TEST REPORT

FCC PART 15 SUBPART E 15.407

Report Reference No.....:	**CTA25031300504**
FCC ID..... :	**2ASC2-NT680PLUS**
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Date of issue.....:	Mar. 21, 2025
Testing Laboratory Name .....:	**Shenzhen CTA Testing Technology Co., Ltd.**
Address.....:	Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China
Applicant's name.....:	**Shenzhen Foxwell Technology Co., Ltd.**
Address.....:	5/F, Plant C, Baocheng 71st Zone, Xin'an Street, Baoan District, Shenzhen, China
Test specification ..... :	
Standard .....:	**FCC Part 15 Subpart E 15.407**
TRF Originator .....:	Shenzhen CTA Testing Technology Co., Ltd.

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Test item description ..... :	**All-System & All-make Scanner with Special Functions**
Trade Mark .....:	N/A
Manufacturer.....:	Shenzhen Foxwell Technology Co., Ltd.
Model/Type reference.....:	NT680plus
Listed Models .....:	NT680, NT680 Pro, NT680Elite, NT650Elite
Modulation .....:	OFDM
Frequency.....	From 5180MHz-5240MHz, 5745MHz-5825MHz
Ratings.....:	Input: 8-18V ⎓2.0A or Type-C 5V ⎓2.0A
Result.....:	**PASS**

TEST REPORT

Equipment under Test	:	All-System & All-make Scanner with Special Functions
Model /Type	:	NT680plus
Listed Models	:	NT680, NT680 Pro, NT680Elite, NT650Elite
Model difference	:	The PCB board, circuit, structure and internal of these models are the same, Only model number and colour is different for these model.
Applicant	:	**Shenzhen Foxwell Technology Co., Ltd.**
Address	:	5/F, Plant C, Baocheng 71st Zone, Xin'an Street, Baoan District, Shenzhen, China
Manufacturer	:	**Shenzhen Foxwell Technology Co., Ltd.**
Address	:	5/F, Plant C, Baocheng 71st Zone, Xin'an Street, Baoan District, Shenzhen, China

Test Result:	**PASS**

The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

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1 TEST STANDARDS

The tests were performed according to following standards:

FCC Rules Part 15 Subpart E—Unlicensed National Information Infrastructure Devices
ANSI C63.10-2013: American National Standard for Testing Unlicensed Wireless Devices
KDB789033 D02: General UNII Test Procedures New Rules v01r02

2 SUMMARY

2.1 General Remarks

Date of receipt of test sample	:	Mar. 13, 2025
Testing commenced on	:	Mar. 13, 2025
Testing concluded on	:	Mar. 21, 2025

2.2 Product Description

Product Description:	All-System & All-make Scanner with Special Functions			
Model/Type reference:	NT680plus			
Power supply:	Input: 8-18V ⎓2.0A or Type-C 5V ⎓2.0A			
testing sample ID:	CTA250313005-1# (Engineer sample) CTA250313005-2# (Normal sample)			
Hardware version:	NT680plus			
Software version:	V1.0			
WIFI				
Supported type:	20MHz system	40MHz system	80MHz system	160MHz system
	802.11a 802.11n	802.11n	N/A	N/A
Operation frequency:	5180MHz-5240MHz 5745MHz-5825MHz	5190MHz-5230MHz 5755MHz-5795MHz	N/A	N/A
Modulation:	OFDM	OFDM	N/A	N/A
Channel number:	9	4	N/A	N/A
Channel separation:	20MHz	40MHz	N/A	N/A
Antenna type:	PCB antenna			
Antenna gain:	5.1GWIFI: 1.81 dBi 5.8GWIFI: 4.45 dBi			

2.3 Equipment Under Test

Power supply system utilised

Power supply voltage	:	○	230V / 50 Hz	○	120V / 60Hz
		○	12 V DC	○	24 V DC
		●	Other (specified in blank below)		

Input: 8-18V ⎓2.0A or Type-C 5V ⎓2.0A

2.4 Short description of the Equipment under Test (EUT)

This is an All-System & All-make Scanner with Special Functions.
For more details, refer to the user's manual of the EUT.

2.5 EUT configuration

The following peripheral devices and interface cables were connected during the measurement:

● - supplied by the manufacturer
○ - supplied by the lab

○	Adapter		Model: EP-TA20CBC Input: AC 100-240V 50/60Hz Output: DC 5V 2A

2.6 EUT operation mode

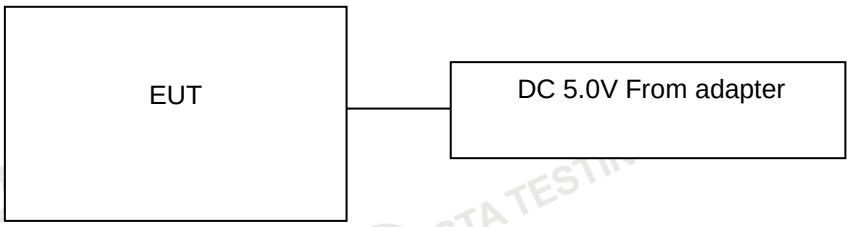
The Applicant provides communication tools software (AT command) to control the EUT for staying in continuous transmitting (Duty Cycle more than 98%) and receiving mode for testing.
All test performed at the low, middle and high of operational frequency range of each mode.

Operation Frequency List WIFI on 5G Band：

Operating band	20MHz		40MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)
U-NII 1 (5150MHz-5250MHz)	36	5180	38	5190
	40	5200		
	44	5220	46	5230
	48	5240		
U-NII 3 (5725MHz-5850MHz)	149	5745	151	5755
	153	5765		
	157	5785	159	5795
	161	5805		
	165	5825	--	--

Note: The line display in grey is those Channels/Frequencies select to test in this report for each operation mode.

2.7 Block Diagram of Test Setup



2.8 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended to comply with Section 15.407 of the FCC Part 15, Subpart E Rules.

2.9 Modifications

No modifications were implemented to meet testing criteria.

3 TEST ENVIRONMENT

3.1 Address of the test laboratory

Shenzhen CTA Testing Technology Co., Ltd.
Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China

3.2 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:
FCC-Registration No.: 517856 Designation Number: CN1318

Shenzhen CTA Testing Technology Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

A2LA-Lab Cert. No.: 6534.01

Shenzhen CTA Testing Technology Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

The 3m-Semi anechoic test site fulfils CISPR 16-1-4 according to ANSI C63.10 and CISPR 16-1-4:2010.

3.3 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:
Radiated Emission:

Temperature:	25 ° C
Humidity:	45 %
Atmospheric pressure:	950-1050mbar

Conducted testing：

Temperature:	25 ° C
Humidity:	44 %
Atmospheric pressure:	950-1050mbar

AC Power Conducted Emission

Temperature:	24 ° C
Humidity:	44 %
Atmospheric pressure:	950-1050mbar

3.4 Test Description

FCC Requirement		
FCC Part 15.207	AC Power Conducted Emission	PASS
FCC Part 15.407(a)	Emission Bandwidth(26dBm Bandwidth)	PASS Note1
FCC Part 15.407(e)	Minimum Emission Bandwidth(6dBm Bandwidth)	PASS Note2
FCC Part 15.407(a)	Maximum Conducted Output Power	PASS
FCC Part 15.407(a)	Peak Power Spectral Density	PASS
FCC Part 15.407(g)	Frequency Stability	PASS
FCC Part 15.407(b)	Undesirable emission	PASS
FCC Part 15.407(b)/15.205/15.209	Radiated Emissions	PASS
FCC Part 15.407(h)	Dynamic Frequency Selection	N/A Note 3
FCC Part 15.203/15.247(b)	Antenna Requirement	PASS

Note 1: Apply to U-NII 1 band.
Note 2: Apply to U-NII 3 band only.
Note 3: This device not work in DFS band.

Data Rate Used:
Preliminary tests were performed in different data rate to find the worst radiated emission. The data rate shown in the table below is the worst-case rate with respect to the specific test item. Investigation has been done on all the possible configurations for searching the worst cases. The following table is a list of the test modes shown in this test report.

Test Items	Mode	Data Rate
Maximum Conducted Output Power Power Spectral Density Emission Bandwidth(26dBm Bandwidth) Minimum Emission Bandwidth(6dBm Bandwidth) Undesirable emission Frequency Stability	11a/OFDM	6 Mbps
	11n(20MHz), /OFDM	MCS0
	11n(40MHz),1/OFDM	MCS0

3.5 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01" Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 2 " and is documented in the Shenzhen CTA Testing Technology Co., Ltd. quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.
Hereafter the best measurement capability for Shenzhen CTA Testing Technology Co., Ltd. :

Test	Range	Measurement Uncertainty	Notes
Radiated Emission	9KHz~30MHz	3.02 dB	(1)
Radiated Emission	30~1000MHz	4.06 dB	(1)
Radiated Emission	1~18GHz	5.14 dB	(1)
Radiated Emission	18-40GHz	5.38 dB	(1)
Conducted Disturbance	0.15~30MHz	2.14 dB	(1)
Output Peak power	30MHz~18GHz	0.55 dB	(1)

Power spectral density	/	0.57 dB	(1)
Spectrum bandwidth	/	1.1%	(1)
Radiated spurious emission (30MHz-1GHz)	30~1000MHz	4.10 dB	(1)
Radiated spurious emission (1GHz-18GHz)	1~18GHz	4.32 dB	(1)
Radiated spurious emission (18GHz-40GHz)	18-40GHz	5.54 dB	(1)

(1)This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

3.6 Equipments Used during the Test

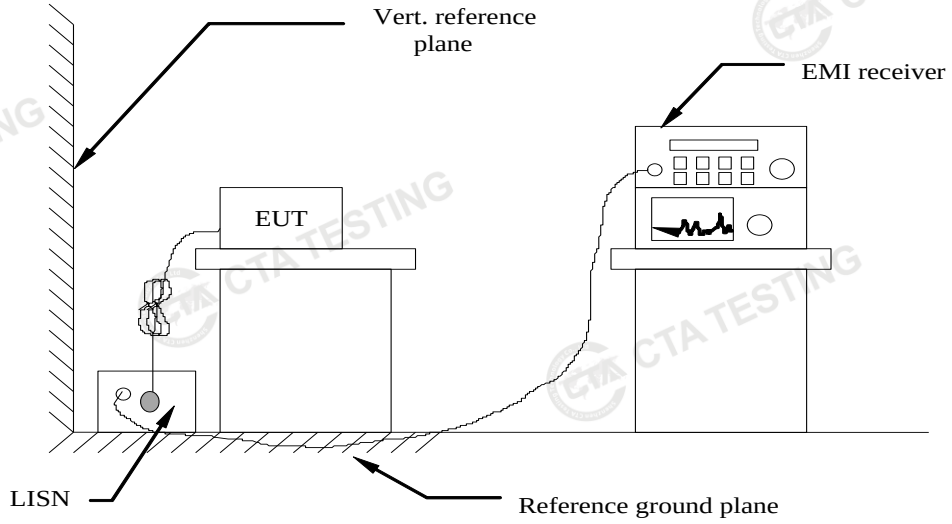
Test Equipment	Manufacturer	Model No.	Equipment No.	Calibration Date	Calibration Due Date
LISN	R&S	ENV216	CTA-308	2024/08/03	2025/08/02
LISN	R&S	ENV216	CTA-314	2024/08/03	2025/08/02
EMI Test Receiver	R&S	ESPI	CTA-307	2024/08/03	2025/08/02
EMI Test Receiver	R&S	ESCI	CTA-306	2024/08/03	2025/08/02
Spectrum Analyzer	Agilent	N9020A	CTA-301	2024/08/03	2025/08/02
Spectrum Analyzer	R&S	FSU	CTA-337	2024/08/03	2025/08/02
Vector Signal generator	Agilent	N5182A	CTA-305	2024/08/03	2025/08/02
Analog Signal Generator	R&S	SML03	CTA-304	2024/08/03	2025/08/02
WIDEBAND RADIO COMMUNICATION TESTER	CMW500	R&S	CTA-302	2024/08/03	2025/08/02
Temperature and humidity meter	Chigo	ZG-7020	CTA-326	2024/08/03	2025/08/02
Ultra-Broadband Antenna	Schwarzbeck	VULB9163	CTA-310	2023/10/17	2026/10/16
Horn Antenna	Schwarzbeck	BBHA 9120D	CTA-309	2023/10/13	2026/10/12
Loop Antenna	Zhinan	ZN30900C	CTA-311	2023/10/17	2026/10/16
Broadband Horn Antenna	A-INFOMW	LB-180500H-2.4F	CTA-336	2023/09/13	2026/09/12
Amplifier	Schwarzbeck	BBV 9745	CTA-312	2024/08/03	2025/08/02
Amplifier	Taiwan chengyi	EMC051845B	CTA-313	2024/08/03	2025/08/02
Directional coupler	NARDA	4226-10	CTA-303	2024/08/03	2025/08/02
High-Pass Filter	XingBo	XBLBQ-GTA18	CTA-402	2024/08/03	2025/08/02
High-Pass Filter	XingBo	XBLBQ-GTA27	CTA-403	2024/08/03	2025/08/02
Automated filter bank	Tonscend	JS0806-F	CTA-404	2024/08/03	2025/08/02
Power Sensor	Agilent	U2021XA	CTA-405	2024/08/03	2025/08/02
Amplifier	Schwarzbeck	BBV9719	CTA-406	2024/08/03	2025/08/02

Test Equipment	Manufacturer	Model No.	Version number	Calibration Date	Calibration Due Date
EMI Test Software	Tonscend	TS®JS32-RE	5.0.0.2	N/A	N/A
EMI Test Software	Tonscend	TS®JS32-CE	5.0.0.1	N/A	N/A
RF Test Software	Tonscend	TS®JS1120-3	3.1.65	N/A	N/A
RF Test Software	Tonscend	TS®JS1120	3.1.46	N/A	N/A

4 TEST CONDITIONS AND RESULTS

4.1 AC Power Conducted Emission

TEST CONFIGURATION



TEST PROCEDURE

1 The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a All-System & All-make Scanner with Special Functionsop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10-2013.
2 Support equipment, if needed, was placed as per ANSI C63.10-2013
3 All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10-2013
4 The EUT received power from adapter, the adapter received AC120V/60Hz and AC 240V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
5 All support equipments received AC power from a second LISN, if any.
6 The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT.The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7 Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.
8 During the above scans, the emissions were maximized by cable manipulation.

