



诺检标准
NTT STANDARD

TEST REPORT

FCC ID: 2ASCB-DE043NLW14

Product : 43-inch Non-Touch Digital Signage Cash Wrap 14os
Model Name : DE043NLW14, DE043NLW
Brand : N/A
Report No. : SZNTT26036033E1-3

Prepared for

D2G Group LLC

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Prepared by

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1 TEST RESULT CERTIFICATION

Applicant : D2G Group LLC

Address : 81 Commerce Drive, Fall River, Massachusetts 02720, United States

Manufacturer : GUANGZHOU YOUGUANG OPTOELECTRONICS CO., LTD.

Address : No.75, Pacific Ind. Zone, Xingtang Town, Zengcheng, Guangzhou, 511340 China

Product name : 43-inch Non-Touch Digital Signage Cash Wrap 14os

Model name : DE043NLW14

Additional model : DE043NLW

Standards : FCC CFR47 Part 15 Section 15.247

Test procedure : ANSI C63.10-2020+Cor.1-2023
KDB 789033 D02 General UNII Test Procedures New Rules v02r01

Date of test : Jul. 28, 2026

Date of Issue : Jul. 28, 2026 to Sep. 03, 2026

This device described above has been tested by NTT, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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2 Test Summary

FCC Part15 (15.407) , Subpart E			
Standard Section	Test Item	Judgment	Remark
15.407(b), 15.209	Radiated Spurious Emission	PASS	
15.207	AC Power Line conducted emission	PASS	
15.407 (a) 15.407 (e)	99% , 6dB and 26dB Bandwidth	PASS	
15.407 (a)	Maximum Conducted Output Power	PASS	
15.407(b)	Band Edge	PASS	
15.407 (a)	Power Spectral Density	PASS	
15.407(g)	Frequency Stability	PASS	
15.203	Antenna Requirement	PASS	

Remark:

1. "N/A" denotes test is not applicable in this Test Report.



3 TEST FACILITY

Site Description

Designation Number: CN3446

EMC Lab.

:

Test Firm Registration Number: 129414

Accredited by ANAB, Dec. 19, 2025

The Certificate Registration Number is AT-3446

Name of Firm

:

Shenzhen NTT Testing Technology Co., Ltd.

Site Location

:

1B, Building 2, Factory Building & 103, Building 3, Factory Building, Dayang Industrial Park No.4, Industrial Avenue, Tangwei Community, Fuhai Sub-district, Bao'an District, Shenzhen City, China



4 General Information

4.1 General Description of E.U.T.

Product Name:	43-inch Non-Touch Digital Signage Cash Wrap 14os
Model No.:	DE043NLW14
Sample ID:	SZNTT26036033E1-001#
Sample(s) Status:	N/A
series model:	DE043NLW
Model Different.:	Except for the model name, everything else is the same.
Operation Frequency:	UNII-2: 5150MHz~5250MHz(20MHz bandwidth) 5150MHz~5250MHz(40MHz bandwidth) 5150MHz~5250MHz(80MHz bandwidth) UNII-3: 5725MHz~5850MHz(20MHz bandwidth) 5725MHz~5850MHz(40MHz bandwidth) 5725MHz~5850MHz(80MHz bandwidth)
Number of Channel:	UNII-2: 4 channels for 20MHz bandwidth 2 channels for 40MHz bandwidth 2 channels for 80MHz bandwidth UNII-3: 5 channels for 20MHz bandwidth 2 channels for 40MHz bandwidth 2 channels for 80MHz bandwidth
Modulation type:	802.11a: (64-QAM, 16-QAM, QPSK, BPSK) OFDM 802.11n: (64-QAM, 16-QAM, QPSK, BPSK) OFDM 802.11ac: (256-QAM, 64-QAM, 16-QAM, QPSK, BPSK) OFDM 802.11ax:(1024-QAM,256-QAM,64-QAM,16-QAM, QPSK, BPSK) OFDMA
Antenna Type:	Rubber rod antenna
Antenna gain:	WIFI 5.2G: 2.03dBi, WIFI 5.8G: 6.04dBi
Power supply:	AC 120V/60Hz
Hardware Version:	N/A
Software Version:	N/A
Note:	N/A
Remark:	the Antenna gain is provided by customer from Antenna spec. and the laboratory will not be responsible for the accumulated calculation results which covers the information provided by the applicant.



802.11a/n/ac/ax(20MHz) Frequency Channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	40	5200	44	5220	48	5240

802.11/n/ac/ax(40MHz) Frequency Channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
38	5190	46	5230	-	-	-	-

802.11 ac/ax (80MHz) Frequency Channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
42	5210	-	-	-	-	-	-

802.11a/n/ac/ax(20 MHz) Frequency Channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	153	5765	157	5785	161	5805
165	5825	-	-	-	-	-	-

802.11/n/ac/ax(40MHz) Frequency Channel					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
151	5755	159	5795	-	-

802.11 ac/ax (80MHz) Frequency Channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
155	5775	-	-	-	-	-	-

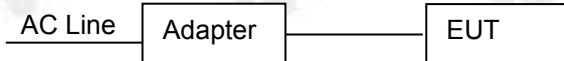


4.2 Test Setup Configuration

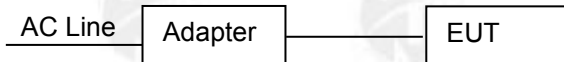
Conducted Emission



Radiated Emission(30MHz-1GHz)

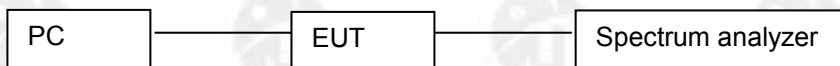


Radiated Emission(above 1GHz)



RF Conducted Test

USB serial port



4.3 Test Mode

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

Test Software	set_txtone
Power level setup	Default



5 Equipment During Test

5.1 Equipments List

Conducted emission Test Equipment

Name	Model No.	Serial No.	Manufacturer	Date of Cal.	Due Date
944 Shielded Room	HSRCE944	/	HTEC	2025/4/30	2028/4/29
EMI Test Receiver	ESCI	/	RS	2025/9/8	2026/9/7
LISN	NNLK 8129	00603	Schwarzbeck	2025/9/8	2026/9/7
LISN	NNHV 8123-400	00694	Schwarzbeck	2025/9/8	2026/9/7
LISN	NNHV 8123-400	00680	Schwarzbeck	2025/9/8	2026/9/7
Cable	RG223-1500MM	NA	RG	2025/9/8	2026/9/7

Radiated emission & Radio Frequency Test Equipment

Name	Model No.	Serial No.	Manufacturer	Date of Cal.	Due Date
966 Shielded Room	966 Room	/	EMToni	2025/7/24	2028/7/23
EMI Test Receiver	ESCI	101018	RS	2025/9/8	2026/9/7
Amplifier (30MHz-1GHz)	BBV 9718D	00042	SCHWARZBECK	2025/9/8	2026/9/7
Bilog Antenna (30MHz-1GHz)	VULB9168	1858	SCHWARZBECK	2025/9/9	2026/9/8
Horn antenna (1GHz-18GHz)	BBHA 9120 D	02622	SCHWARZBECK	2025/9/9	2026/9/8
Preamplifier (1GHz-18GHz)	BBV 9718D	0024	SCHWARZBECK	2025/9/8	2026/9/7
Spectrum Analyzer (10Hz-40GHz)	FSV 40	100952	Rohde & Schwarz	2025/9/8	2026/9/7
Preamplifier (18GHz-40GHz)	BBV 9721	0056	SCHWARZBECK	2025/9/8	2026/9/7
Double Ridge Guide Horn Antenna (18GHz-40GHz)	SAS-574	588	A.H.System	2025/9/8	2026/9/7
Loop Antenna (9KHz-30MHz)	FMZB1519B	014	SCHWARZBECK	2025/9/8	2026/9/7
Amplifier (9KHz-30MHz)	CVP 9222 C	00109	SCHWARZBECK	2025/9/8	2026/9/7
MXG Signal Analyzer	N9020A	MY50510202	Agilent	2025/9/8	2026/9/7



MXG Vector Signal Generator	N5182A	MY50140020	Agilent	2025/9/8	2026/9/7
MXG Analog Signal Generator	N5181A	MY47420919	Agilent	2025/9/8	2026/9/7
Power Sensor	TR1029-2	512364	Techoy	2025/9/8	2026/9/7
Power Meter	ML2495A	/	Anritsu	2025/9/8	2026/9/7
RF Swith	TR1029-1	512364	Techoy	2025/9/8	2026/9/7
Cable	DA800-4000MM	NA	DA	2025/9/8	2026/9/7
Cable	DA800-11000MM	NA	DA	2025/9/8	2026/9/7
Oven	GX-3020-M150	NA	GAOXIN	2026/03/10	2027/03/09

Other

Item	Name	Manufacturer	Model	Software version
1	EMC Conduction Test System	FALA	EZ-EMC	Ver.EMC-CON 3A1.1+
2	EMC radiation test system	FALA	EZ-EMC	Ver.FA-03A2 RE+
3	RF test system	TACHOY	RFTest	V1.0.0
4	RF communication test system	TACHOY	RFTest	V1.0.0



5.2 Measurement Uncertainty

Parameter	Uncertainty
RF output power, conducted	$\pm 1.0\text{dB}$
Power Spectral Density, conducted	$\pm 2.2\text{dB}$
Radio Frequency	$\pm 1 \times 10^{-6}$
Bandwidth	$\pm 1.5 \times 10^{-6}$
Time	$\pm 2\%$
Duty Cycle	$\pm 2\%$
Temperature	$\pm 1^{\circ}\text{C}$
Humidity	$\pm 5\%$
DC and low frequency voltages	$\pm 3\%$
Conducted Emissions (150kHz~30MHz)	$\pm 3.64\text{dB}$
Radiated Emission(9KHz~30MHz)	$\pm 4.51\text{dB}$
Radiated Emission(30MHz~1GHz)	$\pm 5.03\text{dB}$
Radiated Emission(1GHz~25GHz)	$\pm 4.74\text{dB}$
Remark:When making a conformity declaration based on test results for regulations/standards or specifications,the default is to use Clause 4.2.1of ILAC-G8:09/2019 and the guidelines on decision rules and conformity declaration in IEC Guide 115:2023.	

5.3 Description of Support Units

The EUT has been tested as an independent unit .



6 Conducted Emission

Test Requirement: : FCC CFR 47 Part 15 Section 15.207
Test Method: : ANSI C63.10-2020+Cor.1-2023
Test Result: : PASS
Frequency Range: : 150kHz to 30MHz
Class/Severity: : Class B
Detector: : Peak for pre-scan (9kHz Resolution Bandwidth)

6.1 E.U.T. Operation

Operating Environment :

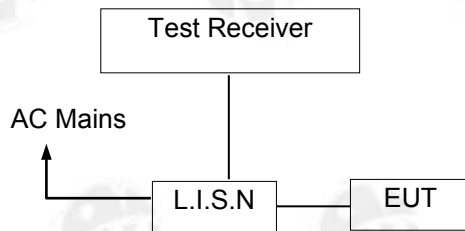
Temperature: : 26°C
Humidity: : 54 % RH
Atmospheric Pressure: : 101.12 kPa
Test Voltage : AC 120V/60Hz

6.2 EUT Setup

The conducted emission tests were performed using the setup accordance with the ANSI C63.10-2020+Cor.1-2023.



6.3 Test SET-UP (Block Diagram of Configuration)



6.4 Measurement Procedure:

1. The EUT was placed 0.1 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
2. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
3. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
4. LISN at least 80 cm from nearest part of EUT chassis.
5. For the actual test configuration, please refer to the related Item – EUT Test Photos.

6.5 Conducted Emission Limit

Conducted Emission

Frequency(MHz)	Quasi-peak	Average
0.15-0.5	66-56	56-46
0.5-5.0	56	46
5.0-30.0	60	50

Note:

1. The lower limit shall apply at the transition frequencies
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

6.6 Measurement Description

The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line.

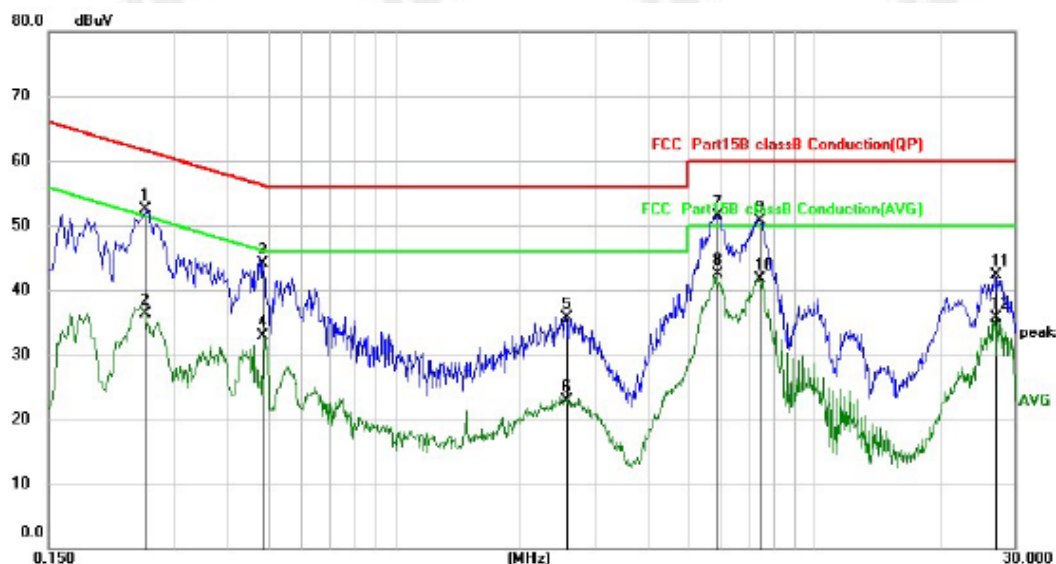
6.7 Conducted Emission Test Result

Pass

All the modulation modes were tested the data of the worst mode (802.11a, Lowest channel) are recorded in the following pages and the others modulation methods do not exceed the limits.



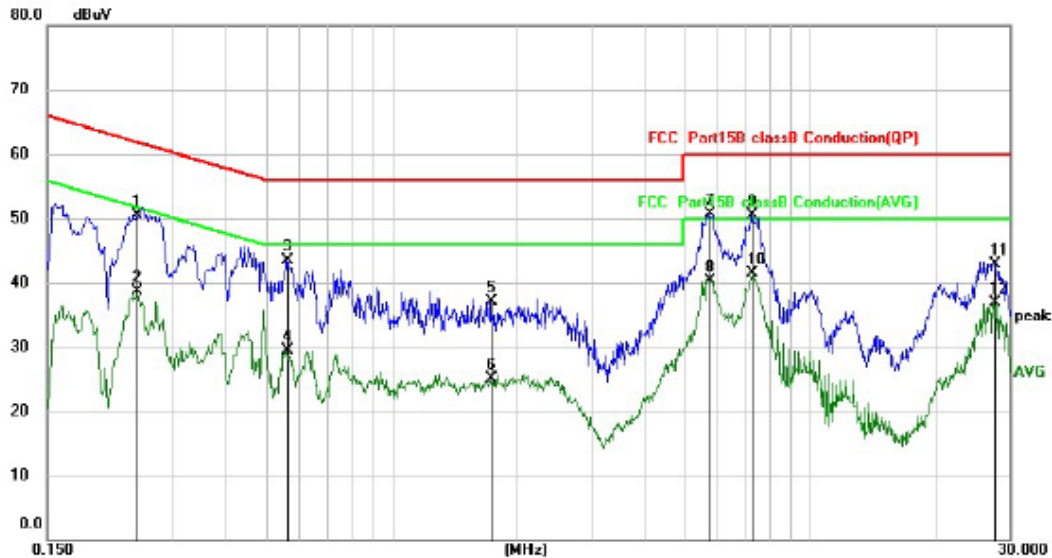
Temperature:	26°C	Relative Humidity:	54%
Pressure:	101kPa	Phase :	L
Test Voltage :	AC 120V/60Hz		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB	dBuV	dBuV	dB	
1		0.2561	41.76	10.71	52.47	61.56	-9.09	QP
2		0.2561	25.59	10.71	36.30	51.56	-15.26	AVG
3		0.4860	33.72	10.48	44.20	56.24	-12.04	QP
4		0.4860	22.39	10.48	32.87	46.24	-13.37	AVG
5		2.5579	25.26	10.48	35.74	56.00	-20.26	QP
6		2.5579	12.40	10.48	22.88	46.00	-23.12	AVG
7		5.8659	41.02	10.53	51.55	60.00	-8.45	QP
8	*	5.8659	31.95	10.53	42.48	50.00	-7.52	AVG
9		7.3700	40.09	10.55	50.64	60.00	-9.36	QP
10		7.3700	31.24	10.55	41.79	50.00	-8.21	AVG
11		26.9700	30.91	11.37	42.28	60.00	-17.72	QP
12		26.9700	24.42	11.37	35.79	50.00	-14.21	AVG



Temperature:	26°C	Relative Humidity:	54%
Pressure:	101kPa	Phase :	N
Test Voltage :	AC 120V/60Hz		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB	dBuV	dBuV	dB	
1		0.2460	39.75	10.72	50.47	61.89	-11.42	QP
2		0.2460	28.03	10.72	38.75	51.89	-13.14	AVG
3		0.5620	32.95	10.47	43.42	56.00	-12.58	QP
4		0.5620	19.06	10.47	29.53	46.00	-16.47	AVG
5		1.7340	26.56	10.47	37.03	56.00	-18.97	QP
6		1.7340	14.55	10.47	25.02	46.00	-20.98	AVG
7		5.7579	40.10	10.53	50.63	60.00	-9.37	QP
8		5.7579	29.85	10.53	40.38	50.00	-9.62	AVG
9		7.2459	39.87	10.55	50.42	60.00	-9.58	QP
10	*	7.2459	30.95	10.55	41.50	50.00	-8.50	AVG
11		27.6060	31.59	11.39	42.98	60.00	-17.02	QP
12		27.6060	25.46	11.39	36.85	50.00	-13.15	AVG

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. Measurement Level = Reading level + Correct Factor
- Correct Factor = Insertion loss of LISN + Cable loss.
5. Margin = Measurement Level – Limit
6. All the modes have tested and recorded the worst mode 802.11a-5745 (the worst data) in the report



7 Radiated Spurious Emissions

Test Requirement : FCC CFR47 Part 15 Section 15.209 & 15.407
 Test Method : ANSI C63.10-2020+Cor.1-2023
 Test Result : PASS
 Measurement Distance : 3m
 Limit : See the follow table

Frequency (MHz)	Field Strength		Field Strength Limit at 3m Measurement Dist	
	uV/m	Distance (m)	uV/m	dBuV/m
0.009 ~ 0.490	2400/F(kHz)	300	10000 * 2400/F(kHz)	$20\log^{(2400/F(kHz))} + 80$
0.490 ~ 1.705	24000/F(kHz)	30	100 * 24000/F(kHz)	$20\log^{(24000/F(kHz))} + 40$
1.705 ~ 30	30	30	100 * 30	$20\log^{(30)} + 40$
30 ~ 88	100	3	100	$20\log^{(100)}$
88 ~ 216	150	3	150	$20\log^{(150)}$
216 ~ 960	200	3	200	$20\log^{(200)}$
Above 960	500	3	500	$20\log^{(500)}$

