FCC 47 CFR Part 15.407

TEST REPORT

For

Smart Projector

MODEL NUMBER: HY300

REPORT NUMBER: E01A23070868F00305

ISSUE DATE: September 1, 2023

FCC ID:2BCAX-T08

Prepared for

GuangDong SINOY Smart Technology CO., LTD
5TH Floor, Building #2, RunFengZhiGu Industrial Park,Changpin Town,DongGuan City, Guangdong, China

Prepared by

Dong Guan Anci Electronic Technology Co., Ltd.

1-2 Floor, Building A, No.11, Headquarters 2 Road, Songshan, Lake Hi-tech Industrial Development Zone, Dongguan City, Guangdong Pr., China.

Revision History

Rev.	Issue Date	Revisions	Revised By
V0	September 1, 2023	Initial Issue	Poal Chen

Summary of Test Results

Test Item	Clause	Limit/Requirement	Result
Antenna Requirement	N/A	FCC Part 15.203, FCC Part 15.407(a)(1) (2)	Pass
26 dB emission bandwidth	KDB 789033 D02 v02r01 Section C.1	FCC Part 15.407 (a)(2)(5)	Pass
6 dB bandwidth	KDB 789033 D02 v02r01 Section C.2	FCC Part 15.407 (e)	Pass
Maximum conducted output power	KDB 789033 D02 v02r01 Section E.3.a (Method PM)	FCC Part 15.407 (a)(1)(2)(3)	Pass
Peak Power Spectral Density	KDB 789033 D02 v02r01 Section F	FCC Part 15.407 (a)(1)(2)(3)	Pass
Radiated Emissions and Band Edge Measurement	KDB 789033 D02 v02r01 Section G.3, G.4, G.5, and G.6	FCC Part 15.407 (b)(1)(2)(3)(4)(6), FCC Part 15.209/205	Pass
AC Power Line Conducted Emission	ANSI C63.10-2013, Clause 6.2.	FCC Part 15.407 (b)(6), FCC Part 15.207	Pass
Frequency Stability	N/A	FCC 15.407 (g)	Pass
Duty Cycle	ANSI C63.10-2013, Clause 12.2	None; for reporting purposes only.	Pass

*This test report is only published to and used by the applicant, and it is not for evidence purpose in China.
*The measurement result for the sample received is <Pass> according to <FCC 47 CFR Part 15.407> when <Accuracy Method> decision rule is applied.

CONTENTS

1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name:	GuangDong SINOY Smart Technology CO., LTD
Address:	5TH Floor, Building #2, RunFengZhiGu Industrial Park,Changpin Town,DongGuan City, Guangdong, China

Manufacturer Information

Company Name:	GuangDong SINOY Smart Technology CO., LTD
Address:	5TH Floor, Building #2, RunFengZhiGu Industrial Park,Changpin Town,DongGuan City, Guangdong, China

Factory Information

Company Name:	GuangDong SINOY Smart Technology CO., LTD
Address:	5TH Floor, Building #2, RunFengZhiGu Industrial Park,Changpin Town,DongGuan City, Guangdong, China

EUT Information

Product Description:	Smart Projector
Model:	HY300
Series Model:	P1，P2，P5，P6，P7，P8，P9，HY300A，S27，T08，T09，W13-S，W13-M，M8，G1，G5，BL108，BL128，A1
Sample Received Date:	July 31, 2023
Sample Status:	Normal
Sample ID:	A23070868 004
Date of Tested:	August 2, 2023 to August 30, 2023

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC 47 CFR Part 15.407	**Pass**

Prepared By:

Poal Chen

Project Engineer

Checked By:

Dyson Dai

Project Engineer

Approved By:

Tiger Xu

Laboratory Supervisor

2. TEST METHODOLOGY

All tests were performed in accordance with the standard FCC 47 CFR Part 15.407

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	**A2LA (Certificate No.: 4422.01)** Dong Guan Anci Electronic Technology Co., Ltd. has been assessed and proved to be in compliance with A2LA. **FCC (FCC Designation No.: CN1230)** Dong Guan Anci Electronic Technology Co., Ltd. has been recognized to perform compliance testing on equipment subject to Supplier's Declaration of Conformity (SDoC) and Certification rules **ISED (Company No.: 22768)** Dong Guan Anci Electronic Technology Co., Ltd. has been registered and fully described in a report filed with ISED. The Company Number is 22768 and the test lab Conformity Assessment Body Identifier (CABID) is CN0079.

Note: All tests measurement facilities use to collect the measurement data are located at 1-2/F., Building A, and 1F Building B, No.11, Headquarters 2 Road, Songshan Lake High-tech Industrial Development Zone, Dongguan, Guangdong, China

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations and is traceable to recognized national standards.

4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Test Items	k	Uncertainty
Emission Bandwidth	1.96	±9.0 PPM
Maximum Conduct Output Power	1.96	± 1.12 dB
Power Spectral Density	1.96	± 2.1 dB
Conducted Band edge	1.96	±9.0 PPM
Conducted spurious emission	1.96	9 kHz-30 MHz: ± 0.95 dB 30 MHz-1 GHz: ± 1.5 dB 1GHz-12.75GHz: ± 1.8 dB 12.75 GHz-26.5 GHz: ± 2.1dB 26.5 GHz-40 GHz: ± 2.6 dB
Frequency Stability	1.96	±9.0 PPM
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.		

Test Item	Frequency Range	k	U(dB)
Conducted emissions from the AC mains power ports (AMN)	150 kHz ~ 30 MHz	2	3.37
Radiated emissions	30 MHz ~ 1 GHz	2	3.79
Radiated emissions	1 GHz ~ 18 GHz	2	5.62
Radiated emissions	18 GHz ~ 40 GHz	2	5.54
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.			

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

EUT Name		Smart Projector
Model		HY300
Series Model		P1，P2，P5，P6，P7，P8，P9，HY300A，S27，T08，T09，W13-S，W13-M，M8，G1，G5，BL108，BL128，A1
EUT Classification		Class B
Hardware Version		V1.0
Software Version		V1.0
Ratings		AC100-260V~ 50/60Hz 2.5A
Power Supply	AC	120V/60Hz

Frequency Band:	5150 MHz to 5250 MHz (U-NII-1) 5 725 MHz to 5 850 MHz (U-NII-3)
Frequency Range:	5180 MHz to 5240 MHz 5 745 MHz to 5 825 MHz
Support Standards:	IEEE 802.11a/n/ac/ax
TPC Function:	Not Support
DFS Operational mode:	Not Support
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) IEEE 802.11ax: OFDMA(1024QAM,256QAM, 64QAM, 16QAM, QPSK, BPSK)
Channel Spacing:	IEEE 802.11a/n HT20/ac VHT20/ax HE20: 20 MHz IEEE 802.11n HT40/ac VHT40/ax HE40: 40 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 MCS9 IEEE 802.11ac VHT40: Up to MCS9 IEEE 802.11ac VHT80: Up to MCS9 IEEE 802.11ax HE20: Up to MCS11 IEEE 802.11ax HE40: Up to MCS11 IEEE 802.11ax HE80: Up to MCS11
Number of Channels:	5150 MHz to 5250 MHz: 4 for IEEE 802.11a/n HT20/ac VHT20/ax HE20 2 for IEEE 802.11n HT40)/ac VHT40/ax HE40 5725 MHz to 5850 MHz: 5 for IEEE 802.11a/n HT20/ac VHT20/ax HE20 2 for IEEE 802.11n HT40/ac VHT40/ax HE40
Antenna Type:	PCB Antenna
Antenna Gain:	U-NII-1:4.45dBi U-NII-3:1.68dBi
EUT Test software:	rf_test

5.2. CHANNEL LIST

UNII-1 (For Bandwidth=20MHz)		UNII-1 (For Bandwidth=40MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	38	5190
40	5200	46	5230
44	5220		
48	5240		

UNII-3 (For Bandwidth=20MHz)		UNII-3 (For Bandwidth=40MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	151	5755
153	5765	159	5795
157	5785		
161	5805		
165	5825		

5.3. THE WORSE CASE POWER SETTING PARAMETER

UNII-1

Mode	Rate	Channel	Soft set value
11a	6M	36	05
		40	05
		48	05
11n HT20	MCS0	36	05
		40	05
		48	05
11n HT40	MCS0	38	05
		46	05
11ac VHT20	MCS0	36	05
		40	05
		48	05
11ac VHT40	MCS0	38	05
		46	05
11ax HE20	MCS0	36	05
		40	05
		48	05
11ax HE40	MCS0	38	05
		46	05

UNII-3

Mode	Rate	Channel	Soft set value
11a	6M	149	05
		157	05
		165	05
11n HT20	MCS0	149	05
		157	05
		165	05
11n HT40	MCS0	151	05
		159	05
11ac VHT20	MCS0	149	05
		157	05
		165	05
11ac VHT40	MCS0	151	05
		159	05
11ax HE20	MCS0	149	05
		157	05
		165	05
11ax HE40	MCS0	151	05
		159	05

THE WORSE CASE CONFIGURATIONS

The EUT was tested in the following configuration(s):

Controlled in test mode using a software application on the EUT supplied by customer. The application was used to enable a continuous transmission and to select the mode, test channels, bandwidth, data rates as required.

Test channels referring to section 5.2.

Maximum power setting referring to section 5.3.

Worst case Data Rates declared by the customer:

802.11a 20 mode: 6 Mbps
802.11n HT20 mode: MCS0
802.11n HT40 mode: MCS0
802.11ac VHT20 mode: MCS0
802.11ac VHT40 mode: MCS0
802.11ax HE20 mode: MCS0
802.11ax HE40 mode: MCS0

5.4. DESCRIPTION OF AVAILABLE ANTENNAS

Antenna No.	Frequency Band	Antenna Type	Max Antenna Gain (dBi)
1	5150-5250	PCB Antenna	4.45
1	5725-5850	PCB Antenna	1.68

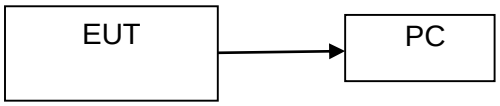
IEE Std. 802.11	Transmit and Receive Mode	Description
802.11a	☒1TX, 1RX	ANT 1 can be used as transmitting/receiving antenna.
802.11n HT20	☒1TX, 1RX	ANT 1 can be used as transmitting/receiving antenna.
802.11n HT40	☒1TX, 1RX	ANT 1 can be used as transmitting/receiving antenna.
802.11ac VHT20	☒1TX, 1RX	ANT 1 can be used as transmitting/receiving antenna.
802.11ac VHT40	☒1TX, 1RX	ANT 1 can be used as transmitting/receiving antenna.
802.11ax HE20	☒1TX, 1RX	ANT 1 can be used as transmitting/receiving antenna.
802.11ax HE40	☒1TX, 1RX	ANT 1 can be used as transmitting/receiving antenna.

5.5. SUPPORT UNITS FOR SYSTEM TEST

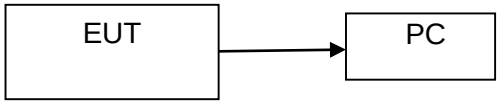
Equipment	Manufacturer	Model No.
PC	Lenovo	T14

5.6. SETUP DIAGRAM

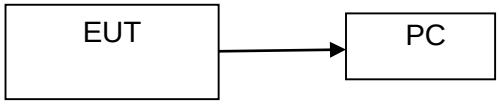
AC conducted emission :



Radiated Emission:



RF conducted:



6. MEASURING EQUIPMENT AND SOFTWARE USED

Test Equipment of Conducted RF					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Due Date**
Spectrum Analyzer	KEYSIGHT	N9020A	MY51281878	2022-10-08	2023-10-07
USB RF Power sensor	RadiPower	RPR3006W	17I00015SNO88	2022-10-08	2023-10-07
Radio Frequency control box	MWRF-test	MW200-RFCB	MW220111ANCI	2023-05-10	2024-05-09
Radio Frequency control box	MWRF-test	MW200-RFCB 2#	/	2023-05-10	2024-05-09
RF Test Software	MWRF-test	MTS 8310	N/A	N/A	N/A
temperature humidity chamber	Espec	SH-241	SH-241-2014	2022-10-08	2023-10-07

Test Equipment of Radiated emissions below 1GHz					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Due Date**
3m Semi-anechoic Chamber	Keysight	9m*6m*6m	N/A	2021-11-13	2024-11-12
EMI Test Receiver	ROHDE&SCHWARZ	ESCI	100302	2023-05-10	2024-05-09
Bilog Antenna	Schwarzbeck	VULB9163	VULB9163-1290	2022-12-12	2023-12-11
RF Cable	ZKJC	ZT06S-NJ-NJ-11M	19060398	2023-05-10	2024-05-09
RF Cable	ZKJC	ZT06S-NJ-NJ-0.5M	19060400	2023-05-10	2024-05-09
RF Cable	ZKJC	ZT06S-NJ-NJ-2.5M	19060404	2023-05-10	2024-05-09
Test Software	Farad	EZ-EMC (Ver.FA-03A2 RE)	N/A	N/A	N/A

Test Equipment of Radiated emissions above 1GHz					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Due Date**
3m Semi-anechoic Chamber	Keysight	9m*6m*6m	N/A	2021-11-13	2024-11-12
Spectrum Analyzer	Rohde & Schwarz	FSV40	US40240623	2022-10-29	2023-10-28
Horn antenna	A-INFO	LB-10180-SF	J2031090612123	2023-05-10	2024-05-09
Low noise Amplifiers	A-INFO	LA1018N4009	J1013130524001	2023-05-10	2024-05-09
RF Cable	ZKJC	ZT26-NJ-NJ-11M	19060401	2023-05-10	2024-05-09

RF Cable	ZKJC	ZT26-NJ-NJ-2.5M	19060402	2023-05-10	2024-05-09
RF Cable	ZKJC	ZT26-NJ-NJ-0.5M	19060403	2023-05-10	2024-05-09
Test Software	Farad	EZ-EMC (Ver.FA-03A2 RE)	N/A	N/A	N/A
Test Equipment of Conducted emissions					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Due Date**
1# Shielded Room	chengyu	8m*4m*3.3m	N/A	2022-11-22	2025-11-21
EMI Test Receiver	ROHDE&SCHWARZ	ESCI	101358	2023-05-10	2024-05-09
LISN	ROHDE&SCHWARZ	ENV216	101413	2022-10-08	2023-10-07
RF Cable	N/A	ZT06S-NJ-NJ-2.5M	19044022	2023-05-10	2024-05-09
Test Software	Farad	EZ-EMC (Ver.ANCI-3A1)	N/A	N/A	N/A

7. ANTENNA PORT TEST RESULTS

7.1. 26 DB EMISSION BANDWIDTH

LIMITS

CFR 47 FCC Part15, Subpart E		
Test Item	Limit	Frequency Range (MHz)
26 dB Emission Bandwidth	For reporting purposes only.	5150 ~ 5250

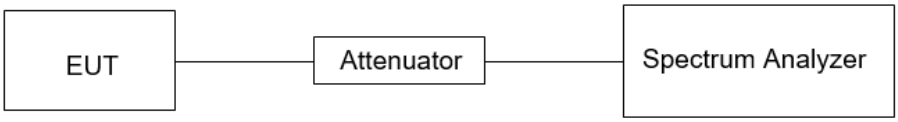
TEST PROCEDURE

Refer to KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 section II.C1. for 26 dB Emission Bandwidth; section II.C2. for 6 dB Emission Bandwidth; section II.D. for 99 % Occupied Bandwidth.
Connect the EUT to the spectrum analyser and use the following settings:

Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	For 6 dB Emission Bandwidth: RBW=100 kHz For 26 dB Emission bandwidth: approximately 1 % of the EBW.
VBW	For 6 dB Bandwidth: ≥ 3*RBW For 26 dB Bandwidth: >3*RBW
Trace	Max hold
Sweep	Auto couple

a) Use the 99 % power bandwidth function of the instrument, allow the trace to stabilize and report the measured bandwidth.
b) Allow the trace to stabilize and 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 6/26 dB relative to the maximum level measured in the fundamental emission.

TEST SETUP



TEST ENVIRONMENT

Temperature	24.6℃	Relative Humidity	41%RH
Atmosphere Pressure	101kPa		

TEST RESULTS

Test results refer to report E01A23070868F00306 - Appendix C

7.2. 6 DB BANDWIDTH

LIMITS

CFR 47 FCC Part15, Subpart E		
Test Item	Limit	Frequency Range (MHz)
6 dB Emission Bandwidth	The minimum 6 dB emission bandwidth shall be 500 kHz.	5725 ~ 5850

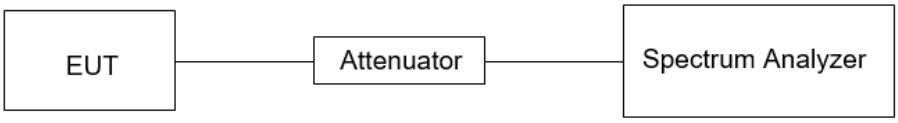
TEST PROCEDURE

Refer to KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 section II.C2. for 6 dB Emission Bandwidth.
Connect the EUT to the spectrum analyser and use the following settings:

Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	For 6 dB Emission Bandwidth: RBW=100 kHz
VBW	For 6 dB Bandwidth: ≥ 3*RBW
Trace	Max hold
Sweep	Auto couple

b) Allow the trace to stabilize and 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.

TEST SETUP



TEST ENVIRONMENT

Temperature	24.6℃	Relative Humidity	41%RH
Atmosphere Pressure	101kPa		

TEST RESULTS

Test results refer to report E01A23070868F00306 - Appendix F

7.3. MAXIMUM CONDUCTED OUTPUT POWER

LIMITS

CFR 47 FCC Part15, Subpart E		
Test Item	Limit	Frequency Range (MHz)
Conducted Output Power	☐ Outdoor Access Point: 1 W (30 dBm) ☐ Indoor Access Point: 1 W (30 dBm) ☐ Fixed Point-To-Point Access Points: 1 W (30 dBm) ☒ Client Devices: 250 mW (24 dBm)	5150 ~ 5250
	Shall not exceed 1 Watt (30 dBm).	5725 ~ 5850

Note:
The above limits are based upon the maximum antenna gain does not exceed 6 dBi.
If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

TEST PROCEDURE

Refer to KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 section II.E.

Method SA-1 (trace averaging with the EUT transmitting at full power throughout each sweep):
(i) Set span to encompass the entire emission bandwidth (EBW) (or, alternatively, the entire 99% occupied bandwidth) of the signal.
(ii) Set RBW = 1 MHz.
(iii) Set VBW ≥ 3 MHz.
(iv) Number of points in sweep ≥ 2 × span / RBW. (This ensures that bin-to-bin spacing is ≤ RBW/2, so that narrowband signals are not lost between frequency bins.)
(v) Sweep time = auto.
(vi) Detector = power averaging (rms), if available. Otherwise, use sample detector mode.
(vii) If transmit duty cycle < 98 %, use a video trigger with the trigger level set to enable triggering only on full power pulses. Transmitter must operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no off intervals) or at duty cycle ≥ 98 %, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to “free run.”
(viii) Trace average at least 100 traces in power averaging (rms) mode.
(ix) Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument’s band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1 MHz intervals extending across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the spectrum.

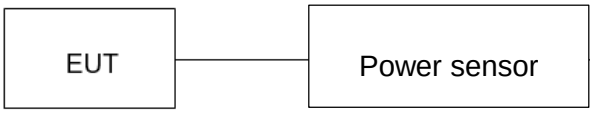
Method PM (Measurement using an RF average power meter):
(i) Measurements may be performed using a wideband RF power meter with a thermocouple detector or equivalent if all of the following conditions are satisfied:
a. The EUT is configured to transmit continuously or to transmit with a constant duty cycle.
b. At all times when the EUT is transmitting, it must be transmitting at its maximum power control level.
c. The integration period of the power meter exceeds the repetition period of the transmitted signal by at least a factor of five.

(ii) If the transmitter does not transmit continuously, measure the duty cycle, x, of the transmitter output signal as described in II.B.
(iii) Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter.
(iv) Adjust the measurement in dBm by adding 10 log (1/x) where x is the duty cycle (e.g., 10 log (1/0.25) if the duty cycle is 25 %).

Method PM-G (Measurement using a gated RF average power meter):
Measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

Straddle channel power was measured using spectrum analyzer.

TEST SETUP



TEST ENVIRONMENT

Temperature	24.6℃	Relative Humidity	41%RH
Atmosphere Pressure	101kPa		

TEST RESULTS

Test results refer to report E01A23070868F00306 - Appendix B

7.4. PEAK POWER SPECTRAL DENSITY

LIMITS

CFR 47 FCC Part15, Subpart E		
Test Item	Limit	Frequency Range (MHz)
Power Spectral Density	☐ Outdoor Access Point: 17 dBm/MHz ☐ Indoor Access Point: 17 dBm/MHz ☐ Fixed Point-To-Point Access Points: 17 dBm/MHz ☒ Client Devices: 11 dBm/MHz	5150 ~ 5250
	30 dBm/500kHz	5725 ~ 5850

Note:
The above limits are based upon the maximum antenna gain does not exceed 6 dBi.
If transmitting antennas of directional gain greater than 6 dBi are used, maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

TEST PROCEDURE

Refer to KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 section II.F.

Connect the EUT to the spectrum analyser and use the following settings:

For U-NII-1:

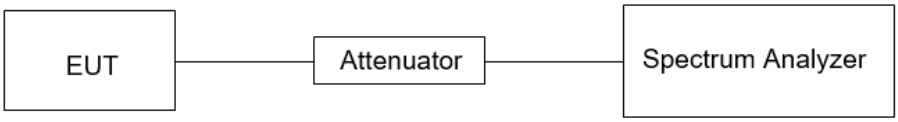
Center Frequency	The center frequency of the channel under test
Detector	RMS
RBW	1 MHz
VBW	≥3 × RBW
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Max hold
Sweep time	Auto

For U-NII-3:

Center Frequency	The center frequency of the channel under test
Detector	RMS
RBW	500 kHz
VBW	≥3 × RBW
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Max hold
Sweep time	Auto

Allow trace to fully stabilize and Use the peak search function on the instrument to find the peak of the spectrum and record its value.
Add 10 log (1/x), where x is the duty cycle, to the peak of the spectrum, the result is the Maximum PSD over 1 MHz / 500 kHz reference bandwidth.

TEST SETUP



TEST ENVIRONMENT

Temperature	24.6℃	Relative Humidity	41%RH
Atmosphere Pressure	101kPa		

TEST RESULTS

Test results refer to report E01A23070868F00306 - Appendix D

7.5. FREQUENCY STABILITY

LIMITS

The frequency of the carrier signal shall be maintained within band of operation.

TEST PROCEDURE

1. The EUT was placed inside an environmental chamber as the temperature in the chamber was varied between -10 °C ~ 40 °C (declared by customer).

2. The temperature was incremented by 10 °C intervals and the unit allowed to stabilize at each temperature before each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded.

3. The primary supply voltage is varied from 85 % to 115 % of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

Connect the EUT to the spectrum analyser and use the following settings:

Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	10 kHz
VBW	≥3 × RBW
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Max hold
Sweep time	Auto

4. While maintaining a constant temperature inside the environmental chamber, turn the EUT on and record the operating frequency at startup, and at 2 minutes, 5minutes, and 10 minutes after the EUT is energized.

5. Allow the trace to stabilize, find the peak value of the power envelope and record the frequency, then calculated the frequency drift.

TEST ENVIRONMENT

	Normal Test Conditions	Extreme Test Conditions
Relative Humidity	20 % - 75 %	/
Atmospheric Pressure	100 kPa ~102 kPa	/
Temperature	T_N (Normal Temperature): 20 °C	T_L (Low Temperature): -10 °C
		T_H (High Temperature): 40 °C
Supply Voltage	V_N (Normal Voltage): AC 120 V	V_L (Low Voltage): AC 102 V
		V_H (High Voltage): AC 138 V

TEST ENVIRONMENT

Temperature	24.6℃	Relative Humidity	41%RH
Atmosphere Pressure	101kPa		

TEST RESULTS

Test results refer to report E01A23070868F00306 - Appendix E .

7.6. DUTY CYCLE

LIMITS

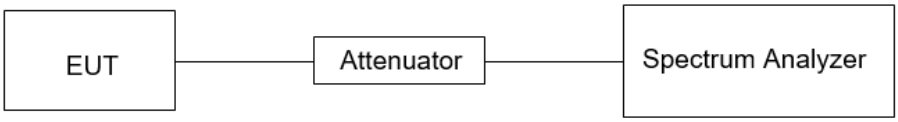
None; for reporting purposes only.

TEST PROCEDURE

Refer to KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 section II.B.

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

TEST SETUP



TEST ENVIRONMENT

Temperature	24.6℃	Relative Humidity	41%RH
Atmosphere Pressure	101kPa		

TEST RESULTS

Test results refer to report E01A23070868F00306 - Appendix A

8. RADIATED TEST RESULTS

Radiated Emissions and Band Edge MeasurementLIMITS

Refer to CFR 47 FCC §15.205, §15.209 and §15.407 (b).

Radiation Disturbance Test Limit for FCC (Class B)

Emissions radiated outside of the specified frequency bands above 30 MHz			
Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m	
		Quasi-Peak	
30 - 88	100	40	
88 - 216	150	43.5	
216 - 960	200	46	
Above 960	500	54	
Above 1000	500	Peak	Average
		74	54

FCC Emissions radiated outside of the specified frequency bands below 30 MHz		
Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30

FCC Restricted bands of operation refer to FCC §15.205 (a):

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
[1]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	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	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			

Note: [1]Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.
[2]Above 38.6c
Limits of unwanted/undesirable emission out of the restricted bands refer to CFR 47 FCC §15.407 (b).

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1GHz)		
Frequency Range (MHz)	EIRP Limit	Field Strength Limit (dBuV/m) at 3 m
5150~5250 MHz	PK: -27 (dBm/MHz)	PK:68.2(dBμV/m)
5725~5850 MHz	PK: -27 (dBm/MHz) *1 PK: 10 (dBm/MHz) *2 PK: 15.6 (dBm/MHz) *3 PK: 27 (dBm/MHz) *4	PK: 68.2(dBμV/m) *1 PK: 105.2 (dBμV/m) *2 PK: 110.8(dBμV/m) *3 PK: 122.2 (dBμV/m) *4
Note: *1 beyond 75 MHz or more above of the band edge. *2 below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above. *3 below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above. *4 from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.		

TEST PROCEDURE

Below 30 MHz

The setting of the spectrum analyser

RBW	200 Hz (From 9 kHz to 0.15 MHz)/ 9 kHz (From 0.15 MHz to 30 MHz)
VBW	200 Hz (From 9 kHz to 0.15 MHz)/ 9 kHz (From 0.15 MHz to 30 MHz)
Sweep	Auto

1. The testing follows the guidelines in ANSI C63.10-2013 clause 6.4.

2. The EUT was arranged to its worst case and then turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both Horizontal, Face-on and Face-off polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 80 cm above ground.

4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a 1 m height antenna tower.

5. The radiated emission limits are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz Radiated emission limits in these three bands are based on measurements employing an average detector.

6. For measurement below 1 GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak and average detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak and average detector and reported.

7. Although these tests were performed other than open field site, adequate comparison measurements were confirmed against 30m open field site. Therefore sufficient tests were made

to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field site based on KDB 414788.

8. The limits in CFR 47, Part 15, Subpart C, paragraph 15.209 (a), are identical to those in RSS-GEN Section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table) using the free space impedance of 377Ω. For example, the measurement frequency X KHz resulted in a level of Y dBuV/m, which is equivalent to Y-51.5 = Z dBuA/m, which has the same margin, W dB, to the corresponding RSS-GEN Table 6 limit as it has to be 15.209(a) limit.

Below 1 GHz and above 30 MHz

The setting of the spectrum analyser

RBW	120 kHz
VBW	300 kHz
Sweep	Auto
Detector	Peak/QP
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013 clause 6.5.

2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 80 cm above ground.

4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

5. For measurement below 1 GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

Above 1 GHz

The setting of the spectrum analyser

RBW	1 MHz
VBW	PEAK: 3 MHz AVG: see note 6
Sweep	Auto
Detector	Peak
Trace	Max hold

1. The testing follows the guidelines in KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 section II.G.3 ~ II.G.6.

2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

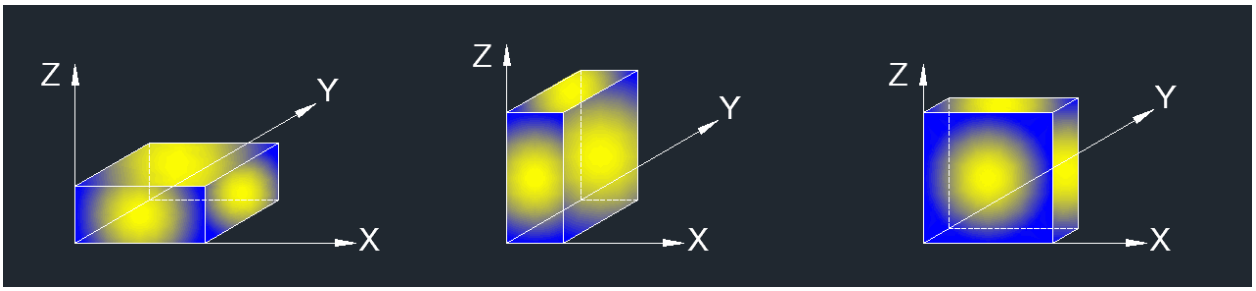
3. The EUT was placed on a turntable with 1.5 m above ground.

4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

5. For measurement above 1 GHz, the emission measurement will be measured by the peak detector. This peak level, once corrected, must comply with the limit specified in Section 15.209.

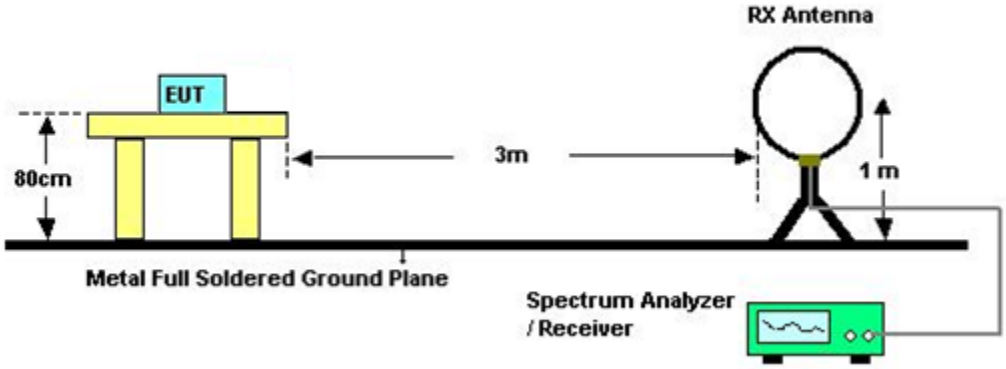
6. For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with 1/T video bandwidth with peak detector for average measurements. For the Duty Cycle please refer to clause 7.1.ON TIME AND DUTY CYCLE.

X axis, Y axis, Z axis positions:

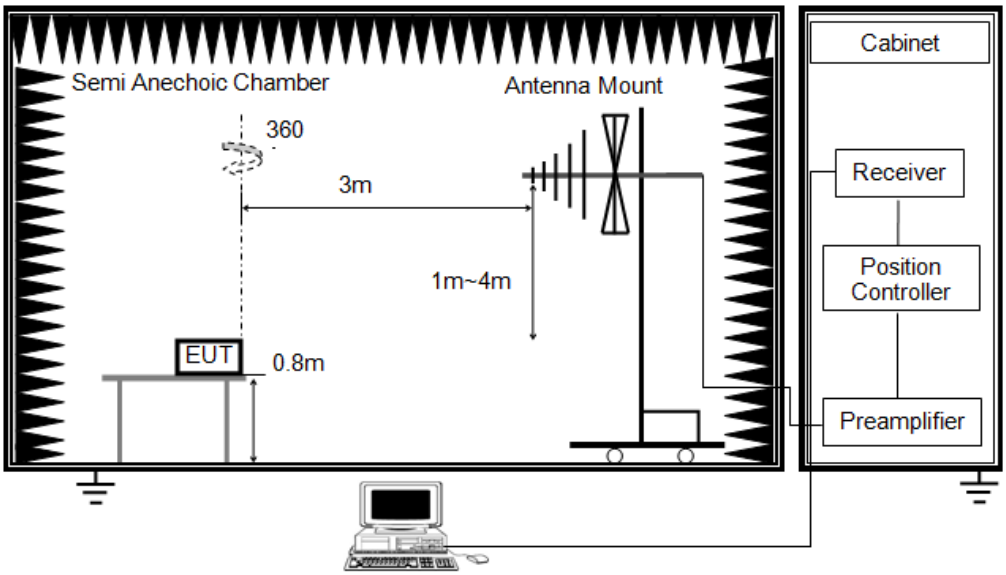


Note 1: For all radiated test, EUT in each of three orthogonal axis emissions had been tested, but only the worst case (X axis) data recorded in the report.

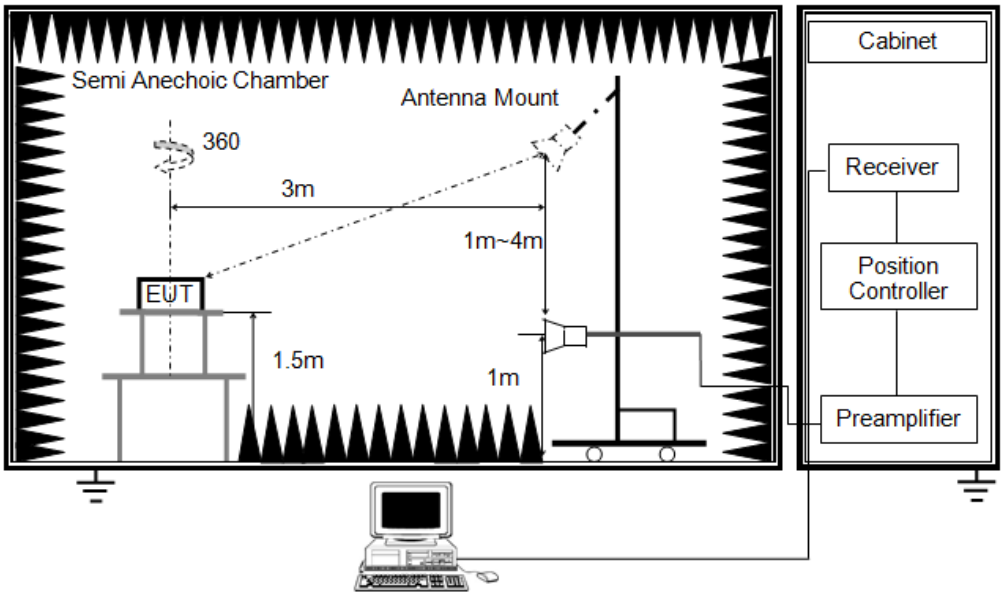
TEST SETUP



9kHz-30MHz



30MHz-1GHz



Above 1GHz

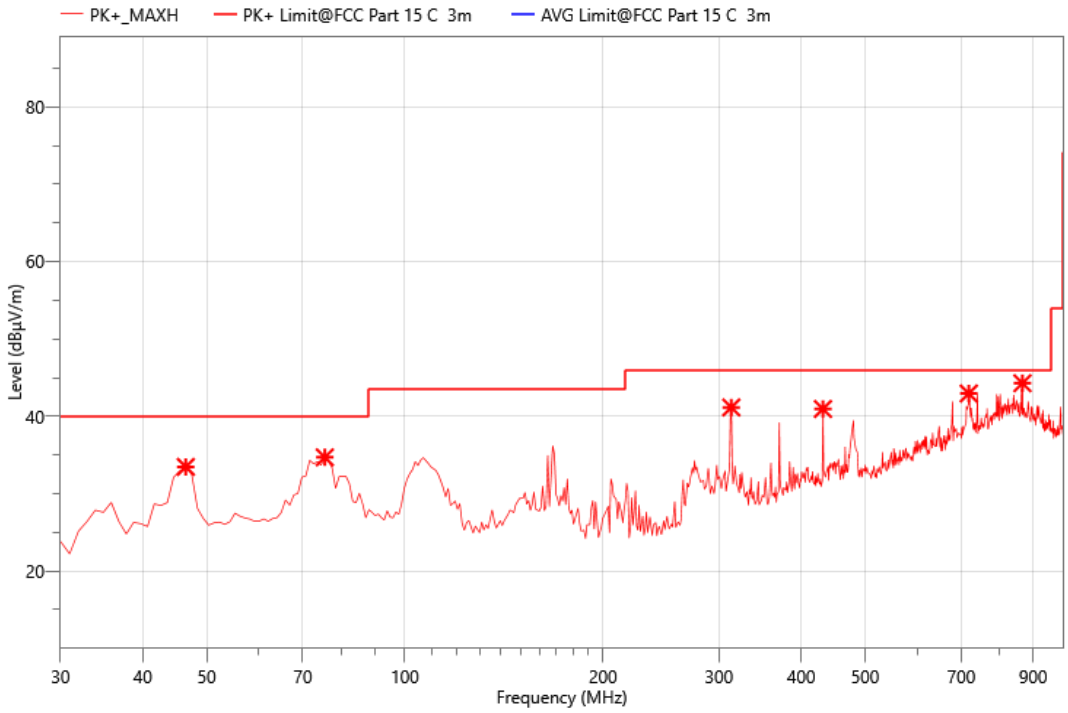
TEST ENVIRONMENT

Temperature	24.3℃	Relative Humidity	54%RH
Atmosphere Pressure	101kPa		

TEST RESULTS

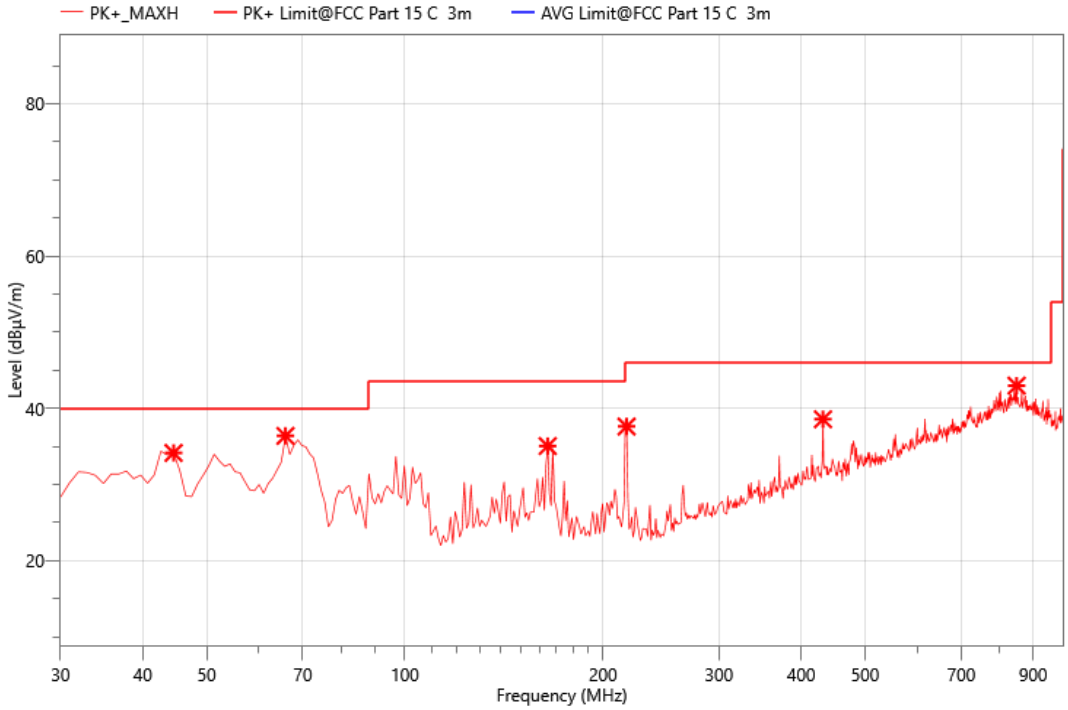
- Undesirable radiated Spurious Emission below 1GHz (30MHz to 1GHz)

The worst result as bellow:



EUT:	**Smart Projector**	**Temperature:**	**24.3℃**
M/N.:	**HY300**	**Humidity:**	**54%RH**
Mode:	**802.11ax HE20 5240MHz**	**Power Rating:**	**AC 120V/60Hz**
Test Engineer:	**Berny**	**Test Time:**	**2023-08-30**

No.	Freq. (MHz)	Reading (dBµV)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Det.	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)
1	46.490	37.54	33.46	40.00	6.54	PK+	100.0	H	182.1	-4.08
2	75.590	40.08	34.70	40.00	5.30	PK+	100.0	H	182.1	-5.38
3	313.240	41.58	41.15	46.00	4.85	PK+	100.0	H	182.1	-0.43
4	431.580	36.90	40.95	46.00	5.05	PK+	100.0	H	182.1	4.05
5	718.700	32.64	42.95	46.00	3.05	PK+	100.0	H	182.1	10.31
6	867.110	31.01	44.28	46.00	1.72	PK+	100.0	H	182.1	13.27

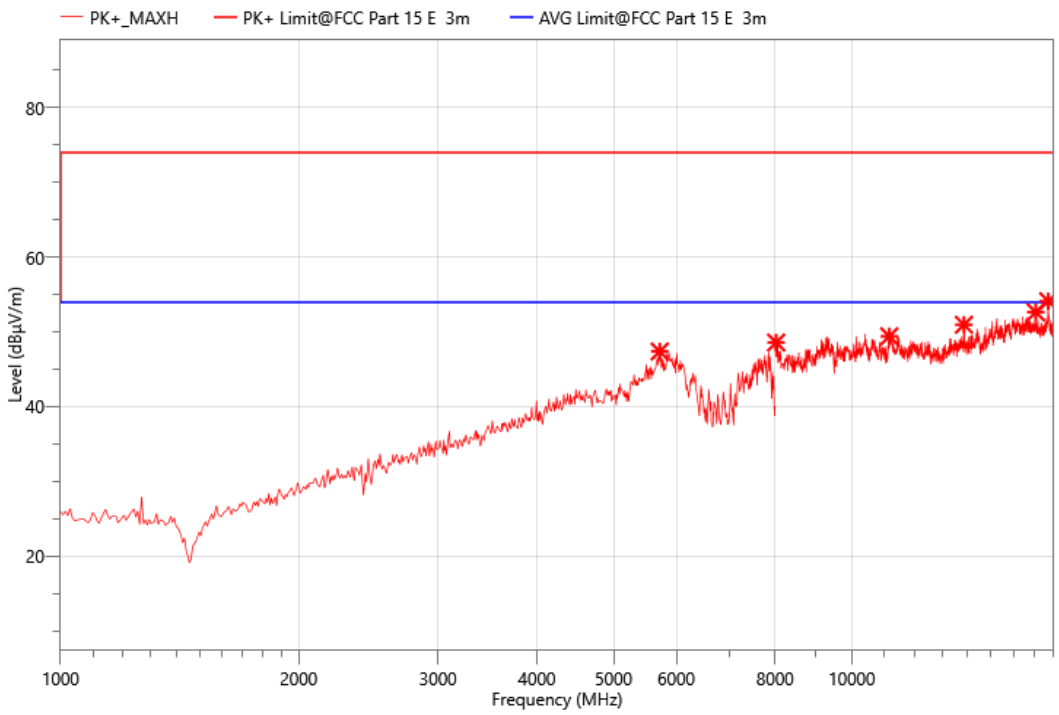


EUT:	**Smart Projector**	**Temperature:**	**24.3℃**
M/N.:	**HY300**	**Humidity:**	**54%RH**
Mode:	**802.11ax HE20 5240MHz**	**Power Rating:**	**AC 120V/60Hz**
Test Engineer:	**Berny**	**Test Time:**	**2023-08-30**

No.	Freq. (MHz)	Reading (dBµV)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dBµV/m)	Det.	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)
1	44.550	38.38	34.16	40.00	5.84	PK+	100.0	V	182.1	-4.22
2	65.890	40.18	36.40	40.00	3.60	PK+	100.0	V	182.1	-3.78
3	164.830	40.66	35.06	43.50	8.44	PK+	100.0	V	182.1	-5.6
4	217.210	42.26	37.63	46.00	8.37	PK+	100.0	V	182.1	-4.63
5	431.580	34.53	38.58	46.00	7.42	PK+	100.0	V	182.1	4.05
6	849.650	29.07	43.00	46.00	3.00	PK+	100.0	V	182.1	13.93