AC Power Conducted Emission Limit

For intentional device, according to § 15.207(a) AC Power Conducted Emission Limits is as following：

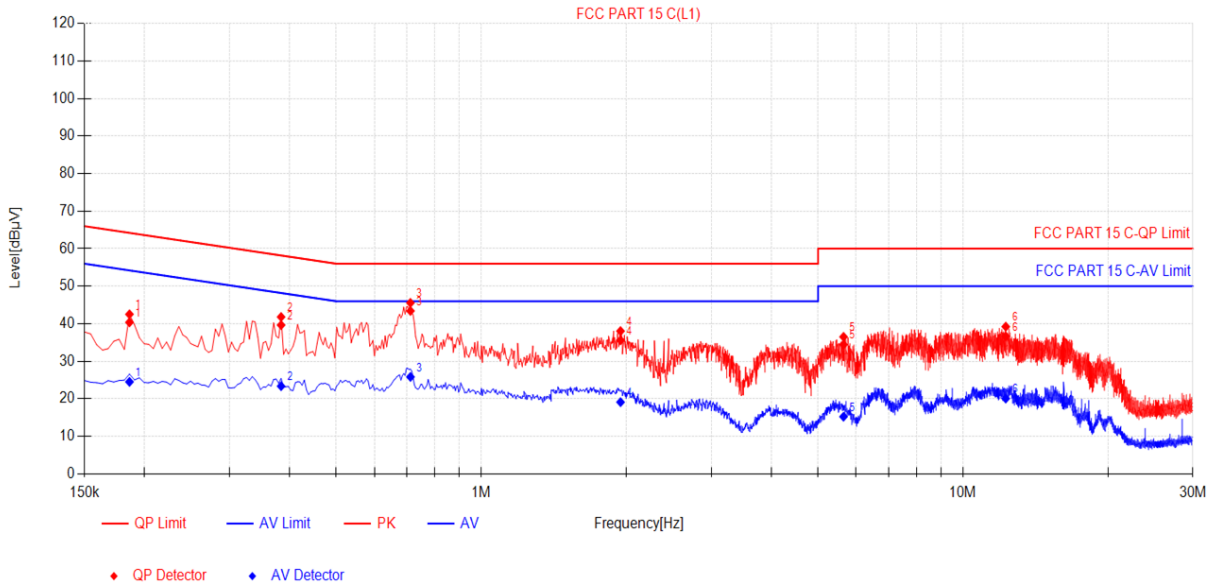
Frequency range (MHz)	Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50
* Decreases with the logarithm of the frequency.		

TEST RESULTS

Passed

Please refer to the below test data:

Power supply:	DC 5.0V from adapter AC 120V/60Hz	Polarization	L

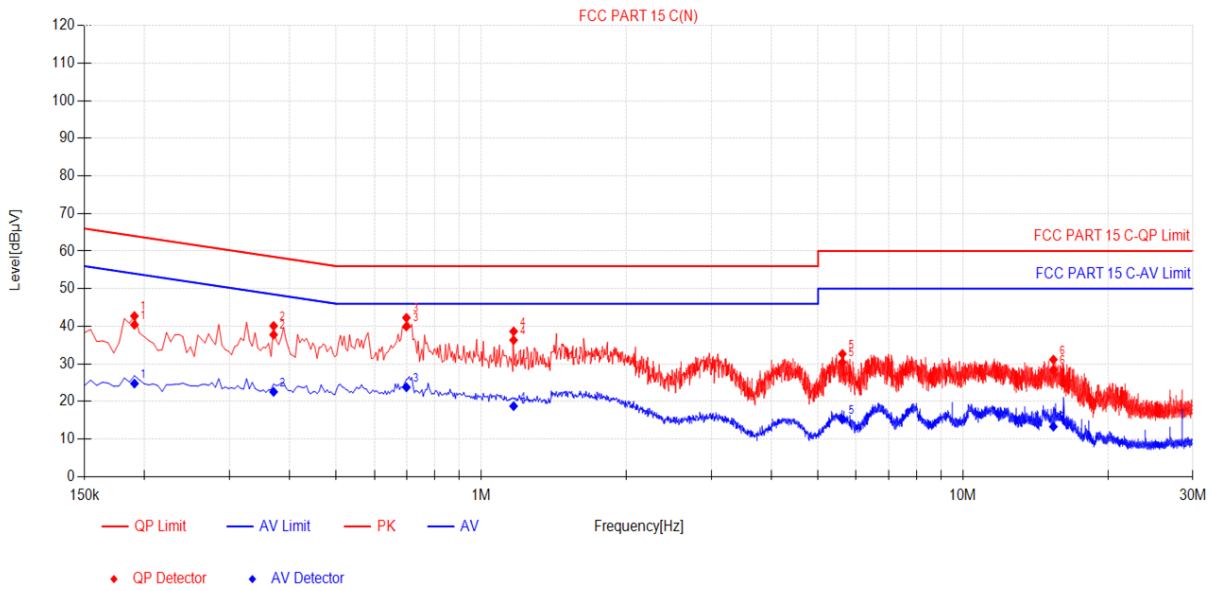


Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Reading[dBμV]	QP Value [dBμV]	QP Limit [dBμV]	QP Margin [dB]	AV Reading [dBμV]	AV Value [dBμV]	AV Limit [dBμV]	AV Margin [dB]	Verdict
1	0.186	10.03	30.35	40.38	64.21	23.83	14.49	24.52	54.21	29.69	PASS
2	0.384	9.87	29.79	39.66	58.19	18.53	13.50	23.37	48.19	24.82	PASS
3	0.7125	9.92	33.49	43.41	56.00	12.59	15.92	25.84	46.00	20.16	PASS
4	1.9455	9.92	25.67	35.59	56.00	20.41	9.19	19.11	46.00	26.89	PASS
5	5.649	10.09	24.37	34.46	60.00	25.54	5.15	15.24	50.00	34.76	PASS
6	12.2685	10.28	26.38	36.66	60.00	23.34	9.80	20.08	50.00	29.92	PASS

Note:1).QP Value (dBμV)= QP Reading (dBμV)+ Factor (dB)
2). Factor (dB)=insertion loss of LISN (dB) + Cable loss (dB)
3). QPMargin(dB) = QP Limit (dBμV) - QP Value (dBμV)
4). AVMargin(dB) = AV Limit (dBμV) - AV Value (dBμV)

Power supply:	DC 5.0V from adapter AC 120V/60Hz	Polarization	N



Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Reading[dBμV]	QP Value [dBμV]	QP Limit [dBμV]	QP Margin [dB]	AV Reading [dBμV]	AV Value [dBμV]	AV Limit [dBμV]	AV Margin [dB]	Verdict
1	0.1905	9.99	30.42	40.41	64.01	23.60	14.78	24.77	54.01	29.24	PASS
2	0.3705	9.89	27.87	37.76	58.49	20.73	12.67	22.56	48.49	25.93	PASS
3	0.699	10.06	29.88	39.94	56.00	16.06	13.73	23.79	46.00	22.21	PASS
4	1.167	10.17	26.14	36.31	56.00	19.69	8.60	18.77	46.00	27.23	PASS
5	5.6175	10.19	20.21	30.40	60.00	29.60	5.03	15.22	50.00	34.78	PASS
6	15.405	10.43	17.95	28.38	60.00	31.62	2.88	13.31	50.00	36.69	PASS

Note:1).QP Value (dBμV)= QP Reading (dBμV)+ Factor (dB)
2). Factor (dB)=insertion loss of LISN (dB) + Cable loss (dB)
3). QPMargin(dB) = QP Limit (dBμV) - QP Value (dBμV)
4). AVMargin(dB) = AV Limit (dBμV) - AV Value (dBμV)

4.2 Radiated Emissions

Limit

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.

Undesirable emission limits

Requirement	Limit(EIRP)	Limit (Field strength at 3m) Note1
15.407(b)(1)	PK:-27(dBm/MHz)	PK:68.2(dBμV/m)
15.407(b)(2)		
15.407(b)(3)		
15.407(b)(4)		

Note1: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000\sqrt{30P}}{3}$$ μV/m, where P is the eirp (Watts)

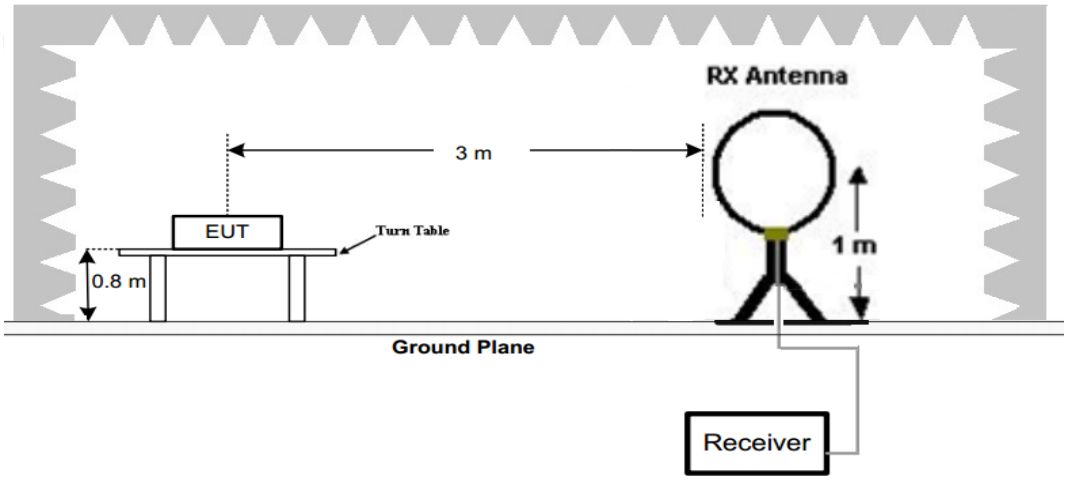
(5) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209
(6)In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a)

Radiated emission limits

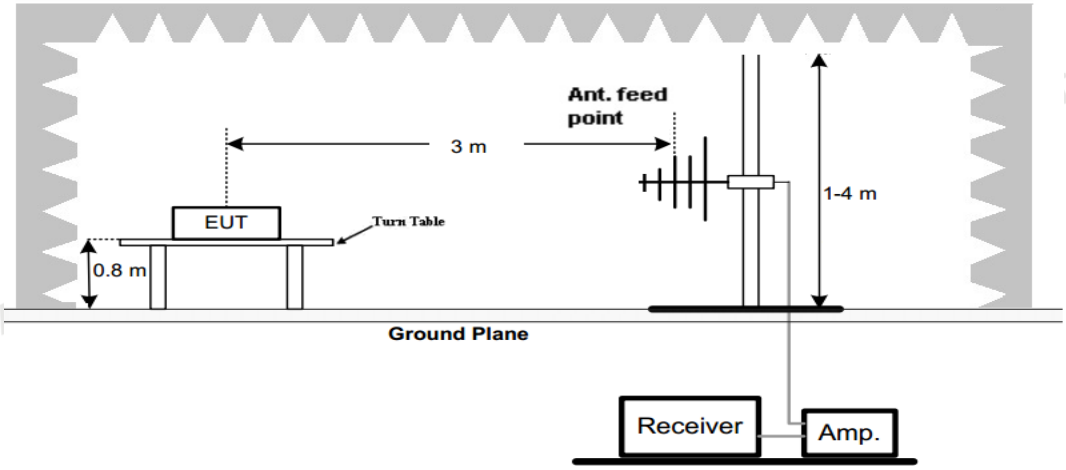
Frequency (MHz)	Distance (Meters)	Radiated (dBμV/m)	Radiated (μV/m)
0.009-0.49	3	20log(2400/F(KHz))+40log(300/3)	2400/F(KHz)
0.49-1.705	3	20log(24000/F(KHz))+ 40log(30/3)	24000/F(KHz)
1.705-30	3	20log(30)+ 40log(30/3)	30
30-88	3	40.0	100
88-216	3	43.5	150
216-960	3	46.0	200
Above 960	3	54.0	500

