

FCC RADIO TEST REPORT

FCC ID: 2BRKV-1018

Product: Stem2

Trade Mark: N/A

Model No.: 1018

Family Model: N/A

Report No.: S24101501301004

Issue Date: Oct. 31, 2025

Prepared for

AshDust UK Limited
Unit 12.1 - 12.2, 11-29 Fashion Street, LONDON, E1 6PX,
United Kingdom

Prepared by

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TEST RESULT CERTIFICATION

Applicant's name: AshDust UK Limited

Address: Unit 12.1 - 12.2, 11-29 Fashion Street, LONDON, E1 6PX, United Kingdom

Manufacturer's Name: AshDust UK Limited

Address: Unit 12.1 - 12.2, 11-29 Fashion Street, LONDON, E1 6PX, United Kingdom

Product description

Product name: Stem2

Trade Mark: N/A

Model and/or type reference : 1018

Family Model: N/A

Test Sample Number: S241015013001

Date of Test: Oct. 24, 2024 ~ Oct. 31, 2025

Standards: FCC Part15.407

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

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

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Revision History

Report No.	Version	Description	Issued Date
S24101501301004	Rev.01	Initial issue of report	Oct. 31, 2025

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 (15.407) , Subpart E			
Standard Section	Test Item	Judgment	Remark
15.207	AC Power Line Conducted Emissions	PASS	
15.209(a), 15.407 (b)(1) 15.407 (b)(4)	Spurious Radiated Emissions	PASS	
15.407 (a)(1) 15.407 (a)(3)	26 dB and 99% Emission Bandwidth	PASS	
15.407(e)	Minimum 6 dB bandwidth	PASS	
15.407 (a)(1) 15.407 (a)(3)	Maximum Conducted Output Power	PASS	
15.407(b)(1) 15.407(b)(4)	Band Edge	PASS	
15.407 (a)(1) 15.407 (a)(3)	Power Spectral Density	PASS	
15.407(b)	Spurious Emissions at Antenna Terminals	PASS	
15.203	Antenna Requirement	PASS	
15.407(c)	Automatically discontinue transmission	PASS	

NOTE:

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

1.1 FACILITIES AND ACCREDITATIONS

FACILITIES

All measurement facilities used to collect the measurement data are located at No. 24 Xinfu East Road, Xiangshan Community, Xinqiao Street, Baoan District, Shenzhen, Guangdong, People's Republic of China.

LABORATORY ACCREDITATIONS AND LISTINGS

Site Description

CNAS-Lab. : The Certificate Registration Number is L5516.

IC-Registration The Certificate Registration Number is 9270A.
CAB identifier:CN0074

FCC- Accredited Test Firm Registration Number: 463705.
Designation Number: CN1184

A2LA-Lab. The Certificate Registration Number is 4298.01
This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009).

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

No.	Item	Uncertainty
1	Conducted Emission Test	$\pm 3.70\text{dB}$
2	RF power, conducted	$\pm 0.9\text{dB}$
3	Spurious emissions, conducted	$\pm 2.2\text{dB}$
4	All emissions, radiated(<1G)	$\pm 4.9\text{dB}$
5	All emissions, radiated(>1G)	$\pm 5.1\text{dB}$
6	Temperature	$\pm 0.5^\circ\text{C}$
7	Humidity	$\pm 2\%$
8	Occupied bandwidth	$\pm 1.15\%$
9	Time	$\pm 0.01\%$

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Stem2	
Trade Mark	N/A	
FCC ID	2BRKV-1018	
Model Name	1018	
Family Model	N/A	
Model Difference	N/A	
Product Description	IEEE 802.11 WLAN Mode Supported	☒ 802.11a/n (20MHz channel bandwidth) ☒ 802.11n (40MHz channel bandwidth)
	Modulation	OFDM with BPSK/QPSK/16QAM/64QAM/256QAM for 802.11a/n;
	Operating Frequency Range	☒ 5180-5240MHz for 802.11a/n(HT20); 5190-5230MHz for 802.11n(HT40); ☒ 5745-5825 MHz for 802.11a/n(HT20); 5755-5795 MHz for 802.11n(HT40);
	Number of Channels	☒ 4 channels for 802.11a/n20 in the 5180-5240MHz band ; 2 channels for 802.11 n40 in the 5190-5230MHz band ; ☒ 5 channels for 802.11a/n20 in the 5745-5825MHz band ; 2 channels for 802.11 n40 in the 5755-5795MHz band ;
	Antenna Type	PIFA Antenna
	Antenna Gain	3.5 dBi
	Based on the application, features, or specification exhibited in User's Manual, More details of EUT technical specification, please refer to the User's Manual.	
Adapter	N/A	
Battery	DC 7.3V, 6600mAh	
Power supply	DC 7.3V from battery or DC 5V from Type-C port	
Connecting I/O Port(s)	Please refer to the User's Manual	
HW Version	N/A	
FW Version	N/A	
SW Version	N/A	

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
2. Frequency and Channel list for 802.11a/n(20MHz) band I (5180-5240MHz):

802.11a/n(20MHz) Carrier Frequency Channel							
Channel	Frequen cy (MHz)	Channel	Frequen cy z(MHz)	Channel	Frequen cy (MHz)	Channel	Frequen cy (MHz)
36	5180	44	5220	-	-	-	-
40	5200	48	5240	-	-	-	-

Frequency and Channel list for 802.11n(40MHz) band I (5190-5230MHz):

802.11n(40MHz) Carrier Frequency Channel							
Channel	Frequen cy (MHz)	Channel	Frequen cy (MHz)	Channel	Frequen cy (MHz)	Channel	Frequen cy (MHz)
38	5190	-	-	-	-	-	-
46	5230	-	-	-	-	-	-

Frequency and Channel list for 802.11a/n(20 MHz) band IV (5745-5825MHz):

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

Frequency and Channel list for 802.11n(40MHz) band IV (5755-5795MHz):

802.11n(40MHz) Carrier Frequency Channel					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
151	5755	159	5795	-	-

2.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	Normal Link Mode
Mode 2	802.11a / n 20 CH36/ CH40/ CH 48 802.11a / n 20 CH149/ CH157/ CH 165
Mode 3	802.11n40 CH38/ CH 46 802.11n 40 CH 151 / CH 159

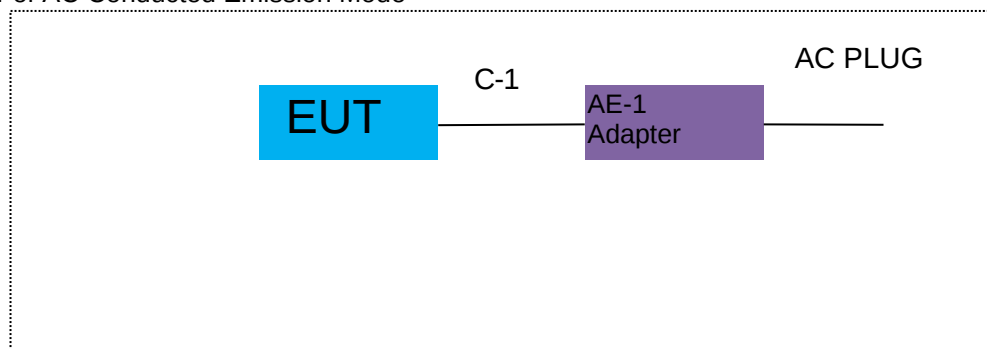
For Radiated Emission	
Final Test Mode	Description
Mode 1	Normal Link Mode
Mode 2	802.11a / n 20 CH36/ CH40/ CH 48 802.11a / n 20 CH149/ CH157/ CH 165
Mode 3	802.11n40 CH38/ CH 46 802.11n 40 CH 151 / CH 159

Note:

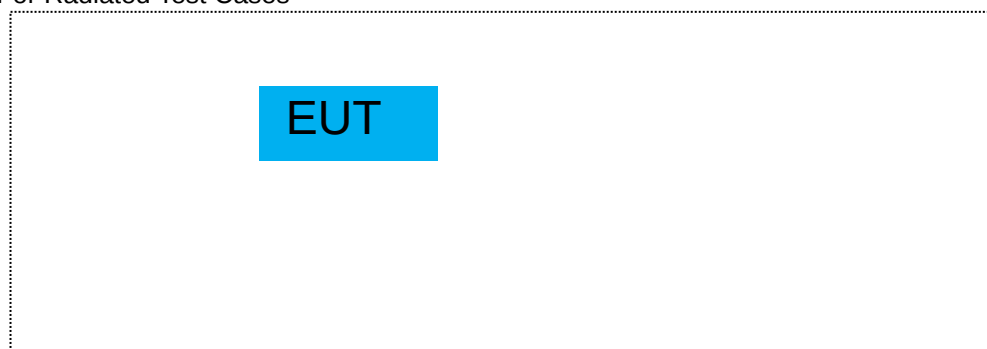
- (1) The measurements are performed at the highest, middle, lowest available channels.
- (2) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported

2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

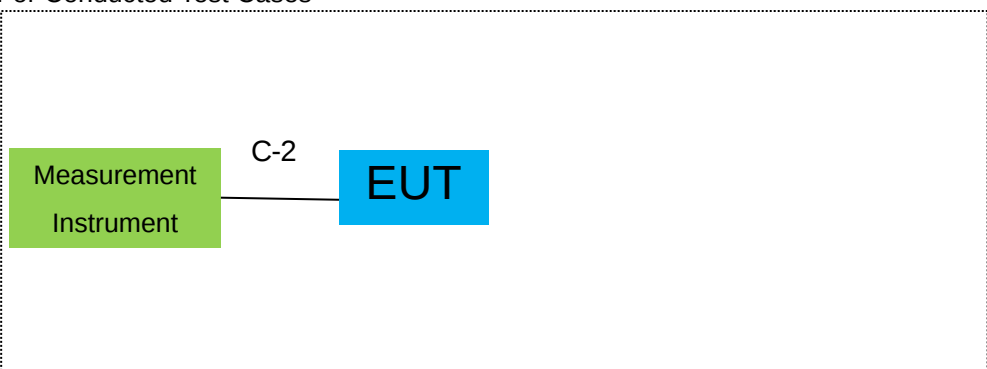
For AC Conducted Emission Mode



For Radiated Test Cases



For Conducted Test Cases



Note:1.The temporary antenna connector is soldered on the PCB board in order to perform conducted tests and this temporary antenna connector is listed in the equipment list.
 2.EUT built-in battery-powered, the battery is fully-charged.

2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Model/Type No.	Series No.	Note
AE-1	Adapter	N/A	N/A	Peripherals

Item	Cable Type	Shielded Type	Ferrite Core	Length
C-1	USB Cable	YES	NO	1.0m
C-2	RF Cable	YES	NO	0.1m

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.

2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation& Conducted Test equipment

	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Spectrum Analyzer	Agilent	E4440A	MY41000130	2024.04.26 2025.04.24	2025.04.25 2026.04.23	1 year
2	Spectrum Analyzer	Keysight	N9020A	MY53280244	2024.04.26 2025.04.16	2025.04.25 2026.04.15	1 year
3	Spectrum Analyzer	R&S	FSV40	101417	2024.04.26 2025.04.17	2025.04.25 2026.04.16	1 year
4	Test Receiver	R&S	ESPI3	101417	2024.07.25 2025.07.23	2025.07.24 2026.07.22	1 year
5	Log-Periodic Antenna	SCHWARZBECK	VULB 9162	675	2024.05.01 2025.04.29	2025.04.30 2026.04.28	1 year
6	50Ω Coaxial Switch	Anritsu	MP59B	6200983705	2024.04.26	2027.04.25	3 year
7	Broadband Horn Antenna	SCHWARZBECK	BBHA 9120 D	2817	2024.05.12	2027.05.11	3 year
8	Broadband Horn Antenna	SCHWARZBECK	BBHA 9120 D	2816	2024.05.18	2027.05.17	3 year
9	Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	803	2024.05.12	2027.05.11	3 year
10	Low Noise Amplifier	Agilent	8449B	30008A01520	2024.04.26 2025.04.16	2025.04.25 2026.04.15	1 year
11	Low Noise Amplifier	EMC	EMC051835SE	980246	2024.04.26 2025.04.17	2025.04.25 2026.04.16	1 year
12	Low Noise Amplifier	B&Z	BZ-P540-55085 0-452727	16476-11729	2024.04.26 2025.04.17	2025.04.25 2026.04.16	1 year
13	Active Loop Antenna	SCHWARZBECK	FMZB 1519 B	055	2024.05.17	2027.05.16	3 year
14	Power Meter	DARE	RPR3006W	15I00041SNO 84	2024.04.26 2025.04.17	2025.04.25 2026.04.16	1 year
15	Test Cable	Talent Microwave	A40-2/92M2/92 M-2M	22084903	2024.04.25	2027.04.24	3 year
16	Test Cable	Talent Microwave	A81-SMAMSMA M-2M	22084900	2024.04.26	2027.04.25	3 year
17	Test Cable	Talent Microwave	A81-SMAMSMA M-8.5M	22084899	2024.04.26	2027.04.25	3 year
18	Filter	micro-tronics	BRM50716	G224	2024.04.26	2027.04.25	3 year
19	temporary antenna connector (Note)	NTS	R001	N/A	N/A	N/A	N/A
20	Spectrum Analyzer	Keysight	N9020B	MY60112710	2024.01.04 2025.01.02	2025.01.03 2026.01.01	1 year

Note:

We will use the temporary antenna connector (soldered on the PCB board) When conducted test
And this temporary antenna connector is listed within the instrument list

AC Conduction Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Test Receiver	R&S	ESCI	101160	2024.04.26 2025.04.17	2025.04.25 2026.04.16	1 year
2	LISN	R&S	ENV216	101313	2024.04.26 2025.04.16	2025.04.25 2026.04.15	1 year
3	LISN	R&S	ENV216	101490	2024.04.26 2025.04.16	2025.04.25 2026.04.15	1 year
4	50Ω Coaxial Switch	ANRITSU CORP	MP59B	6200983704	2024.04.26	2027.04.25	3 year
5	Test Cable	N/A	R-03	N/A	2024.04.25	2027.04.24	3 year

Note: Each piece of equipment is scheduled for calibration once a year except the Test Cable& Aux Equipment which is scheduled for calibration every 3 years.

Measurement Software

Item	Manufacturer	Software Name	Software Version	Description
1	MWRFtest	MTS 8310 2.4GHz/5GHz	2.0	RF Conducted Test
2	Farad	EZ-EMC_RE	AIT-03A	RadiatedTest
3	Farad	EZ-EMC_CE	AIT-03A	AC Conducted Test

3. TEST REQUIREMENTS

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 APPLICABLE STANDARD

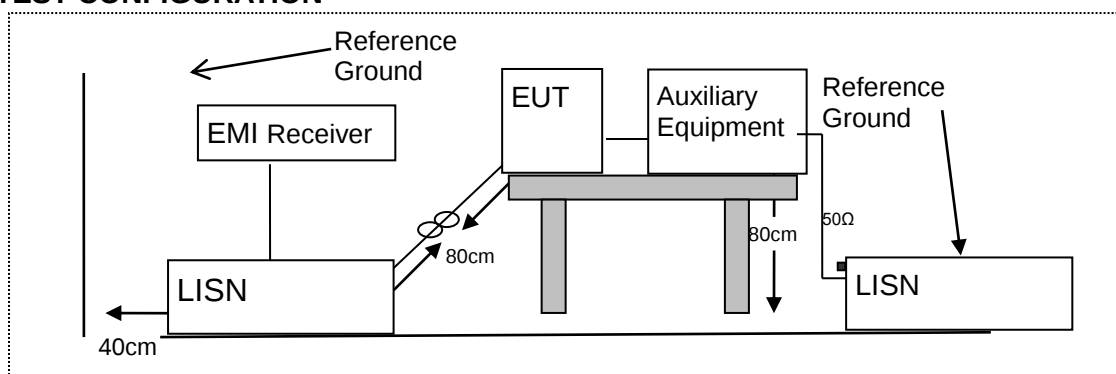
According to FCC Part 15.207(a)

3.1.2 CONFORMANCE LIMIT

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

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

3.1.3 TEST CONFIGURATION



3.1.4 TEST PROCEDURE

According to the requirements in Section 6.2 of ANSI C63.10-2020 Conducted emissions the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode.

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room.
2. The EUT was placed on a table which is 0.8m above ground plane.
3. Connect EUT to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
4. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40cm long.
5. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
6. LISN at least 80 cm from nearest part of EUT chassis.
7. The frequency range from 150KHz to 30MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth(IF bandwidth=9KHz) with Maximum Hold Mode
9. For the actual test configuration, please refer to the related Item –EUT Test Photos.

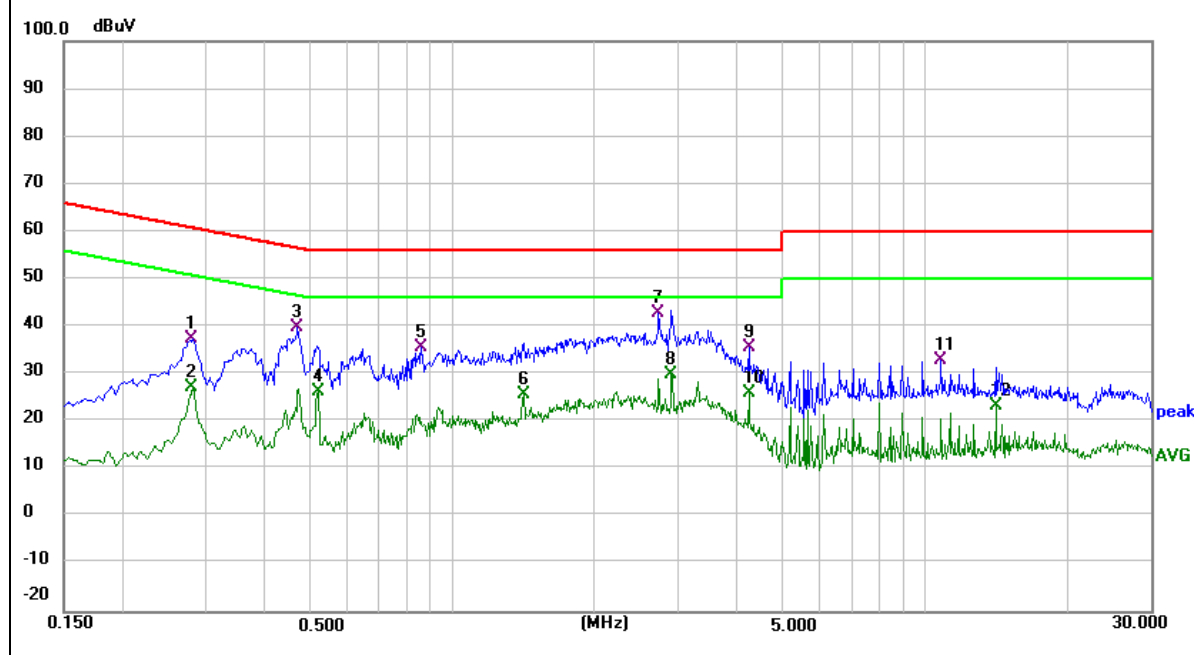
3.1.5 TEST RESULTS

EUT :	Stem2	Model Name :	1018
Temperature :	22°C	Relative Humidity :	57%
Pressure :	1010hPa	Phase :	L
Test Voltage :	DC 5V from Adapter AC 120V/60Hz	Test Mode :	Mode 1(5.2G)

Frequency (MHz)	Reading Level (dBμV)	Correct Factor (dB)	Measure-ment (dBμV)	Limits (dBμV)	Margin (dB)	Remark
0.2819	27.13	10.25	37.38	60.76	-23.38	QP
0.2819	16.91	10.25	27.16	50.76	-23.60	AVG
0.4700	29.11	10.63	39.74	56.51	-16.77	QP
0.5181	15.57	10.72	26.29	46.00	-19.71	AVG
0.8580	24.17	11.45	35.62	56.00	-20.38	QP
1.4140	13.28	12.58	25.86	46.00	-20.14	AVG
2.7340	32.99	9.86	42.85	56.00	-13.15	QP
2.9140	20.08	9.87	29.95	46.00	-16.05	AVG
4.2340	25.69	10.02	35.71	56.00	-20.29	QP
4.2340	16.05	10.02	26.07	46.00	-19.93	AVG
10.8139	32.72	0.22	32.94	60.00	-27.06	QP
14.1100	11.60	11.67	23.27	50.00	-26.73	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

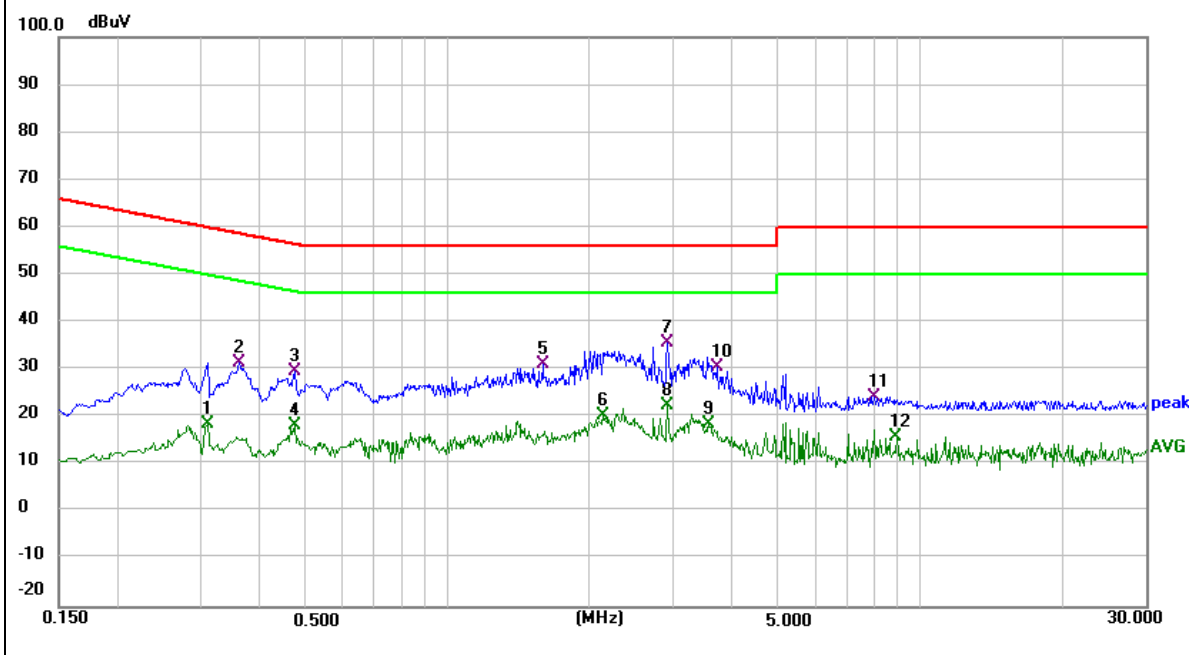


EUT :	Stem2	Model Name :	1018
Temperature :	22℃	Relative Humidity :	57%
Pressure :	1010hPa	Phase :	N
Test Voltage :	DC 5V from Adapter AC 120V/60Hz	Test Mode :	Mode 1(5.2G)

Frequency (MHz)	Reading Level (dBμV)	Correct Factor (dB)	Measure-ment (dBμV)	Limits (dBμV)	Margin (dB)	Remark
0.3100	8.72	9.72	18.44	49.97	-31.53	AVG
0.3620	21.51	9.80	31.31	58.68	-27.37	QP
0.4740	19.73	9.94	29.67	56.44	-26.77	QP
0.4740	8.16	9.94	18.10	46.44	-28.34	AVG
1.5900	18.90	12.22	31.12	56.00	-24.88	QP
2.1260	11.20	9.07	20.27	46.00	-25.73	AVG
2.9260	26.65	9.13	35.78	56.00	-20.22	QP
2.9260	13.33	9.13	22.46	46.00	-23.54	AVG
3.5820	9.36	9.20	18.56	46.00	-27.44	AVG
3.7100	21.43	9.21	30.64	56.00	-25.36	QP
7.9977	14.56	9.75	24.31	60.00	-35.69	QP
8.9379	5.90	9.91	15.81	50.00	-34.19	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

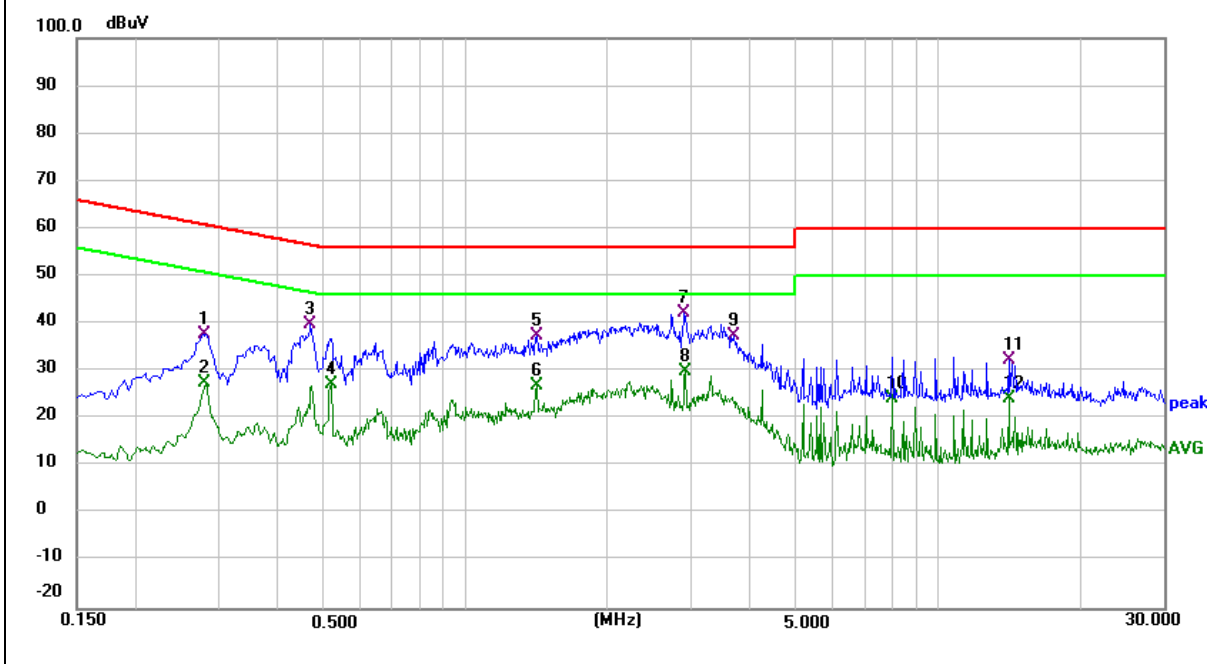


EUT :	Stem2	Model Name :	1018
Temperature :	22 °C	Relative Humidity :	57%
Pressure :	1010hPa	Phase :	L
Test Voltage :	DC 5V from Adapter AC 120V/60Hz	Test Mode :	Mode 1(5.8G)

Frequency (MHz)	Reading Level (dBμV)	Correct Factor (dB)	Measure-ment (dBμV)	Limits (dBμV)	Margin (dB)	Remark
0.2819	27.63	10.25	37.88	60.76	-22.88	QP
0.2819	17.41	10.25	27.66	50.76	-23.10	AVG
0.4700	29.11	10.63	39.74	56.51	-16.77	QP
0.5181	16.57	10.72	27.29	46.00	-18.71	AVG
1.4140	24.96	12.58	37.54	56.00	-18.46	QP
1.4140	14.28	12.58	26.86	46.00	-19.14	AVG
2.9140	32.49	9.87	42.36	56.00	-13.64	QP
2.9180	19.98	9.88	29.86	46.00	-16.14	AVG
3.6900	27.63	9.96	37.59	56.00	-18.41	QP
7.9980	13.85	10.55	24.40	50.00	-25.60	AVG
14.1100	20.70	11.67	32.37	60.00	-27.63	QP
14.1100	12.60	11.67	24.27	50.00	-25.73	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

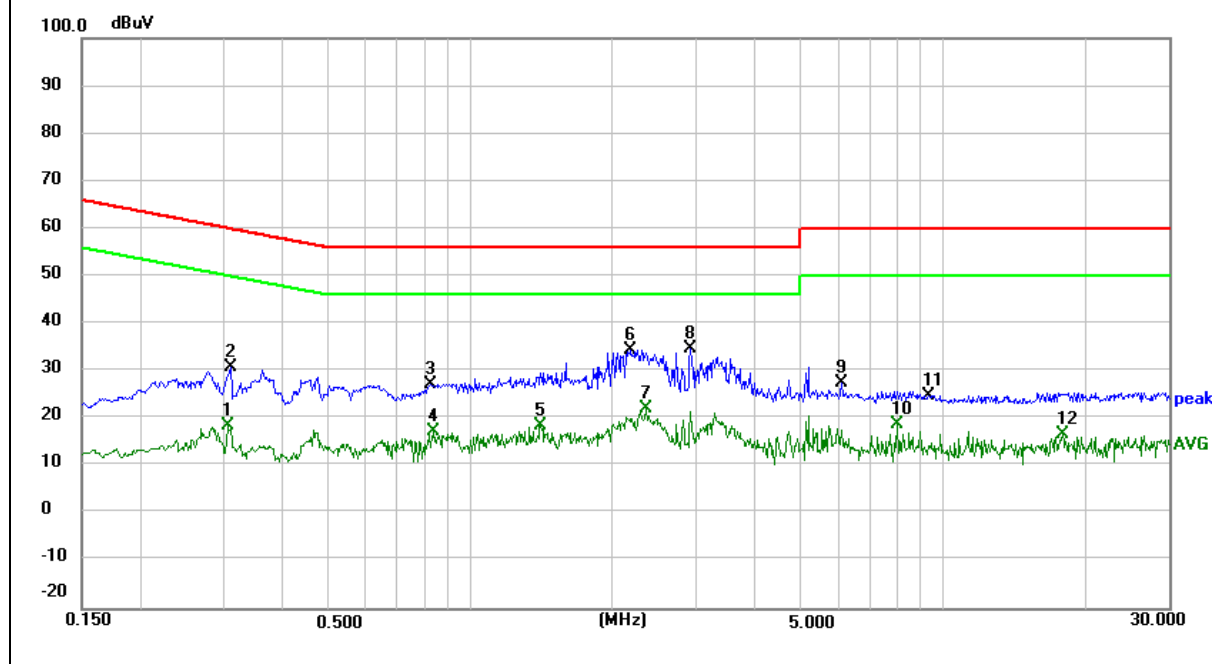


EUT :	Stem2	Model Name :	1018
Temperature :	22 °C	Relative Humidity :	57%
Pressure :	1010hPa	Phase :	N
Test Voltage :	DC 5V from Adapter AC 120V/60Hz	Test Mode :	Mode 1(5.8G)

Frequency (MHz)	Reading Level (dBμV)	Correct Factor (dB)	Measure-ment (dBμV)	Limits (dBμV)	Margin (dB)	Remark
0.3060	8.80	9.72	18.52	50.08	-31.56	AVG
0.3100	21.18	9.72	30.90	59.97	-29.07	QP
0.8220	16.73	10.64	27.37	56.00	-28.63	QP
0.8380	6.65	10.68	17.33	46.00	-28.67	AVG
1.4100	6.66	11.85	18.51	46.00	-27.49	AVG
2.1860	25.39	9.07	34.46	56.00	-21.54	QP
2.3540	13.17	9.08	22.25	46.00	-23.75	AVG
2.9260	25.65	9.13	34.78	56.00	-21.22	QP
6.1140	17.97	9.48	27.45	60.00	-32.55	QP
7.9977	9.20	9.75	18.95	50.00	-31.05	AVG
9.3260	15.02	9.97	24.99	60.00	-35.01	QP
17.8658	5.14	11.56	16.70	50.00	-33.30	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.



3.2 RADIATED EMISSION MEASUREMENT

3.2.1 APPLICABLE STANDARD

According to FCC Part 15.407(b) and 15.209

3.2.2 CONFORMANCE LIMIT

According to FCC Part 15.407(b)(7): radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

According to FCC Part 15.205, Restricted bands

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(2)
13.36-13.41			

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Restricted Frequency(MHz)	Field Strength (μV/m)	Field Strength (dBμV/m)	Measurement Distance
0.009-0.490	2400/F(KHz)	20 log (uV/m)	300
0.490-1.705	24000/F(KHz)	20 log (uV/m)	30
1.705-30.0	30	29.5	30
30-88	100	40	3
88-216	150	43.5	3
216-960	200	46	3
Above 960	500	54	3

Limits of Radiated Emission Measurement(Above 1000MHz)

Frequency(MHz)	Class B (dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

Remark :1. Emission level in dBuV/m=20 log (uV/m)

2. Measurement was performed at an antenna to the closed point of EUT distance of meters.

3. For Frequency 9kHz~30MHz:

Distance extrapolation factor =40log(Specific distance/ test distance)(dB);

Limit line=Specific limits(dBuV) + distance extrapolation factor.

For Frequency above 30MHz:

Distance extrapolation factor =20log(Specific distance/ test distance)(dB);

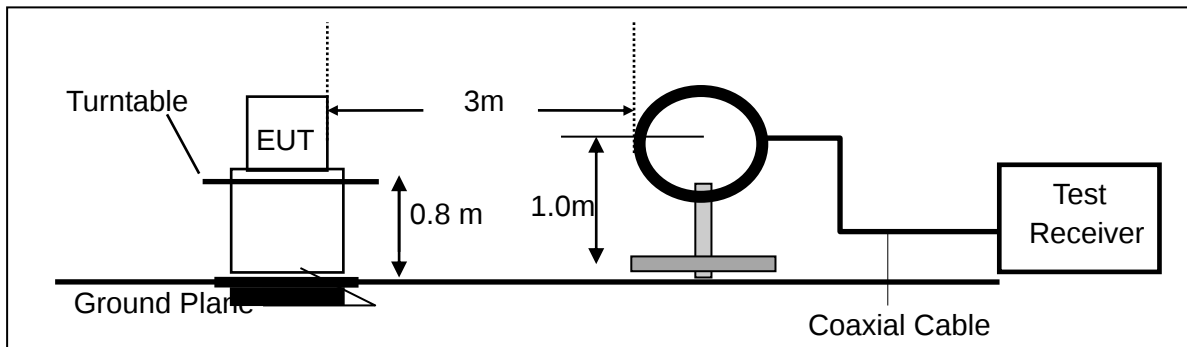
Limit line=Specific limits(dBuV) + distance extrapolation factor.

3.2.3 MEASURING INSTRUMENTS

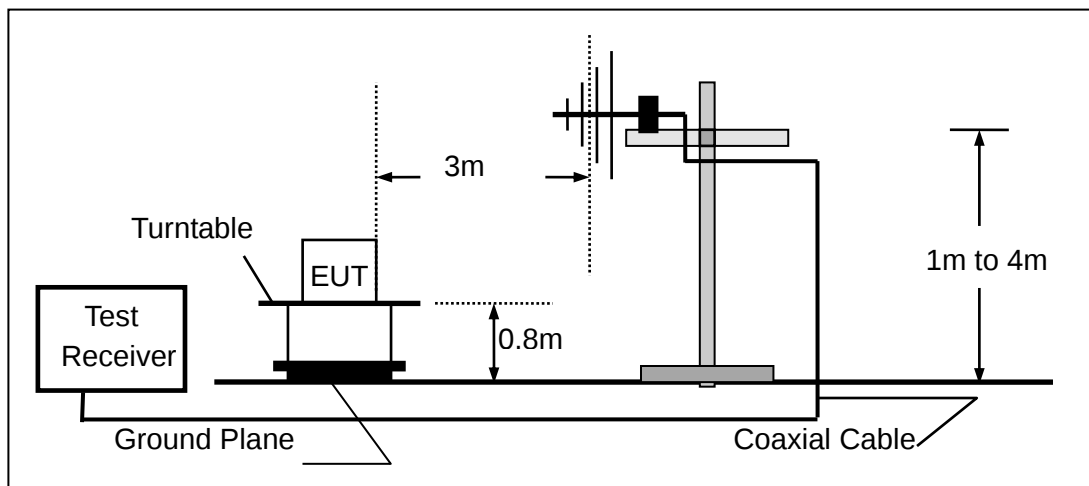
The Measuring equipment is listed in the section 2.5 of this test report.

3.2.4 TEST CONFIGURATION

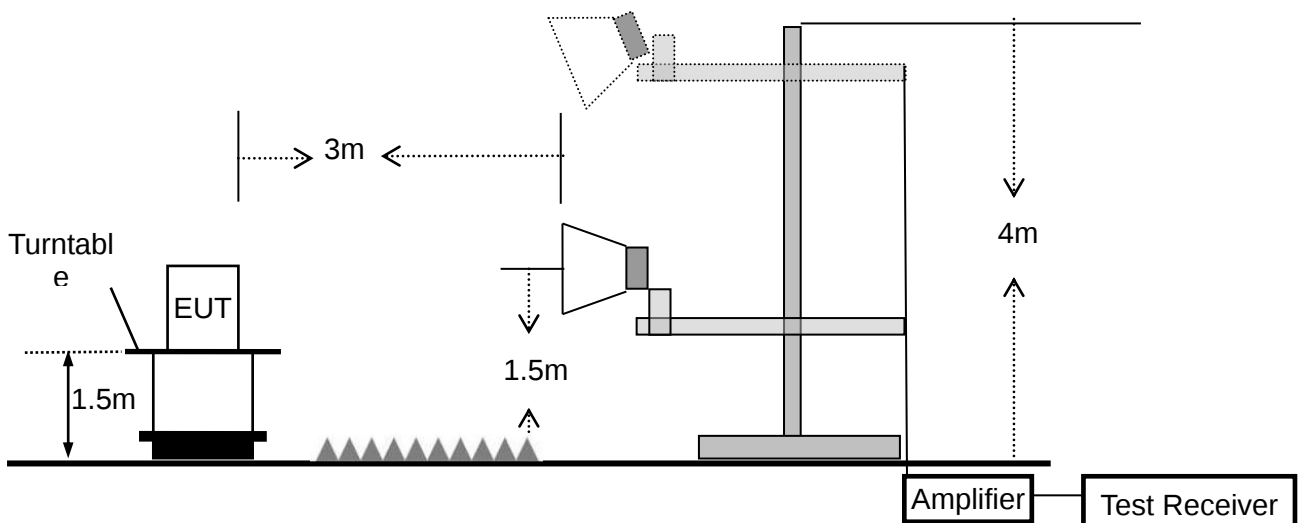
(a) For radiated emissions below 30MHz



(b) For radiated emissions from 30MHz to 1000MHz



(c) For radiated emissions above 1000MHz



3.2.5 TEST PROCEDURE

According to the requirements in Section 6.3, 6.5, 6.6, 6.10.5 and 11.12 of ANSI C63.10-2020

From 30 MHz to 1GHz test procedure as below:

- 1) The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3-meter semi-anechoic chamber. 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 antenna height 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 (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

Above 1GHz test procedure as below:

- 1) Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber and change form table 0.8 meter to 1.5 meter.
- 2) Test the EUT in the lowest channel, middle channel, the highest channel
- 3) The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and test the worst-case axis positioning.
- 4) Repeat above procedures until all frequencies measured was complete.