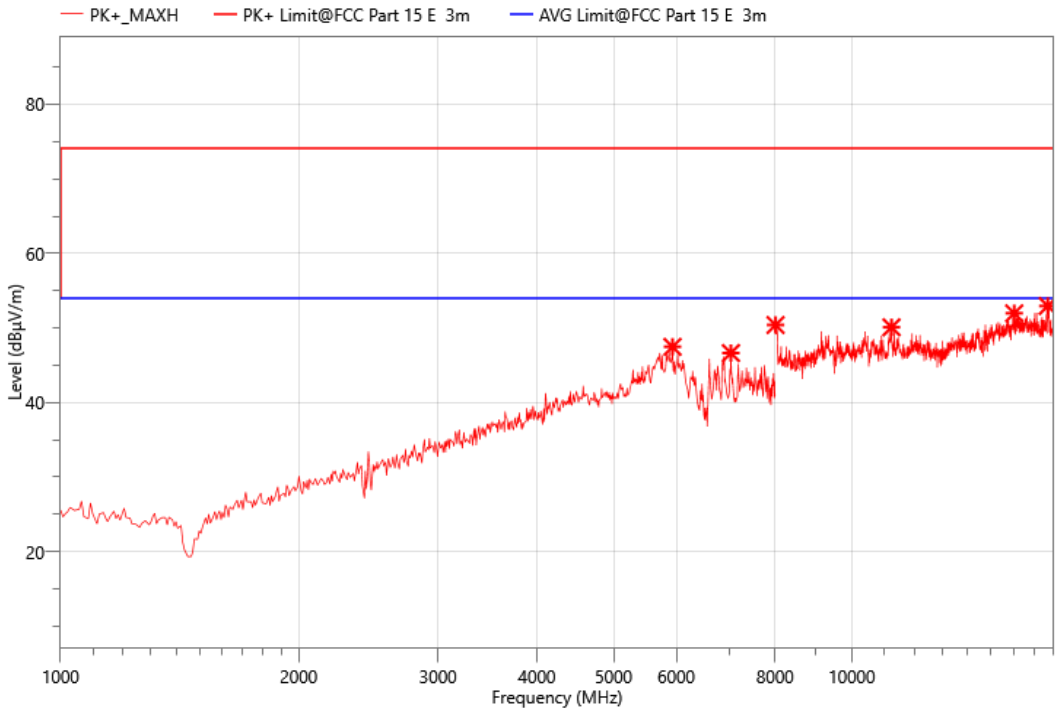
- Undesirable radiated Spurious Emission Above 1GHz (1GHz to 26.5GHz)

All modes has been tested and the worst result recorded as below:



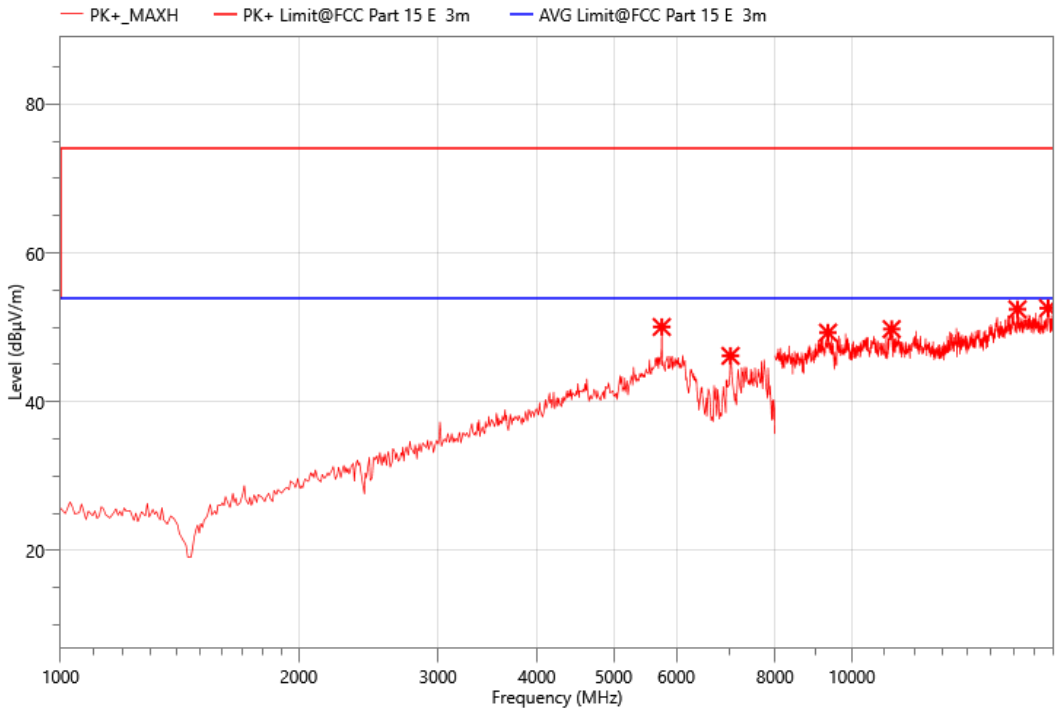
EUT:	**Smart Projector**	**Temperature:**	**24.3℃**
M/N.:	**HY300**	**Humidity:**	**54%RH**
Mode:	**802.11ax HE20 5180MHz**	**Power Rating:**	**AC 120V/60Hz**
Test Engineer:	**Berny**	**Test Time:**	**2023-08-30**

No.	Freq. (MHz)	Reading (dBµV)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dBµV/m)	Det.	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)
1	5718.000	53.26	47.38	74.00	26.62	PK+	150.0	H	182.1	-5.88
2	8025.000	50.86	48.58	74.00	25.42	PK+	150.0	H	182.1	-2.28
3	11155.000	48.39	49.42	74.00	24.58	PK+	150.0	H	182.1	1.03
4	13860.000	49.45	50.96	74.00	23.04	PK+	150.0	H	182.1	1.51
5	17080.000	48.78	52.64	74.00	21.36	PK+	150.0	H	182.1	3.86
6	17715.000	49.20	54.11	74.00	19.89	PK+	150.0	H	182.1	4.91



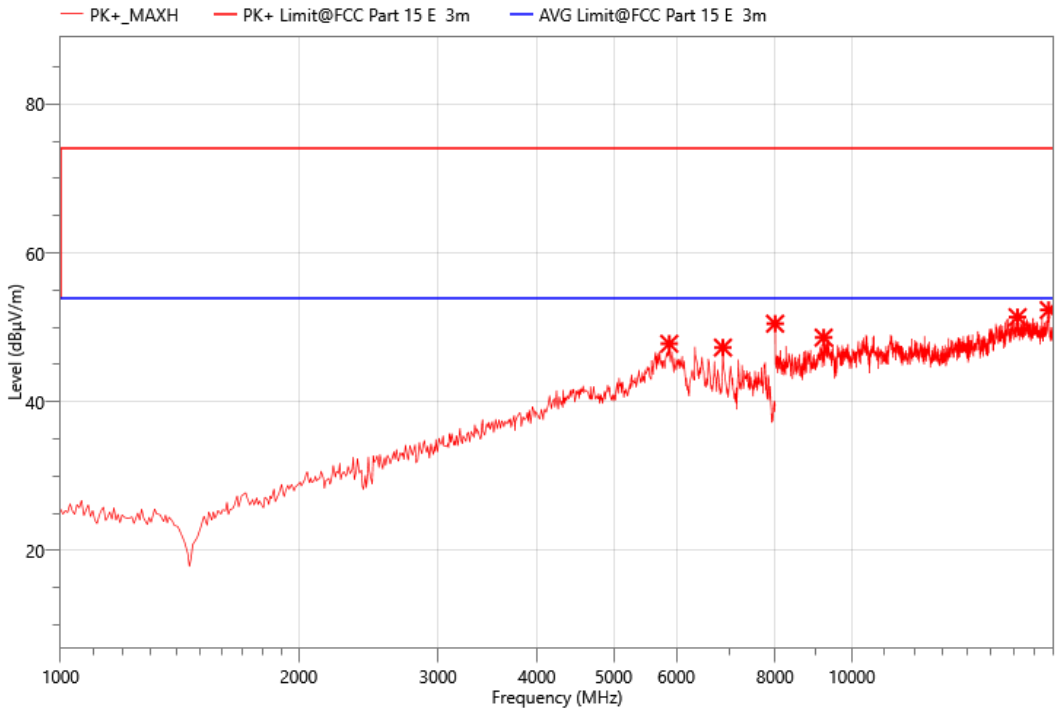
EUT:	**Smart Projector**	**Temperature:**	**24.3℃**
M/N.:	**HY300**	**Humidity:**	**54%RH**
Mode:	**802.11ax HE20 5180MHz**	**Power Rating:**	**AC 120V/60Hz**
Test Engineer:	**Berny**	**Test Time:**	**2023-08-30**

No.	Freq. (MHz)	Reading (dBµV)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dBµV/m)	Det.	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)
1	5935.000	52.48	47.47	74.00	26.53	PK+	150.0	V	182.1	-5.01
2	7034.000	49.36	46.64	74.00	27.36	PK+	150.0	V	182.1	-2.72
3	8010.000	52.74	50.40	74.00	23.60	PK+	150.0	V	182.1	-2.34
4	11225.000	48.69	50.09	74.00	23.91	PK+	150.0	V	182.1	1.4
5	16045.000	49.07	51.97	74.00	22.03	PK+	150.0	V	182.1	2.9
6	17690.000	48.34	52.94	74.00	21.06	PK+	150.0	V	182.1	4.6



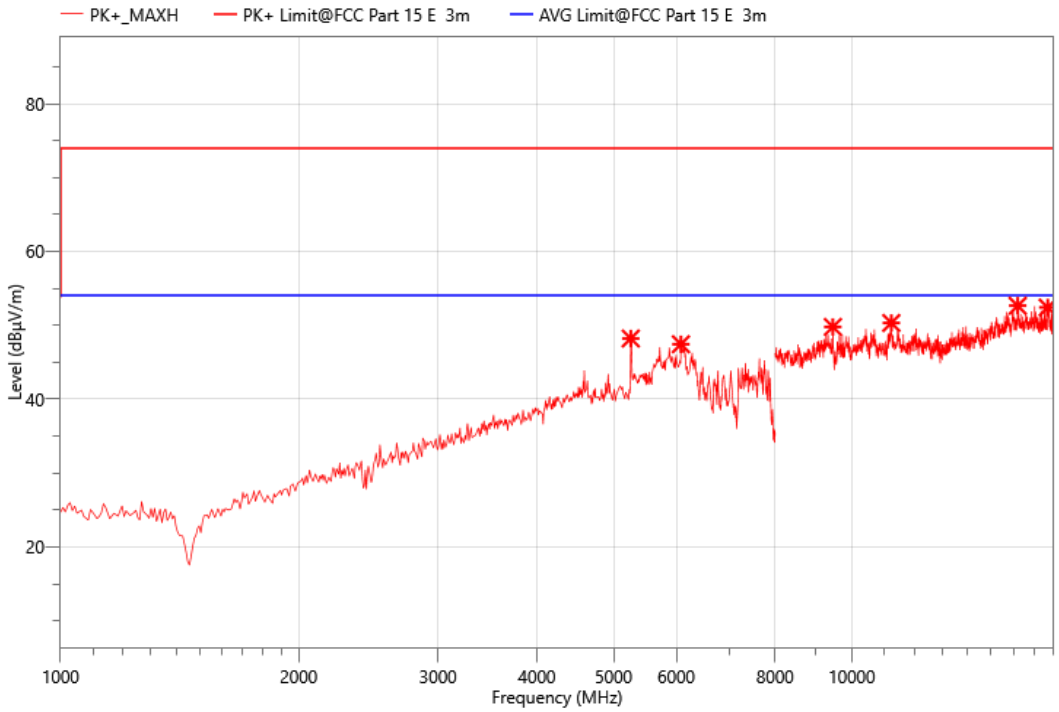
EUT:	**Smart Projector**	**Temperature:**	**24.3℃**
M/N.:	**HY300**	**Humidity:**	**54%RH**
Mode:	**802.11ax HE20 5200MHz**	**Power Rating:**	**AC 120V/60Hz**
Test Engineer:	**Berny**	**Test Time:**	**2023-08-30**

No.	Freq. (MHz)	Reading (dBµV)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dBµV/m)	Det.	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)
1	5753.000	56.47	50.05	74.00	23.95	PK+	150.0	H	182.1	-6.42
2	7027.000	48.97	46.17	74.00	27.83	PK+	150.0	H	182.1	-2.8
3	9330.000	50.23	49.30	74.00	24.70	PK+	150.0	H	182.1	-0.93
4	11230.000	48.64	49.77	74.00	24.23	PK+	150.0	H	182.1	1.13
5	16195.000	47.25	52.42	74.00	21.58	PK+	150.0	H	182.1	5.17
6	17705.000	47.92	52.57	74.00	21.43	PK+	150.0	H	182.1	4.65



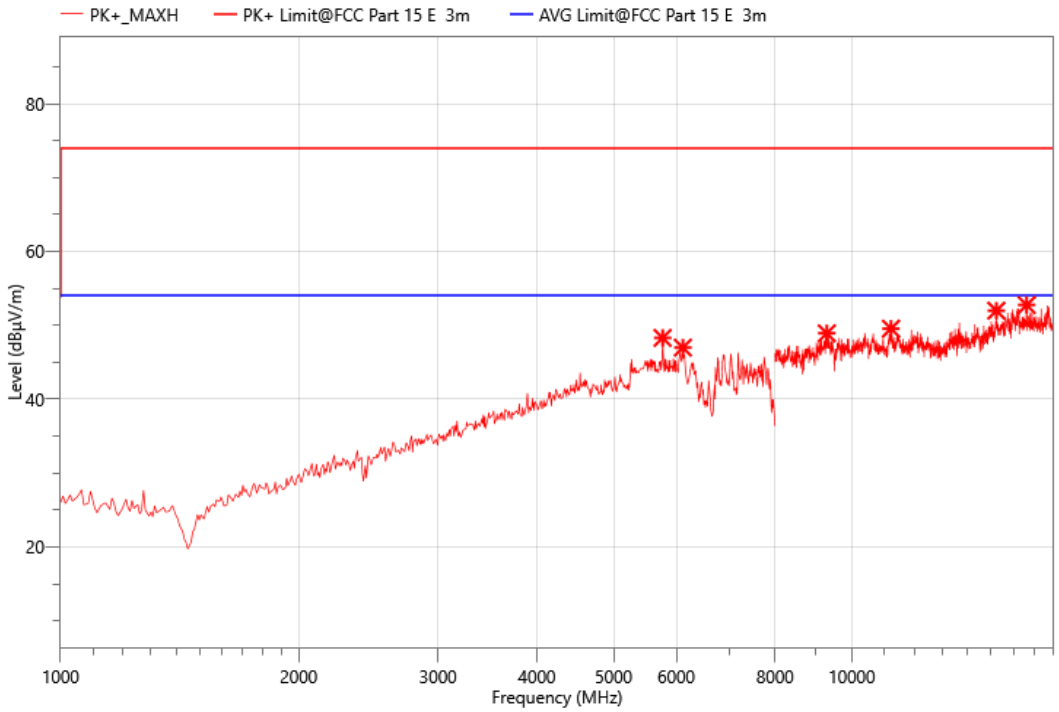
EUT:	**Smart Projector**	**Temperature:**	**24.3℃**
M/N.:	**HY300**	**Humidity:**	**54%RH**
Mode:	**802.11ax HE20 5200MHz**	**Power Rating:**	**AC 120V/60Hz**
Test Engineer:	**Berny**	**Test Time:**	**2023-08-30**

No.	Freq. (MHz)	Reading (dBµV)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dBµV/m)	Det.	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)
1	5879.000	52.92	47.80	74.00	26.20	PK+	150.0	V	182.1	-5.12
2	6873.000	51.05	47.28	74.00	26.72	PK+	150.0	V	182.1	-3.77
3	8000.000	52.89	50.49	74.00	23.51	PK+	150.0	V	182.1	-2.4
4	9215.000	48.98	48.63	74.00	25.37	PK+	150.0	V	182.1	-0.35
5	16200.000	46.45	51.37	74.00	22.63	PK+	150.0	V	182.1	4.92
6	17740.000	47.01	52.33	74.00	21.67	PK+	150.0	V	182.1	5.32



EUT:	**Smart Projector**	**Temperature:**	**24.3℃**
M/N.:	**HY300**	**Humidity:**	**54%RH**
Mode:	**802.11ax HE20 5240MHz**	**Power Rating:**	**AC 120V/60Hz**
Test Engineer:	**Berny**	**Test Time:**	**2023-08-30**

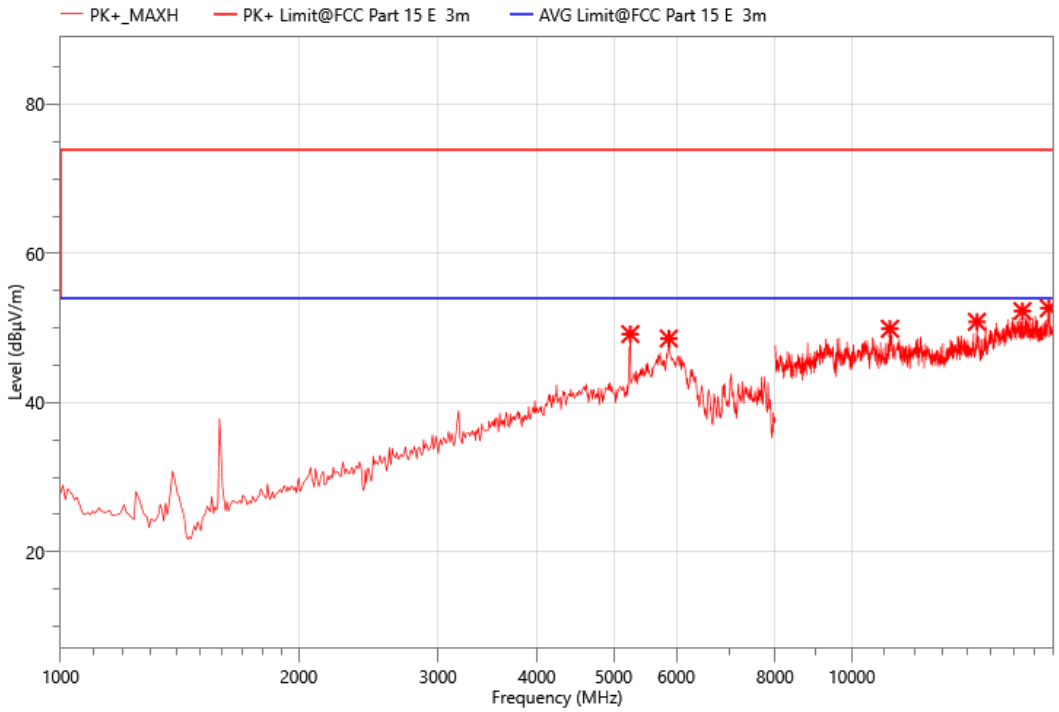
No.	Freq. (MHz)	Reading (dBµV)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dBµV/m)	Det.	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)
1	5256.000	55.63	48.22	74.00	25.78	PK+	150.0	H	182.1	-7.41
2	6082.000	52.73	47.44	74.00	26.56	PK+	150.0	H	182.1	-5.29
3	9465.000	50.62	49.79	74.00	24.21	PK+	150.0	H	182.1	-0.83
4	11220.000	48.78	50.32	74.00	23.68	PK+	150.0	H	182.1	1.54
5	16205.000	47.98	52.65	74.00	21.35	PK+	150.0	H	182.1	4.67
6	17685.000	47.81	52.41	74.00	21.59	PK+	150.0	H	182.1	4.6



EUT:	**Smart Projector**	**Temperature:**	**24.3℃**
M/N.:	**HY300**	**Humidity:**	**54%RH**
Mode:	**802.11ax HE20 5240MHz**	**Power Rating:**	**AC 120V/60Hz**
Test Engineer:	**Berny**	**Test Time:**	**2023-08-30**

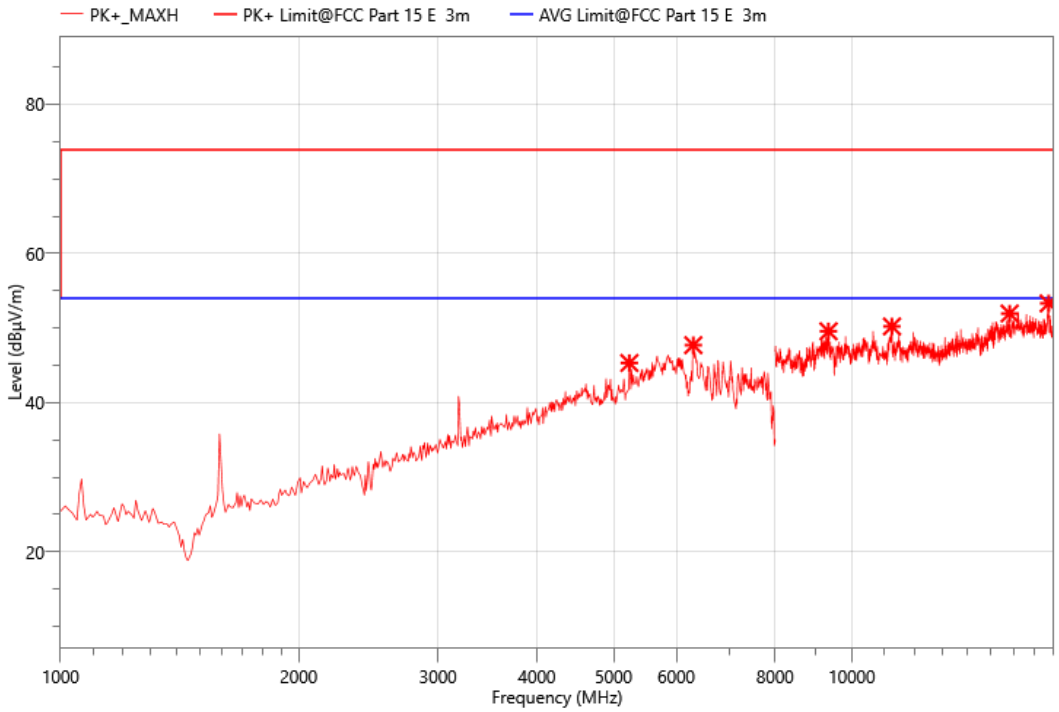
No.	Freq. (MHz)	Reading (dBµV)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dBµV/m)	Det.	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)
1	5767.000	54.74	48.30	74.00	25.70	PK+	150.0	V	182.1	-6.44
2	6117.000	51.69	46.98	74.00	27.02	PK+	150.0	V	182.1	-4.71
3	9300.000	49.81	48.92	74.00	25.08	PK+	150.0	V	182.1	-0.89
4	11210.000	48.48	49.55	74.00	24.45	PK+	150.0	V	182.1	1.07
5	15230.000	49.45	51.99	74.00	22.01	PK+	150.0	V	182.1	2.54
6	16635.000	48.59	52.75	74.00	21.25	PK+	150.0	V	182.1	4.16

Note: 1.All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
2.Emission Level= Reading Level+Probe Factor +Cable Loss.
3.EIRP[dBm] = E[dBµV/m] + 20 log(d[meters]) - 104.77
d is the measurement distance in 3 meters.
4.802.11a, 802.11n HT20, 802.11n HT40, 802.11ac VHT20, 802.11ac VHT40, 802.11ax HE20 ,802.11ax HE40,all has been tested, the worst case is 802.11ax HE20,only shown the worst case.



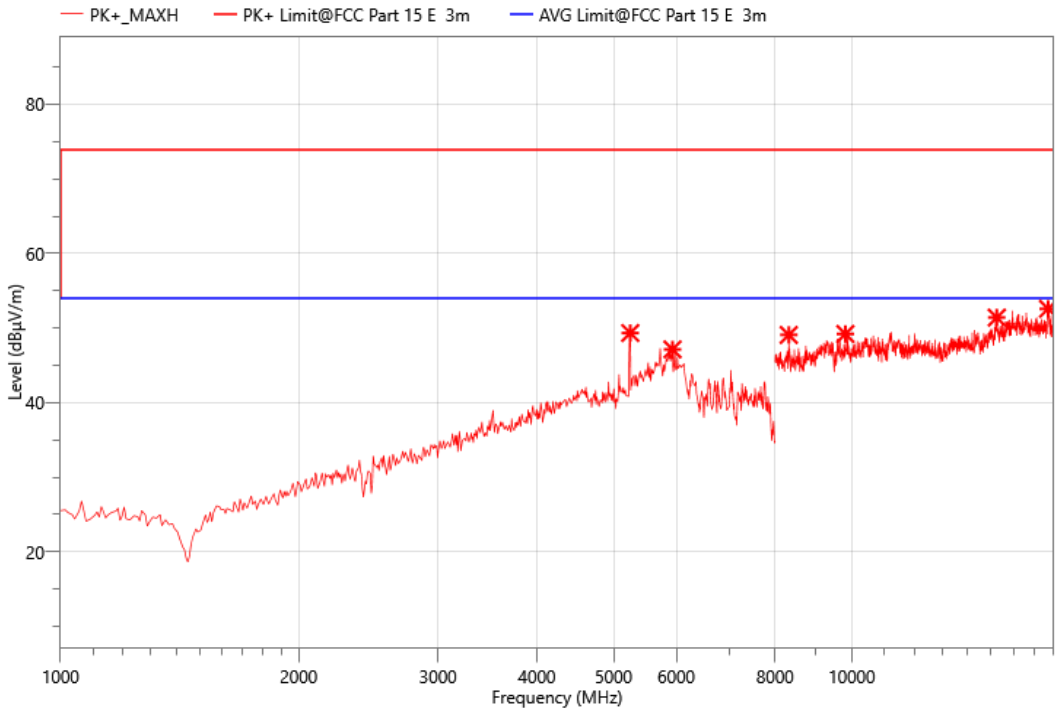
EUT:	**Smart Projector**	**Temperature:**	**24.3℃**
M/N.:	**HY300**	**Humidity:**	**54%RH**
Mode:	**802.11a 5745MHz**	**Power Rating:**	**AC 120V/60Hz**
Test Engineer:	**Berny**	**Test Time:**	**2023-08-30**

No.	Freq. (MHz)	Reading (dBµV)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dBµV/m)	Det.	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)
1	5249.000	56.89	49.19	74.00	24.81	PK+	150.0	H	182.1	-7.7
2	5872.000	53.81	48.61	74.00	25.39	PK+	150.0	H	182.1	-5.2
3	11175.000	49.01	49.91	74.00	24.09	PK+	150.0	H	182.1	0.9
4	14395.000	49.04	50.84	74.00	23.16	PK+	150.0	H	182.1	1.8
5	16430.000	48.60	52.28	74.00	21.72	PK+	150.0	H	182.1	3.68
6	17745.000	47.28	52.66	74.00	21.34	PK+	150.0	H	182.1	5.38



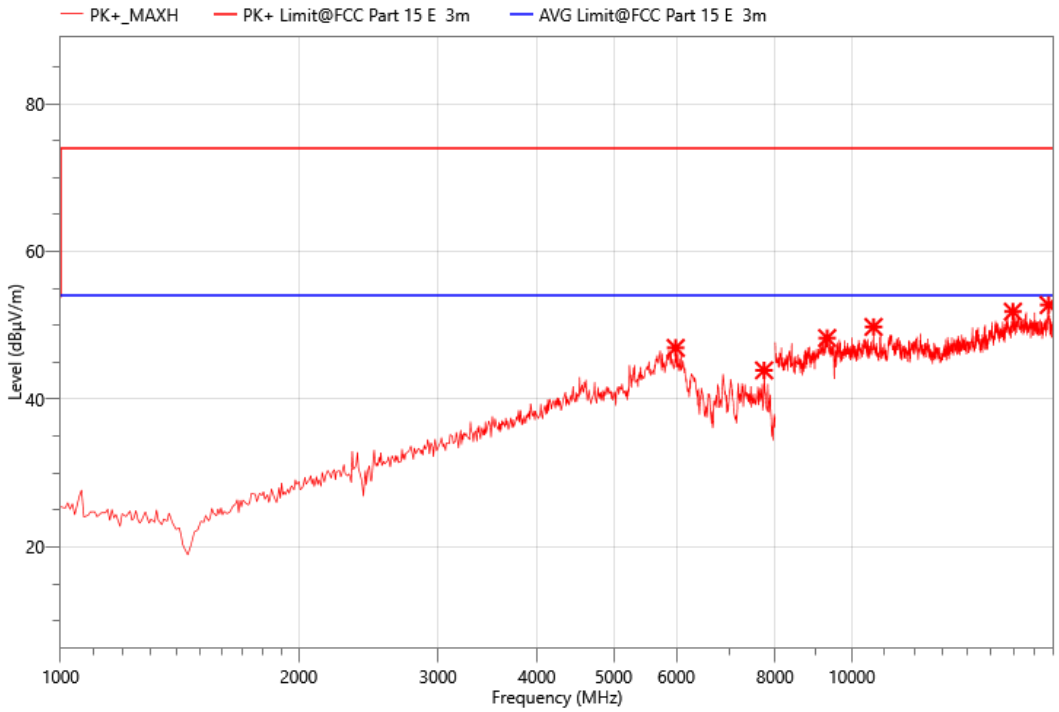
EUT:	**Smart Projector**	**Temperature:**	**24.3℃**
M/N.:	**HY300**	**Humidity:**	**54%RH**
Mode:	**802.11a 5745MHz**	**Power Rating:**	**AC 120V/60Hz**
Test Engineer:	**Berny**	**Test Time:**	**2023-08-30**

No.	Freq. (MHz)	Reading (dBµV)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dBµV/m)	Det.	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)
1	5235.000	53.12	45.32	74.00	28.68	PK+	150.0	V	182.1	-7.8
2	6306.000	52.12	47.71	74.00	26.29	PK+	150.0	V	182.1	-4.41
3	9345.000	50.63	49.57	74.00	24.43	PK+	150.0	V	182.1	-1.06
4	11240.000	49.62	50.22	74.00	23.78	PK+	150.0	V	182.1	0.6
5	15830.000	49.33	51.95	74.00	22.05	PK+	150.0	V	182.1	2.62
6	17735.000	48.05	53.31	74.00	20.69	PK+	150.0	V	182.1	5.26



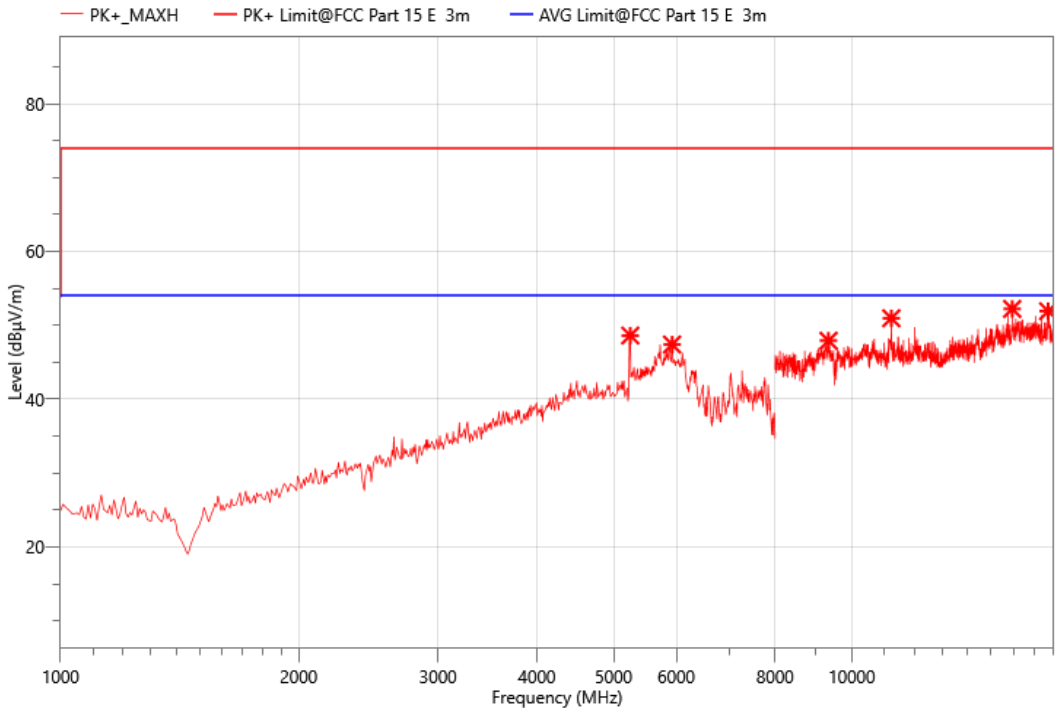
EUT:	**Smart Projector**	**Temperature:**	**24.3℃**
M/N.:	**HY300**	**Humidity:**	**54%RH**
Mode:	**802.11a 5785MHz**	**Power Rating:**	**AC 120V/60Hz**
Test Engineer:	**Berny**	**Test Time:**	**2023-08-30**

No.	Freq. (MHz)	Reading (dBµV)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dBµV/m)	Det.	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)
1	5249.000	57.04	49.34	74.00	24.66	PK+	150.0	H	182.1	-7.7
2	5935.000	52.15	47.14	74.00	26.86	PK+	150.0	H	182.1	-5.01
3	8325.000	51.24	49.08	74.00	24.92	PK+	150.0	H	182.1	-2.16
4	9815.000	50.46	49.21	74.00	24.79	PK+	150.0	H	182.1	-1.25
5	15250.000	48.64	51.41	74.00	22.59	PK+	150.0	H	182.1	2.77
6	17705.000	47.93	52.58	74.00	21.42	PK+	150.0	H	182.1	4.65



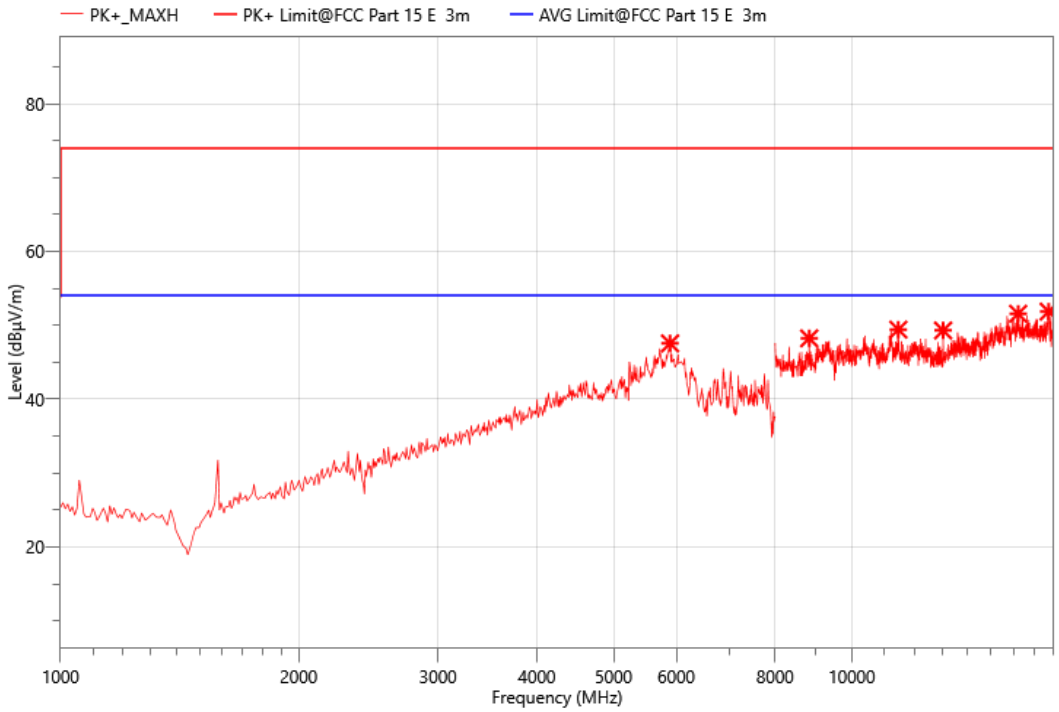
EUT:	**Smart Projector**	**Temperature:**	**24.3℃**
M/N.:	**HY300**	**Humidity:**	**54%RH**
Mode:	**802.11a 5785MHz**	**Power Rating:**	**AC 120V/60Hz**
Test Engineer:	**Berny**	**Test Time:**	**2023-08-30**

No.	Freq. (MHz)	Reading (dBµV)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dBµV/m)	Det.	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)
1	5991.000	52.35	46.94	74.00	27.06	PK+	150.0	V	182.1	-5.41
2	7748.000	46.73	43.90	74.00	30.10	PK+	150.0	V	182.1	-2.83
3	9310.000	49.27	48.28	74.00	25.72	PK+	150.0	V	182.1	-0.99
4	10655.000	49.93	49.78	74.00	24.22	PK+	150.0	V	182.1	-0.15
5	15980.000	47.92	51.85	74.00	22.15	PK+	150.0	V	182.1	3.93
6	17735.000	47.49	52.75	74.00	21.25	PK+	150.0	V	182.1	5.26



EUT:	**Smart Projector**	**Temperature:**	**24.3℃**
M/N.:	**HY300**	**Humidity:**	**54%RH**
Mode:	**802.11a 5825MHz**	**Power Rating:**	**AC 120V/60Hz**
Test Engineer:	**Berny**	**Test Time:**	**2023-08-30**

No.	Freq. (MHz)	Reading (dBµV)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dBµV/m)	Det.	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)
1	5249.000	56.32	48.62	74.00	25.38	PK+	150.0	H	182.1	-7.7
2	5928.000	52.26	47.40	74.00	26.60	PK+	150.0	H	182.1	-4.86
3	9345.000	48.98	47.92	74.00	26.08	PK+	150.0	H	182.1	-1.06
4	11220.000	49.42	50.96	74.00	23.04	PK+	150.0	H	182.1	1.54
5	15950.000	48.73	52.22	74.00	21.78	PK+	150.0	H	182.1	3.49
6	17710.000	47.14	51.92	74.00	22.08	PK+	150.0	H	182.1	4.78



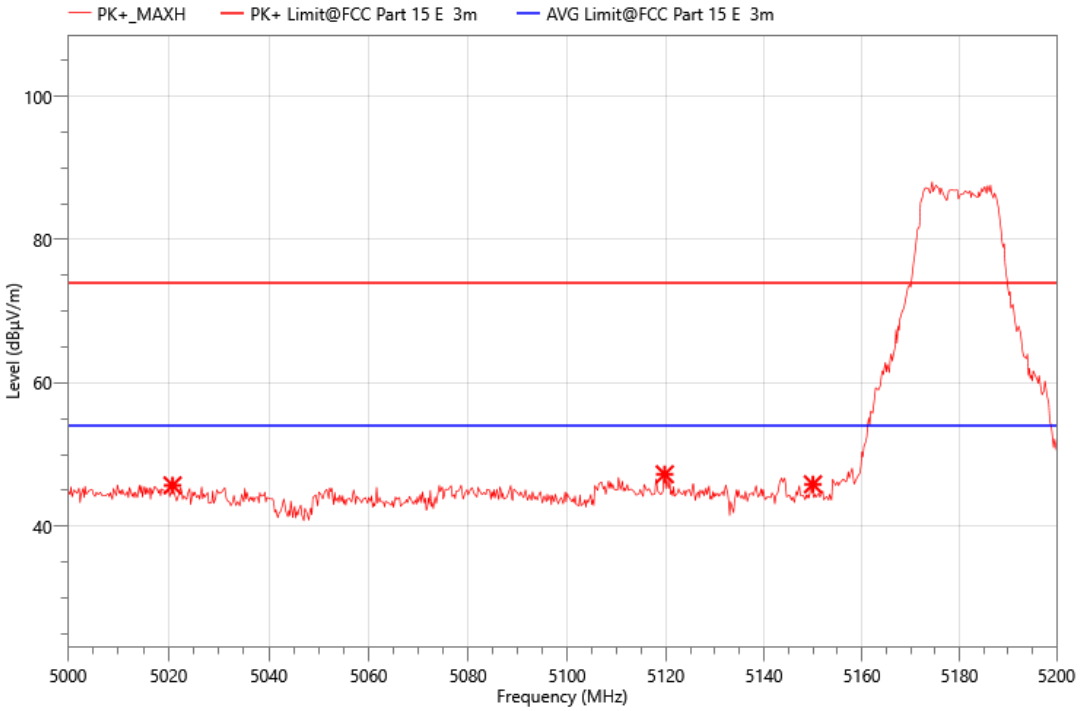
EUT:	**Smart Projector**	**Temperature:**	**24.3℃**
M/N.:	**HY300**	**Humidity:**	**54%RH**
Mode:	**802.11a 5825MHz**	**Power Rating:**	**AC 120V/60Hz**
Test Engineer:	**Berny**	**Test Time:**	**2023-08-30**

No.	Freq. (MHz)	Reading (dBµV)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dBµV/m)	Det.	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)
1	5893.000	52.65	47.56	74.00	26.44	PK+	150.0	V	182.1	-5.09
2	8835.000	49.82	48.24	74.00	25.76	PK+	150.0	V	182.1	-1.58
3	11450.000	48.64	49.42	74.00	24.58	PK+	150.0	V	182.1	0.78
4	13045.000	49.01	49.31	74.00	24.69	PK+	150.0	V	182.1	0.3
5	16230.000	47.22	51.57	74.00	22.43	PK+	150.0	V	182.1	4.35
6	17735.000	46.60	51.86	74.00	22.14	PK+	150.0	V	182.1	5.26

Note: 1.All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
2.Emission Level= Reading Level+Probe Factor +Cable Loss.
3.EIRP[dBm] = E[dBµV/m] + 20 log(d[meters]) - 104.77
d is the measurement distance in 3 meters.
4.802.11a, 802.11n HT20, 802.11n HT40, 802.11ac VHT20, 802.11ac VHT40, 802.11ax HE20 ,802.11ax HE40,all has been tested, the worst case is 802.11a,only shown the worst case.

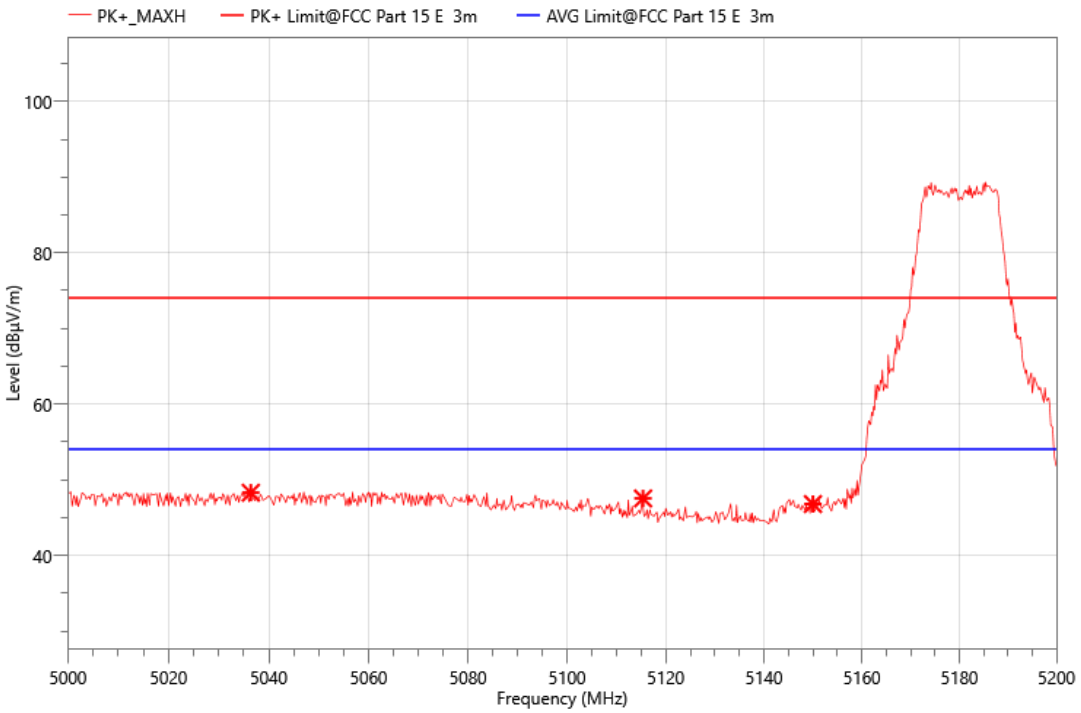
- Band Edge
  Band I 5150-5250MHz

802.11ax HE20
Horizontal



Freq. (MHz)	Reading (dBµV)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dBµV/m)	Det.	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)
5020.800	54.29	45.69	74.00	28.31	PK+	150.0	H	182.1	-8.6
5119.800	55.08	47.24	74.00	26.76	PK+	150.0	H	182.1	-7.84
5150.000	54.07	45.84	74.00	28.16	PK+	150.0	H	182.1	-8.23

Vertical



Freq. (MHz)	Reading (dBµV)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dBµV/m)	Det.	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)
5036.400	56.97	48.29	74.00	25.71	PK+	150.0	V	182.1	-8.68
5115.400	55.36	47.53	74.00	26.47	PK+	150.0	V	182.1	-7.83
5150.000	55.02	46.79	74.00	27.21	PK+	150.0	V	182.1	-8.23

Note:1.802.11a, 802.11n HT20, 802.11n HT40, 802.11ac VHT20, 802.11ac VHT40, 802.11ax HE20 ,802.11ax HE40,all has been tested, the worst case is 802.11ax HE20,only shown the worst case.