TEST CONFIGURATION

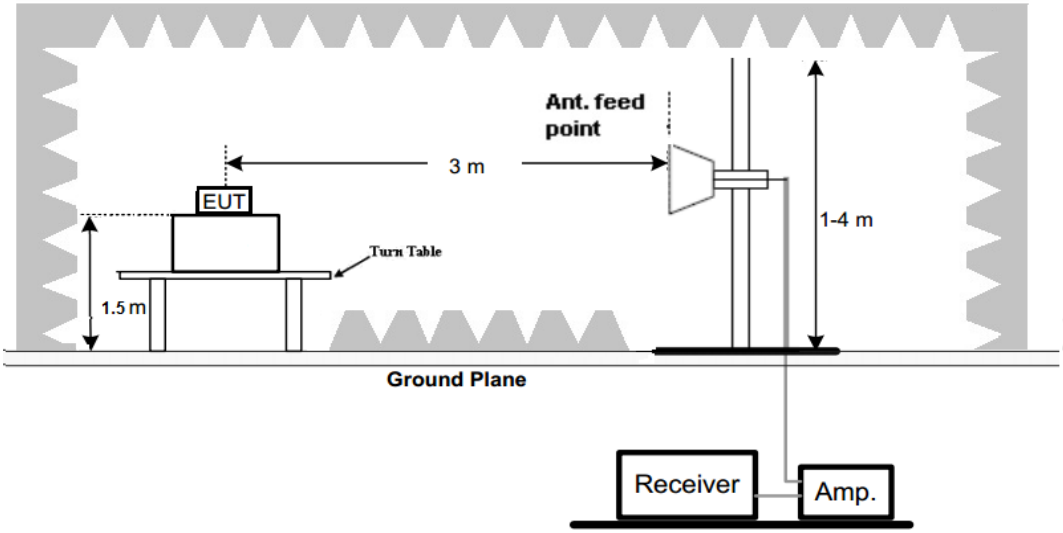
(A) Radiated Emission Test Set-Up, Frequency Below 30MHz

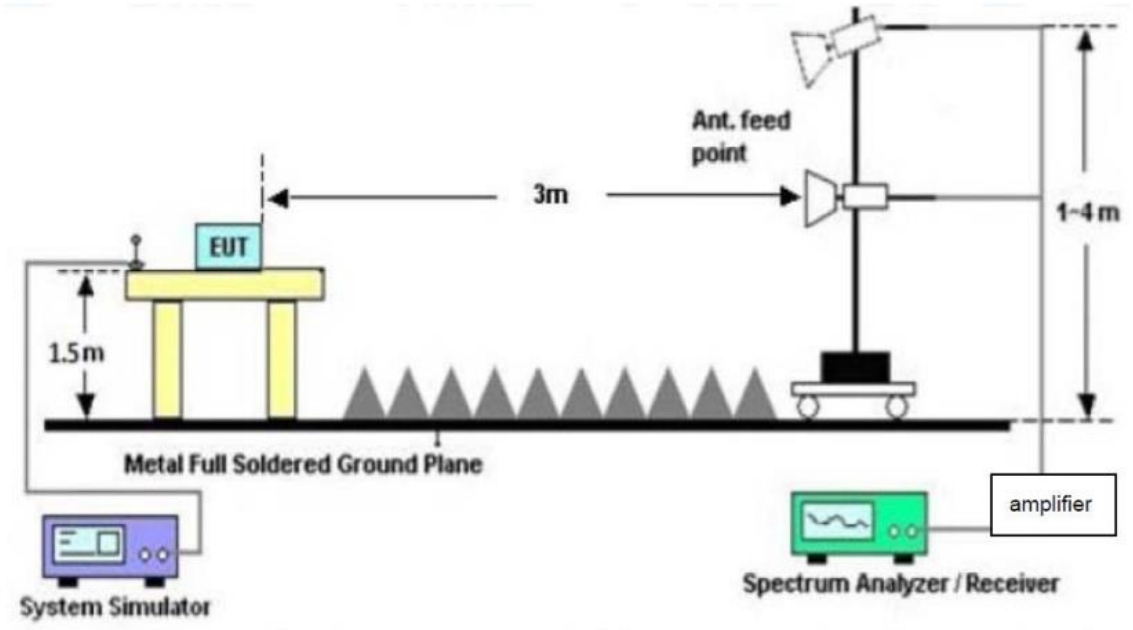


(B) Radiated Emission Test Set-Up, Frequency below 1000MHz



(C) Radiated Emission Test Set-Up, Frequency above 1000MHz





Test Procedure

1. Below 1GHz measurement the EUT is placed on a turntable which is 0.8m above ground plane, and above 1GHz measurement EUT was placed on a low permittivity and low loss tangent turn table which is 1.5m above ground plane.
2. Maximum procedure was performed by raising the receiving antenna from 1m to 4m and rotating the turn table from 0℃ to 360℃ to acquire the highest emissions from EUT
3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
4. Repeat above procedures until all frequency measurements have been completed.
5. Radiated emission test frequency band from 9KHz to 40GHz.
6. The distance between test antenna and EUT as following table states:

Test Frequency range	Test Antenna Type	Test Distance
9KHz-30MHz	Active Loop Antenna	3
30MHz-1GHz	Bilog Antenna	3
1GHz-18GHz	Horn Antenna	3
18GHz-25GHz	Horn Anternna	1

7. Setting test receiver/spectrum as following table states:

Test Frequency range	Test Receiver/Spectrum Setting	Detector
9KHz-150KHz	RBW=200Hz/VBW=3KHz,Sweep time=Auto	QP
150KHz-30MHz	RBW=9KHz/VBW=100KHz,Sweep time=Auto	QP
30MHz-1GHz	RBW=120KHz/VBW=1000KHz,Sweep time=Auto	QP
1GHz-40GHz	Peak Value: RBW=1MHz/VBW=3MHz, Sweep time=Auto Average Value: RBW=1MHz/VBW=10Hz, Sweep time=Auto	Peak

TEST RESULTS

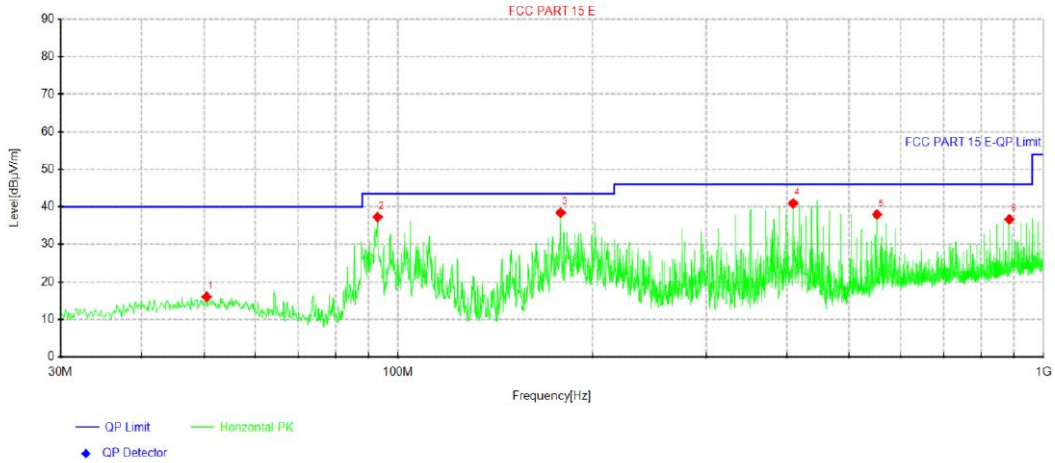
Remark:
1. This test was performed with EUT in X, Y, Z position and the worse case was found when EUT in X position.
2. All 802.11a / 802.11n (HT20) / 802.11n (HT40) modes have been tested for below 1GHz test, only the worst case 802.11a low channel of U-NII 1 band was recorded.
3. All 802.11a / 802.11n (HT20) / 802.11n (HT40) modes have been tested for above 1GHz test, only the worst case 802.11a was recorded.
4. Radiated emission test from 9 KHz to 10th harmonic of fundamental was verified, and no emission found except

system noise floor in 9 KHz to 30MHz and not recorded in this report.

5. We tested test modes with car accessories supply(8-18V⎓2.0A)or Type-C power supply(5V⎓2.0A) and recorded the worst case at the Type-C power supply.

For 30MHz-1GHz

Horizontal



Suspected Data List

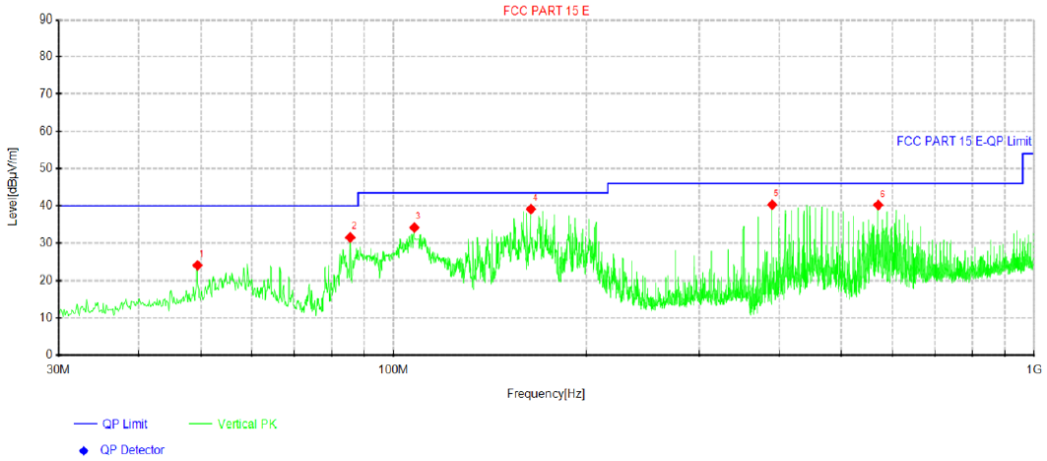
NO.	Freq. [MHz]	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	50.4912	27.22	16.04	-11.18	40.00	23.96	100	0	Horizontal
2	92.9287	51.52	37.31	-14.21	43.50	6.19	200	357	Horizontal
3	178.531	53.09	38.47	-14.62	43.50	5.03	100	26	Horizontal
4	409.148	51.05	40.94	-10.11	46.00	5.06	100	82	Horizontal
5	551.86	46.75	37.99	-8.76	46.00	8.01	200	245	Horizontal
6	884.812	39.60	36.69	-2.91	46.00	9.31	100	164	Horizontal

Note:1).Level (dBµV/m)= Reading (dBµV)+ Factor (dB/m)

2). Factor(dB/m)=Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB)

3). Margin(dB) = Limit (dBµV/m) - Level (dBµV/m)

Vertical



Suspected Data List									
NO.	Freq. [MHz]	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	49.4	35.28	24.10	-11.18	40.00	15.90	100	231	Vertical
2	85.5325	47.28	31.56	-15.72	40.00	8.44	200	360	Vertical
3	107.721	47.37	34.17	-13.20	43.50	9.33	100	91	Vertical
4	163.86	54.62	39.12	-15.50	43.50	4.38	100	0	Vertical
5	389.991	50.39	40.30	-10.09	46.00	5.70	200	161	Vertical
6	570.775	47.87	40.22	-7.65	46.00	5.78	100	149	Vertical

Note:1).Level (dBµV/m)= Reading (dBµV)+ Factor (dB/m)
2). Factor(dB/m)=Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB)
3). Margin(dB) = Limit (dBµV/m) - Level (dBµV/m)

For 1GHz to 40GHz

Note: 1. All 802.11a / 802.11n (HT20) /802.11n (HT40) modes have been tested for above 1GHz test, only the worst case 802.11a was recorded.

2. We tested test modes with car accessories supply(8-18V⎓2.0A)or Type-C power supply(5V⎓2.0A) and recorded the worst case at the Type-C power supply.

