

TEST REPORT

Applicant: Nuvvyo Inc.

Address of Applicant: 555 Legget Drive Tower B Suite 836 Kanata, ON K2K2X3, Canada

Manufacturer: Nuvvyo Inc.

Address of Manufacturer: 555 Legget Drive Tower B Suite 836 Kanata, ON K2K2X3, Canada

Factory: SHENZHEN GIEC DIGITAL CO., LTD

Address of Factory: 1st&3rd Building, No.26 Puzai Road, Pingdi, Longgang District, Shenzhen, China

Equipment Under Test (EUT)

Product Name: OTA streamer

Model No.: TDNS-HDMI-2B-01-CN,TQNS-HDMI-4B-01-CN,T30-DNS-HDMI-2B-01-CN,T30-QNS-HDMI-4B-01-CN,T13-DNS-HDMI-2B-01-CN,T13-QNS-HDMI-4B-01-CN

FCC ID: 2AOR7-TABLOHD0

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

Date of sample receipt: September 10, 2020

Date of Test: September 11, 2020-October 09, 2020

Date of report issue: October 10, 2020

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	October 10, 2020	Original

Prepared By:

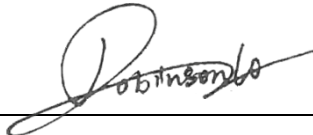


Date:

October 10, 2020

Project Engineer

Check By:



Date:

October 10, 2020

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	15.407(b)(1)	PASS
Frequency Stability	15.407(g)	PASS

Remark:

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	$\pm 3.8039\text{dB}$	(1)
Radiated Emission	30MHz ~ 1000MHz	$\pm 3.9679\text{dB}$	(1)
Radiated Emission	1GHz ~ 40GHz	$\pm 4.29\text{dB}$	(1)
AC Power Line Conducted Emission	0.15MHz ~ 30MHz	$\pm 3.44\text{dB}$	(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 General Description of EUT

Model No.:	TDNS-HDMI-2B-01-CN,TQNS-HDMI-4B-01-CN,T30-DNS-HDMI-2B-01-CN,T30-QNS-HDMI-4B-01-CN,T13-DNS-HDMI-2B-01-CN,T13-QNS-HDMI-4B-01-CN			
Test Model No:	T30-QNS-HDMI-4B-01-CN			
Remark: All above models are identical in the same PCB layout, interior structure and electrical circuits. The only difference is model name for commercial purpose.				
S/N:	HD-A04194356-HD-A04195355			
Hardware version:	ATSC-MPEG-16G VER1.0 20200731			
Software version:	2.2.31(2029112)			
Test sample(s) ID:	GTS202009000089 -1			
Sample(s) Status:	Engineer sample			
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
Modulation technology:	OFDM MIMO: 802.11n/ac SISO: 802.11a			
Antenna Type:	Integral Antenna			
Antenna gain:	ANT 1: 3dBi ANT 2: 3dBi			
Power supply:	AC ADAPTER Model No: TEKA024-1202000UK Input: AC 100-240V, 50/60Hz, 0.7A MAX Output: DC 12V, 2 A			

Channel list for 802.11a/n/ac(HT20)							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180MHz	40	5200MHz	44	5220MHz	48	5240MHz

Channel list for 802.11n(HT40)/ac(HT40)							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
38	5190MHz	46	5230MHz				

Channel list for 802.11ac(HT80)							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
42	5210MHz						

5.2 Test mode

Transmitting mode	Keep the EUT in transmitting with modulation..
We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:	
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/n/ac(HT20)	6/6.5 Mbps
802.11n/ac(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. ● IC —Registration No.: 9079A 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 ● 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. 123-128, Tower A, 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
PHILIPS	LCD monitor	19PFL3120/T3	AU1A1212002906

5.6 Deviation from Standards

None.

5.7 Abnormalities from Standard Conditions

None.

5.8 Additional Instructions

Test Software	Special test command provided by manufacturer
Power level setup	Default
Version	Ver 1.0

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. 02 2020	July. 01 2025
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. 25 2020	June. 24 2021
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	June. 25 2020	June. 24 2021
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120 D	GTS208	June. 25 2020	June. 24 2021
6	Horn Antenna	ETS-LINDGREN	3160	GTS217	June. 25 2020	June. 24 2021
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
8	Coaxial Cable	GTS	N/A	GTS213	June. 25 2020	June. 24 2021
9	Coaxial Cable	GTS	N/A	GTS211	June. 25 2020	June. 24 2021
10	Coaxial cable	GTS	N/A	GTS210	June. 25 2020	June. 24 2021
11	Coaxial Cable	GTS	N/A	GTS212	June. 25 2020	June. 24 2021
12	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	June. 25 2020	June. 24 2021
13	Amplifier(2GHz-20GHz)	HP	84722A	GTS206	June. 25 2020	June. 24 2021
14	Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June. 25 2020	June. 24 2021
15	Band filter	Amindeon	82346	GTS219	June. 25 2020	June. 24 2021
16	Power Meter	Anritsu	ML2495A	GTS540	June. 25 2020	June. 24 2021
17	Power Sensor	Anritsu	MA2411B	GTS541	June. 25 2020	June. 24 2021
18	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	GTS575	June. 25 2020	June. 24 2021
19	Splitter	Agilent	11636B	GTS237	June. 25 2020	June. 24 2021
20	Loop Antenna	ZHINAN	ZN30900A	GTS534	June. 25 2020	June. 24 2021
21	Breitband hornantenne	SCHWARZBECK	BBHA 9170	GTS579	Oct. 19 2019	Oct. 18 2020
22	Amplifier	TDK	PA-02-02	GTS574	Oct. 19 2019	Oct. 18 2020
23	Amplifier	TDK	PA-02-03	GTS576	Oct. 19 2019	Oct. 18 2020
24	PSA Series Spectrum Analyzer	Rohde & Schwarz	FSP	GTS578	June. 25 2020	June. 24 2021

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. 25 2020	June. 24 2021
3	Coaxial Switch	ANRITSU CORP	MP59B	GTS225	June. 25 2020	June. 24 2021
4	ENV216 2-L-V-NETZNACHB.DE	ROHDE&SCHWARZ	ENV216	GTS226	June. 25 2020	June. 24 2021
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. 25 2020	June. 24 2021
8	Absorbing clamp	Elektronik-Feinmechanik	MDS21	GTS229	June. 25 2020	June. 24 2021
9	ISN	SCHWARZBECK	NTFM 8158	GTD565	June. 25 2020	June. 24 2021

RF Conducted Test:						
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. 25 2020	June. 24 2021
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June. 25 2020	June. 24 2021
3	Spectrum Analyzer	Agilent	E4440A	GTS533	June. 25 2020	June. 24 2021
4	MXG vector Signal Generator	Agilent	N5182A	GTS567	June. 25 2020	June. 24 2021
5	ESG Analog Signal Generator	Agilent	E4428C	GTS568	June. 25 2020	June. 24 2021
6	USB RF Power Sensor	DARE	RPR3006W	GTS569	June. 25 2020	June. 24 2021
7	RF Switch Box	Shongyi	RFSW3003328	GTS571	June. 25 2020	June. 24 2021
8	Programmable Constant Temp & Humi Test Chamber	WEWON	WHTH-150L-40-880	GTS572	June. 25 2020	June. 24 2021