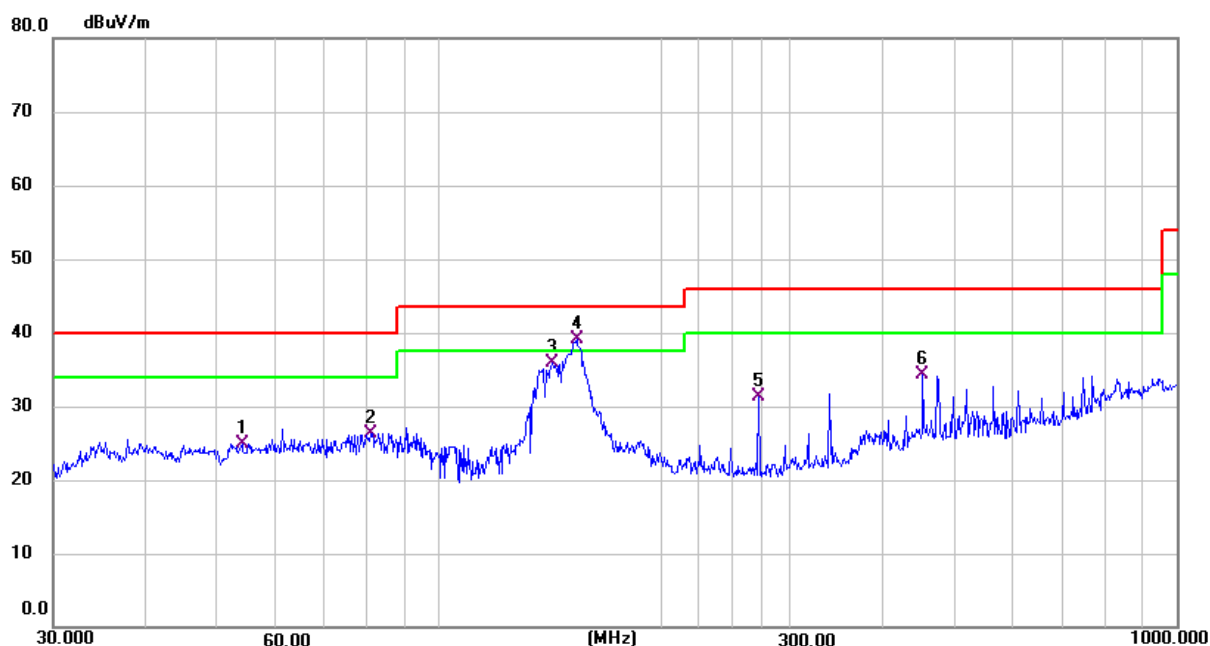
3.2.7 TEST RESULTS (30MHz – 1GHz)

EUT :	Stem2	Model Name. :	1018
Temperature :	25℃	Relative Humidity :	55%
Pressure :	1010 hPa	Test Voltage :	DC 7.3V
Test Mode :	Mode2 (5.2G)- 802.11n20(Low CH)		

Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
V	54.0710	5.39	19.58	24.97	40.00	-15.03	QP
V	80.9274	12.08	14.28	26.36	40.00	-13.64	QP
V	142.3240	21.59	14.26	35.85	43.50	-7.65	QP
V	153.7384	24.47	14.54	39.01	43.50	-4.49	QP
V	271.3245	12.26	19.07	31.33	46.00	-14.67	QP
V	452.7196	11.16	23.19	34.35	46.00	-11.65	QP

Remark:

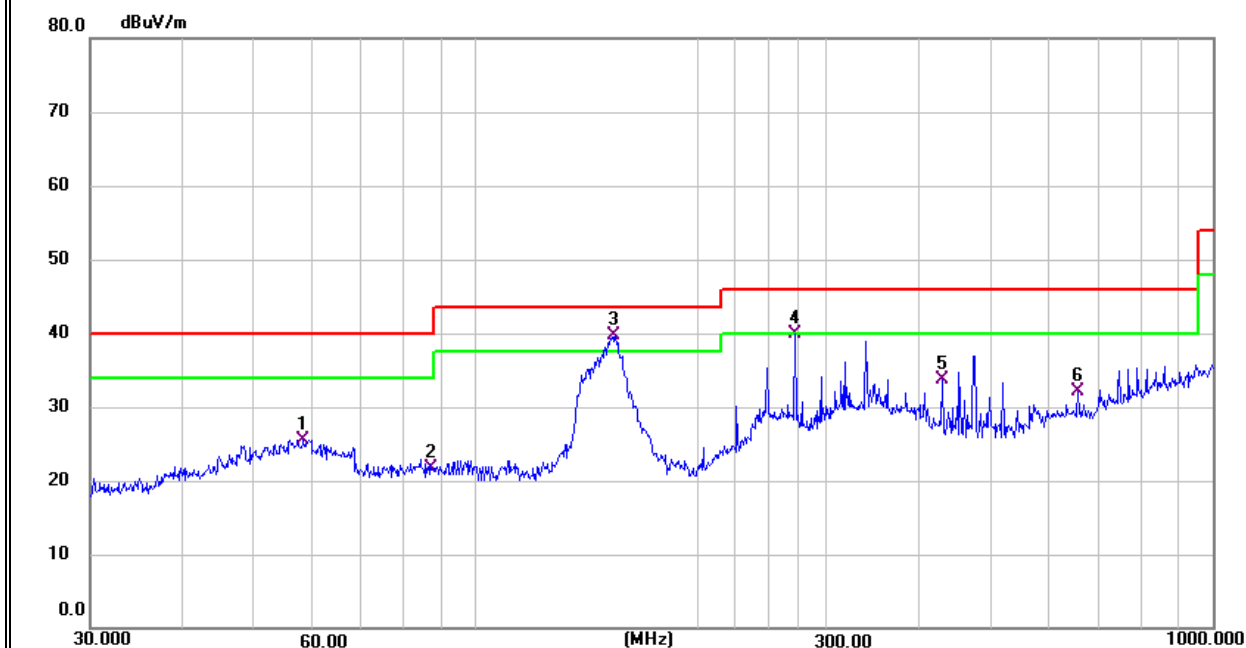
Emission Level = Meter Reading + Factor, Margin= Emission Level - Limit



Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
H	58.4074	6.12	19.33	25.45	40.00	-14.55	QP
H	87.1115	6.91	14.76	21.67	40.00	-18.33	QP
H	154.8204	25.00	14.67	39.67	43.50	-3.83	QP
H	271.3245	20.90	19.07	39.97	46.00	-6.03	QP
H	429.5228	10.86	22.80	33.66	46.00	-12.34	QP
H	656.5300	5.50	26.57	32.07	46.00	-13.93	QP

Remark:

Emission Level = Meter Reading + Factor, Margin= Emission Level - Limit



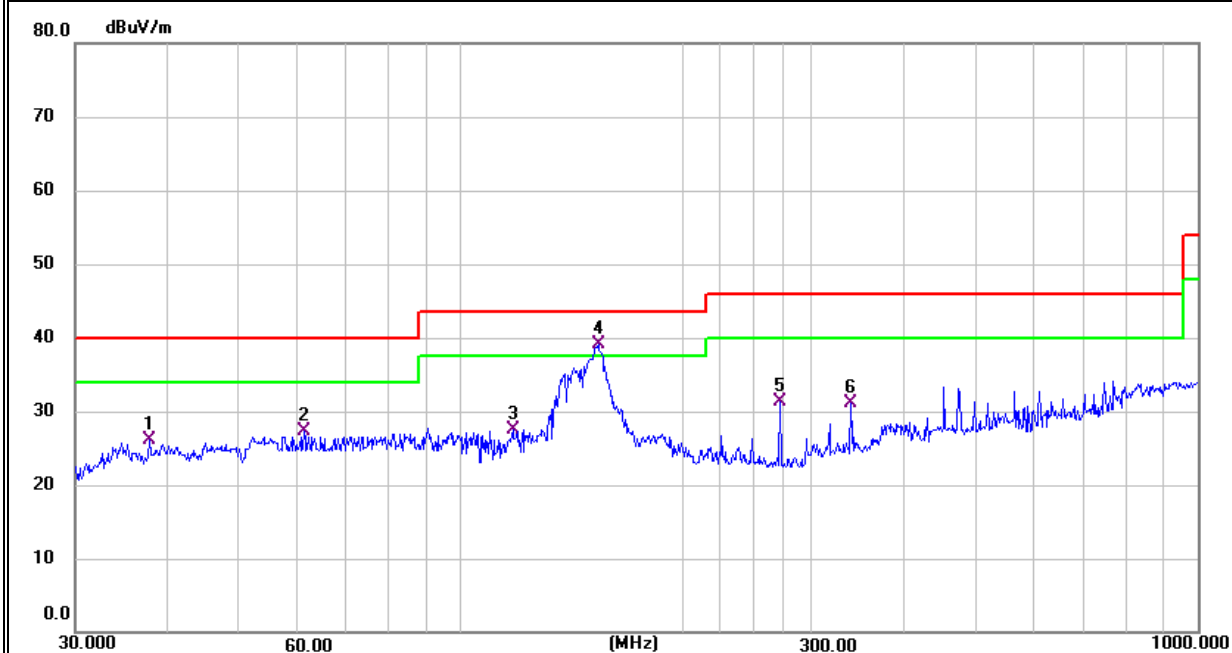
Note: Other emissions are attenuated more than 20dB below the permissible limits, so it does not recorded in the report.

EUT :	Stem2	Model Name. :	1018
Temperature :	25°C	Relative Humidity :	55%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	Mode2 (5.8G)- 802.11a(Low CH)		

Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
V	37.8121	7.76	18.25	26.01	40.00	-13.99	QP
V	61.3462	8.81	18.49	27.30	40.00	-12.70	QP
V	117.7724	10.40	17.01	27.41	43.50	-16.09	QP
V	153.7384	24.47	14.54	39.01	43.50	-4.49	QP
V	271.3245	12.26	19.07	31.33	46.00	-14.67	QP
V	338.4000	10.19	20.92	31.11	46.00	-14.89	QP

Remark:

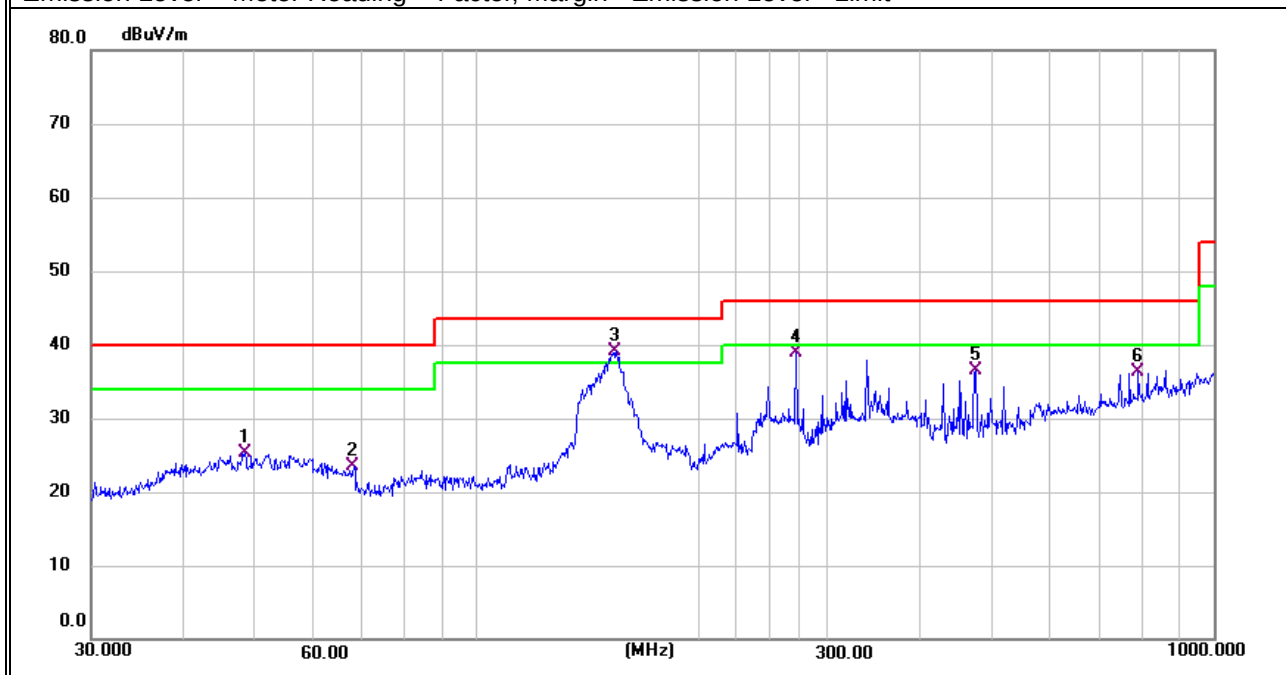
Emission Level = Meter Reading + Factor, Margin= Emission Level - Limit



Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
H	48.5015	5.55	19.69	25.24	40.00	-14.76	QP
H	68.1512	6.14	17.29	23.43	40.00	-16.57	QP
H	154.8204	24.50	14.67	39.17	43.50	-4.33	QP
H	271.3245	19.90	19.07	38.97	46.00	-7.03	QP
H	475.4990	12.28	24.20	36.48	46.00	-9.52	QP
H	790.6186	7.49	28.75	36.24	46.00	-9.76	QP

Remark:

Emission Level = Meter Reading + Factor, Margin= Emission Level - Limit



Note: Other emissions are attenuated more than 20dB below the permissible limits, so it does not recorded in the report.

3.2.8 TEST RESULTS (1GHz-18GHz)

EUT :	Stem2	Model Name. :	1018
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 7.3V
Test Mode :	Mode2 (5.2G)	Test By:	Harry Huang

Polar	Frequency	Meter Reading	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Detector Type
(H/V)	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5180 MHz)-Above 1G									
Vertical	3694.61	62.17	5.94	35.4	44	59.51	74	-14.49	Pk
Vertical	3694.74	43.09	5.94	35.4	44	40.43	54	-13.57	AV
Vertical	10360.5	59.05	8.46	39.75	44.5	62.76	68.2	-5.44	Pk
Vertical	15541.05	61.37	10.12	38.8	44.1	66.19	74	-7.81	Pk
Vertical	15540.61	40.03	10.12	38.8	42.7	46.25	54	-7.75	AV
Horizontal	3713.41	63.97	5.94	35.18	44	61.09	74	-12.91	Pk
Horizontal	3713.64	44.29	5.94	35.18	44	41.41	54	-12.59	AV
Horizontal	10361.14	59.57	8.46	38.71	44.5	62.24	68.2	-5.96	Pk
Horizontal	15540.97	58.07	10.12	38.38	44.1	62.47	74	-11.53	Pk
Horizontal	15541.17	41.57	10.12	38.38	44.1	45.97	54	-8.03	AV
middle Channel (5200 MHz)-Above 1G									
Vertical	3624.87	59.07	6.48	36.35	44.05	57.85	74	-16.15	Pk
Vertical	3624.8	43.31	6.48	36.35	44.05	42.09	54	-11.91	AV
Vertical	10400.61	60.61	8.47	37.88	44.51	62.45	68.2	-5.75	Pk
Vertical	15600.97	60.32	10.12	38.8	44.1	65.14	74	-8.86	Pk
Vertical	15600.83	39.89	10.12	38.8	42.7	46.11	54	-7.89	AV
Horizontal	4202.6	58.83	6.48	36.37	44.05	57.63	74	-16.37	Pk
Horizontal	4202.92	45.7	6.48	36.37	44.05	44.5	54	-9.5	AV
Horizontal	10400.64	62.01	8.47	38.64	44.5	64.62	68.2	-3.58	Pk
Horizontal	15601.49	60.51	10.12	38.38	44.1	64.91	74	-9.09	Pk
Horizontal	15601.14	41.63	10.12	38.38	44.1	46.03	54	-7.97	AV
High Channel (5240 MHz)-Above 1G									
Vertical	4598.19	64.35	7.1	37.24	43.5	65.19	74	-8.81	Pk
Vertical	4598.26	43.85	7.1	37.24	43.5	44.69	54	-9.31	AV
Vertical	10480.97	61.09	8.46	37.68	44.5	62.73	68.2	-5.47	Pk
Vertical	15720.95	62.22	10.12	38.8	44.1	67.04	74	-6.96	Pk
Vertical	15720.99	40.75	10.12	38.8	42.7	46.97	54	-7.03	AV
Horizontal	4590.19	61.58	7.1	37.24	43.5	62.42	74	-11.58	Pk
Horizontal	4590.04	42.22	7.1	37.24	43.5	43.06	54	-10.94	AV
Horizontal	10481.25	62.95	8.46	38.57	44.5	65.48	68.2	-2.72	Pk
Horizontal	15720.82	60.33	10.12	38.38	44.1	64.73	74	-9.27	Pk
Horizontal	15720.88	43.77	10.12	38.38	44.1	48.17	54	-5.83	AV

Note:"802.11n20" mode is the worst mode.

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

EUT :	Stem2	Model Name. :	1018
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 7.3V
Test Mode :	Mode2 (5.8G)	Test By:	Harry Huang

Polar	Frequency	Meter Reading	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Detector Type
(H/V)	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5745 MHz)-802.11a									
Vertical	2806	55.94	5.94	35.40	44.00	53.28	74.00	-20.72	Pk
Vertical	2806	45.98	5.94	35.40	44.00	43.32	54.00	-10.68	AV
Vertical	11490	55.27	8.46	39.75	44.50	58.98	74.00	-15.02	Pk
Vertical	11490	42.85	8.46	39.75	44.50	46.56	54.00	-7.44	AV
Vertical	17235	59.81	10.12	38.80	44.10	64.63	68.20	-3.57	Pk
Vertical	17235	56.79	10.12	38.80	44.10	61.61	68.20	-6.59	AV
Horizontal	2911	57.35	5.94	35.18	44.00	54.47	68.20	-13.73	Pk
Horizontal	2911	60.91	5.94	35.18	44.00	58.03	68.20	-10.17	AV
Horizontal	11490	60.67	8.46	38.71	44.50	63.34	74.00	-10.66	Pk
Horizontal	11490	43.54	8.46	38.71	44.50	46.21	54.00	-7.79	AV
Horizontal	17235	57.43	10.12	38.38	44.10	61.83	68.20	-6.37	Pk
Horizontal	17235	59.47	10.12	38.38	44.10	63.87	68.20	-4.33	AV
middle Channel (5785 MHz)-802.11a									
Vertical	3763	60.11	6.48	36.35	44.05	58.89	74.00	-15.11	Pk
Vertical	3763	42.03	6.48	36.35	44.05	40.81	54.00	-13.19	AV
Vertical	11570	59.71	8.47	37.88	44.51	61.55	74.00	-12.45	Pk
Vertical	11570	43.47	8.47	37.88	44.51	45.31	54.00	-8.69	AV
Vertical	17355	56.52	10.12	38.8	44.10	61.34	68.20	-6.86	Pk
Vertical	17355	58.38	10.12	38.8	44.10	63.20	68.20	-5.00	AV
Horizontal	3561	60.27	6.48	36.37	44.05	59.07	68.20	-9.13	Pk
Horizontal	3561	60.7	6.48	36.37	44.05	59.50	68.20	-8.70	AV
Horizontal	11570	58.38	8.47	38.64	44.50	60.99	74.00	-13.01	Pk
Horizontal	11570	40.87	8.47	38.64	44.50	43.48	54.00	-10.52	AV
Horizontal	17355	60.7	10.12	38.38	44.10	65.10	68.20	-3.10	Pk
Horizontal	17355	57.79	10.12	38.38	44.10	62.19	68.20	-6.01	AV
High Channel (5825 MHz)-802.11a									
Vertical	3907	58.68	7.10	37.24	43.50	59.52	74.00	-14.48	Pk
Vertical	3907	43.98	7.10	37.24	43.50	44.82	54.00	-9.18	AV
Vertical	11650	60.47	8.46	37.68	44.50	62.11	74.00	-11.89	Pk
Vertical	11650	42.47	8.46	37.68	44.50	44.11	54.00	-9.89	AV
Vertical	17475	58.33	10.12	38.8	44.10	63.15	68.20	-5.05	Pk
Vertical	17475	57.12	10.12	38.8	44.10	61.94	68.20	-6.26	AV
Horizontal	3912	59.49	7.10	37.24	43.50	60.33	74.00	-13.67	Pk
Horizontal	3912	41.76	7.10	37.24	43.50	42.60	54.00	-11.40	AV
Horizontal	11650	55.77	8.46	38.57	44.50	58.30	74.00	-15.70	Pk
Horizontal	11650	41.7	8.46	38.57	44.50	44.23	54.00	-9.77	AV
Horizontal	17475	55.23	10.12	38.38	44.10	59.63	68.20	-8.57	Pk
Horizontal	17475	60.29	10.12	38.38	44.10	64.69	68.20	-3.51	AV

Note:"802.11a" mode is the worst mode.

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

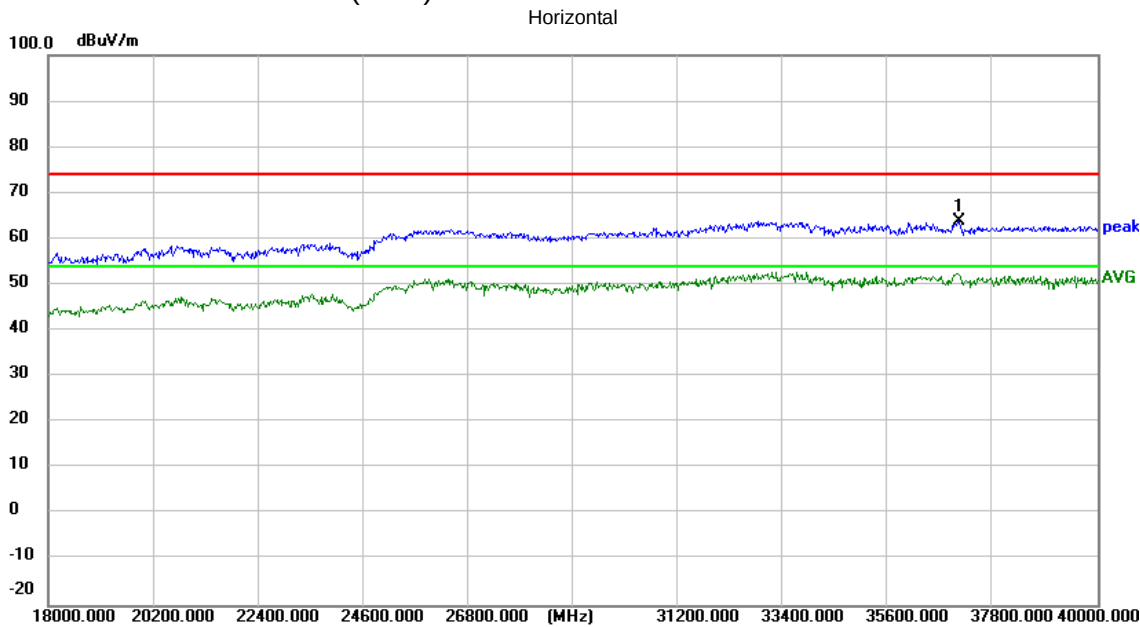
Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

3.2.9 TEST RESULTS (18GHz-40GHz)

EUT :	Stem2	Model Name. :	1018
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 7.3V
Test Mode :	Mode2	Test By:	Harry Huang

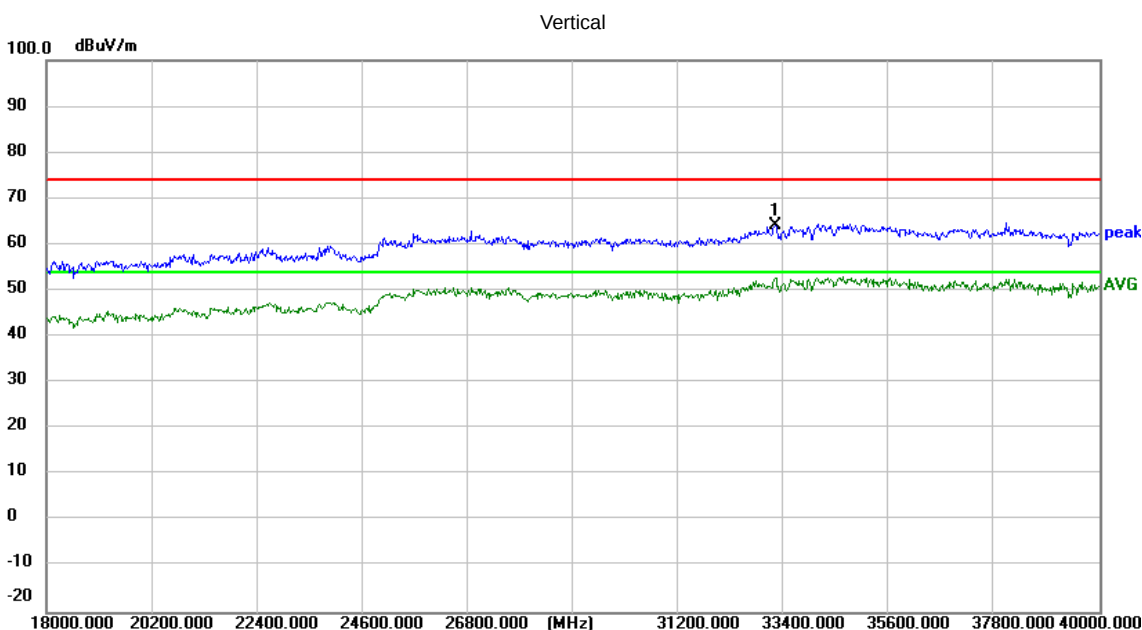
All the modulation modes have been tested, and the worst result was report as below:

TX (5.2G)-802.11n20-5180MHz-Above 1G



Measurement Result:

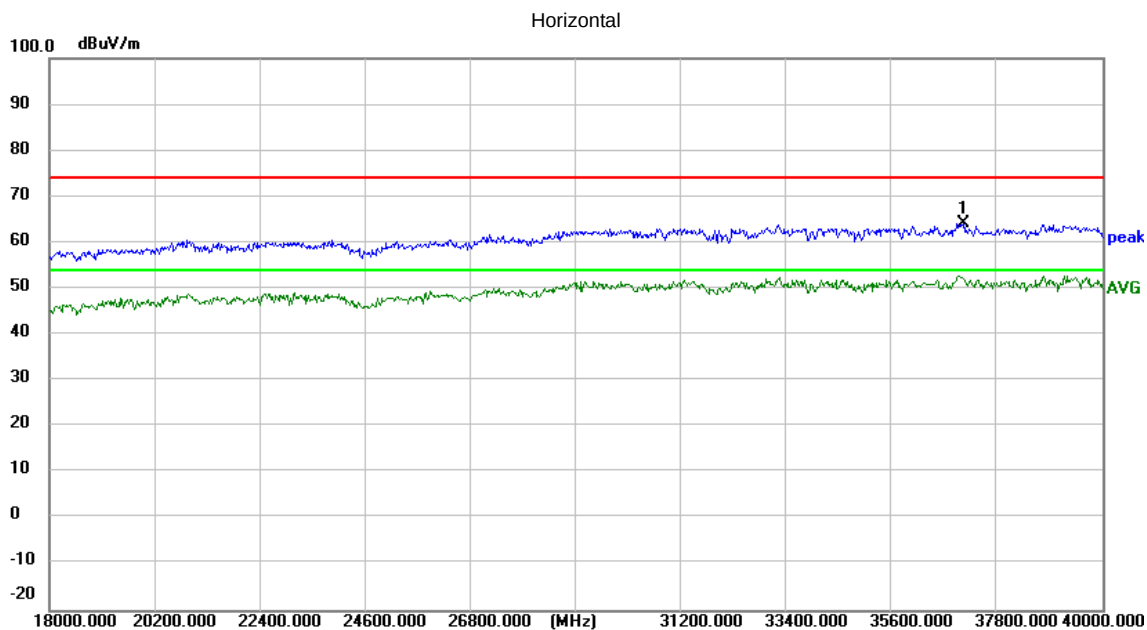
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
37096.000	56.53	7.33	63.86	74.00	-10.14	peak



Measurement Result:

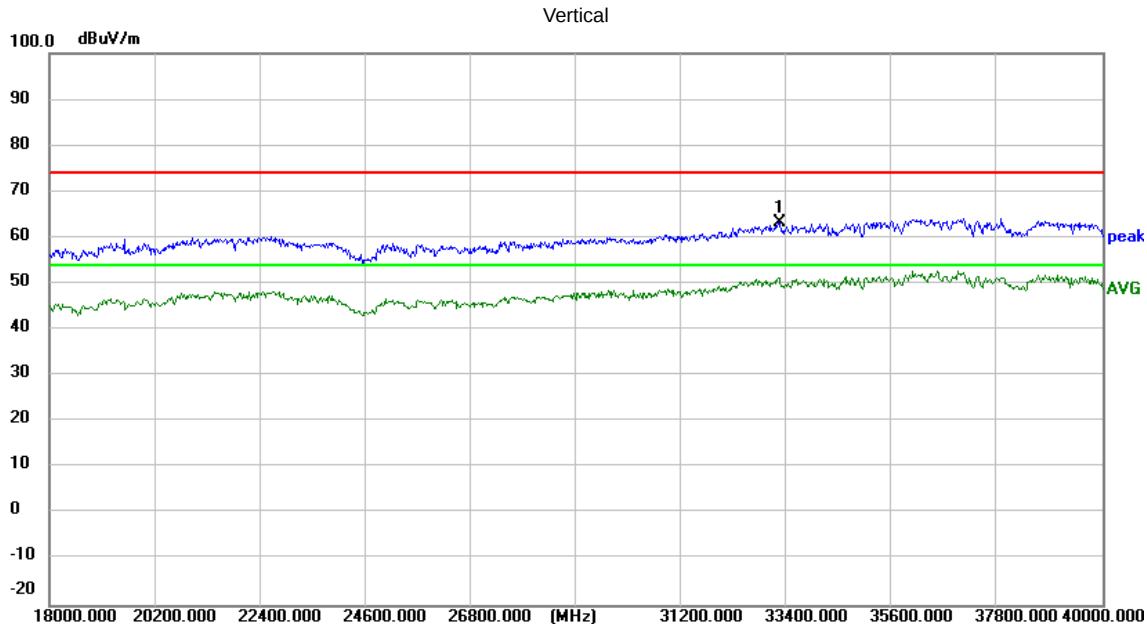
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
33224.000	56.19	7.98	64.17	74.00	-9.83	peak

TX (5.8G)-802.11a -5745MHz-Above 1G



Measurement Result:

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
37096.000	56.71	7.33	64.04	74.00	-9.96	peak



Measurement Result:

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
33268.000	55.22	8.12	63.34	74.00	-10.66	peak

3.2.10 Spurious Emission in Restricted Band 4.5GHz~5.150 GHz& 5.350GHz~5460GHz

EUT :	Stem2	Model Name. :	1018
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 7.3V
Test Mode :	Mode2	Test By:	Harry Huang

All the modulation modes have been tested, The report just record the worst data mode.

Frequency	Meter Reading	Cable Loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Detector	Comment
(MHz)	(dBμV)	(dB)	dB/m	(dB)	(dBμV/m)	(dBμV/m)	(dB)	Type	
5.2G WIFI-802.11n20 Mode									
4500	60.09	5.2	35.6	44.2	56.69	74	-17.31	Pk	Horizontal
4500	47.82	5.2	35.6	44.2	44.42	54	-9.58	AV	Horizontal
4500	61.63	5.2	35.6	44.2	58.23	74	-15.77	Pk	Horizontal
4500	46.58	5.2	35.6	44.2	43.18	54	-10.82	AV	Horizontal
5150	74.9	5.36	35.66	44.22	71.7	74	-2.3	Pk	Horizontal
5150	52.42	5.36	35.66	44.22	49.22	54	-4.78	AV	Horizontal
5150	57.82	5.36	35.66	44.22	54.62	74	-19.38	Pk	Vertical
5150	53.55	5.36	35.66	44.22	50.35	54	-3.65	AV	Vertical
5350	66.58	5.68	35.68	44.22	63.72	74	-10.28	Pk	Vertical
5350	48.33	5.68	35.68	44.22	45.47	54	-8.53	AV	Vertical
5350	63.41	5.68	35.68	44.22	60.55	74	-13.45	Pk	Horizontal
5350	50.42	5.68	35.68	44.22	47.56	54	-6.44	AV	Horizontal

Note: (1) Emission Level= Antenna Factor + Cable Loss + Read Level - Preamp Factor

(2) "802.11n20" mode is the worst mode. When PK value is lower than the Average value limit, average don't record.

3.3 POWER SPECTRAL DENSITY TEST

3.3.1 Applied procedures / limit

According to FCC §15.407(a)(3)

For the band 5.15-5.25 GHz,

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

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

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

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

For the band 5.725-5.85 GHz

(3) For the band 5.725-5.85 GHz, 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.

,

3.3.2 TEST PROCEDURE

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.
 The path loss was compensated to the results for each measurement.
 Set to the maximum power setting and enable the EUT transmit continuously.
 The EUT was operating in controlled its channel.

Frequency band 5150~5250MHz:

Use the following spectrum analyzer settings:

Set span to encompass the entire 99% OBW of the signal.

Set RBW = 1 MHz

Set VBW $\geq$ 3 MHz

Number of points in sweep $\geq [2 \times \text{span} / \text{RBW}]$. (This gives bin-to-bin spacing $\leq \text{RBW} / 2$, so that narrowband signals are not lost between frequency bins.)

Sweep time = auto.

Detector = Power averaging (rms), if available. Otherwise, use sample detector mode.

Do not use sweep triggering. Allow the sweep to "free run."

Trace average at least 100 traces in power averaging (rms) mode; however, the number of traces to be averaged shall be increased above 100 as needed such that the average accurately represents the true average over the ON and OFF periods of the transmitter.

Add the duty cycle to the measured power to compute the average power during the actual transmission times.

Frequency band 5725~5850MHz:

Use the following spectrum analyzer settings:

Set span to encompass the entire 99% OBW of the signal.

Set RBW = 510 kHz

Set VBW $\geq$ 1.5 MHz

Number of points in sweep $\geq [2 \times \text{span} / \text{RBW}]$. (This gives bin-to-bin spacing $\leq \text{RBW} / 2$, so that narrowband signals are not lost between frequency bins.)

Sweep time = auto.

Detector = Power averaging (rms), if available. Otherwise, use sample detector mode.

Do not use sweep triggering. Allow the sweep to "free run."

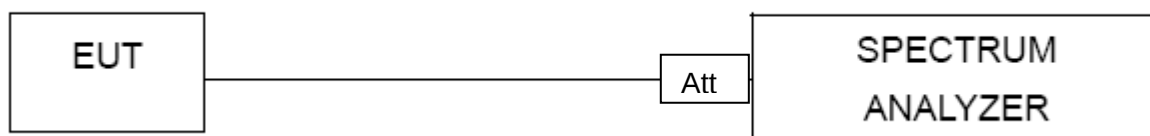
Trace average at least 100 traces in power averaging (rms) mode; however, the number of traces to be averaged shall be increased above 100 as needed such that the average accurately represents the true average over the ON and OFF periods of the transmitter.

Add the duty cycle to the measured power to compute the average power during the actual transmission times.

3.3.3 DEVIATION FROM STANDARD

No deviation.

3.3.4 TEST SETUP



3.3.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.1 Unless otherwise a special operating condition is specified in the follows during the testing.

3.3.6 TEST RESULTS

EUT :	Stem2	Model Name. :	1018
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1015 hPa	Test Voltage :	DC 7.3V
Test Mode :	Mode2/3	Test By:	Leo Wang

Test data reference attachment.

3.4 26DB & 99% EMISSION BANDWIDTH

3.4.1 Applied procedures / limit

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

3.4.2 TEST PROCEDURE

For 26dB bandwidth

The testing follows ANSI C63.10-2020 clause 12.5.2

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.

The path loss was compensated to the results for each measurement.

Set to the maximum power setting and enable the EUT transmit continuously.

The EUT was operating in controlled its channel.

Use the following spectrum analyzer settings:

Span = the frequency band of operation

Set RBW = shall be in the range of 1% to 5% of the emission bandwidth.

VBW > RBW

Detector function = peak

Trace = max hold

For 99% bandwidth

The testing follows ANSI C63.10-2020 clause 6.9.3

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.

The path loss was compensated to the results for each measurement.

Set to the maximum power setting and enable the EUT transmit continuously.

The EUT was operating in controlled its channel.

Use the following spectrum analyzer settings:

Span = 1.5 to 5 times the OBW

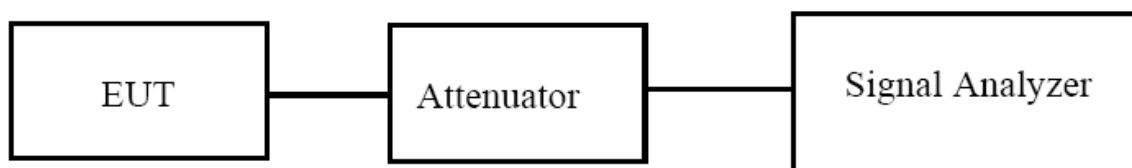
Set RBW = 1% to 5% of the OBW

Set VBW $\geq 3 \times$ RBW

Set Detector = Peak.

Set Trace mode = max hold.

Set Sweep = auto couple



3.4.3 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

3.4.4 TEST RESULTS

EUT :	Stem2	Model Name. :	1018
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1012 hPa	Test Voltage :	DC 7.3V
Test Mode :	Mode2/3	Test By:	Leo Wang

Test data reference attachment.

3.5 MINIMUM 6 DB BANDWIDTH

3.5.1 Applied procedures / limit

According to FCC §15.407(e)

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

3.5.2 TEST PROCEDURE

Section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 KHz for the band 5.715-5.85 GHz.

The testing follows ANSI C63.10-2020 clause 12.5.1

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.

The path loss was compensated to the results for each measurement.

Set to the maximum power setting and enable the EUT transmit continuously.

The EUT was operating in controlled its channel.

Use the following spectrum analyzer settings:

Span = the frequency band of operation

RBW = 100KHz

VBW $\geq 3 \times$ RBW

Sweep = No faster than coupled (auto) time

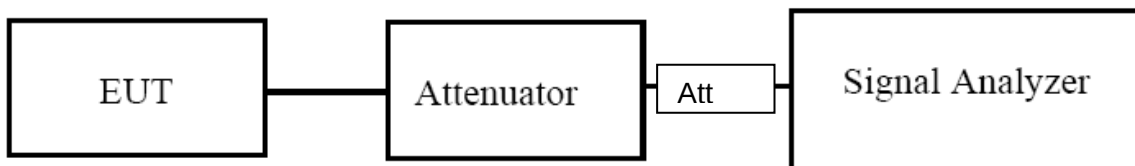
Detector function = peak

Trace = max hold

3.5.3 DEVIATION FROM STANDARD

No deviation.

3.5.4 TEST SETUP



3.5.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

3.5.6 TEST RESULTS

EUT :	Stem2	Model Name. :	1018
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC 7.3V
Test Mode :	Mode2/3	Test By:	Leo Wang

Test data reference attachment.

3.6 MAXIMUM CONDUCTED OUTPUT POWER

3.6.1 PPLIED PROCEDURES / LIMIT

According to FCC §15.407

The maximum conducted output power should not exceed:

Frequency Band(MHz)	Limit
5150~5250	250mW
5725~5850	1W

3.6.2 TEST PROCEDURE

The testing follows Measurement Procedure Subclause 12.4.2.4 of ANSI C63.10

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.

The path loss was compensated to the results for each measurement.

Set to the maximum power setting and enable the EUT transmit continuously.

The EUT was operating in controlled its channel.

Use the following spectrum analyzer settings:

Set span to encompass the entire 99% OBW of the signal.

Set RBW = 1 MHz

Set VBW $\geq$ 3 MHz

Number of points in sweep $\geq$ $[2 \times \text{span} / \text{RBW}]$. (This gives bin-to-bin spacing $\leq$ $\text{RBW} / 2$, so that narrowband signals are not lost between frequency bins.)

Sweep time = auto.

Detector = Power averaging (rms), if available. Otherwise, use sample detector mode.

Do not use sweep triggering. Allow the sweep to "free run."

Trace average at least 100 traces in power averaging (rms) mode; however, the number of traces to be averaged shall be increased above 100 as needed such that the average accurately represents the true average over the ON and OFF periods of the transmitter.

Compute power by integrating the spectrum across the 99% OBW of the signal using the instrument's band-power measurement function with band limits set equal to the EBW or OBW band-edges.

Add the duty cycle to the measured power to compute the average power during the actual transmission times.

3.6.3 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

3.6.4 TEST RESULTS

EUT :	Stem2	Model Name. :	1018
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC 7.3V
Test Mode :	Mode2/3	Test By:	Leo Wang

Test data reference attachment.

3.7 OUT OF BAND EMISSIONS

3.7.1 Applicable Standard

According to FCC §15.407(b)

Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(2) For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

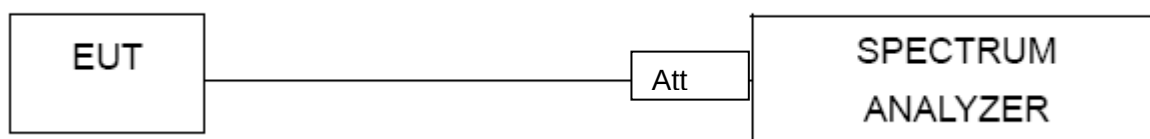
3.7.2 Test Procedure

The testing follows Measurement Procedure Subclause 12.7.6 of ANSI C63.10
 The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.
 The path loss was compensated to the results for each measurement.
 Set to the maximum power setting and enable the EUT transmit continuously.
 The EUT was operating in controlled its channel.
 Use the following spectrum analyzer settings:
 Set RBW = 1 MHz
 Set VBW $\geq 3 * \text{RBW}$
 Detector = peak
 Sweep time = No faster than coupled (auto) time
 Trace mode = max-hold
 EIRP = Maximum conducted output power + antenna gain

3.7.3 DEVIATION FROM STANDARD

No deviation.

3.7.4 TEST SETUP



3.7.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

3.7.6 TEST RESULTS

EUT :	Stem2	Model Name. :	1018
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1012 hPa	Test Voltage :	DC 7.3V
Test Mode :	Mode2/3	Test By:	Leo Wang

Test data reference attachment.

3.8 SPURIOUS RF CONDUCTED EMISSIONS

3.8.1 Conformance Limit

According to FCC §15.407(b)(1) (2) (3) (4)

3.8.2 Measuring Instruments

The Measuring equipment is listed in the section 2.5 of this test report.

3.8.3 Test Setup

Please refer to Section 2.3 of this test report.

3.8.4 Test Procedure

The testing follows Measurement Procedure Subclause 12.7.5 & 12.7.6 of ANSI C63.10

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.

The path loss was compensated to the results for each measurement.

Set to the maximum power setting and enable the EUT transmit continuously.

The EUT was operating in controlled its channel.

Use the following spectrum analyzer settings:

Set RBW = 1 MHz

Set VBW $\geq 3 * RBW$

Detector = peak

Sweep time = No faster than coupled (auto) time

Trace mode = max-hold

EIRP = Maximum conducted output power + antenna gain

3.8.5 Test Results

EUT :	Stem2	Model Name. :	1018
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1012 hPa	Test Voltage :	DC 7.3V
Test Mode :	Mode2/3	Test By:	Leo Wang

Remark: The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the spurious emissions measurement data.

Test data reference attachment.

3.9 SPURIOUS RF CONDUCTED EMISSIONS

3.9.1 Conformance Limit

No limit requirement.

3.9.2 Measuring Instruments

The Measuring equipment is listed in the section 2.5 of this test report.

3.9.3 Test Setup

Please refer to Section 2.3 of this test report.

3.9.4 Test Procedure

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.

The path loss was compensated to the results for each measurement.

Set to the maximum power setting and enable the EUT transmit continuously.

The EUT was operating in controlled its channel.

Use the following spectrum analyzer settings:

Set the center frequency of the instrument to the center frequency of the transmission.

Set RBW $\geq$ EBW if possible; otherwise, set RBW to the largest available value.

Set VBW $\geq$ RBW. Set detector = peak or average.

The zero-span measurement method shall not be used unless both RBW and VBW are $> 50/T$ and the number of sweep points across duration T exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring the duty cycle shall not be used if $T \leq 16.7 \mu s$.)

3.9.5 Test Results

EUT :	Stem2	Model Name. :	1018
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1012 hPa	Test Voltage :	DC 7.3V
Test Mode :	Mode2/3	Test By:	Leo Wang

Remark: The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the spurious emissions measurement data.

Test data reference attachment.

4. ANTENNA REQUIREMENT

4.1 STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 15.203: 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.

4.2 EUT ANTENNA

The EUT antenna is permanent attached PIFA antenna (antenna gain: 3.5 dBi). It comply with the standard requirement.