U-NII 1 & 802.11a Mode (above 1GHz)

Channel	(MHz)	Level (dBuV/m)	Mode	Pol	(dBuV/m)	(dB)	Value (dBuV)	Factor (dB/m)	Factor (dB)	amplifier (dB)	Factor (dB/m)
	5150.00	57.48	PK	H	68.20	10.72	60.91	33.04	5.45	41.92	-3.43
36.00	5150.00	47.50	AV	H	54.00	6.50	50.93	33.04	5.45	41.92	-3.43
(5180MHz)	10360.00	52.41	PK	H	68.20	15.79	38.83	38.83	10.12	45.28	3.67
	--	--	--	--	--	--	--	--	--	--	--
44.00	10440.00	52.23	PK	H	68.20	15.97	48.55	38.85	10.13	45.3	3.68
(5220MHz)	--	--	--	--	--	--	--	--	--	--	--
48.00	5350.50	48.18	PK	H	68.20	20.02	51.45	32.84	5.97	42.08	-3.27
(5240MHz)	10480.00	51.43	PK	H	68.20	16.77	47.69	38.89	10.19	45.34	3.74
	--	--	--	--	--	--	--	--	--	--	--

Tested Channel	Frequency (MHz)	Emission Level (dBuV/m)	Detector Mode	ANT Pol	Limit (dBuV/m)	Margin (dB)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre amplifier (dB)	Correction Factor (dB/m)
	5150.00	55.65	PK	V	68.20	12.55	59.08	33.04	5.45	41.92	-3.43
36.00	5150.00	48.42	AV	V	54.00	5.58	51.85	33.04	5.45	41.92	-3.43
(5180MHz)	10360.00	51.47	PK	V	68.20	16.73	47.80	38.83	10.12	45.28	3.67
	--	--	--	--	--	--	--	--	--	--	--
44.00	10440.00	51.68	PK	V	68.20	16.52	48.00	38.85	10.13	45.3	3.68
(5220MHz)	--	--	--	--	--	--	--	--	--	--	--
48.00	5350.50	51.53	PK	V	68.20	16.67	54.80	32.84	5.97	42.08	-3.27
(5240MHz)	10480.00	52.45	PK	V	68.20	15.75	48.71	38.89	10.19	45.34	3.74
	--	--	--	--	--	--	--	--	--	--	--

U-NII 3 & 802.11a Mode (above 1GHz)

Tested Channel	Frequency (MHz)	Emission Level (dBuV/m)	Detector Mode	ANT Pol	Limit (dBuV/m)	Margin (dB)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre amplifier (dB)	Correction Factor (dB/m)
	5720.00	55.64	PK	H	68.20	12.56	58.42	33.42	6.04	42.24	-2.78
149.00	5720.00	48.28	AV	H	54.00	5.72	51.06	33.42	6.04	42.24	-2.78
(5745MHz)	11490.00	50.33	PK	H	68.20	17.87	45.85	39.02	10.91	45.45	4.48
	--	--	--	--	--	--		--	--	--	--
157.00	11570.00	52.41	PK	H	68.20	15.79	47.96	38.93	10.95	45.43	4.45
(5785MHz)	--	--	--	--	--	--	--	--	--	--	--
165.00	5855.00	52.32	PK	H	68.20	15.88	54.51	33.91	6.17	42.27	-2.19
(5825MHz)	11650.00	53.59	PK	H	68.20	14.61	49.01	38.83	11.16	45.41	4.58
	--	--	--	--	--	--	--	--	--	--	--

Tested Channel	Frequency (MHz)	Emission Level (dBuV/m)	Detector Mode	ANT Pol	Limit (dBuV/m)	Margin (dB)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre amplifier (dB)	Correction Factor (dB/m)
	5720.00	56.72	PK	V	68.20	11.48	59.50	33.42	6.04	42.24	-2.78
149.00	5720.00	48.36	AV	V	54.00	5.64	51.14	33.42	6.04	42.24	-2.78
(5745MHz)	11490.00	49.75	PK	V	68.20	18.45	45.27	39.02	10.91	45.45	4.48
	--	--	--	--	--	--	--	--	--	--	--
157.00	11570.00	51.48	PK	V	68.20	16.72	47.03	38.93	10.95	45.43	4.45
(5785MHz)	--	--	--	--	--	--	--	--	--	--	--
165.00	5855.00	51.31	PK	V	68.20	16.89	53.50	33.91	6.17	42.27	-2.19
(5825MHz)	11650.00	52.64	PK	V	68.20	15.56	48.06	38.83	11.16	45.41	4.58
	--	--	--	--	--	--	--	--	--	--	--

REMARKS:

1. Emission level (dBuV/m) =Raw Value (dBuV)+Correction Factor (dB/m)
2. Correction Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
3. Margin value = Limit value- Emission level.
4. -- Mean the other emission levels were very low against the limit.
5. RBW1MHz VBW3MHz Peak detector is for PK value; RBW 1MHz VBW10Hz Peak detector is for AV value.
6. Worst case data at 6Mbps at IEEE 802.11a; MCS0 at IEEE 802.11n HT20, IEEE 802.11n HT40;

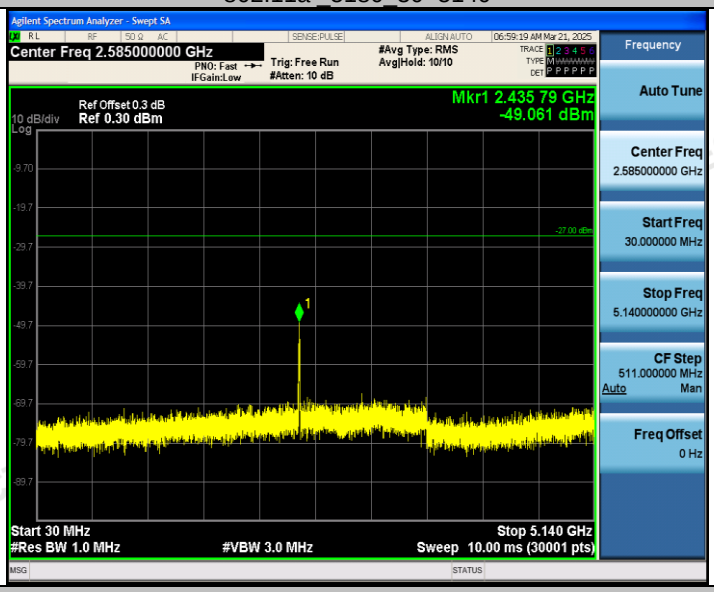
Conducted Emissions

U-NII 1 and U-NII 3:

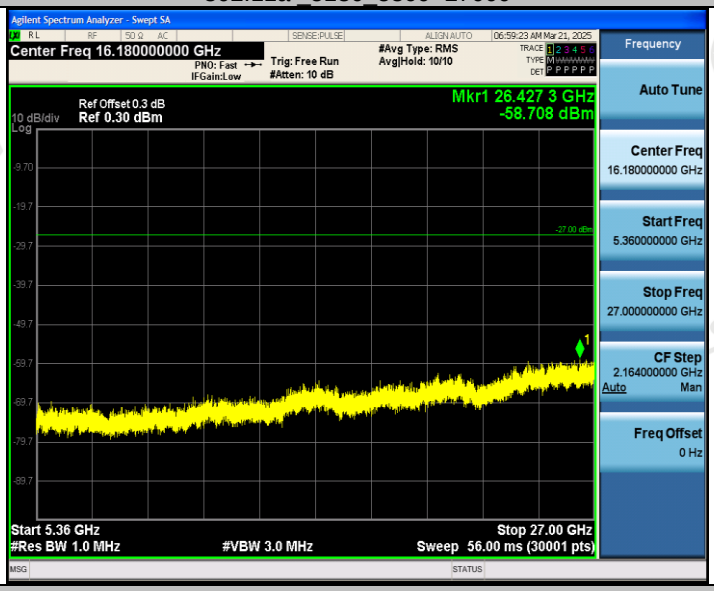
TestMode	Freq(MHz)	FreqRange [MHz]	Max. Fre [MHz]	Max. Level [dBm]	Limit [dBm]	Verdict
11a	5180	30~5140	2435.79	-49.06	≤-27	PASS
		5360~27000	26427.26	-58.71	≤-27	PASS
	5220	30~5140	2436.3	-51.74	≤-27	PASS
		5360~27000	25725.4	-57.88	≤-27	PASS
	5240	30~5140	2435.28	-52.13	≤-27	PASS
		5360~27000	26583.79	-57.53	≤-27	PASS
	5745	30~5650	2436.11	-54.37	≤-27	PASS
		5925~27000	26152.79	-57.34	≤-27	PASS
	5785	30~5650	5245.55	-67.36	≤-27	PASS
		5925~27000	26635.4	-58.49	≤-27	PASS
	5825	30~5650	2422.81	-49.67	≤-27	PASS
		5925~27000	26041.09	-58.7	≤-27	PASS
802.11n(HT20)	5180	30~5140	2435.96	-53.87	≤-27	PASS
		5360~27000	24468.84	-57.92	≤-27	PASS
	5220	30~5140	2435.79	-54.53	≤-27	PASS
		5360~27000	25341.65	-57.68	≤-27	PASS
	5240	30~5140	2436.13	-53.27	≤-27	PASS
		5360~27000	25648.94	-57.69	≤-27	PASS
	5745	30~5650	2436.11	-53.25	≤-27	PASS
		5925~27000	26199.85	-57.07	≤-27	PASS
	5785	30~5650	3186.94	-67.52	≤-27	PASS
		5925~27000	26204.07	-57.89	≤-27	PASS
	5825	30~5650	2468.89	-67.4	≤-27	PASS
		5925~27000	26969.79	-57.3	≤-27	PASS
802.11n(HT40)	5190	30~5140	2435.62	-52.02	≤-27	PASS
		5360~27000	25253.65	-57.58	≤-27	PASS
	5230	30~5140	2436.13	-52.32	≤-27	PASS
		5360~27000	26931.47	-57.98	≤-27	PASS
	5755	30~5650	5226.63	-64.48	≤-27	PASS
		5925~27000	26133.82	-57.67	≤-27	PASS
	5795	30~5650	2435.36	-52.14	≤-27	PASS
		5925~27000	26803.3	-58.19	≤-27	PASS