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. 25 2020	June. 24 2021
2	Barometer	ChangChun	DYM3	GTS255	June. 25 2020	June. 24 2021

7 Test results and Measurement Data

7.1 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 antennas are integral antenna, the best case gain of the antennas are 3dBi, reference to the appendix II for details</i>	

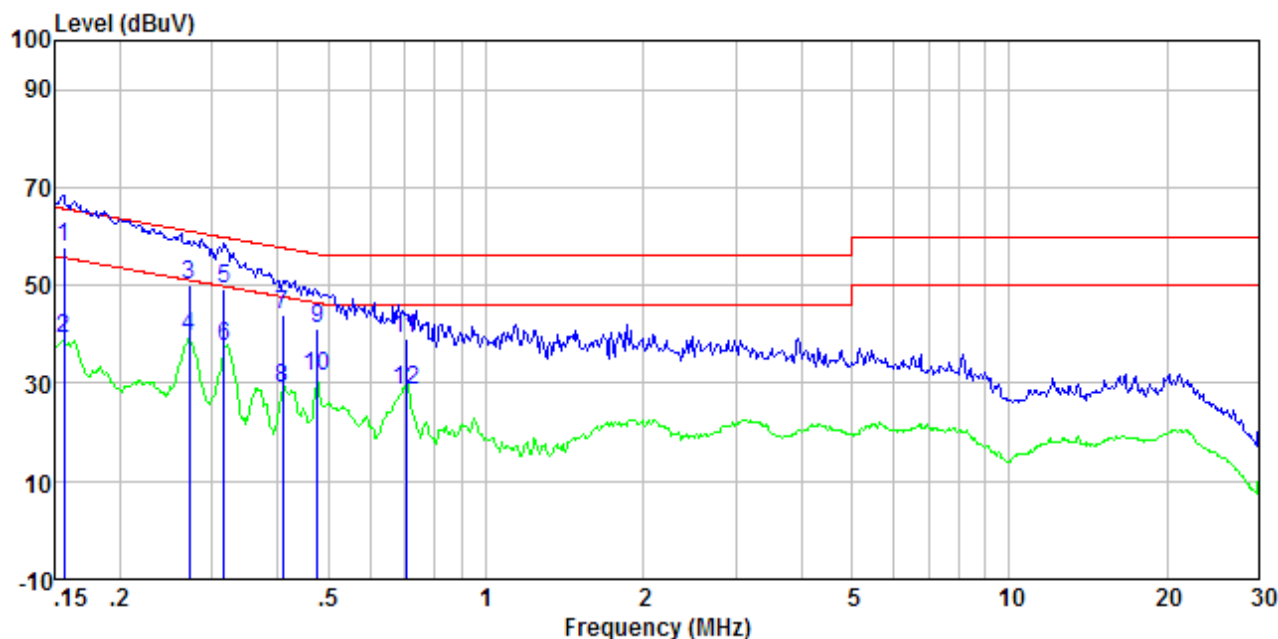
7.2 Conducted Emissions

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 Test table/Insulation plane <i>Remark: E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m</i>					
Test Instruments:	Refer to section 5.10 for details					
Test mode:	Refer to section 5.2 for details					
Test environment:	Temp.:	25 °C	Humid.:	52%	Press.:	1012mbar
Test voltage:	AC 120V, 60Hz					
Test results:	Pass					

Remark: Both high and low voltages have been tested to show only the worst low voltage test data.

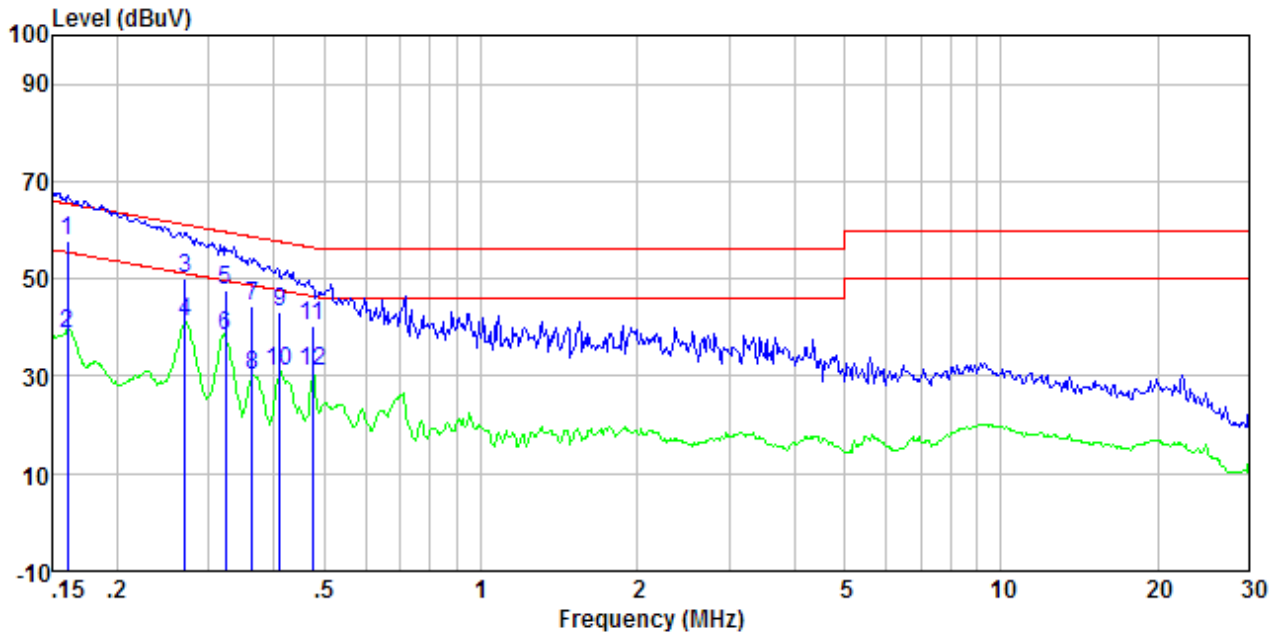
Measurement data:

Line:



Freq MHz	Reading level dBuV	LISN/ISN factor dB/m	Cable loss dB	Level dBuV	Limit level dBuV	Over limit dB	Remark
0.16	57.50	0.40	0.08	57.98	65.65	-7.67	QP
0.16	38.75	0.40	0.08	39.23	55.65	-16.42	Average
0.27	49.50	0.40	0.10	50.00	61.07	-11.07	QP
0.27	38.91	0.40	0.10	39.41	51.07	-11.66	Average
0.32	48.59	0.39	0.10	49.08	59.80	-10.72	QP
0.32	36.89	0.39	0.10	37.38	49.80	-12.42	Average
0.41	43.32	0.35	0.11	43.78	57.68	-13.90	QP
0.41	28.60	0.35	0.11	29.06	47.68	-18.62	Average
0.48	40.58	0.32	0.11	41.01	56.41	-15.40	QP
0.48	31.05	0.32	0.11	31.48	46.41	-14.93	Average
0.70	38.61	0.26	0.13	39.00	56.00	-17.00	QP
0.70	28.26	0.26	0.13	28.65	46.00	-17.35	Average

Neutral:

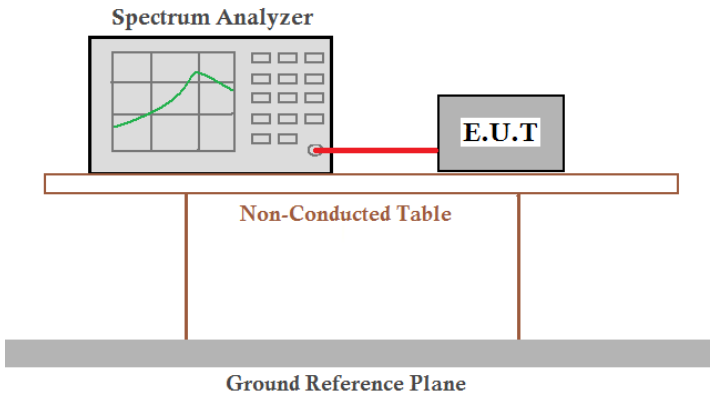


Freq MHz	Reading level dBuV	LISN/ISN factor dB/m	Cable loss dB	Level dBuV	Limit level dBuV	Over limit dB	Remark
0.16	57.12	0.40	0.08	57.60	65.43	-7.83	QP
0.16	38.21	0.40	0.08	38.69	55.43	-16.74	Average
0.27	49.64	0.40	0.10	50.14	61.12	-10.98	QP
0.27	40.73	0.40	0.10	41.23	51.12	-9.89	Average
0.32	47.03	0.39	0.10	47.52	59.62	-12.10	QP
0.32	37.86	0.39	0.10	38.35	49.62	-11.27	Average
0.36	43.80	0.37	0.10	44.27	58.65	-14.38	QP
0.36	29.66	0.37	0.10	30.13	48.65	-18.52	Average
0.41	42.91	0.35	0.11	43.37	57.64	-14.27	QP
0.41	30.42	0.35	0.11	30.88	47.64	-16.76	Average
0.47	39.82	0.32	0.11	40.25	56.45	-16.20	QP
0.47	30.44	0.32	0.11	30.87	46.45	-15.58	Average

Notes:

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

7.3 Emission Bandwidth and 99% Occupied Bandwidth

Test Requirement:	FCC Part15 E Section 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 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 two vertical legs. Below the table is a 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:
ANT 1:

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	16.559	17.700	17.650	18.480	19.200	19.200
40	5200	16.478	17.760	17.692	18.360	19.160	19.320
48	5240	16.515	17.668	17.765	18.280	19.160	19.320

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	36.370	36.207	40.080	40.320
46	5230	36.124	36.203	40.160	40.000

CH. No.	Frequency (MHz)	99% Occupied Bandwidth (MHz)	-26dB Occupied Bandwidth (MHz)
		802.11ac(HT80)	802.11ac(HT80)
42	5210	75.542	81.120

ANT 2:

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	16.621	17.725	17.784	18.360	19.280	19.360
40	5200	16.548	17.692	17.682	18.400	19.360	19.200
48	5240	16.553	17.676	17.634	18.280	19.280	19.320

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	36.180	36.313	39.760	40.400
46	5230	36.348	36.186	40.240	40.560

CH. No.	Frequency (MHz)	99% Occupied Bandwidth (MHz)	-26dB Occupied Bandwidth (MHz)
		802.11ac(HT80)	802.11ac(HT80)
42	5210	75.597	80.960

Test plots as followed:

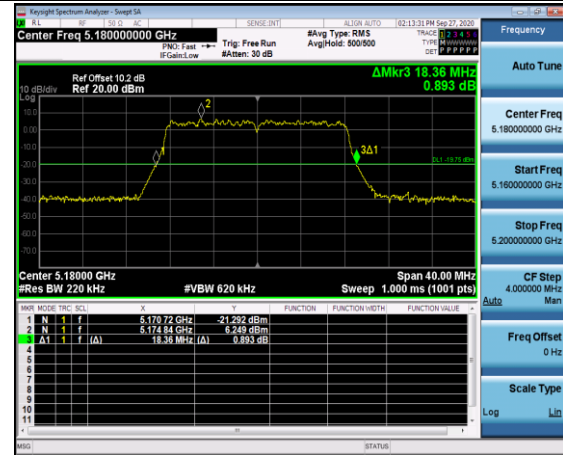
-26dB Occupied Bandwidth

802.11a mode

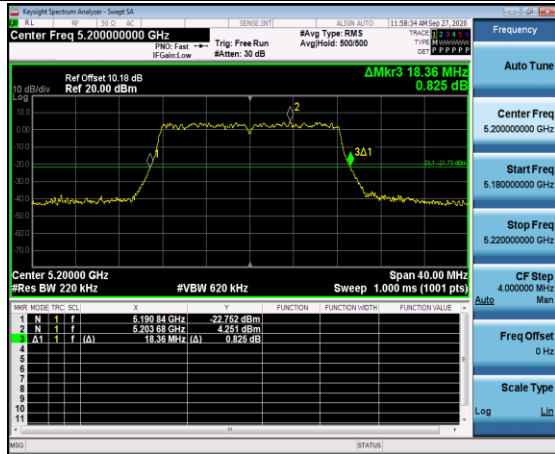
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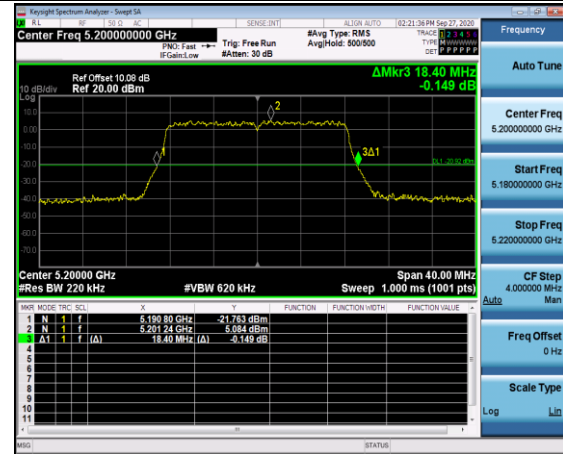
ANT 2