FREQUENCY (MHz)	Limit (dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

Undesirable emission limits

The maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following 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 e.i.r.p. 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 e.i.r.p. of -27 dBm/MHz.
- (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 e.i.r.p. of -27 dBm/MHz.
- (4) For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge

Requirement	Limit(EIRP)	Limit (Field strength at 3m)
15.407(b)(1)	PK:-27(dBm/MHz)	PK:68.2(dB μ V/m)
15.407(b)(2)		
15.407(b)(3)		
15.407(b)(4)		

7.1 EUT Operation

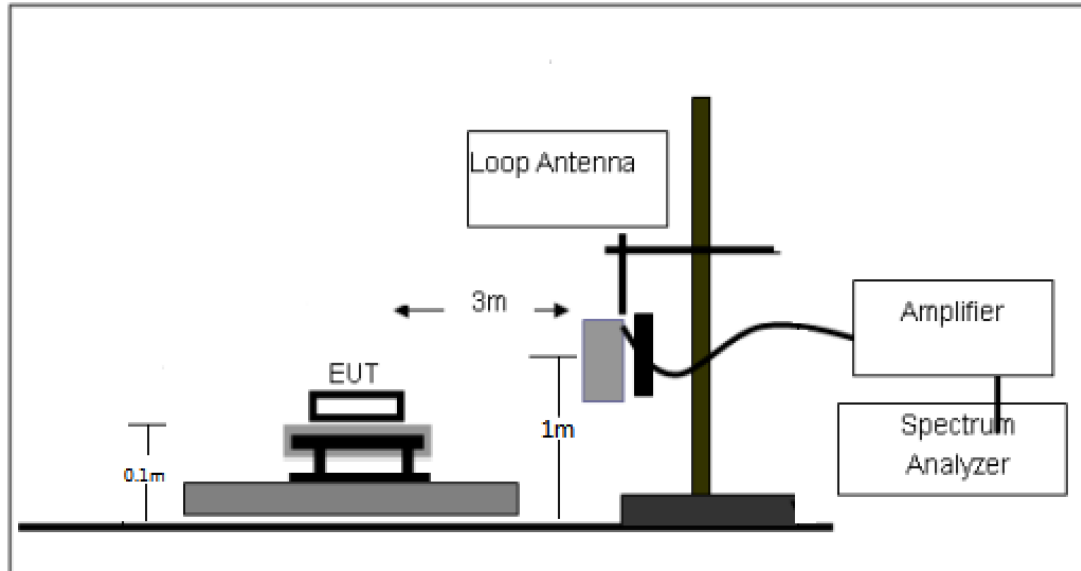
Operating Environment :

Temperature	: 26 °C
Humidity	: 54% RH
Atmospheric Pressure	: 101.3kPa
Test Voltage	: AC 120V60Hz

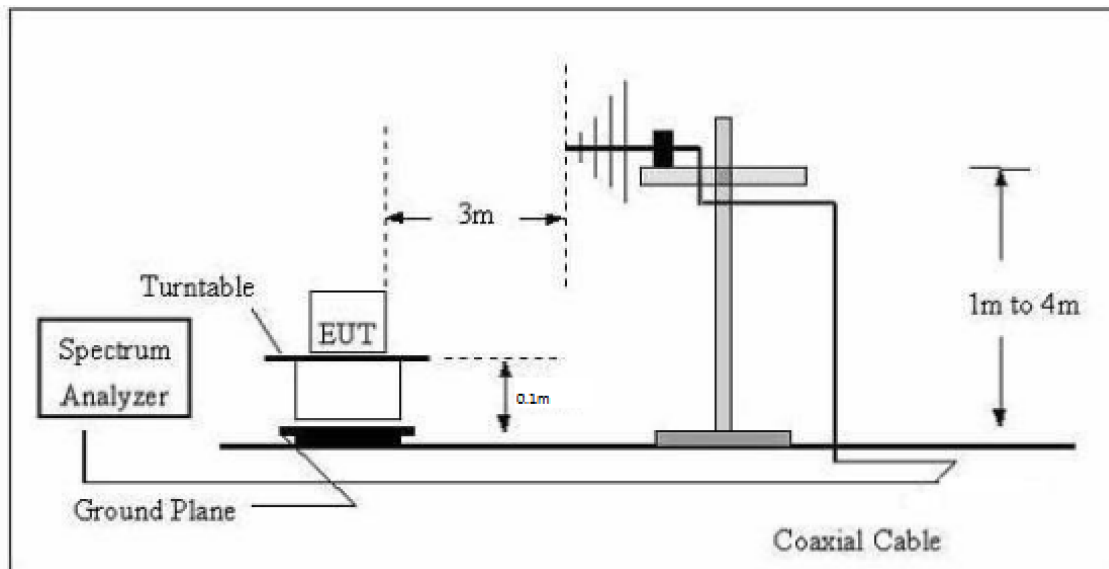
7.2 Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site

The test setup for emission measurement below 30MHz

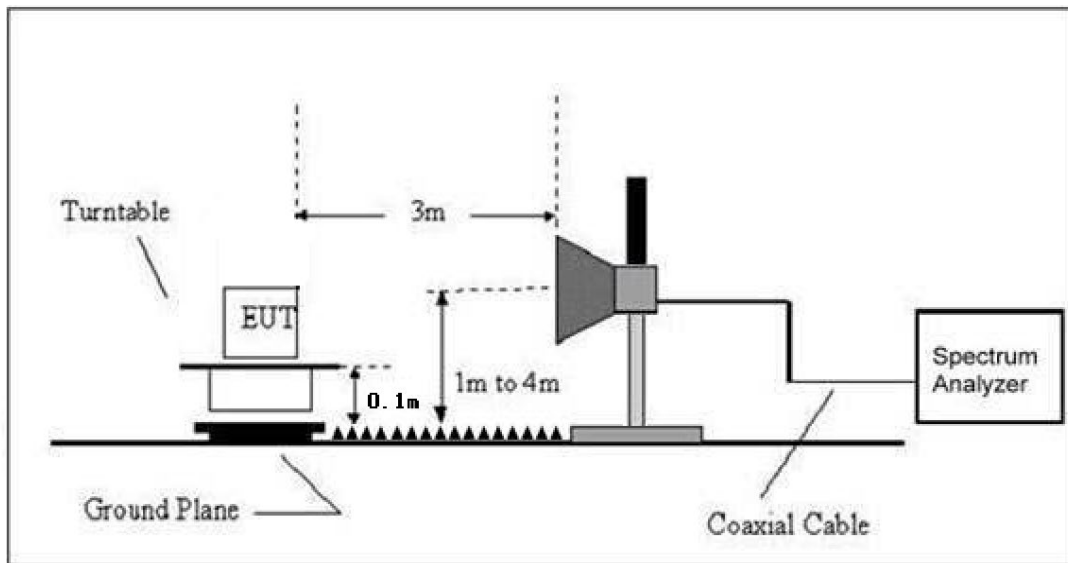


The test setup for emission measurement from 30 MHz to 1 GHz.





The test setup for emission measurement above 1 GHz



7.3 Spectrum Analyzer Setup

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	1 MHz / 3 MHz for Peak, 1 MHz / 10Hz for Average

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP



7.4 Test Procedure

1. The testing follows the guidelines in Spurious Radiated Emissions of ANSI C63.10-2020+Cor.1-2023.
2. Below 1000MHz, The EUT was placed on a turn table which is 0.1m above ground plane. And above 1000MHz, The EUT was placed on a styrofoam table which is 0.1m above ground plane.
3. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
4. For each suspected emission, the EUT was arranged to its worst case and then tune the Antenna tower (From 1m to 4m) and turntable (from 0 degree to 360 degree) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level to comply with the guidelines.
5. Set to the maximum power setting and enable the EUT transmit continuously.
6. Final measurement (Above 1GHz): The frequency range will be divided into different sub ranges depending of the frequency range of the used horn antenna. The EMI Receiver set to peak and average mode and a resolution bandwidth of 1MHz. The measurement will be performed in horizontal and vertical polarization of the measuring antenna and while rotating the EUT in its vertical axis in the range of 0 degree to 360 degree in order to have the antenna inside the cone of radiation.
7. Test Procedure of measurement (For Above 1GHz):
 - 1) Monitor the frequency range at horizontal polarization and move the antenna over all sides of the EUT(if necessary move the EUT to another orthogonal axis).
 - 2) Change the antenna polarization and repeat 1) with vertical polarization.
 - 3) Make a hardcopy of the spectrum.
 - 4) Measure the frequency of the detected emissions with a lower span and resolution bandwidth to increase the accuracy and note the frequency value.
 - 5) Change the analyser mode to Clear/ Write and found the cone of emission.
 - 6) Rotate and move the EUT, so that the measuring distance can be enlarged to 3m and the antenna will be still inside the cone of emission.
 - 7) Measure the level of the detected frequency with the correct resolution bandwidth, with the antenna polarization and azimuth and the peak and average detector, which causes the maximum emission.
 - 8) Repeat steps 1) to 7) for the next antenna spot if the EUT is larger than the antenna beamwidth.
7. The radiation measurements are tested under 3-axes(X,Y,Z) position(X denotes lying on the table, Y denotes side stand and Z denotes vertical stand), After pre-test, It was found that the worse radiation emission was get at the X position. So the data shown was the X position only.



7.5 Summary of Test Results

Test Frequency: 9KHz-30MHz

Freq. (MHz)	Ant.Pol. H/V	Emission Level (dBuV/m)	Limit 3m (dBuV/m)	Over (dB)
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Note:

The amplitude of spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.

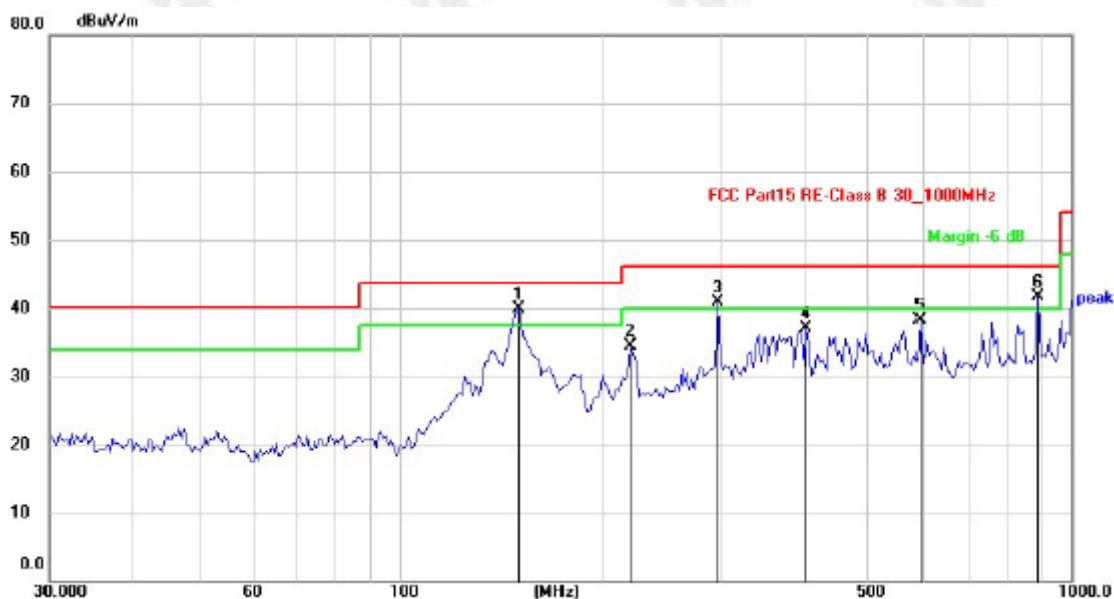
Distance extrapolation factor = $40\log(\text{Specific distance} / \text{test distance})$ (dB);
Limit line = Specific limits (dBuV) + distance extrapolation factor.

Test Frequency: 30MHz ~ 1GHz

Please refer to the following test plots, Low Channel Worst case 802.11a for record:



Temperature:	26℃	Relative Humidity:	54%
Pressure:	101kPa	Polarization:	Horizontal
Test Voltage:	AC 120V/60Hz		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dB/m	Over dB	Detector
1	*	150.5377	44.32	-4.35	39.97	43.50	-3.53	QP
2		221.3916	40.14	-5.73	34.41	46.00	-11.59	QP
3	!	298.2681	43.60	-2.60	41.00	46.00	-5.00	QP
4		405.3765	37.87	-0.80	37.07	46.00	-8.93	QP
5		596.1770	34.42	3.87	38.29	46.00	-7.71	QP
6	!	892.2907	32.30	9.44	41.74	46.00	-4.26	QP

Remark: Emission Level = Reading + Cable Loss + ANT Factor - AMP Factor

Margin = Emission Level - Limit

Remark: All the modes have tested and recorded the worst mode 802.11a--5745 (the worst data) in the report



Temperature:	26℃	Relative Humidity:	54%
Pressure:	101 kPa	Polarization:	Vertical
Test Voltage:	AC 120V/60Hz		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dB/m	Over dB	Detector
1		42.9750	40.03	-6.04	33.99	40.00	-6.01	QP
2	*	147.9214	43.28	-4.60	38.68	43.50	-4.82	QP
3		184.1665	40.45	-4.68	35.77	43.50	-7.73	QP
4	!	298.2681	43.76	-2.60	41.16	46.00	-4.84	QP
5		596.1770	35.86	3.87	39.73	46.00	-6.27	QP
6	!	916.0683	30.90	9.44	40.34	46.00	-5.66	QP

Remark: Emission Level = Reading + Cable Loss + ANT Factor - AMP Factor

Margin = Emission Level - Limit

Remark: All the modes have tested and recorded the worst mode 802.11a-5745 (the worst data) in the report

Test Frequency 1GHz-40GHz

802.11a

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/ m)	Margin (dB)	Detect or Type
Low Channel:5745MHz									
V	11490	42.96	32.29	8.39	38.9	57.96	68.2	-10.24	PK
V	11490	28.23	32.29	8.39	38.9	43.23	54	-10.77	AV
V	17233.3	39.16	31.19	9.62	40.37	57.96	68.2	-10.24	PK
V	17233.3	23.94	31.19	9.62	40.37	42.74	54	-11.26	AV
V	22980	39.66	27.02	7.2	38.98	58.82	68.2	-9.38	PK
V	22980	23.11	27.02	7.2	38.98	42.27	54	-11.73	AV
V	28723.3	38.49	27.1	7.56	40.18	59.13	68.2	-9.07	PK
V	28723.3	21.32	27.1	7.56	40.18	41.96	54	-12.04	AV
H	11490	42.10	32.29	8.39	38.9	57.10	68.2	-11.10	PK
H	11490	26.89	32.29	8.39	38.9	41.89	54	-12.11	AV
H	17233.3	38.63	31.19	9.62	40.37	57.43	68.2	-10.77	PK
H	17233.3	24.56	31.19	9.62	40.37	43.36	54	-10.64	AV
H	22980	38.51	27.02	7.2	38.98	57.67	68.2	-10.53	PK
H	22980	22.59	27.02	7.2	38.98	41.75	54	-12.25	AV
H	28723.3	37.75	27.1	7.56	40.18	58.39	68.2	-9.81	PK
H	28723.3	19.91	27.1	7.56	40.18	40.55	54	-13.45	AV



Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/ m)	Margin (dB)	Detect or Type
Middle Channel:5785MHz									
V	11570	43.51	32.26	8.48	38.9	58.63	68.2	-9.57	PK
V	11570	26.62	32.26	8.48	38.9	41.74	54	-12.26	AV
V	17353.3	37.98	31.08	9.67	40.61	57.18	68.2	-11.02	PK
V	17353.3	22.14	31.08	9.67	40.61	41.34	54	-12.66	AV
V	23140	37.42	27.03	7.24	39.03	56.66	68.2	-11.54	PK
V	23140	22.67	27.03	7.24	39.03	41.91	54	-12.09	AV
V	28923.3	37.32	27.1	7.58	40.34	58.14	68.2	-10.06	PK
V	28923.3	21.25	27.1	7.58	40.34	42.07	54	-11.93	AV
H	11570	40.23	32.26	8.48	38.9	55.35	68.2	-12.85	PK
H	11570	26.12	32.26	8.48	38.9	41.24	54	-12.76	AV
H	17353.3	37.98	31.08	9.67	40.61	57.18	68.2	-11.02	PK
H	17353.3	20.28	31.08	9.67	40.61	39.48	54	-14.52	AV
H	23140	36.36	27.03	7.24	39.03	55.60	68.2	-12.60	PK
H	23140	19.19	27.03	7.24	39.03	38.43	54	-15.57	AV
H	28923.3	36.09	27.1	7.58	40.34	56.91	68.2	-11.29	PK
H	28923.3	18.23	27.1	7.58	40.34	39.05	54	-14.95	AV



Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detect or Type
High Channel:5825MHz									
V	11650	43.76	32.23	8.56	38.9	58.99	68.2	-9.21	PK
V	11650	31.42	32.23	8.56	38.9	46.65	54	-7.35	AV
V	17473.3	41.95	30.97	9.73	40.85	61.56	68.2	-6.64	PK
V	17473.3	26.35	30.97	9.73	40.85	45.96	54	-8.04	AV
V	23300	40.45	27.03	7.26	39.06	59.74	68.2	-8.46	PK
V	23300	23.97	27.03	7.26	39.06	43.26	54	-10.74	AV
V	29123.3	39.79	27.1	7.61	40.4	60.70	68.2	-7.50	PK
V	29123.3	22.44	27.1	7.61	40.4	43.35	54	-10.65	AV
H	11650	41.71	32.23	8.56	38.9	56.94	68.2	-11.26	PK
H	11650	28.74	32.23	8.56	38.9	43.97	54	-10.03	AV
H	17473.3	43.23	30.97	9.73	40.85	62.84	68.2	-5.36	PK
H	17473.3	26.86	30.97	9.73	40.85	46.47	54	-7.53	AV
H	23300	43.53	27.03	7.26	39.06	62.82	68.2	-5.38	PK
H	23300	21.96	27.03	7.26	39.06	41.25	54	-12.75	AV
H	29123.3	37.01	27.1	7.61	40.4	57.92	68.2	-10.28	PK
H	29123.3	22.23	27.1	7.61	40.4	43.14	54	-10.86	AV



