FCC TEST REPORT

Product Name:	Smart Phone
Trade Mark:	BLU
Model No.:	G95
Report Number:	25062318650RFC-4
Test Standards:	FCC 47 CFR Part 15 Subpart E
FCC ID:	YHLBLU95GC
Test Result:	PASS
Date of Issue:	August 5, 2025

Prepared for:

BLU Products, Inc.
8600 NW 36th Street, Suite #300 | Miami, FL 33166

Prepared by:

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Version

Version No.	Date	Description
V1.0	August 5, 2025	Original

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1. GENERAL INFORMATION

1.1 CLIENT INFORMATION

Applicant:	BLU Products, Inc.
Address of Applicant:	8600 NW 36th Street, Suite #300 | Miami, FL 33166
Manufacturer:	BLU Products, Inc.
Address of Manufacturer:	8600 NW 36th Street, Suite #300 | Miami, FL 33166

1.2 EUT INFORMATION

1.2.1 General Description of EUT

Product Name:	Smart Phone		
Model No.:	G95		
Trade Mark:	BLU		
DUT Stage:	Identical Prototype		
EUT Supports Function: (Provided by the customer)	GSM Bands:	GSM850/PCS 1900	
	UTRA Bands:	WCDMA Band II/ Band IV/ Band V	
	E-UTRA Bands:	FDD Band 2/ Band 4/ Band 5/ Band 7/ Band 12/ / Band 13/ Band 17/ Band 66/ Band 71	
	2.4 GHz ISM Band:	IEEE 802.11b/g/n	
		Bluetooth 5.2	
	5 GHz U-NII Bands:	5 150 MHz to 5 250 MHz	IEEE 802.11a/n/ac
		5 250 MHz to 5 350 MHz	IEEE 802.11a/n/ac
		5 470 MHz to 5 725 MHz	IEEE 802.11a/n/ac
		5 725 MHz to 5 850 MHz	IEEE 802.11a/n/ac
	RNSS Band:	1559 MHz to 1610 MHz	GPS/ BDS/ Galileo/ GLONASS
	NFC:	13.553 MHz to 13.567 MHz	
Sample Received Date:	June 23, 2025		
Sample Tested Date:	June 26, 2025 to July 15, 2025		
Remark: The above EUT's information was provided by customer. Please refer to the specifications or user's manual for more detailed description.			

1.2.2 Description of Accessories

Adapter	
Model No.:	US-BJ-1825Q
Input:	100-240 V~50/60 Hz 0.5 A
Output:	5.0V ⎓ 3000 mA 15.0W OR 9.0 V ⎓ 2000mA 18.0W

Cable	
Connector:	USB Cable
Cable Type:	Unshielded without ferrite
Length:	1.0 Meter

Battery	
Model No.:	C906548500P
Battery Type:	Lithium-ion Polymer Battery
Rated Voltage:	3.87 Vdc
Typical Capacity:	5000 mAh
Rated Capacity:	4900 mAh

1.3 PRODUCT SPECIFICATION SUBJECTIVE TO THIS STANDARD

Frequency Bands:	5150 MHz to 5250 MHz (U-NII-1)				
	5250 MHz to 5350 MHz (U-NII-2A)				
	5470 MHz to 5725 MHz (U-NII-2C)				
	5 725 MHz to 5 850 MHz (U-NII-3)				
Frequency Ranges:	5180 MHz to 5240 MHz				
	5260 MHz to 5320 MHz				
	5500 MHz to 5700 MHz				
	5745 MHz to 5825 MHz				
Support Standards:	IEEE 802.11a/n/ac				
TPC Function:	Not Support				
DFS Operational mode:	Slave without radar Interference detection function				
Type of Modulation:	IEEE 802.11a: OFDM(64QAM, 16QAM, QPSK, BPSK)				
	IEEE 802.11n: OFDM(64QAM, 16QAM, QPSK, BPSK)				
	IEEE 802.11ac: OFDM(256QAM, 64QAM, 16QAM, QPSK, BPSK)				
Channel Spacing:	IEEE 802.11a/n-HT20/ac-VHT20: 20 MHz				
	IEEE 802.11n-HT40/ac-VHT40: 40 MHz				
	IEEE 802.11ac-VHT80: 80 MHz				
Data Rate:	IEEE 802.11a: Up to 54 Mbps				
	IEEE 802.11n-HT20: Up to MCS7				
	IEEE 802.11n-HT40: Up to MCS7				
	IEEE 802.11ac-VHT20: Up to MCS8				
	IEEE 802.11ac-VHT40: Up to MCS9				
	IEEE 802.11ac-VHT80: Up to MCS9				
Number of Channels:	5150 MHz to 5250 MHz: 4 for IEEE 802.11a/n-HT20/ac-VHT20 2 for IEEE 802.11n-HT40)/ac-VHT40 1 for IEEE 802.11acVHT80				
	5250 MHz to 5350 MHz: 4 for IEEE 802.11a/n-HT20/ac-VHT20 2 for IEEE 802.11n-HT40)/ac-VHT40 1 for IEEE 802.11acVHT80				
	5470 MHz to 5725 MHz: 11 for IEEE 802.11a/n-HT20/ac-VHT20 5 for IEEE 802.11n-HT40/ac-VHT40 2 for IEEE 802.11ac-VHT80				
	5725 MHz to 5850 MHz: 5 for IEEE 802.11a/n-HT20/ac-VHT20 2 for IEEE 802.11n-HT40/ac-VHT40 1 for IEEE 802.11ac-VHT80				
Antenna Type:	PIFA Antenna				
Antenna Gain: (Provided by the customer)	5150 - 5250 MHz	-0.14 dBi			
	5250 - 5350 MHz	-0.3 dBi			
	5470 - 5725 MHz	-2.25 dBi			
	5725 - 5850 MHz	-2.5 dBi			
Maximum conducted output power (dBm):		**U-NII-1**	**U-NII-2A**	**U-NII-2C**	**U-NII-3**
	IEEE 802.11a:	12.62	12.51	12.54	14.74
	IEEE 802.11n-HT20:	12.57	12.48	12.36	15.16
	IEEE 802.11n-HT40:	12.38	12.09	13.15	13.61

	IEEE 802.11ac-VHT20:	12.29	12.21	11.87	13.03
	IEEE 802.11ac-VHT40:	12.29	12.29	12.06	13.62
	IEEE 802.11ac-VHT80:	12.22	12.21	12.11	13.48
Normal Test Voltage:	3.87 Vdc				

1.4 OTHER INFORMATION

Operation Frequency Each of Channel				
	U-NII-1	U-NII-2A	U-NII-2C	U-NII-3
IEEE 802.11a, IEEE 802.11n-HT20, IEEE 802.11ac-VHT20	f = 5000 + 5k, k = 32 + 4n			f = 5000 + 5k, k = 145 + 4n
	n = 1,…, 4	n = 5,…, 8	n = 17,…, 27	n = 1,…, 5
IEEE 802.11n-HT40, IEEE 802.11ac-VHT40	f = 5000 + 5k, k = 30 + 8n			f = 5000 + 5k, k = 143 + 8n
	n = 1, 2	n = 1,…, 5	n = 9,…, 13	n = 1, 2
IEEE 802.11ac-VHT80	f = 5000 + 5k, k = 26 + 16n			f = 5000 + 5k, k = 155
	n = 1	n = 1, 2	n = 5, 6	

Note:
f is the operating frequency (MHz);
k is the operating channel.

1.5 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested with associated equipment below.

1) Support Equipment

Description	Manufacturer	Model No.	Serial Number	FCC ID	Supplied by
Notebook	DELL	Inspiron 5409	N/A	N/A	UnionTrust
Wireless Home Router	SAGEMCOM	FAST5280	N/A	VW3FAST5280	UnionTrust

2) Support Cable

Cable No.	Description	Connector	Length	Supplied by
1	Antenna Cable	SMA	0.1 Meter	Applicant

1.6 TEST LOCATION

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: 16/F, Block A, Building 6th, Baoneng Science and Technology Park, Longhua Street, Longhua District, Shenzhen, China, China 518109
Telephone: +86 (0) 755 2823 0888
Fax: +86 (0) 755 2823 0886

1.7 TEST FACILITY

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L9069
The measuring equipment utilized to perform the tests documented in this report has been calibrated once a year or in accordance with the manufacturer's recommendations, and is traceable under the ISO/IEC 17025 to international or national standards. Equipment has been calibrated by accredited calibration laboratories.

A2LA-Lab Certificate No.: 4312.01
Shenzhen UnionTrust Quality and Technology Co., Ltd. has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

ISED Wireless Device Testing Laboratories
CAB identifier: CN0032

FCC Accredited Lab.
Designation Number: CN1194
Test Firm Registration Number: 259480

1.8 DEVIATION FROM STANDARDS

None.

1.9 ABNORMALITIES FROM STANDARD CONDITIONS

None.

1.10 OTHER INFORMATION REQUESTED BY THE CUSTOMER

None.

1.11 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

No.	Item	Measurement Uncertainty
1	Conducted emission 9kHz-150kHz	±3.2 dB
2	Conducted emission 150kHz-30MHz	±2.7 dB
3	Radiated emission 9kHz-30MHz	± 4.7 dB
4	Radiated emission 30MHz-1GHz	± 4.9 dB
5	Radiated emission 1GHz-18GHz	± 4.8 dB
6	Radiated emission 18GHz-26GHz	± 5.1 dB
7	Radiated emission 26GHz-40GHz	± 5.1 dB
8	Conducted spurious emissions	± 2.7 dB
9	RF Power, Conducted	± 0.68 dB
10	Occupied Bandwidth	± 1.86 %
11	Radio Frequency	5.6 GHz: ± 6.4 x 10^{-8}
12	Transmission Time	± 0.19 %

13	Power Spectral Density	±0.6 dB
14	DFS Signal	± 0.65 dB

2. TEST SUMMARY

FCC 47 CFR Part 15 Subpart E Test Cases			
Test Item	**Test Requirement**	**Test Method**	**Result**
Antenna Requirement	FCC 47 CFR Part 15 Subpart C Section 15.203 FCC 47 CFR Part 15 Subpart E Section 15.407(a)(1) (2)	N/A	PASS
26 dB emission bandwidth	FCC 47 CFR Part 15 Subpart E Section 15.407 (a)(2)(5)	KDB 789033 D02 v02r01 Section C.1	PASS
6 dB bandwidth	FCC 47 CFR Part 15 Subpart E Section 15.407 (e)	KDB 789033 D02 v02r01 Section C.2	PASS
Maximum conducted output power	FCC 47 CFR Part 15 Subpart E Section 15.407 (a)(1)(2)(3)	KDB 789033 D02 v02r01 Section E.3.a (Method PM)	PASS
Power Spectral Density	FCC 47 CFR Part 15 Subpart E Section 15.407 (a)(1)(2)(3)	KDB 789033 D02 v02r01 Section F	PASS
Radiated Emissions and Band Edge Measurement	FCC 47 CFR Part 15 Subpart E Section 15.407 (b)(1)(2)(3)(4)(6) FCC 47 CFR Part 15 Subpart C Section 15.209/205	KDB 789033 D02 v02r01 Section G.3, G.4, G.5, and G.6	PASS
Dynamic Frequency Selection	FCC 47 CFR Part 15 Subpart E Section 15.407 (h)	KDB 905462 D03 Client Without DFS New Rules v01r02	PASS
AC Power Line Conducted Emission	FCC 47 CFR Part 15 Subpart E Section 15.407 (b)(6) FCC 47 CFR Part 15 Subpart C Section 15.207	ANSI C63.10-2013, Section 6.2.	PASS
Disclaimer and Explanations: The declared of product specification and data (e.g., antenna gain, RF specification, etc) for EUT presented in the report are provided by the customer, and the customer takes all the responsibilities for the accuracy of product specification.			

For Dynamic Frequency Selection

Test Case	Result
Channel Availability Check Time	N/A[1]
U-NII Detection Bandwidth	N/A[1]
Channel Closing Transmission Time	PASS
Channel Move Time	PASS
DFS Detection Threshold	N/A[1]
Non- Occupancy Period	N/A[1]

Note:

1) The EUT is slave, NA In this whole report not applicable.

3. EQUIPMENT LIST

Radiated Emission Test Equipment List						
Used	**Equipment**	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. date**	**Cal. Due date**
☒	3m SAC	ETS-LINDGREN	3M	Euroshiedpn-CT001270-1317	11-Nov-2023	10-Nov-2026
☒	Receiver	R&S	ESIB26	100114	25-Oct-2024	24-Oct-2025
☒	EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY51440197	28-Mar-2025	27-Mar-2026
☒	Loop Antenna	ETS-LINDGREN	6502	00202525	28-Oct-2024	27-Oct-2025
☒	Broadband Antenna	ETS-LINDGREN	3142E	00201566	29-Oct-2024	28-Oct-2025
☒	6dB Attenuator	Talent	RA6A5-N-18	18103001	29-Oct-2024	28-Oct-2025
☒	Preamplifier	HP	8447F	2805A02960	25-Oct-2024	24-Oct-2025
☒	Double-Ridged Waveguide Horn Antenna (Pre-amplifier)	ETS-LINDGREN	3116C-PA	00202652	28-Oct-2024	27-Oct-2025
☒	Pre-amplifier	ETS-Lindgren	00118384	00202652	28-Oct-2024	27-Oct-2025
☒	Double-Ridged Waveguide Horn Antenna (Pre-amplifier)	ETS-LINDGREN	3117-PA	00201541	29-Mar-2025	28-Mar-2026
☒	Pre-amplifier	ETS-Lindgren	00118385	00201874	28-Mar-2025	27-Mar-2026
☒	Band Rejection Filter (5150MHz~5880MHz)	Micro-Tronics	BRM50716	G186	25-Oct-2024	24-Oct-2025
☒	Multi device Controller	ETS-LINDGREN	7006-001	00160105	N/A	N/A
☒	Test Software	Audix	e3	Software Version: 9.160323		

Conducted Emission Test Equipment List						
Used	**Equipment**	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. date**	**Cal. Due date**
☒	Receiver	R&S	ESCI3	1166.5950.03	25-Oct-2024	24-Oct-2025
☒	Pulse Limiter	R&S	ESH3-Z2	0357.8810.54	25-Oct-2024	24-Oct-2025
☒	LISN	R&S	EVN216	3560.6550.12	26-Sep-2024	25-Sep-2025
☐	LISN	ETS-Lindgren	3816/2SH	00201088	25-Oct-2024	24-Oct-2025
☒	Test Software	EZ-EMC	EZ-CON	Software Version: EMC-CON 3A1.1		

RF Conducted Test Equipment List						
Used	**Equipment**	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. date**	**Cal. Due date**
☒	EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY51440197	28-Mar-2025	27-Mar-2026
☒	USB Wideband Power Sensor	KEYSIGHT	U2021XA	MY55430035	25-Oct-2024	24-Oct-2025
☒	EXG-B RF Analog Signal Generator	KEYSIGHT	N5171B	MY53051777	25-Oct-2024	24-Oct-2025
☒	MXG X-Series RF Vector Signal Generator	KEYSIGHT	N5182B	MY51350267	25-Oct-2024	24-Oct-2025

4. TEST CONFIGURATION

4.1 ENVIRONMENTAL CONDITIONS FOR TESTING

4.1.1 Normal or Extreme Test Conditions

Environment Parameter	Selected Values During Tests		
Test Condition	Ambient		
	Temperature (°C)	Voltage	Relative Humidity (%)
NT/NV	+15 to +35	3.87 Vdc	20 to 75
Remark: 1) NV: Normal Voltage; NT: Normal Temperature			

4.1.2 Record of Normal Environment and Test Sample

Test Item	Temp. (°C)	Relative Humidity (%)	Pressure (kPa)	Sample No.	Tested by
AC Power Line Conducted Emission	24.7	52.8	99.4	S202506236330-ZJA01/5	Linson Xie
26 dB emission bandwidth	23.2	51.6	99.6	S202506236330-ZJA02/5	Hank Wu
Maximum conducted output power					
Power Spectral Density					
6 dB bandwidth					
Dynamic Frequency Selection					
Radiated Emissions and Band Edge Measurement	25.8	60.9	99.9	S202506236330-ZJA01/6	Fire Huo

4.2 TEST CHANNELS

Mode	Tx/Rx Frequency	Test RF Channel Lists		
		Lowest(L)	Middle(M)	Highest(H)
IEEE 802.11a IEEE 802.11n-HT20 IEEE 802.11ac-VHT20	5150 MHz to 5250 MHz	Channel 36	Channel 44	Channel 48
		5180 MHz	5220 MHz	5240 MHz
	5250 MHz to 5350 MHz	Channel 52	Channel 60	Channel 64
		5260 MHz	5300 MHz	5320 MHz
	5470 MHz to 5725 MHz	Channel 100	Channel 120	Channel 140
		5500 MHz	5600 MHz	5700 MHz
	5725 MHz to 5850 MHz	Channel 149	Channel 157	Channel 165
		5745 MHz	5785 MHz	5825 MHz
IEEE 802.11n-HT40 IEEE 802.11ac-VHT40	5150 MHz to 5250 MHz	Channel 38	--	Channel 46
		5190 MHz	--	5230 MHz
	5250 MHz to 5350 MHz	Channel 54	--	Channel 62
		5270 MHz	--	5310 MHz
	5470 MHz to 5725 MHz	Channel 102	Channel 118	Channel 134
		5510 MHz	5590 MHz	5670 MHz
	5725 MHz to 5850 MHz	Channel 151	--	Channel 159
		5755 MHz	--	5795 MHz
IEEE 802.11ac-VHT80	5150 MHz to 5250 MHz	--	Channel 42	--
		--	5210 MHz	--
	5250 MHz to 5350 MHz	--	Channel 58	--
		--	5290 MHz	--
	5470 MHz to 5725 MHz	Channel 106	--	Channel 122
		5530 MHz	--	5610 MHz
	5725 MHz to 5850 MHz	Channel 138	Channel 155	--
		5610 MHz/	5775 MHz	--

4.3 EUT TEST STATUS

Mode	Tx/Rx Function	Description
IEEE 802.11a/n/ac	1Tx/1Rx	1. Keep the EUT in transmitting mode with all kind of modulation and all kind of data rate.

Power Setting (Provided by the customer)				
Mode	U-NII-1	U-NII-2A	U-NII-2C	U-NII-3
IEEE 802.11a	14	14	14	16
IEEE 802.11n-HT20	14	14	13	16
IEEE 802.11n-HT40	14	14	14	15
IEEE 802.11ac-VHT20	14	14	14	15
IEEE 802.11ac-VHT40	14	14	14	15
IEEE 802.11ac-VHT80	14	14	14	15
Test Software (Provided by the customer)				
Engineering mode: *#*# 3646633#*#*				

4.4 PRE-SCAN

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and data rate. Following data rate was (were) selected for the final test as listed below

Mode	Worst-case data rates
IEEE 802.11a	6 Mbps
IEEE 802.11n-HT20	MCS0
IEEE 802.11n-HT40	MCS0
IEEE 802.11ac-VHT20	MCS0
IEEE 802.11ac-VHT40	MCS0
IEEE 802.11ac-VHT80	MCS0

4.5 TEST SETUP

4.5.1 For Radiated Emissions test setup

Figure 1. Below 30MHz

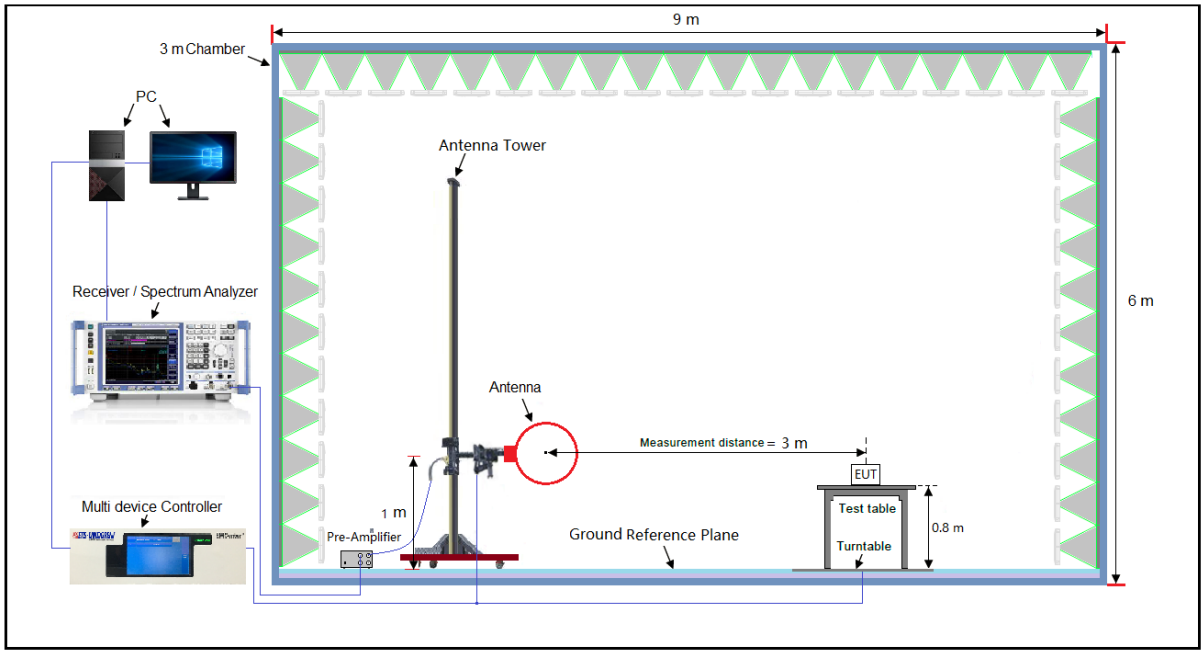


Figure 2. 30MHz to 1GHz

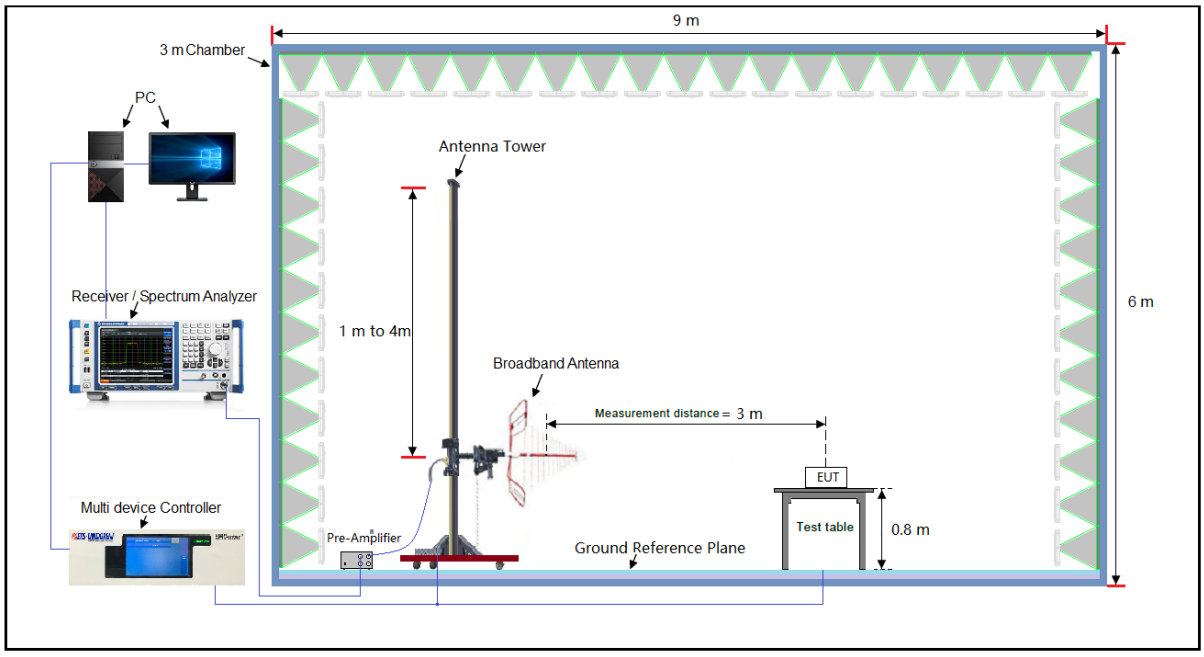
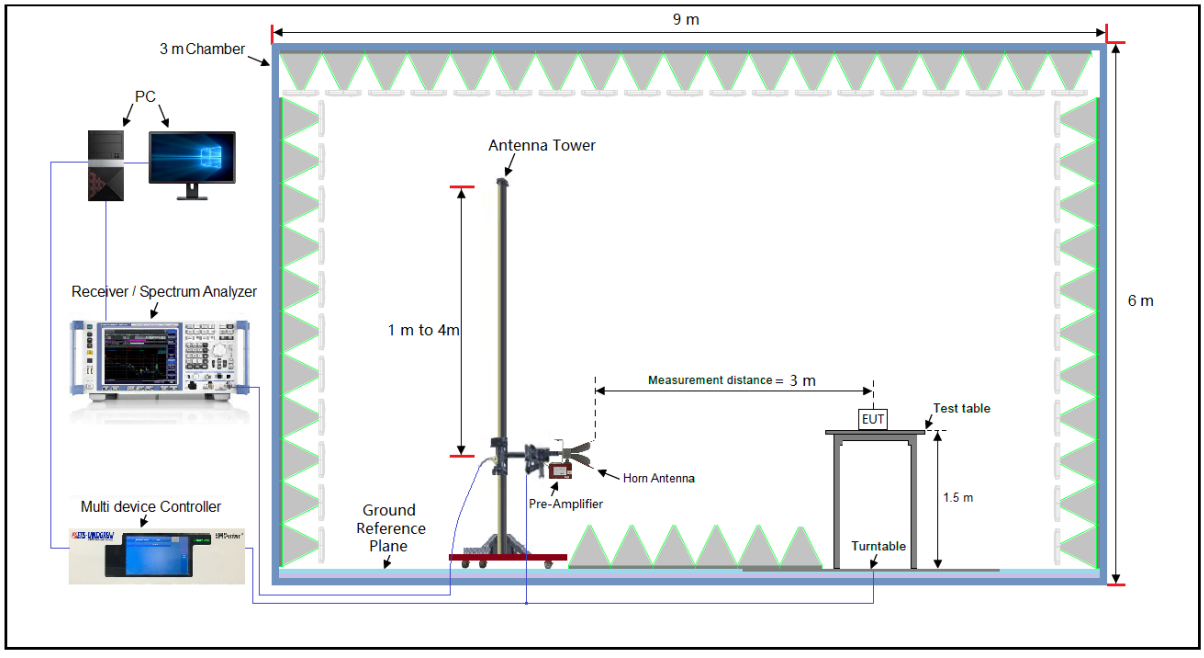
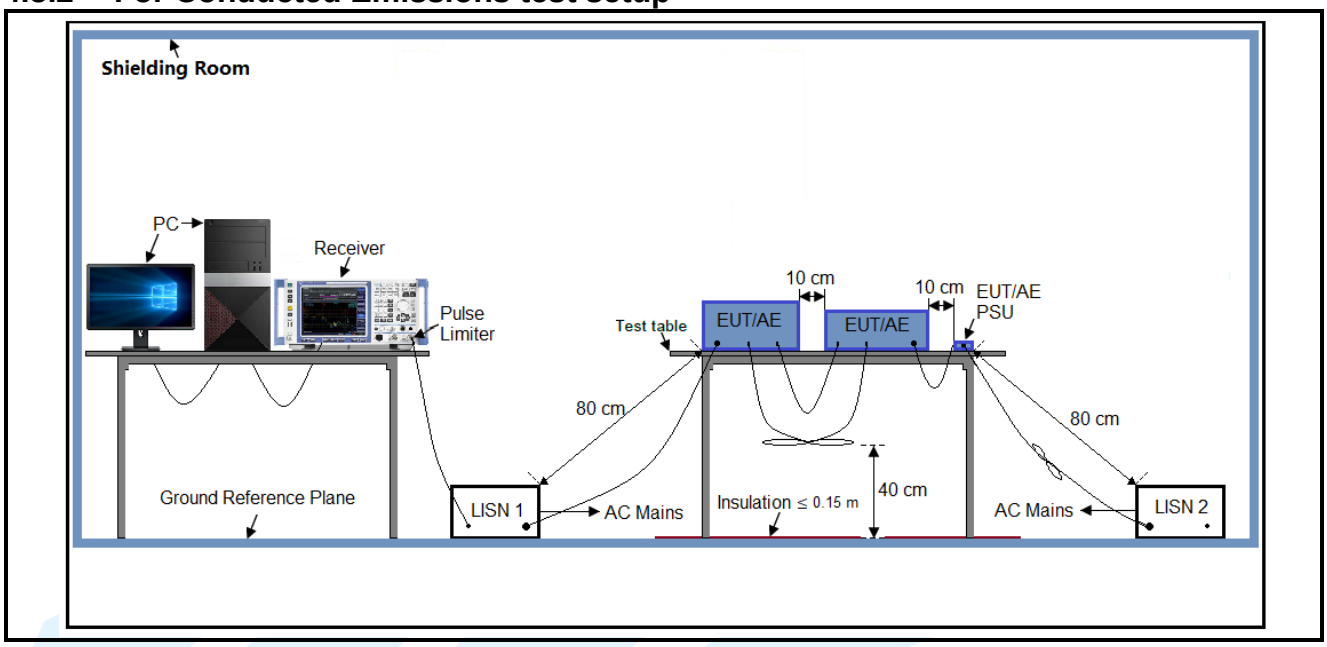


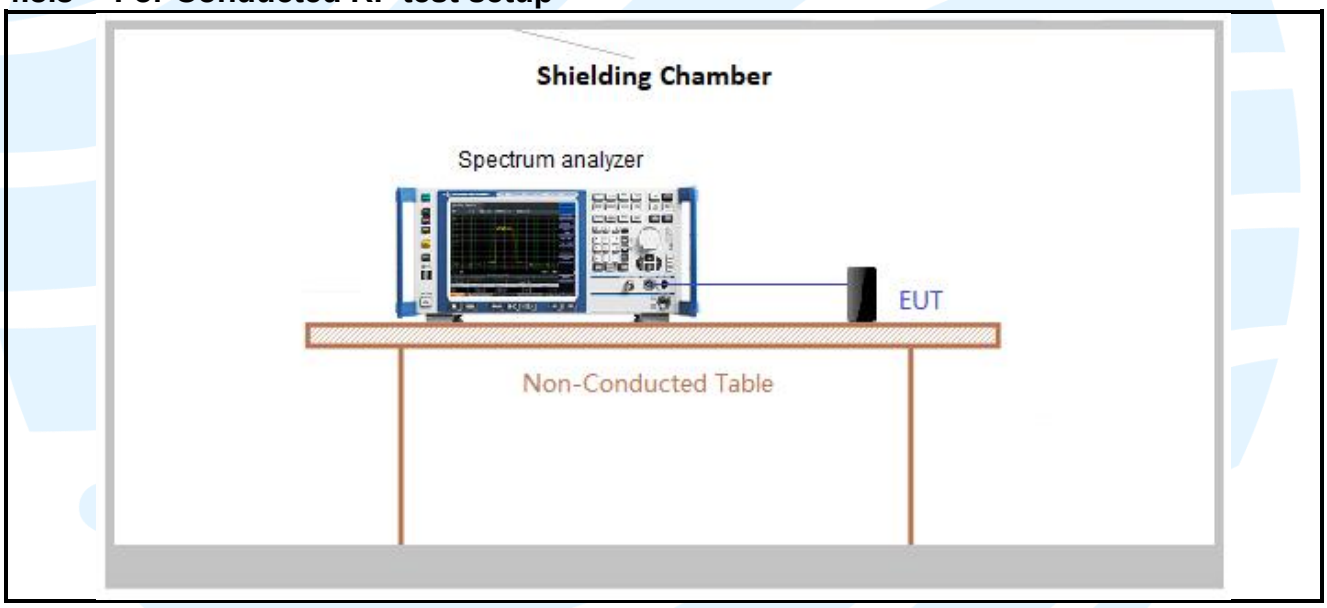
Figure 3. Above 1GHz

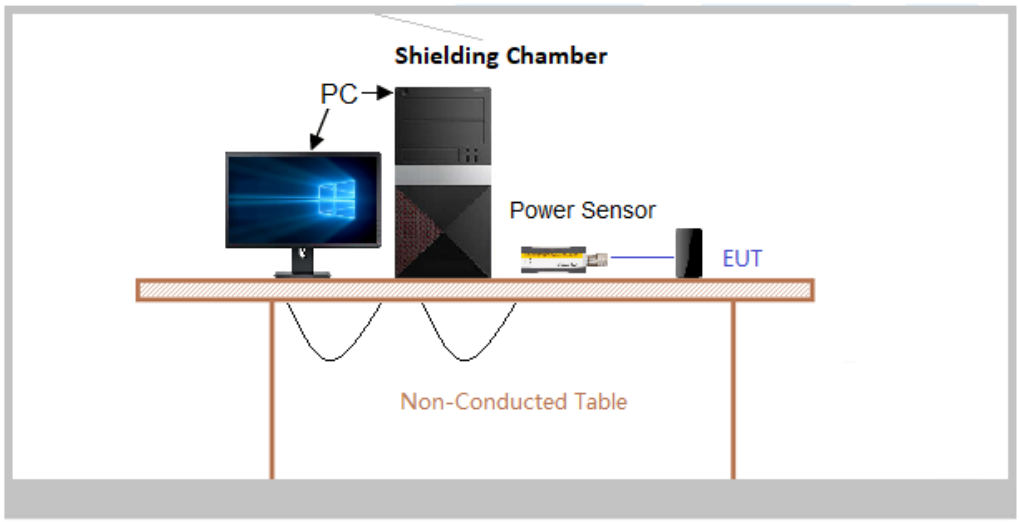


4.5.2 For Conducted Emissions test setup



4.5.3 For Conducted RF test setup





Normal Environment

4.6 SYSTEM TEST CONFIGURATION

For emissions testing, the equipment under test (EUT) setup to transmit continuously to simplify the measurement methodology. Care was taken to ensure proper power supply voltages during testing. During testing, radiated emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario. It was powered by a 3.87V battery. Only the worst case data were recorded in this test report.

The signal is maximized through rotation and placement in the three orthogonal axes. The antenna height and polarization are varied during the search for maximum signal level. The antenna height is varied from 1 to 4 meters. Radiated emissions are taken at three meters unless the signal level is too low for measurement at that distance. If necessary, a pre-amplifier is used and/or the test is conducted at a closer distance. Therefore, all final radiated testing was performed with the EUT in orientation.

All readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance. Analyzer resolution is 100 kHz or greater for frequencies below 1000 MHz. The resolution is 1 MHz or greater for frequencies above 1000 MHz. The spurious emissions more than 20 dB below the permissible value are not reported.

Radiated emission measurement were performed from the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

4.7 DUTY CYCLE

Test Procedure: ANSI C63.10-2013 Clause 12.2.

Test Results

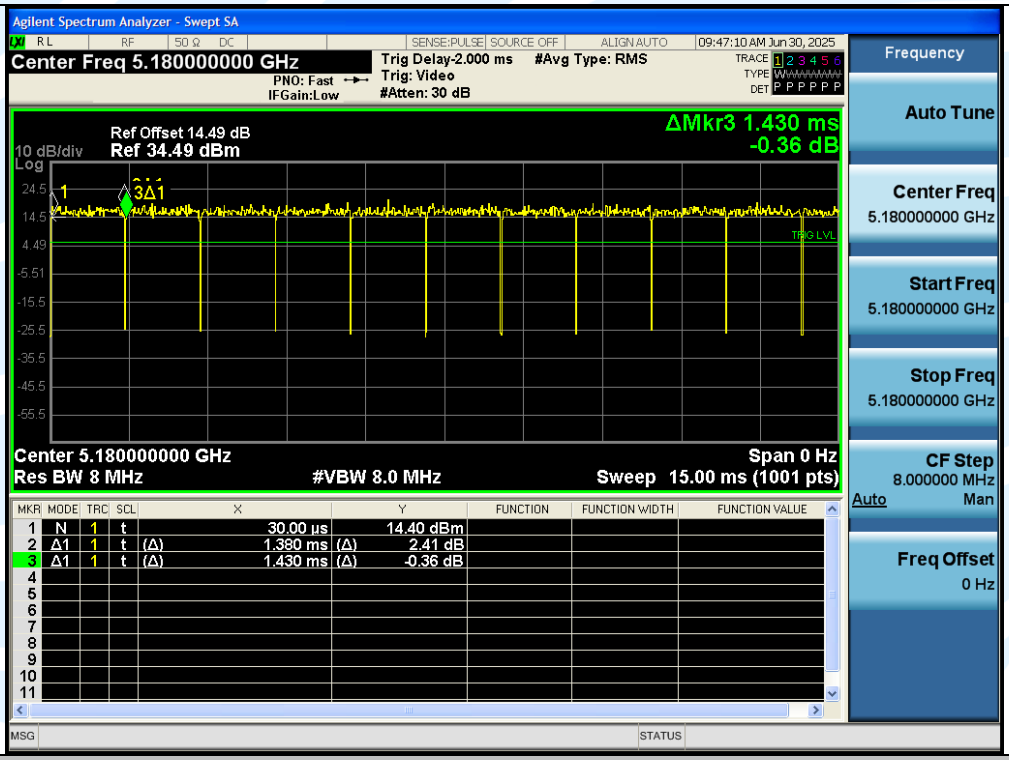
Mode	Data Rates	On Time (msec)	Period (msec)	Duty Cycle (linear)	Duty Cycle (%)	Duty Cycle Factor (dB)	1/T Minimum VBW (kHz)
IEEE 802.11a	6 Mbps	1.380	1.430	0.97	96.50	0.15	0.72
IEEE 802.11n-HT20	MCS 0	1.290	1.330	0.97	96.99	0.13	0.78
IEEE 802.11n-HT40	MCS 0	0.650	0.690	0.94	94.20	0.26	1.54
IEEE 802.11ac-VHT20	MCS 0	1.310	1.350	0.97	97.04	0.13	0.76
IEEE 802.11ac-VHT40	MCS 0	0.650	0.690	0.94	94.20	0.26	1.54
IEEE 802.11ac-VHT80	MCS 0	0.320	0.360	0.89	88.89	0.51	3.13

Remark:

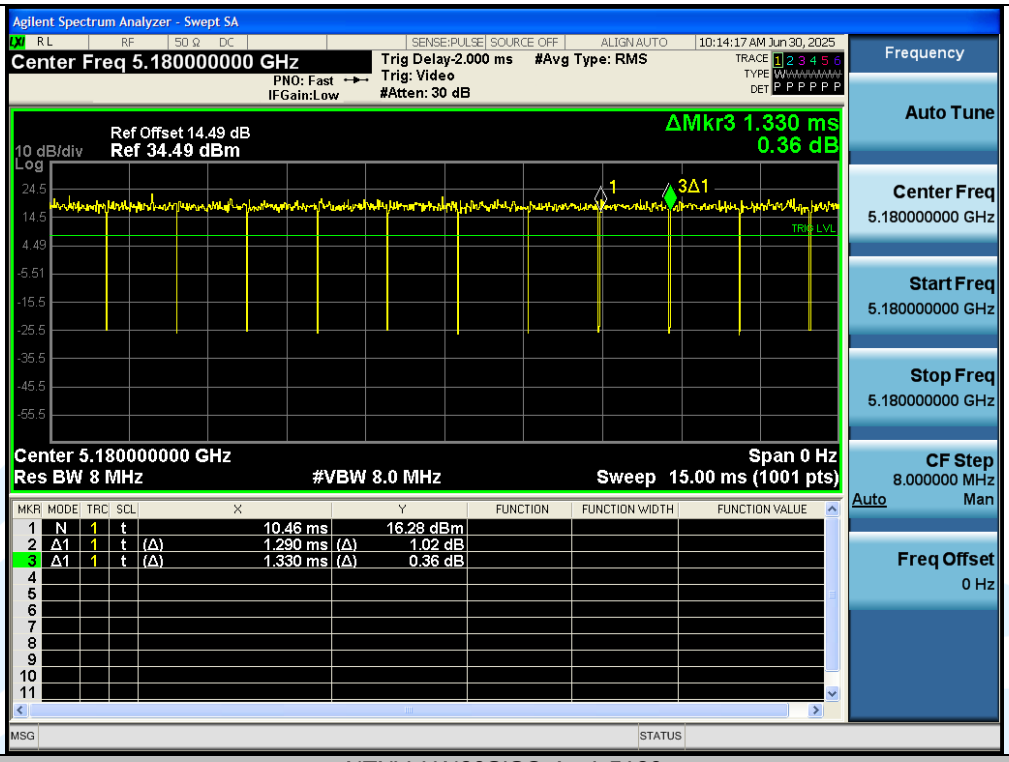
1) Duty cycle= On Time/ Period;

2) Duty Cycle factor = 10 * log(1/ Duty cycle);

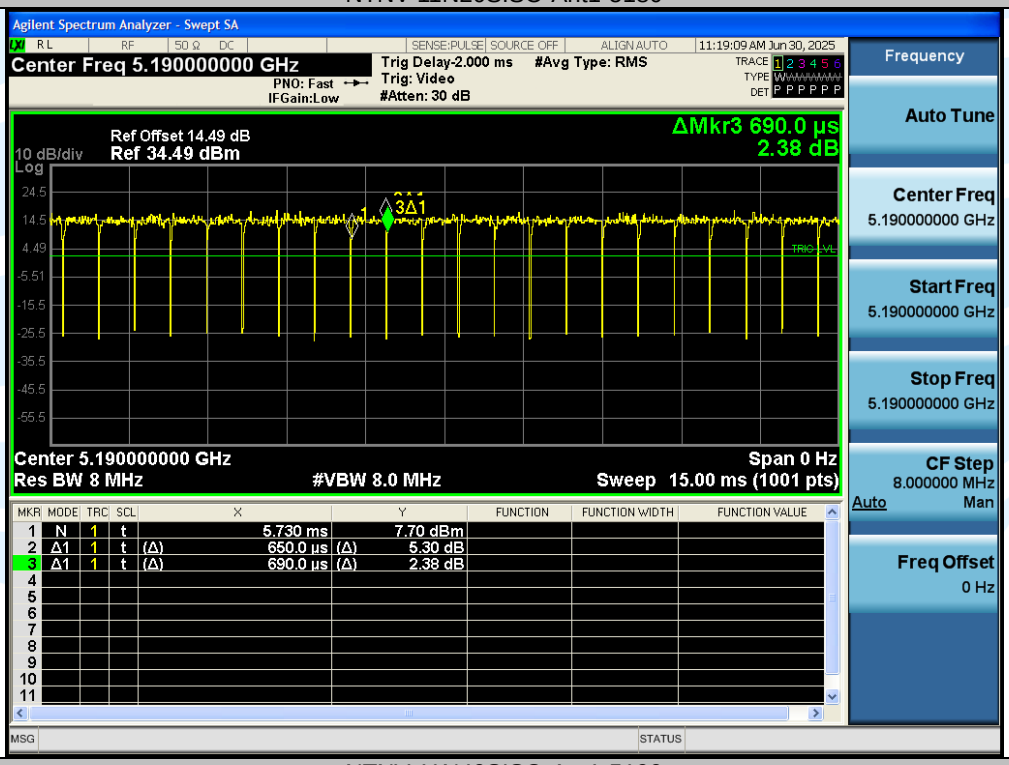
The test plots as follows



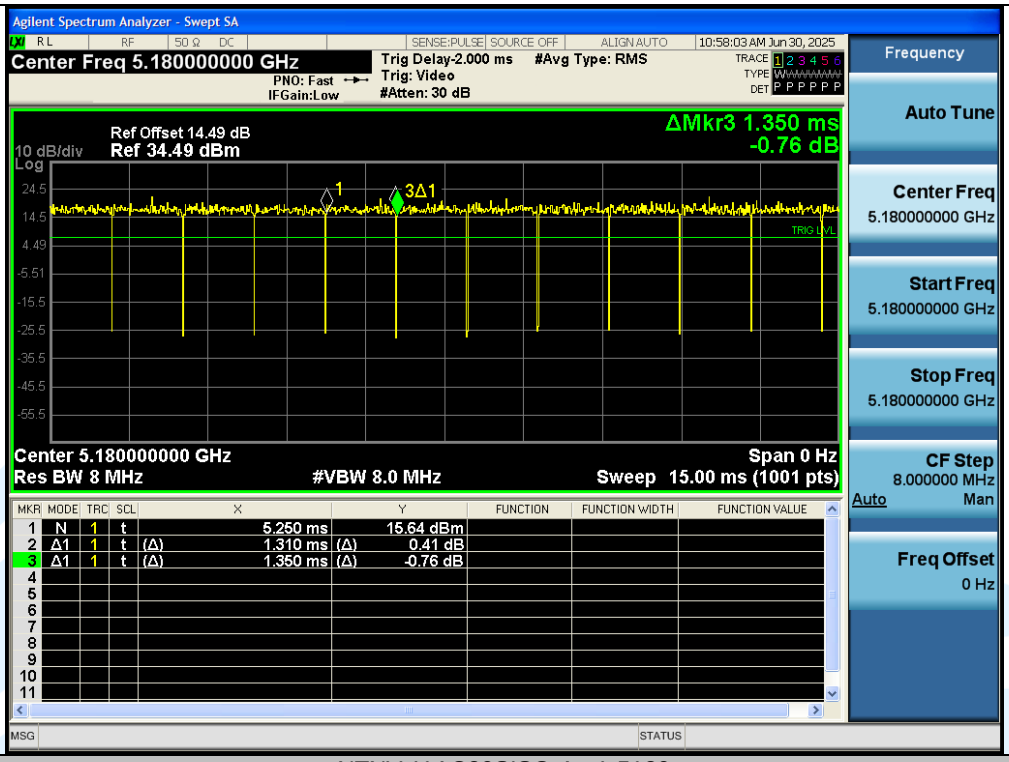
NTNV-11A-Ant1-5180



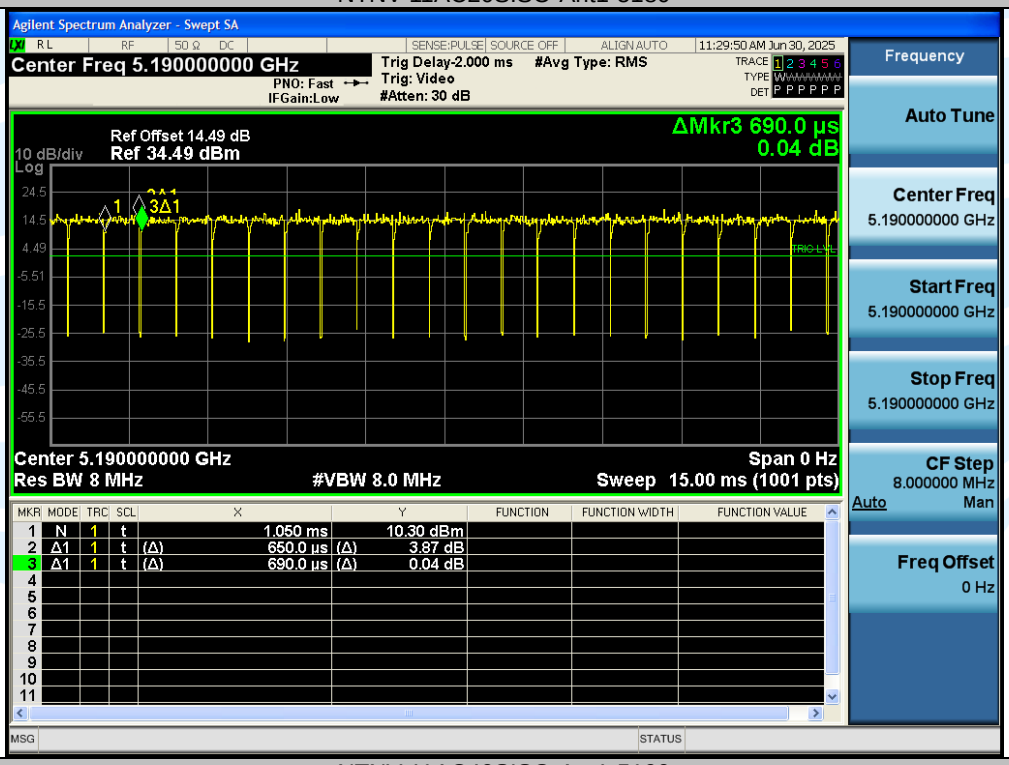
NTNV-11N20SISO-Ant1-5180



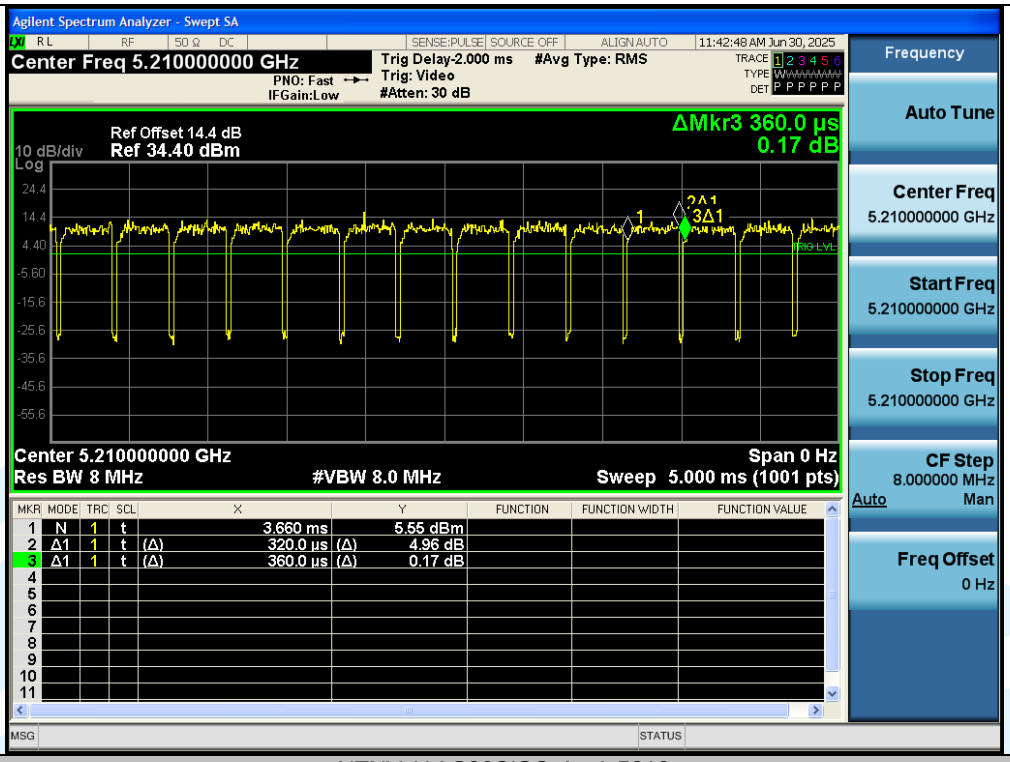
NTNV-11N40SISO-Ant1-5190



NTNV-11AC20SISO-Ant1-5180



NTNV-11AC40SISO-Ant1-5190



NTNV-11AC80SISO-Ant1-5210

5. RADIO TECHNICAL REQUIREMENTS SPECIFICATION

5.1 REFERENCE DOCUMENTS FOR TESTING

No.	Identity	Document Title
1	FCC 47 CFR Part 2	Frequency allocations and radio treaty matters; general rules and regulations
2	FCC 47 CFR Part 15	Radio Frequency Devices
3	ANSI C63.10-2013	American National Standard for Testing Unlicesed Wireless Devices
4	KDB 789033 D02 General UNII Test Procedures New Rules v02r01	Guidelines for compliance testing of unlicensed national information infrastructure (U-NII) device part 15, subpart E
5	KDB 905462 D06 802.11 Channel Plans New Rules v02	Operation in U-NII bands -802.11 channel PLAN(§15.407)
6	KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02	Compliance measurement procedures for Unlicensed –National Information Infrastructure devices operates in the frequency bands 5250 MHz to 5350 MHz and 5470 MHz to 5725 MHz bands incorporating dynamic frequency selection
7	KDB 905462 D03 Client Without DFS New Rules v01r02	U-NII client devices without radar detection capability

5.2 ANTENNA REQUIREMENT

Standard Requirement
15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. **15.407(a)(1) (2) requirement:** The conducted output power limit specified in paragraph (a) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (a) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power and the peak power spectral density shall be reduced by the by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
EUT Antenna:
Antenna in the interior of the equipment and no consideration of replacement. The max gain of the antenna is -0.14 dBi.

