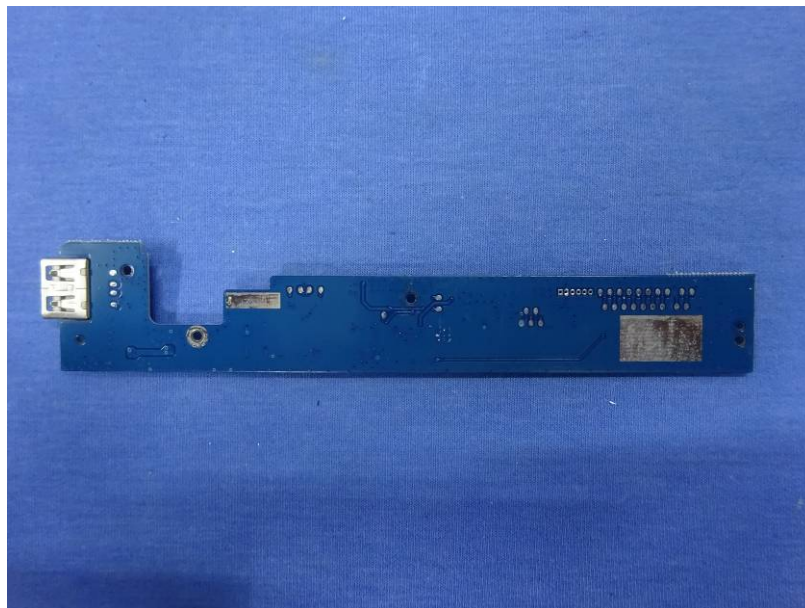
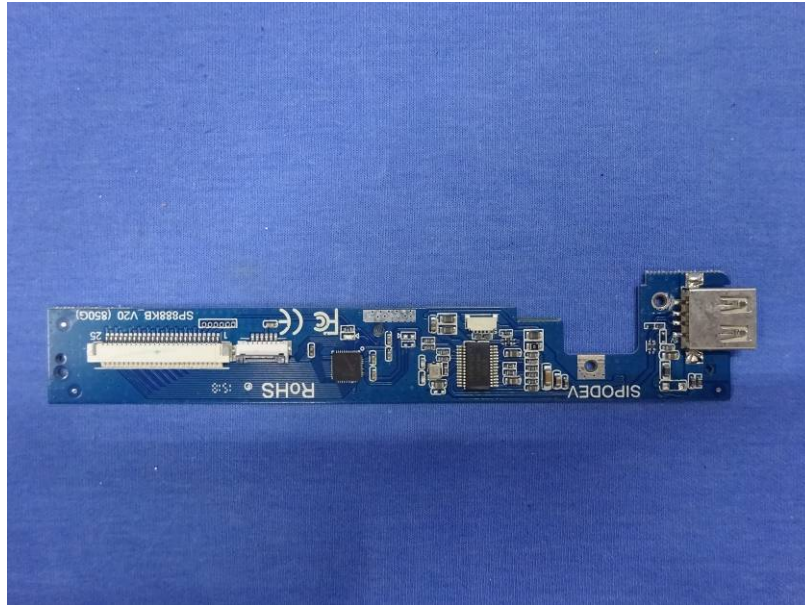
7 EUT Constructional Details

