FCC TEST REPORT

FCC ID: 2BFJT-CORE5

Product	:	MINI PC
Model Name	:	CORE 5,AERO 5,AERO 5pro,AERO 5plus,CORE 5, CORE 5pro,CORE 5plus
Brand	:	N/A
Report No.	:	PTC24022004702E-FC04

Prepared for

Shenzhen Dongfang Box Core Information Technology Co., Ltd

3rd Floor, Factory 01, New World Industrial City, Wanke City Community, Bantian Street, Longgang District, Shenzhen

Prepared by

Precise Testing & Certification Co., Ltd

Building 1, No. 6, Tongxin Road, Dongcheng Street, Dongguan, Guangdong, China

1 TEST RESULT CERTIFICATION

Applicant's name	:	Shenzhen Dongfang Box Core Information Technology Co., Ltd
Address	:	3rd Floor, Factory 01, New World Industrial City, Wanke City Community, Bantian Street, Longgang District, Shenzhen
Manufacture's name	:	Shenzhen Dongfang Box Core Information Technology Co., Ltd
Address	:	3rd Floor, Factory 01, New World Industrial City, Wanke City Community, Bantian Street, Longgang District, Shenzhen
Product name	:	MINI PC
Model name	:	CORE 5,AERO 5,AERO 5pro,AERO 5plus,CORE 5,CORE 5pro,CORE 5plus
Standards	:	FCC CFR47 Part 15 Section 15.407
Test procedure	:	ANSI C63.10:2013
Test Date	:	Feb. 26, 2024 to Apr. 02, 2024
Date of Issue	:	Apr. 02, 2024
Test Result	:	Pass

This device described above has been tested by PTC, 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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Test Engineer:

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Technical Manager:

Simon Pu / Manager

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2 Test Summary

Test Items	Test Requirement	Result
Conduct Emission	15.207	PASS
Radiated Spurious Emissions	15.205(a) 15.209 15.407(b)	PASS
Emission and Occupied Bandwidth	15.407(a)(e)	PASS
Maximum Peak Output Power	15.407(a)	PASS
Power Spectral Density	15.407(a)	PASS
Frequency stability	15.407 (g)	PASS
Antenna Requirement	15.203	PASS

3 General Information

3.1 General Description of E.U.T.

Product Name	:	MINI PC
Model Name	:	CORE 5
Additional model	:	AERO 5,AERO 5pro,AERO 5plus,CORE 5,CORE 5pro,CORE 5plus
Specification	:	802.11a/n HT20/HT40/ac20/ac40/ac80
Operation Frequency	:	5G Wifi:5180-5240 MHz 5.8G Wifi:5745MHz~5825MHz
Number of Channel	:	4 channels for 802.11a/n20/ac20 5180-5240 MHz 5 channels for 802.11a/n20/ac20 5745MHz~5825MHz 2 channels for 802.11n40/ac40 5180-5240 MHz 2 channels for 802.11n40/ac40 5745MHz~5825MHz 1 channels for 802.11 ac80
Type of Modulation	:	OFDM with BPSK/QPSK/16QAM/64QAM for 802.11 n/a/ac
Antenna installation	:	FPC Antenna
Antenna Gain	:	5.2G WiFi: 2.71 dBi 5.8G WiFi: 3.07 dBi
Power supply	:	Adapter: CW1203000CH Input: AC 100-240V~50/60Hz 1.2A MAX Output: DC 12V⎓ 3000mA
Hardware Version	:	N/A
Software Version	:	N/A
Test sample No.	:	PTC24022004702E-1/2, PTC24022004702E-2/2

3.2 Channel List

The EUT has been tested under its typical operating condition.

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

Test of channel included the lowest and middle and highest frequency to perform the test, then record on this report.

Those data rates (802.11a: 6 Mbps; 802.11n (HT20): MCS0; 802.11ac: MCS0) were used for all test.

Pre-defined engineering program for regulatory testing used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

Frequency and Channel list for 802.11 a/N20/N40/AC20/AC40

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	46	5230	153	5765
38	5190	48	5240	157	5785
40	5200	149	5745	159	5795
44	5220	151	5755	161	5805
				165	5825

Frequency and Channel list for 802.11 ac80:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
42	5210	155	5775	/	/

The maximum duty cycle as following table:

Test Mode	Duty Cycle(%)
802.11a	100%
802.11n/ac20	100%
802.11n/ac40	100%
802.11ac80	100%

3.3 Test Site

Precise Testing & Certification Co., Ltd

Address: Building 1, No. 6, Tongxin Road, Dongcheng Street, Dongguan, Guangdong, China

FCC Registration Number: 790290

A2LA Certificate No.: 4408.01

IC Registration Number: 12191A

FCC Designation Number: CN1219

4 Equipment During Test

4.1 Equipments List

RF Conducted Test

Name of Equipment	Manufacturer	Model	Serial No.	Characteristics	Calibration Due	Calibration period
MXG Signal Analyzer	Agilent	N9020A	SER MY5111038	10Hz-30GHz	Aug. 21, 2023	1 year
Coaxial Cable	CDS	79254	46107086	10Hz-30GHz	Aug. 21, 2023	1 year
Power Meter	Anritsu	ML2495A	0949003	300MHz-40GHz	Aug. 21, 2023	1 year
Power Sensor	Anritsu	MA2411B	0917017	300MHz-40GHz	Aug. 21, 2023	1 year
Signal Analyzer 40GHZ	Rohde&Schwarz	FSV40	101456	10Hz-40GHz	Aug. 21, 2023	1 year

Remark: The temporary antenna connector is soldered on the PCB board in order to perform conducted tests and this temporary antenna connector is listed in the equipment list.

Name of Equipment	Manufacturer	Model	Serial No.	Characteristics	Calibration Due	Calibration period
EMI Test Receiver	Rohde&Schwarz	ESCI	101417	9KHz-3GHz	Aug. 21, 2023	1 year
Loop Antenna	Schwarzbeck	FMZB 1519	012	9 KHz -30MHz	Aug. 21, 2023	1 year
Bilog Antenna	SCHWARZBECK	VULB9160	9160-3355	25MHz-2GHz	Aug. 21, 2023	1 year
Preamplifier (low frequency)	SCHWARZBECK	BBV 9475	9745-0013	1MHz-1GHz	Aug. 21, 2023	1 year
Cable	Schwarzbeck	PLF-100	549489	9KHz-3GHz	Aug. 21, 2023	1 year
Spectrum Analyzer	Agilent	E4407B	MY45109572	9KHz-40GHz	Aug. 21, 2023	1 year
Horn Antenna	SCHWARZBECK	9120D	9120D-1246	1GHz-18GHz	Aug. 21, 2023	1 year
Power Amplifier	LUNAR EM	LNA1G18-40	J10100000081	1GHz-26.5GHz	Aug. 21, 2023	1 year

Horn Antenna	SCHWARZBECK	BBHA 9170	9170-181	14GHz-40GHz	Aug. 21, 2023	1 year
Amplifier	SCHWARZBECK	BBV 9721	9721-205	18GHz-40GHz	Aug. 21, 2023	1 year
Cable	H+S	CBL-26	N/A	1GHz-26.5GHz	Aug. 21, 2023	1 year
RF Cable	R&S	R204	R21X	1GHz-40GHz	Aug. 21, 2023	1 year

Conducted Emissions

Name of Equipment	Manufacturer	Model	Serial No.	Characteristics	Calibration Date	Calibration Interval
EMI Test Receiver	Rohde&Schwarz	ESCI	101417	9KHz-3GHz	Aug. 17, 2023	1 Year
Artificial Mains Network	Rohde&Schwarz	ENV216	102453	9KHz-300MHz	Aug. 17, 2023	1 Year
Artificial Mains Network	Rohde&Schwarz	ENV216	101342	9KHz-300MHz	Aug. 17, 2023	1 Year
Limiter	R&S	ESH3-Z2	0357.8810.54-102808-NB	0Hz-30MHz	Aug. 16,2023	1 Year
RF Switch	DIAMOND ANTENNA	CX-210	/	0.09MHz-6GHz	Mar. 24,2023	1 Year
RF Switch	DIAMOND ANTENNA	CX-210	/	0.09MHz-6GHz	Mar. 24,2024	1 Year
Test S/W	Tonscend	JS32-CE	/	/	/	/

4.2 Measurement Uncertainty

Parameter	Uncertainty
RF output power, conducted	±1.0dB
Power Spectral Density, conducted	±2.2dB
Radio Frequency	± 1 x 10^{-6}
Bandwidth	± 1.5 x 10^{-6}
Time	±2%
Duty Cycle	±2%
Temperature	±1°C
Humidity	±5%
DC and low frequency voltages	±3%
Conducted Emissions (150kHz~30MHz)	±3.64dB
Radiated Emission(9kHz~30MHz)	±3.15dB
Radiated Emission(30MHz~1GHz)	±5.03dB
Radiated Emission(1GHz~18GHz)	±4.74dB
Radiated Emission(18GHz~40GHz)	±3.20dB

4.3 Description of Support Units

Equipment	Model No.	Series No.	Parameters
LCD	HU20270FB0	1S6S39BCS4LEGK1P3809	N/A
Mouse	OP-300	SA8177323	N/A
Keyboard	G2	SA8173709103	N/A

5 Conducted Emission

Test Requirement:	:	FCC CFR 47 Part 15 Section 15.207
Test Method	:	ANSI C63.10: 2013
Test Result	:	PASS
Frequency Range	:	150kHz to 30MHz
Class/Severity	:	Class B

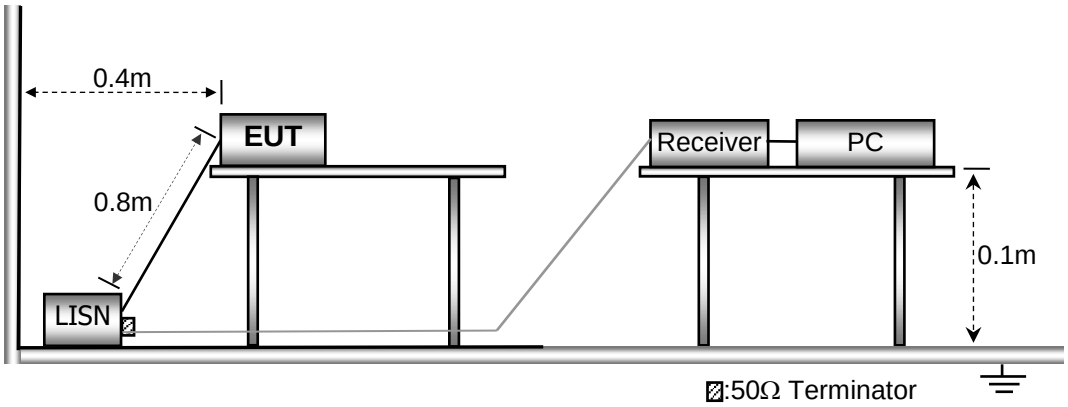
5.1 E.U.T. Operation

Operating Environment :

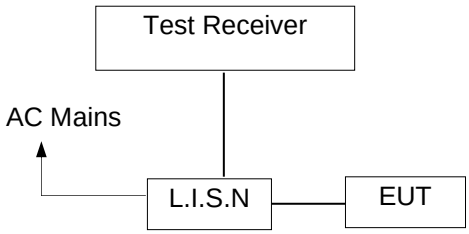
Temperature	:	23.9 °C
Humidity	:	51.4 % RH
Atmospheric Pressure	:	101.21kPa

5.2 EUT Setup

The conducted emission tests were performed using the setup accordance with the ANSI C63.10:2013.



5.3 Test SET-UP (Block Diagram of Configuration)



5.4 Measurement Procedure

1. The EUT was placed on a table, which is 0.1m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured was complete.

5.5 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.

5.6 Measurement Description

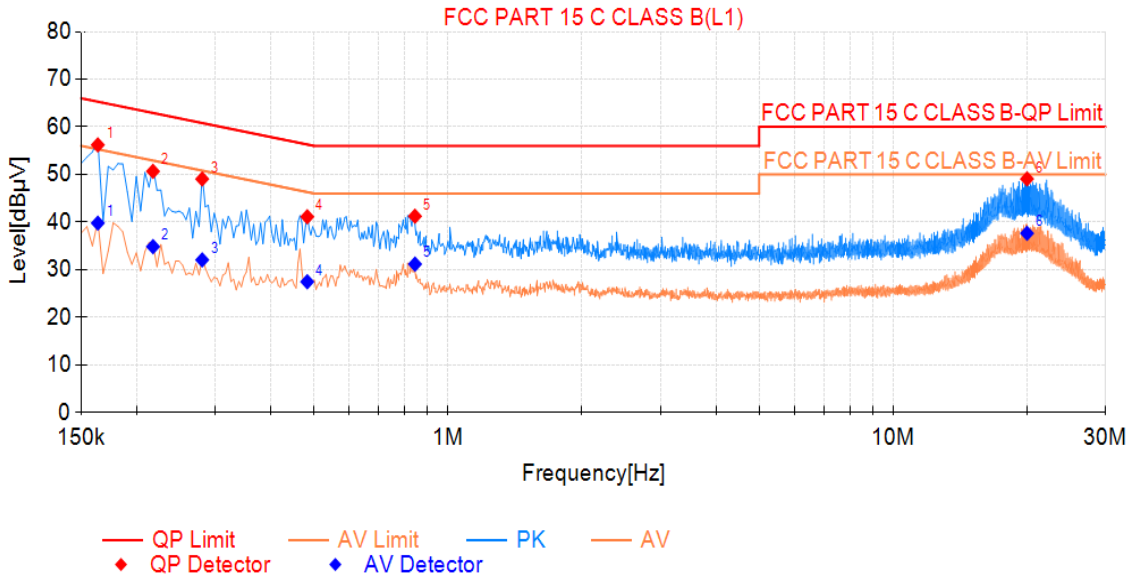
The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line.

5.7 Conducted Emission Test Result

Pass.

All the modulation modes were tested the data of the worst mode (AC 120V/60Hz, TX 5180MHz) are recorded in the following pages and the others modulation methods do not exceed the limits.

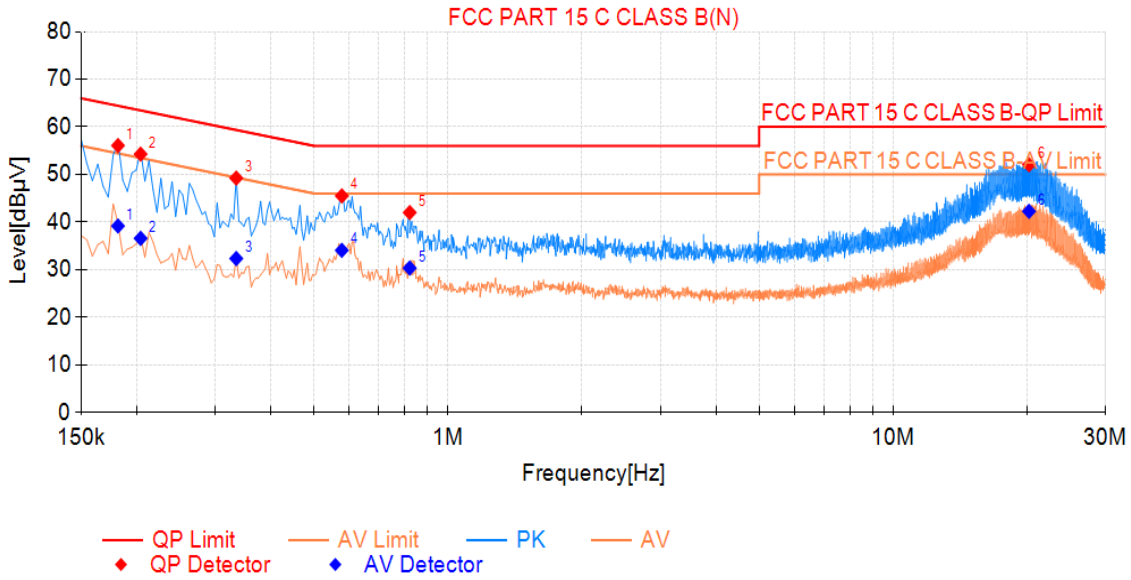
Line-AC 120V/60Hz



Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	Verdict
1	0.164	19.20	56.20	65.28	9.08	39.77	55.28	15.51	PASS
2	0.218	19.14	50.65	62.91	12.26	34.83	52.91	18.08	PASS
3	0.281	19.21	49.04	60.80	11.76	32.04	50.80	18.76	PASS
4	0.483	19.22	41.10	56.29	15.19	27.44	46.29	18.85	PASS
5	0.843	19.27	41.22	56.00	14.78	31.15	46.00	14.85	PASS
6	19.982	20.30	49.06	60.00	10.94	37.63	50.00	12.37	PASS

Neutral-AC 120V/60Hz



Final Data List									
NO.	Freq. [MHz]	Factor [dB]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	Verdict
1	0.182	19.08	56.08	64.42	8.34	39.16	54.42	15.26	PASS
2	0.204	19.08	54.27	63.45	9.18	36.57	53.45	16.88	PASS
3	0.335	19.19	49.23	59.34	10.11	32.32	49.34	17.02	PASS
4	0.578	19.19	45.49	56.00	10.51	34.05	46.00	11.95	PASS
5	0.821	19.25	41.98	56.00	14.02	30.32	46.00	15.68	PASS
6	20.189	20.28	52.03	60.00	7.97	42.25	50.00	7.75	PASS

Note:QP Margin[dB]= QP Limit[dBµV]- QP Value[dBµV], AV Margin[dB]= AV Limit[dBµV]- AV Value[dBµV].

6 Radiated Spurious Emissions

Test Requirement	:	FCC CFR47 Part 15 Section 15.209 & 15.407(b)
Test Method	:	ANSI C63.10:2013
Test Result	:	PASS
Measurement Distance	:	3m

Limit

(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:

(i) 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.

(ii) Devices certified before March 2, 2017 with antenna gain greater than 10 dBi may demonstrate compliance with the emission limits in §15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease by March 2, 2018. Devices certified before March 2, 2018 with antenna gain of 10 dBi or less may demonstrate compliance with the emission limits in §15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease before March 2, 2020.

(5) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.

(6) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209.

Further.

(7) The provisions of §15.205 apply to intentional radiators operating under this section.

(8) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits.As per FCC §15.35(d): Unless otherwise specified, on any frequency or frequencies above 1000 MHz, the radiated emission limits are based on the use of measurement instrumentation employing an average detector function. Unless otherwise specified, measurements above 1000 MHz shall be performed using a minimum resolution bandwidth of 1MHz

As per FCC §15.209(a): Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following 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	$20\log^{(500)}$

6.1 EUT Operation

Operating Environment :

Temperature: : 24.5 °C

Humidity: : 52 % RH

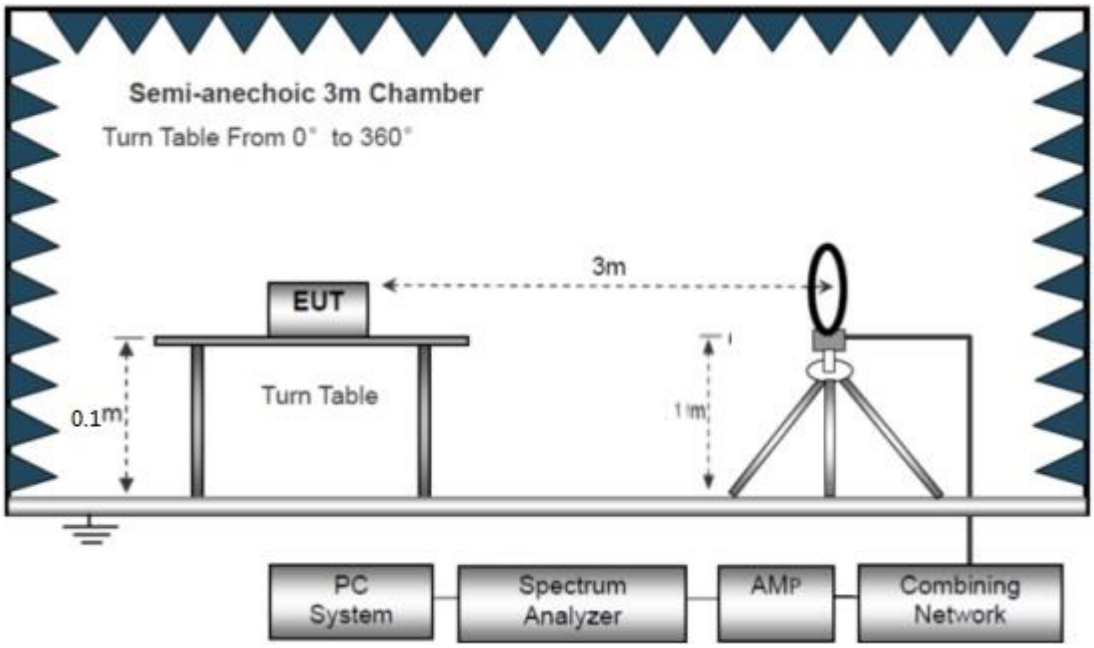
Atmospheric Pressure: : 101.3kPa

Test Voltage : AC 120V 60Hz

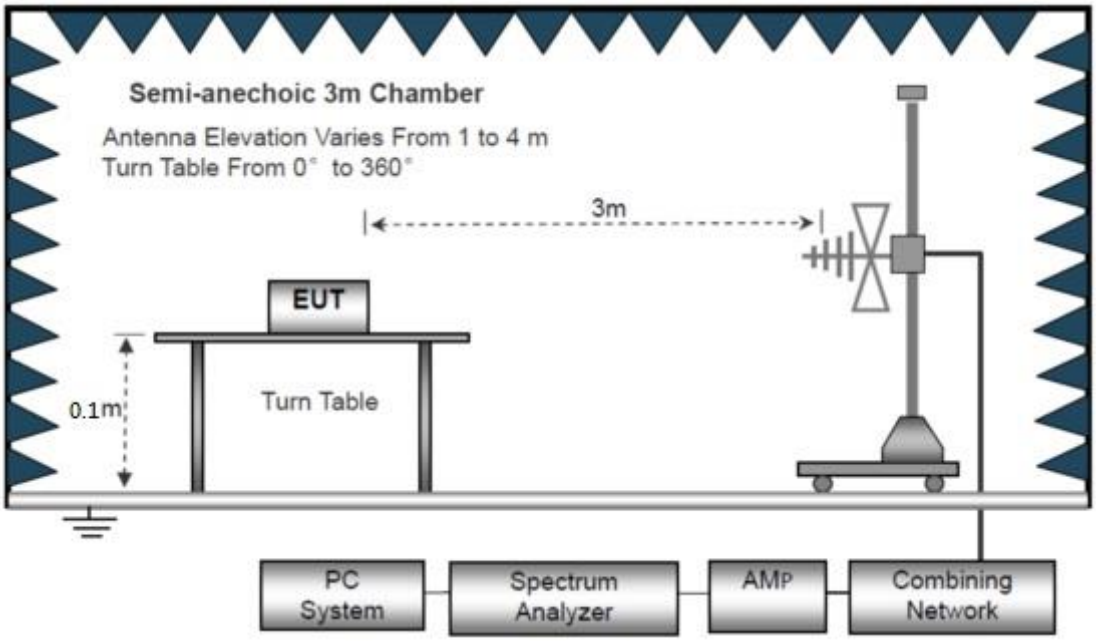
6.2 Test Setup

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

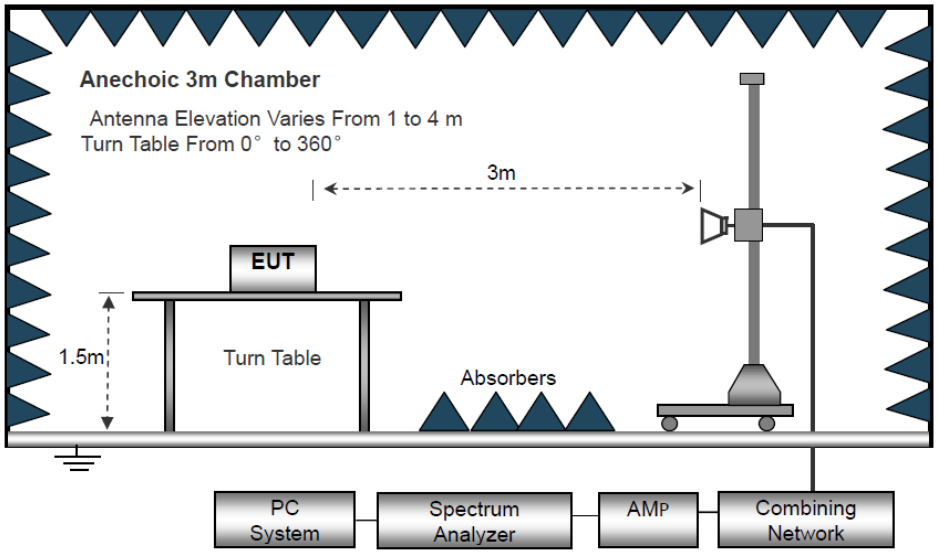
The test setup for emission measurement below 30MHz



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



The test setup for emission measurement above 1 GHz



6.3 Spectrum Analyzer Setup

	Frequency	Detector	RBW	VBW	Remark
Receiver Setup	Below 30MHz	--	10kHz	10kHz	--
	30MHz ~ 1GHz	Quasi-peak	120kHz	300kHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		RMS	1MHz	3MHz	Average Value

6.4 Test Procedure

1. Below 1000MHz, The EUT was placed on a turn table which is 0.8m above ground plane, And above 1000MHz, The EUT was placed on a styrofoam table which is 1.5m above ground plane.

2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.

3. EUT is set 3m away from the receiving antenna, which is moved from 1m to 4m to find out the maximum emissions. The spectrum was investigated from the lowest radio frequency signal generated in the device, without going below 9 kHz, up to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.

5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.

6. Repeat above procedures until the measurements for all frequencies are complete.

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.

8. The test above 1GHz must be use the fully anechoic room, and the test below 1GHz use the half anechoic room

6.5 Summary of Test Results

Test Frequency: 9KHz-30MHz

Freq. (MHz)	Ant.Pol. H/V	Emission Level (dBuV/m)	Limit 3m (dBuV/m)	Over (dB)
--	--	--	--	>20

Note:

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

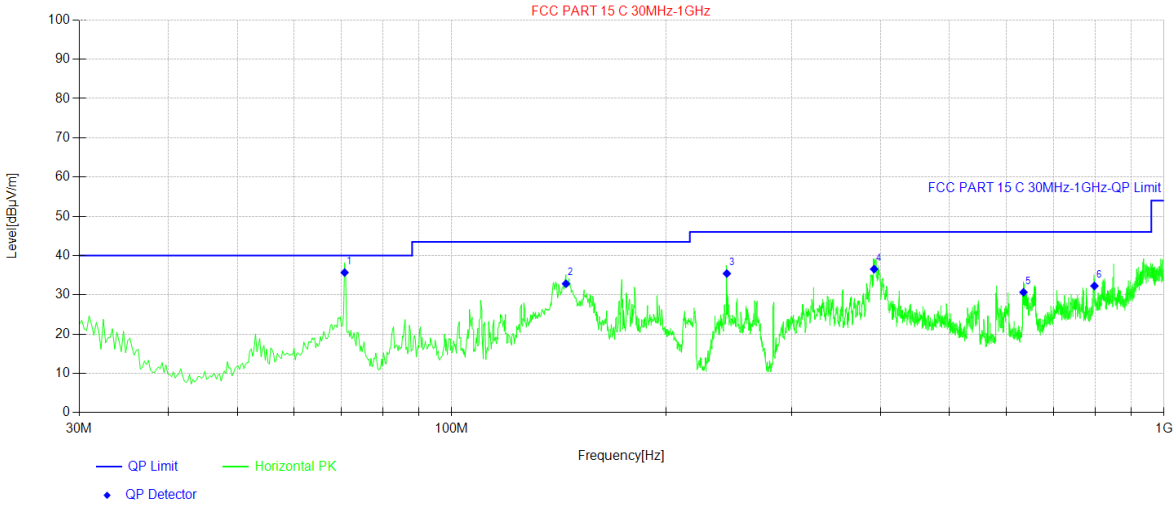
Distance extrapolation factor =40log(Specific distance/ test distance)(dB);
Limit line=Specific limits(dBuV) + distance extrapolation factor.

Test Frequency: 30MHz ~ 1GHz

All the modulation modes were tested the data of the worst mode (TX 802.11a Channel 36，CH149) are recorded in the following pages and the others modulation methods do not exceed the limits.

Please refer to the following test plots:

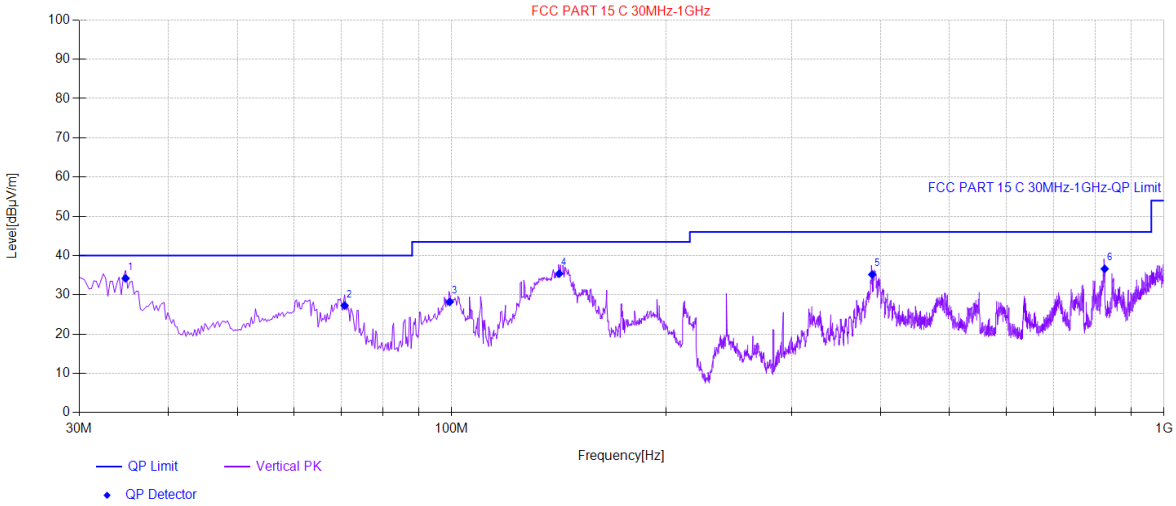
Antenna Polarization: Horizontal(CH36)



Final Data List[QP]								
NO.	Freq. [MHz]	QP Reading [dBμV/m]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Polarity	Verdict
1	70.74	55.13	-19.44	35.69	40.00	4.31	Horizontal	PASS
2	144.70	49.1	-16.27	32.83	43.50	10.67	Horizontal	PASS
3	243.40	52.62	-17.19	35.43	46.00	10.57	Horizontal	PASS
4	391.81	49.79	-13.23	36.56	46.00	9.44	Horizontal	PASS
5	635.04	37.72	-7.06	30.66	46.00	15.34	Horizontal	PASS
6	798.73	36.11	-3.83	32.28	46.00	13.72	Horizontal	PASS

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

Antenna Polarization: Vertical (CH36)



Final Data List[QP]								
NO.	Freq. [MHz]	QP Reading [dBµV/m]	Factor [dB]	QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]	Polarity	Verdict
1	34.85	52.28	-18.09	34.19	40.00	5.81	Vertical	PASS
2	70.74	46.72	-19.44	27.28	40.00	12.72	Vertical	PASS
3	99.36	48.31	-20.11	28.20	43.50	15.30	Vertical	PASS
4	141.55	51.81	-16.42	35.39	43.50	8.11	Vertical	PASS
5	389.39	48.53	-13.35	35.18	46.00	10.82	Vertical	PASS
6	825.64	39.83	-3.21	36.62	46.00	9.38	Vertical	PASS

Remark:Emission Level=Reading+Cable Loss+ANT Factor-AMP Factor
Note: only the worst case recorded in the report.