5.3 26 DB BANDWIDTH

Test Requirement: FCC 47 CFR Part 15 Subpart E Section 15.407 (a) (2)(5)

Test Method: KDB 789033 D02 v02r01 Section C.1

Limit: None; for reporting purposes only.

Test Procedure:

The output from the transmitter was connected to an attenuator and then to the input of the RF Spectrum analyzer.

Spectrum analyzer according to the following Settings:
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 peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1 %.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

Test Setup: Refer to section 4.5.3 for details.

Instruments Used: Refer to section 3 for details

Test Mode: Link mode

Test Results: **Please refer to Appendix A**

5.46 DB BANDWIDTH

Test Requirement: FCC 47 CFR Part 15 Subpart C Section 15.407 (e)

Test Method: KDB 789033 D02 v02r01Section C.2

Limit: Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

Test Procedure:

The output from the transmitter was connected to an attenuator and then to the input of the RF Spectrum Analyzer.

Spectrum analyzer according to the following Settings:
a) Set RBW = 100 kHz.
b) Set the video bandwidth (VBW) ≥ 3 * RBW.
c) Detector = Peak.
d) Trace mode = max hold.
e) Sweep = auto couple.
f) Allow the trace to stabilize.
g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

Test Setup: Refer to section 4.5.3 for details.

Instruments Used: Refer to section 3 for details

Test Mode: Link mode

Test Results: **Please refer to Appendix A**

5.5 MAXIMUM CONDUCTED OUTPUT POWER

Test Requirement: FCC 47 CFR Part 15 Subpart E Section 15.407 (a)(1)(2)(3)
Test Method: KDB 789033 D02 v02r01 Section E.3.a(Method PM)
Limits:

1. For the band 5.15-5.25 GHz.
(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

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

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

(iv) For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

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

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

Test Procedure:

1. Connected the EUT's antenna port to measure device by 10dB attenuator.
2. Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of Tx on burst.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

Test Setup: Refer to section 4.5.3 for details.

Instruments Used: Refer to section 3 for details

Test Mode: Transmitter mode

Test Results: Pass

Test Data:

Antenna gain and the maximum output power limit.

Frequency Band	Antenna Gain (dBi)	Peak Power Limits (dBm)
U-NII-1	-0.14	24.0
U-NII-2A	-0.3	24.0
U-NII-2C	-2.25	24.0
U-NII-3	-2.5	30.0

For U-NII-2A Band:

Note:

For IEEE 802.11 a, the minimum 26 dB emission bandwidth is 19.68 MHz

11 dBm + $10\log_{10}$(19.68) = 23.94 dBm < 24 dBm (250mW)

So the 23.94 dB limit applicable

For IEEE 802.11n-HT20/ac-VHT20, the minimum 26 dB emission bandwidth is 19.94 MHz

11 dBm + $10\log_{10}$(19.94) = 24 dBm = 24 dBm (250mW)

So the 24 dB limit applicable

For IEEE 802.11n-HT40/ac-VHT40/ac-VHT80, the minimum 26 dB emission bandwidth is 39.79 MHz

11 dBm + $10\log_{10}$(39.79) = 27 dBm > 24 dBm (250mW)

So the 24 dB limit applicable

For U-NII-2C Band:

Note:

For IEEE 802.11 a, the minimum 26 dB emission bandwidth is 19.81 MHz

11 dBm + $10\log_{10}$(19.81) = 23.97 dBm < 24 dBm (250mW)

So the 23.97 dB limit applicable

For IEEE 802.11n-HT20/ac-VHT20, the minimum 26 dB emission bandwidth is 19.89 MHz

11 dBm + $10\log_{10}$(19.89) = 23.99 dBm < 24 dBm (250mW)

So the 23.99 dB limit applicable

For IEEE 802.11n-HT40/ac-VHT40/ac-VHT80, the minimum 26 dB emission bandwidth is 39.78 MHz

11 dBm + $10\log_{10}$(39.78) = 27 dBm > 24 dBm (250mW)

So the 24 dB limit applicable

5.6 POWER SPECTRAL DENSITY

Test Requirement: FCC 47 CFR Part 15 Subpart E Section 15.407 (a)(1)(2)(3)
Test Method: KDB 789033 D02 v02r01 Section F
Limits:

1. For the band 5.15-5.25 GHz.
   (i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

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

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

   (iv) For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

2. For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
3. For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

Test Procedure:

The output from the transmitter was connected to an attenuator and then to the input of the RF Spectrum Analyzer.

Spectrum analyzer according to the following Settings:

1. For U-NII-1, U-NII-2A, U-NII-2C band:

Using method SA-2

a) Set span to encompass the entire emission bandwidth (EBW) of the signal.
b) Set RBW = 1 MHz, Set VBW ≥ 3 RBW, Detector = RMS
c) Sweep time = auto, trigger set to “free run”.
d) Trace average at least 100 traces in power averaging mode.
e) Record the max value and add 10 log (1/duty cycle)

2. For U-NII-3 band:

a) Set span to encompass the entire emission bandwidth (EBW) of the signal.
b) Set RBW = 500 kHz, Set VBW ≥ 3 RBW, Detector = RMS
c) Use the peak marker function to determine the maximum power level in any 500 kHz band segment within the fundamental EBW.
d) Sweep time = auto, trigger set to “free run”.
e) Trace average at least 100 traces in power averaging mode.
f) Record the max value and add 10 log (1/duty cycle)

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

Test Setup: Refer to section 4.5.3 for details.

Instruments Used: Refer to section 3 for details

Test Mode: Link mode

Test Results: **Please refer to Appendix A**

Antenna gain and the maximum output power limit.

Frequency Band	Antenna Gain (dBi)	PSD Limits (dBm/MHz or dBm/500kHz)
U-NII-1	-0.14	11.0
U-NII-2C	-0.3	11.0
U-NII-2A	-2.25	11.0
U-NII-3	-2.5	30.0

5.7 RADIATED EMISSIONS AND BAND EDGE MEASUREMENT

Test Requirement: FCC 47 CFR Part 15 Subpart E Section 15.407 (b)(1)(2)(3)(4)(6)
FCC 47 CFR Part 15 Subpart C Section 15.209/205

Test Method: KDB 789033 D02 v02r01 Section G.3, G.4, G.5, and G.6

Receiver Setup:

Frequency	RBW
0.009 MHz-0.150 MHz	200/300 kHz
0.150 MHz -30 MHz	9/10 kHz
30 MHz-1 GHz	100/120 kHz
Above 1 GHz	1 MHz

Limits:

1. Limits of Radiated Emission and Band edge Measurement

Radiated emissions that fall in the restricted bands must comply with the general emissions limits in 15.209(a) as below table. Other emissions shall be at least 20 dB below the highest level of the desired power.

Frequency	Field strength (microvolt/meter)	Limit (dBμV/m)	Remark	Measurement distance (m)
0.009 MHz-0.490 MHz	2400/F(kHz)	--	--	300
0.490 MHz-1.705 MHz	24000/F(kHz)	--	--	30
1.705 MHz-30 MHz	30	--	--	30
30 MHz-88 MHz	100	40.0	Quasi-peak	3
88 MHz-216 MHz	150	43.5	Quasi-peak	3
216 MHz-960 MHz	200	46.0	Quasi-peak	3
960MHz-1GHz	500	54.0	Quasi-peak	3
Above 1 GHz	500	54.0	Average	3

Remark:

a. The lower limit shall apply at the transition frequencies.
b. Emission level (dBμV/m) = 20 log Emission level (uV/m).
c. For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

2. Limits of Unwanted Emission Out of the Restricted Bands

Applicable To	Limit	
789033 D02 General U-NII Test Procedures New Rules v01r04	Field Strength at 3 m	
	PK: 74 (dBμV/m)	AV: 54 (dBμV/m)
Applicable To	EIRP Limit	Equivalent Field Strength at 3 m
FCC Part 15.407 (b)(1)	PK: -27 (dBm/MHz)	PK: 74 (dBμV/m)
FCC Part 15.407 (b)(2)	PK: -27 (dBm/MHz)	PK: 74 (dBμV/m)
FCC Part 15.407 (b)(3)	PK: -27 (dBm/MHz)	PK: 68.2 (dBμV/m)
FCC Part 15.407 (b)(4)	27 dBm/MHz at frequencies from the band edges decreasing linearly to 15.6 dBm/MHz at 5 MHz above or below the band edges;	PK: 68.2 (dBμV/m)
	15.6 dBm/MHz at 5 MHz above or below the band edges decreasing linearly to 10 dBm/MHz at 25 MHz above or below the band edges;	
	10 dBm/MHz at 25 MHz above or below the band edges decreasing linearly to -27 dBm/MHz at 75 MHz above or below the band edges;	
	-27 dBm/MHz at frequencies more than 75 MHz above or below the band edges.	

Test Setup: Refer to section 4.5.1 for details.

Test Procedures:

1. The EUT was placed on the top of a rotating table 0.8 meters (for below 1 GHz) / 1.5 meters (for above 1 GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
6. The test-receiver system was set to peak and average detected function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Remark:

a) The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
b) The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
c) The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for RMS Average (Duty cycle < 98 %) for Average detection (AV) at frequency above 1 GHz, then the measurement results was added to a correction factor (10 log(1/duty cycle)).
d) The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz (Duty cycle ≥ 98 %) or ≥ 1/T(duty cycle is < 98%) for Average detection (AV) at frequency above 1 GHz.
e) All modes of operation were investigated and the worst-case emissions are reported.

Equipment Used: Refer to section 3 for details.

Test Result: Pass

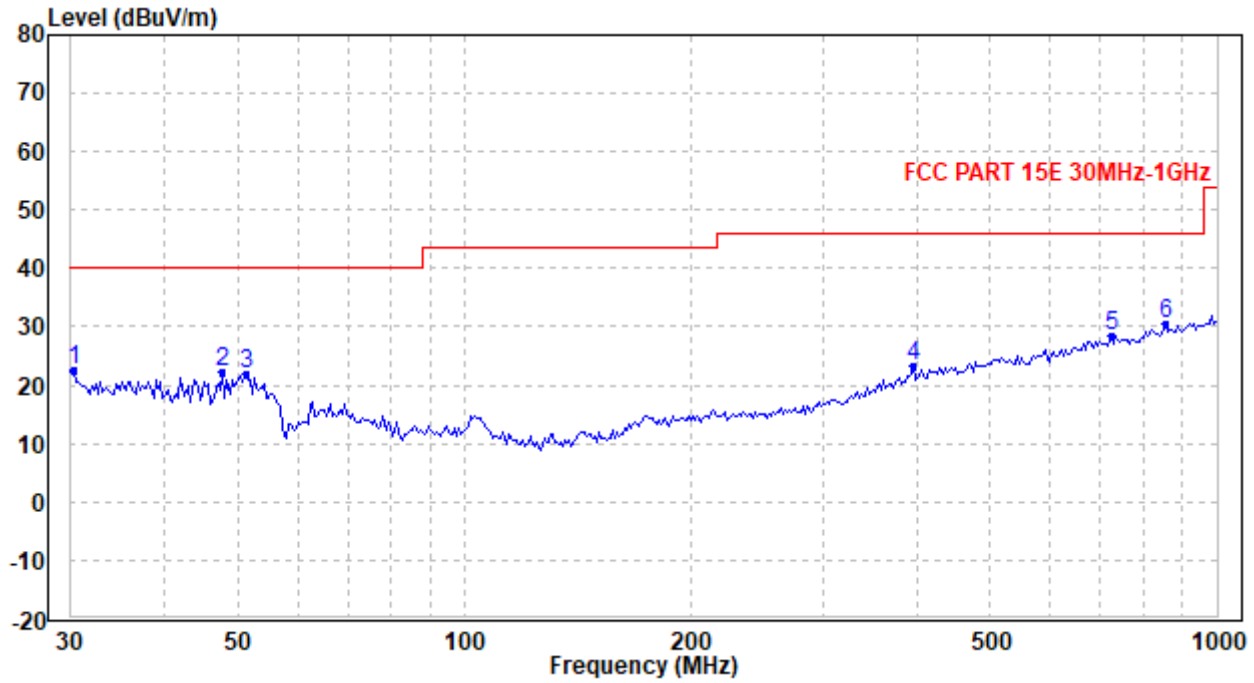
The measurement data as follows:

Radiated Emission Test Data (9 kHz ~ 30 MHz):
The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

Radiated Emission Test Data (30 MHz ~ 1 GHz):

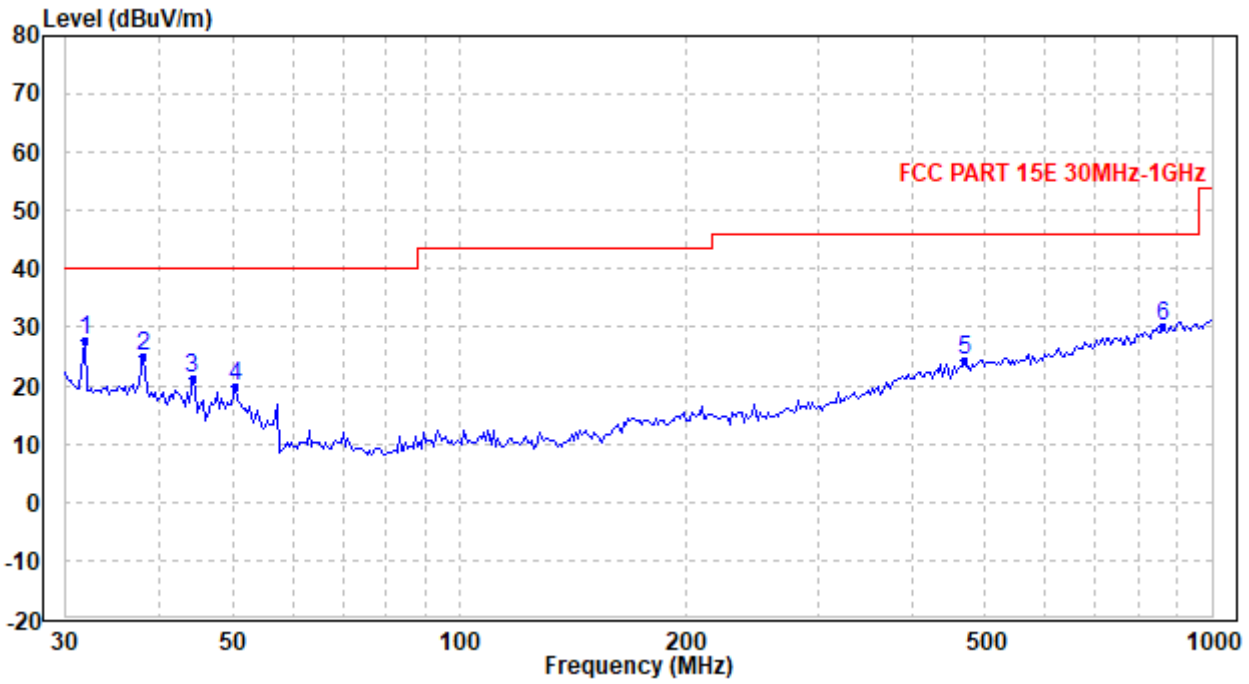
Worst-Case Configuration

Horizontal



No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	30.212	27.55	-4.94	22.61	40.00	-17.39	QP
2	47.703	35.81	-13.58	22.23	40.00	-17.77	QP
3	51.176	36.26	-14.50	21.76	40.00	-18.24	QP
4	395.507	27.47	-4.31	23.16	46.00	-22.84	QP
5	723.793	27.11	1.46	28.57	46.00	-17.43	QP
6	856.760	26.80	3.59	30.39	46.00	-15.61	QP

Vertical



No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	31.735	34.27	-6.55	27.72	40.00	-12.28	QP
2	38.096	32.63	-7.77	24.86	40.00	-15.14	QP
3	44.154	33.99	-12.84	21.15	40.00	-18.85	QP
4	50.461	34.14	-14.19	19.95	40.00	-20.05	QP
5	468.165	27.30	-3.06	24.24	46.00	-21.76	QP
6	862.802	26.68	3.62	30.30	46.00	-15.70	QP

Radiated Emission Test Data (Above 1GHz):								
No.	Frequency (MHz)	Reading (dBμV)	Correction factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Antenna Polaxis
5G_A_5180 MHz	10360 MHz		15540 MHz					
1	10360	33.41	3.38	36.79	54.00	-17.21	Average	Horizontal
2	10360	46.43	3.38	49.81	74.00	-24.19	Peak	Horizontal
3	15540	31.10	7.56	38.66	54.00	-15.34	Average	Horizontal
4	15540	43.98	7.56	51.54	74.00	-22.46	Peak	Horizontal
5	10360	33.32	3.38	36.70	54.00	-17.30	Average	Vertical
6	10360	46.17	3.38	49.55	74.00	-24.45	Peak	Vertical
7	15540	31.18	7.56	38.74	54.00	-15.26	Average	Vertical
8	15540	43.36	7.56	50.92	74.00	-23.08	Peak	Vertical
5G_A_5220 MHz	10440 MHz		15660 MHz					
1	10440	34.10	3.38	37.48	54.00	-16.52	Average	Horizontal
2	10440	46.13	3.38	49.51	74.00	-24.49	Peak	Horizontal
3	15660	31.62	7.46	39.08	54.00	-14.92	Average	Horizontal
4	15660	44.19	7.46	51.65	74.00	-22.35	Peak	Horizontal
5	10440	33.90	3.38	37.28	54.00	-16.72	Average	Vertical
6	10440	46.32	3.38	49.70	74.00	-24.30	Peak	Vertical
7	15660	31.59	7.46	39.05	54.00	-14.95	Average	Vertical
8	15660	43.56	7.46	51.02	74.00	-22.98	Peak	Vertical
5G_A_5240 MHz	10480 MHz		15720 MHz					
1	10480	32.67	3.39	36.06	54.00	-17.94	Average	Horizontal
2	10480	44.84	3.39	48.23	74.00	-25.77	Peak	Horizontal
3	15720	31.09	7.40	38.49	54.00	-15.51	Average	Horizontal
4	15720	43.52	7.40	50.92	74.00	-23.08	Peak	Horizontal
5	10480	32.96	3.39	36.35	54.00	-17.65	Average	Vertical
6	10480	45.77	3.39	49.16	74.00	-24.84	Peak	Vertical
7	15720	31.41	7.40	38.81	54.00	-15.19	Average	Vertical
8	15720	43.63	7.40	51.03	74.00	-22.97	Peak	Vertical
5G_A_5260 MHz	10520 MHz		15780 MHz					
1	10520	32.84	3.35	36.19	54.00	-17.81	Average	Horizontal
2	10520	45.82	3.35	49.17	74.00	-24.83	Peak	Horizontal
3	15780	31.26	7.35	38.61	54.00	-15.39	Average	Horizontal
4	15780	45.14	7.35	52.49	74.00	-21.51	Peak	Horizontal
5	10520	33.32	3.35	36.67	54.00	-17.33	Average	Vertical
6	10520	46.65	3.35	50.00	74.00	-24.00	Peak	Vertical
7	15780	31.42	7.35	38.77	54.00	-15.23	Average	Vertical
8	15780	44.77	7.35	52.12	74.00	-21.88	Peak	Vertical
5G_A_5300 MHz	10600 MHz		15900 MHz					
1	10600	32.13	3.19	35.32	54.00	-18.68	Average	Horizontal
2	10600	45.91	3.19	49.10	74.00	-24.90	Peak	Horizontal
3	15900	29.79	7.24	37.03	54.00	-16.97	Average	Horizontal
4	15900	42.72	7.24	49.96	74.00	-24.04	Peak	Horizontal
5	10600	33.38	3.19	36.57	54.00	-17.43	Average	Vertical
6	10600	48.44	3.19	51.63	74.00	-22.37	Peak	Vertical
7	15900	30.11	7.24	37.35	54.00	-16.65	Average	Vertical
8	15900	43.16	7.24	50.40	74.00	-23.60	Peak	Vertical
5G_A_5320 MHz	10640 MHz		15960 MHz					
1	10640	32.11	3.10	35.21	54.00	-18.79	Average	Horizontal
2	10640	44.71	3.10	47.81	74.00	-26.19	Peak	Horizontal
3	15960	30.03	7.19	37.22	54.00	-16.78	Average	Horizontal
4	15960	43.83	7.19	51.02	74.00	-22.98	Peak	Horizontal
5	10640	33.47	3.10	36.57	54.00	-17.43	Average	Vertical
6	10640	47.20	3.10	50.30	74.00	-23.70	Peak	Vertical
7	15960	30.30	7.19	37.49	54.00	-16.51	Average	Vertical

8	15960	43.30	7.19	50.49	74.00	-23.51	Peak	Vertical
5G_A_5500 MHz	**11000 MHz**		**16500 MHz**					
1	11000	33.89	2.36	36.25	54.00	-17.75	Average	Horizontal
2	11000	46.92	2.36	49.28	74.00	-24.72	Peak	Horizontal
3	16500	31.60	8.00	39.60	54.00	-14.40	Average	Horizontal
4	16500	44.19	8.00	52.19	74.00	-21.81	Peak	Horizontal
5	11000	35.39	2.36	37.75	54.00	-16.25	Average	Vertical
6	11000	51.01	2.36	53.37	74.00	-20.63	Peak	Vertical
7	16500	31.75	8.00	39.75	54.00	-14.25	Average	Vertical
8	16500	44.71	8.00	52.71	74.00	-21.29	Peak	Vertical
5G_A_5580 MHz	**11160 MHz**		**16740 MHz**					
1	11160	32.35	2.25	34.60	54.00	-19.40	Average	Horizontal
2	11160	44.88	2.25	47.13	74.00	-26.87	Peak	Horizontal
3	16740	30.57	8.31	38.88	54.00	-15.12	Average	Horizontal
4	16740	42.86	8.31	51.17	74.00	-22.83	Peak	Horizontal
5	11160	32.42	2.25	34.67	54.00	-19.33	Average	Vertical
6	11160	44.99	2.25	47.24	74.00	-26.76	Peak	Vertical
7	16740	30.61	8.31	38.92	54.00	-15.08	Average	Vertical
8	16740	43.41	8.31	51.72	74.00	-22.28	Peak	Vertical
5G_A_5700 MHz	**11400 MHz**		**17100 MHz**					
1	11400	31.97	2.11	34.08	54.00	-19.92	Average	Horizontal
2	11400	44.48	2.11	46.59	74.00	-27.41	Peak	Horizontal
3	17100	31.50	8.79	40.29	54.00	-13.71	Average	Horizontal
4	17100	44.42	8.79	53.21	74.00	-20.79	Peak	Horizontal
5	11400	31.97	2.11	34.08	54.00	-19.92	Average	Vertical
6	11400	45.29	2.11	47.40	74.00	-26.60	Peak	Vertical
7	17100	31.38	8.79	40.17	54.00	-13.83	Average	Vertical
8	17100	43.67	8.79	52.46	74.00	-21.54	Peak	Vertical
5G_A_5745 MHz	**11490 MHz**		**17235 MHz**					
1	11490	32.03	2.06	34.09	54.00	-19.91	Average	Horizontal
2	11490	44.11	2.06	46.17	74.00	-27.83	Peak	Horizontal
3	17235	30.82	8.99	39.81	54.00	-14.19	Average	Horizontal
4	17235	42.85	8.99	51.84	74.00	-22.16	Peak	Horizontal
5	11490	31.92	2.06	33.98	54.00	-20.02	Average	Vertical
6	11490	44.39	2.06	46.45	74.00	-27.55	Peak	Vertical
7	17235	30.99	8.99	39.98	54.00	-14.02	Average	Vertical
8	17235	43.36	8.99	52.35	74.00	-21.65	Peak	Vertical
5G_A_5785 MHz	**11570 MHz**		**17355 MHz**					
1	11570	31.53	2.05	33.58	54.00	-20.42	Average	Horizontal
2	11570	44.55	2.05	46.60	74.00	-27.40	Peak	Horizontal
3	17355	30.50	9.16	39.66	54.00	-14.34	Average	Horizontal
4	17355	43.23	9.16	52.39	74.00	-21.61	Peak	Horizontal
5	11570	31.61	2.05	33.66	54.00	-20.34	Average	Vertical
6	11570	44.22	2.05	46.27	74.00	-27.73	Peak	Vertical
7	17355	30.63	9.16	39.79	54.00	-14.21	Average	Vertical
8	17355	43.34	9.16	52.50	74.00	-21.50	Peak	Vertical
5G_A_5825 MHz	**11650 MHz**		**17475 MHz**					
1	11650	32.22	2.08	34.30	54.00	-19.70	Average	Horizontal
2	11650	44.62	2.08	46.70	74.00	-27.30	Peak	Horizontal
3	17475	29.36	9.33	38.69	54.00	-15.31	Average	Horizontal
4	17475	41.58	9.33	50.91	74.00	-23.09	Peak	Horizontal
5	11650	32.43	2.08	34.51	54.00	-19.49	Average	Vertical
6	11650	45.39	2.08	47.47	74.00	-26.53	Peak	Vertical
7	17475	29.46	9.33	38.79	54.00	-15.21	Average	Vertical
8	17475	42.22	9.33	51.55	74.00	-22.45	Peak	Vertical
5G_N20_5180 MHz	**10360 MHz**		**15540 MHz**					
1	10360	33.47	3.38	36.85	54.00	-17.15	Average	Horizontal

2	10360	45.66	3.38	49.04	74.00	-24.96	Peak	Horizontal
3	15540	31.22	7.56	38.78	54.00	-15.22	Average	Horizontal
4	15540	44.59	7.56	52.15	74.00	-21.85	Peak	Horizontal
5	10360	33.59	3.38	36.97	54.00	-17.03	Average	Vertical
6	10360	45.91	3.38	49.29	74.00	-24.71	Peak	Vertical
7	15540	31.30	7.56	38.86	54.00	-15.14	Average	Vertical
8	15540	43.62	7.56	51.18	74.00	-22.82	Peak	Vertical
5G_N20_5220 MHz	**10440 MHz**		**15660 MHz**					
1	10440	33.93	3.38	37.31	54.00	-16.69	Average	Horizontal
2	10440	45.83	3.38	49.21	74.00	-24.79	Peak	Horizontal
3	15660	31.77	7.46	39.23	54.00	-14.77	Average	Horizontal
4	15660	44.49	7.46	51.95	74.00	-22.05	Peak	Horizontal
5	10440	33.96	3.38	37.34	54.00	-16.66	Average	Vertical
6	10440	46.13	3.38	49.51	74.00	-24.49	Peak	Vertical
7	15660	31.74	7.46	39.20	54.00	-14.80	Average	Vertical
8	15660	45.44	7.46	52.90	74.00	-21.10	Peak	Vertical
5G_N20_5240 MHz	**10480 MHz**		**15720 MHz**					
1	10480	32.70	3.39	36.09	54.00	-17.91	Average	Horizontal
2	10480	45.81	3.39	49.20	74.00	-24.80	Peak	Horizontal
3	15720	31.60	7.40	39.00	54.00	-15.00	Average	Horizontal
4	15720	44.14	7.40	51.54	74.00	-22.46	Peak	Horizontal
5	10480	32.86	3.39	36.25	54.00	-17.75	Average	Vertical
6	10480	45.96	3.39	49.35	74.00	-24.65	Peak	Vertical
7	15720	31.53	7.40	38.93	54.00	-15.07	Average	Vertical
8	15720	44.24	7.40	51.64	74.00	-22.36	Peak	Vertical
5G_N20_5260 MHz	**10520 MHz**		**15780 MHz**					
1	10520	32.64	3.35	35.99	54.00	-18.01	Average	Horizontal
2	10520	45.11	3.35	48.46	74.00	-25.54	Peak	Horizontal
3	15780	31.61	7.35	38.96	54.00	-15.04	Average	Horizontal
4	15780	44.44	7.35	51.79	74.00	-22.21	Peak	Horizontal
5	10520	32.84	3.35	36.19	54.00	-17.81	Average	Vertical
6	10520	46.05	3.35	49.40	74.00	-24.60	Peak	Vertical
7	15780	31.61	7.35	38.96	54.00	-15.04	Average	Vertical
8	15780	44.53	7.35	51.88	74.00	-22.12	Peak	Vertical
5G_N20_5300 MHz	**10600 MHz**		**15900 MHz**					
1	10600	32.20	3.19	35.39	54.00	-18.61	Average	Horizontal
2	10600	44.65	3.19	47.84	74.00	-26.16	Peak	Horizontal
3	15900	30.33	7.24	37.57	54.00	-16.43	Average	Horizontal
4	15900	43.57	7.24	50.81	74.00	-23.19	Peak	Horizontal
5	10600	33.04	3.19	36.23	54.00	-17.77	Average	Vertical
6	10600	48.02	3.19	51.21	74.00	-22.79	Peak	Vertical
7	15900	30.33	7.24	37.57	54.00	-16.43	Average	Vertical
8	15900	43.39	7.24	50.63	74.00	-23.37	Peak	Vertical
5G_N20_5320 MHz	**10640 MHz**		**15960 MHz**					
1	10640	32.25	3.10	35.35	54.00	-18.65	Average	Horizontal
2	10640	45.52	3.10	48.62	74.00	-25.38	Peak	Horizontal
3	15960	30.56	7.19	37.75	54.00	-16.25	Average	Horizontal
4	15960	43.81	7.19	51.00	74.00	-23.00	Peak	Horizontal
5	10640	33.16	3.10	36.26	54.00	-17.74	Average	Vertical
6	10640	48.50	3.10	51.60	74.00	-22.40	Peak	Vertical
7	15960	30.69	7.19	37.88	54.00	-16.12	Average	Vertical
8	15960	43.88	7.19	51.07	74.00	-22.93	Peak	Vertical
5G_N20_5500 MHz	**11000 MHz**		**16500 MHz**					
1	11000	33.77	2.36	36.13	54.00	-17.87	Average	Horizontal
2	11000	46.93	2.36	49.29	74.00	-24.71	Peak	Horizontal
3	16500	31.67	8.00	39.67	54.00	-14.33	Average	Horizontal
4	16500	44.47	8.00	52.47	74.00	-21.53	Peak	Horizontal

5	11000	35.70	2.36	38.06	54.00	-15.94	Average	Vertical
6	11000	49.66	2.36	52.02	74.00	-21.98	Peak	Vertical
7	16500	31.75	8.00	39.75	54.00	-14.25	Average	Vertical
8	16500	44.27	8.00	52.27	74.00	-21.73	Peak	Vertical
5G_N20_5580 MHz	**11160 MHz**		**16740 MHz**					
1	11160	32.42	2.25	34.67	54.00	-19.33	Average	Vertical
2	11160	44.90	2.25	47.15	74.00	-26.85	Peak	Vertical
3	16740	30.61	8.31	38.92	54.00	-15.08	Average	Vertical
4	16740	43.16	8.31	51.47	74.00	-22.53	Peak	Vertical
5G_N20_5700 MHz	**11400 MHz**		**17100 MHz**					
1	11400	31.94	2.11	34.05	54.00	-19.95	Average	Horizontal
2	11400	44.71	2.11	46.82	74.00	-27.18	Peak	Horizontal
3	17100	31.54	8.79	40.33	54.00	-13.67	Average	Horizontal
4	17100	44.09	8.79	52.88	74.00	-21.12	Peak	Horizontal
5	11400	31.97	2.11	34.08	54.00	-19.92	Average	Vertical
6	11400	44.20	2.11	46.31	74.00	-27.69	Peak	Vertical
7	17100	31.42	8.79	40.21	54.00	-13.79	Average	Vertical
8	17100	44.56	8.79	53.35	74.00	-20.65	Peak	Vertical
5G_N20_5745 MHz	**11490 MHz**		**17235 MHz**					
1	11490	32.03	2.06	34.09	54.00	-19.91	Average	Horizontal
2	11490	45.49	2.06	47.55	74.00	-26.45	Peak	Horizontal
3	17235	30.82	8.99	39.81	54.00	-14.19	Average	Horizontal
4	17235	43.61	8.99	52.60	74.00	-21.40	Peak	Horizontal
5	11490	32.00	2.06	34.06	54.00	-19.94	Average	Vertical
6	11490	44.52	2.06	46.58	74.00	-27.42	Peak	Vertical
7	17235	30.95	8.99	39.94	54.00	-14.06	Average	Vertical
8	17235	43.89	8.99	52.88	74.00	-21.12	Peak	Vertical
5G_N20_5825 MHz	**11650 MHz**		**17475 MHz**					
1	11650	32.04	2.08	34.12	54.00	-19.88	Average	Horizontal
2	11650	44.48	2.08	46.56	74.00	-27.44	Peak	Horizontal
3	17475	29.46	9.33	38.79	54.00	-15.21	Average	Horizontal
4	17475	42.41	9.33	51.74	74.00	-22.26	Peak	Horizontal
5	11650	32.00	2.08	34.08	54.00	-19.92	Average	Vertical
6	11650	44.65	2.08	46.73	74.00	-27.27	Peak	Vertical
7	17475	29.46	9.33	38.79	54.00	-15.21	Average	Vertical
8	17475	42.08	9.33	51.41	74.00	-22.59	Peak	Vertical
5G_N40_5190 MHz	**10380 MHz**		**15570 MHz**					
1	10380	33.50	3.38	36.88	54.00	-17.12	Average	Horizontal
2	10380	45.83	3.38	49.21	74.00	-24.79	Peak	Horizontal
3	15570	31.24	7.54	38.78	54.00	-15.22	Average	Horizontal
4	15570	44.05	7.54	51.59	74.00	-22.41	Peak	Horizontal
5	10380	33.44	3.38	36.82	54.00	-17.18	Average	Vertical
6	10380	45.89	3.38	49.27	74.00	-24.73	Peak	Vertical
7	15570	31.24	7.54	38.78	54.00	-15.22	Average	Vertical
8	15570	43.48	7.54	51.02	74.00	-22.98	Peak	Vertical
5G_N40_5230 MHz	**10460 MHz**		**15690 MHz**					
1	10460	33.96	3.40	37.36	54.00	-16.64	Average	Horizontal
2	10460	46.55	3.40	49.95	74.00	-24.05	Peak	Horizontal
3	15690	31.85	7.42	39.27	54.00	-14.73	Average	Horizontal
4	15690	44.63	7.42	52.05	74.00	-21.95	Peak	Horizontal
5	10460	33.96	3.40	37.36	54.00	-16.64	Average	Vertical
6	10460	46.06	3.40	49.46	74.00	-24.54	Peak	Vertical
7	15690	31.89	7.42	39.31	54.00	-14.69	Average	Vertical
8	15690	44.32	7.42	51.74	74.00	-22.26	Peak	Vertical
5G_N40_5270 MHz	**10540 MHz**		**15810 MHz**					
1	10540	32.70	3.30	36.00	54.00	-18.00	Average	Horizontal
2	10540	44.59	3.30	47.89	74.00	-26.11	Peak	Horizontal

3	15810	31.08	7.33	38.41	54.00	-15.59	Average	Horizontal
4	15810	43.45	7.33	50.78	74.00	-23.22	Peak	Horizontal
5	10540	33.06	3.30	36.36	54.00	-17.64	Average	Vertical
6	10540	45.22	3.30	48.52	74.00	-25.48	Peak	Vertical
7	15810	31.04	7.33	38.37	54.00	-15.63	Average	Vertical
8	15810	43.36	7.33	50.69	74.00	-23.31	Peak	Vertical
5G_N40_5310 MHz		**10620 MHz**		**15930 MHz**				
1	10620	32.28	3.14	35.42	54.00	-18.58	Average	Horizontal
2	10620	45.15	3.14	48.29	74.00	-25.71	Peak	Horizontal
3	15930	30.28	7.21	37.49	54.00	-16.51	Average	Horizontal
4	15930	43.63	7.21	50.84	74.00	-23.16	Peak	Horizontal
5	10620	33.09	3.14	36.23	54.00	-17.77	Average	Vertical
6	10620	45.76	3.14	48.90	74.00	-25.10	Peak	Vertical
7	15930	30.28	7.21	37.49	54.00	-16.51	Average	Vertical
8	15930	43.46	7.21	50.67	74.00	-23.33	Peak	Vertical
5G_N40_5510 MHz		**11020 MHz**		**16530 MHz**				
1	11020	33.23	2.35	35.58	54.00	-18.42	Average	Horizontal
2	11020	45.70	2.35	48.05	74.00	-25.95	Peak	Horizontal
3	16530	31.63	8.04	39.67	54.00	-14.33	Average	Horizontal
4	16530	43.89	8.04	51.93	74.00	-22.07	Peak	Horizontal
5	11020	34.19	2.35	36.54	54.00	-17.46	Average	Vertical
6	11020	47.34	2.35	49.69	74.00	-24.31	Peak	Vertical
7	16530	31.63	8.04	39.67	54.00	-14.33	Average	Vertical
8	16530	44.41	8.04	52.45	74.00	-21.55	Peak	Vertical
5G_N40_5550 MHz		**11100 MHz**		**16650 MHz**				
1	11100	32.37	2.30	34.67	54.00	-19.33	Average	Horizontal
2	11100	45.43	2.30	47.73	74.00	-26.27	Peak	Horizontal
3	16650	30.68	8.20	38.88	54.00	-15.12	Average	Horizontal
4	16650	43.00	8.20	51.20	74.00	-22.80	Peak	Horizontal
5	11100	32.61	2.30	34.91	54.00	-19.09	Average	Vertical
6	11100	44.81	2.30	47.11	74.00	-26.89	Peak	Vertical
7	16650	30.64	8.20	38.84	54.00	-15.16	Average	Vertical
8	16650	42.89	8.20	51.09	74.00	-22.91	Peak	Vertical
5G_N40_5670 MHz		**11340 MHz**		**17010 MHz**				
1	11340	31.93	2.16	34.09	54.00	-19.91	Average	Horizontal
2	11340	44.81	2.16	46.97	74.00	-27.03	Peak	Horizontal
3	17010	30.92	8.67	39.59	54.00	-14.41	Average	Horizontal
4	17010	43.37	8.67	52.04	74.00	-21.96	Peak	Horizontal
5	11340	31.93	2.16	34.09	54.00	-19.91	Average	Vertical
6	11340	44.95	2.16	47.11	74.00	-26.89	Peak	Vertical
7	17010	30.92	8.67	39.59	54.00	-14.41	Average	Vertical
8	17010	44.15	8.67	52.82	74.00	-21.18	Peak	Vertical
5G_N40_5755 MHz		**11510 MHz**		**17265 MHz**				
1	11510	31.97	2.05	34.02	54.00	-19.98	Average	Horizontal
2	11510	43.93	2.05	45.98	74.00	-28.02	Peak	Horizontal
3	17265	30.83	9.03	39.86	54.00	-14.14	Average	Horizontal
4	17265	42.71	9.03	51.74	74.00	-22.26	Peak	Horizontal
5	11510	31.93	2.05	33.98	54.00	-20.02	Average	Vertical
6	11510	44.32	2.05	46.37	74.00	-27.63	Peak	Vertical
7	17265	30.78	9.03	39.81	54.00	-14.19	Average	Vertical
8	17265	43.72	9.03	52.75	74.00	-21.25	Peak	Vertical
5G_N40_5795 MHz		**11590 MHz**		**17385 MHz**				
1	11590	31.51	2.07	33.58	54.00	-20.42	Average	Horizontal
2	11590	44.24	2.07	46.31	74.00	-27.69	Peak	Horizontal
3	17385	30.45	9.21	39.66	54.00	-14.34	Average	Horizontal
4	17385	42.96	9.21	52.17	74.00	-21.83	Peak	Horizontal
5	11590	31.67	2.07	33.74	54.00	-20.26	Average	Vertical

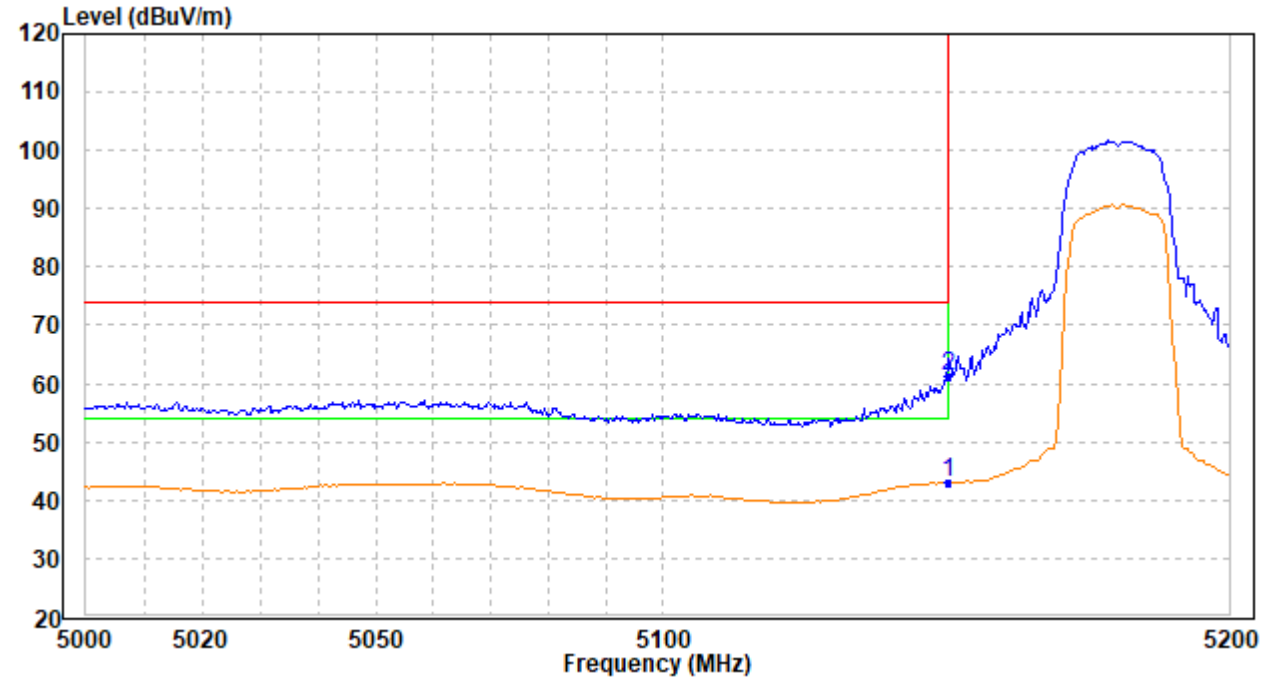
6	11590	43.65	2.07	45.72	74.00	-28.28	Peak	Vertical
7	17385	30.49	9.21	39.70	54.00	-14.30	Average	Vertical
8	17385	42.72	9.21	51.93	74.00	-22.07	Peak	Vertical
5G_AC80_5210 MHz	**10420 MHz**		**15630 MHz**					
1	10420	33.80	3.39	37.19	54.00	-16.81	Average	Horizontal
2	10420	46.22	3.39	49.61	74.00	-24.39	Peak	Horizontal
3	15630	31.72	7.48	39.20	54.00	-14.80	Average	Horizontal
4	15630	44.50	7.48	51.98	74.00	-22.02	Peak	Horizontal
5	10420	33.86	3.39	37.25	54.00	-16.75	Average	Vertical
6	10420	46.14	3.39	49.53	74.00	-24.47	Peak	Vertical
7	15630	31.79	7.48	39.27	54.00	-14.73	Average	Vertical
8	15630	44.49	7.48	51.97	74.00	-22.03	Peak	Vertical
5G_AC80_5290 MHz	**10580 MHz**		**15870 MHz**					
1	10580	32.83	3.23	36.06	54.00	-17.94	Average	Horizontal
2	10580	45.70	3.23	48.93	74.00	-25.07	Peak	Horizontal
3	15870	31.26	7.27	38.53	54.00	-15.47	Average	Horizontal
4	15870	43.64	7.27	50.91	74.00	-23.09	Peak	Horizontal
5	10580	33.00	3.23	36.23	54.00	-17.77	Average	Vertical
6	10580	45.33	3.23	48.56	74.00	-25.44	Peak	Vertical
7	15870	31.54	7.27	38.81	54.00	-15.19	Average	Vertical
8	15870	44.42	7.27	51.69	74.00	-22.31	Peak	Vertical
5G_AC80_5530 MHz	**11060 MHz**		**16590 MHz**					
1	11060	33.03	2.32	35.35	54.00	-18.65	Average	Horizontal
2	11060	45.88	2.32	48.20	74.00	-25.80	Peak	Horizontal
3	16590	30.34	8.11	38.45	54.00	-15.55	Average	Horizontal
4	16590	42.86	8.11	50.97	74.00	-23.03	Peak	Horizontal
5	11060	33.80	2.32	36.12	54.00	-17.88	Average	Vertical
6	11060	45.59	2.32	47.91	74.00	-26.09	Peak	Vertical
7	16590	30.34	8.11	38.45	54.00	-15.55	Average	Vertical
8	16590	43.82	8.11	51.93	74.00	-22.07	Peak	Vertical
5G_AC80_5610 MHz	**11220 MHz**		**16830 MHz**					
1	11220	31.18	2.22	33.40	54.00	-20.60	Average	Horizontal
2	11220	44.32	2.22	46.54	74.00	-27.46	Peak	Horizontal
3	16830	30.58	8.43	39.01	54.00	-14.99	Average	Horizontal
4	16830	43.41	8.43	51.84	74.00	-22.16	Peak	Horizontal
5	11220	31.26	2.22	33.48	54.00	-20.52	Average	Vertical
6	11220	43.41	2.22	45.63	74.00	-28.37	Peak	Vertical
7	16830	30.58	8.43	39.01	54.00	-14.99	Average	Vertical
8	16830	42.84	8.43	51.27	74.00	-22.73	Peak	Vertical
5G_AC80_5775 MHz	**11550 MHz**		**17325 MHz**					
1	11550	31.96	2.06	34.02	54.00	-19.98	Average	Horizontal
2	11550	44.32	2.06	46.38	74.00	-27.62	Peak	Horizontal
3	17325	30.86	9.12	39.98	54.00	-14.02	Average	Horizontal
4	17325	43.58	9.12	52.70	74.00	-21.30	Peak	Horizontal
5	11550	32.00	2.06	34.06	54.00	-19.94	Average	Vertical
6	11550	44.26	2.06	46.32	74.00	-27.68	Peak	Vertical
7	17325	30.78	9.12	39.90	54.00	-14.10	Average	Vertical
8	17325	42.86	9.12	51.98	74.00	-22.02	Peak	Vertical

Remark:

1. Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain, the value was added to Original Receiver Reading by the software automatically.
2. Result = Reading + Correct Factor.
3. Margin = Result – Limit