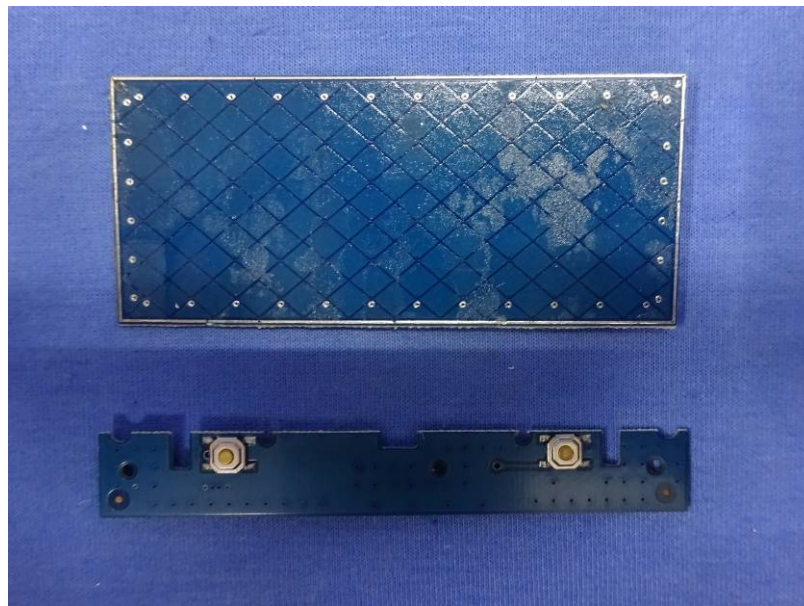
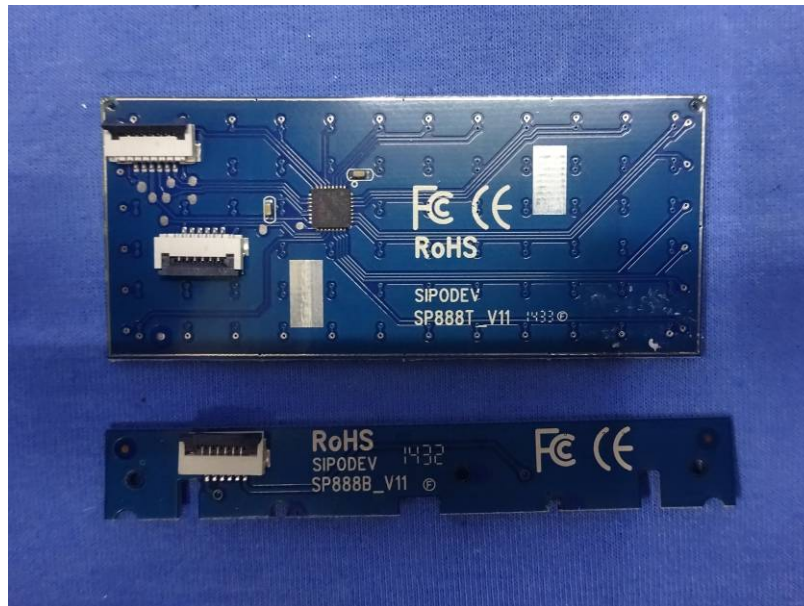


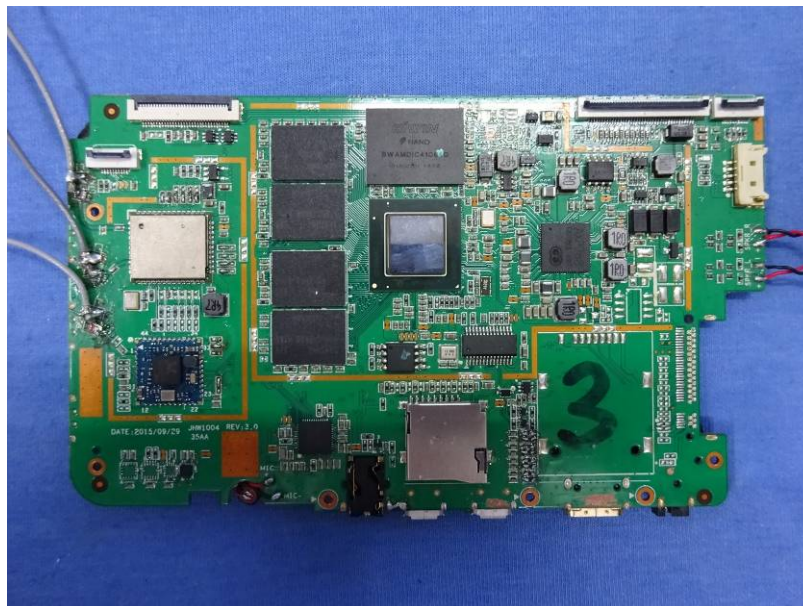