2.The high channel main frequency is too far away from the restricted band and does not require testing.

Band IV(5.725-5.85 GHz)

Note: The main frequency is too far away from the restricted band and does not require testing.

9. ANTENNA REQUIREMENT

REQUIREMENT

Please refer to FCC §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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. 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.

Please refer to FCC §15.247(b)(4)
The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DESCRIPTION

Pass

10. AC POWER LINE CONDUCTED EMISSION

LIMITS

Please refer to CFR 47 FCC §15.207 (a)

FREQUENCY (MHz)	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

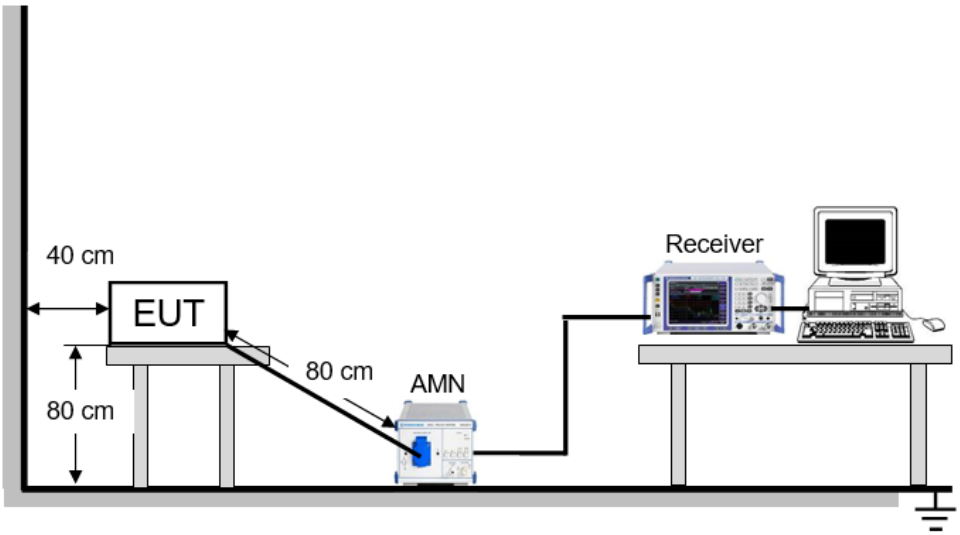
TEST PROCEDURE

Refer to ANSI C63.10-2013 clause 6.2.

The EUT is put on a table of non-conducting material that is 80 cm high. The vertical conducting wall of shielding is located 40 cm to the rear of the EUT. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.). A EMI Measurement Receiver (R&S Test Receiver ESR3) is used to test the emissions from both sides of AC line. According to the requirements in Section 6.2 of ANSI C63.10-2013.Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode. The bandwidth of EMI test receiver is set at 9 kHz.

The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application.

TEST SETUP

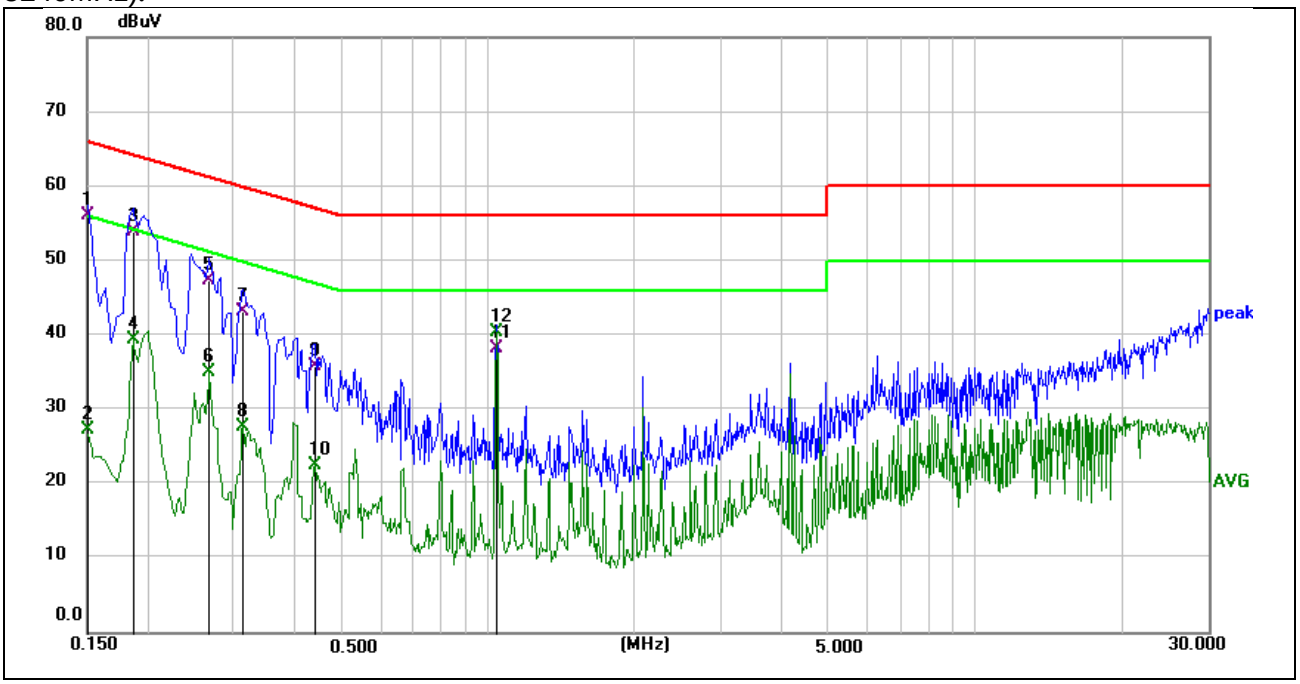


TEST ENVIRONMENT

Temperature	26℃	Relative Humidity	54%RH
Atmosphere Pressure	101kPa		

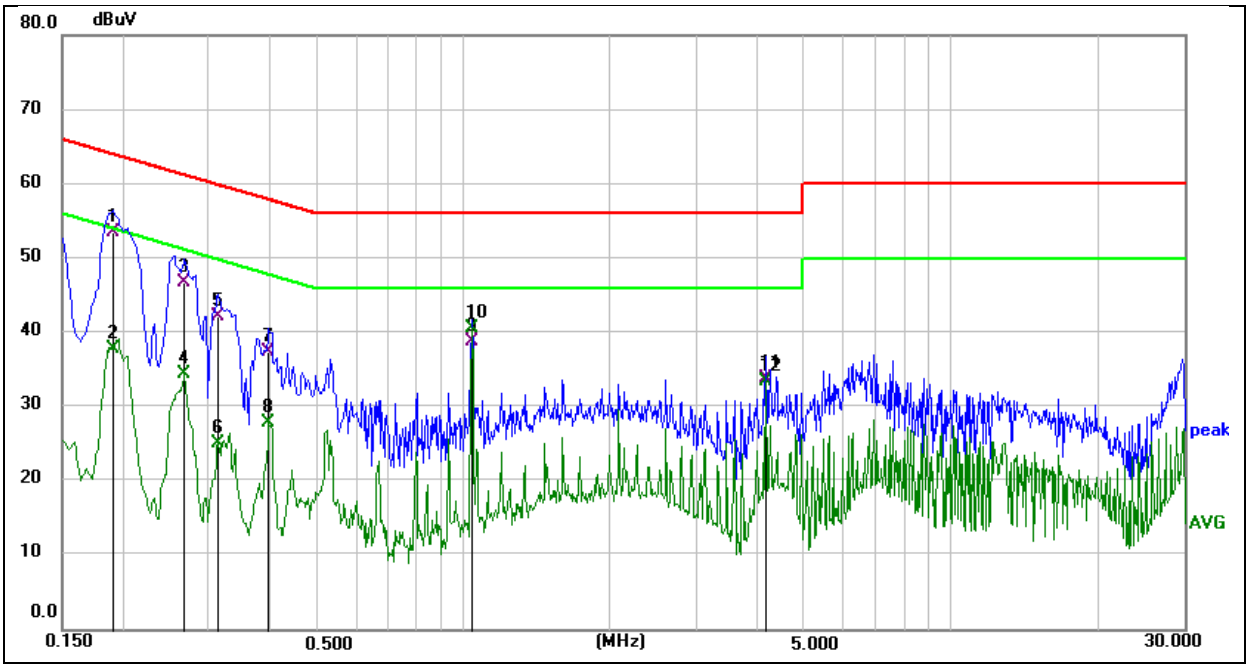
TEST RESULTS

All the modes have been tested, only the worst data was recorded in the report (802.11ax HE20 5240MHz).



EUT:	**Smart Projector**	**Phase:**	**L1**
M/N.:	**HY300**	**Temperature:**	**26℃**
Mode:	**802.11ax HE20 5240MHz**	**Humidity:**	**54%RH**
Test Engineer:	**Aiden**	**Power Rating:**	**AC120V/60Hz**
Test Time:	**2023-08-04**		

No.	Frequency (MHz)	Reading Level(dBuV)	Factor (dB)	Measure-ment(dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1500	46.34	9.76	56.10	66.00	-9.90	QP
2	0.1500	17.60	9.76	27.36	56.00	-28.64	AVG
3	0.1860	44.09	9.81	53.90	64.21	-10.31	QP
4	0.1860	29.50	9.81	39.31	54.21	-14.90	AVG
5	0.2670	37.58	9.72	47.30	61.21	-13.91	QP
6	0.2670	25.31	9.72	35.03	51.21	-16.18	AVG
7	0.3120	33.29	9.91	43.20	59.92	-16.72	QP
8	0.3120	17.84	9.91	27.75	49.92	-22.17	AVG
9	0.4380	25.88	9.92	35.80	57.10	-21.30	QP
10	0.4380	12.59	9.92	22.51	47.10	-24.59	AVG
11	1.0410	28.51	9.79	38.30	56.00	-17.70	QP
12	1.0410	30.62	9.79	40.41	46.00	-5.59	AVG



EUT:	**Smart Projector**	**Phase:**	**N**
M/N.:	**HY300**	**Temperature:**	**26℃**
Mode:	**802.11ax HE20 5240MHz**	**Humidity:**	**54%RH**
Test Engineer:	**Aiden**	**Power Rating:**	**AC120V/60Hz**
Test Time:	**2023-08-04**		

No.	Frequency (MHz)	Reading Level(dBuV)	Factor (dB)	Measure-ment(dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1905	43.65	9.75	53.40	64.01	-10.61	QP
2	0.1905	28.03	9.75	37.78	54.01	-16.23	AVG
3	0.2670	37.01	9.79	46.80	61.21	-14.41	QP
4	0.2670	24.74	9.79	34.53	51.21	-16.68	AVG
5	0.3120	32.39	9.71	42.10	59.92	-17.82	QP
6	0.3120	15.32	9.71	25.03	49.92	-24.89	AVG
7	0.3975	27.75	9.75	37.50	57.91	-20.41	QP
8	0.3975	18.12	9.75	27.87	47.91	-20.04	AVG
9	1.0410	28.93	9.87	38.80	56.00	-17.20	QP
10	1.0410	30.63	9.87	40.50	46.00	-5.50	AVG
11	4.1640	23.88	9.92	33.80	56.00	-22.20	QP
12	4.1640	23.43	9.92	33.35	46.00	-12.65	AVG

Note: 1. Result = Reading + Correct Factor.
2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 200 Hz (9 kHz ~ 150 kHz), 9 kHz (150 kHz ~ 30 MHz).
4. Step size: 80 Hz (0.009 MHz ~ 0.15 MHz), 4 kHz (0.15 MHz ~ 30 MHz), Scan time: auto.

PENDIX: PHOTOGRAPHS OF TEST CONFIGURATION

Please refer to report E01A23070868F00307.

APPENDIX: PHOTOGRAPHS OF THE EUT

Please refer to report E01A23070868F00308.

--- END OF REPORT---

FCC 47 CFR Part 15.407

TEST REPORT

For

Smart Projector

MODEL NUMBER: HY300

REPORT NUMBER: E01A23070868F00306

ISSUE DATE: September 1, 2023

FCC ID:2BCAX-T08

Prepared for

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5TH Floor, Building #2, RunFengZhiGu Industrial Park,Changpin Town,DongGuan City, Guangdong, China

Prepared by

Dong Guan Anci Electronic Technology Co., Ltd.

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Revision History

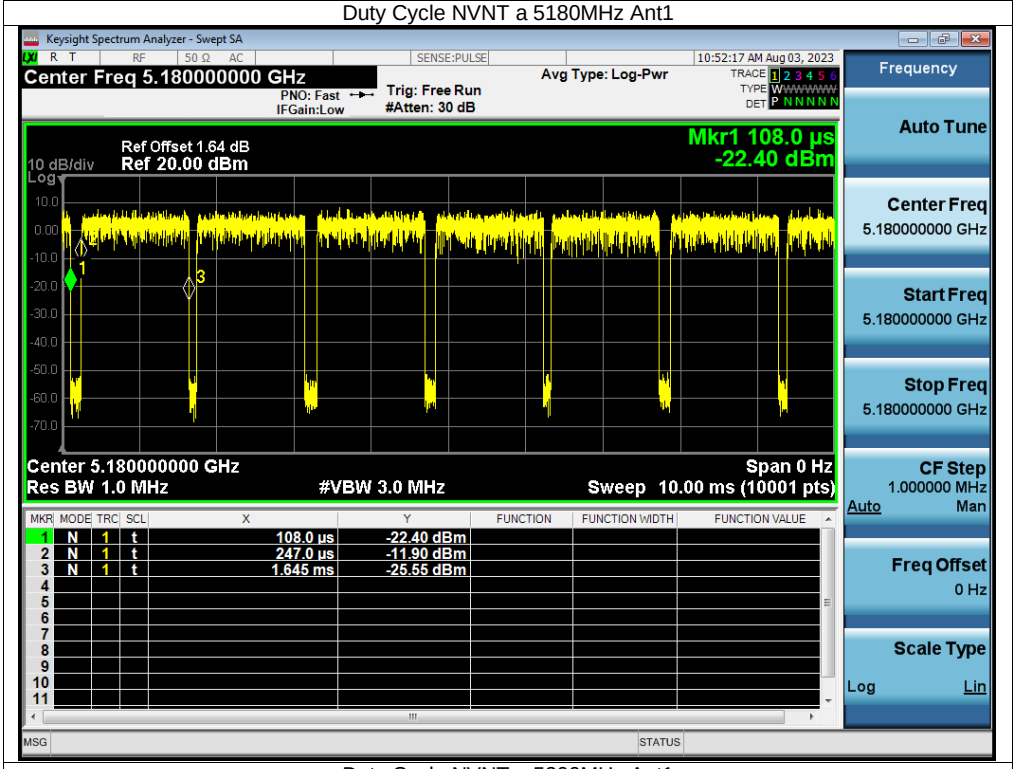
Rev.	Issue Date	Revisions	Revised By
V0	September 1, 2023	Initial Issue	Poal Chen

Appendix A Duty Cycle

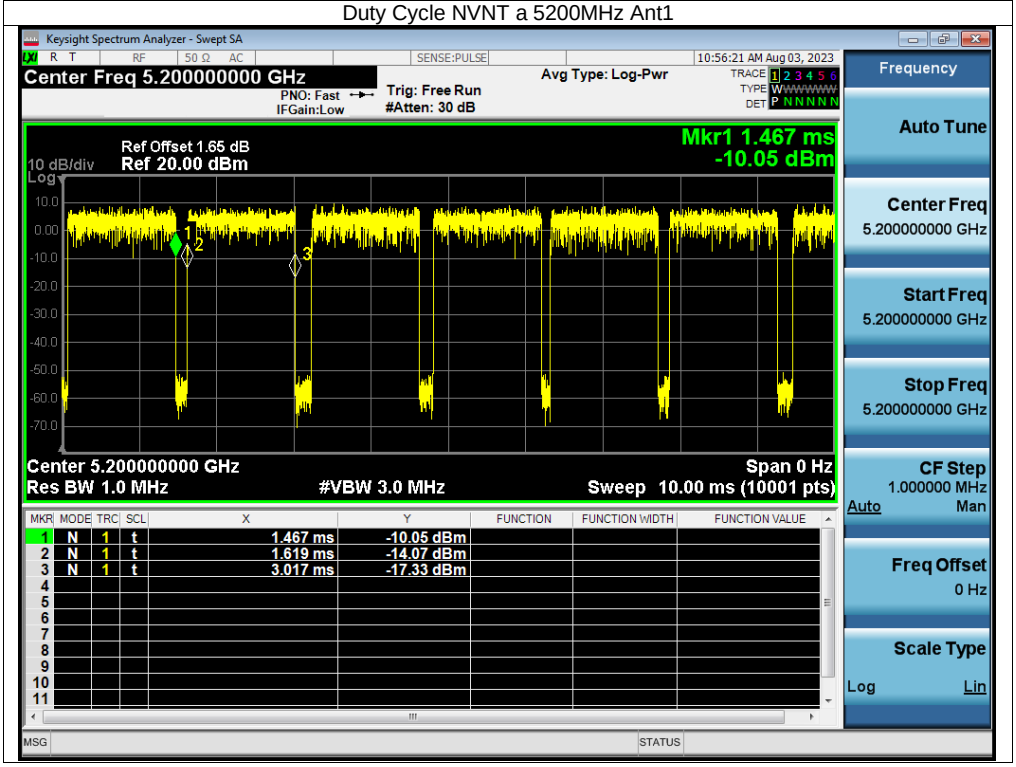
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5180	Ant1	90.96	0.41	0.72
NVNT	a	5200	Ant1	90.19	0.45	0.72
NVNT	a	5240	Ant1	97.22	0.12	0.72
NVNT	a	5745	Ant1	90.96	0.41	0.72
NVNT	a	5785	Ant1	91.25	0.4	0.72
NVNT	a	5825	Ant1	89.84	0.47	0.72
NVNT	n20	5180	Ant1	90.95	0.41	0.77
NVNT	n20	5200	Ant1	93.89	0.27	0.77
NVNT	n20	5240	Ant1	88.18	0.55	0.77
NVNT	n20	5745	Ant1	88.18	0.55	0.77
NVNT	n20	5785	Ant1	96.95	0.13	0.77
NVNT	n20	5825	Ant1	95.12	0.22	0.77
NVNT	n40	5190	Ant1	78.84	1.03	1.54
NVNT	n40	5230	Ant1	84.31	0.74	1.54
NVNT	n40	5755	Ant1	94.2	0.26	1.54
NVNT	n40	5795	Ant1	83.93	0.76	1.54
NVNT	ac20	5180	Ant1	88.81	0.52	0.76
NVNT	ac20	5200	Ant1	89.9	0.46	0.76
NVNT	ac20	5240	Ant1	90.96	0.41	0.76
NVNT	ac20	5745	Ant1	91.52	0.38	0.76
NVNT	ac20	5785	Ant1	93.34	0.3	0.76
NVNT	ac20	5825	Ant1	91.59	0.38	0.76
NVNT	ac40	5190	Ant1	86.4	0.63	1.52
NVNT	ac40	5230	Ant1	86.47	0.63	1.52
NVNT	ac40	5755	Ant1	84.52	0.73	1.52
NVNT	ac40	5795	Ant1	91.97	0.36	1.52
NVNT	ax20	5180	Ant1	90	0.46	0.99
NVNT	ax20	5200	Ant1	70.39	1.52	0.99
NVNT	ax20	5240	Ant1	83.72	0.77	0.99
NVNT	ax20	5745	Ant1	87.79	0.57	0.99
NVNT	ax20	5785	Ant1	88.26	0.54	0.99
NVNT	ax20	5825	Ant1	81.21	0.9	0.99
NVNT	ax40	5190	Ant1	83.78	0.77	1.88
NVNT	ax40	5230	Ant1	75.25	1.23	1.88
NVNT	ax40	5755	Ant1	91.72	0.38	1.88
NVNT	ax40	5795	Ant1	80.36	0.95	1.88