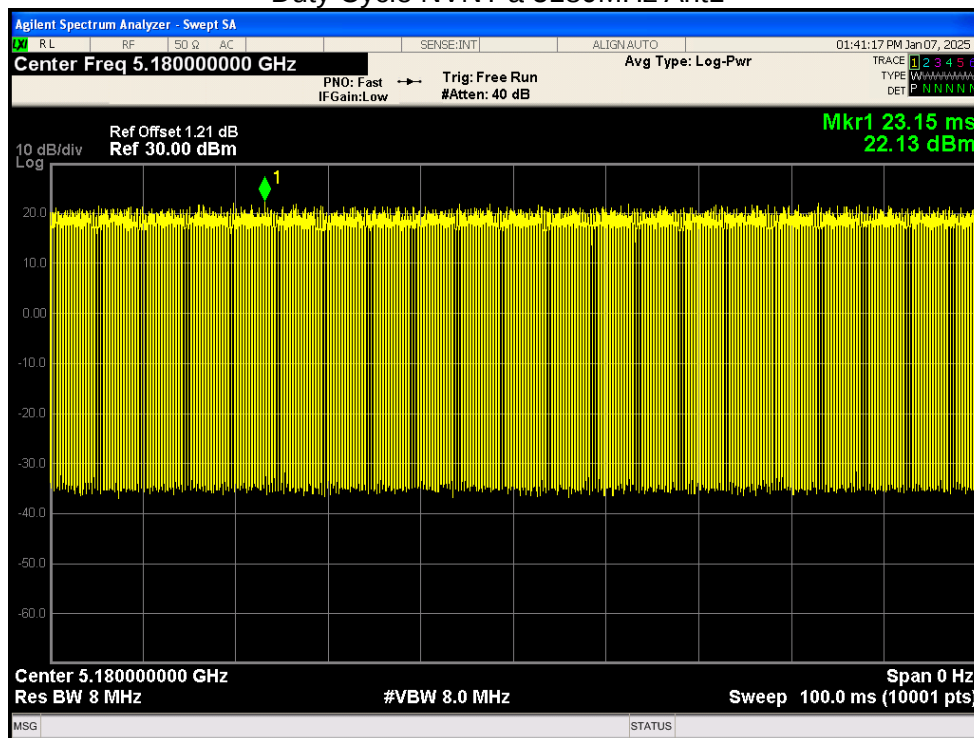
5. TEST RESULTS

5.1 5.2G WIFI

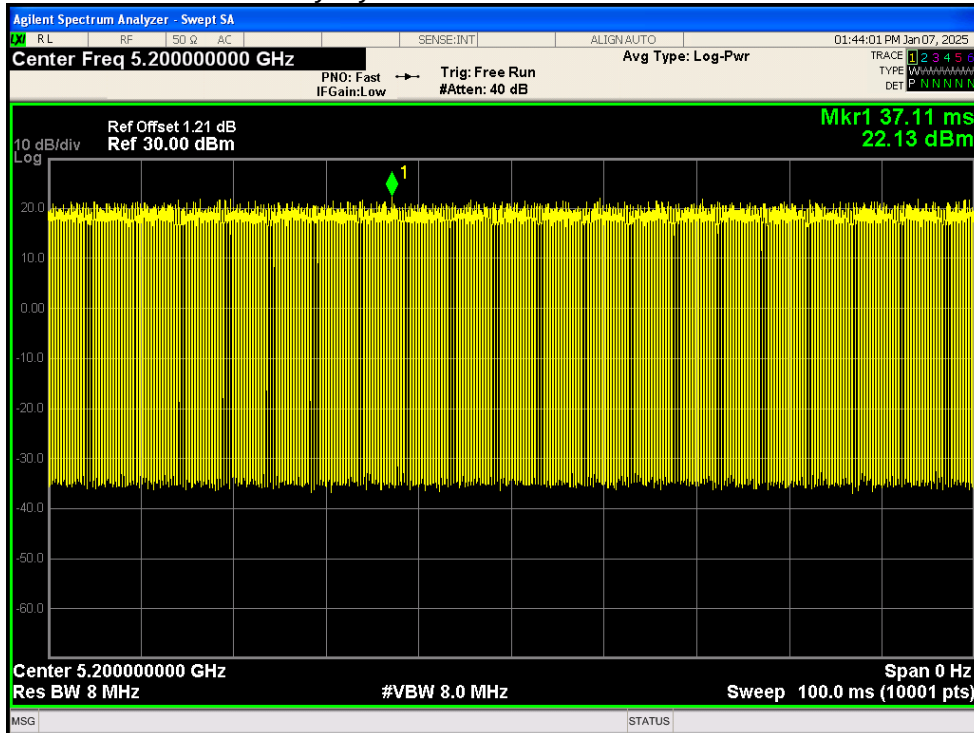
5.1.1 DUTY CYCLE

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)
NVNT	a	5180	Ant1	70.65	1.51
NVNT	a	5200	Ant1	70.75	1.5
NVNT	a	5240	Ant1	70.69	1.51
NVNT	n20	5180	Ant1	69.27	1.59
NVNT	n20	5200	Ant1	69.15	1.6
NVNT	n20	5240	Ant1	69.08	1.61
NVNT	n40	5190	Ant1	57.75	2.38
NVNT	n40	5230	Ant1	57.76	2.38

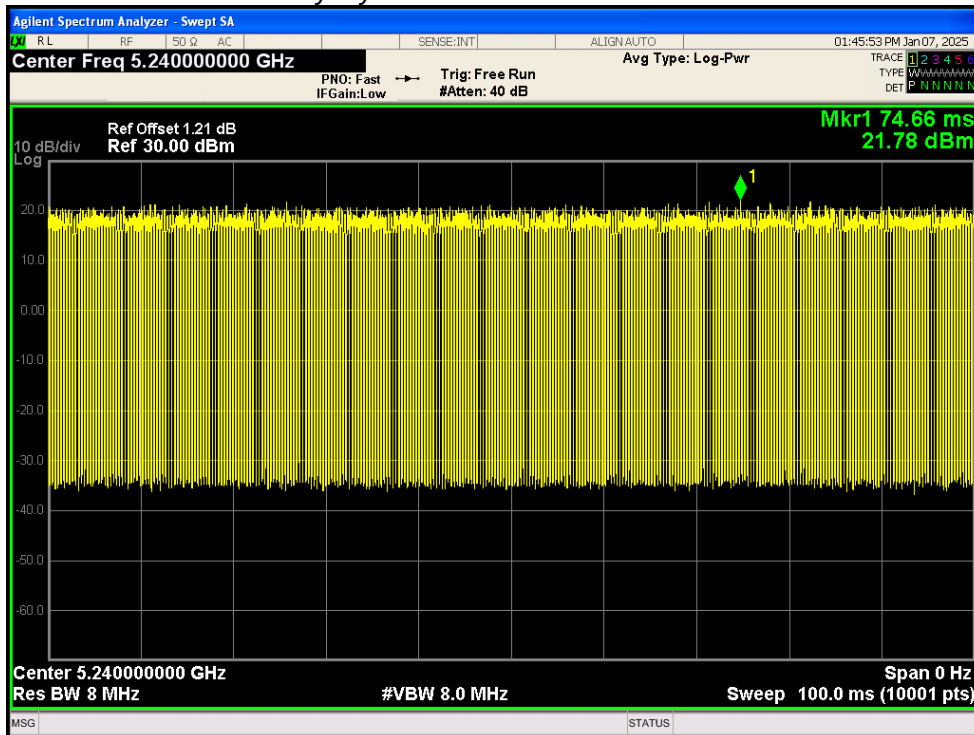
Duty Cycle NVNT a 5180MHz Ant1



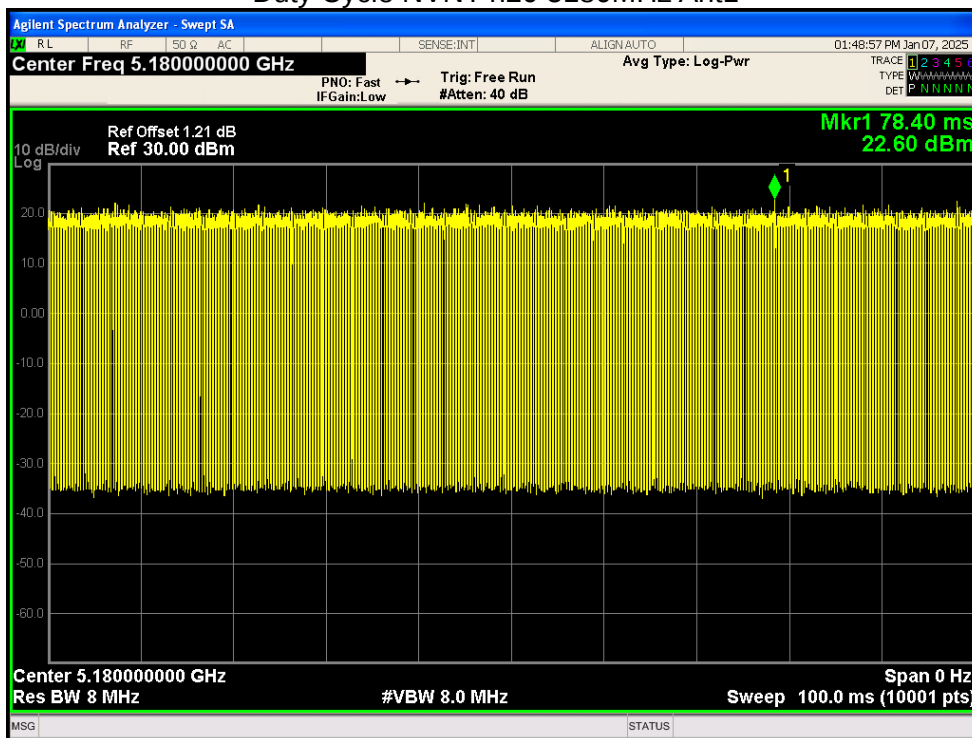
Duty Cycle NVNT a 5200MHz Ant1



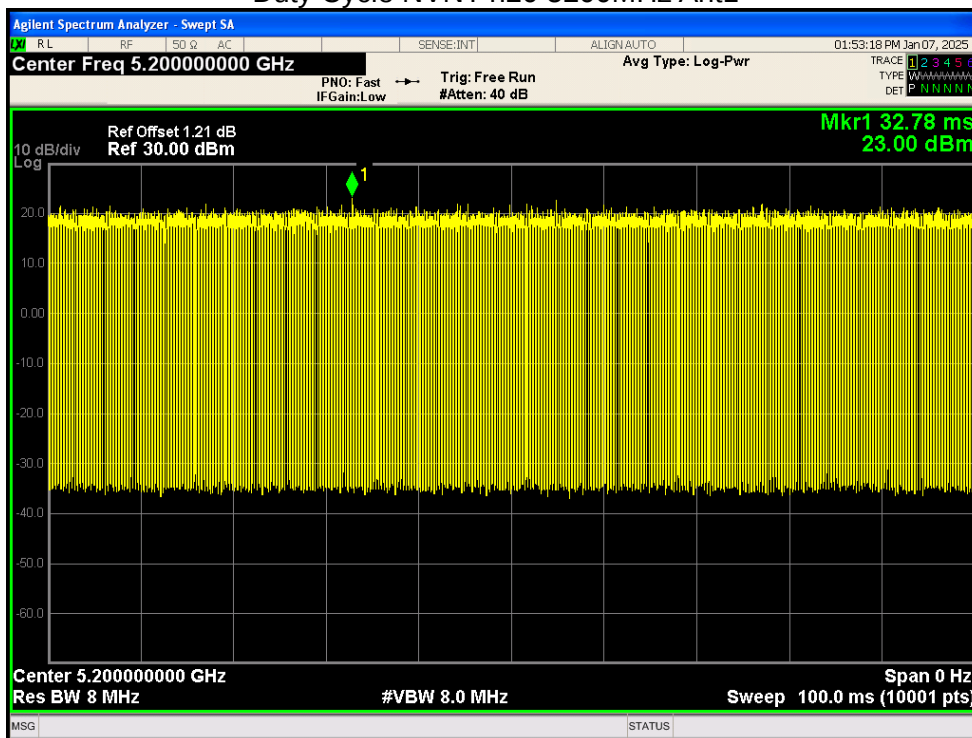
Duty Cycle NVNT a 5240MHz Ant1



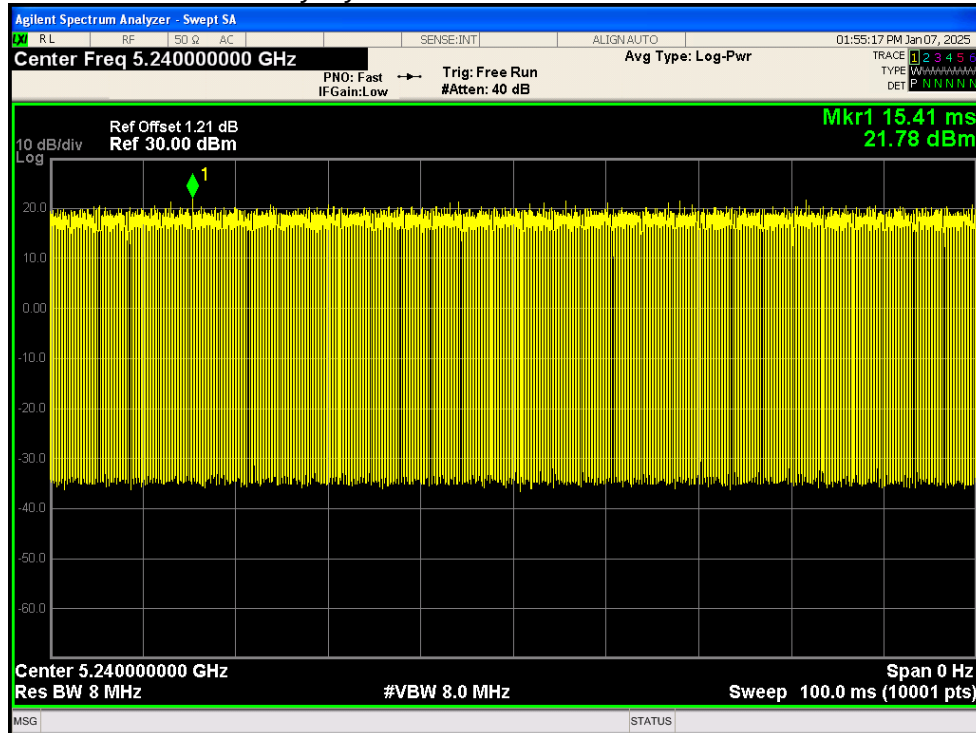
Duty Cycle NVNT n20 5180MHz Ant1



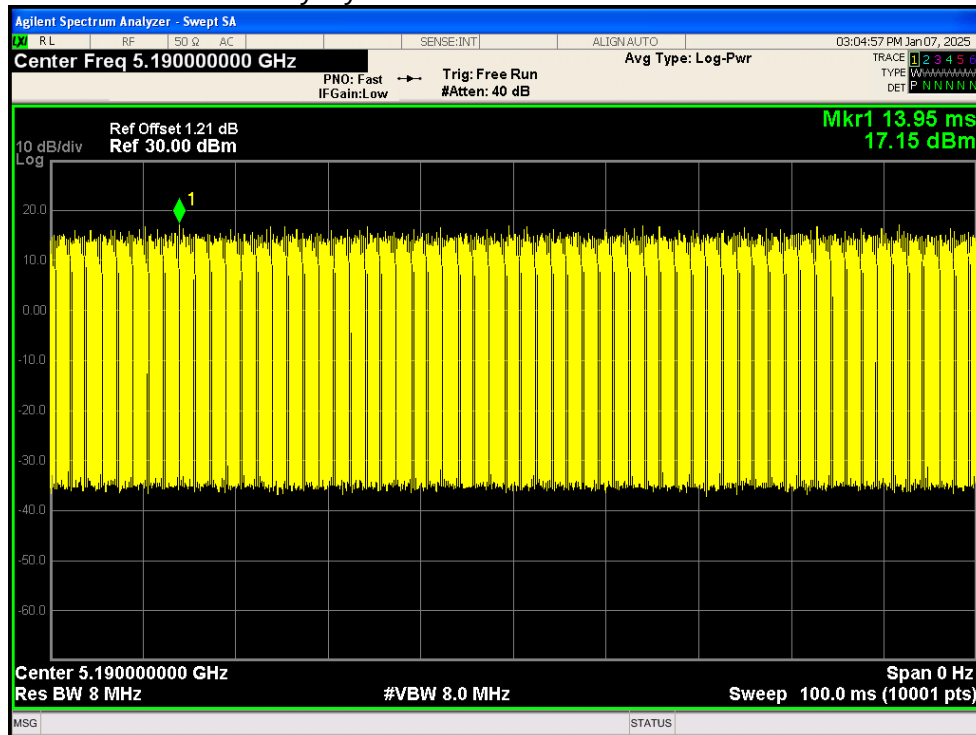
Duty Cycle NVNT n20 5200MHz Ant1



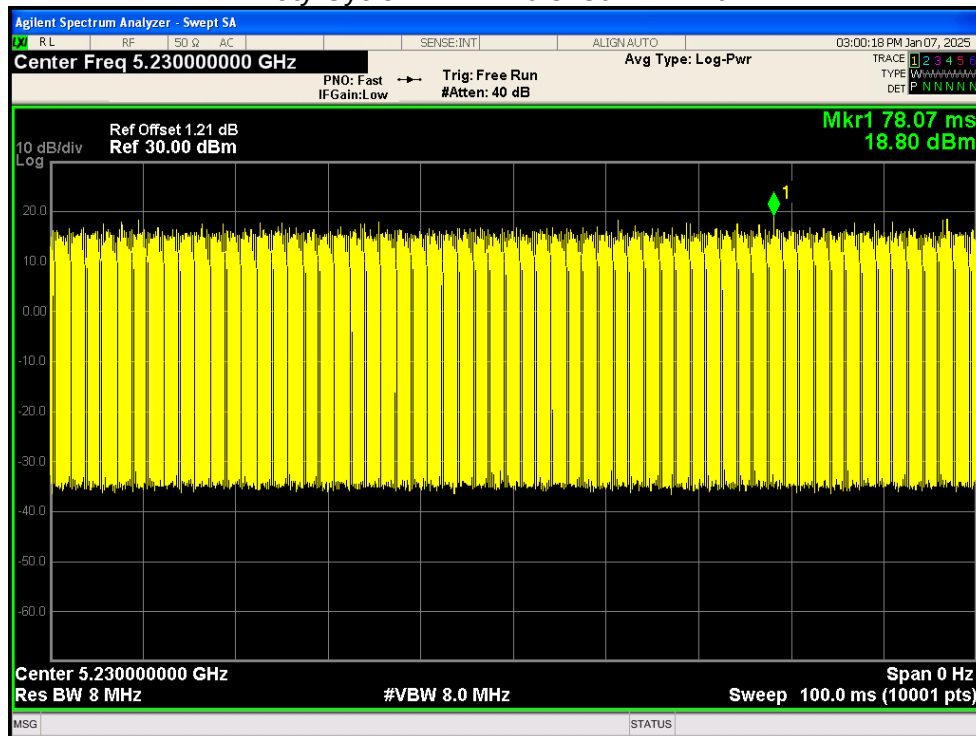
Duty Cycle NVNT n20 5240MHz Ant1



Duty Cycle NVNT n40 5190MHz Ant1



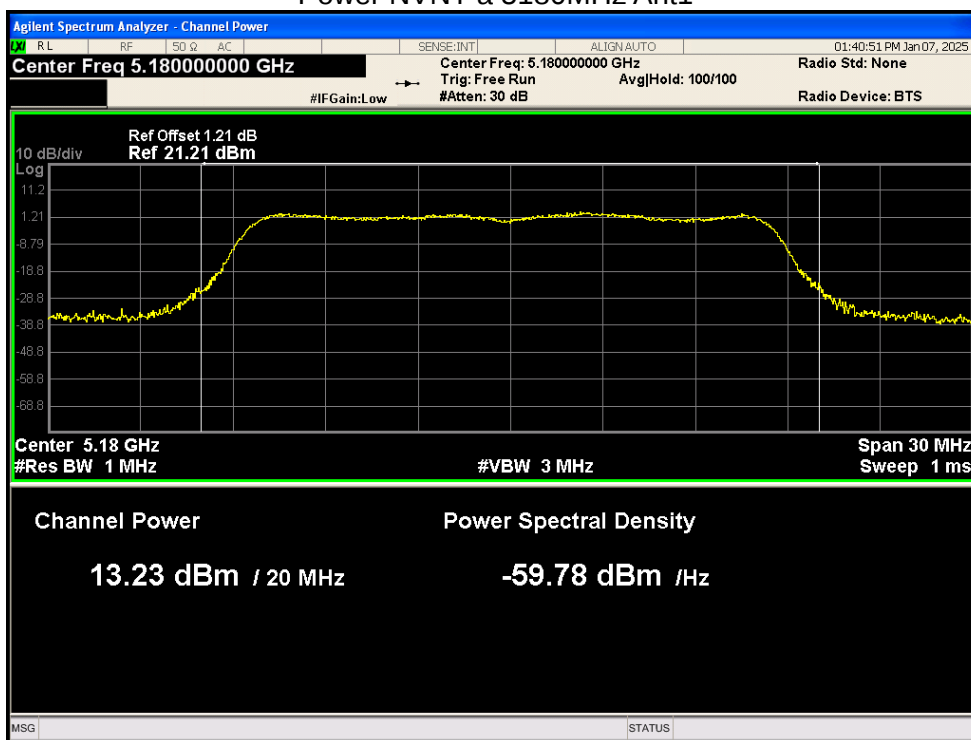
Duty Cycle NVNT n40 5230MHz Ant1



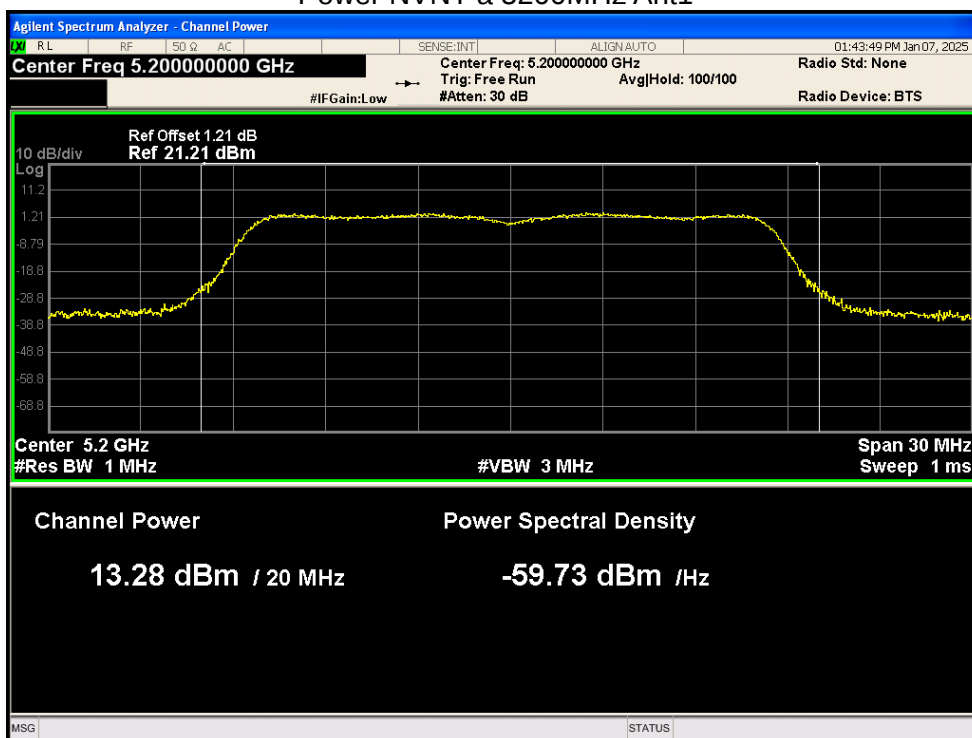
5.1.2 MAXIMUM CONDUCTED OUTPUT POWER

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Maximum Conducted Output Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant1	13.229	1.51	14.739	23.97	Pass
NVNT	a	5200	Ant1	13.278	1.50	14.778	23.97	Pass
NVNT	a	5240	Ant1	12.049	1.51	13.559	23.97	Pass
NVNT	n20	5180	Ant1	13.384	1.59	14.974	23.97	Pass
NVNT	n20	5200	Ant1	13.342	1.60	14.942	23.97	Pass
NVNT	n20	5240	Ant1	12.161	1.61	13.771	23.97	Pass
NVNT	n40	5190	Ant1	10.556	2.38	12.936	23.97	Pass
NVNT	n40	5230	Ant1	11.325	2.38	13.705	23.97	Pass

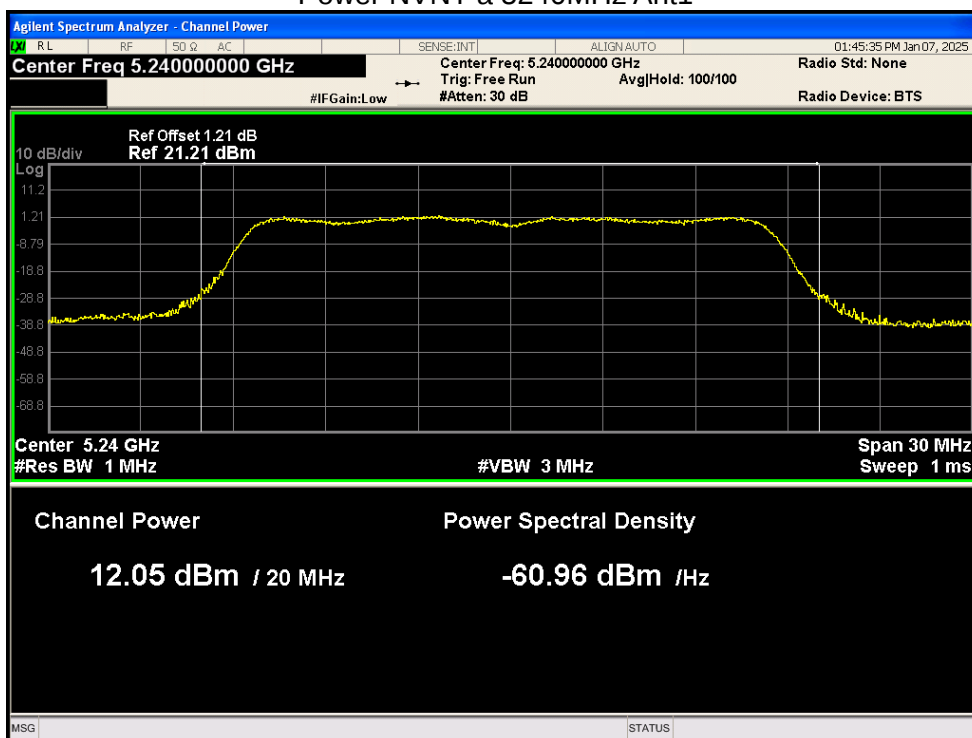
Power NVNT a 5180MHz Ant1



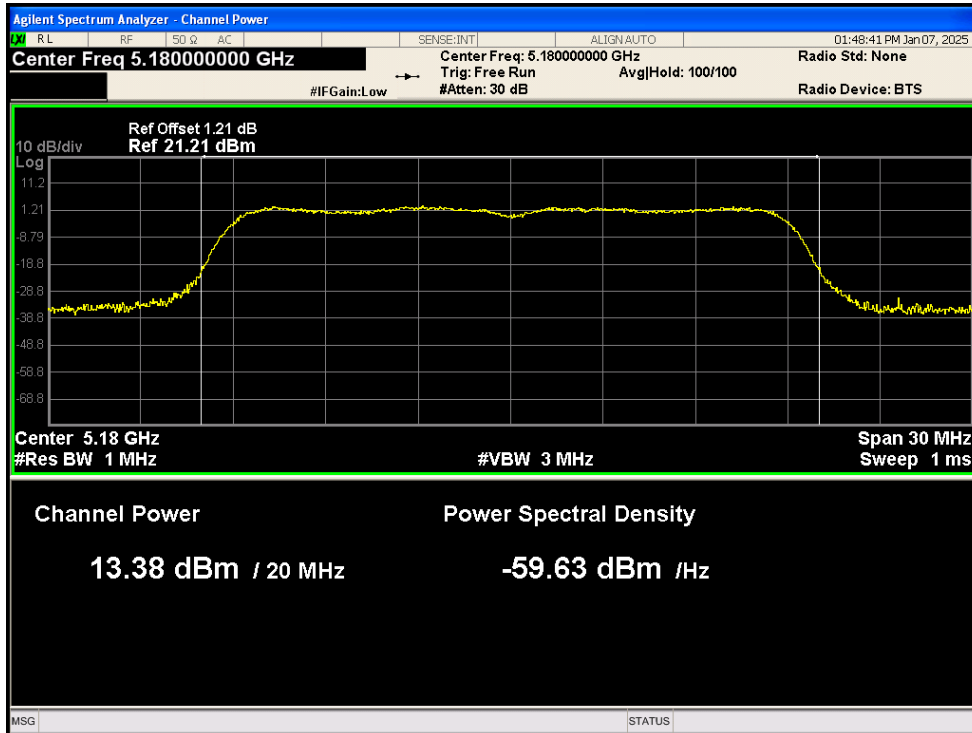
Power NVNT a 5200MHz Ant1



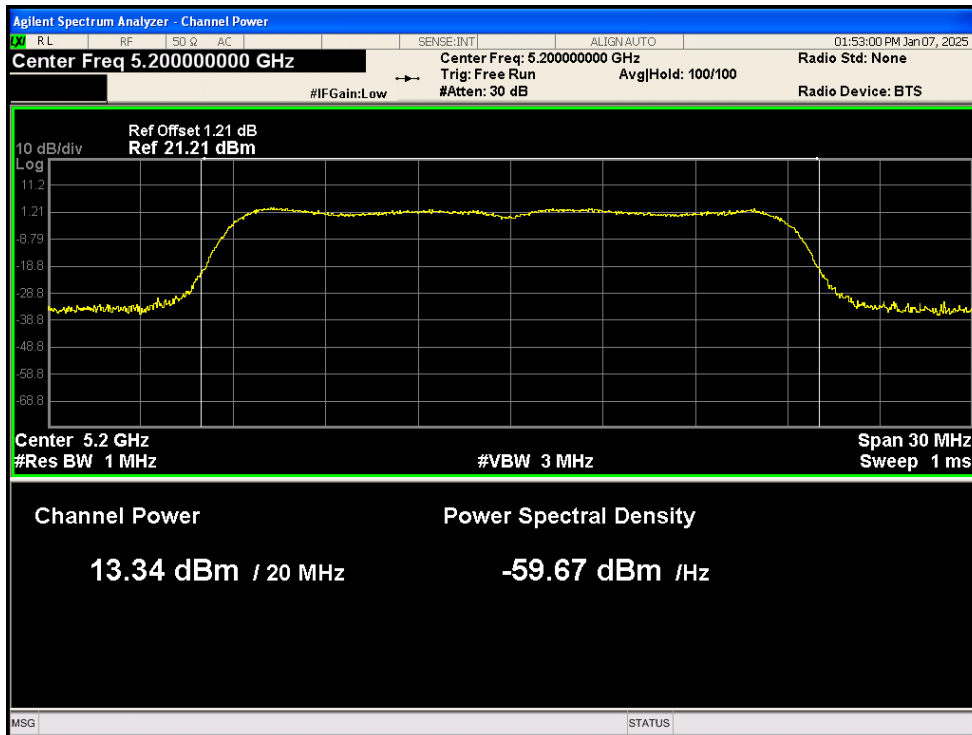
Power NVNT a 5240MHz Ant1



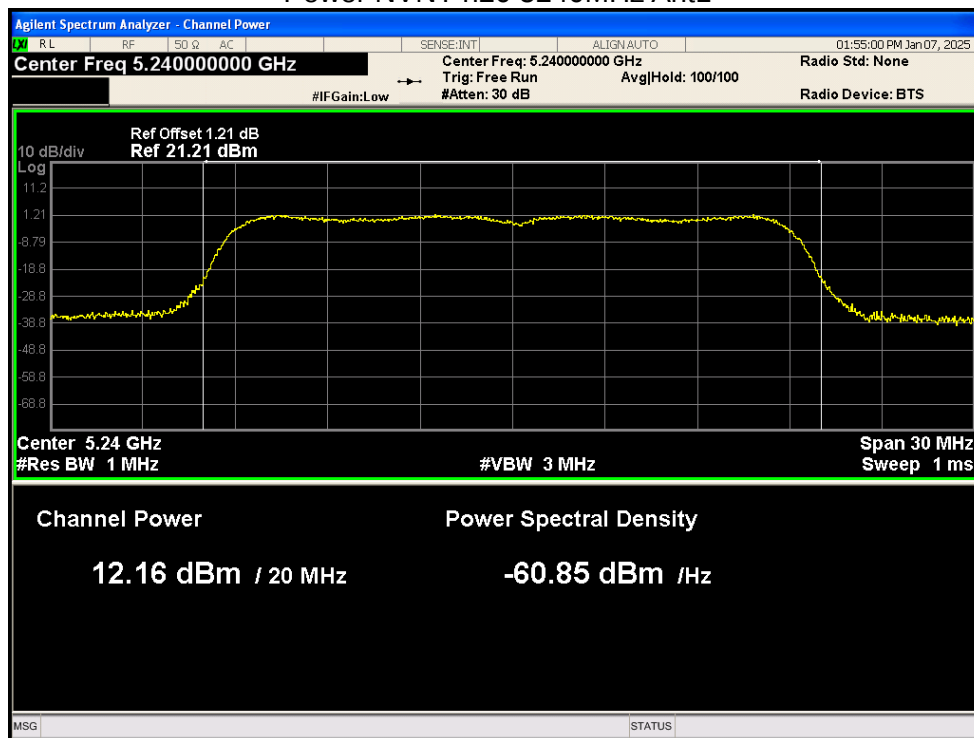
Power NVNT n20 5180MHz Ant1



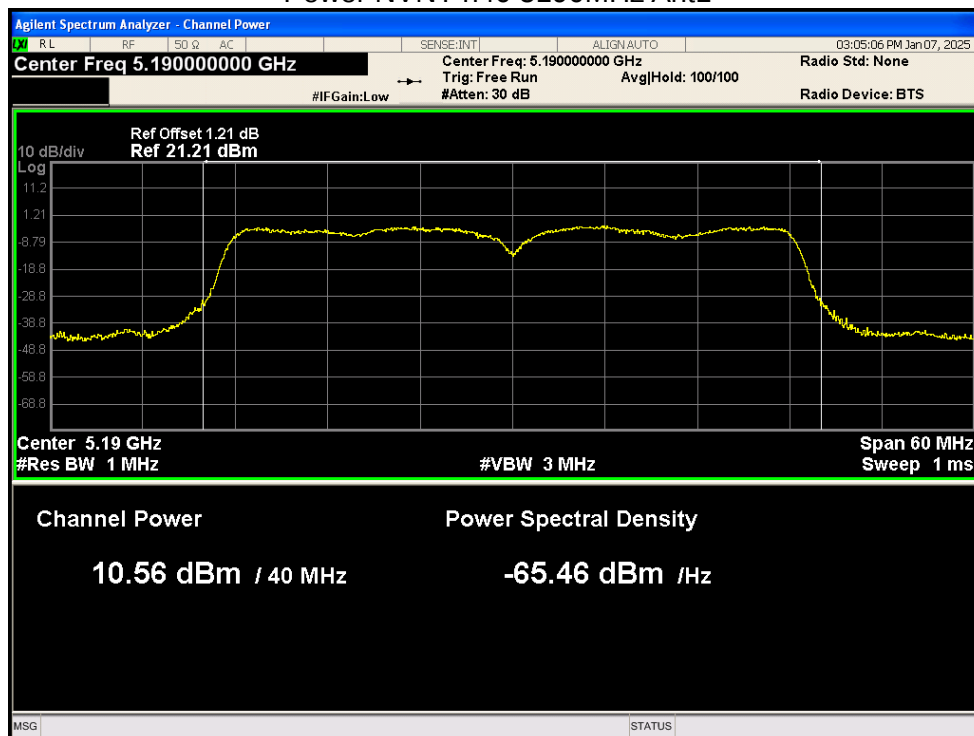
Power NVNT n20 5200MHz Ant1



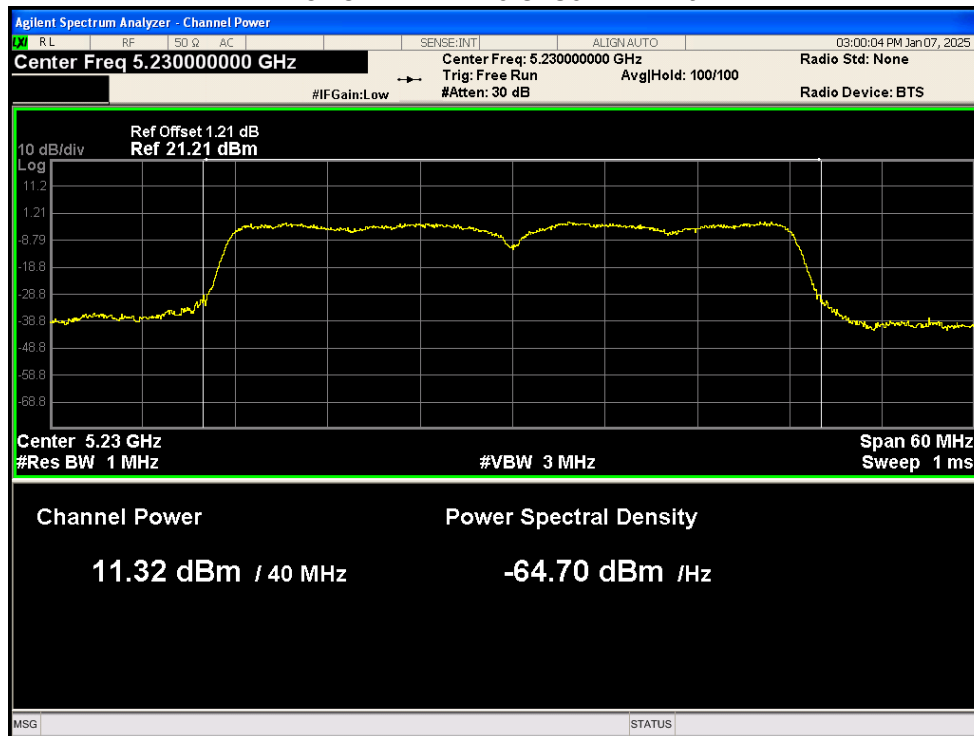
Power NVNT n20 5240MHz Ant1



Power NVNT n40 5190MHz Ant1



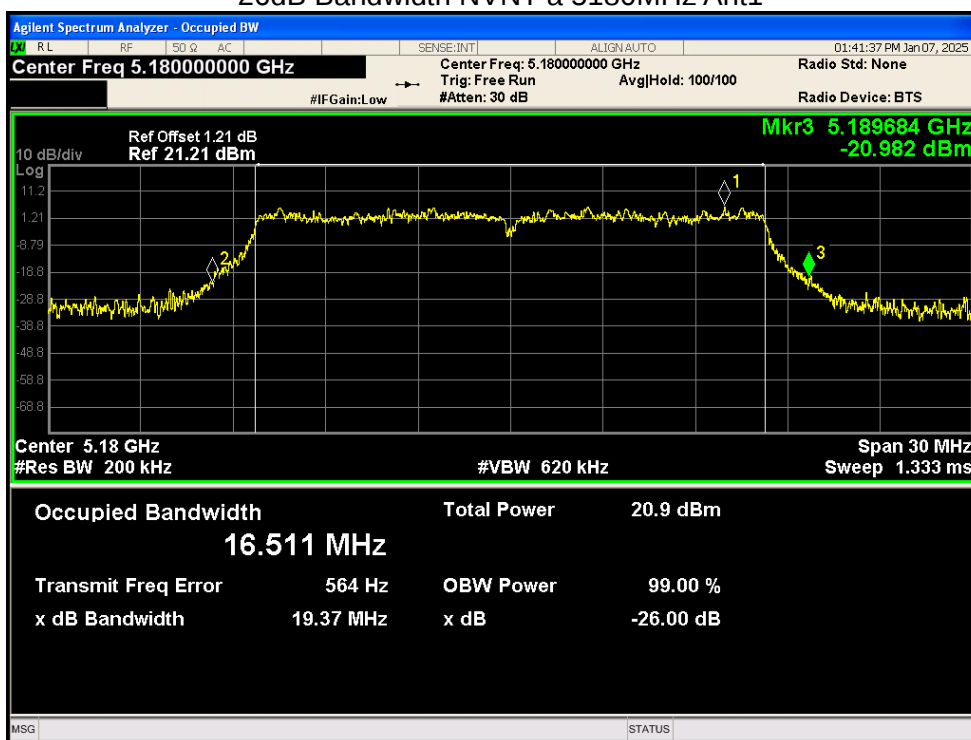
Power NVNT n40 5230MHz Ant1



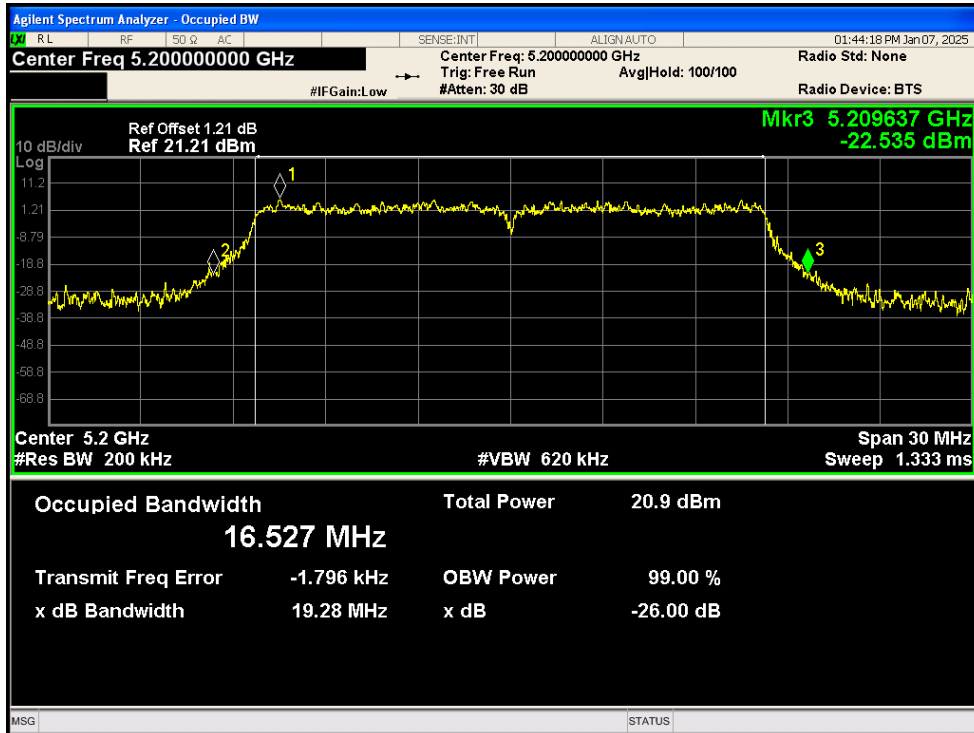
5.1.3 -26DB BANDWIDTH

Condition	Mode	Frequency (MHz)	Antenna	-26 dB Bandwidth (MHz)	Limit -26 dB Bandwidth (MHz)	Verdict
NVNT	a	5180	Ant1	19.367	0.5	Pass
NVNT	a	5200	Ant1	19.278	0.5	Pass
NVNT	a	5240	Ant1	19.197	0.5	Pass
NVNT	n20	5180	Ant1	19.982	0.5	Pass
NVNT	n20	5200	Ant1	20.101	0.5	Pass
NVNT	n20	5240	Ant1	19.677	0.5	Pass
NVNT	n40	5190	Ant1	39.746	0.5	Pass
NVNT	n40	5230	Ant1	40.011	0.5	Pass