5180



5180



5200



5200

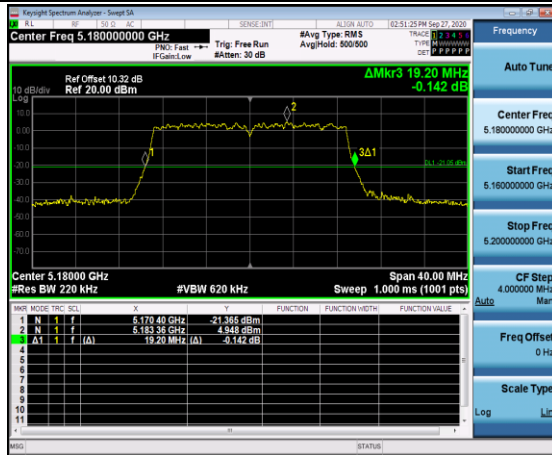


5240

5240

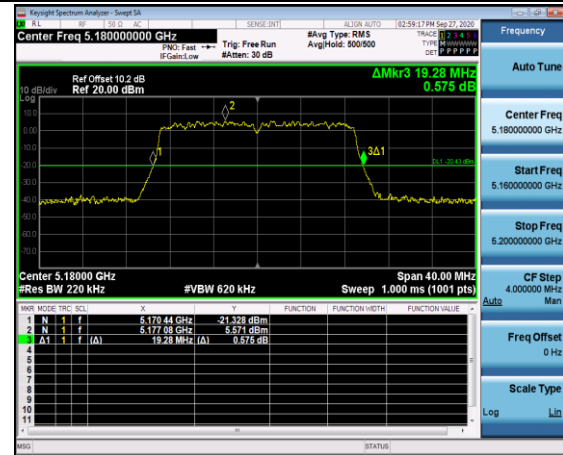
802.11n(HT20) mode

ANT 1



5180

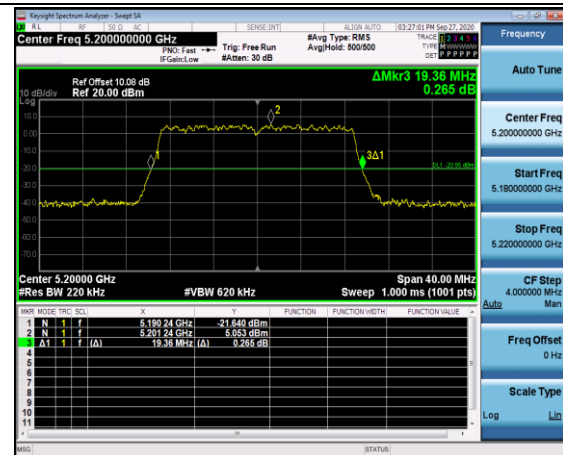
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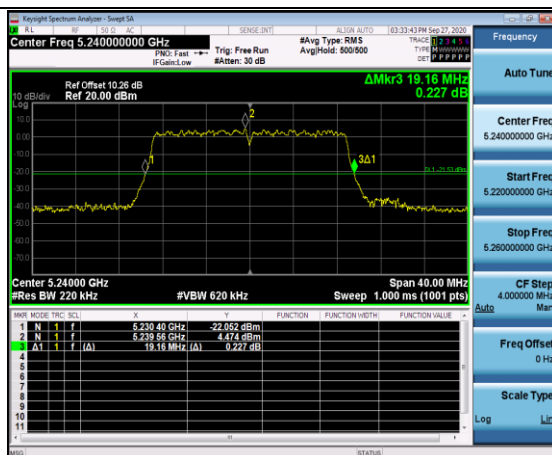