Test Graphs

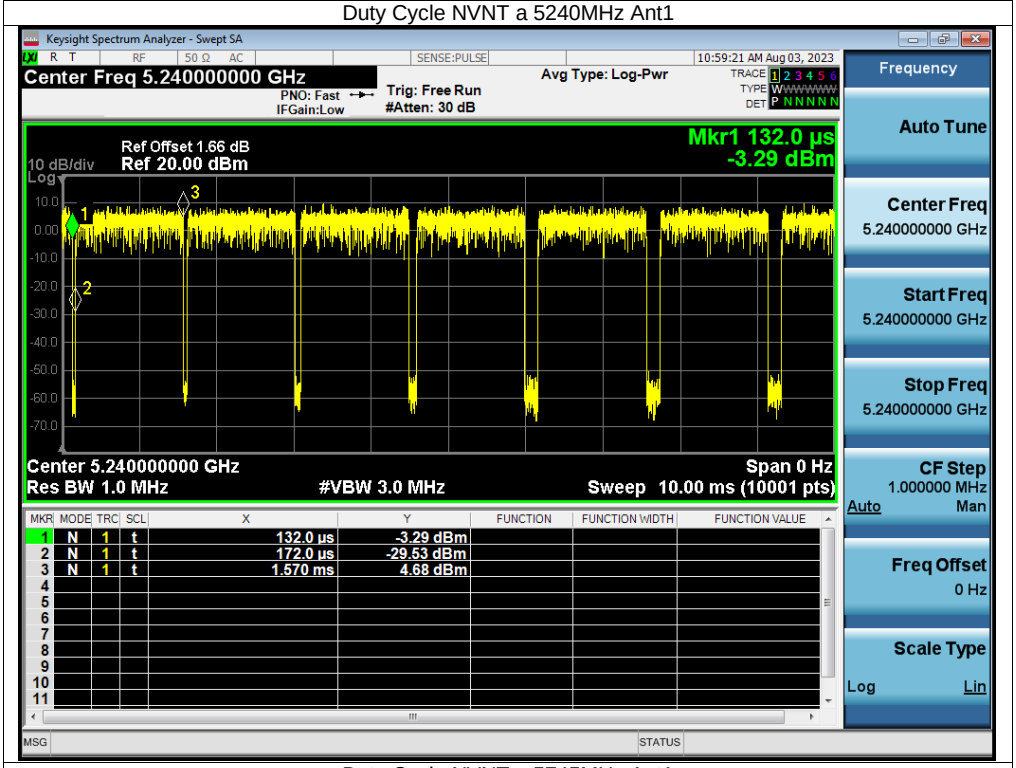
Duty Cycle NVNT a 5180MHz Ant1



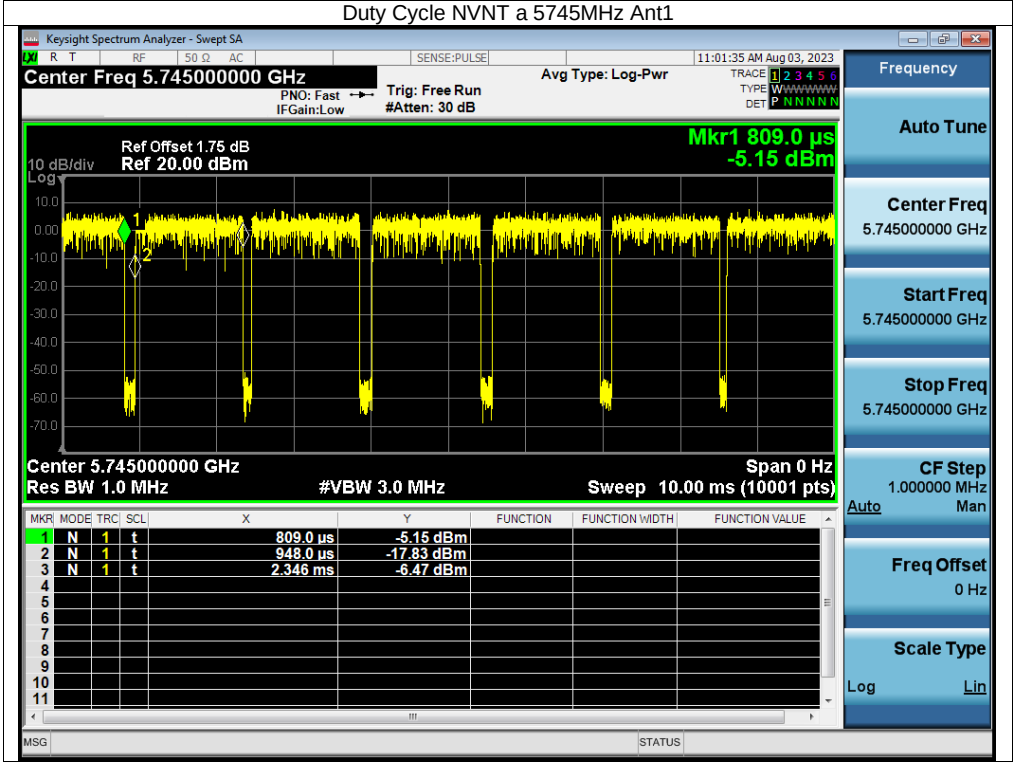
Duty Cycle NVNT a 5200MHz Ant1



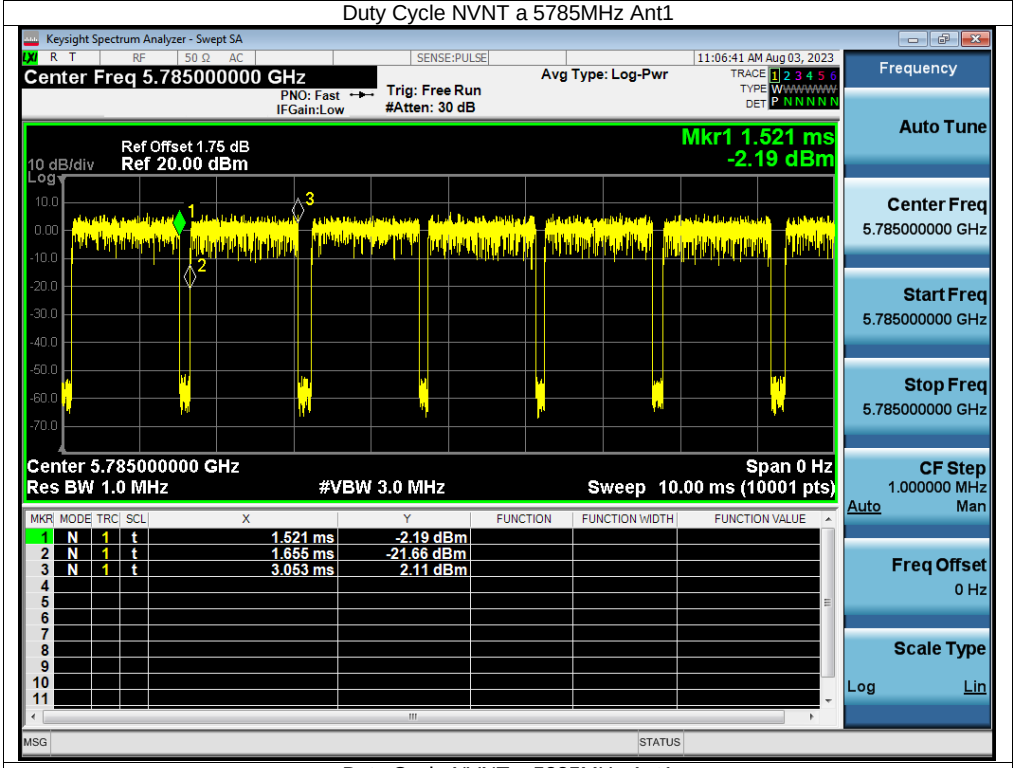
Duty Cycle NVNT a 5240MHz Ant1



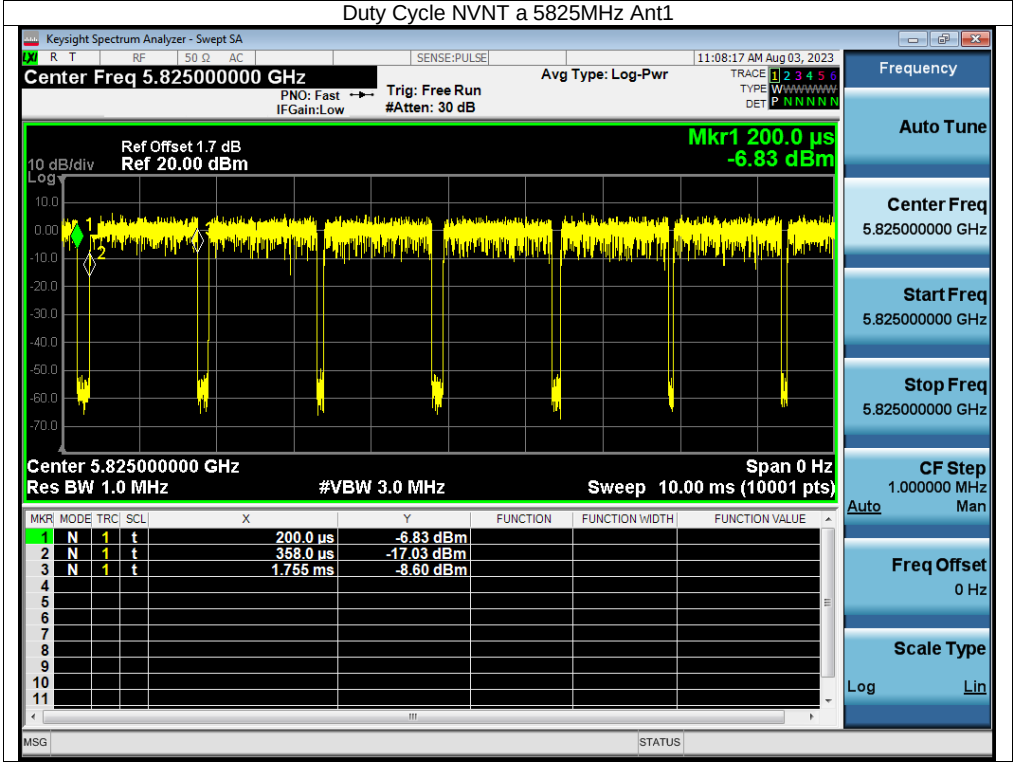
Duty Cycle NVNT a 5745MHz Ant1



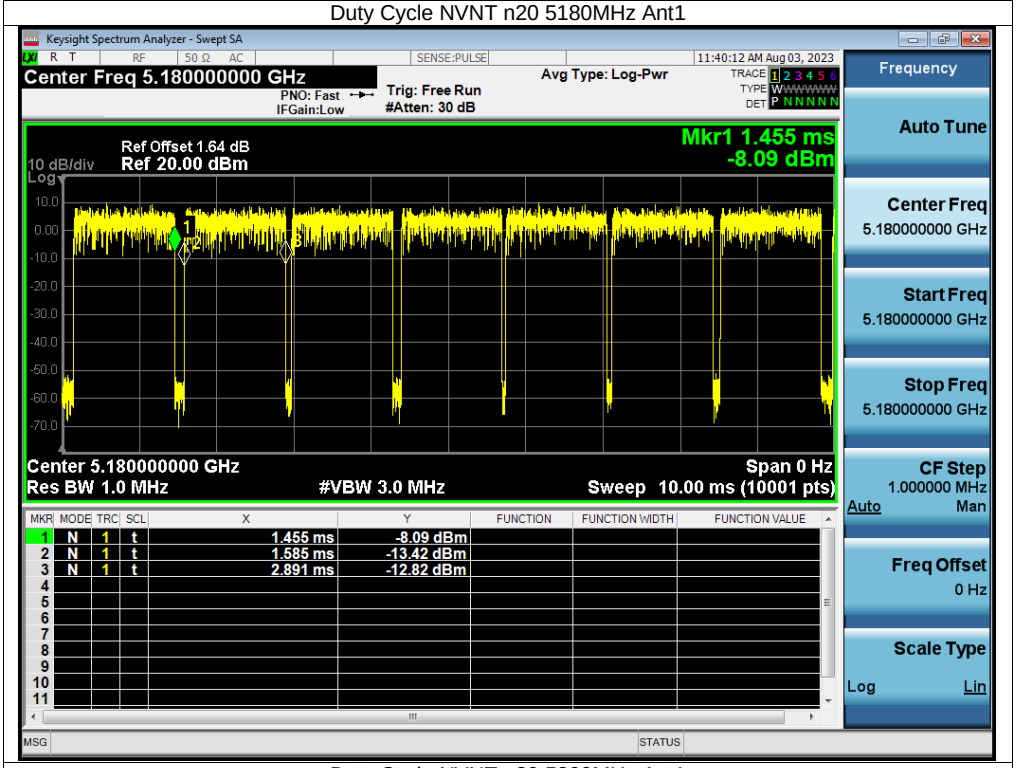
Duty Cycle NVNT a 5785MHz Ant1



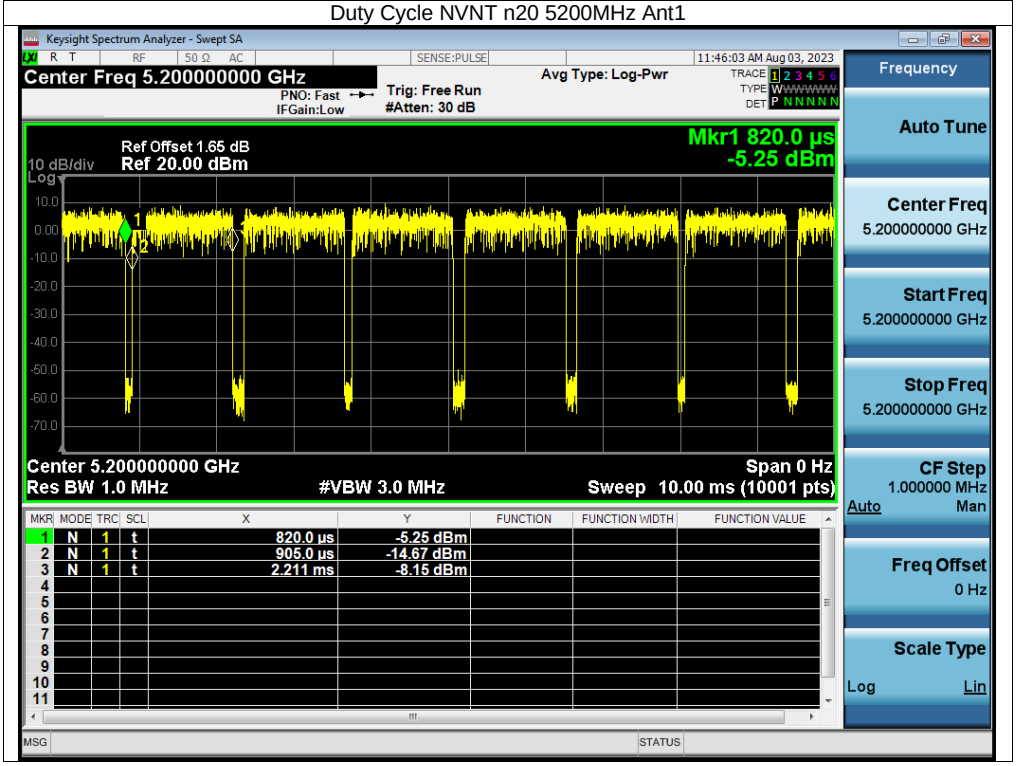
Duty Cycle NVNT a 5825MHz Ant1



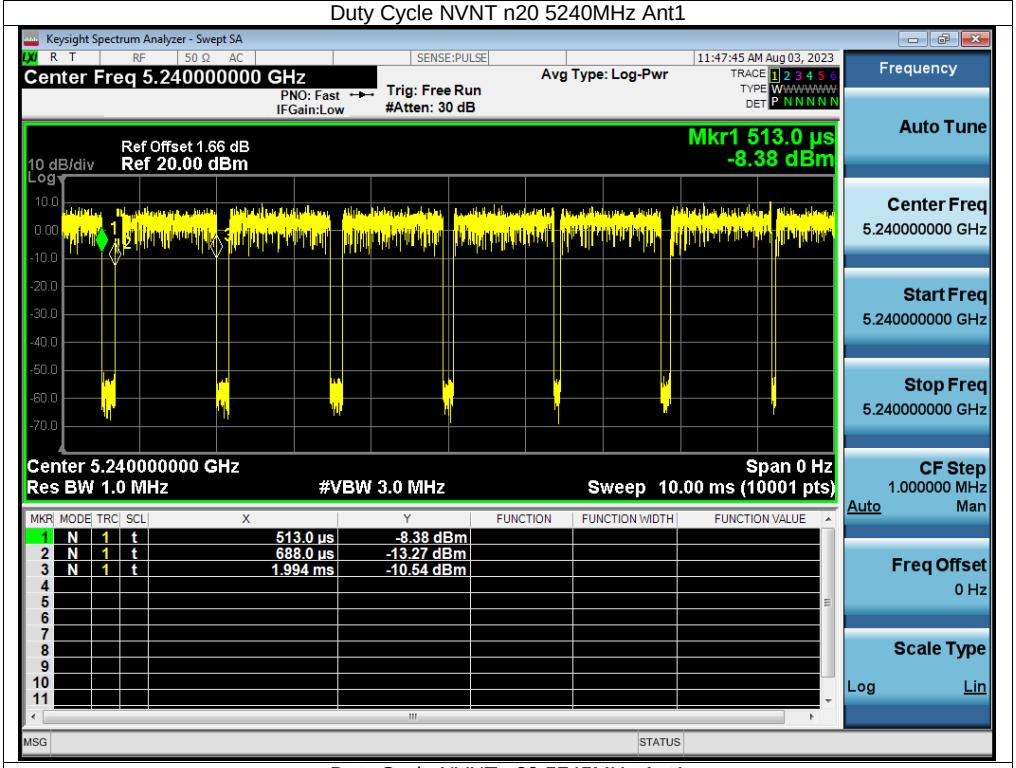
Duty Cycle NVNT n20 5180MHz Ant1



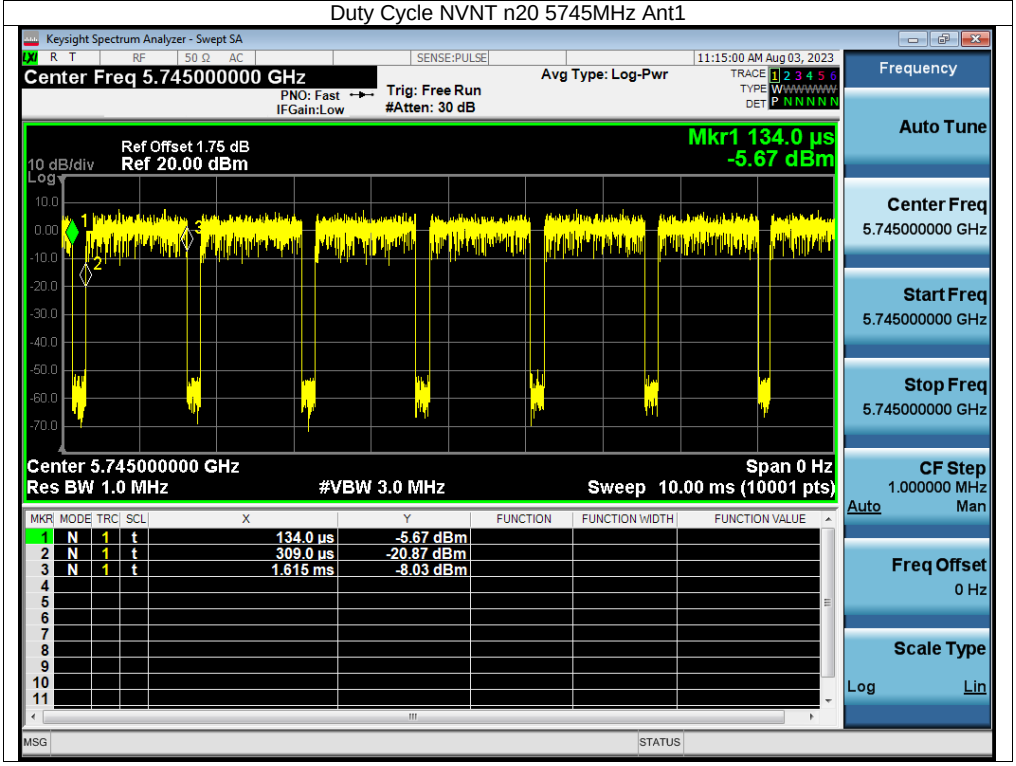
Duty Cycle NVNT n20 5200MHz Ant1



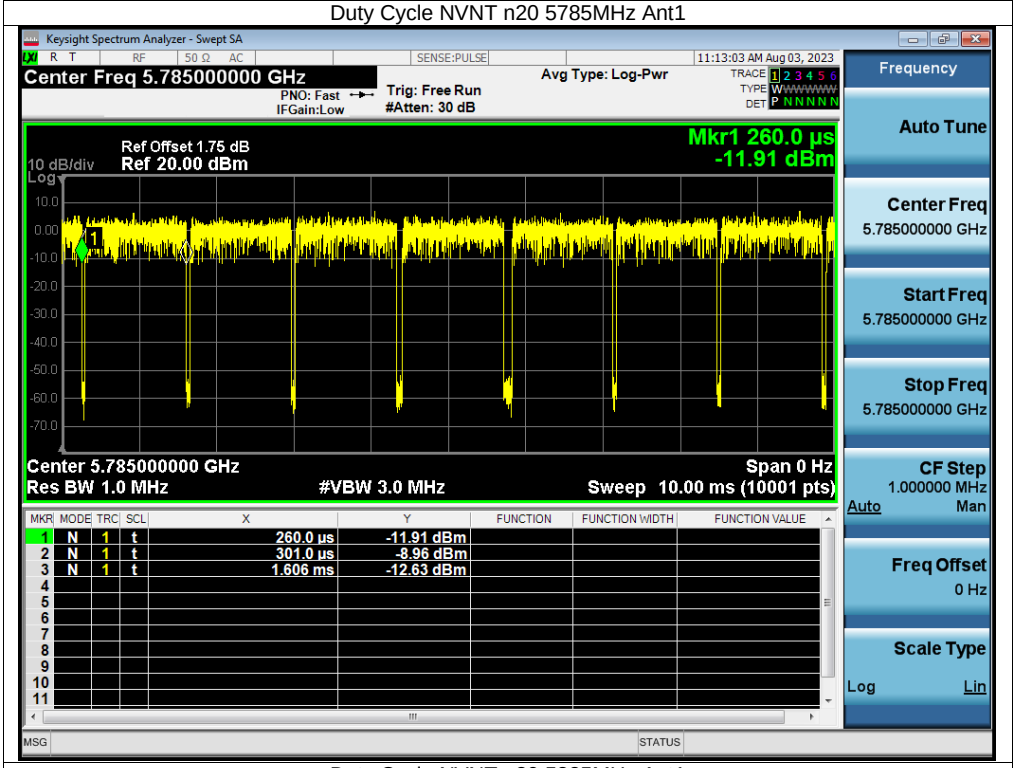
Duty Cycle NVNT n20 5240MHz Ant1



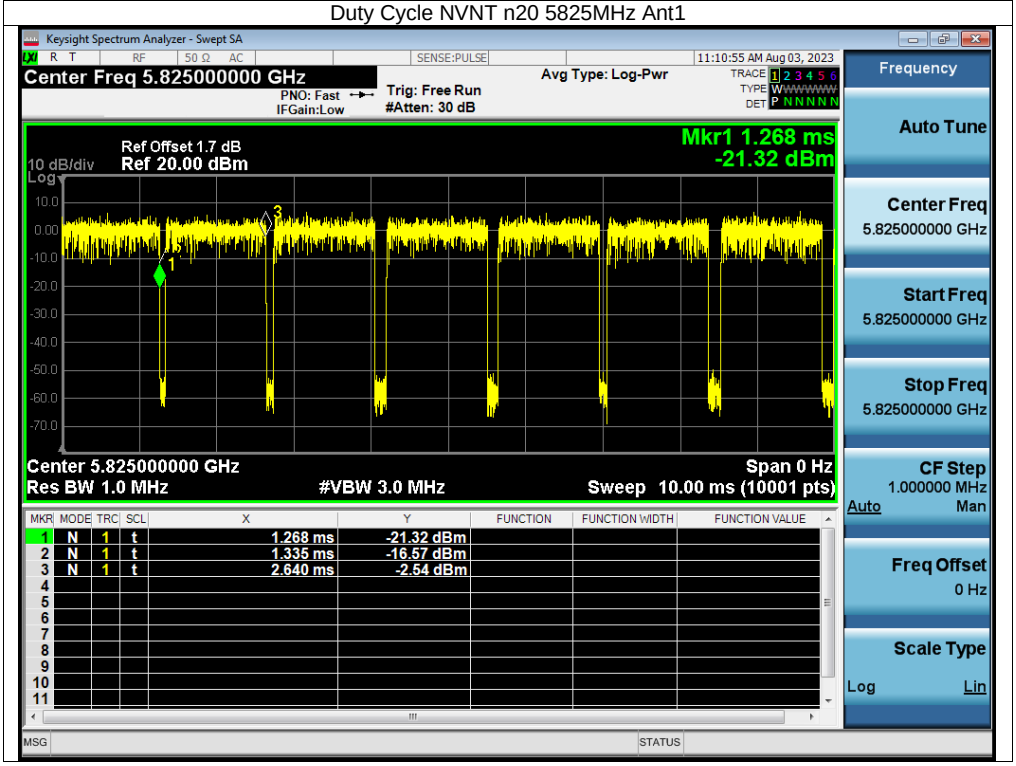
Duty Cycle NVNT n20 5745MHz Ant1



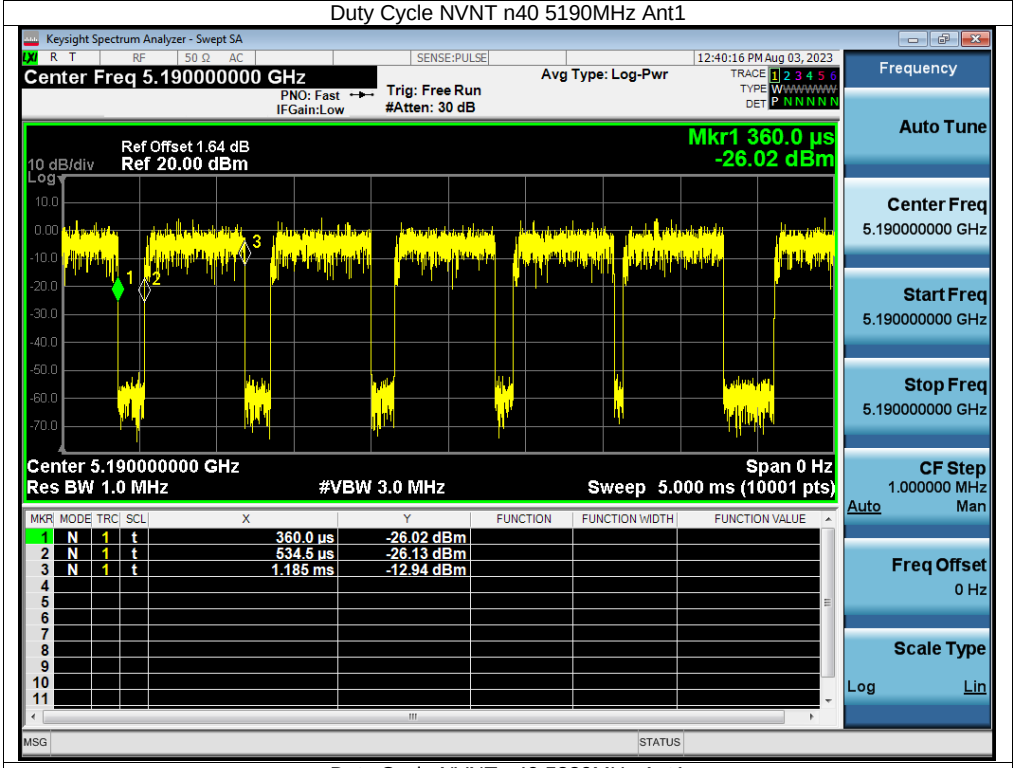
Duty Cycle NVNT n20 5785MHz Ant1



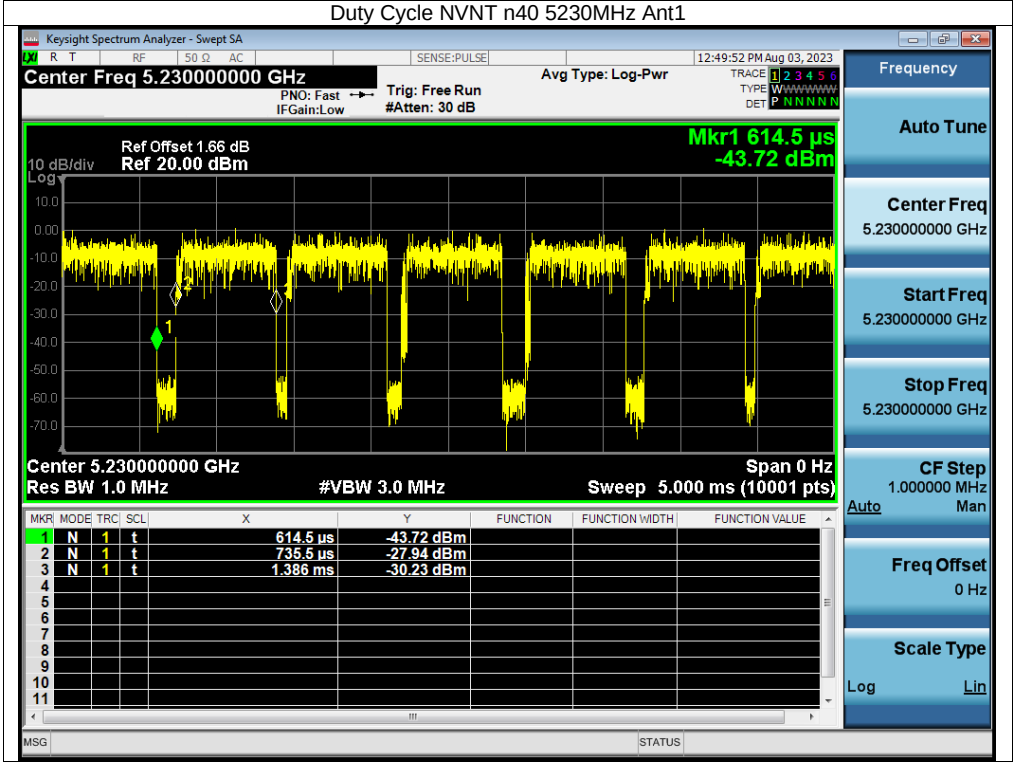
Duty Cycle NVNT n20 5825MHz Ant1



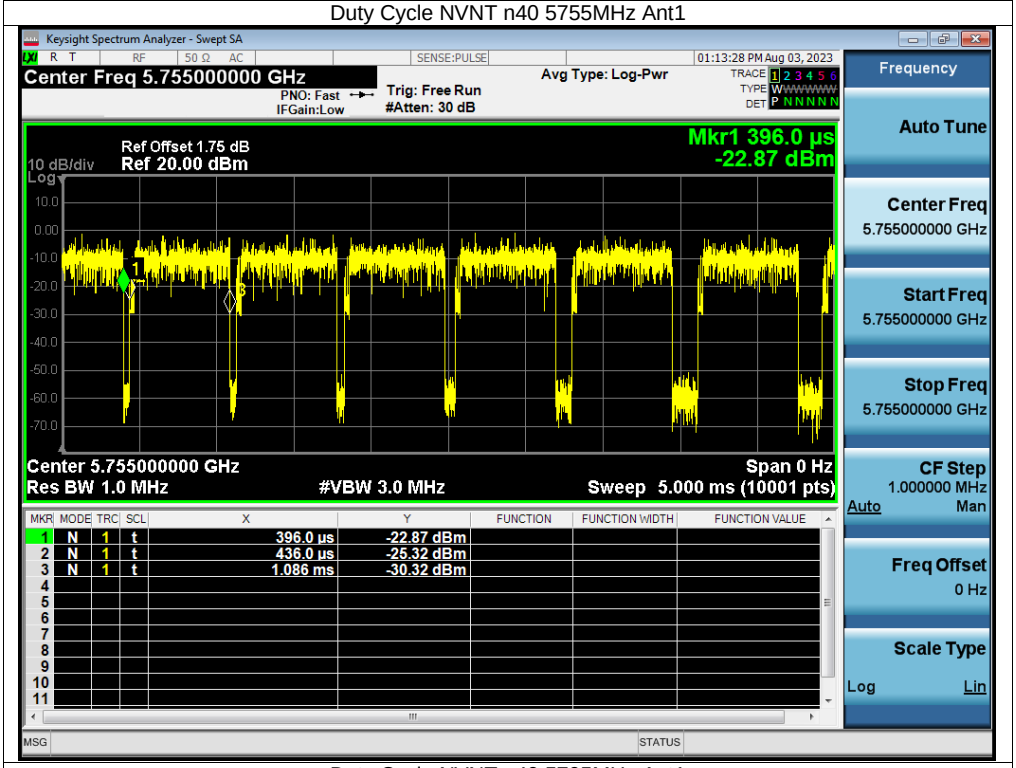
Duty Cycle NVNT n40 5190MHz Ant1



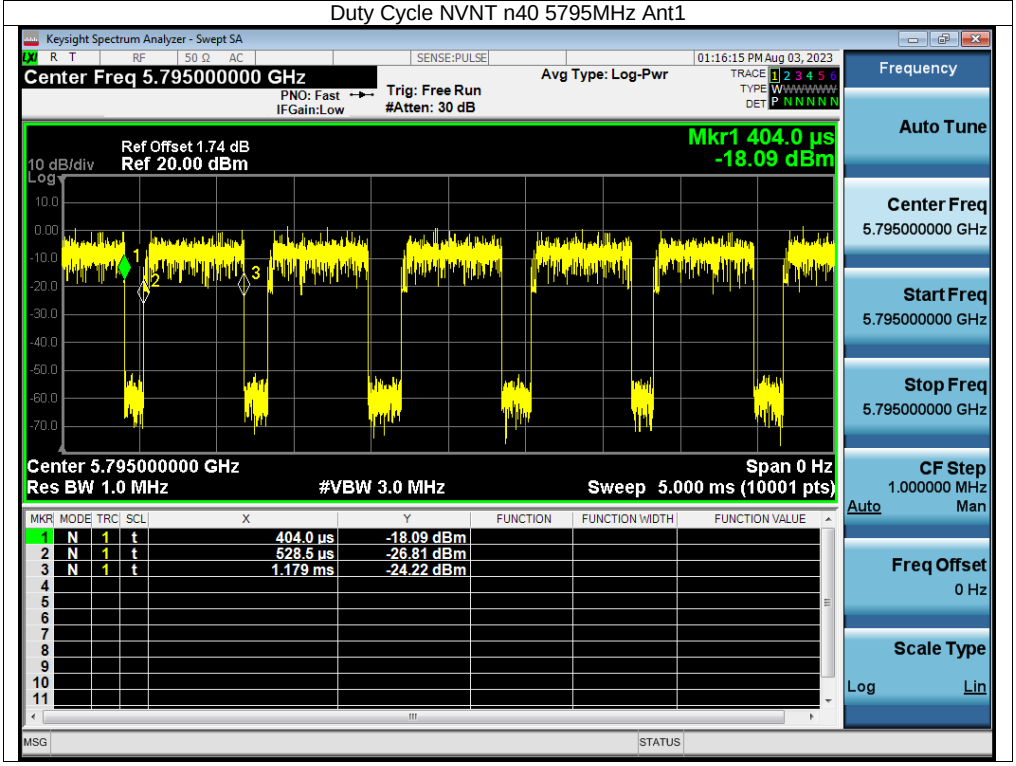
Duty Cycle NVNT n40 5230MHz Ant1



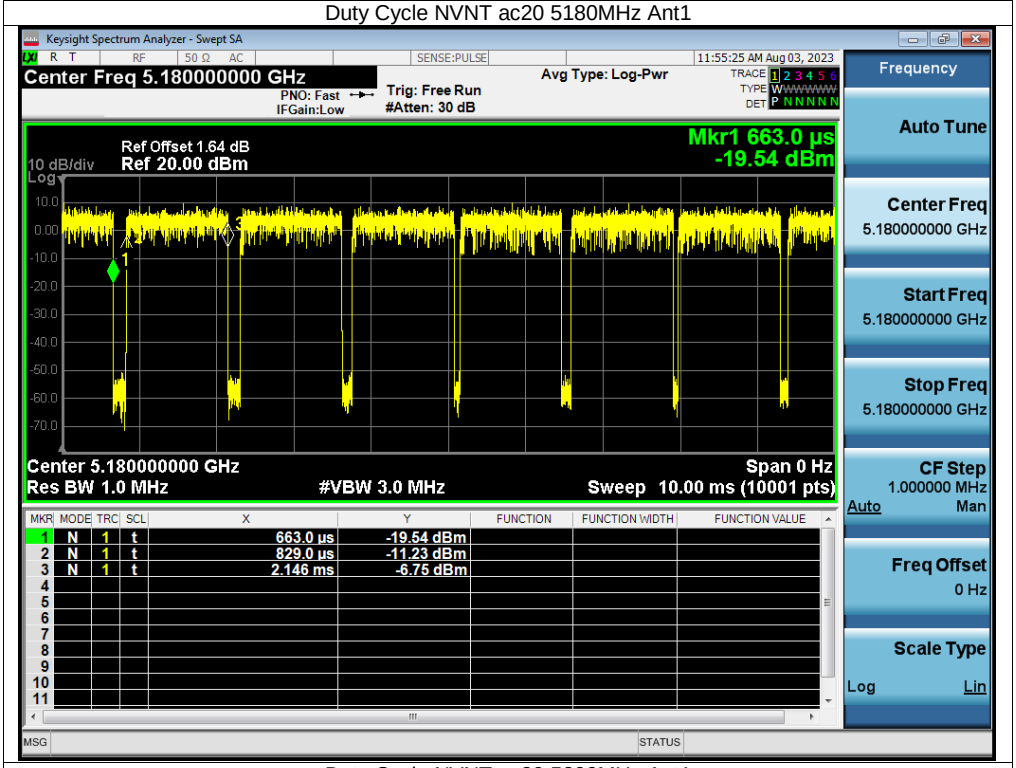
Duty Cycle NVNT n40 5755MHz Ant1



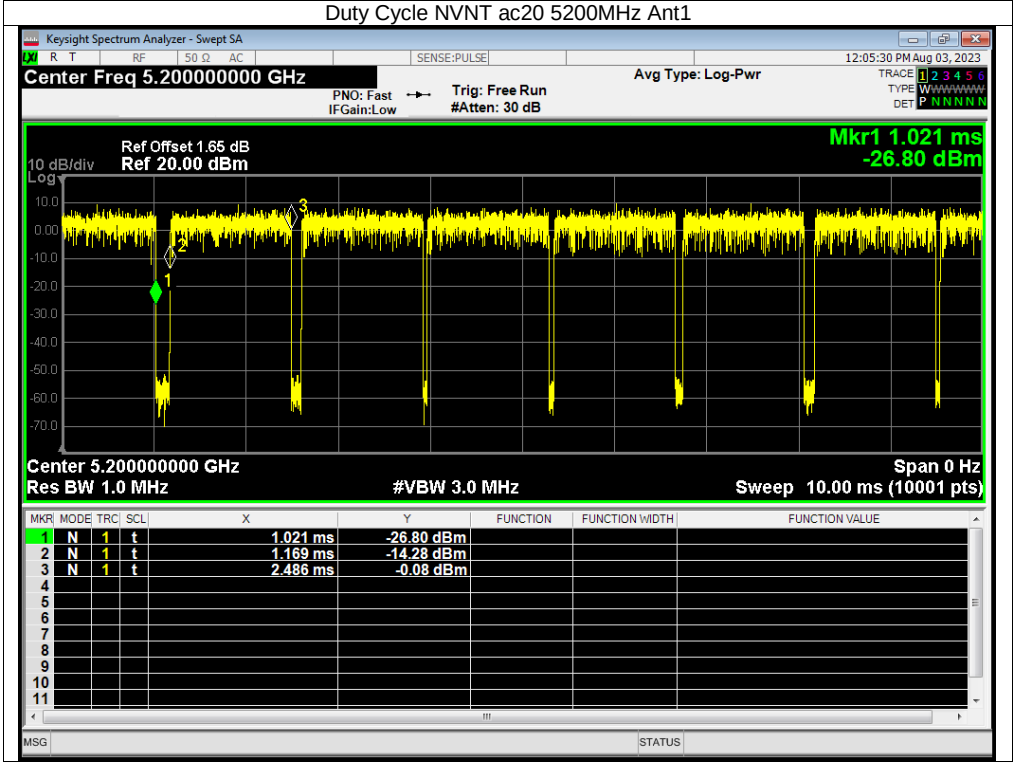
Duty Cycle NVNT n40 5795MHz Ant1



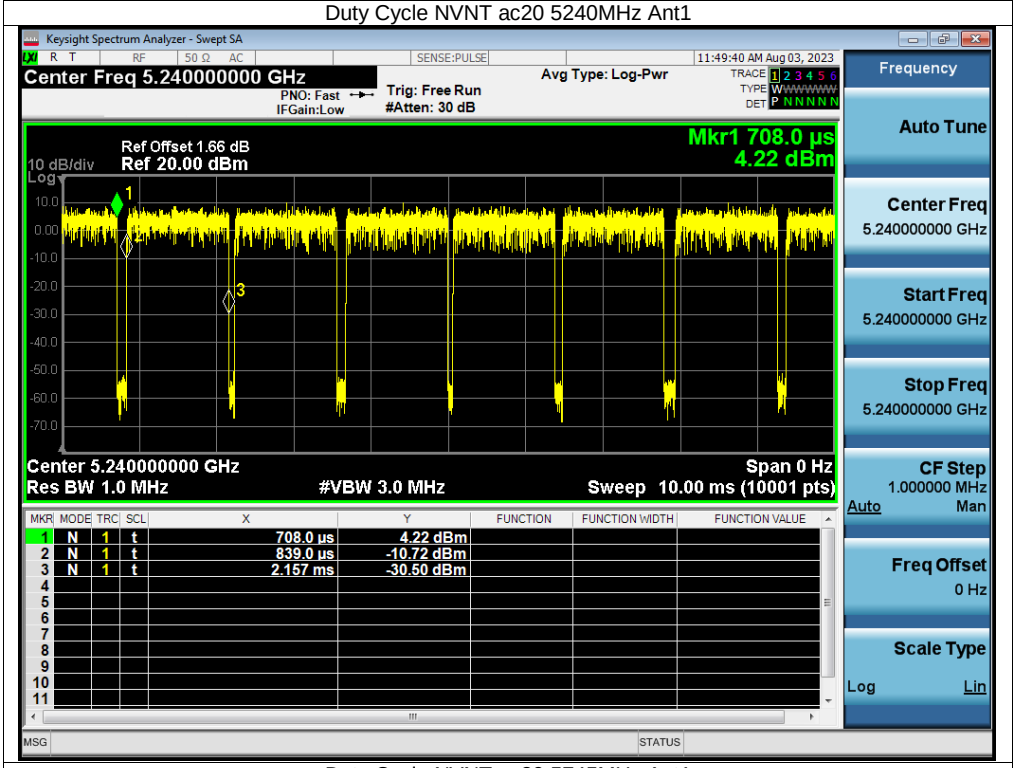
Duty Cycle NVNT ac20 5180MHz Ant1



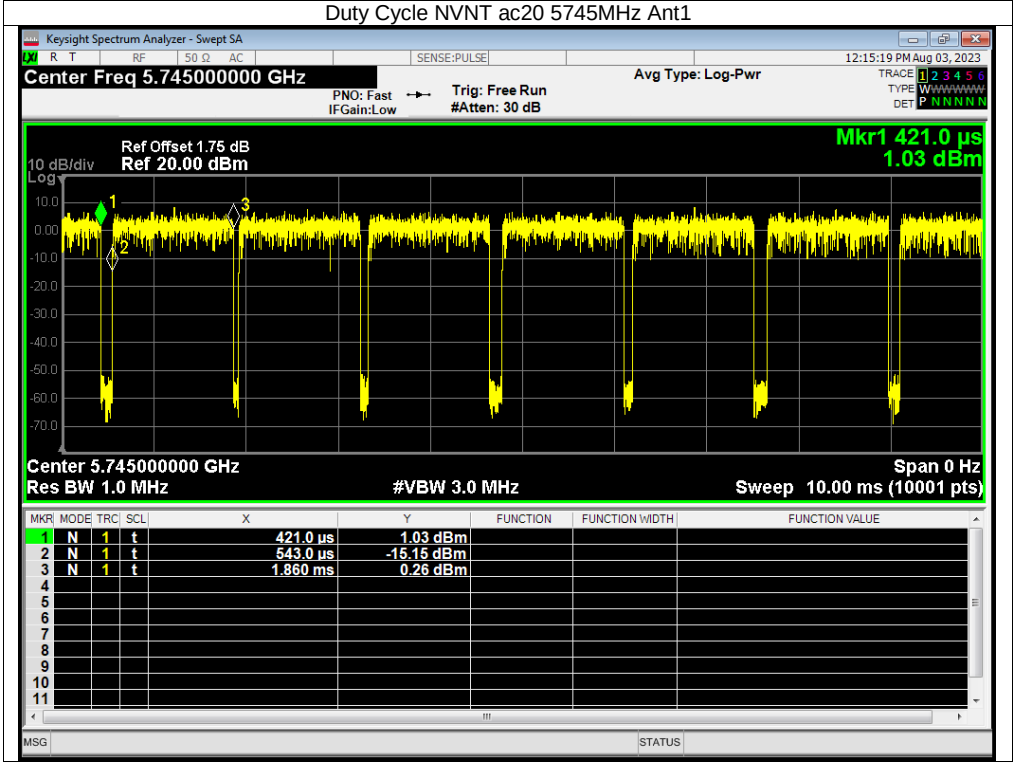
Duty Cycle NVNT ac20 5200MHz Ant1



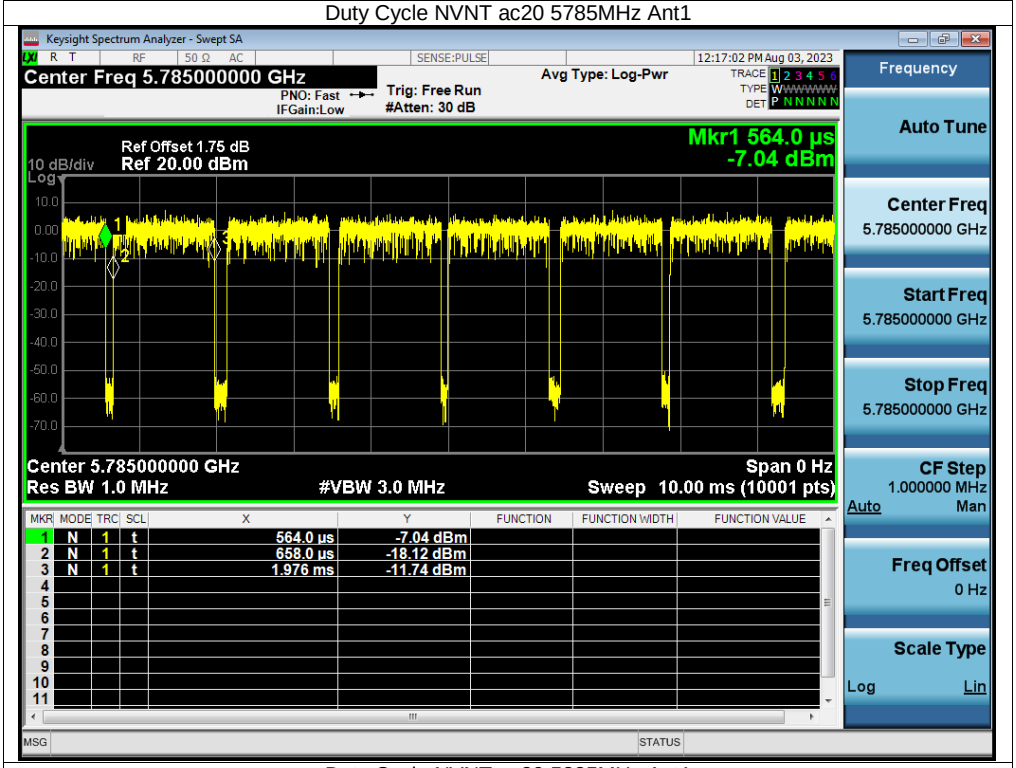
Duty Cycle NVNT ac20 5240MHz Ant1



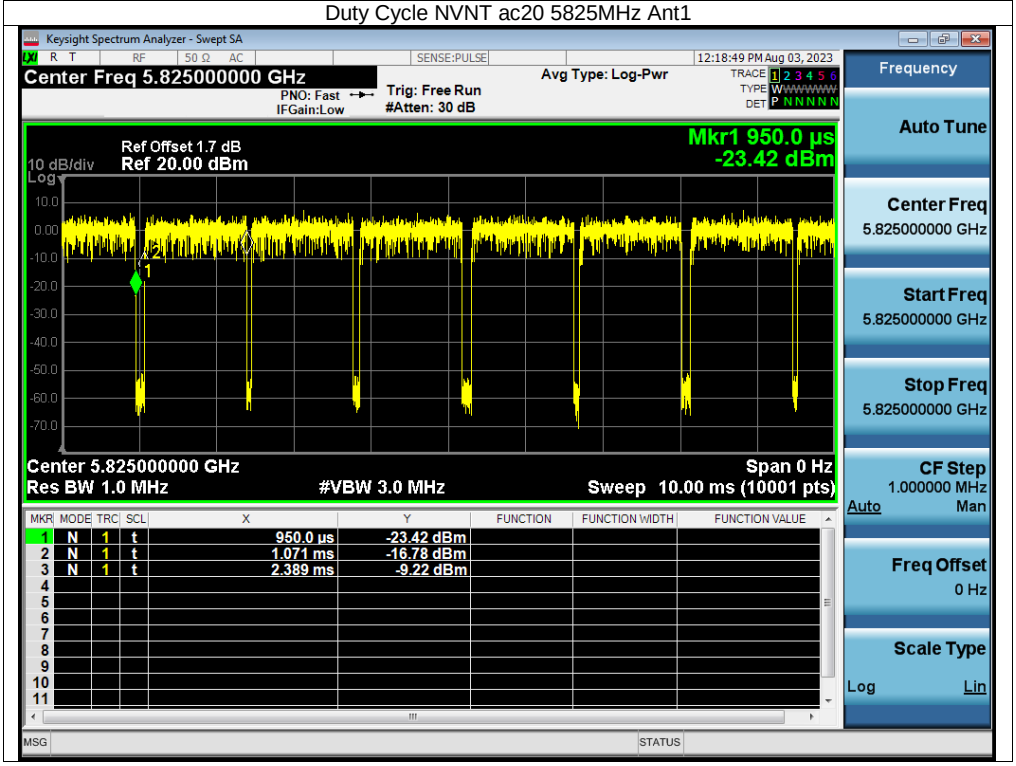
Duty Cycle NVNT ac20 5745MHz Ant1



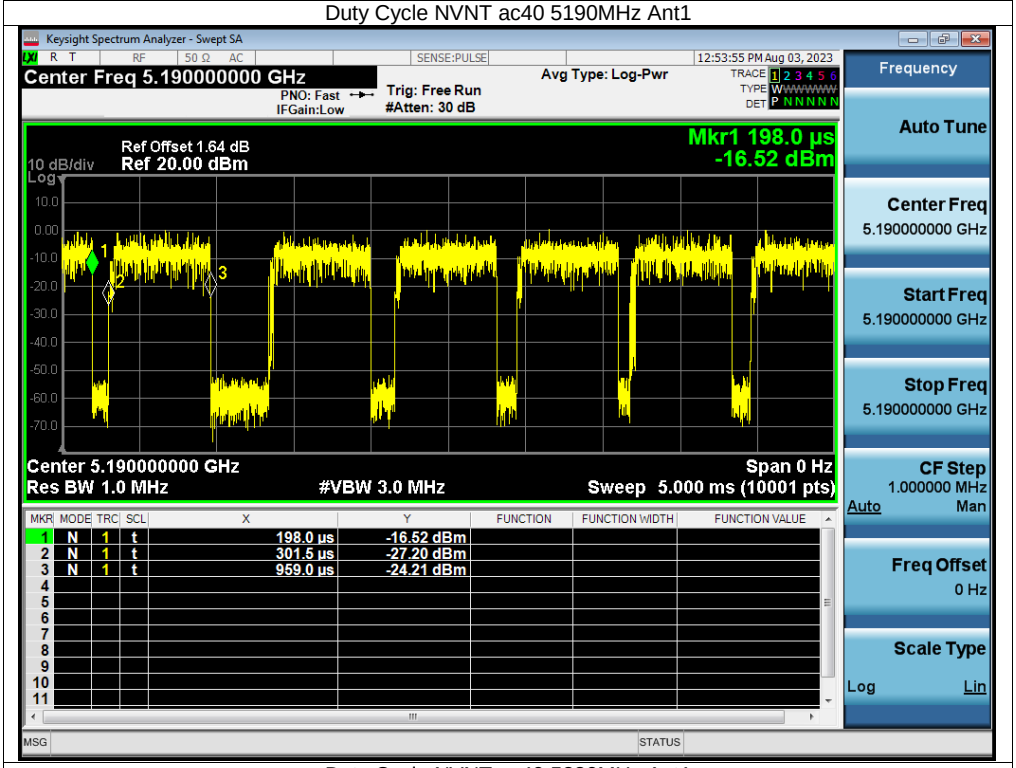
Duty Cycle NVNT ac20 5785MHz Ant1



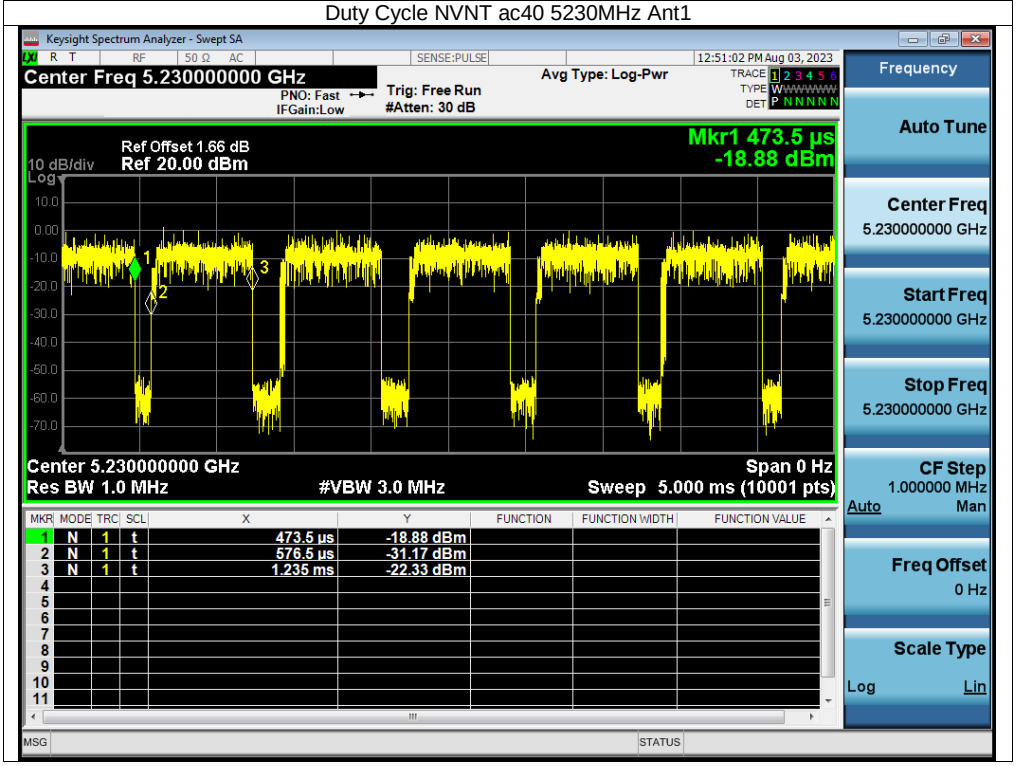
Duty Cycle NVNT ac20 5825MHz Ant1



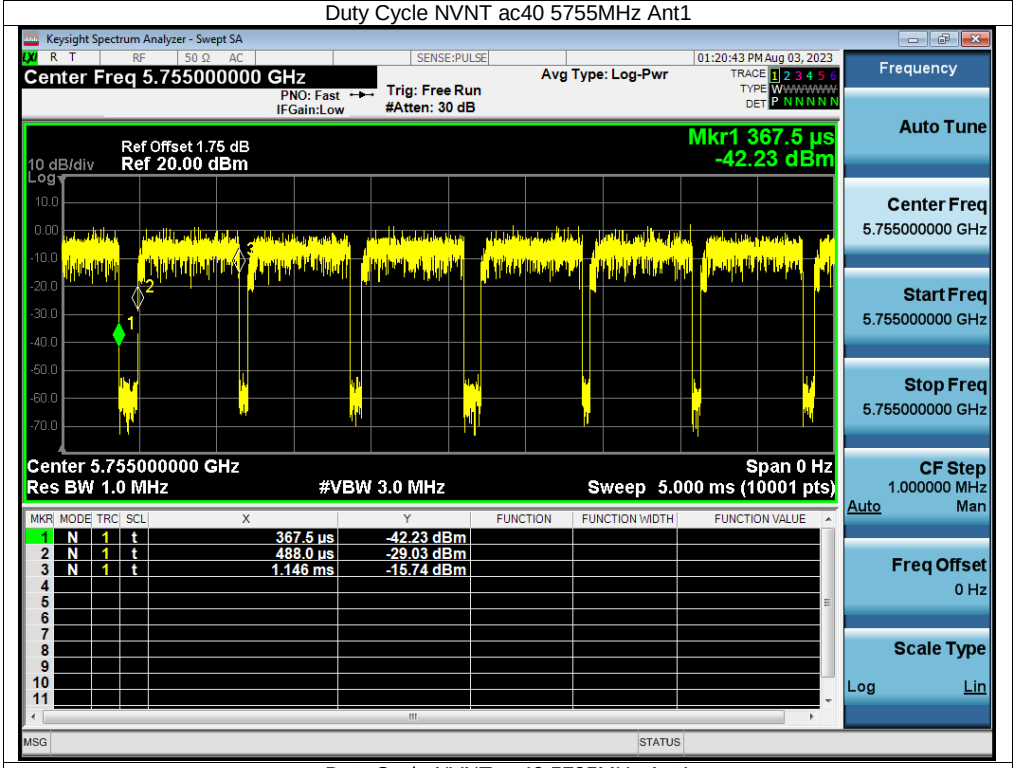
Duty Cycle NVNT ac40 5190MHz Ant1



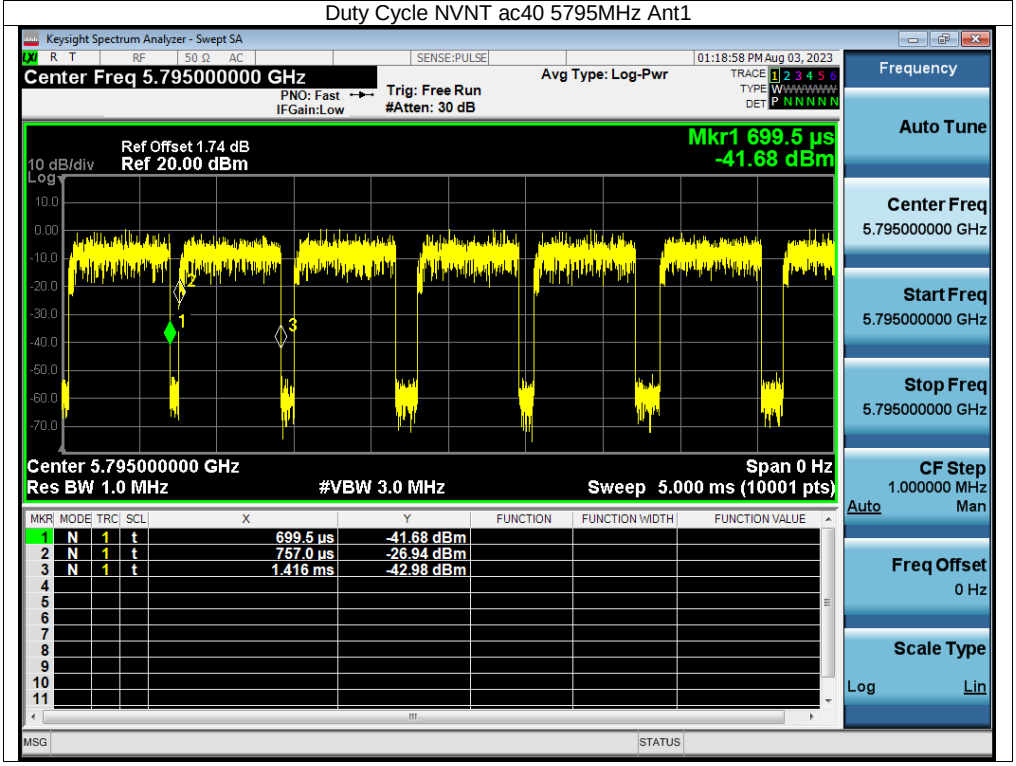
Duty Cycle NVNT ac40 5230MHz Ant1



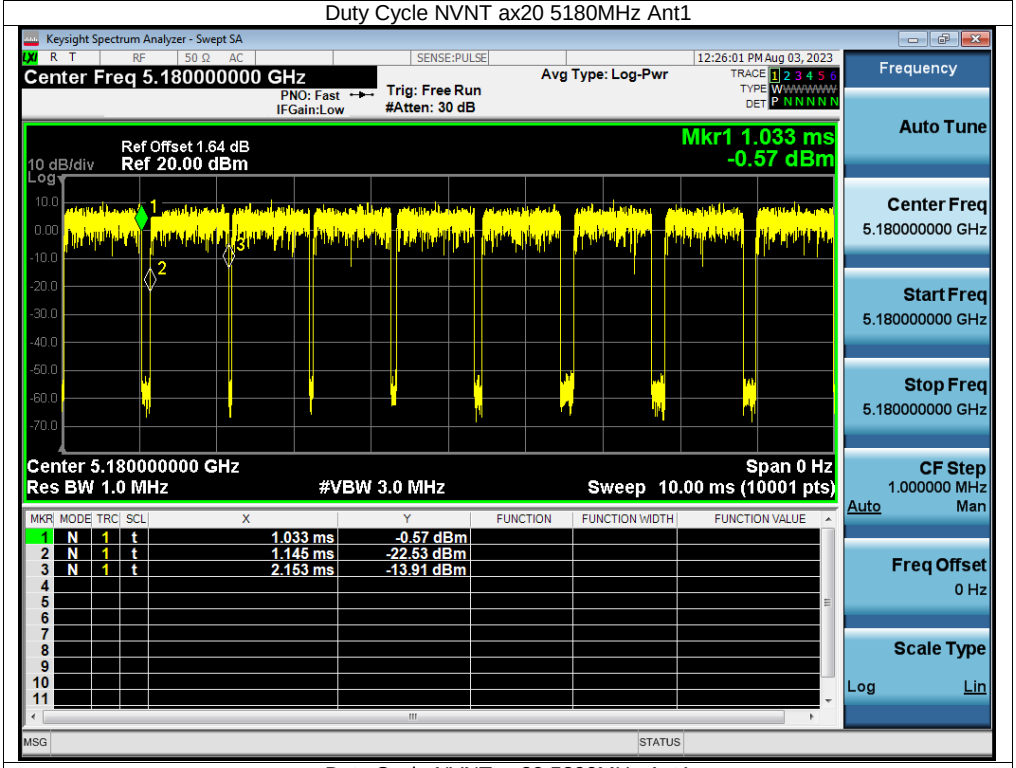
Duty Cycle NVNT ac40 5755MHz Ant1



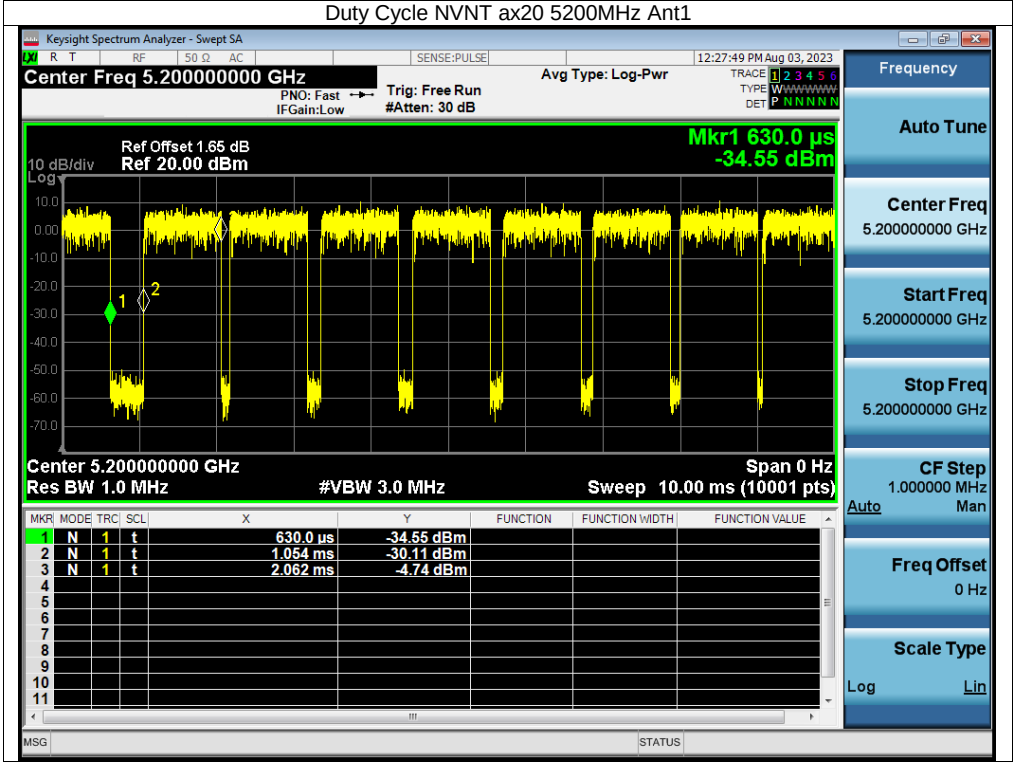
Duty Cycle NVNT ac40 5795MHz Ant1



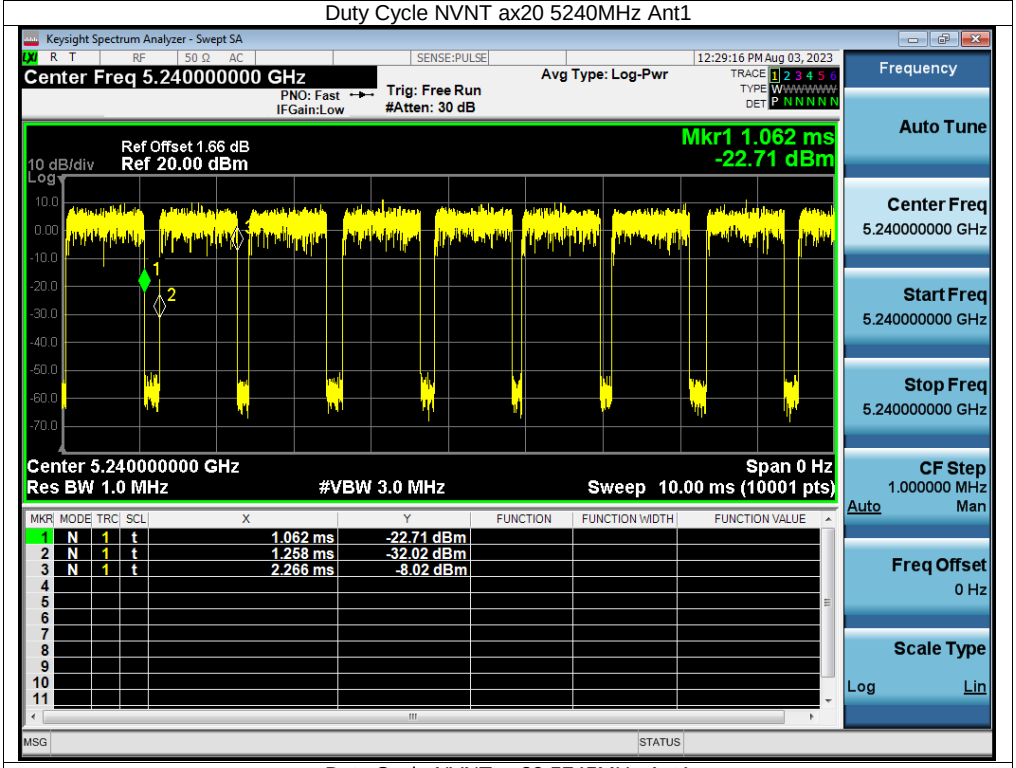
Duty Cycle NVNT ax20 5180MHz Ant1



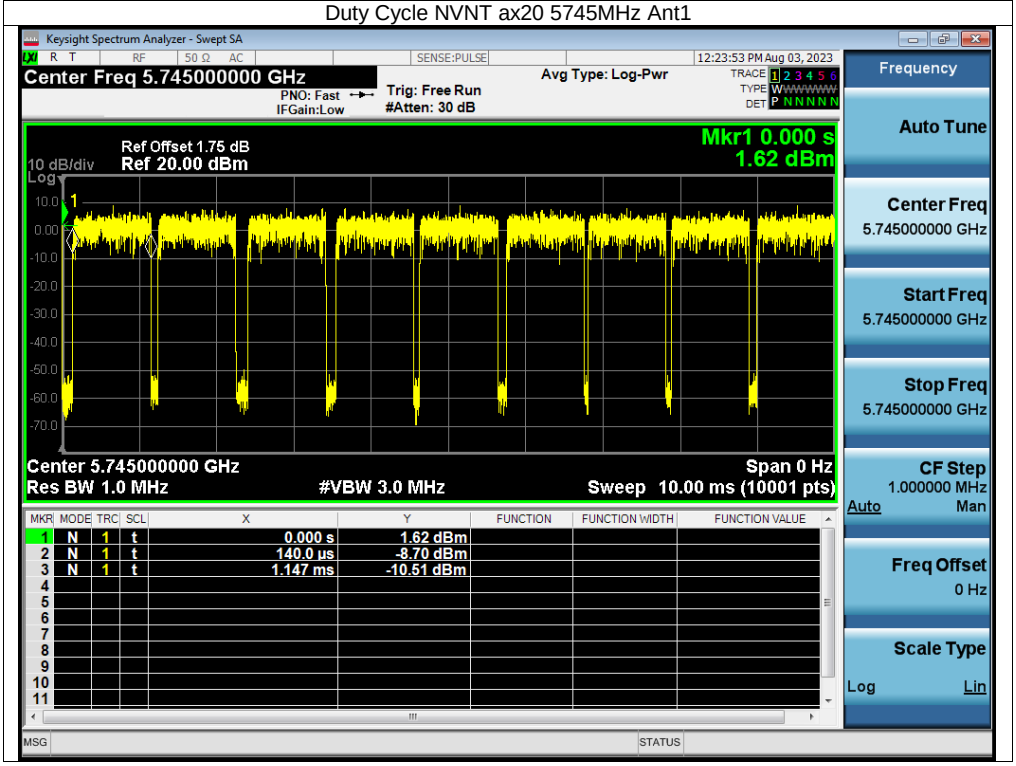
Duty Cycle NVNT ax20 5200MHz Ant1



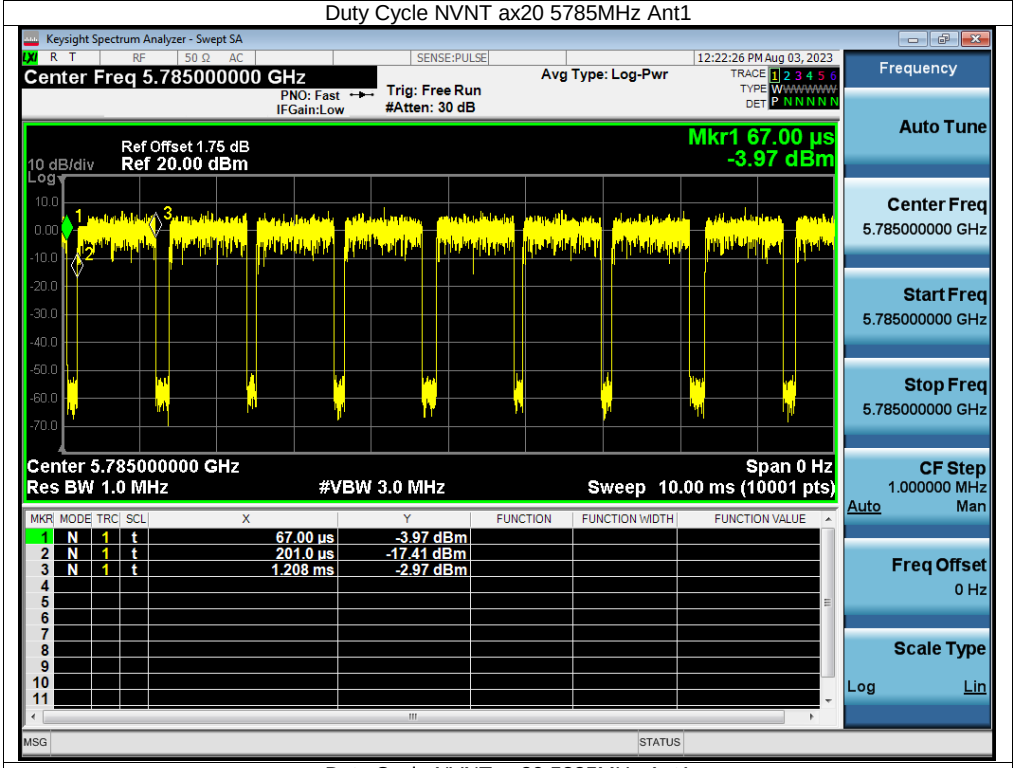
Duty Cycle NVNT ax20 5240MHz Ant1



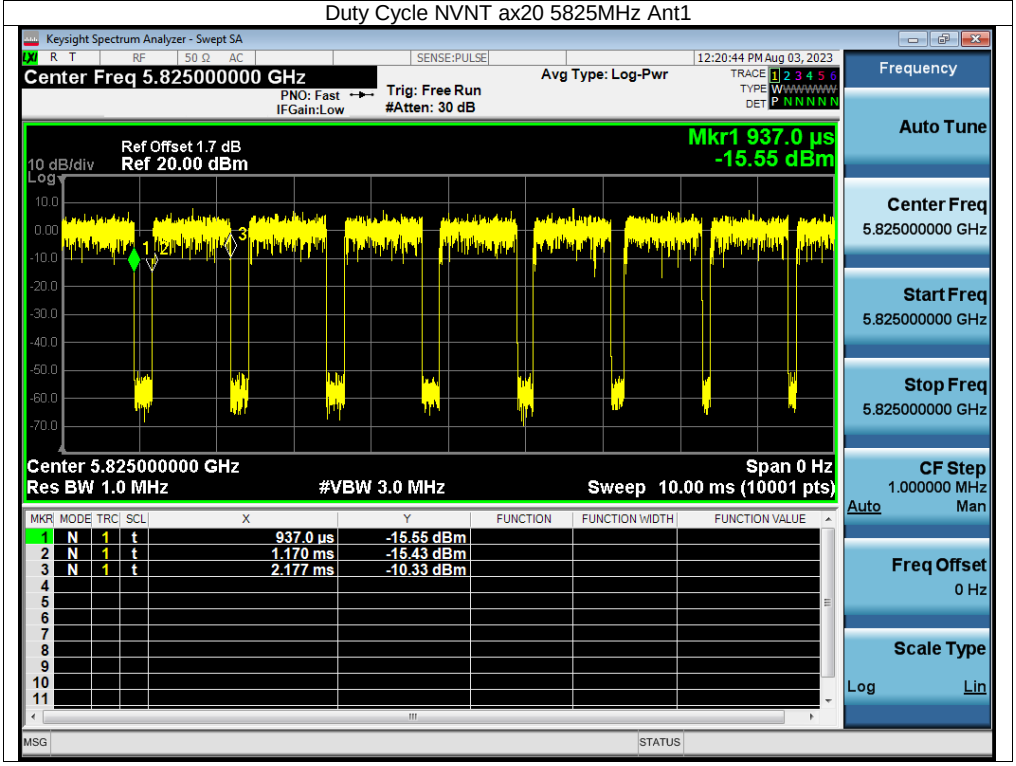
Duty Cycle NVNT ax20 5745MHz Ant1



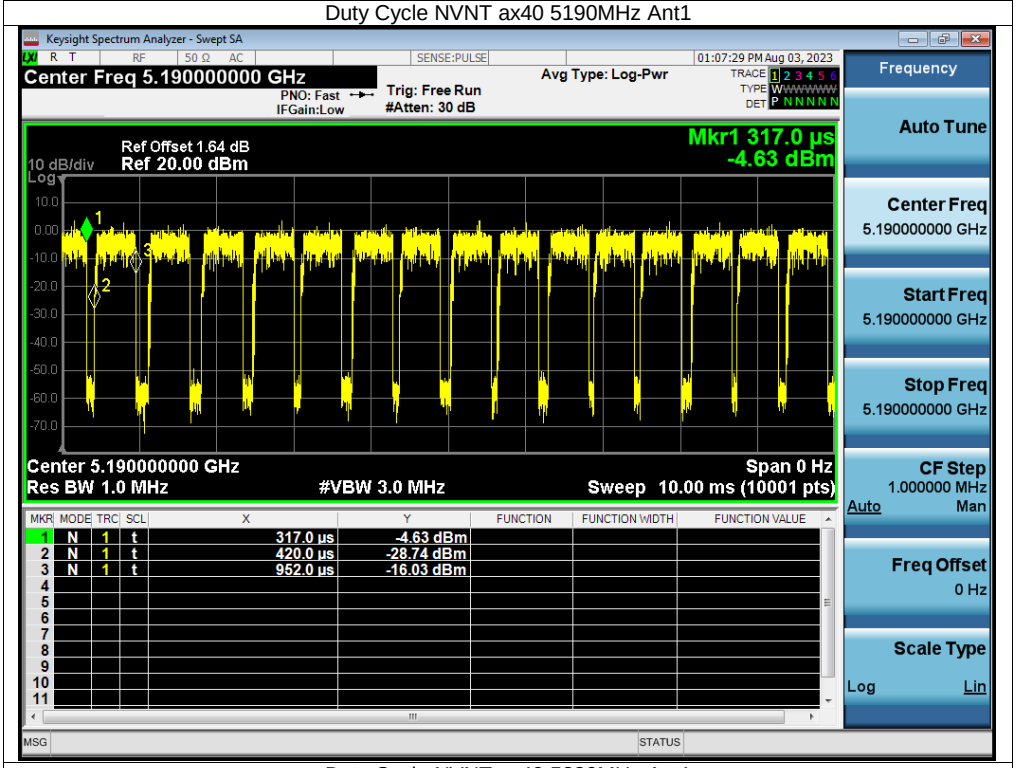
Duty Cycle NVNT ax20 5785MHz Ant1



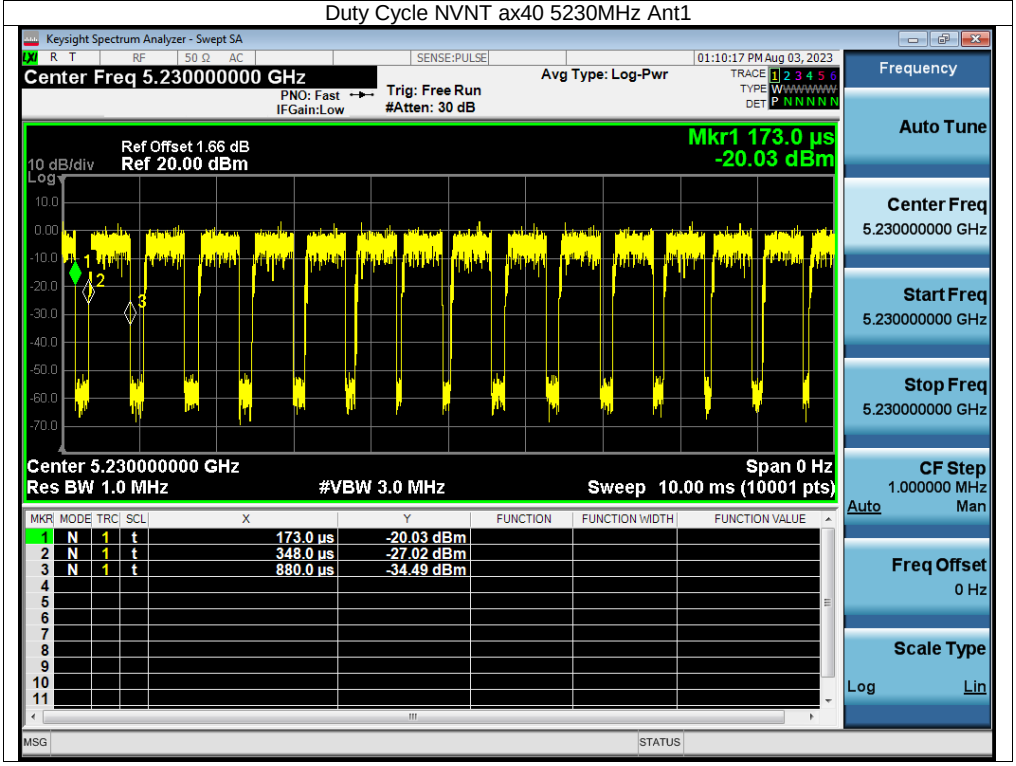
Duty Cycle NVNT ax20 5825MHz Ant1



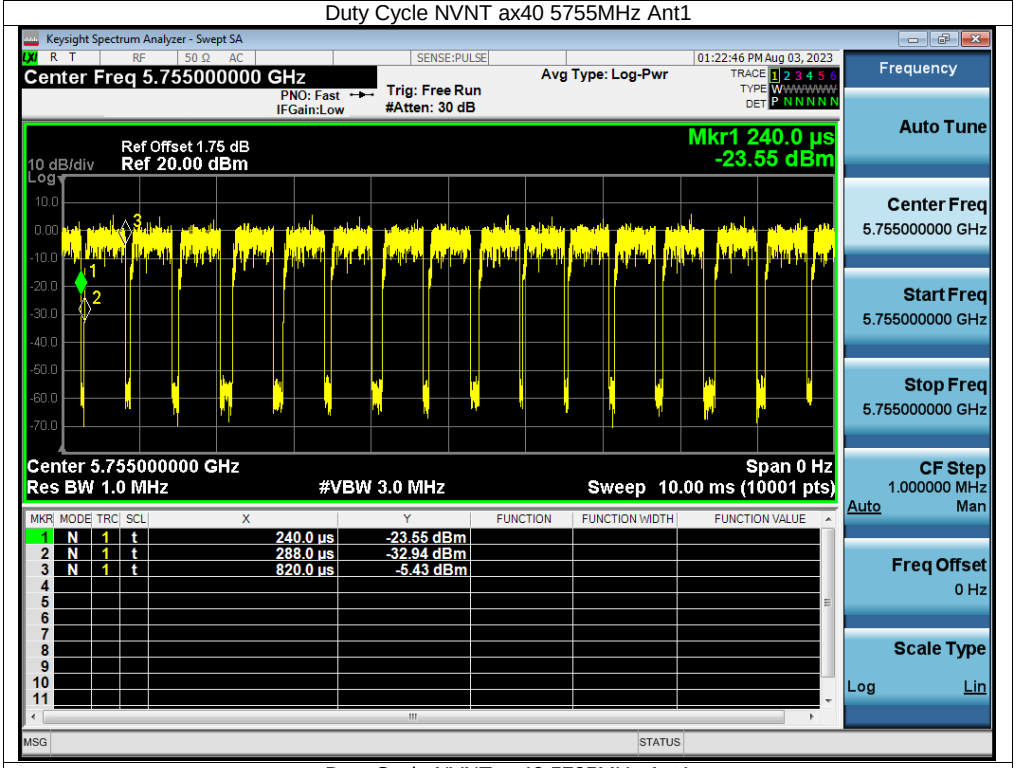
Duty Cycle NVNT ax40 5190MHz Ant1



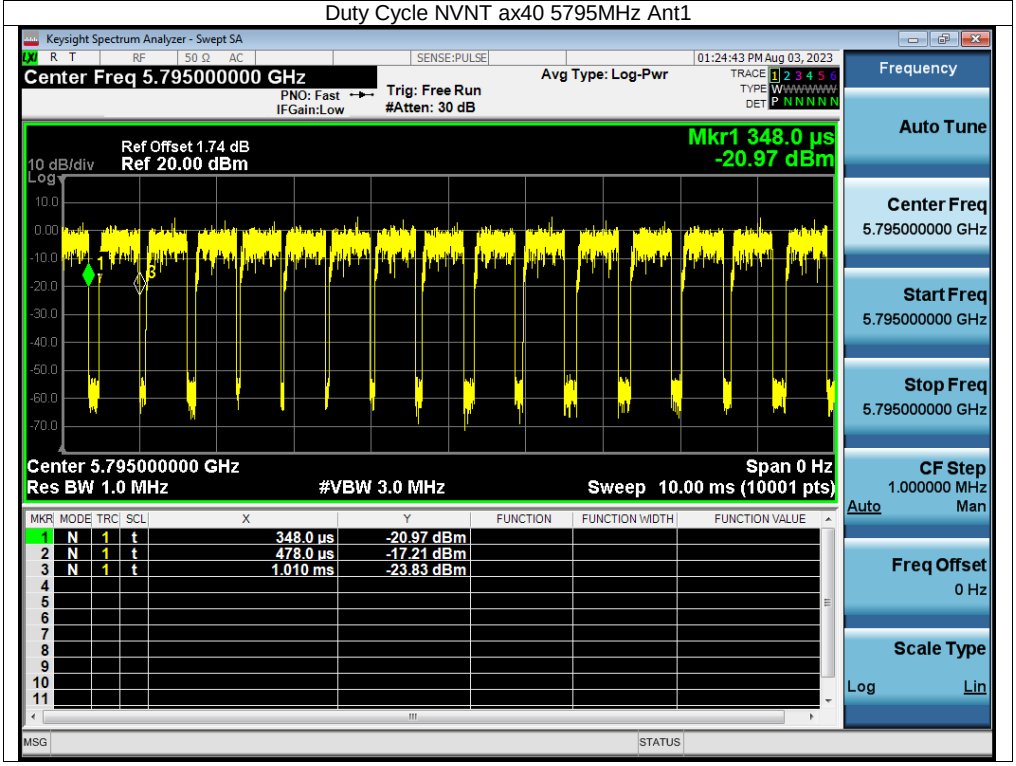