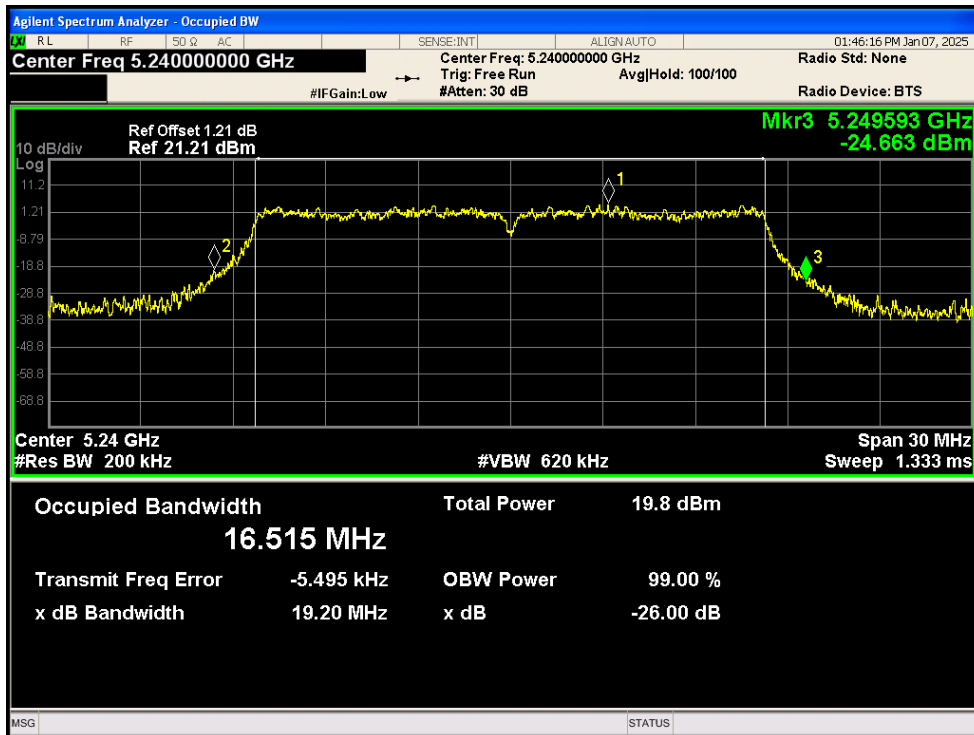
-26dB Bandwidth NVNT a 5180MHz Ant1



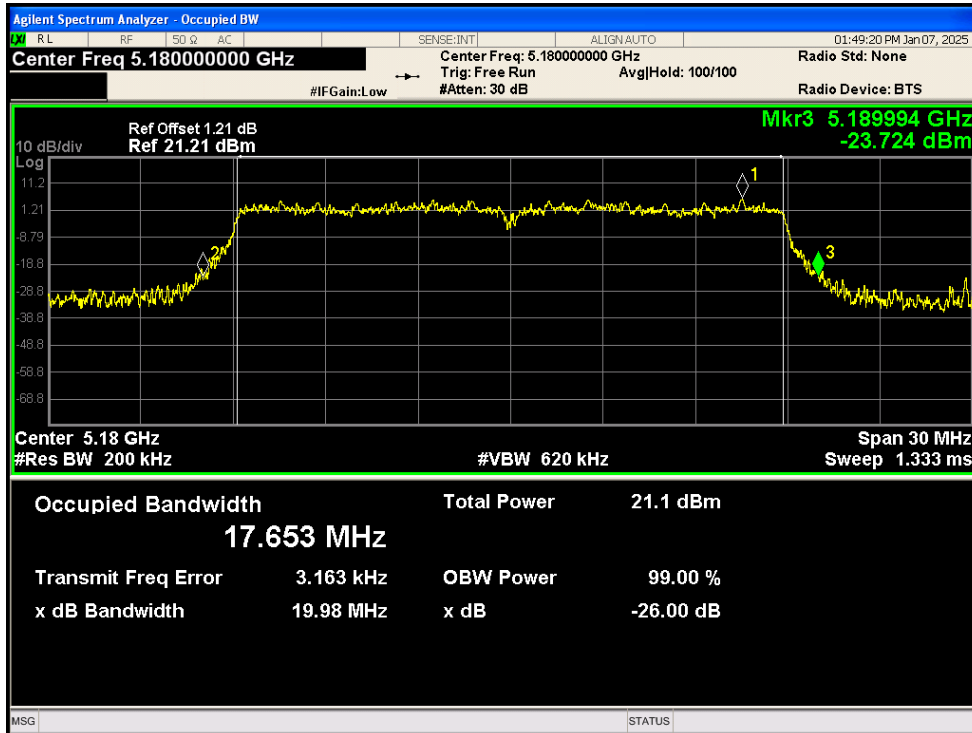
-26dB Bandwidth NVNT a 5200MHz Ant1



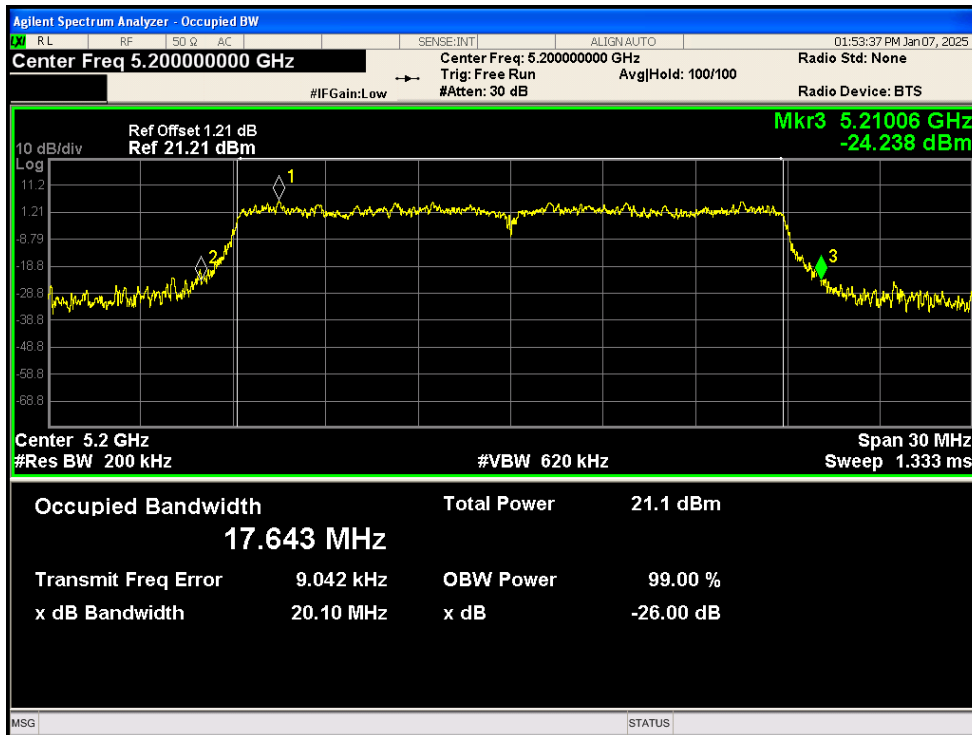
-26dB Bandwidth NVNT a 5240MHz Ant1



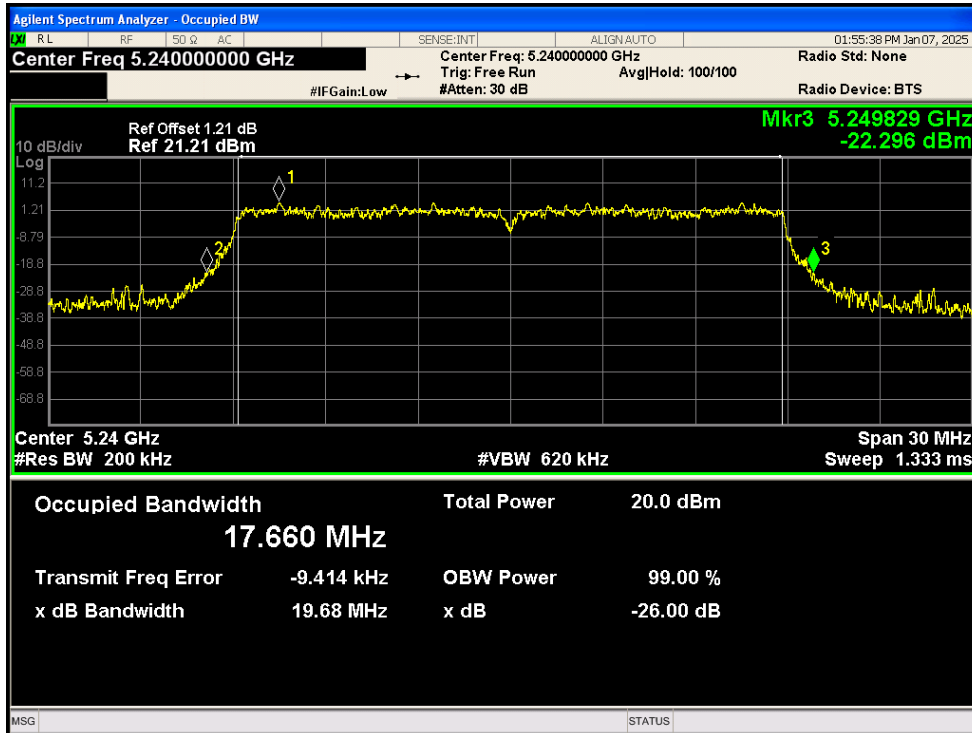
-26dB Bandwidth NVNT n20 5180MHz Ant1



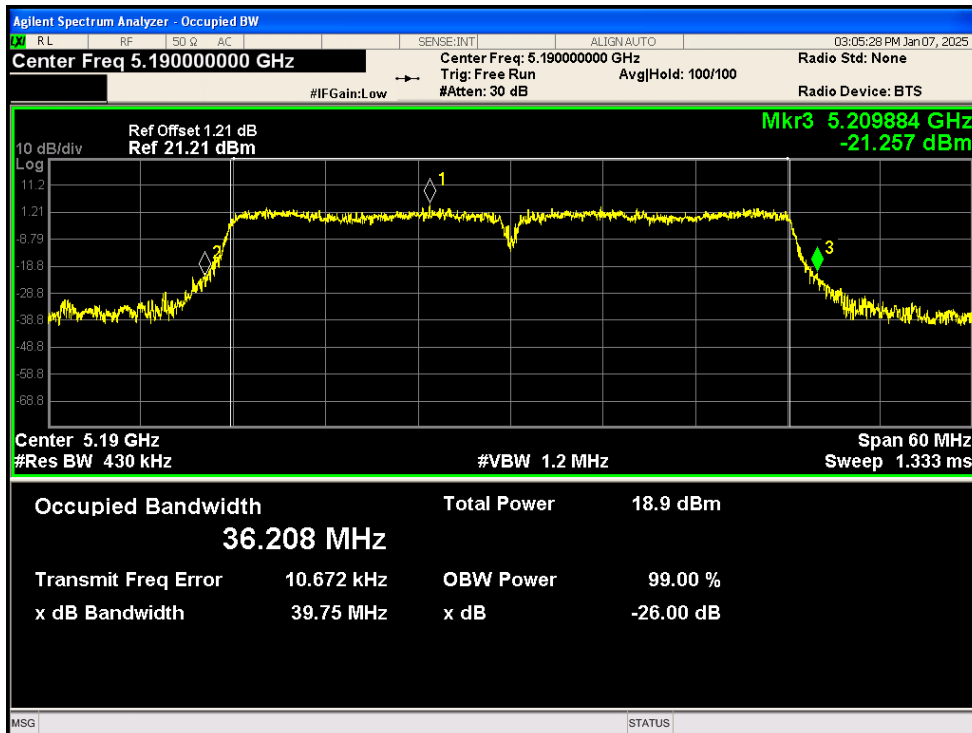
-26dB Bandwidth NVNT n20 5200MHz Ant1



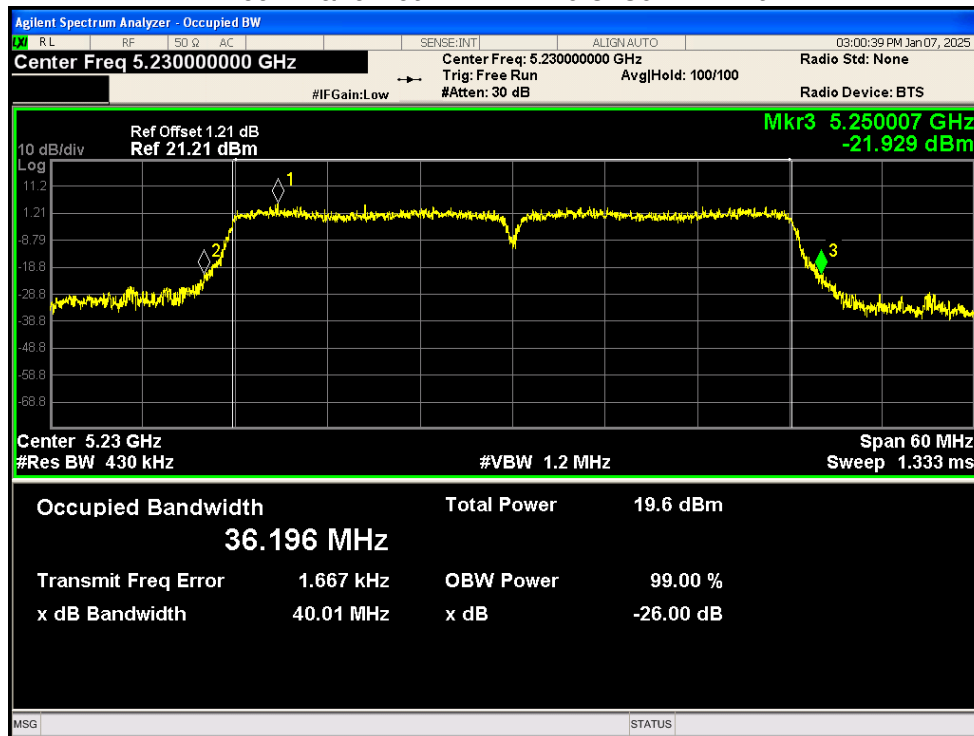
-26dB Bandwidth NVNT n20 5240MHz Ant1



-26dB Bandwidth NVNT n40 5190MHz Ant1



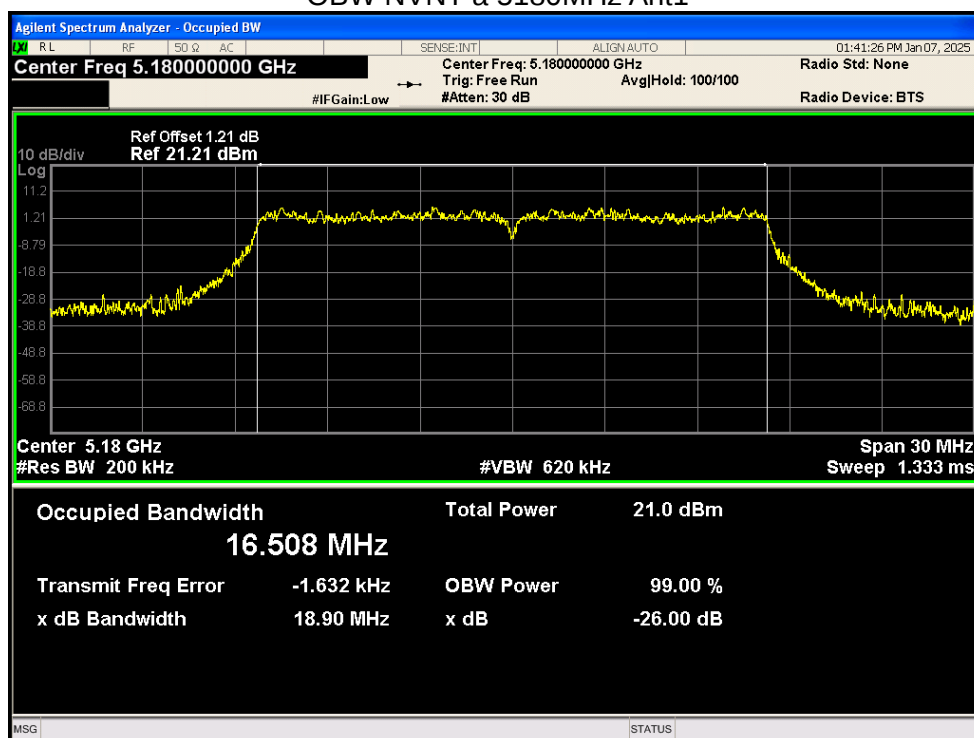
-26dB Bandwidth NVNT n40 5230MHz Ant1



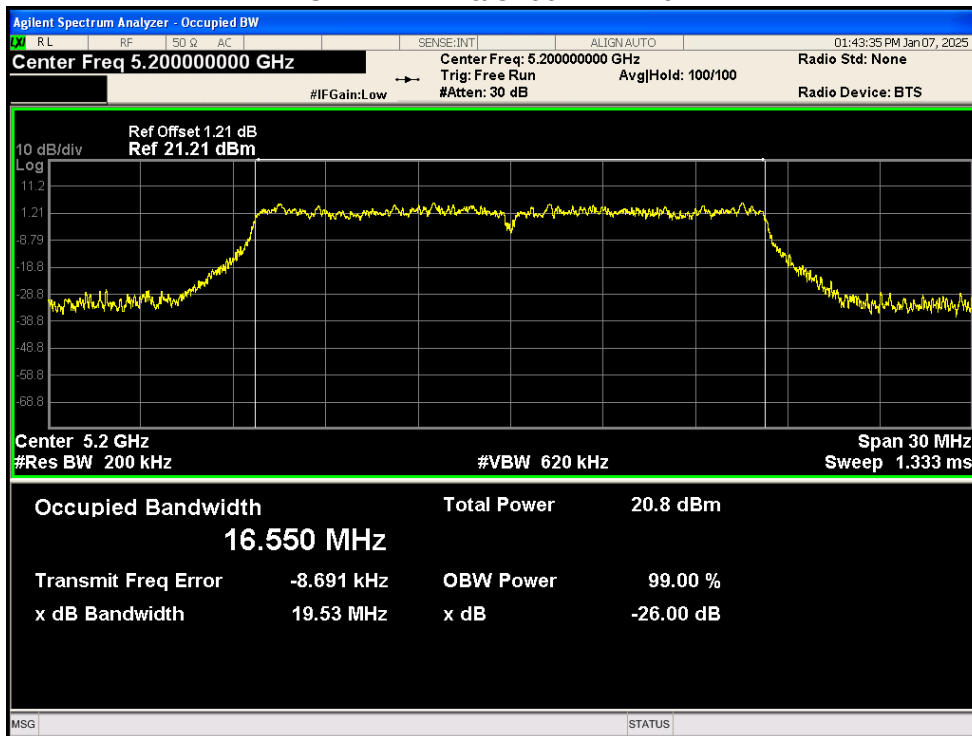
5.1.4 OCCUPIED CHANNEL BANDWIDTH

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	a	5180	Ant1	16.508
NVNT	a	5200	Ant1	16.55
NVNT	a	5240	Ant1	16.509
NVNT	n20	5180	Ant1	17.641
NVNT	n20	5200	Ant1	17.638
NVNT	n20	5240	Ant1	17.642
NVNT	n40	5190	Ant1	36.234
NVNT	n40	5230	Ant1	36.154

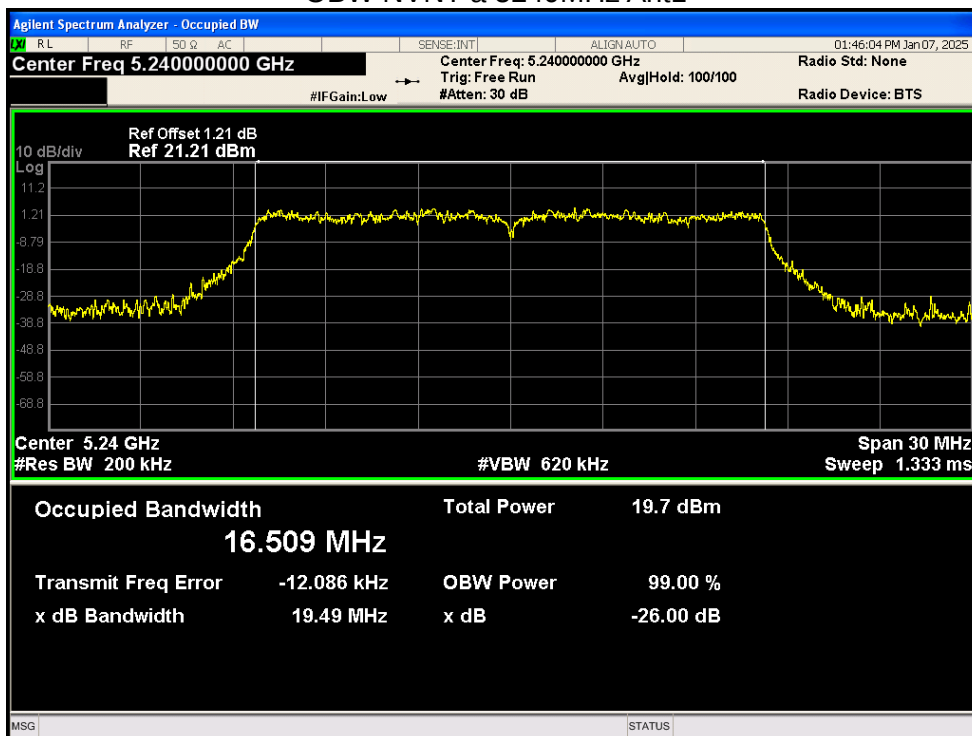
OBW NVNT a 5180MHz Ant1



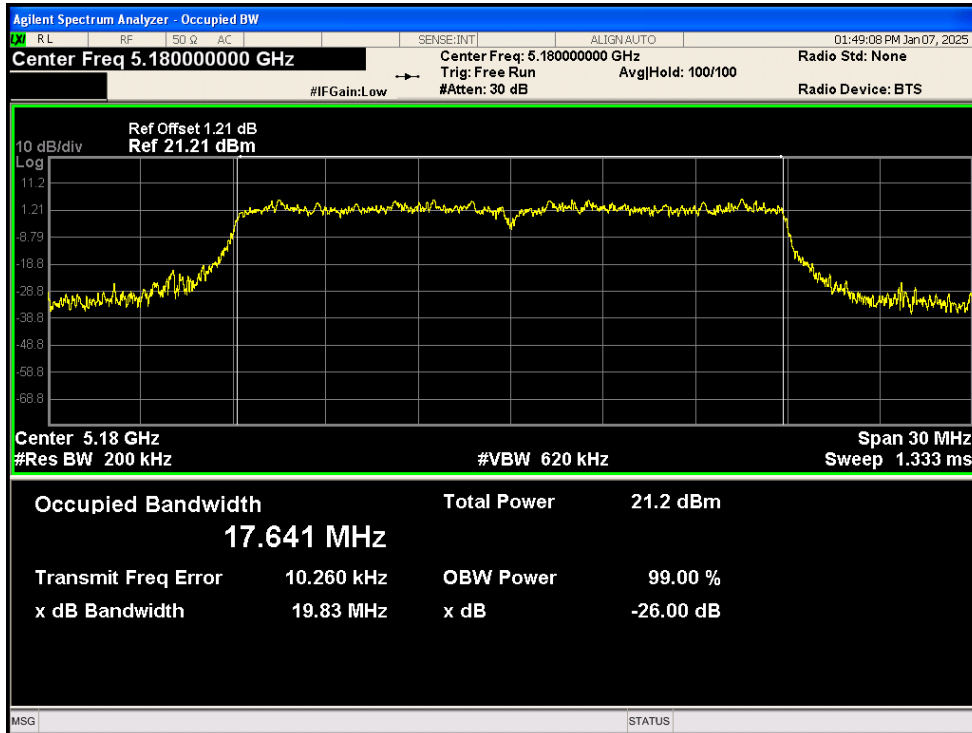
OBW NVNT a 5200MHz Ant1



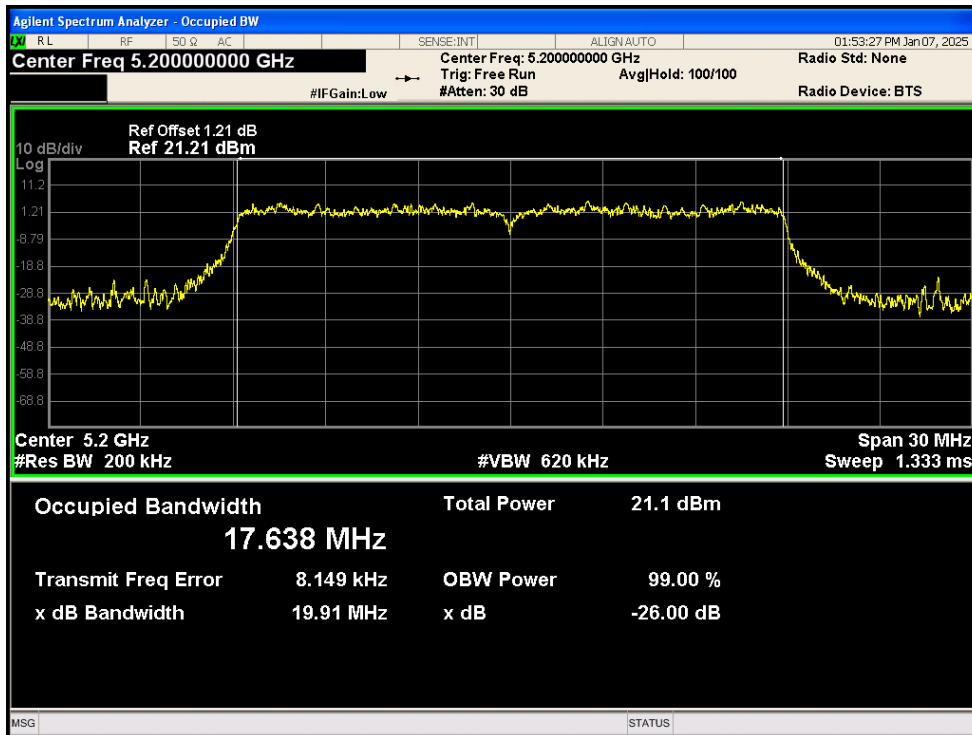
OBW NVNT a 5240MHz Ant1



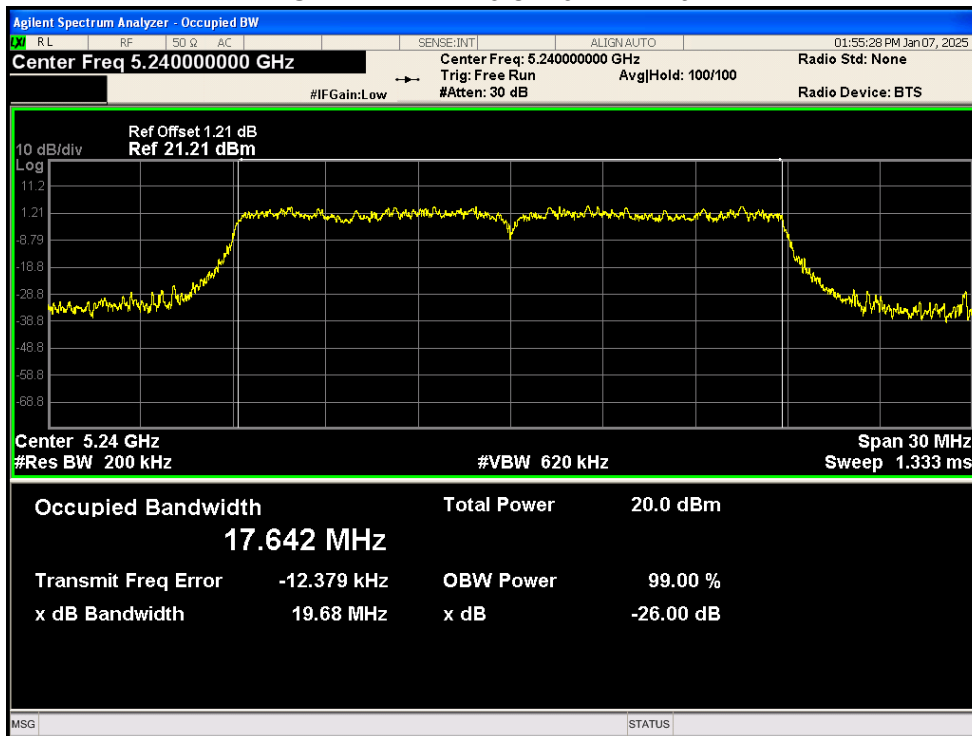
OBW NVNT n20 5180MHz Ant1



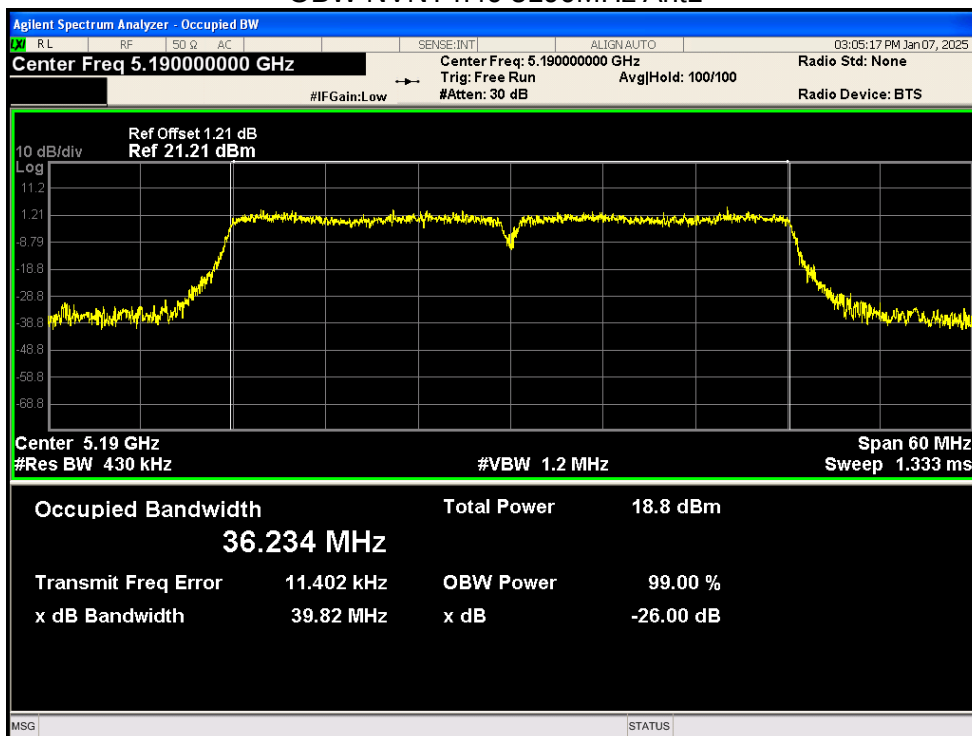
OBW NVNT n20 5200MHz Ant1



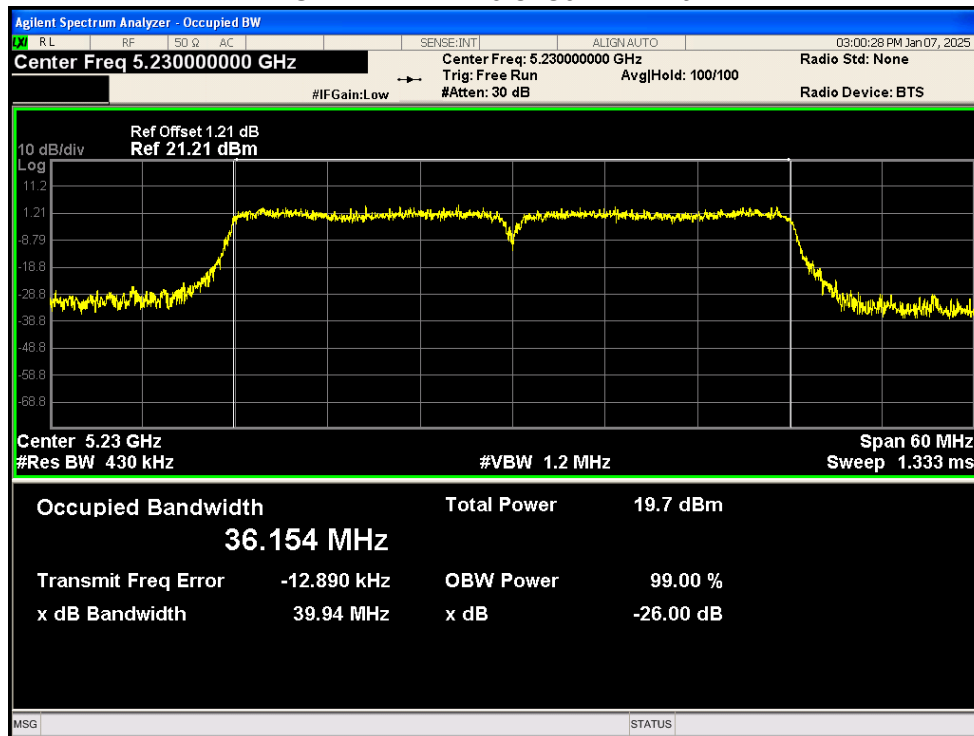
OBW NVNT n20 5240MHz Ant1



OBW NVNT n40 5190MHz Ant1



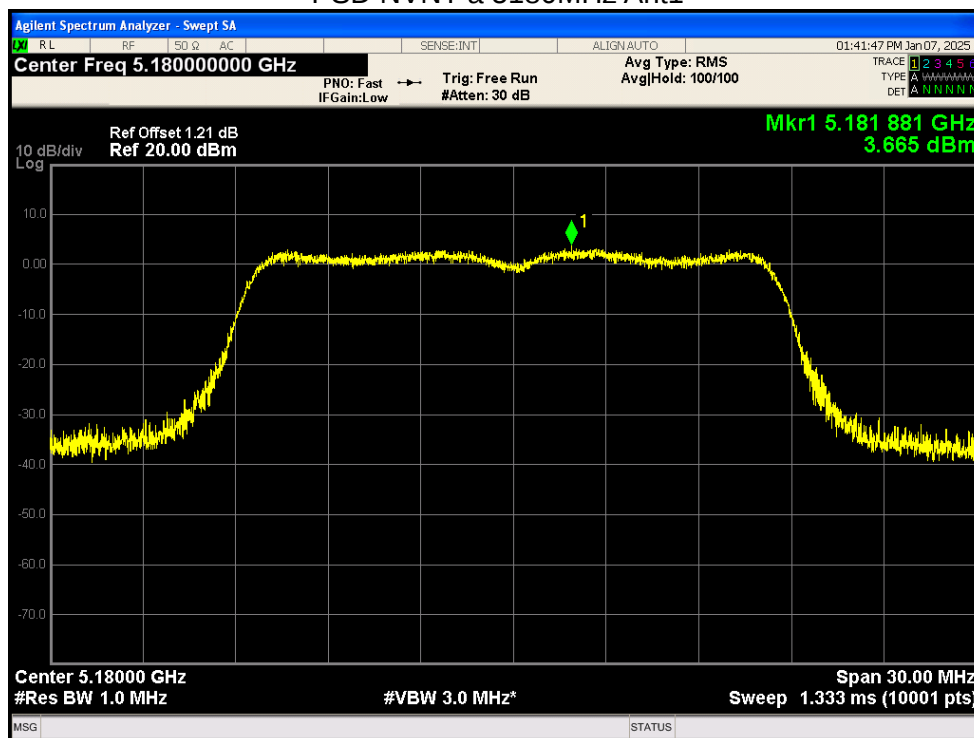
OBW NVNT n40 5230MHz Ant1



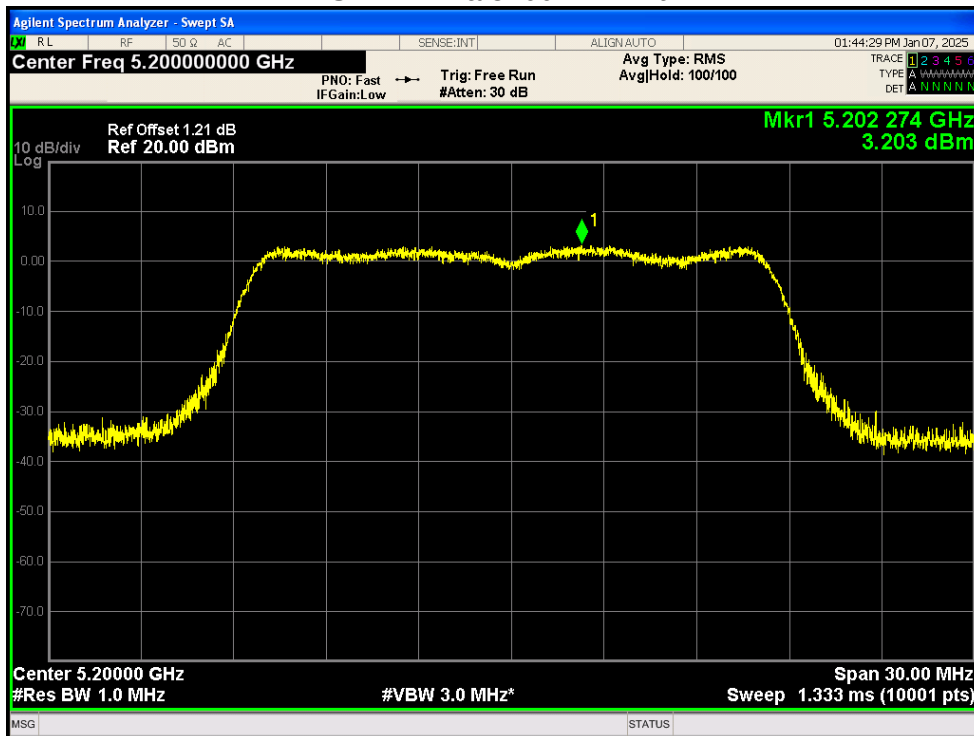
5.1.5 MAXIMUM POWER SPECTRAL DENSITY LEVEL

Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant1	3.665	11	Pass
NVNT	a	5200	Ant1	3.203	11	Pass
NVNT	a	5240	Ant1	1.93	11	Pass
NVNT	n20	5180	Ant1	3.475	11	Pass
NVNT	n20	5200	Ant1	2.972	11	Pass
NVNT	n20	5240	Ant1	2.144	11	Pass
NVNT	n40	5190	Ant1	-3.134	11	Pass
NVNT	n40	5230	Ant1	-2.017	11	Pass