802.11a

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/ m)	Margin (dB)	Detect or Type
Low Channel:5180MHz									
V	10360	46.62	32.7	7.72	38.59	60.23	68.2	-7.97	PK
V	10360	25.83	32.7	7.72	38.59	39.44	54	-14.56	AV
V	15540	43.61	31.74	9.44	39.29	60.60	68.2	-7.60	PK
V	15540	22.50	31.74	9.44	39.29	39.49	54	-14.51	AV
V	20720	42.49	26.93	6.64	37.94	60.14	68.2	-8.06	PK
V	20720	23.25	26.93	6.64	37.94	40.90	54	-13.10	AV
V	25900	36.12	27.1	7.9	39.32	56.24	68.2	-11.96	PK
V	25900	23.66	27.1	7.9	39.32	43.78	54	-10.22	AV
H	10360	38.47	32.7	7.72	38.59	52.08	68.2	-16.12	PK
H	10360	25.36	32.7	7.72	38.59	38.97	54	-15.03	AV
H	15540	40.12	31.74	9.44	39.29	57.11	68.2	-11.09	PK
H	15540	23.40	31.74	9.44	39.29	40.39	54	-13.61	AV
H	20720	42.60	26.93	6.64	37.94	60.25	68.2	-7.95	PK
H	20720	22.51	26.93	6.64	37.94	40.16	54	-13.84	AV
H	25900	40.55	27.1	7.9	39.32	60.67	68.2	-7.53	PK
H	25900	22.22	27.1	7.9	39.32	42.34	54	-11.66	AV



Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detect or Type
Middle Channel:5200MHz									
V	10400	45.86	32.69	7.73	38.62	59.52	68.2	-8.68	PK
V	10400	27.81	32.69	7.73	38.62	41.47	54	-12.53	AV
V	15600	41.10	31.72	9.45	39.28	58.11	68.2	-10.09	PK
V	15600	22.74	31.72	9.45	39.28	39.75	54	-14.25	AV
V	20800	38.58	26.93	6.73	37.96	56.34	68.2	-11.86	PK
V	20800	21.44	26.93	6.73	37.96	39.20	54	-14.80	AV
V	26000	37.86	27.1	7.94	39.3	58.00	68.2	-10.20	PK
V	26000	17.66	27.1	7.94	39.3	37.80	54	-16.20	AV
H	10400	43.30	32.69	7.73	38.62	56.96	68.2	-11.24	PK
H	10400	25.76	32.69	7.73	38.62	39.42	54	-14.58	AV
H	15600	39.54	31.72	9.45	39.28	56.55	68.2	-11.65	PK
H	15600	24.02	31.72	9.45	39.28	41.03	54	-12.97	AV
H	20800	39.71	26.93	6.73	37.96	57.47	68.2	-10.73	PK
H	20800	20.55	26.93	6.73	37.96	38.31	54	-15.69	AV
H	26000	39.75	27.1	7.94	39.3	59.89	68.2	-8.31	PK
H	26000	18.82	27.1	7.94	39.3	38.96	54	-15.04	AV



Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detect or Type
High Channel:5240MHz									
V	10480	41.08	32.66	7.74	38.68	54.84	68.2	-13.36	PK
V	10480	24.87	32.66	7.74	38.68	38.63	54	-15.37	AV
V	15720	39.43	31.68	9.48	39.26	56.49	68.2	-11.71	PK
V	15720	18.58	31.68	9.48	39.26	35.64	54	-18.36	AV
V	20960	39.98	26.94	6.91	37.99	57.94	68.2	-10.26	PK
V	20960	20.99	26.94	6.91	37.99	38.95	54	-15.05	AV
V	26200	39.02	27.1	7.89	39.5	59.31	68.2	-8.89	PK
V	26200	17.67	27.1	7.89	39.5	37.96	54	-16.04	AV
H	10480	47.21	32.66	7.74	38.68	60.97	68.2	-7.23	PK
H	10480	25.46	32.66	7.74	38.68	39.22	54	-14.78	AV
H	15720	41.28	31.68	9.48	39.26	58.34	68.2	-9.86	PK
H	15720	21.54	31.68	9.48	39.26	38.60	54	-15.40	AV
H	20960	40.28	26.94	6.91	37.99	58.24	68.2	-9.96	PK
H	20960	21.12	26.94	6.91	37.99	39.08	54	-14.92	AV
H	26200	36.34	27.1	7.89	39.5	56.63	68.2	-11.57	PK
H	26200	18.96	27.1	7.89	39.5	39.25	54	-14.75	AV

Remark:

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss - Pre-amplifier,
Margin= Emission Level - Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.
4. The worst mode is 802.11a, only the worst data is recorded.
The 1-40GHz range has been tested, and the report only records the worst performance of the 1-30G range.

Restrict Band EMISSION MEASUREMENT



U-NII-1

Frequency	Meter Reading	antenna Factor	cable loss	preamp factor	Emission Level	Limit	Margin	Polar	Detector Type	Result
(MHz)	(dBuV/m)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	(H/V)		
802.11a:5180MHz										
5150	53.22	33.14	5.29	33.88	59.25	74	-14.75	V	PK	Pass
5150	35.89	33.14	5.29	33.88	41.92	54	-12.08	V	AV	Pass
5145	55.43	33.14	5.29	33.88	61.46	74	-12.54	V	PK	Pass
5145	36.07	33.14	5.29	33.88	42.10	54	-11.90	V	AV	Pass
5150	55.52	33.14	5.29	33.88	61.55	74	-12.45	H	PK	Pass
5150	34.53	33.14	5.29	33.88	40.56	54	-13.44	H	AV	Pass
5145	53.95	33.14	5.29	33.88	59.98	74	-14.02	H	PK	Pass
5145	34.66	33.14	5.29	33.88	40.69	54	-13.31	H	AV	Pass
802.11a:5240MHz										
5350	58.42	33.06	5.44	33.72	64.52	74	-9.48	V	PK	Pass
5350	38.41	33.06	5.44	33.72	44.51	54	-9.49	V	AV	Pass
5370	52.33	33.05	5.45	33.7	58.43	74	-15.57	V	PK	Pass
5370	36.65	33.05	5.45	33.7	42.75	54	-11.25	V	AV	Pass
5350	58.35	33.06	5.44	33.72	64.45	74	-9.55	H	PK	Pass
5350	37.32	33.06	5.44	33.72	43.42	54	-10.58	H	AV	Pass
5370	54.01	33.05	5.45	33.7	60.11	74	-13.89	H	PK	Pass
5370	36.82	33.05	5.45	33.7	42.92	54	-11.08	H	AV	Pass
802.11n20:5180MHz										
5150	53.03	33.14	5.29	33.88	59.06	74	-14.94	V	PK	Pass
5150	35.96	33.14	5.29	33.88	41.99	54	-12.01	V	AV	Pass
5145	55.20	33.14	5.29	33.88	61.23	74	-12.77	V	PK	Pass
5145	35.24	33.14	5.29	33.88	41.27	54	-12.73	V	AV	Pass
5150	55.73	33.14	5.29	33.88	61.76	74	-12.24	H	PK	Pass



5150	34.66	33.14	5.29	33.88	40.69	54	-13.31	H	AV	Pass
5145	53.36	33.14	5.29	33.88	59.39	74	-14.61	H	PK	Pass
5145	36.04	33.14	5.29	33.88	42.07	54	-11.93	H	AV	Pass
802.11n20:5240MHz										
5350	57.80	33.06	5.44	33.72	63.90	74	-10.10	V	PK	Pass
5350	37.21	33.06	5.44	33.72	43.31	54	-10.69	V	AV	Pass
5370	53.64	33.05	5.45	33.7	59.74	74	-14.26	V	PK	Pass
5370	36.34	33.05	5.45	33.7	42.44	54	-11.56	V	AV	Pass
5350	57.83	33.06	5.44	33.72	63.93	74	-10.07	H	PK	Pass
5350	39.03	33.06	5.44	33.72	45.13	54	-8.87	H	AV	Pass
5370	54.94	33.05	5.45	33.7	61.04	74	-12.96	H	PK	Pass
5370	36.47	33.05	5.45	33.7	42.57	54	-11.43	H	AV	Pass
802.11ac20:5180MHz										
5150	54.16	33.14	5.29	33.88	60.19	74	-13.81	V	PK	Pass
5150	35.72	33.14	5.29	33.88	41.75	54	-12.25	V	AV	Pass
5145	54.68	33.14	5.29	33.88	60.71	74	-13.29	V	PK	Pass
5145	36.23	33.14	5.29	33.88	42.26	54	-11.74	V	AV	Pass
5150	56.10	33.14	5.29	33.88	62.13	74	-11.87	H	PK	Pass
5150	35.19	33.14	5.29	33.88	41.22	54	-12.78	H	AV	Pass
5145	52.81	33.14	5.29	33.88	58.84	74	-15.16	H	PK	Pass
5145	34.75	33.14	5.29	33.88	40.78	54	-13.22	H	AV	Pass
802.11ac20:5240MHz										
5350	57.72	33.06	5.44	33.72	63.82	74	-10.18	V	PK	Pass
5350	37.69	33.06	5.44	33.72	43.79	54	-10.21	V	AV	Pass
5370	53.89	33.05	5.45	33.7	59.99	74	-14.01	V	PK	Pass
5370	37.10	33.05	5.45	33.7	43.20	54	-10.80	V	AV	Pass
5350	57.84	33.06	5.44	33.72	63.94	74	-10.06	H	PK	Pass
5350	39.31	33.06	5.44	33.72	45.41	54	-8.59	H	AV	Pass
5370	54.54	33.05	5.45	33.7	60.64	74	-13.36	H	PK	Pass
5370	36.26	33.05	5.45	33.7	42.36	54	-11.64	H	AV	Pass



802.11ax20:5180MHz										
5150	53.41	33.14	5.29	33.88	59.44	74	-14.56	V	PK	Pass
5150	34.69	33.14	5.29	33.88	40.72	54	-13.28	V	AV	Pass
5145	55.57	33.14	5.29	33.88	61.60	74	-12.40	V	PK	Pass
5145	34.79	33.14	5.29	33.88	40.82	54	-13.18	V	AV	Pass
5150	55.57	33.14	5.29	33.88	61.60	74	-12.40	H	PK	Pass
5150	36.14	33.14	5.29	33.88	42.17	54	-11.83	H	AV	Pass
5145	52.54	33.14	5.29	33.88	58.57	74	-15.43	H	PK	Pass
5145	35.64	33.14	5.29	33.88	41.67	54	-12.33	H	AV	Pass
802.11ax20:5240MHz										
5350	58.45	33.06	5.44	33.72	64.55	74	-9.45	V	PK	Pass
5350	38.66	33.06	5.44	33.72	44.76	54	-9.24	V	AV	Pass
5370	53.65	33.05	5.45	33.7	59.75	74	-14.25	V	PK	Pass
5370	37.50	33.05	5.45	33.7	43.60	54	-10.40	V	AV	Pass
5350	57.73	33.06	5.44	33.72	63.83	74	-10.17	H	PK	Pass
5350	37.80	33.06	5.44	33.72	43.90	54	-10.10	H	AV	Pass
5370	53.34	33.05	5.45	33.7	59.44	74	-14.56	H	PK	Pass
5370	36.66	33.05	5.45	33.7	42.76	54	-11.24	H	AV	Pass
802.11n40:5190MHz										
5150	53.88	33.14	5.29	33.88	59.91	74	-14.09	V	PK	Pass
5150	35.69	33.14	5.29	33.88	41.72	54	-12.28	V	AV	Pass
5145	55.86	33.14	5.29	33.88	61.89	74	-12.11	V	PK	Pass
5145	35.84	33.14	5.29	33.88	41.87	54	-12.13	V	AV	Pass
5150	55.80	33.14	5.29	33.88	61.83	74	-12.17	H	PK	Pass
5150	35.20	33.14	5.29	33.88	41.23	54	-12.77	H	AV	Pass
5145	53.81	33.14	5.29	33.88	59.84	74	-14.16	H	PK	Pass
5145	35.97	33.14	5.29	33.88	42.00	54	-12.00	H	AV	Pass
802.11n40:5230MHz										
5350	58.05	33.06	5.44	33.72	64.15	74	-9.85	V	PK	Pass
5350	38.53	33.06	5.44	33.72	44.63	54	-9.37	V	AV	Pass
5370	53.17	33.05	5.45	33.7	59.27	74	-14.73	V	PK	Pass



5370	36.23	33.05	5.45	33.7	42.33	54	-11.67	V	AV	Pass
5350	58.40	33.06	5.44	33.72	64.50	74	-9.50	H	PK	Pass
5350	38.47	33.06	5.44	33.72	44.57	54	-9.43	H	AV	Pass
5370	53.41	33.05	5.45	33.7	59.51	74	-14.49	H	PK	Pass
5370	37.51	33.05	5.45	33.7	43.61	54	-10.39	H	AV	Pass
802.11ac40:5190MHz										
5150	53.12	33.14	5.29	33.88	59.15	74	-14.85	V	PK	Pass
5150	35.02	33.14	5.29	33.88	41.05	54	-12.95	V	AV	Pass
5145	55.91	33.14	5.29	33.88	61.94	74	-12.06	V	PK	Pass
5145	34.85	33.14	5.29	33.88	40.88	54	-13.12	V	AV	Pass
5150	54.56	33.14	5.29	33.88	60.59	74	-13.41	H	PK	Pass
5150	34.84	33.14	5.29	33.88	40.87	54	-13.13	H	AV	Pass
5145	53.00	33.14	5.29	33.88	59.03	74	-14.97	H	PK	Pass
5145	35.27	33.14	5.29	33.88	41.30	54	-12.70	H	AV	Pass
802.11ac40:5230MHz										
5350	58.38	33.06	5.44	33.72	64.48	74	-9.52	V	PK	Pass
5350	38.11	33.06	5.44	33.72	44.21	54	-9.79	V	AV	Pass
5370	52.46	33.05	5.45	33.7	58.56	74	-15.44	V	PK	Pass
5370	37.35	33.05	5.45	33.7	43.45	54	-10.55	V	AV	Pass
5350	57.26	33.06	5.44	33.72	63.36	74	-10.64	H	PK	Pass
5350	37.43	33.06	5.44	33.72	43.53	54	-10.47	H	AV	Pass
5370	53.98	33.05	5.45	33.7	60.08	74	-13.92	H	PK	Pass
5370	36.50	33.05	5.45	33.7	42.60	54	-11.40	H	AV	Pass
802.11ax40:5190MHz										
5150	53.20	33.14	5.29	33.88	59.23	74	-14.77	V	PK	Pass
5150	34.99	33.14	5.29	33.88	41.02	54	-12.98	V	AV	Pass
5145	55.12	33.14	5.29	33.88	61.15	74	-12.85	V	PK	Pass
5145	36.51	33.14	5.29	33.88	42.54	54	-11.46	V	AV	Pass
5150	55.54	33.14	5.29	33.88	61.57	74	-12.43	H	PK	Pass
5150	35.16	33.14	5.29	33.88	41.19	54	-12.81	H	AV	Pass



5145	53.49	33.14	5.29	33.88	59.52	74	-14.48	H	PK	Pass
5145	34.50	33.14	5.29	33.88	40.53	54	-13.47	H	AV	Pass
802.11ax40:5230MHz										
5350	57.36	33.06	5.44	33.72	63.46	74	-10.54	V	PK	Pass
5350	37.03	33.06	5.44	33.72	43.13	54	-10.87	V	AV	Pass
5370	53.91	33.05	5.45	33.7	60.01	74	-13.99	V	PK	Pass
5370	36.54	33.05	5.45	33.7	42.64	54	-11.36	V	AV	Pass
5350	58.13	33.06	5.44	33.72	64.23	74	-9.77	H	PK	Pass
5350	39.05	33.06	5.44	33.72	45.15	54	-8.85	H	AV	Pass
5370	55.22	33.05	5.45	33.7	61.32	74	-12.68	H	PK	Pass
5370	36.30	33.05	5.45	33.7	42.40	54	-11.60	H	AV	Pass

U-NII-3

Frequency	Meter Reading	antenna Factor	cable loss	preamp factor	Emission Level	Limit	Margin	Polar	Detector Type	Result
(MHz)	(dBuV/m)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	(H/V)		
802.11a:5745MHz										
5650	47.25	30.22	4.85	23.98	45.86	68.2	-22.34	V	PK	Pass
5725	70.63	30.22	4.85	23.98	69.24	122.2	-52.96	V	PK	Pass
5650	46.32	30.22	4.85	23.98	44.93	68.2	-23.27	H	PK	Pass
5725	66.41	30.22	4.85	23.98	65.02	122.2	-57.18	H	PK	Pass
802.11a:5825MHz										
5850	70.15	30.22	4.85	23.98	68.76	122.2	-53.44	V	PK	Pass
5925	44.94	30.22	4.85	23.98	43.55	68.2	-24.65	V	PK	Pass
5850	71.87	30.22	4.85	23.98	70.48	122.2	-51.72	H	PK	Pass
5925	43.32	30.22	4.85	23.98	41.93	68.2	-26.27	H	PK	Pass
802.11ax20:5745MHz										
5650	45.16	30.22	4.85	23.98	43.77	68.2	-24.43	V	PK	Pass
5725	69.11	30.22	4.85	23.98	67.72	122.2	-54.48	V	PK	Pass
5650	45.05	30.22	4.85	23.98	43.66	68.2	-24.54	H	PK	Pass
5725	66.04	30.22	4.85	23.98	64.65	122.2	-57.55	H	PK	Pass



802.11ax20:5785MHz										
5850	72.74	30.22	4.85	23.98	71.35	122.2	-50.85	V	PK	Pass
5925	46.97	30.22	4.85	23.98	45.58	68.2	-22.62	V	PK	Pass
5850	70.42	30.22	4.85	23.98	69.03	122.2	-53.17	H	PK	Pass
5925	43.89	30.22	4.85	23.98	42.50	68.2	-25.70	H	PK	Pass
802.11ax40:5755MHz										
5650	45.35	30.22	4.85	23.98	43.96	68.2	-24.24	V	PK	Pass
5725	70.07	30.22	4.85	23.98	68.68	122.2	-53.52	V	PK	Pass
5650	45.32	30.22	4.85	23.98	43.93	68.2	-24.27	H	PK	Pass
5725	65.05	30.22	4.85	23.98	63.66	122.2	-58.54	H	PK	Pass
802.11ax40:5795MHz										
5850	72.54	30.22	4.85	23.98	71.15	122.2	-51.05	V	PK	Pass
5925	46.71	30.22	4.85	23.98	45.32	68.2	-22.88	V	PK	Pass
5850	71.48	30.22	4.85	23.98	70.09	122.2	-52.11	H	PK	Pass
5925	42.84	30.22	4.85	23.98	41.45	68.2	-26.75	H	PK	Pass
Remark: All the modes have tested and recorded the worst mode(802.11a&802.11ax) in the report										

Remark:

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier,
Margin= Emission Level - Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

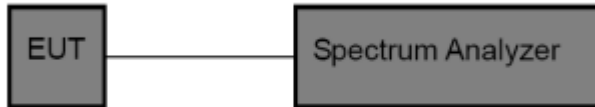


8 Duty cycle

8.1 Limit

Test Requirement: FCC CFR Title 47 Part 15 Subpart C Section 15.407
Test Method: ANSI C63.10-2020+Cor.1-2023
KDB 789033 D02 v02r01
Test Result: PASS

8.2 Test Setup



8.3 Test Procedure

The zero-span mode on a spectrum analyzer or EMI receiver, if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the on and off times of the transmitted signal. Set the center frequency of the instrument to the center frequency of the transmission. Set RBW $\geq$ EBW if possible; otherwise, set RBW to the largest available value. Set VBW $\geq$ RBW. Set detector = peak or average. The zero-span measurement method shall not be used unless both RBW and VBW are $> 50/T$, where T is defined in IILB.1.a), and the number of sweep points across duration T exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring duty cycle shall not be used if $T \leq 16.7$ microseconds.)