Duty Cycle NVNT ax40 5230MHz Ant1



Duty Cycle NVNT ax40 5755MHz Ant1



Duty Cycle NVNT ax40 5795MHz Ant1



Appendix B Maximum Conducted Output Power

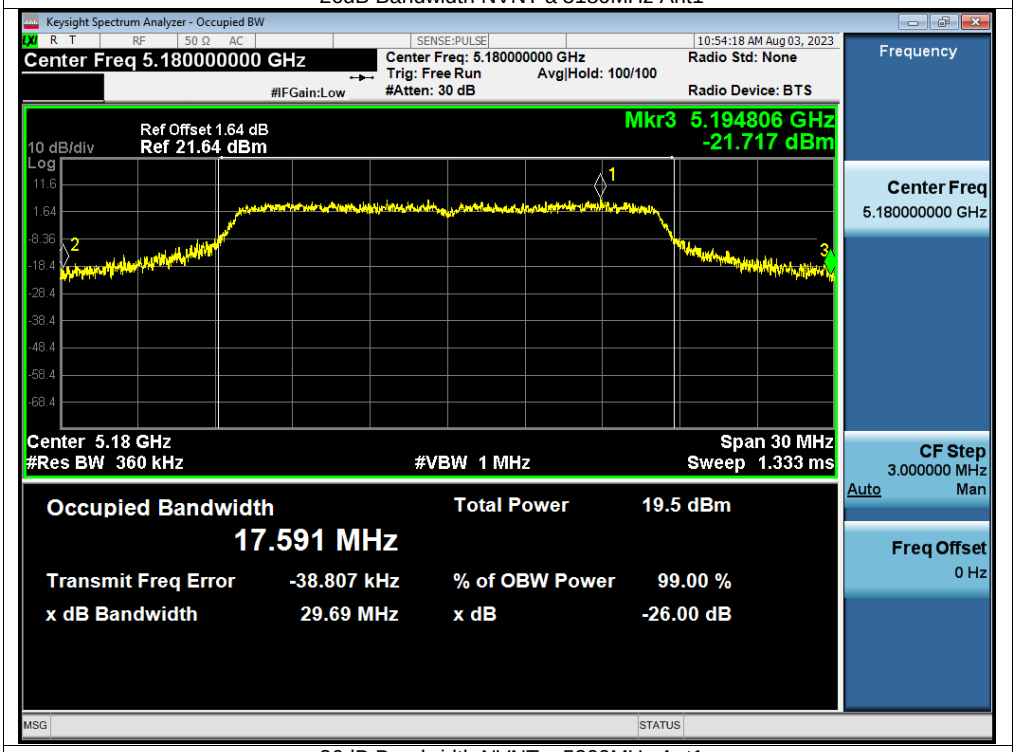
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant1	13.54	0.41	13.95	24	Pass
NVNT	a	5200	Ant1	13.19	0.45	13.64	24	Pass
NVNT	a	5240	Ant1	13.67	0.12	13.79	24	Pass
NVNT	a	5745	Ant1	11.5	0.41	11.91	30	Pass
NVNT	a	5785	Ant1	10.09	0.4	10.49	30	Pass
NVNT	a	5825	Ant1	9.81	0.47	10.28	30	Pass
NVNT	n20	5180	Ant1	12.74	0.41	13.15	24	Pass
NVNT	n20	5200	Ant1	12.63	0.27	12.9	24	Pass
NVNT	n20	5240	Ant1	13.26	0.55	13.81	24	Pass
NVNT	n20	5745	Ant1	10.98	0.55	11.53	30	Pass
NVNT	n20	5785	Ant1	9.97	0.13	10.1	30	Pass
NVNT	n20	5825	Ant1	9.91	0.22	10.13	30	Pass
NVNT	n40	5190	Ant1	9.7	1.03	10.73	24	Pass
NVNT	n40	5230	Ant1	9.06	0.74	9.8	24	Pass
NVNT	n40	5755	Ant1	11.09	0.26	11.35	30	Pass
NVNT	n40	5795	Ant1	9.92	0.76	10.68	30	Pass
NVNT	ac20	5180	Ant1	12.67	0.52	13.19	24	Pass
NVNT	ac20	5200	Ant1	12.73	0.46	13.19	24	Pass
NVNT	ac20	5240	Ant1	13.25	0.41	13.66	24	Pass
NVNT	ac20	5745	Ant1	11.4	0.38	11.78	30	Pass
NVNT	ac20	5785	Ant1	10.41	0.3	10.71	30	Pass
NVNT	ac20	5825	Ant1	10.24	0.38	10.62	30	Pass
NVNT	ac40	5190	Ant1	9.43	0.63	10.06	24	Pass
NVNT	ac40	5230	Ant1	9.29	0.63	9.92	24	Pass
NVNT	ac40	5755	Ant1	10.8	0.73	11.53	30	Pass
NVNT	ac40	5795	Ant1	9.82	0.36	10.18	30	Pass
NVNT	ax20	5180	Ant1	13.22	0.46	13.68	24	Pass
NVNT	ax20	5200	Ant1	12.43	1.52	13.95	24	Pass
NVNT	ax20	5240	Ant1	13.2	0.77	13.97	24	Pass
NVNT	ax20	5745	Ant1	11.08	0.57	11.65	30	Pass
NVNT	ax20	5785	Ant1	10.39	0.54	10.93	30	Pass
NVNT	ax20	5825	Ant1	10.25	0.9	11.15	30	Pass
NVNT	ax40	5190	Ant1	8.89	0.77	9.66	24	Pass
NVNT	ax40	5230	Ant1	9.21	1.23	10.44	24	Pass
NVNT	ax40	5755	Ant1	10.56	0.38	10.94	30	Pass
NVNT	ax40	5795	Ant1	9.91	0.95	10.86	30	Pass

Appendix C -26dB Bandwidth

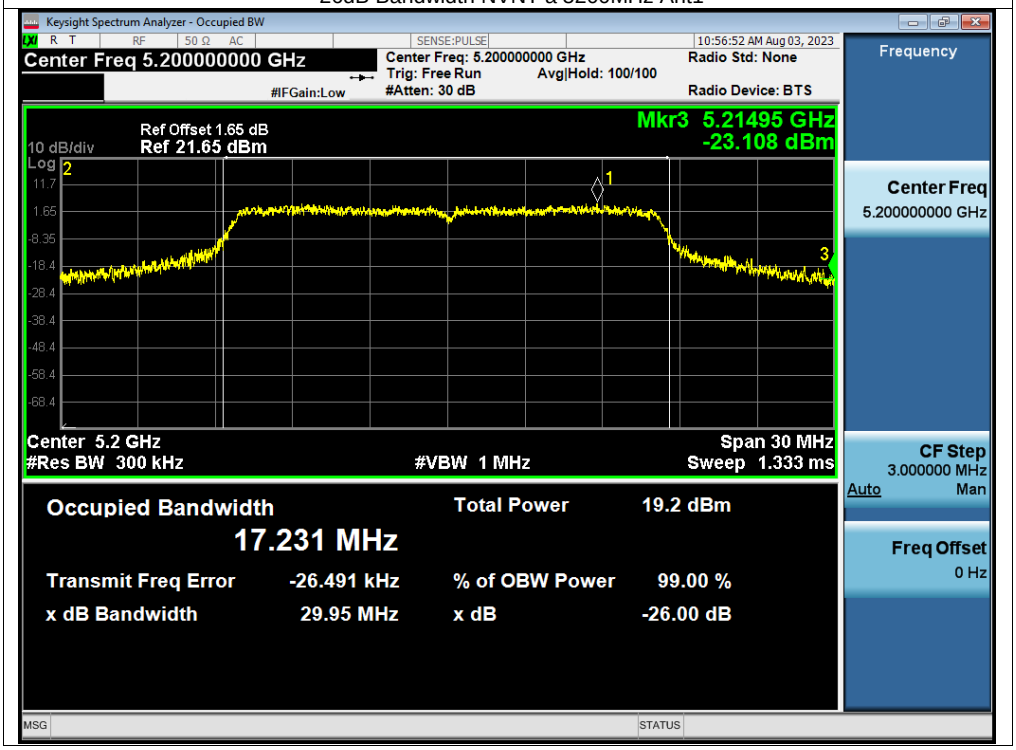
Condition	Mode	Frequency (MHz)	Antenna	-26 dB Bandwidth (MHz)	Limit -26 dB Bandwidth (MHz)	Verdict
NVNT	a	5180	Ant1	29.69	0.5	Pass
NVNT	a	5200	Ant1	29.953	0.5	Pass
NVNT	a	5240	Ant1	29.008	0.5	Pass
NVNT	n20	5180	Ant1	29.852	0.5	Pass
NVNT	n20	5200	Ant1	29.342	0.5	Pass
NVNT	n20	5240	Ant1	27.797	0.5	Pass
NVNT	n40	5190	Ant1	54.999	0.5	Pass
NVNT	n40	5230	Ant1	44.772	0.5	Pass
NVNT	ac20	5180	Ant1	29.74	0.5	Pass
NVNT	ac20	5200	Ant1	29.891	0.5	Pass
NVNT	ac20	5240	Ant1	29.166	0.5	Pass
NVNT	ac40	5190	Ant1	45.339	0.5	Pass
NVNT	ac40	5230	Ant1	45.557	0.5	Pass
NVNT	ax20	5180	Ant1	28.11	0.5	Pass
NVNT	ax20	5200	Ant1	29.249	0.5	Pass
NVNT	ax20	5240	Ant1	26.562	0.5	Pass
NVNT	ax40	5190	Ant1	44.321	0.5	Pass
NVNT	ax40	5230	Ant1	43.026	0.5	Pass