Test Frequency: From 1GHz to 40GHz

Pre-scan all test modes

Only the worst case Main test data.

802.11a

Test Mode: 5180					Test channel: Lowest			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10360	47.34	35.22	5.36	31.25	56.67	68.2	-11.53	V
15540	42.18	35.96	7.85	30.63	55.36	68.2	-12.84	V
20720	42.98	39.12	8.56	34.95	55.71	68.2	-12.49	V
10360	48.61	34.12	5.36	31.25	56.84	68.2	-11.36	H
15540	42.30	36.52	7.85	30.63	56.04	68.2	-12.16	H
20720	43.04	40.01	8.56	34.95	56.66	68.2	-11.54	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10360	32.88	35.22	5.36	31.25	42.21	54	-11.79	V
15540	30.49	35.96	7.85	30.63	43.67	54	-10.33	V
20720	28.34	39.12	8.56	34.95	41.07	54	-12.93	V
10360	32.58	34.12	5.36	31.25	40.81	54	-13.19	H
15540	24.78	36.52	7.85	30.63	38.52	54	-15.48	H
20720	27.55	40.01	8.56	34.95	41.17	54	-12.83	H

802.11a

Test Mode:5200					Test channel: Middle			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10400	47.63	35.63	5.36	31.25	57.37	68.2	-10.83	V
15600	43.15	35.91	7.85	30.63	56.28	68.2	-11.92	V
20800	44.48	39.67	8.56	34.95	57.76	68.2	-10.44	V
10400	46.83	34.25	5.36	31.25	55.19	68.2	-13.01	H
15600	42.05	37.02	7.85	30.63	56.29	68.2	-11.91	H
20800	43.31	38.88	8.56	34.95	55.80	68.2	-12.40	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10400	33.42	35.63	5.36	31.25	43.16	54	-10.84	V
15600	28.88	35.91	7.85	30.63	42.01	54	-11.99	V
20800	29.50	39.67	8.56	34.95	42.78	54	-11.22	V
10400	32.90	34.25	5.36	31.25	41.26	54	-12.74	H
15600	28.82	37.02	7.85	30.63	43.06	54	-10.94	H
20800	29.99	38.88	8.56	34.95	42.48	54	-11.52	H

802.11a

Test Mode:5240					Test channel: High			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10480	45.64	34.68	5.36	31.25	54.43	68.2	-13.77	V
17520	43.12	36.52	7.85	30.63	56.86	68.2	-11.34	V
20960	44.21	38.77	8.56	34.95	56.59	68.2	-11.61	V
10480	46.79	33.99	5.36	31.25	54.89	68.2	-13.31	H
17520	45.38	36.84	7.85	30.63	59.44	68.2	-8.76	H
20960	46.25	39.93	8.56	34.95	59.79	68.2	-8.41	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10480	33.22	34.68	5.36	31.25	42.01	54	-11.99	V
17520	28.70	36.52	7.85	30.63	42.44	54	-11.56	V
20960	29.89	38.77	8.56	34.95	42.27	54	-11.73	V
10480	32.38	33.99	5.36	31.25	40.48	54	-13.52	H
17520	27.14	36.84	7.85	30.63	41.20	54	-12.80	H
20960	29.41	39.93	8.56	34.95	42.95	54	-11.05	H

802.11a

Test Mode: 5745					Test channel: Lowest			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11490	47.52	35.26	5.42	31.75	56.45	68.23	-11.78	V
17235	42.09	36.88	7.32	30.96	55.33	68.23	-12.90	V
22980	43.75	39.14	8.85	35.25	56.49	68.23	-11.74	V
11490	49.34	34.21	5.42	31.75	57.22	68.23	-11.01	H
17235	44.38	37.52	7.32	30.96	58.26	68.23	-9.97	H
22980	44.56	39.88	8.85	35.25	58.04	68.23	-10.19	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11490	32.50	35.26	5.42	31.75	41.43	54	-12.57	V
17235	30.22	36.88	7.32	30.96	43.46	54	-10.54	V
22980	29.59	39.14	8.85	35.25	42.33	54	-11.67	V
11490	31.46	34.21	5.42	31.75	39.34	54	-14.66	H
17235	29.04	37.52	7.32	30.96	42.92	54	-11.08	H
22980	29.11	39.88	8.85	35.25	42.59	54	-11.41	H

802.11a

Test Mode:5785					Test channel: Middle			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11570	48.82	35.26	5.42	31.75	57.75	68.23	-10.48	V
17355	44.36	36.88	7.32	30.96	57.60	68.23	-10.63	V
23140	45.05	39.14	8.85	35.25	57.79	68.23	-10.44	V
11570	48.55	34.21	5.42	31.75	56.43	68.23	-11.80	H
17355	42.11	37.52	7.32	30.96	55.99	68.23	-12.24	H
23140	43.29	39.88	8.85	35.25	56.77	68.23	-11.46	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11570	33.43	35.26	5.42	31.75	42.36	54	-11.64	V
17355	29.69	36.88	7.32	30.96	42.93	54	-11.07	V
23140	28.55	39.14	8.85	35.25	41.29	54	-12.71	V
11570	34.43	34.21	5.42	31.75	42.31	54	-11.69	H
17355	29.37	37.52	7.32	30.96	43.25	54	-10.75	H
23140	29.62	39.88	8.85	35.25	43.10	54	-10.90	H

802.11a

Test Mode:5825					Test channel: High			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11650	48.86	35.26	5.42	31.75	57.79	68.23	-10.44	V
17475	44.67	36.88	7.32	30.96	57.91	68.23	-10.32	V
23300	45.59	39.14	8.85	35.25	58.33	68.23	-9.90	V
11650	49.55	34.21	5.42	31.75	57.43	68.23	-10.80	H
17475	44.15	37.52	7.32	30.96	58.03	68.23	-10.20	H
23300	44.87	39.88	8.85	35.25	58.35	68.23	-9.88	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11650	34.69	34.96	5.42	31.75	43.32	54	-10.68	V
17475	28.79	36.74	7.32	30.96	41.89	54	-12.11	V
23300	30.08	39.14	8.85	35.25	42.82	54	-11.18	V
11650	33.42	34.02	5.42	31.75	41.11	54	-12.89	H
17475	28.75	36.57	7.32	30.96	41.68	54	-12.32	H
23300	28.33	39.88	8.85	35.25	41.81	54	-12.19	H

802.11n20

Test Mode: 5180					Test channel: Lowest			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10360	45.78	34.56	5.36	31.25	54.45	68.2	-13.75	V
15540	43.14	36.22	7.85	30.63	56.58	68.2	-11.62	V
20720	44.00	38.97	8.56	34.95	56.58	68.2	-11.62	V
10360	49.05	33.57	5.36	31.25	56.73	68.2	-11.47	H
15540	40.23	36.49	7.85	30.63	53.94	68.2	-14.26	H
20720	41.82	39.92	8.56	34.95	55.35	68.2	-12.85	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10360	32.42	34.56	5.36	31.25	41.09	54	-12.91	V
15540	29.61	36.22	7.85	30.63	43.05	54	-10.95	V
20720	27.96	38.97	8.56	34.95	40.54	54	-13.46	V
10360	31.90	33.57	5.36	31.25	39.58	54	-14.42	H
15540	27.37	36.49	7.85	30.63	41.08	54	-12.92	H
20720	27.99	39.92	8.56	34.95	41.52	54	-12.48	H

802.11n20

Test Mode:5200					Test channel: Middle			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10400	48.40	34.63	5.36	31.25	57.14	68.2	-11.06	V
15600	44.35	36.42	7.85	30.63	57.99	68.2	-10.21	V
20800	45.10	38.81	8.56	34.95	57.52	68.2	-10.68	V
10400	47.73	33.93	5.36	31.25	55.77	68.2	-12.43	H
15600	43.56	36.55	7.85	30.63	57.33	68.2	-10.87	H
20800	44.29	39.94	8.56	34.95	57.84	68.2	-10.36	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10400	32.40	34.63	5.36	31.25	41.14	54	-12.86	V
15600	28.42	36.42	7.85	30.63	42.06	54	-11.94	V
20800	29.22	38.81	8.56	34.95	41.64	54	-12.36	V
10400	33.23	33.93	5.36	31.25	41.27	54	-12.73	H
15600	28.38	36.55	7.85	30.63	42.15	54	-11.85	H
20800	29.54	39.94	8.56	34.95	43.09	54	-10.91	H

802.11n20

Test Mode:5240					Test channel: High			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10480	45.69	34.68	5.36	31.25	54.48	68.2	-13.72	V
17520	44.32	36.52	7.85	30.63	58.06	68.2	-10.14	V
20960	42.87	38.77	8.56	34.95	55.25	68.2	-12.95	V
10480	46.58	33.99	5.36	31.25	54.68	68.2	-13.52	H
17520	45.99	36.84	7.85	30.63	60.05	68.2	-8.15	H
20960	43.91	39.93	8.56	34.95	57.45	68.2	-10.75	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10480	31.37	34.68	5.36	31.25	40.16	54	-13.84	V
17520	27.78	36.52	7.85	30.63	41.52	54	-12.48	V
20960	28.51	38.77	8.56	34.95	40.89	54	-13.11	V
10480	30.41	33.99	5.36	31.25	38.51	54	-15.49	H
17520	27.68	36.84	7.85	30.63	41.74	54	-12.26	H
20960	29.44	39.93	8.56	34.95	42.98	54	-11.02	H

802.11n20

Test Mode: 5745					Test channel: Lowest			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11490	49.24	35.26	5.42	31.75	58.17	68.23	-10.06	V
17235	42.32	36.88	7.32	30.96	55.56	68.23	-12.67	V
22980	43.07	39.14	8.85	35.25	55.81	68.23	-12.42	V
11490	49.35	34.21	5.42	31.75	57.23	68.23	-11.00	H
17235	44.26	37.52	7.32	30.96	58.14	68.23	-10.09	H
22980	45.17	39.88	8.85	35.25	58.65	68.23	-9.58	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11490	33.44	35.26	5.42	31.75	42.37	54	-11.63	V
17235	29.73	36.88	7.32	30.96	42.97	54	-11.03	V
22980	29.65	39.14	8.85	35.25	42.39	54	-11.61	V
11490	33.15	34.21	5.42	31.75	41.03	54	-12.97	H
17235	28.57	37.52	7.32	30.96	42.45	54	-11.55	H
22980	29.40	39.88	8.85	35.25	42.88	54	-11.12	H

802.11n20

Test Mode:5785					Test channel: Middle			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11570	45.87	35.26	5.42	31.75	54.80	68.23	-13.43	V
17355	44.37	36.88	7.32	30.96	57.61	68.23	-10.62	V
23140	45.33	39.14	8.85	35.25	58.07	68.23	-10.16	V
11570	48.28	34.21	5.42	31.75	56.16	68.23	-12.07	H
17355	42.95	37.52	7.32	30.96	56.83	68.23	-11.40	H
23140	41.75	39.88	8.85	35.25	55.23	68.23	-13.00	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11570	33.79	35.26	5.42	31.75	42.72	54	-11.28	V
17355	30.11	36.88	7.32	30.96	43.35	54	-10.65	V
23140	29.61	39.14	8.85	35.25	42.35	54	-11.65	V
11570	33.69	34.21	5.42	31.75	41.57	54	-12.43	H
17355	30.10	37.52	7.32	30.96	43.98	54	-10.02	H
23140	29.63	39.88	8.85	35.25	43.11	54	-10.89	H

802.11n20

Test Mode:5825					Test channel: High			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11650	47.74	35.26	5.42	31.75	56.67	68.23	-11.56	V
17475	44.71	36.88	7.32	30.96	57.95	68.23	-10.28	V
23300	45.33	39.14	8.85	35.25	58.07	68.23	-10.16	V
11650	49.05	34.21	5.42	31.75	56.93	68.23	-11.30	H
17475	44.36	37.52	7.32	30.96	58.24	68.23	-9.99	H
23300	45.62	39.88	8.85	35.25	59.10	68.23	-9.13	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11650	35.65	35.26	5.42	31.75	44.58	54	-9.42	V
17475	29.15	36.88	7.32	30.96	42.39	54	-11.61	V
23300	28.12	39.14	8.85	35.25	40.86	54	-13.14	V
11650	32.96	34.21	5.42	31.75	40.84	54	-13.16	H
17475	28.84	37.52	7.32	30.96	42.72	54	-11.28	H
23300	28.88	39.88	8.85	35.25	42.36	54	-11.64	H

802.11ac20

Test Mode: 5180					Test channel: Lowest			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10360	47.48	35.22	5.36	31.25	56.81	68.2	-11.39	V
15540	42.02	35.96	7.85	30.63	55.20	68.2	-13.00	V
20720	43.31	39.12	8.56	34.95	56.04	68.2	-12.16	V
10360	48.30	34.12	5.36	31.25	56.53	68.2	-11.67	H
15540	42.27	36.52	7.85	30.63	56.01	68.2	-12.19	H
20720	42.86	40.01	8.56	34.95	56.48	68.2	-11.72	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10360	33.22	35.22	5.36	31.25	42.55	54	-11.45	V
15540	30.17	35.96	7.85	30.63	43.35	54	-10.65	V
20720	28.20	39.12	8.56	34.95	40.93	54	-13.07	V
10360	32.40	34.12	5.36	31.25	40.63	54	-13.37	H
15540	24.69	36.52	7.85	30.63	38.43	54	-15.57	H
20720	27.08	40.01	8.56	34.95	40.70	54	-13.30	H

802.11ac20

Test Mode:5200					Test channel: Middle			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10400	48.09	35.63	5.36	31.25	57.83	68.2	-10.37	V
15600	43.41	35.91	7.85	30.63	56.54	68.2	-11.66	V
20800	44.38	39.67	8.56	34.95	57.66	68.2	-10.54	V
10400	46.96	34.25	5.36	31.25	55.32	68.2	-12.88	H
15600	42.18	37.02	7.85	30.63	56.42	68.2	-11.78	H
20800	43.42	38.88	8.56	34.95	55.91	68.2	-12.29	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10400	33.58	35.63	5.36	31.25	43.32	54	-10.68	V
15600	28.98	35.91	7.85	30.63	42.11	54	-11.89	V
20800	29.46	39.67	8.56	34.95	42.74	54	-11.26	V
10400	32.92	34.25	5.36	31.25	41.28	54	-12.72	H
15600	29.06	37.02	7.85	30.63	43.30	54	-10.70	H
20800	30.09	38.88	8.56	34.95	42.58	54	-11.42	H

802.11ac20

Test Mode:5240					Test channel: High			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10480	45.44	34.68	5.36	31.25	54.23	68.2	-13.97	V
17520	43.06	36.52	7.85	30.63	56.80	68.2	-11.40	V
20960	44.22	38.77	8.56	34.95	56.60	68.2	-11.60	V
10480	46.88	33.99	5.36	31.25	54.98	68.2	-13.22	H
17520	45.37	36.84	7.85	30.63	59.43	68.2	-8.77	H
20960	46.19	39.93	8.56	34.95	59.73	68.2	-8.47	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10480	33.21	34.68	5.36	31.25	42.00	54	-12.00	V
17520	29.12	36.52	7.85	30.63	42.86	54	-11.14	V
20960	30.10	38.77	8.56	34.95	42.48	54	-11.52	V
10480	32.19	33.99	5.36	31.25	40.29	54	-13.71	H
17520	27.14	36.84	7.85	30.63	41.20	54	-12.80	H
20960	29.52	39.93	8.56	34.95	43.06	54	-10.94	H

802.11ac20

Test Mode: 5745					Test channel: Lowest			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11490	47.41	35.26	5.42	31.75	56.34	68.23	-11.89	V
17235	42.36	36.88	7.32	30.96	55.60	68.23	-12.63	V
22980	43.75	39.14	8.85	35.25	56.49	68.23	-11.74	V
11490	49.71	34.21	5.42	31.75	57.59	68.23	-10.64	H
17235	44.12	37.52	7.32	30.96	58.00	68.23	-10.23	H
22980	44.26	39.88	8.85	35.25	57.74	68.23	-10.49	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11490	32.15	35.26	5.42	31.75	41.08	54	-12.92	V
17235	30.14	36.88	7.32	30.96	43.38	54	-10.62	V
22980	29.43	39.14	8.85	35.25	42.17	54	-11.83	V
11490	31.73	34.21	5.42	31.75	39.61	54	-14.39	H
17235	28.67	37.52	7.32	30.96	42.55	54	-11.45	H
22980	29.32	39.88	8.85	35.25	42.80	54	-11.20	H

802.11ac20

Test Mode:5785					Test channel: Middle			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11570	48.66	35.26	5.42	31.75	57.59	68.23	-10.64	V
17355	44.31	36.88	7.32	30.96	57.55	68.23	-10.68	V
23140	45.10	39.14	8.85	35.25	57.84	68.23	-10.39	V
11570	48.41	34.21	5.42	31.75	56.29	68.23	-11.94	H
17355	42.45	37.52	7.32	30.96	56.33	68.23	-11.90	H
23140	43.14	39.88	8.85	35.25	56.62	68.23	-11.61	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11570	32.97	35.26	5.42	31.75	41.90	54	-12.10	V
17355	29.47	36.88	7.32	30.96	42.71	54	-11.29	V
23140	28.80	39.14	8.85	35.25	41.54	54	-12.46	V
11570	34.62	34.21	5.42	31.75	42.50	54	-11.50	H
17355	29.29	37.52	7.32	30.96	43.17	54	-10.83	H
23140	29.58	39.88	8.85	35.25	43.06	54	-10.94	H

802.11ac20

Test Mode:5825					Test channel: High			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11650	48.39	35.26	5.42	31.75	57.32	68.23	-10.91	V
17475	44.48	36.88	7.32	30.96	57.72	68.23	-10.51	V
23300	45.80	39.14	8.85	35.25	58.54	68.23	-9.69	V
11650	49.29	34.21	5.42	31.75	57.17	68.23	-11.06	H
17475	44.47	37.52	7.32	30.96	58.35	68.23	-9.88	H
23300	45.20	39.88	8.85	35.25	58.68	68.23	-9.55	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11650	34.61	35.26	5.42	31.75	43.54	54	-10.46	V
17475	28.33	36.88	7.32	30.96	41.57	54	-12.43	V
23300	29.92	39.14	8.85	35.25	42.66	54	-11.34	V
11650	33.41	34.21	5.42	31.75	41.29	54	-12.71	H
17475	28.28	37.52	7.32	30.96	42.16	54	-11.84	H
23300	28.71	39.88	8.85	35.25	42.19	54	-11.81	H

802.11n40

Test Mode:5190					Test channel: High			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10380	47.56	35.26	5.42	31.75	56.49	68.2	-11.71	V
15570	44.56	36.88	7.32	30.96	57.80	68.2	-10.40	V
20760	45.06	39.14	8.85	35.25	57.80	68.2	-10.40	V
10380	49.32	34.21	5.42	31.75	57.20	68.2	-11.00	H
15570	44.66	37.52	7.32	30.96	58.54	68.2	-9.66	H
20760	45.36	39.88	8.85	35.25	58.84	68.2	-9.36	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10380	35.52	35.26	5.42	31.75	44.45	54	-9.55	V
15570	28.80	36.88	7.32	30.96	42.04	54	-11.96	V
20760	27.61	39.14	8.85	35.25	40.35	54	-13.65	V
10380	32.84	34.21	5.42	31.75	40.72	54	-13.28	H
15570	28.52	37.52	7.32	30.96	42.40	54	-11.60	H
20760	28.99	39.88	8.85	35.25	42.47	54	-11.53	H

802.11n40

Test Mode:5230					Test channel: High			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10460	47.52	35.26	5.42	31.75	56.45	68.2	-11.75	V
15690	44.79	36.88	7.32	30.96	58.03	68.2	-10.17	V
20920	45.13	39.14	8.85	35.25	57.87	68.2	-10.33	V
10460	48.96	34.21	5.42	31.75	56.84	68.2	-11.36	H
15690	44.62	37.52	7.32	30.96	58.50	68.2	-9.70	H
20920	45.40	39.88	8.85	35.25	58.88	68.2	-9.32	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10460	35.50	35.26	5.42	31.75	44.43	54	-9.57	V
15690	28.98	36.88	7.32	30.96	42.22	54	-11.78	V
20920	28.01	39.14	8.85	35.25	40.75	54	-13.25	V
10460	32.95	34.21	5.42	31.75	40.83	54	-13.17	H
15690	28.48	37.52	7.32	30.96	42.36	54	-11.64	H
20920	28.88	39.88	8.85	35.25	42.36	54	-11.64	H

802.11ac40

Test Mode:5190					Test channel:LOW			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10380	47.36	35.26	5.42	31.75	56.29	68.2	-11.91	V
15570	44.78	36.88	7.32	30.96	58.02	68.2	-10.18	V
20760	45.19	39.14	8.85	35.25	57.93	68.2	-10.27	V
10380	48.99	34.21	5.42	31.75	56.87	68.2	-11.33	H
15570	44.80	37.52	7.32	30.96	58.68	68.2	-9.52	H
20760	45.30	39.88	8.85	35.25	58.78	68.2	-9.42	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10380	35.70	35.26	5.42	31.75	44.63	54	-9.37	V
15570	28.85	36.88	7.32	30.96	42.09	54	-11.91	V
20760	27.67	39.14	8.85	35.25	40.41	54	-13.59	V
10380	33.06	34.21	5.42	31.75	40.94	54	-13.06	H
15570	28.77	37.52	7.32	30.96	42.65	54	-11.35	H
20760	28.93	39.88	8.85	35.25	42.41	54	-11.59	H

802.11ac40

Test Mode:5230					Test channel: High			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10460	47.48	35.26	5.42	31.75	56.41	68.2	-11.79	V
15690	44.31	36.88	7.32	30.96	57.55	68.2	-10.65	V
20920	44.98	39.14	8.85	35.25	57.72	68.2	-10.48	V
10460	49.01	34.21	5.42	31.75	56.89	68.2	-11.31	H
15690	44.44	37.52	7.32	30.96	58.32	68.2	-9.88	H
20920	45.62	39.88	8.85	35.25	59.10	68.2	-9.10	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10460	35.69	35.26	5.42	31.75	44.62	54	-9.38	V
15690	29.01	36.88	7.32	30.96	42.25	54	-11.75	V
20920	27.85	39.14	8.85	35.25	40.59	54	-13.41	V
10460	33.39	34.21	5.42	31.75	41.27	54	-12.73	H
15690	28.67	37.52	7.32	30.96	42.55	54	-11.45	H
20920	28.93	39.88	8.85	35.25	42.41	54	-11.59	H

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Test Mode:5210					Test channel: Middle channel			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10420	41.47	41.10	5.38	31.75	56.20	74	-17.8	V
10420	41.78	41.10	5.39	31.75	56.52	74	-17.48	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
10420	30.07	41.10	5.38	31.75	44.80	54	-9.2	V
10420	25.92	41.10	5.39	31.75	40.66	54	-13.34	H
Remark: The emission levels of other frequencies are very lower than the limit and not show in test report.								

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Test Mode:5775					Test channel: middle channel			
Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11,550	43.66	40.45	5.39	31.75	57.75	68.23	-10.48	V
11,550	43.87	40.45	5.39	31.75	57.96	68.23	-10.27	H
Average Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.
11,550	28.33	40.45	5.39	31.75	42.42	54	-11.58	V
11,550	28.49	40.45	5.39	31.75	42.58	54	-11.42	H
Remark: The emission levels of other frequencies are very lower than the limit and not show in test report.								

Note:

1. The testing has been conformed to 10*5825MHz=58250MHz.
2. All other emissions more than 30dB below the limit.
3. Factor = Antenna Factor + Cable Loss – Pre-amplifier.
   Emission Level = Reading + Factor
   Margin=Emission Level-Limit
4. X-Axis, Y-Axis and Z-Axis were investigated. The results above show only the worst case.

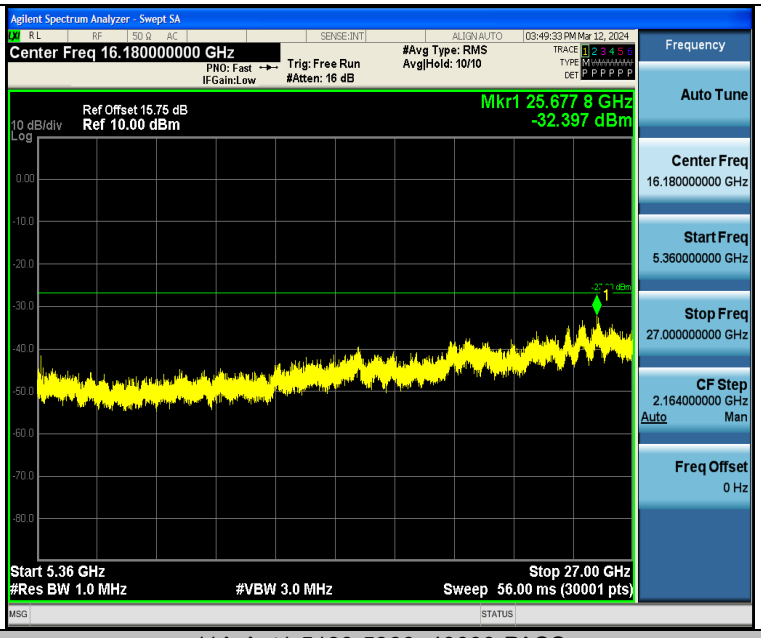
Undesirable emission

TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	Max. Fre [MHz]	Max. Level [dBm]	Limit [dBm]	Verdict
11A	Ant1	5180	30~5140	3181.68	-39.27	≤-27	PASS
11A	Ant1	5180	5360~40000	25677.8	-32.4	≤-27	PASS
11A	Ant1	5200	30~5140	2427.95	-37.95	≤-27	PASS
11A	Ant1	5200	5360~40000	25703.76	-32.88	≤-27	PASS
11A	Ant1	5240	30~5140	2426.93	-38.88	≤-27	PASS
11A	Ant1	5240	5360~40000	25690.78	-32.28	≤-27	PASS
11A	Ant1	5745	30~5650	2425.62	-39.56	≤-27	PASS
11A	Ant1	5745	5925~40000	25765.01	-29.04	≤-27	PASS
11A	Ant1	5785	30~5650	2428.8	-40.29	≤-27	PASS
11A	Ant1	5785	5925~40000	25762.9	-29.19	≤-27	PASS
11A	Ant1	5825	30~5650	3217.29	-40.11	≤-27	PASS
11A	Ant1	5825	5925~40000	25707.4	-29.26	≤-27	PASS
11N20SISO	Ant1	5180	30~5140	3209.61	-39.33	≤-27	PASS
11N20SISO	Ant1	5180	5360~40000	25700.16	-33.1	≤-27	PASS
11N20SISO	Ant1	5200	30~5140	3156.3	-38.94	≤-27	PASS
11N20SISO	Ant1	5200	5360~40000	25673.47	-33.29	≤-27	PASS
11N20SISO	Ant1	5240	30~5140	2533.05	-38.88	≤-27	PASS
11N20SISO	Ant1	5240	5360~40000	25661.93	-33.28	≤-27	PASS
11N20SISO	Ant1	5745	30~5650	3180.2	-40.75	≤-27	PASS
11N20SISO	Ant1	5745	5925~40000	25649.8	-30.44	≤-27	PASS
11N20SISO	Ant1	5785	30~5650	3141.79	-39.22	≤-27	PASS
11N20SISO	Ant1	5785	5925~40000	25663.14	-30.19	≤-27	PASS
11N20SISO	Ant1	5825	30~5650	3069.11	-40.13	≤-27	PASS
11N20SISO	Ant1	5825	5925~40000	25205.11	-29.6	≤-27	PASS
11N40SISO	Ant1	5190	30~5140	3047.28	-38.92	≤-27	PASS
11N40SISO	Ant1	5190	5360~40000	25222.63	-33.01	≤-27	PASS
11N40SISO	Ant1	5230	30~5140	3156.13	-39.48	≤-27	PASS
11N40SISO	Ant1	5230	5360~40000	25687.89	-33.12	≤-27	PASS
11N40SISO	Ant1	5755	30~5650	2949.78	-40.73	≤-27	PASS
11N40SISO	Ant1	5755	5925~40000	25686.33	-30.16	≤-27	PASS
11N40SISO	Ant1	5795	30~5650	3320.7	-40.1	≤-27	PASS
11N40SISO	Ant1	5795	5925~40000	25680	-29.55	≤-27	PASS
11AC20SISO	Ant1	5180	30~5140	3162.77	-39.53	≤-27	PASS
11AC20SISO	Ant1	5180	5360~40000	25697.99	-33.17	≤-27	PASS
11AC20SISO	Ant1	5200	30~5140	3181.34	-39.95	≤-27	PASS
11AC20SISO	Ant1	5200	5360~40000	25688.62	-33.2	≤-27	PASS
11AC20SISO	Ant1	5240	30~5140	3172.31	-38.77	≤-27	PASS
11AC20SISO	Ant1	5240	5360~40000	25672.75	-32.3	≤-27	PASS
11AC20SISO	Ant1	5745	30~5650	3575.47	-40.69	≤-27	PASS

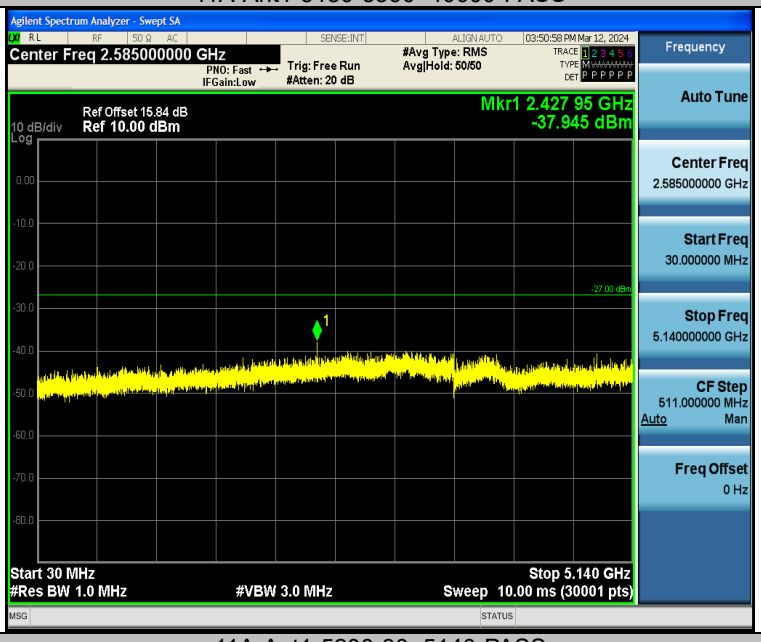
11AC20SISO	Ant1	5745	5925~40000	25050.56	-29.62	≤-27	PASS
11AC20SISO	Ant1	5785	30~5650	3085.78	-40.43	≤-27	PASS
11AC20SISO	Ant1	5785	5925~40000	25645.58	-29.69	≤-27	PASS
11AC20SISO	Ant1	5825	30~5650	3194.25	-39.9	≤-27	PASS
11AC20SISO	Ant1	5825	5925~40000	25661.74	-30.31	≤-27	PASS
11AC40SISO	Ant1	5190	30~5140	3200.58	-39.47	≤-27	PASS
11AC40SISO	Ant1	5190	5360~40000	25687.17	-33.15	≤-27	PASS
11AC40SISO	Ant1	5230	30~5140	3175.89	-39.15	≤-27	PASS
11AC40SISO	Ant1	5230	5360~40000	25682.85	-31.84	≤-27	PASS
11AC40SISO	Ant1	5755	30~5650	2966.26	-40.11	≤-27	PASS
11AC40SISO	Ant1	5755	5925~40000	25689.84	-29.56	≤-27	PASS
11AC40SISO	Ant1	5795	30~5650	3297.28	-39.91	≤-27	PASS
11AC40SISO	Ant1	5795	5925~40000	25767.11	-29.53	≤-27	PASS
11AC80SISO	Ant1	5210	30~5140	2716.5	-38.96	≤-27	PASS
11AC80SISO	Ant1	5210	5360~40000	25745.6	-32.68	≤-27	PASS
11AC80SISO	Ant1	5775	30~5650	3140.48	-40.95	≤-27	PASS
11AC80SISO	Ant1	5775	5925~40000	25774.84	-28.71	≤-27	PASS