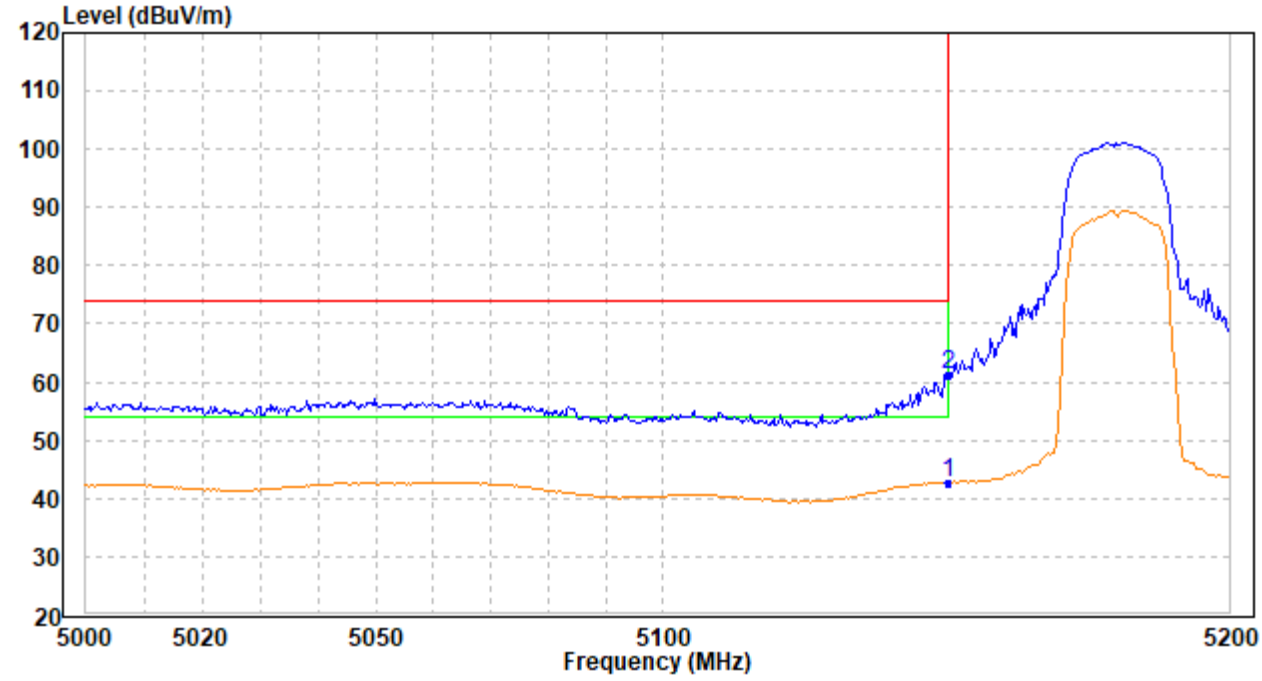
Band Edge Measurements (Radiated): Worst-Case Configuration

Test Channel:	5G_A_5180	Ant Polar:	Horizontal



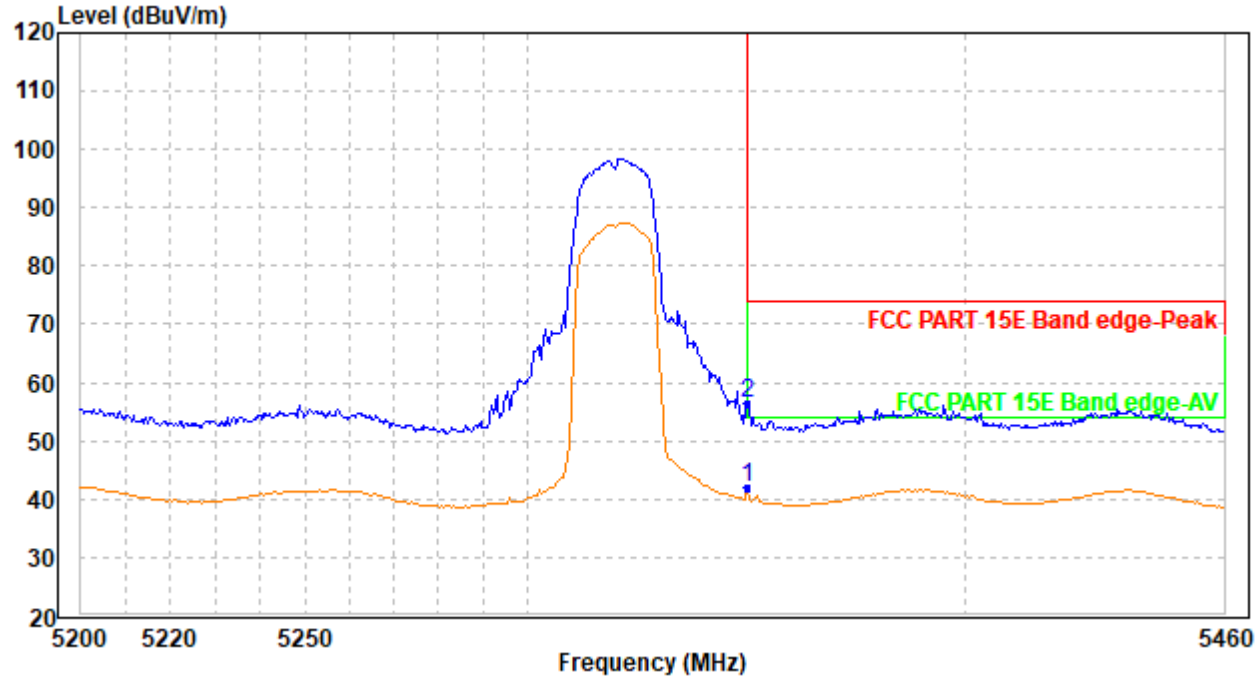
No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5150.000	34.74	8.33	43.07	54.00	-10.93	AV
2	5150.000	52.95	8.33	61.28	74.00	-12.72	Peak

Test Channel:	5G_A_5180	Ant Polar:	Vertical



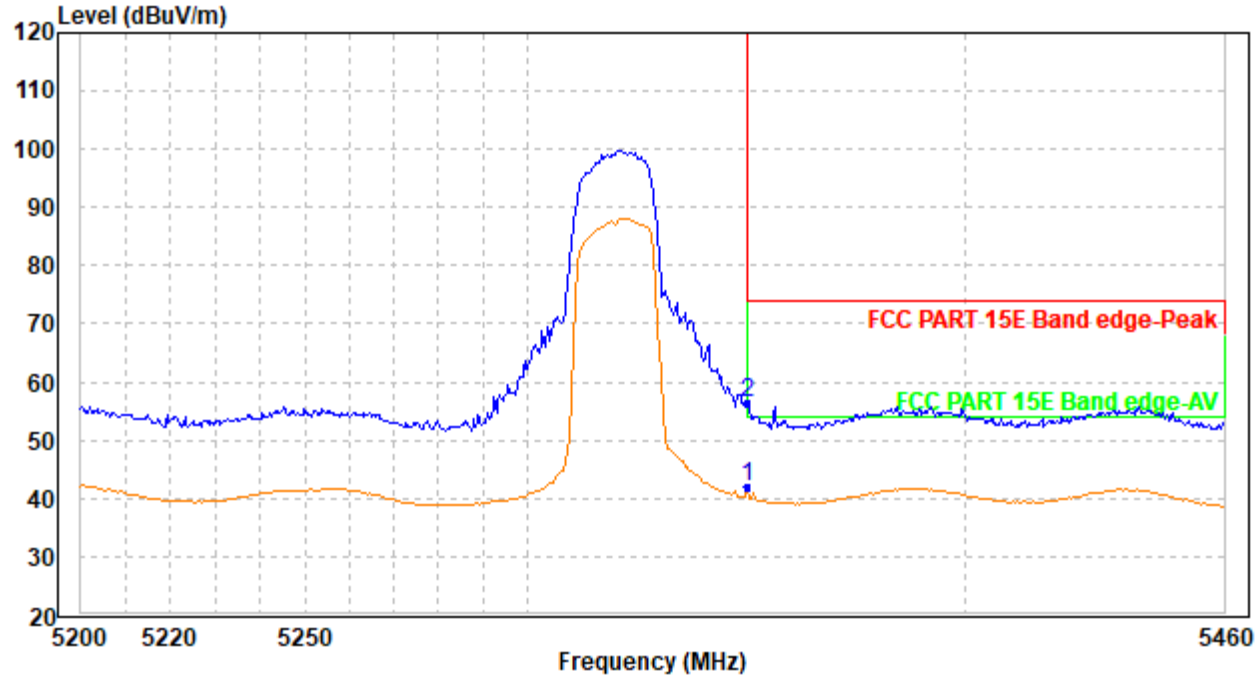
No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	34.34	8.33	42.67	54.00	-11.33	5150.000	AV
2	52.86	8.33	61.19	74.00	-12.81	5150.000	Peak

Test Channel:	5G_A_5320	Ant Polar:	Horizontal



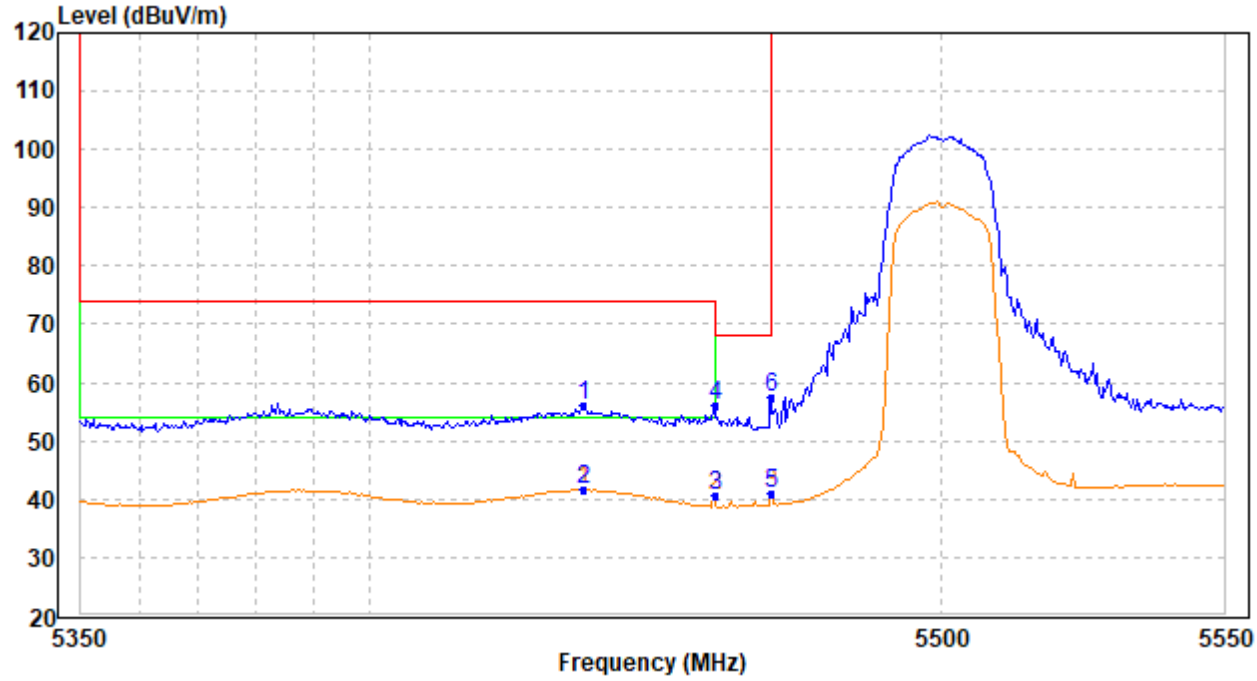
No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5350.000	33.07	8.77	41.84	54.00	-12.16	AV
2	5350.000	47.68	8.77	56.45	74.00	-17.55	Peak

Test Channel:	5G_A_5320	Ant Polar:	Vertical



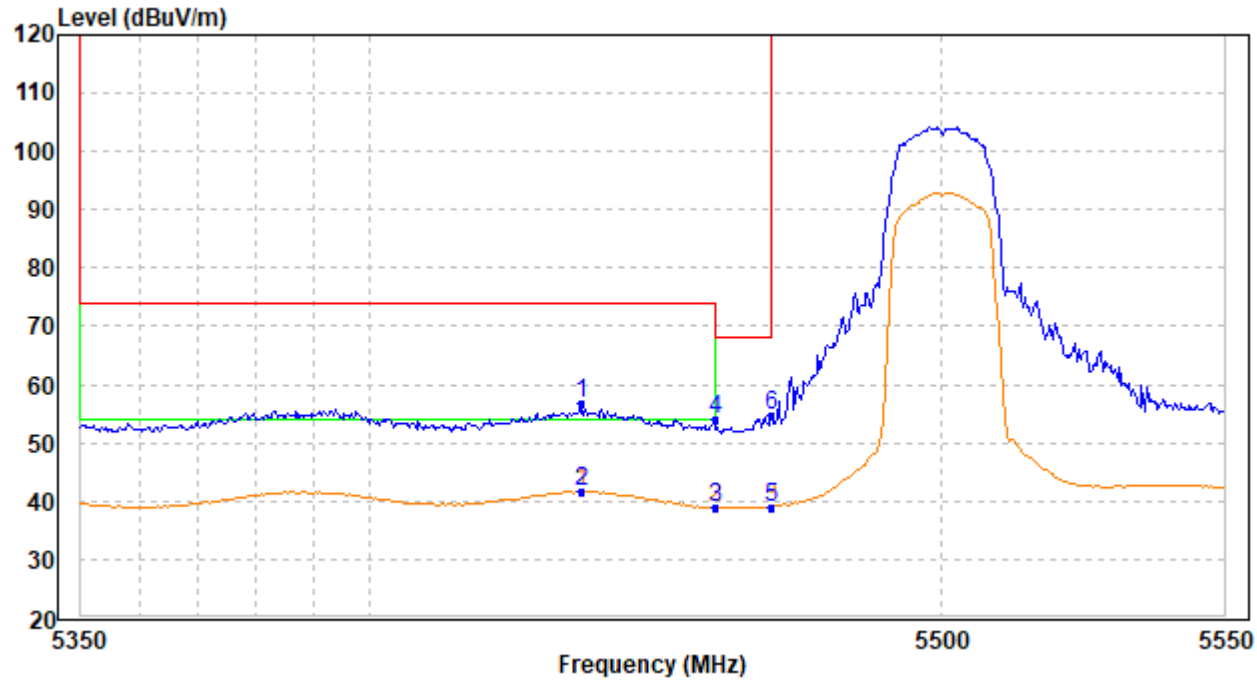
No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5350.000	33.27	8.77	42.04	54.00	-11.96	AV
2	5350.000	47.67	8.77	56.44	74.00	-17.56	Peak

Test Channel:	5G_A_5500	Ant Polar:	Horizontal



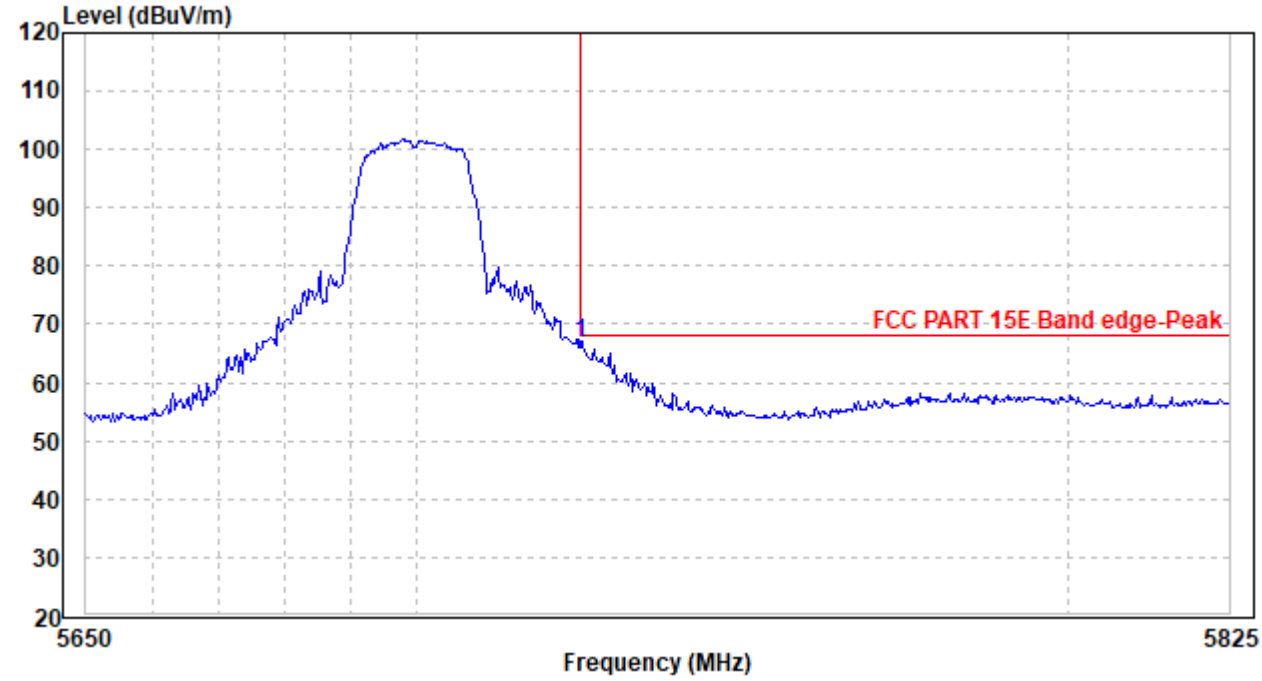
No.	Frequency (MHz)	Reading (dBμV)	Correction factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5436.974	47.07	8.97	56.04	74.00	-17.96	Peak
2	5436.974	32.68	8.97	41.65	54.00	-12.35	AV
3	5460.000	31.76	9.02	40.78	54.00	-13.22	AV
4	5460.000	47.22	9.02	56.24	68.20	-11.96	Peak
5	5470.000	31.86	9.04	40.90	68.20	-27.30	AV
6	5470.000	48.38	9.04	57.42	68.20	-10.78	Peak

Test Channel:	5G_A_5500	Ant Polar:	Vertical



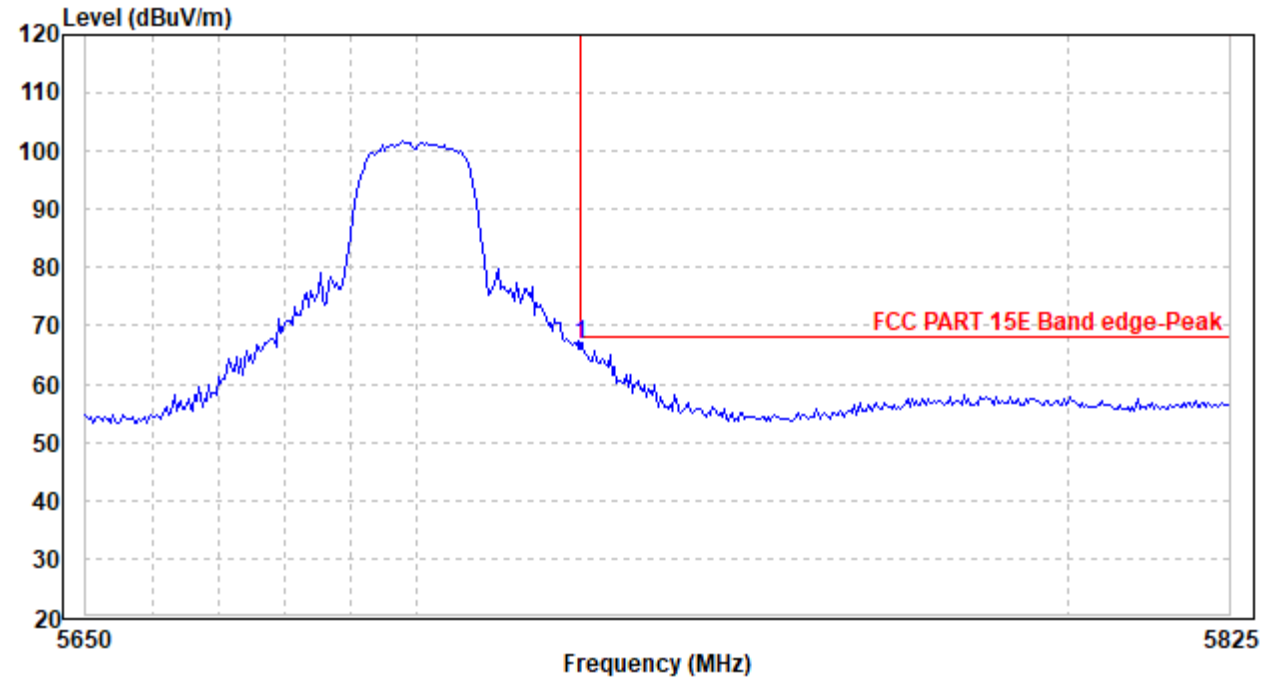
No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5436.573	47.80	8.97	56.77	74.00	-17.23	Peak
2	5436.573	32.65	8.97	41.62	54.00	-12.38	AV
3	5460.000	29.76	9.02	38.78	54.00	-15.22	AV
4	5460.000	45.14	9.02	54.16	68.20	-14.04	Peak
5	5470.000	30.02	9.04	39.06	68.20	-29.14	AV
6	5470.000	45.83	9.04	54.87	68.20	-13.33	Peak

Test Channel:	5G_A_5700	Ant Polar:	Horizontal



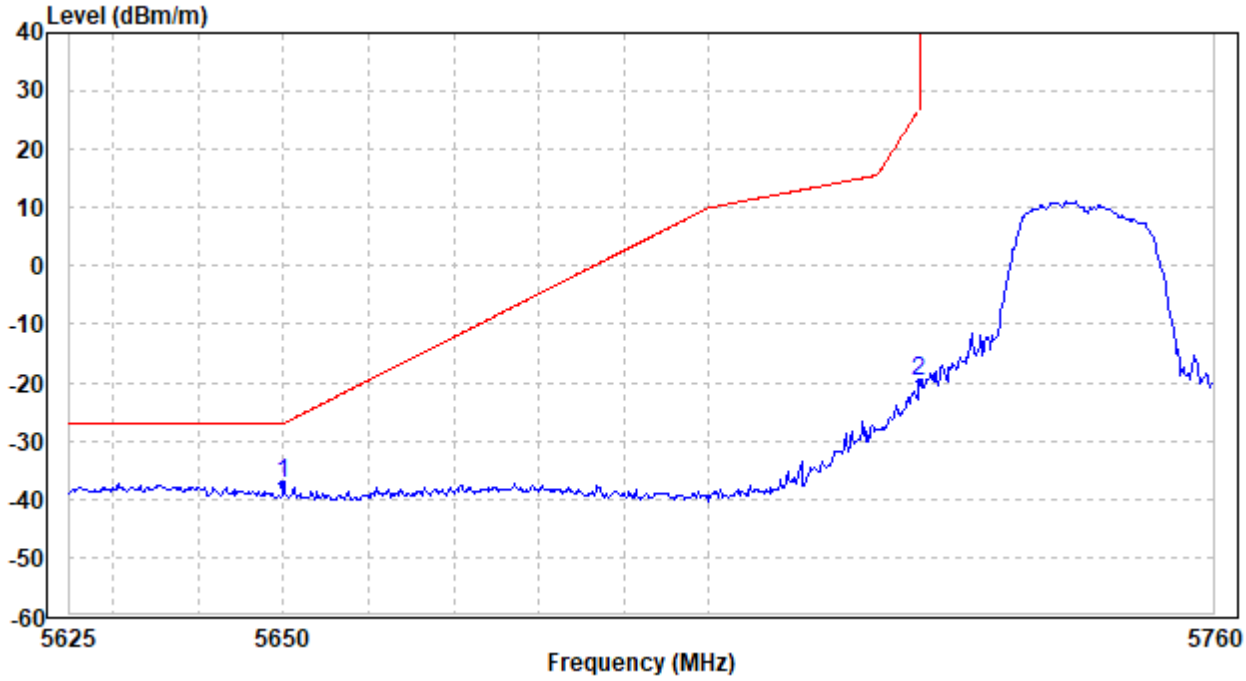
No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5725.000	57.02	9.65	66.67	68.20	-1.53	Peak

Test Channel:	5G_A_5700	Ant Polar:	Vertical



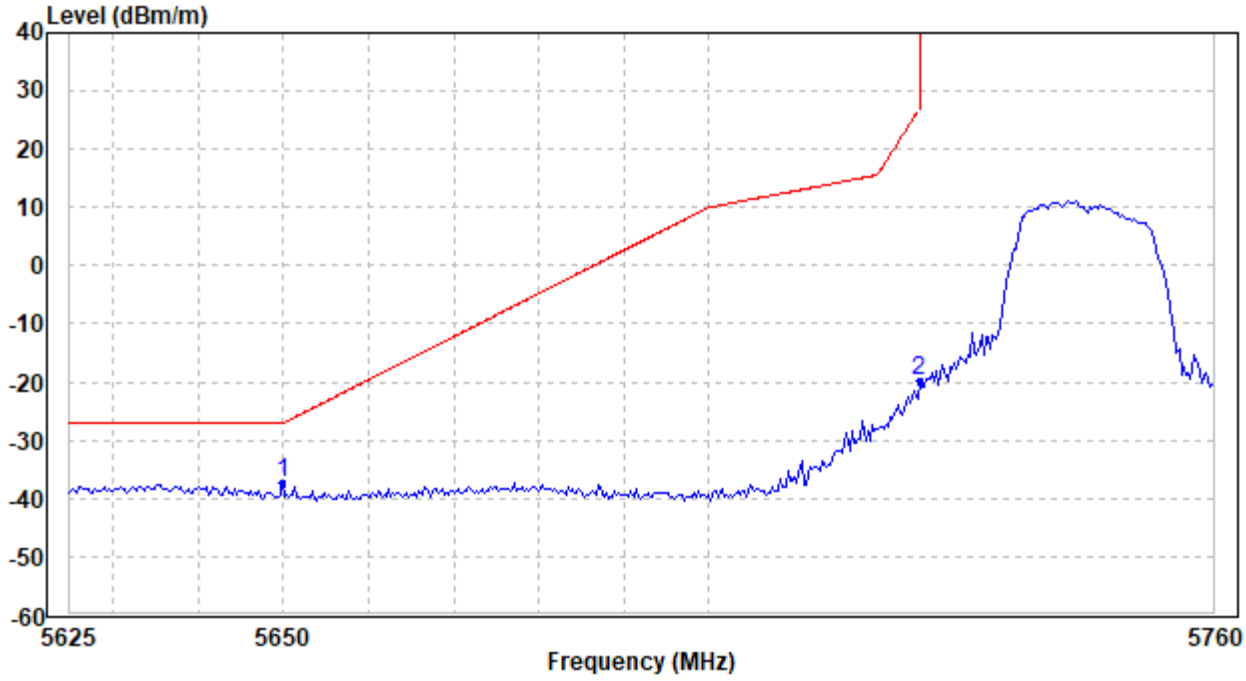
No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5725.000	57.02	9.65	66.67	68.20	-1.53	Peak

Test Channel:	5G_A_5745	Ant Polar:	Horizontal



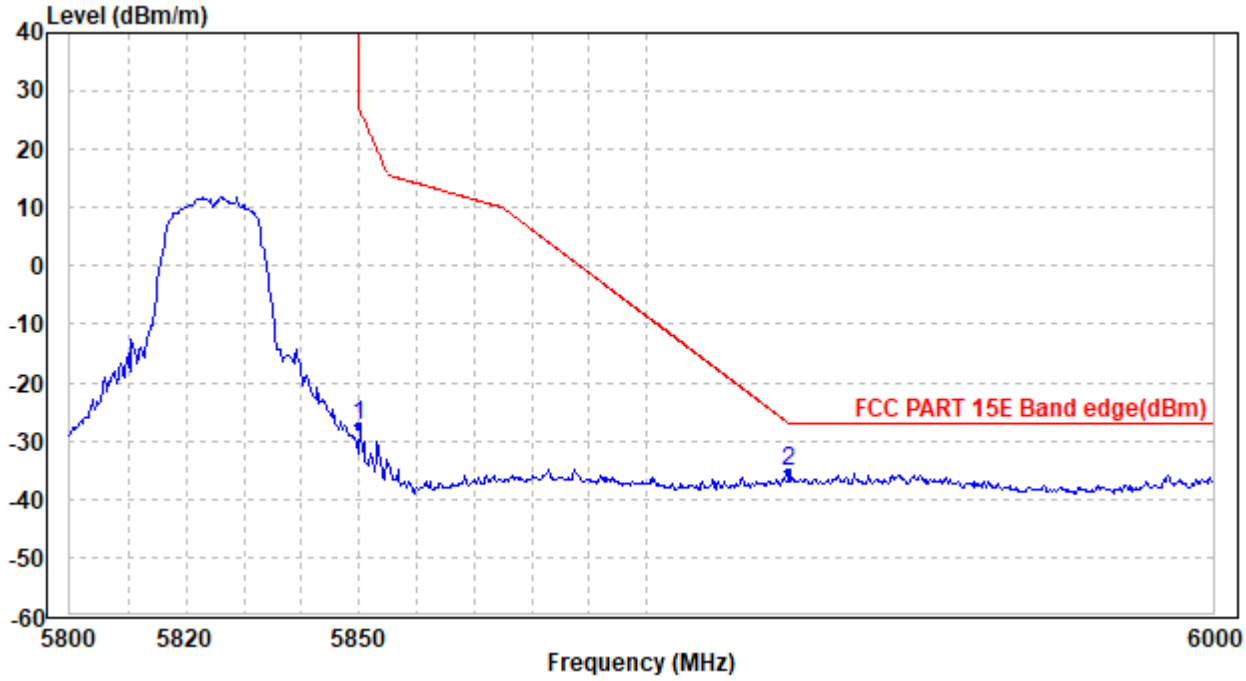
No.	Frequency (MHz)	Reading (dBm)	Correction factor (dB/m)	Result (dBm)	Limit (dBm)	Margin (dB)	Detector
1	5650.000	-60.26	22.91	-37.35	-27.00	-10.35	Peak
2	5725.000	-42.79	23.05	-19.74	27.00	-46.74	Peak

Test Channel:	5G_A_5745	Ant Polar:	Vertical



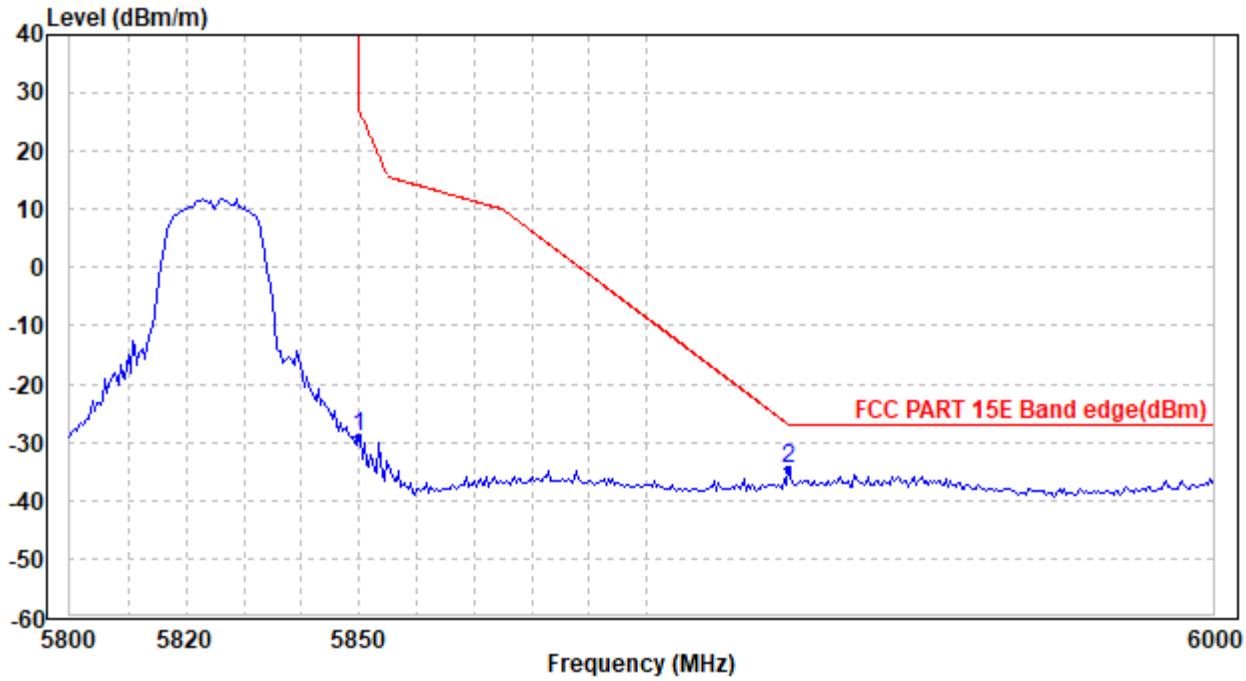
No.	Frequency (MHz)	Reading (dBm)	Correction factor (dB/m)	Result (dBm)	Limit (dBm)	Margin (dB)	Detector
1	5650.000	-60.08	22.91	-37.17	-27.00	-10.17	Peak
2	5725.000	-42.79	23.05	-19.74	27.00	-46.74	Peak

Test Channel:	5G_A_5825	Ant Polar:	Horizontal



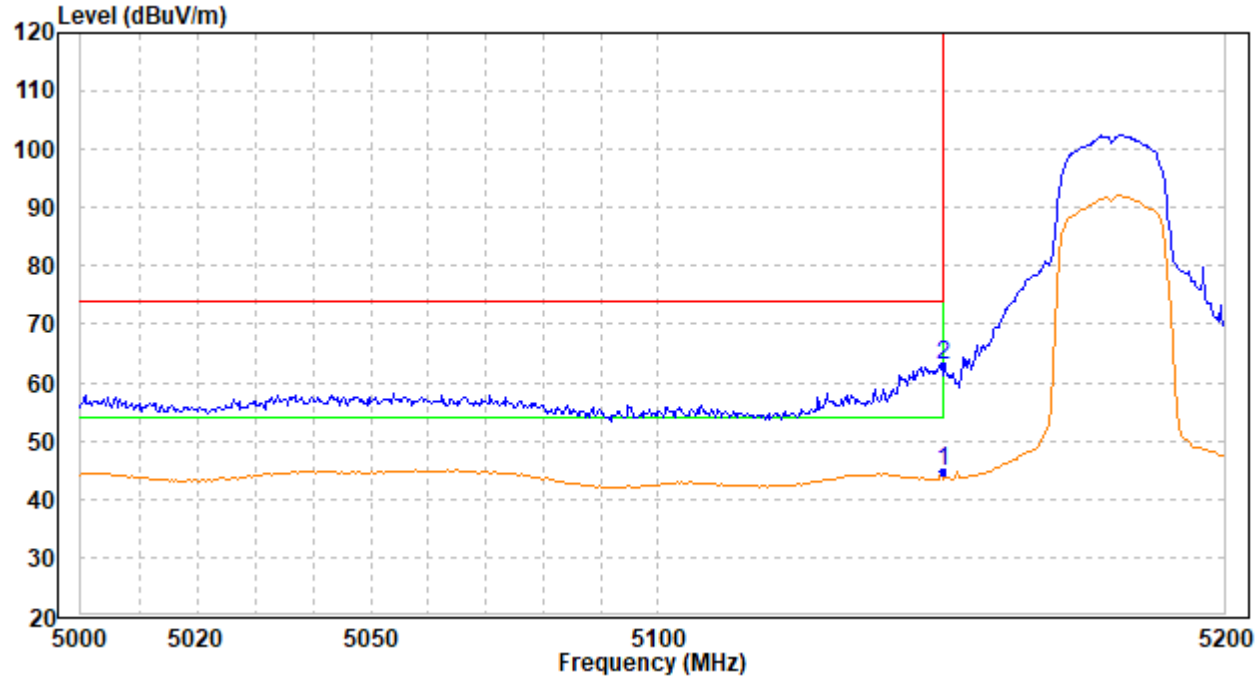
No.	Frequency (MHz)	Reading (dBm)	Correction factor (dB/m)	Result (dBm)	Limit (dBm)	Margin (dB)	Detector
1	5850.000	-50.77	23.30	-27.47	27.00	-54.47	Peak
2	5925.000	-58.58	23.44	-35.14	-27.00	-8.14	Peak

Test Channel:	5G_A_5825	Ant Polar:	Vertical



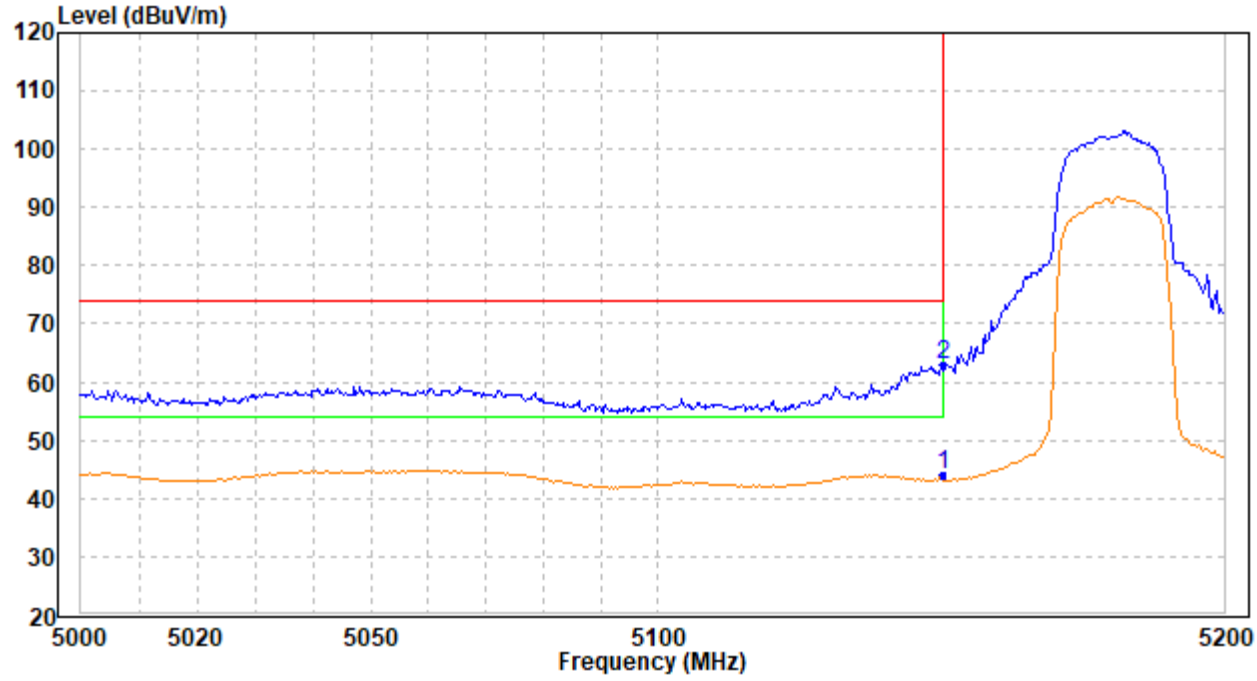
No.	Frequency (MHz)	Reading (dBm)	Correction factor (dB/m)	Result (dBm)	Limit (dBm)	Margin (dB)	Detector
1	5850.000	-52.38	23.30	-29.08	27.00	-56.08	Peak
2	5925.000	-58.05	23.44	-34.61	-27.00	-7.61	Peak

Test Channel:	5G_N20_5180	Ant Polar:	Horizontal



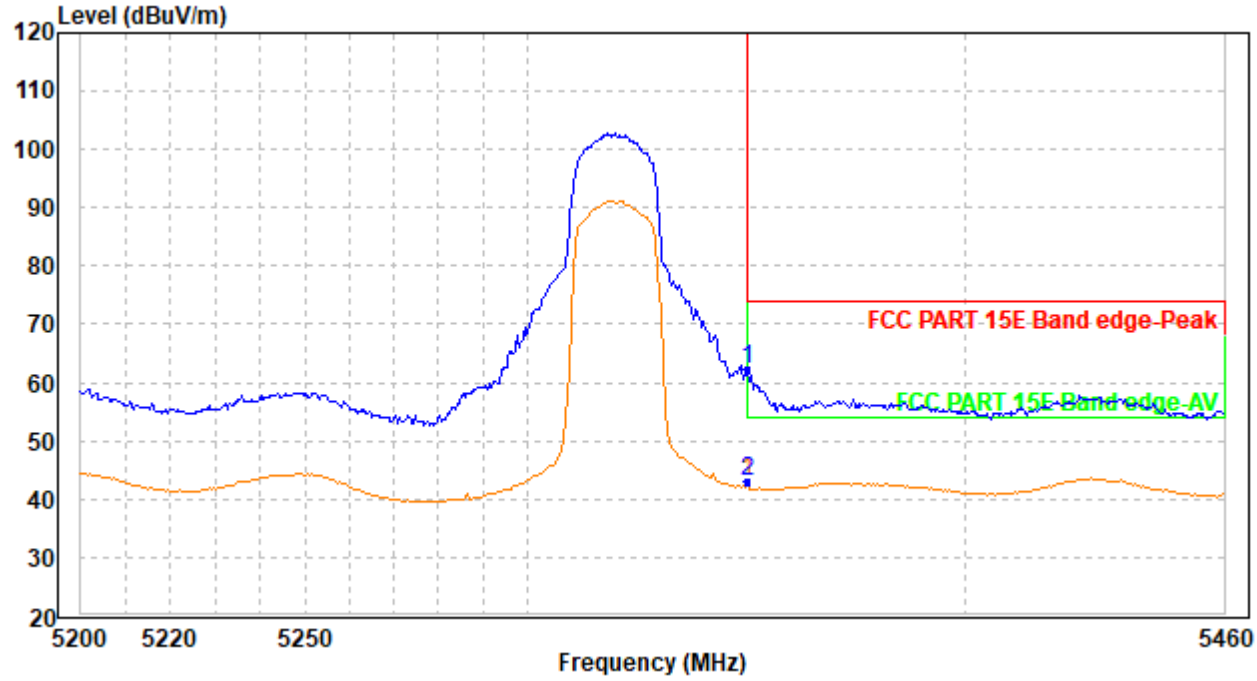
No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5150.000	34.36	10.23	44.59	54.00	-9.41	AV
2	5150.000	52.82	10.23	63.05	74.00	-10.95	Peak

Test Channel:	5G_N20_5180	Ant Polar:	Vertical



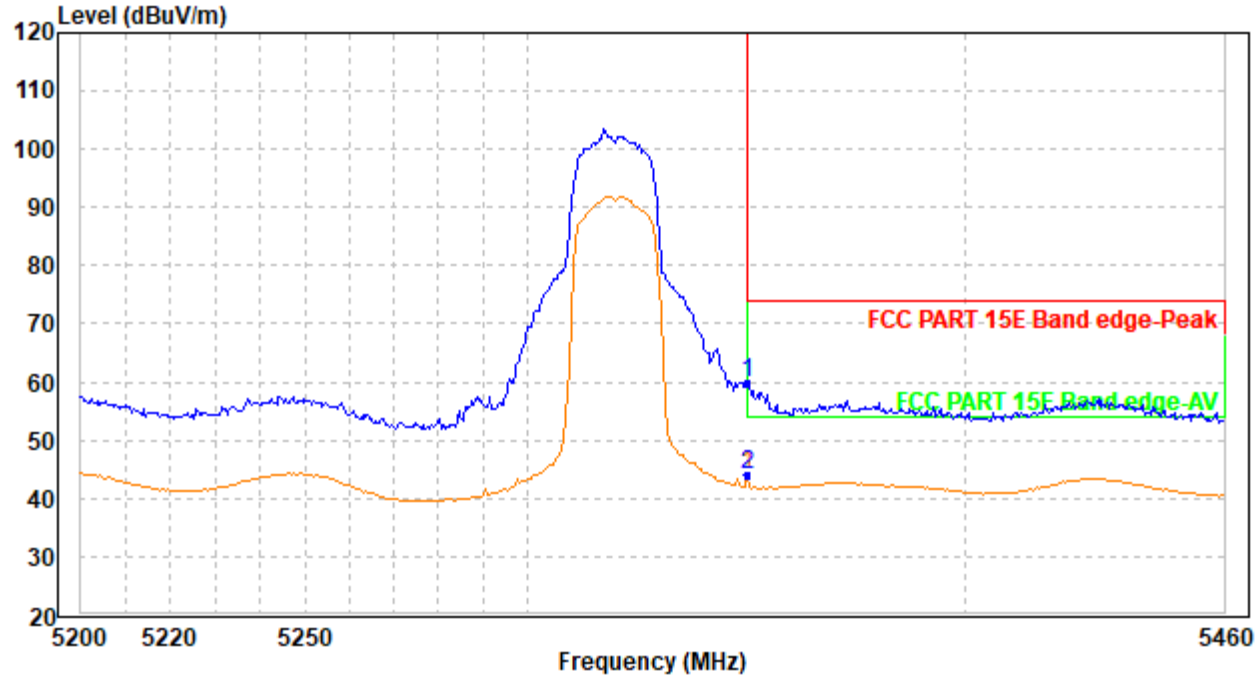
No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5150.000	33.89	10.23	44.12	54.00	-9.88	AV
2	5150.000	52.70	10.23	62.93	74.00	-11.07	Peak

Test Channel:	5G_N20_5320	Ant Polar:	Horizontal



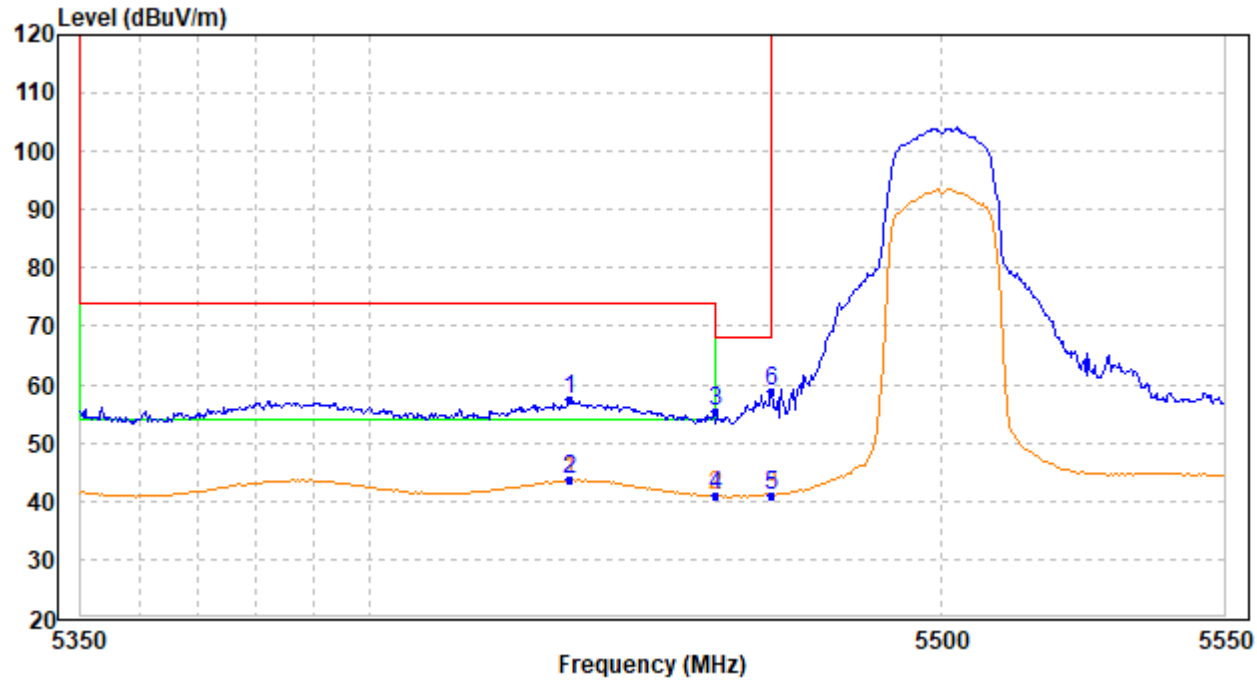
No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5350.000	51.85	10.58	62.43	74.00	-11.57	Peak
2	5350.000	32.42	10.58	43.00	54.00	-11.00	AV

Test Channel:	5G_N20_5320	Ant Polar:	Vertical



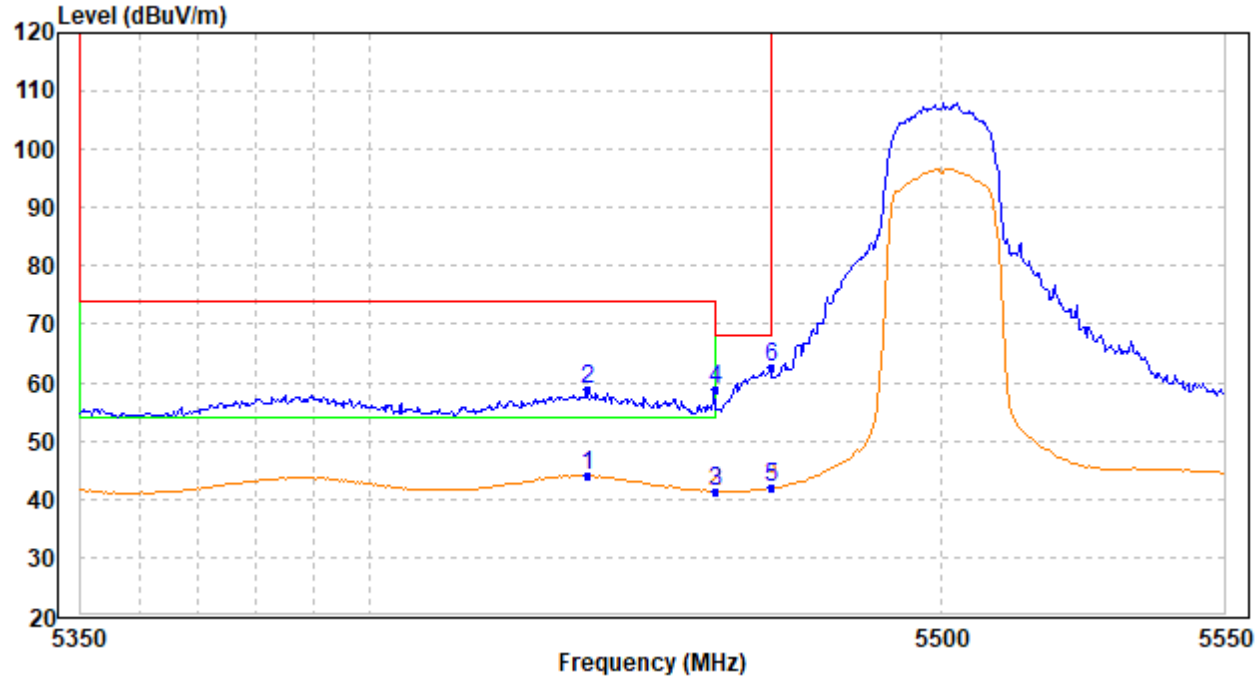
No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5350.000	49.28	10.58	59.86	74.00	-14.14	Peak
2	5350.060	33.40	10.58	43.98	54.00	-10.02	AV