Test plot as follows

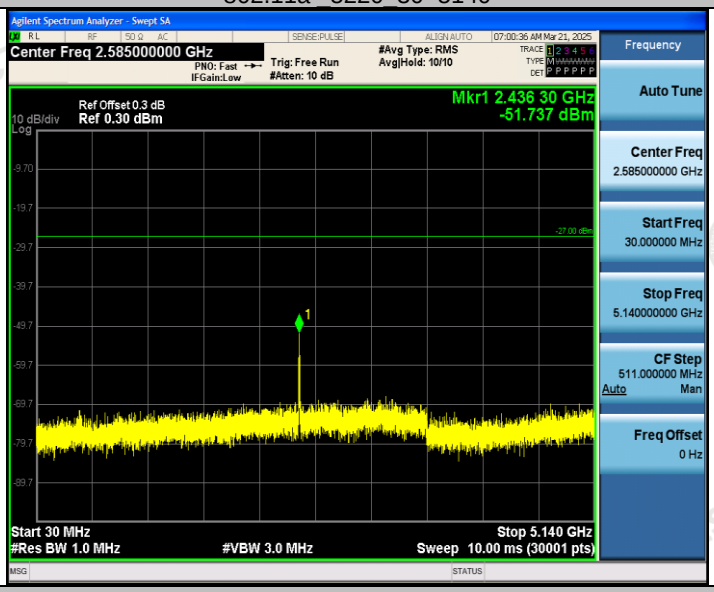
802.11a _5180_30~5140



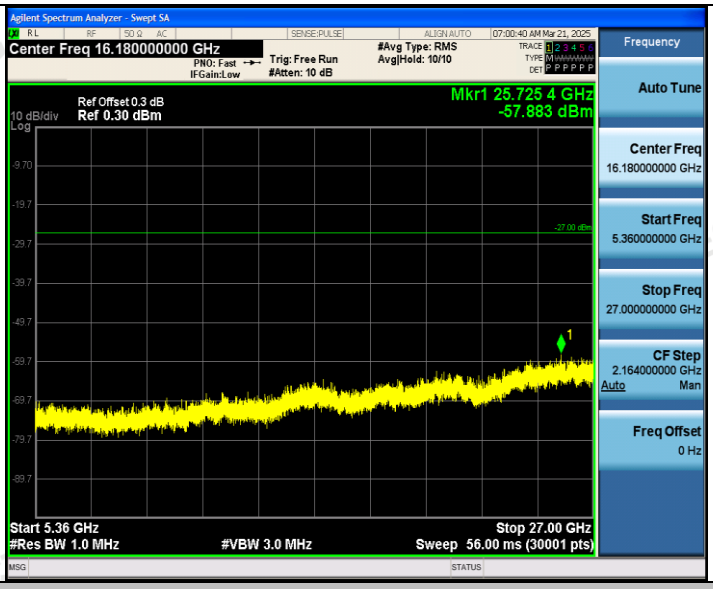
802.11a _5180_5360~27000



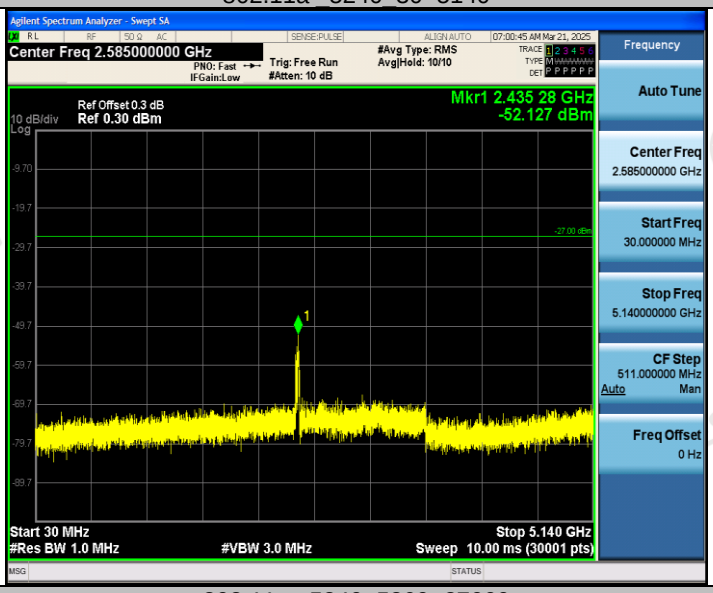
802.11a _5220_30~5140



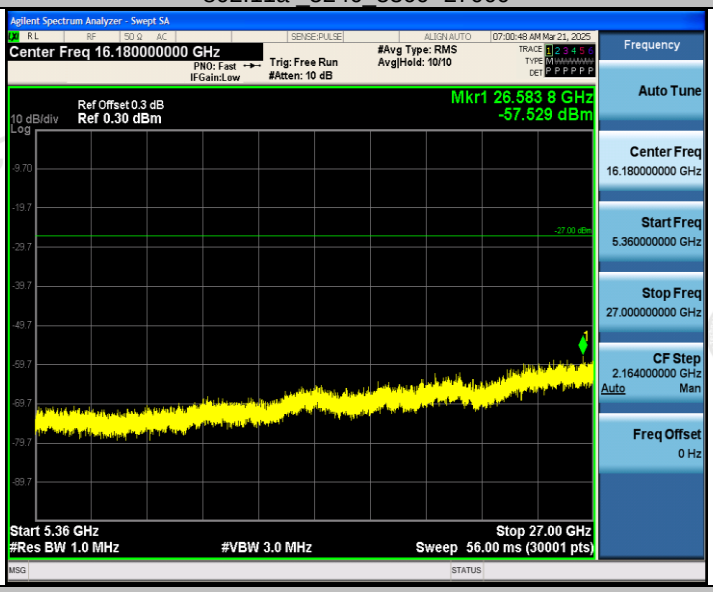
802.11a _5220_5360~27000



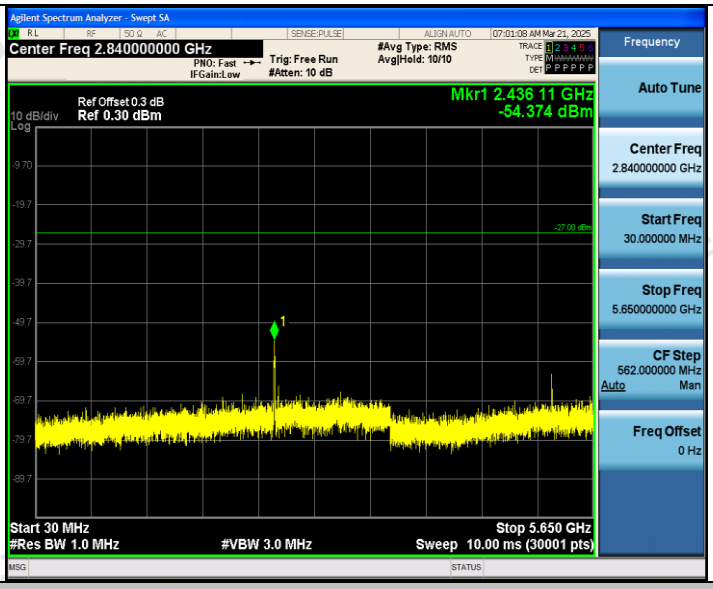
802.11a _5240_30~5140



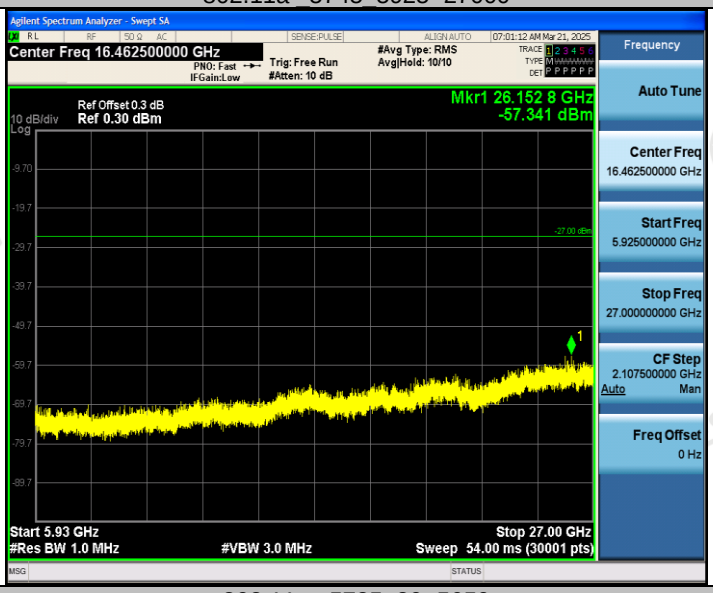
802.11a _5240_5360~27000



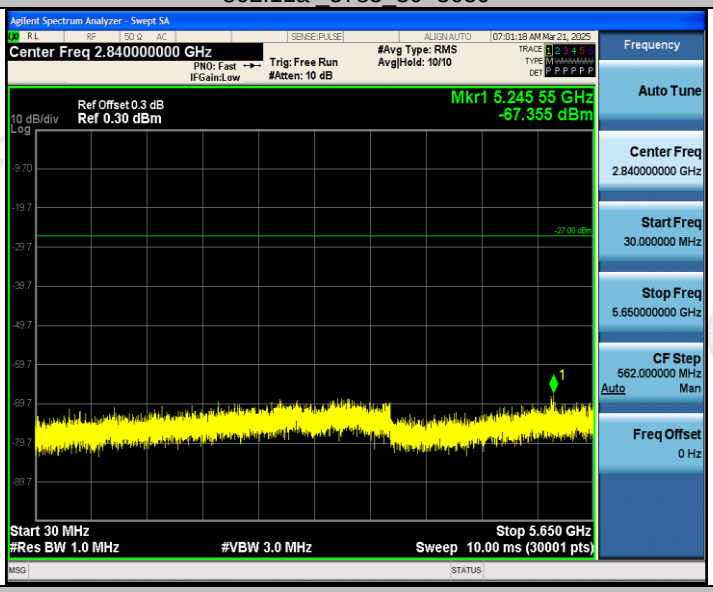
802.11a _5745_30~5650



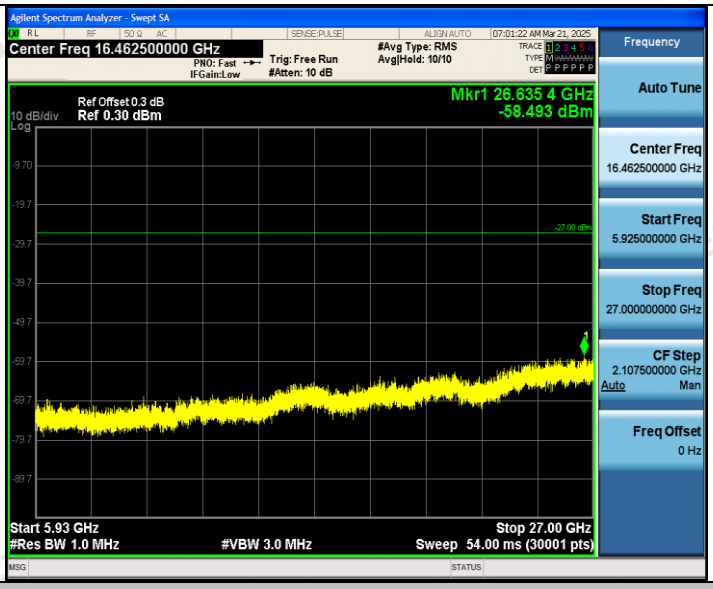
802.11a _5745_5925~27000



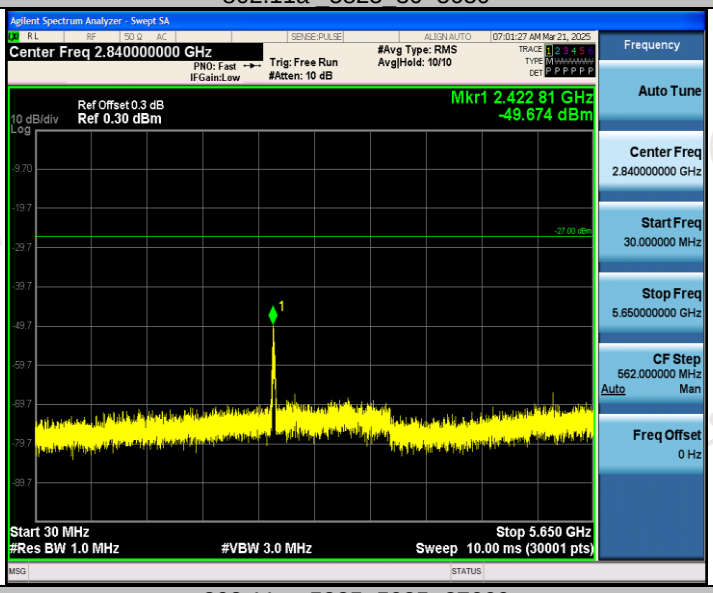