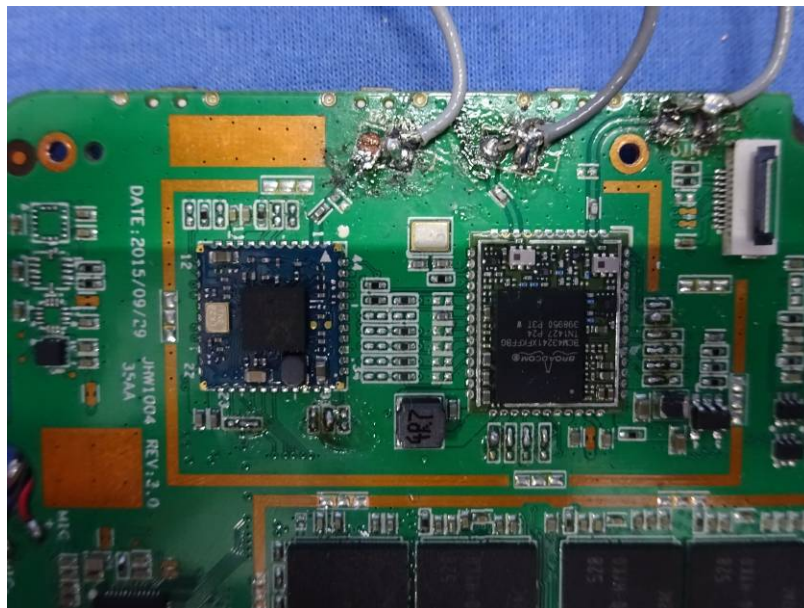
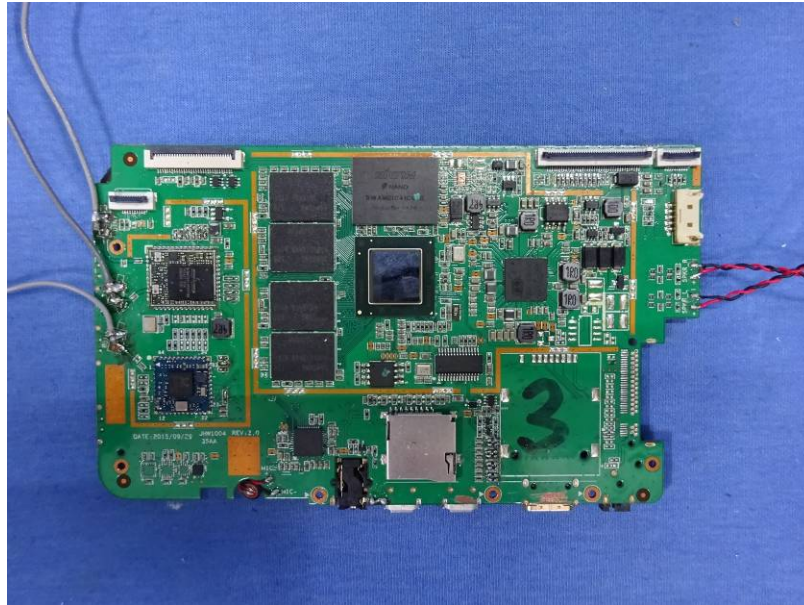


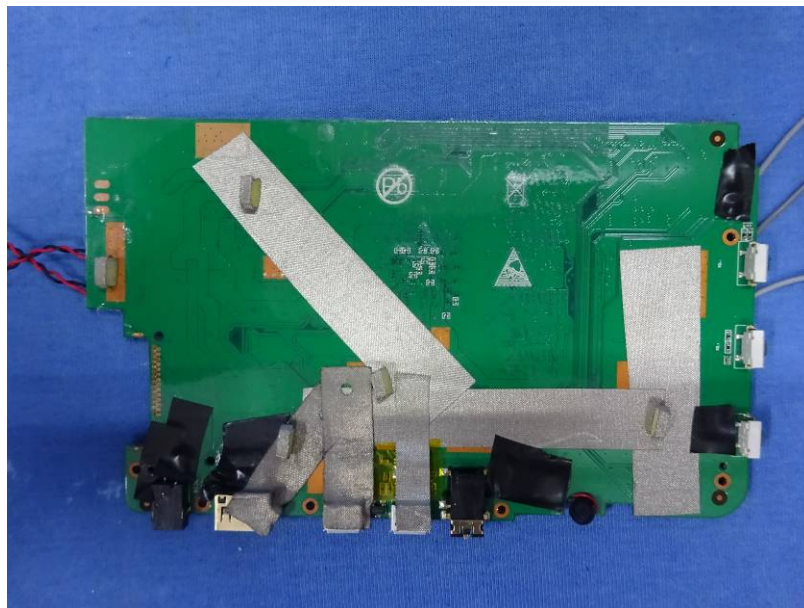
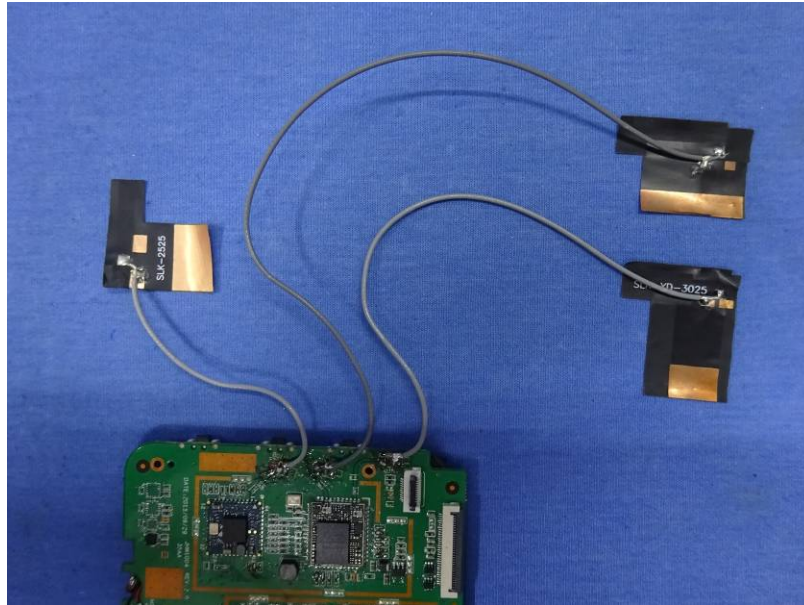