Test Channel:	5G_N20_5500	Ant Polar:	Horizontal



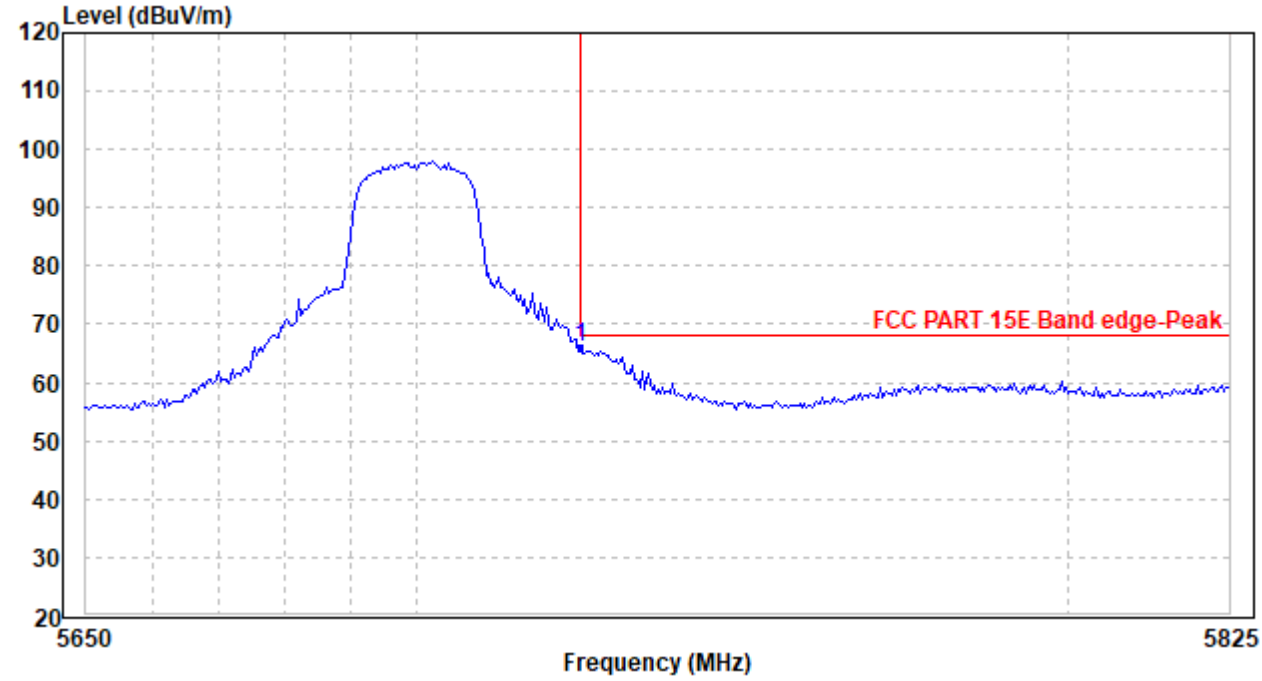
No.	Frequency (MHz)	Reading (dBμV)	Correction factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5434.569	46.63	10.73	57.36	74.00	-16.64	Peak
2	5434.569	32.97	10.73	43.70	54.00	-10.30	AV
3	5460.000	44.65	10.78	55.43	68.20	-12.77	Peak
4	5460.000	30.18	10.78	40.96	68.20	-27.24	AV
5	5470.000	30.32	10.80	41.12	68.20	-27.08	AV
6	5470.000	48.09	10.80	58.89	68.20	-9.31	Peak

Test Channel:	5G_N20_5500	Ant Polar:	Vertical



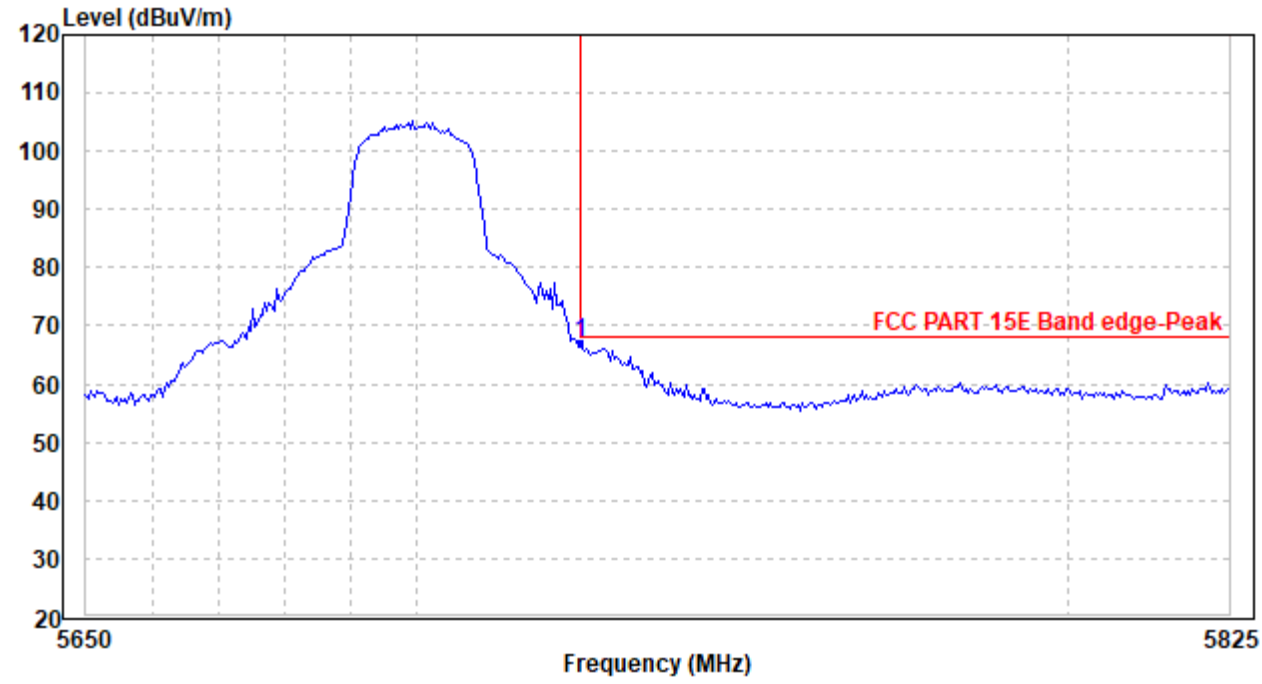
No.	Frequency (MHz)	Reading (dBμV)	Correction factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5437.775	33.33	10.74	44.07	54.00	-9.93	AV
2	5437.775	48.10	10.74	58.84	74.00	-15.16	Peak
3	5460.000	30.55	10.78	41.33	54.00	-12.67	AV
4	5460.000	48.07	10.78	58.85	68.20	-9.35	Peak
5	5470.000	31.12	10.80	41.92	68.20	-26.28	AV
6	5470.000	51.92	10.80	62.72	68.20	-5.48	Peak

Test Channel:	5G_N20_5700	Ant Polar:	Horizontal



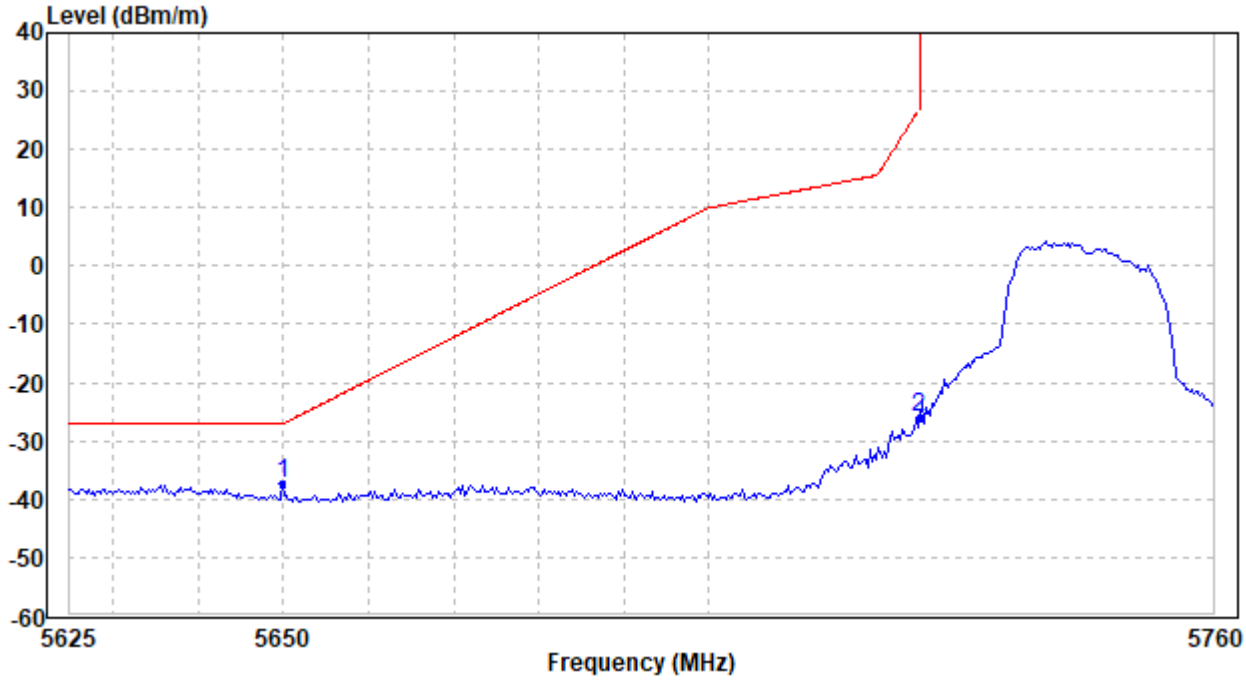
No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5725.000	54.68	11.28	65.96	68.20	-2.24	Peak

Test Channel:	5G_N20_5700	Ant Polar:	Vertical



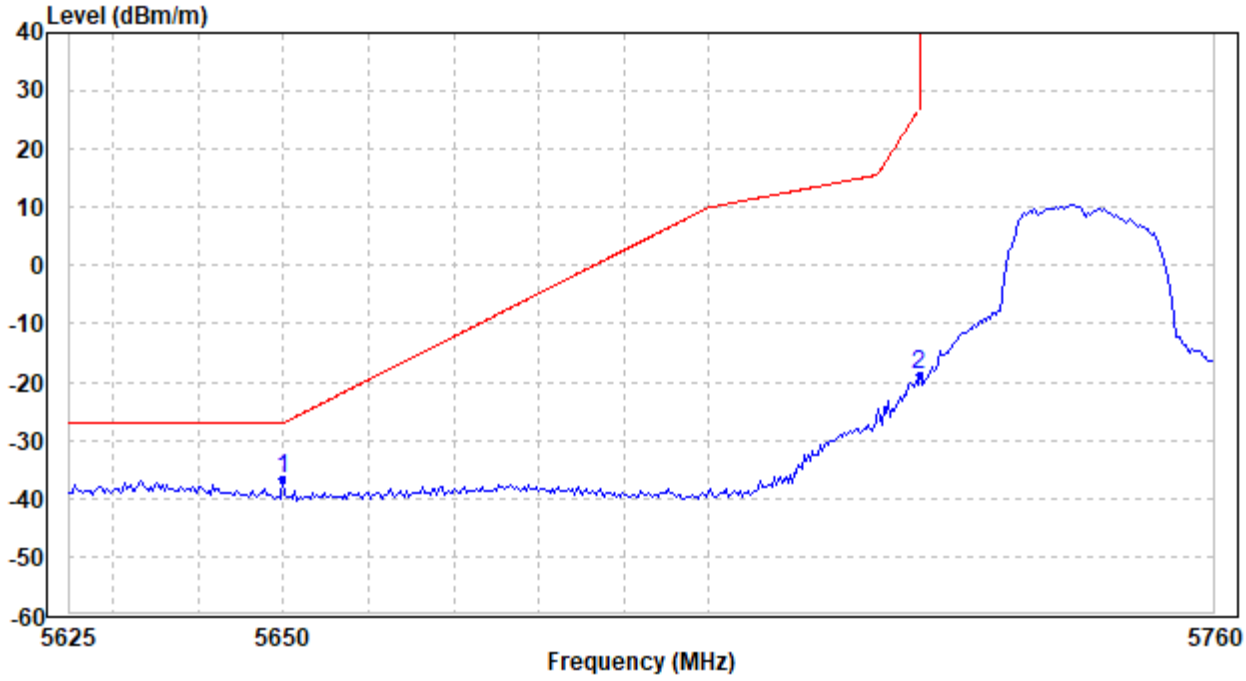
No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5725.000	55.78	11.28	67.06	68.20	-1.14	Peak

Test Channel:	5G_N20_5745	Ant Polar:	Horizontal



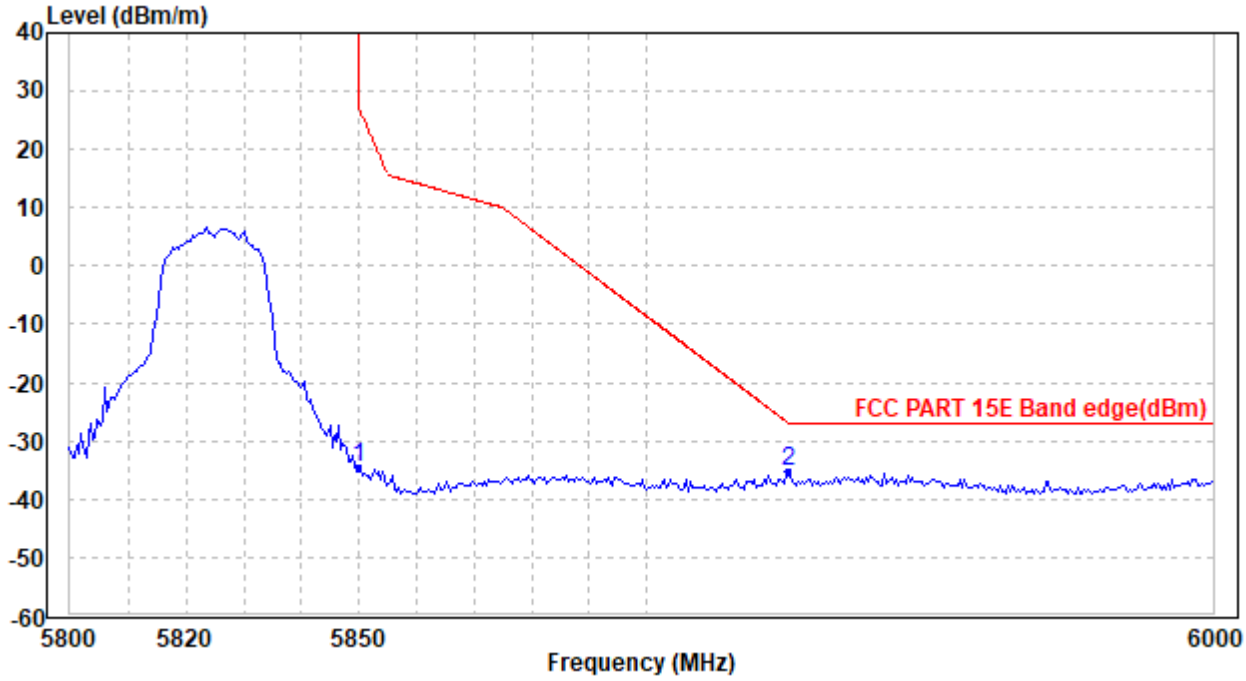
No.	Frequency (MHz)	Reading (dBm)	Correction factor (dB/m)	Result (dBm)	Limit (dBm)	Margin (dB)	Detector
1	5650.000	-60.25	22.91	-37.34	-27.00	-10.34	Peak
2	5725.000	-48.97	23.05	-25.92	27.00	-52.92	Peak

Test Channel:	5G_N20_5745	Ant Polar:	Vertical



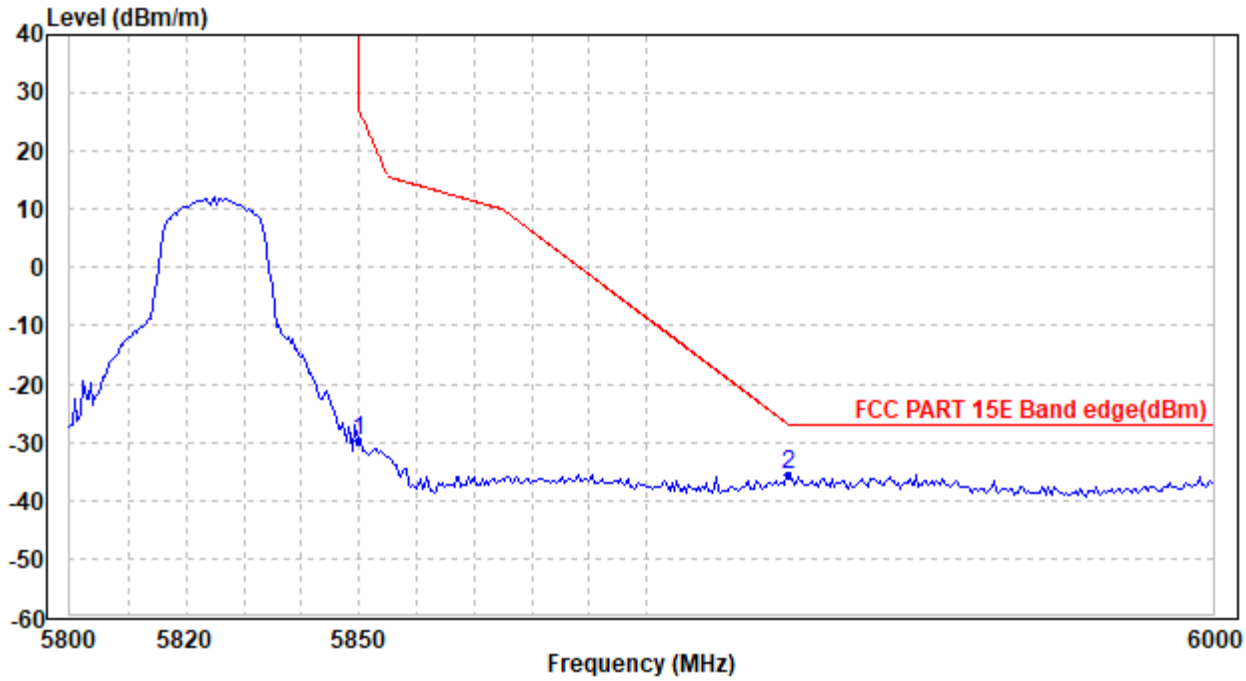
No.	Frequency (MHz)	Reading (dBm)	Correction factor (dB/m)	Result (dBm)	Limit (dBm)	Margin (dB)	Detector
1	5650.000	-59.63	22.91	-36.72	-27.00	-9.72	AV
2	5725.000	-41.70	23.05	-18.65	27.00	-45.65	Peak

Test Channel:	5G_N20_5825	Ant Polar:	Horizontal



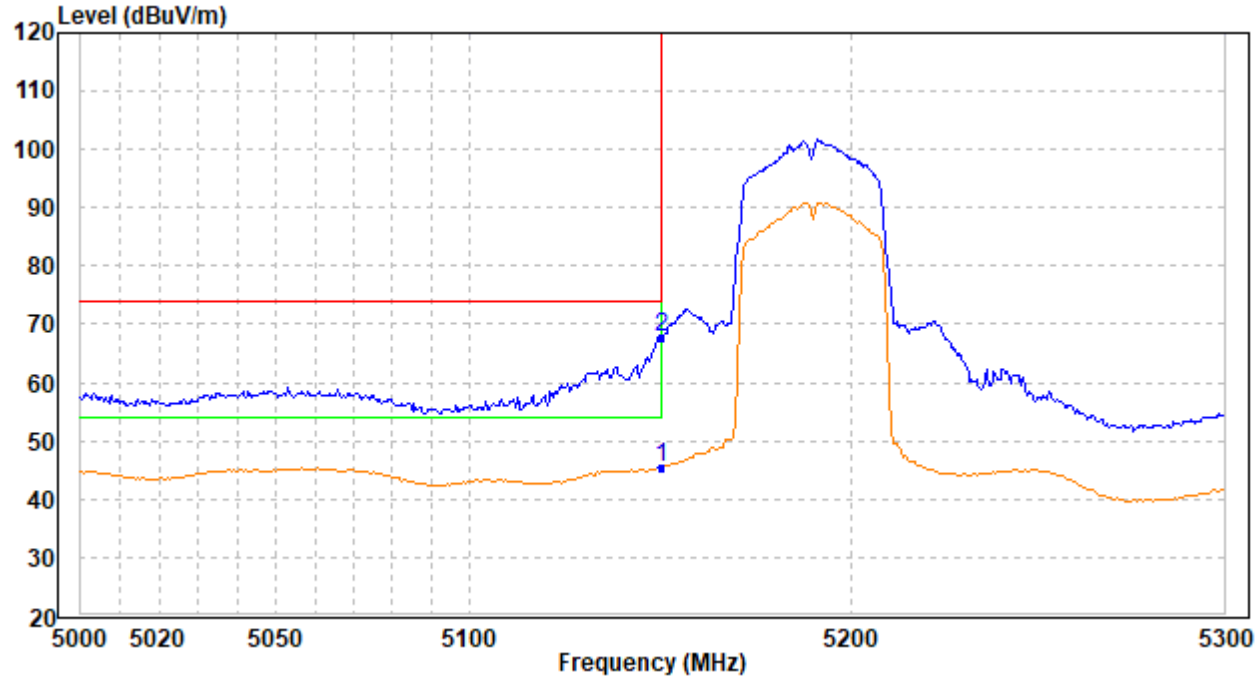
No.	Frequency (MHz)	Reading (dBm)	Correction factor (dB/m)	Result (dBm)	Limit (dBm)	Margin (dB)	Detector
1	5850.000	-57.71	23.30	-34.41	27.00	-61.41	Peak
2	5925.000	-58.79	23.44	-35.35	-27.00	-8.35	Peak

Test Channel:	5G_N20_5825	Ant Polar:	Vertical



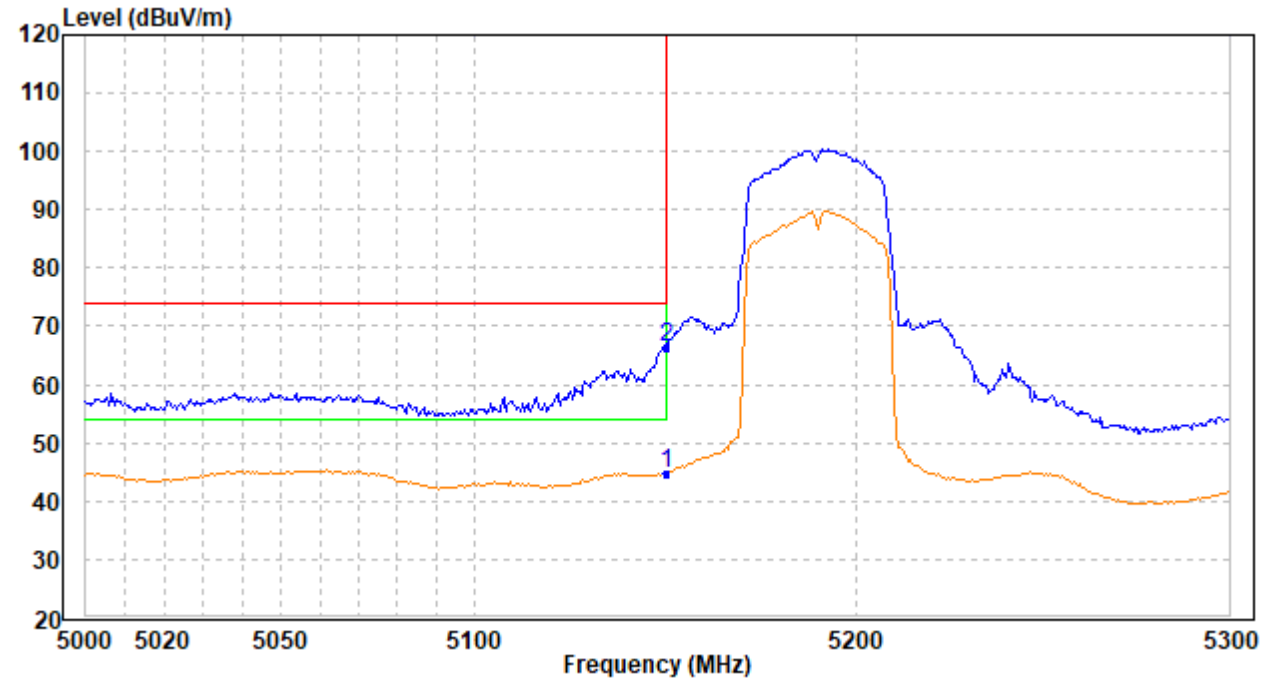
No.	Frequency (MHz)	Reading (dBm)	Correction factor (dB/m)	Result (dBm)	Limit (dBm)	Margin (dB)	Detector
1	5850.000	-52.92	23.30	-29.62	27.00	-56.62	Peak
2	5925.000	-58.89	23.44	-35.45	-27.00	-8.45	Peak

Test Channel:	5G_N40_5190	Ant Polar:	Horizontal



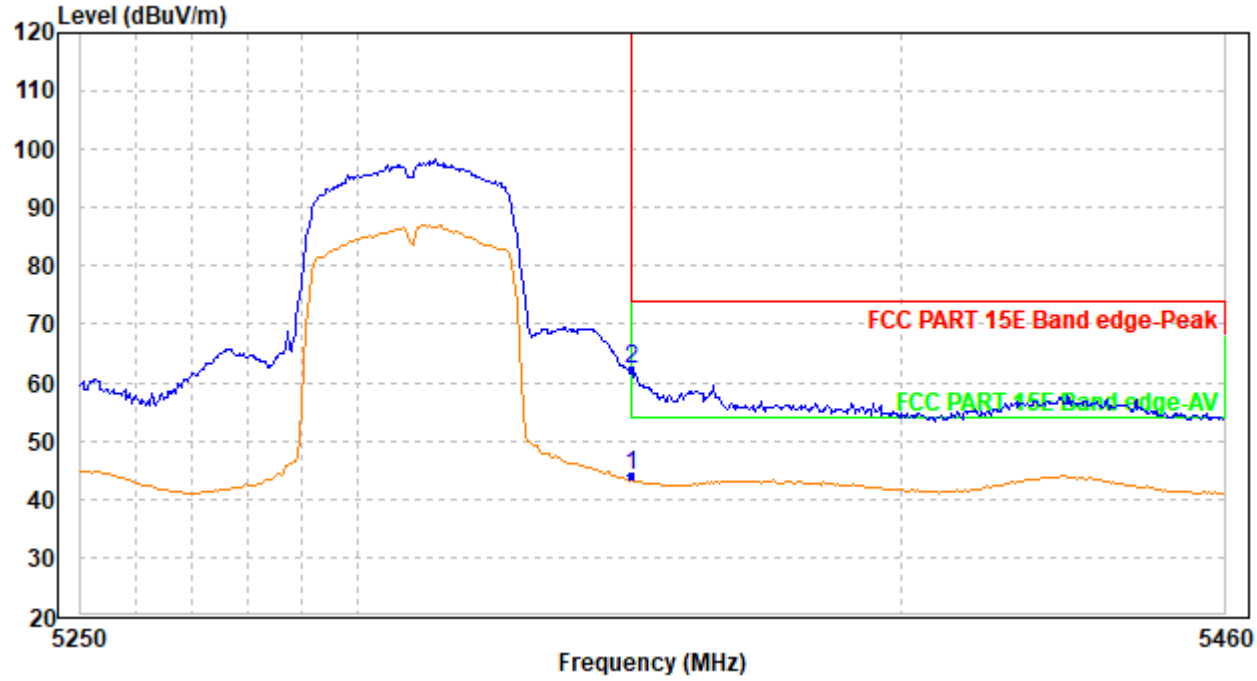
No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5150.000	35.21	10.23	45.44	54.00	-8.56	AV
2	5150.000	57.46	10.23	67.69	74.00	-6.31	Peak

Test Channel:	5G_N40_5190	Ant Polar:	Vertical



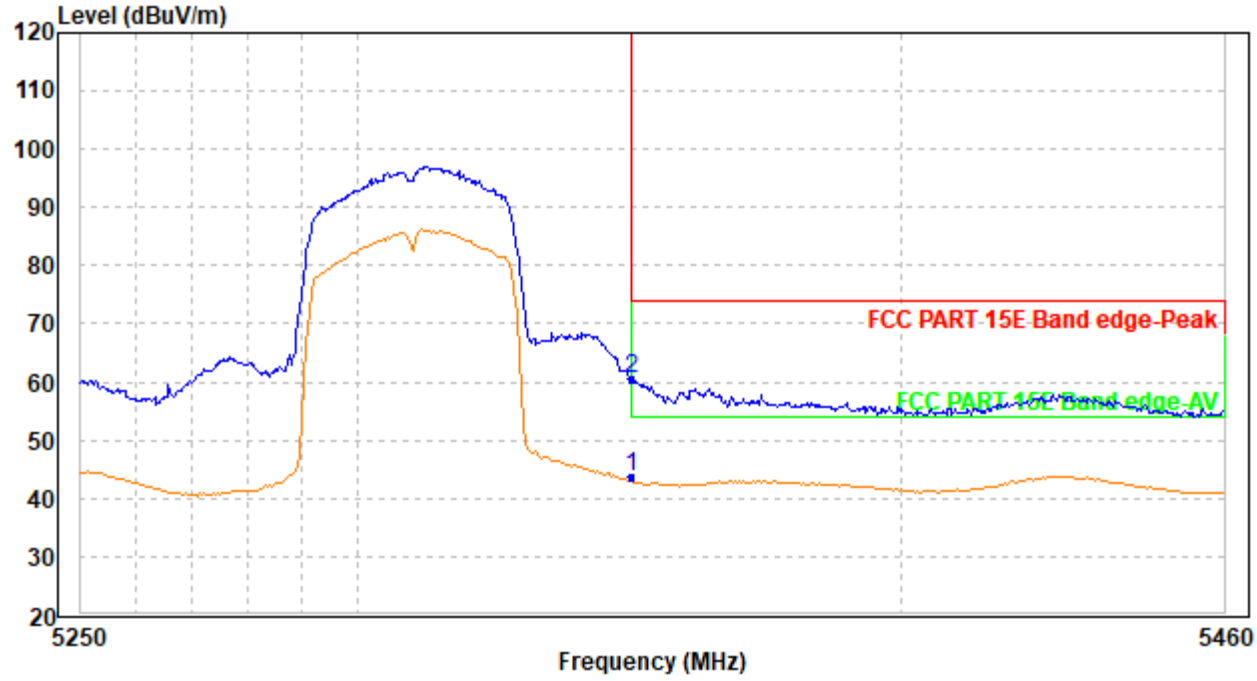
No.	Frequency (MHz)	Reading (dBμV)	Correction factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5150.000	34.58	10.23	44.81	54.00	-9.19	AV
2	5150.000	56.03	10.23	66.26	74.00	-7.74	Peak

Test Channel:	5G_N40_5310	Ant Polar:	Horizontal



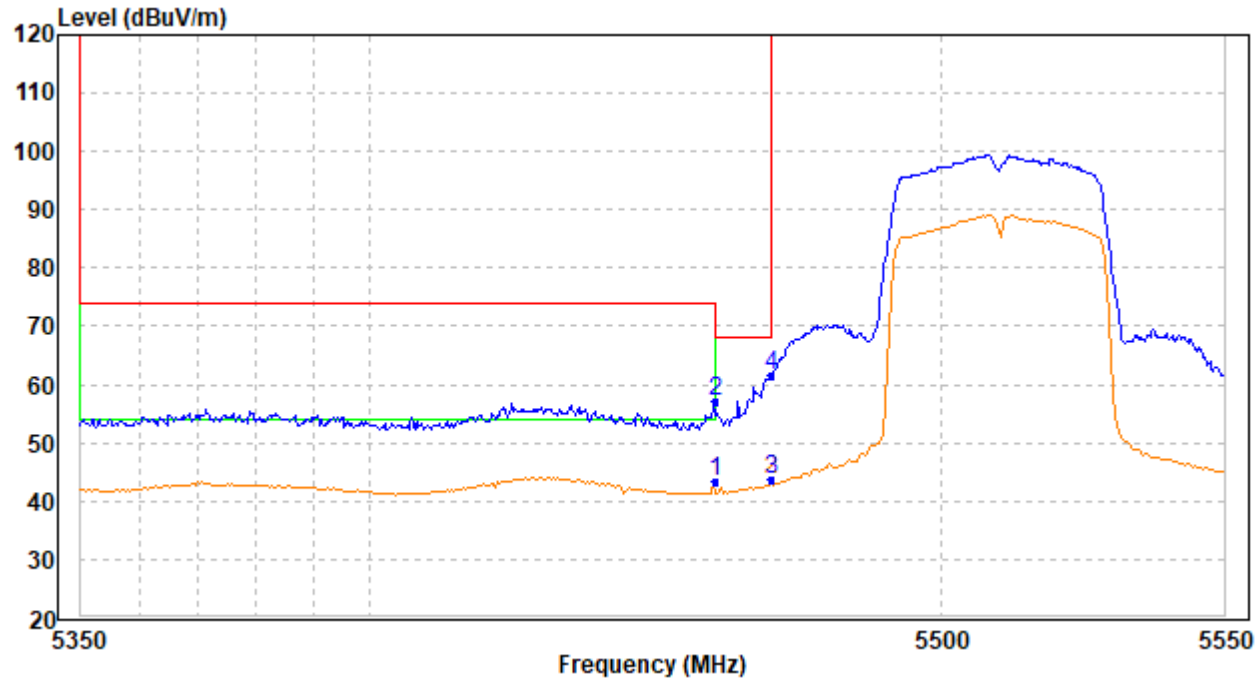
No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5350.000	33.51	10.58	44.09	54.00	-9.91	AV
2	5350.000	51.83	10.58	62.41	74.00	-11.59	Peak

Test Channel:	5G_N40_5310	Ant Polar:	Vertical



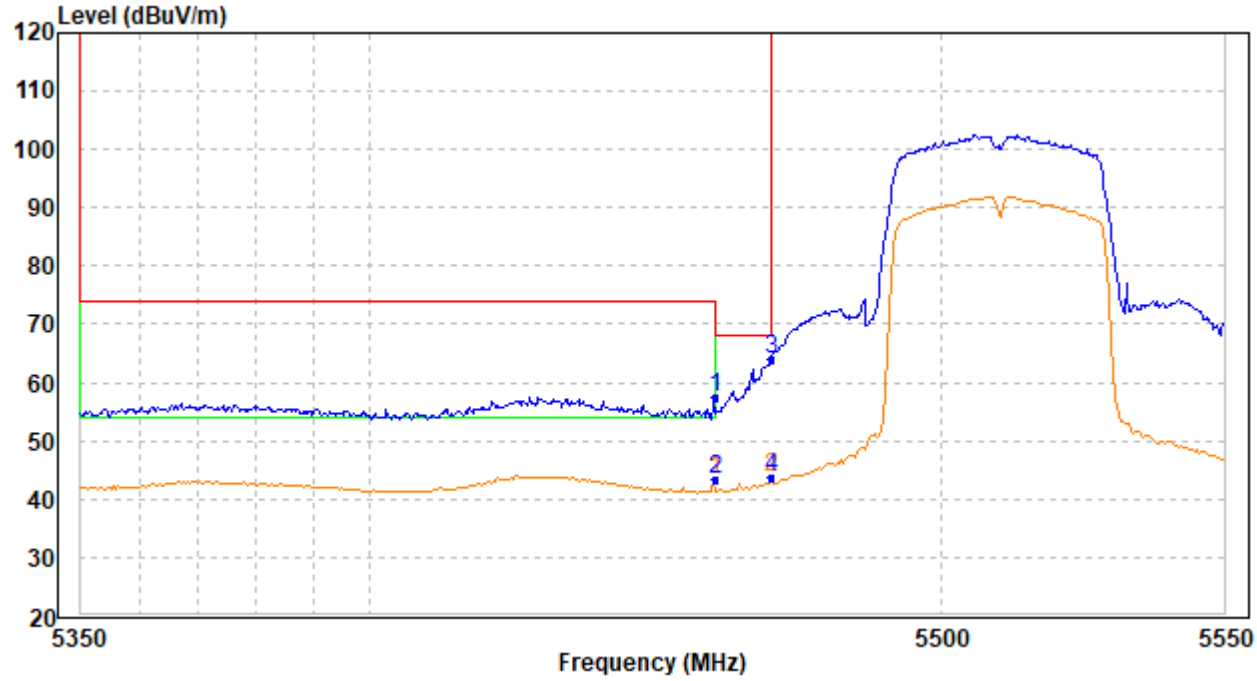
No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5350.000	33.18	10.58	43.76	54.00	-10.24	AV
2	5350.000	50.06	10.58	60.64	74.00	-13.36	Peak

Test Channel:	5G_N40_5510	Ant Polar:	Horizontal



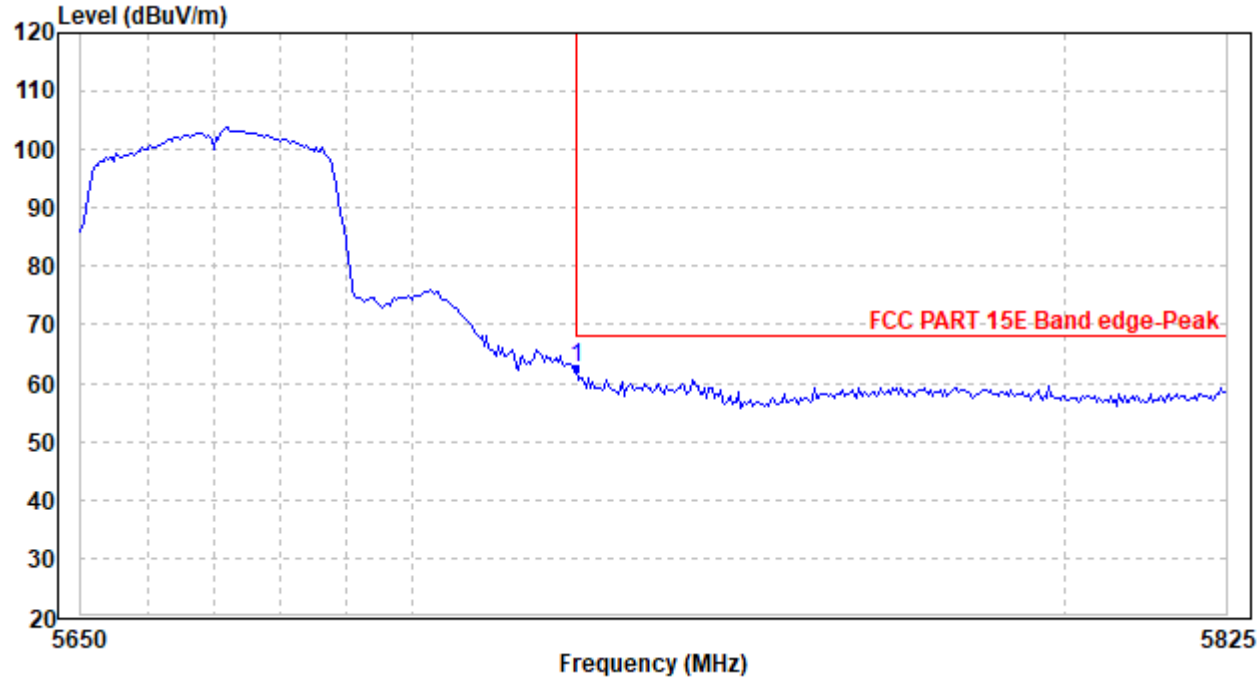
No.	Frequency (MHz)	Reading (dBμV)	Correction factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5460.000	32.64	10.78	43.42	54.00	-10.58	AV
2	5460.000	46.49	10.78	57.27	68.20	-10.93	Peak
3	5470.000	32.88	10.80	43.68	68.20	-24.52	AV
4	5470.000	50.84	10.80	61.64	68.20	-6.56	Peak

Test Channel:	5G_N40_5510	Ant Polar:	Vertical



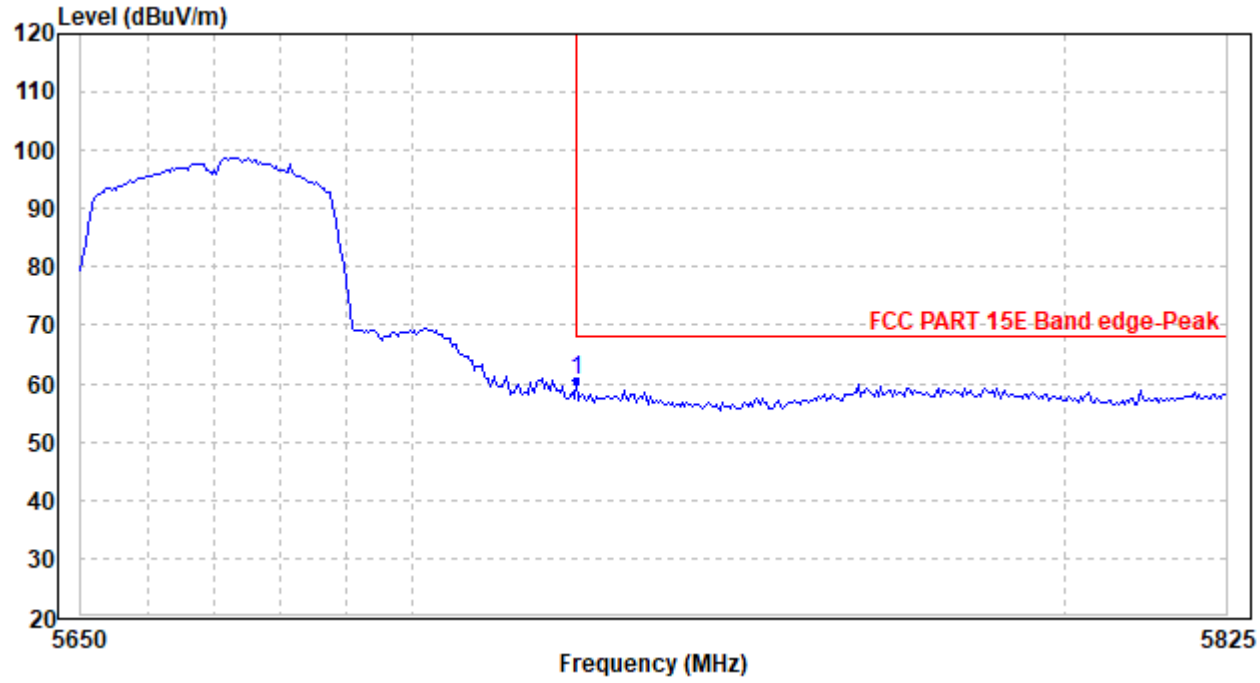
No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5460.000	46.66	10.78	57.44	68.20	-10.76	Peak
2	5460.000	32.73	10.78	43.51	54.00	-10.49	AV
3	5470.000	53.13	10.80	63.93	68.20	-4.27	Peak
4	5470.000	32.99	10.80	43.79	68.20	-24.41	AV

Test Channel:	5G_N40_5670	Ant Polar:	Horizontal



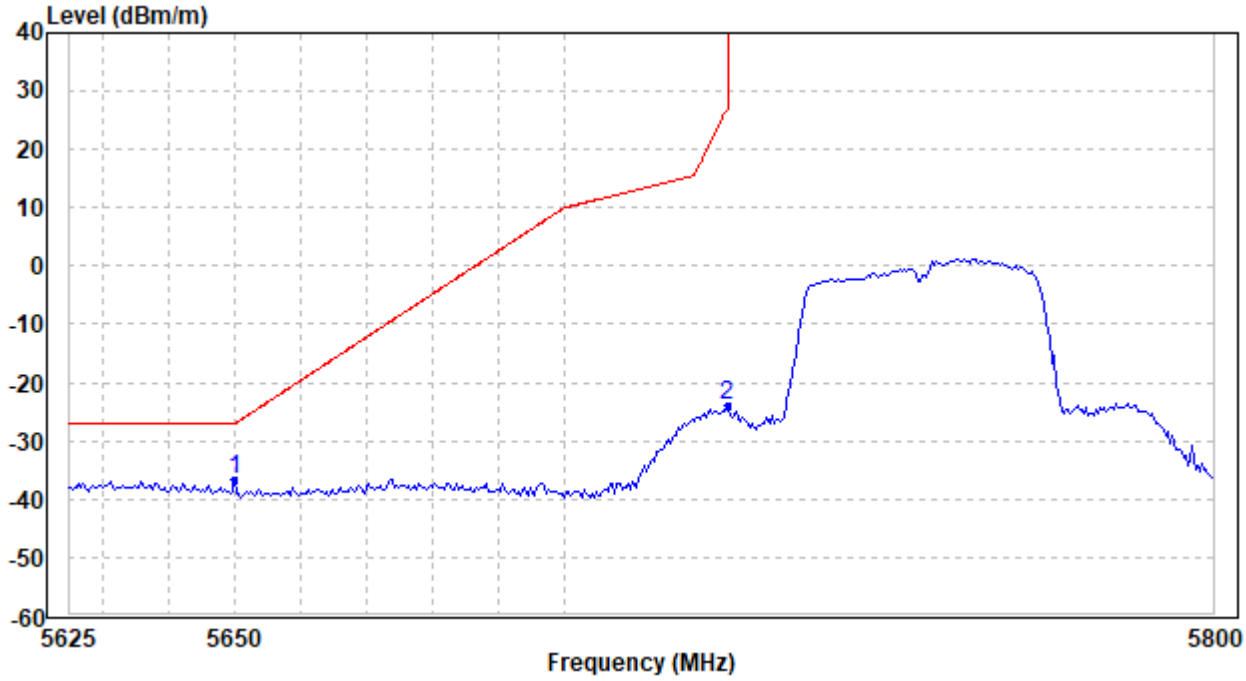
No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5725.000	51.20	11.28	62.48	68.20	-5.72	Peak

Test Channel:	5G_N40_5670	Ant Polar:	Vertical



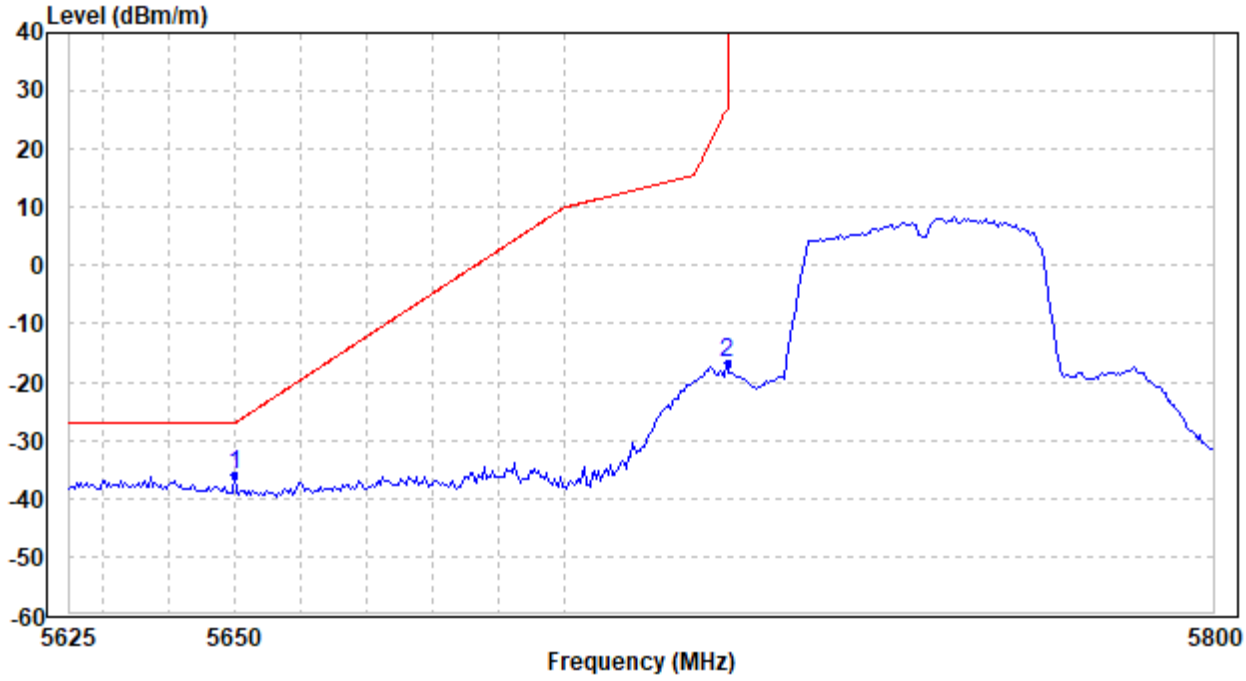
No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5725.000	49.31	11.28	60.59	68.20	-7.61	Peak