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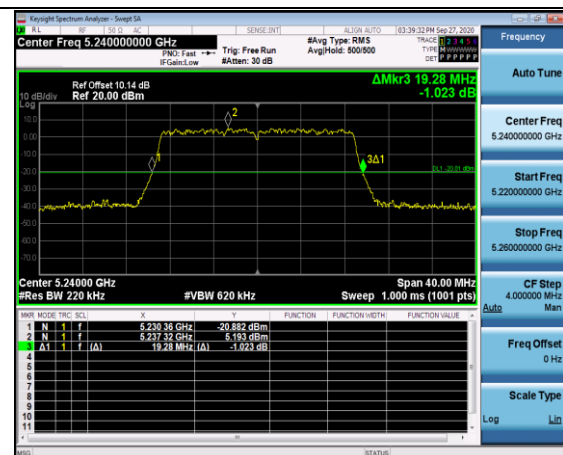
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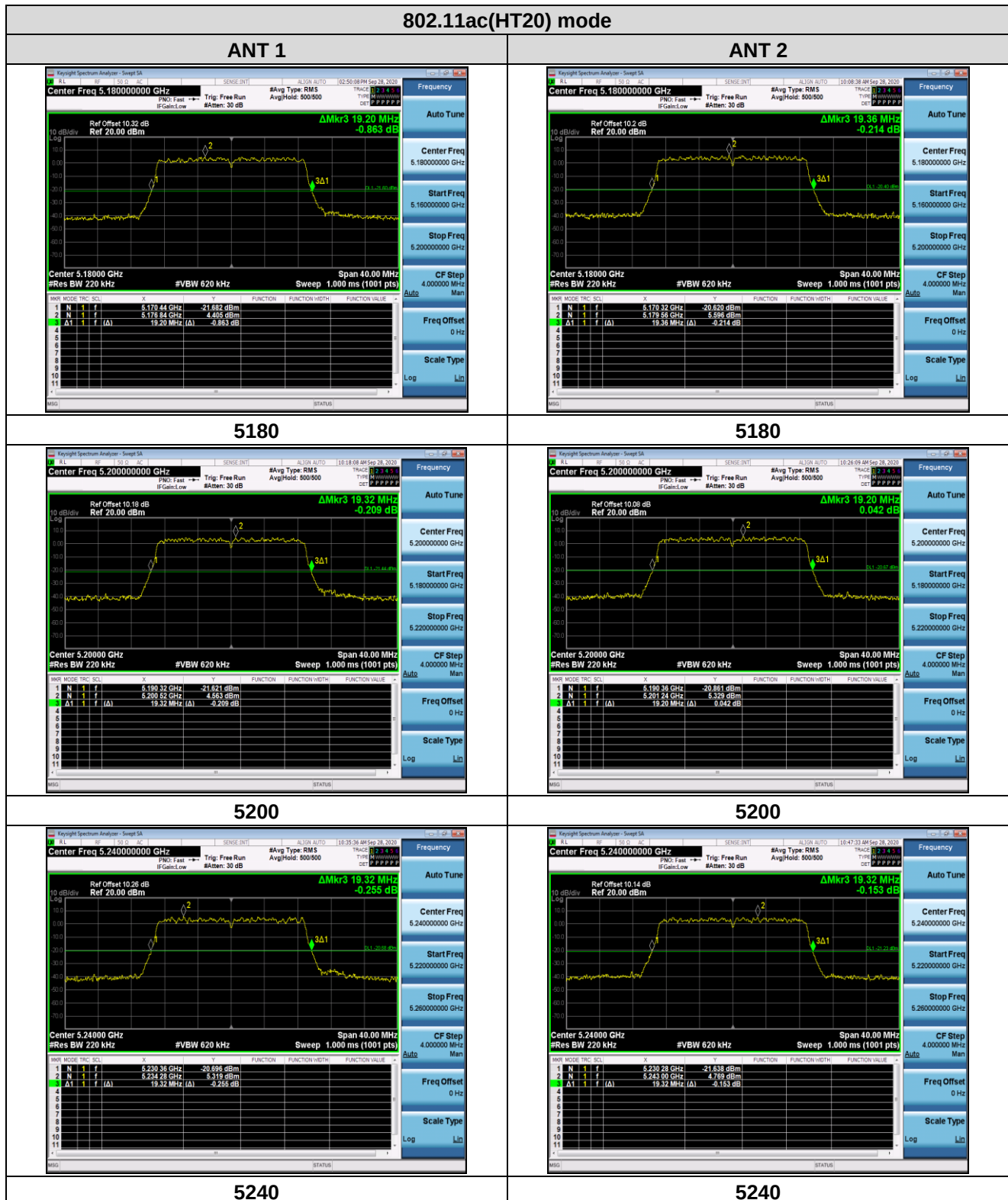
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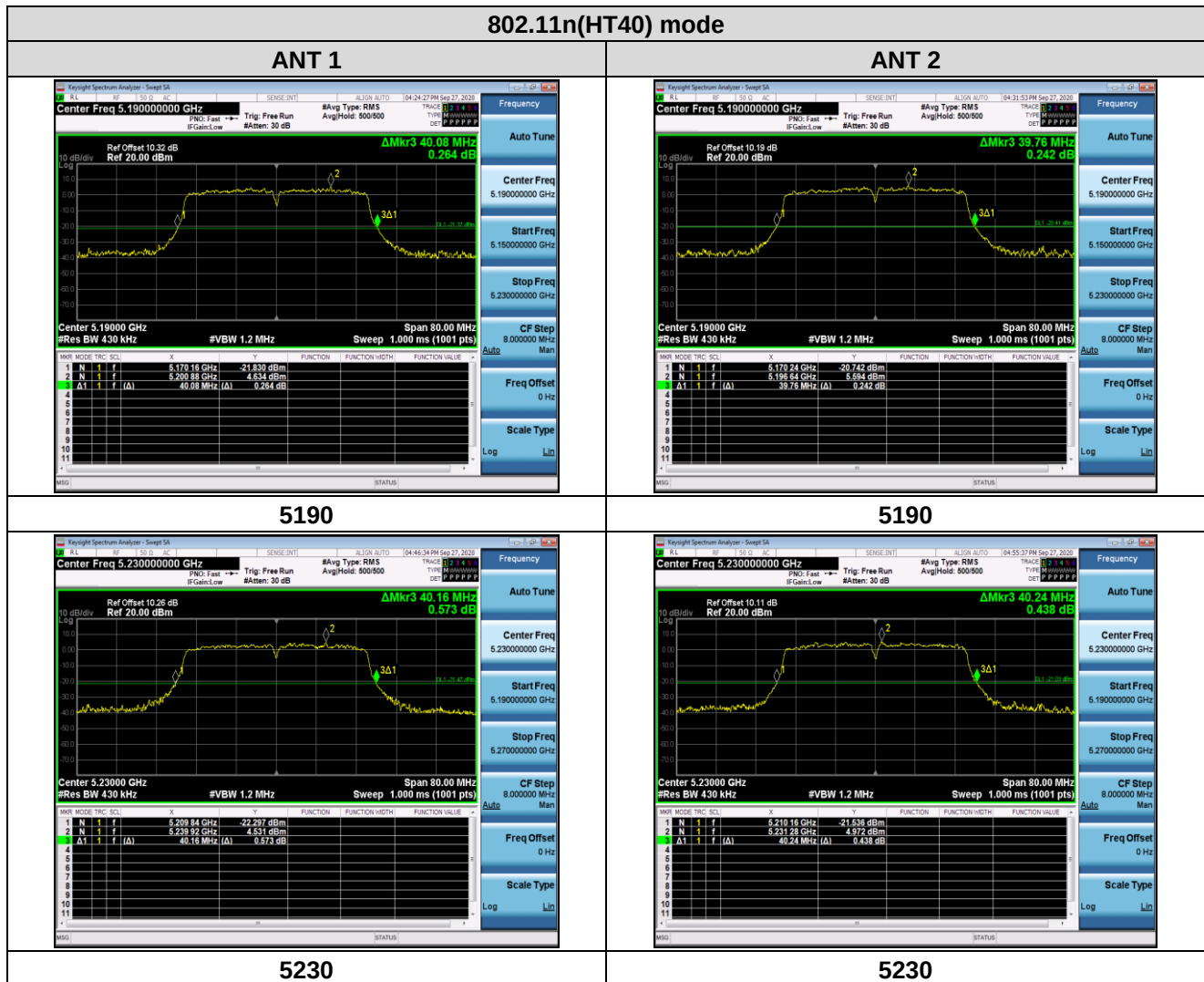