Test Graphs:

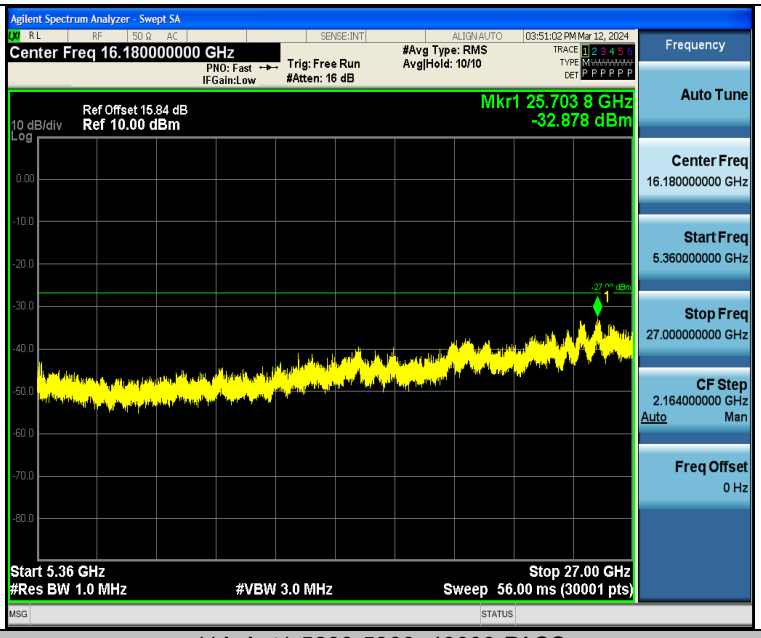
11A-Ant1-5180-30~5140-PASS



11A-Ant1-5180-5360~40000-PASS



11A-Ant1-5200-30~5140-PASS



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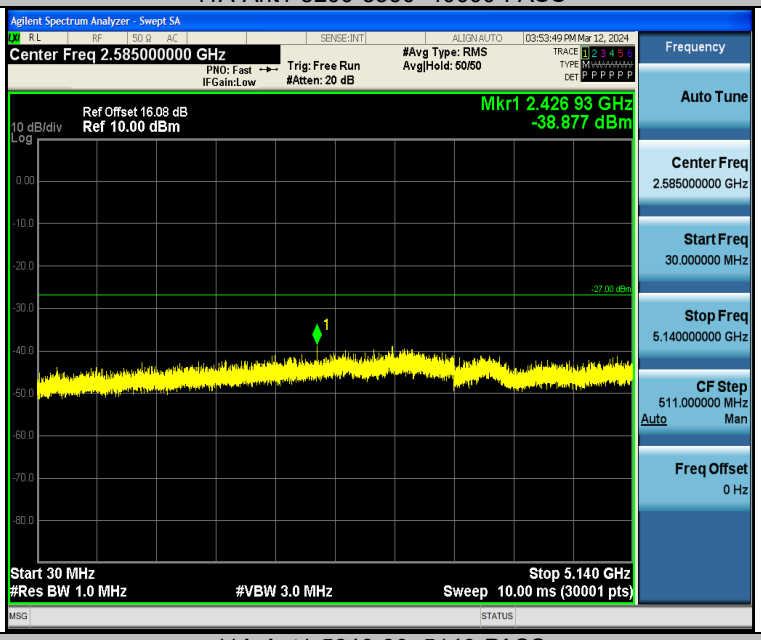
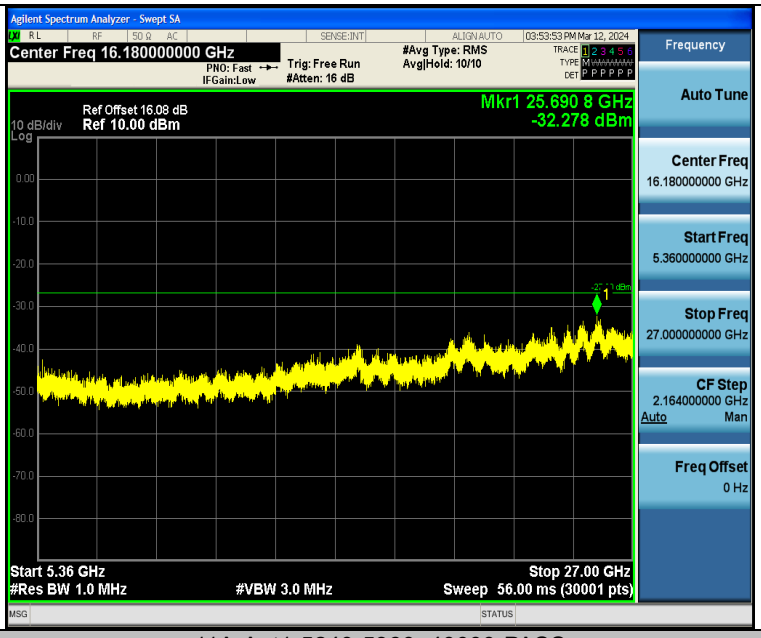
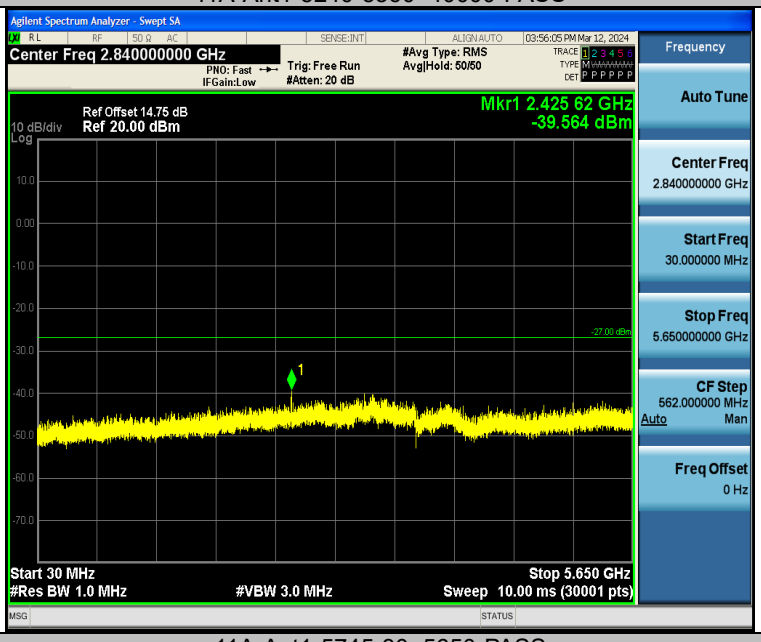


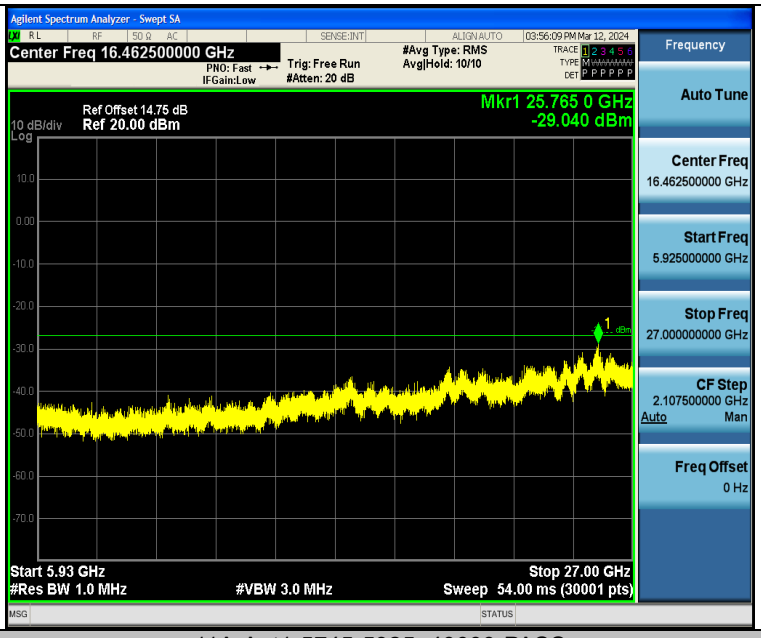
11A-Ant1-5240-30~5140-PASS



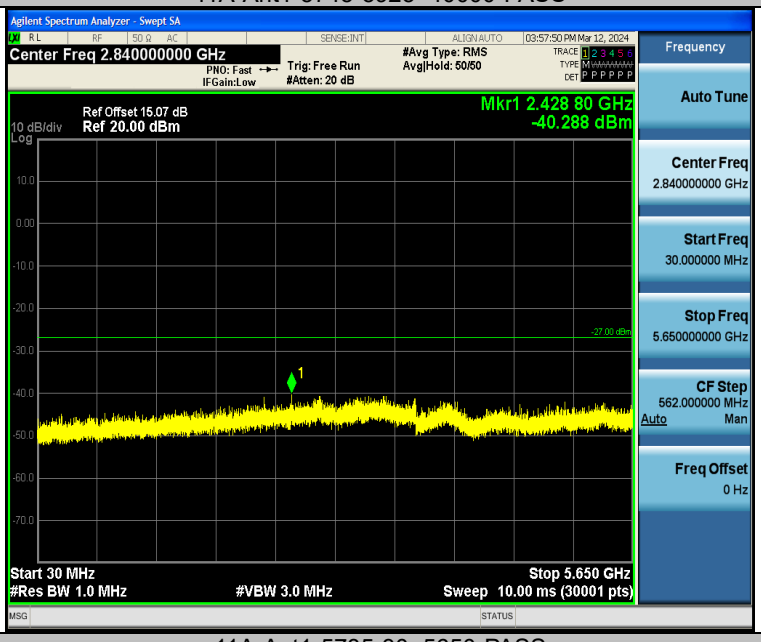
11A-Ant1-5240-5360~40000-PASS



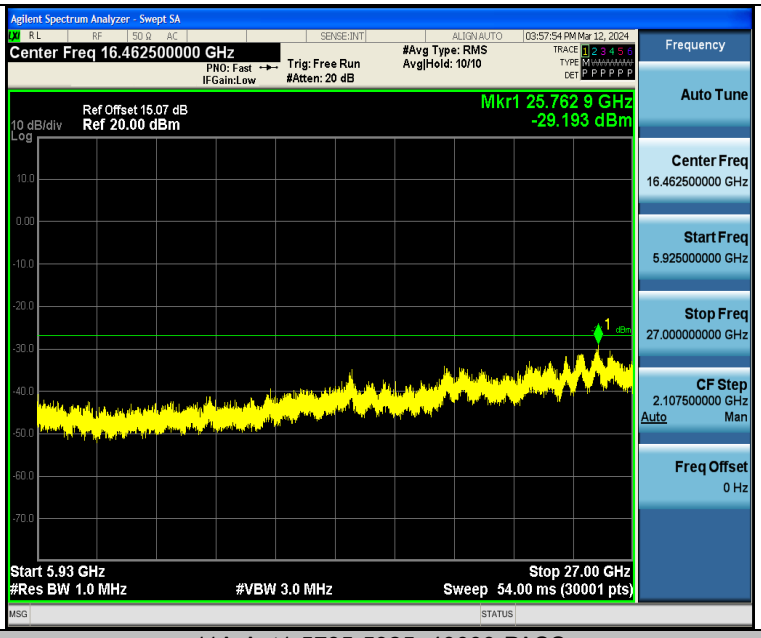
11A-Ant1-5745-30~5650-PASS



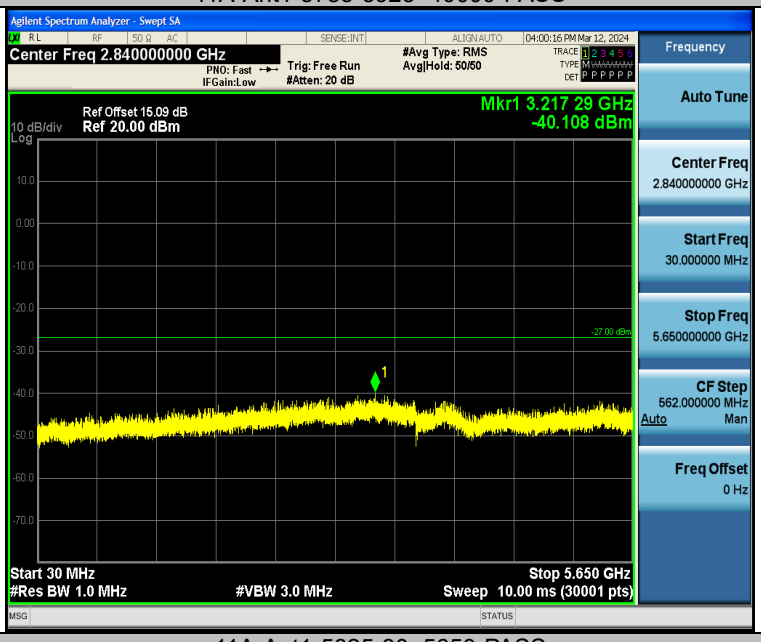
11A-Ant1-5745-5925~40000-PASS



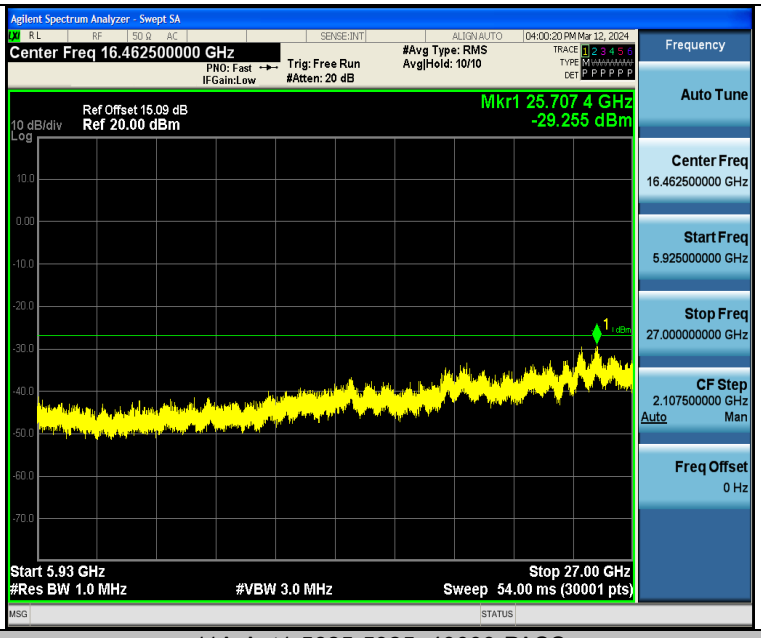
11A-Ant1-5785-30~5650-PASS



11A-Ant1-5785-5925~40000-PASS



11A-Ant1-5825-30~5650-PASS



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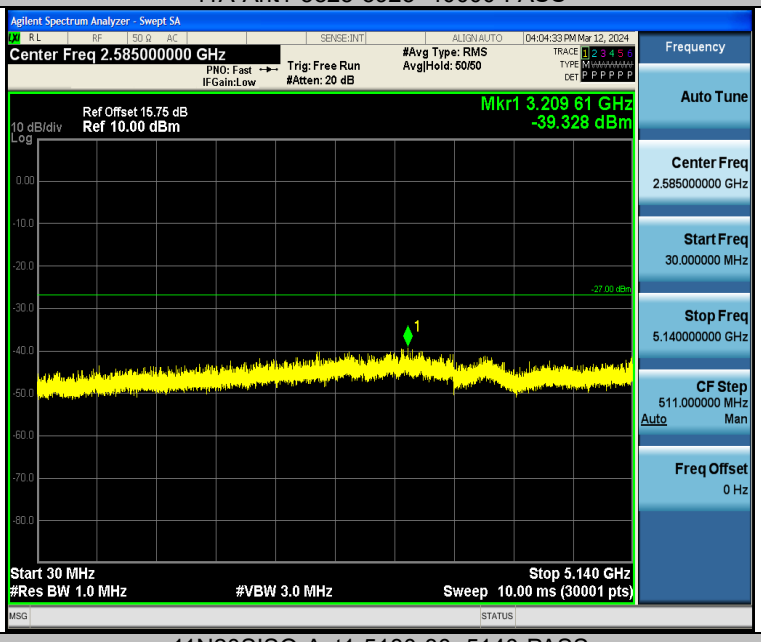
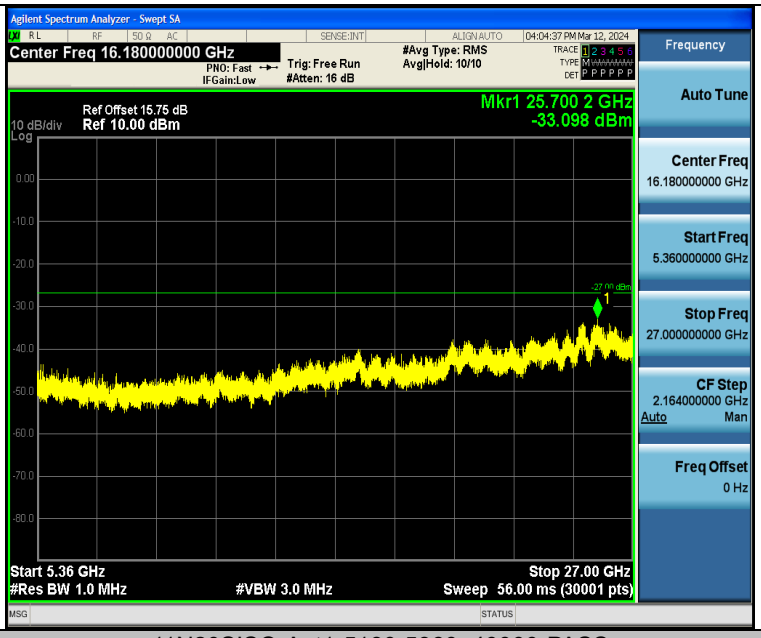
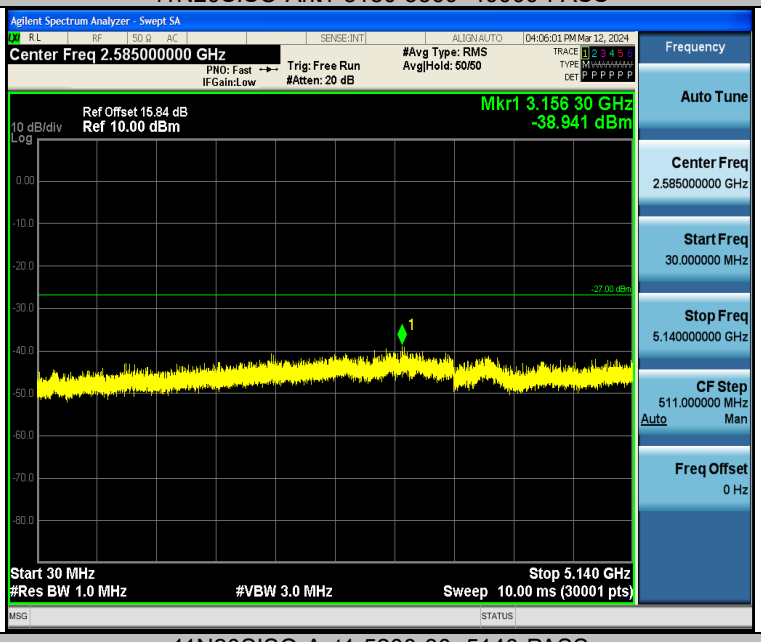


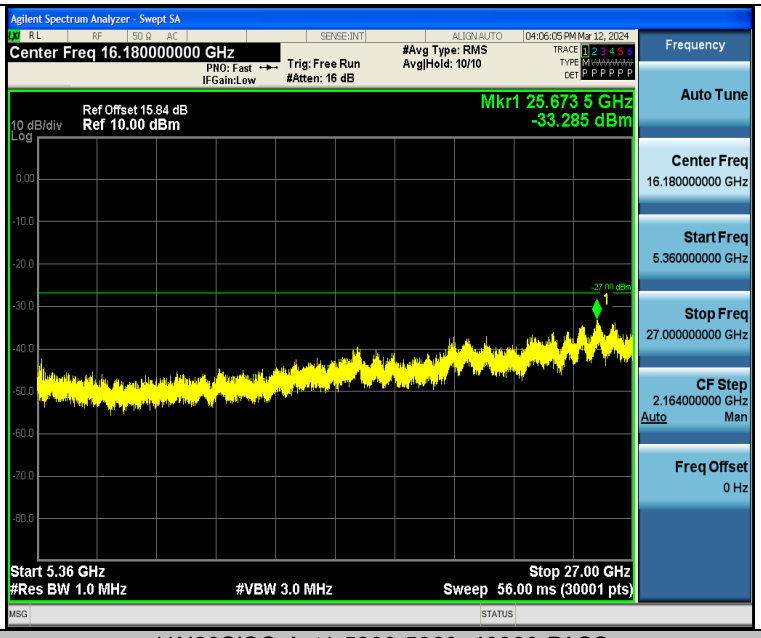
11N20SISO-Ant1-5180-30~5140-PASS



11N20SISO-Ant1-5180-5360~40000-PASS



11N20SISO-Ant1-5200-30~5140-PASS



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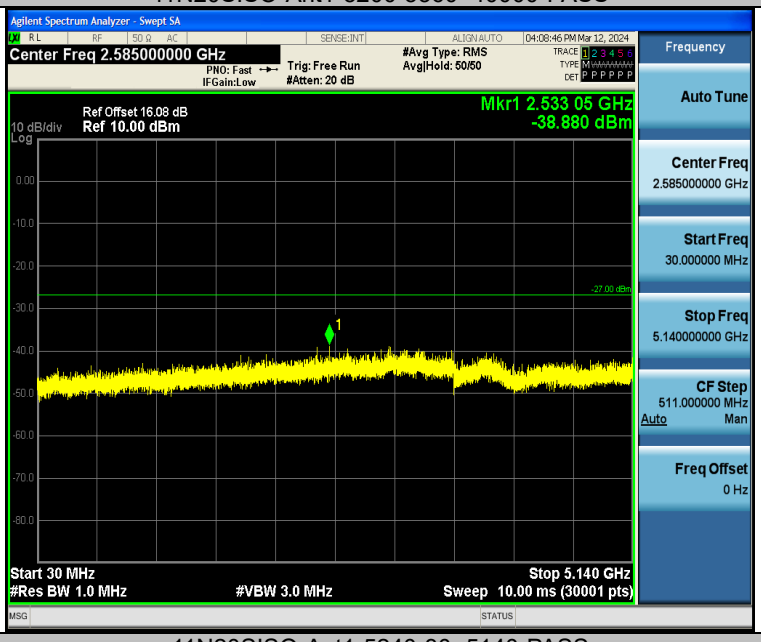
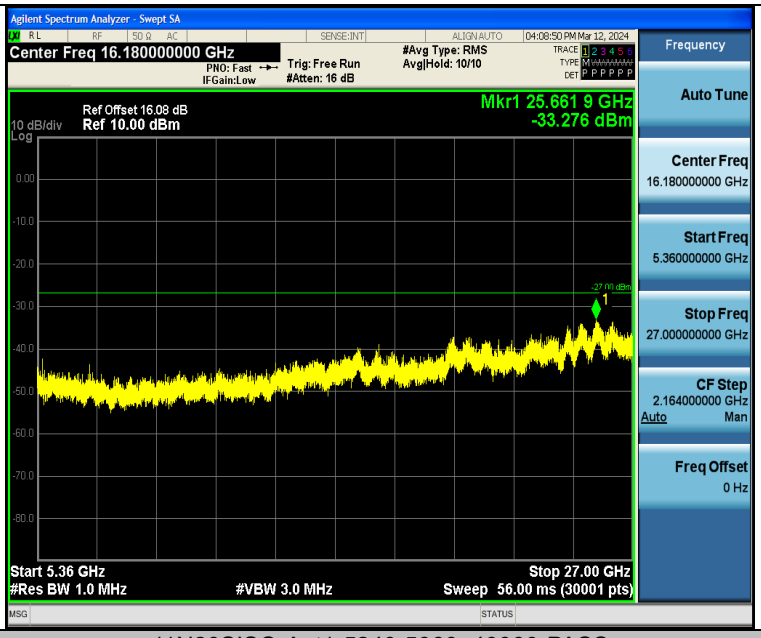


11N20SISO-Ant1-5240-30~5140-PASS



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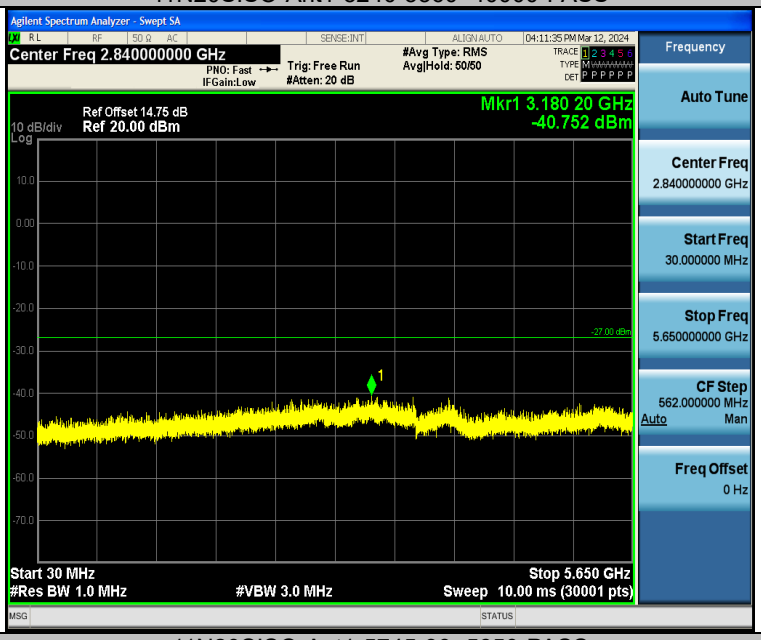
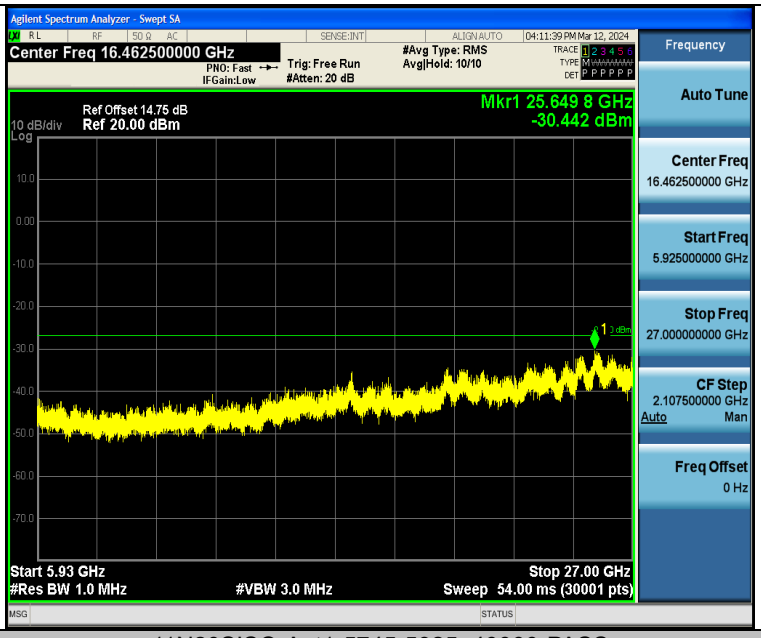
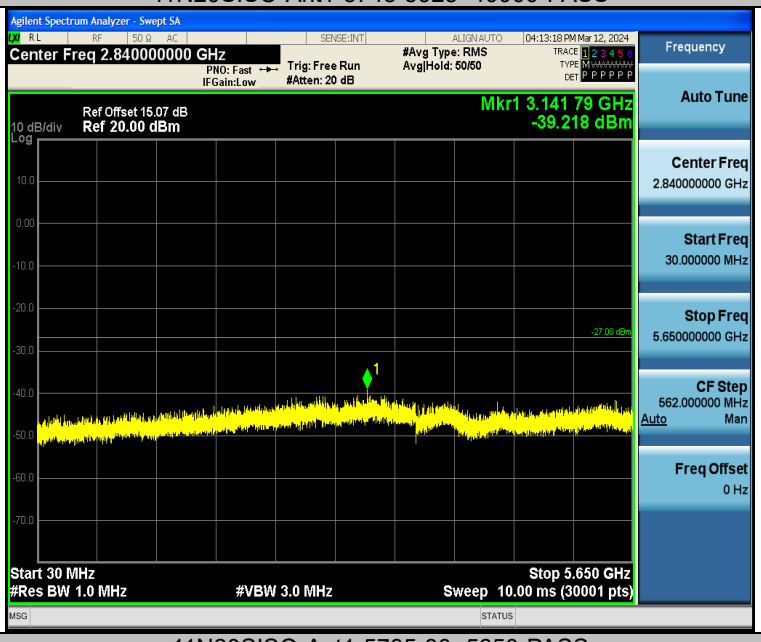