Test Channel:	5G_N40_5755	Ant Polar:	Horizontal



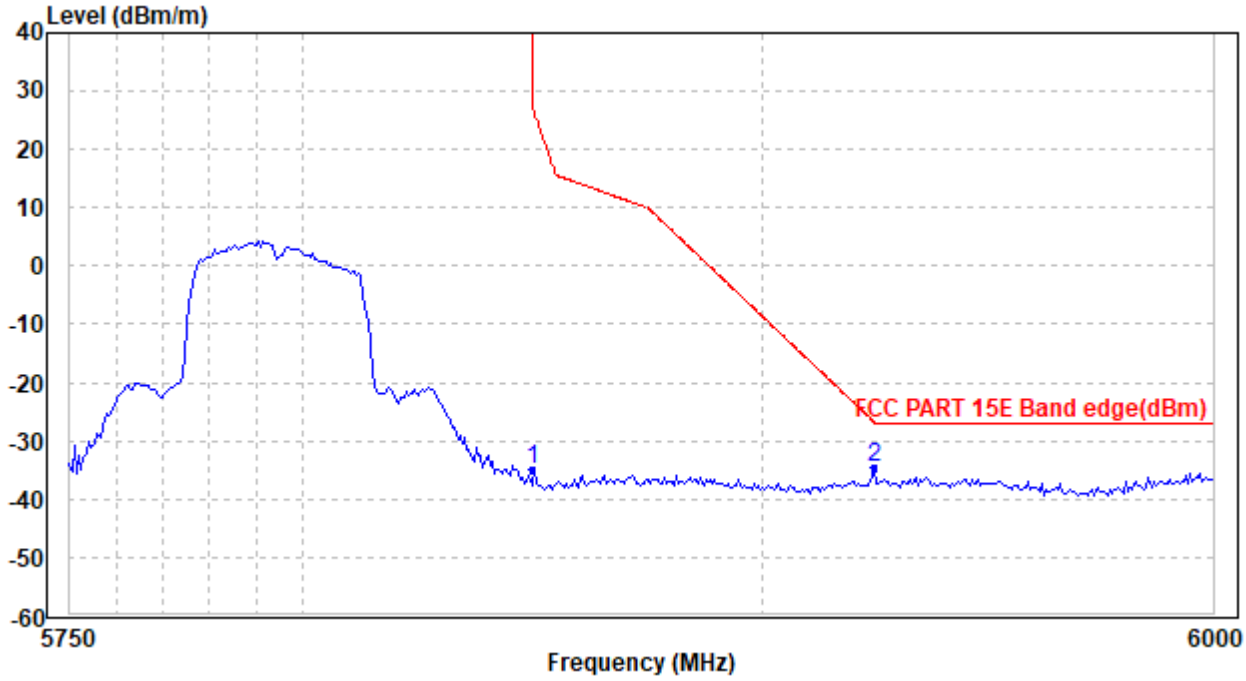
No.	Frequency (MHz)	Reading (dBm)	Correction factor (dB/m)	Result (dBm)	Limit (dBm)	Margin (dB)	Detector
1	5650.000	-59.50	22.91	-36.59	-27.00	-9.59	Peak
2	5725.000	-46.93	23.05	-23.88	27.00	-50.88	Peak

Test Channel:	5G_N40_5755	Ant Polar:	Vertical



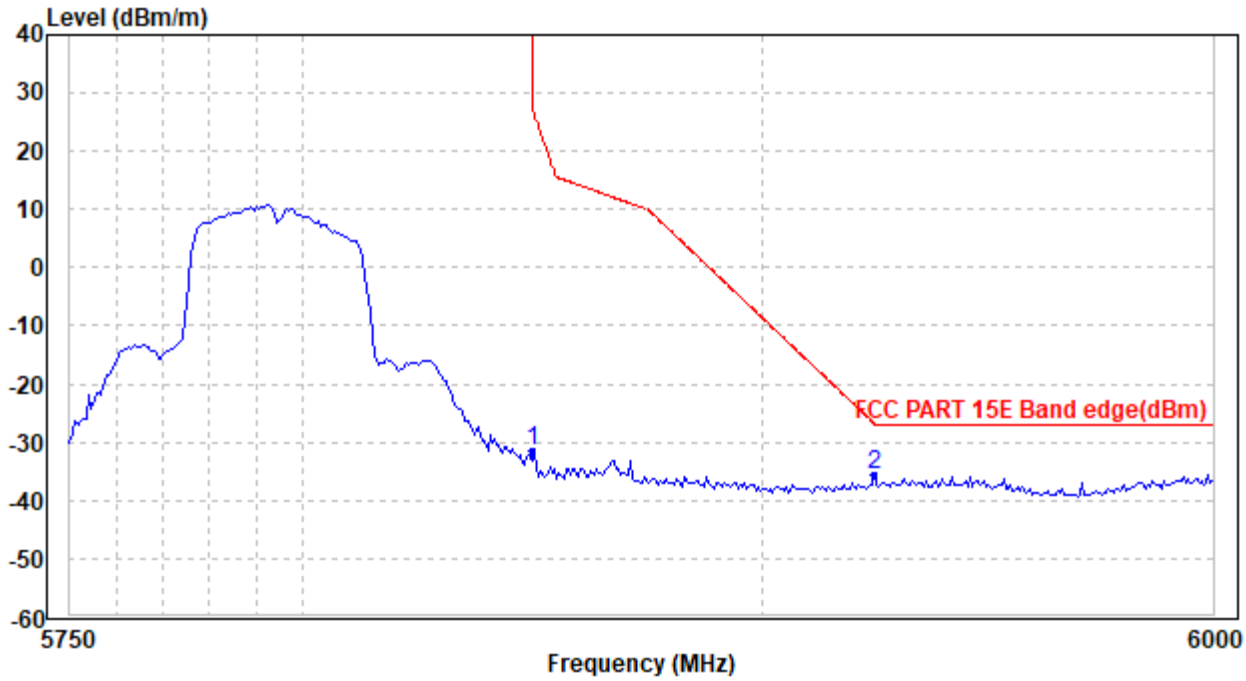
No.	Frequency (MHz)	Reading (dBm)	Correction factor (dB/m)	Result (dBm)	Limit (dBm)	Margin (dB)	Detector
1	5650.000	-58.87	22.91	-35.96	-27.00	-8.96	Peak
2	5725.000	-39.62	23.05	-16.57	27.00	-43.57	Peak

Test Channel:	5G_N40_5795	Ant Polar:	Horizontal



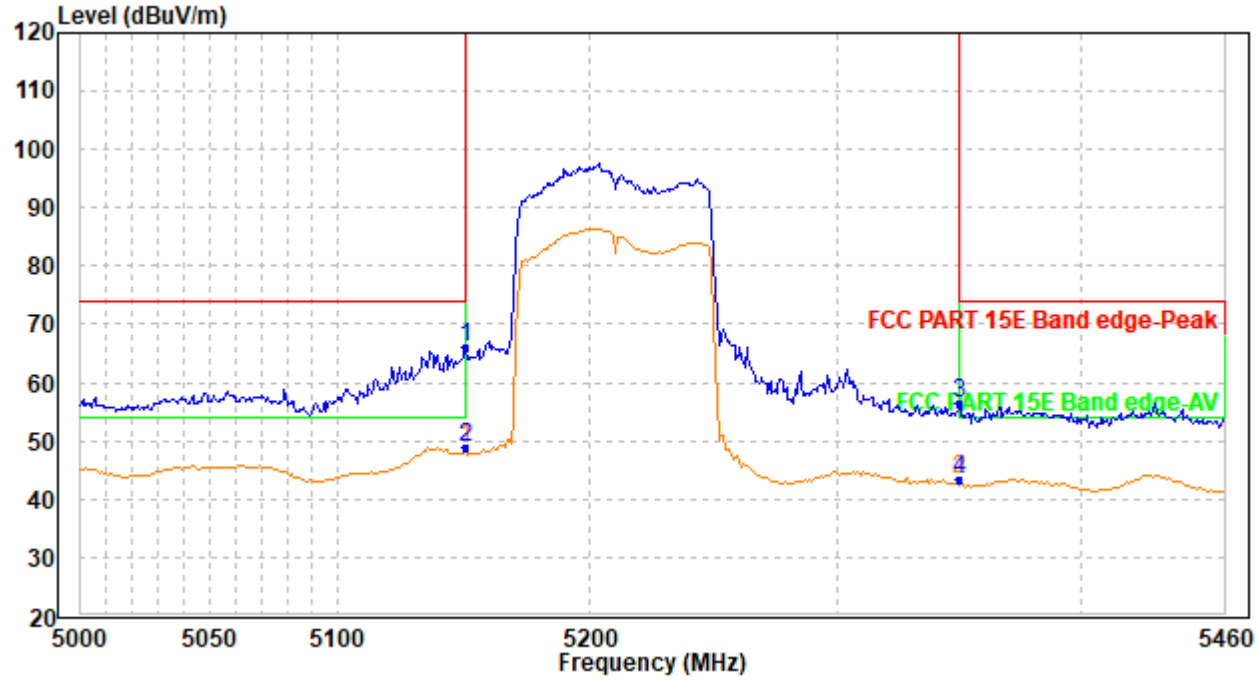
No.	Frequency (MHz)	Reading (dBm)	Correction factor (dB/m)	Result (dBm)	Limit (dBm)	Margin (dB)	Detector
1	5850.000	-58.16	23.30	-34.86	27.00	-61.86	Peak
2	5925.000	-58.05	23.44	-34.61	-27.00	-7.61	Peak

Test Channel:	5G_N40_5795	Ant Polar:	Vertical



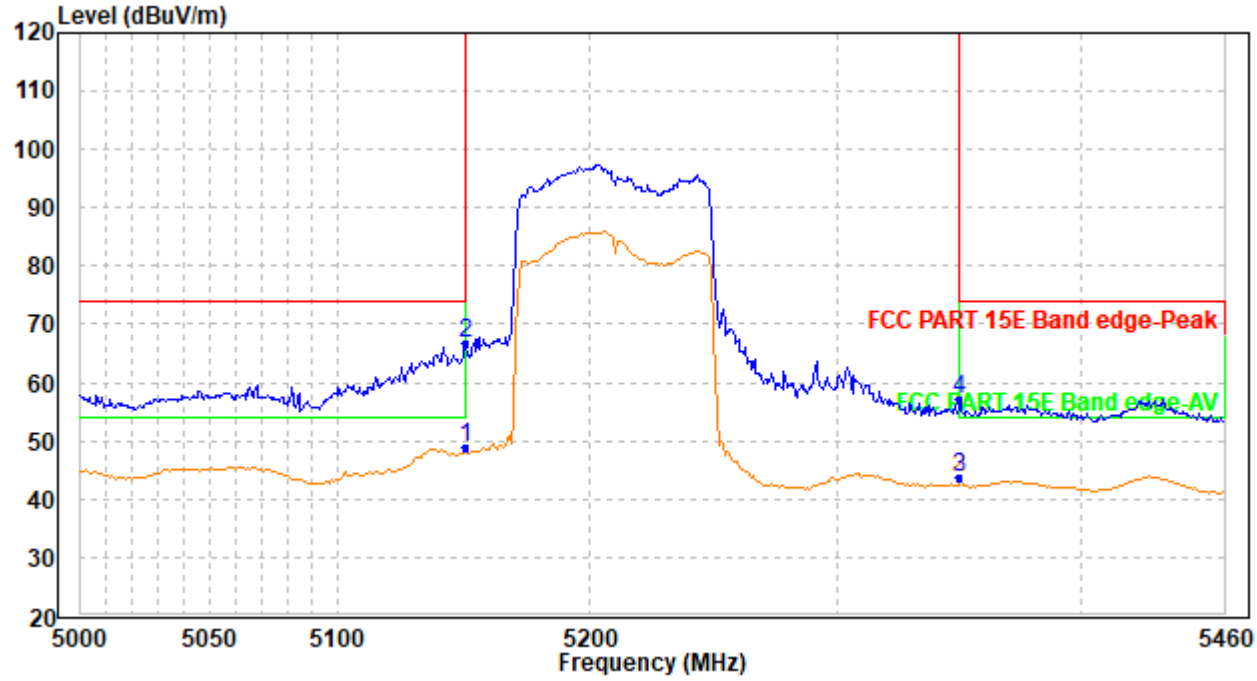
No.	Frequency (MHz)	Reading (dBm)	Correction factor (dB/m)	Result (dBm)	Limit (dBm)	Margin (dB)	Detector
1	5850.000	-54.91	23.30	-31.61	27.00	-58.61	Peak
2	5925.000	-59.17	23.44	-35.73	-27.00	-8.73	Peak

Test Channel:	5G_AC80_5210	Ant Polar:	Horizontal



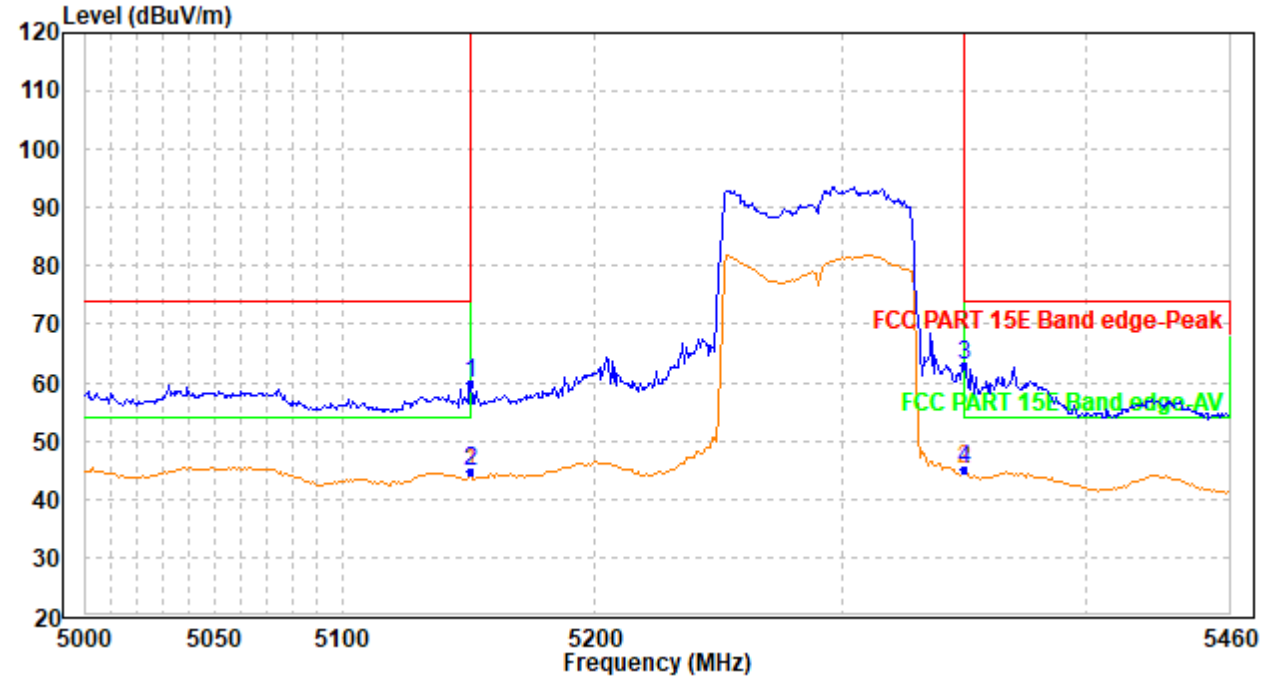
No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5150.000	55.71	10.23	65.94	74.00	-8.06	Peak
2	5150.000	38.56	10.23	48.79	54.00	-5.21	AV
3	5350.000	45.96	10.58	56.54	74.00	-17.46	Peak
4	5350.000	32.93	10.58	43.51	54.00	-10.49	AV

Test Channel:	5G_AC80_5210	Ant Polar:	Vertical



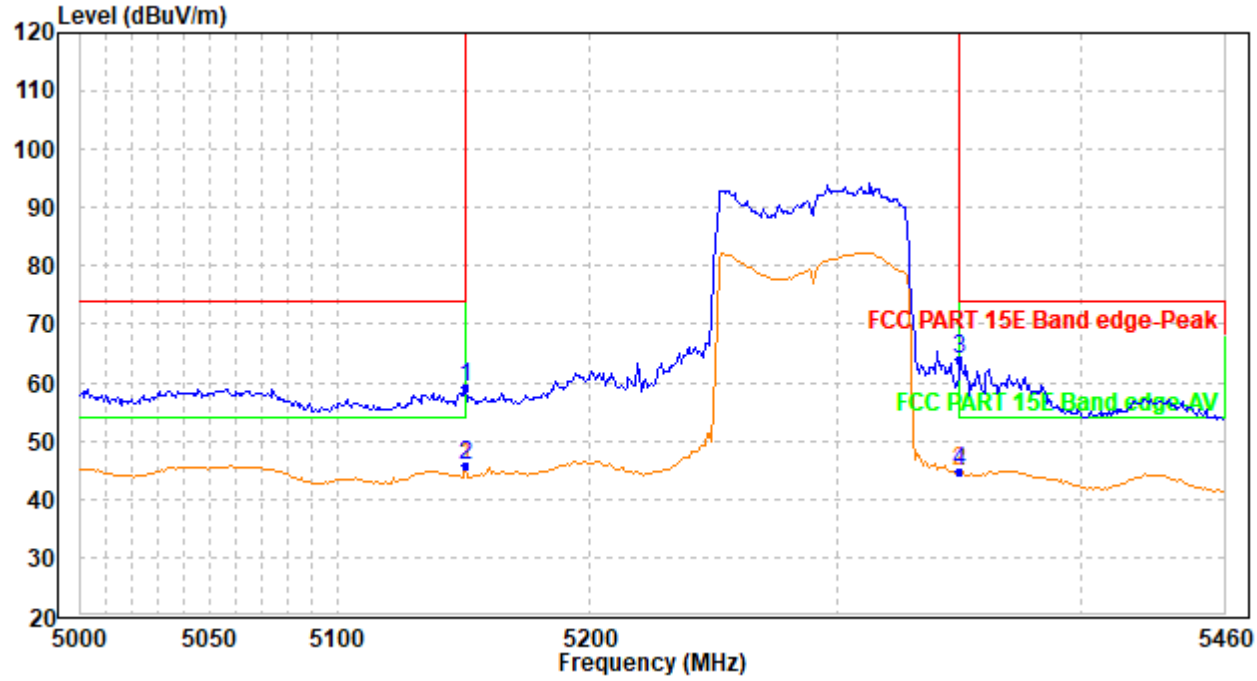
No.	Frequency (MHz)	Reading (dBμV)	Correction factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5150.000	38.73	10.23	48.96	54.00	-5.04	AV
2	5150.000	56.43	10.23	66.66	74.00	-7.34	Peak
3	5350.000	32.99	10.58	43.57	54.00	-10.43	AV
4	5350.000	46.66	10.58	57.24	74.00	-16.76	Peak

Test Channel:	5G_AC80_5290	Ant Polar:	Horizontal



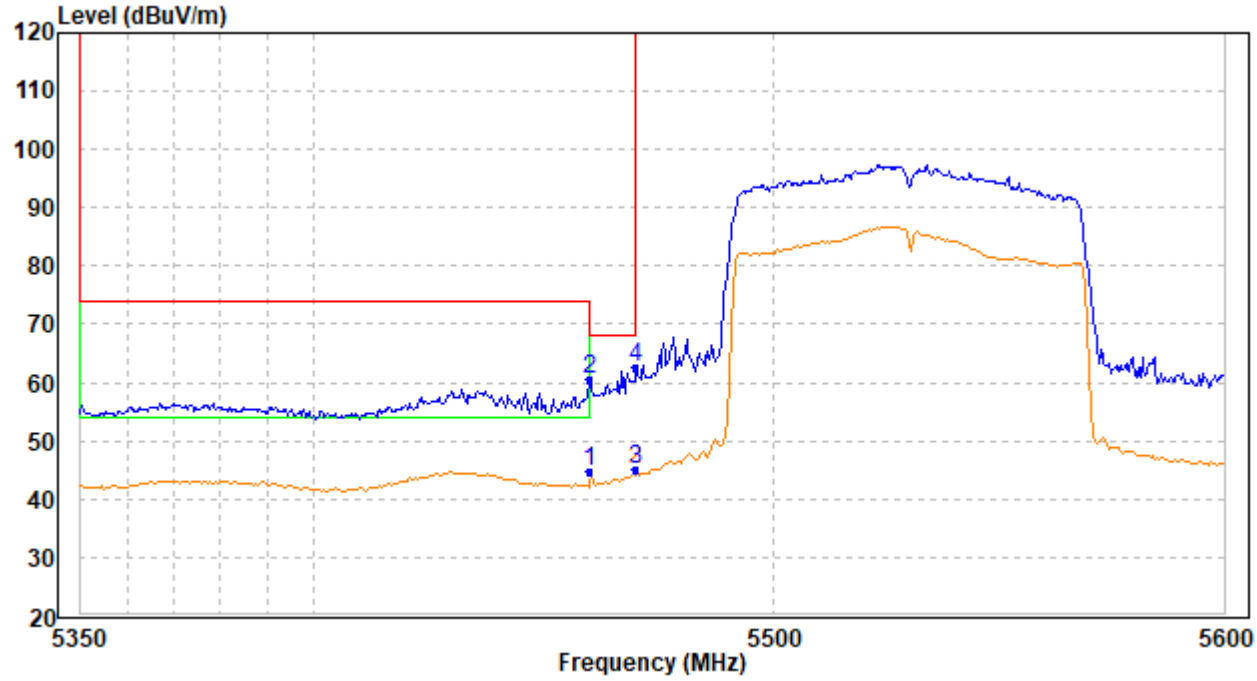
No.	Frequency (MHz)	Reading (dBμV)	Correction factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5150.000	49.80	10.23	60.03	74.00	-13.97	Peak
2	5150.000	34.38	10.23	44.61	54.00	-29.39	AV
3	5350.000	52.49	10.58	63.07	74.00	-10.93	Peak
4	5350.000	34.50	10.58	45.08	54.00	-28.92	AV

Test Channel:	5G_AC80_5290	Ant Polar:	Vertical



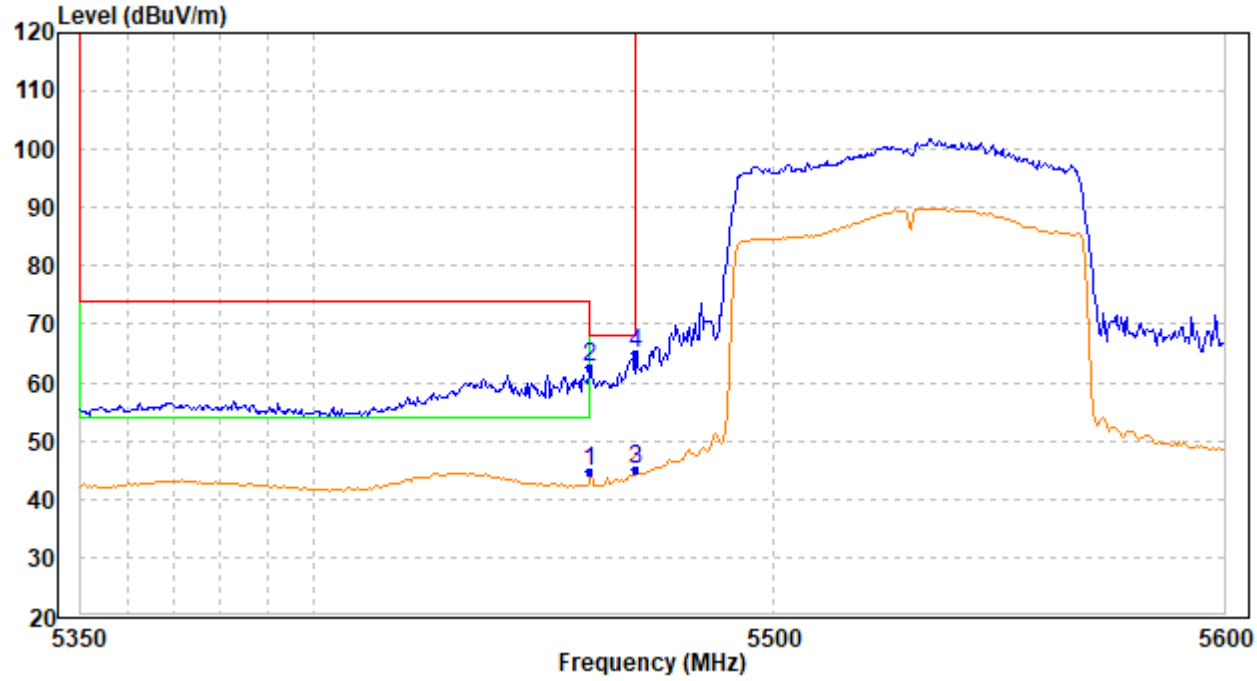
No.	Frequency (MHz)	Reading (dBμV)	Correction factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5150.000	48.92	10.23	59.15	74.00	-14.85	Peak
2	5150.000	35.52	10.23	45.75	54.00	-8.25	AV
3	5350.000	53.35	10.58	63.93	74.00	-10.07	Peak
4	5350.000	34.21	10.58	44.79	54.00	-9.21	AV

Test Channel:	5G_AC80_5530	Ant Polar:	Horizontal



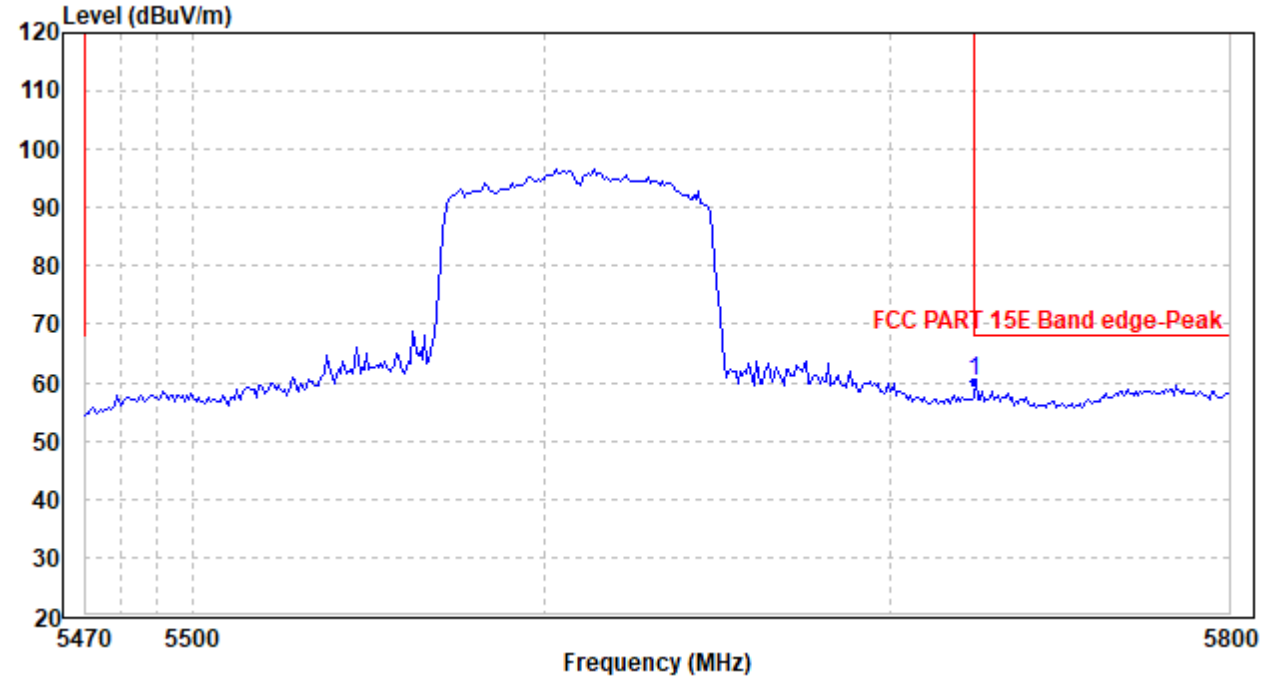
No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5460.000	33.90	10.78	44.68	54.00	-9.32	AV
2	5460.000	49.72	10.78	60.50	68.20	-7.70	Peak
3	5470.000	34.43	10.80	45.23	68.20	-22.97	AV
4	5470.000	51.87	10.80	62.67	68.20	-5.53	Peak

Test Channel:	5G_AC80_5530	Ant Polar:	Vertical



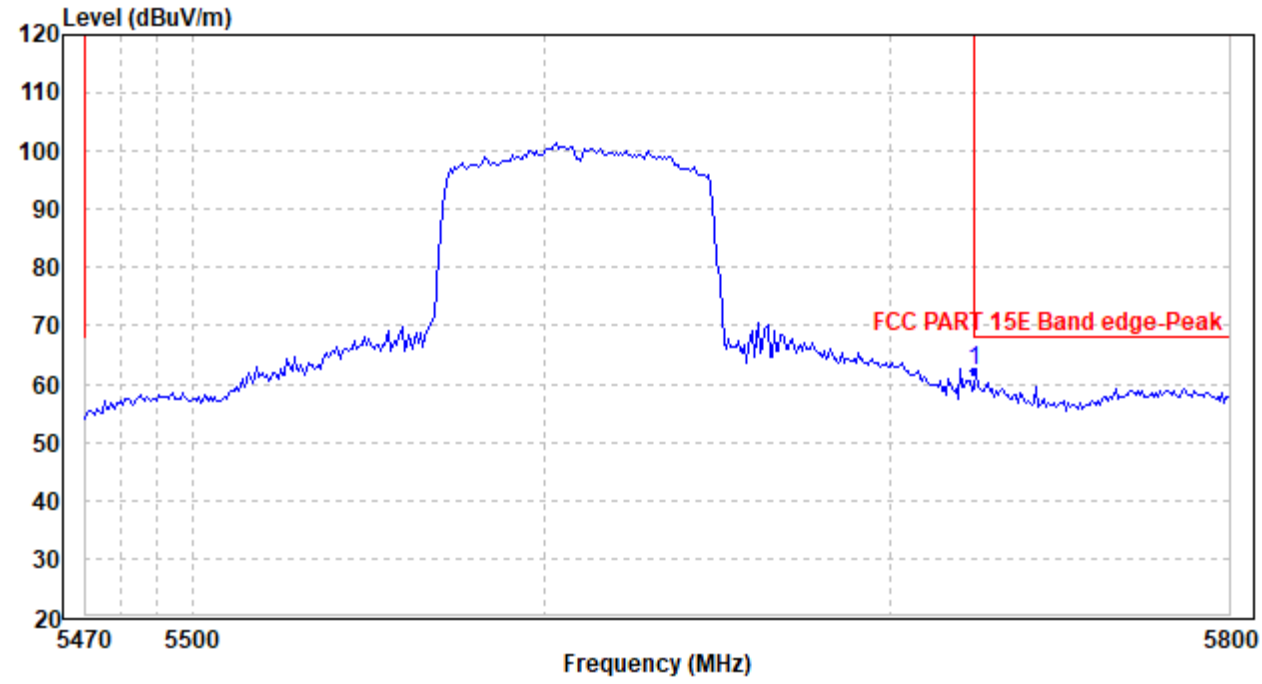
No.	Frequency (MHz)	Reading (dBμV)	Correction factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5460.000	33.95	10.78	44.73	54.00	-9.27	AV
2	5460.000	51.80	10.78	62.58	68.20	-5.62	Peak
3	5470.000	34.45	10.80	45.25	68.20	-22.95	AV
4	5470.000	54.15	10.80	64.95	68.20	-3.25	Peak

Test Channel:	5G_AC80_5610	Ant Polar:	Horizontal



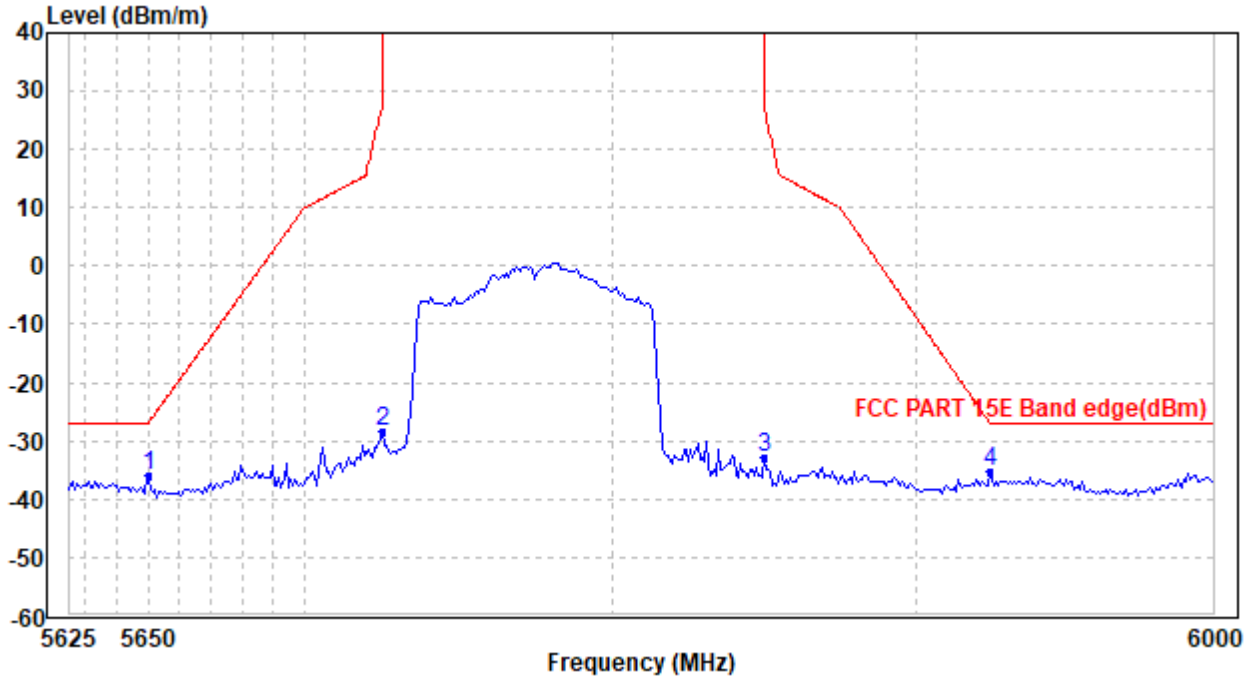
No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5725.000	48.93	11.28	60.21	68.20	-7.99	Peak

Test Channel:	5G_AC80_5610	Ant Polar:	Vertical



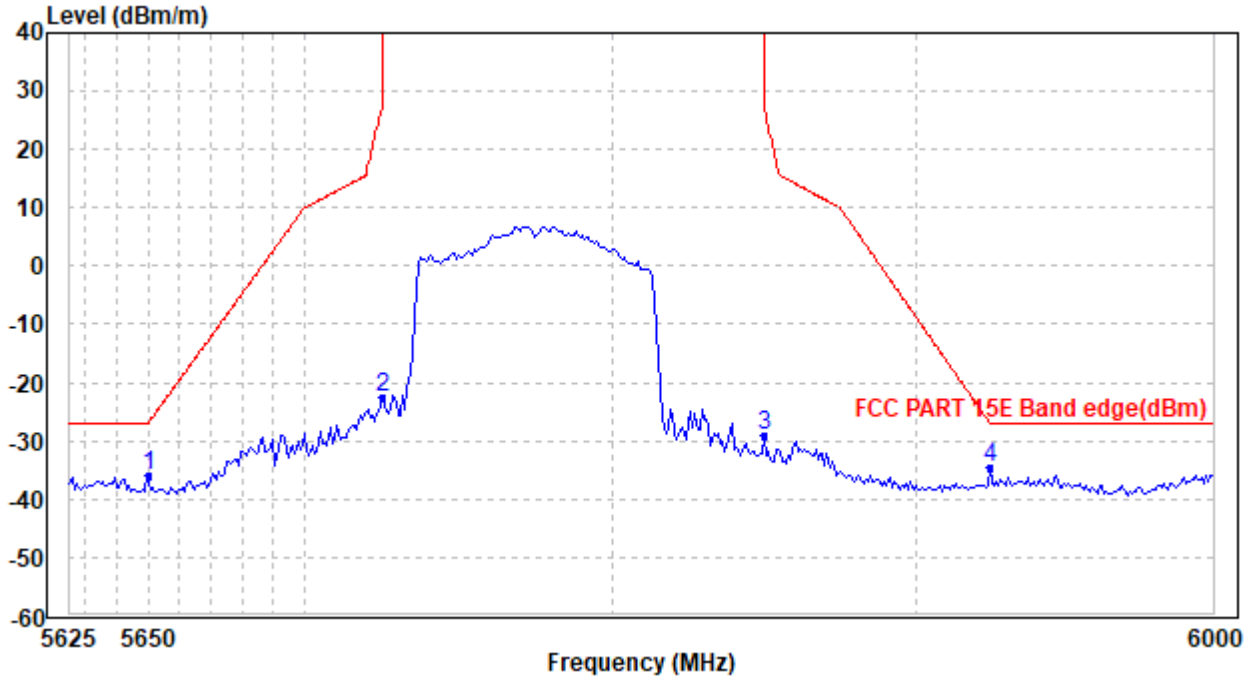
No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5725.000	51.06	11.28	62.34	68.20	-5.86	Peak

Test Channel:	5G_AC80_5775	Ant Polar:	Horizontal



No.	Frequency (MHz)	Reading (dBm)	Correction factor (dB/m)	Result (dBm)	Limit (dBm)	Margin (dB)	Detector
1	5650.000	-58.96	22.91	-36.05	-27.00	-9.05	Peak
2	5725.000	-51.51	23.05	-28.46	27.00	-55.46	Peak
3	5850.000	-56.01	23.30	-32.71	27.00	-59.71	Peak
4	5925.000	-58.67	23.44	-35.23	-27.00	-8.23	Peak

Test Channel:	5G_AC80_5775	Ant Polar:	Vertical



No.	Frequency (MHz)	Reading (dBm)	Correction factor (dB/m)	Result (dBm)	Limit (dBm)	Margin (dB)	Detector
1	5650.000	-58.85	22.91	-35.94	-27.00	-8.94	Peak
2	5725.000	-45.54	23.05	-22.49	27.00	-49.49	Peak
3	5850.000	-52.33	23.30	-29.03	27.00	-56.03	Peak
4	5925.000	-58.18	23.44	-34.74	-27.00	-7.74	Peak

5.8 DYNAMIC FREQUENCY SELECTION

Test Requirement: FCC 47 CFR Part 15 Subpart E Section 15.407 (h)

Test Method: KDB 905462 D03 Client Without DFS New Rules v01r02

EUT Operating Mode:

DFS Operational mode	Operating Frequency Range	
	5250 MHz to 5350 MHz	5470 MHz to 5725 MHz
Slave without radar Interference detection function	✓	✓

Applicability:

The following table from KDB905462 and the lists of the applicable requirements for the DFS testing.

Applicability of DFS Requirements Prior to Use of a Channel:

Requirement	Operational Mode		
	Master	Client Without Radar Detection	Client With Radar Detection
Non-Occupancy Period	✓	Not required	Yes
DFS Detection Threshold	✓	Not required	Yes
Channel Availability Check Time	✓	Not required	Not required
U-NII Detection Bandwidth	✓	Not required	Yes

Applicability of DFS requirements during normal operation:

Requirement	Operational Mode	
	Master Device or Client with Radar Detection	Client Without Radar Detection
DFS Detection Threshold	Yes	Not required
Channel Closing Transmission Time	Yes	Yes
Channel Move Time	Yes	Yes
U-NII Detection Bandwidth	Yes	Not required
Additional requirements for devices with multiple bandwidth modes	**Master Device or Client with Radar Detection**	**Client Without Radar Detection**
U-NII Detection Bandwidth and Statistical Performance Check	All BW modes must be tested	Not required
Channel Move Time and Channel Closing Transmission Time	Test using widest BW mode available	Test using the widest BW mode available for the link
All other tests	Any single BW mode	Not required

Note: Frequencies selected for statistical performance check (Section 7.8.4) should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices it is suggested to select frequencies in each of the bonded 20 MHz channels and the channel center frequency.

DFS Detection Thresholds for Master Devices and Client Devices with Radar Detection:

Maximum Transmit Power	Value (See Notes 1, 2, and 3)
EIRP ≥ 200 milliwatt	-64 dBm
EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz	-62 dBm
EIRP < 200 milliwatt that do not meet the power spectral density requirement	-64dBm

Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna.
Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.
Note3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.

DFS Radar Signal Parameter Values:

Parameter	Value
Non-occupancy period	Minimum 30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds (See Note 1.)
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. (See Notes 1 and 2.)
U-NII Detection Bandwidth	Minimum 100% of the U-NII 99% transmission power bandwidth. (See Note 3.)

Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.
Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.
Note 3: During the U-NII Detection Bandwidth detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

DFS Radar Signal Parameter:

Radar Type 0 was used in the evaluation of the Client device for the purpose of measuring the Channel Move Time and the Channel Closing Transmission Time

Table 1-Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (μsec)	PRI (μsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Trials
0	1	1428	18	See Note 1.	See Note 1.
1	1	Test A Test B	$\text{Roundup}\left\{\left(\frac{1}{360}\right)\left(\frac{19\cdot 10^6}{\text{PRI}_{\mu sec}}\right)\right\}$	60%	30
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120

Note 1: Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests.

Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a
Test B: 15 unique PRI values randomly selected within the range of 518-3066 μsec, with a minimum increment of 1 μsec, excluding PRI values selected in Test A
A minimum of 30 unique waveforms are required for each of the Short Pulse Radar Types 2 through 4. If more than 30 waveforms are used for Short Pulse Radar Types 2 through 4, then each additional waveform must also be unique and not repeated from the previous waveforms.
If more than 30 waveforms are used for Short Pulse Radar Type 1, then each additional waveform is generated with Test B and must also be unique and not repeated from the previous waveforms in Tests A or B.
The aggregate is the average of the percentage of successful detections of short pulse radar types

1-4

Table 2-Long Pulse Radar Test Waveform

Radar Type	Pulse Width (μsec)	Chirp Width (MHz)	PRI (μsec)	Number of Pulses per Burst	Number of Bursts	Minimum Percentage of Successful Detection	Minimum Trials
5	50-100	5-20	1000-2000	1-3	8-20	80%	30

Table 3-Frequency Hopping Radar Test Waveform

Radar Type	Pulse Width (μsec)	PRI (μsec)	Pulses per Hop	Hopping Rate (kHz)	Hopping Sequence Length (msec)	Minimum Percentage of Successful Detection	Minimum Trials
6	1	333	9	0.333	300	70%	30

In-Service Monitoring: Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period

Limit of In-Service Monitoring:

Reference to DFS Radar Signal Parameter Values.

Test Procedures:

a) One frequency will be chosen from the Operating Channels of the EUT within the 5250-5350 MHz or 5470-5725 MHz bands. For 802.11 devices, the test frequency must contain control signals. This can be verified by disabling channel loading and monitoring the spectrum analyzer. If no control signals are detected, another frequency must be selected within the emission bandwidth where control signals are detected.

b) In case the EUT is a Master Device, a U-NII device operating as a Client Device will be used and it is assumed that the Client will associate with the EUT (Master). For radiated tests, the emissions of the Radar Waveform generator will be directed towards the Master Device. If the Master Device has antenna gain, the main beam of the antenna will be directed toward the radar emitter. Vertical polarization is used for testing.

c) The TCP protocol unicast data stream was generated by the iperf software command line with at least 17% activity ratio over any 100ms period.

d) Timing plots are reported with calculations demonstrating a minimum channel loading of approximately 17% or greater. For example, channel loading can be estimated by setting the spectrum analyzer for zero span and approximate the Time On/ (Time On + Off Time).

e) At time T0 the Radar Waveform generator sends a Burst of pulses for one of the Short Pulse Radar Types 1-4 at DFS Detection Threshold levels on the Operating Channel. An additional 1 dB is added to the radar test signal to ensure it is at or above the DFS Detection Threshold, accounting for equipment variations/errors.

f) Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel for duration greater than 10 seconds. Measure and record the transmissions from the EUT during the observation time (Channel Move Time). Measure and record the Channel Move Time and Channel Closing Transmission Time if radar detection occurs.

g) When operating as a Master Device, monitor the EUT for more than 30 minutes following instant T2 to verify that the EUT does not resume any transmissions on this Channel. Perform this test once and record the measurement result.

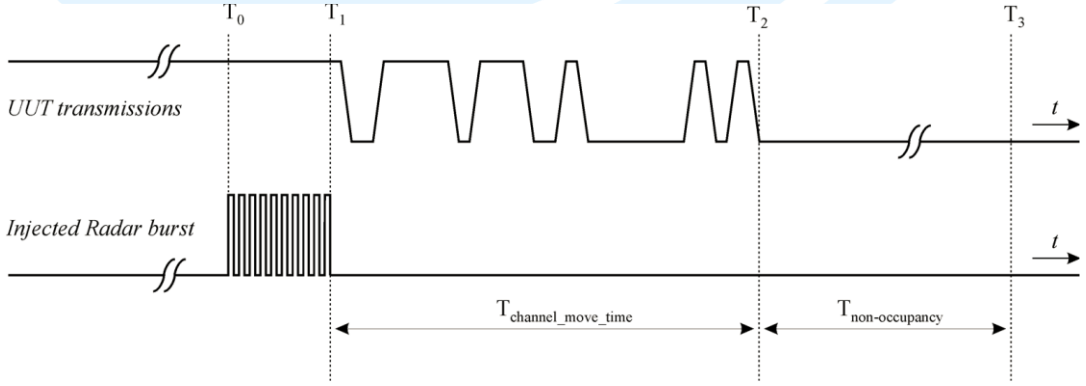
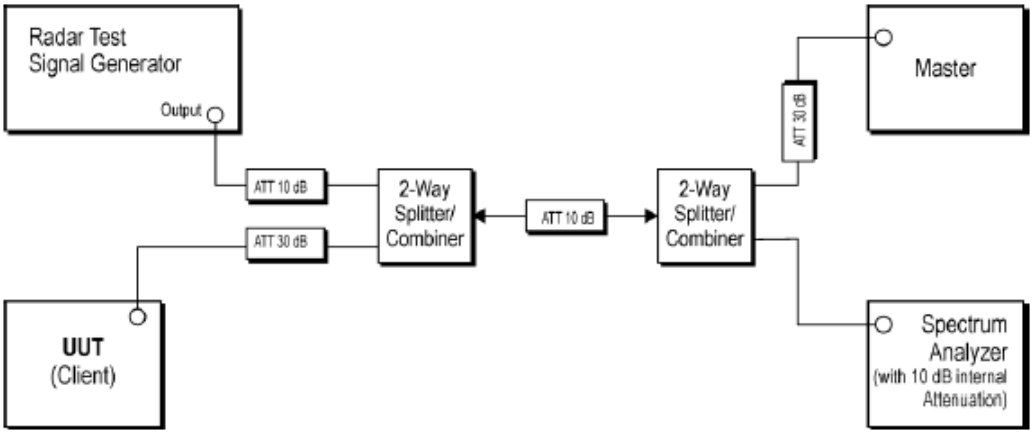


Figure 17: Channel Closing Transmission Time, Channel Move Time and Non-Occupancy Period

Conducted test setup



Setup for Client with injection at the Master

Equipment Used: Refer to section 3 for details.

Test Result: Please refer to Appendix A

5.9 AC POWER LINE CONDUCTED EMISSION

Test Requirement: FCC 47 CFR Part 15 Subpart C Section 15.207

Test Method: ANSI C63.10-2013 Section 6.2

Limits:

Frequency range (MHz)	Limits (dB(μV))	
	Quasi-peak	Average
0,15 to 0,50	66 to 56	56 to 46
0,50 to 5	56	46
5 to 30	60	50

Remark:

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

Test Setup: Refer to section 4.4.2 for details.

Test Procedures:

Test frequency range :150KHz-30MHz

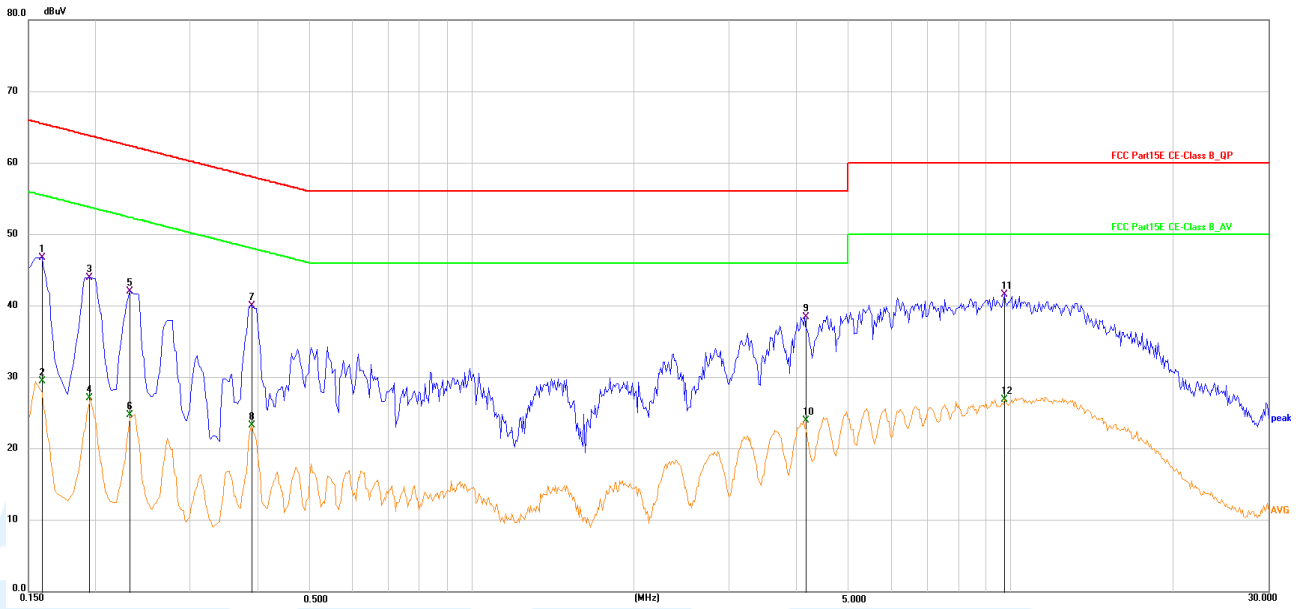
1) The mains terminal disturbance voltage test was conducted in a shielded room.
2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 5Ω linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,
4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

Equipment Used: Refer to section 3 for details.