8.4 Test Result

5150-5250MHz:
Duty Cycle

Mode	Channel.	Duty Cycle (%)	Correction Factor (dB)
802.11a	5180	100	0
	5200	100	0
	5240	100	0
802.11ac(VHT20)	5210	100	0
	5180	100	0
	5200	100	0
802.11ac(VHT40)	5240	100	0
	5190	100	0
802.11ac(VHT80)	5230	100	0
802.11ax(VHE20)	5210	100	0
	5180	100	0
	5200	100	0
802.11ax(VHE40)	5240	100	0
	5190	100	0
802.11ax(VHE80)	5230	100	0
802.11n(HT20)	5180	100	0
	5200	100	0
	5240	100	0
802.11n(HT40)	5190	100	0
	5230	100	0

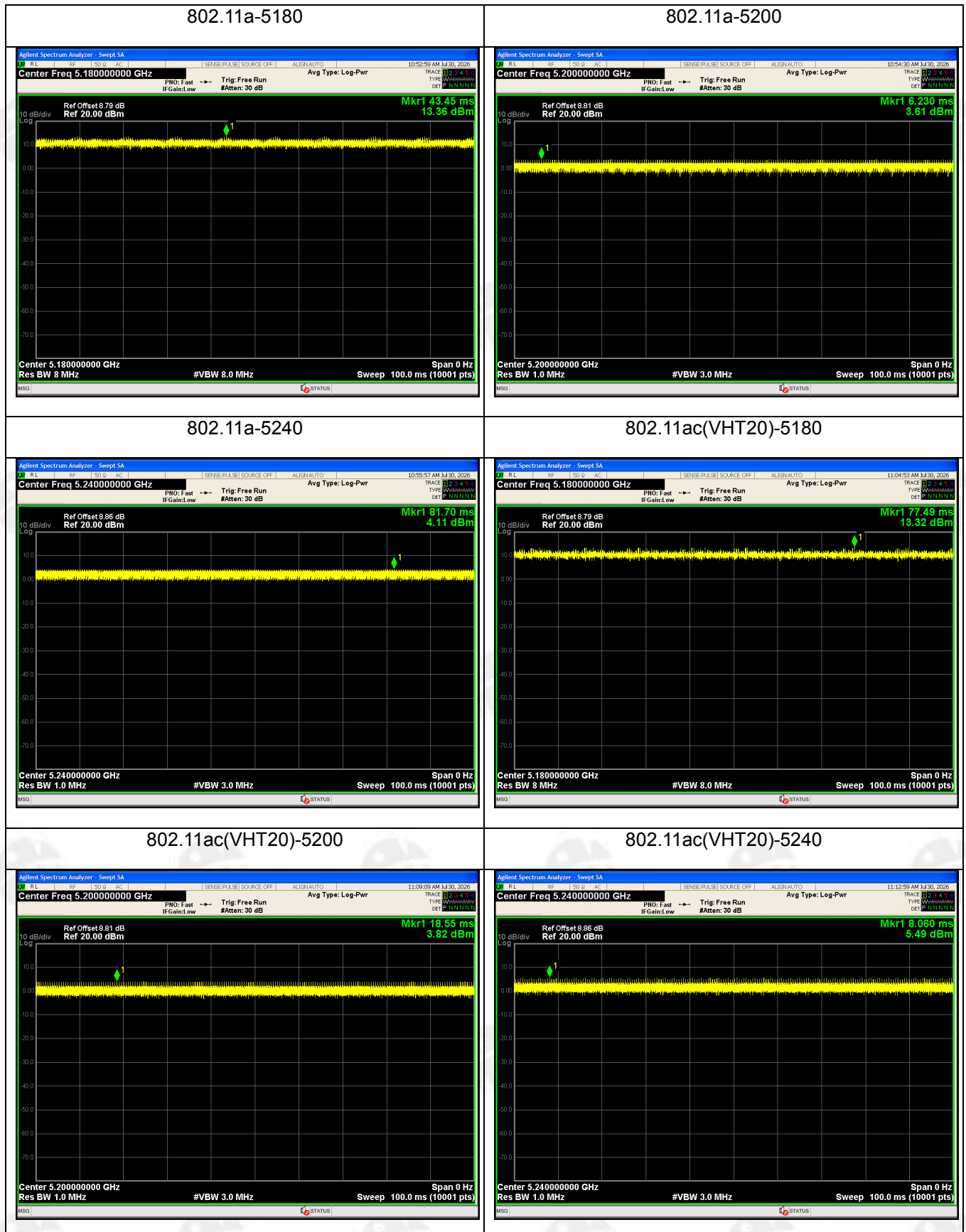


5725-5850MHz:
Duty Cycle

Mode	Channel.	Duty Cycle (%)	Correction Factor (dB)
802.11a	5745	100	0
	5785	100	0
	5825	100	0
802.11ac(VHT20)	5745	100	0
	5785	100	0
	5825	100	0
802.11ac(VHT40)	5755	100	0
	5795	100	0
802.11ac(VHT80)	5775	100	0
802.11ax(VHE20)	5745	100	0
	5785	100	0
	5825	100	0
802.11ax(VHE40)	5755	100	0
	5795	100	0
802.11ax(VHE80)	5775	100	0
802.11n(HT20)	5745	100	0
	5785	100	0
	5825	100	0
802.11n(HT40)	5755	100	0
	5795	100	0

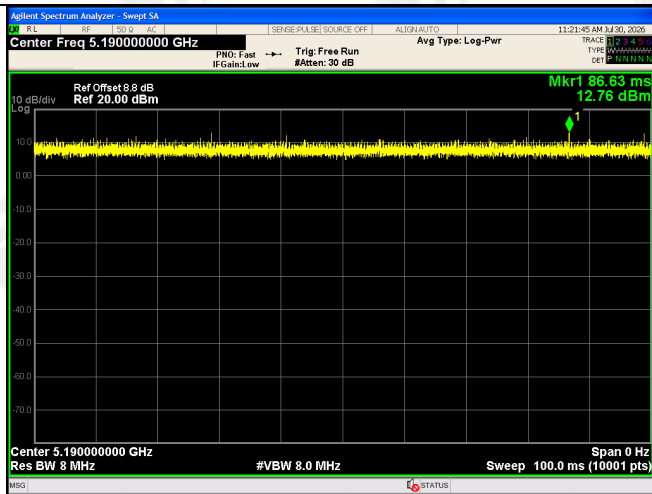


5150-5250MHz

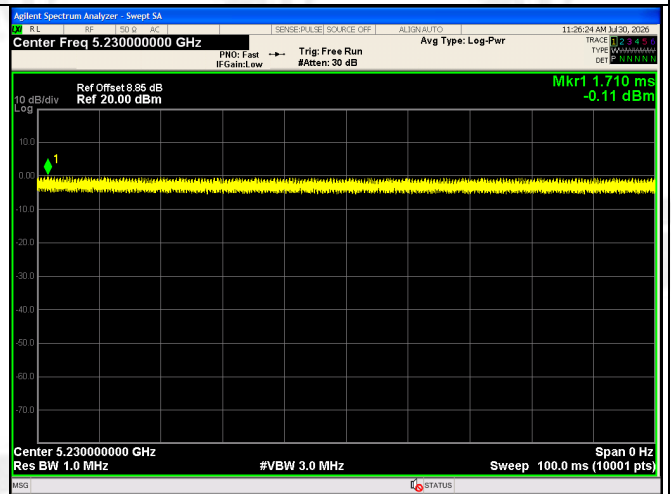




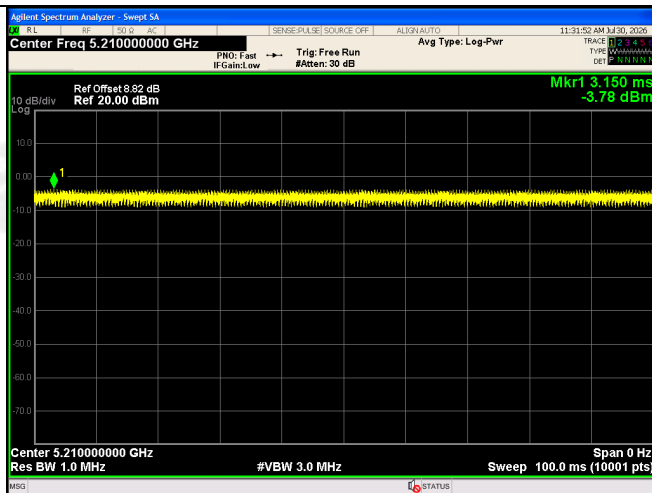
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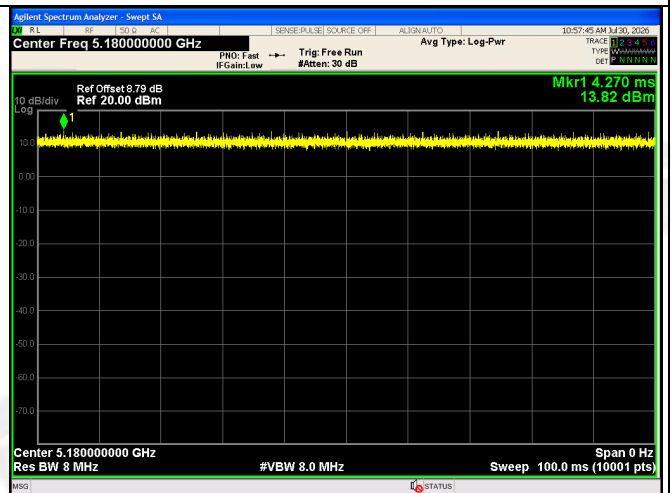
802.11ac(VHT40)-5230



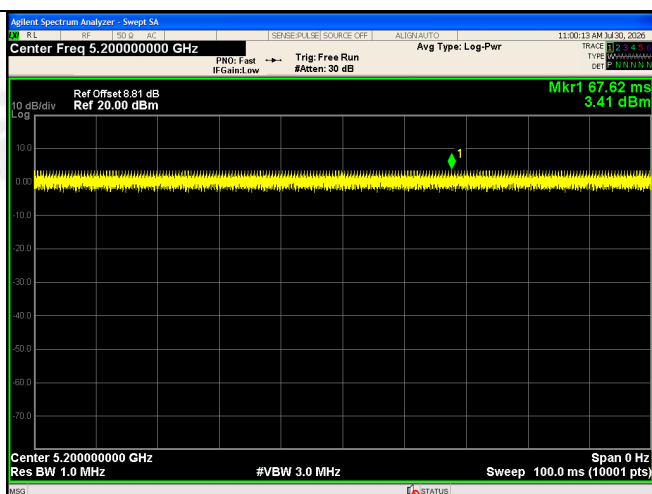
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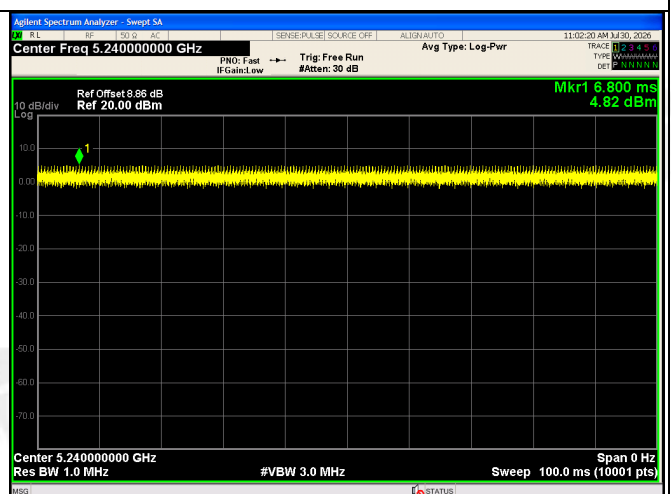
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802.11n(HT20)-5200

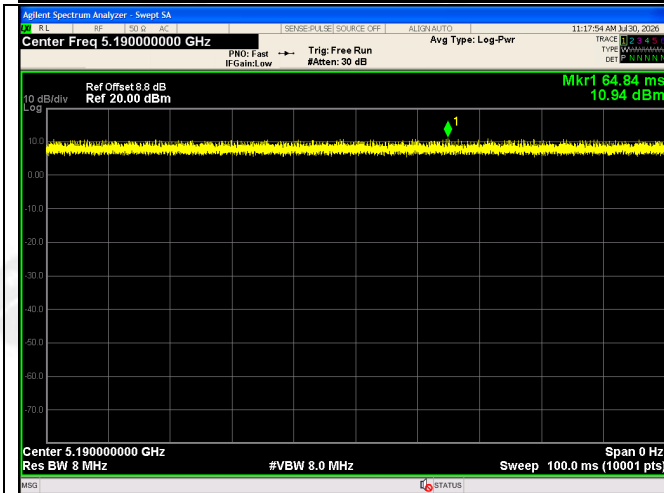


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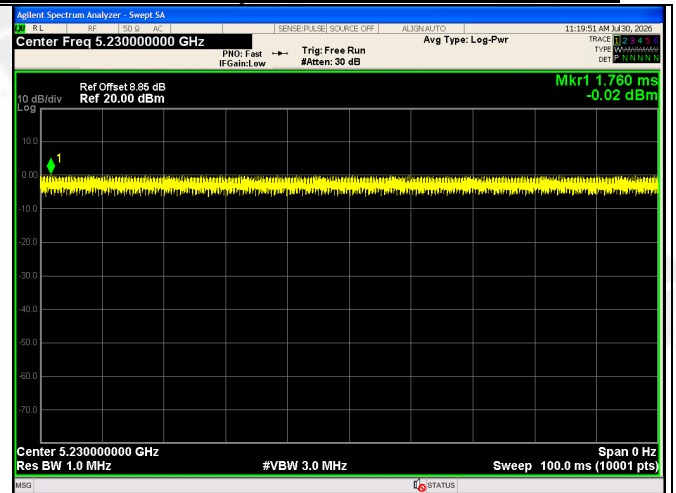


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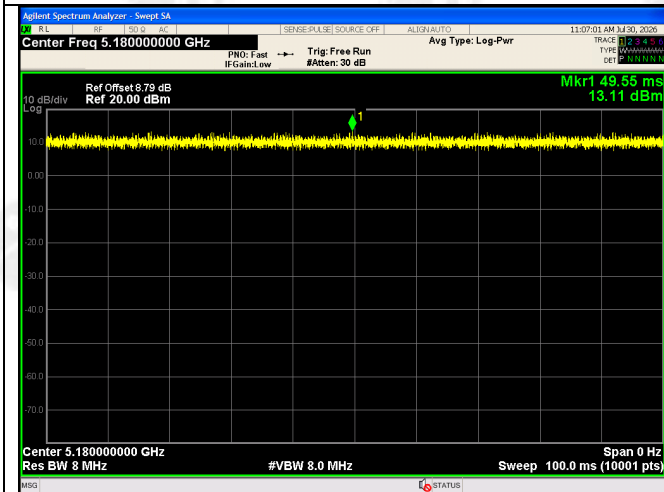
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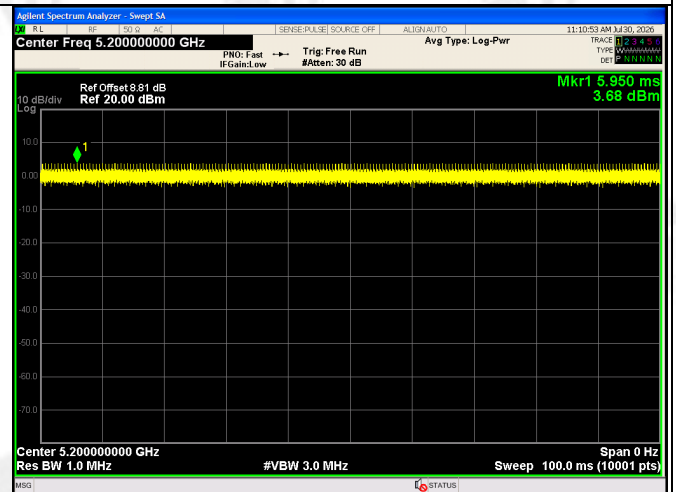
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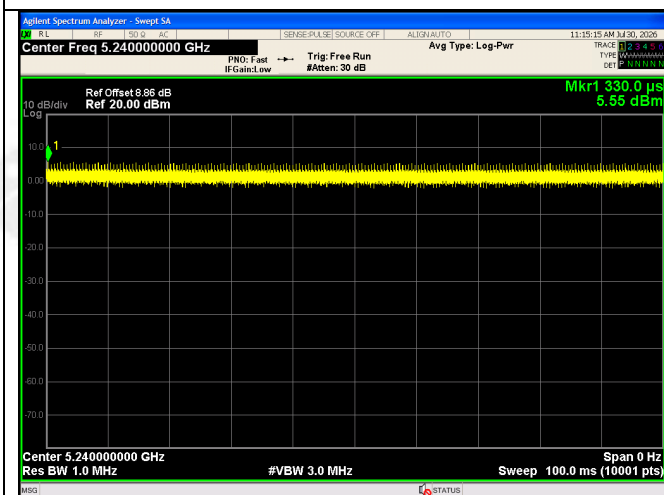
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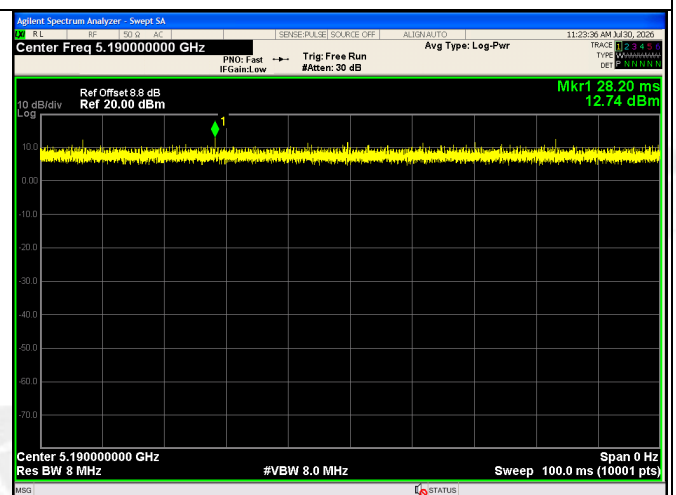
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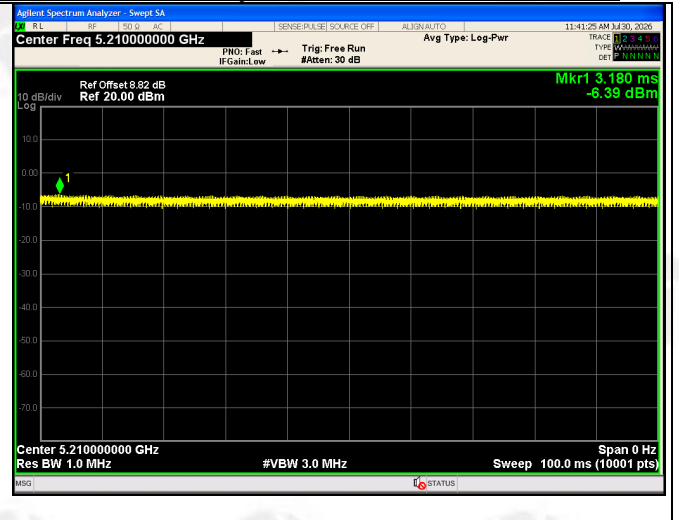
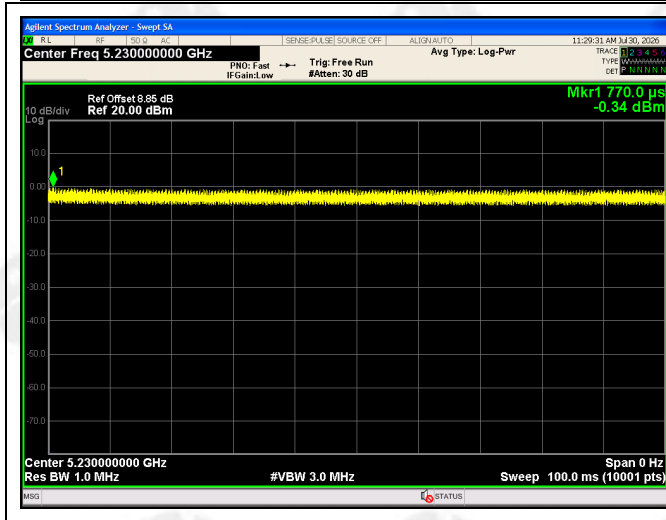
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802.11ax(HE40)-5230