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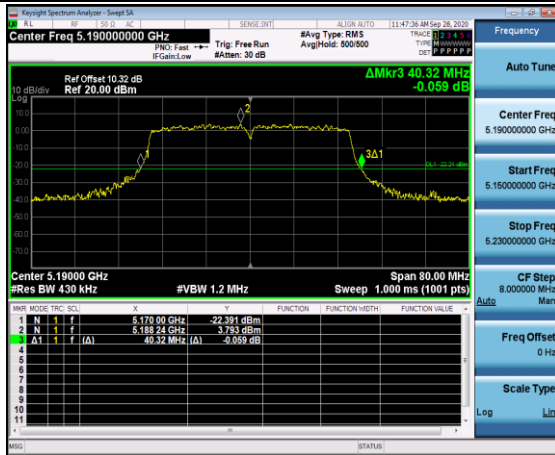
5240





802.11ac(HT40) mode

ANT 1



5190

ANT 2



5190



5230



5230

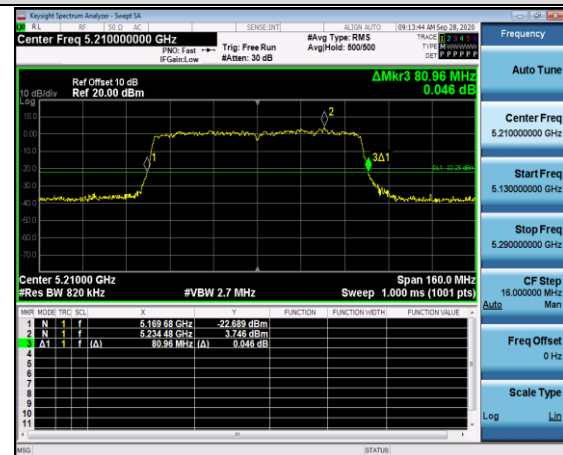
802.11ac(HT80) mode

ANT 1



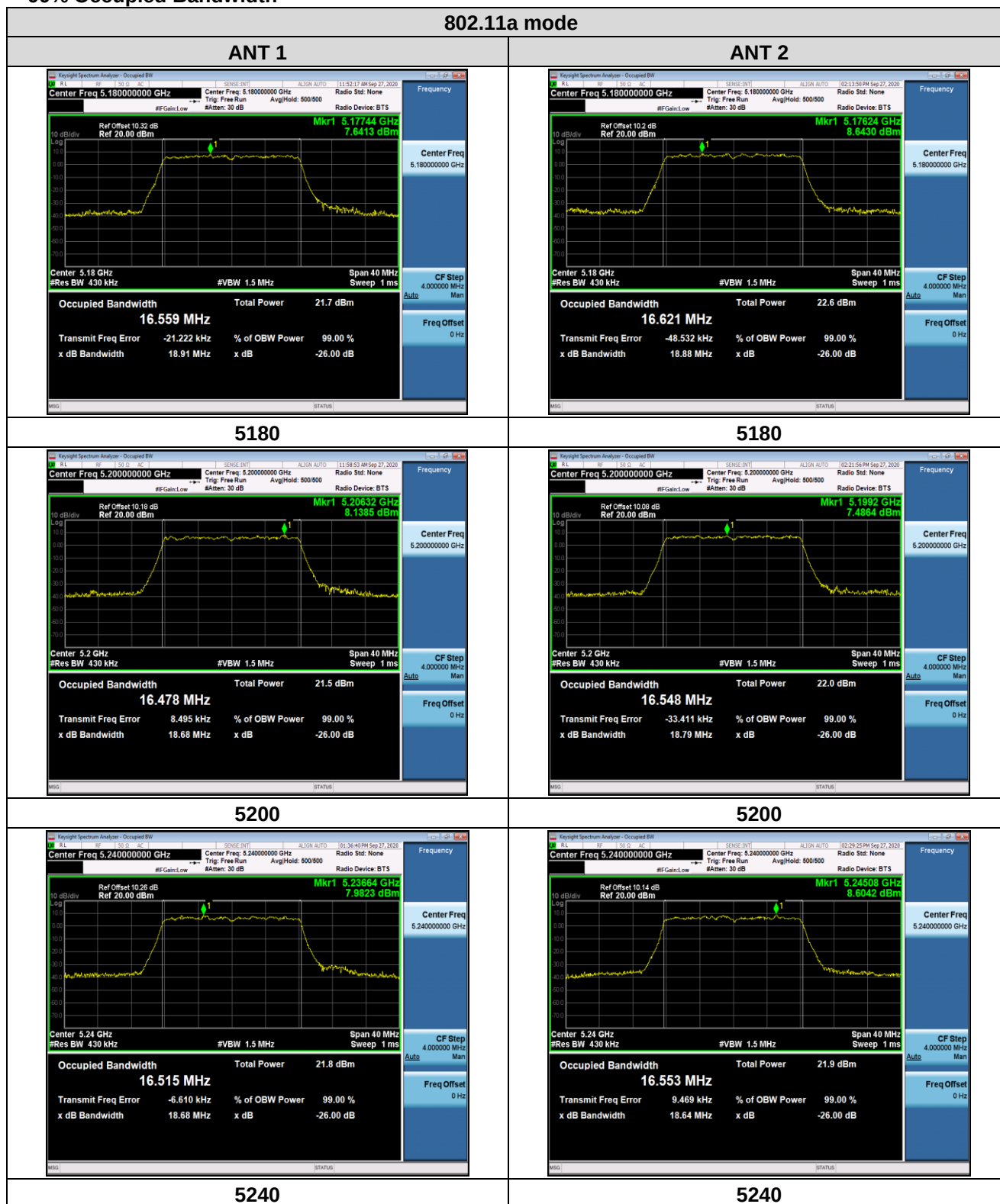
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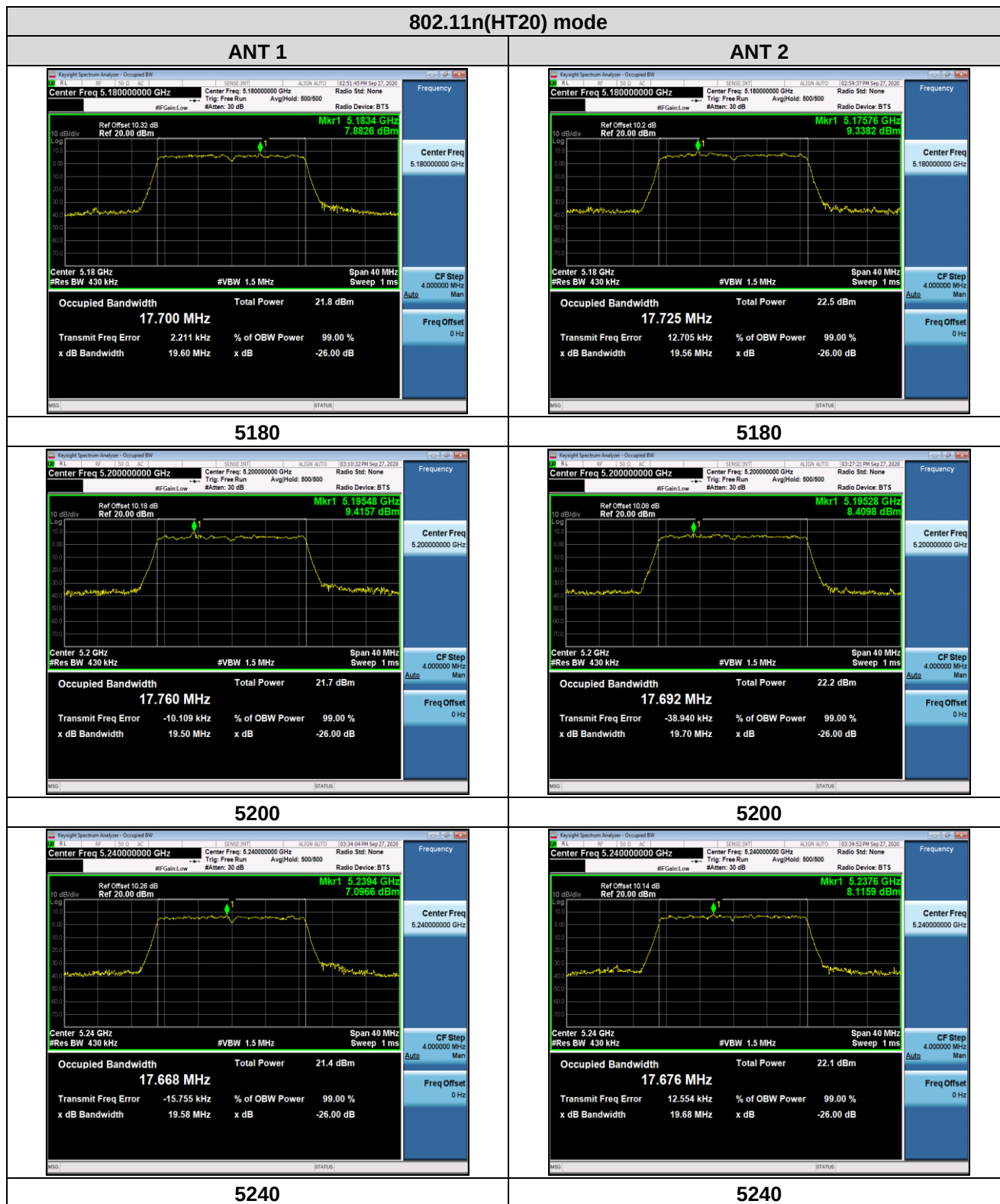
ANT 2