Test Result: Pass

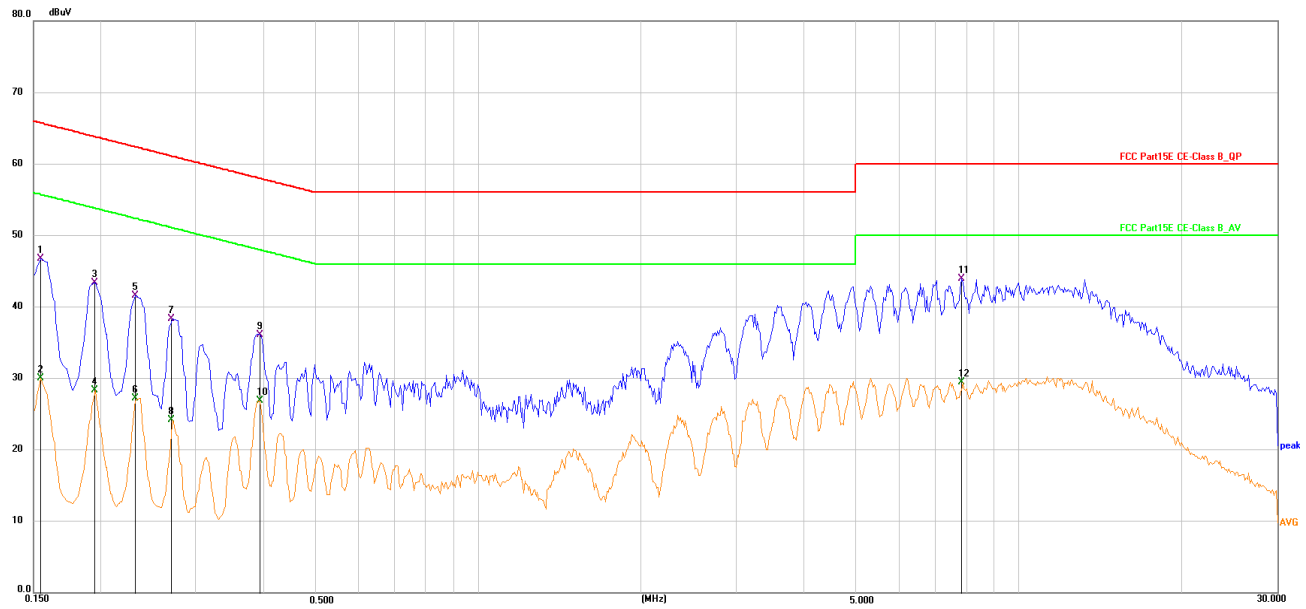
The worst measurement data as follows:
Quasi Peak and Average:
Test Mode: WIFI Link
AC 120V~60Hz

Live Line



No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB)	Result (dBµV)	Limit (dBµV)	Margin (dB)	Detector
1	0.1590	36.88	9.83	46.71	65.52	-18.81	QP
2	0.1590	19.61	9.83	29.44	55.52	-26.08	AVG
3	0.1949	34.18	9.80	43.98	63.83	-19.85	QP
4	0.1949	17.27	9.80	27.07	53.83	-26.76	AVG
5	0.2310	32.29	9.78	42.07	62.41	-20.34	QP
6	0.2310	15.00	9.78	24.78	52.41	-27.63	AVG
7	0.3885	30.17	9.79	39.96	58.10	-18.14	QP
8	0.3885	13.51	9.79	23.30	48.10	-24.80	AVG
9	4.1369	28.72	9.75	38.47	56.00	-17.53	QP
10	4.1369	14.18	9.75	23.93	46.00	-22.07	AVG
11	9.7125	31.91	9.69	41.60	60.00	-18.40	QP
12	9.7125	17.19	9.69	26.88	50.00	-23.12	AVG

Neutral Line



No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB)	Result (dBµV)	Limit (dBµV)	Margin (dB)	Detector
1	0.1545	36.87	9.82	46.69	65.75	-19.06	QP
2	0.1545	20.24	9.82	30.06	55.75	-25.69	AVG
3	0.1949	33.62	9.77	43.39	63.83	-20.44	QP
4	0.1949	18.58	9.77	28.35	53.83	-25.48	AVG
5	0.2310	31.77	9.78	41.55	62.41	-20.86	QP
6	0.2310	17.48	9.78	27.26	52.41	-25.15	AVG
7	0.2714	28.52	9.78	38.30	61.07	-22.77	QP
8	0.2714	14.37	9.78	24.15	51.07	-26.92	AVG
9	0.3930	26.34	9.78	36.12	58.00	-21.88	QP
10	0.3930	17.14	9.78	26.92	48.00	-21.08	AVG
11	7.8450	34.22	9.71	43.93	60.00	-16.07	QP
12	7.8450	19.72	9.71	29.43	50.00	-20.57	AVG

Remark:

1. Correct Factor = LISN Factor + Cable Loss + Pulse Limiter Factor, the value was added to Original Receiver Reading by the software automatically.
2. Result = Reading + Correct Factor.
3. Margin = Result - Limit
4. An initial pre-scan was performed on the Phase and neutral lines with peak detector. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.
5. All possible modes of operation were investigated, and testing at two nominal voltages of 240V/50Hz and 120V/60Hz, only the worst case emissions reported.

APPENDIX A RF TEST DATA

A.1 MAXIMUM CONDUCTED OUTPUT POWER

Test Mode	Ant.	Freq. [MHz]	Set Power	Result [dBm]	FCC Limit [dBm]	Verdict
11A	Ant1	5180	14	12.49	≤24	PASS
11A	Ant1	5220	14	12.62	≤24	PASS
11A	Ant1	5240	14	12.48	≤24	PASS
11A	Ant1	5260	14	12.51	≤23.94	PASS
11A	Ant1	5300	14	12.41	≤23.94	PASS
11A	Ant1	5320	14	12.47	≤23.94	PASS
11A	Ant1	5500	14	12.07	≤23.97	PASS
11A	Ant1	5580	14	12.27	≤23.97	PASS
11A	Ant1	5700	14	12.54	≤23.97	PASS
11A	Ant1	5745	16	14.40	≤30.00	PASS
11A	Ant1	5785	16	14.74	≤30.00	PASS
11A	Ant1	5825	16	14.71	≤30.00	PASS
11N20SISO	Ant1	5180	14	12.37	≤24	PASS
11N20SISO	Ant1	5220	14	12.57	≤24	PASS
11N20SISO	Ant1	5240	14	12.42	≤24	PASS
11N20SISO	Ant1	5260	14	12.48	≤24	PASS
11N20SISO	Ant1	5300	14	12.19	≤24	PASS
11N20SISO	Ant1	5320	14	12.44	≤24	PASS
11N20SISO	Ant1	5500	13	12.04	≤23.99	PASS
11N20SISO	Ant1	5580	13	12.16	≤23.99	PASS
11N20SISO	Ant1	5700	13	12.36	≤23.99	PASS
11N20SISO	Ant1	5745	16	14.30	≤30.00	PASS
11N20SISO	Ant1	5785	16	14.53	≤30.00	PASS
11N20SISO	Ant1	5825	16	15.16	≤30.00	PASS
11N40SISO	Ant1	5190	14	12.34	≤24	PASS
11N40SISO	Ant1	5230	14	12.38	≤24	PASS
11N40SISO	Ant1	5270	14	12.35	≤24	PASS
11N40SISO	Ant1	5310	14	12.09	≤24	PASS
11N40SISO	Ant1	5510	14	11.64	≤24	PASS
11N40SISO	Ant1	5550	14	11.83	≤24	PASS
11N40SISO	Ant1	5670	14	12.06	≤24	PASS
11N40SISO	Ant1	5755	15	13.41	≤30.00	PASS
11N40SISO	Ant1	5795	15	13.61	≤30.00	PASS
11AC20SISO	Ant1	5180	14	12.16	≤24	PASS
11AC20SISO	Ant1	5220	14	12.29	≤24	PASS
11AC20SISO	Ant1	5240	14	12.22	≤24	PASS
11AC20SISO	Ant1	5260	14	12.21	≤24	PASS
11AC20SISO	Ant1	5300	14	12.01	≤24	PASS
11AC20SISO	Ant1	5320	14	12.07	≤24	PASS
11AC20SISO	Ant1	5500	14	11.49	≤23.99	PASS
11AC20SISO	Ant1	5580	14	11.29	≤23.99	PASS
11AC20SISO	Ant1	5700	14	11.87	≤23.99	PASS
11AC20SISO	Ant1	5745	15	12.75	≤30.00	PASS
11AC20SISO	Ant1	5785	15	13.03	≤30.00	PASS
11AC20SISO	Ant1	5825	15	12.99	≤30.00	PASS
11AC40SISO	Ant1	5190	14	12.29	≤24	PASS
11AC40SISO	Ant1	5230	14	12.28	≤24	PASS
11AC40SISO	Ant1	5270	14	12.29	≤24	PASS
11AC40SISO	Ant1	5310	14	12.06	≤24	PASS
11AC40SISO	Ant1	5510	14	11.60	≤24	PASS
11AC40SISO	Ant1	5550	14	11.70	≤24	PASS
11AC40SISO	Ant1	5670	14	12.06	≤24	PASS
11AC40SISO	Ant1	5755	15	13.35	≤30.00	PASS
11AC40SISO	Ant1	5795	15	13.62	≤30.00	PASS
11AC80SISO	Ant1	5210	14	12.22	≤24	PASS
11AC80SISO	Ant1	5290	14	12.21	≤24	PASS
11AC80SISO	Ant1	5530	14	11.56	≤24	PASS
11AC80SISO	Ant1	5610	14	12.11	≤24	PASS

11AC80SISO	Ant1	5775	15	13.48	≤30.00	PASS

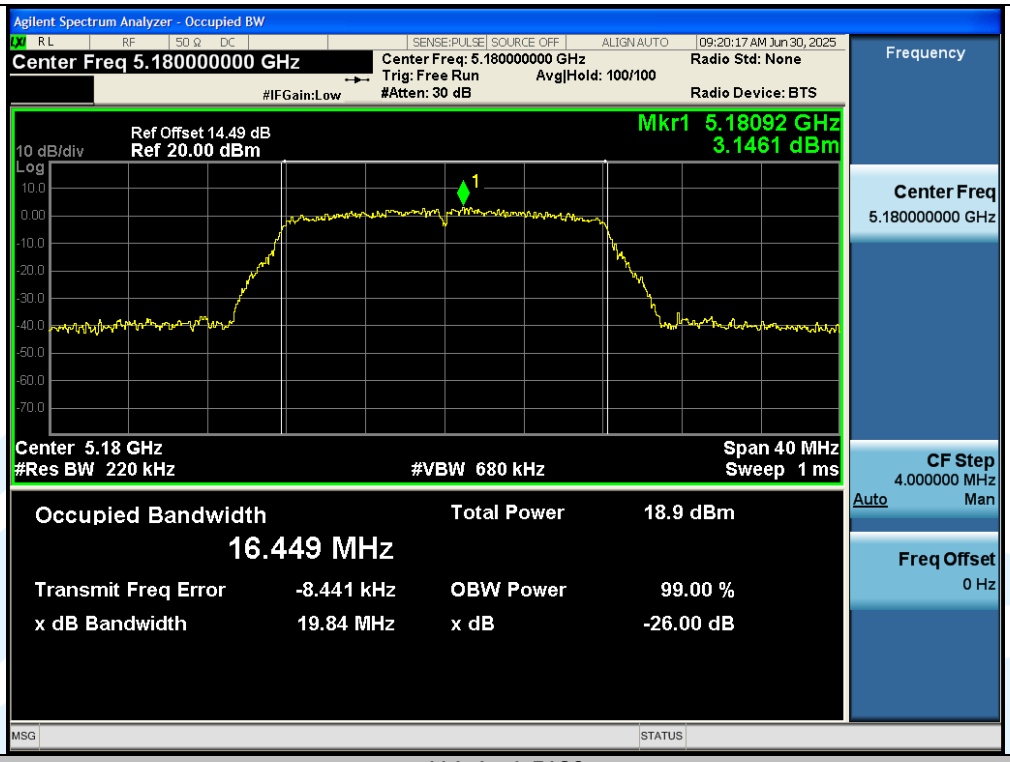
Note: The test result includes Duty Cycle Factor.

A.2 26DB BANDWIDTH

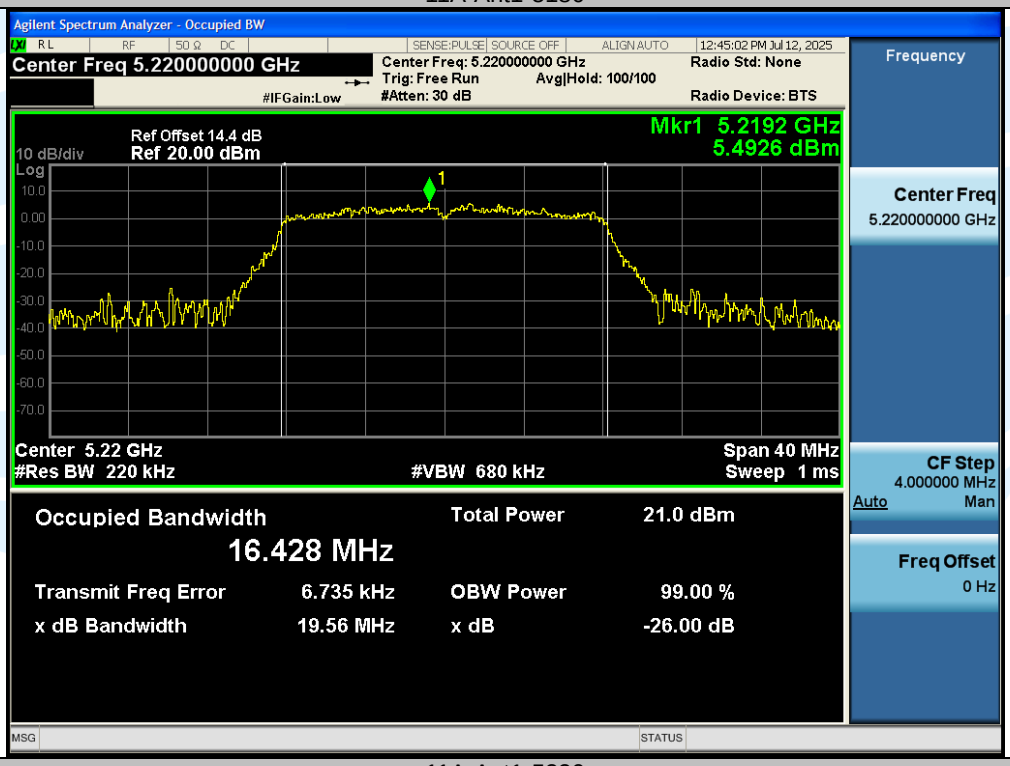
For U-NII-1, U-NII-2A, U-NII-2C band

Test Mode	Antenna	Frequency[MHz]	26db EBW [MHz]
11A	Ant1	5180	19.84
11A	Ant1	5220	19.56
11A	Ant1	5240	19.55
11A	Ant1	5260	19.68
11A	Ant1	5300	20.16
11A	Ant1	5320	20.13
11A	Ant1	5500	19.81
11A	Ant1	5580	20.50
11A	Ant1	5700	21.37
11N20SISO	Ant1	5180	19.79
11N20SISO	Ant1	5220	20.24
11N20SISO	Ant1	5240	20.41
11N20SISO	Ant1	5260	20.19
11N20SISO	Ant1	5300	20.07
11N20SISO	Ant1	5320	20.21
11N20SISO	Ant1	5500	19.99
11N20SISO	Ant1	5580	19.89
11N20SISO	Ant1	5700	20.20
11N40SISO	Ant1	5190	40.20
11N40SISO	Ant1	5230	40.45
11N40SISO	Ant1	5270	40.27
11N40SISO	Ant1	5310	40.46
11N40SISO	Ant1	5510	39.79
11N40SISO	Ant1	5550	40.50
11N40SISO	Ant1	5670	40.00
11AC20SISO	Ant1	5180	20.06
11AC20SISO	Ant1	5220	20.18
11AC20SISO	Ant1	5240	19.92
11AC20SISO	Ant1	5260	20.15
11AC20SISO	Ant1	5300	19.94
11AC20SISO	Ant1	5320	20.12
11AC20SISO	Ant1	5500	20.13
11AC20SISO	Ant1	5580	20.20
11AC20SISO	Ant1	5700	20.21
11AC40SISO	Ant1	5190	40.57
11AC40SISO	Ant1	5230	40.12
11AC40SISO	Ant1	5270	40.16
11AC40SISO	Ant1	5310	39.98
11AC40SISO	Ant1	5510	40.05
11AC40SISO	Ant1	5550	40.08
11AC40SISO	Ant1	5670	39.78
11AC80SISO	Ant1	5210	80.01
11AC80SISO	Ant1	5290	80.73
11AC80SISO	Ant1	5530	80.71
11AC80SISO	Ant1	5610	80.26

Test Graphs



11A-Ant1-5180



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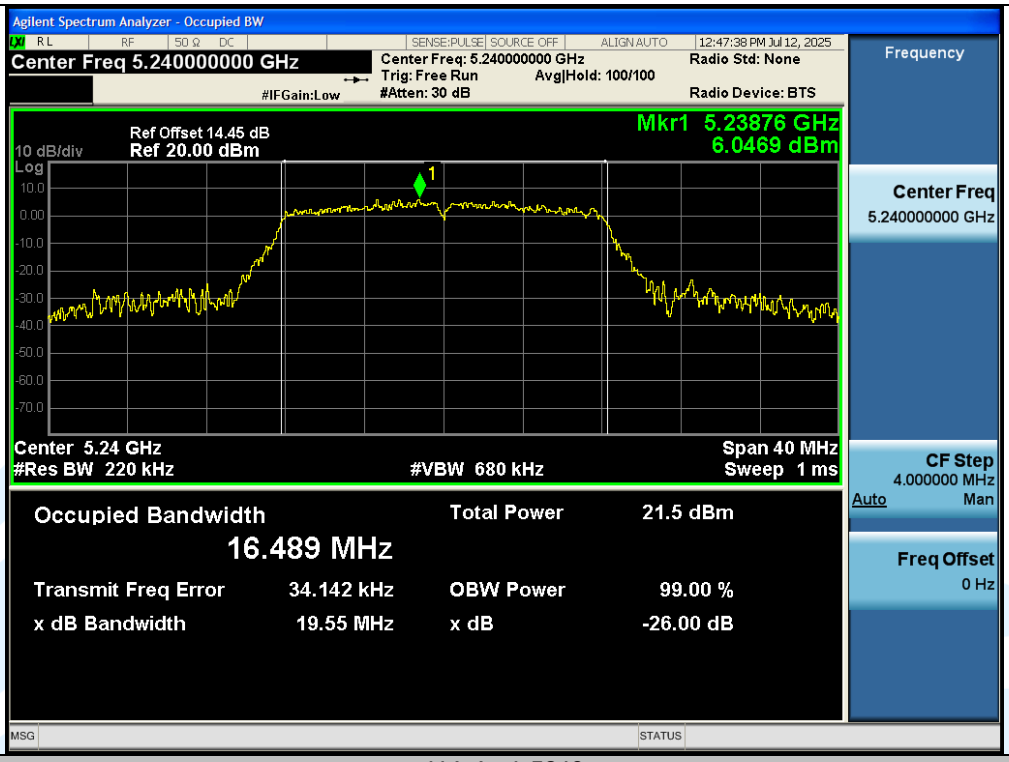

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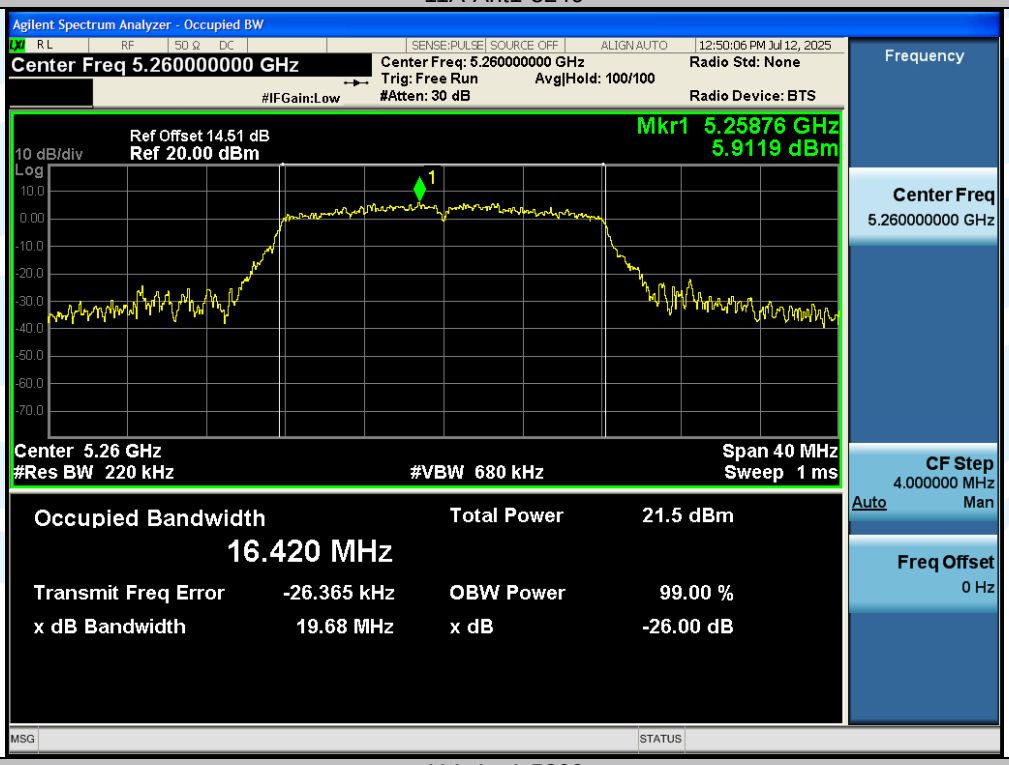

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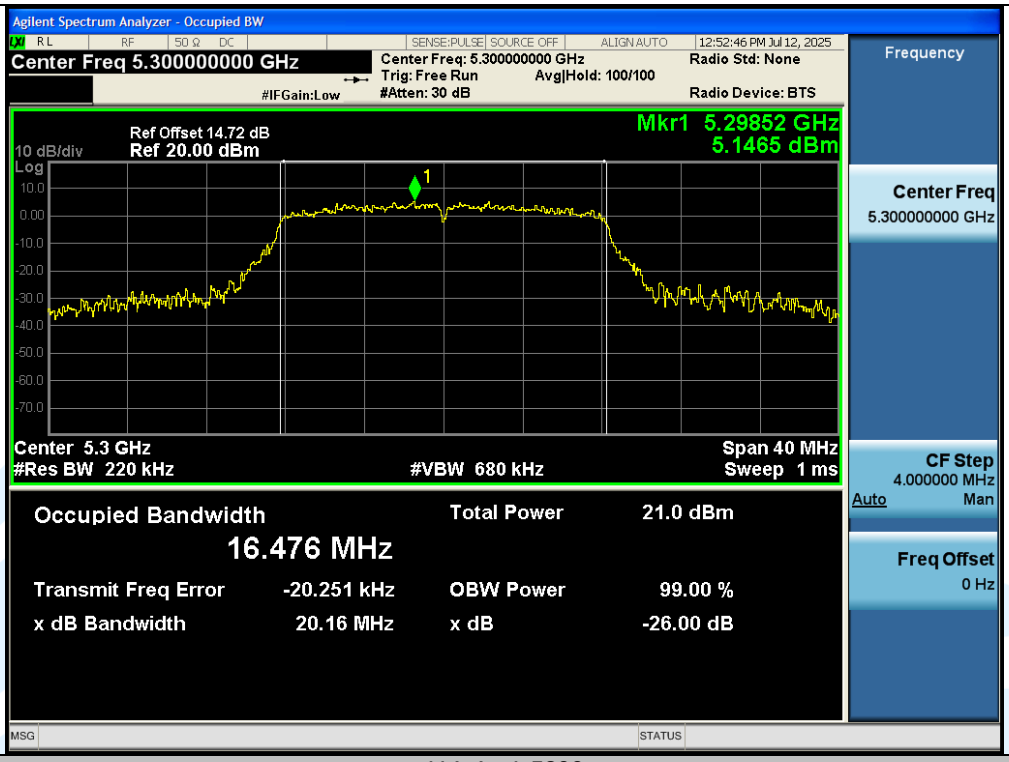

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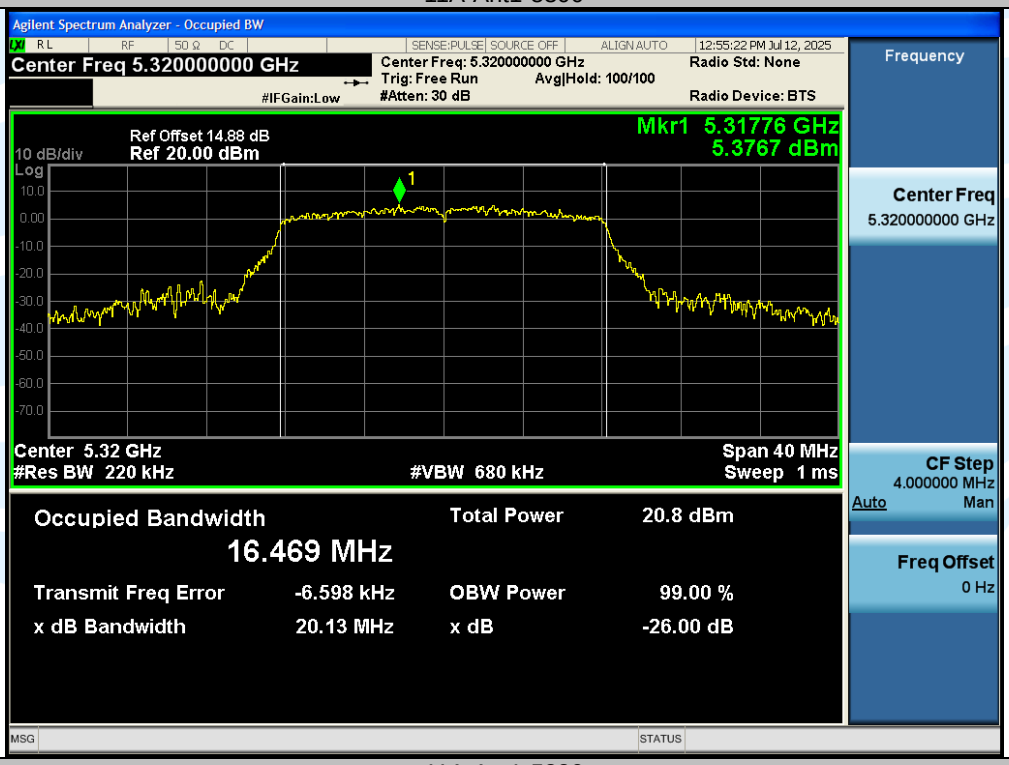

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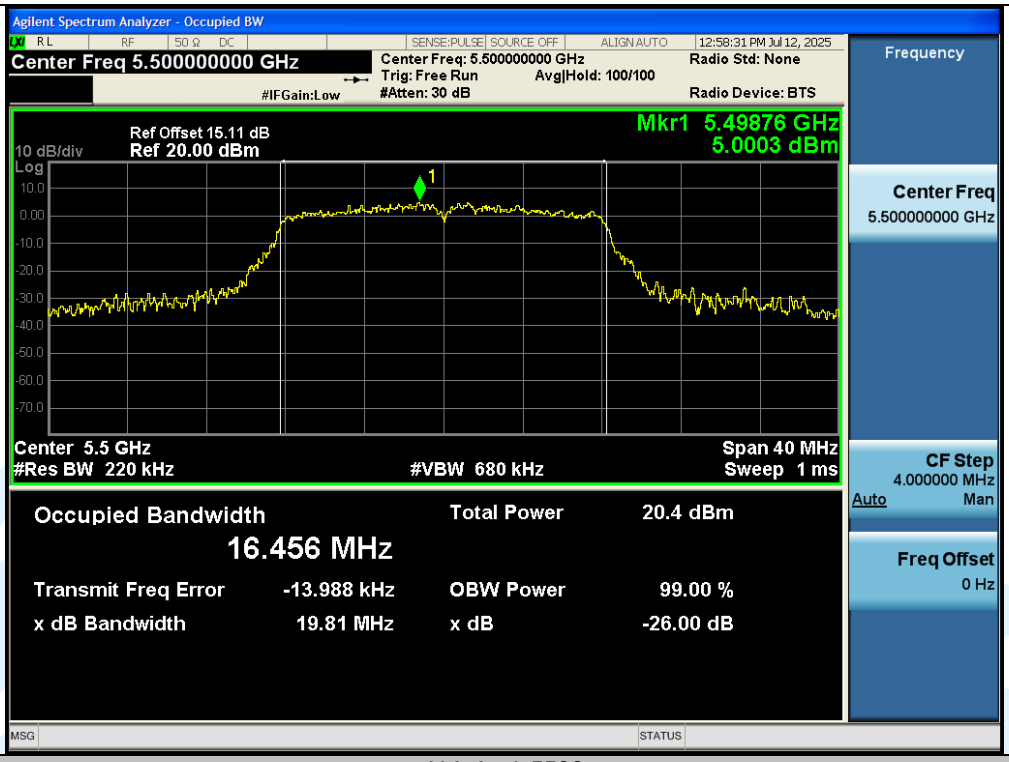

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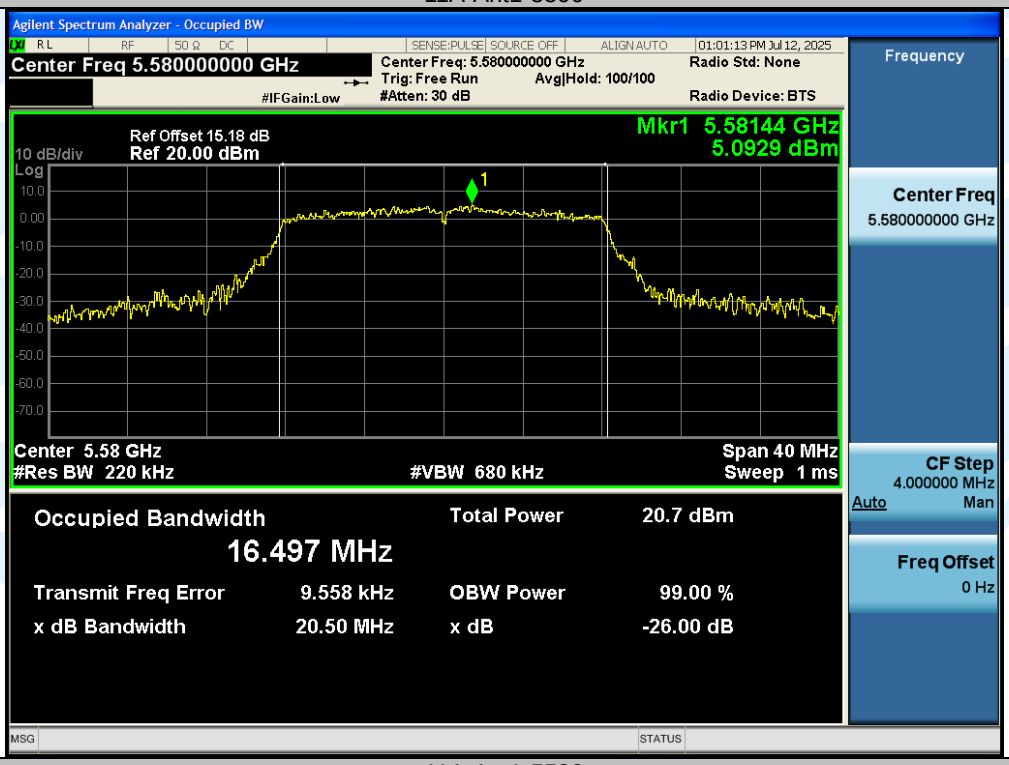

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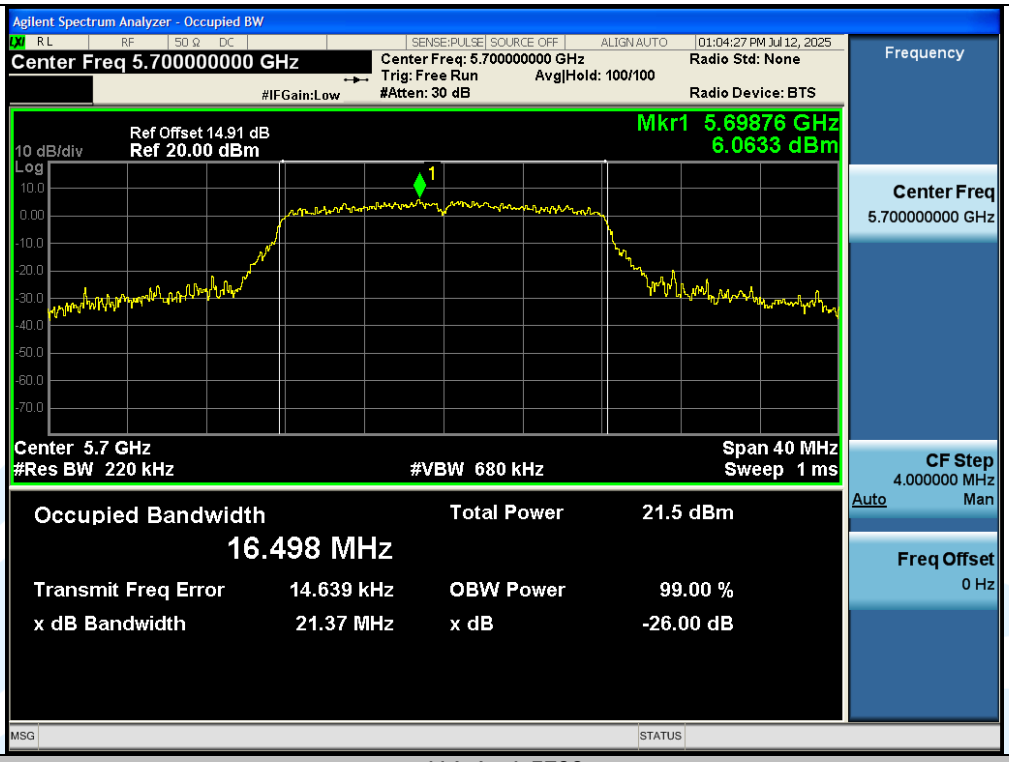

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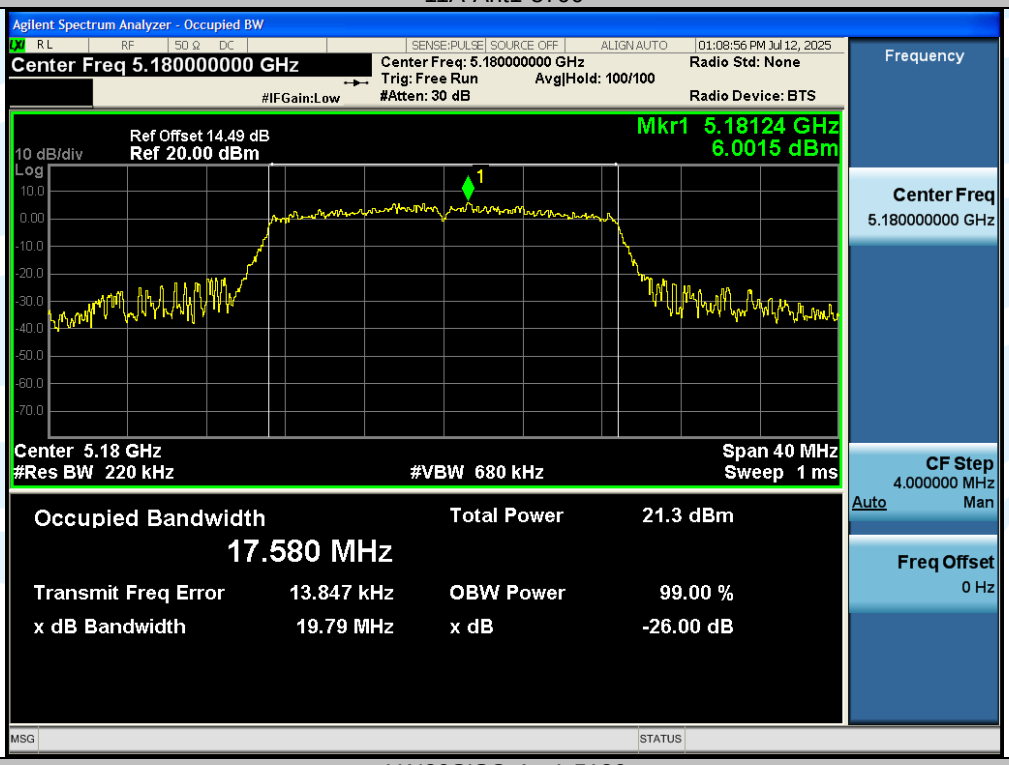

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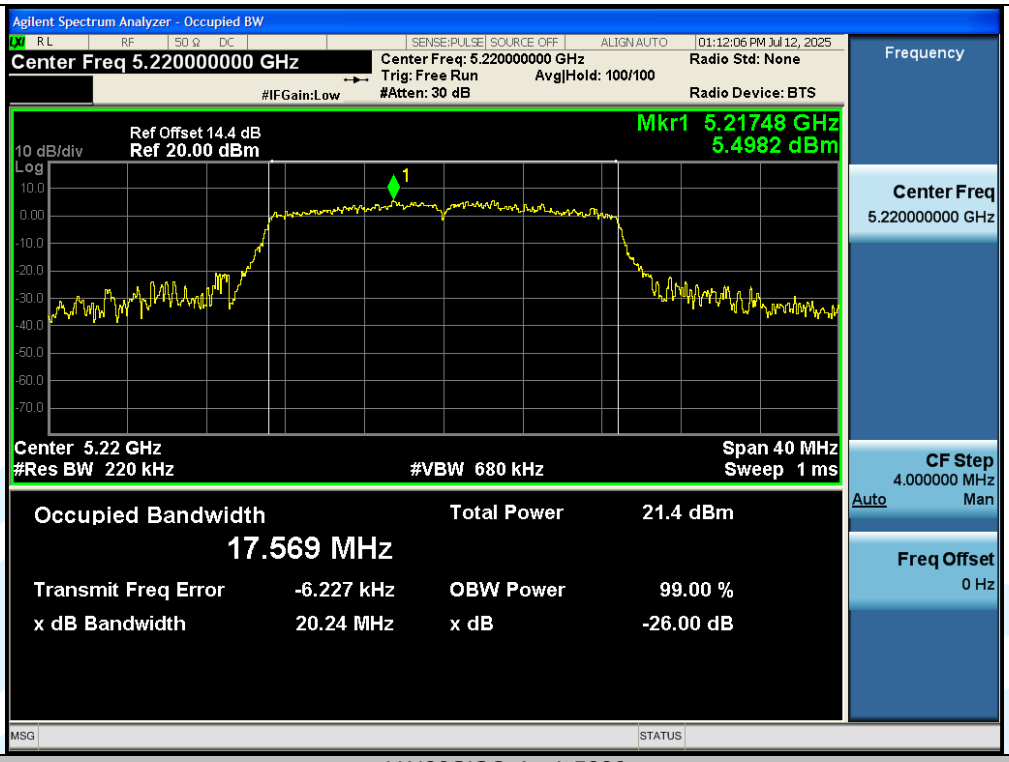

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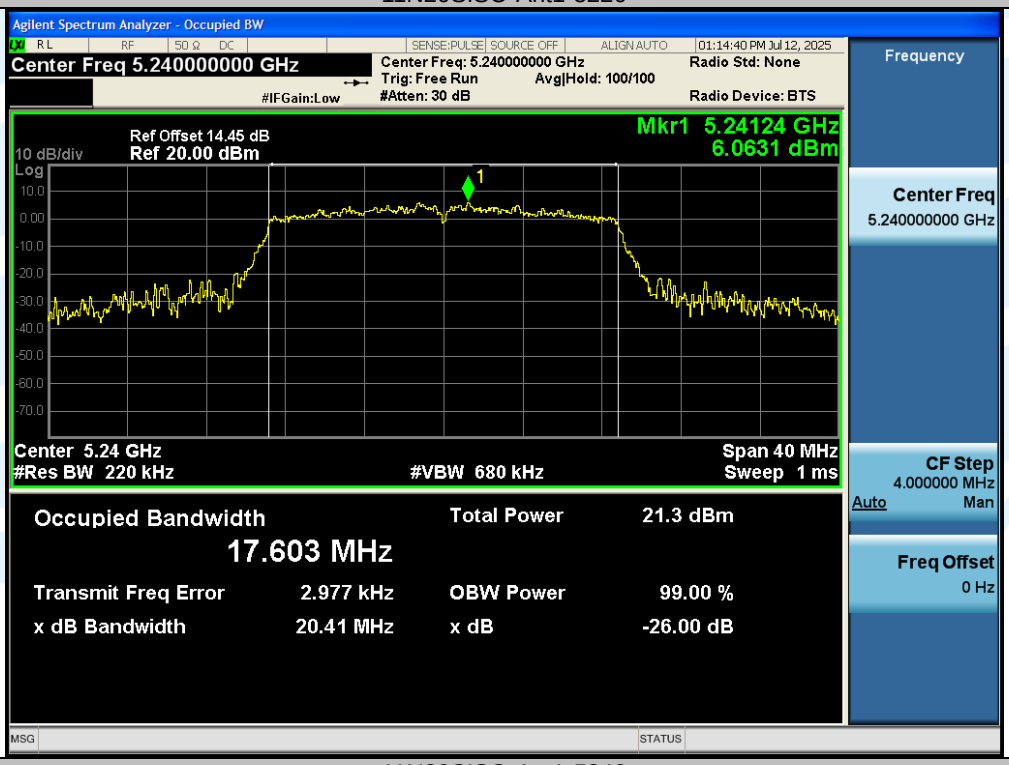

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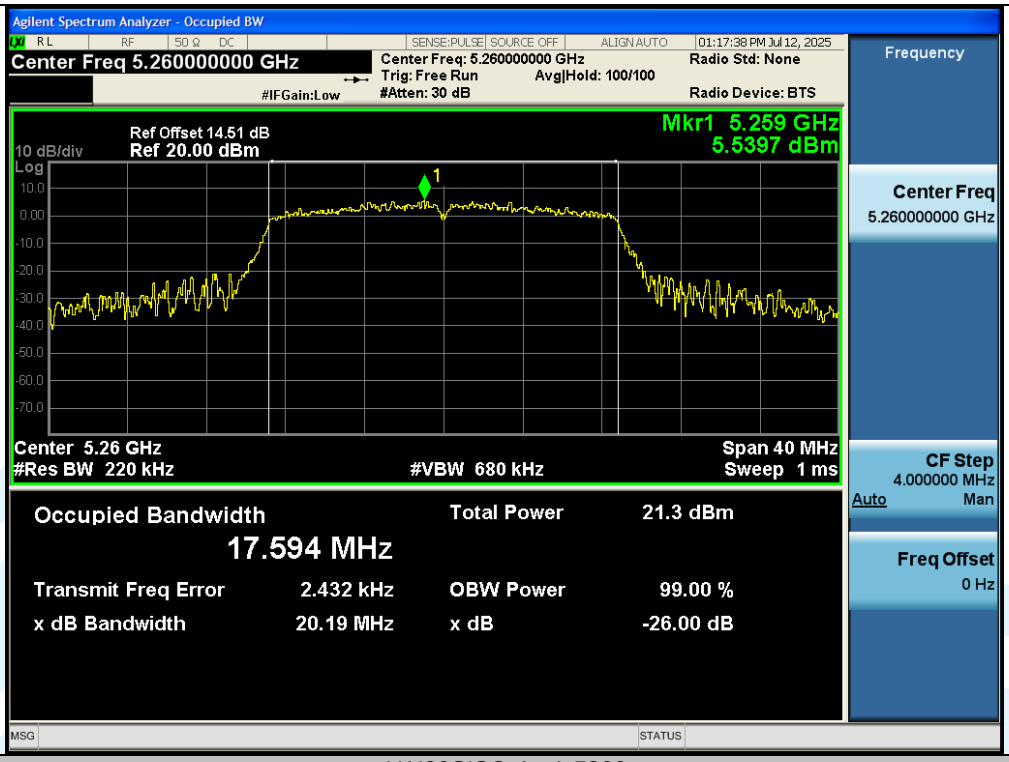

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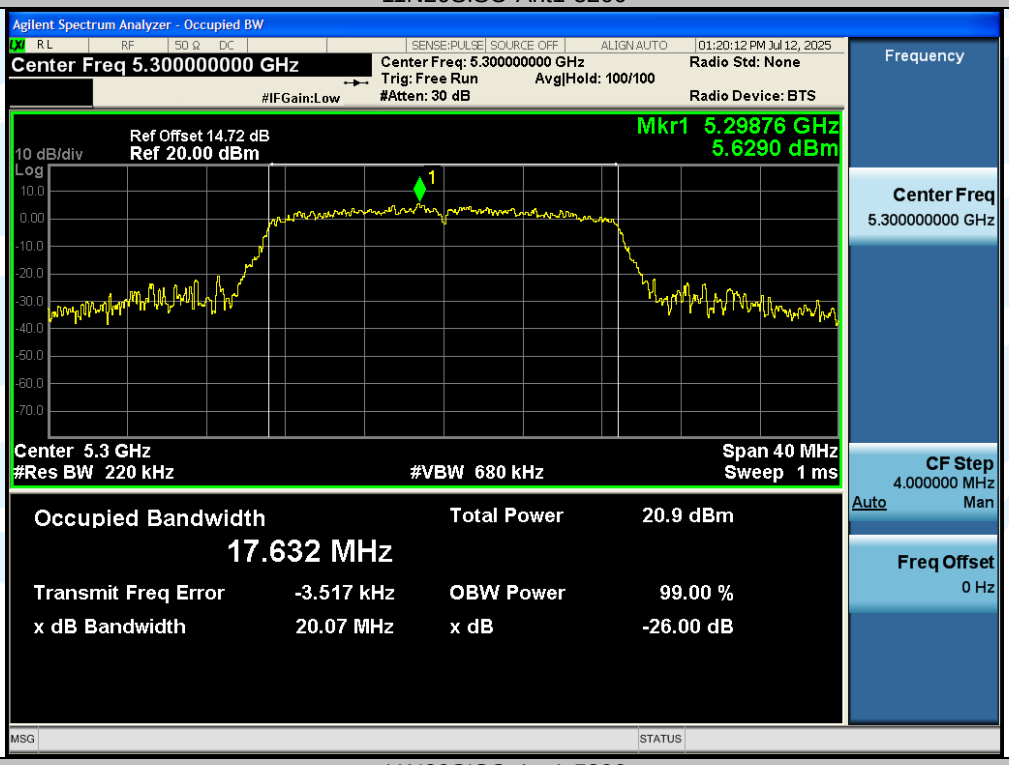

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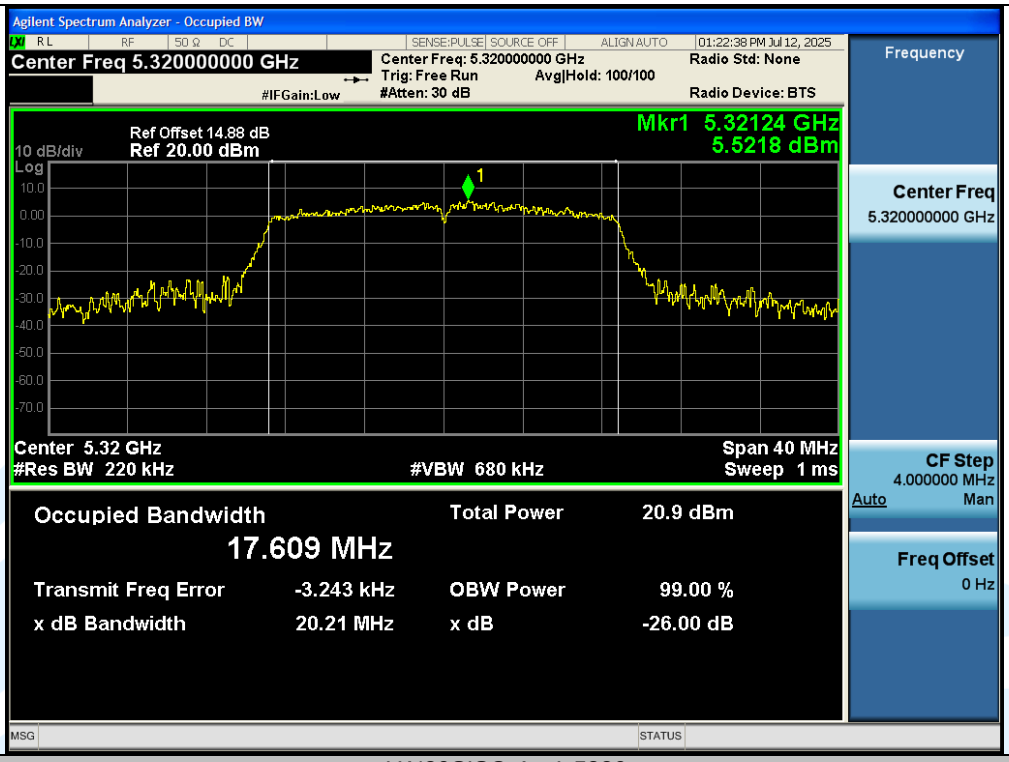