802.11a _5785_30~5650



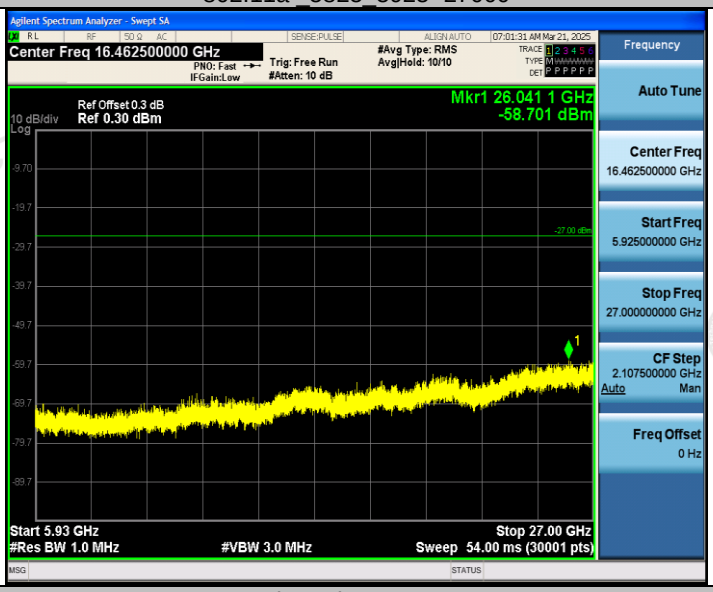
802.11a _5785_5925~27000



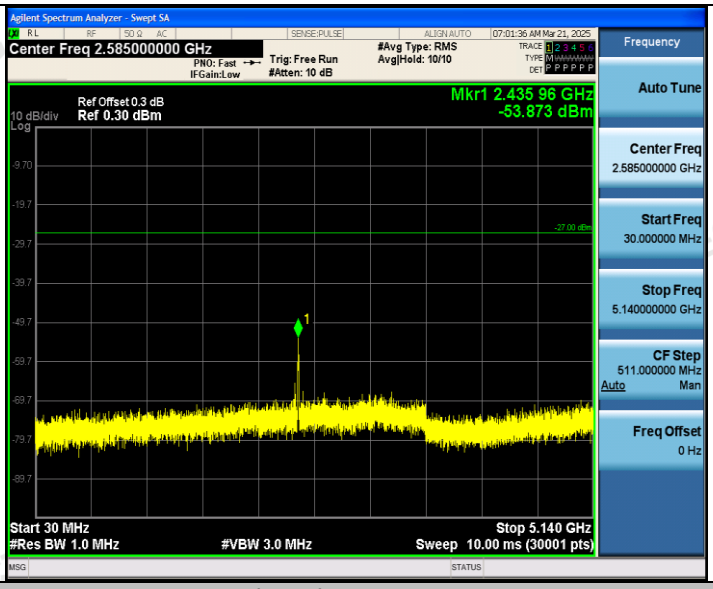
802.11a _5825_30~5650



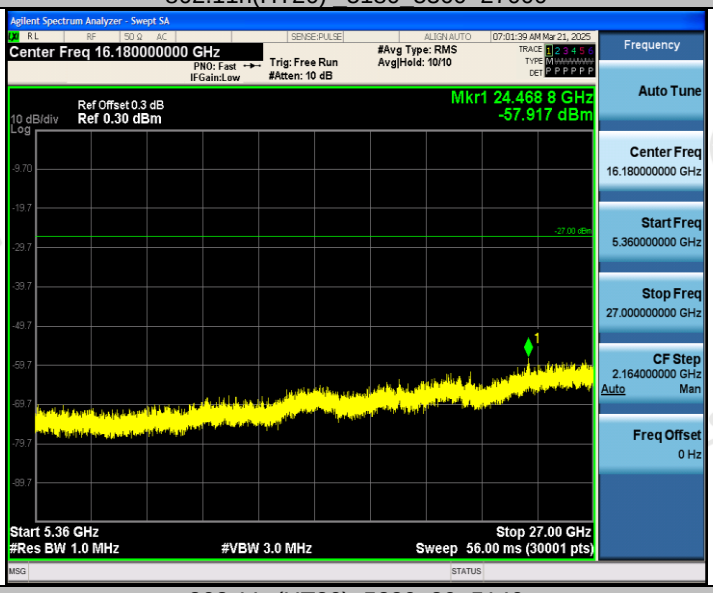
802.11a _5825_5925~27000



802.11n(HT20) _5180_30~5140



802.11n(HT20) _5180_5360~27000



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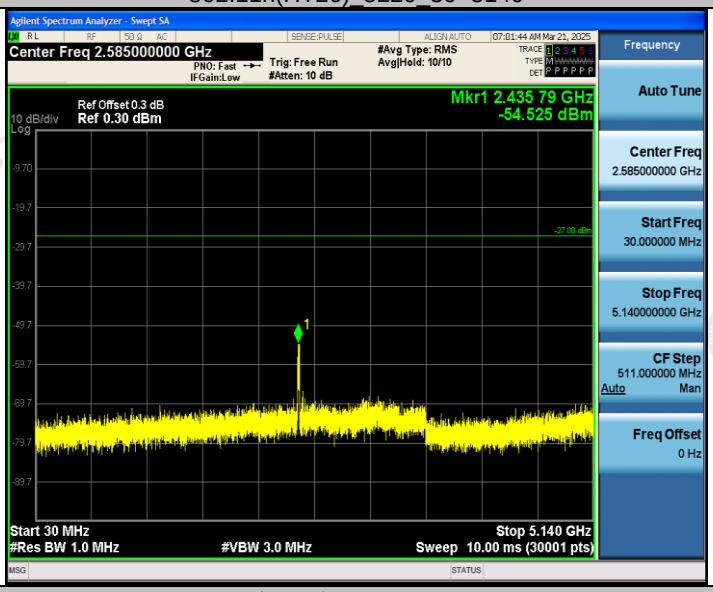

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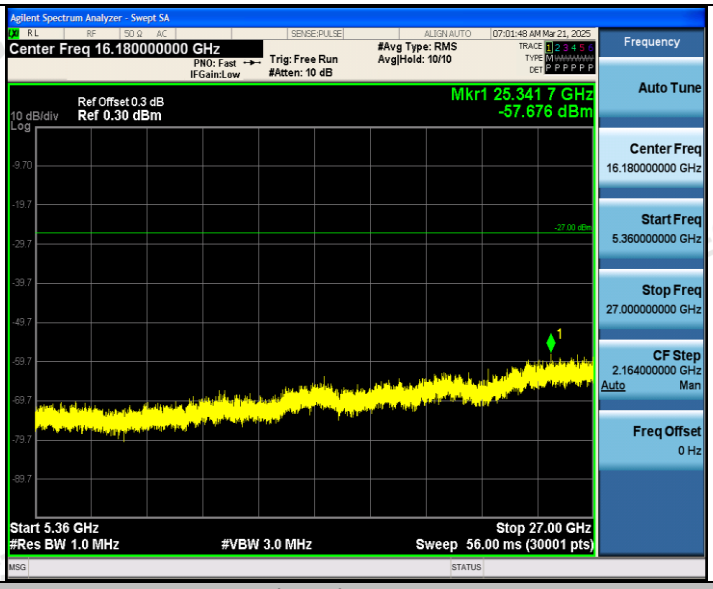
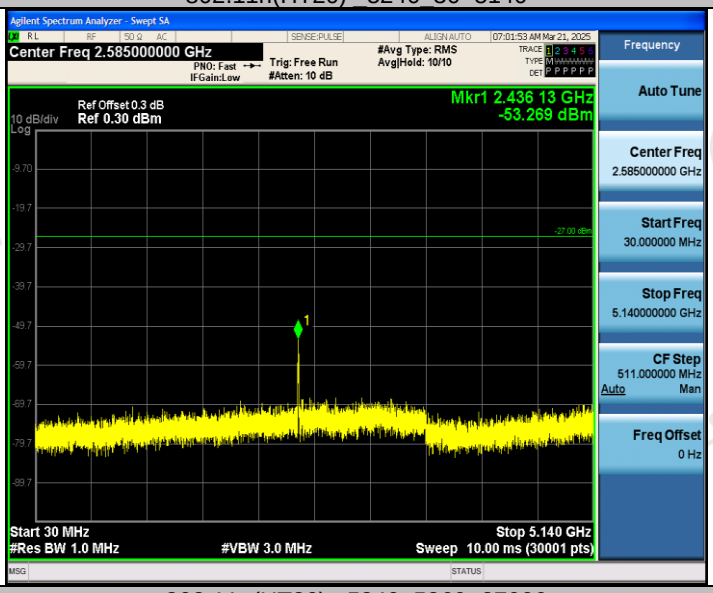
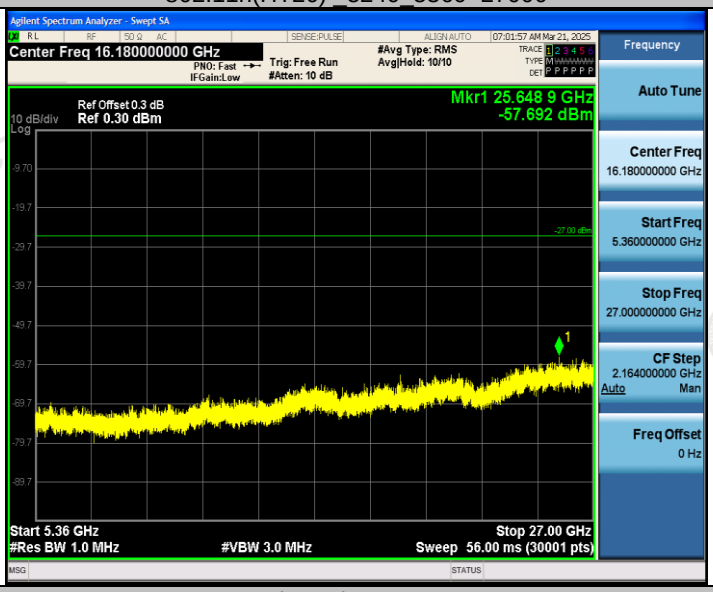