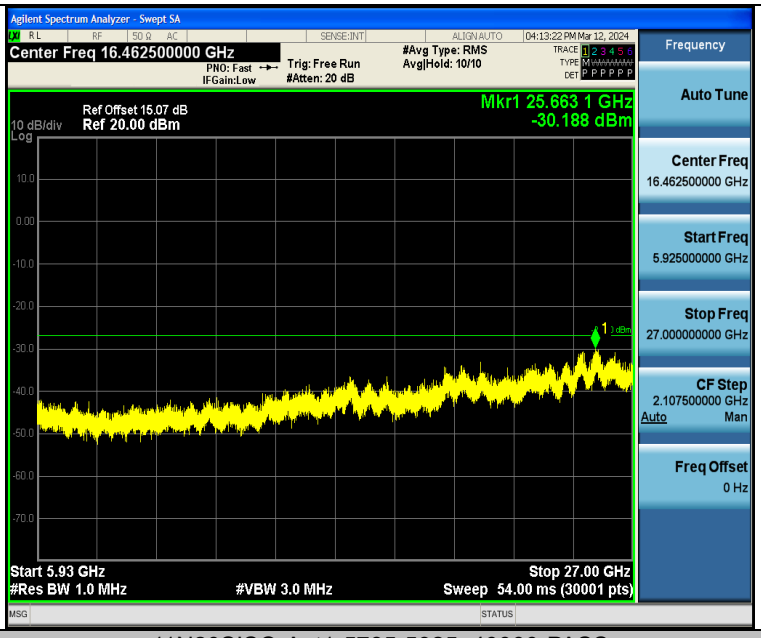
11N20SISO-Ant1-5745-30~5650-PASS



11N20SISO-Ant1-5745-5925~40000-PASS



11N20SISO-Ant1-5785-30~5650-PASS



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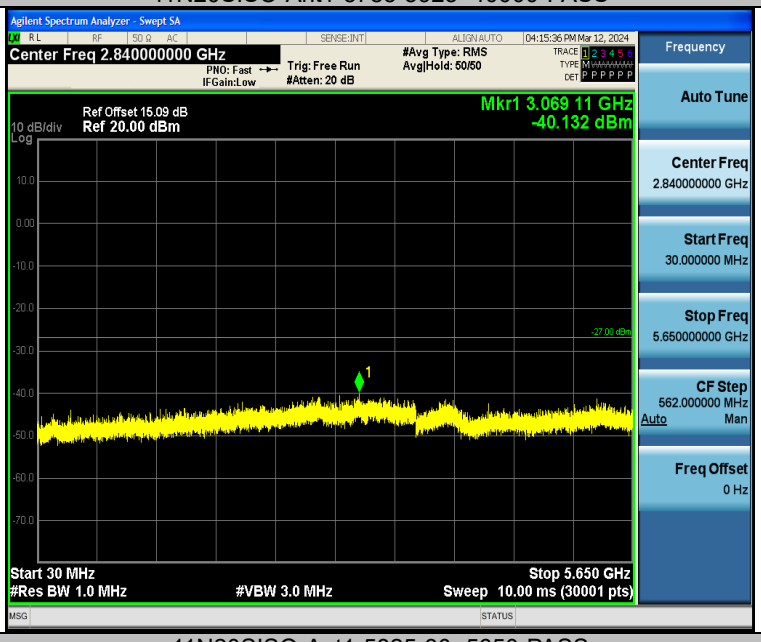
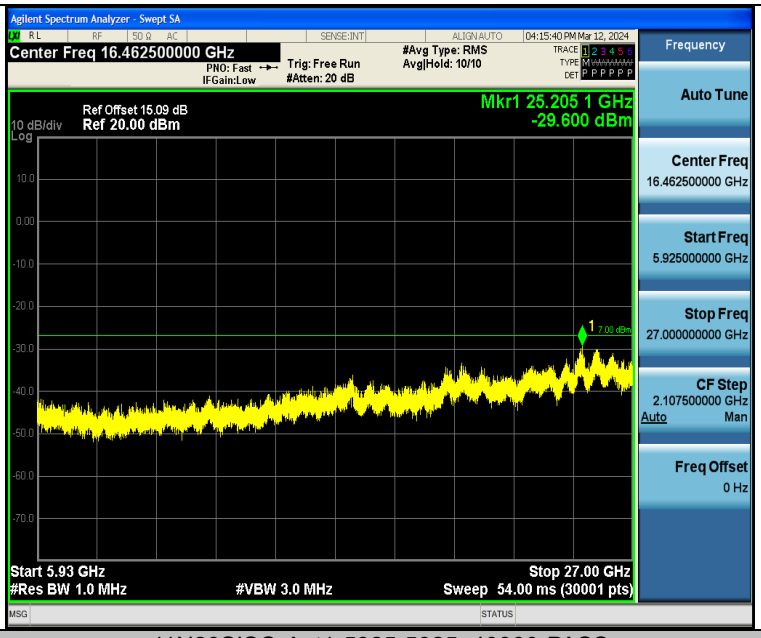
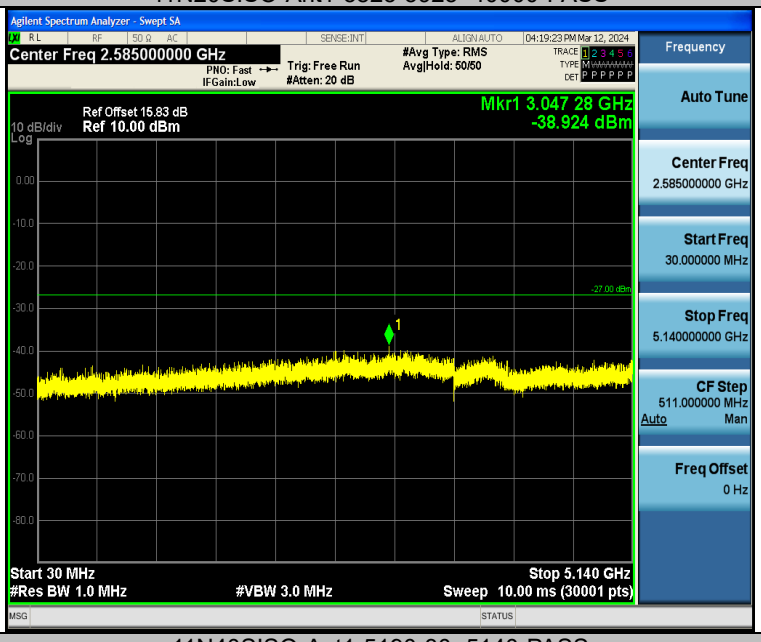


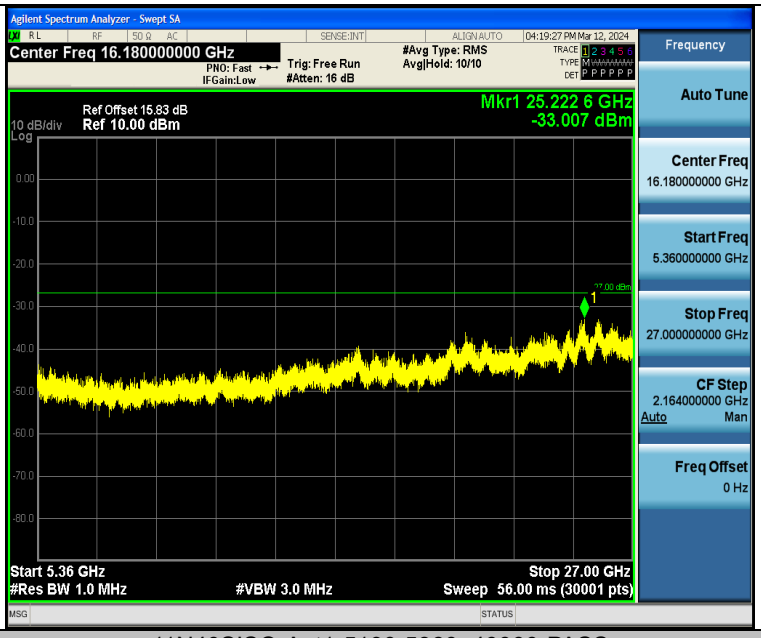
11N20SISO-Ant1-5825-30~5650-PASS



11N20SISO-Ant1-5825-5925~40000-PASS

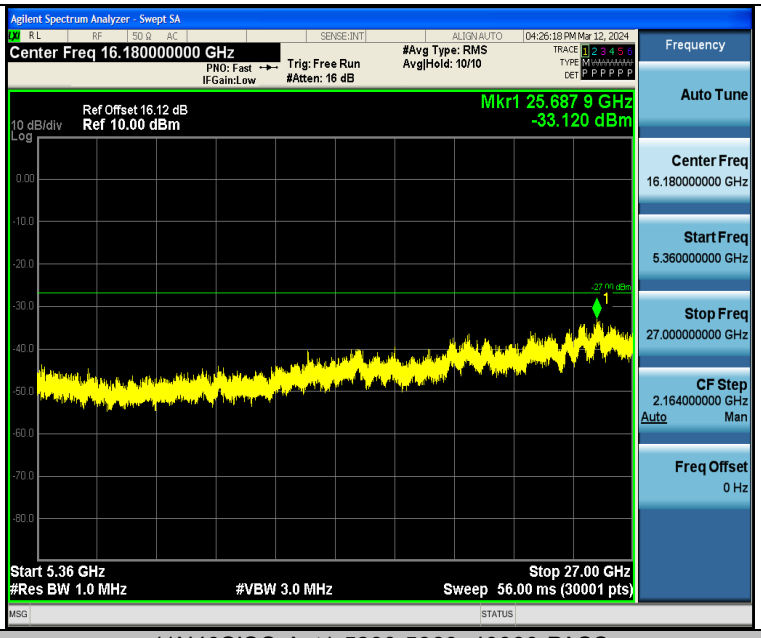


11N40SISO-Ant1-5190-30~5140-PASS



11N40SISO-Ant1-5190-5360~40000-PASS

11N40SISO-Ant1-5230-30~5140-PASS



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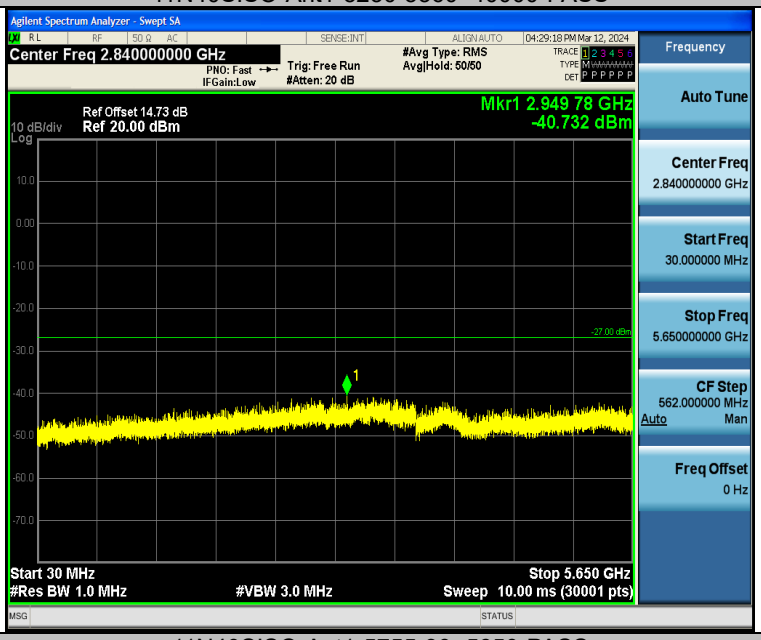
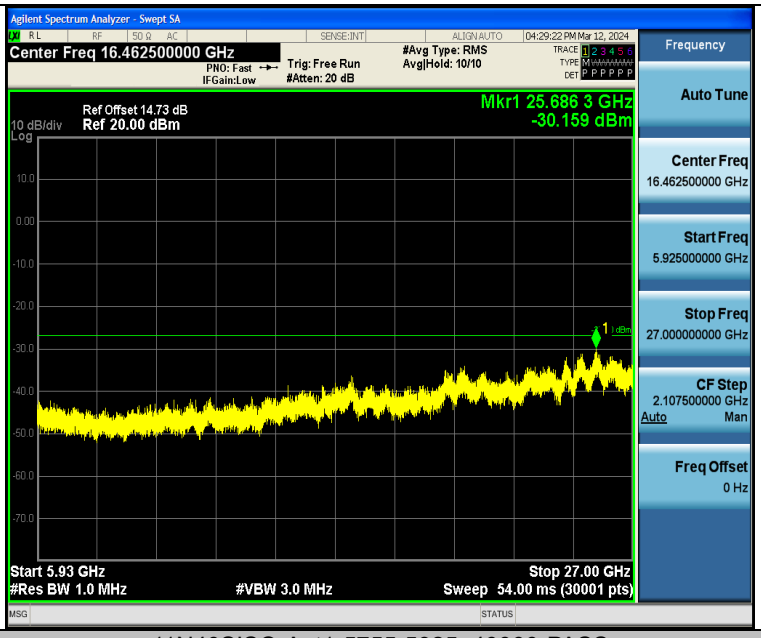
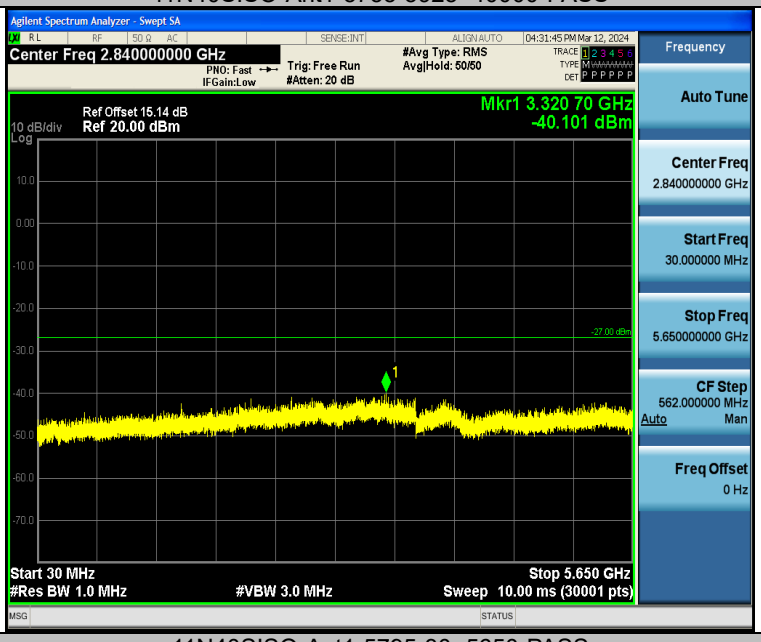


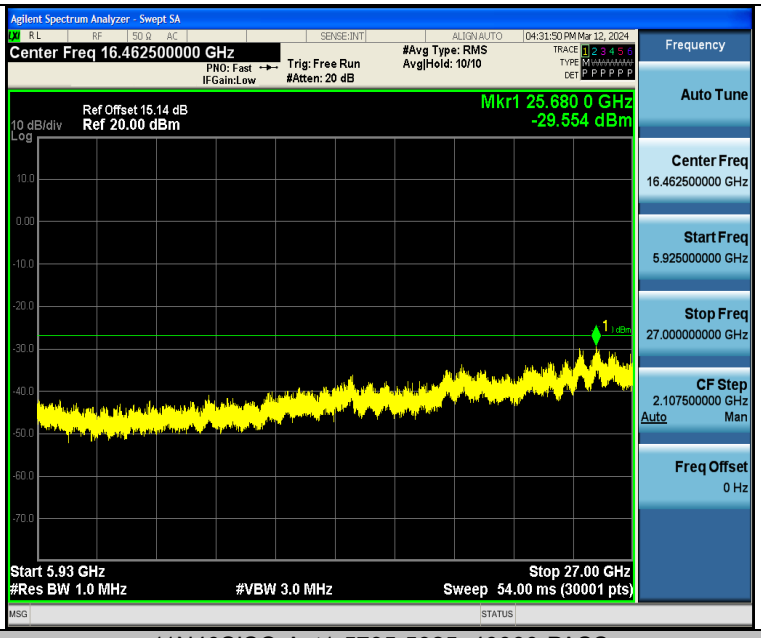
11N40SISO-Ant1-5755-30~5650-PASS



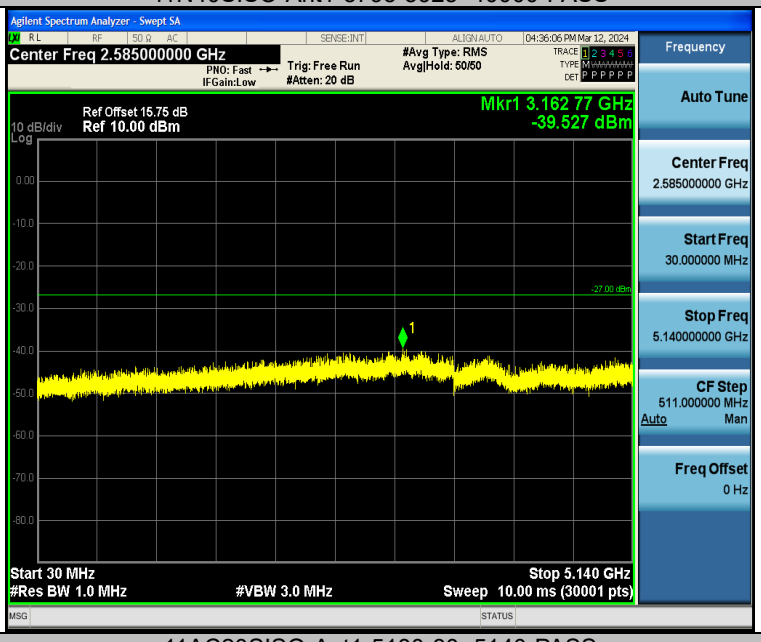
11N40SISO-Ant1-5755-5925~40000-PASS



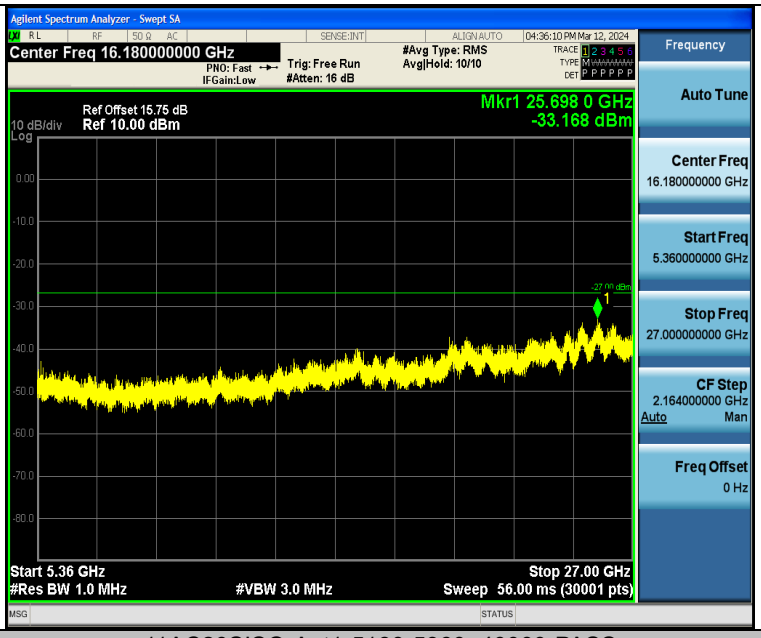
11N40SISO-Ant1-5795-30~5650-PASS



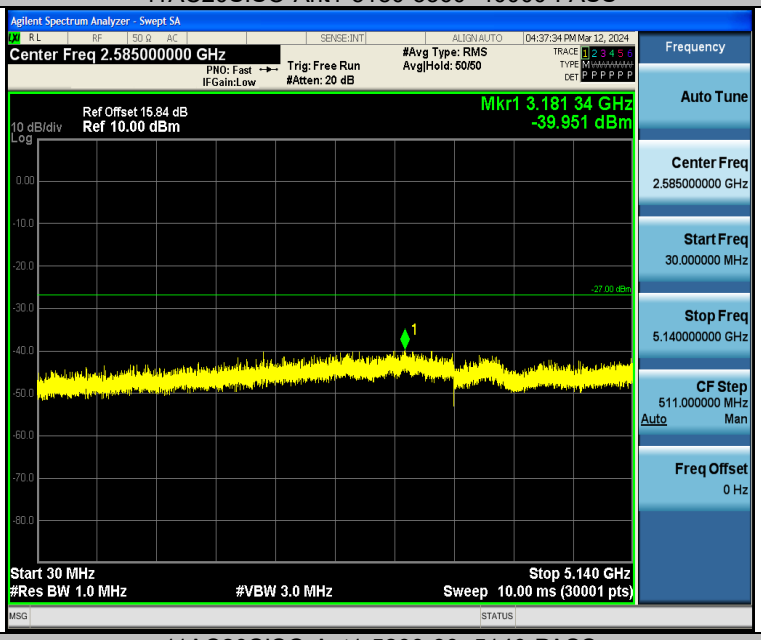
11N40SISO-Ant1-5795-5925~40000-PASS



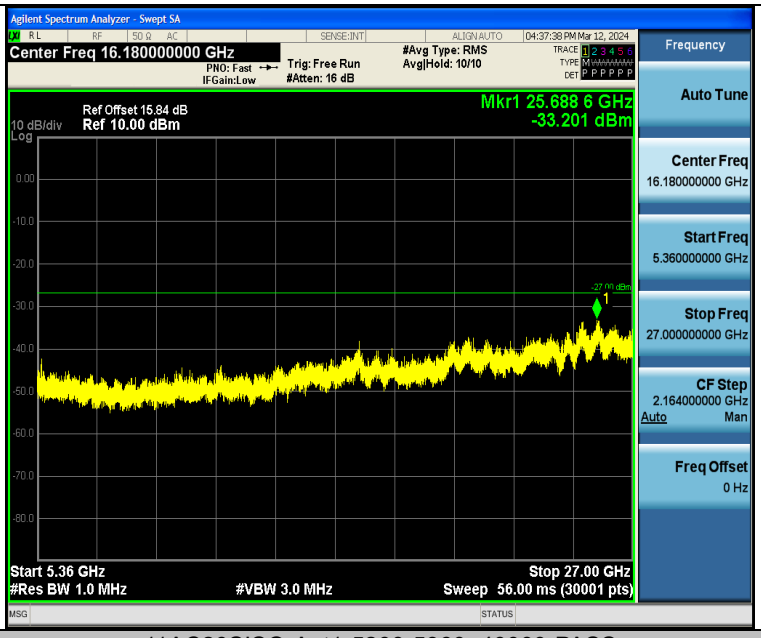
11AC20SISO-Ant1-5180-30~5140-PASS



11AC20SISO-Ant1-5180-5360~40000-PASS



11AC20SISO-Ant1-5200-30~5140-PASS



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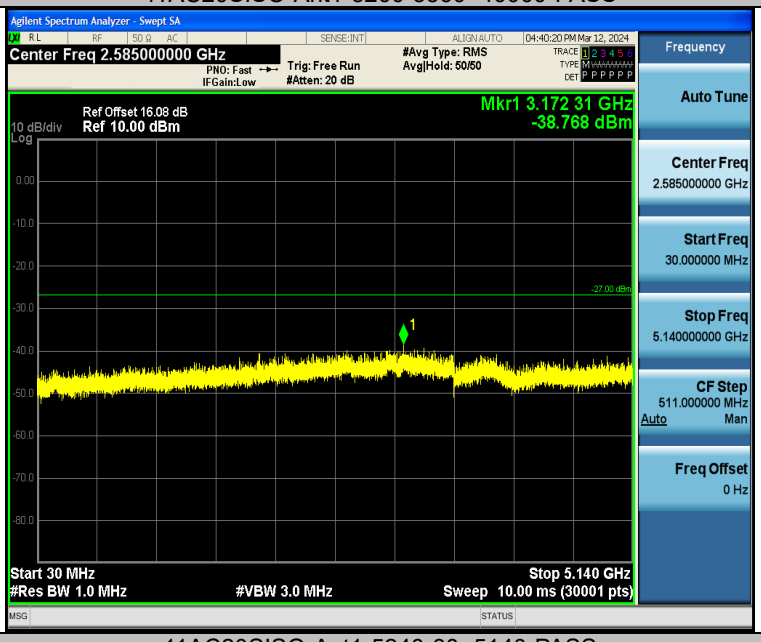
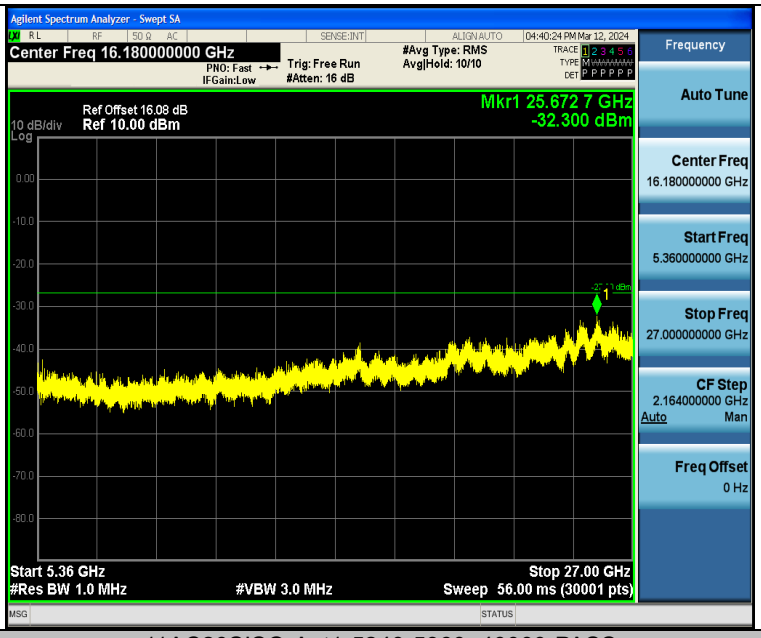
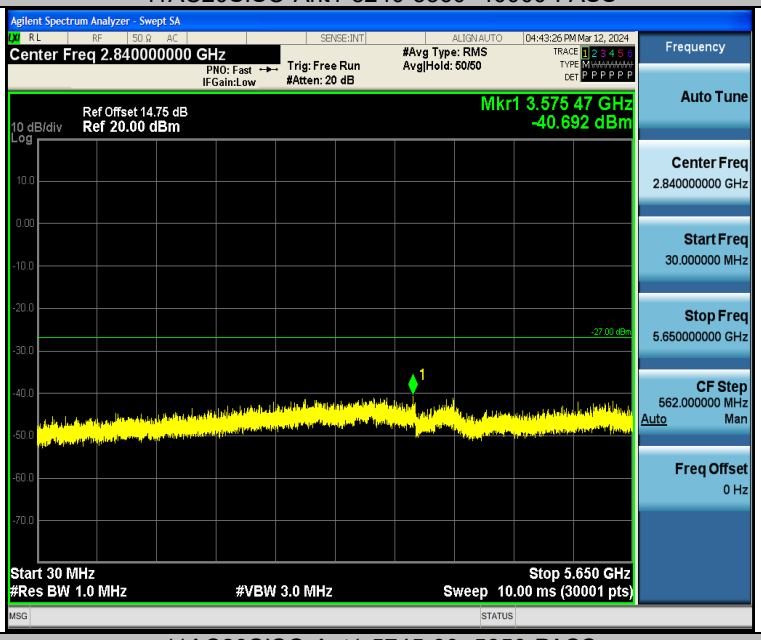


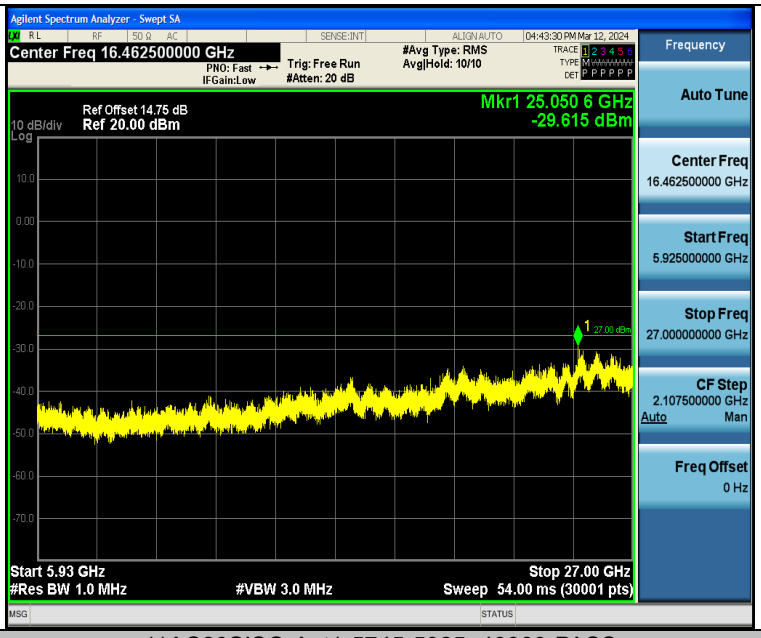
11AC20SISO-Ant1-5240-30~5140-PASS



11AC20SISO-Ant1-5240-5360~40000-PASS



11AC20SISO-Ant1-5745-30~5650-PASS



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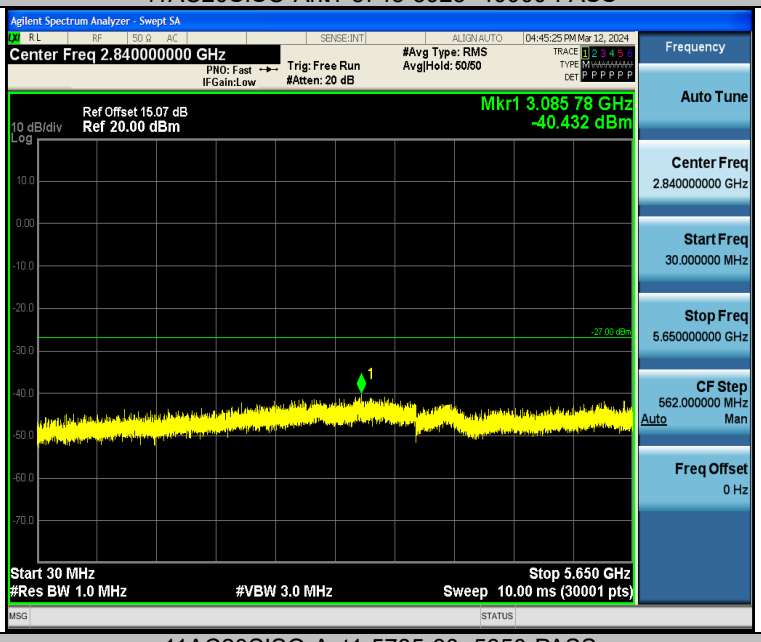