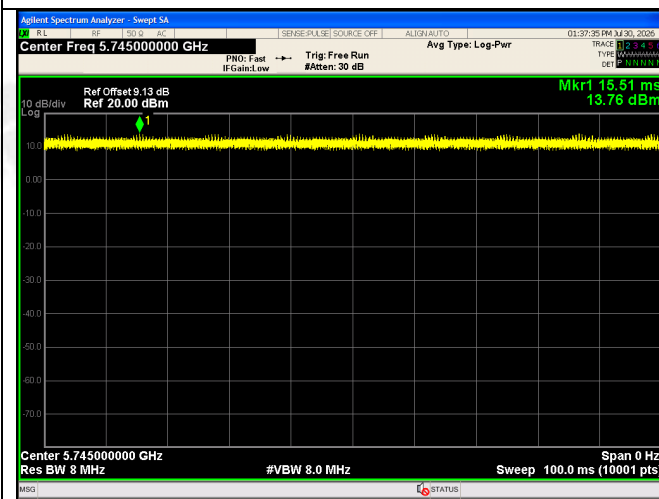
802.11ax(HE80)-5210



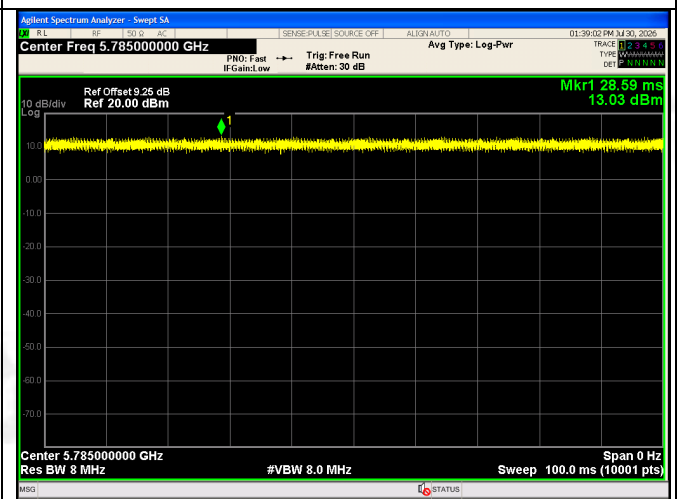


5725-5850MHz

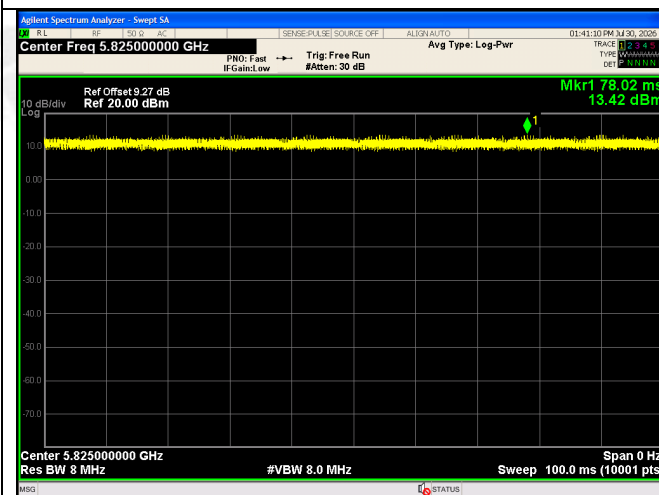
802.11a-5745



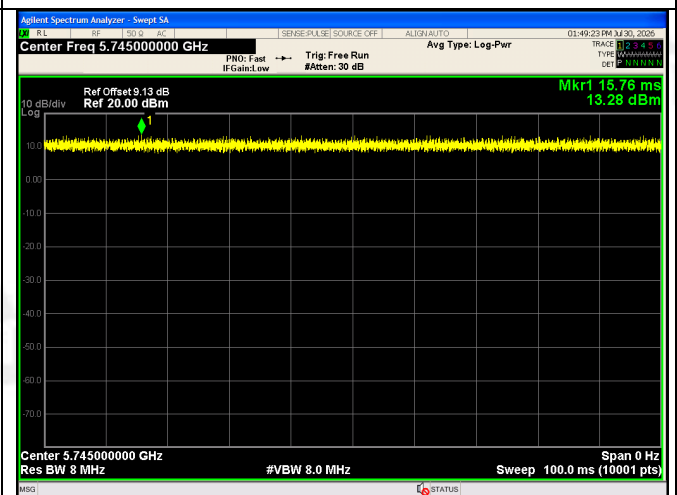
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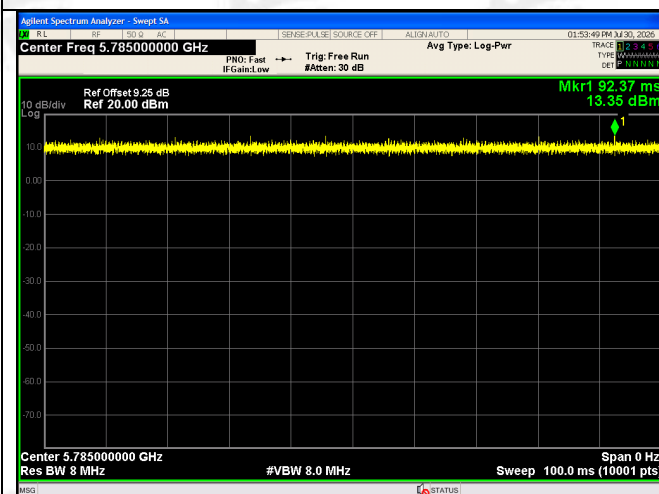
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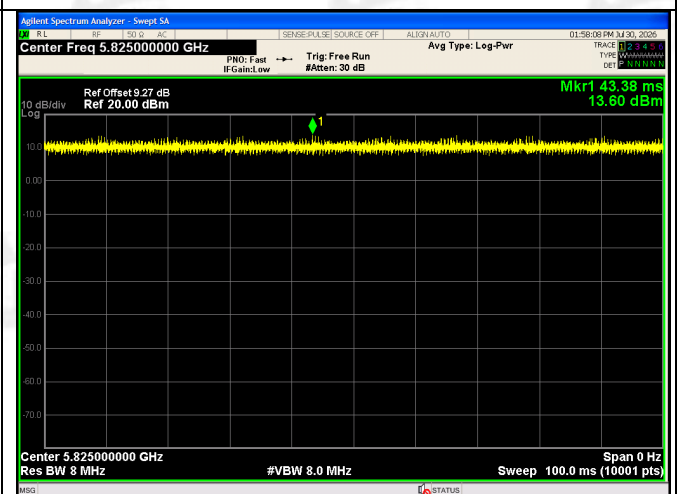
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802.11ac(VHT20)-5785

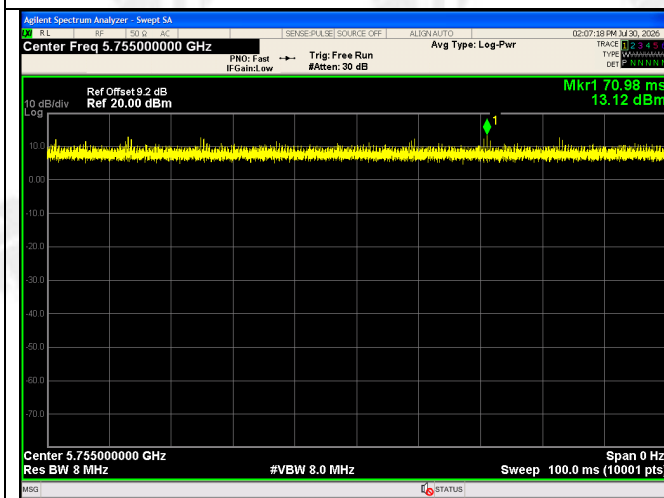


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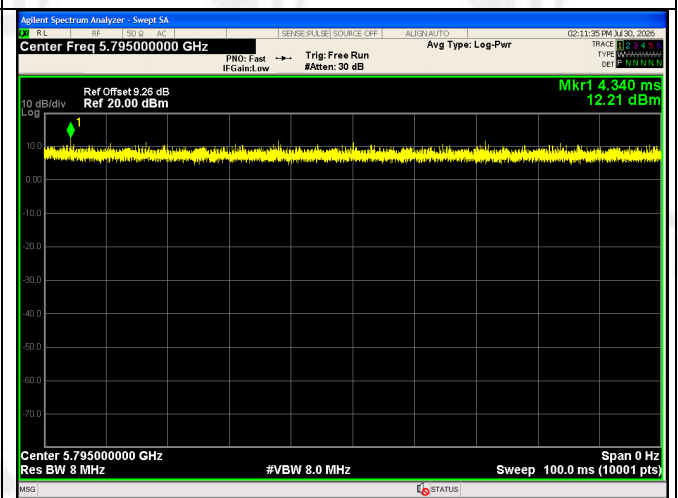




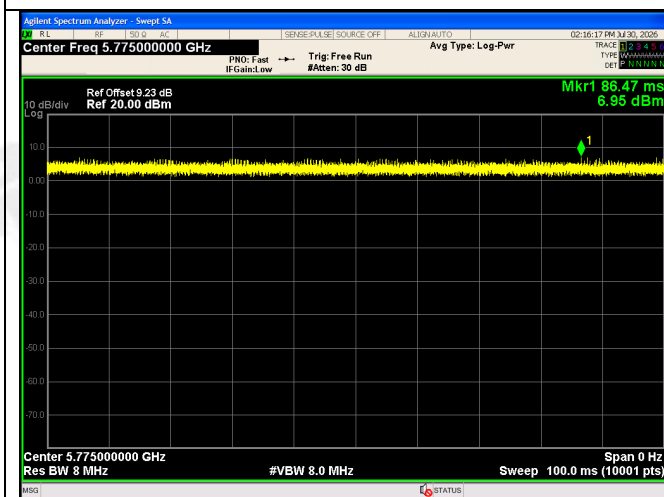
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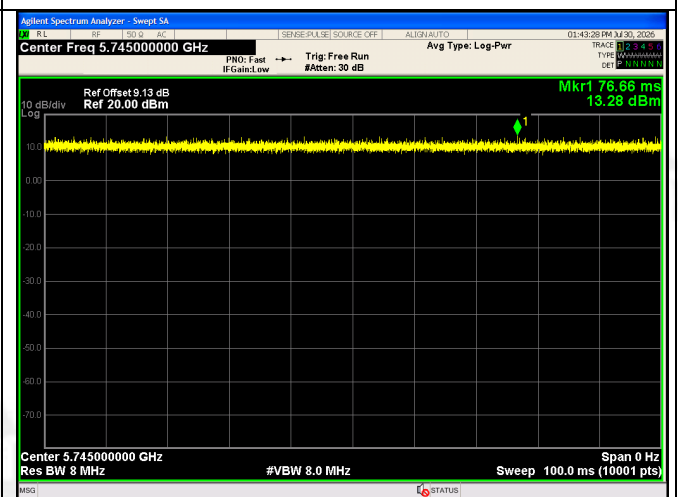
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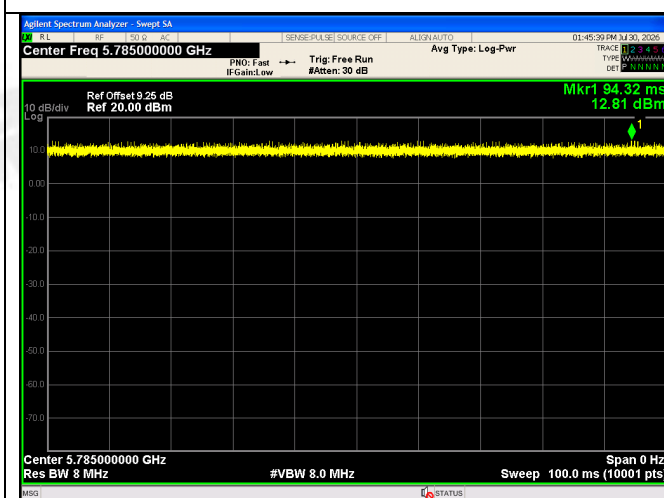
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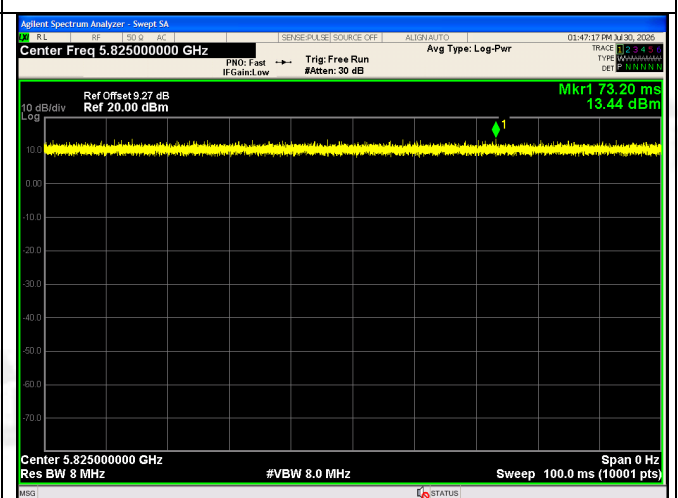
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802.11n(HT20)-5785

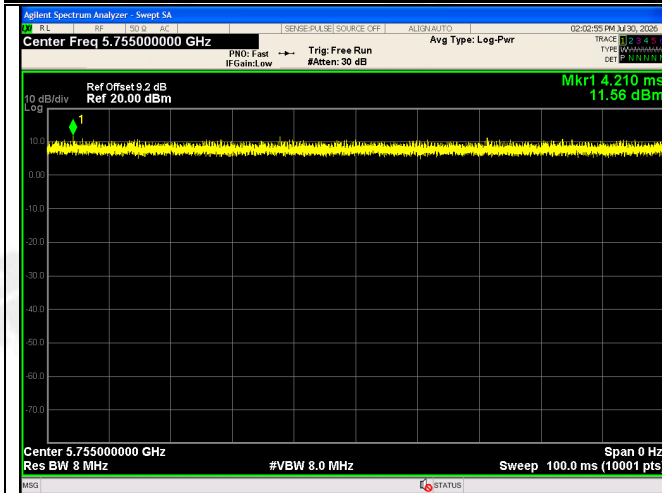


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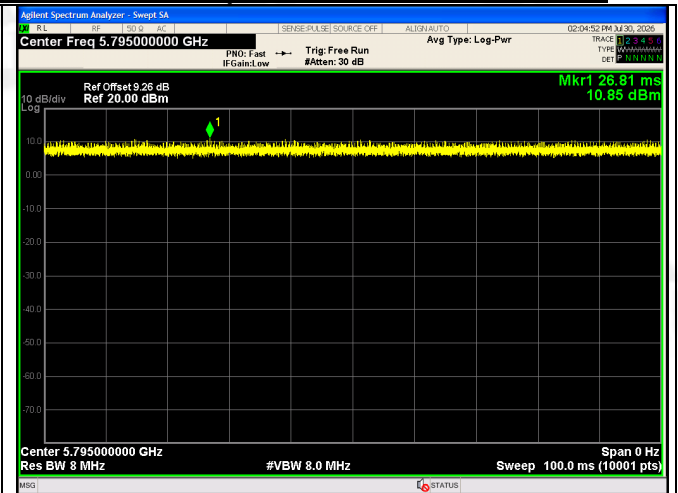