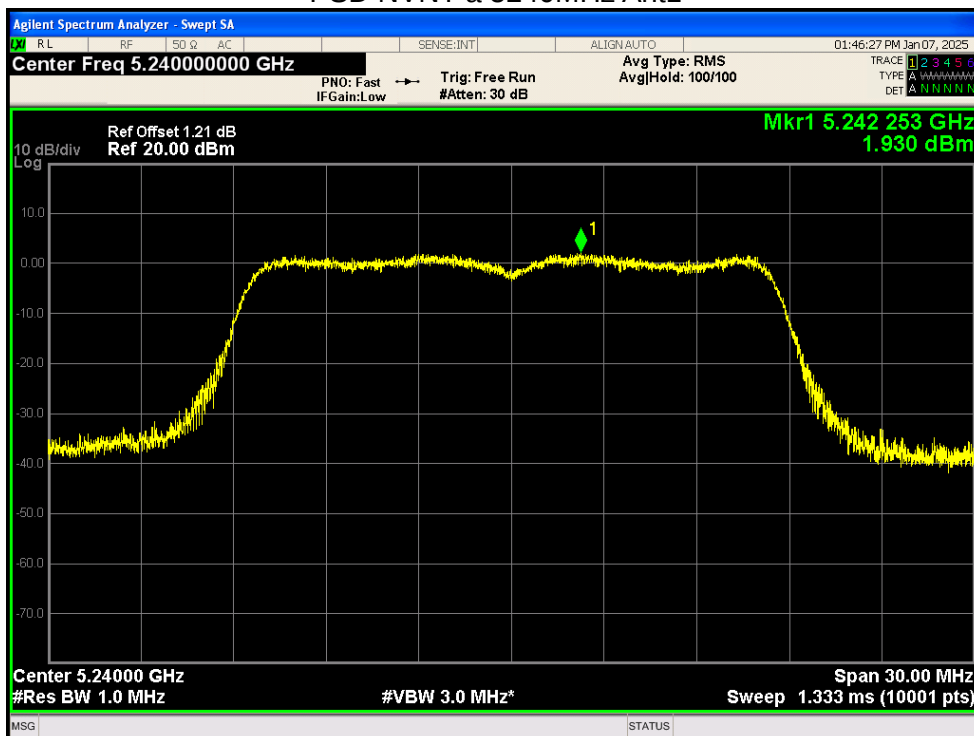
PSD NVNT a 5180MHz Ant1



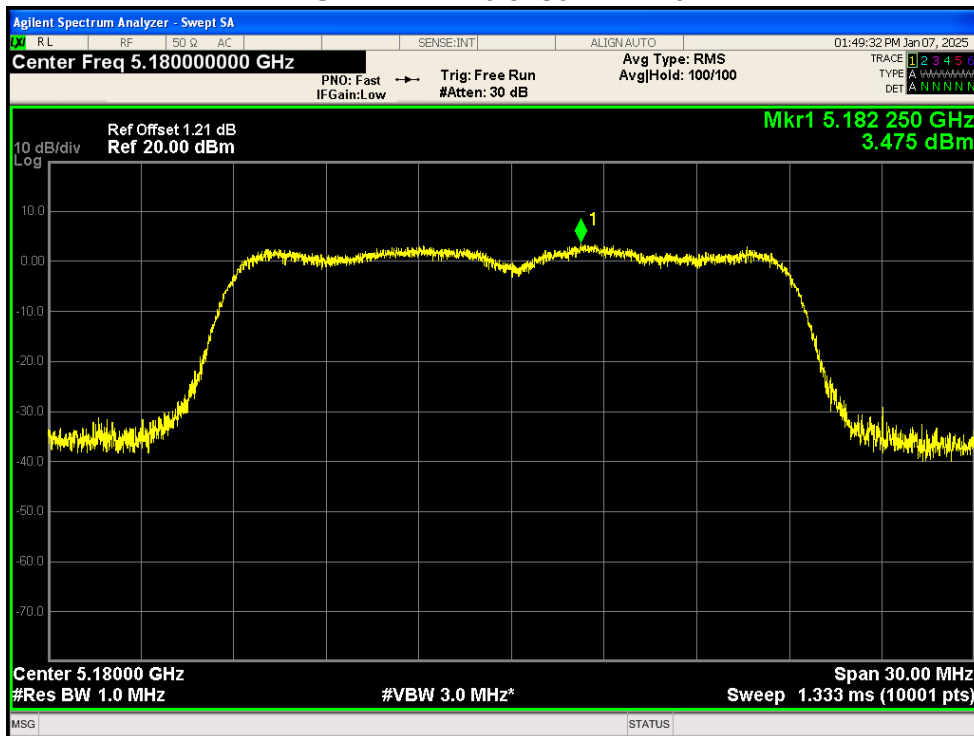
PSD NVNT a 5200MHz Ant1



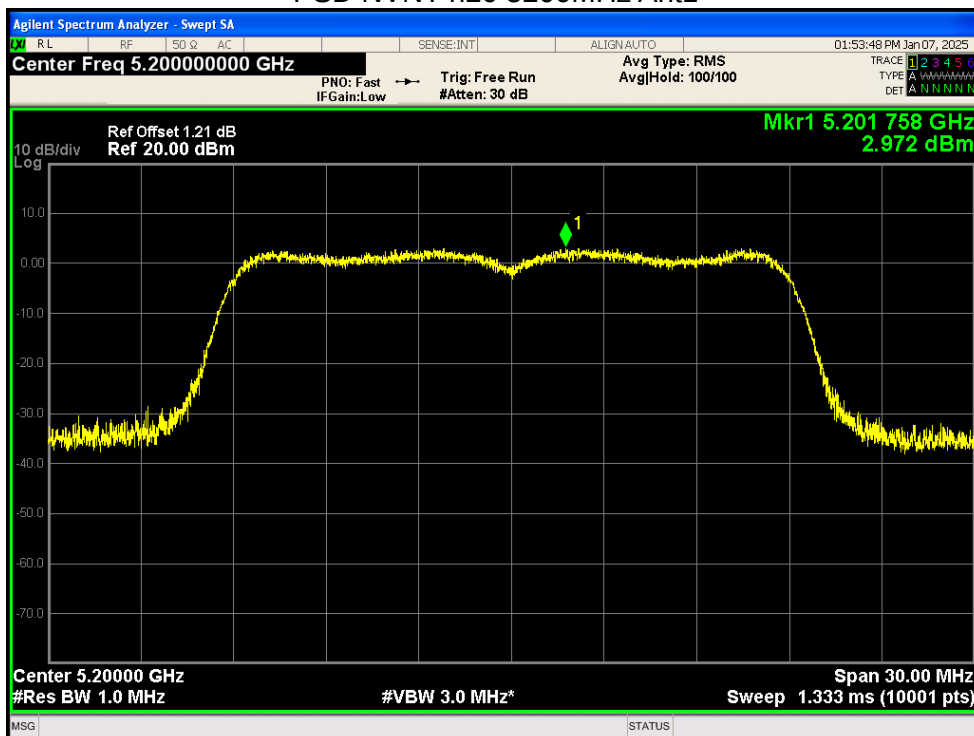
PSD NVNT a 5240MHz Ant1



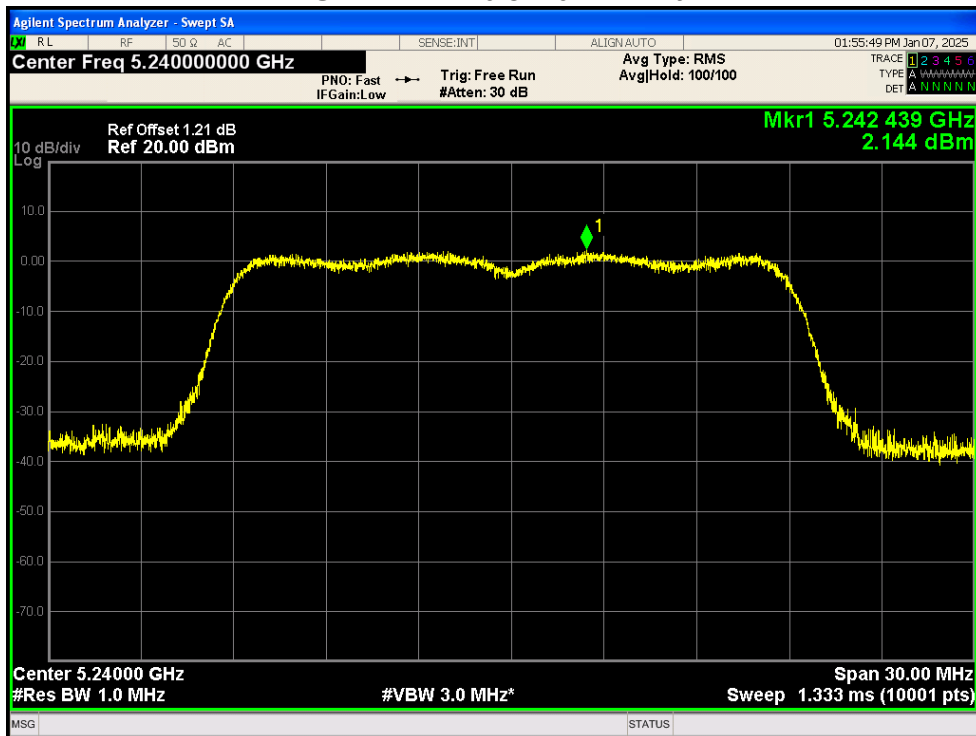
PSD NVNT n20 5180MHz Ant1



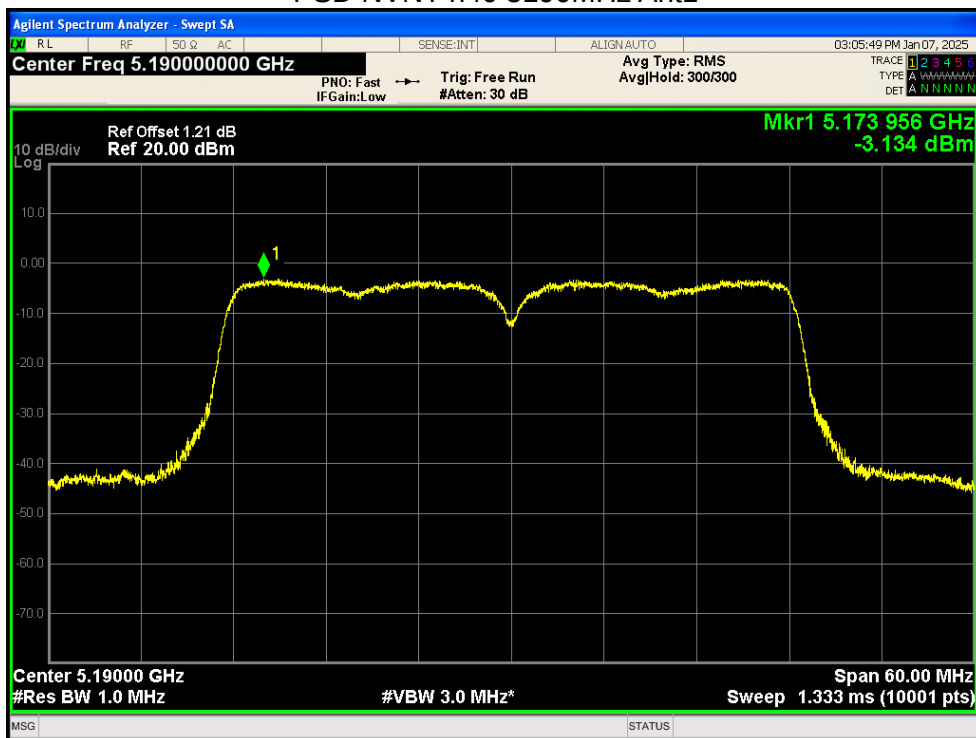
PSD NVNT n20 5200MHz Ant1



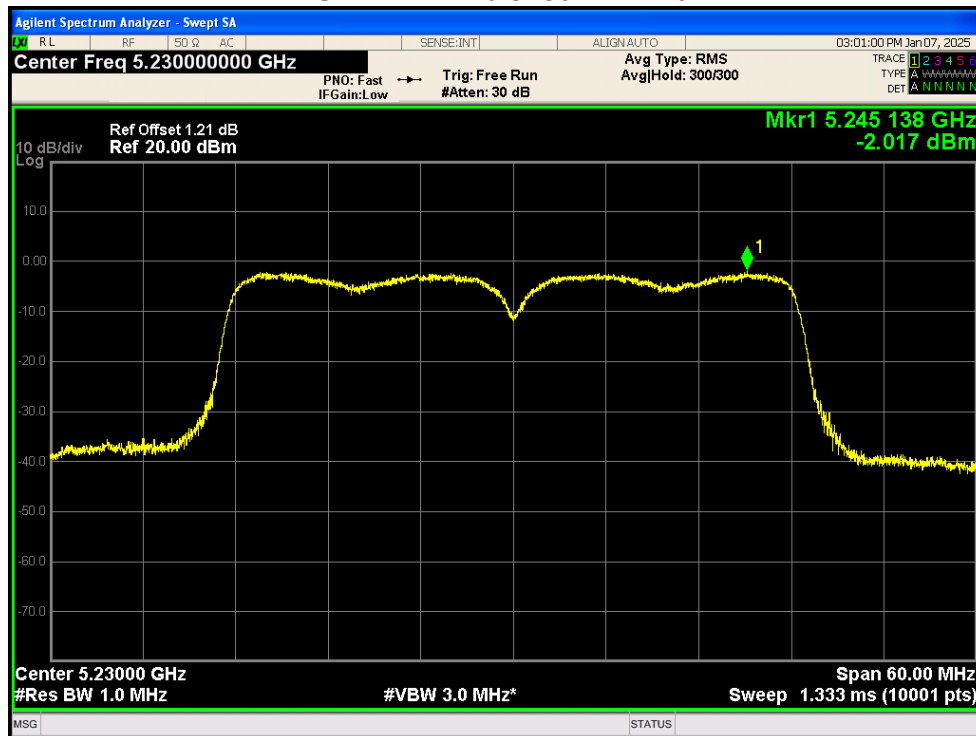
PSD NVNT n20 5240MHz Ant1



PSD NVNT n40 5190MHz Ant1



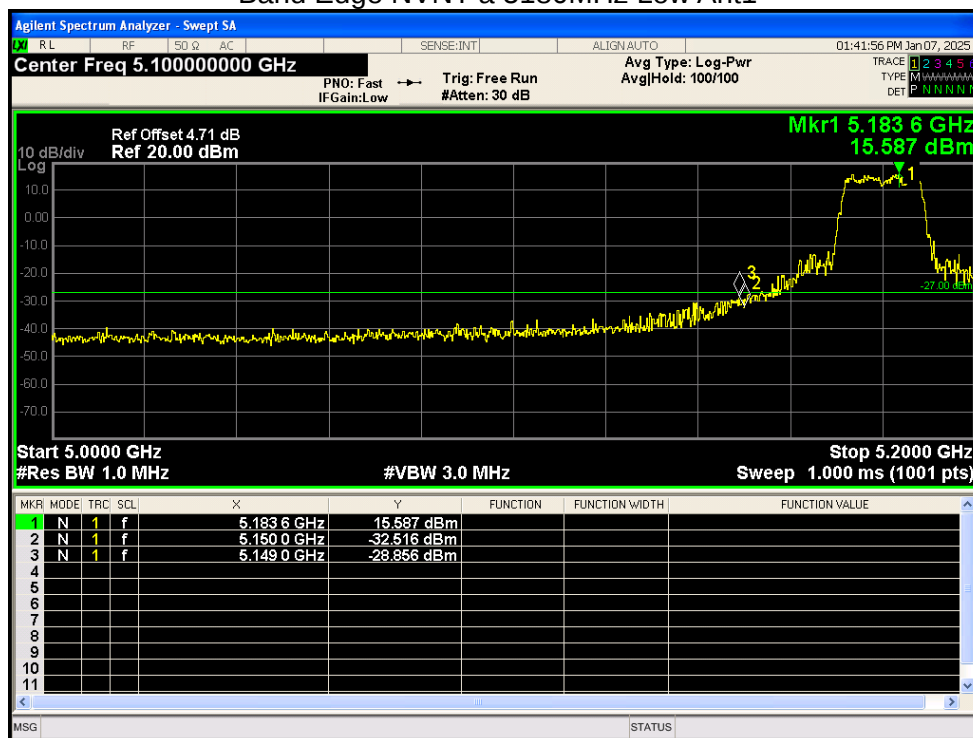
PSD NVNT n40 5230MHz Ant1



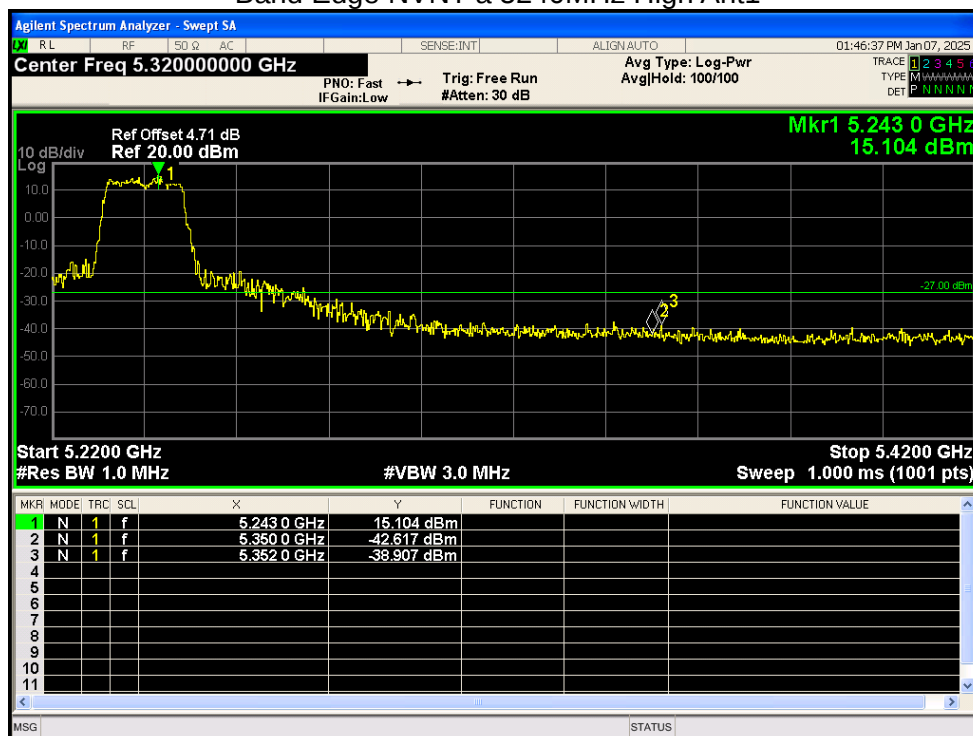
5.1.6 BAND EDGE

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant1	-28.85	-27	Pass
NVNT	a	5240	Ant1	-38.9	-27	Pass
NVNT	n20	5180	Ant1	-27.51	-27	Pass
NVNT	n20	5240	Ant1	-39.07	-27	Pass
NVNT	n40	5190	Ant1	-28.83	-27	Pass
NVNT	n40	5230	Ant1	-36.89	-27	Pass

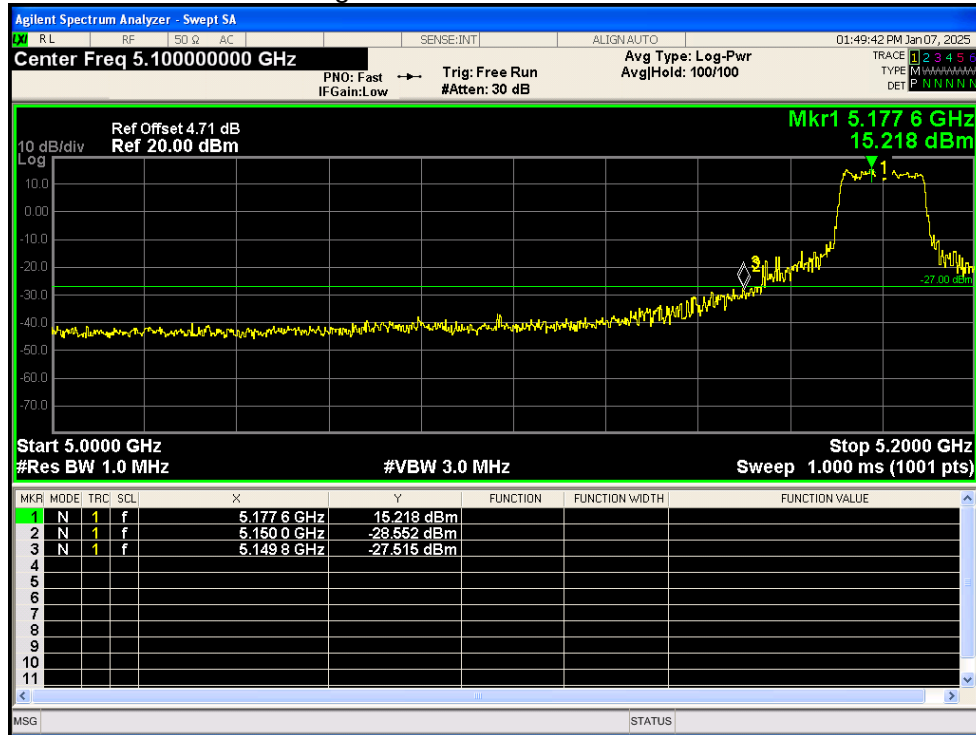
Band Edge NVNT a 5180MHz Low Ant1



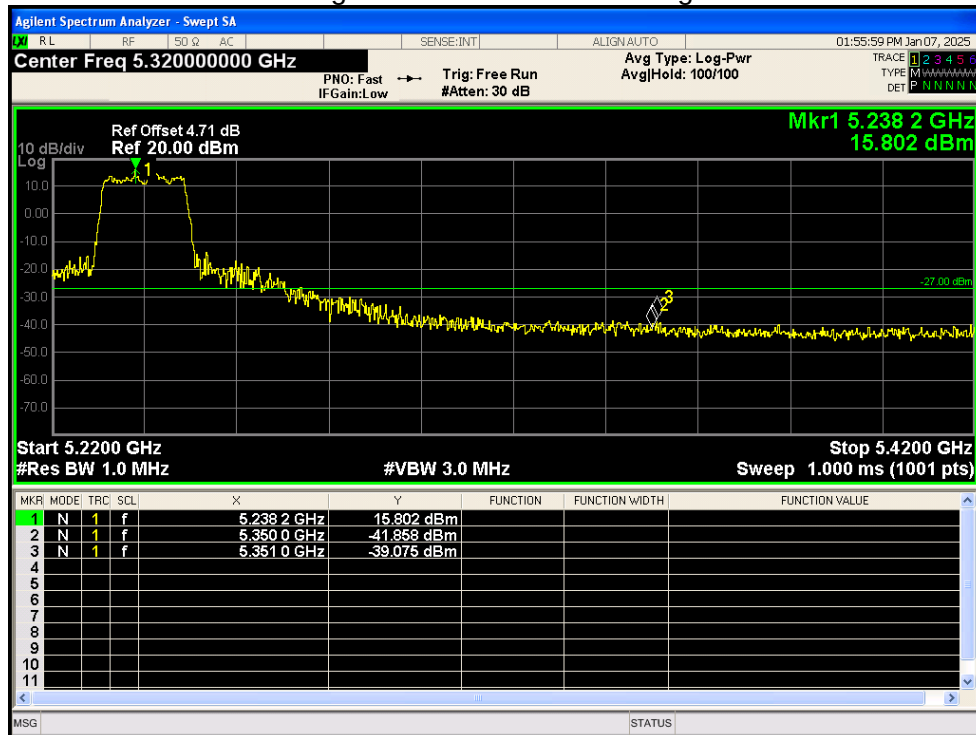
Band Edge NVNT a 5240MHz High Ant1



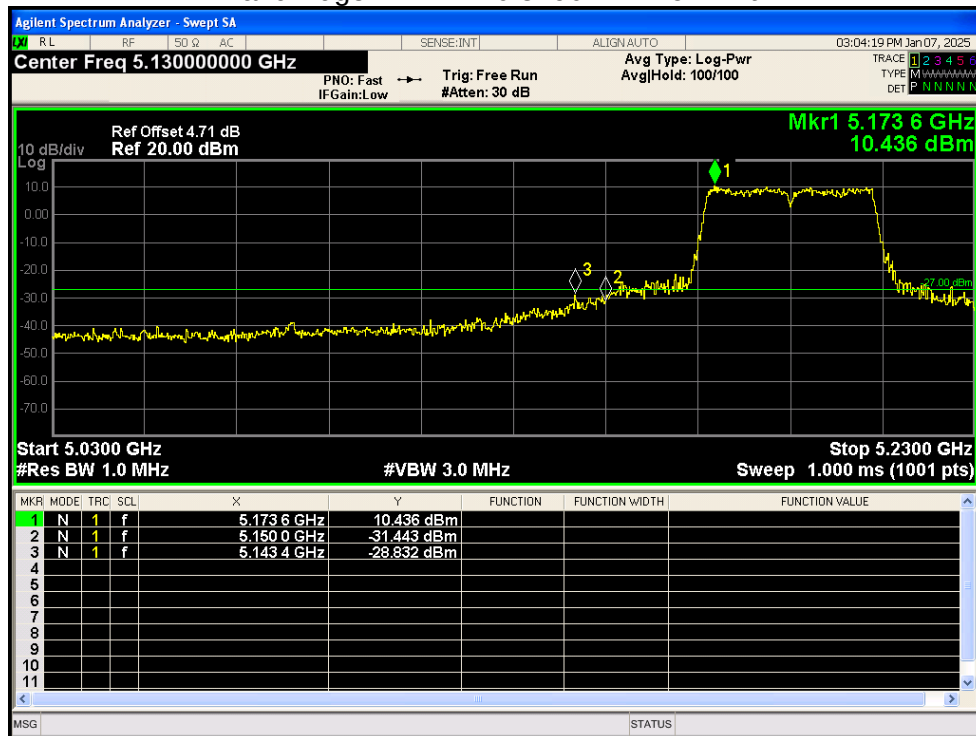
Band Edge NVNT n20 5180MHz Low Ant1



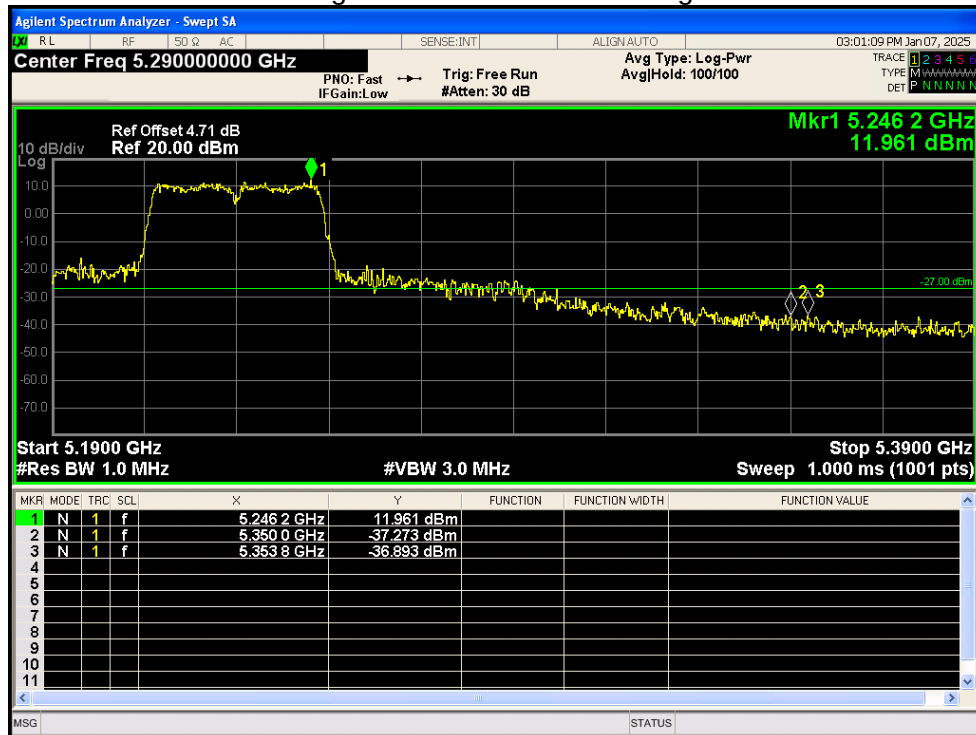
Band Edge NVNT n20 5240MHz High Ant1



Band Edge NVNT n40 5190MHz Low Ant1



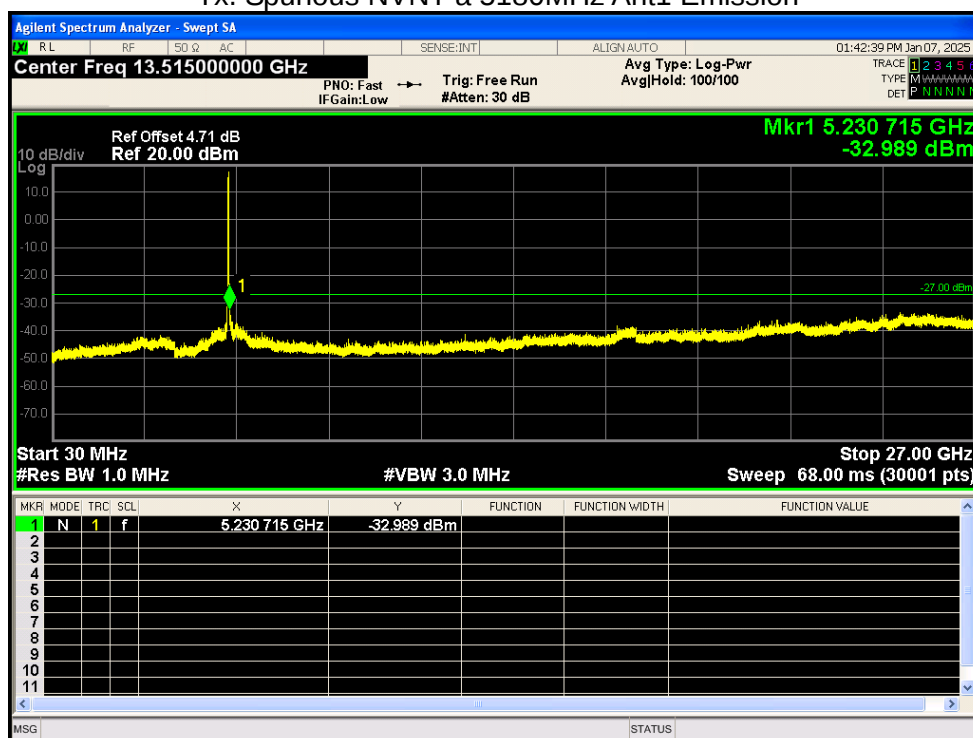
Band Edge NVNT n40 5230MHz High Ant1



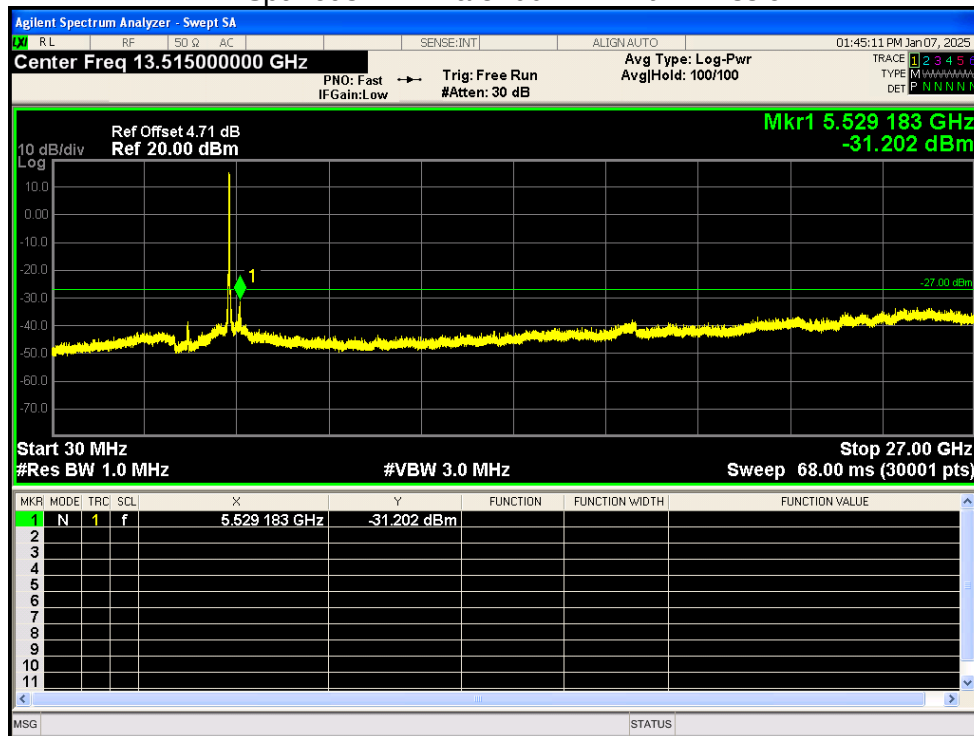
5.1.7 CONDUCTED RF SPURIOUS EMISSION

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant1	-32.98	-27	Pass
NVNT	a	5200	Ant1	-31.2	-27	Pass
NVNT	a	5240	Ant1	-33.53	-27	Pass
NVNT	n20	5180	Ant1	-32.6	-27	Pass
NVNT	n20	5200	Ant1	-32.32	-27	Pass
NVNT	n20	5240	Ant1	-32.33	-27	Pass
NVNT	n40	5190	Ant1	-33.36	-27	Pass
NVNT	n40	5230	Ant1	-32.22	-27	Pass

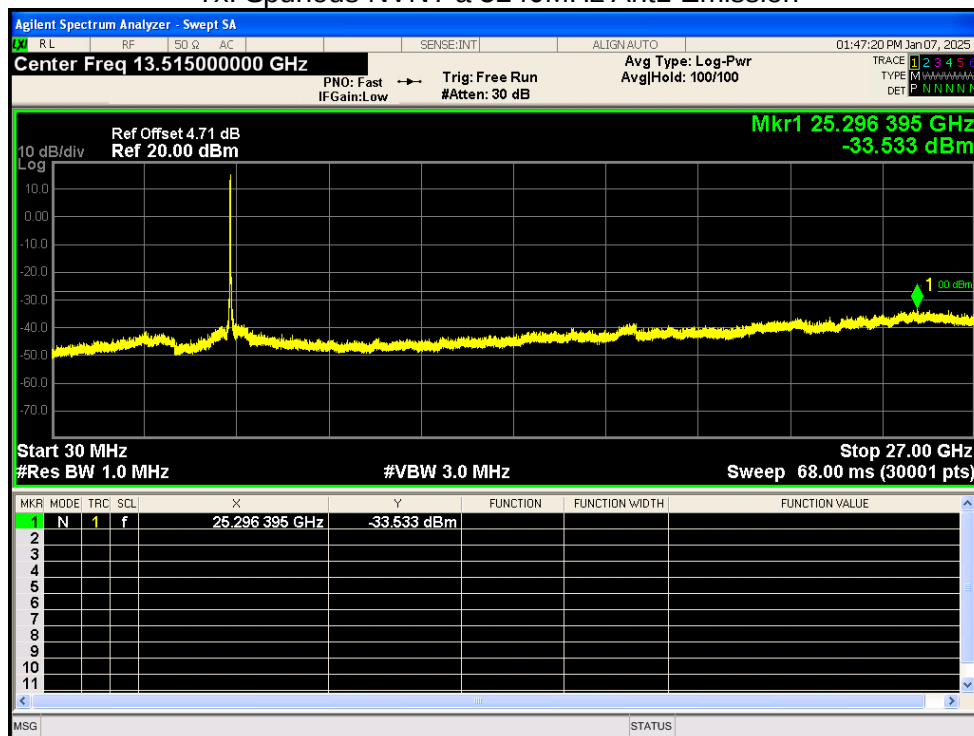
Tx. Spurious NVNT a 5180MHz Ant1 Emission



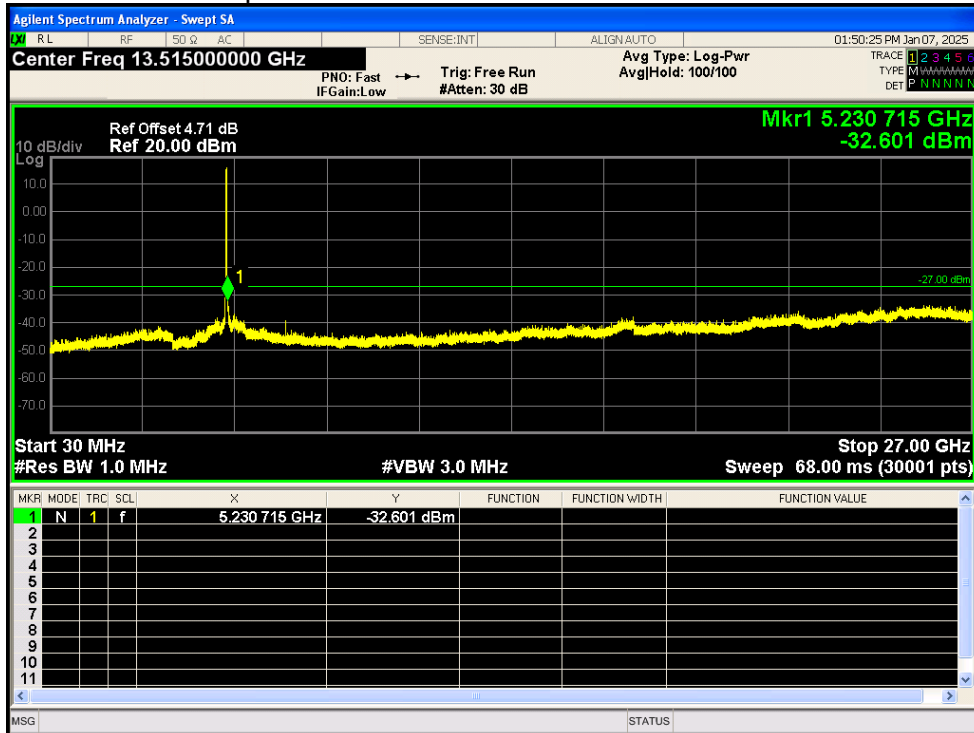
Tx. Spurious NVNT a 5200MHz Ant1 Emission



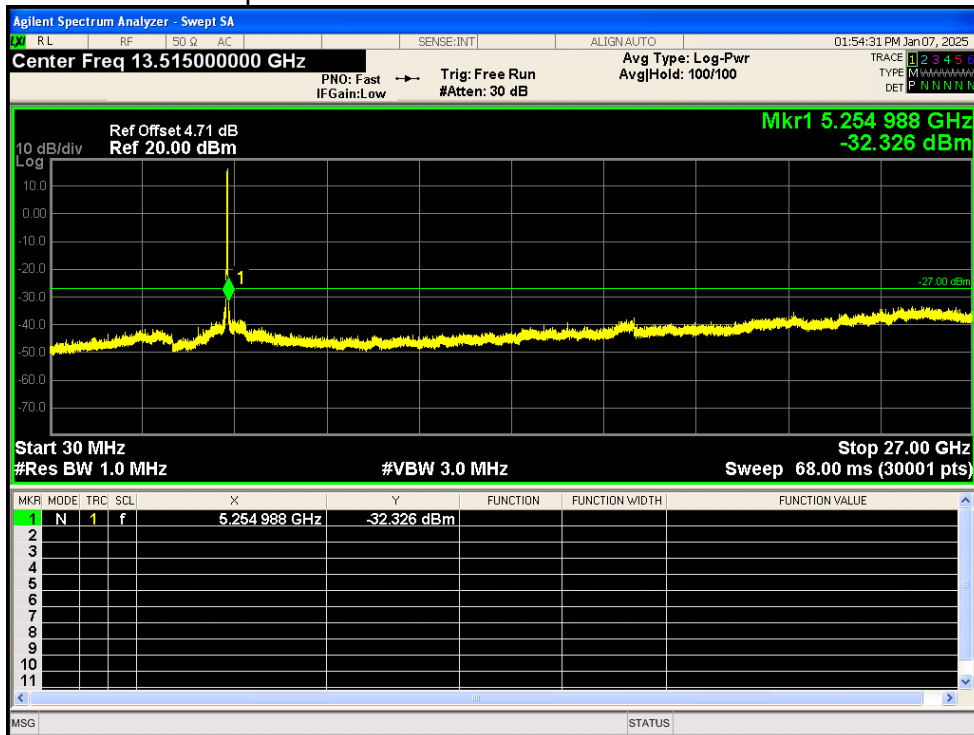
Tx. Spurious NVNT a 5240MHz Ant1 Emission



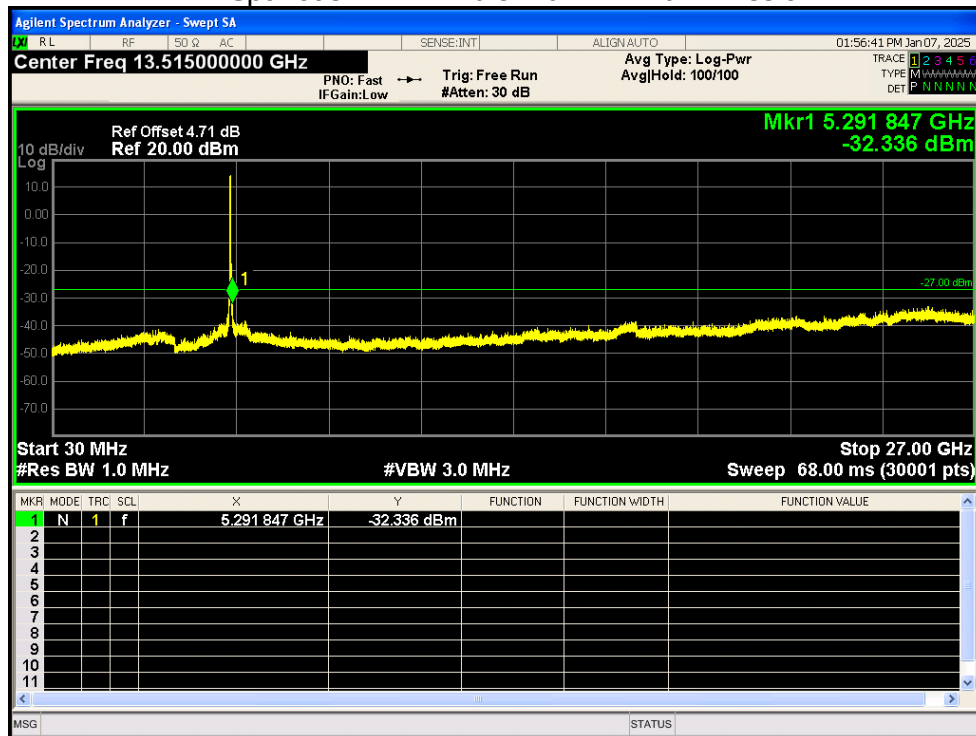
Tx. Spurious NVNT n20 5180MHz Ant1 Emission



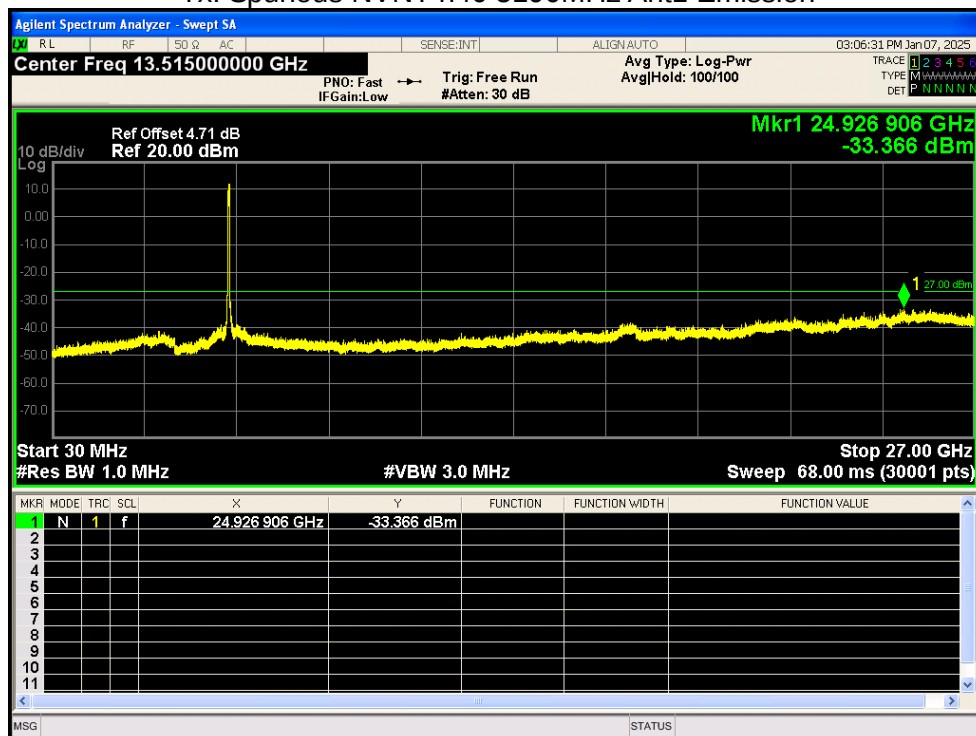
Tx. Spurious NVNT n20 5200MHz Ant1 Emission



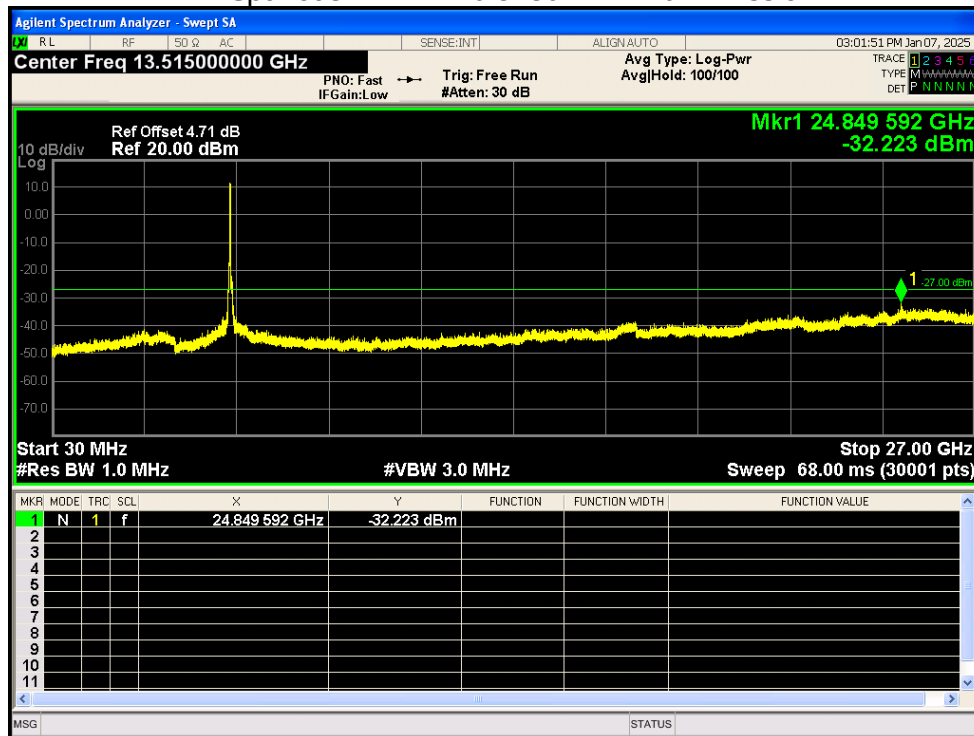
Tx. Spurious NVNT n20 5240MHz Ant1 Emission