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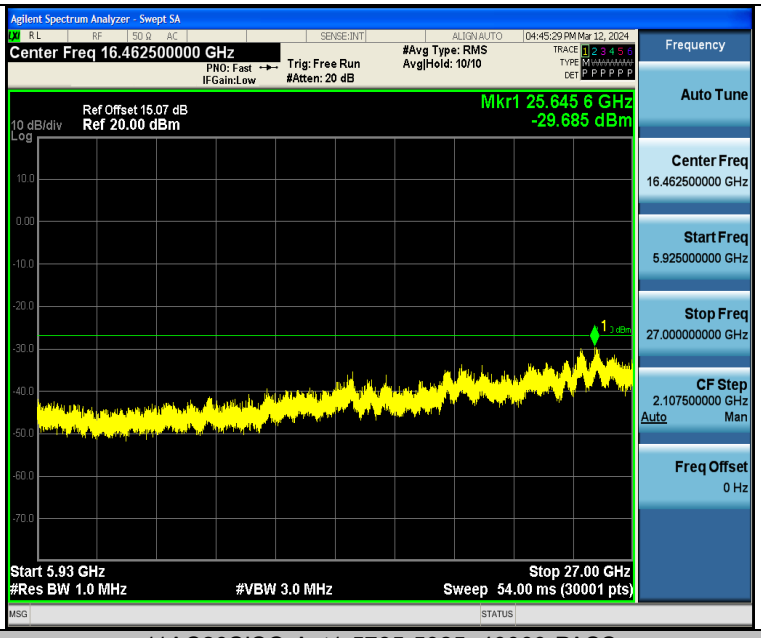
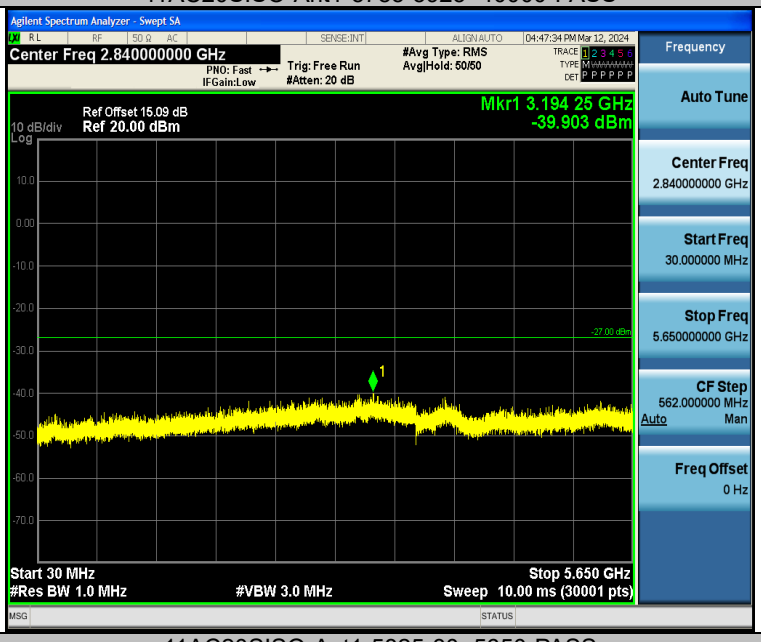
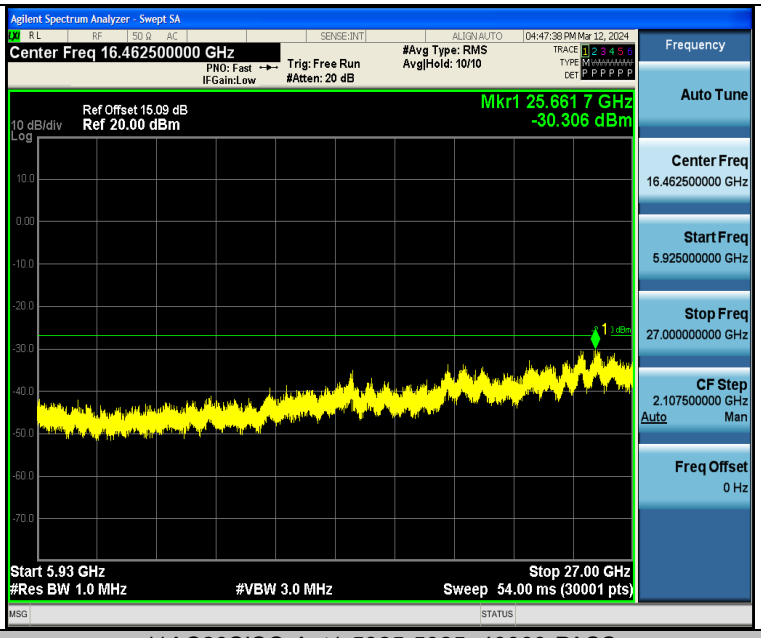


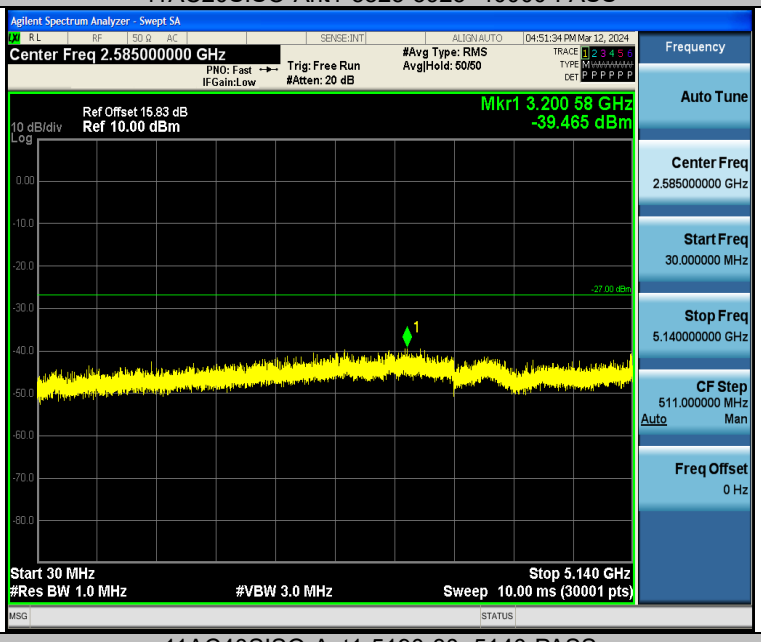
11AC20SISO-Ant1-5785-5925~40000-PASS



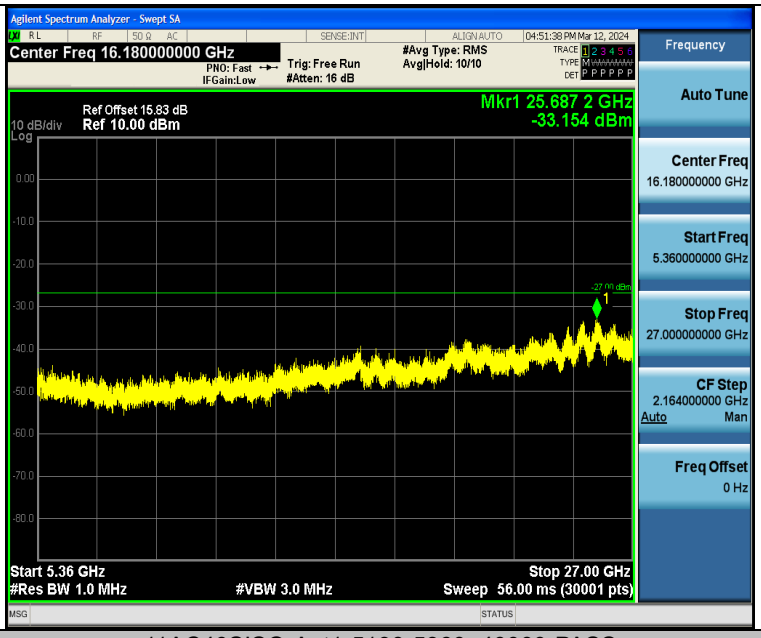
11AC20SISO-Ant1-5825-30~5650-PASS



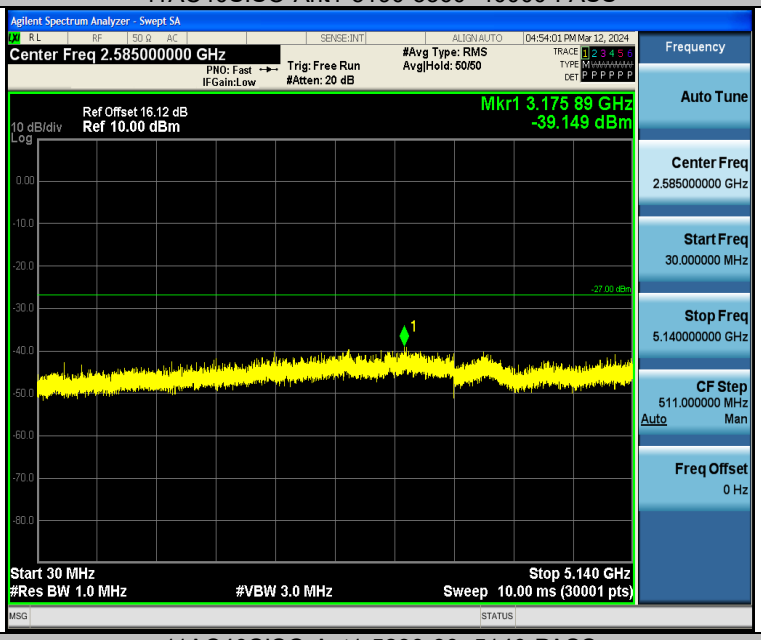
11AC20SISO-Ant1-5825-5925~40000-PASS



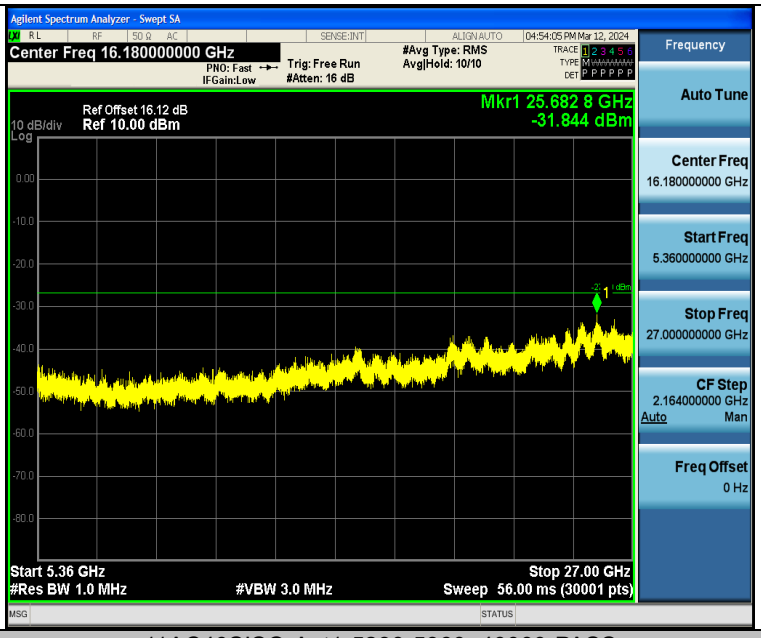
11AC40SISO-Ant1-5190-30~5140-PASS



11AC40SISO-Ant1-5190-5360~40000-PASS



11AC40SISO-Ant1-5230-30~5140-PASS



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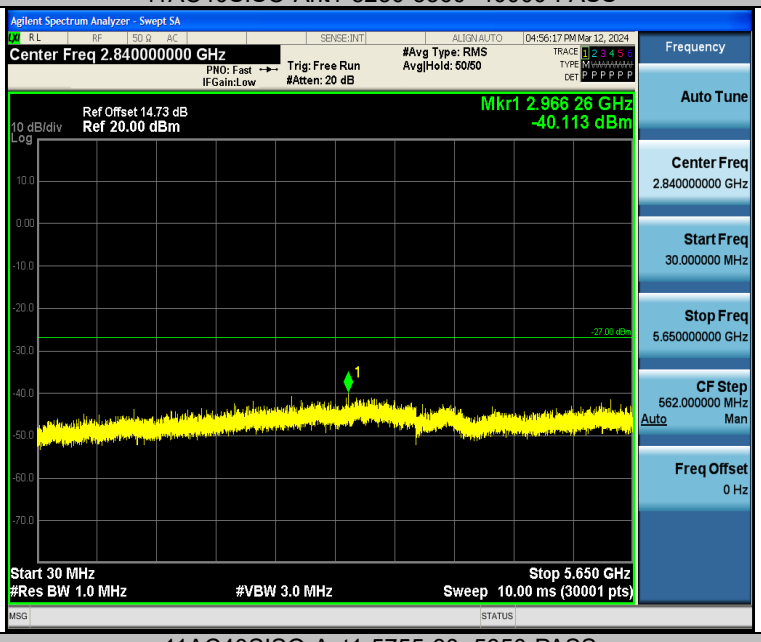
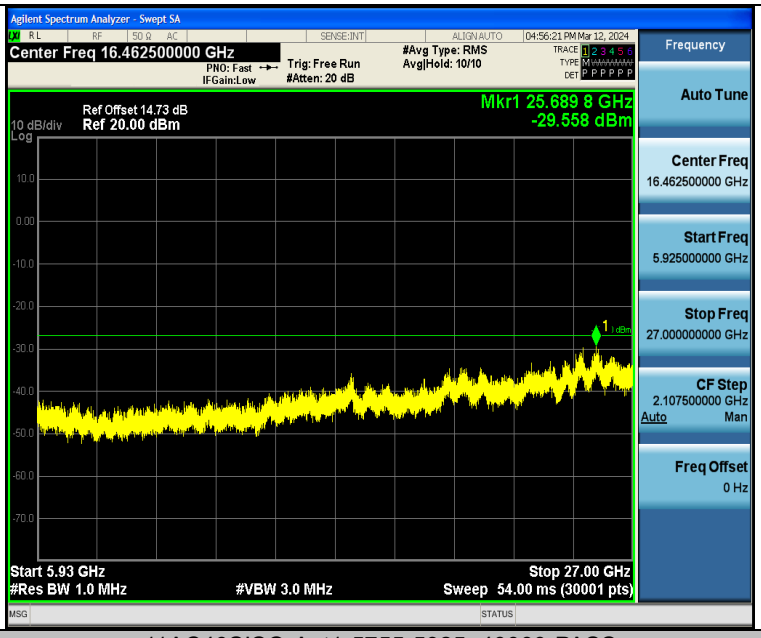


11AC40SISO-Ant1-5755-30~5650-PASS



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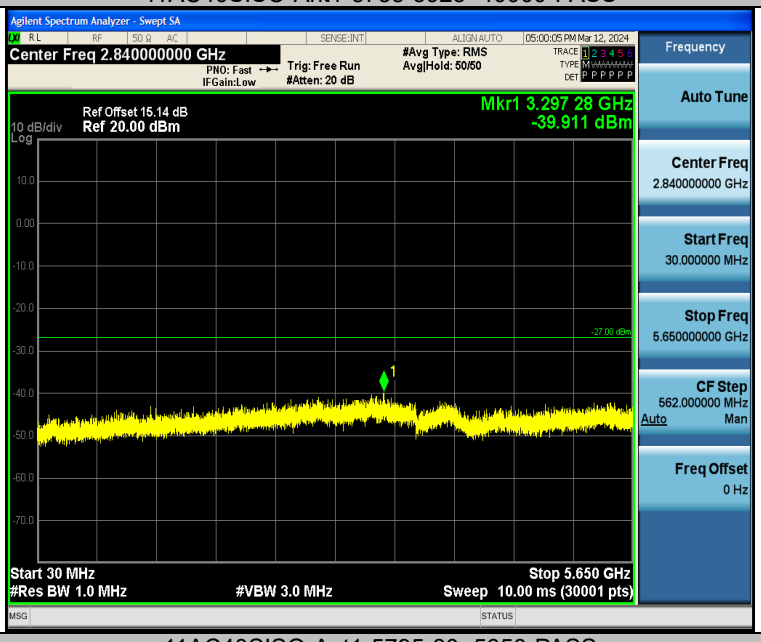

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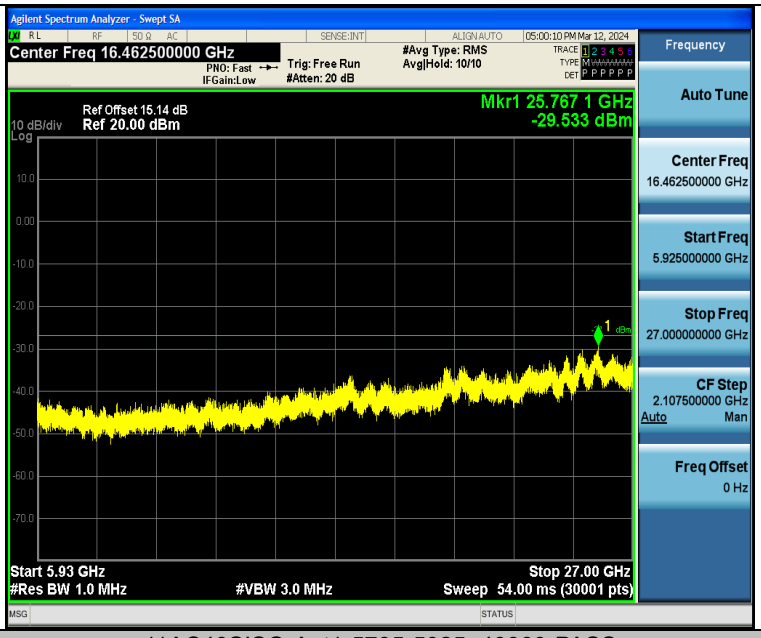
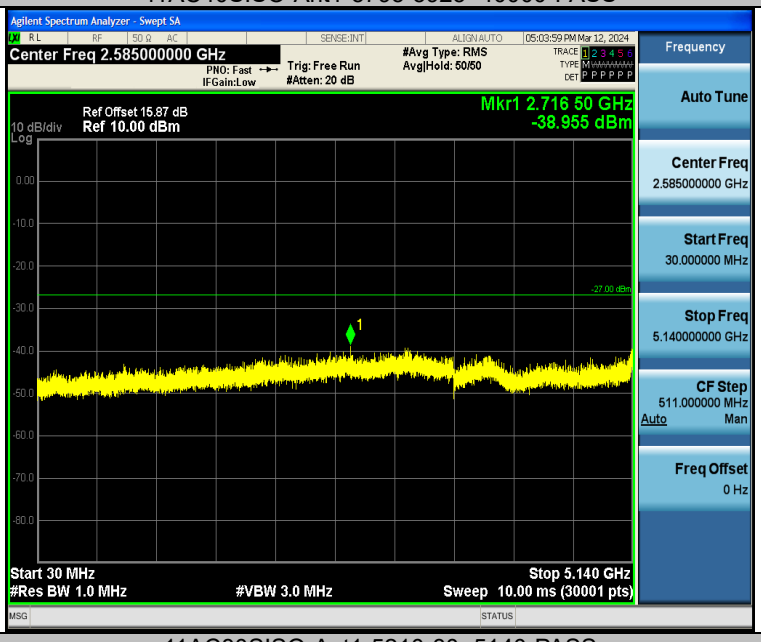
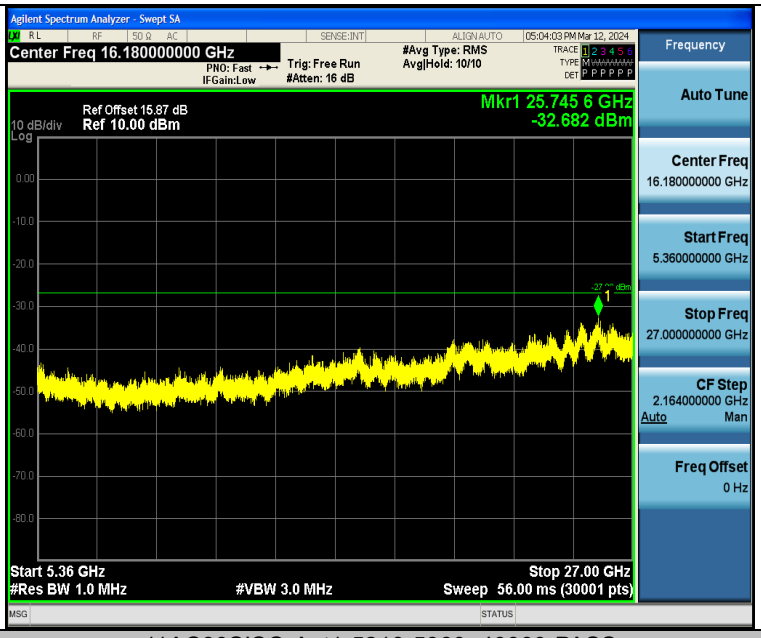


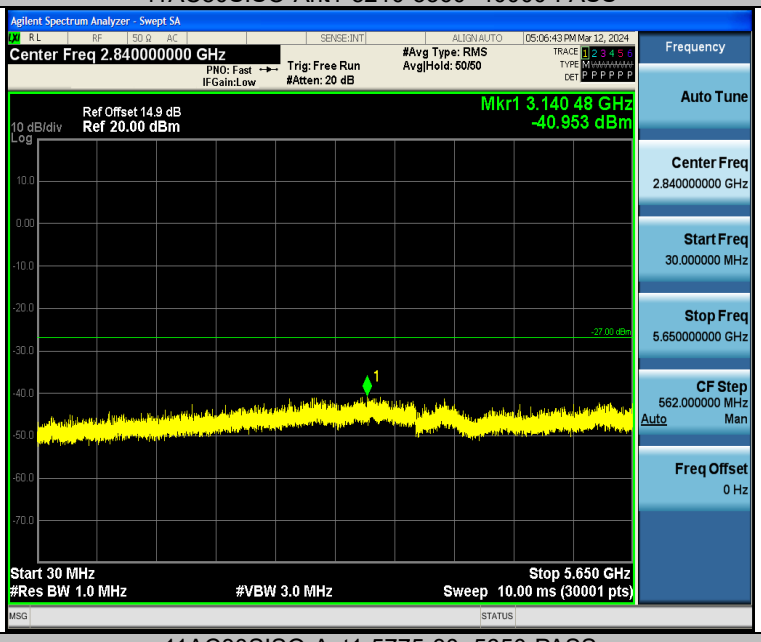
11AC40SISO-Ant1-5795-5925~40000-PASS



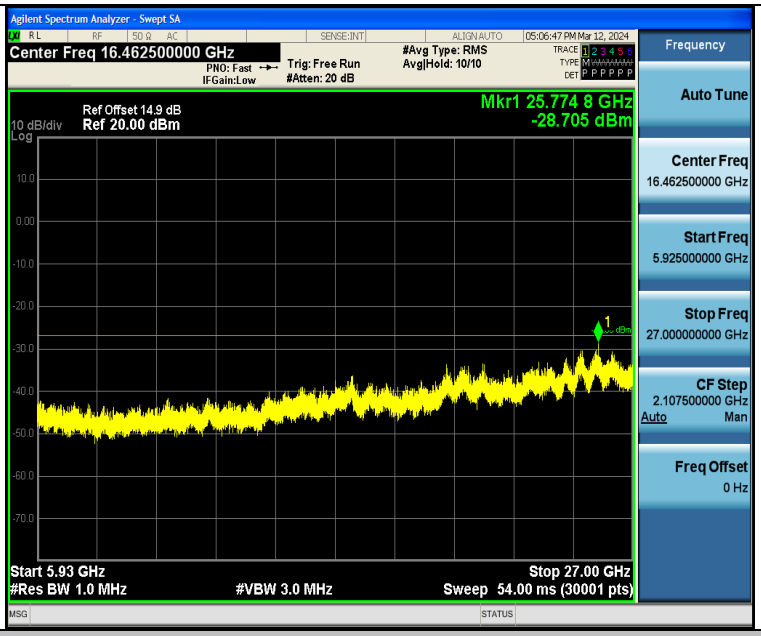
11AC80SISO-Ant1-5210-30~5140-PASS



11AC80SISO-Ant1-5210-5360~40000-PASS



11AC80SISO-Ant1-5775-30~5650-PASS



11AC80SISO-Ant1-5775-5925~40000-PASS

6.6 Band edge measurements

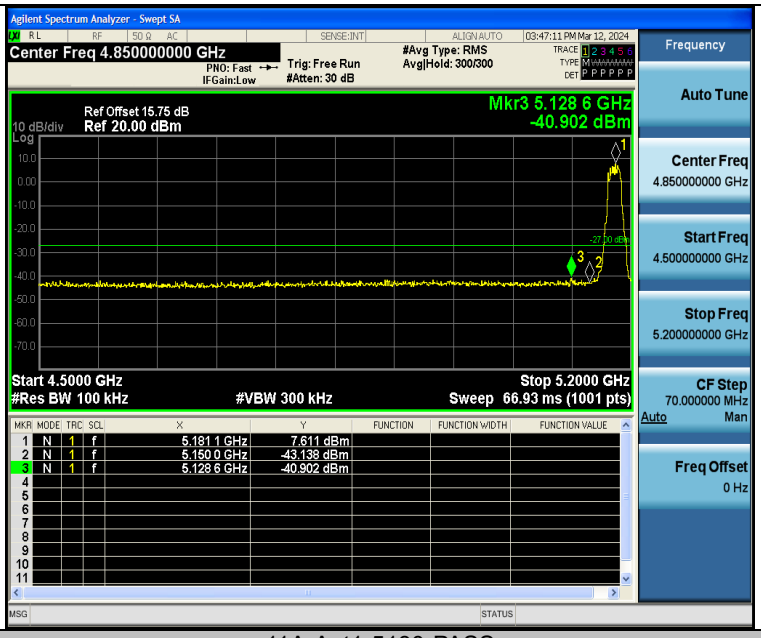
Test Result:

TestMode	Antenna	ChName	Frequency[MHz]	Result[dBm]	Limit[dBm]	Verdict
11A	Ant1	Low	5180	-40.9	≤-27	PASS
11A	Ant1	High	5240	-41.09	≤-27	PASS
11N20SISO	Ant1	Low	5180	-40.96	≤-27	PASS
11N20SISO	Ant1	High	5240	-40.88	≤-27	PASS
11N40SISO	Ant1	Low	5190	-41.28	≤-27	PASS
11N40SISO	Ant1	High	5230	-41.2	≤-27	PASS
11AC20SISO	Ant1	Low	5180	-41.3	≤-27	PASS
11AC20SISO	Ant1	High	5240	-41.16	≤-27	PASS
11AC40SISO	Ant1	Low	5190	-40.73	≤-27	PASS
11AC40SISO	Ant1	High	5230	-40.6	≤-27	PASS
11AC80SISO	Ant1	Low	5210	-41.03	≤-27	PASS
11AC80SISO	Ant1	High	5210	-40.5	≤-27	PASS

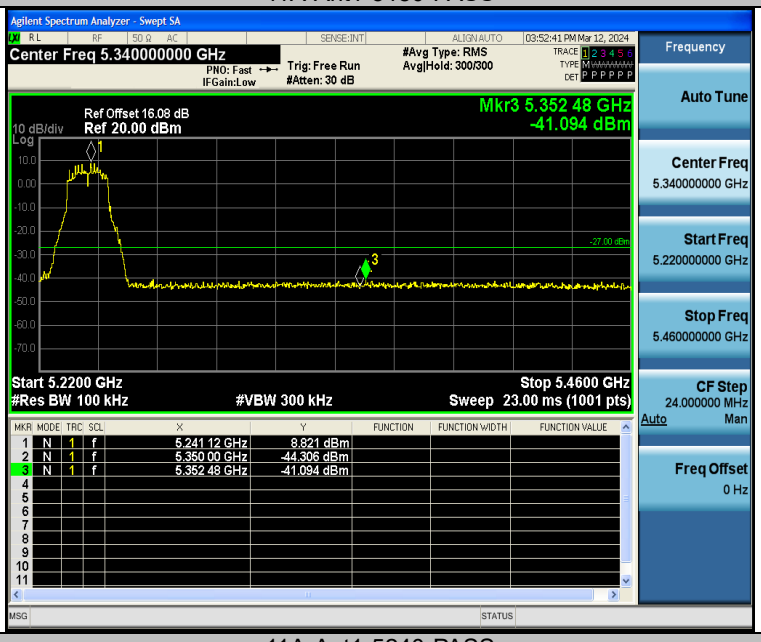
TestMode	Antenna	ChName	Frequency[MHz]	FreqRange [MHz]	Result [dBm]	Limit [dBm]	Verdict
11A	Ant1	Low	5745	5720~5725	-43.35	≤15.82	PASS
11A	Ant1	Low	5745	5700~5720	-42.36	≤14.05	PASS
11A	Ant1	Low	5745	5650~5700	-43.39	≤-1.77	PASS
11A	Ant1	Low	5745	5760~5650	-43.83	≤-27	PASS
11A	Ant1	High	5825	5850~5855	-42.26	≤22.87	PASS
11A	Ant1	High	5825	5855~5875	-41.85	≤10.85	PASS
11A	Ant1	High	5825	5875~5925	-41.95	≤-21.36	PASS
11A	Ant1	High	5825	5925~5935	-41.52	≤-27	PASS
11N20SISO	Ant1	Low	5745	5720~5725	-41.97	≤24.99	PASS
11N20SISO	Ant1	Low	5745	5700~5720	-43.52	≤12.95	PASS
11N20SISO	Ant1	Low	5745	5650~5700	-43.53	≤-19.81	PASS
11N20SISO	Ant1	Low	5745	5760~5650	-44.73	≤-27	PASS
11N20SISO	Ant1	High	5825	5850~5855	-42.09	≤16.41	PASS
11N20SISO	Ant1	High	5825	5855~5875	-41.78	≤10.10	PASS
11N20SISO	Ant1	High	5825	5875~5925	-41.4	≤-24.46	PASS
11N20SISO	Ant1	High	5825	5925~5935	-42.48	≤-27	PASS
11N40SISO	Ant1	Low	5755	5720~5725	-41.94	≤21.28	PASS
11N40SISO	Ant1	Low	5755	5700~5720	-42.6	≤15.39	PASS
11N40SISO	Ant1	Low	5755	5650~5700	-42.95	≤8.56	PASS
11N40SISO	Ant1	Low	5755	5780~5650	-44.23	≤-27	PASS
11N40SISO	Ant1	High	5795	5850~5855	-41.99	≤16.41	PASS

11N40SISO	Ant1	High	5795	5855~5875	-41.8	≤13.37	PASS
11N40SISO	Ant1	High	5795	5875~5925	-41.54	≤-1.53	PASS
11N40SISO	Ant1	High	5795	5925~5935	-41.14	≤-27	PASS
11AC20SISO	Ant1	Low	5745	5720~5725	-42.43	≤21.85	PASS
11AC20SISO	Ant1	Low	5745	5700~5720	-42.33	≤14.08	PASS
11AC20SISO	Ant1	Low	5745	5650~5700	-43.27	≤2.83	PASS
11AC20SISO	Ant1	Low	5745	5760~5650	-44.28	≤-27	PASS
11AC20SISO	Ant1	High	5825	5850~5855	-41.69	≤20.41	PASS
11AC20SISO	Ant1	High	5825	5855~5875	-42.28	≤10.89	PASS
11AC20SISO	Ant1	High	5825	5875~5925	-41.04	≤9.91	PASS
11AC20SISO	Ant1	High	5825	5925~5935	-41.45	≤-27	PASS
11AC40SISO	Ant1	Low	5755	5720~5725	-41.74	≤21.28	PASS
11AC40SISO	Ant1	Low	5755	5700~5720	-43.03	≤11.80	PASS
11AC40SISO	Ant1	Low	5755	5650~5700	-42.58	≤-10.02	PASS
11AC40SISO	Ant1	Low	5755	5780~5650	-44.78	≤-27	PASS
11AC40SISO	Ant1	High	5795	5850~5855	-41.14	≤25.81	PASS
11AC40SISO	Ant1	High	5795	5855~5875	-41.67	≤15.54	PASS
11AC40SISO	Ant1	High	5795	5875~5925	-41.14	≤-19.60	PASS
11AC40SISO	Ant1	High	5795	5925~5935	-42.92	≤-27	PASS
11AC80SISO	Ant1	Low	5775	5720~5725	-40.9	≤26.60	PASS
11AC80SISO	Ant1	Low	5775	5700~5720	-42.22	≤15.56	PASS
11AC80SISO	Ant1	Low	5775	5650~5700	-41.63	≤-21.07	PASS
11AC80SISO	Ant1	Low	5775	5800~5650	-43.93	≤-27	PASS
11AC80SISO	Ant1	High	5775	5850~5855	-42.07	≤20.86	PASS
11AC80SISO	Ant1	High	5775	5855~5875	-42.02	≤14.89	PASS
11AC80SISO	Ant1	High	5775	5875~5925	-41.89	≤9.73	PASS
11AC80SISO	Ant1	High	5775	5925~5935	-42.88	≤-27	PASS