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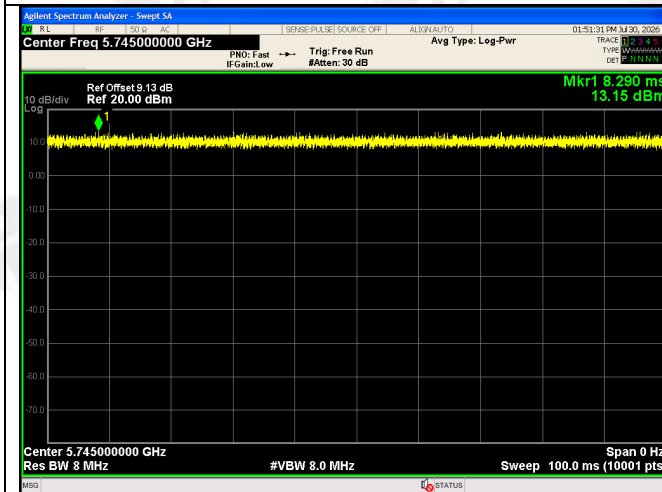
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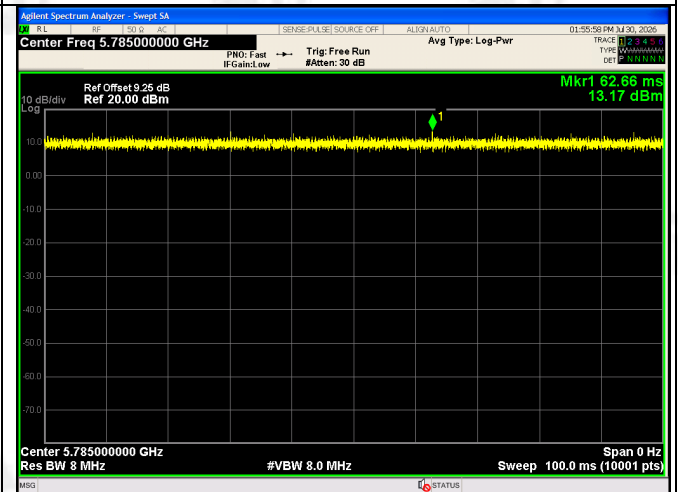
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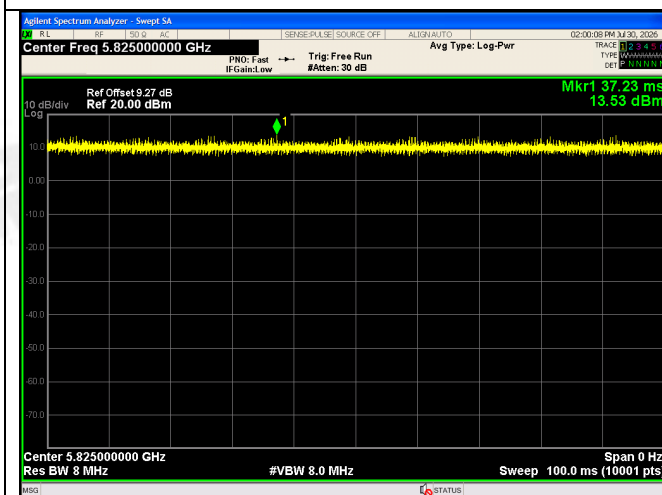
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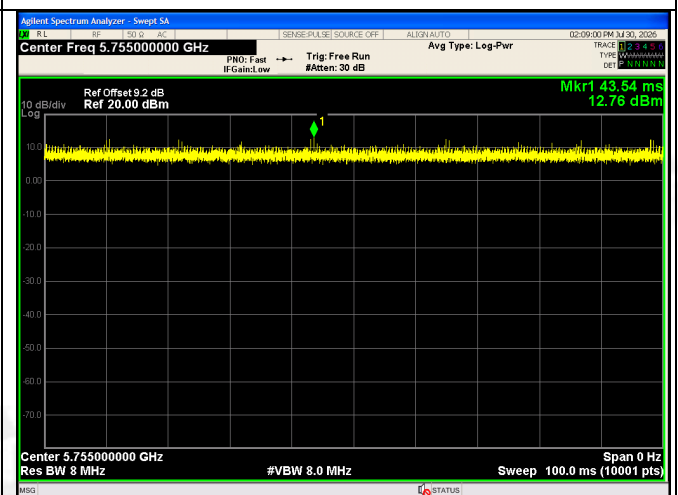
802.11ax(HE20)-5825



802.11ax(HE40)-5755



802.11ax(HE40)-5795



802.11ax(HE80)-5775





9 POWER SPECTRAL DENSITY TEST

9.1 Test Standard and Limit

According to FCC §15.407(3)

(1) For the band 5.15-5.25 GHz.

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum

power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

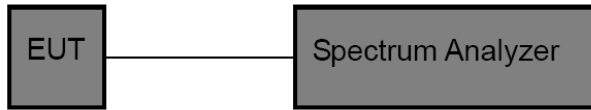
(iv) For client devices in the 5.15-5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.



9.2 Test Setup



9.3 Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above,
2. The testing follows FCC KDB 789033 D02.
3. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to Spectrum.
4. For U-NII1, U-NII-2A, U-NII-2C Band:
Set RBW=1MHz, VBW=3MHz, where span is enough to capture the entire bandwidth, Sweep time = Auto (601 pts), detector = sample, traces 100 sweeps of video averaging. (SA-2 with the omission of procedure x, the integration with 26dB EBW bandwidth)
For U-NII-3 Band:
Set RBW=510 kHz, VBW=3*RBW, where span is enough to capture the entire bandwidth, Sweep time = Auto (601 pts), detector = sample, traces 100 sweeps of video averaging. (SA-2 with the omission of procedure x, the integration with 26dB EBW bandwidth)
5. Use the cursor on spectrum to peak search the highest level of trace
6. Record the max. reading and add 10 log(1/duty cycle).

9.4 Test Data

5150-5250MHz:

Test mode	Test Channel (MHz)	PSD [dBm/MHz]	Limit [dBm/MHz]	Result
802.11a	5180	-3.309	11	Pass
	5200	-2.652	11	Pass
	5240	-1.752	11	Pass
802.11ac(VHT20)	5180	-3.671	11	Pass
	5200	-3.061	11	Pass
	5240	-1.857	11	Pass
802.11ac(VHT40)	5190	-6.826	11	Pass
	5230	-5.3	11	Pass
802.11ac(VHT80)	5210	-8.282	11	Pass
802.11n(HT20)	5180	-3.686	11	Pass
	5200	-2.922	11	Pass
	5240	-1.94	11	Pass
802.11n(HT40)	5190	-6.48	11	Pass
	5230	-5.004	11	Pass
802.11ax(HE20)	5180	-3.609	11	Pass
	5200	-3.148	11	Pass
	5240	-1.803	11	Pass
802.11ax(HE40)	5190	-6.677	11	Pass
	5230	-5.095	11	Pass
802.11ax(HE80)	5210	-11.915	11	Pass



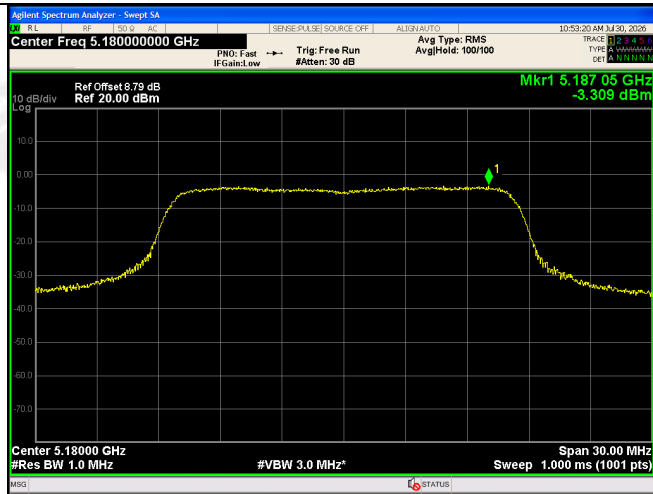
5725-5850MHz:

Test mode	Test Channel (MHz)	PSD [dBm/500kHz]	Limit [dBm/MHz]	Result
802.11a	5745	-5.546	30	Pass
	5785	-6.344	30	Pass
	5825	-5.766	30	Pass
802.11ac(VHT20)	5745	-6.463	30	Pass
	5785	-6.432	30	Pass
	5825	-6.422	30	Pass
802.11ac(VHT40)	5755	-9.469	30	Pass
	5795	-9.876	30	Pass
802.11ac(VHT80)	5775	-12.349	30	Pass
802.11n(HT20)	5745	-6.482	30	Pass
	5785	-6.648	30	Pass
	5825	-6.378	30	Pass
802.11n(HT40)	5755	-9.477	30	Pass
	5795	-9.765	30	Pass
802.11ax(HE20)	5745	-6.315	30	Pass
	5785	-6.657	30	Pass
	5825	-6.562	30	Pass
802.11ax(HE40)	5755	-9.677	30	Pass
	5795	-10.207	30	Pass
802.11ax(HE80)	5775	-12.368	30	Pass