Test Graphs

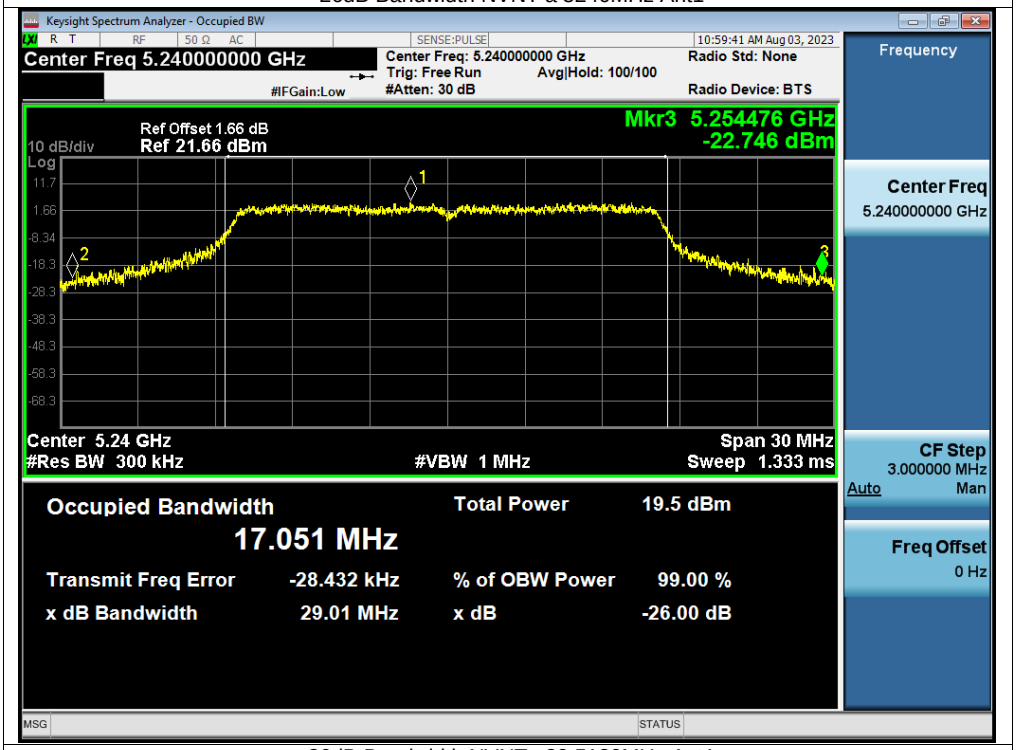
-26dB Bandwidth NVNT a 5180MHz Ant1



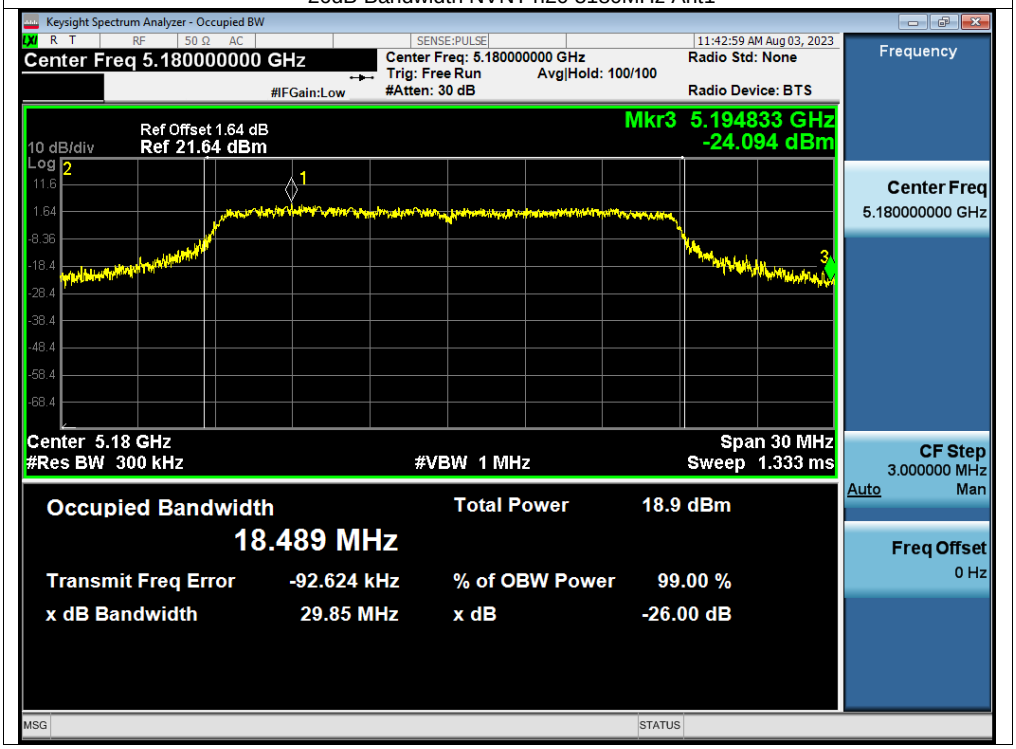
-26dB Bandwidth NVNT a 5200MHz Ant1



-26dB Bandwidth NVNT a 5240MHz Ant1

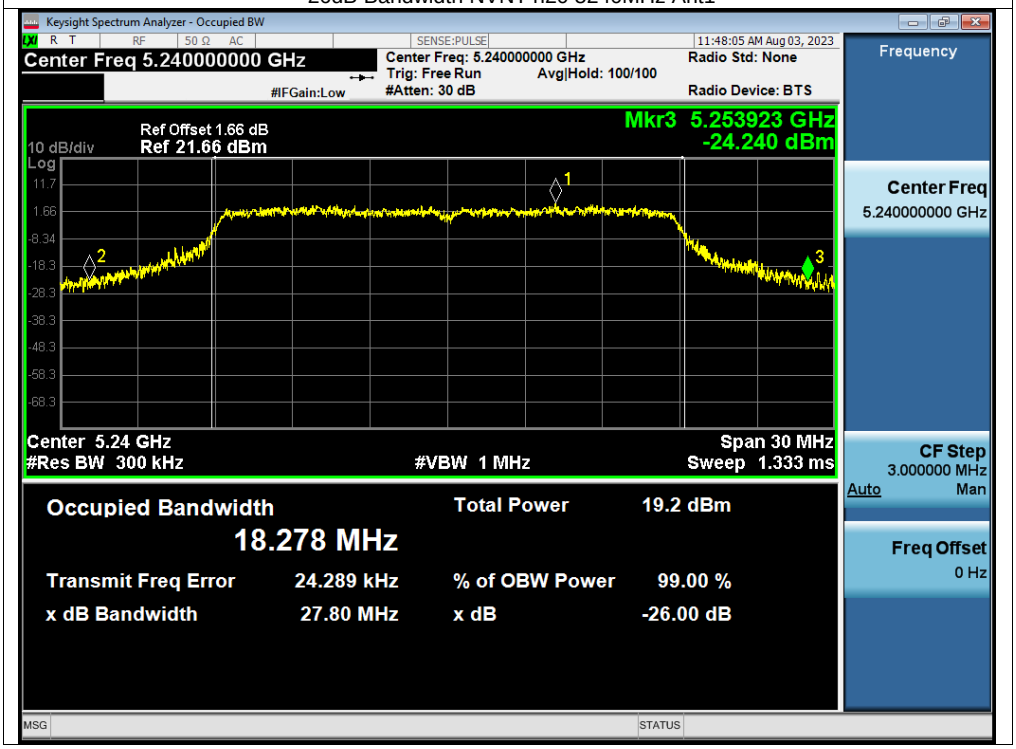


-26dB Bandwidth NVNT n20 5180MHz Ant1



-26dB Bandwidth NVNT n20 5200MHz Ant1

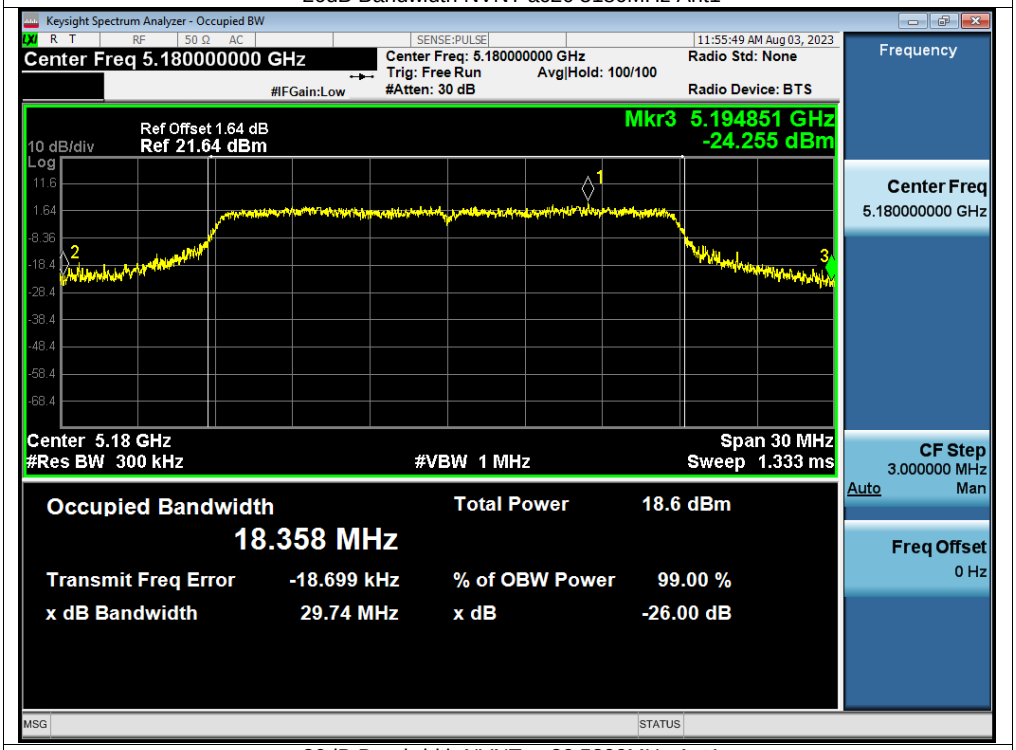
-26dB Bandwidth NVNT n20 5240MHz Ant1



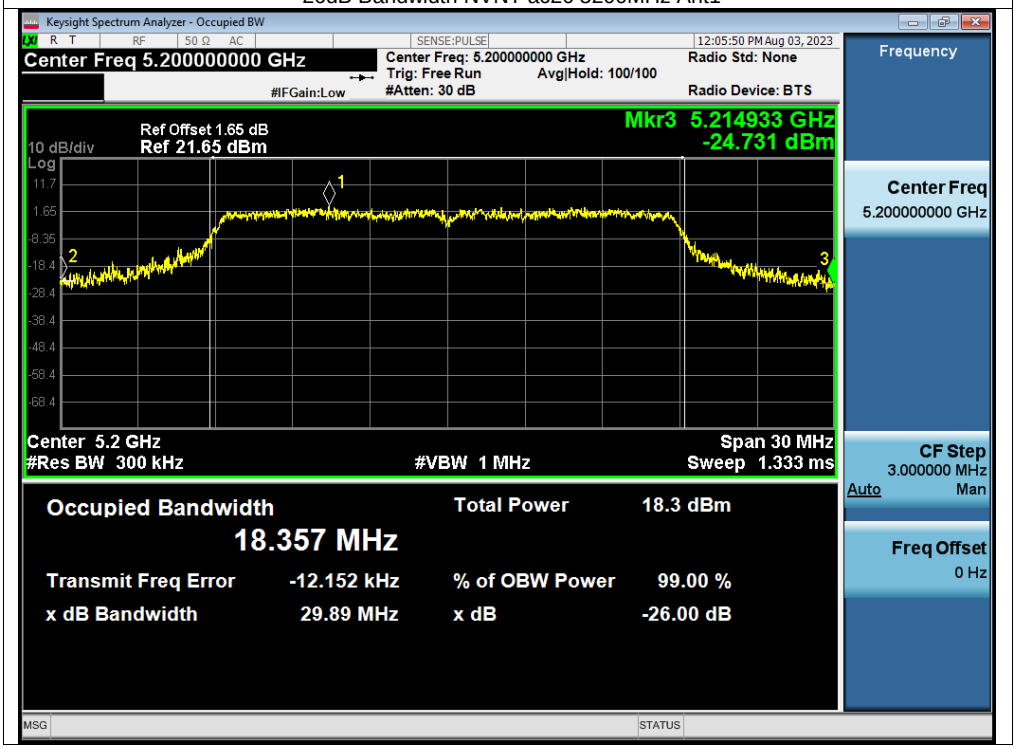
-26dB Bandwidth NVNT n40 5190MHz Ant1

-26dB Bandwidth NVNT n40 5230MHz Ant1

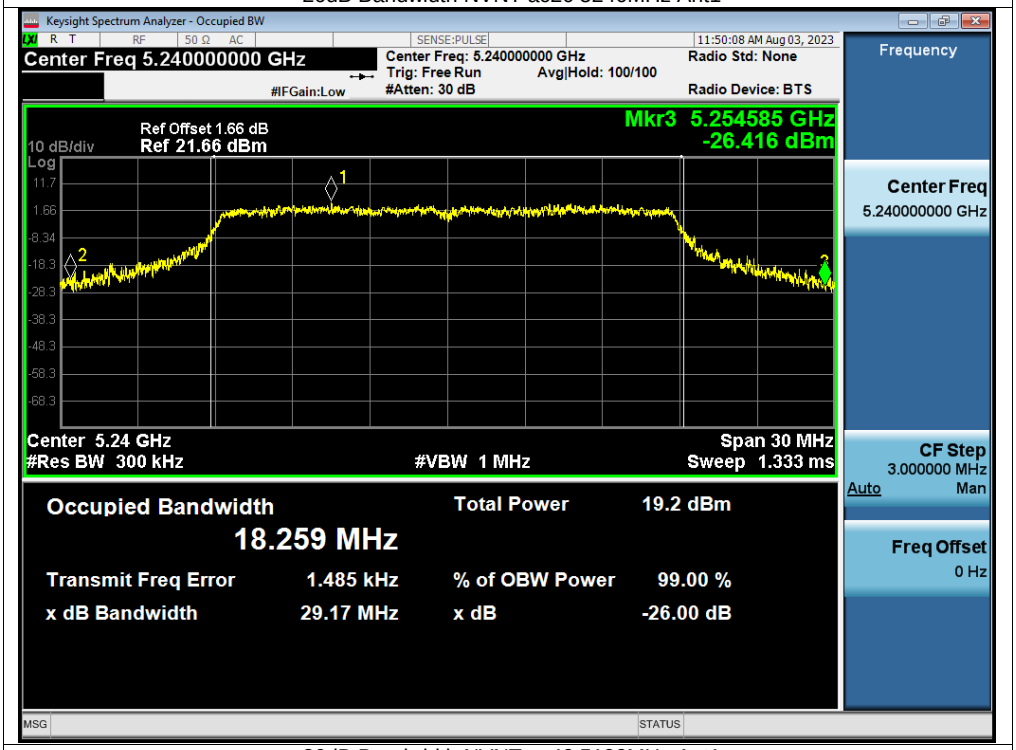
-26dB Bandwidth NVNT ac20 5180MHz Ant1



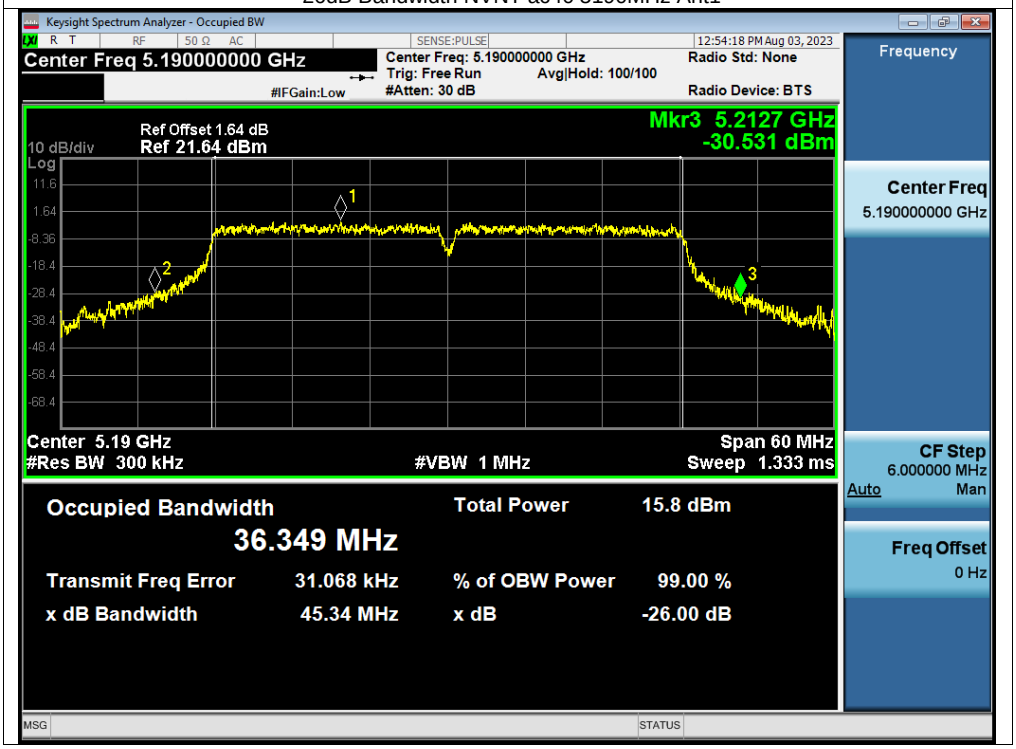
-26dB Bandwidth NVNT ac20 5200MHz Ant1



-26dB Bandwidth NVNT ac20 5240MHz Ant1

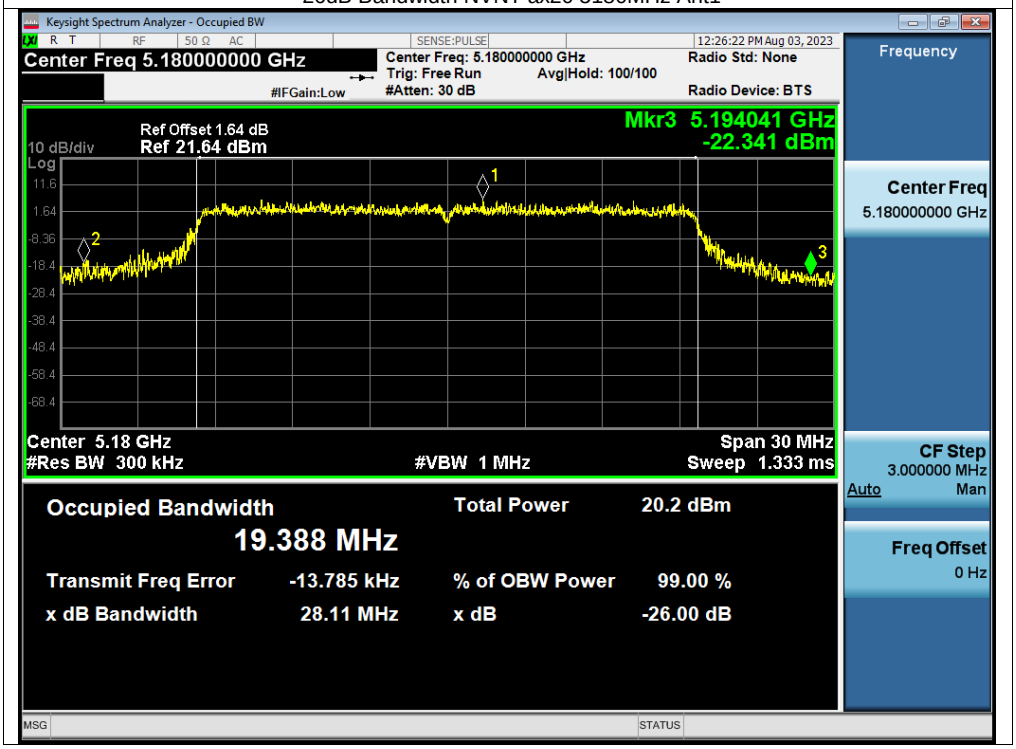


-26dB Bandwidth NVNT ac40 5190MHz Ant1

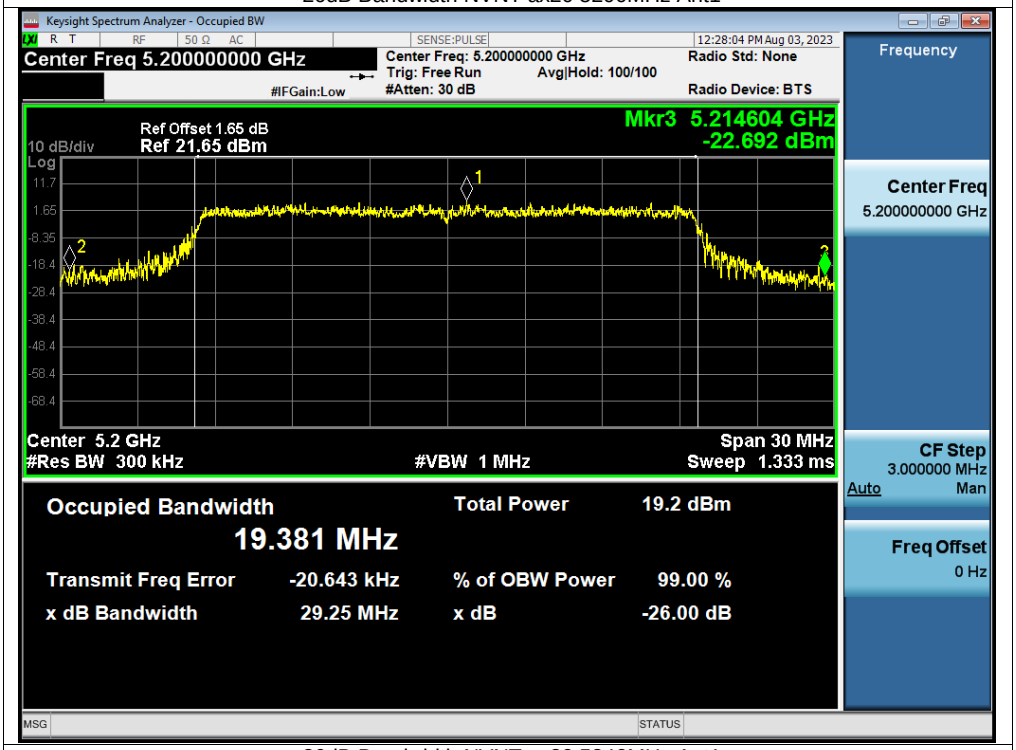


-26dB Bandwidth NVNT ac40 5230MHz Ant1

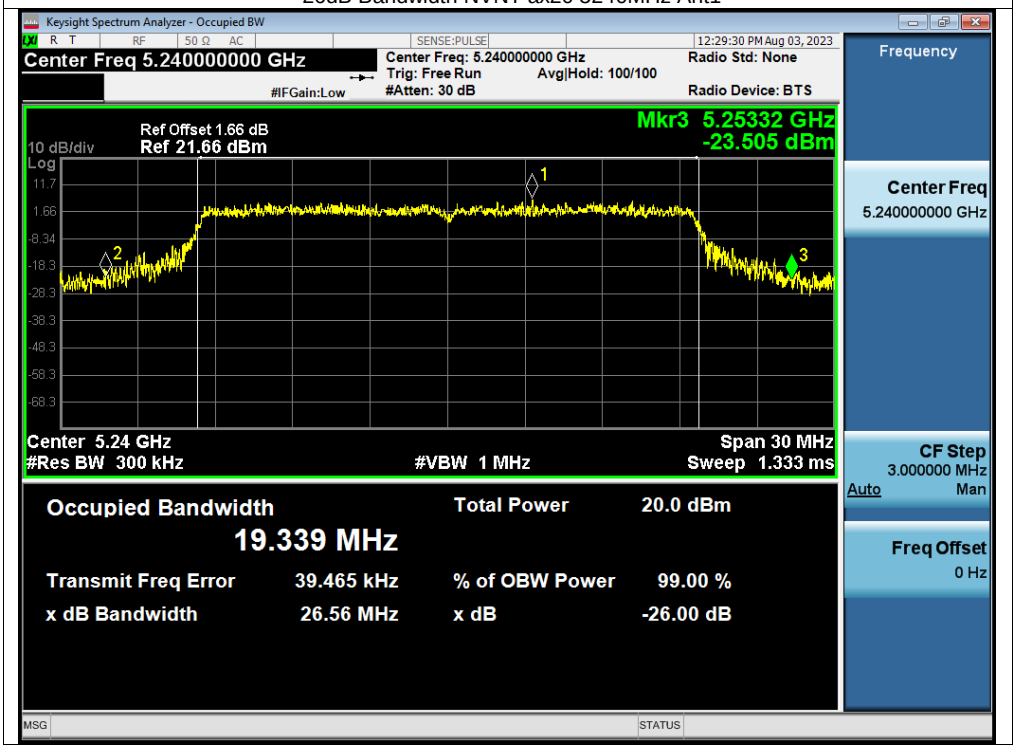
-26dB Bandwidth NVNT ax20 5180MHz Ant1



-26dB Bandwidth NVNT ax20 5200MHz Ant1



-26dB Bandwidth NVNT ax20 5240MHz Ant1



-26dB Bandwidth NVNT ax40 5190MHz Ant1

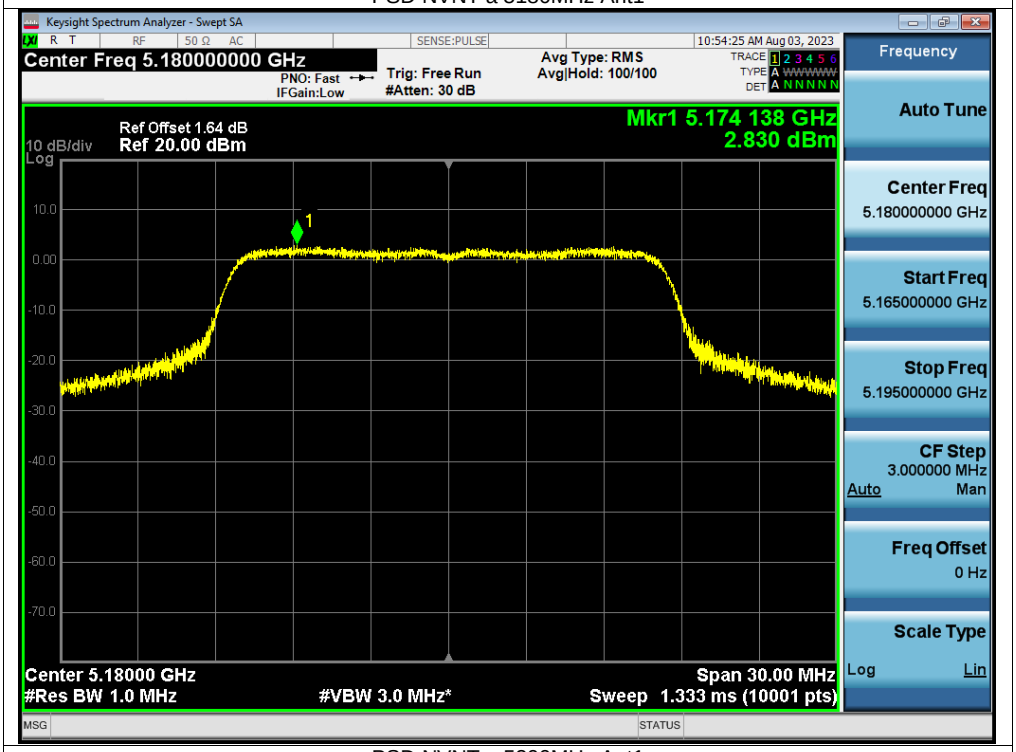
-26dB Bandwidth NVNT ax40 5230MHz Ant1

Appendix D Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm)	Duty Factor (dB)	Total PSD (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant1	2.83	0.41	3.24	11	Pass
NVNT	a	5200	Ant1	3.03	0.45	3.48	11	Pass
NVNT	a	5240	Ant1	3.33	0.12	3.45	11	Pass
NVNT	a	5745	Ant1	-2.32	0.41	-1.91	30	Pass
NVNT	a	5785	Ant1	-3.57	0.4	-3.17	30	Pass
NVNT	a	5825	Ant1	-3.38	0.47	-2.91	30	Pass
NVNT	n20	5180	Ant1	2.28	0.41	2.69	11	Pass
NVNT	n20	5200	Ant1	2.2	0.27	2.47	11	Pass
NVNT	n20	5240	Ant1	2.87	0.55	3.42	11	Pass
NVNT	n20	5745	Ant1	-2.63	0.55	-2.08	30	Pass
NVNT	n20	5785	Ant1	-3.58	0.13	-3.45	30	Pass
NVNT	n20	5825	Ant1	-3.52	0.22	-3.3	30	Pass
NVNT	n40	5190	Ant1	-3.99	1.03	-2.96	11	Pass
NVNT	n40	5230	Ant1	-4.79	0.74	-4.05	11	Pass
NVNT	n40	5755	Ant1	-6.01	0.26	-5.75	30	Pass
NVNT	n40	5795	Ant1	-6.91	0.76	-6.15	30	Pass
NVNT	ac20	5180	Ant1	1.93	0.52	2.45	11	Pass
NVNT	ac20	5200	Ant1	1.73	0.46	2.19	11	Pass
NVNT	ac20	5240	Ant1	2.6	0.41	3.01	11	Pass
NVNT	ac20	5745	Ant1	-2.56	0.38	-2.18	30	Pass
NVNT	ac20	5785	Ant1	-3.22	0.3	-2.92	30	Pass
NVNT	ac20	5825	Ant1	-3.67	0.38	-3.29	30	Pass
NVNT	ac40	5190	Ant1	-4.41	0.63	-3.78	11	Pass
NVNT	ac40	5230	Ant1	-4.23	0.63	-3.6	11	Pass
NVNT	ac40	5755	Ant1	-6.21	0.73	-5.48	30	Pass
NVNT	ac40	5795	Ant1	-6.97	0.36	-6.61	30	Pass
NVNT	ax20	5180	Ant1	2.32	0.46	2.78	11	Pass
NVNT	ax20	5200	Ant1	1.59	1.52	3.11	11	Pass
NVNT	ax20	5240	Ant1	2.21	0.77	2.98	11	Pass
NVNT	ax20	5745	Ant1	-2.9	0.57	-2.33	30	Pass
NVNT	ax20	5785	Ant1	-3.66	0.54	-3.12	30	Pass
NVNT	ax20	5825	Ant1	-3.87	0.9	-2.97	30	Pass
NVNT	ax40	5190	Ant1	-4.45	0.77	-3.68	11	Pass
NVNT	ax40	5230	Ant1	-4.55	1.23	-3.32	11	Pass
NVNT	ax40	5755	Ant1	-6.36	0.38	-5.98	30	Pass
NVNT	ax40	5795	Ant1	-7.37	0.95	-6.42	30	Pass