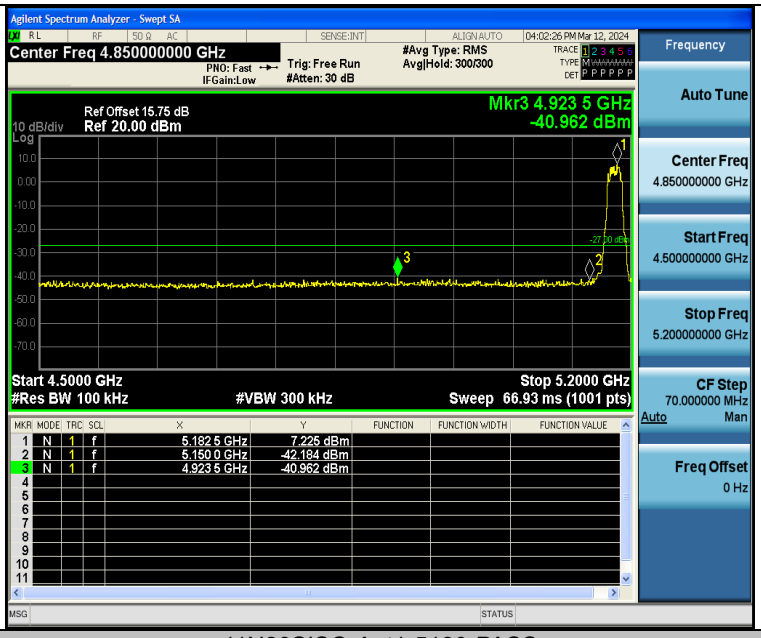
Test Graphs:



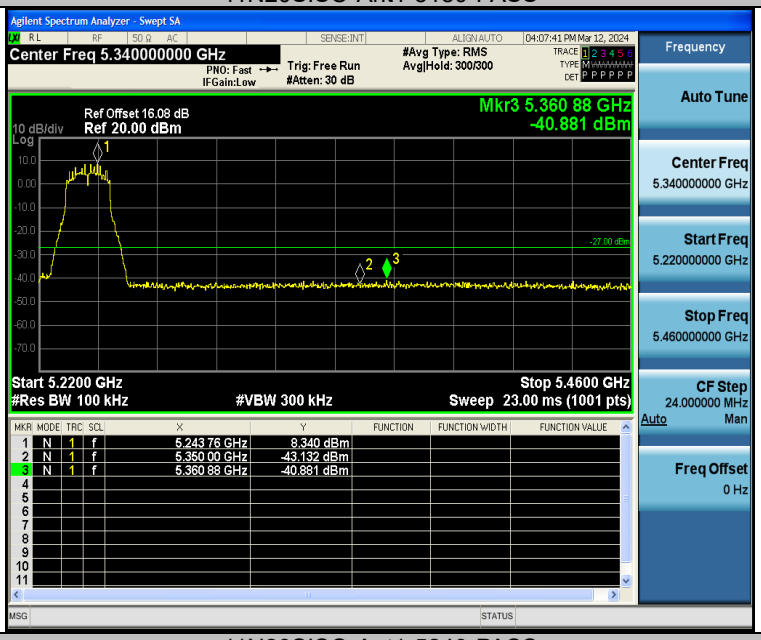
11A-Ant1-5180-PASS



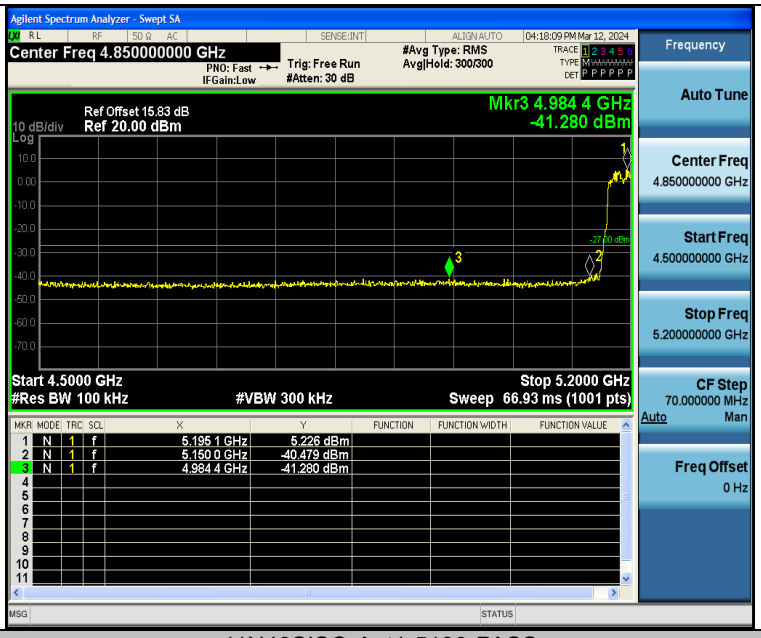
11A-Ant1-5240-PASS



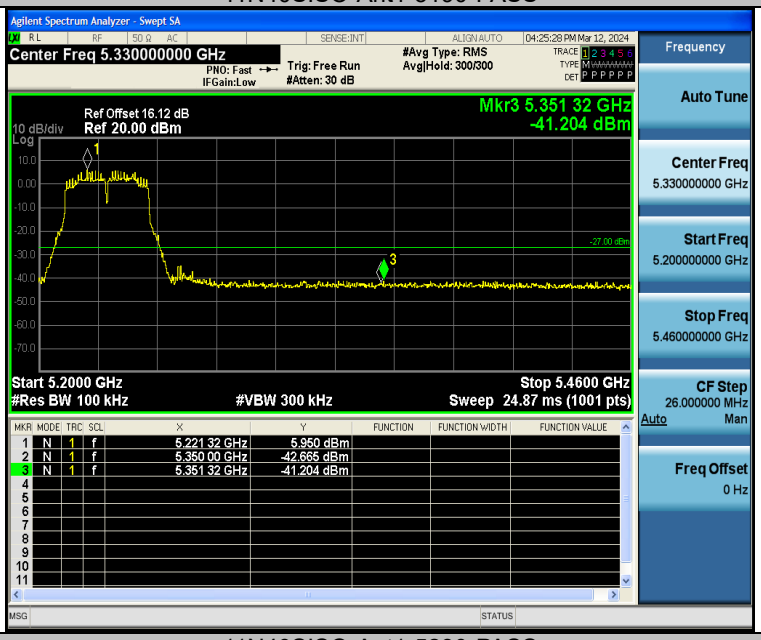
11N20SISO-Ant1-5180-PASS



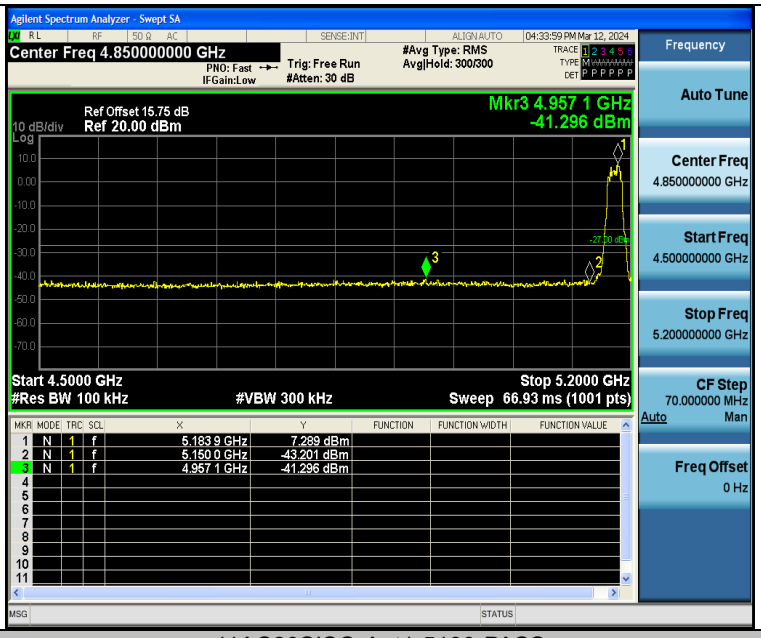
11N20SISO-Ant1-5240-PASS



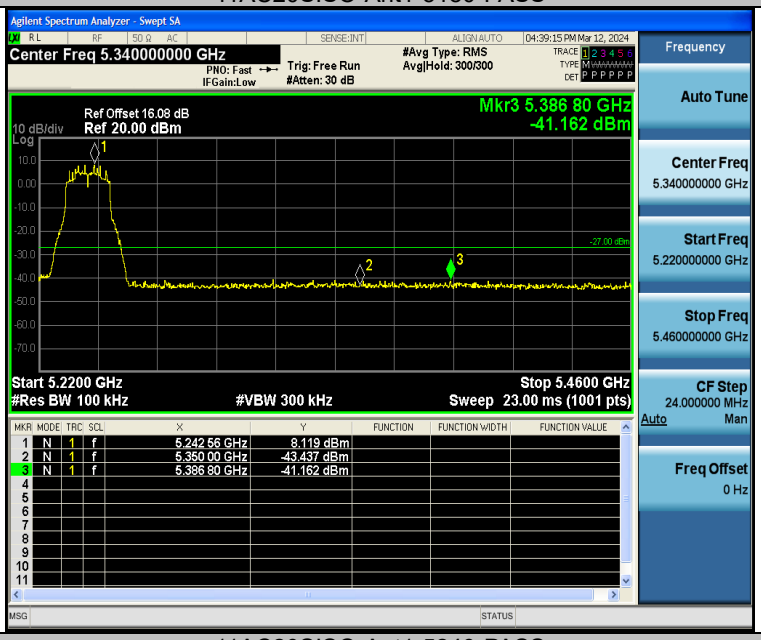
11N40SISO-Ant1-5190-PASS



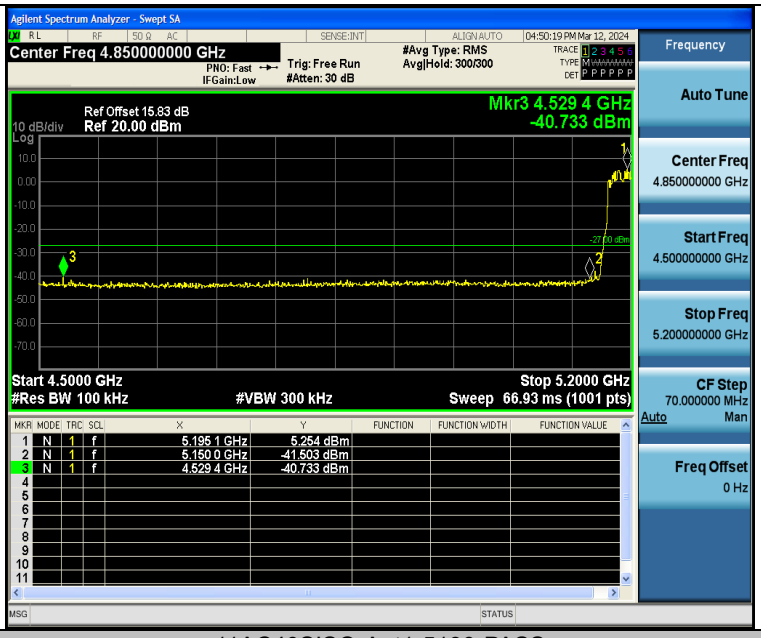
11N40SISO-Ant1-5230-PASS



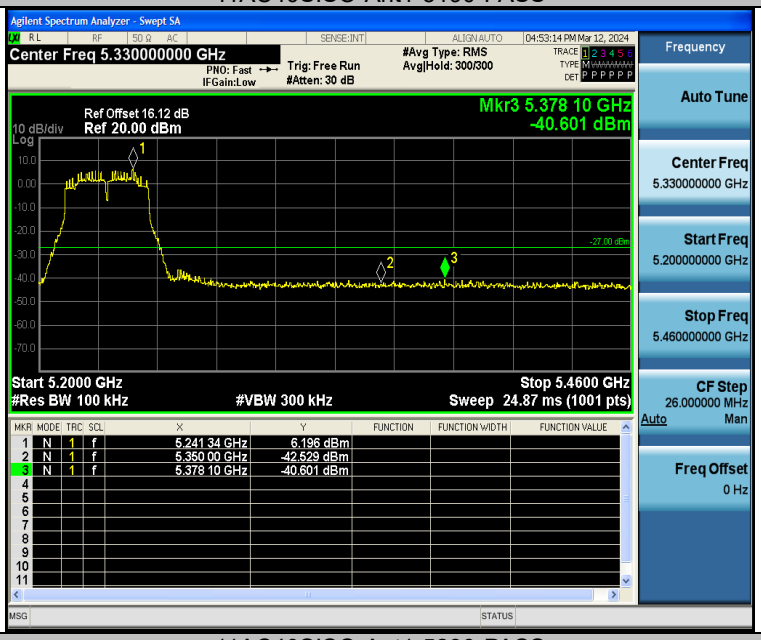
11AC20SISO-Ant1-5180-PASS



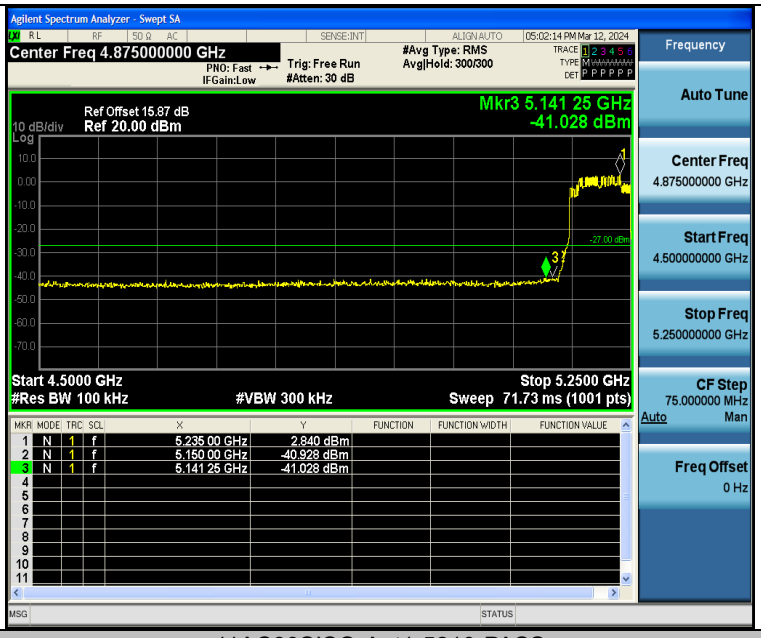
11AC20SISO-Ant1-5240-PASS



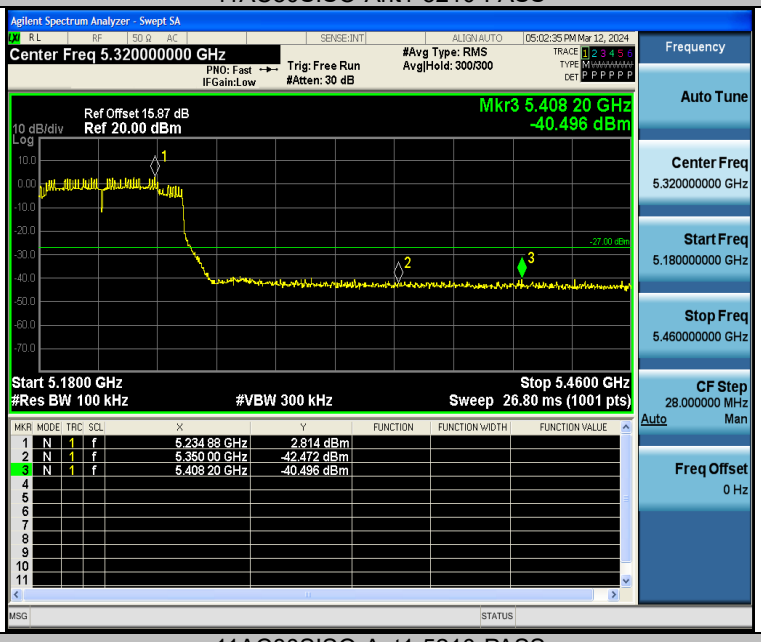
11AC40SISO-Ant1-5190-PASS



11AC40SISO-Ant1-5230-PASS

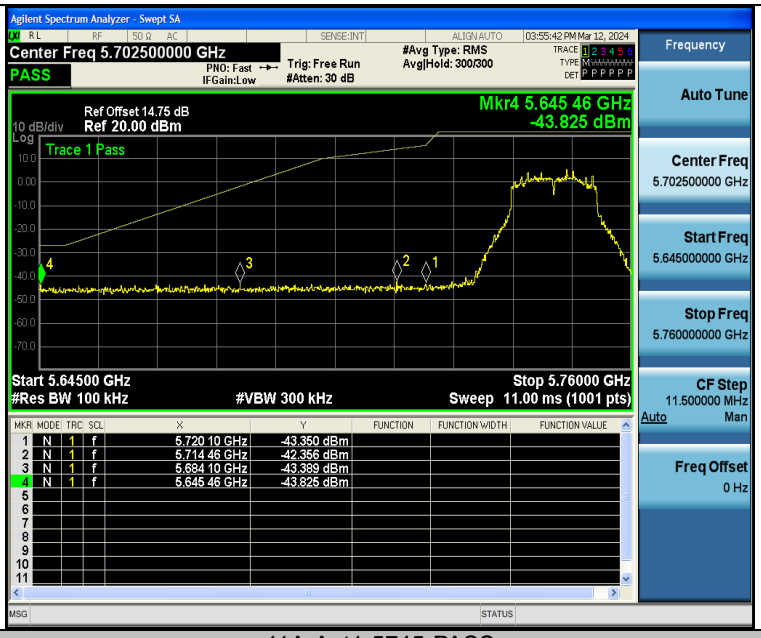


11AC80SISO-Ant1-5210-PASS

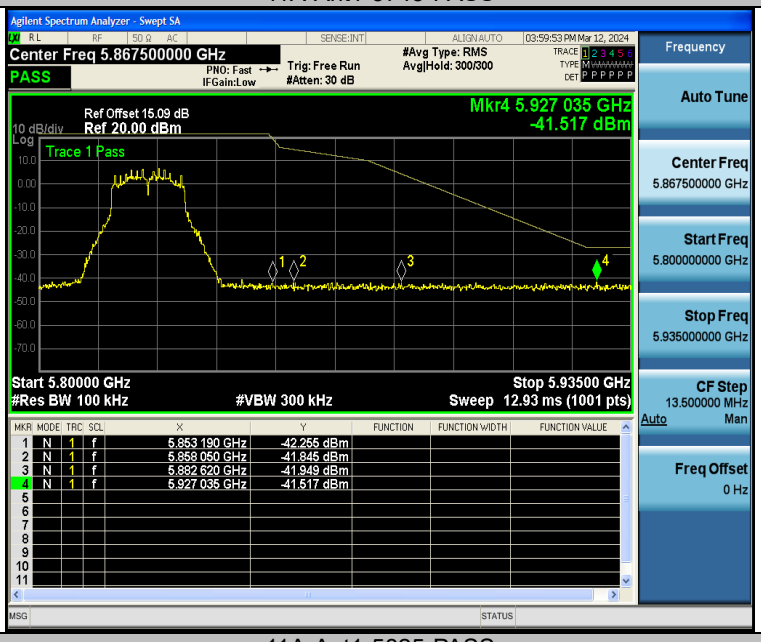


11AC80SISO-Ant1-5210-PASS

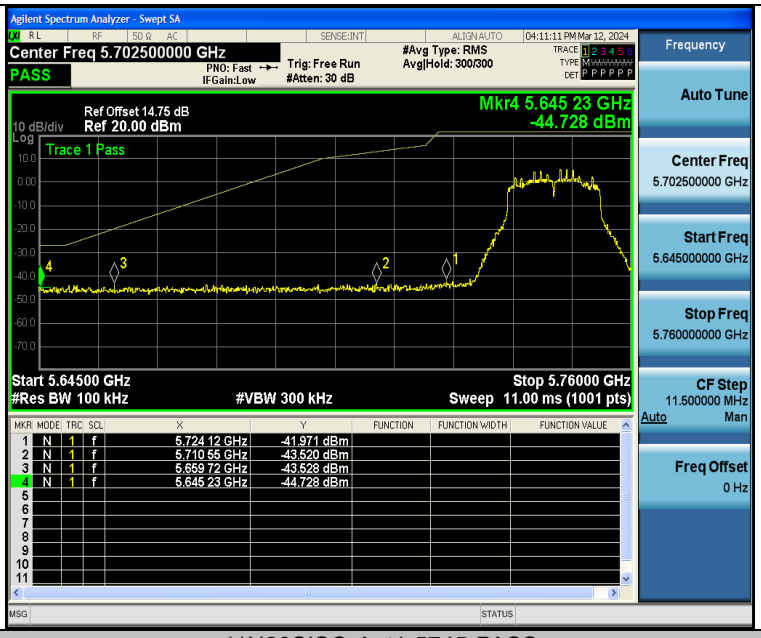
Test plots B4:



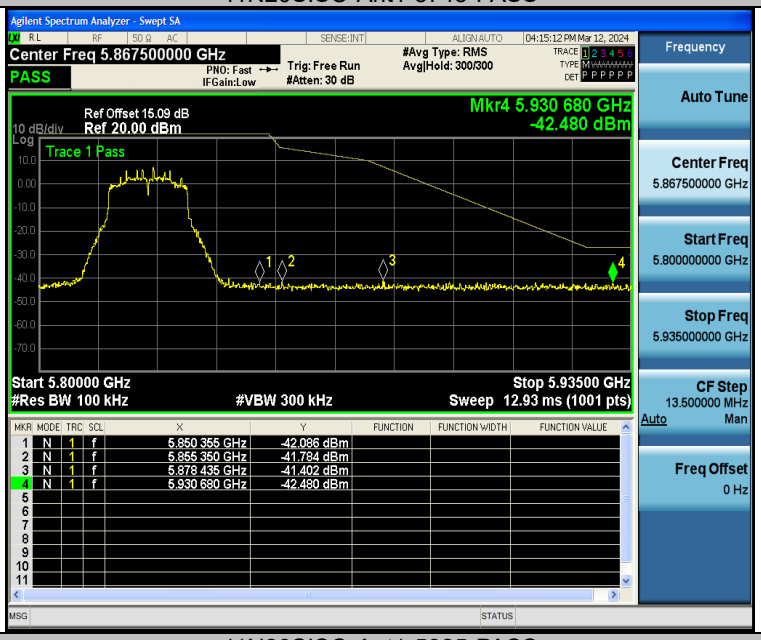
11A-Ant1-5745-PASS



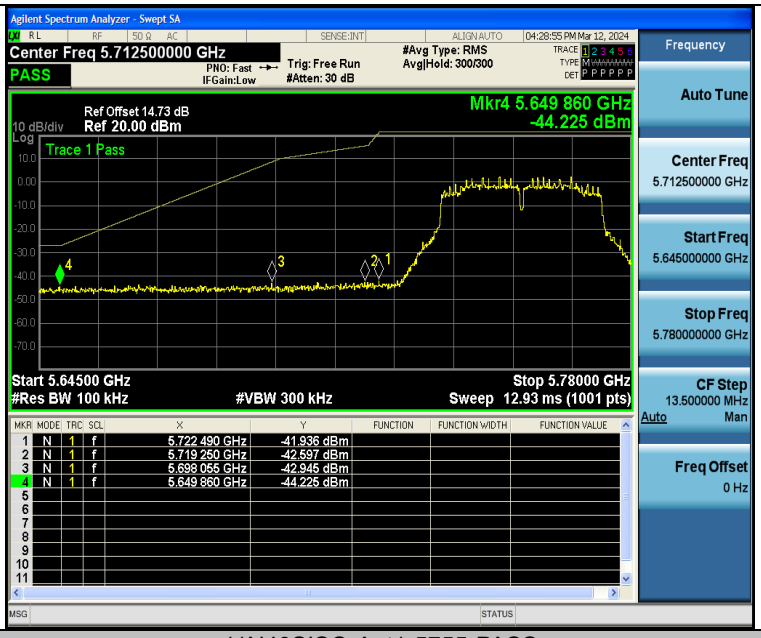
11A-Ant1-5825-PASS



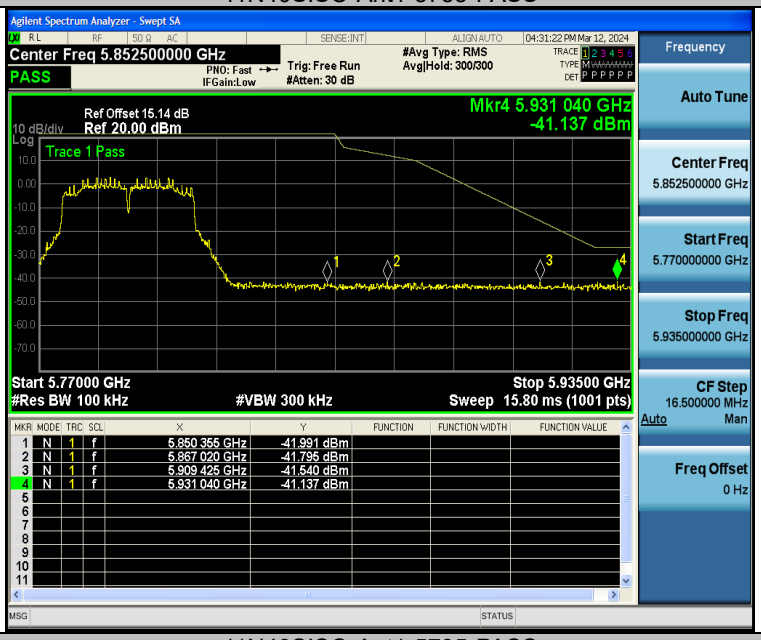
11N20SISO-Ant1-5745-PASS



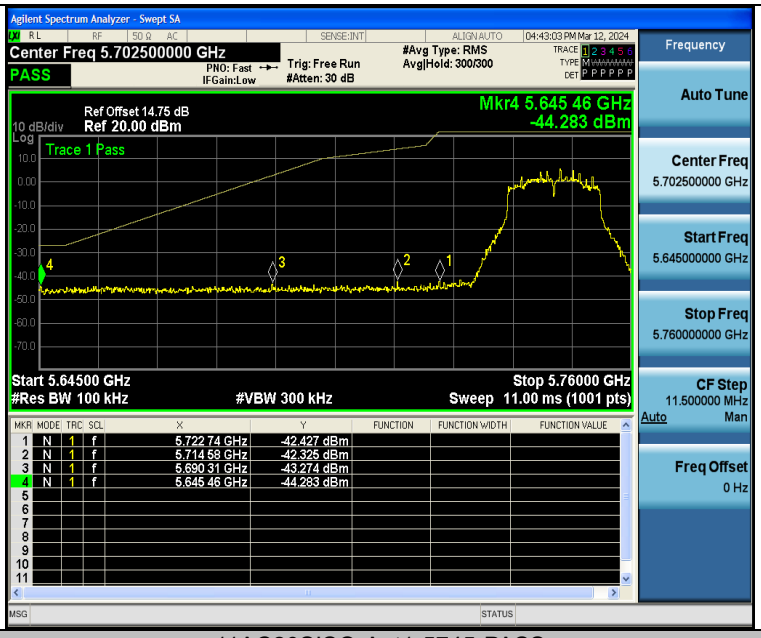
11N20SISO-Ant1-5825-PASS



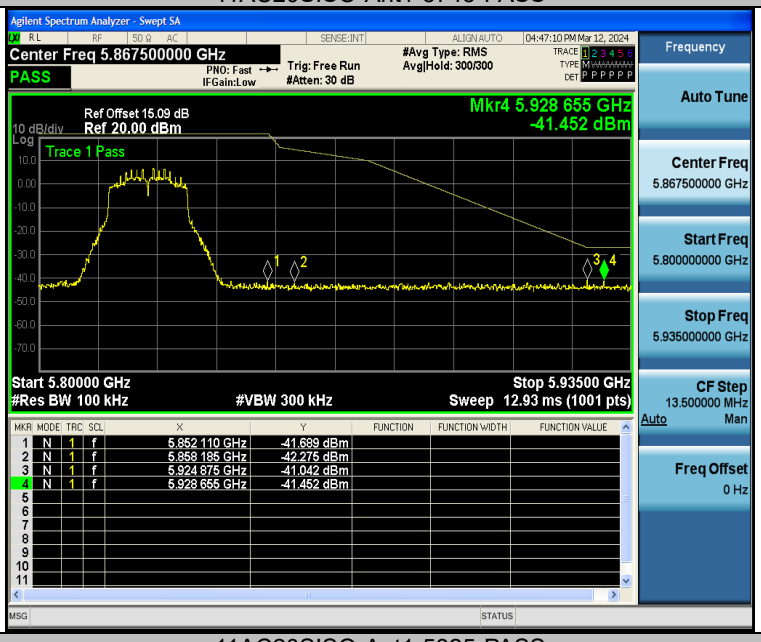
11N40SISO-Ant1-5755-PASS



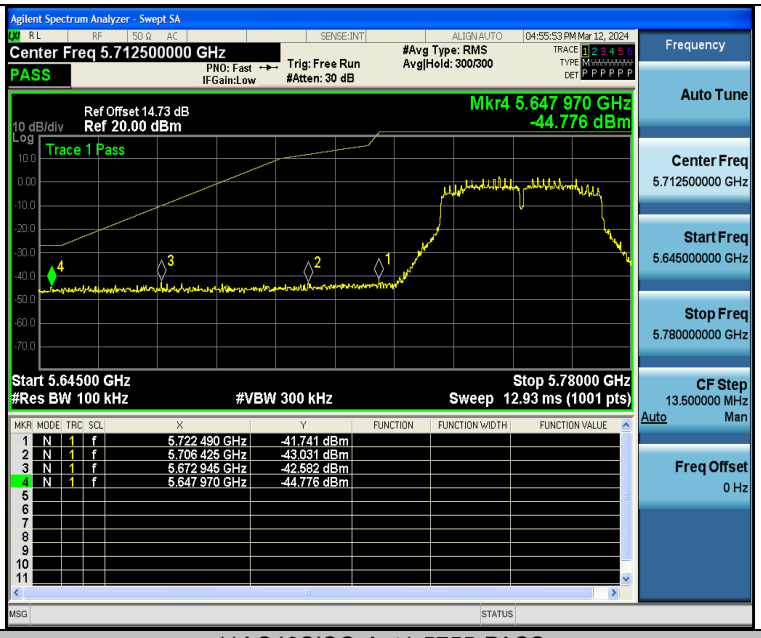
11N40SISO-Ant1-5795-PASS



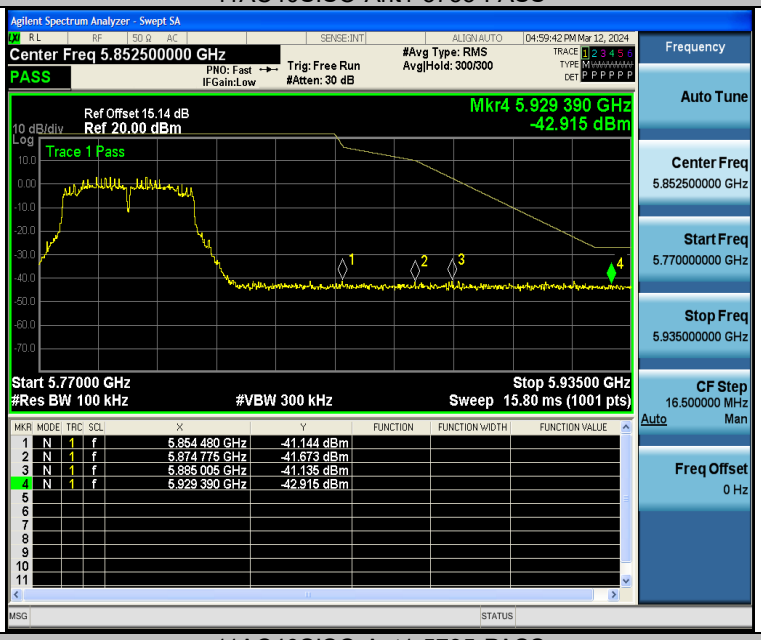
11AC20SISO-Ant1-5745-PASS



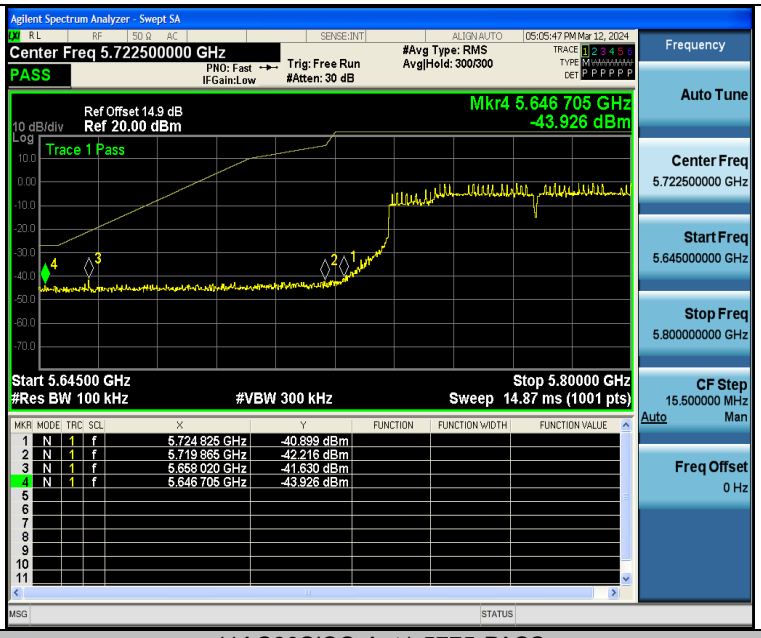
11AC20SISO-Ant1-5825-PASS



11AC40SISO-Ant1-5755-PASS



11AC40SISO-Ant1-5795-PASS



11AC80SISO-Ant1-5775-PASS

11AC80SISO-Ant1-5775-PASS

6.7 Restricted Band

Test Requirement : FCC Part15 E Section 15.407(b)

Test site : Measurement Distance: 3m

Test Limit :

Frequency	Limit (dBuV/m @3m)	Remark
Above 1GHz	74	Peak Value
	54	Average Value

Test Procedure:

1. The EUT was placed on a styrofoam table which is 1.5m above ground plane.

2. EUT is set 3m away from the receiving antenna, which is moved from 1m to 4m to find out the maximum emissions. The spectrum was investigated from the lowest radio frequency signal generated in the device, without going below 9 kHz, up to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.