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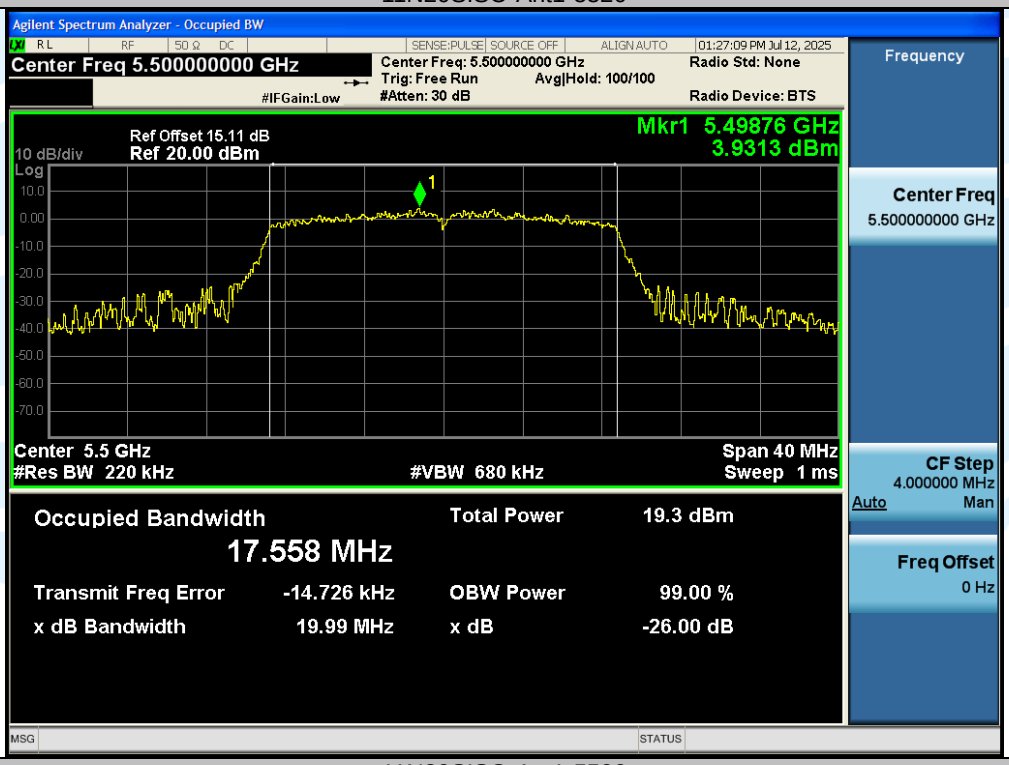

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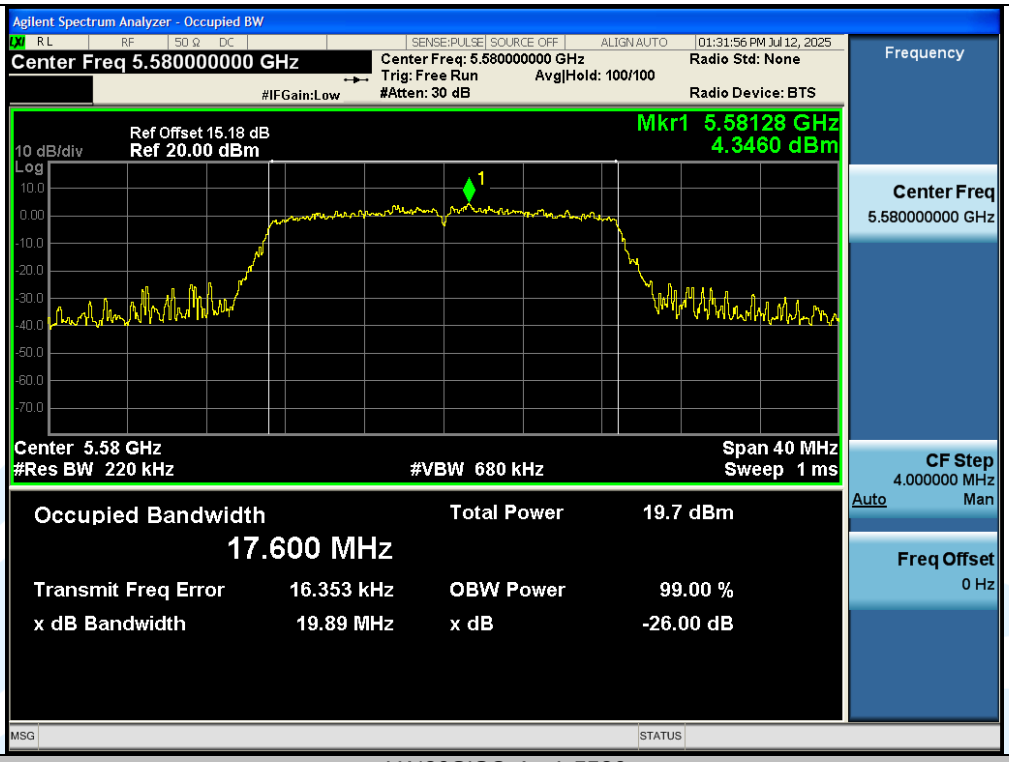

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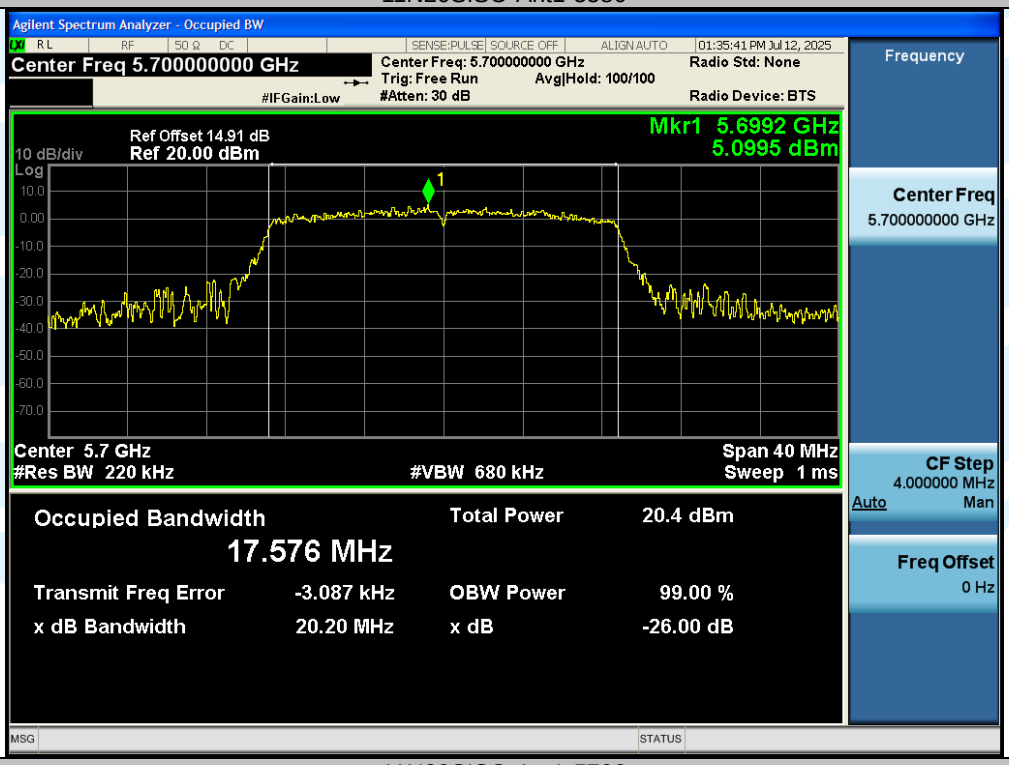

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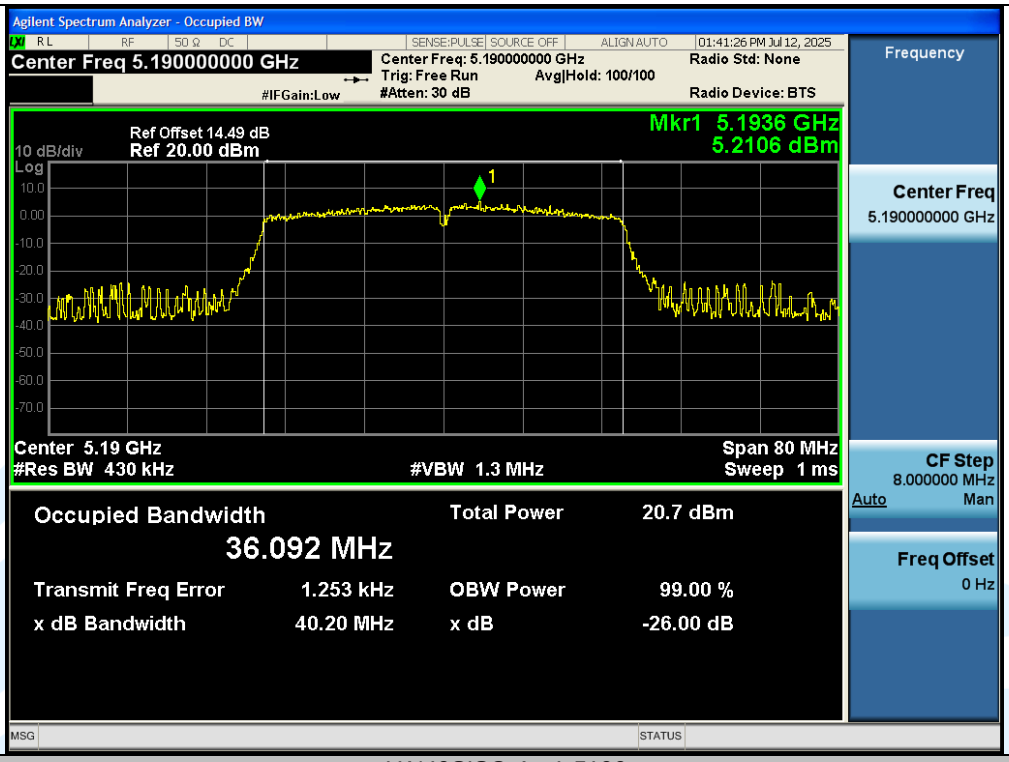

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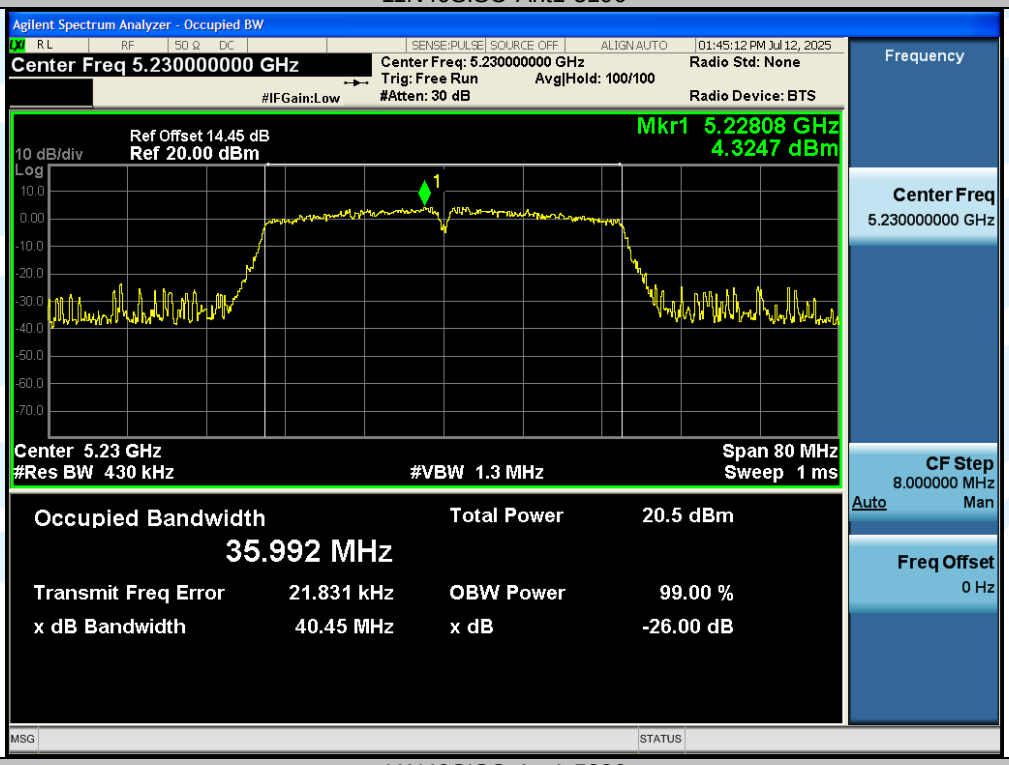

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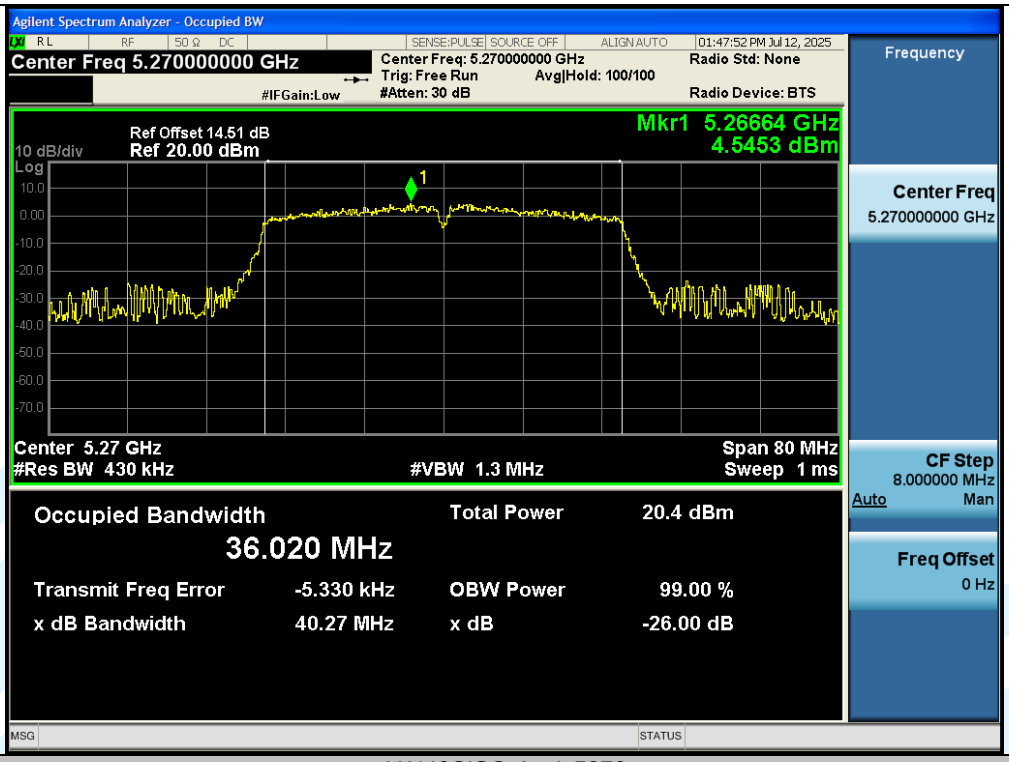

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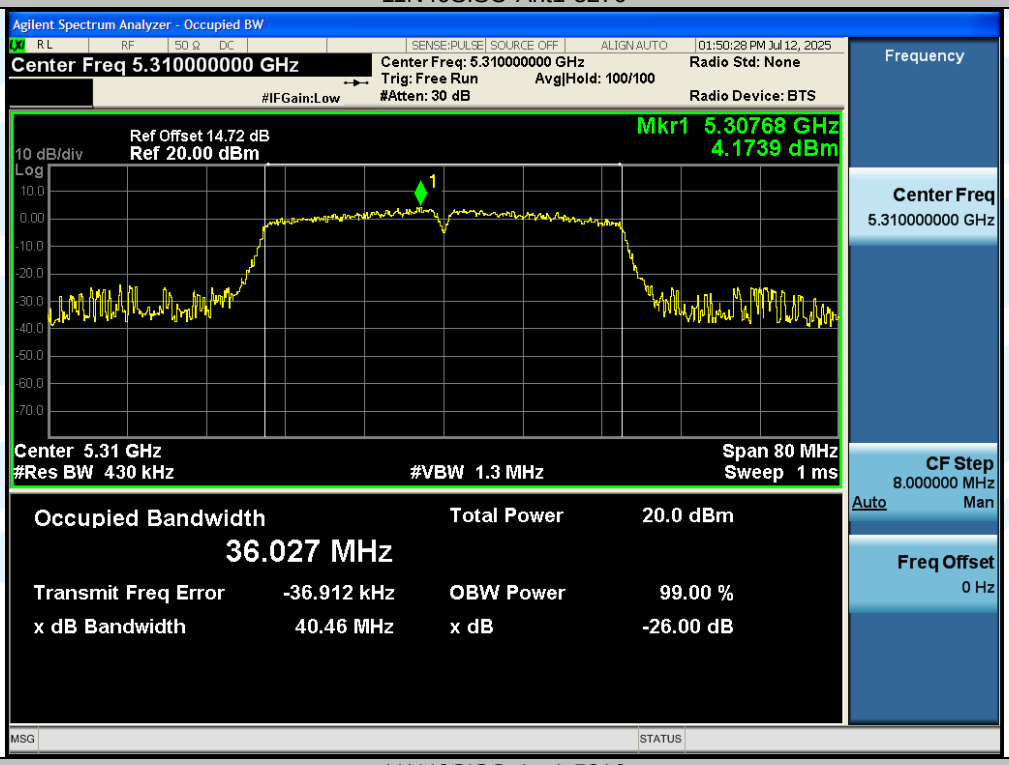

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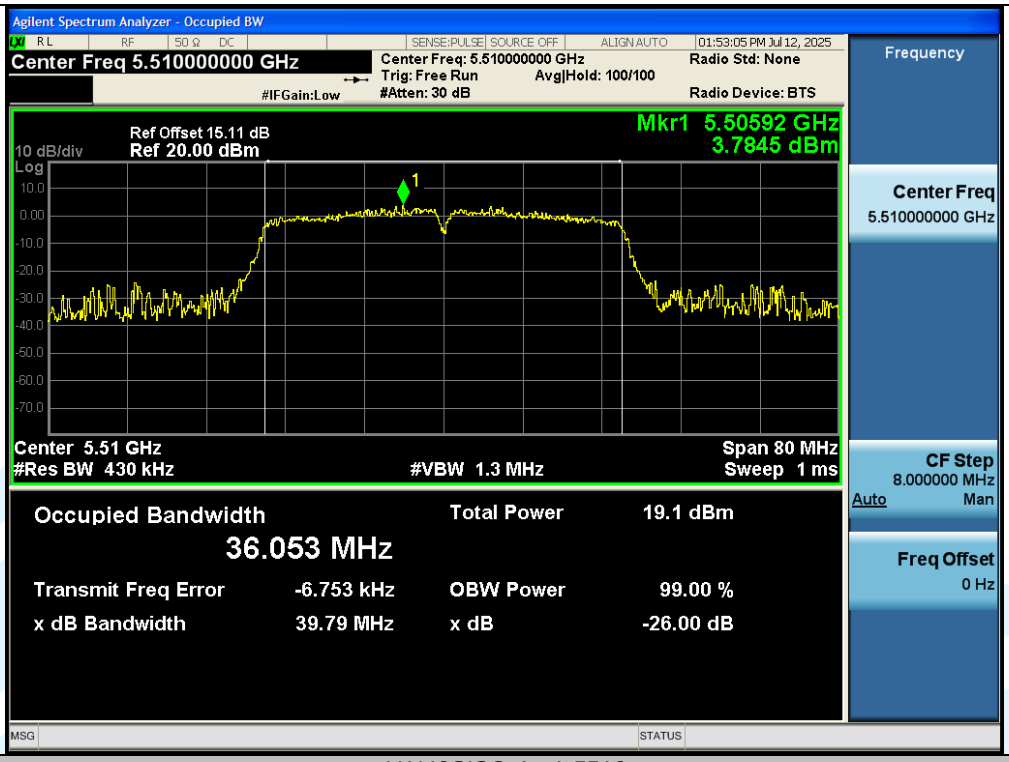

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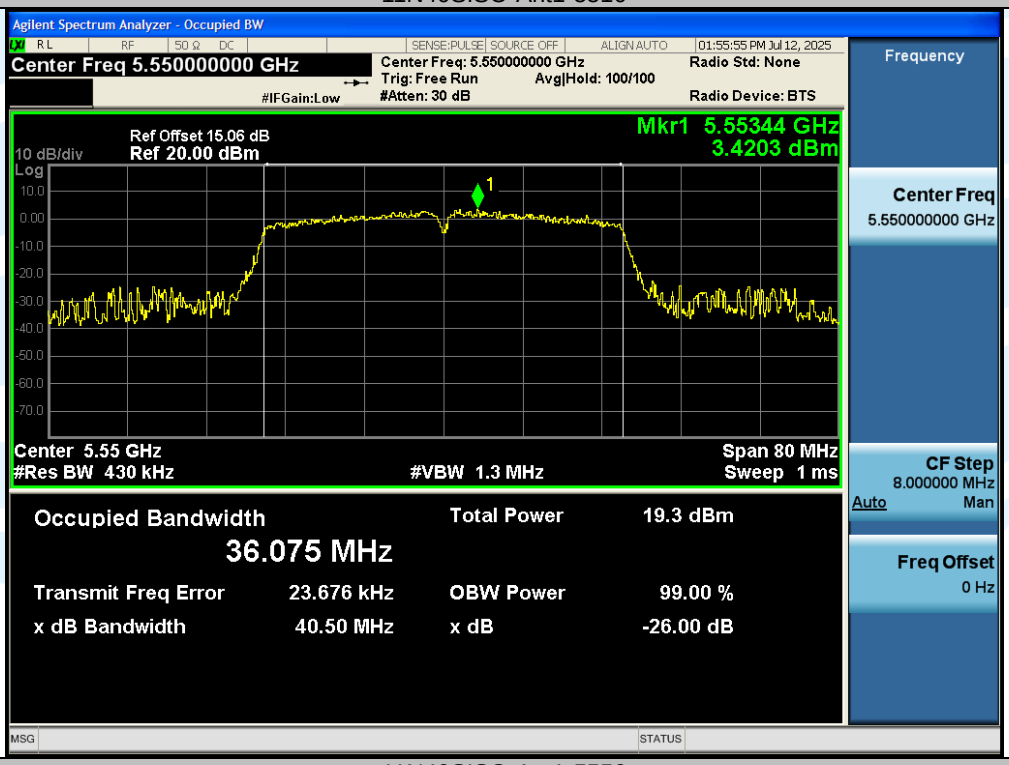

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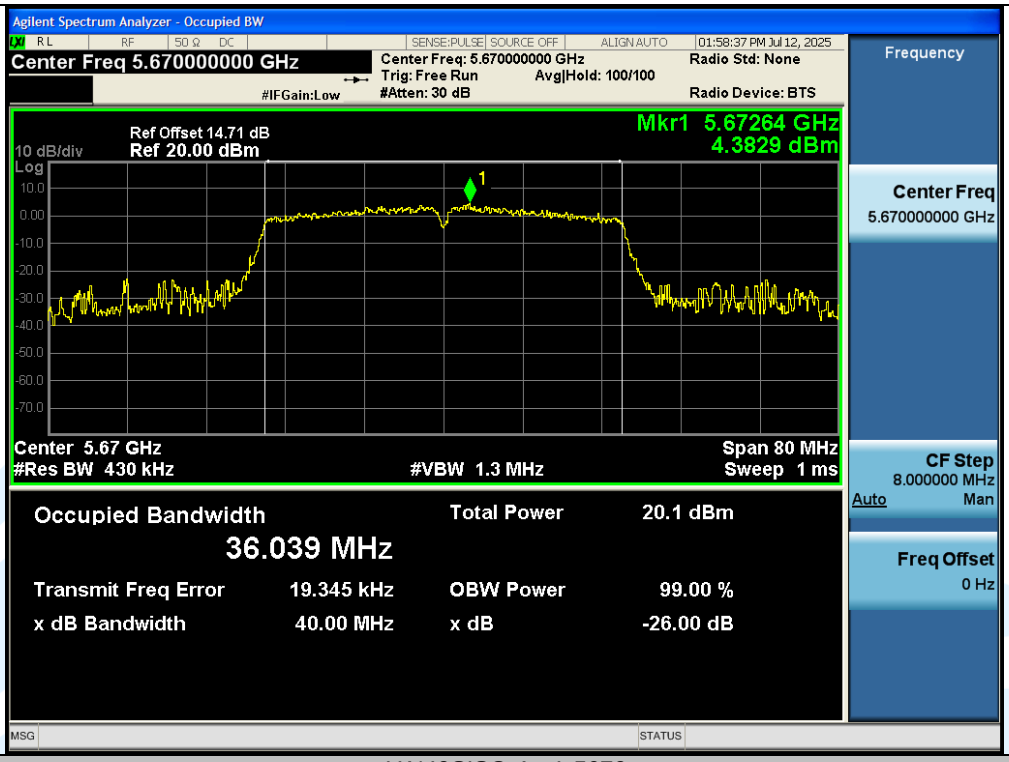

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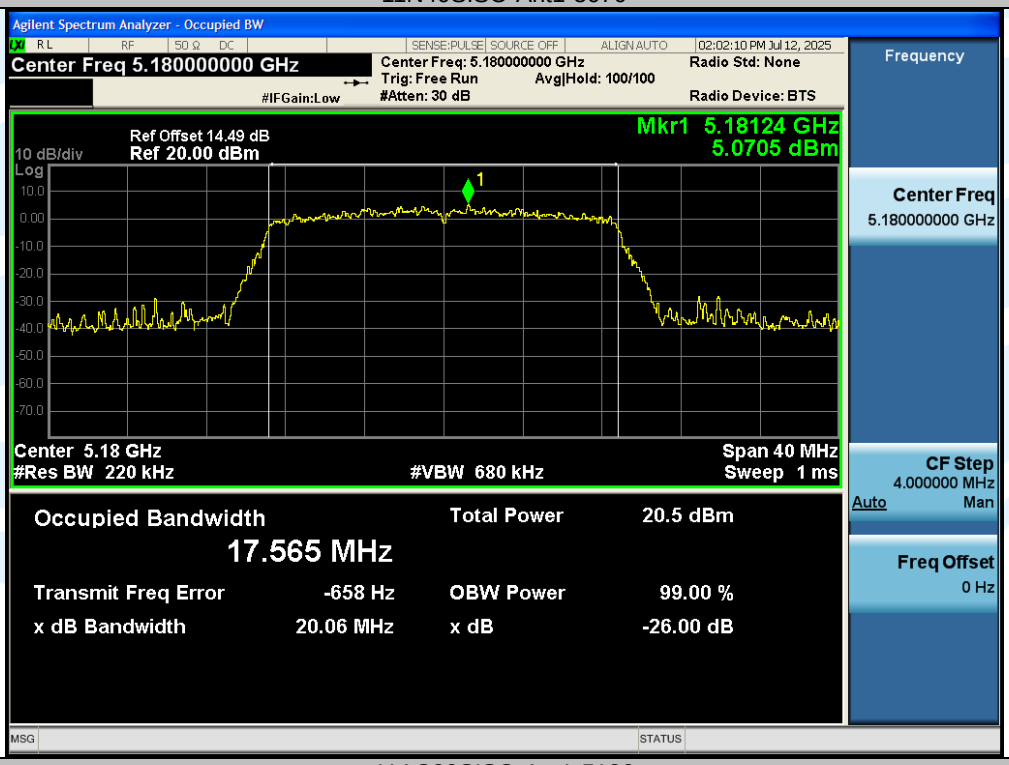

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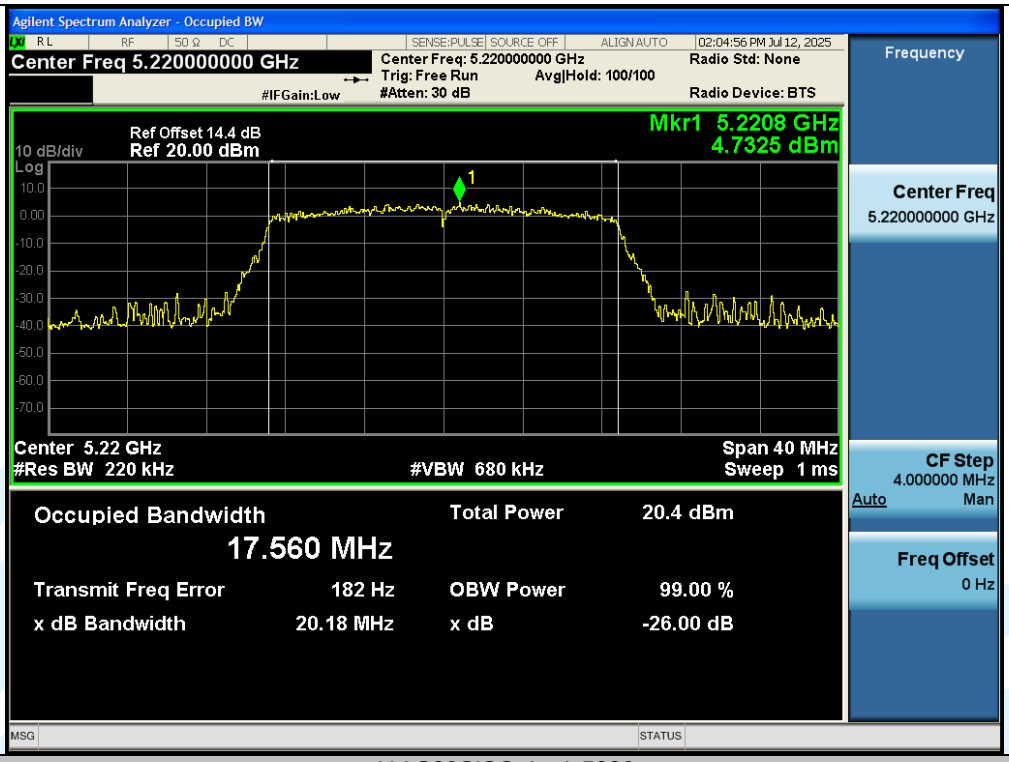

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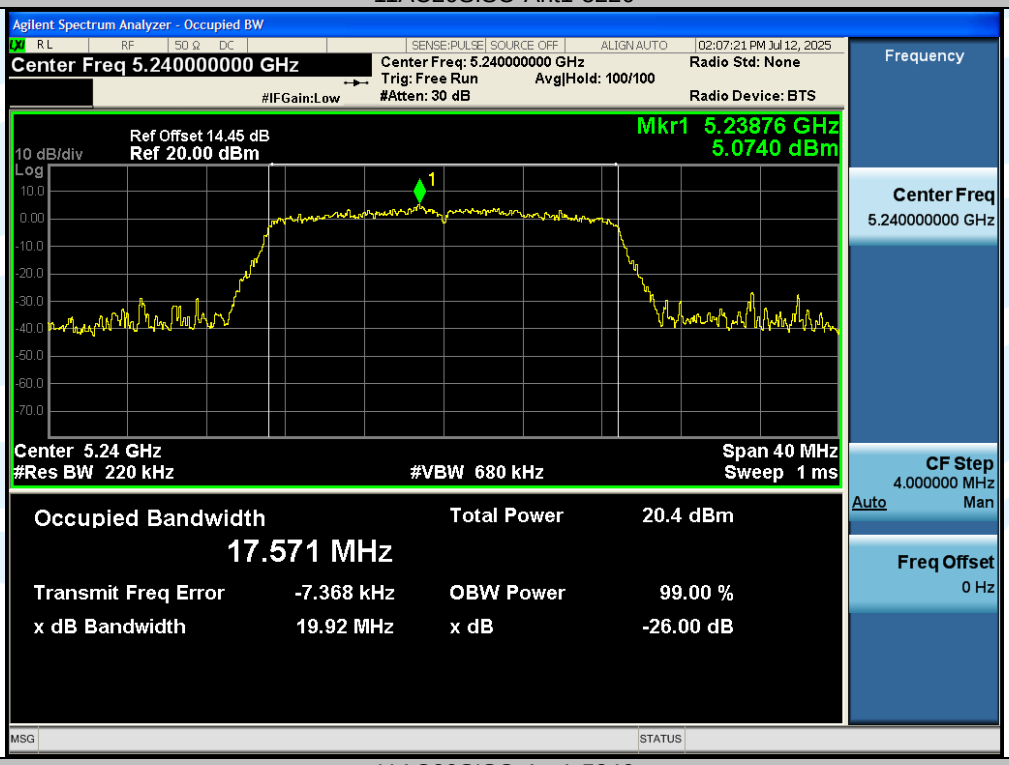

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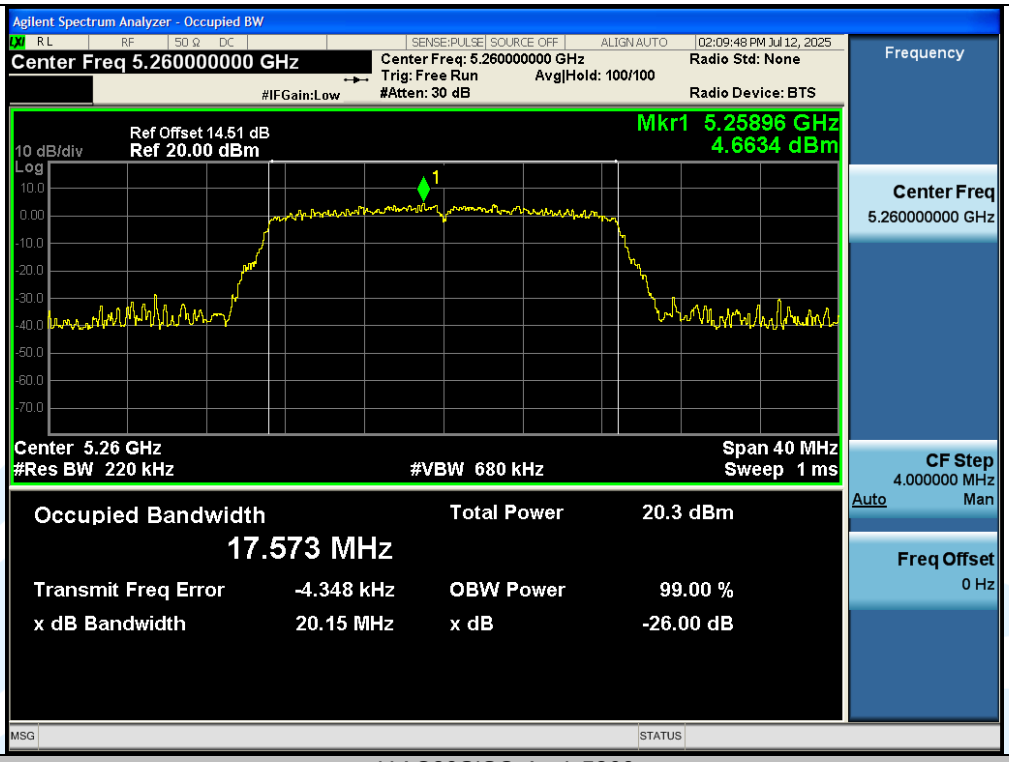

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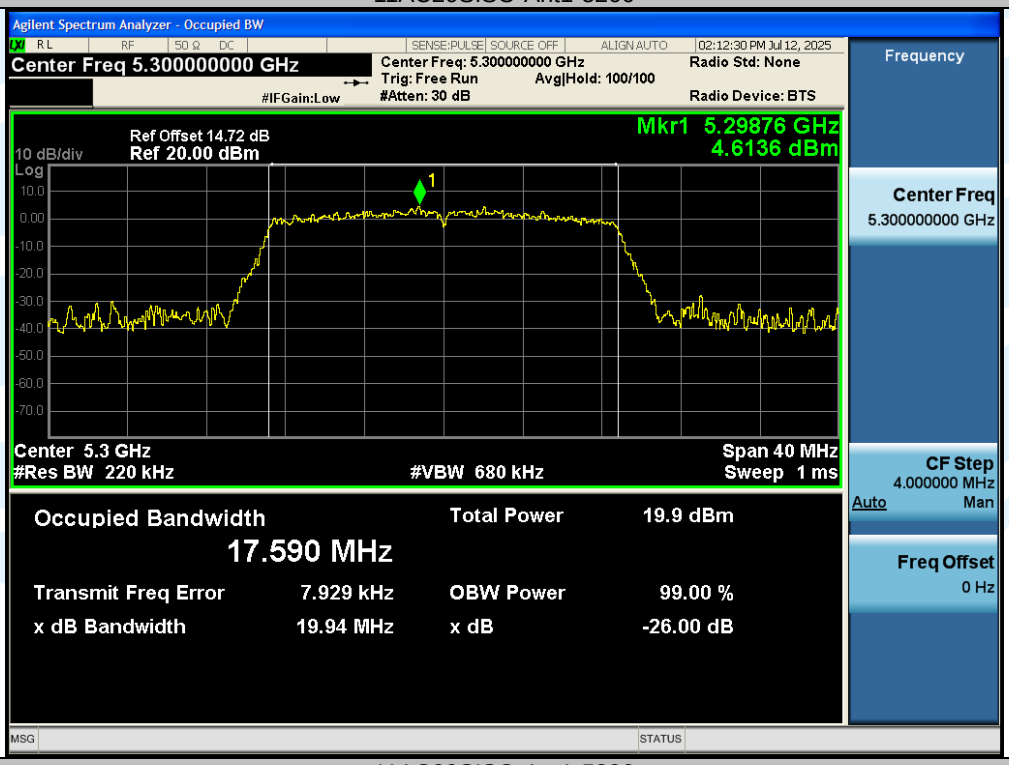

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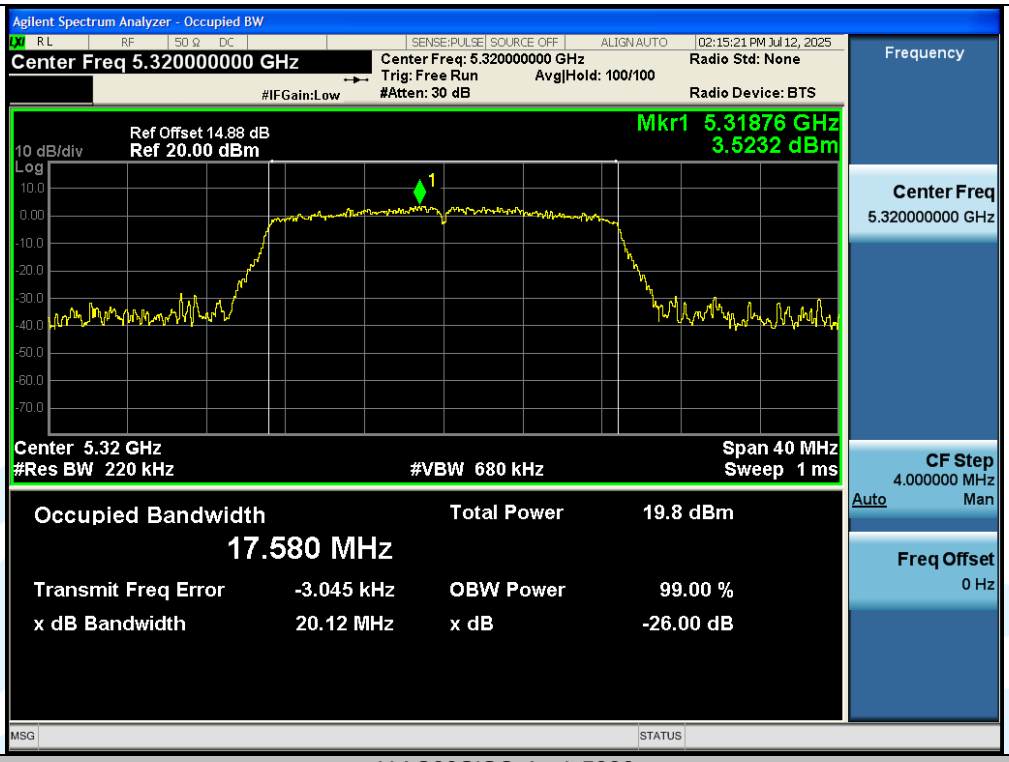

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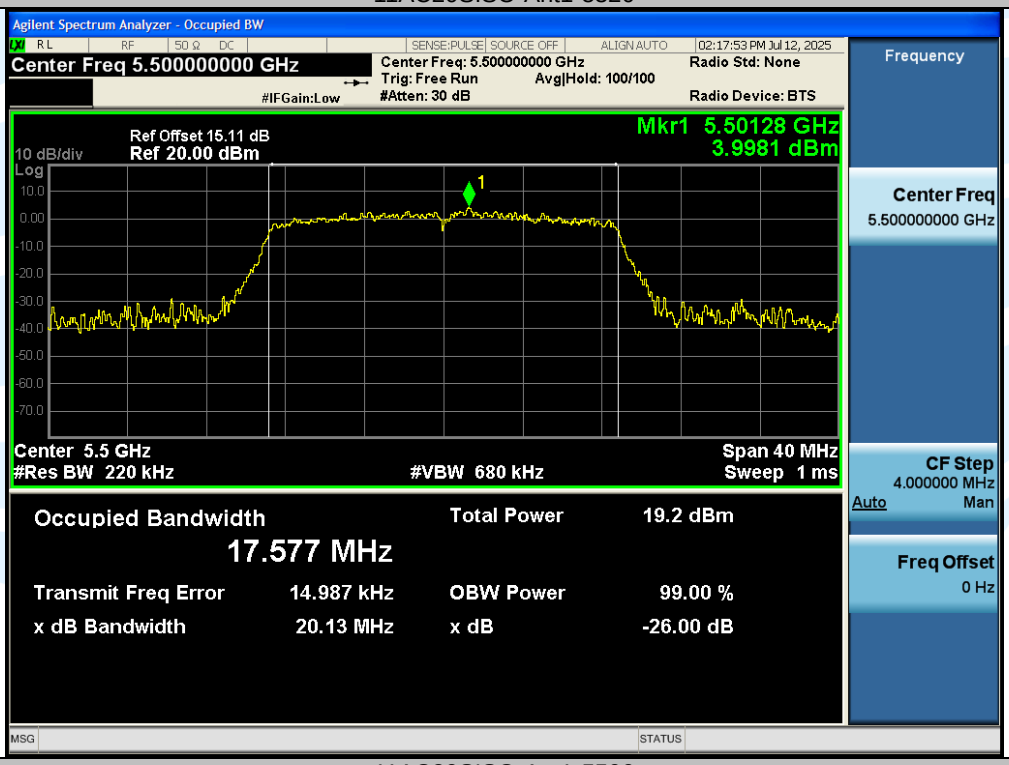

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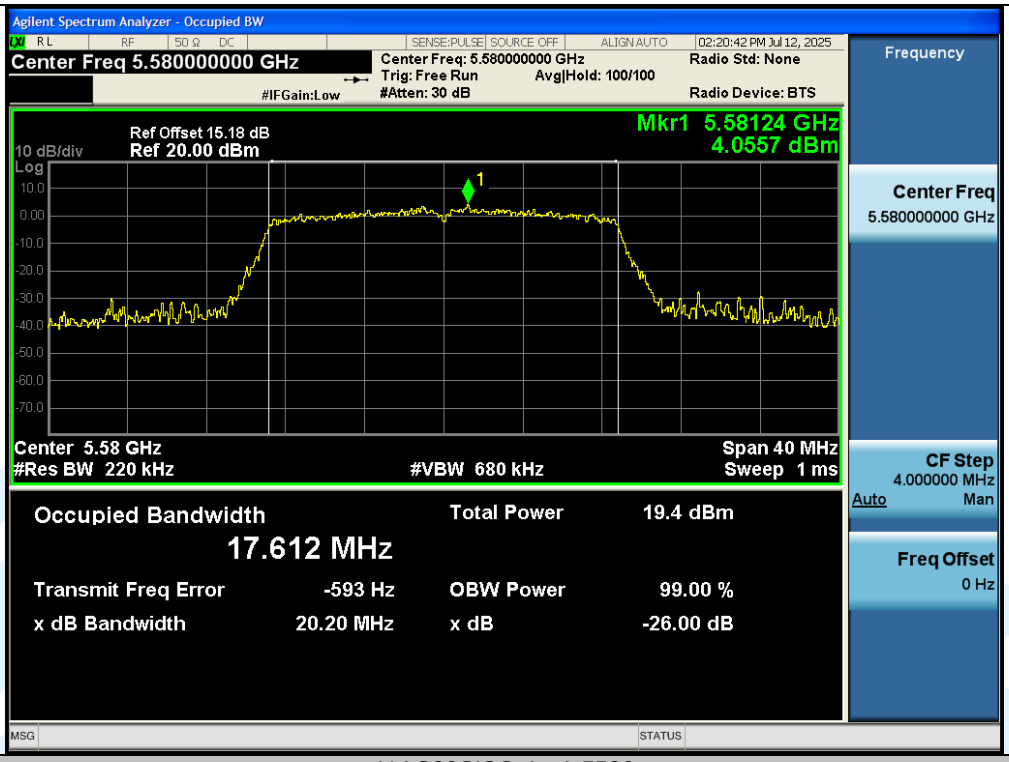

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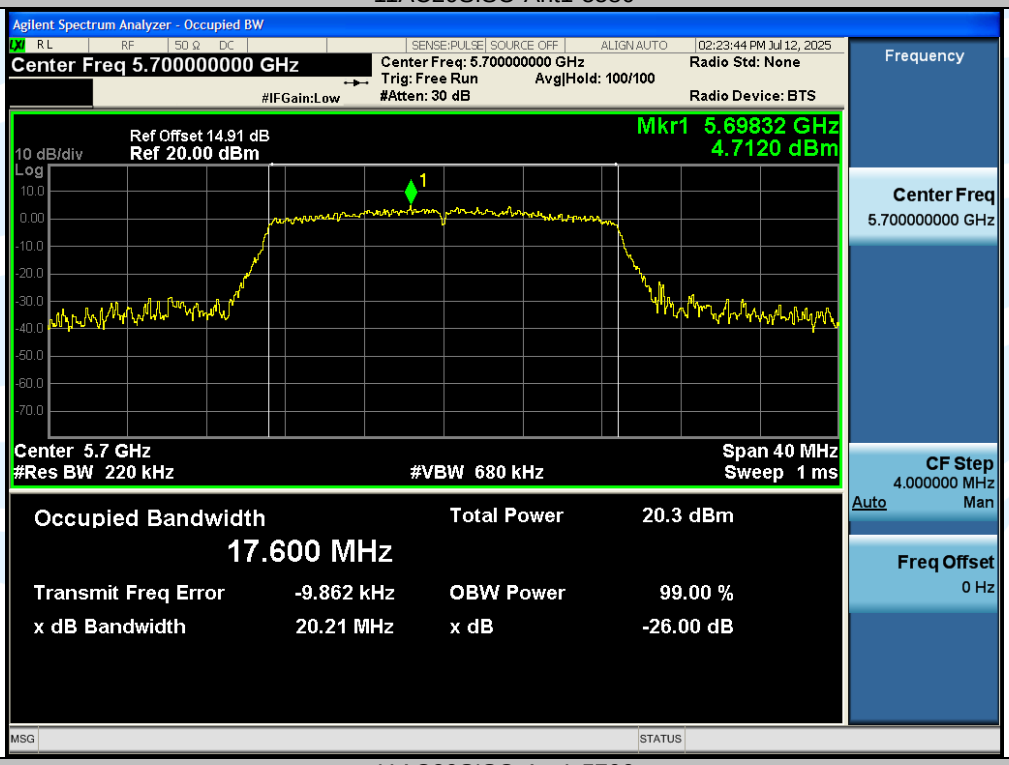

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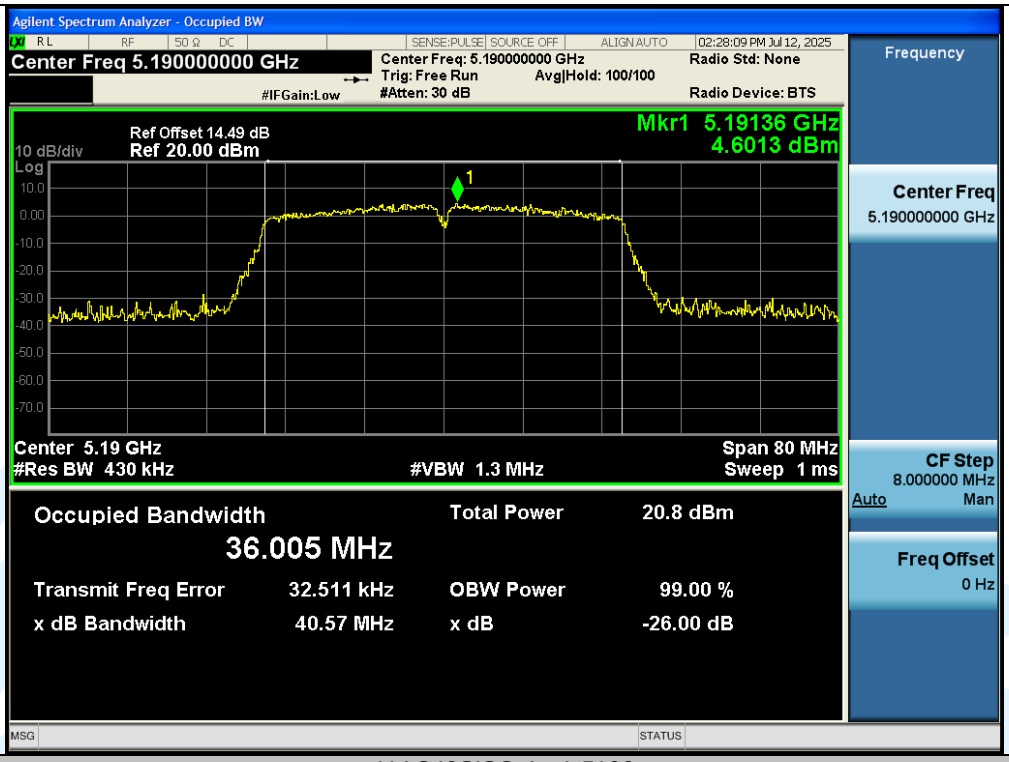