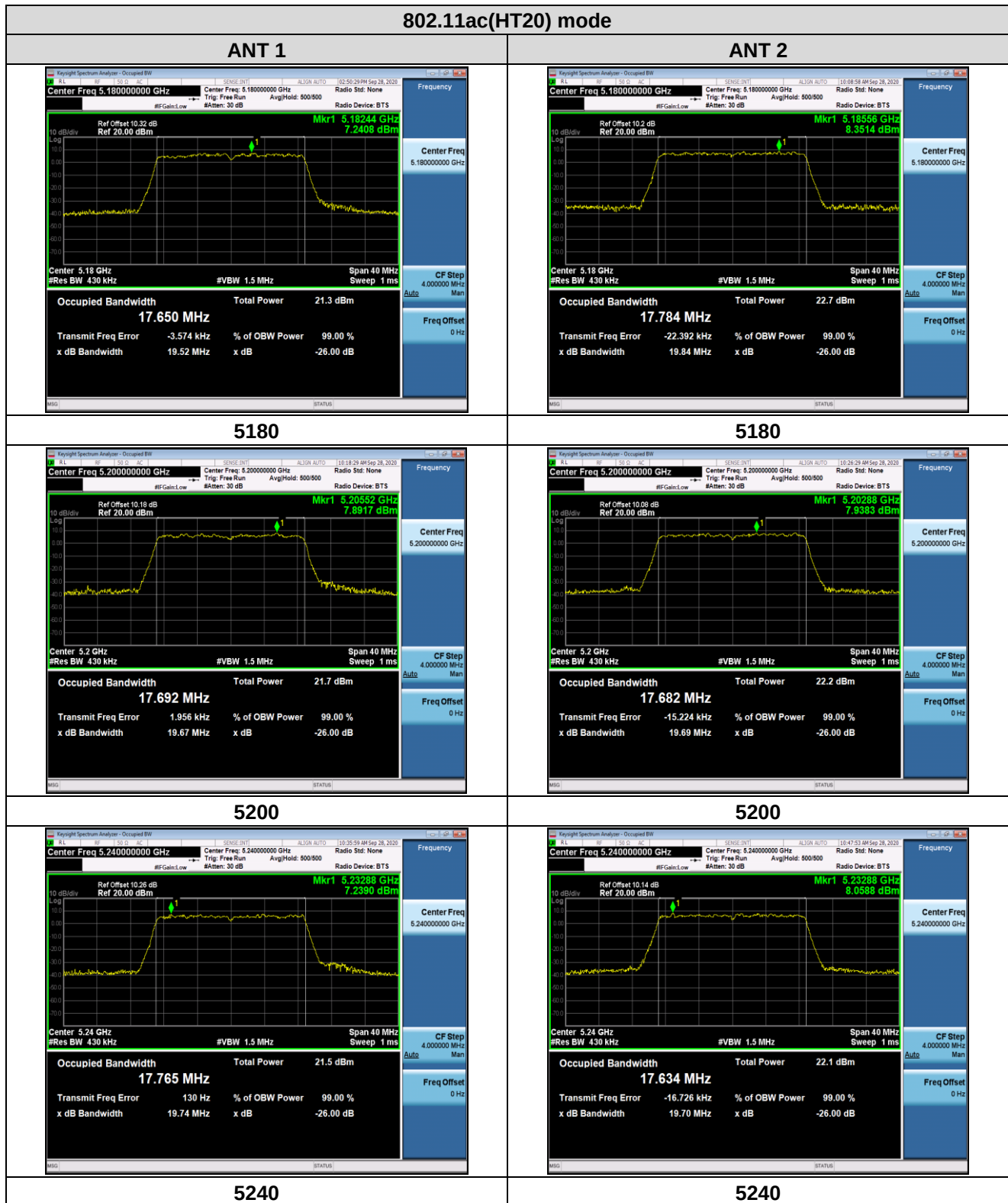


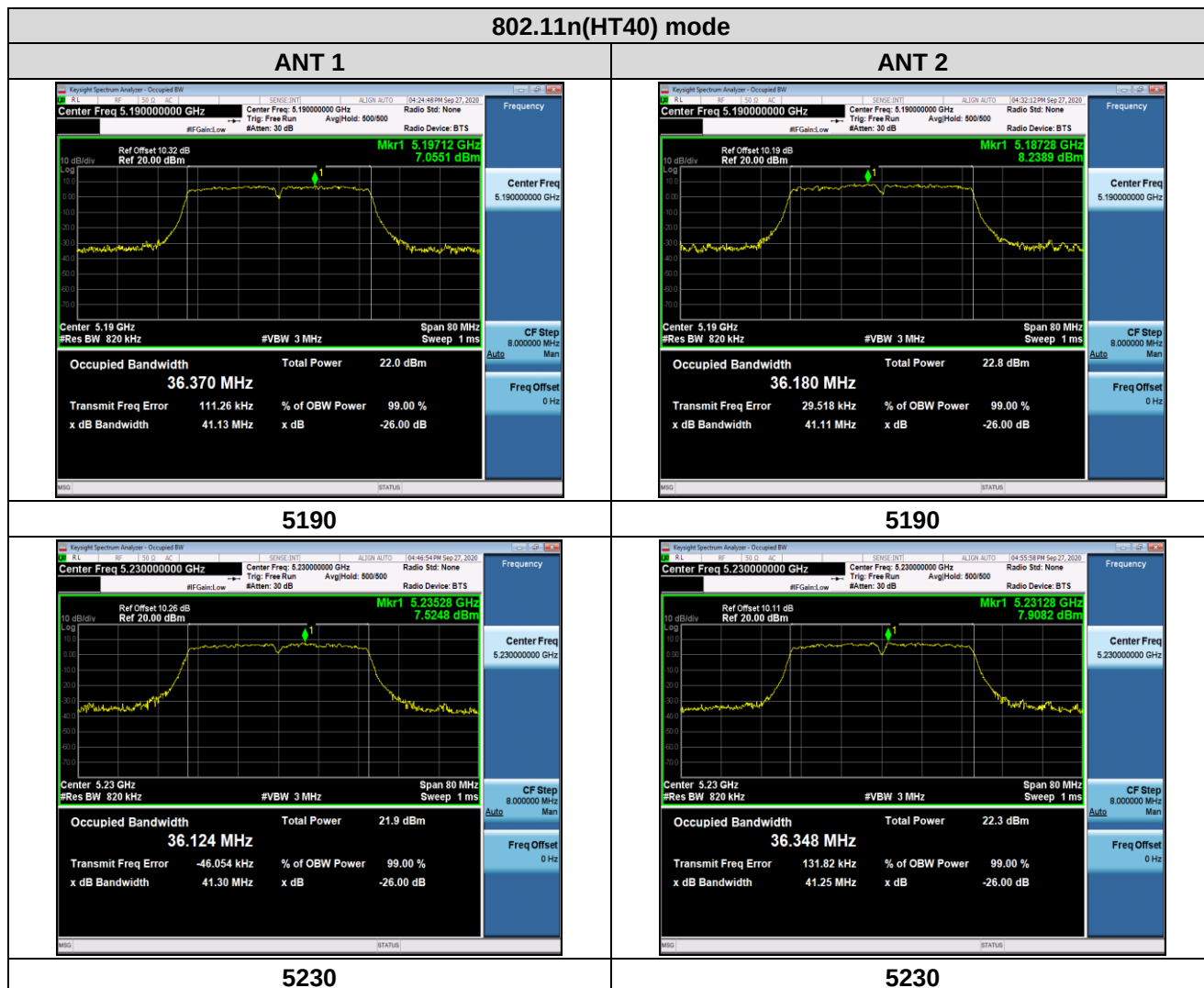
5210

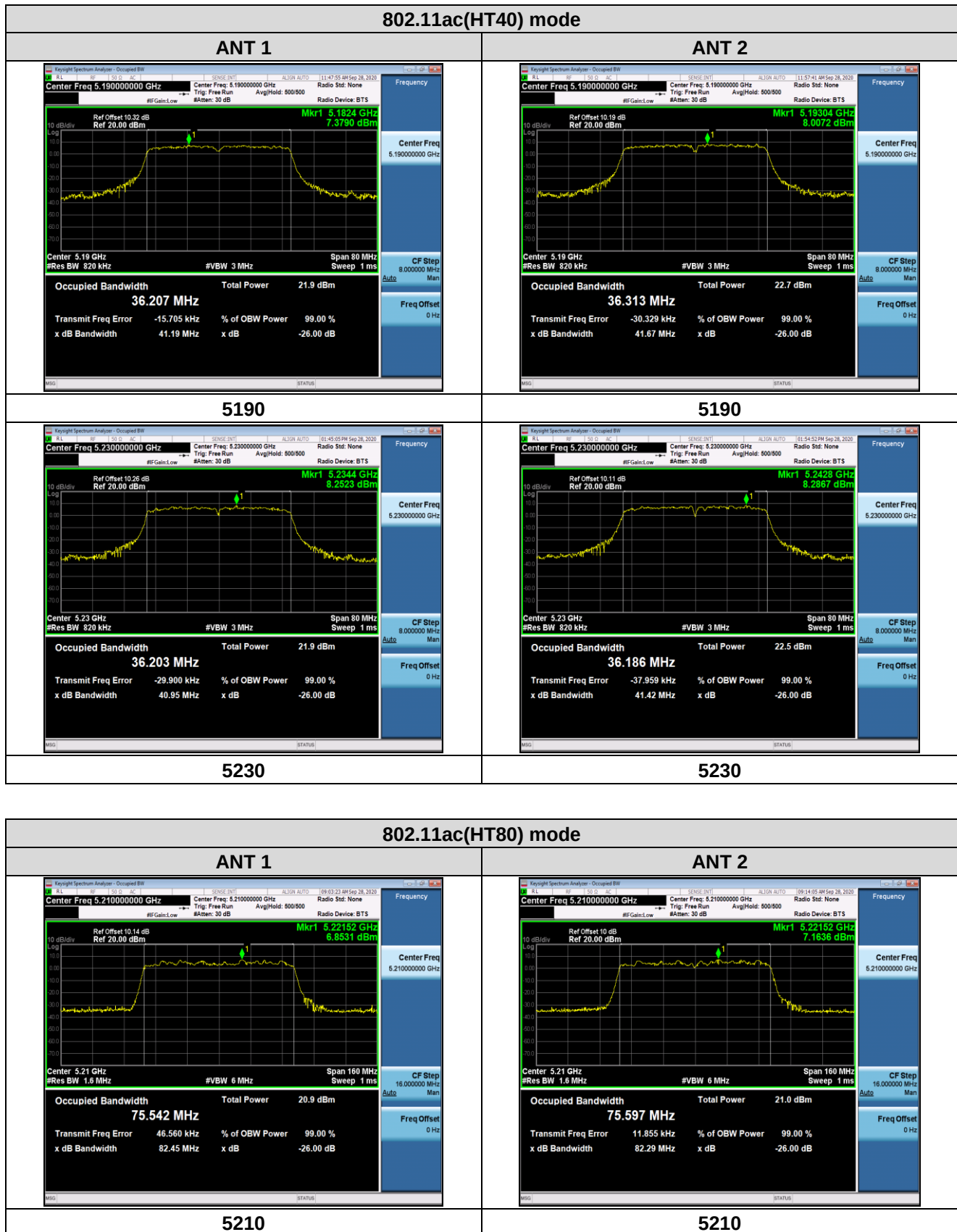
99% Occupied Bandwidth



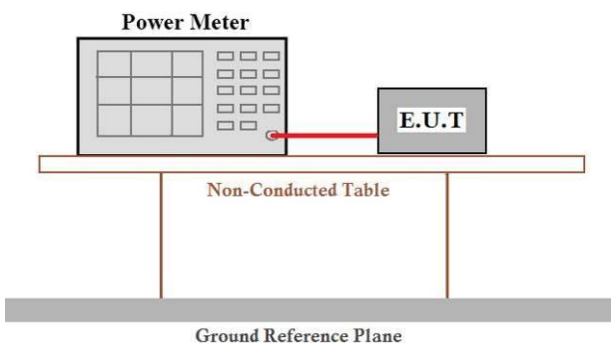








7.4 Peak Transmit Power

Test Requirement:	FCC Part15 E Section 15.407	
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:		
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 5.2 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

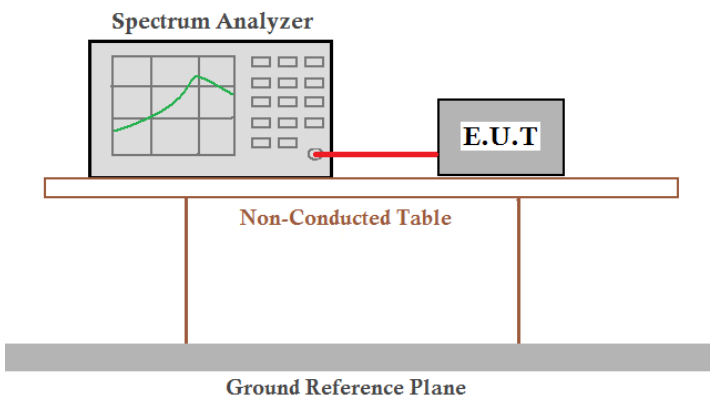
Test Mode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11A	Ant1	5180	14.52	<=23.98	PASS
	Ant2	5180	15.82	<=23.98	PASS
	Ant1	5200	14.57	<=23.98	PASS
	Ant2	5200	15.47	<=23.98	PASS
	Ant1	5240	14.88	<=23.98	PASS
	Ant2	5240	15.19	<=23.98	PASS
11N20	Ant1	5180	15.04	<=23.98	PASS
	Ant2	5180	15.05	<=23.98	PASS
	total	5180	18.1	<=23.98	PASS
	Ant1	5200	15.57	<=23.98	PASS
	Ant2	5200	15.21	<=23.98	PASS
	total	5200	18.4	<=23.98	PASS
	Ant1	5240	15.04	<=23.98	PASS
	Ant2	5240	15.40	<=23.98	PASS
	total	5240	18.2	<=23.98	PASS
11N40	Ant1	5190	14.10	<=23.98	PASS
	Ant2	5190	15.05	<=23.98	PASS
	total	5190	17.6	<=23.98	PASS