5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.

6. Repeat above procedures until the measurements for all frequencies are complete.

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.

8. The test above 1GHz must be use the fully anechoic room, and the test below 1GHz use the half anechoic room

Test Result:

Worst case mode:		802.11a(6Mbps)		Test channel:		36		
NO.	Freq. [MHz]	level [dBμV/m]	Factor [dB]	Emission level [dBμV/m]	Limit [dBμV/m]	Over [dB]	Polarity	Detector Type
1	5150	50.56	6.53	57.09	74	16.91	H	Peak
2	5150	40.01	6.53	46.54	54	7.46	H	Average
3	5150	49.62	6.53	56.15	74	17.85	V	Peak
4	5150	38.39	6.53	44.92	54	9.08	V	Average

Worst case mode:		802.11a(6Mbps)		Test channel:		48		
NO.	Freq. [MHz]	level [dBμV/m]	Factor [dB]	Emission level [dBμV/m]	Limit [dBμV/m]	Over [dB]	Polarity	Detector Type
1	5350	50.46	6.56	57.02	74	16.98	H	Peak
2	5350	40.18	6.56	46.74	54	7.26	H	Average
3	5350	49.49	6.56	56.05	74	17.95	V	Peak
4	5350	38.25	6.56	44.81	54	9.19	V	Average

Worst case mode:		802.11a(6Mbps)		Test channel:		165		
NO.	Freq. [MHz]	level [dBμV/m]	Factor [dB]	Emission level [dBμV/m]	Limit [dBμV/m]	Over [dB]	Polarity	Detector Type
1	5850	49.94	6.64	56.58	74	17.42	H	Peak
2	5850	40.23	6.64	46.87	54	7.13	H	Average
3	5850	49.66	6.64	56.3	74	17.7	V	Peak
4	5850	38.23	6.64	44.87	54	9.13	V	Average

Note: Only recorded the worst case in the report.

7 Emission Bandwidth and Occupied Bandwidth

Test Requirement	:	FCC CFR47 Part 15 Section 15.407(a)(e)
Test Method	:	ANSI C63.10:2013
Test Limit		According to FCC §15.407(a), 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 are made over a reference bandwidth of 500 kHz or the 26 dB emission bandwidth of the device, whichever is less. 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. As per FCC §15.407(e): for equipment operating in the band 5725 – 5850 MHz, the minimum 6 dB bandwidth of U-NII devices shall be 500 kHz.

7.1 Test Procedure

According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01,
Emission Bandwidth (EBW)
a) Set RBW = approximately 1% of the emission bandwidth; b) Set the VBW > RBW; c) Detector = Peak; d) Trace mode = max hold; e) Measure the maximum width of the emission that is 26 dB down from the maximum 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%;99% Occupied Bandwidth
The 99% occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5 % of the total mean power of the given emission. Measurement of the 99% occupied bandwidth is required only as a condition for using the optional band-edge measurement techniques described in II.G.3.d). Measurements of 99% occupied bandwidth may also optionally be used in lieu of the EBW to define the minimum frequency range over which the spectrum is integrated when measuring maximum conducted output power as described in II.E. However, the EBW must be measured to determine bandwidth dependent limits on maximum conducted output power in accordance with 15.407(a).

The following procedure shall be used for measuring (99 %) power bandwidth:
1. Set center frequency to the nominal EUT channel center frequency.
2. Set span = 1.5 times to 5.0 times the OBW.
3. Set RBW = 1 % to 5 % of the OBW
4. Set VBW ⩾ 3 • RBW
5. 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.

7.2 Test Result

PASS

Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available modulations / data rates and antenna ports.
Following channel was selected for the final test as listed below.

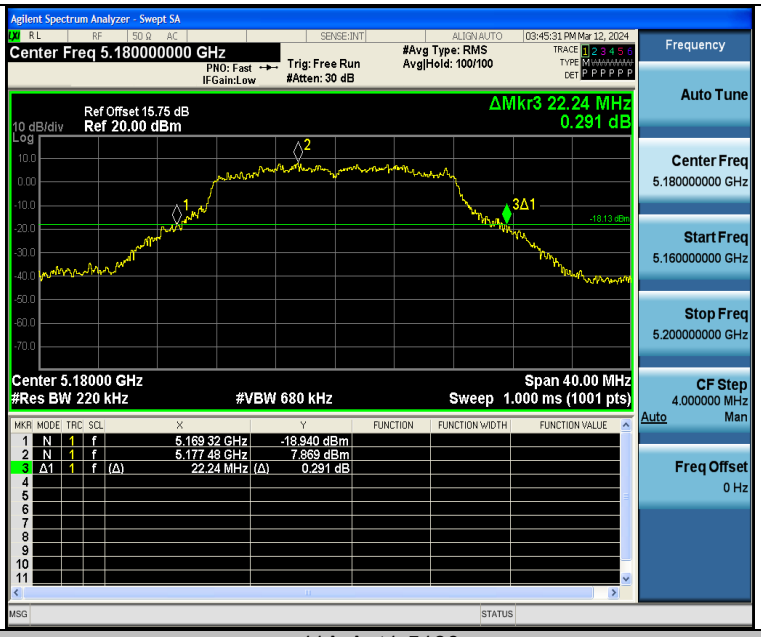
26 dB emission bandwidth:

TestMode	Antenna	Frequency[MHz]	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	22.240	5169.320	5191.560	---	---
11A	Ant1	5200	22.760	5188.840	5211.600	---	---
11A	Ant1	5240	22.040	5229.160	5251.200	---	---
11A	Ant1	5745	22.160	5734.120	5756.280	---	---
11A	Ant1	5785	21.480	5774.320	5795.800	---	---
11A	Ant1	5825	21.680	5814.280	5835.960	---	---
11N20SISO	Ant1	5180	22.080	5169.040	5191.120	---	---
11N20SISO	Ant1	5200	21.760	5189.280	5211.040	---	---
11N20SISO	Ant1	5240	21.840	5229.200	5251.040	---	---
11N20SISO	Ant1	5745	22.160	5733.880	5756.040	---	---
11N20SISO	Ant1	5785	22.200	5773.920	5796.120	---	---
11N20SISO	Ant1	5825	22.680	5813.880	5836.560	---	---
11N40SISO	Ant1	5190	43.520	5168.720	5212.240	---	---
11N40SISO	Ant1	5230	43.120	5208.400	5251.520	---	---
11N40SISO	Ant1	5755	43.520	5732.600	5776.120	---	---
11N40SISO	Ant1	5795	43.440	5773.400	5816.840	---	---
11AC20SISO	Ant1	5180	23.280	5168.600	5191.880	---	---
11AC20SISO	Ant1	5200	22.400	5189.120	5211.520	---	---
11AC20SISO	Ant1	5240	21.960	5228.880	5250.840	---	---
11AC20SISO	Ant1	5745	22.400	5733.760	5756.160	---	---
11AC20SISO	Ant1	5785	22.440	5773.680	5796.120	---	---
11AC20SISO	Ant1	5825	22.400	5814.240	5836.640	---	---
11AC40SISO	Ant1	5190	42.640	5168.800	5211.440	---	---
11AC40SISO	Ant1	5230	43.040	5208.480	5251.520	---	---
11AC40SISO	Ant1	5755	43.520	5733.640	5777.160	---	---
11AC40SISO	Ant1	5795	43.520	5773.560	5817.080	---	---
11AC80SISO	Ant1	5210	83.520	5168.240	5251.760	---	---
11AC80SISO	Ant1	5775	82.240	5734.200	5816.440	---	---

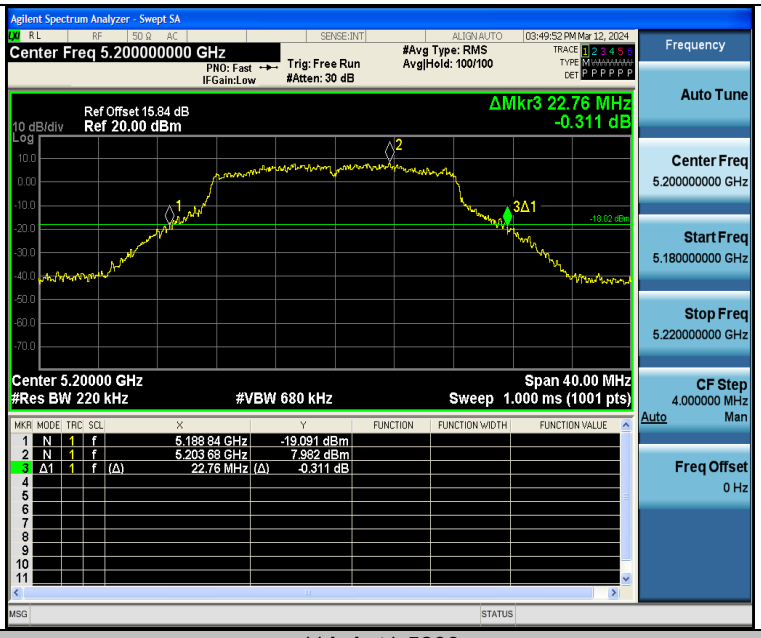
minimum 6 dB bandwidth:

TestMode	Antenna	Frequency[MHz]	6db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5745	13.720	5738.720	5752.440	0.5	PASS
11A	Ant1	5785	15.080	5777.440	5792.520	0.5	PASS
11A	Ant1	5825	13.240	5818.640	5831.880	0.5	PASS
11N20SISO	Ant1	5745	15.920	5737.400	5753.320	0.5	PASS
11N20SISO	Ant1	5785	13.840	5778.640	5792.480	0.5	PASS
11N20SISO	Ant1	5825	12.840	5817.400	5830.240	0.5	PASS
11N40SISO	Ant1	5755	31.360	5739.880	5771.240	0.5	PASS
11N40SISO	Ant1	5795	35.120	5777.400	5812.520	0.5	PASS
11AC20SISO	Ant1	5745	14.440	5738.640	5753.080	0.5	PASS
11AC20SISO	Ant1	5785	15.000	5777.520	5792.520	0.5	PASS
11AC20SISO	Ant1	5825	14.960	5817.480	5832.440	0.5	PASS
11AC40SISO	Ant1	5755	32.560	5739.880	5772.440	0.5	PASS
11AC40SISO	Ant1	5795	35.040	5777.400	5812.440	0.5	PASS
11AC80SISO	Ant1	5775	75.040	5737.400	5812.440	0.5	PASS

Test Graphs:



11A-Ant1-5180



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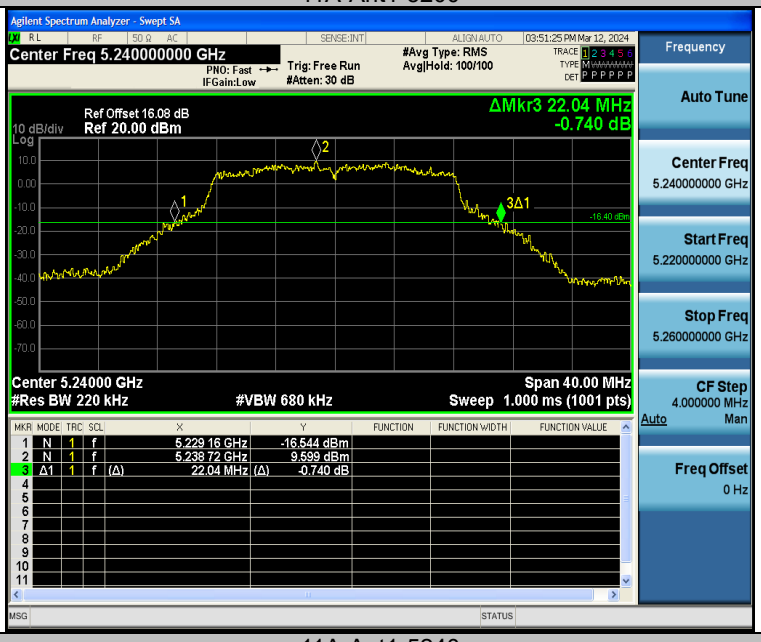

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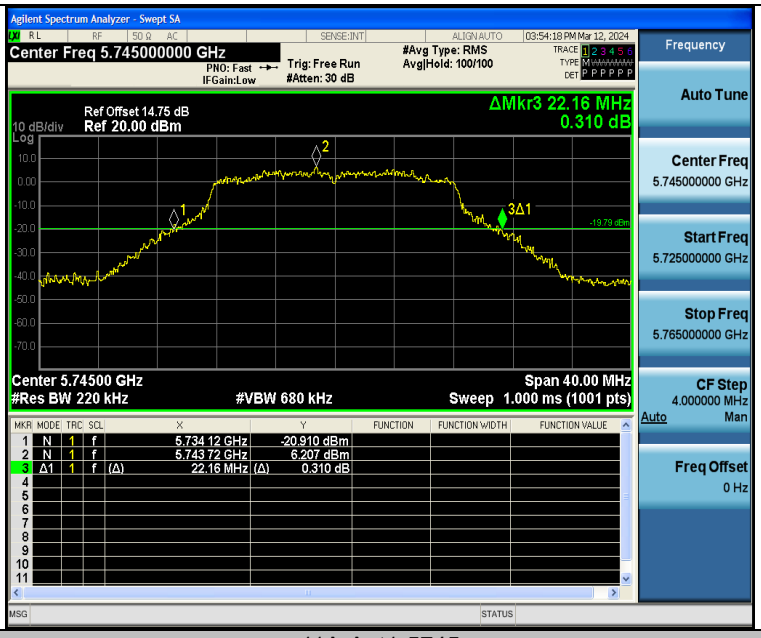

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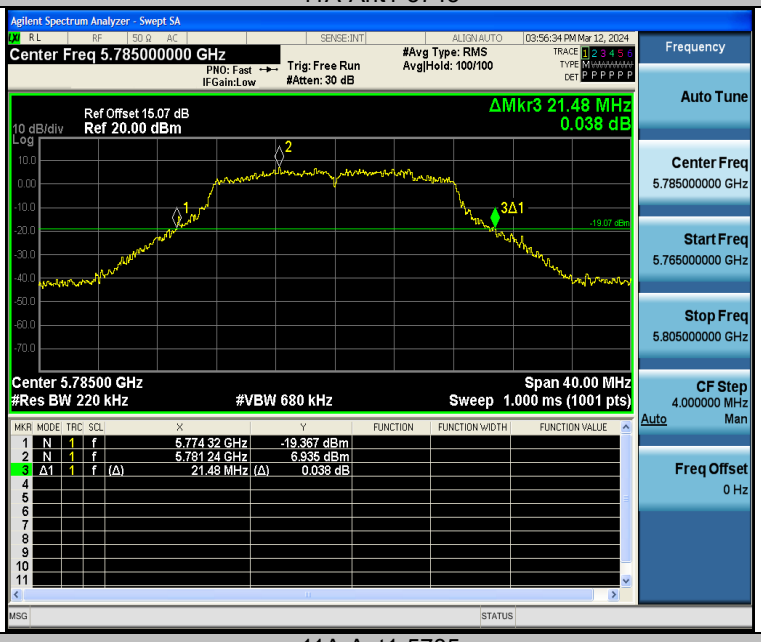
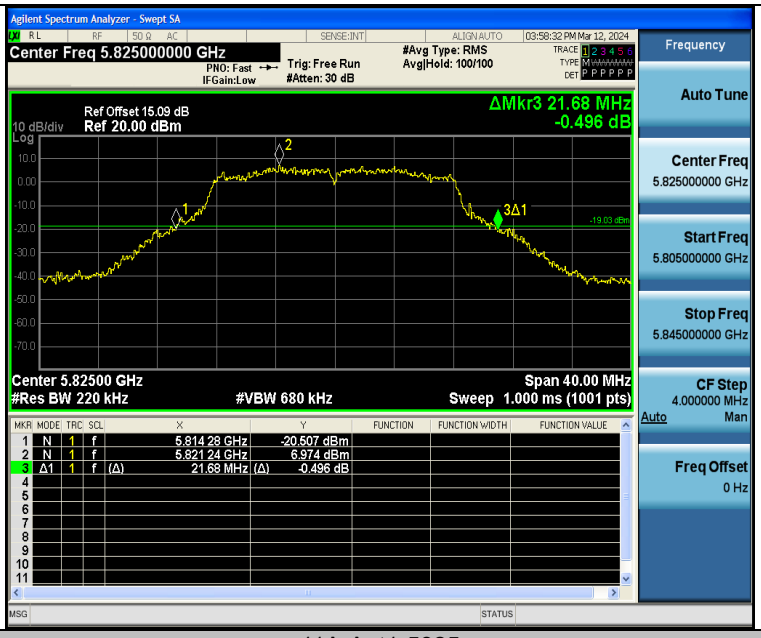
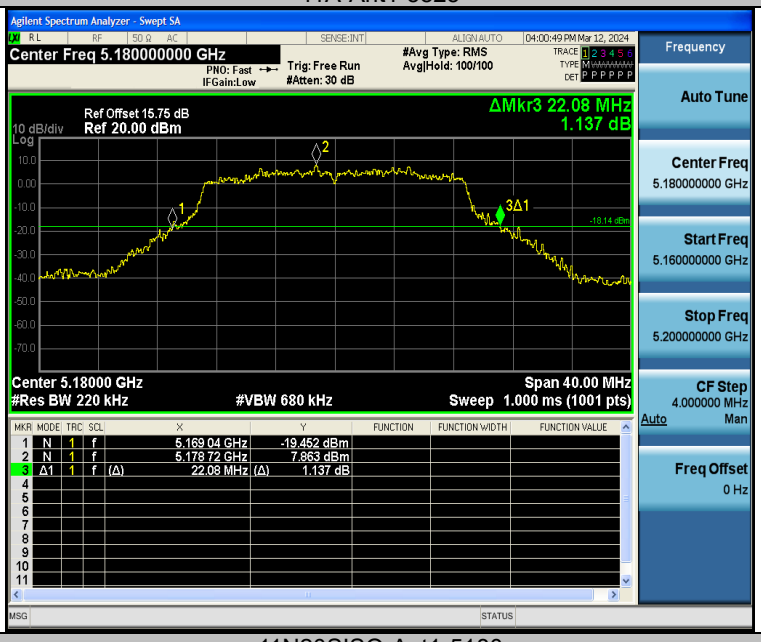


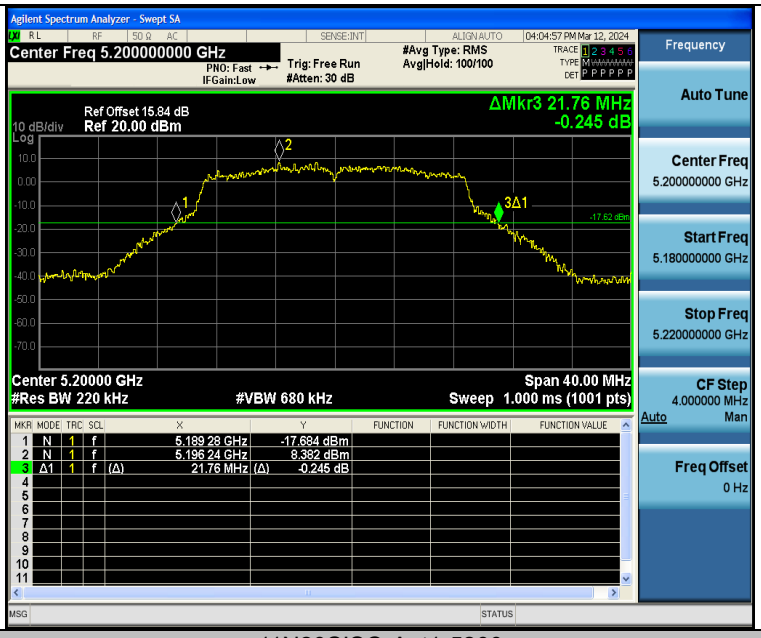
11A-Ant1-5785



11A-Ant1-5825



11N20SISO-Ant1-5180



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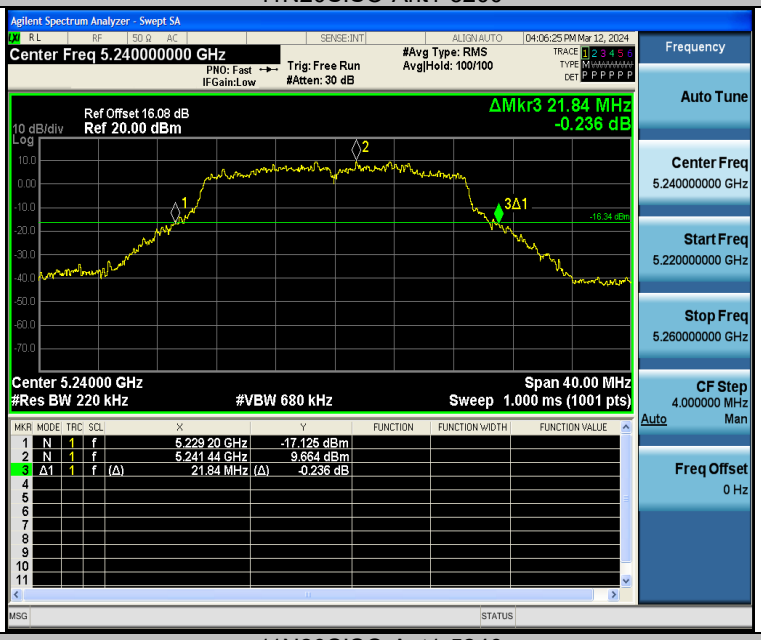

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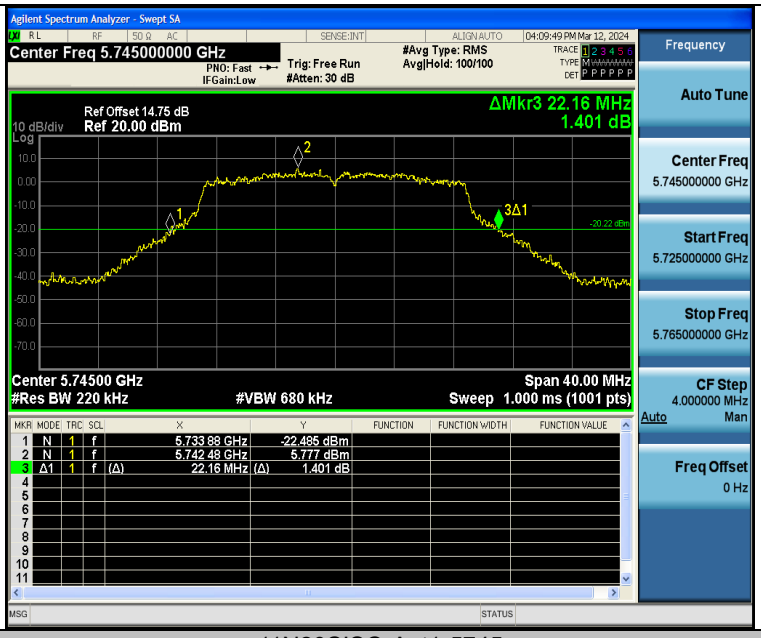

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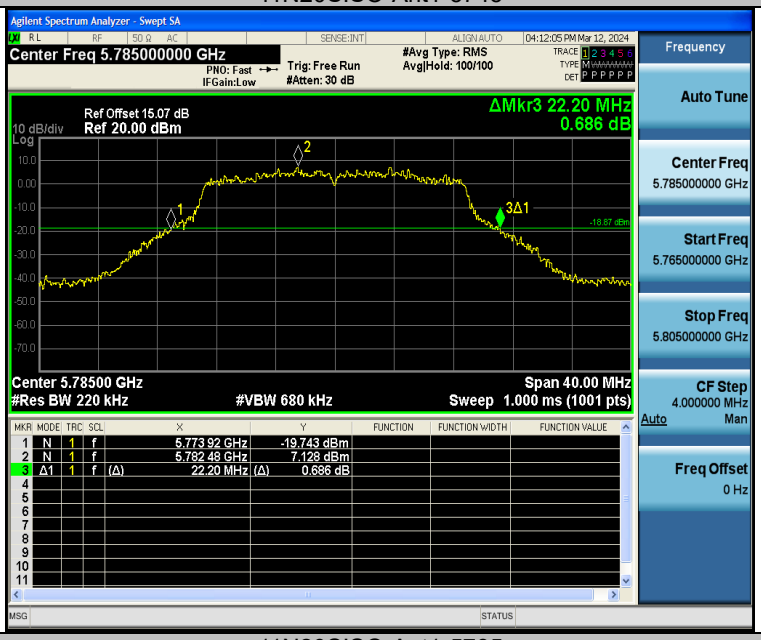

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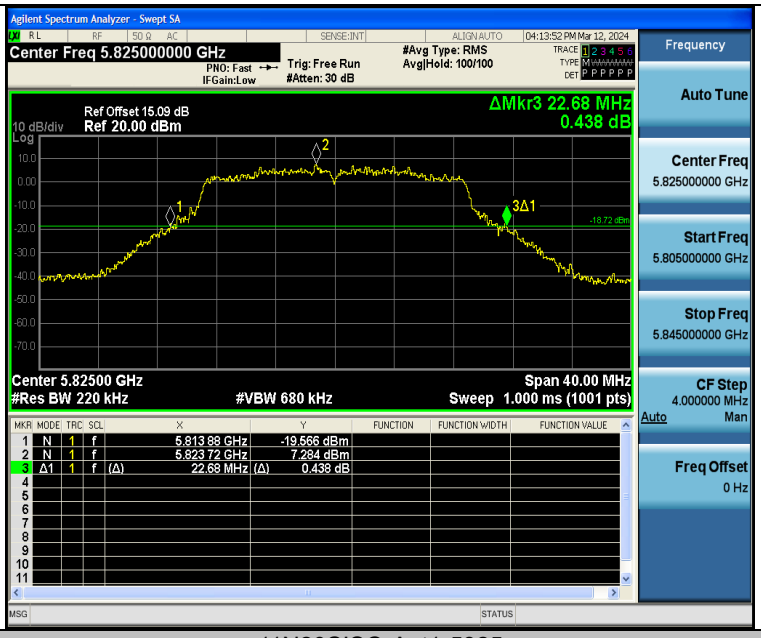
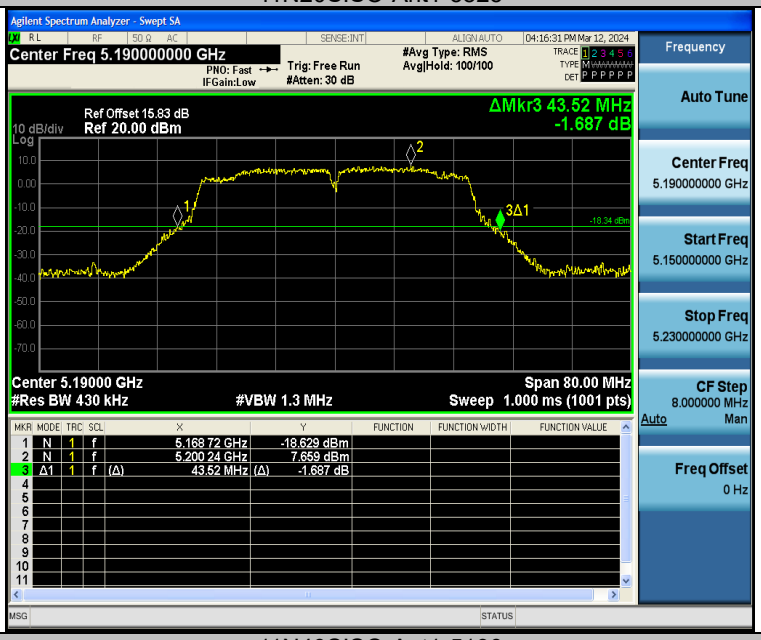
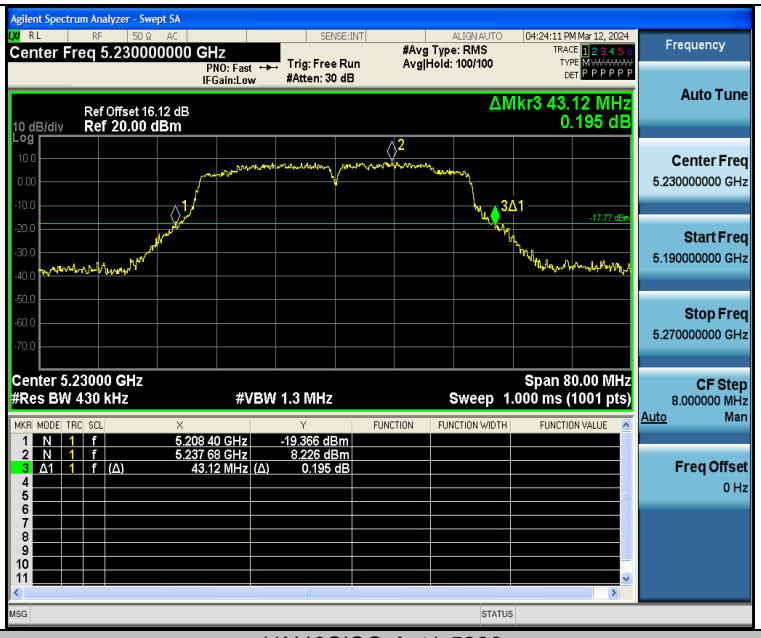