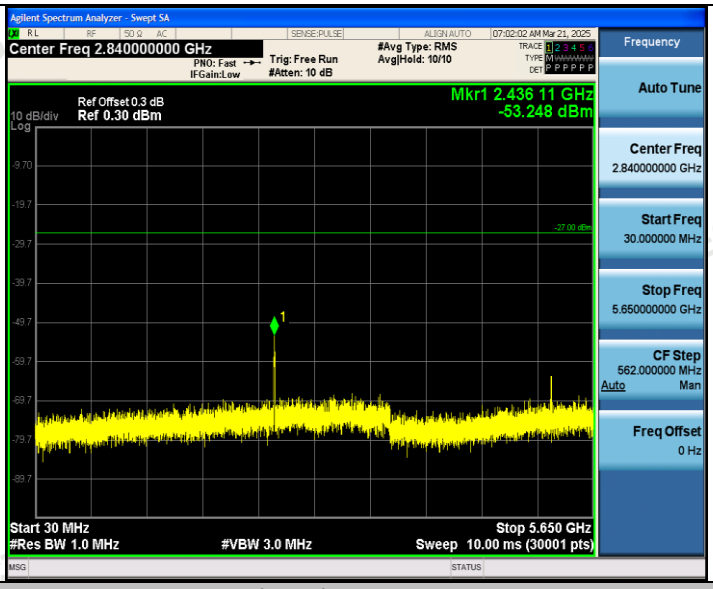
802.11n(HT20) _5240_30~5140



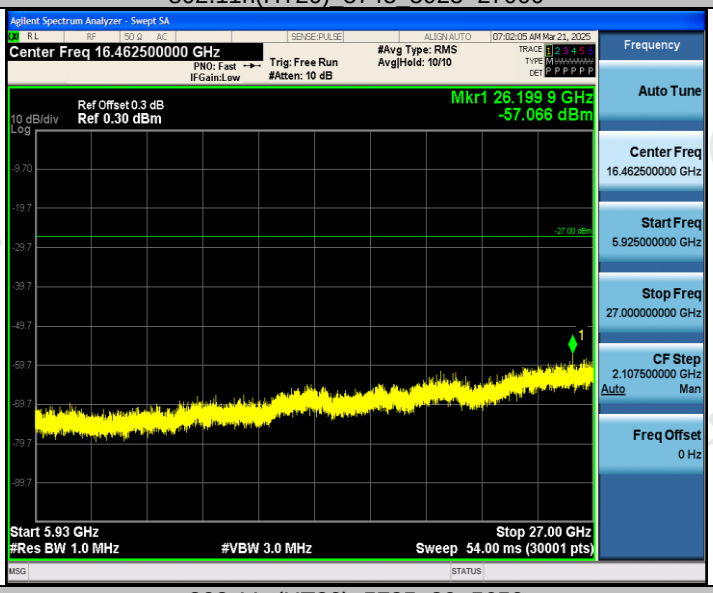
802.11n(HT20) _5240_5360~27000



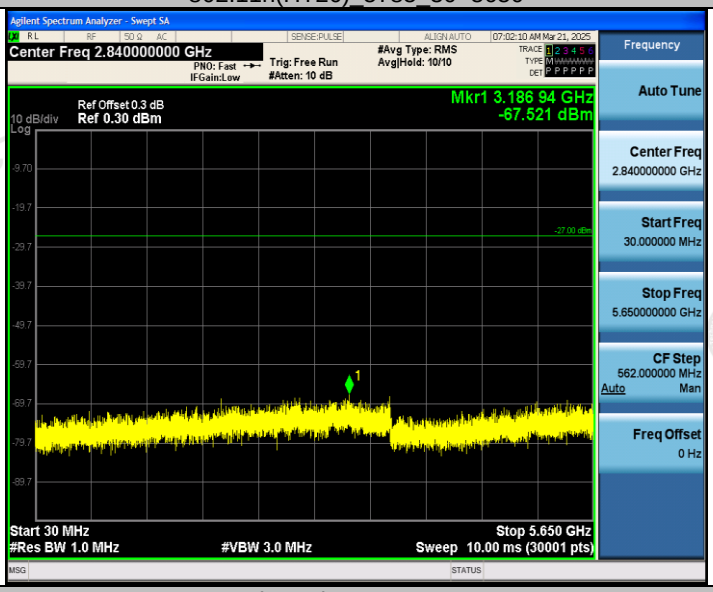
802.11n(HT20)_5745_30~5650



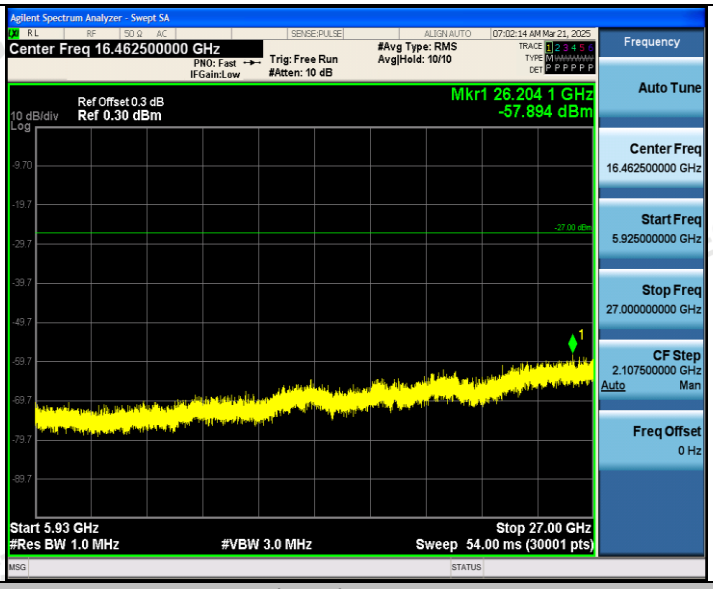
802.11n(HT20)_5745_5925~27000



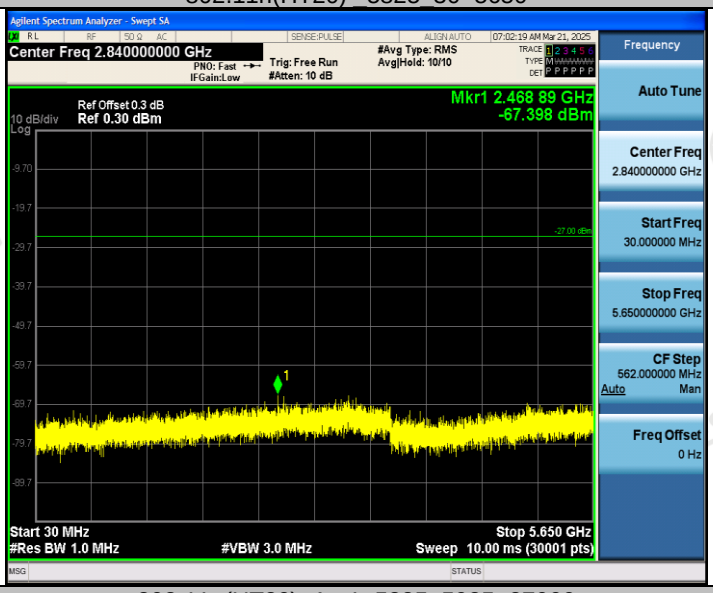
802.11n(HT20)_5785_30~5650



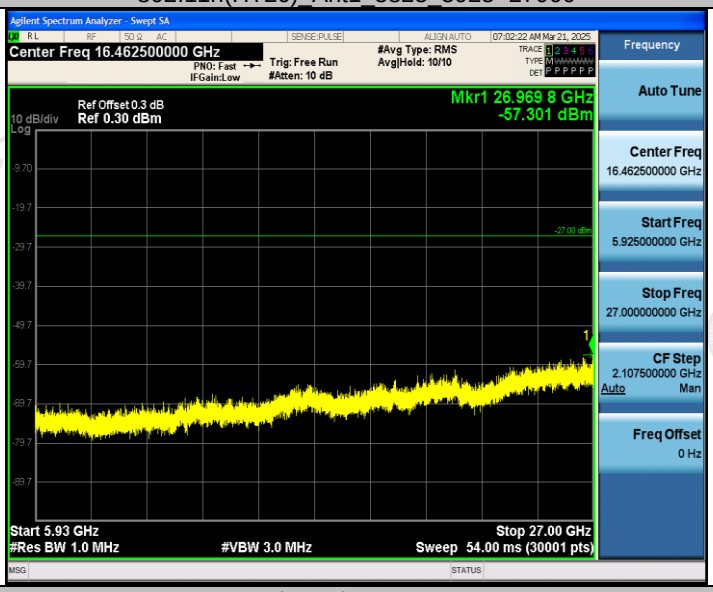
802.11n(HT20)_5785_5925~27000



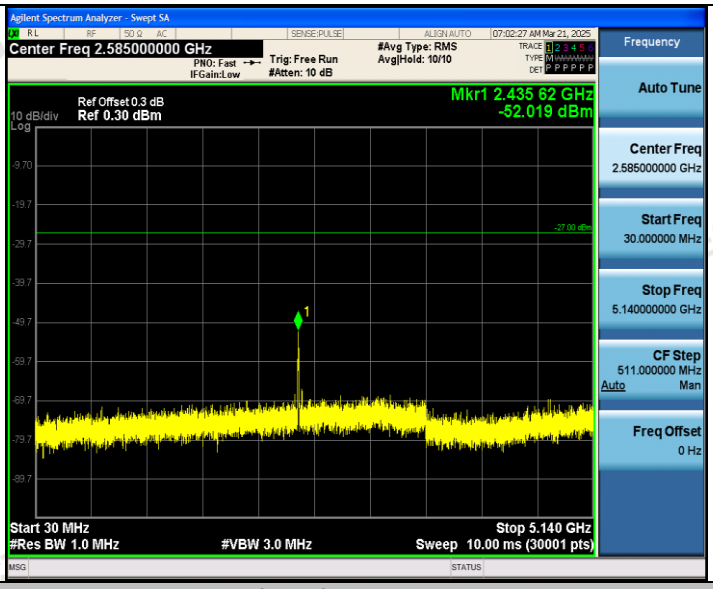
802.11n(HT20)_5825_30~5650



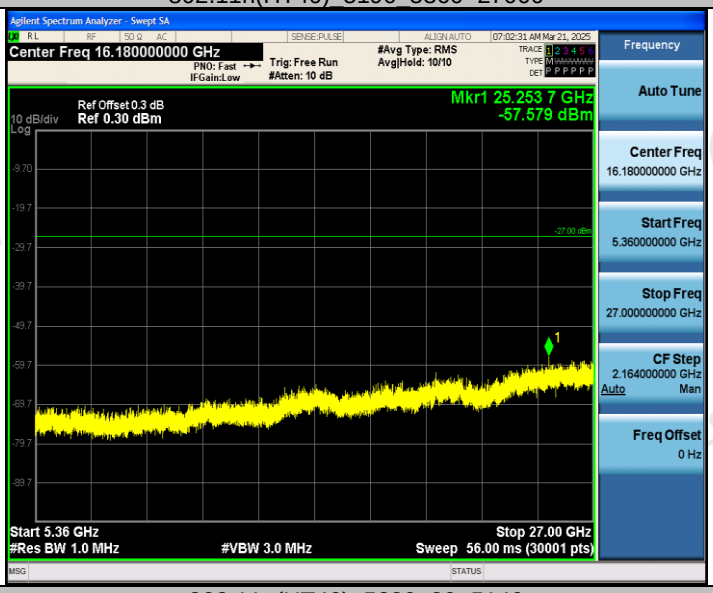
802.11n(HT20)_Ant1_5825_5925~27000



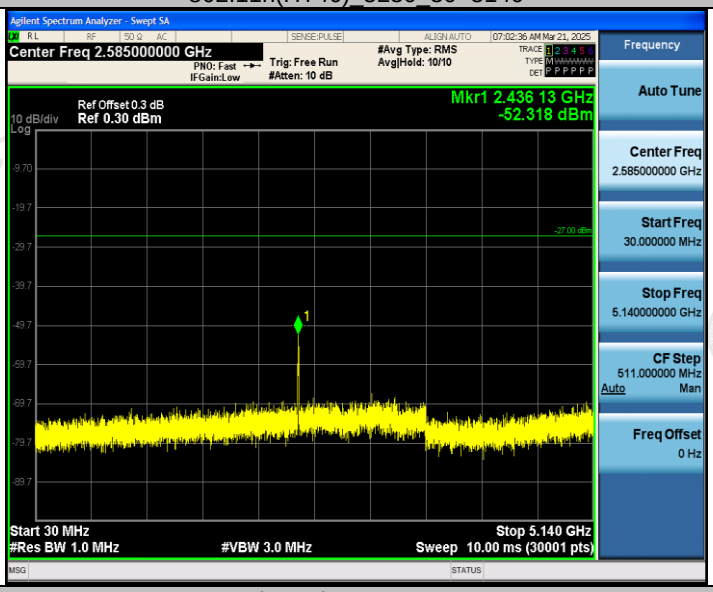
802.11n(HT40)_5190_30~5140



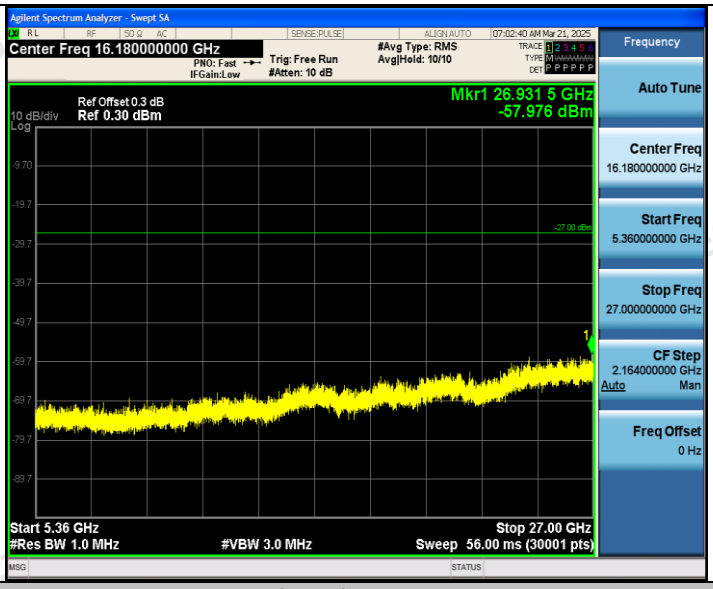
802.11n(HT40)_5190_5360~27000



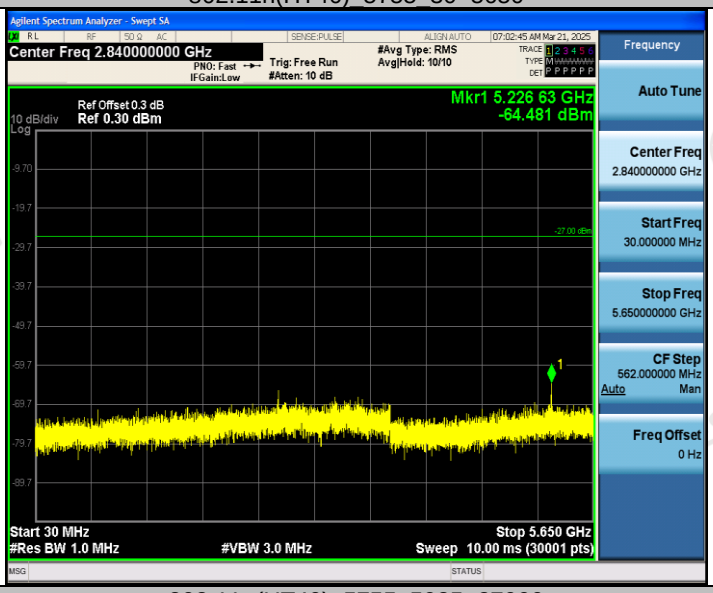
802.11n(HT40)_5230_30~5140



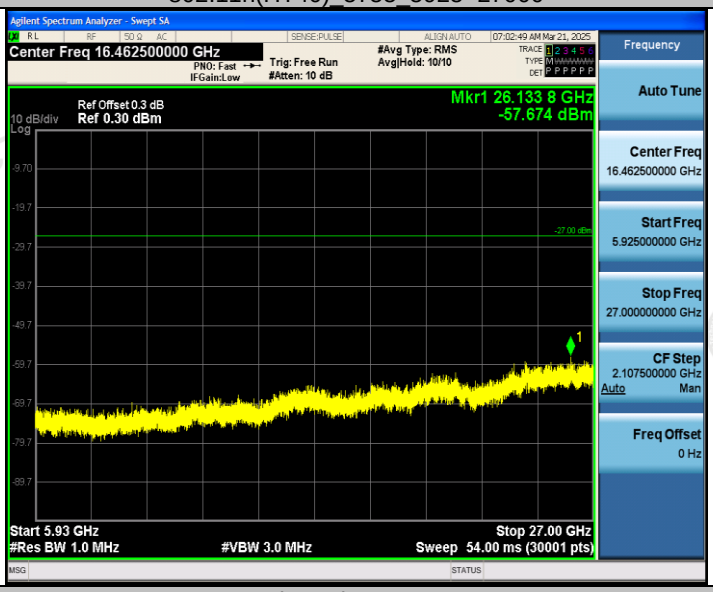
802.11n(HT40)_5230_5360~27000



802.11n(HT40)_5755_30~5650

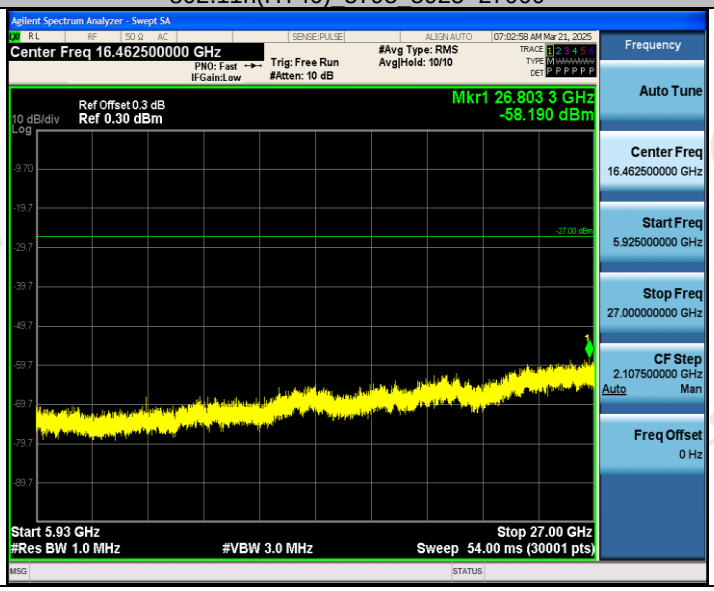


802.11n(HT40)_5755_5925~27000



802.11n(HT40)_5795_30~5650

802.11n(HT40)_5795_5925~27000



Conducted Band Edge

U-NII 1:

TestMode	ChName	Freq(MHz)	Result[dBm]	Limit[dBm]	Verdict
802.11a	Low	5180	-43.04	≤-27	PASS
	High	5240	-50.28	≤-27	PASS
802.11n(HT20)	Low	5180	-39.81	≤-27	PASS
	High	5240	-50.18	≤-27	PASS
802.11n(HT40)	Low	5190	-42.07	≤-27	PASS
	High	5230	-50.33	≤-27	PASS