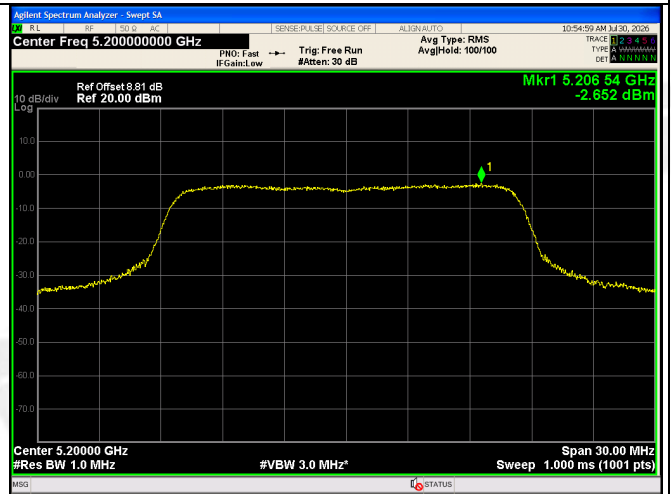


5150-5250MHz

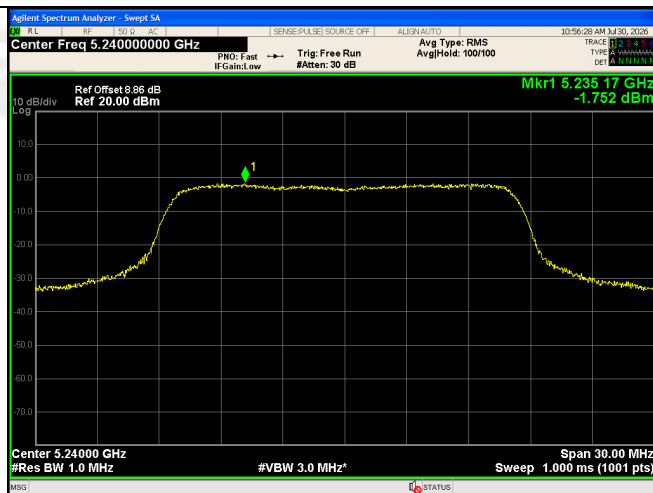
802.11a-5180



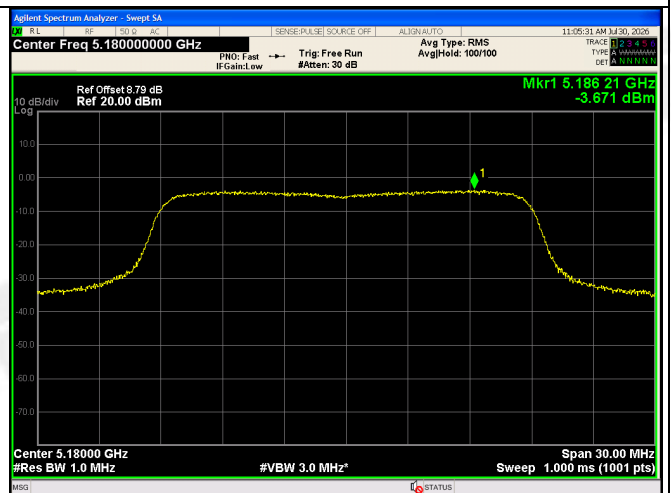
802.11a-5200



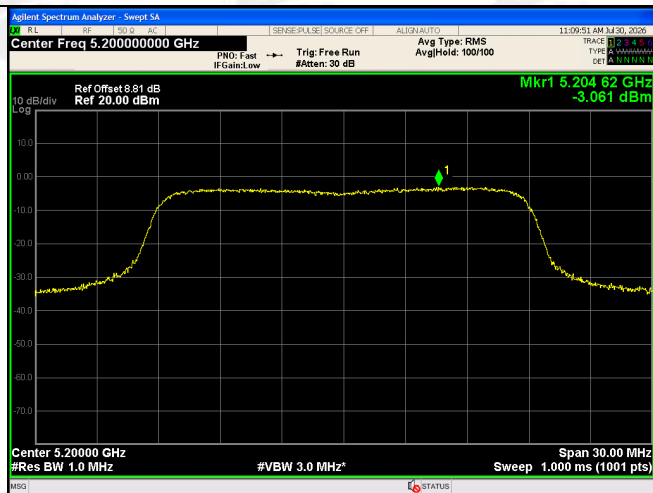
802.11a-5240



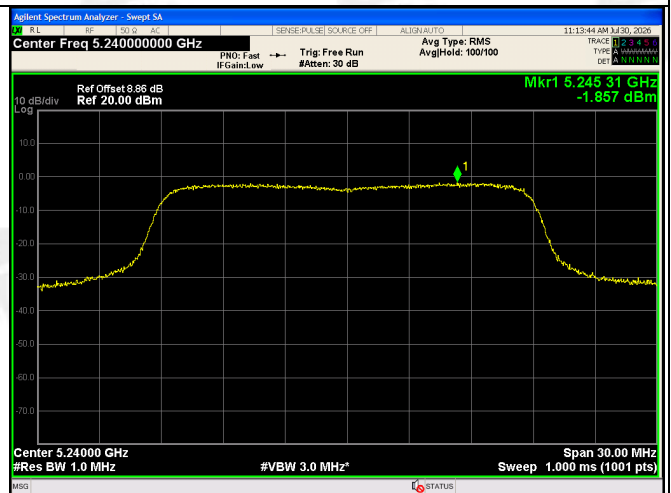
802.11ac(VHT20)-5180



802.11ac(VHT20)-5200

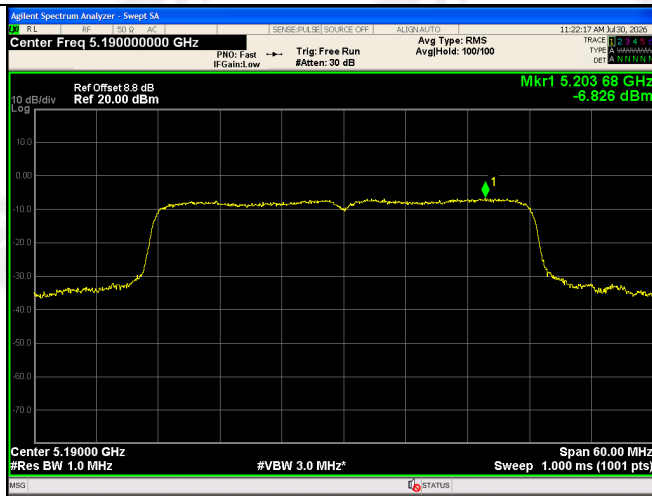


802.11ac(VHT20)-5240

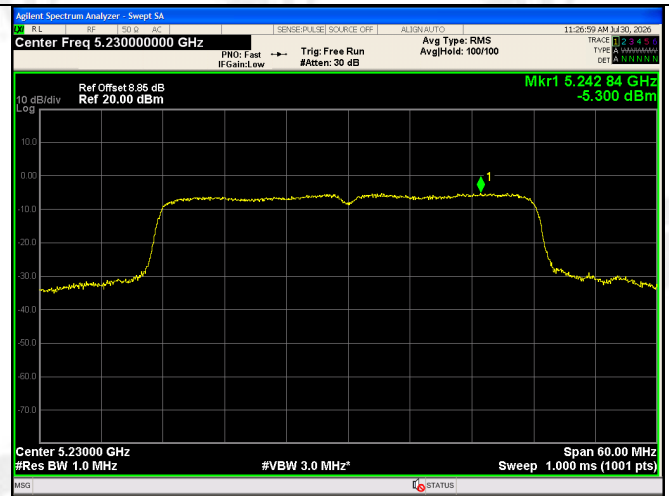




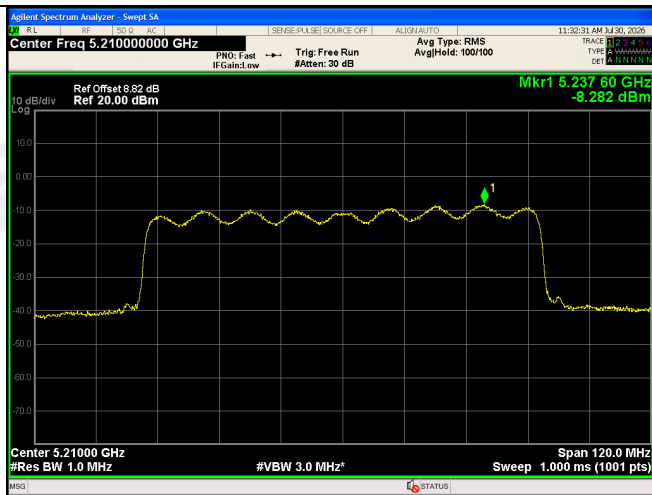
802.11ac(VHT40)-5190



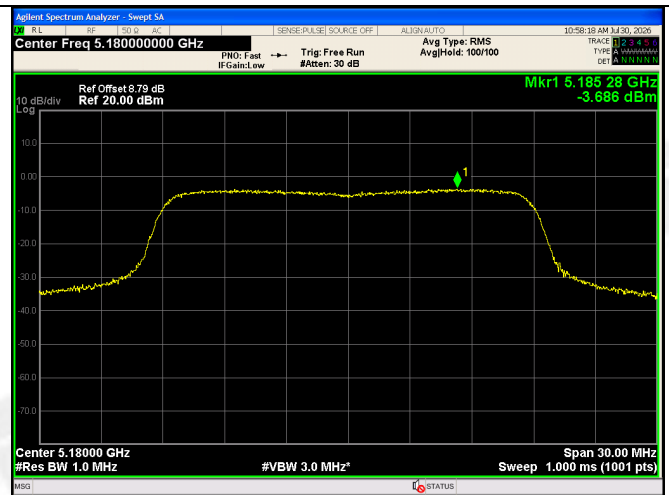
802.11ac(VHT40)-5230



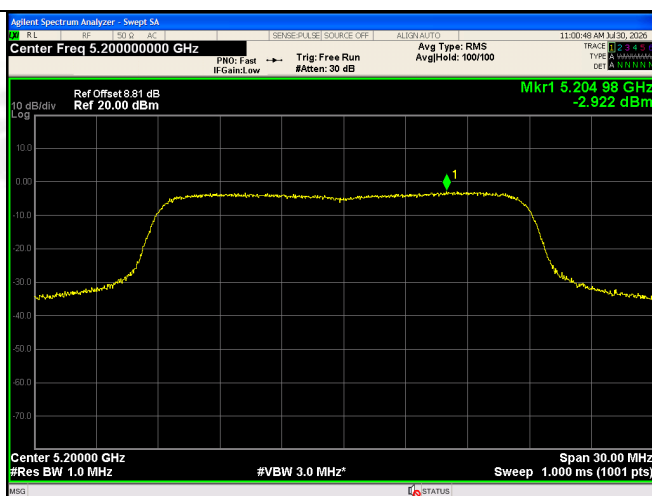
802.11ac(VHT80)-5210



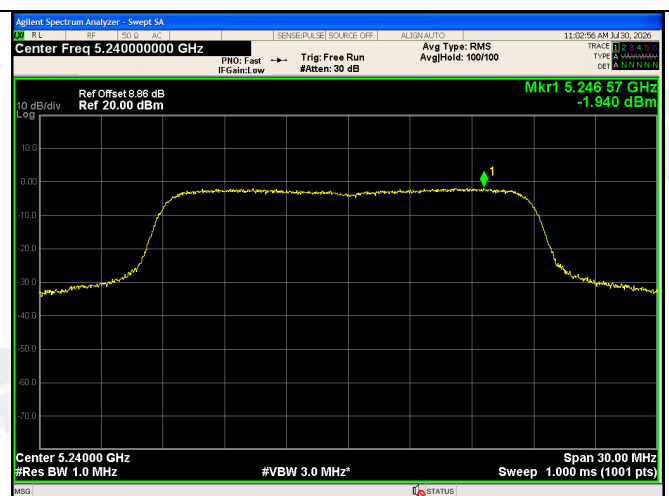
802.11n(HT20)-5180



802.11n(HT20)-5200



802.11n(HT20)-5240

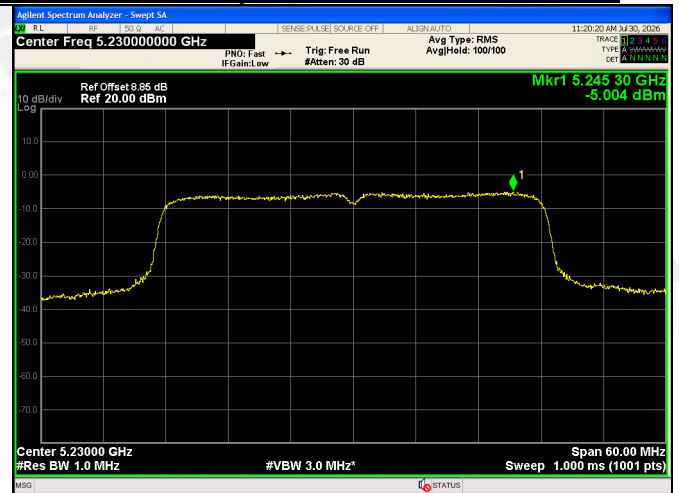


802.11n(HT40)-5190

802.11n(HT40)-5230



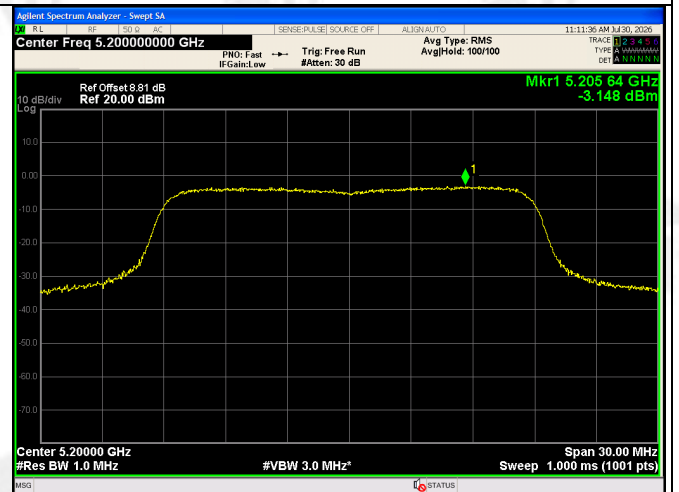
802.11ax(HE20)-5180



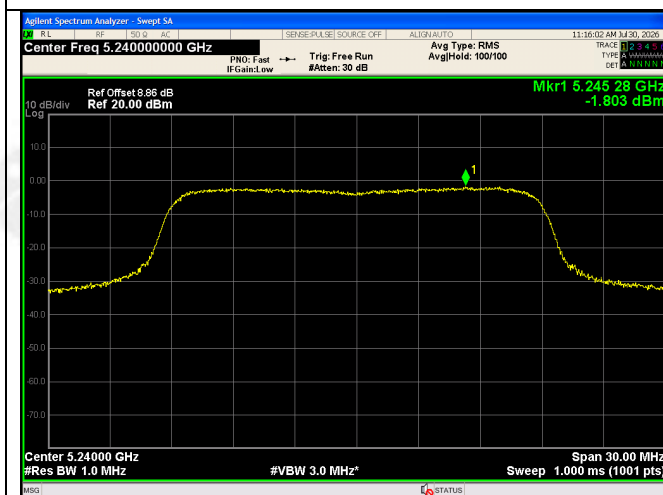
802.11ax(HE20)-5200



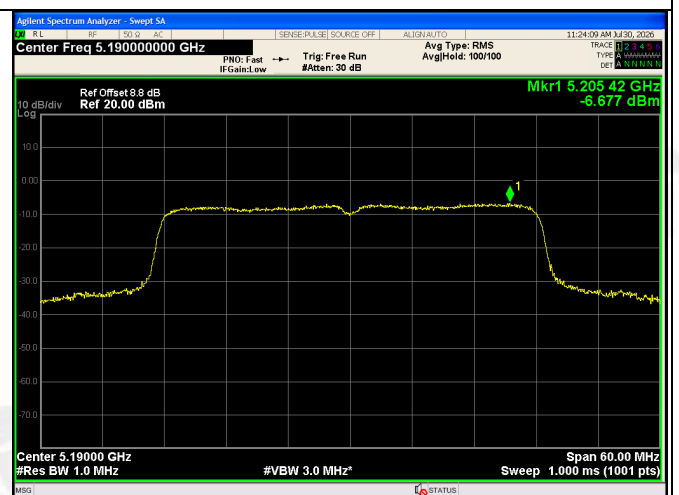
802.11ax(HE20)-5240



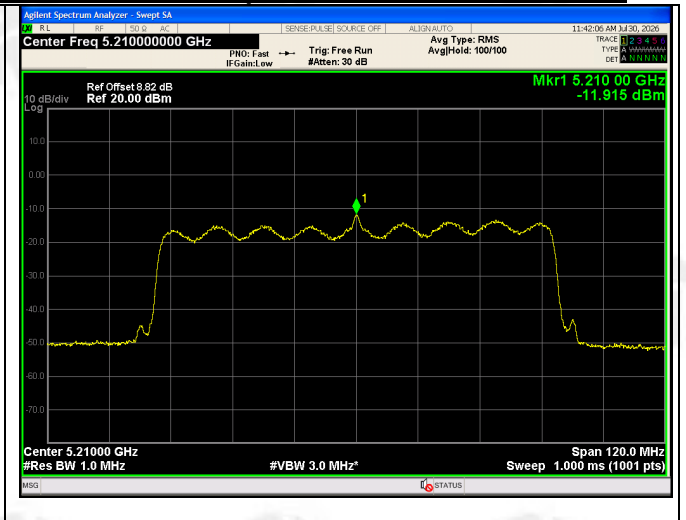
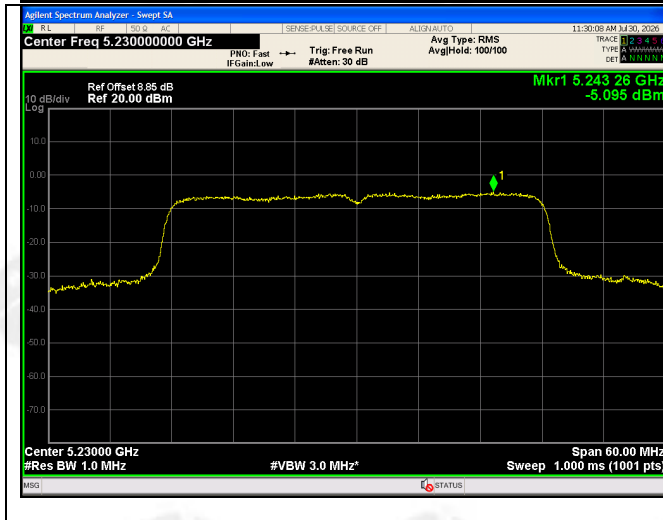
802.11ax(HE40)-5190