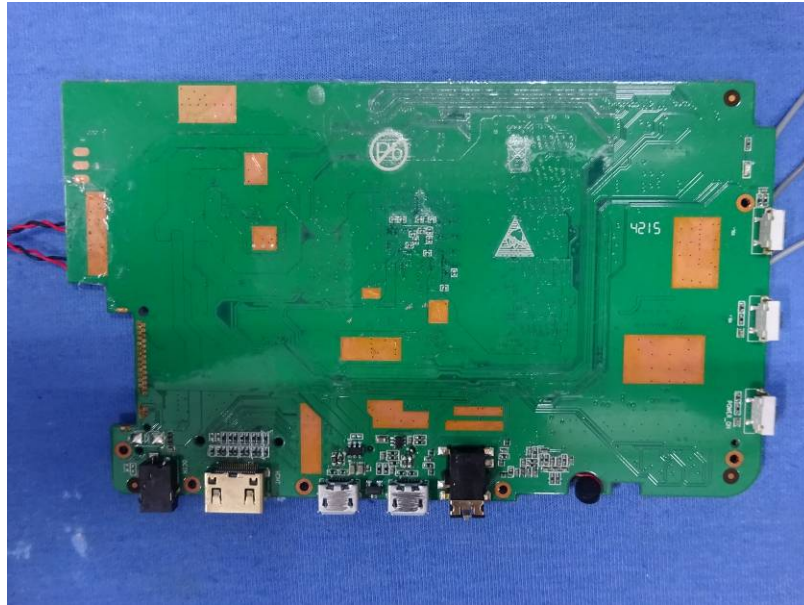














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