Tx. Spurious NVNT n40 5190MHz Ant1 Emission



Tx. Spurious NVNT n40 5230MHz Ant1 Emission

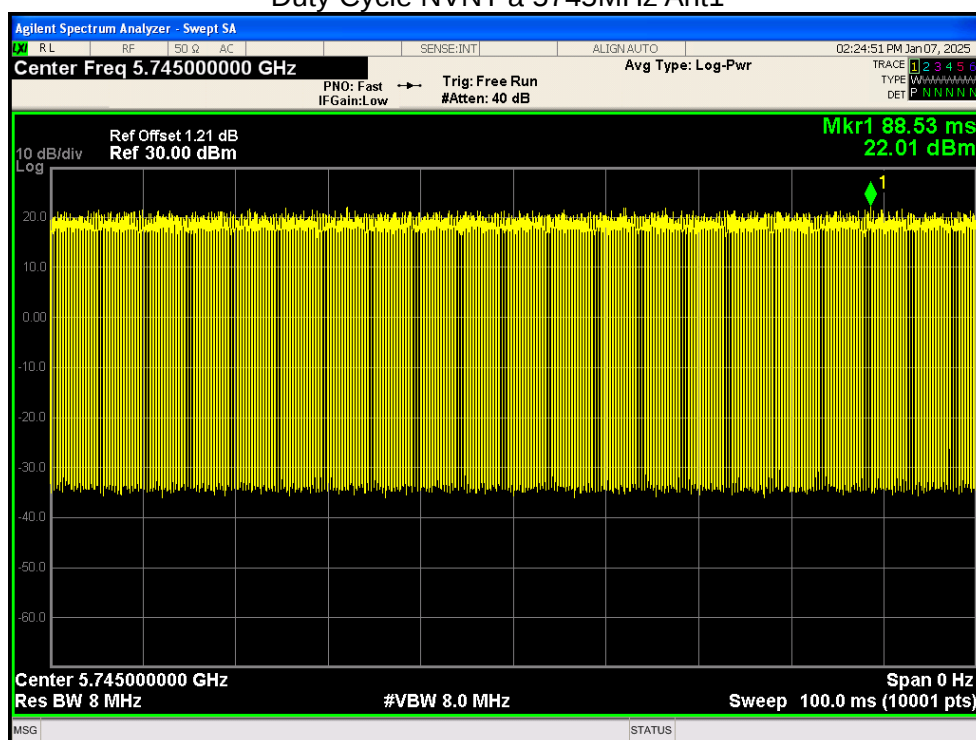


5.2 5.8G WIFI

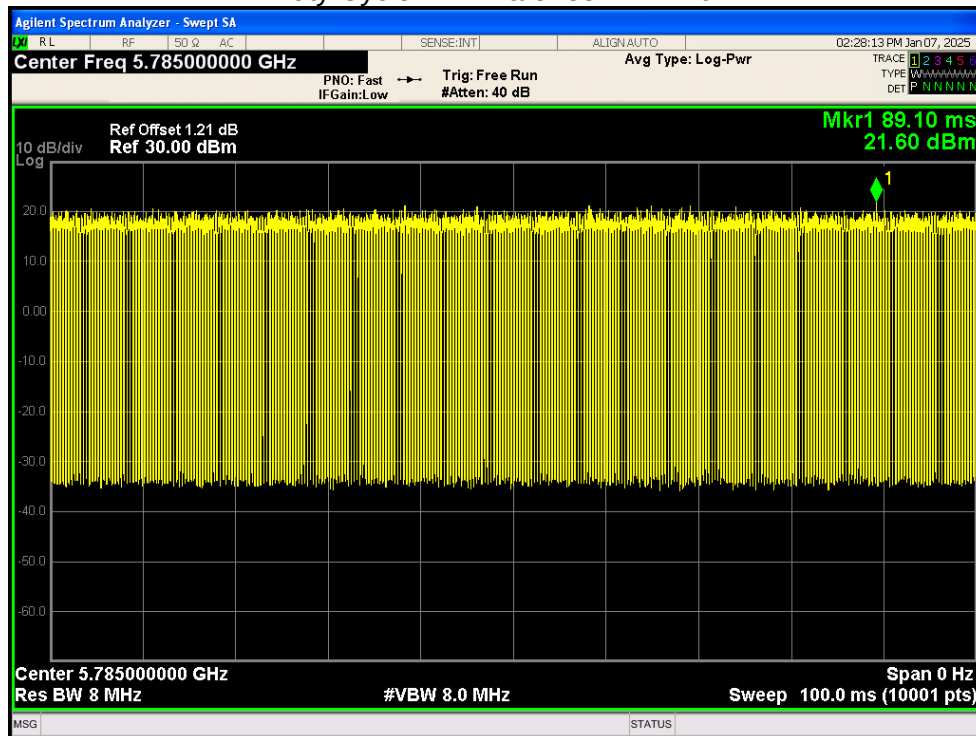
5.2.1 DUTY CYCLE

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)
NVNT	a	5745	Ant1	70.66	1.51
NVNT	a	5785	Ant1	70.78	1.5
NVNT	a	5825	Ant1	70.7	1.51
NVNT	n20	5745	Ant1	69.12	1.6
NVNT	n20	5785	Ant1	69.1	1.61
NVNT	n20	5825	Ant1	69.11	1.6
NVNT	n40	5755	Ant1	57.77	2.38
NVNT	n40	5795	Ant1	57.81	2.38

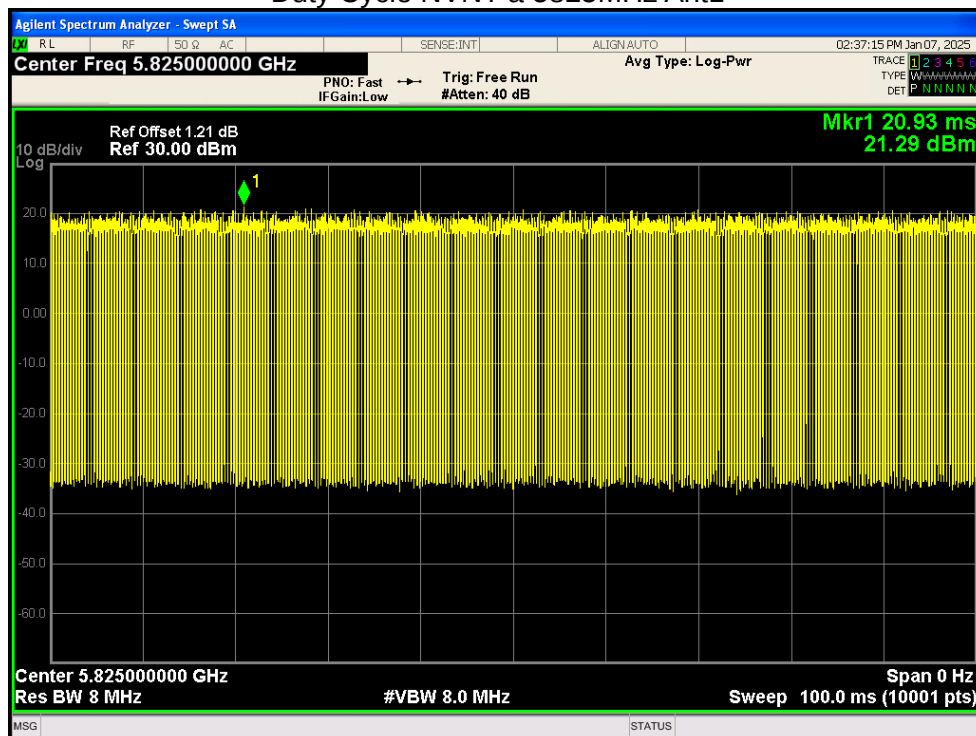
Duty Cycle NVNT a 5745MHz Ant1



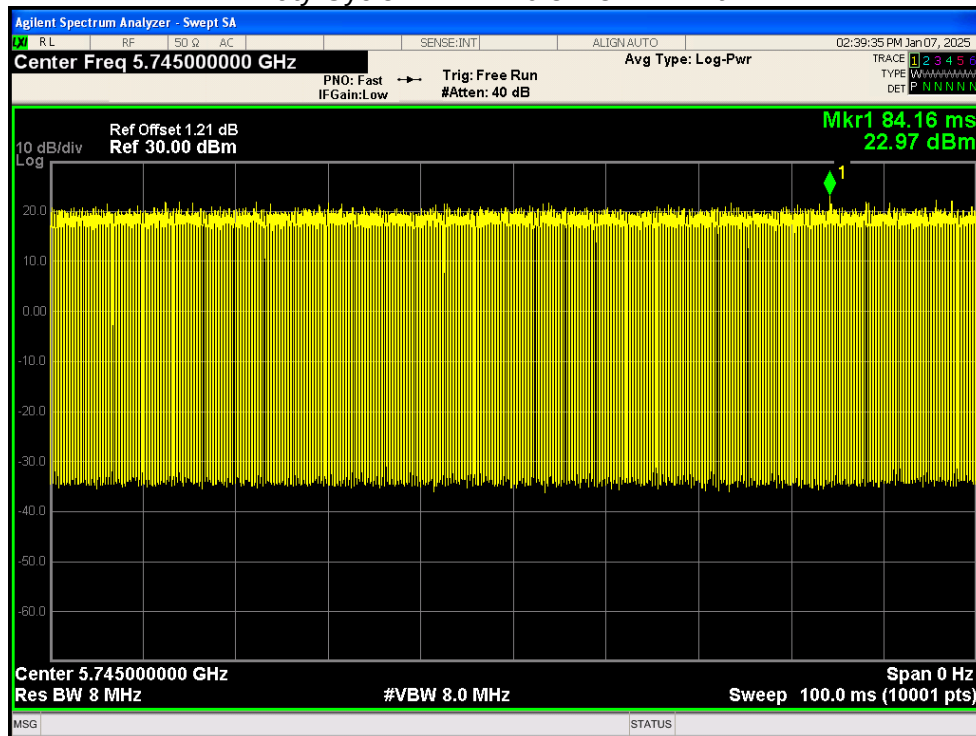
Duty Cycle NVNT a 5785MHz Ant1



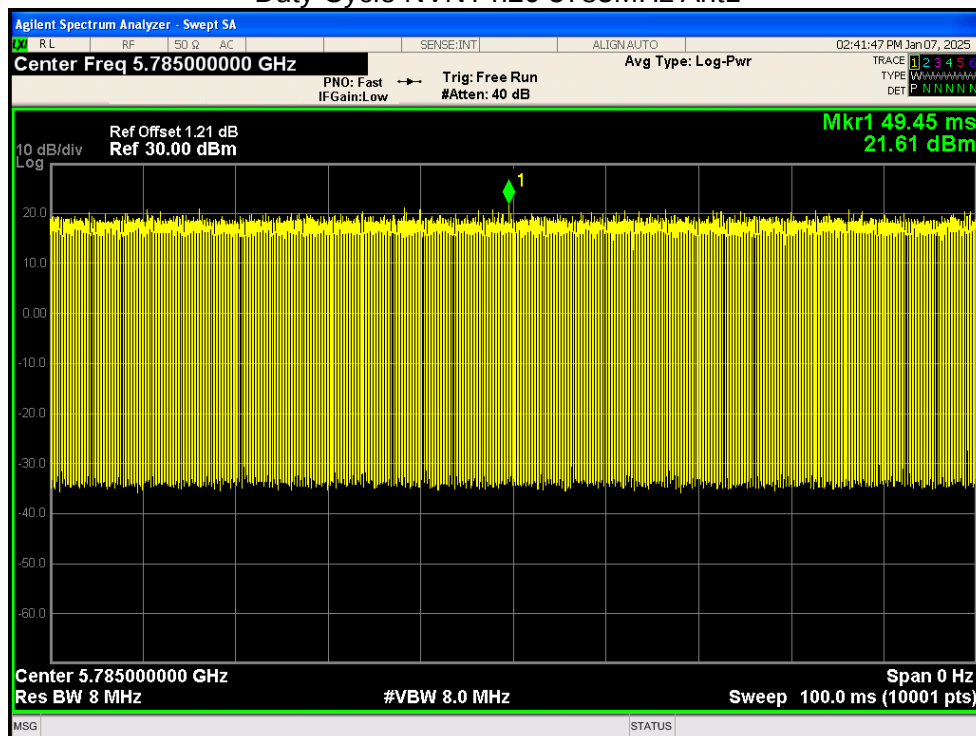
Duty Cycle NVNT a 5825MHz Ant1



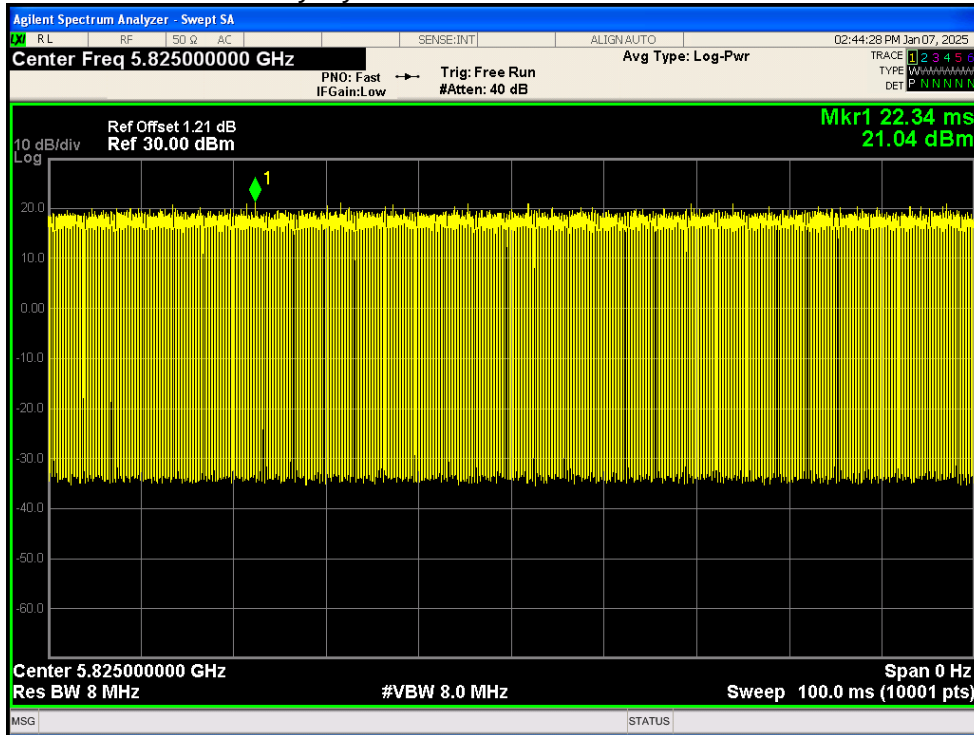
Duty Cycle NVNT n20 5745MHz Ant1



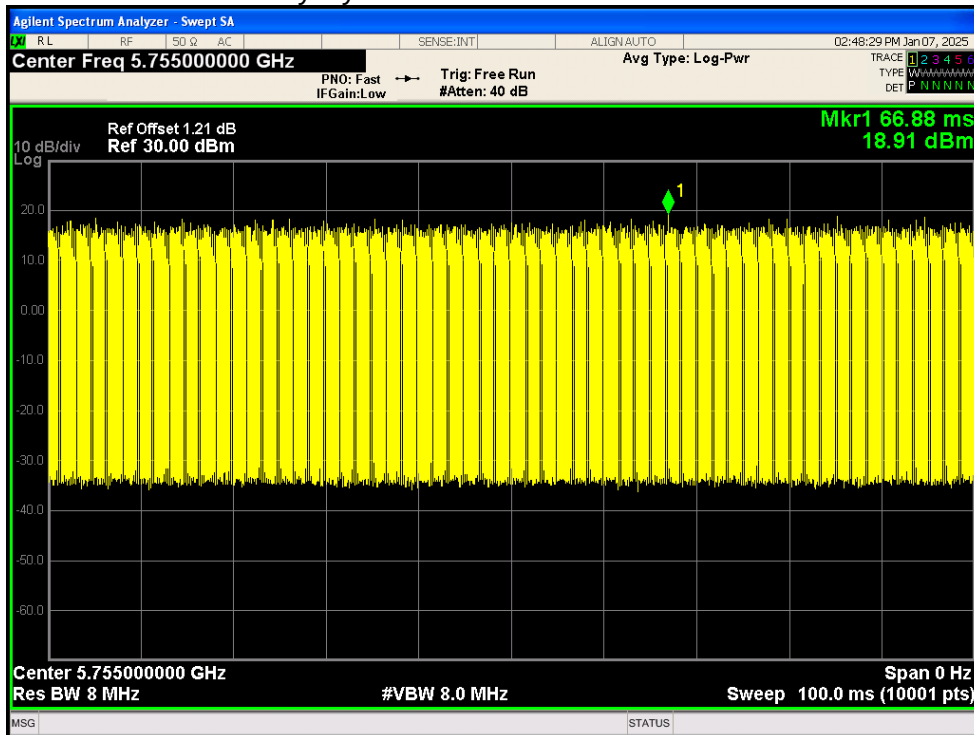
Duty Cycle NVNT n20 5785MHz Ant1



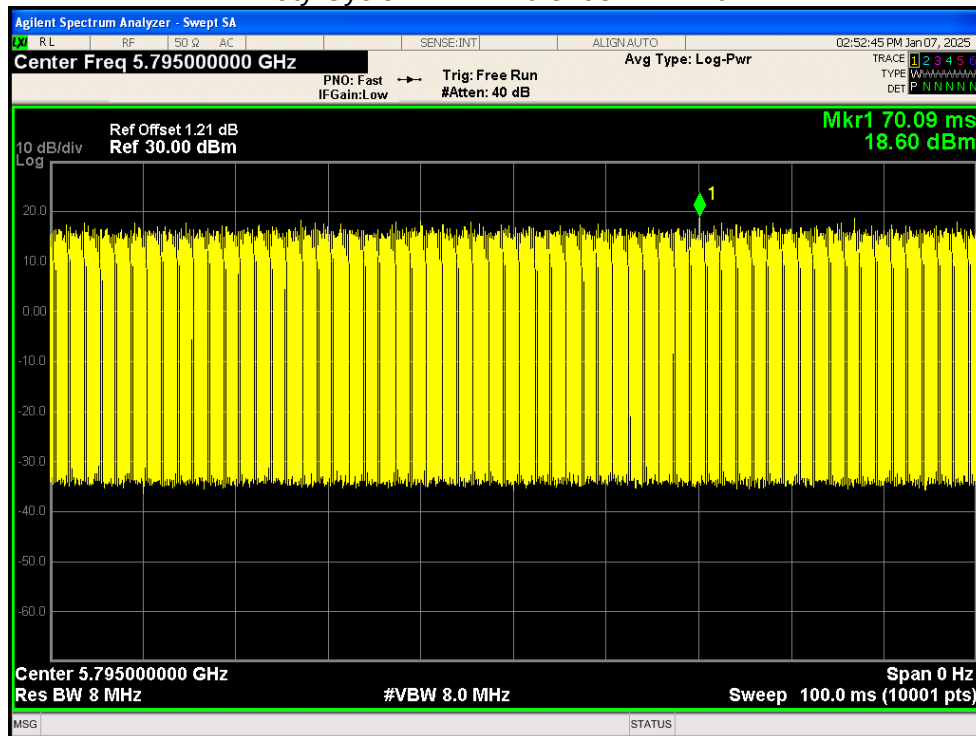
Duty Cycle NVNT n20 5825MHz Ant1



Duty Cycle NVNT n40 5755MHz Ant1



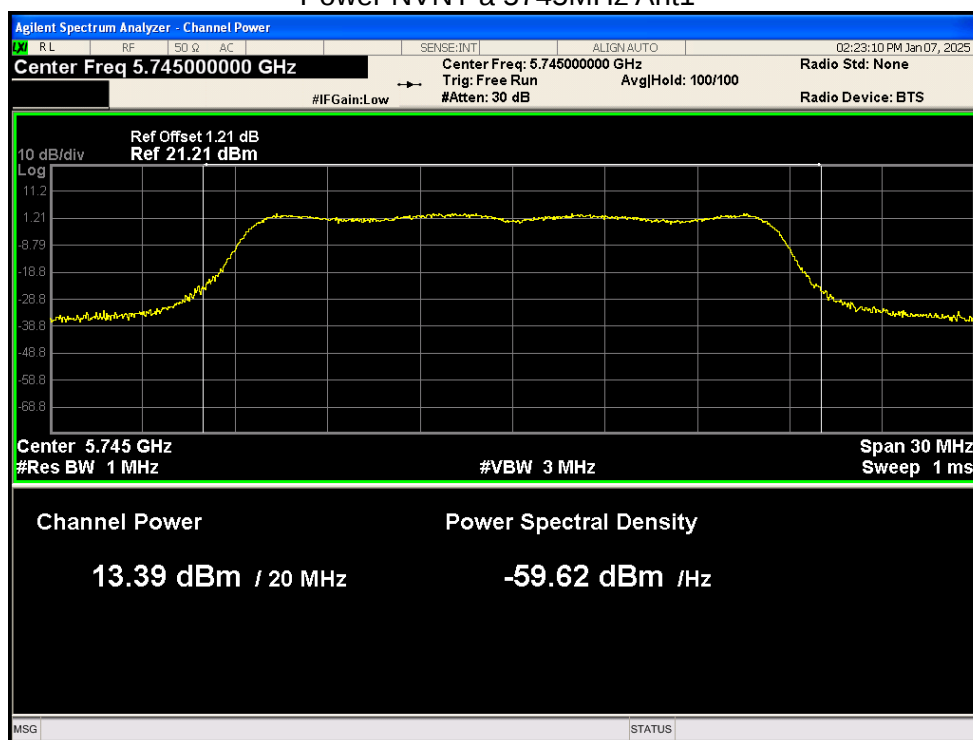
Duty Cycle NVNT n40 5795MHz Ant1



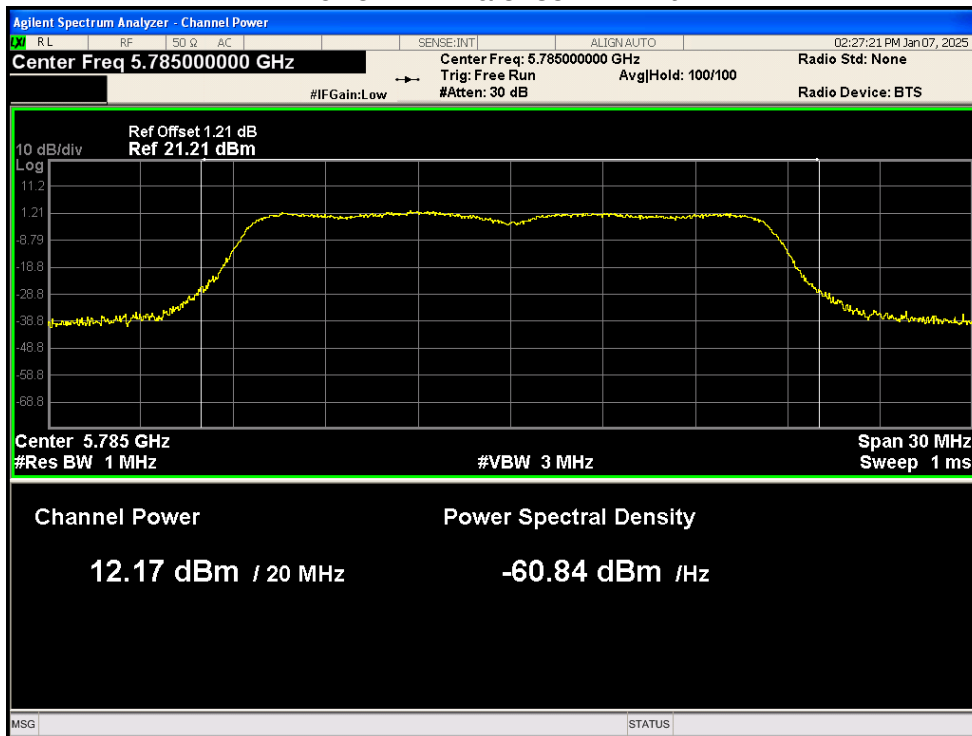
5.2.2 MAXIMUM CONDUCTED OUTPUT POWER

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Maximum Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5745	Ant1	13.387	1.51	14.897	30	Pass
NVNT	a	5785	Ant1	12.17	1.5	13.67	30	Pass
NVNT	a	5825	Ant1	12.09	1.51	13.6	30	Pass
NVNT	n20	5745	Ant1	13.386	1.6	14.986	30	Pass
NVNT	n20	5785	Ant1	12.09	1.61	13.7	30	Pass
NVNT	n20	5825	Ant1	12.224	1.6	13.824	30	Pass
NVNT	n40	5755	Ant1	12.182	2.38	14.562	30	Pass
NVNT	n40	5795	Ant1	11.85	2.38	14.23	30	Pass

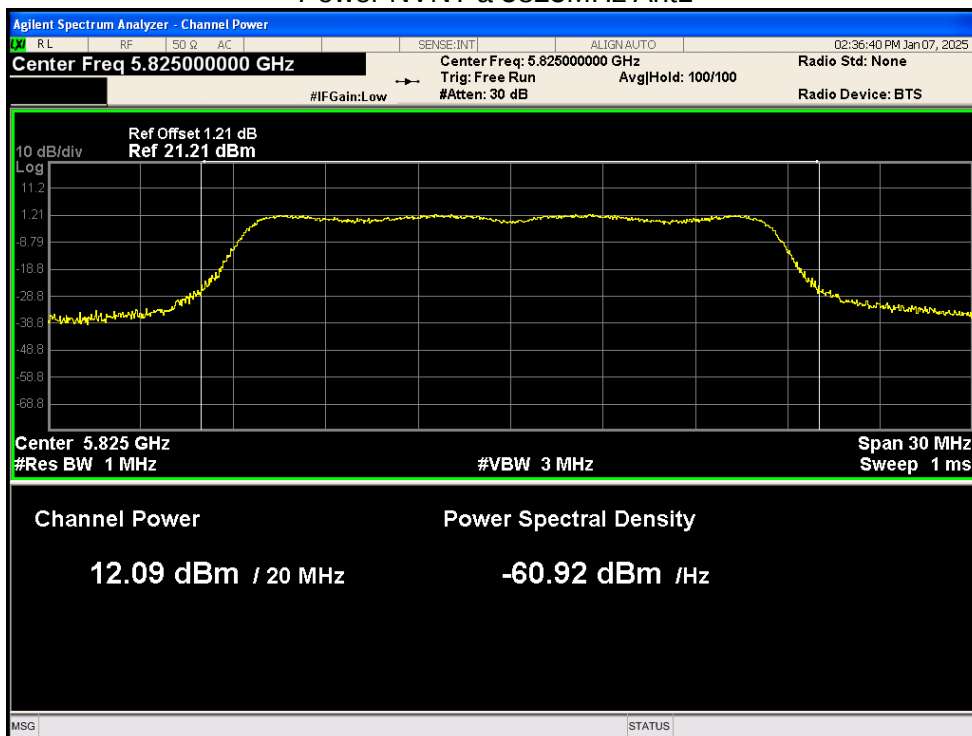
Power NVNT a 5745MHz Ant1



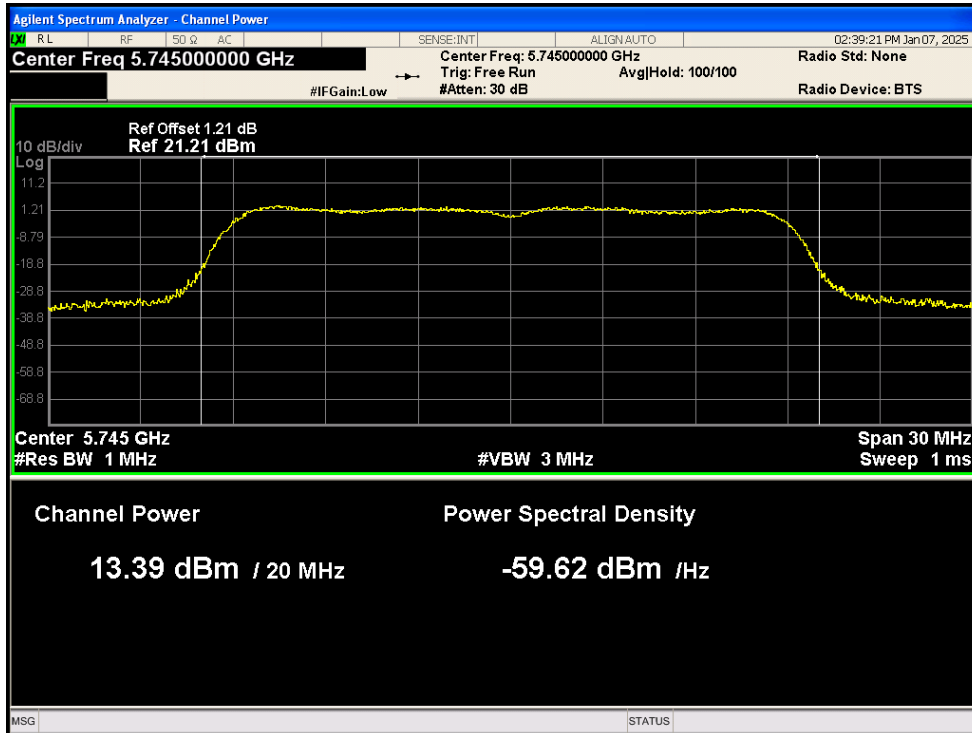
Power NVNT a 5785MHz Ant1



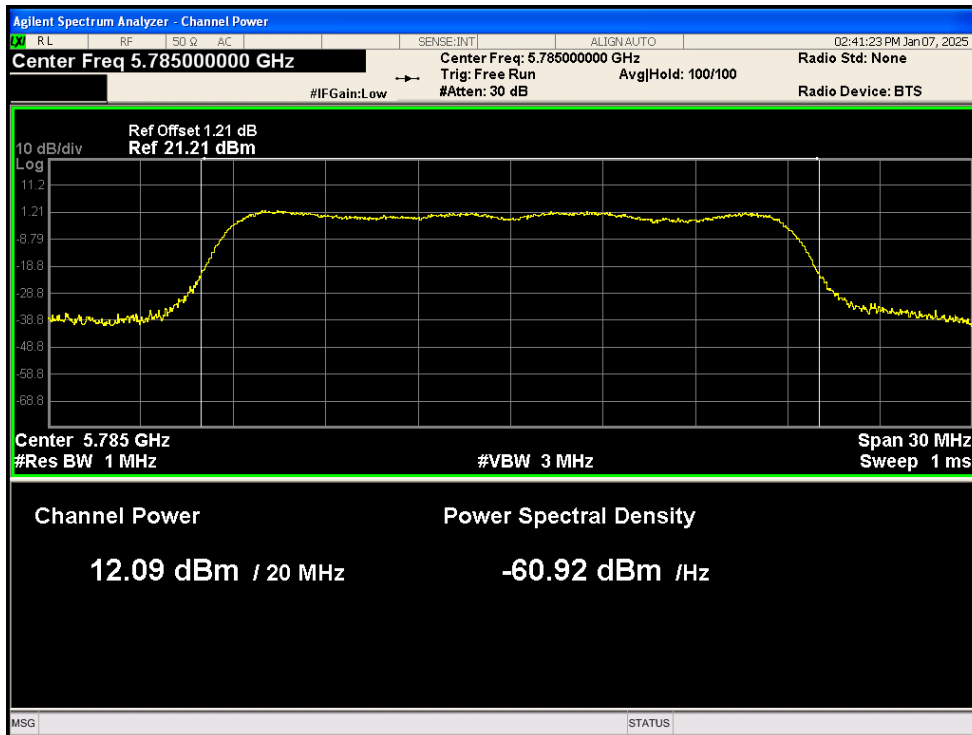
Power NVNT a 5825MHz Ant1



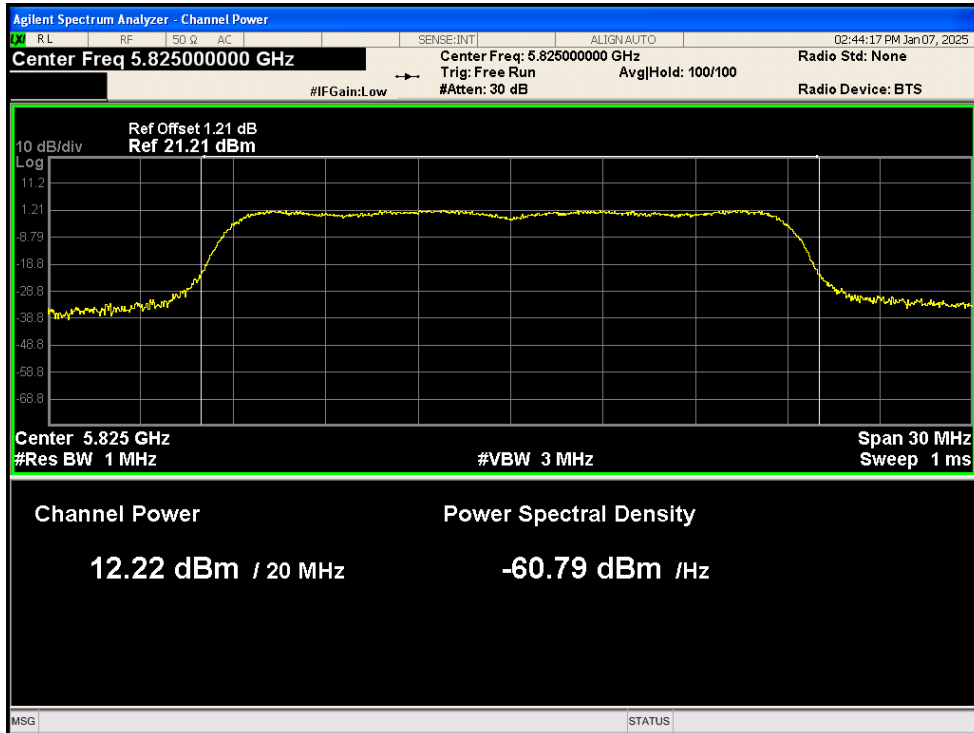
Power NVNT n20 5745MHz Ant1



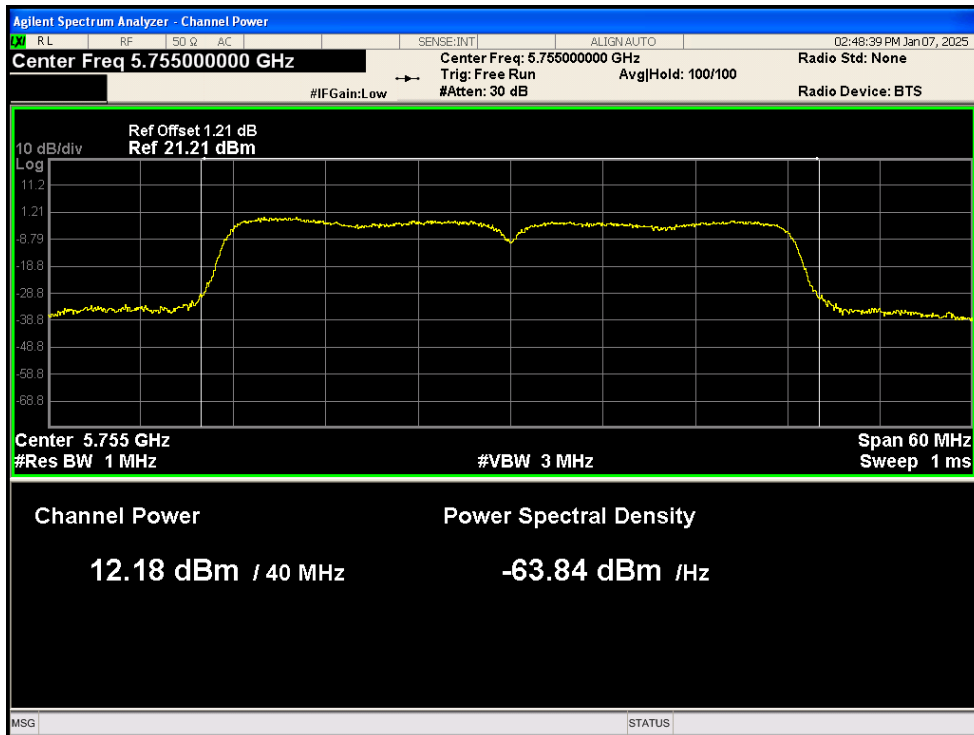
Power NVNT n20 5785MHz Ant1



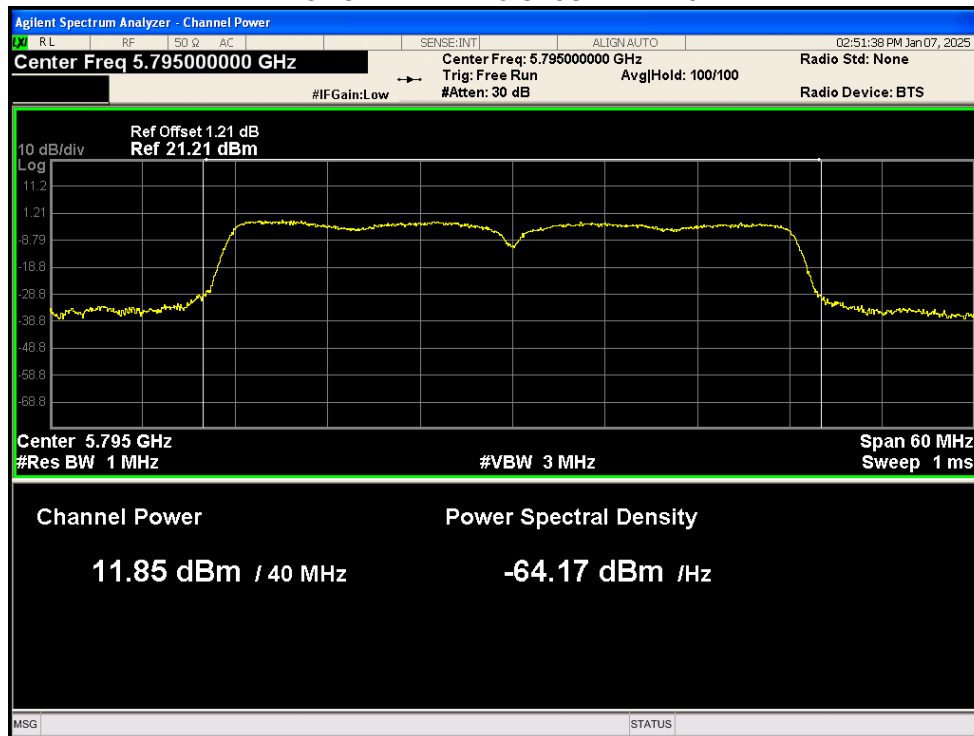
Power NVNT n20 5825MHz Ant1



Power NVNT n40 5755MHz Ant1



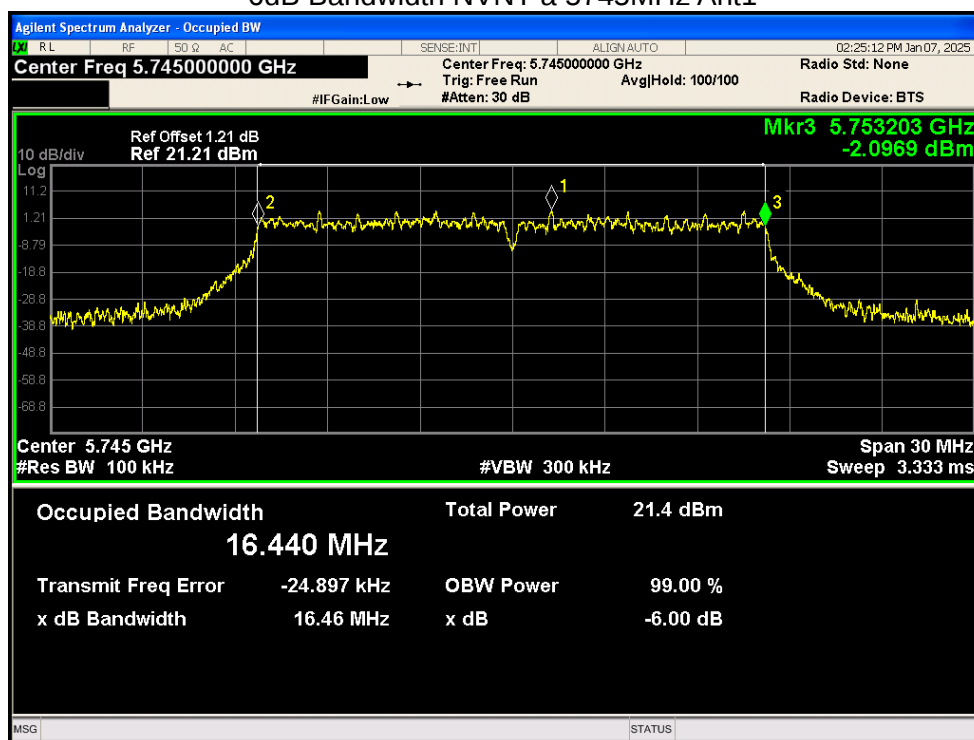
Power NVNT n40 5795MHz Ant1



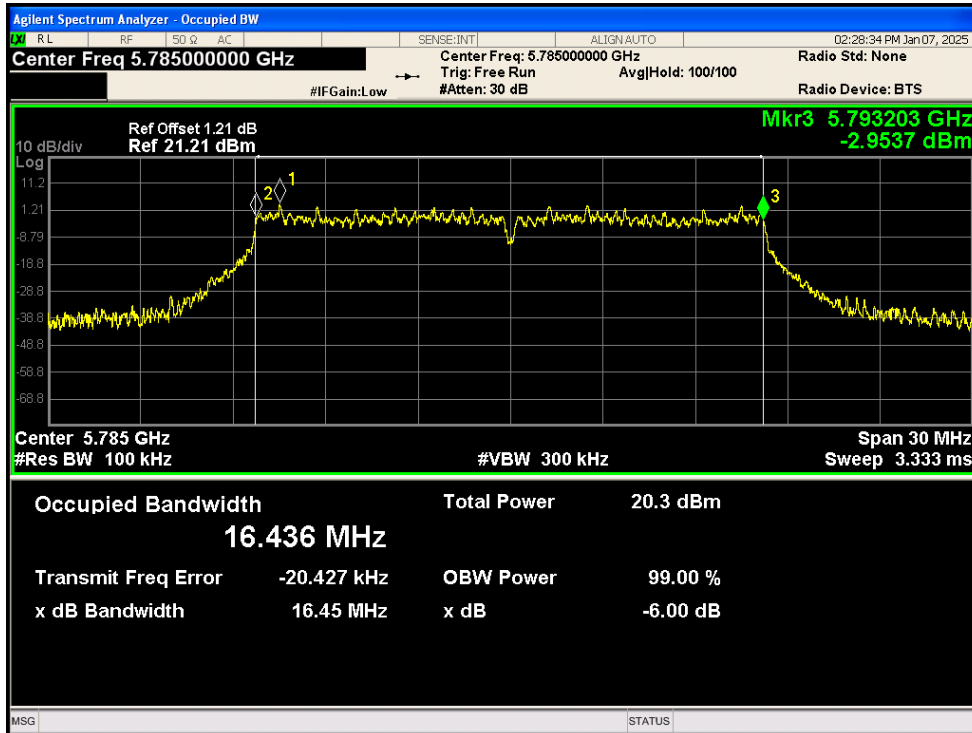
5.2.3 -6DB BANDWIDTH

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	a	5745	Ant1	16.456	0.5	Pass
NVNT	a	5785	Ant1	16.448	0.5	Pass
NVNT	a	5825	Ant1	16.45	0.5	Pass
NVNT	n20	5745	Ant1	17.563	0.5	Pass
NVNT	n20	5785	Ant1	17.601	0.5	Pass
NVNT	n20	5825	Ant1	17.701	0.5	Pass
NVNT	n40	5755	Ant1	35.984	0.5	Pass
NVNT	n40	5795	Ant1	35.752	0.5	Pass