802.11ax(HE40)-5230



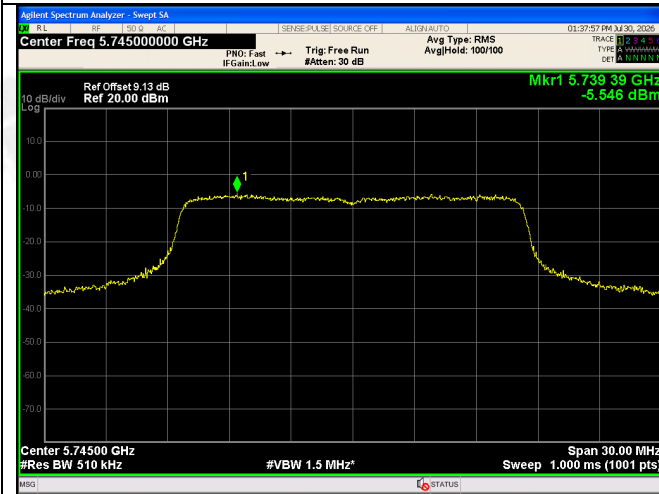
802.11ax(HE80)-5210



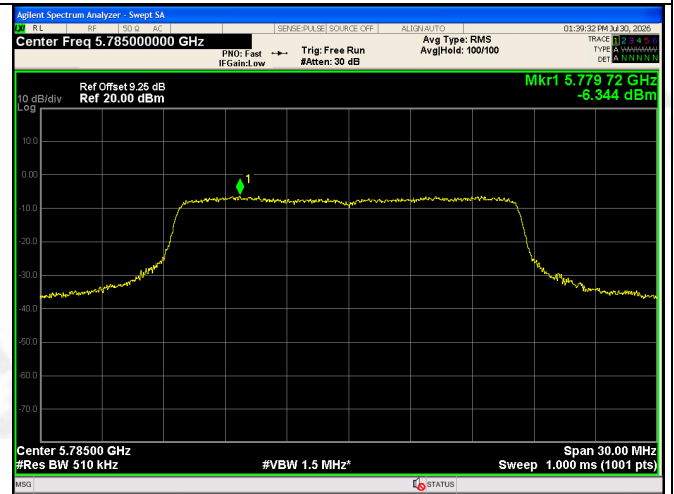


5725-5850MHz

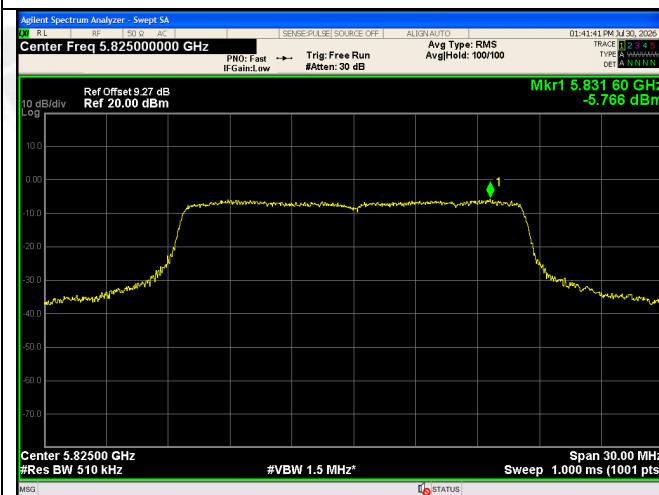
802.11a-5745



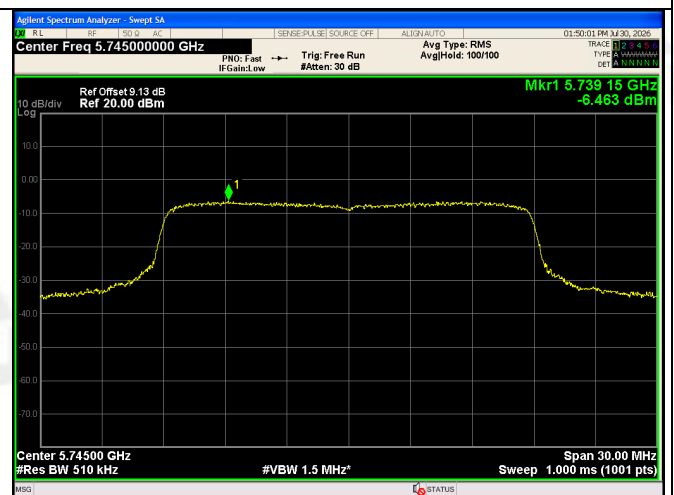
802.11a-5785



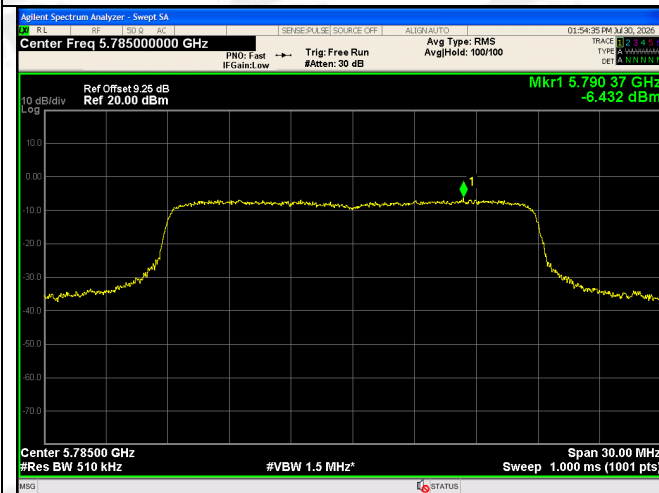
802.11a-5825



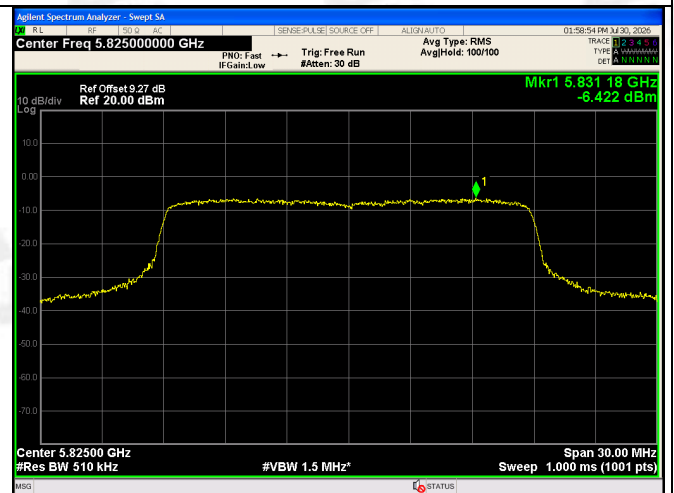
802.11ac(VHT20)-5745



802.11ac(VHT20)-5785

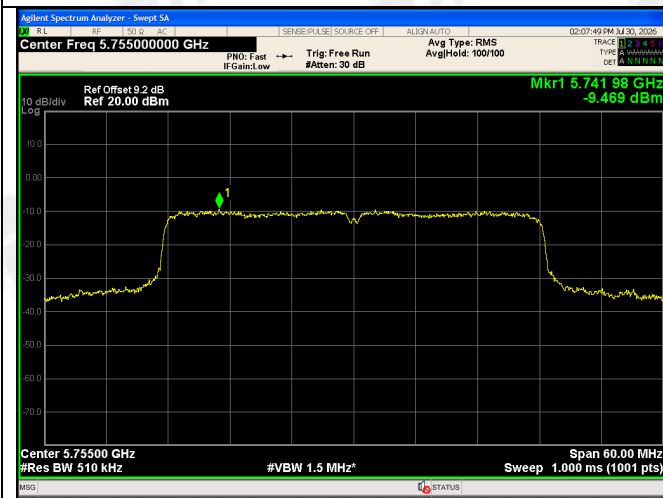


802.11ac(VHT20)-5825

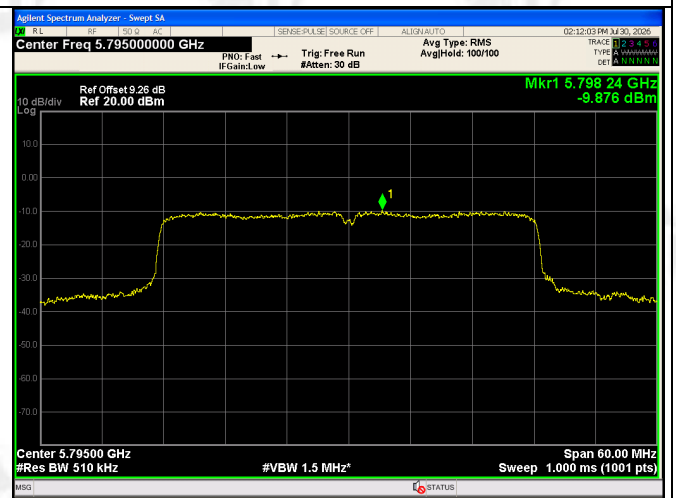




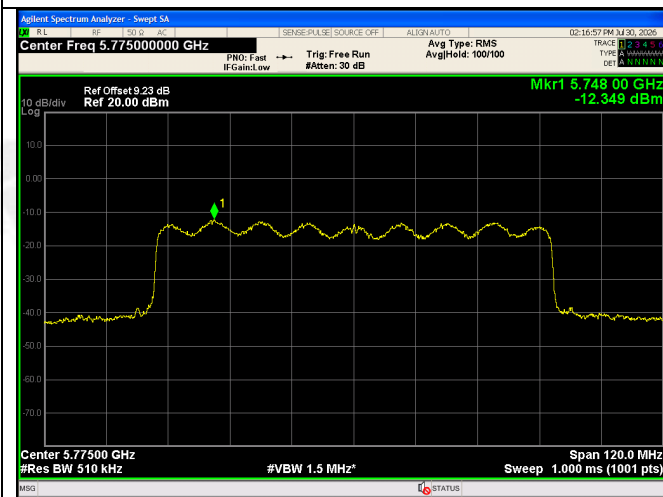
802.11ac(VHT40)-5755



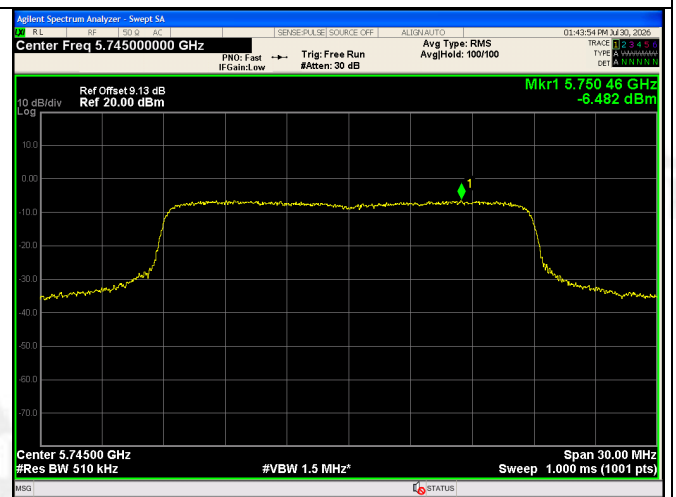
802.11ac(VHT40)-5795



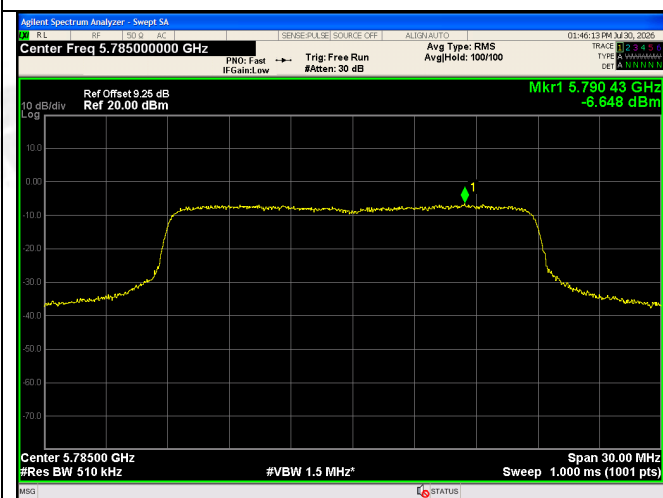
802.11ac(VHT80)-5775



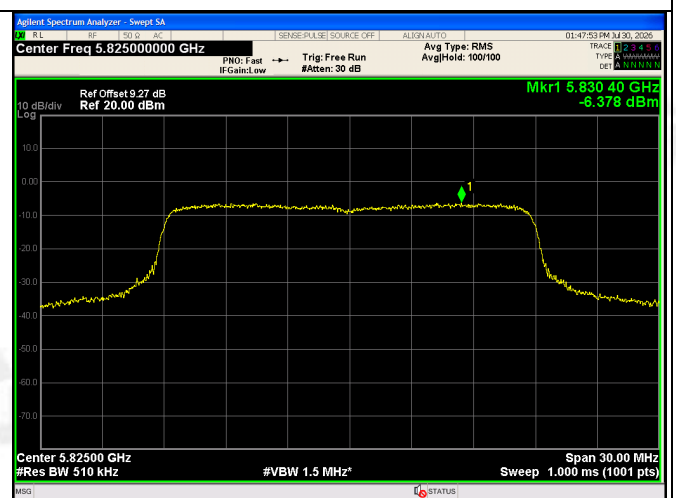
802.11n(HT20)-5745



802.11n(HT20)-5785



802.11n(HT20)-5825

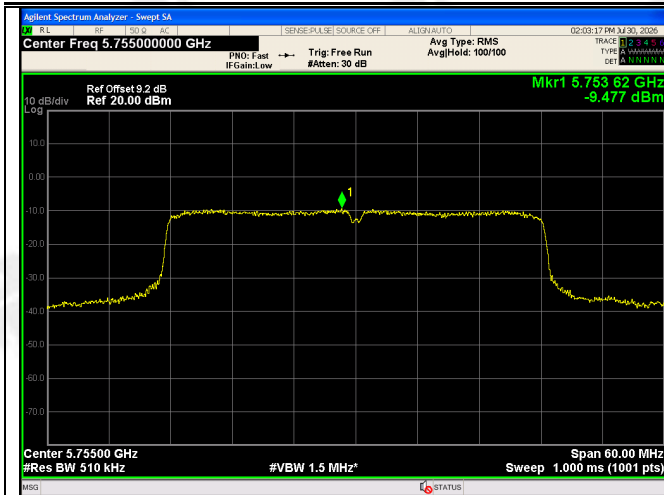


5802.11n(HT40)-5755

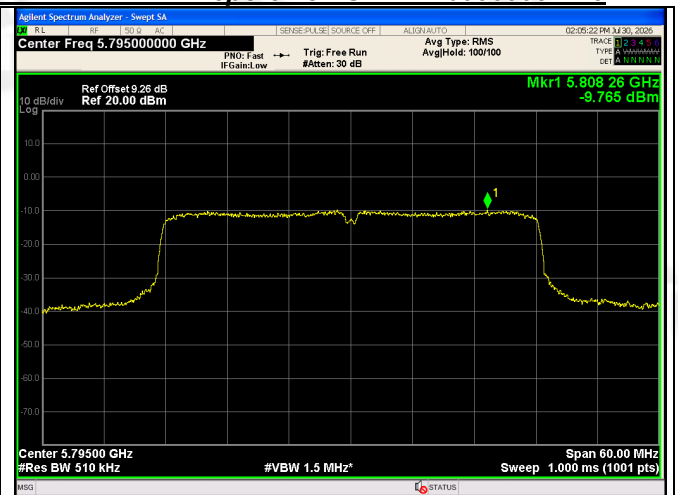


802.11n(HT40)-5795

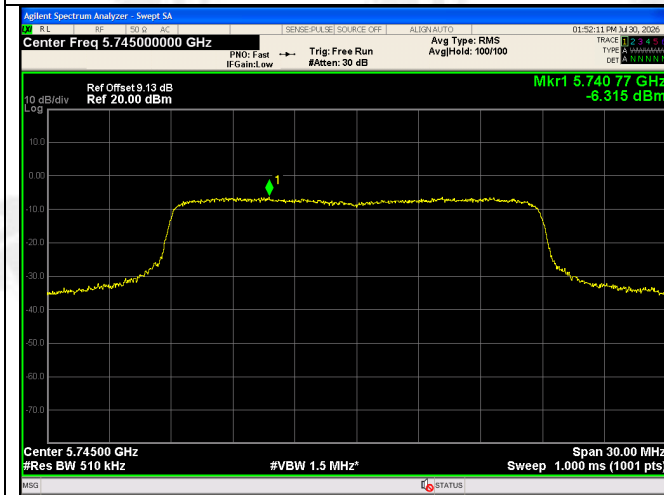




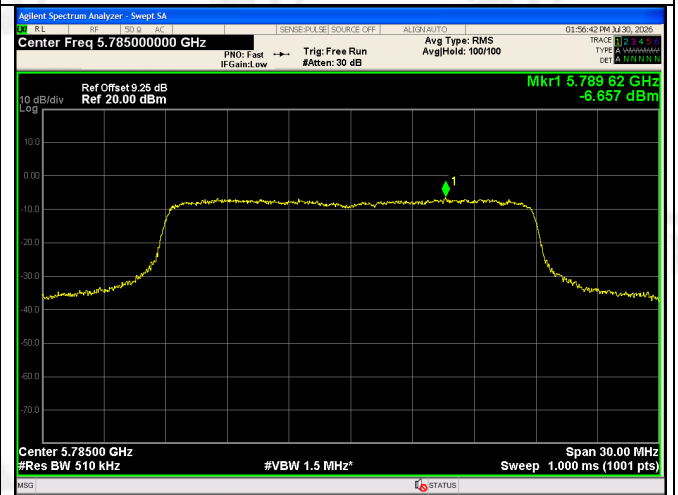
802.11ax(HE20)-5745



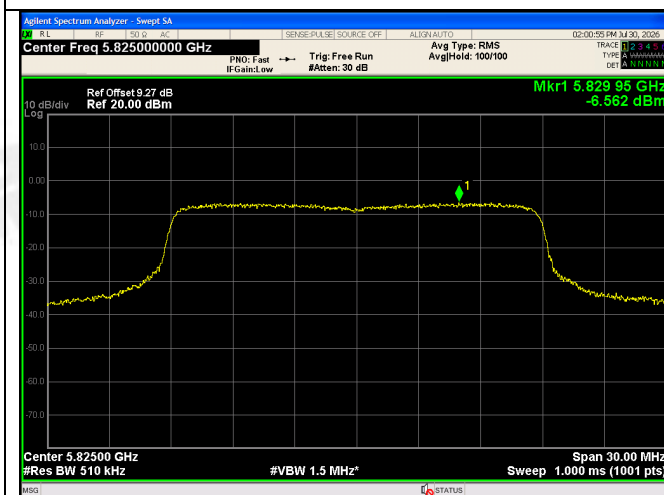
802.11ax(HE20)-5785



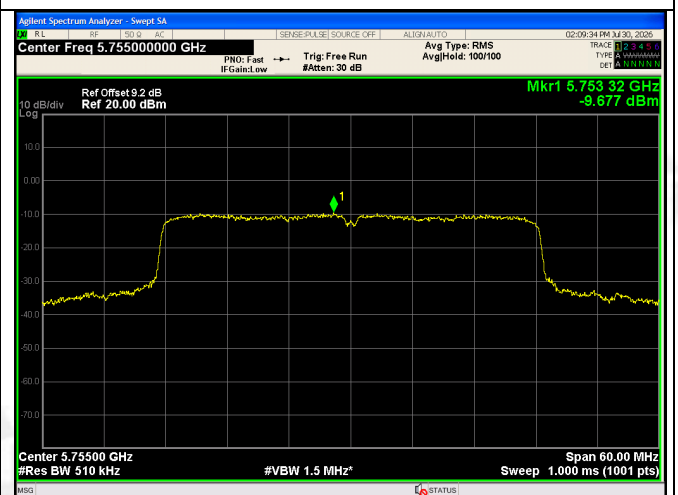
802.11ax(HE20)-5825



802.11ax(HE40)-5755



802.11ax(HE40)-5795



802.11ax(HE80)-5775

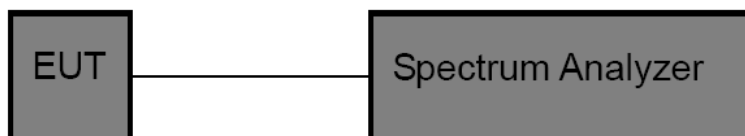


10 26DB & 6DB & 99% Emission Bandwidth Test

10.1 Test Standard

Test Standard	FCC Part15 C Section 15.407
	The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. If the device cannot be connected directly, alternative techniques acceptable to the Commission may be used. Measurements in the 5.725-5.85 GHz band, the minimum bandwidth 6 dB bandwidth of U-NII devices shall be at least 500KHz. Measurements in the 5.15-5.25 GHz, 5.25-5.35 GHz, and the 5.47-5.725 GHz bands are made over a bandwidth of 1 MHz or the 26 dB emission bandwidth of the device, whichever is less. A narrower resolution bandwidth can be used, provided that the measured power is integrated over the full reference bandwidth.

10.2 Test Setup



10.3 Test Procedure

The following procedure shall be used for measuring 6db bandwidth:

- Set RBW = 100KHz.
- Set the VBW > RBW.
- Detector = Peak.
- Trace mode = max hold.
- Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

The following procedure shall be used for measuring (99 %) power bandwidth:

- Set center frequency to the nominal EUT channel center frequency.
- Set span = 1.5 times to 3.3 times the OBW.
- Set RBW = 1 % to 5 % of the OBW
- Set VBW $\geq 3 \cdot$ RBW
- Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.



6. Use the 99 % power bandwidth fuNCTion of the instrument (if available).

7. If the instrument does not have a 99 % power bandwidth fuNCTion, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5 % of the total is reached; that frequency is recorded as the upper frequency. The 99% occupied bandwidth is the difference between these two frequencies.

The following procedure shall be used for measuring 26db bandwidth:

- 1) Set RBW = approximately 1% of the emission bandwidth.
- 2) Set the VBW > RBW.
- 3) Detector = Peak
- 4) Trace mode = max hold.
- 5) Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

10.4 Test Data

5150-5250MHz:

Test mode	Test Channel (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
802.11a	5180	23.051	16.5651
	5200	22.46	16.5760
	5240	23.814	16.5731
802.11ac20	5180	24.343	17.7239
	5200	23.57	17.7207
	5240	25.905	17.7133
802.11ac40	5190	57.15	36.4202
	5230	57.179	36.4492
802.11ac80	5210	79.345	75.5402
802.11n(HT20)	5180	22.343	17.7016
	5200	22.126	17.6914
	5240	22.371	17.6921
802.11n(HT40)	5190	41.243	36.2646
	5230	47.706	36.2577
802.11ax(HE20)	5180	22.429	17.7211
	5200	23.762	17.7225
	5240	24.965	17.7092
802.11ax(HE40)	5190	55.407	36.4398
	5230	57.083	36.4122
802.11ax(HE80)	5210	79.145	75.4504

5725-5850MHz:

Test mode	Test Channel (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)
802.11a	5745	16.529	16.6487
	5785	16.527	16.6007
	5825	16.533	16.5707
802.11ac20	5745	17.755	17.7854
	5785	17.762	17.7570
	5825	17.745	17.7343
802.11ac40	5755	36.53	36.6017
	5795	36.504	36.5085
802.11ac80	5775	76.279	75.6422
802.11n(HT20)	5745	17.77	17.7482
	5785	17.803	17.7322
	5825	17.763	17.7251
802.11n(HT40)	5755	36.452	36.2909
	5795	36.455	36.3064
802.11ax(HE20)	5745	17.749	17.7681
	5785	17.721	17.7506
	5825	17.739	17.7341
802.11ax(HE40)	5755	36.487	36.5645
	5795	36.511	36.5120
802.11ax(HE80)	5775	76.127	75.6233

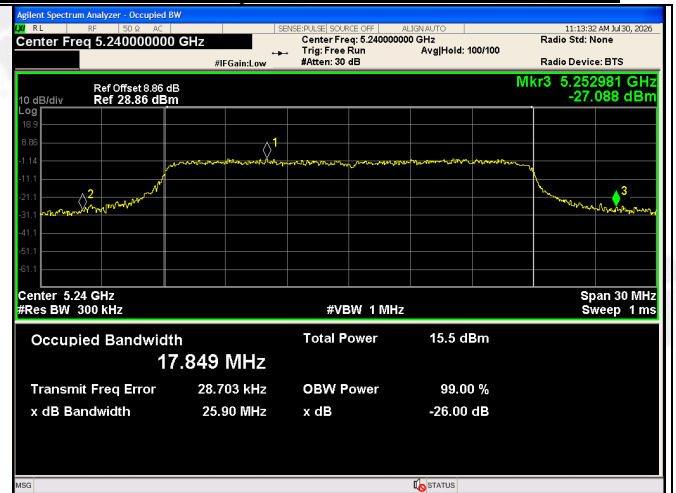
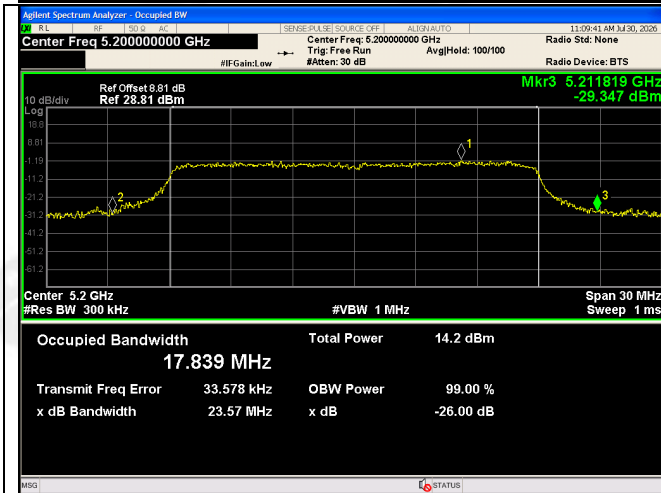


Test Graph

5150-5250MHz

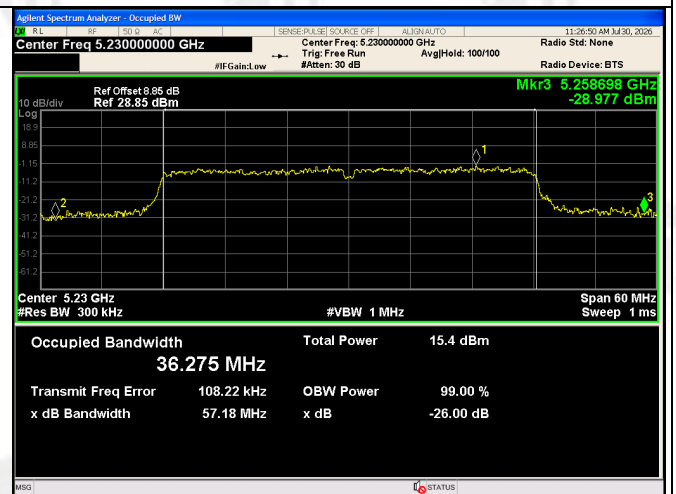
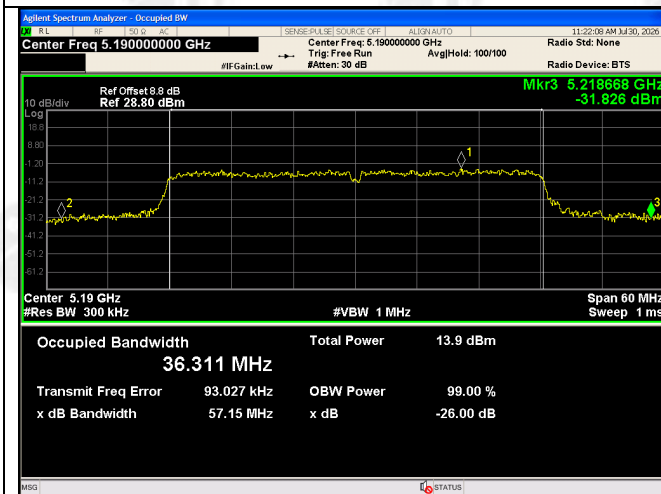
26dB





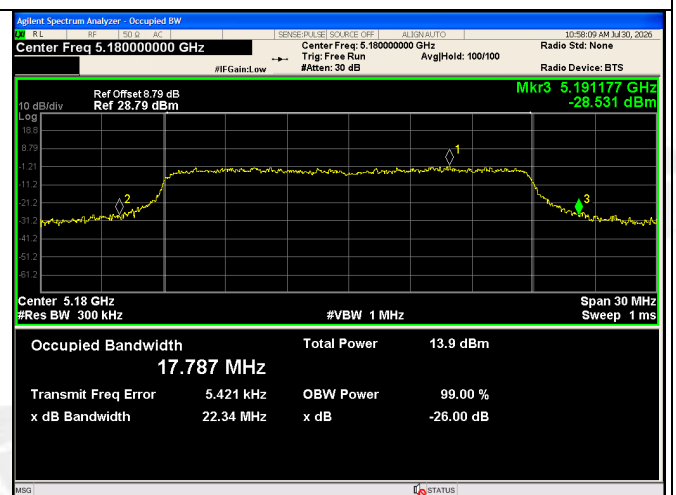
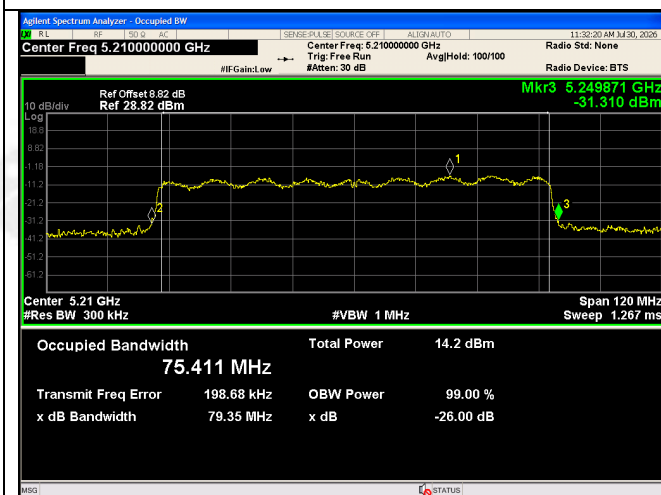
802.11ac(VHT40)-5190

802.11ac(VHT40)-5230



802.11ac(VHT80)-5210

802.11n(HT20)-5180



802.11n(HT20)-5200

802.11n(HT20)-5240