	Ant1	5230	14.67	<=23.98	PASS
	Ant2	5230	14.23	<=23.98	PASS
	total	5230	17.5	<=23.98	PASS
11AC20	Ant1	5180	14.60	<=23.98	PASS
	Ant2	5180	15.37	<=23.98	PASS
	total	5180	18.0	<=23.98	PASS
	Ant1	5200	14.76	<=23.98	PASS
	Ant2	5200	14.72	<=23.98	PASS
	total	5200	17.8	<=23.98	PASS
	Ant1	5240	13.92	<=23.98	PASS
	Ant2	5240	14.82	<=23.98	PASS
	total	5240	17.4	<=23.98	PASS
11AC40	Ant1	5190	15.50	<=23.98	PASS
	Ant2	5190	16.25	<=23.98	PASS
	total	5190	18.9	<=23.98	PASS
	Ant1	5230	14.79	<=23.98	PASS

	Ant2	5230	14.42	<=23.98	PASS
	total	5230	17.6	<=23.98	PASS
11AC80	Ant1	5210	13.01	<=23.98	PASS
	Ant2	5210	12.40	<=23.98	PASS
	total	5210	15.7	<=23.98	PASS

Note: transmit signals are completely *uncorrelated*,

Directional gain= $10 \times \log [(10^{3/10} + 10^{3/10})/2]$ =3dBi

7.5 Power Spectral Density

Test Requirement:	FCC Part15 E Section 15.407	
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 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 PSD.	
Test Instruments:	Refer to section 5.10 for details	
Test mode:	Refer to section 5.2 for details	
Test results:	Pass	