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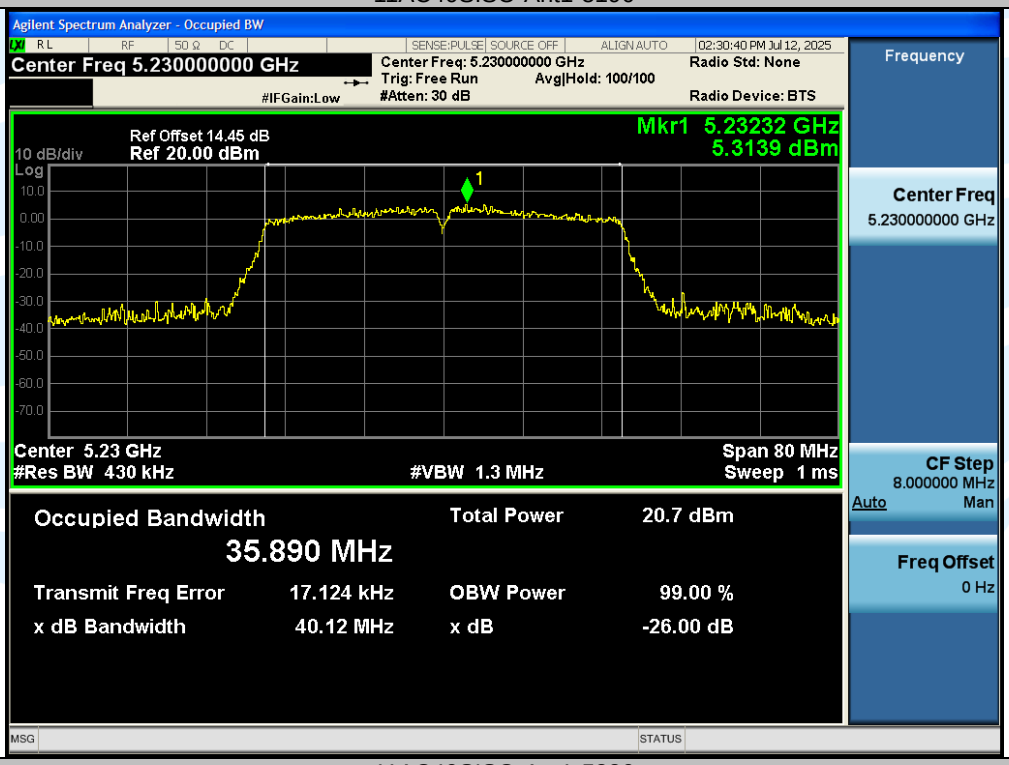

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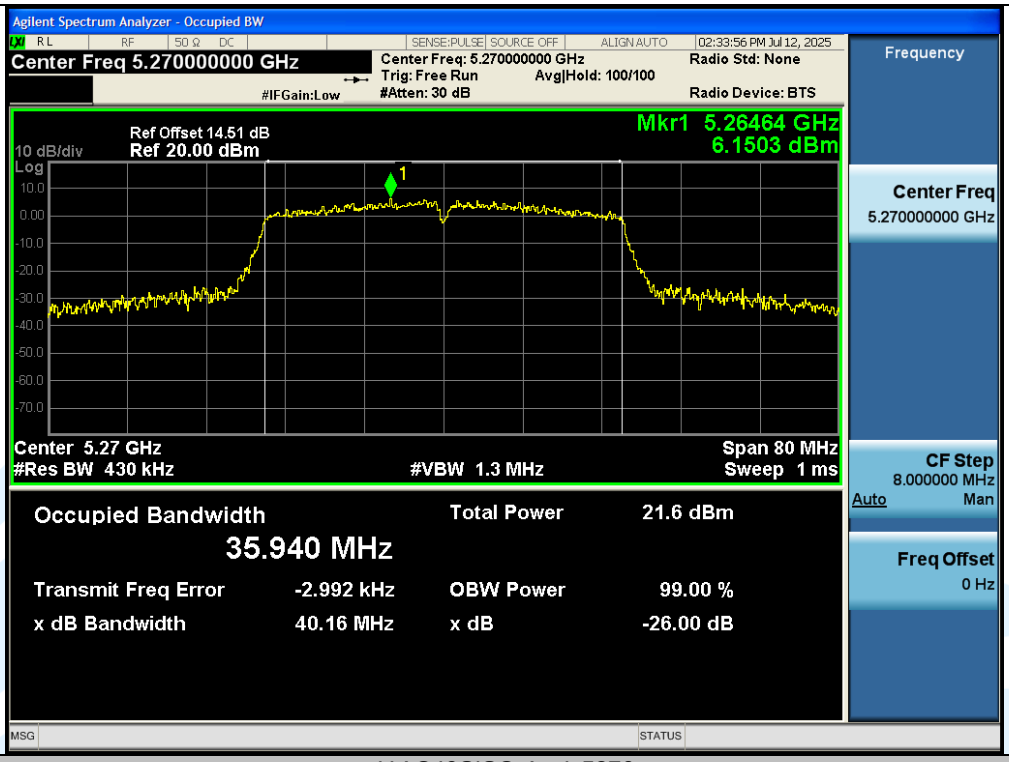

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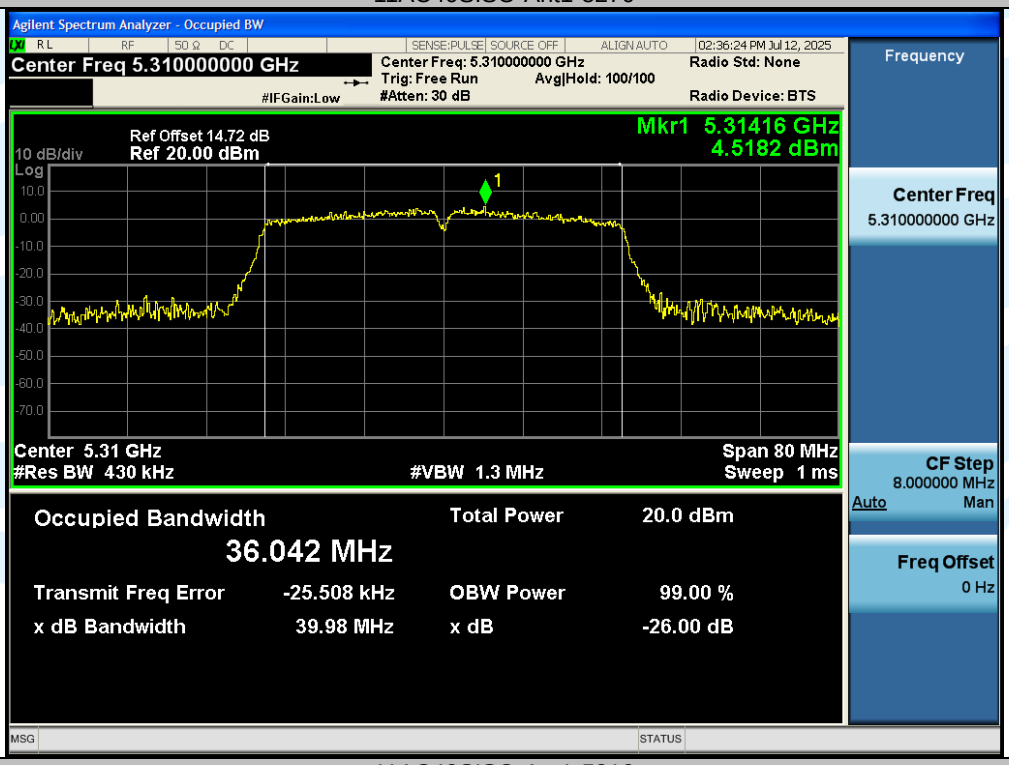

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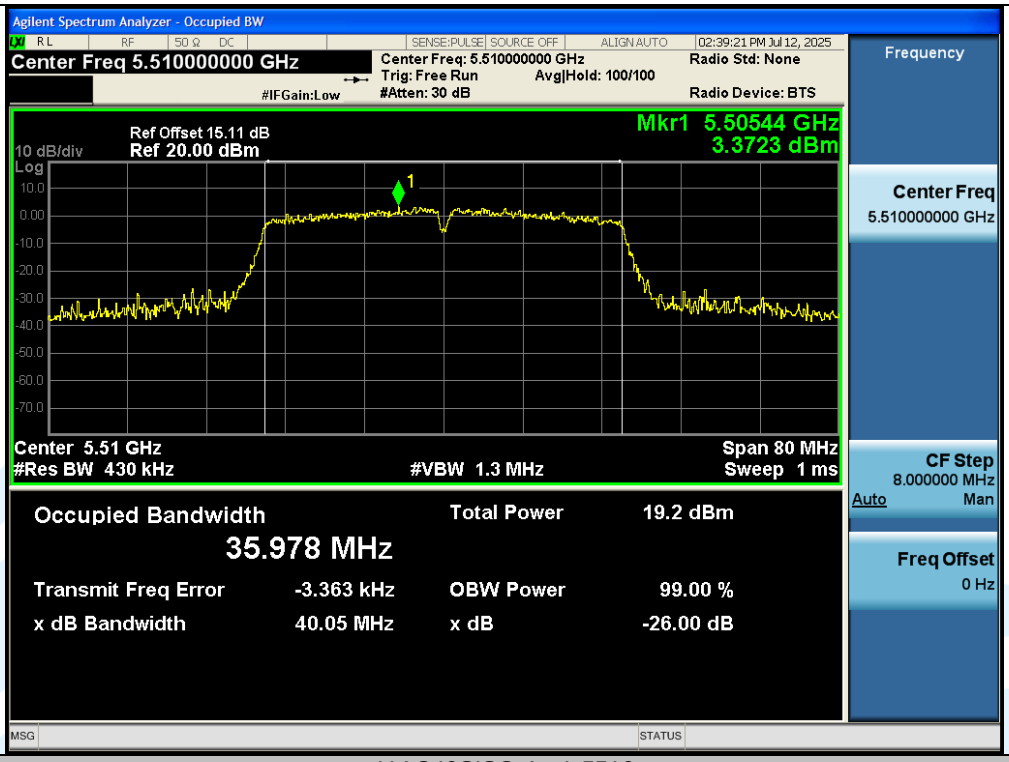

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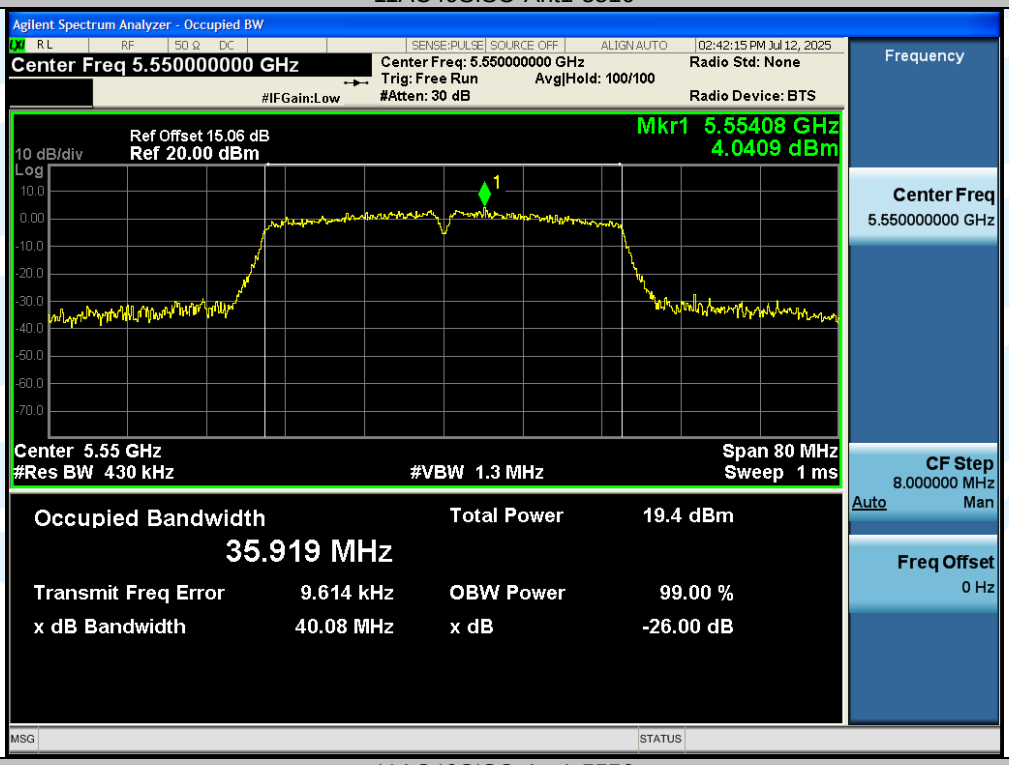

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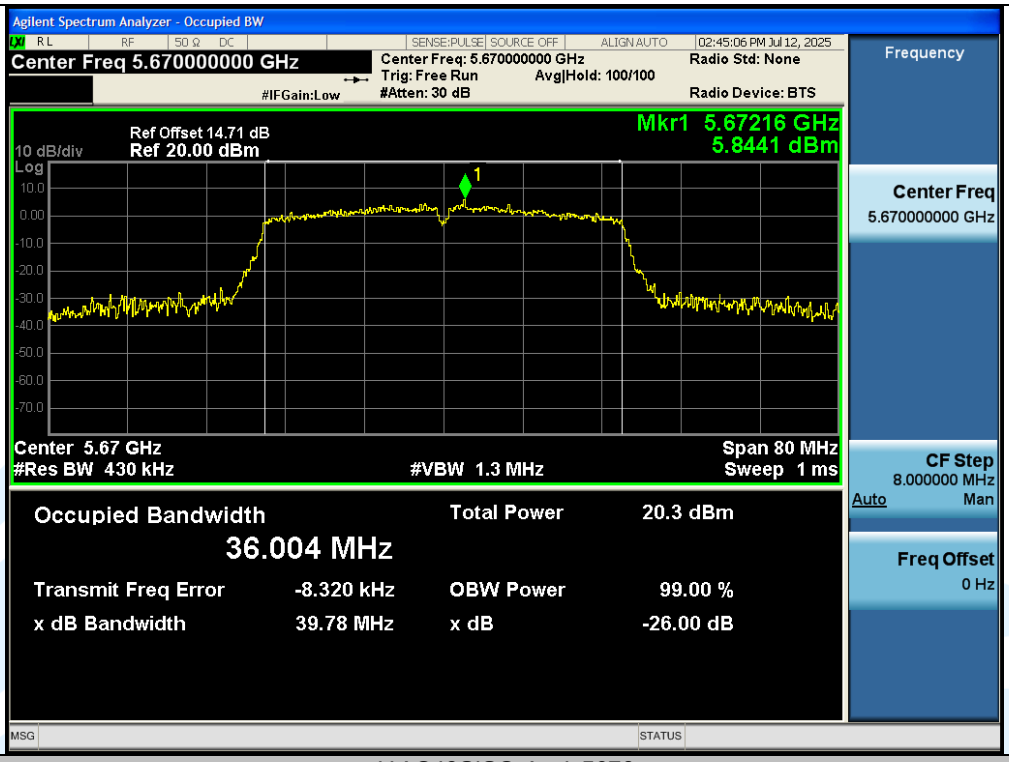

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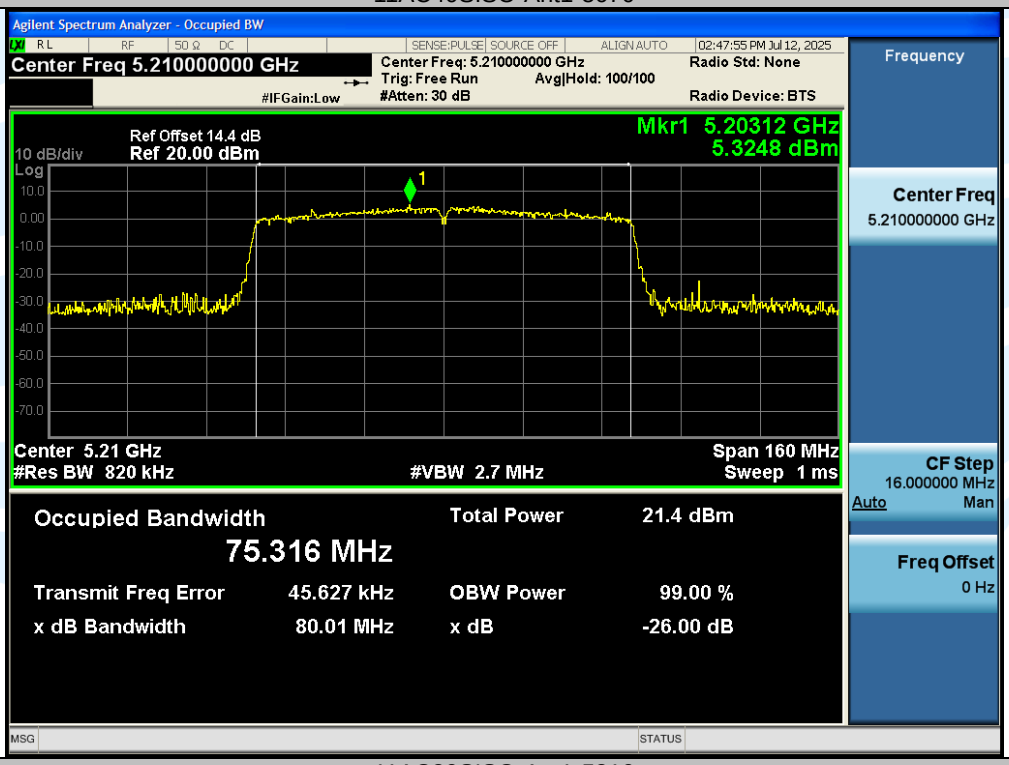

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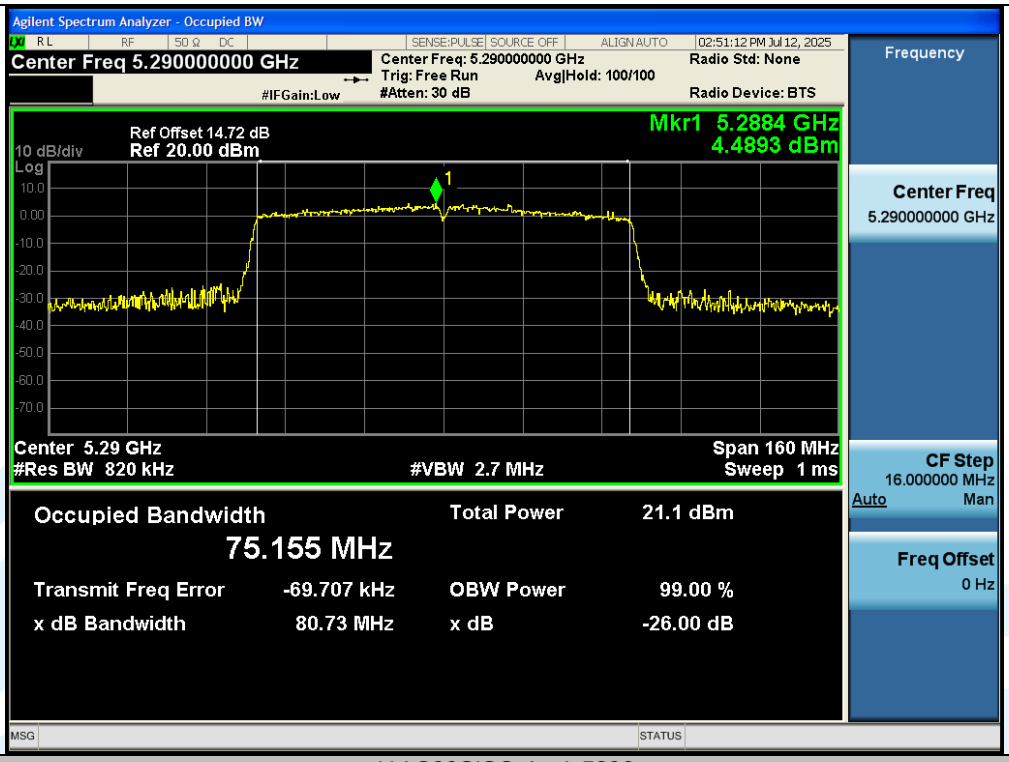

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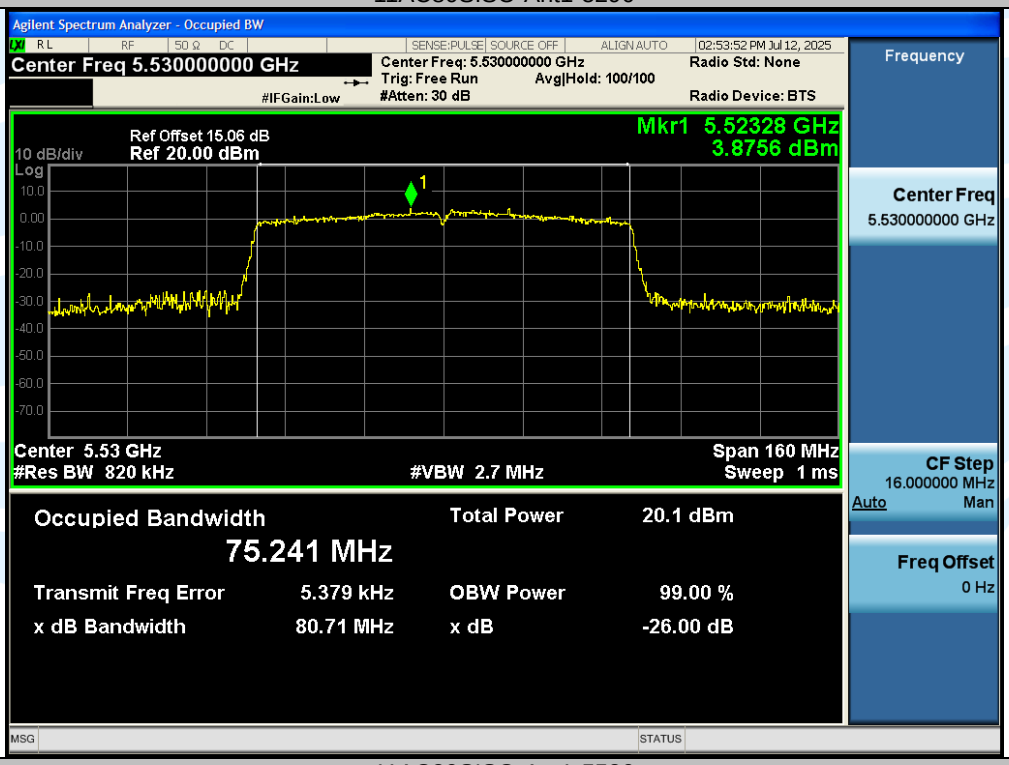

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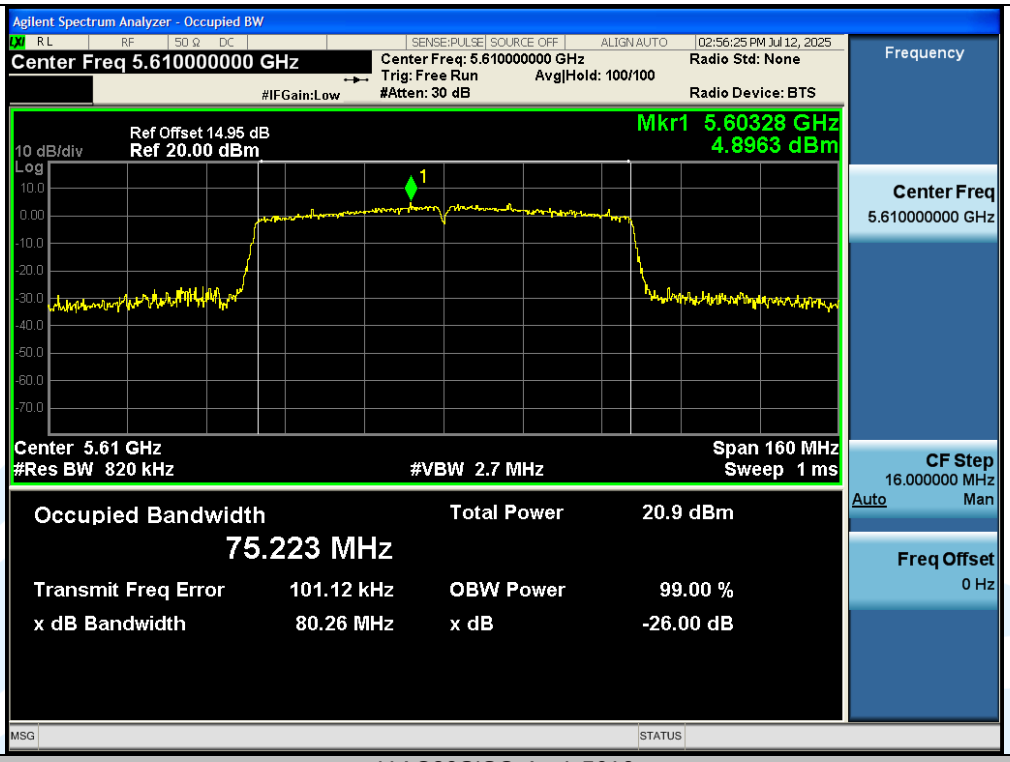


11AC80SISO-Ant1-5610

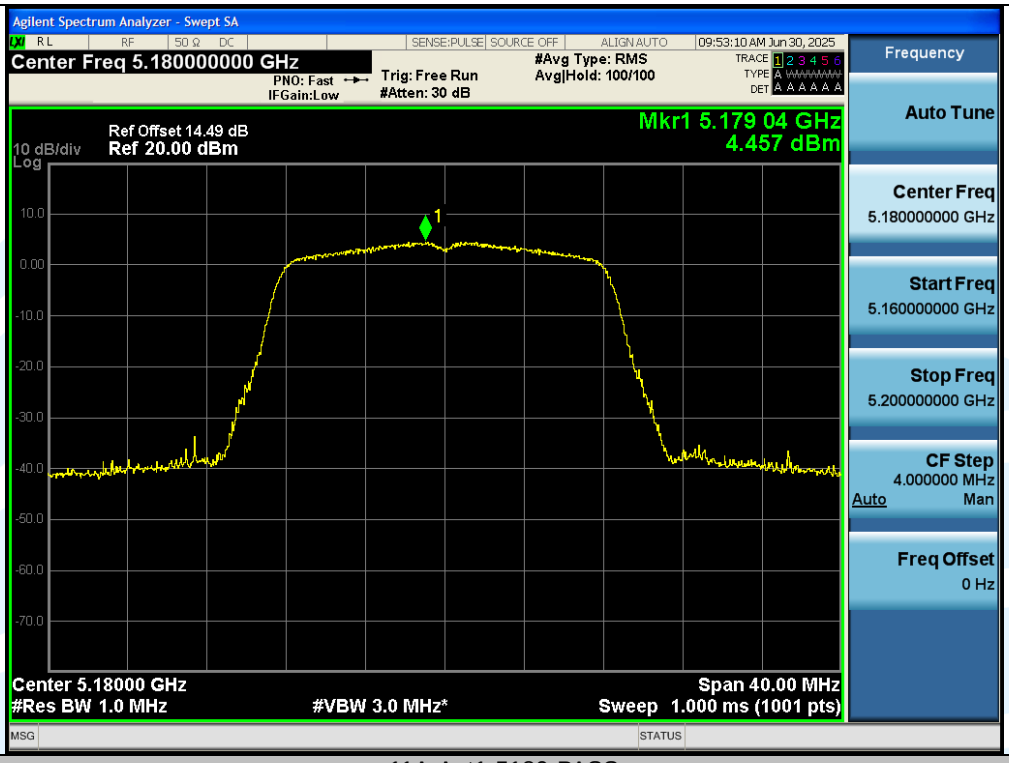
A.3 POWER SPECTRAL DENSITY

Test Mode	Antenna	Frequency [MHz]	Result [dBm/MHz]	Limit (dBm/MHz or dBm/0.5MHz)	Verdict
11A	Ant1	5180	4.61	≤11.00	PASS
11A	Ant1	5220	4.67	≤11.00	PASS
11A	Ant1	5240	4.50	≤11.00	PASS
11A	Ant1	5260	4.59	≤11.00	PASS
11A	Ant1	5300	4.45	≤11.00	PASS
11A	Ant1	5320	4.07	≤11.00	PASS
11A	Ant1	5500	3.62	≤11.00	PASS
11A	Ant1	5580	4.29	≤11.00	PASS
11A	Ant1	5700	5.10	≤11.00	PASS
11A	Ant1	5745	2.17	≤30.00	PASS
11A	Ant1	5785	2.38	≤30.00	PASS
11A	Ant1	5825	1.94	≤30.00	PASS
11N20SISO	Ant1	5180	4.38	≤11.00	PASS
11N20SISO	Ant1	5220	4.81	≤11.00	PASS
11N20SISO	Ant1	5240	4.21	≤11.00	PASS
11N20SISO	Ant1	5260	4.43	≤11.00	PASS
11N20SISO	Ant1	5300	3.76	≤11.00	PASS
11N20SISO	Ant1	5320	4.30	≤11.00	PASS
11N20SISO	Ant1	5500	2.83	≤11.00	PASS
11N20SISO	Ant1	5580	3.04	≤11.00	PASS
11N20SISO	Ant1	5700	3.86	≤11.00	PASS
11N20SISO	Ant1	5745	2.08	≤30.00	PASS
11N20SISO	Ant1	5785	1.94	≤30.00	PASS
11N20SISO	Ant1	5825	1.94	≤30.00	PASS
11N40SISO	Ant1	5190	0.60	≤11.00	PASS
11N40SISO	Ant1	5230	0.28	≤11.00	PASS
11N40SISO	Ant1	5270	0.12	≤11.00	PASS
11N40SISO	Ant1	5310	-0.10	≤11.00	PASS
11N40SISO	Ant1	5510	-0.68	≤11.00	PASS
11N40SISO	Ant1	5550	-0.25	≤11.00	PASS
11N40SISO	Ant1	5670	0.48	≤11.00	PASS
11N40SISO	Ant1	5755	-1.92	≤30.00	PASS
11N40SISO	Ant1	5795	-2.04	≤30.00	PASS
11AC20SISO	Ant1	5180	3.22	≤11.00	PASS
11AC20SISO	Ant1	5220	3.02	≤11.00	PASS
11AC20SISO	Ant1	5240	3.05	≤11.00	PASS
11AC20SISO	Ant1	5260	2.98	≤11.00	PASS
11AC20SISO	Ant1	5300	2.77	≤11.00	PASS
11AC20SISO	Ant1	5320	2.95	≤11.00	PASS
11AC20SISO	Ant1	5500	2.22	≤11.00	PASS
11AC20SISO	Ant1	5580	2.19	≤11.00	PASS
11AC20SISO	Ant1	5700	3.20	≤11.00	PASS
11AC20SISO	Ant1	5745	0.26	≤30.00	PASS
11AC20SISO	Ant1	5785	0.10	≤30.00	PASS
11AC20SISO	Ant1	5825	-0.26	≤30.00	PASS
11AC40SISO	Ant1	5190	0.47	≤11.00	PASS
11AC40SISO	Ant1	5230	0.29	≤11.00	PASS
11AC40SISO	Ant1	5270	-0.09	≤11.00	PASS
11AC40SISO	Ant1	5310	-0.13	≤11.00	PASS
11AC40SISO	Ant1	5510	-0.70	≤11.00	PASS
11AC40SISO	Ant1	5550	-0.36	≤11.00	PASS
11AC40SISO	Ant1	5670	0.24	≤11.00	PASS
11AC40SISO	Ant1	5755	-1.94	≤30.00	PASS
11AC40SISO	Ant1	5795	-2.45	≤30.00	PASS
11AC80SISO	Ant1	5210	-2.91	≤11.00	PASS
11AC80SISO	Ant1	5290	-3.18	≤11.00	PASS
11AC80SISO	Ant1	5530	-3.62	≤11.00	PASS
11AC80SISO	Ant1	5610	-2.99	≤11.00	PASS
11AC80SISO	Ant1	5775	-4.96	≤30.00	PASS

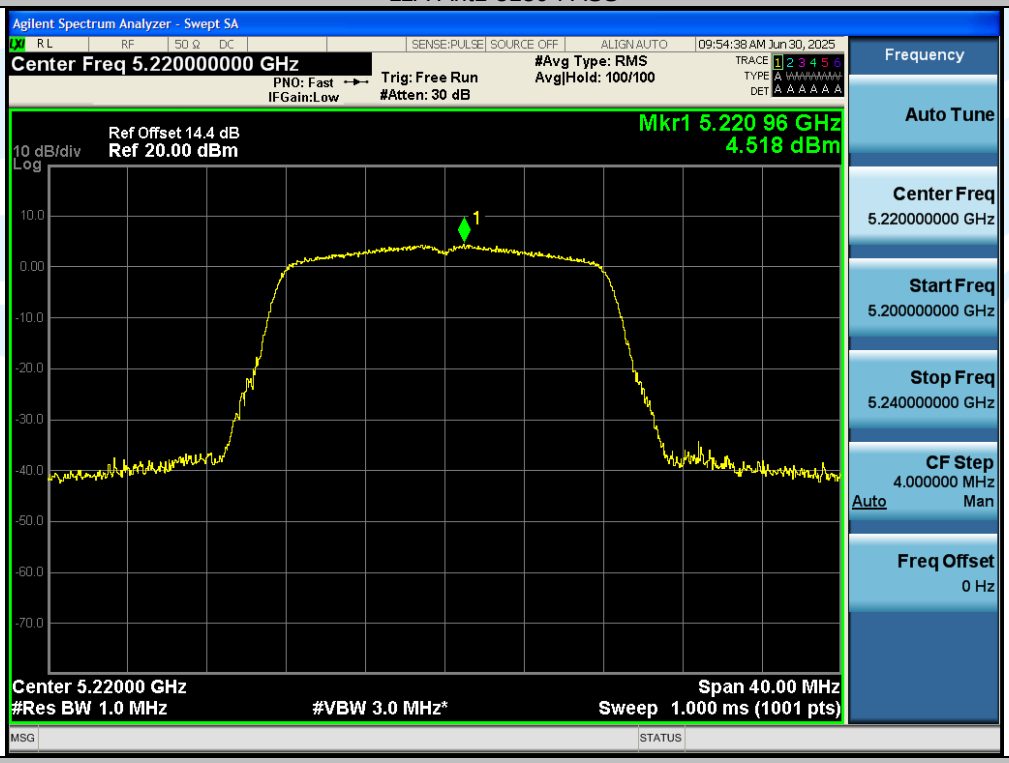
Note:

1) The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.
2) The Result for the band 5.725-5.850 GHz include the RBW Factor
3) RBW Factor= 10 log (500 kHz/RBW) Note: See 789033 D02 General U-NII Test Procedures New Rules v02r01 F.5.C
4) The all test result includes Duty Cycle Factor.

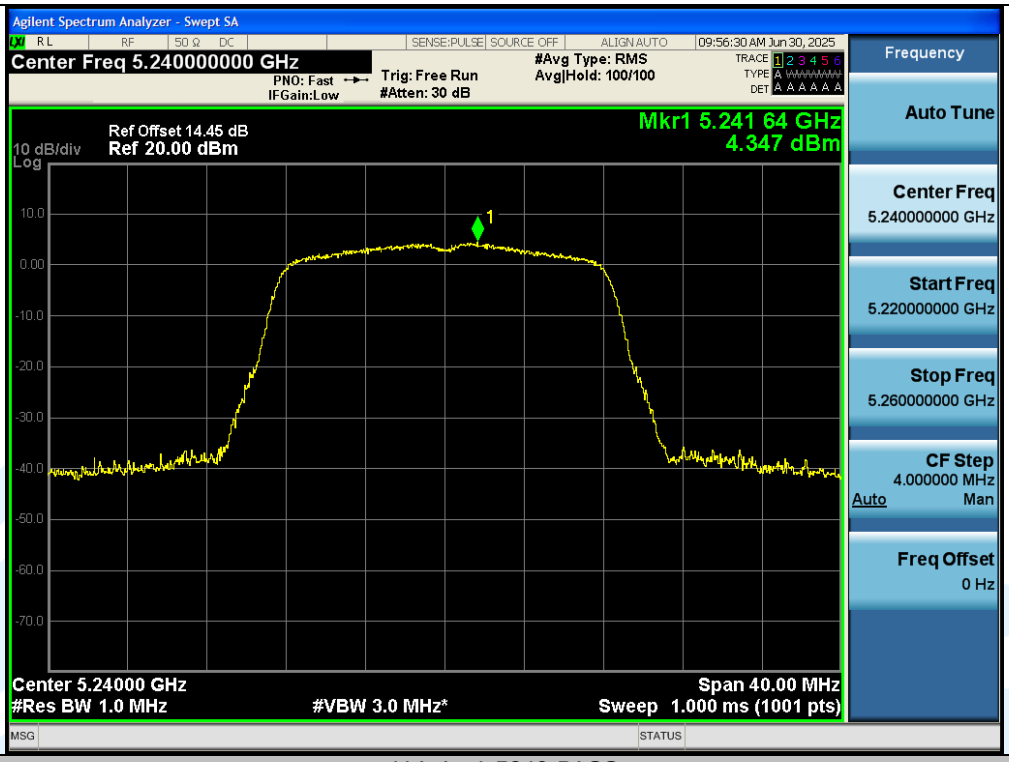
Test Graphs



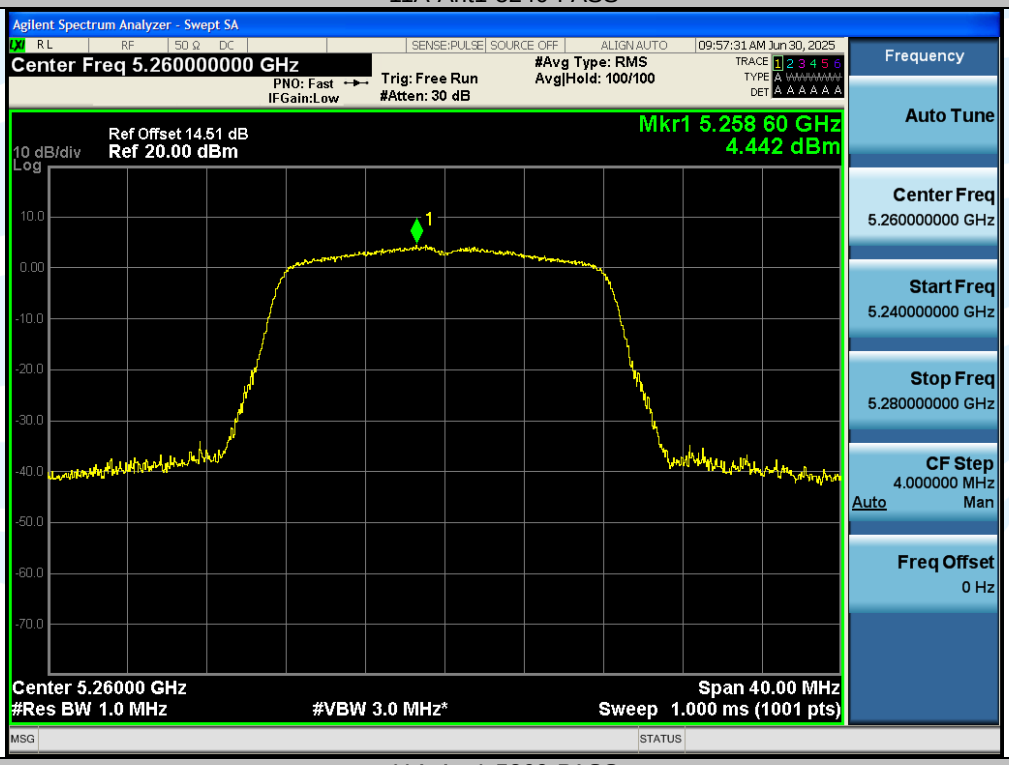
11A-Ant1-5180-PASS



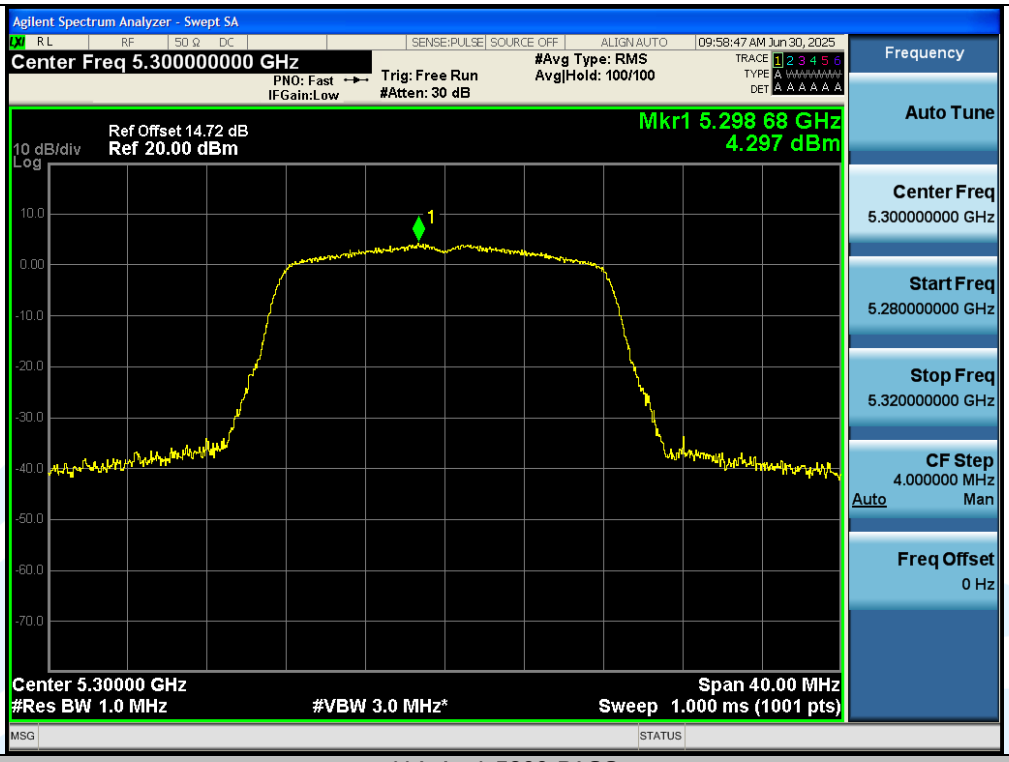
11A-Ant1-5220-PASS



11A-Ant1-5240-PASS



11A-Ant1-5260-PASS



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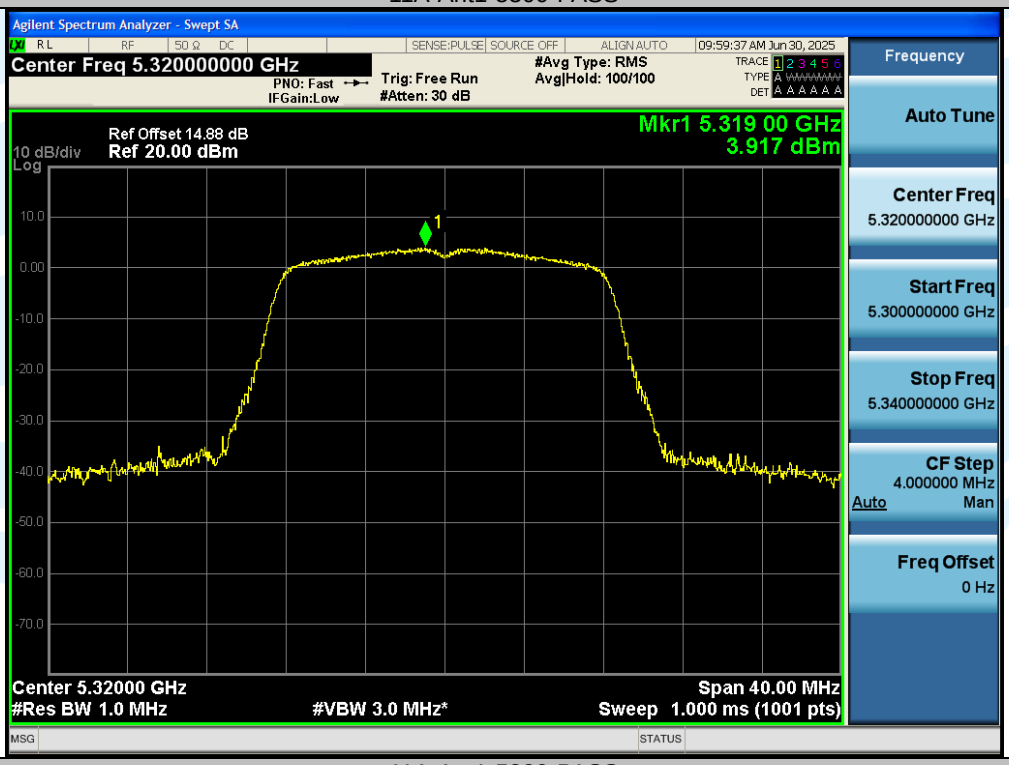

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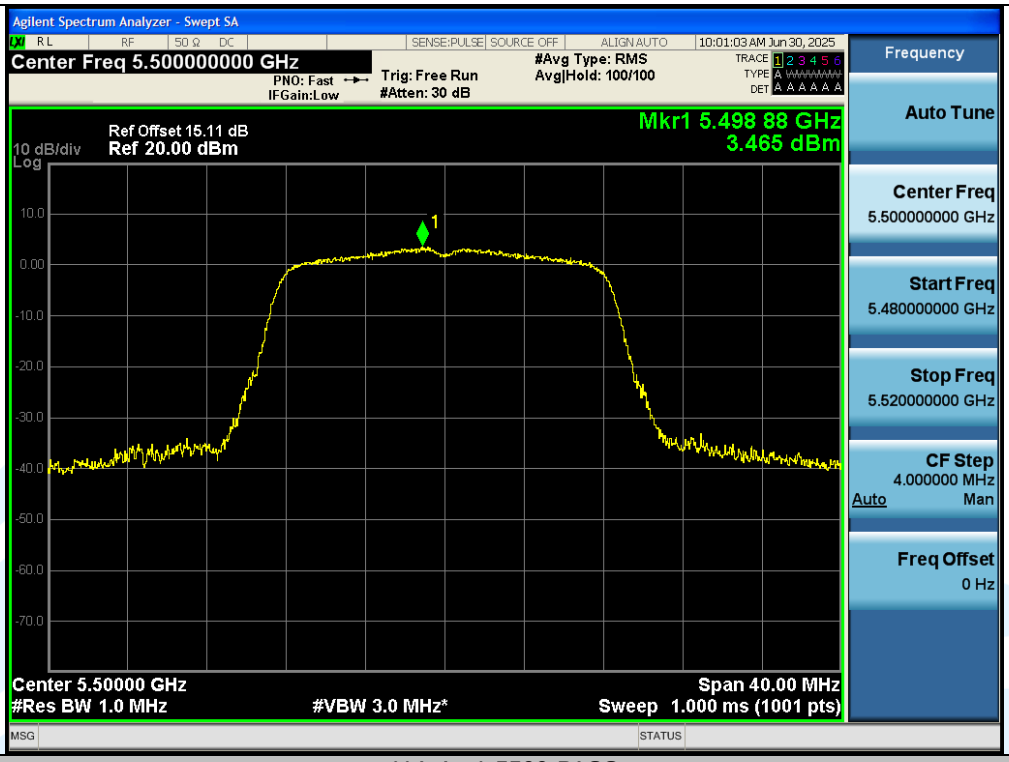

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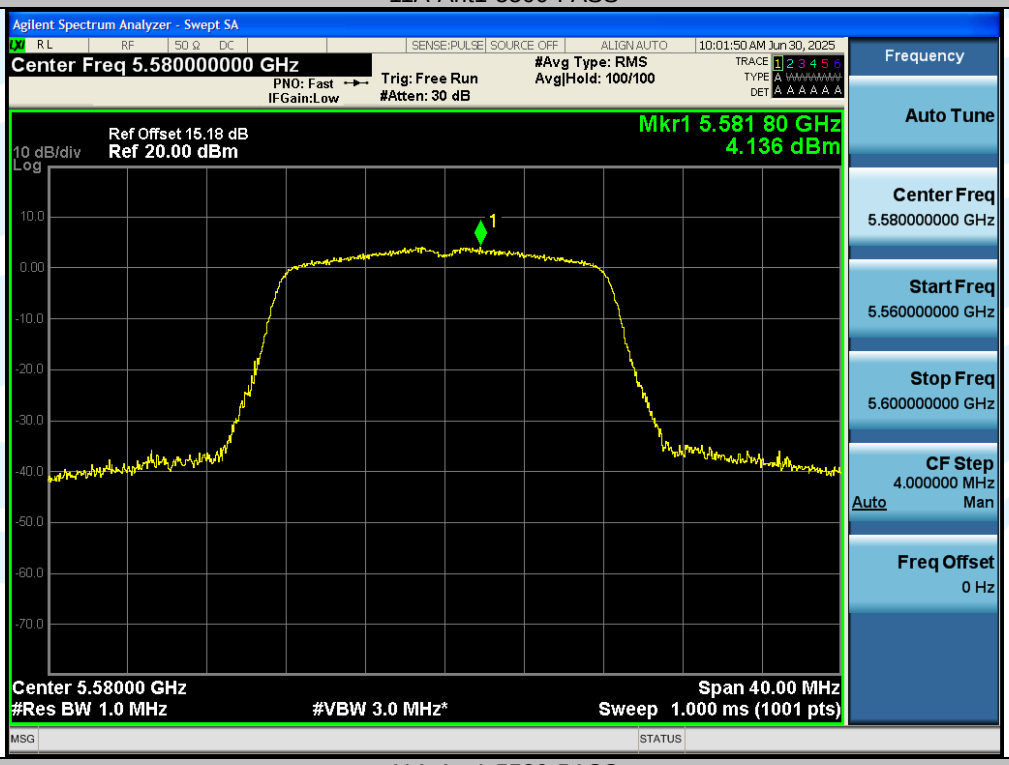

11A-Ant1-5580-PASS