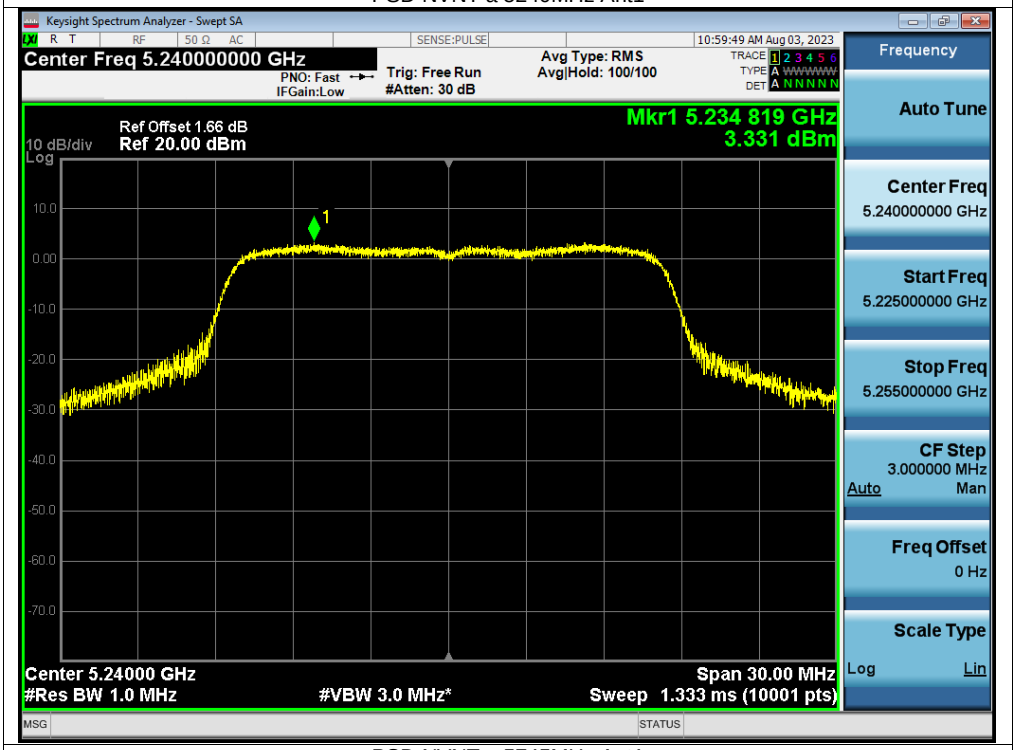
Test Graphs

PSD NVNT a 5180MHz Ant1



PSD NVNT a 5200MHz Ant1

PSD NVNT a 5240MHz Ant1

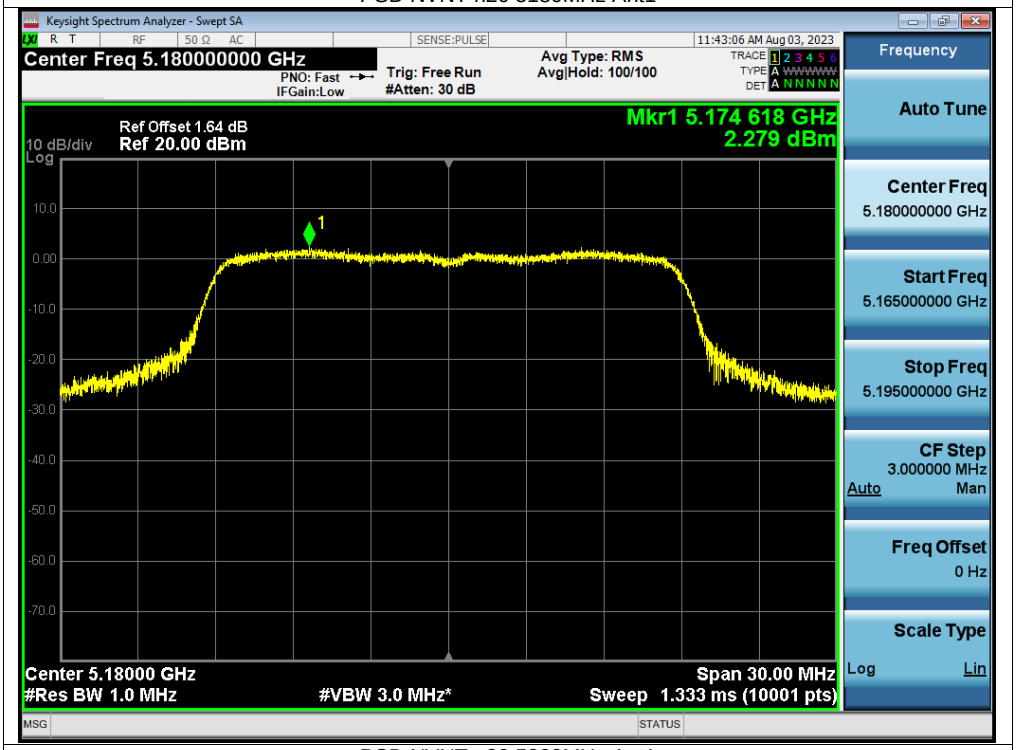


PSD NVNT a 5745MHz Ant1

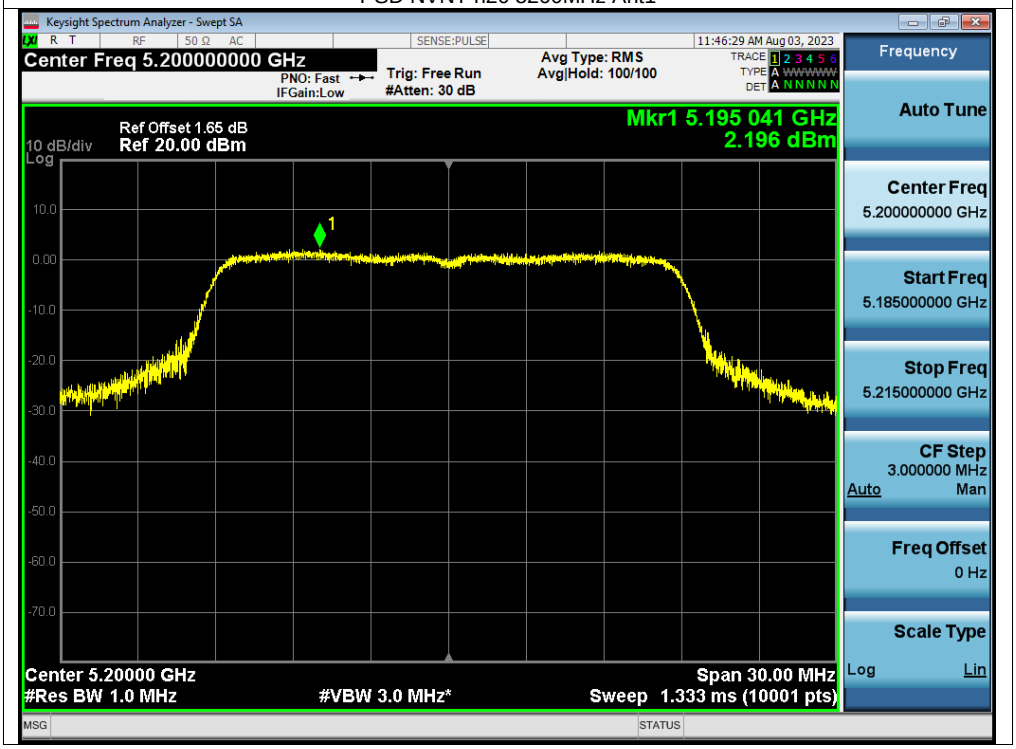
PSD NVNT a 5785MHz Ant1

PSD NVNT a 5825MHz Ant1

PSD NVNT n20 5180MHz Ant1



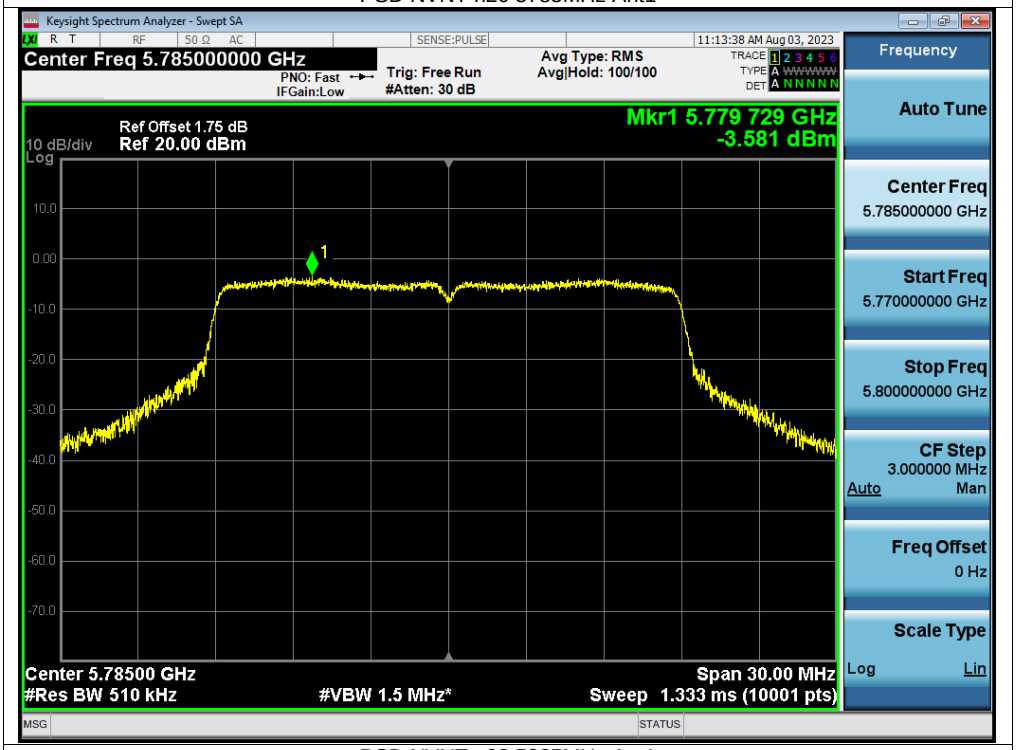
PSD NVNT n20 5200MHz Ant1



PSD NVNT n20 5240MHz Ant1

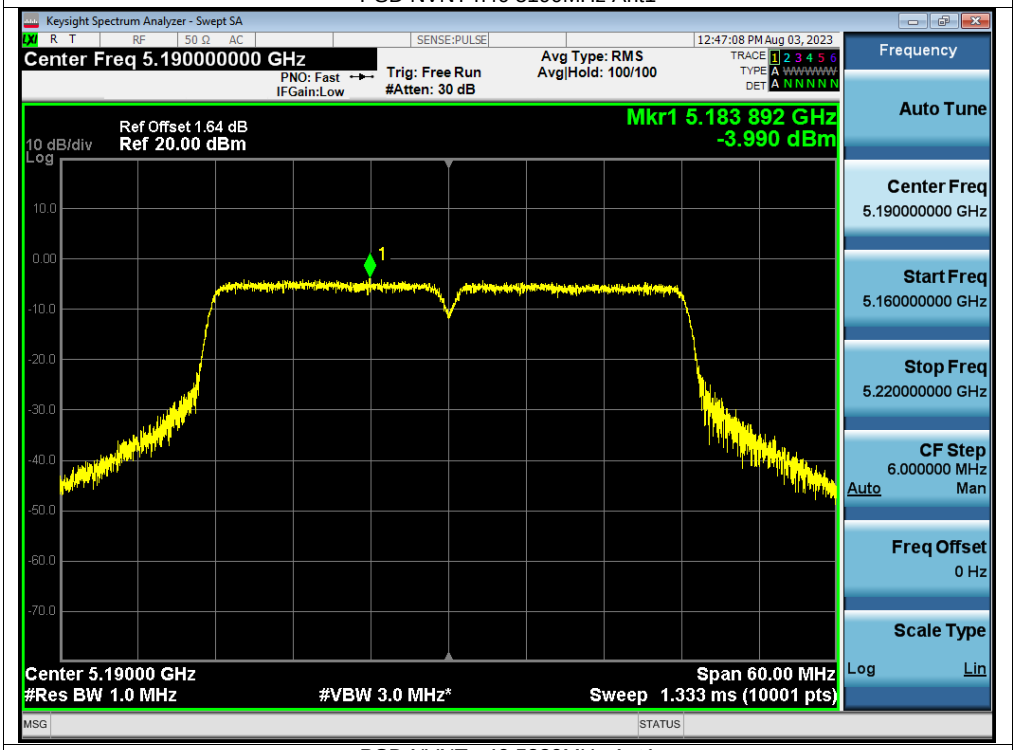
PSD NVNT n20 5745MHz Ant1

PSD NVNT n20 5785MHz Ant1



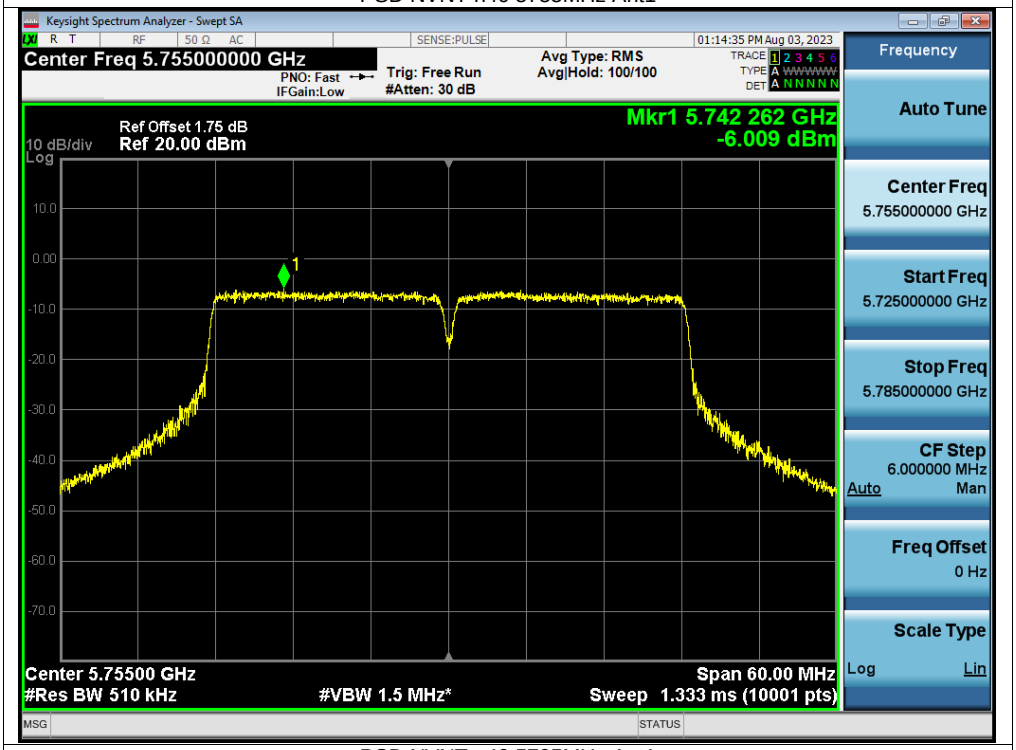
PSD NVNT n20 5825MHz Ant1

PSD NVNT n40 5190MHz Ant1

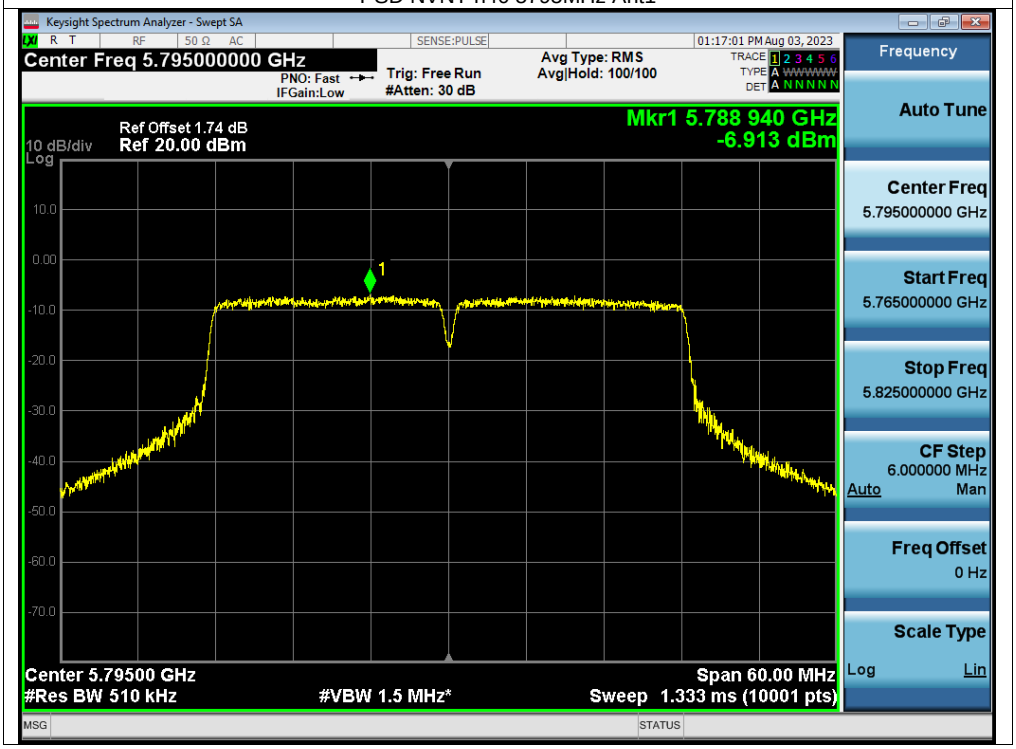


PSD NVNT n40 5230MHz Ant1

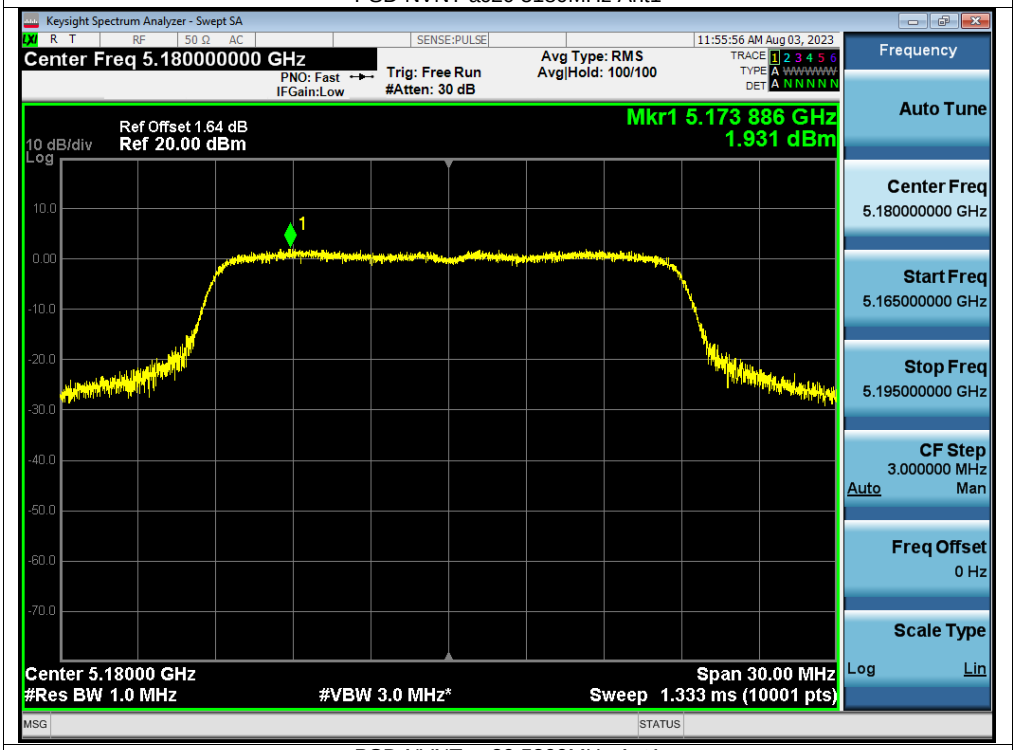
PSD NVNT n40 5755MHz Ant1



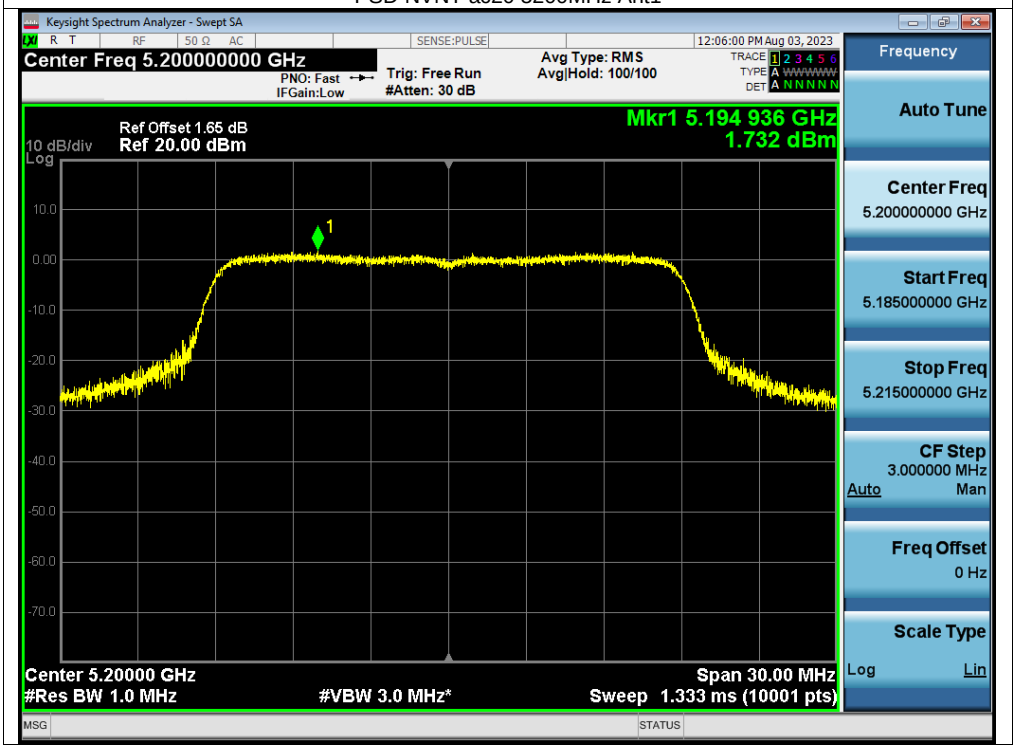
PSD NVNT n40 5795MHz Ant1



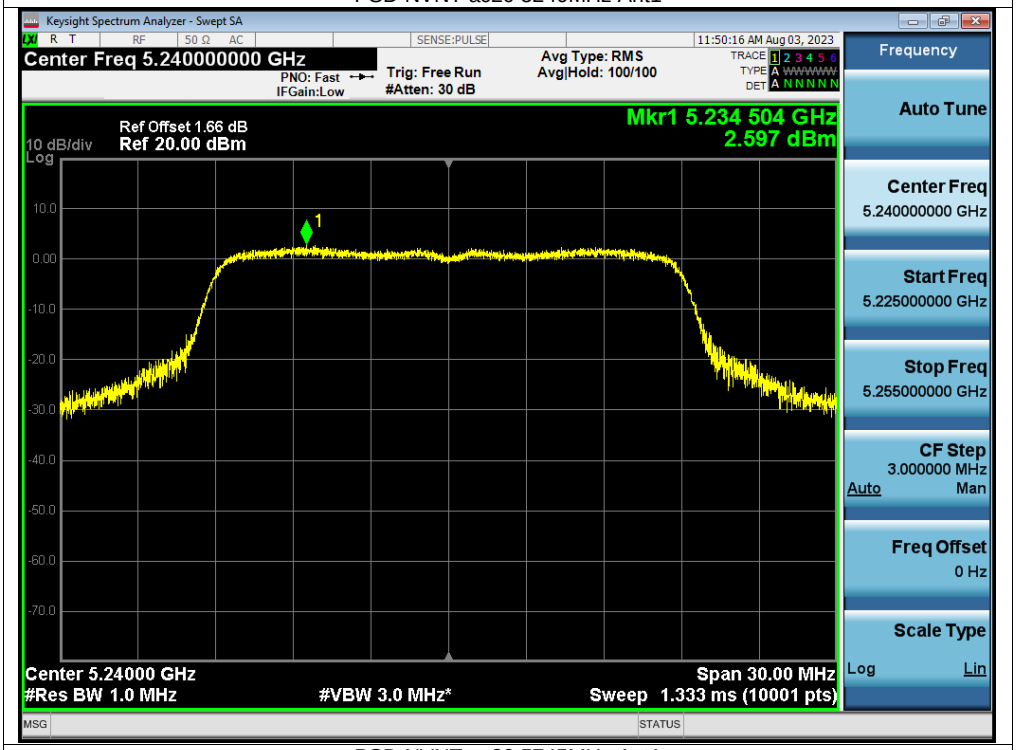
PSD NVNT ac20 5180MHz Ant1



PSD NVNT ac20 5200MHz Ant1

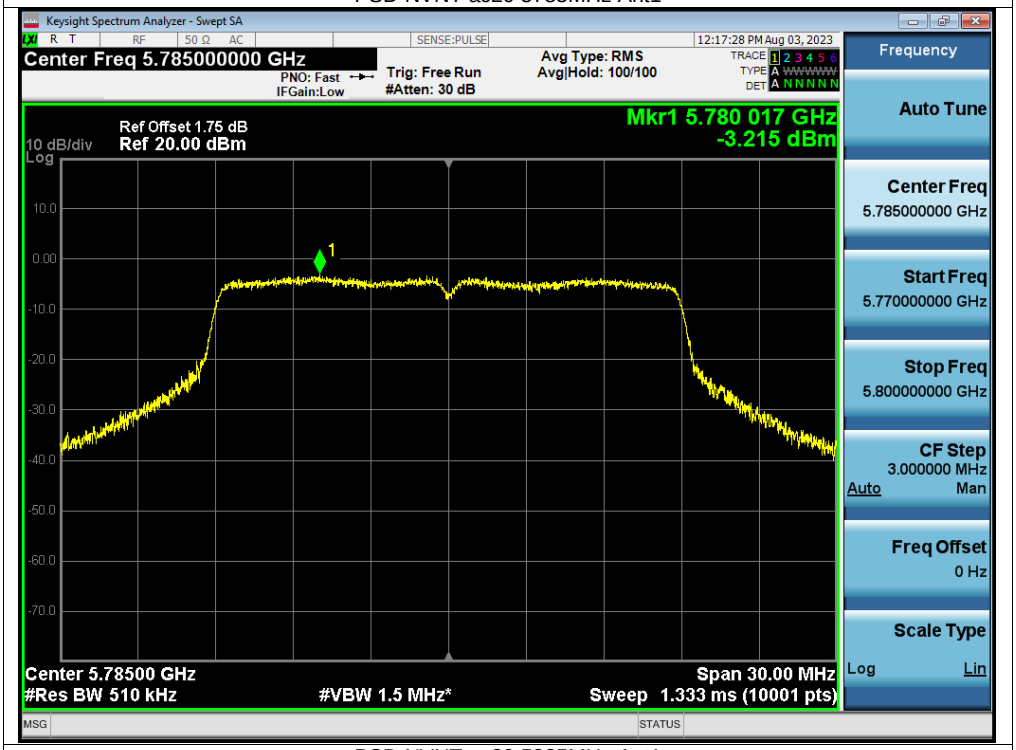


PSD NVNT ac20 5240MHz Ant1



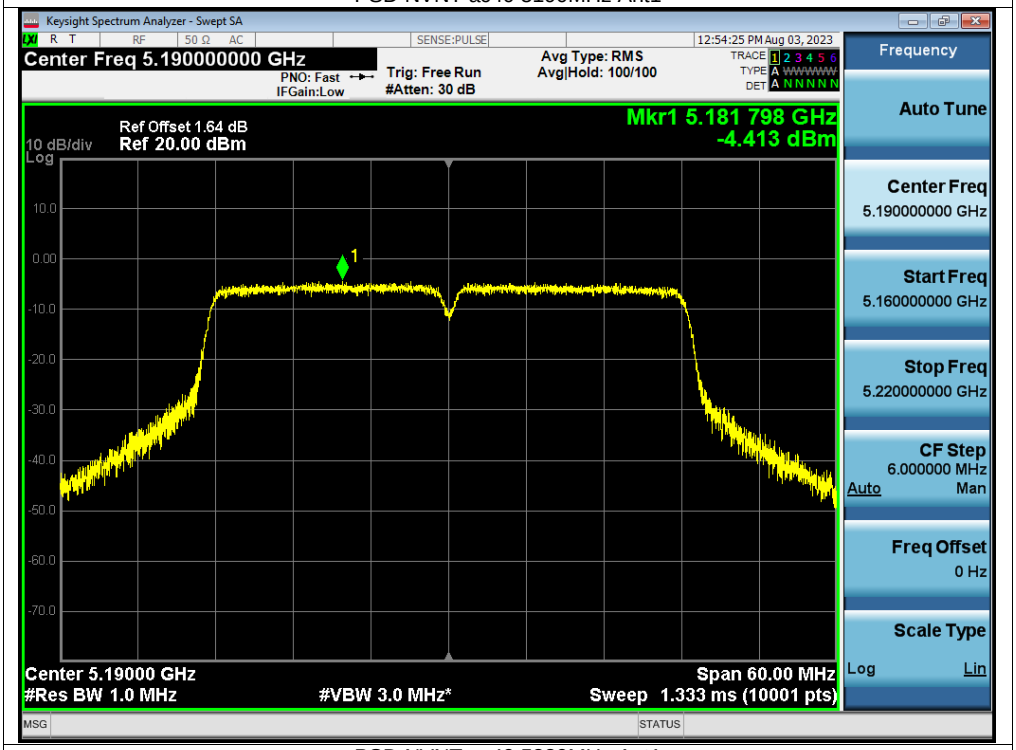
PSD NVNT ac20 5745MHz Ant1

PSD NVNT ac20 5785MHz Ant1

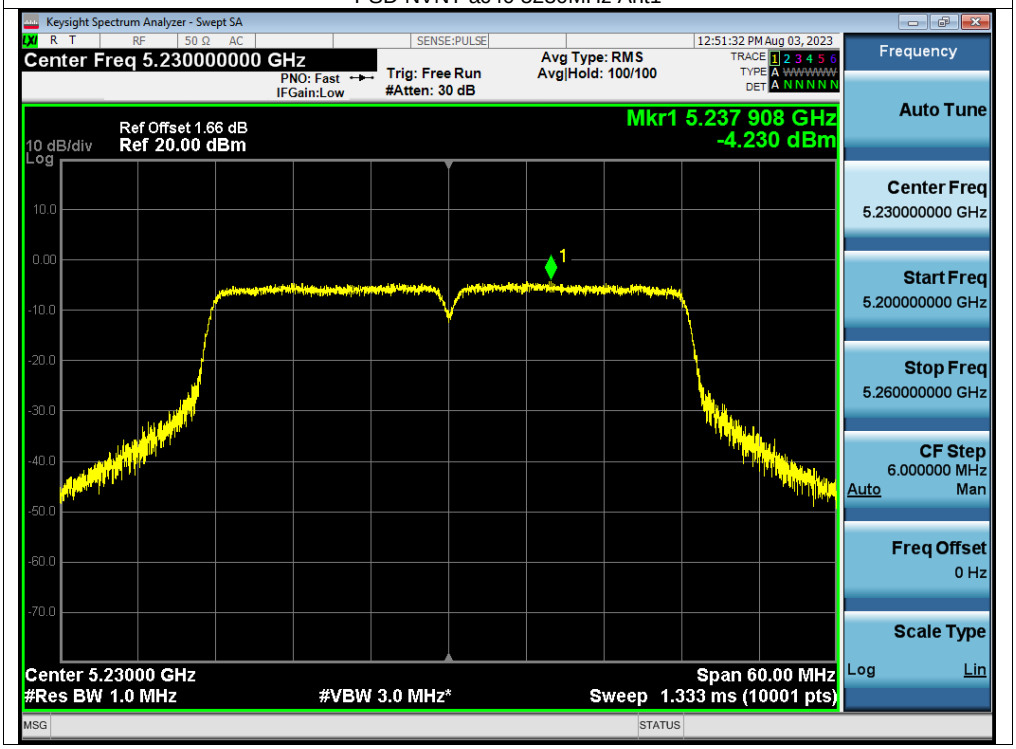


PSD NVNT ac20 5825MHz Ant1

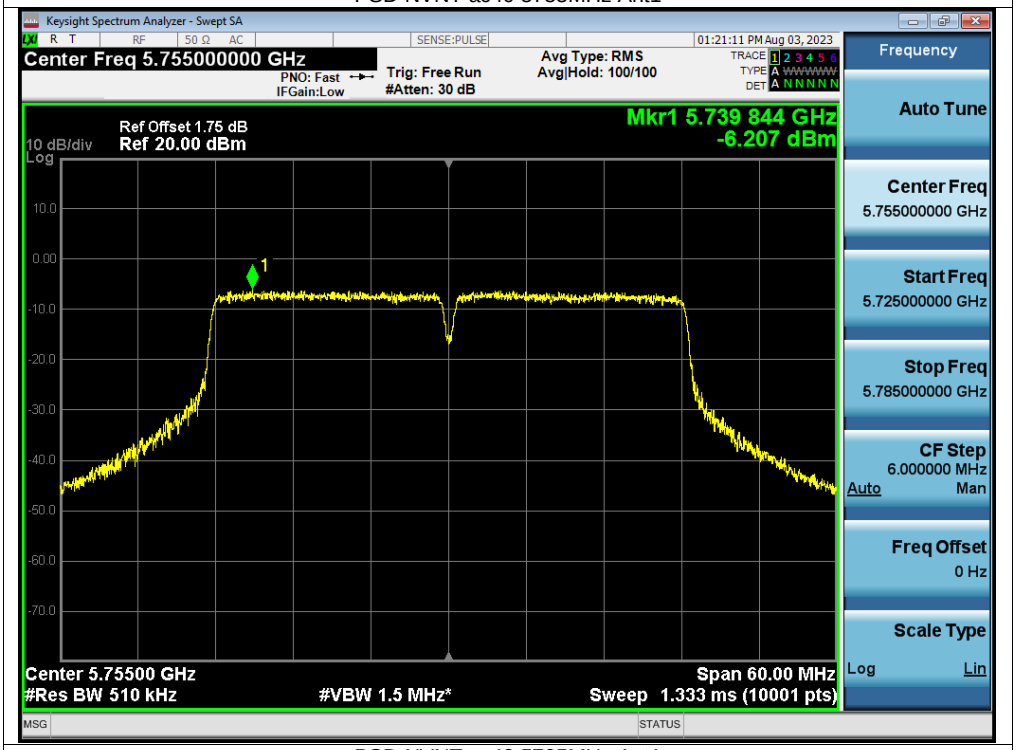
PSD NVNT ac40 5190MHz Ant1



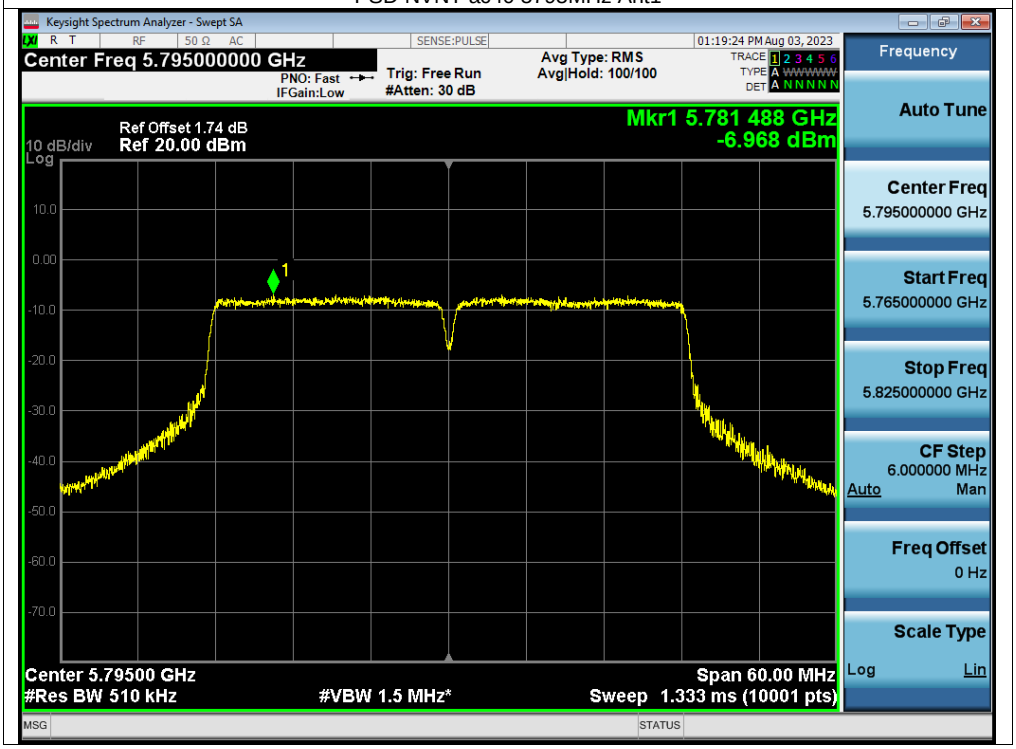
PSD NVNT ac40 5230MHz Ant1



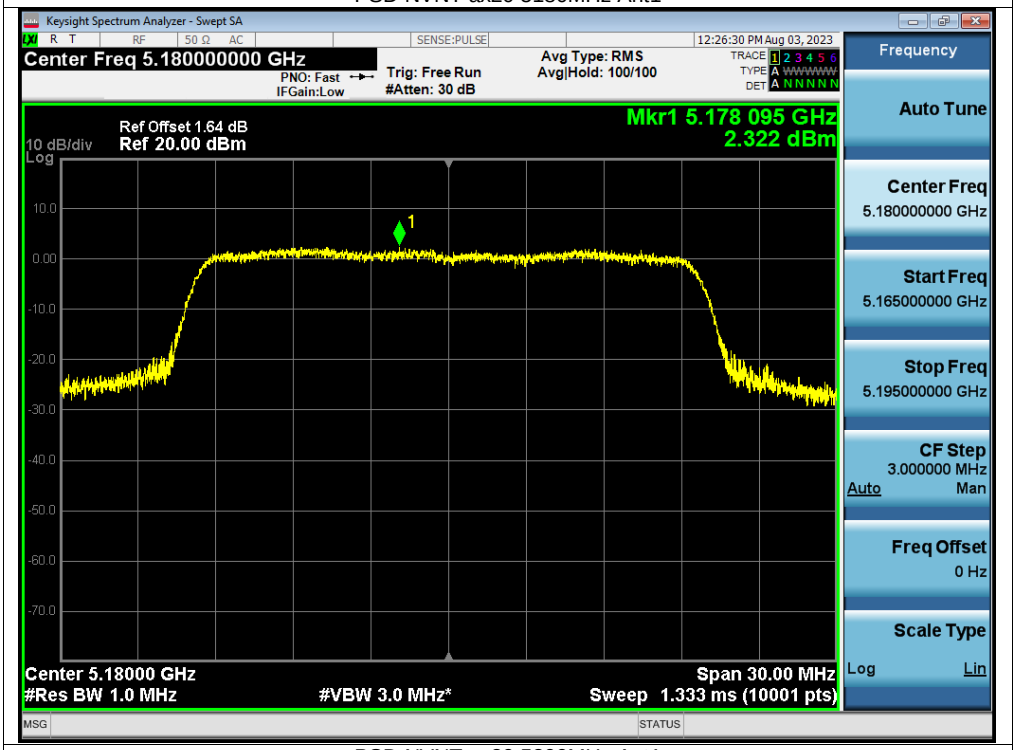
PSD NVNT ac40 5755MHz Ant1



PSD NVNT ac40 5795MHz Ant1

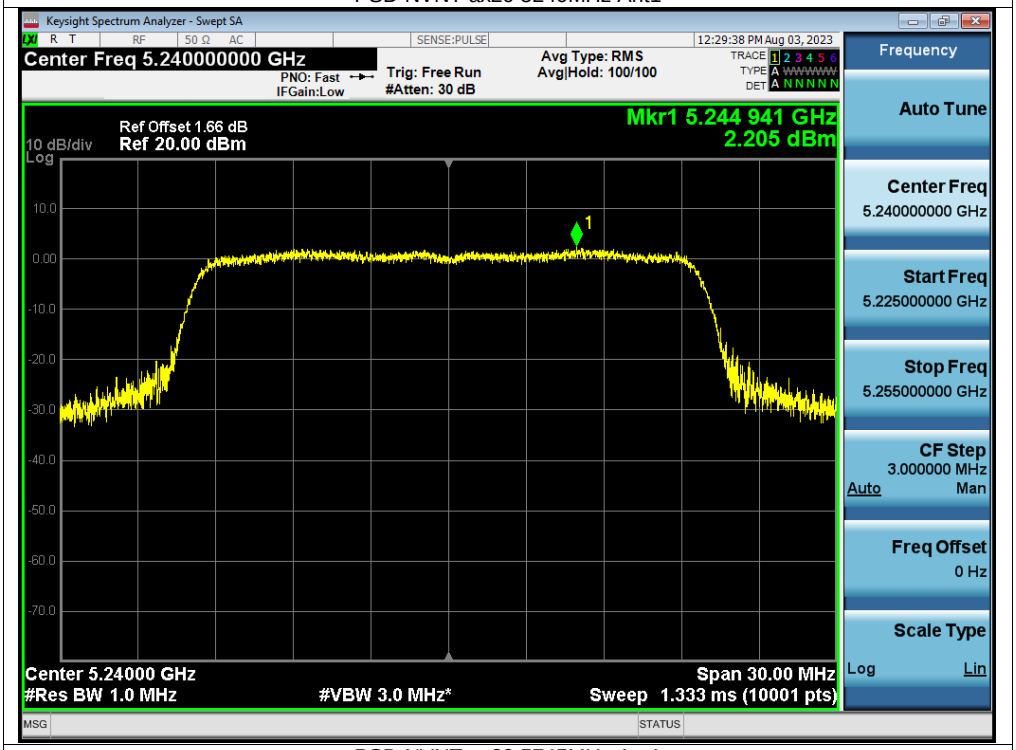


PSD NVNT ax20 5180MHz Ant1

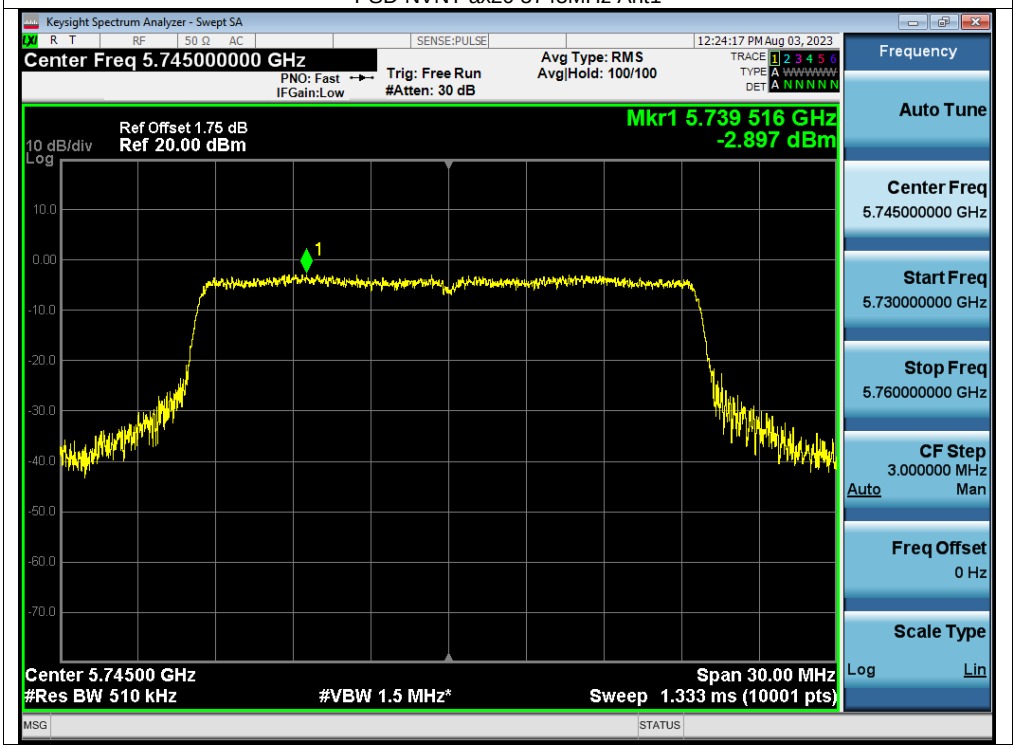


PSD NVNT ax20 5200MHz Ant1

PSD NVNT ax20 5240MHz Ant1



PSD NVNT ax20 5745MHz Ant1



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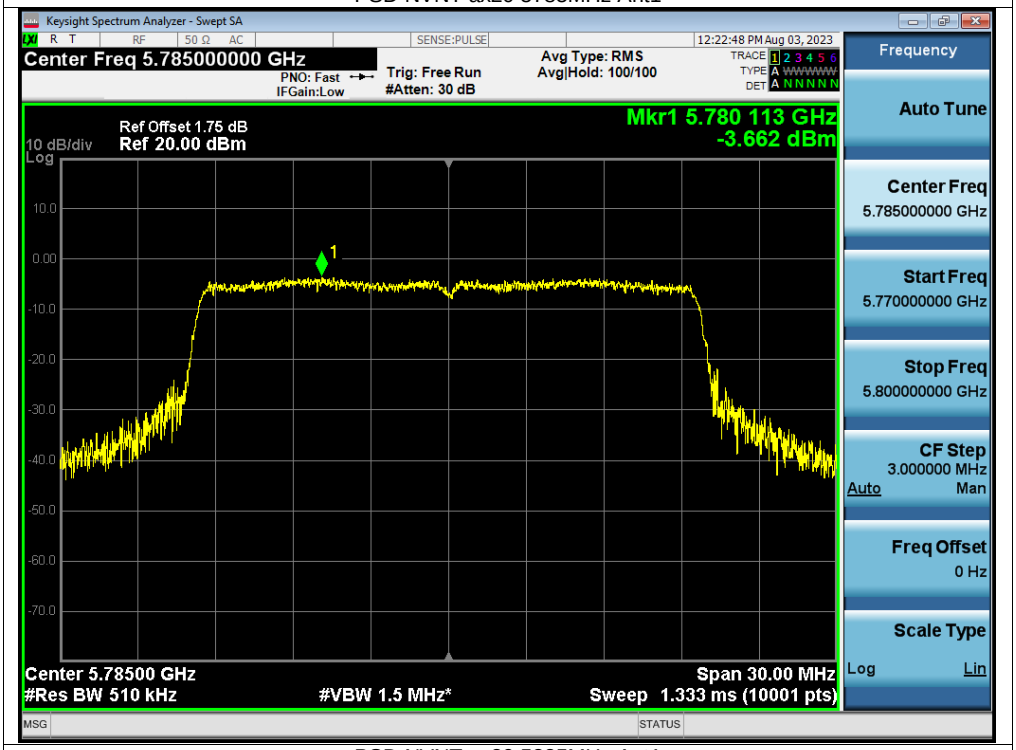
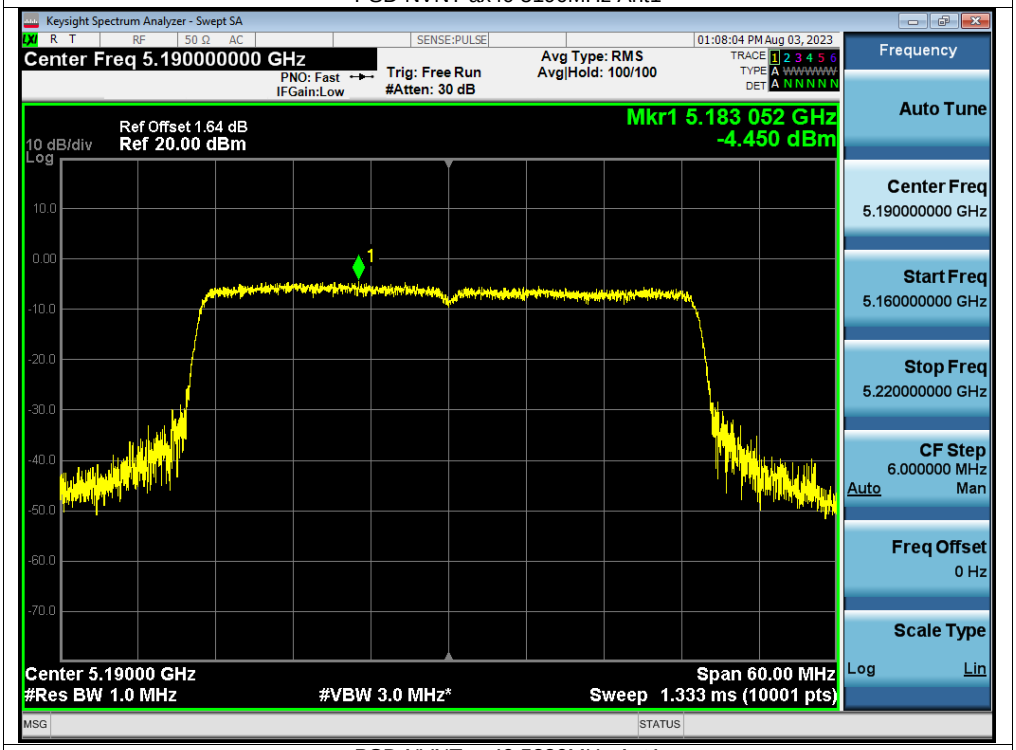
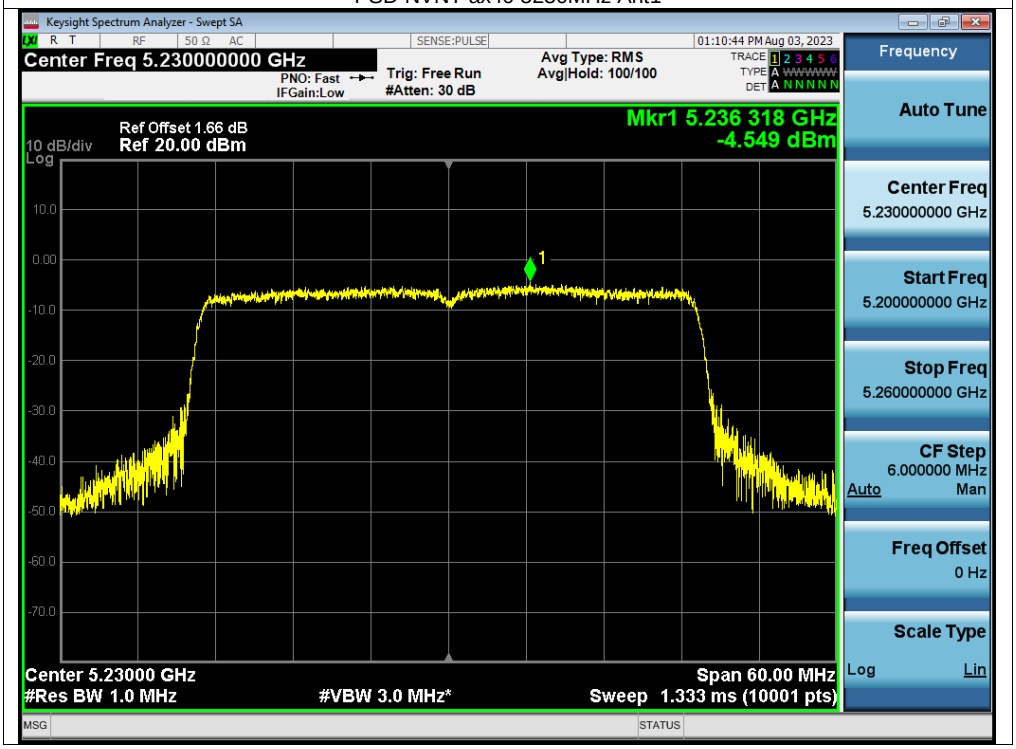


PSD NVNT ax20 5825MHz Ant1

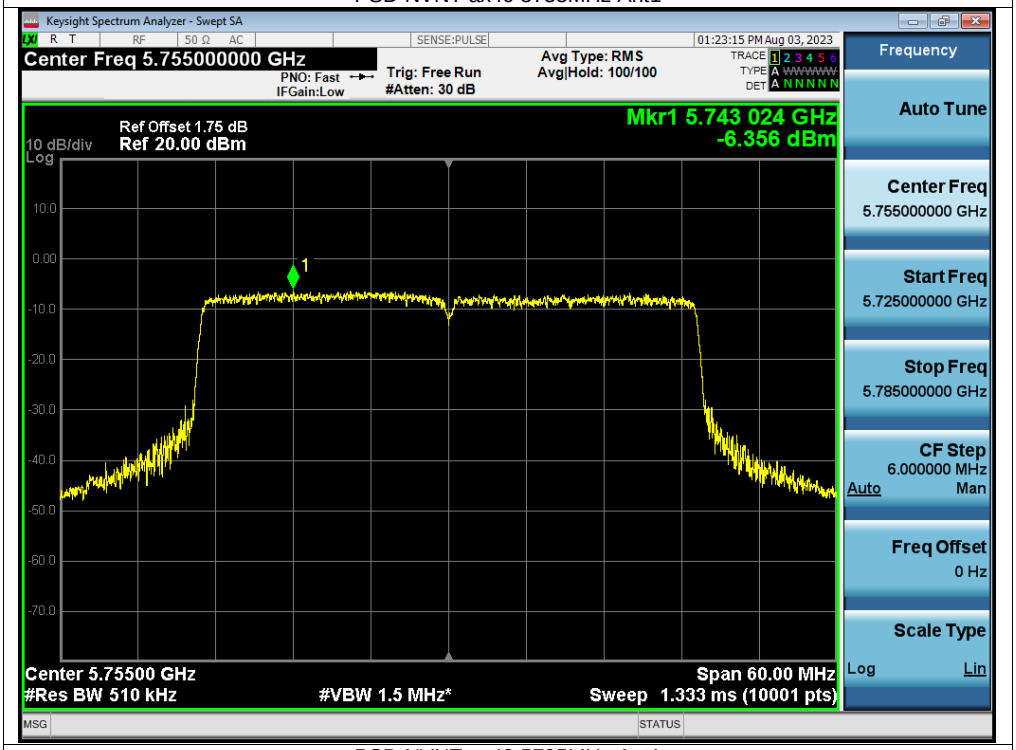
PSD NVNT ax40 5190MHz Ant1



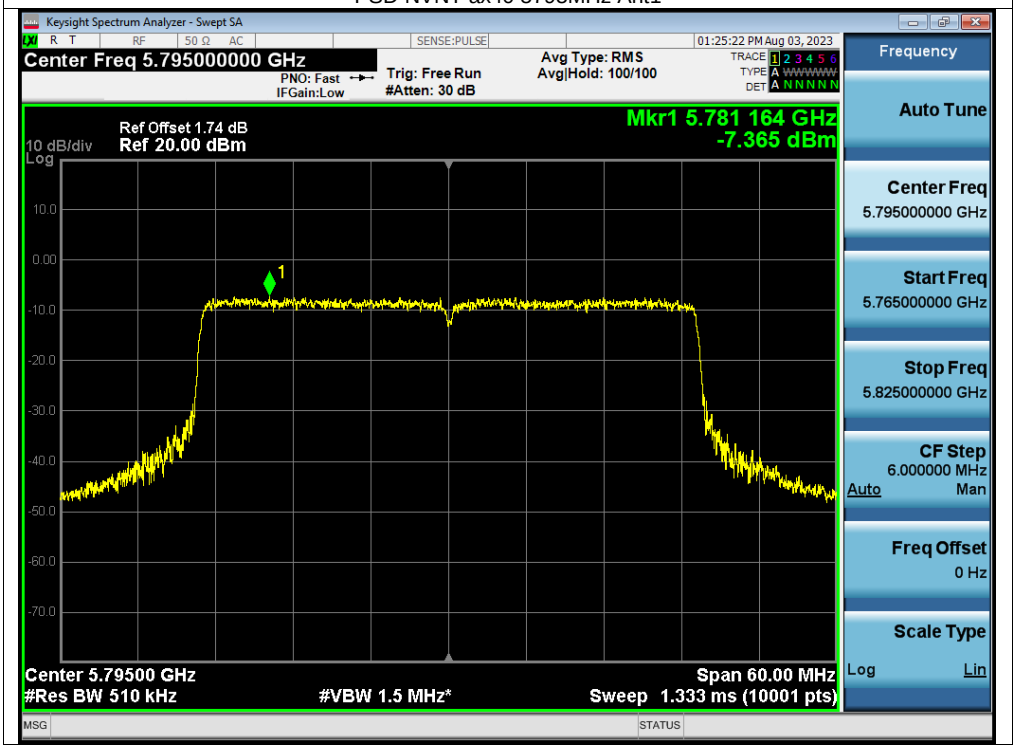
PSD NVNT ax40 5230MHz Ant1



PSD NVNT ax40 5755MHz Ant1



PSD NVNT ax40 5795MHz Ant1



Appendix E Frequency Stability

Condition	Mode	Time (mins)	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
20C 102V	a	0	5180	Ant1	5179.98	-20000	-3.86	25	Pass
20C 120V	a	0	5180	Ant1	5179.98	-20000	-3.86	25	Pass
20C 138V	a	0	5180	Ant1	5179.98	-20000	-3.86	25	Pass
-10C 120V	a	0	5180	Ant1	5179.98	-20000	-3.86	25	Pass
0C 120V	a	0	5180	Ant1	5179.98	-20000	-3.86	25	Pass
10C 120V	a	0	5180	Ant1	5180	0	0	25	Pass
30C 120V	a	0	5180	Ant1	5179.98	-20000	-3.86	25	Pass
40C 120V	a	0	5180	Ant1	5179.98	-20000	-3.86	25	Pass
20C 102V	a	0	5200	Ant1	5200	0	0	25	Pass
20C 120V	a	0	5200	Ant1	5200	0	0	25	Pass
20C 138V	a	0	5200	Ant1	5199.96	-40000	-7.69	25	Pass
-10C 120V	a	0	5200	Ant1	5200	0	0	25	Pass
0C 120V	a	0	5200	Ant1	5200	0	0	25	Pass
10C 120V	a	0	5200	Ant1	5199.98	-20000	-3.85	25	Pass
30C 120V	a	0	5200	Ant1	5200	0	0	25	Pass
40C 120V	a	0	5200	Ant1	5199.98	-20000	-3.85	25	Pass
20C 102V	a	0	5240	Ant1	5239.98	-20000	-3.82	25	Pass
20C 120V	a	0	5240	Ant1	5230	0	0	25	Pass
20C 138V	a	0	5240	Ant1	5239.98	-20000	-3.82	25	Pass
-10C 120V	a	0	5240	Ant1	5239.98	-20000	-3.82	25	Pass
0C 120V	a	0	5240	Ant1	5239.98	-20000	-3.82	25	Pass
10C 120V	a	0	5240	Ant1	5239.98	-20000	-3.82	25	Pass
30C 120V	a	0	5240	Ant1	5239.98	-20000	-3.82	25	Pass
40C 120V	a	0	5240	Ant1	5239.98	-20000	-3.82	25	Pass
20C 102V	a	0	5745	Ant1	5745	0	0	25	Pass
20C 120V	a	0	5745	Ant1	5745	0	0	25	Pass
20C 138V	a	0	5745	Ant1	5744.98	-20000	-3.48	25	Pass
-10C 120V	a	0	5745	Ant1	5745	0	0	25	Pass
0C 120V	a	0	5745	Ant1	5745	0	0	25	Pass
10C 120V	a	0	5745	Ant1	5745	0	0	25	Pass
30C 120V	a	0	5745	Ant1	5745	0	0	25	Pass
40C 120V	a	0	5745	Ant1	5744.98	-20000	-3.48	25	Pass
20C 102V	a	0	5785	Ant1	5784.96	-40000	-6.91	25	Pass
20C 120V	a	0	5785	Ant1	5784.98	-20000	-3.46	25	Pass
20C 138V	a	0	5785	Ant1	5785	0	0	25	Pass
-10C 120V	a	0	5785	Ant1	5784.98	-20000	-3.46	25	Pass
0C 120V	a	0	5785	Ant1	5784.98	-20000	-3.46	25	Pass
10C 120V	a	0	5785	Ant1	5784.98	-20000	-3.46	25	Pass
30C 120V	a	0	5785	Ant1	5784.96	-40000	-6.91	25	Pass
40C 120V	a	0	5785	Ant1	5784.98	-20000	-3.46	25	Pass
20C 102V	a	0	5825	Ant1	5824.98	-20000	-3.43	25	Pass
20C 120V	a	0	5825	Ant1	5824.98	-20000	-3.43	25	Pass
20C 138V	a	0	5825	Ant1	5824.98	-20000	-3.43	25	Pass
-10C 120V	a	0	5825	Ant1	5824.98	-20000	-3.43	25	Pass
0C 120V	a	0	5825	Ant1	5825	0	0	25	Pass
10C 120V	a	0	5825	Ant1	5824.98	-20000	-3.43	25	Pass
30C 120V	a	0	5825	Ant1	5824.98	-20000	-3.43	25	Pass
40C 120V	a	0	5825	Ant1	5824.98	-20000	-3.43	25	Pass
20C 102V	n20	0	5180	Ant1	5179.98	-20000	-3.86	25	Pass
20C 120V	n20	0	5180	Ant1	5180	0	0	25	Pass
20C 138V	n20	0	5180	Ant1	5179.98	-20000	-3.86	25	Pass
-10C 120V	n20	0	5180	Ant1	5180	0	0	25	Pass
0C 120V	n20	0	5180	Ant1	5179.98	-20000	-3.86	25	Pass
10C 120V	n20	0	5180	Ant1	5180	0	0	25	Pass
30C 120V	n20	0	5180	Ant1	5179.98	-20000	-3.86	25	Pass
40C 120V	n20	0	5180	Ant1	5180	0	0	25	Pass
20C 102V	n20	0	5200	Ant1	5199.98	-20000	-3.85	25	Pass
20C 120V	n20	0	5200	Ant1	5199.98	-20000	-3.85	25	Pass
20C 138V	n20	0	5200	Ant1	5200	0	0	25	Pass
-10C 120V	n20	0	5200	Ant1	5199.98	-20000	-3.85	25	Pass
0C 120V	n20	0	5200	Ant1	5200	0	0	25	Pass
10C 120V	n20	0	5200	Ant1	5199.98	-20000	-3.85	25	Pass

30C 120V	n20	0	5200	Ant1	5200	0	0	25	Pass
40C 120V	n20	0	5200	Ant1	5199.98	-20000	-3.85	25	Pass
20C 102V	n20	0	5240	Ant1	5239.98	-20000	-3.82	25	Pass
20C 120V	n20	0	5240	Ant1	5230	0	0	25	Pass
20C 138V	n20	0	5240	Ant1	5239.98	-20000	-3.82	25	Pass
-10C 120V	n20	0	5240	Ant1	5230	0	0	25	Pass
0C 120V	n20	0	5240	Ant1	5239.98	-20000	-3.82	25	Pass
10C 120V	n20	0	5240	Ant1	5230	0	0	25	Pass
30C 120V	n20	0	5240	Ant1	5230	0	0	25	Pass
40C 120V	n20	0	5240	Ant1	5239.98	-20000	-3.82	25	Pass
20C 102V	n20	0	5745	Ant1	5744.98	-20000	-3.48	25	Pass
20C 120V	n20	0	5745	Ant1	5744.98	-20000	-3.48	25	Pass
20C 138V	n20	0	5745	Ant1	5745	0	0	25	Pass
-10C 120V	n20	0	5745	Ant1	5745	0	0	25	Pass
0C 120V	n20	0	5745	Ant1	5745	0	0	25	Pass
10C 120V	n20	0	5745	Ant1	5744.98	-20000	-3.48	25	Pass
30C 120V	n20	0	5745	Ant1	5745	0	0	25	Pass
40C 120V	n20	0	5745	Ant1	5744.98	-20000	-3.48	25	Pass
20C 102V	n20	0	5785	Ant1	5785	0	0	25	Pass
20C 120V	n20	0	5785	Ant1	5785	0	0	25	Pass
20C 138V	n20	0	5785	Ant1	5785	0	0	25	Pass
-10C 120V	n20	0	5785	Ant1	5784.98	-20000	-3.46	25	Pass
0C 120V	n20	0	5785	Ant1	5785	0	0	25	Pass
10C 120V	n20	0	5785	Ant1	5784.98	-20000	-3.46	25	Pass
30C 120V	n20	0	5785	Ant1	5784.98	-20000	-3.46	25	Pass
40C 120V	n20	0	5785	Ant1	5785	0	0	25	Pass
20C 102V	n20	0	5825	Ant1	5824.98	-20000	-3.43	25	Pass
20C 120V	n20	0	5825	Ant1	5824.98	-20000	-3.43	25	Pass
20C 138V	n20	0	5825	Ant1	5824.98	-20000	-3.43	25	Pass
-10C 120V	n20	0	5825	Ant1	5825	0	0	25	Pass
0C 120V	n20	0	5825	Ant1	5824.98	-20000	-3.43	25	Pass
10C 120V	n20	0	5825	Ant1	5825	0	0	25	Pass
30C 120V	n20	0	5825	Ant1	5825	0	0	25	Pass
40C 120V	n20	0	5825	Ant1	5824.98	-20000	-3.43	25	Pass
20C 102V	n40	0	5190	Ant1	5190	0	0	25	Pass
20C 120V	n40	0	5190	Ant1	5189.96	-40000	-7.71	25	Pass
20C 138V	n40	0	5190	Ant1	5189.96	-40000	-7.71	25	Pass
-10C 120V	n40	0	5190	Ant1	5189.96	-40000	-7.71	25	Pass
0C 120V	n40	0	5190	Ant1	5189.96	-40000	-7.71	25	Pass
10C 120V	n40	0	5190	Ant1	5189.96	-40000	-7.71	25	Pass
30C 120V	n40	0	5190	Ant1	5190	0	0	25	Pass
40C 120V	n40	0	5190	Ant1	5189.96	-40000	-7.71	25	Pass
20C 102V	n40	0	5230	Ant1	5230	0	0	25	Pass
20C 120V	n40	0	5230	Ant1	5230	0	0	25	Pass
20C 138V	n40	0	5230	Ant1	5229.96	-40000	-7.65	25	Pass
-10C 120V	n40	0	5230	Ant1	5230	0	0	25	Pass
0C 120V	n40	0	5230	Ant1	5230	0	0	25	Pass
10C 120V	n40	0	5230	Ant1	5230	0	0	25	Pass
30C 120V	n40	0	5230	Ant1	5230	0	0	25	Pass
40C 120V	n40	0	5230	Ant1	5230	0	0	25	Pass
20C 102V	n40	0	5755	Ant1	5754.96	-40000	-6.95	25	Pass
20C 120V	n40	0	5755	Ant1	5754.96	-40000	-6.95	25	Pass
20C 138V	n40	0	5755	Ant1	5754.96	-40000	-6.95	25	Pass
-10C 120V	n40	0	5755	Ant1	5755	0	0	25	Pass
0C 120V	n40	0	5755	Ant1	5754.96	-40000	-6.95	25	Pass
10C 120V	n40	0	5755	Ant1	5754.96	-40000	-6.95	25	Pass
30C 120V	n40	0	5755	Ant1	5755	0	0	25	Pass
40C 120V	n40	0	5755	Ant1	5755	0	0	25	Pass
20C 102V	n40	0	5795	Ant1	5795	0	0	25	Pass
20C 120V	n40	0	5795	Ant1	5794.96	-40000	-6.9	25	Pass
20C 138V	n40	0	5795	Ant1	5794.96	-40000	-6.9	25	Pass
-10C 120V	n40	0	5795	Ant1	5795	0	0	25	Pass
0C 120V	n40	0	5795	Ant1	5794.96	-40000	-6.9	25	Pass
10C 120V	n40	0	5795	Ant1	5794.96	-40000	-6.9	25	Pass
30C 120V	n40	0	5795	Ant1	5795	0	0	25	Pass
40C 120V	n40	0	5795	Ant1	5794.96	-40000	-6.9	25	Pass

20C 102V	ac20	0	5180	Ant1	5179.98	-20000	-3.86	25	Pass
20C 120V	ac20	0	5180	Ant1	5179.98	-20000	-3.86	25	Pass
20C 138V	ac20	0	5180	Ant1	5179.98	-20000	-3.86	25	Pass
-10C 120V	ac20	0	5180	Ant1	5179.98	-20000	-3.86	25	Pass
0C 120V	ac20	0	5180	Ant1	5179.98	-20000	-3.86	25	Pass
10C 120V	ac20	0	5180	Ant1	5180	0	0	25	Pass
30C 120V	ac20	0	5180	Ant1	5179.98	-20000	-3.86	25	Pass
40C 120V	ac20	0	5180	Ant1	5179.98	-20000	-3.86	25	Pass
20C 102V	ac20	0	5200	Ant1	5199.98	-20000	-3.85	25	Pass
20C 120V	ac20	0	5200	Ant1	5199.98	-20000	-3.85	25	Pass
20C 138V	ac20	0	5200	Ant1	5199.98	-20000	-3.85	25	Pass
-10C 120V	ac20	0	5200	Ant1	5199.98	-20000	-3.85	25	Pass
0C 120V	ac20	0	5200	Ant1	5199.98	-20000	-3.85	25	Pass
10C 120V	ac20	0	5200	Ant1	5199.98	-20000	-3.85	25	Pass
30C 120V	ac20	0	5200	Ant1	5199.98	-20000	-3.85	25	Pass
40C 120V	ac20	0	5200	Ant1	5199.98	-20000	-3.85	25	Pass
20C 102V	ac20	0	5240	Ant1	5230	0	0	25	Pass
20C 120V	ac20	0	5240	Ant1	5239.98	-20000	-3.82	25	Pass
20C 138V	ac20	0	5240	Ant1	5239.98	-20000	-3.82	25	Pass
-10C 120V	ac20	0	5240	Ant1	5239.98	-20000	-3.82	25	Pass
0C 120V	ac20	0	5240	Ant1	5239.98	-20000	-3.82	25	Pass
10C 120V	ac20	0	5240	Ant1	5239.98	-20000	-3.82	25	Pass
30C 120V	ac20	0	5240	Ant1	5239.98	-20000	-3.82	25	Pass
40C 120V	ac20	0	5240	Ant1	5239.98	-20000	-3.82	25	Pass
20C 102V	ac20	0	5745	Ant1	5744.98	-20000	-3.48	25	Pass
20C 120V	ac20	0	5745	Ant1	5744.98	-20000	-3.48	25	Pass
20C 138V	ac20	0	5745	Ant1	5744.98	-20000	-3.48	25	Pass
-10C 120V	ac20	0	5745	Ant1	5744.98	-20000	-3.48	25	Pass
0C 120V	ac20	0	5745	Ant1	5744.98	-20000	-3.48	25	Pass
10C 120V	ac20	0	5745	Ant1	5745	0	0	25	Pass
30C 120V	ac20	0	5745	Ant1	5744.98	-20000	-3.48	25	Pass
40C 120V	ac20	0	5745	Ant1	5744.98	-20000	-3.48	25	Pass
20C 102V	ac20	0	5785	Ant1	5784.98	-20000	-3.46	25	Pass
20C 120V	ac20	0	5785	Ant1	5785	0	0	25	Pass
20C 138V	ac20	0	5785	Ant1	5784.98	-20000	-3.46	25	Pass
-10C 120V	ac20	0	5785	Ant1	5784.98	-20000	-3.46	25	Pass
0C 120V	ac20	0	5785	Ant1	5784.98	-20000	-3.46	25	Pass
10C 120V	ac20	0	5785	Ant1	5784.98	-20000	-3.46	25	Pass
30C 120V	ac20	0	5785	Ant1	5784.98	-20000	-3.46	25	Pass
40C 120V	ac20	0	5785	Ant1	5784.98	-20000	-3.46	25	Pass
20C 102V	ac20	0	5825	Ant1	5825	0	0	25	Pass
20C 120V	ac20	0	5825	Ant1	5824.98	-20000	-3.43	25	Pass
20C 138V	ac20	0	5825	Ant1	5825	0	0	25	Pass
-10C 120V	ac20	0	5825	Ant1	5824.98	-20000	-3.43	25	Pass
0C 120V	ac20	0	5825	Ant1	5824.98	-20000	-3.43	25	Pass
10C 120V	ac20	0	5825	Ant1	5824.98	-20000	-3.43	25	Pass
30C 120V	ac20	0	5825	Ant1	5824.98	-20000	-3.43	25	Pass
40C 120V	ac20	0	5825	Ant1	5824.98	-20000	-3.43	25	Pass
20C 102V	ac40	0	5190	Ant1	5190	0	0	25	Pass
20C 120V	ac40	0	5190	Ant1	5190	0	0	25	Pass
20C 138V	ac40	0	5190	Ant1	5190	0	0	25	Pass
-10C 120V	ac40	0	5190	Ant1	5189.96	-40000	-7.71	25	Pass
0C 120V	ac40	0	5190	Ant1	5190	0	0	25	Pass
10C 120V	ac40	0	5190	Ant1	5189.92	-80000	-15.41	25	Pass
30C 120V	ac40	0	5190	Ant1	5190	0	0	25	Pass
40C 120V	ac40	0	5190	Ant1	5190	0	0	25	Pass
20C 102V	ac40	0	5230	Ant1	5230	0	0	25	Pass
20C 120V	ac40	0	5230	Ant1	5230	0	0	25	Pass
20C 138V	ac40	0	5230	Ant1	5230	0	0	25	Pass
-10C 120V	ac40	0	5230	Ant1	5230	0	0	25	Pass
0C 120V	ac40	0	5230	Ant1	5230	0	0	25	Pass
10C 120V	ac40	0	5230	Ant1	5230	0	0	25	Pass
30C 120V	ac40	0	5230	Ant1	5230	0	0	25	Pass
40C 120V	ac40	0	5230	Ant1	5230	0	0	25	Pass
20C 102V	ac40	0	5755	Ant1	5755	0	0	25	Pass
20C 120V	ac40	0	5755	Ant1	5755	0	0	25	Pass