11N20SISO-Ant1-5825



11N40SISO-Ant1-5190



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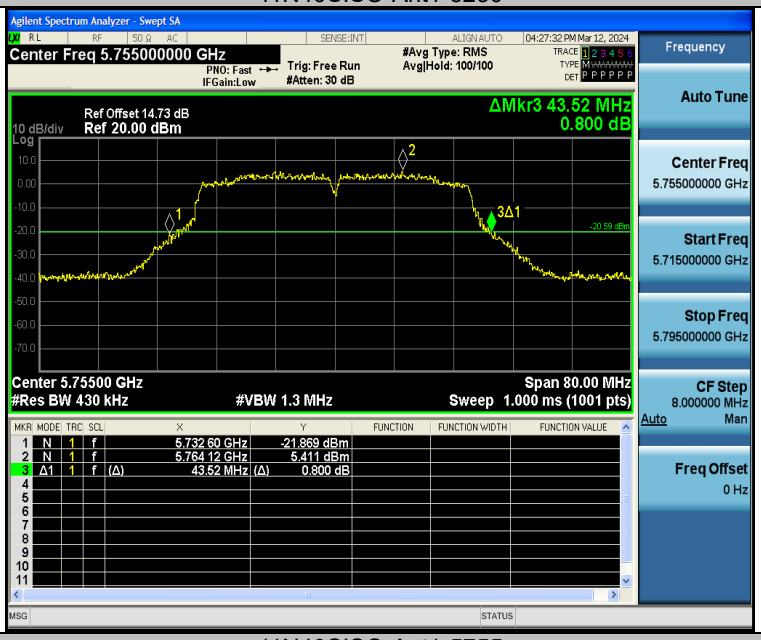

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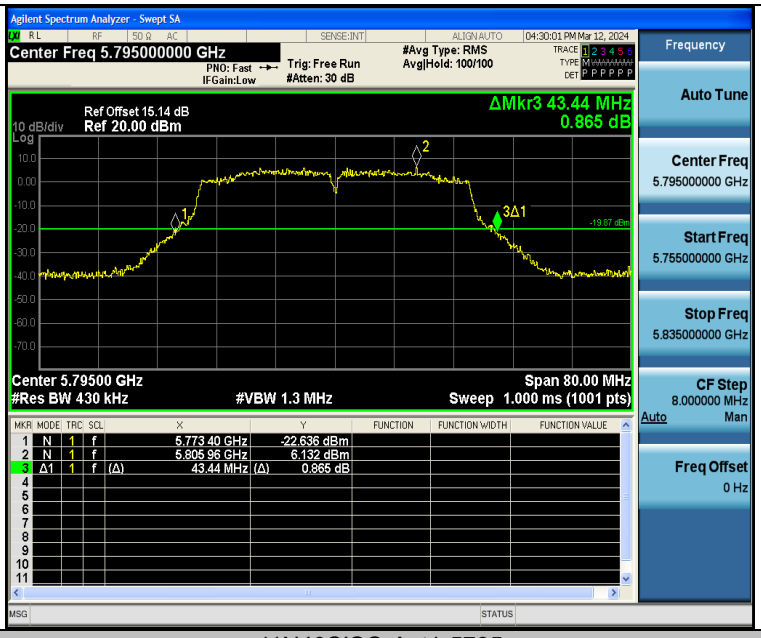

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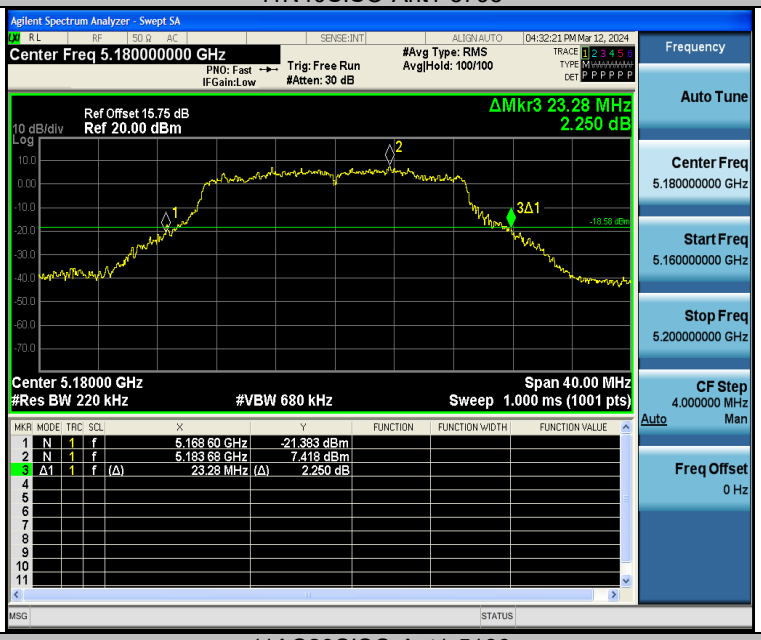

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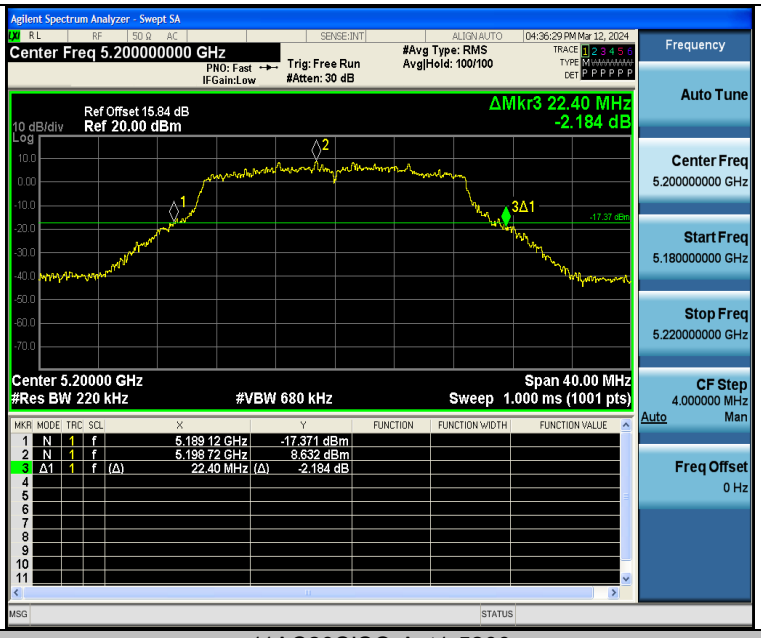

11AC20SISO-Ant1-5200

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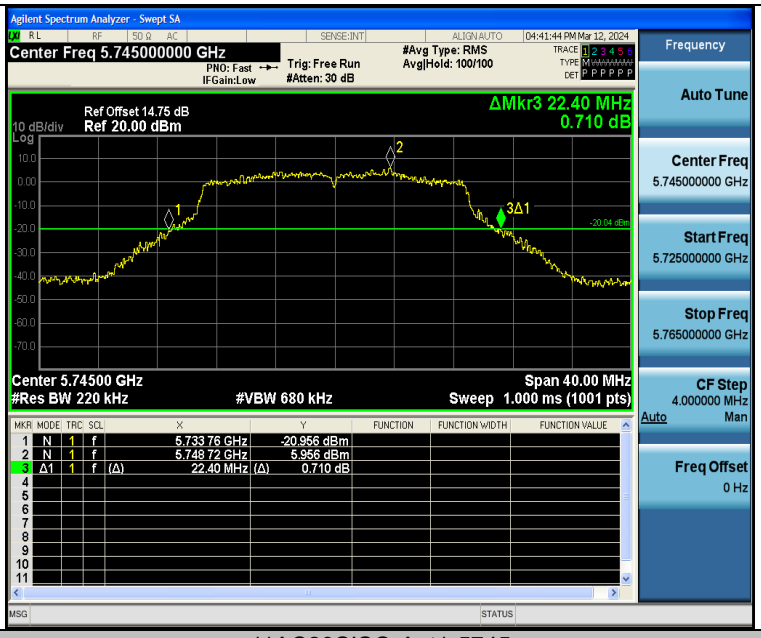

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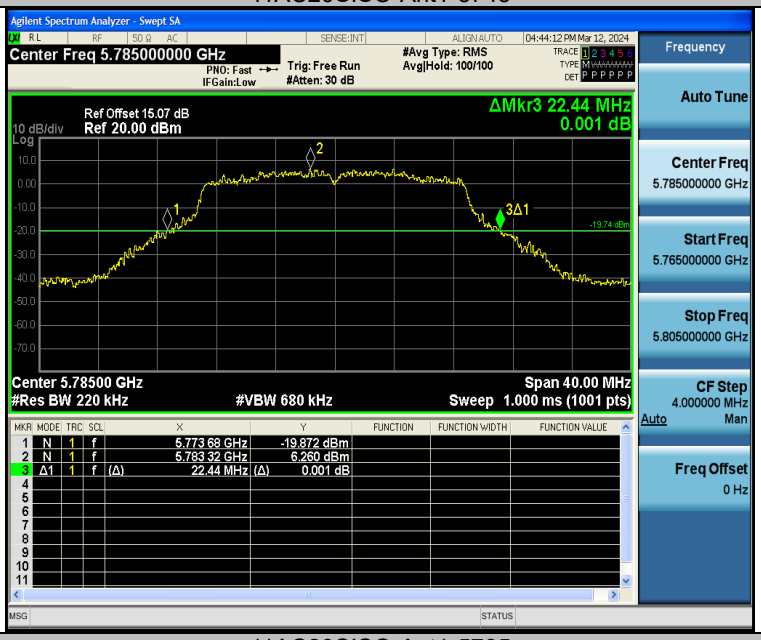

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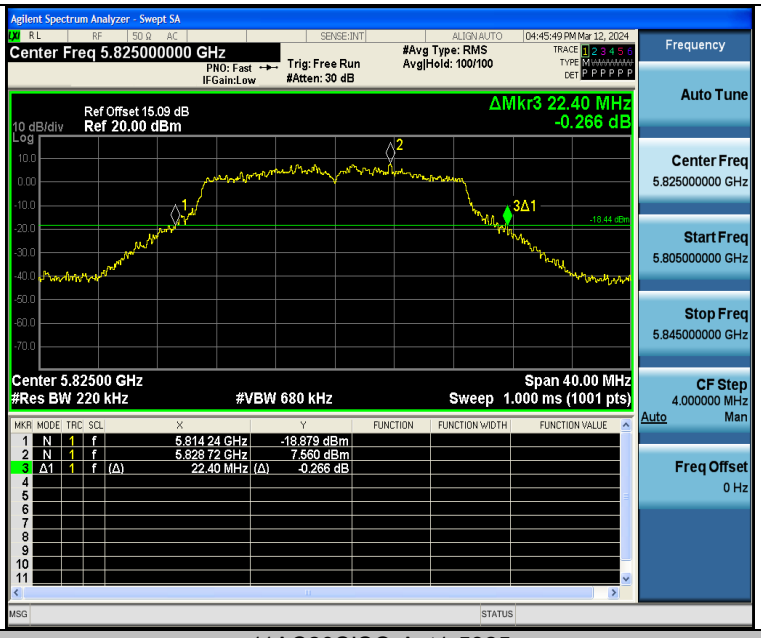

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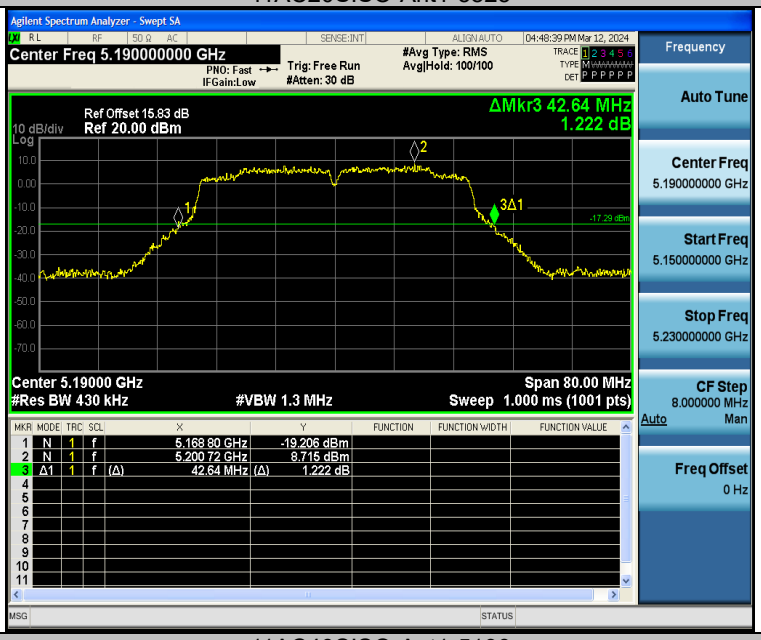

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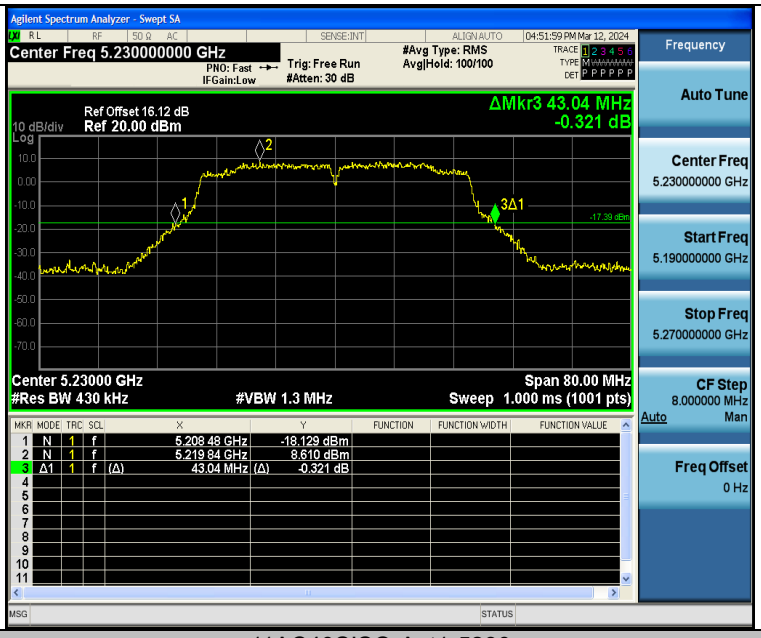

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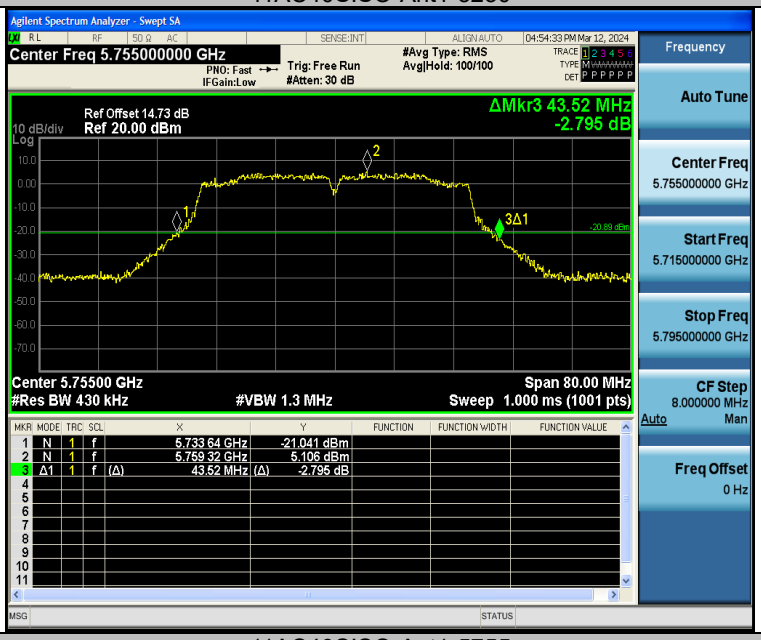

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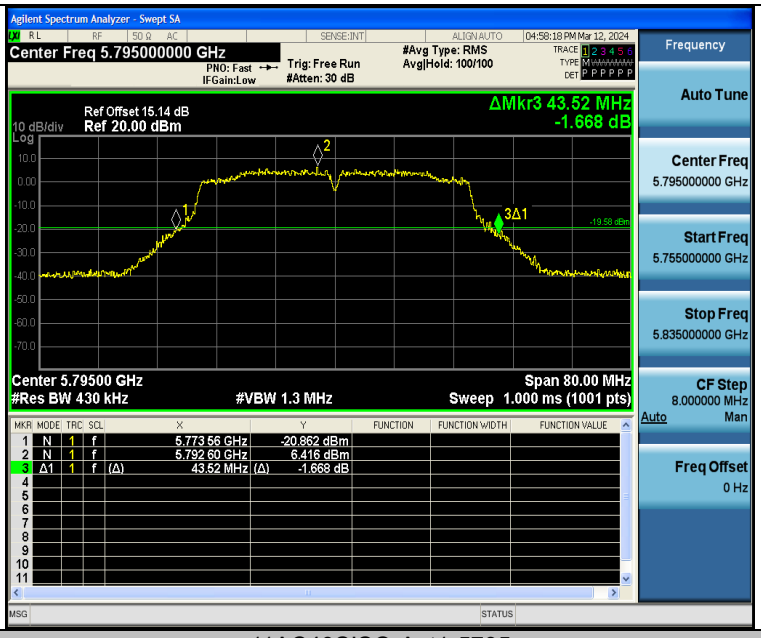

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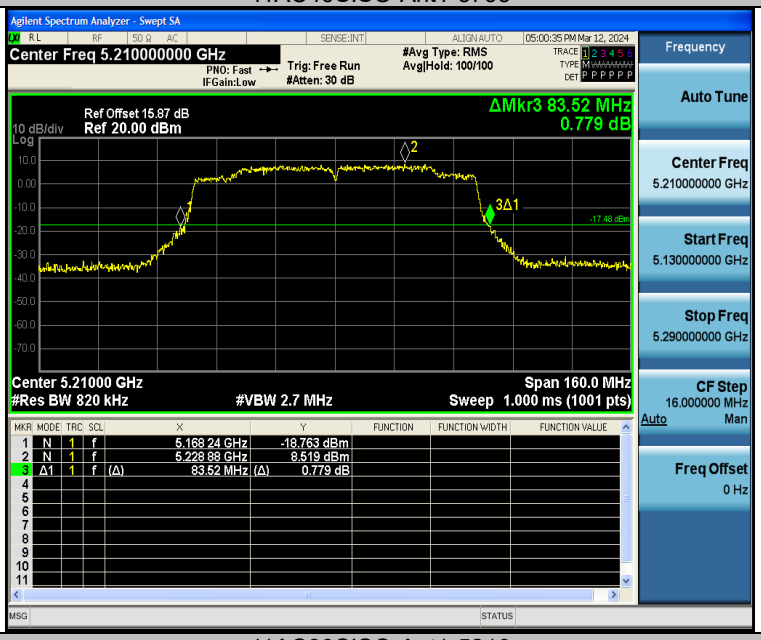

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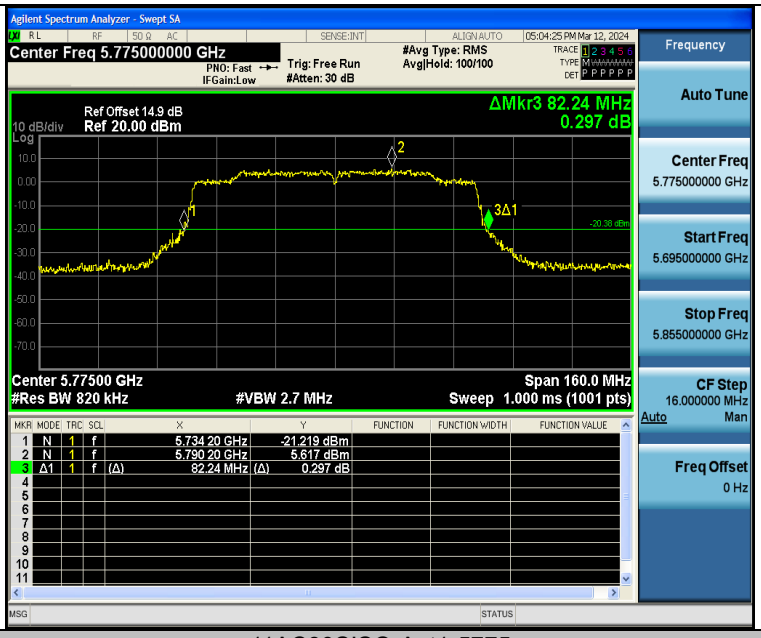

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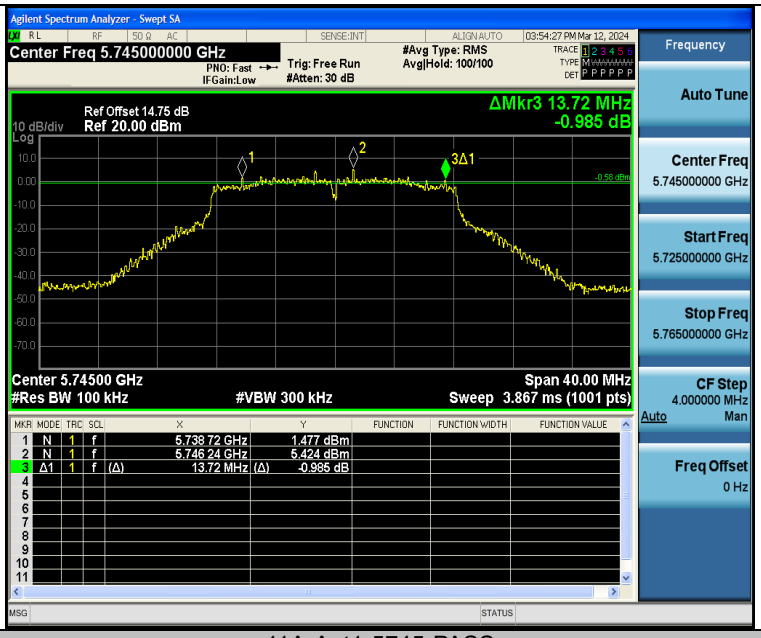
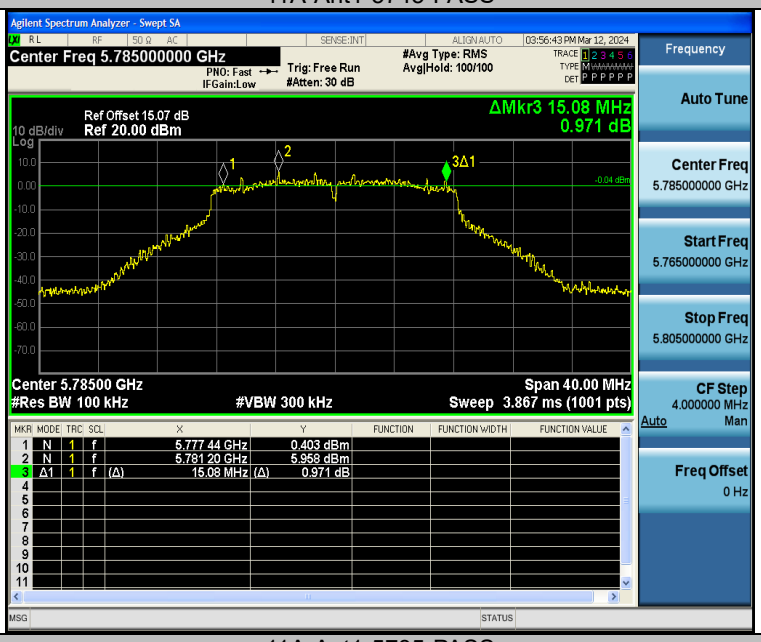
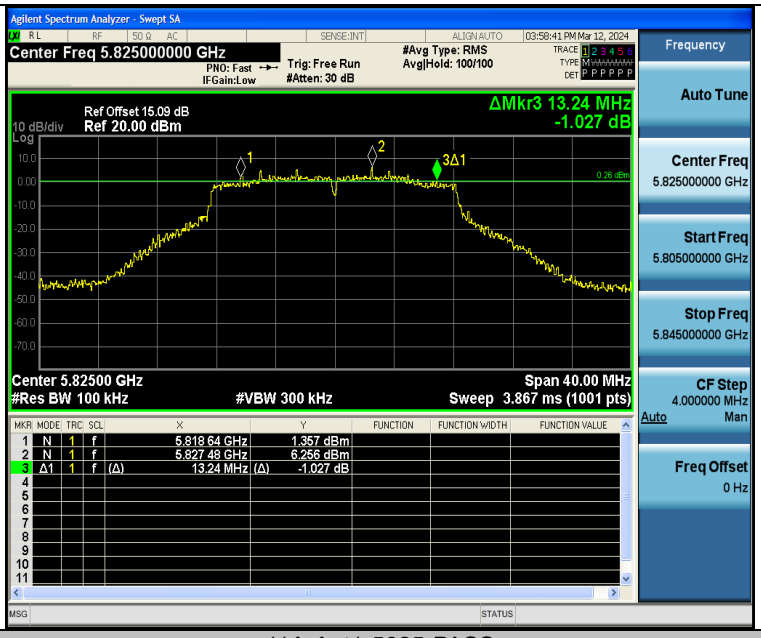
Min emission bandwidth Test Graphs:



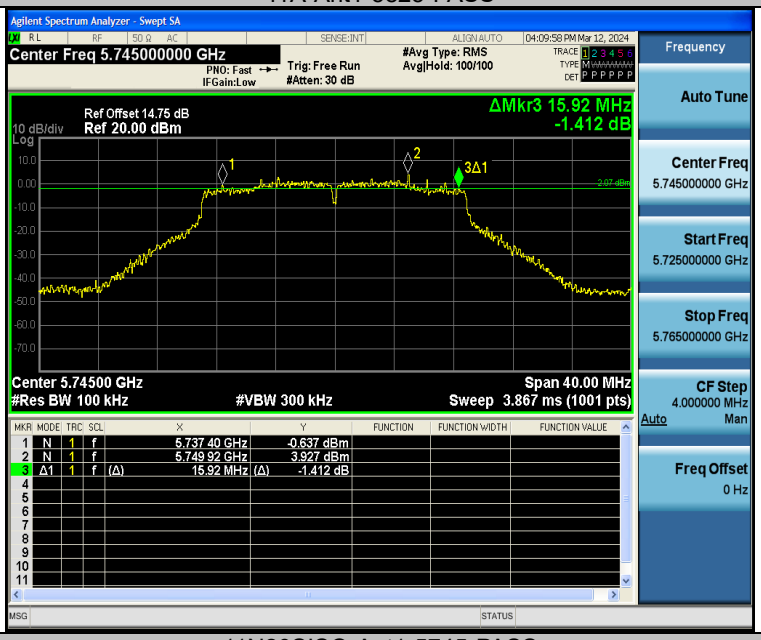
11A-Ant1-5745-PASS



11A-Ant1-5785-PASS



11A-Ant1-5825-PASS



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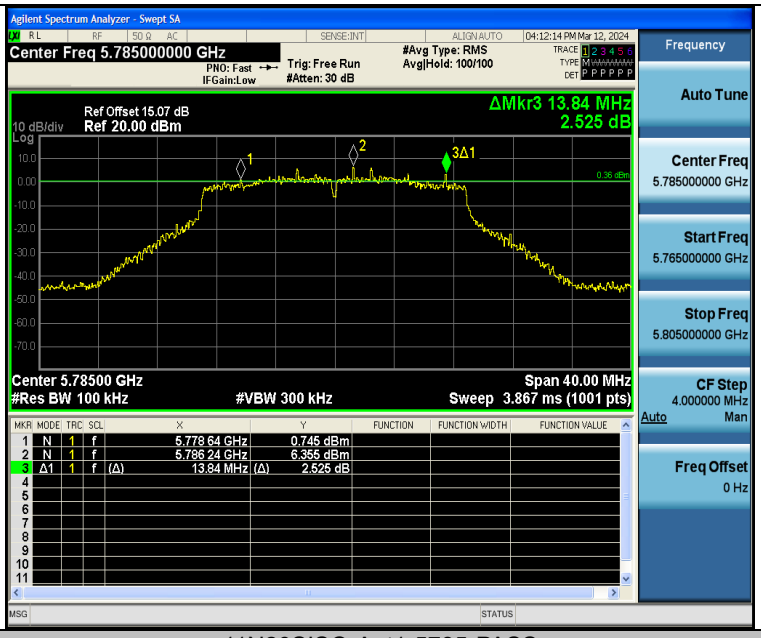

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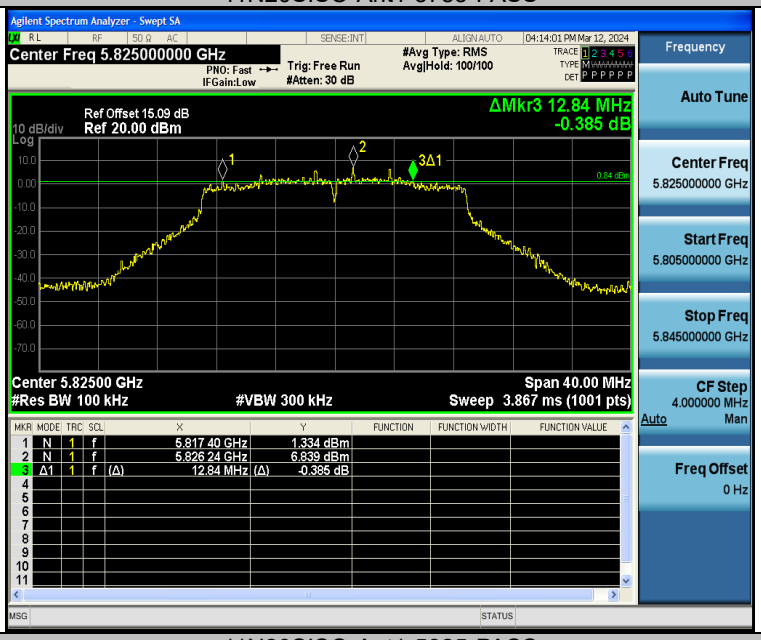

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