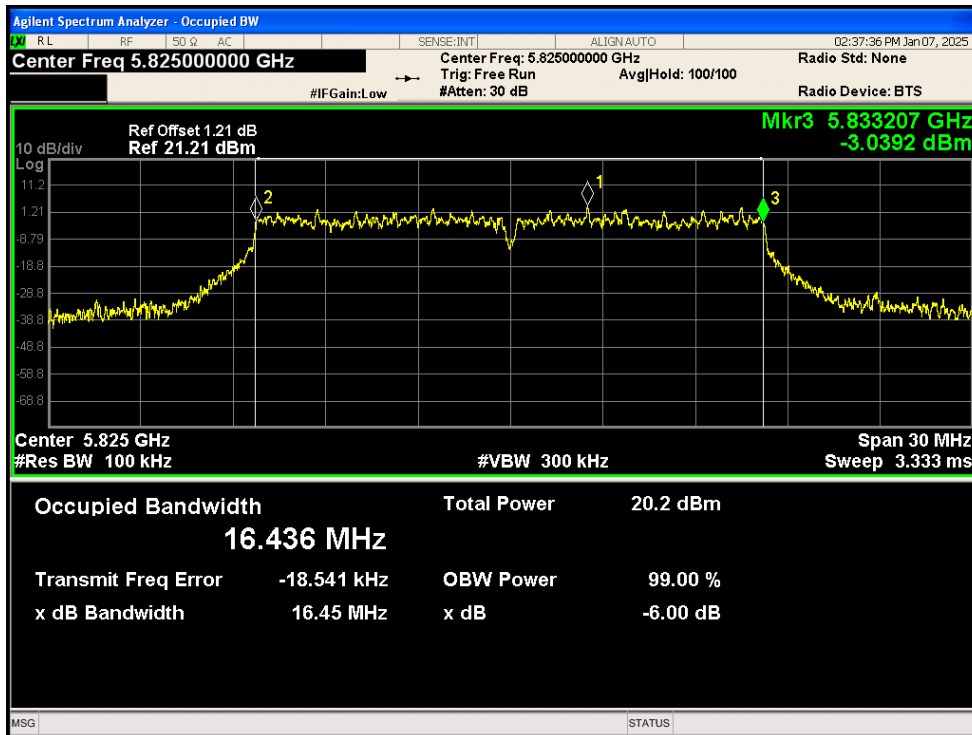
-6dB Bandwidth NVNT a 5745MHz Ant1



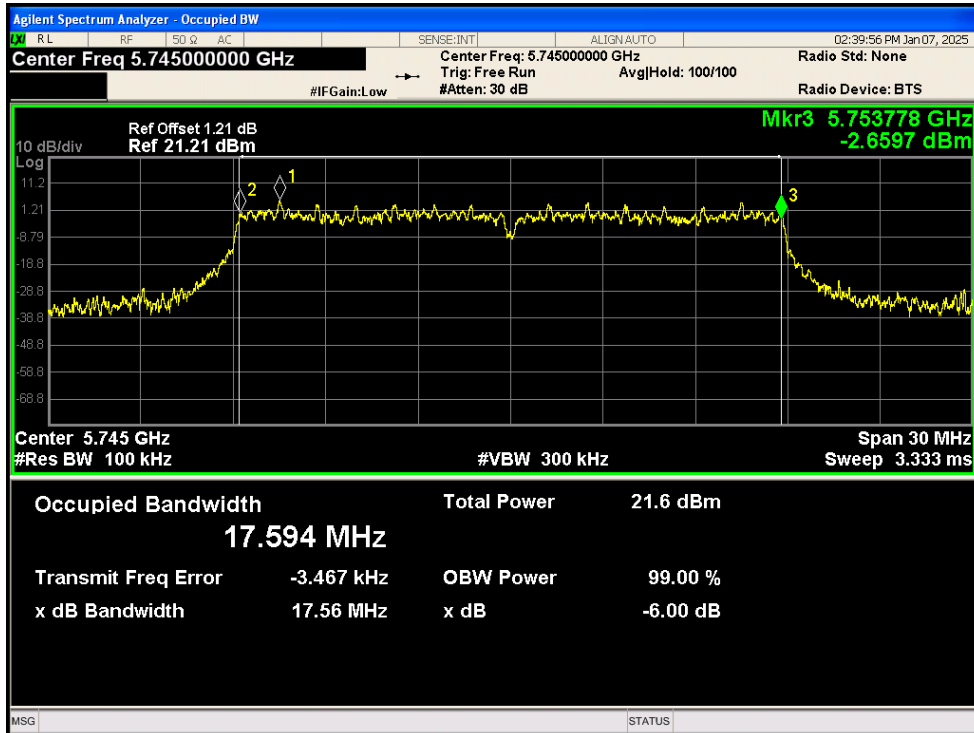
-6dB Bandwidth NVNT a 5785MHz Ant1



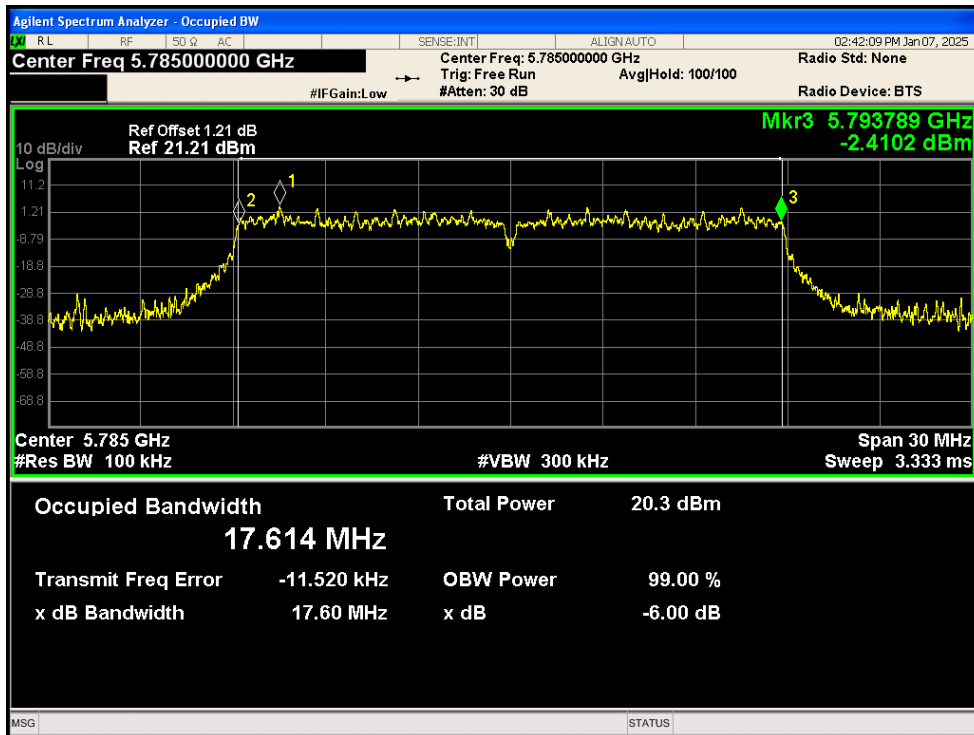
-6dB Bandwidth NVNT a 5825MHz Ant1



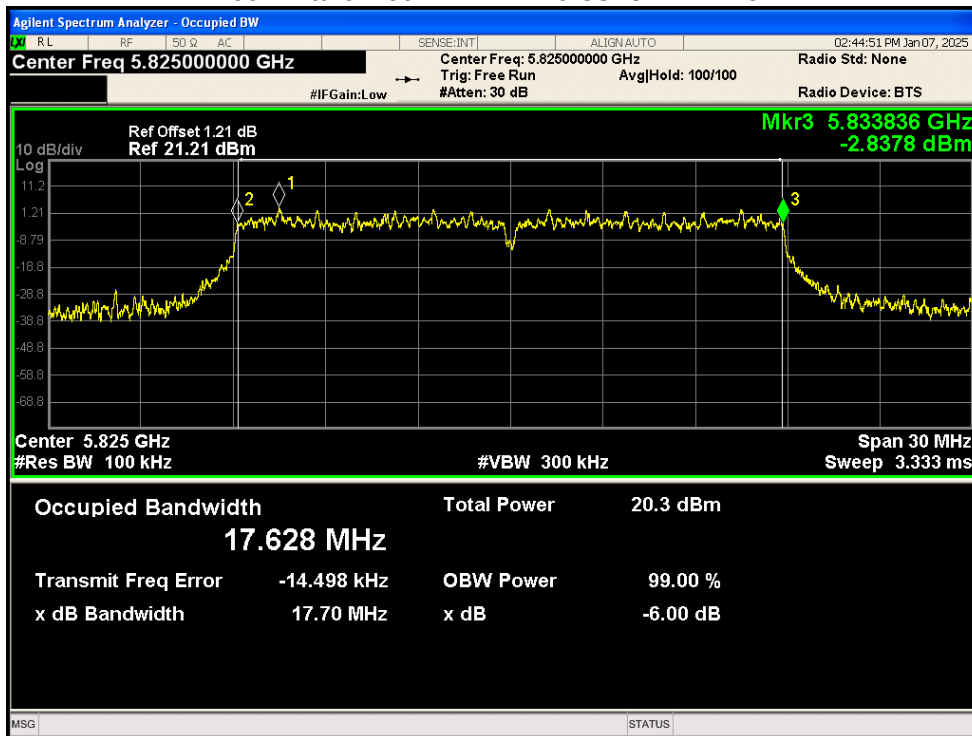
-6dB Bandwidth NVNT n20 5745MHz Ant1



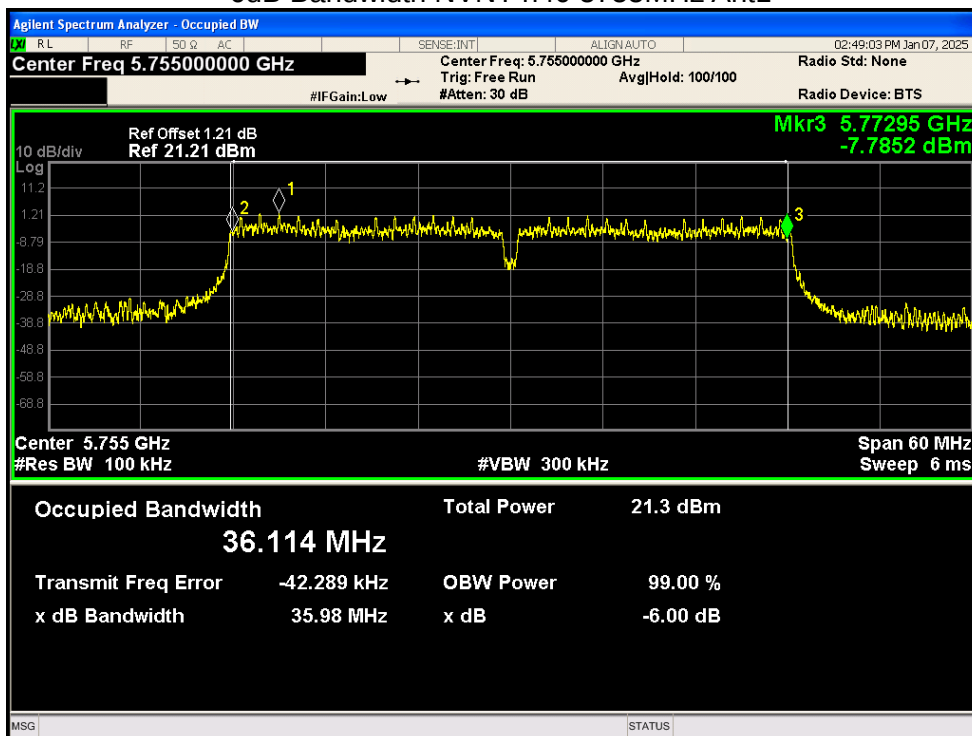
-6dB Bandwidth NVNT n20 5785MHz Ant1



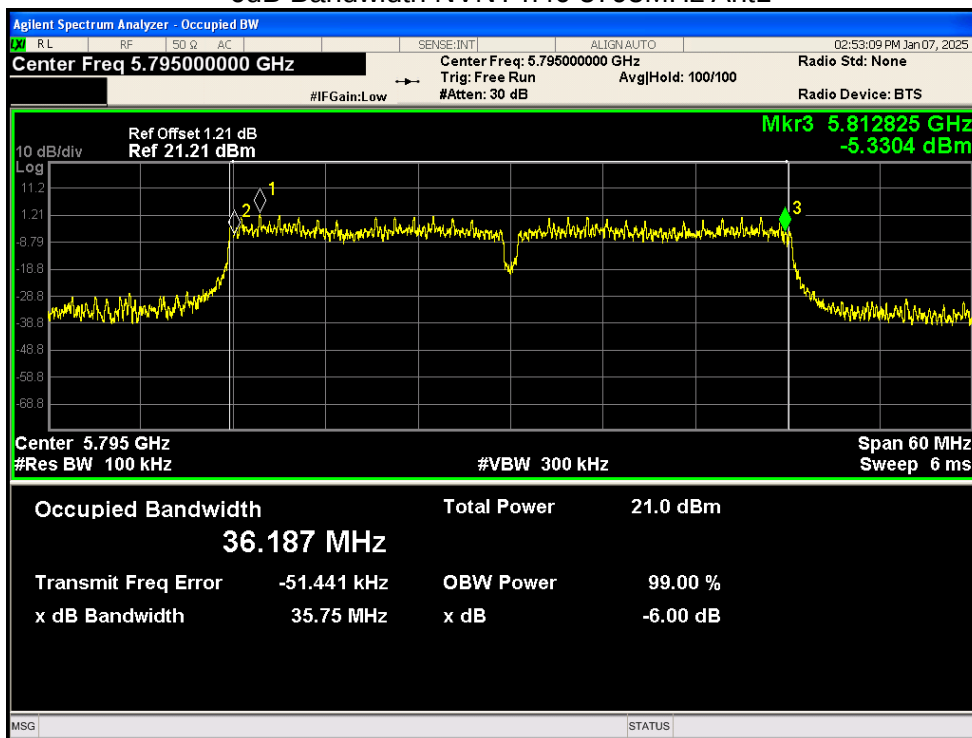
-6dB Bandwidth NVNT n20 5825MHz Ant1



-6dB Bandwidth NVNT n40 5755MHz Ant1



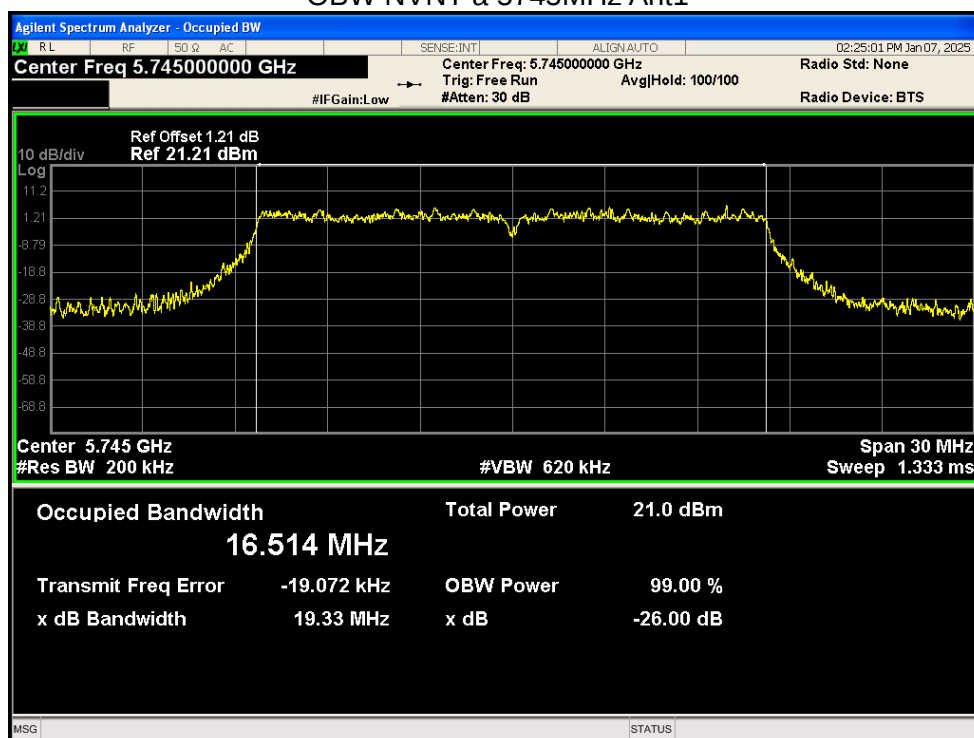
-6dB Bandwidth NVNT n40 5795MHz Ant1



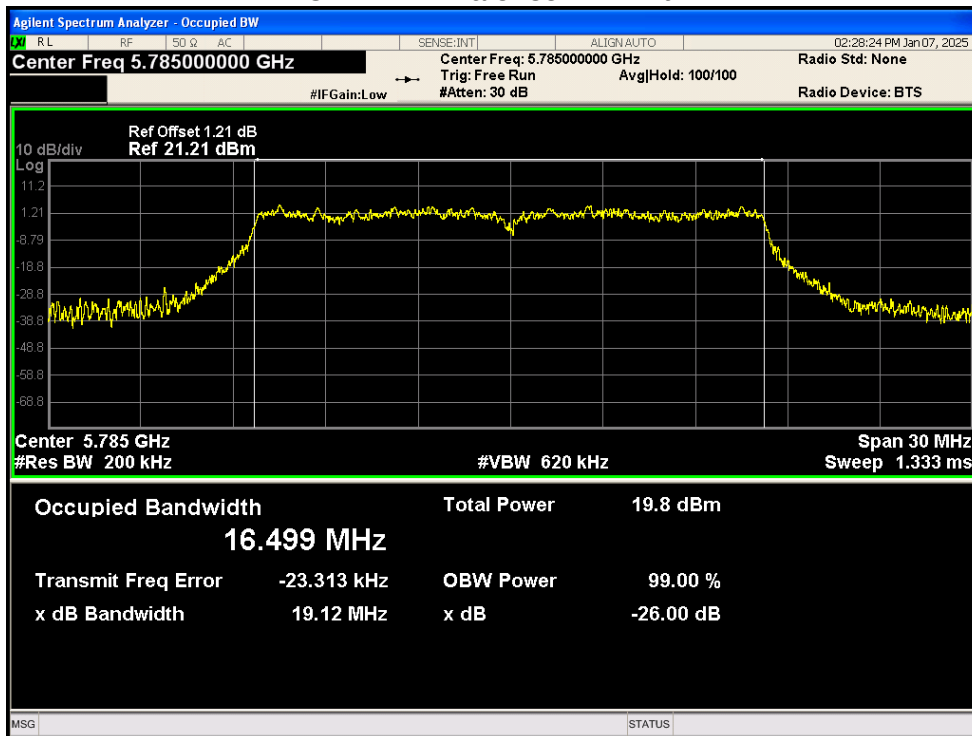
5.2.4 OCCUPIED CHANNEL BANDWIDTH

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	a	5745	Ant1	16.514
NVNT	a	5785	Ant1	16.499
NVNT	a	5825	Ant1	16.528
NVNT	n20	5745	Ant1	17.673
NVNT	n20	5785	Ant1	17.65
NVNT	n20	5825	Ant1	17.661
NVNT	n40	5755	Ant1	36.149
NVNT	n40	5795	Ant1	36.234

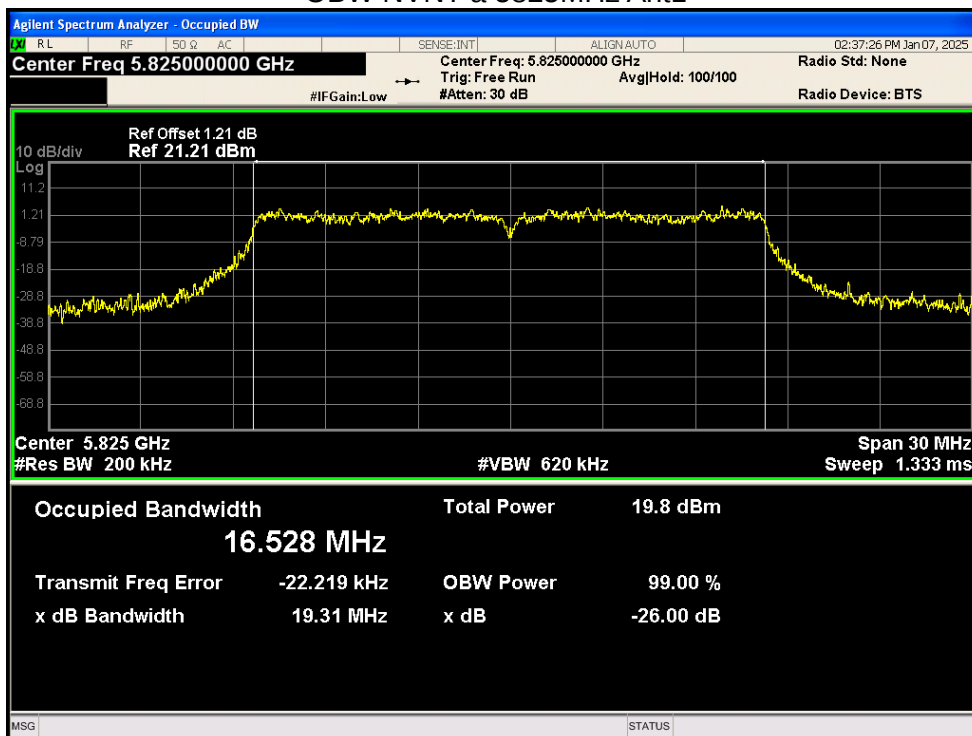
OBW NVNT a 5745MHz Ant1



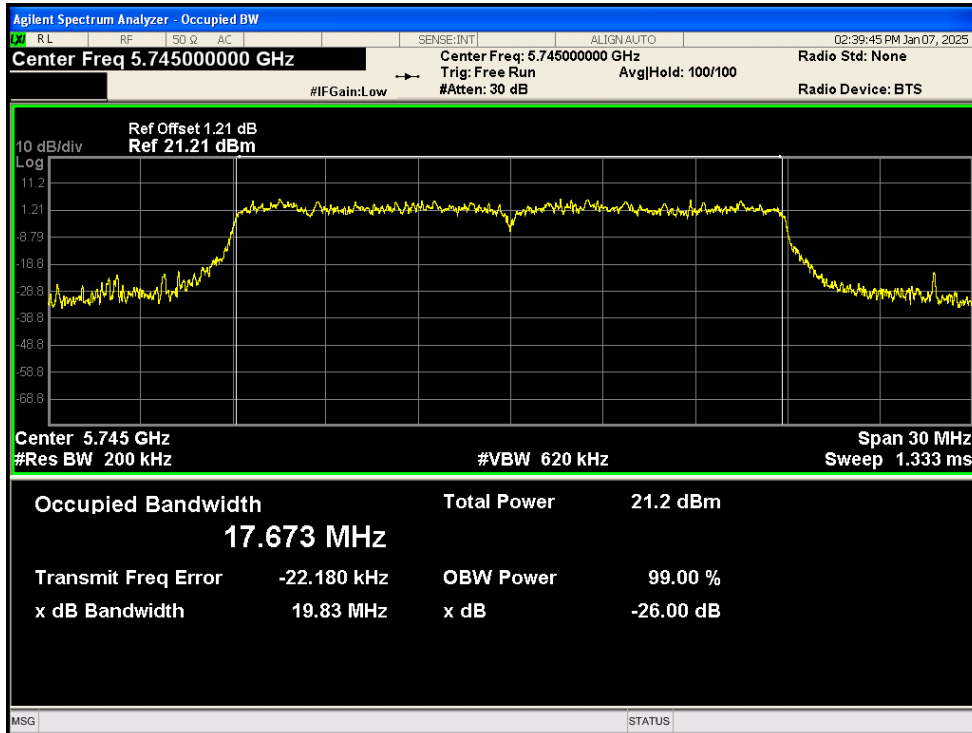
OBW NVNT a 5785MHz Ant1



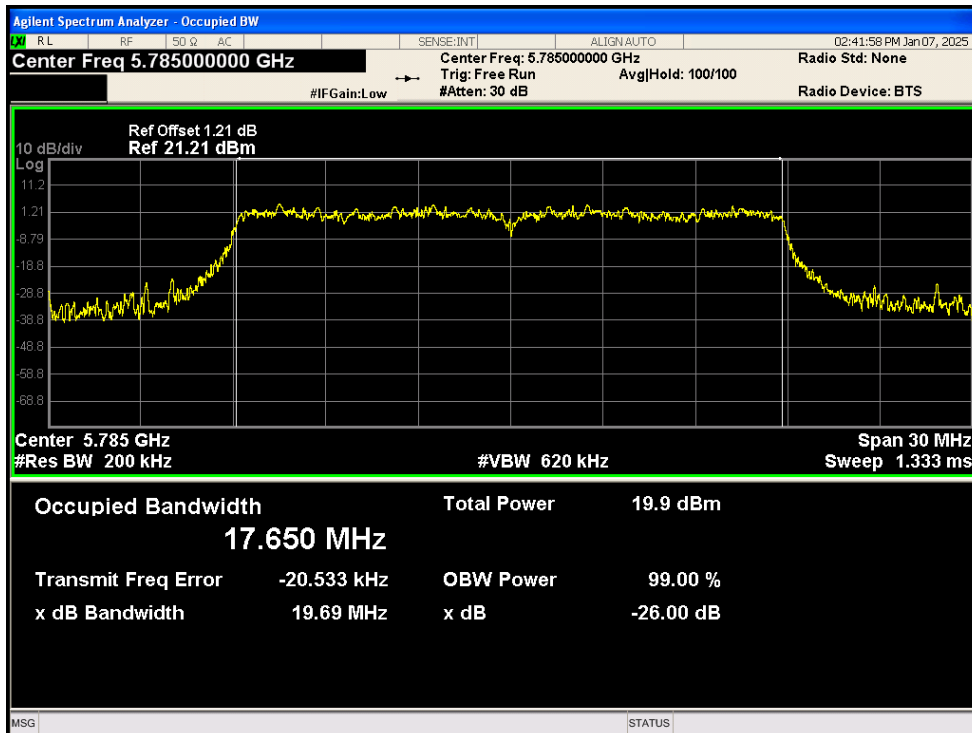
OBW NVNT a 5825MHz Ant1



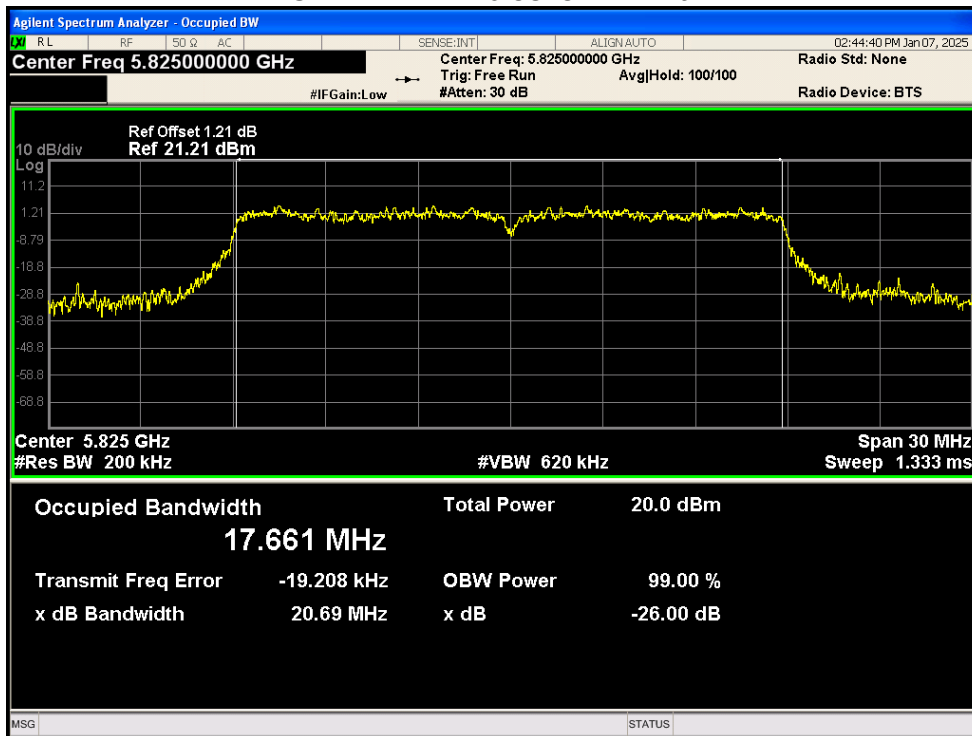
OBW NVNT n20 5745MHz Ant1



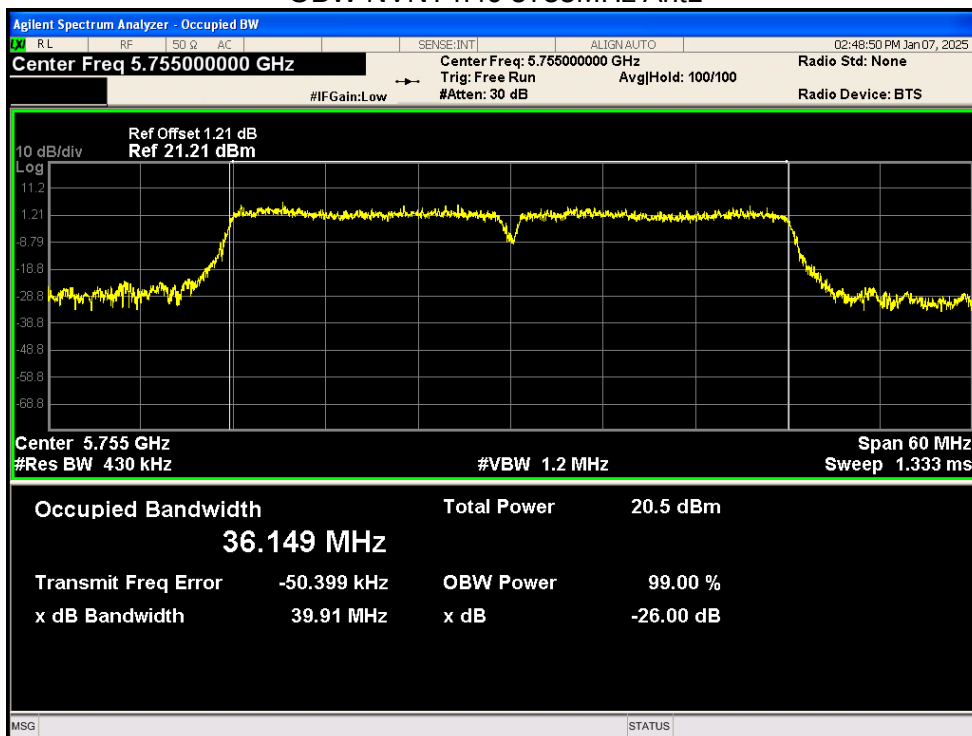
OBW NVNT n20 5785MHz Ant1



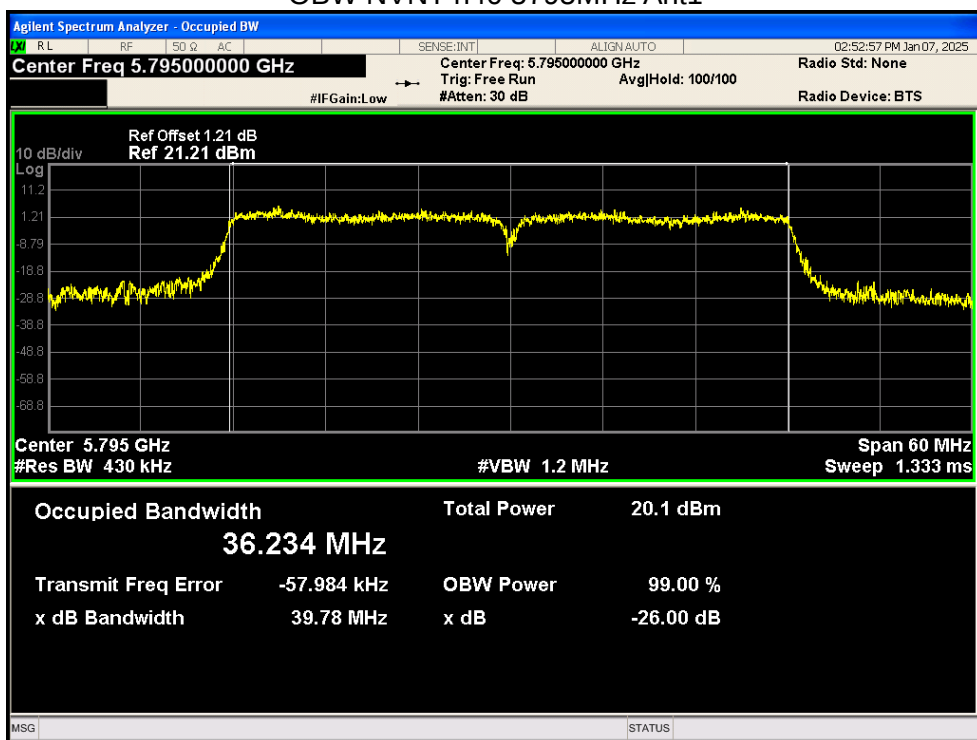
OBW NVNT n20 5825MHz Ant1



OBW NVNT n40 5755MHz Ant1



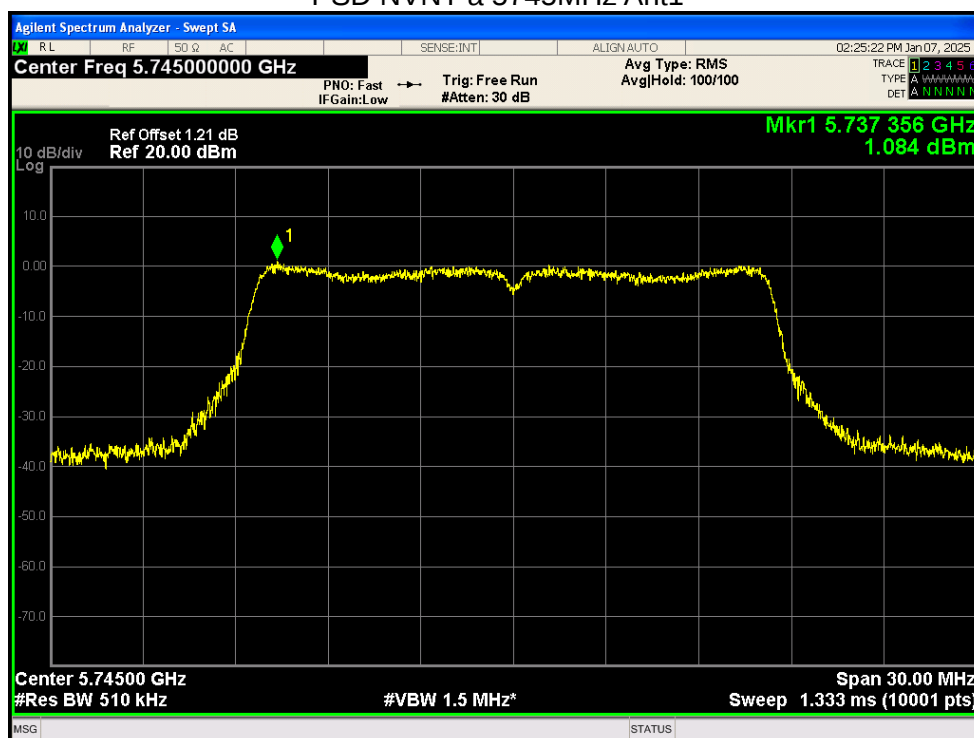
OBW NVNT n40 5795MHz Ant1



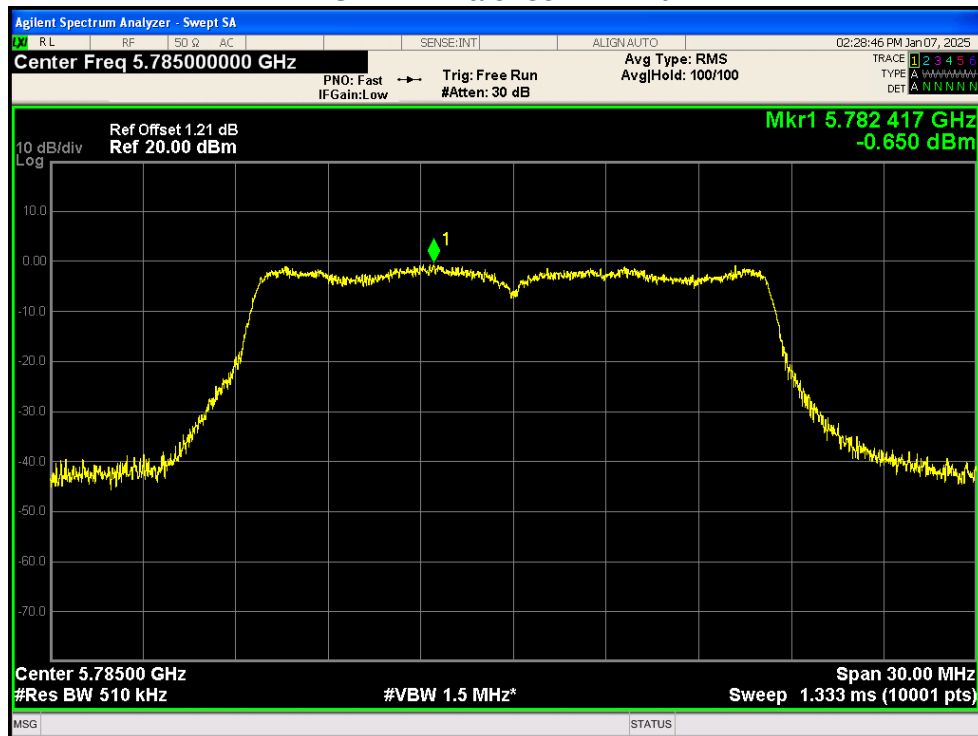
5.2.5 MAXIMUM POWER SPECTRAL DENSITY LEVEL

Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	a	5745	Ant1	1.084	30	Pass
NVNT	a	5785	Ant1	-0.65	30	Pass
NVNT	a	5825	Ant1	-0.484	30	Pass
NVNT	n20	5745	Ant1	0.32	30	Pass
NVNT	n20	5785	Ant1	-0.898	30	Pass
NVNT	n20	5825	Ant1	-1.071	30	Pass
NVNT	n40	5755	Ant1	-3.247	30	Pass
NVNT	n40	5795	Ant1	-3.394	30	Pass