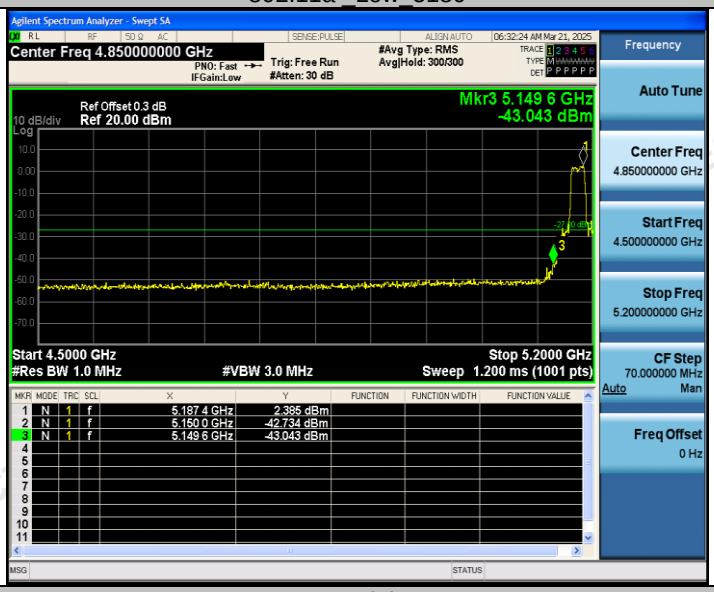
U-NII 3:

TestMode	ChName	Freq(MHz)	FreqRange [MHz]	Result [dBm]	Limit [dBm]	Verdict
802.11a	Low	5745	5650~5700	-52.65	≤-26.96	PASS
			5700~5720	-37.79	≤15.21	PASS
			5720~5725	-34.49	≤20.54	PASS
			5760~5650	-50.02	≤-27	PASS
	High	5825	5850~5855	-40.12	≤15.73	PASS
			5855~5875	-39.88	≤15.58	PASS
			5875~5925	-50.13	≤-25.41	PASS
			5925~5935	-49.51	≤-27	PASS
802.11n(HT 20)	Low	5745	5650~5700	-51.44	≤-26.27	PASS
			5700~5720	-39.62	≤15.11	PASS
			5720~5725	-37.4	≤16.60	PASS
			5760~5650	-50.12	≤-27	PASS
	High	5825	5850~5855	-43.05	≤15.73	PASS
			5855~5875	-42.6	≤15.54	PASS
			5875~5925	-50.49	≤-26.51	PASS
			5925~5935	-50.7	≤-27	PASS
802.11n(HT 40)	Low	5755	5650~5700	-51.47	≤-26.50	PASS
			5700~5720	-33.38	≤15.58	PASS
			5720~5725	-34.32	≤15.74	PASS
			5780~5650	-50.91	≤-27	PASS
	High	5795	5850~5855	-51.2	≤15.66	PASS
			5855~5875	-50.75	≤10.02	PASS
			5875~5925	-50.37	≤-26.34	PASS
			5925~5935	-50.49	≤-27	PASS

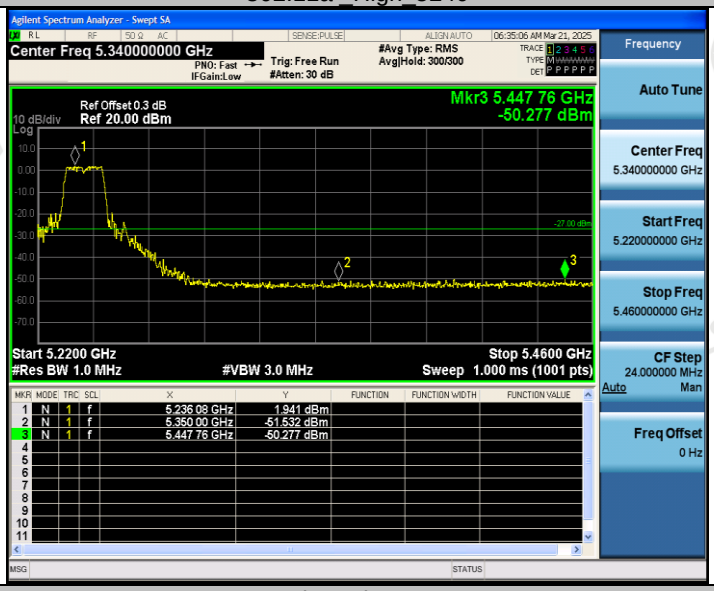
Test plot as follows

U-NII 1:

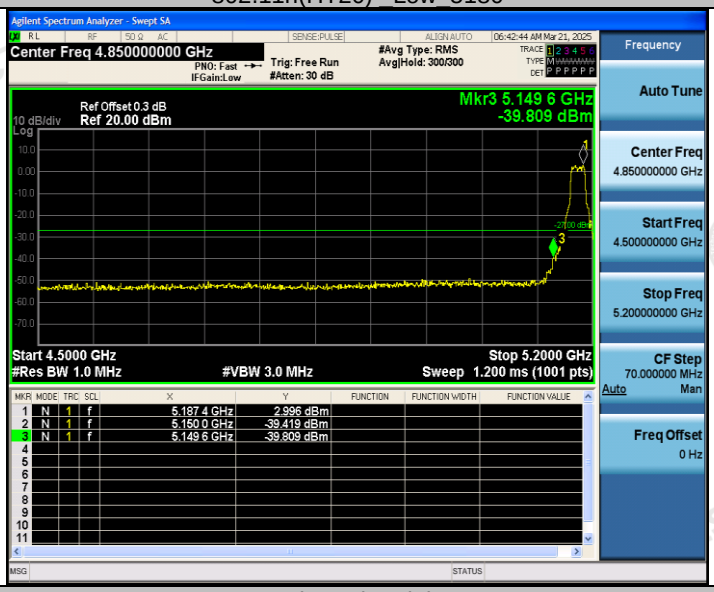
802.11a _Low_5180



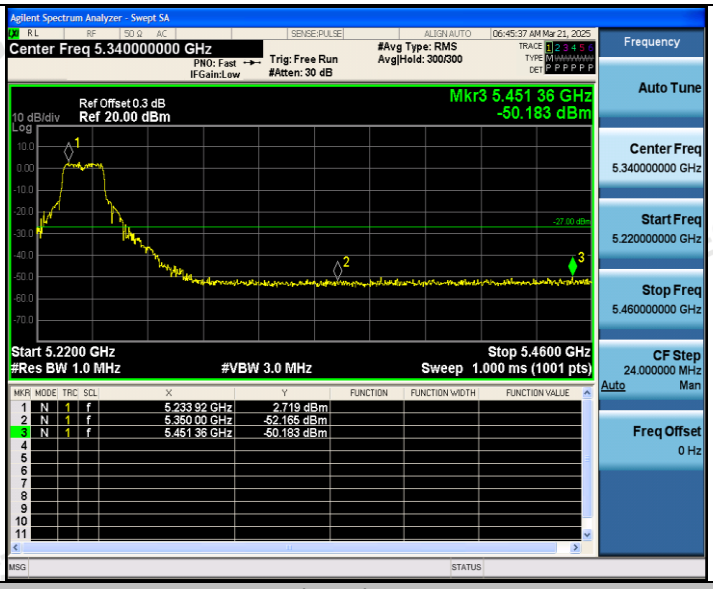
802.11a _High_5240



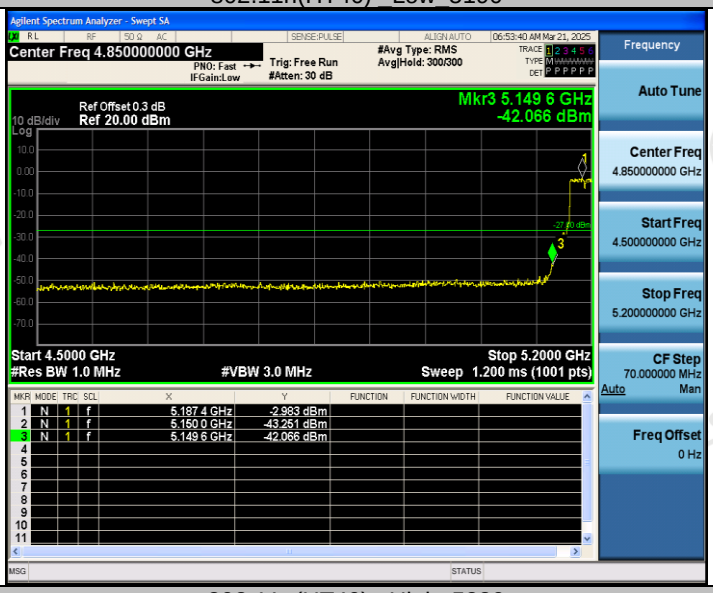
802.11n(HT20) _Low_5180



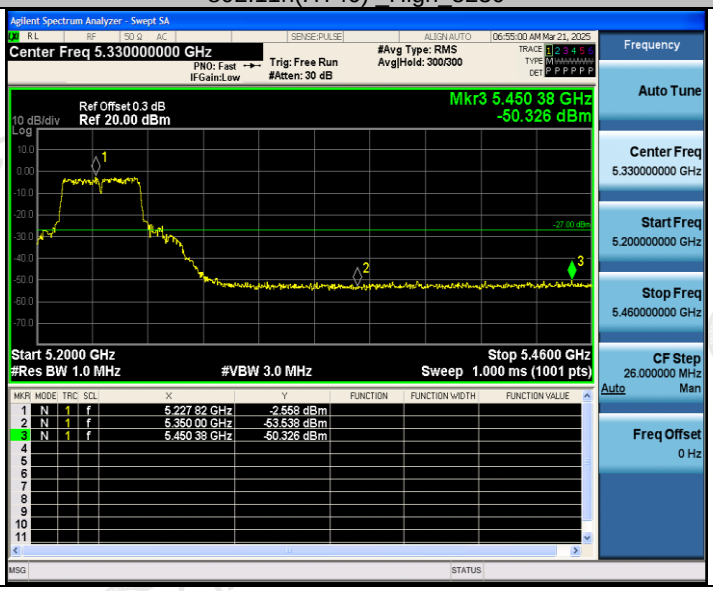
802.11n(HT20) _High_5240



802.11n(HT40) _Low_5190

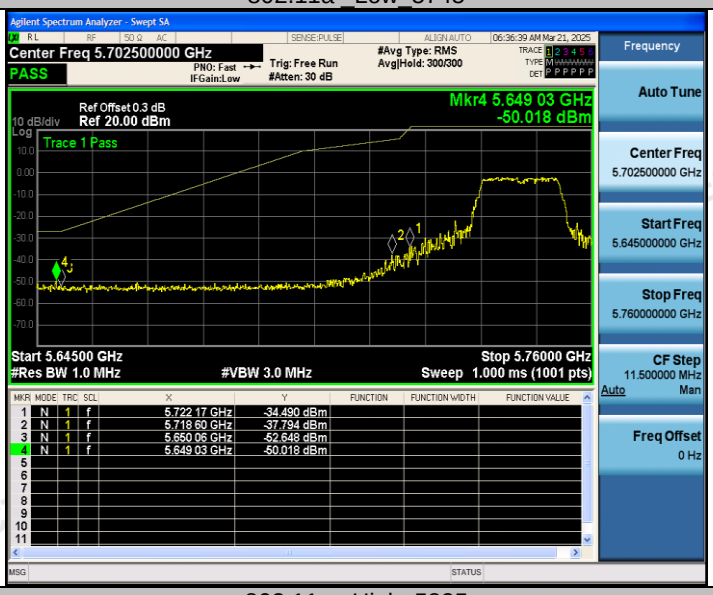


802.11n(HT40) _High_5230



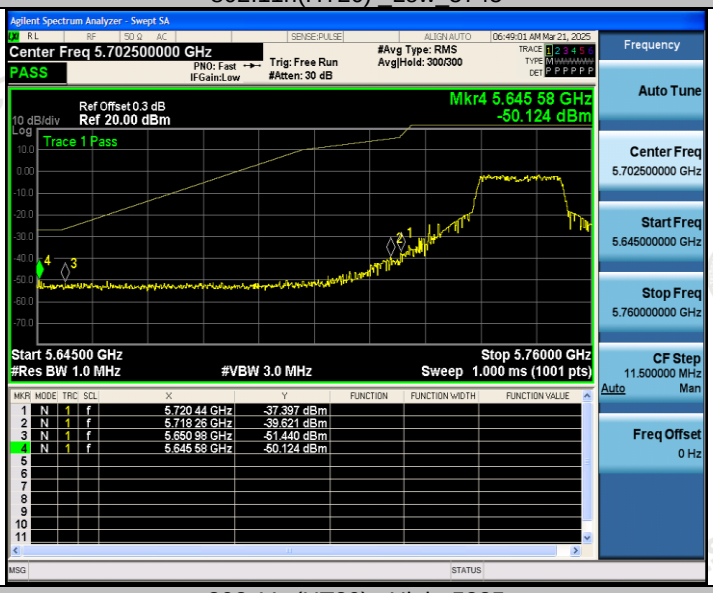
U-NII 3:

802.11a _Low_5745



802.11a _High_5825

802.11n(HT20) _Low_5745



802.11n(HT20) _High_5825