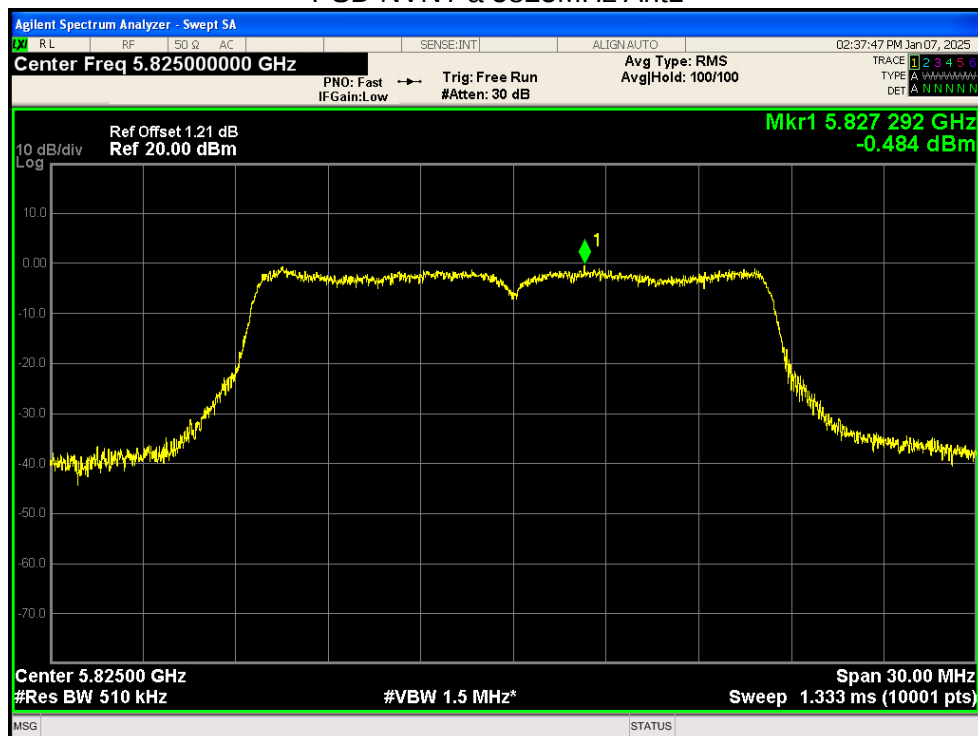
PSD NVNT a 5745MHz Ant1



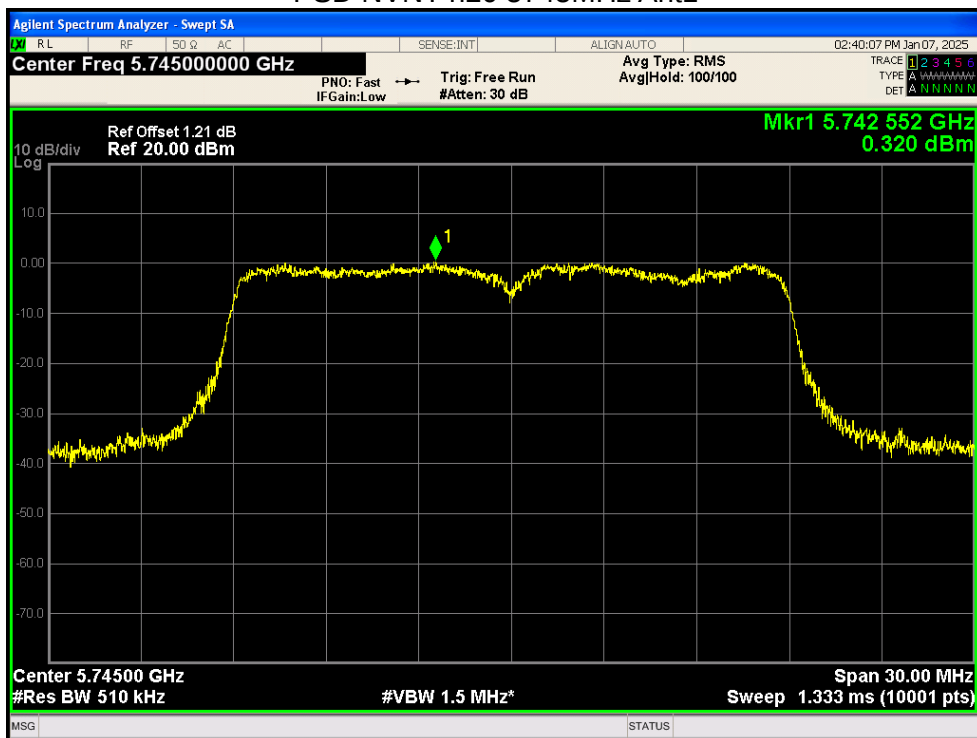
PSD NVNT a 5785MHz Ant1



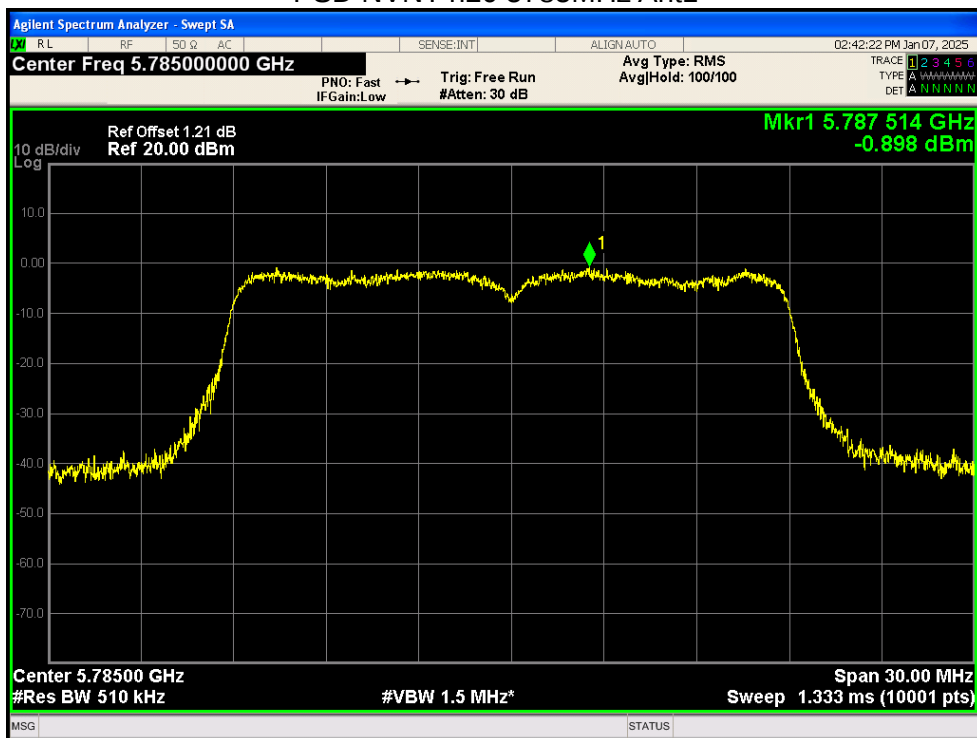
PSD NVNT a 5825MHz Ant1



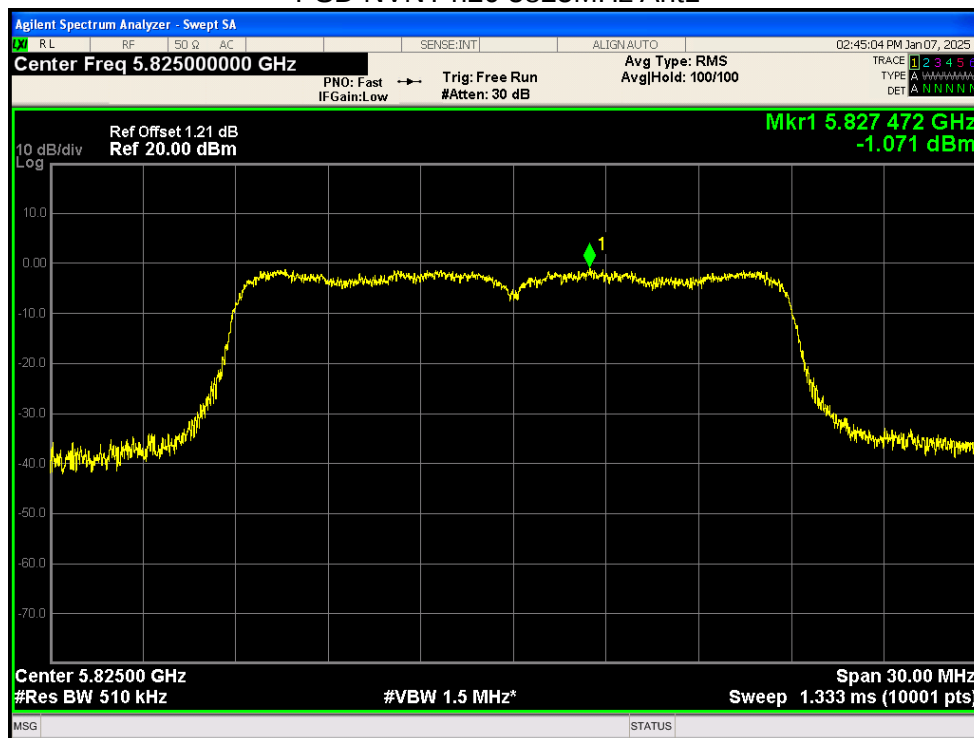
PSD NVNT n20 5745MHz Ant1



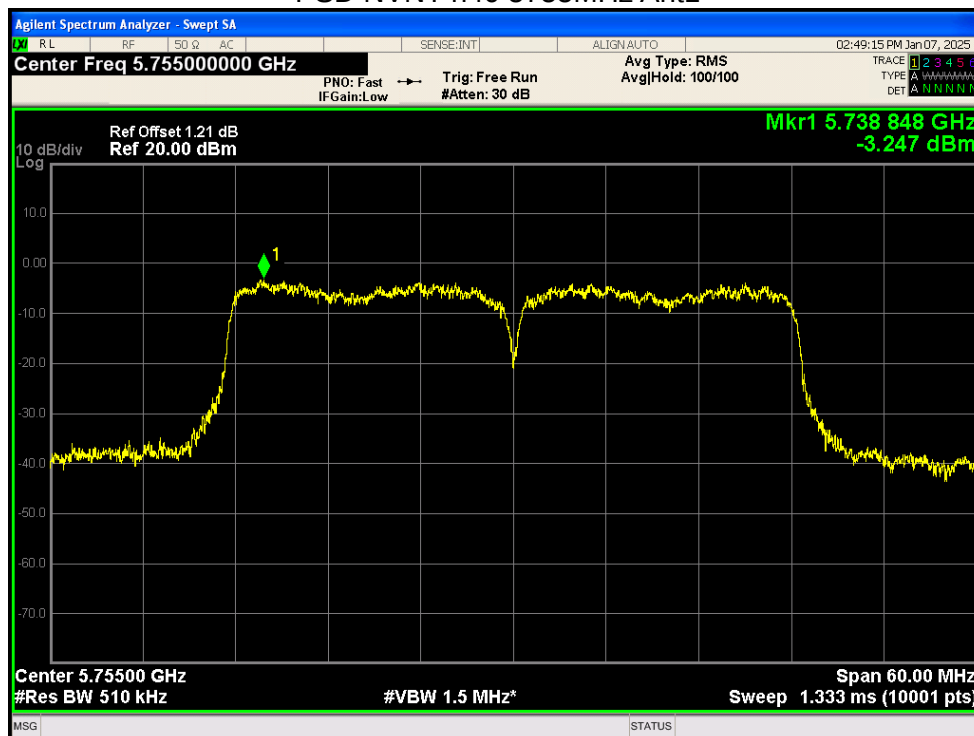
PSD NVNT n20 5785MHz Ant1



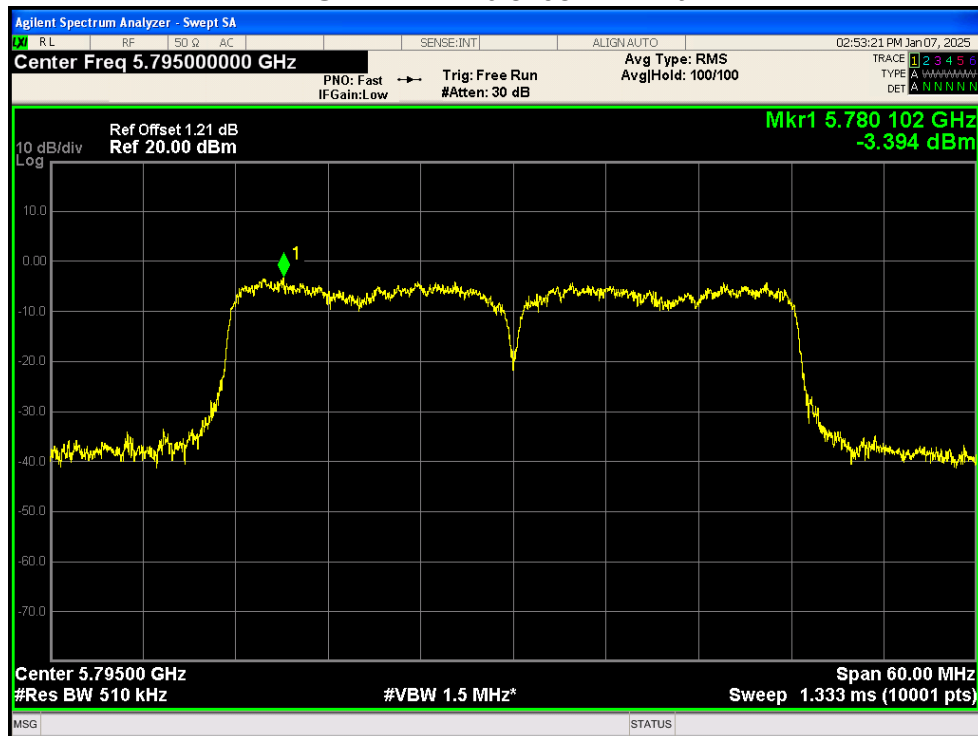
PSD NVNT n20 5825MHz Ant1



PSD NVNT n40 5755MHz Ant1



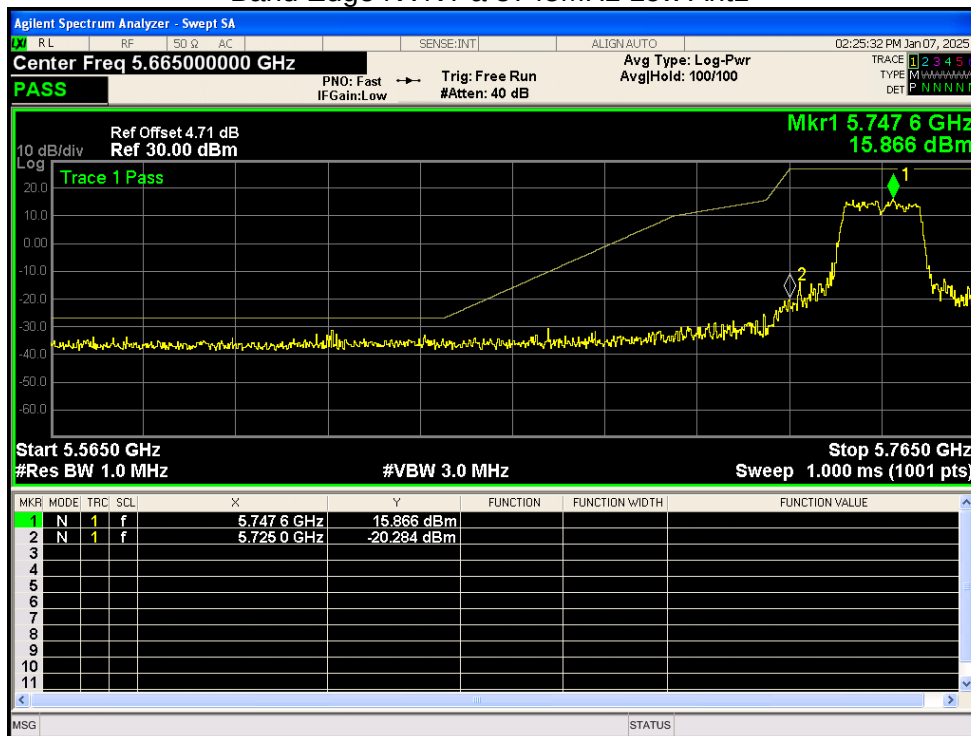
PSD NVNT n40 5795MHz Ant1



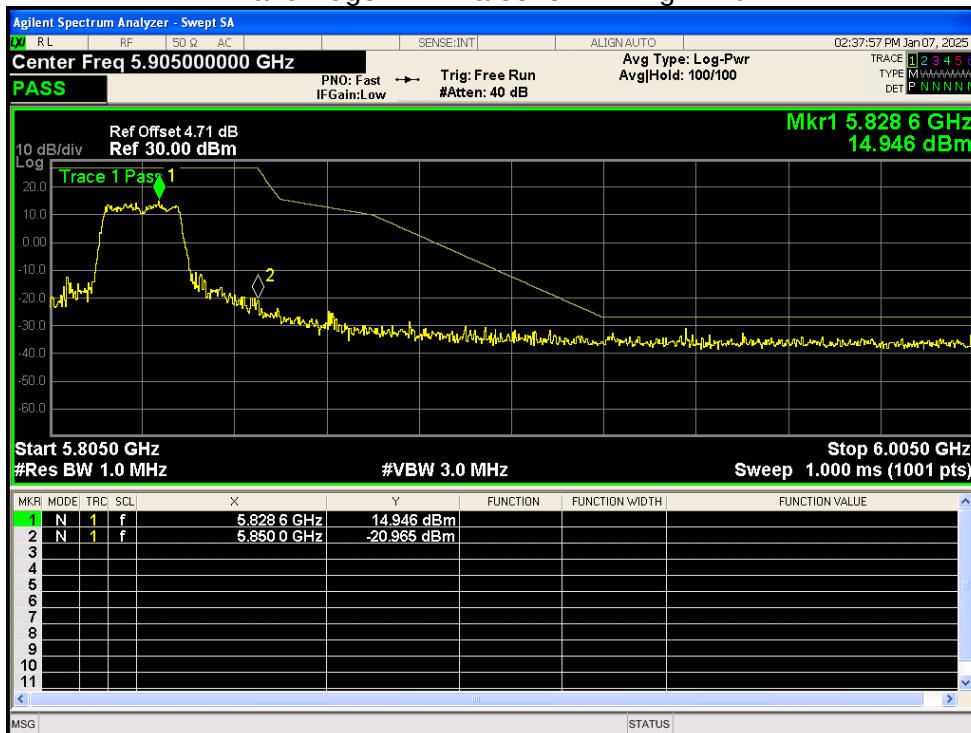
5.2.6 BAND EDGE

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBm)	Limit (dBm)	Verdict
NVNT	a	5745	Ant1	-20.28	27	Pass
NVNT	a	5825	Ant1	-20.96	27	Pass
NVNT	n20	5745	Ant1	-21.1	26.09	Pass
NVNT	n20	5825	Ant1	-20.42	15.54	Pass
NVNT	n40	5755	Ant1	-15.76	15.26	Pass
NVNT	n40	5795	Ant1	-23.84	21.53	Pass

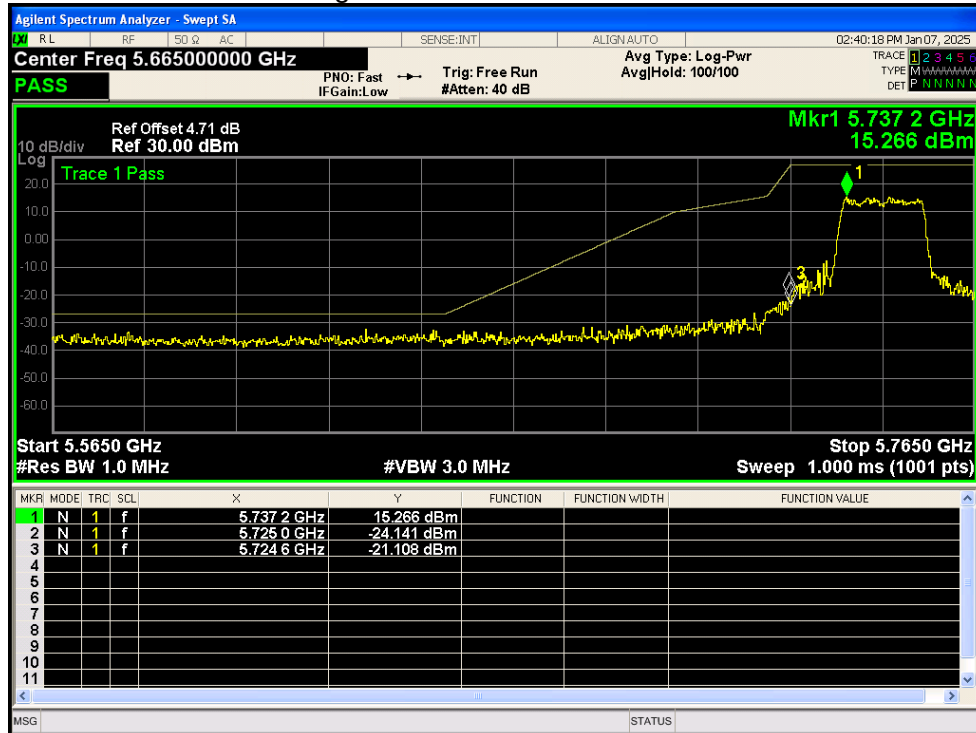
Band Edge NVNT a 5745MHz Low Ant1



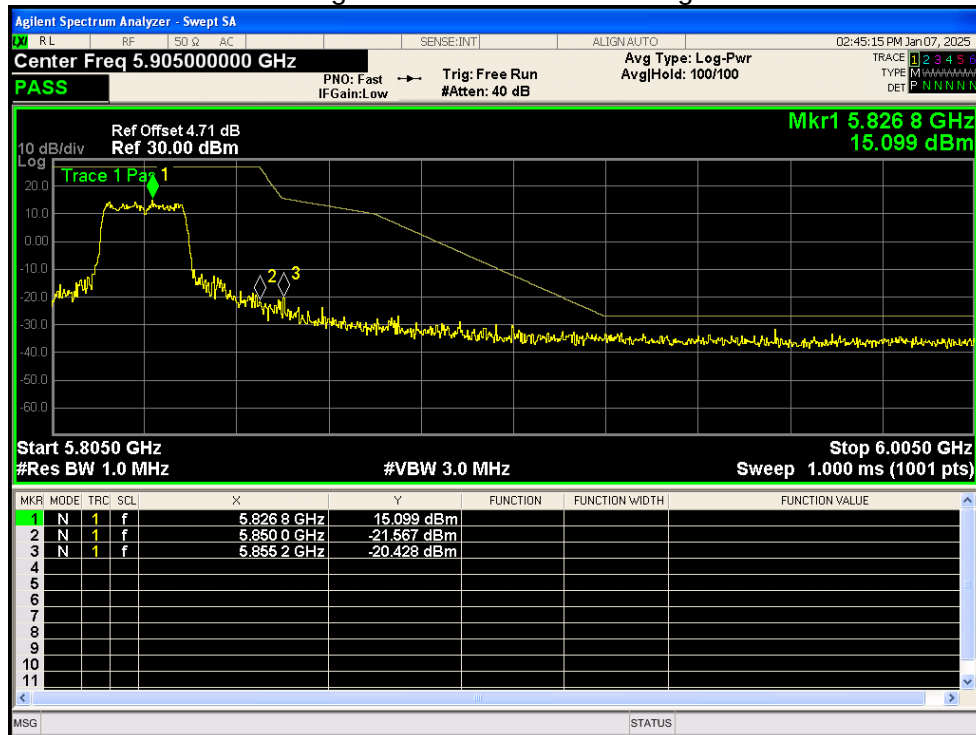
Band Edge NVNT a 5825MHz High Ant1



Band Edge NVNT n20 5745MHz Low Ant1



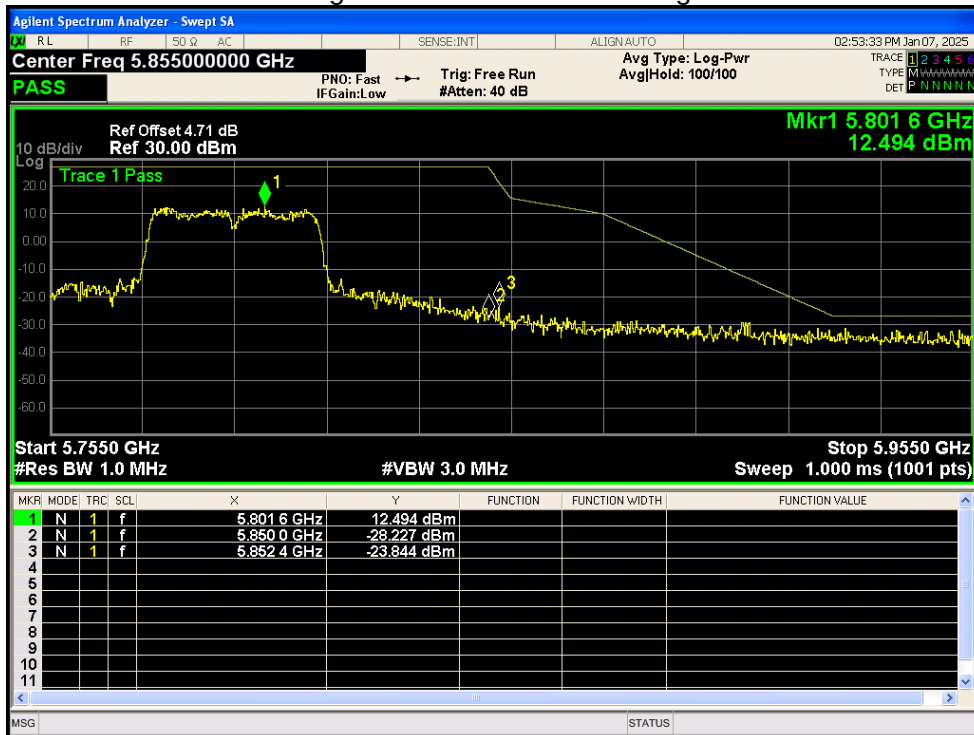
Band Edge NVNT n20 5825MHz High Ant1



Band Edge NVNT n40 5755MHz Low Ant1



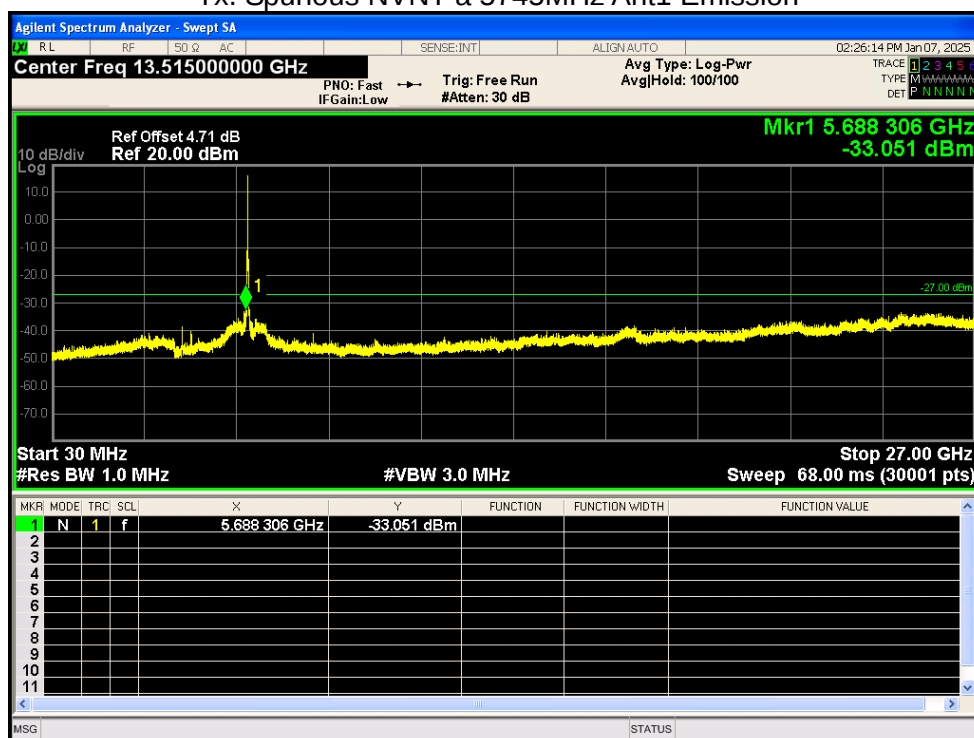
Band Edge NVNT n40 5795MHz High Ant1



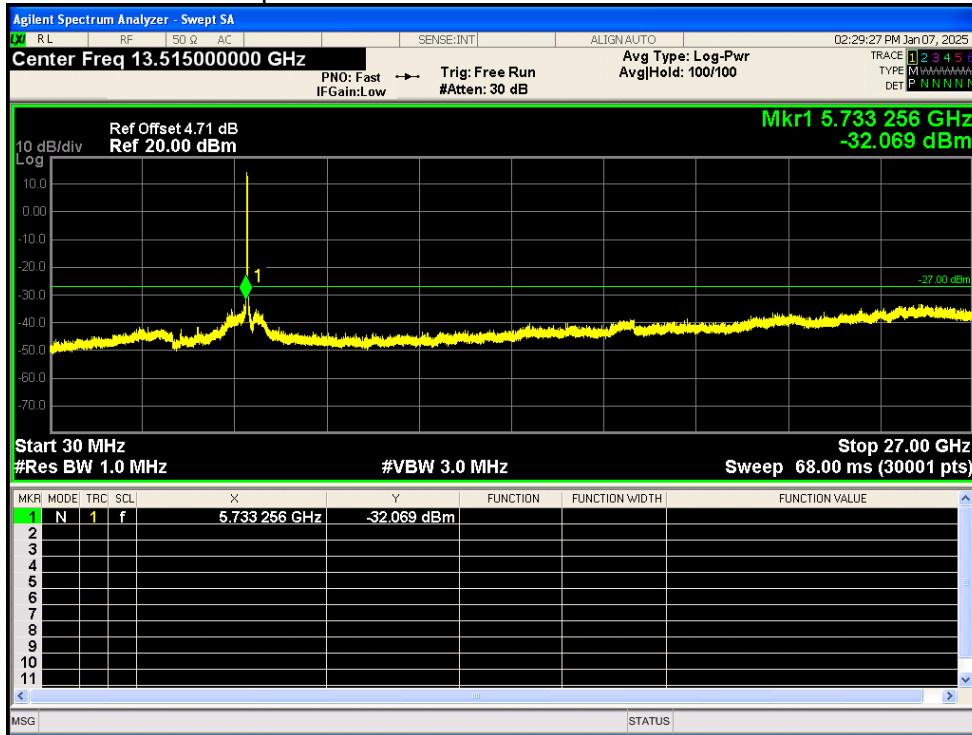
5.2.7 CONDUCTED RF SPURIOUS EMISSION

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBm)	Limit (dBm)	Verdict
NVNT	a	5745	Ant1	-33.05	-27	Pass
NVNT	a	5785	Ant1	-32.06	-27	Pass
NVNT	a	5825	Ant1	-29.81	-27	Pass
NVNT	n20	5745	Ant1	-32.86	-27	Pass
NVNT	n20	5785	Ant1	-31.87	-27	Pass
NVNT	n20	5825	Ant1	-29.82	-27	Pass
NVNT	n40	5755	Ant1	-33.27	-27	Pass
NVNT	n40	5795	Ant1	-27.95	-27	Pass

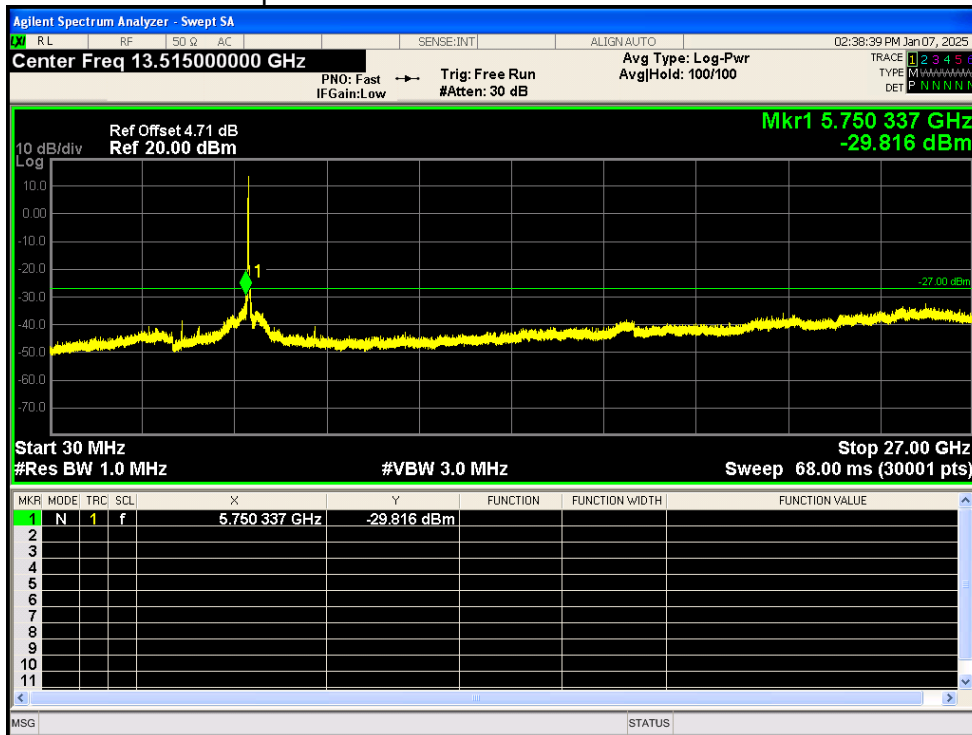
Tx. Spurious NVNT a 5745MHz Ant1 Emission



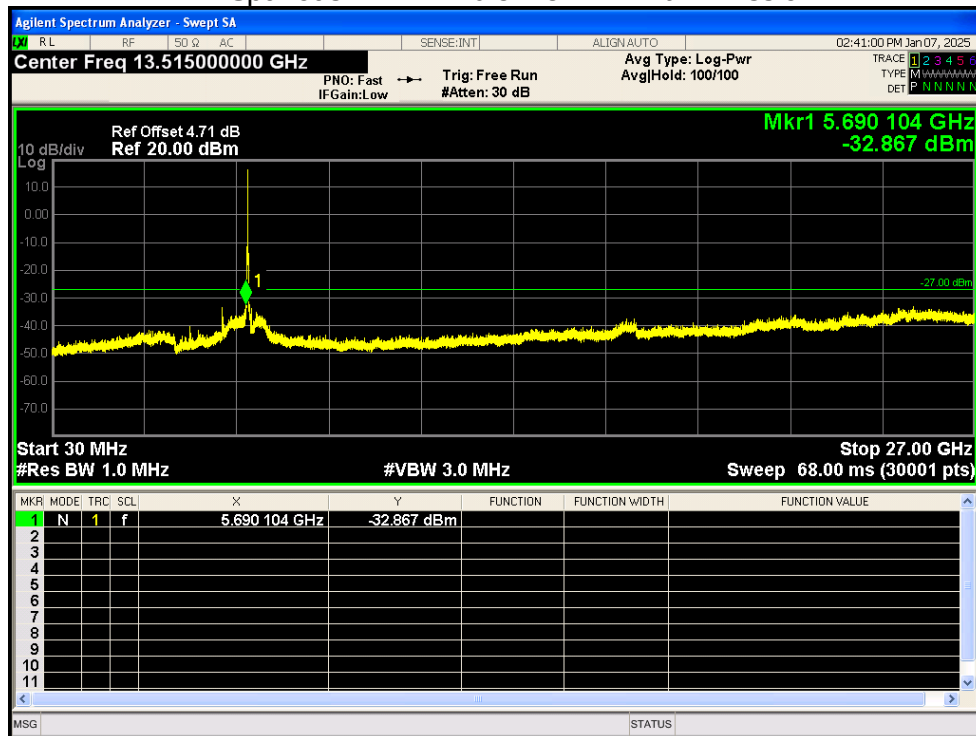
Tx. Spurious NVNT a 5785MHz Ant1 Emission



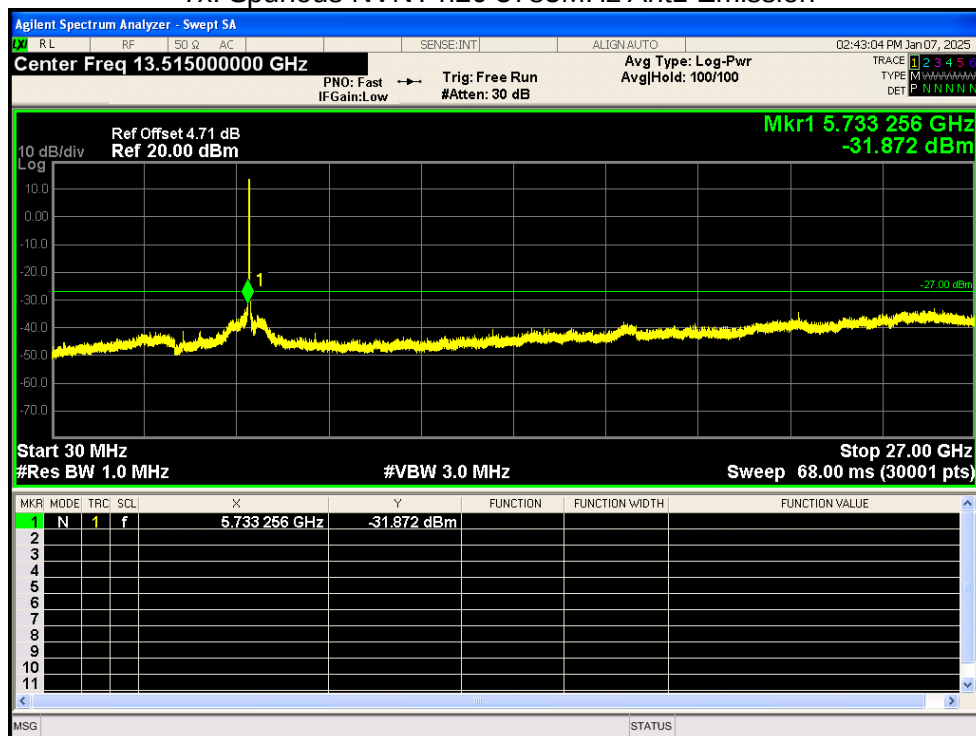
Tx. Spurious NVNT a 5825MHz Ant1 Emission



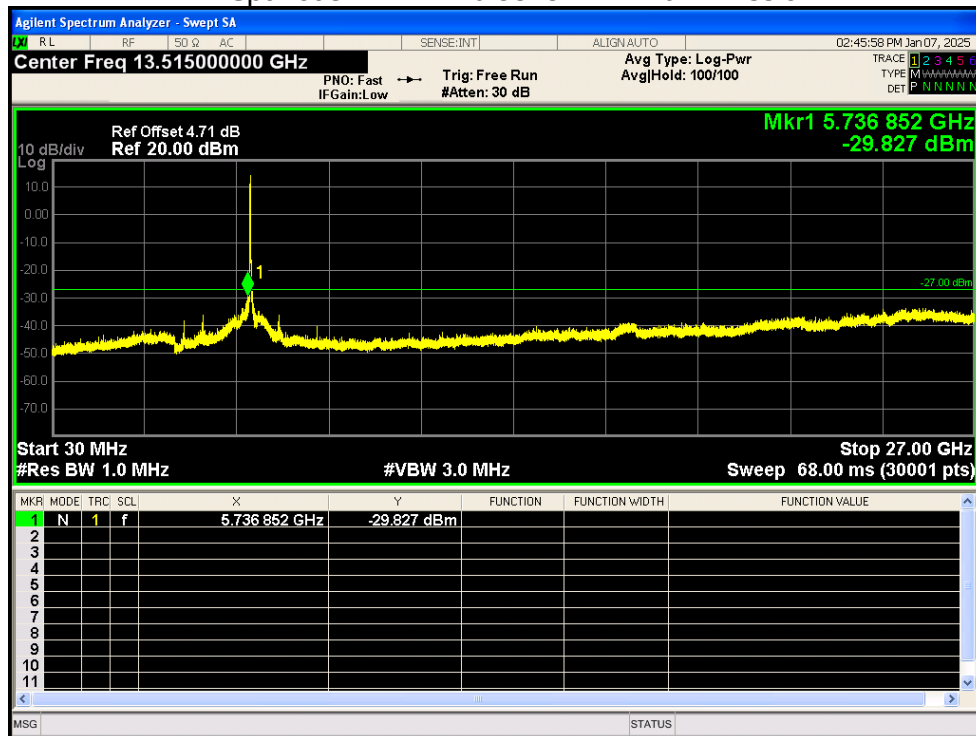
Tx. Spurious NVNT n20 5745MHz Ant1 Emission



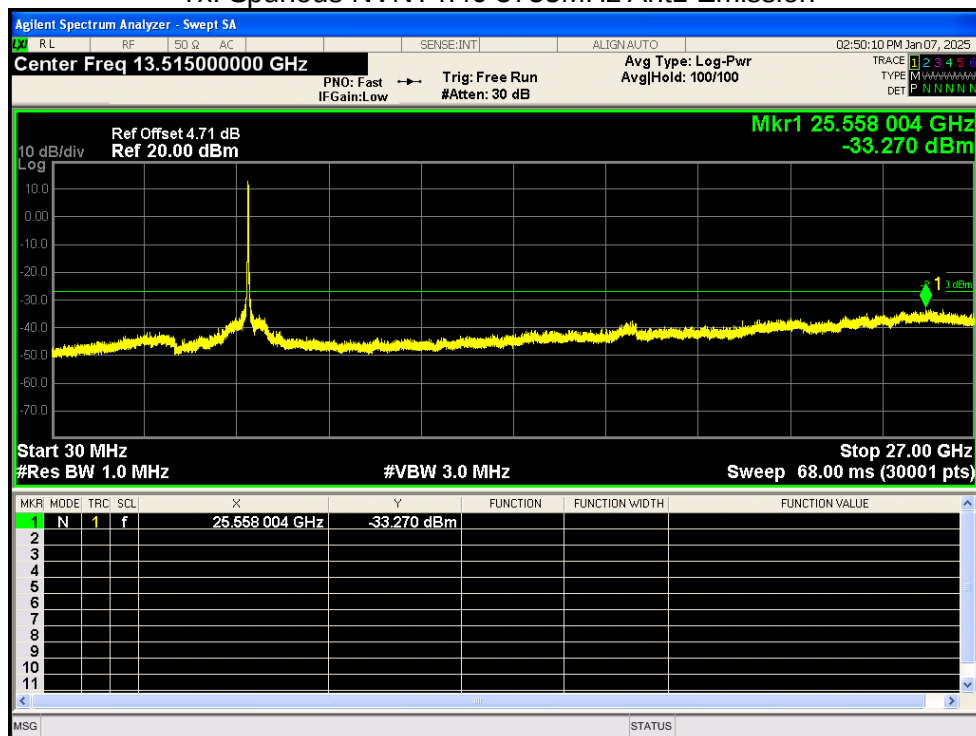
Tx. Spurious NVNT n20 5785MHz Ant1 Emission



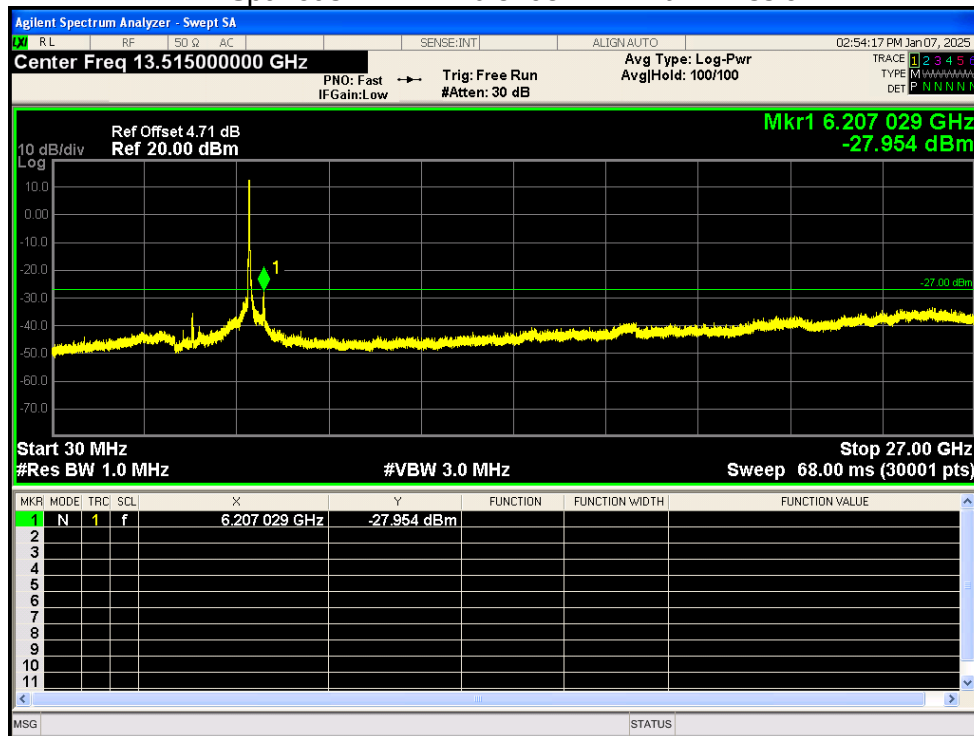
Tx. Spurious NVNT n20 5825MHz Ant1 Emission



Tx. Spurious NVNT n40 5755MHz Ant1 Emission



Tx. Spurious NVNT n40 5795MHz Ant1 Emission



END OF REPORT