20C 138V	ac40	0	5755	Ant1	5755	0	0	25	Pass
-10C 120V	ac40	0	5755	Ant1	5755	0	0	25	Pass
0C 120V	ac40	0	5755	Ant1	5755	0	0	25	Pass
10C 120V	ac40	0	5755	Ant1	5755	0	0	25	Pass
30C 120V	ac40	0	5755	Ant1	5755	0	0	25	Pass
40C 120V	ac40	0	5755	Ant1	5755	0	0	25	Pass
20C 102V	ac40	0	5795	Ant1	5795	0	0	25	Pass
20C 120V	ac40	0	5795	Ant1	5795	0	0	25	Pass
20C 138V	ac40	0	5795	Ant1	5795	0	0	25	Pass
-10C 120V	ac40	0	5795	Ant1	5795	0	0	25	Pass
0C 120V	ac40	0	5795	Ant1	5795	0	0	25	Pass
10C 120V	ac40	0	5795	Ant1	5795	0	0	25	Pass
30C 120V	ac40	0	5795	Ant1	5795	0	0	25	Pass
40C 120V	ac40	0	5795	Ant1	5795	0	0	25	Pass
20C 102V	ax20	0	5180	Ant1	5179.98	-20000	-3.86	25	Pass
20C 120V	ax20	0	5180	Ant1	5179.98	-20000	-3.86	25	Pass
20C 138V	ax20	0	5180	Ant1	5179.98	-20000	-3.86	25	Pass
-10C 120V	ax20	0	5180	Ant1	5179.98	-20000	-3.86	25	Pass
0C 120V	ax20	0	5180	Ant1	5179.98	-20000	-3.86	25	Pass
10C 120V	ax20	0	5180	Ant1	5179.98	-20000	-3.86	25	Pass
30C 120V	ax20	0	5180	Ant1	5179.98	-20000	-3.86	25	Pass
40C 120V	ax20	0	5180	Ant1	5179.98	-20000	-3.86	25	Pass
20C 102V	ax20	0	5200	Ant1	5199.98	-20000	-3.85	25	Pass
20C 120V	ax20	0	5200	Ant1	5200	0	0	25	Pass
20C 138V	ax20	0	5200	Ant1	5200	0	0	25	Pass
-10C 120V	ax20	0	5200	Ant1	5199.98	-20000	-3.85	25	Pass
0C 120V	ax20	0	5200	Ant1	5200	0	0	25	Pass
10C 120V	ax20	0	5200	Ant1	5199.98	-20000	-3.85	25	Pass
30C 120V	ax20	0	5200	Ant1	5199.98	-20000	-3.85	25	Pass
40C 120V	ax20	0	5200	Ant1	5199.98	-20000	-3.85	25	Pass
20C 102V	ax20	0	5240	Ant1	5239.98	-20000	-3.82	25	Pass
20C 120V	ax20	0	5240	Ant1	5239.98	-20000	-3.82	25	Pass
20C 138V	ax20	0	5240	Ant1	5239.98	-20000	-3.82	25	Pass
-10C 120V	ax20	0	5240	Ant1	5239.98	-20000	-3.82	25	Pass
0C 120V	ax20	0	5240	Ant1	5239.98	-20000	-3.82	25	Pass
10C 120V	ax20	0	5240	Ant1	5230	0	0	25	Pass
30C 120V	ax20	0	5240	Ant1	5239.98	-20000	-3.82	25	Pass
40C 120V	ax20	0	5240	Ant1	5239.98	-20000	-3.82	25	Pass
20C 102V	ax20	0	5745	Ant1	5744.98	-20000	-3.48	25	Pass
20C 120V	ax20	0	5745	Ant1	5744.98	-20000	-3.48	25	Pass
20C 138V	ax20	0	5745	Ant1	5744.98	-20000	-3.48	25	Pass
-10C 120V	ax20	0	5745	Ant1	5744.98	-20000	-3.48	25	Pass
0C 120V	ax20	0	5745	Ant1	5744.98	-20000	-3.48	25	Pass
10C 120V	ax20	0	5745	Ant1	5744.98	-20000	-3.48	25	Pass
30C 120V	ax20	0	5745	Ant1	5744.98	-20000	-3.48	25	Pass
40C 120V	ax20	0	5745	Ant1	5744.98	-20000	-3.48	25	Pass
50C 120V	ax20	0	5745	Ant1	5744.98	-20000	-3.48	25	Pass
20C 102V	ax20	0	5785	Ant1	5784.98	-20000	-3.46	25	Pass
20C 120V	ax20	0	5785	Ant1	5784.98	-20000	-3.46	25	Pass
20C 138V	ax20	0	5785	Ant1	5784.98	-20000	-3.46	25	Pass
-20C 120V	ax20	0	5785	Ant1	5784.98	-20000	-3.46	25	Pass
-10C 120V	ax20	0	5785	Ant1	5784.98	-20000	-3.46	25	Pass
0C 120V	ax20	0	5785	Ant1	5784.98	-20000	-3.46	25	Pass
10C 120V	ax20	0	5785	Ant1	5784.98	-20000	-3.46	25	Pass
30C 120V	ax20	0	5785	Ant1	5784.98	-20000	-3.46	25	Pass
40C 120V	ax20	0	5785	Ant1	5784.98	-20000	-3.46	25	Pass
20C 102V	ax20	0	5825	Ant1	5824.98	-20000	-3.43	25	Pass
20C 120V	ax20	0	5825	Ant1	5824.98	-20000	-3.43	25	Pass
20C 138V	ax20	0	5825	Ant1	5824.98	-20000	-3.43	25	Pass
-10C 120V	ax20	0	5825	Ant1	5825	0	0	25	Pass
0C 120V	ax20	0	5825	Ant1	5824.98	-20000	-3.43	25	Pass
10C 120V	ax20	0	5825	Ant1	5824.98	-20000	-3.43	25	Pass
30C 120V	ax20	0	5825	Ant1	5824.98	-20000	-3.43	25	Pass
40C 120V	ax20	0	5825	Ant1	5824.98	-20000	-3.43	25	Pass
20C 102V	ax40	0	5190	Ant1	5190	0	0	25	Pass

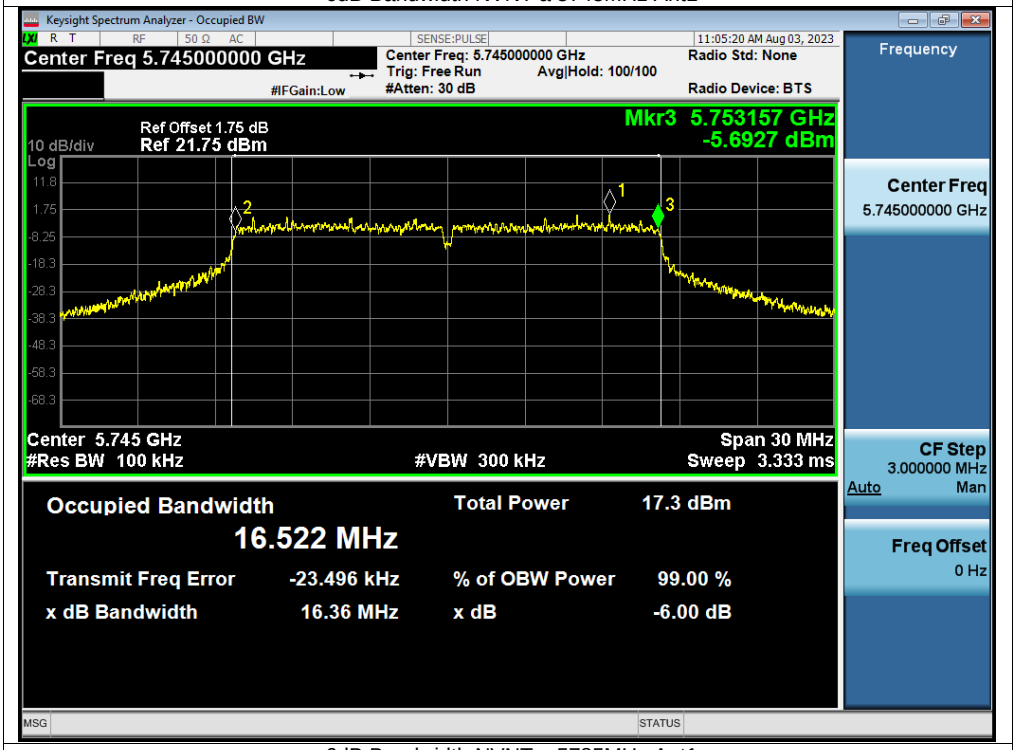
20C 120V	ax40	0	5190	Ant1	5189.96	-40000	-7.71	25	Pass
20C 138V	ax40	0	5190	Ant1	5189.96	-40000	-7.71	25	Pass
-10C 120V	ax40	0	5190	Ant1	5190	0	0	25	Pass
0C 120V	ax40	0	5190	Ant1	5190	0	0	25	Pass
10C 120V	ax40	0	5190	Ant1	5189.96	-40000	-7.71	25	Pass
30C 120V	ax40	0	5190	Ant1	5189.96	-40000	-7.71	25	Pass
40C 120V	ax40	0	5190	Ant1	5189.96	-40000	-7.71	25	Pass
20C 102V	ax40	0	5230	Ant1	5230	0	0	25	Pass
20C 120V	ax40	0	5230	Ant1	5230	0	0	25	Pass
20C 138V	ax40	0	5230	Ant1	5230	0	0	25	Pass
-10C 120V	ax40	0	5230	Ant1	5230	0	0	25	Pass
0C 120V	ax40	0	5230	Ant1	5229.96	-40000	-7.65	25	Pass
10C 120V	ax40	0	5230	Ant1	5230	0	0	25	Pass
30C 120V	ax40	0	5230	Ant1	5230	0	0	25	Pass
40C 120V	ax40	0	5230	Ant1	5230	0	0	25	Pass
20C 102V	ax40	0	5755	Ant1	5755	0	0	25	Pass
20C 120V	ax40	0	5755	Ant1	5755	0	0	25	Pass
20C 138V	ax40	0	5755	Ant1	5754.96	-40000	-6.95	25	Pass
-10C 120V	ax40	0	5755	Ant1	5754.96	-40000	-6.95	25	Pass
0C 120V	ax40	0	5755	Ant1	5754.96	-40000	-6.95	25	Pass
10C 120V	ax40	0	5755	Ant1	5754.96	-40000	-6.95	25	Pass
30C 120V	ax40	0	5755	Ant1	5755	0	0	25	Pass
40C 120V	ax40	0	5755	Ant1	5754.96	-40000	-6.95	25	Pass
20C 102V	ax40	0	5795	Ant1	5795	0	0	25	Pass
20C 120V	ax40	0	5795	Ant1	5794.96	-40000	-6.9	25	Pass
20C 138V	ax40	0	5795	Ant1	5794.96	-40000	-6.9	25	Pass
-10C 120V	ax40	0	5795	Ant1	5795	0	0	25	Pass
0C 120V	ax40	0	5795	Ant1	5795	0	0	25	Pass
10C 120V	ax40	0	5795	Ant1	5795	0	0	25	Pass
30C 120V	ax40	0	5795	Ant1	5794.96	-40000	-6.9	25	Pass
40C 120V	ax40	0	5795	Ant1	5794.96	-40000	-6.9	25	Pass

Appendix F -6dB Bandwidth

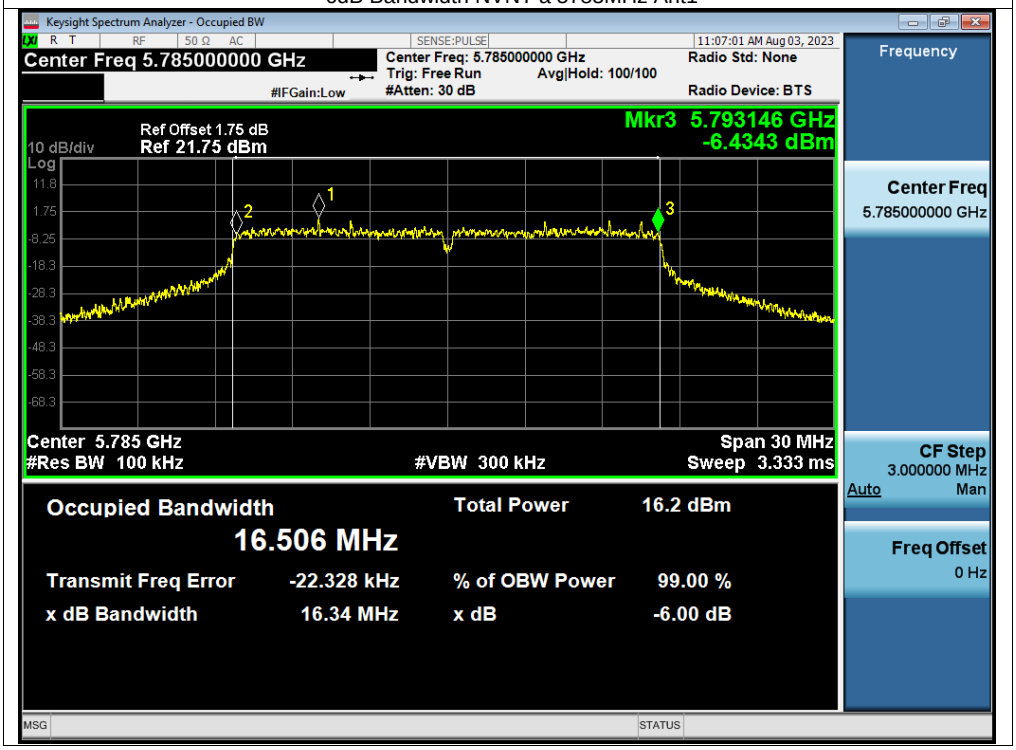
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	a	5745	Ant1	16.36	0.5	Pass
NVNT	a	5785	Ant1	16.337	0.5	Pass
NVNT	a	5825	Ant1	16.334	0.5	Pass
NVNT	n20	5745	Ant1	17.57	0.5	Pass
NVNT	n20	5785	Ant1	17.623	0.5	Pass
NVNT	n20	5825	Ant1	17.574	0.5	Pass
NVNT	n40	5755	Ant1	36.293	0.5	Pass
NVNT	n40	5795	Ant1	36.342	0.5	Pass
NVNT	ac20	5745	Ant1	17.571	0.5	Pass
NVNT	ac20	5785	Ant1	17.567	0.5	Pass
NVNT	ac20	5825	Ant1	17.573	0.5	Pass
NVNT	ac40	5755	Ant1	36.33	0.5	Pass
NVNT	ac40	5795	Ant1	36.278	0.5	Pass
NVNT	ax20	5745	Ant1	18.954	0.5	Pass
NVNT	ax20	5785	Ant1	18.863	0.5	Pass
NVNT	ax20	5825	Ant1	18.991	0.5	Pass
NVNT	ax40	5755	Ant1	38.028	0.5	Pass
NVNT	ax40	5795	Ant1	38.097	0.5	Pass

Test Graphs

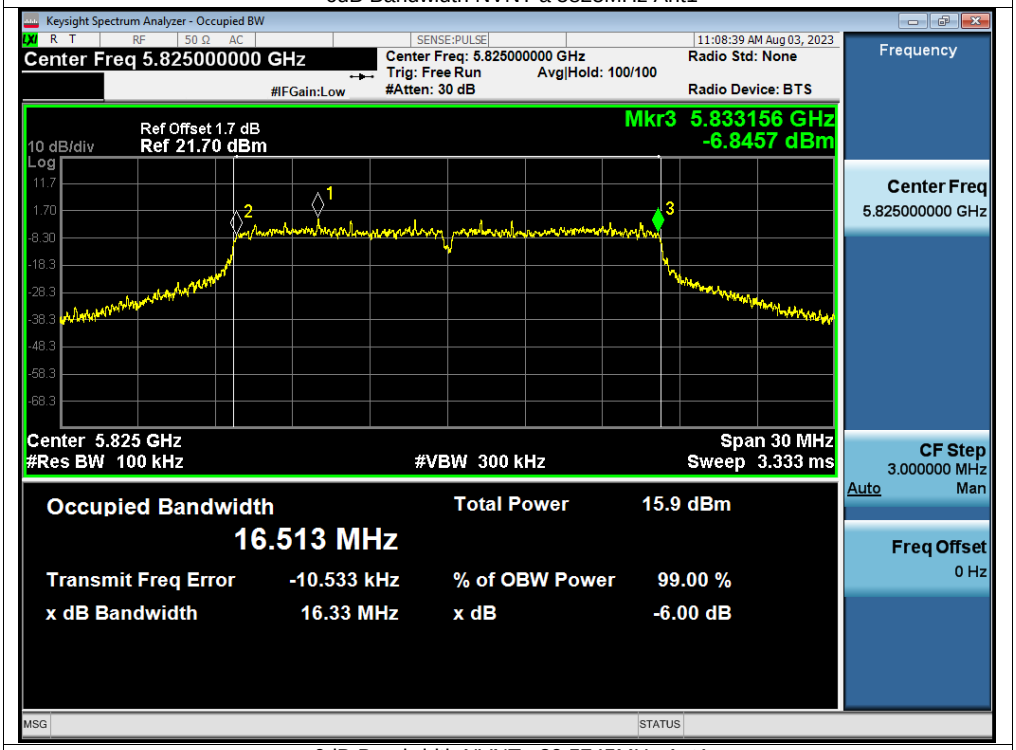
-6dB Bandwidth NVNT a 5745MHz Ant1



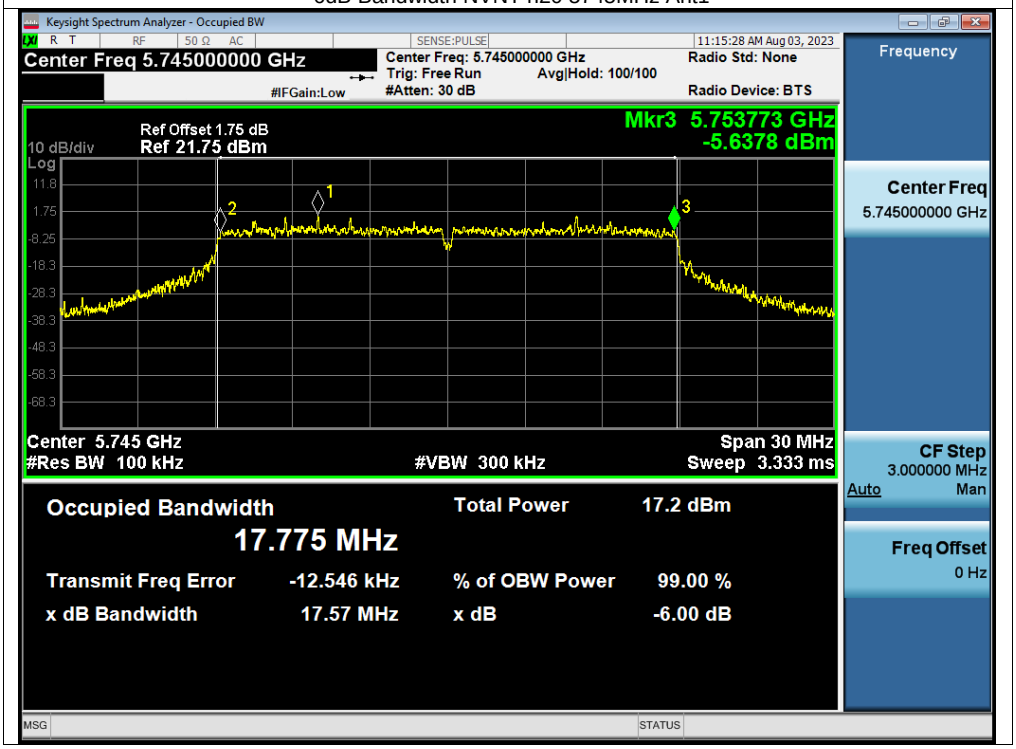
-6dB Bandwidth NVNT a 5785MHz Ant1



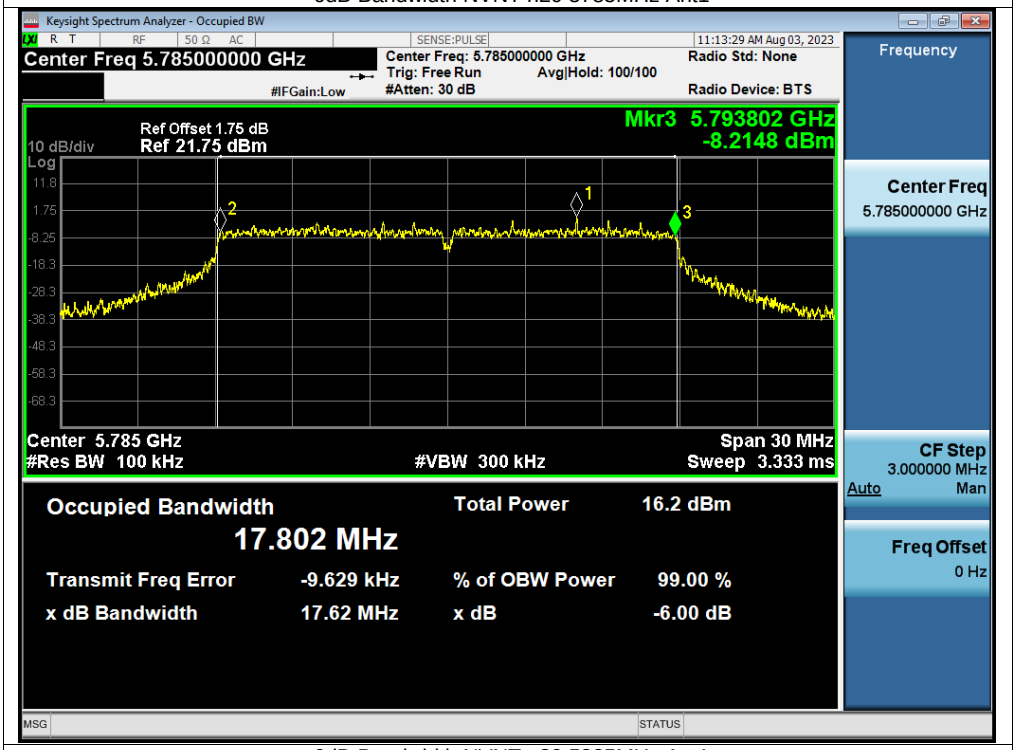
-6dB Bandwidth NVNT a 5825MHz Ant1



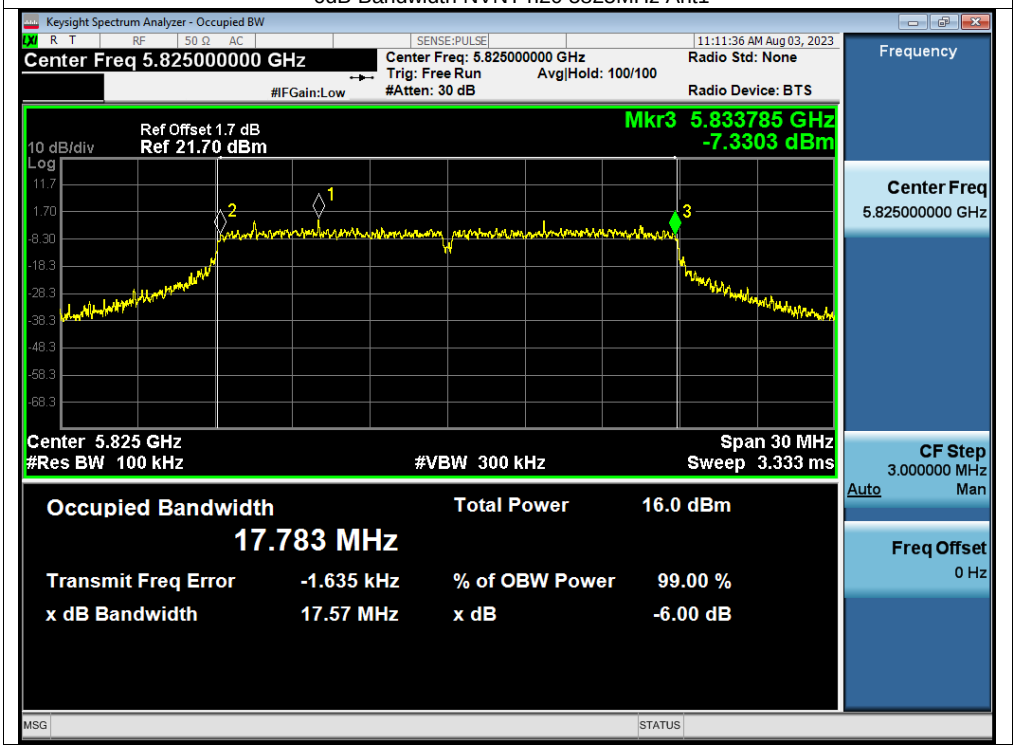
-6dB Bandwidth NVNT n20 5745MHz Ant1



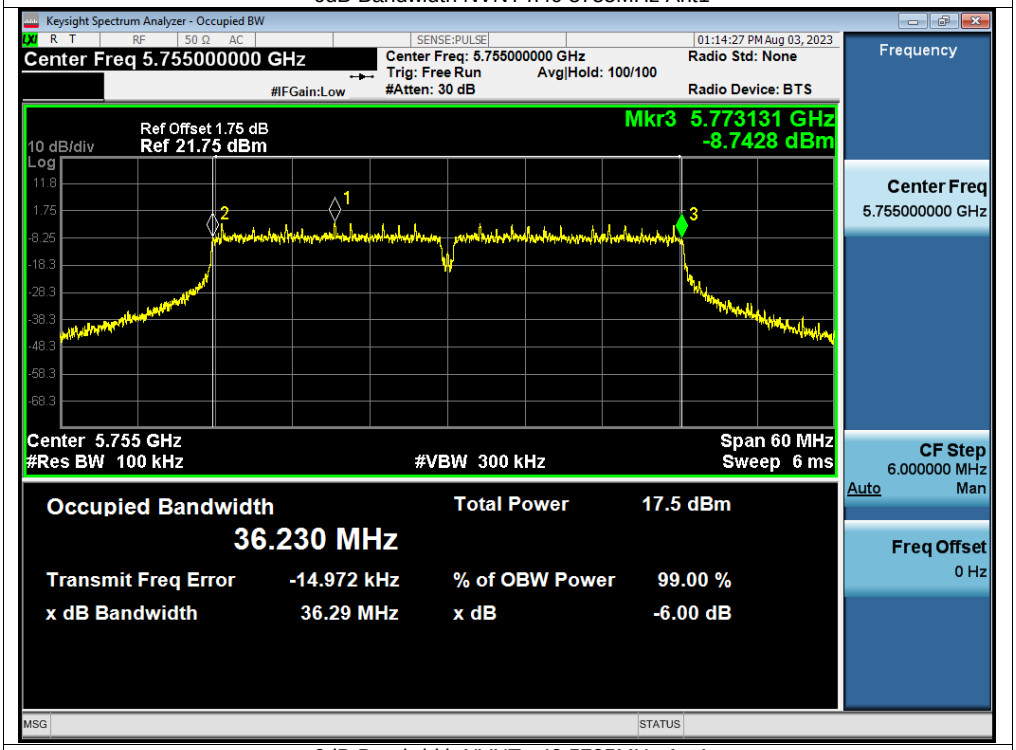
-6dB Bandwidth NVNT n20 5785MHz Ant1



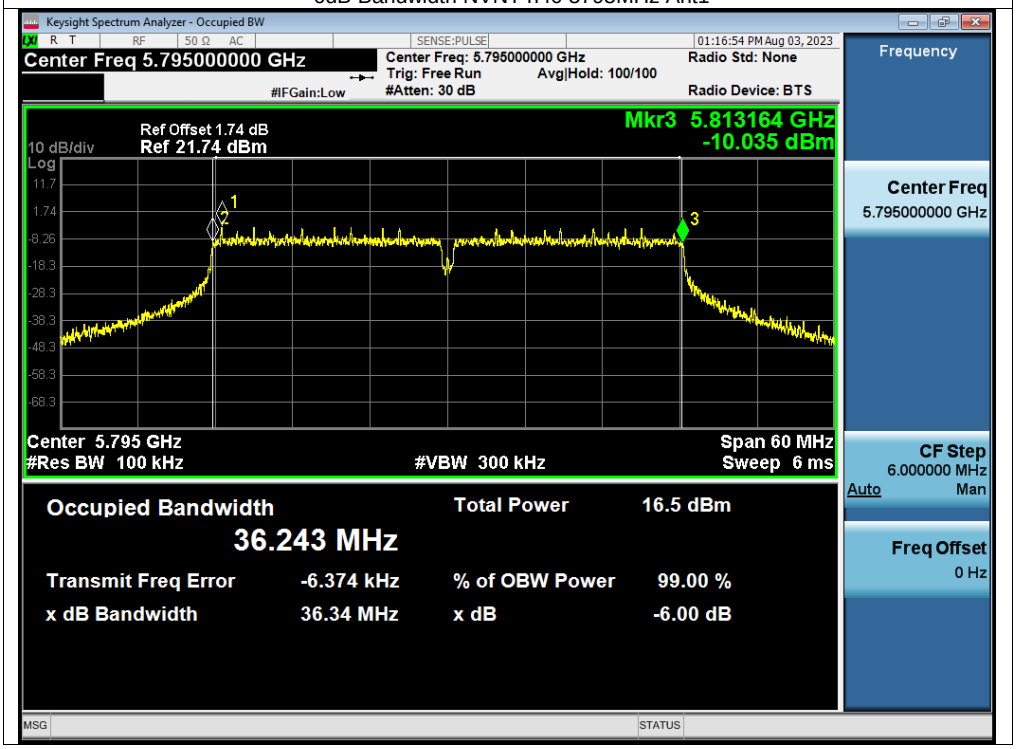
-6dB Bandwidth NVNT n20 5825MHz Ant1



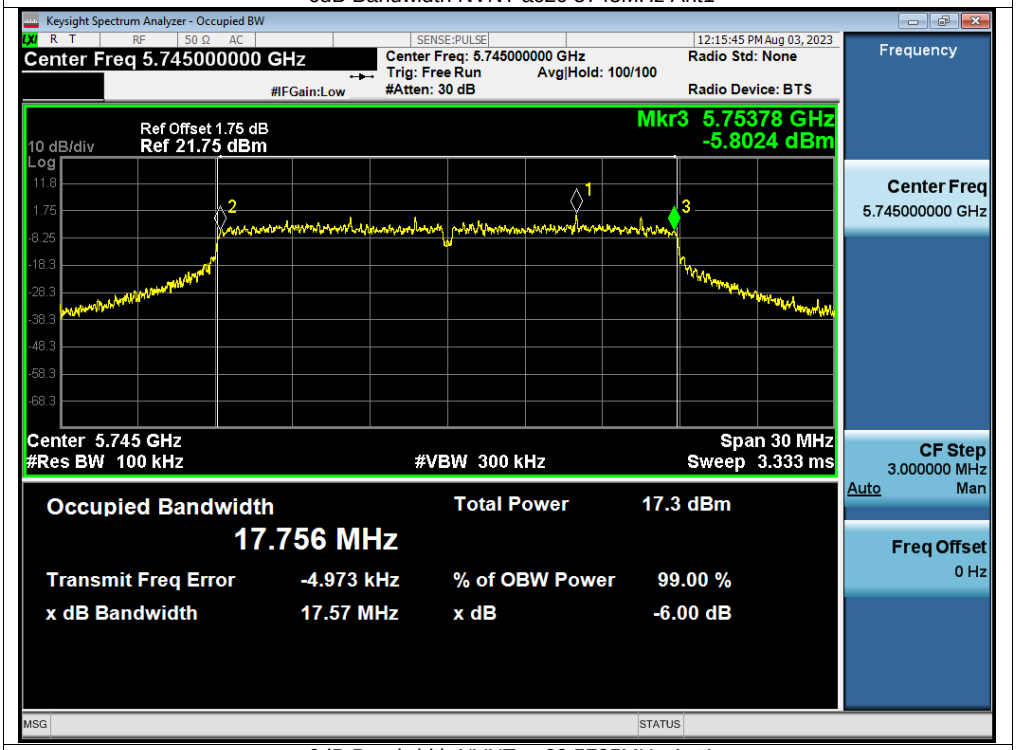
-6dB Bandwidth NVNT n40 5755MHz Ant1



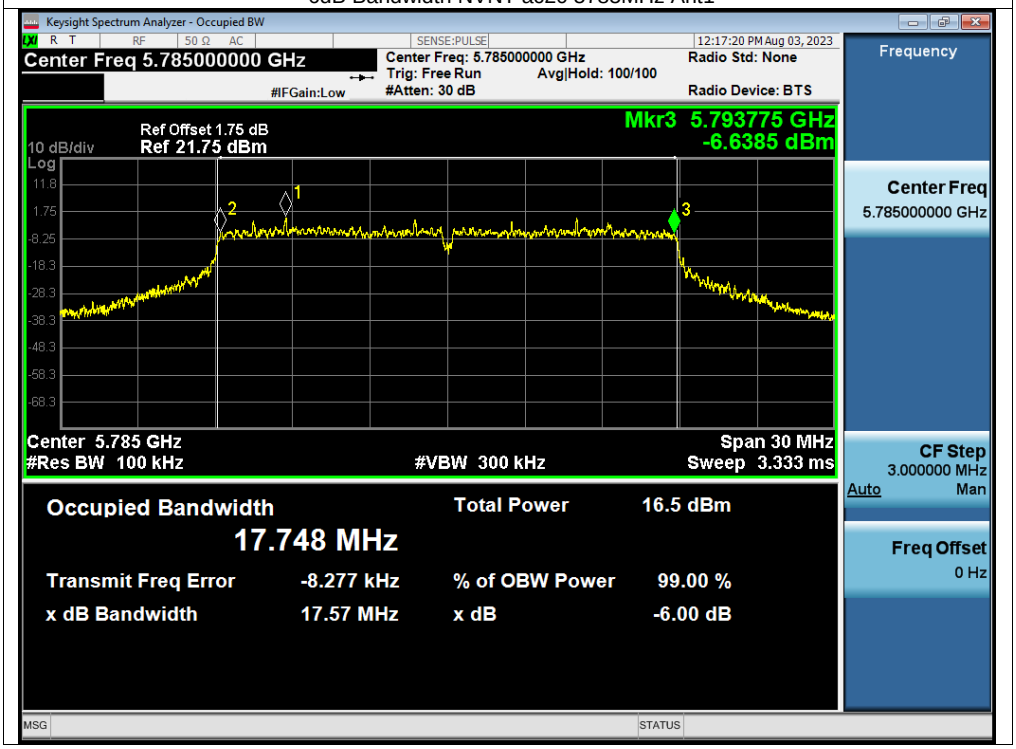
-6dB Bandwidth NVNT n40 5795MHz Ant1



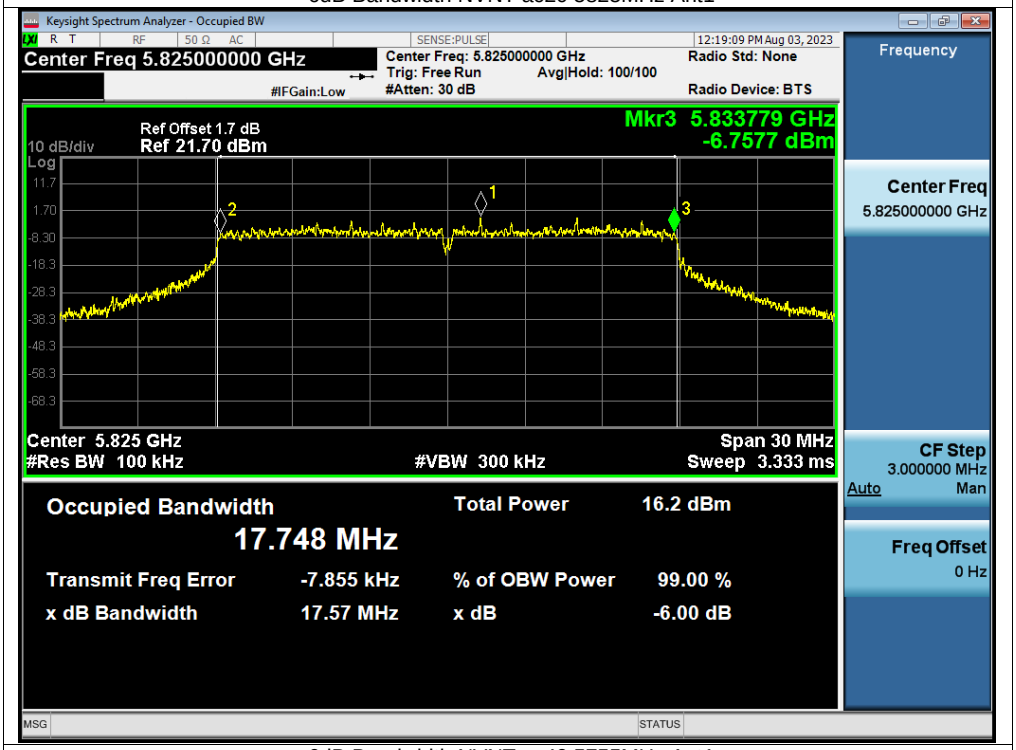
-6dB Bandwidth NVNT ac20 5745MHz Ant1



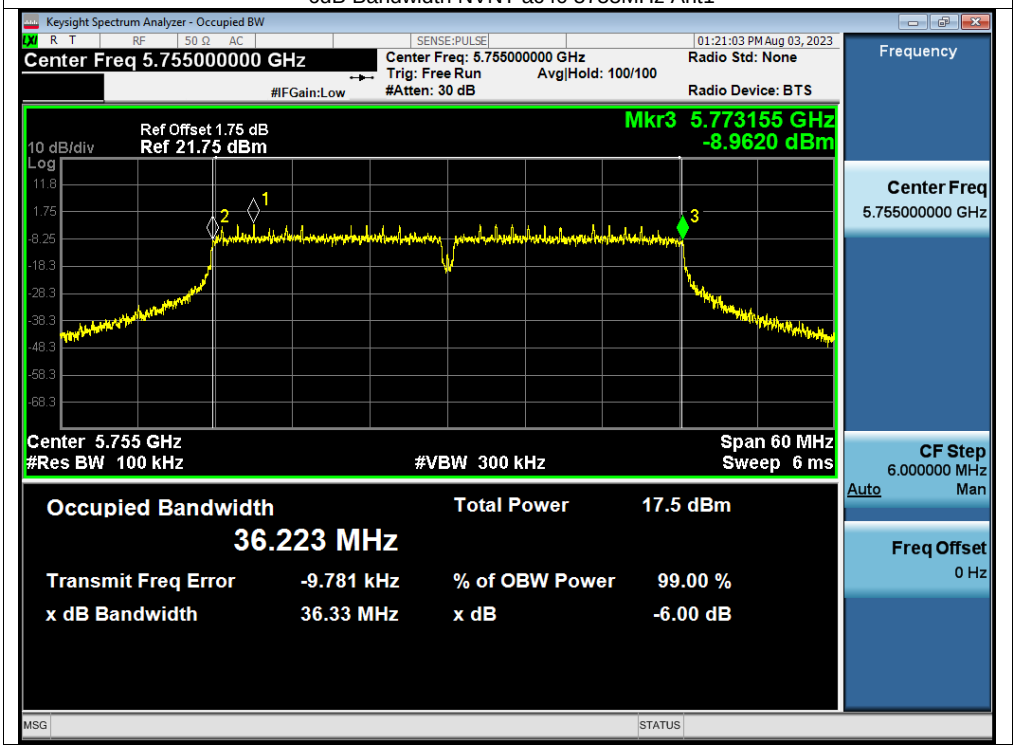
-6dB Bandwidth NVNT ac20 5785MHz Ant1



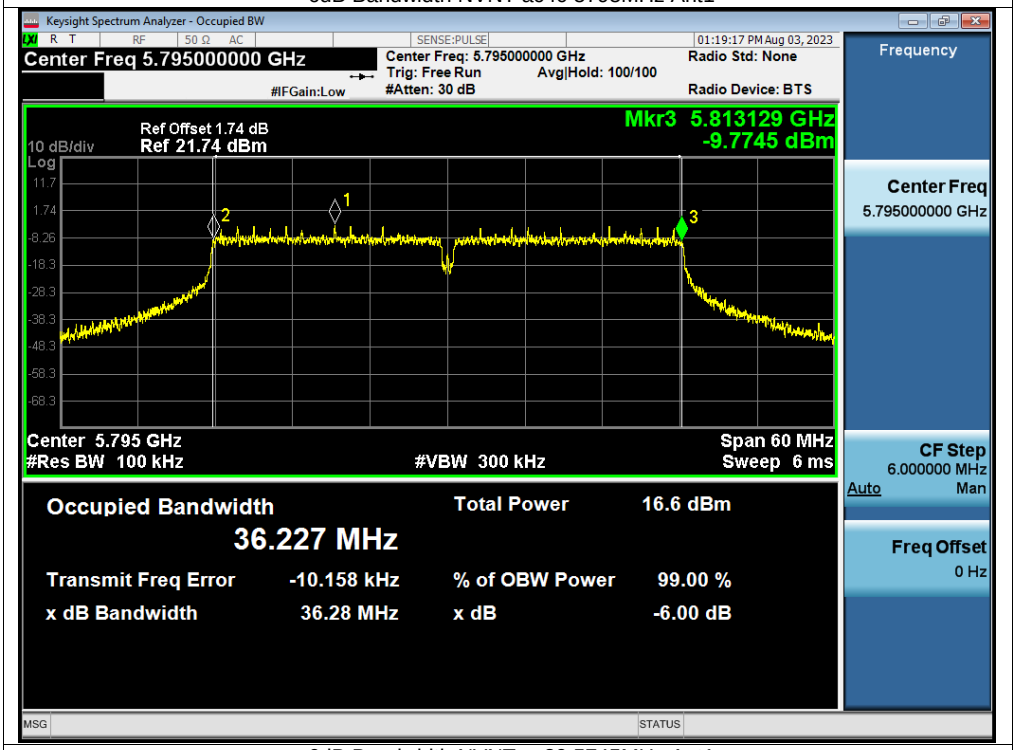
-6dB Bandwidth NVNT ac20 5825MHz Ant1



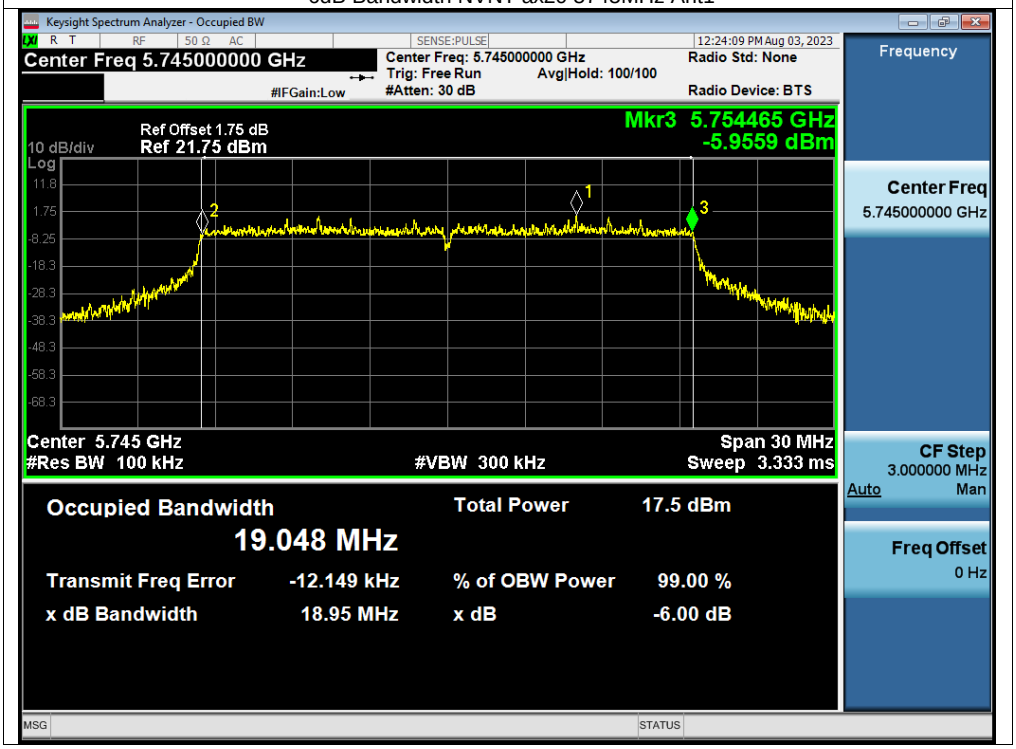
-6dB Bandwidth NVNT ac40 5755MHz Ant1



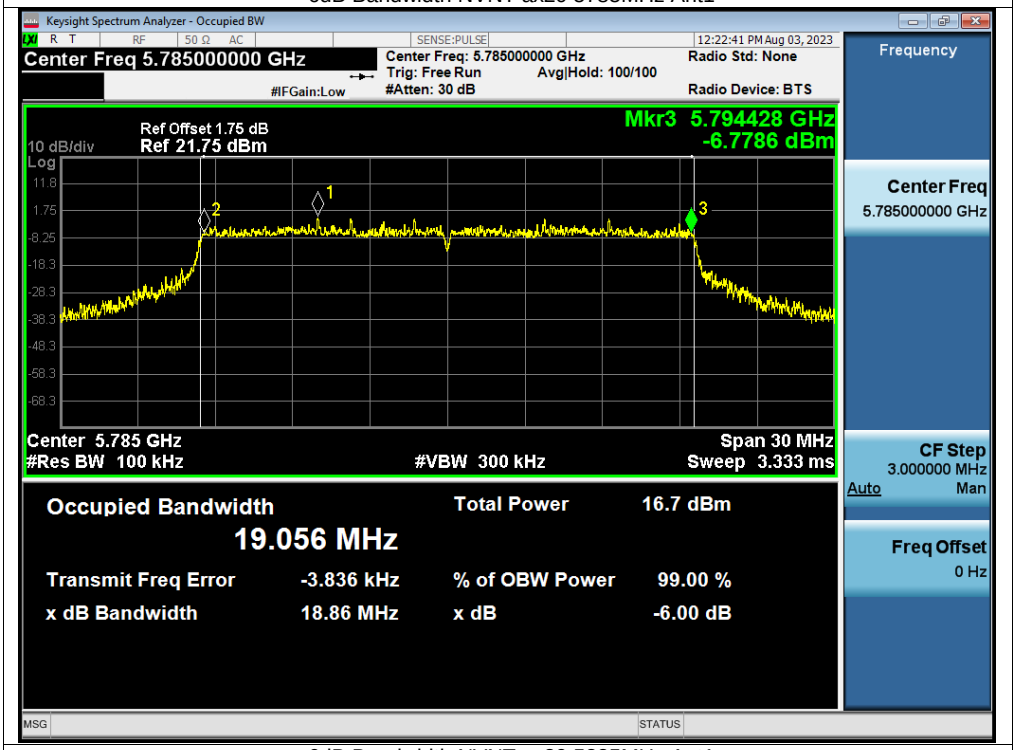
-6dB Bandwidth NVNT ac40 5795MHz Ant1



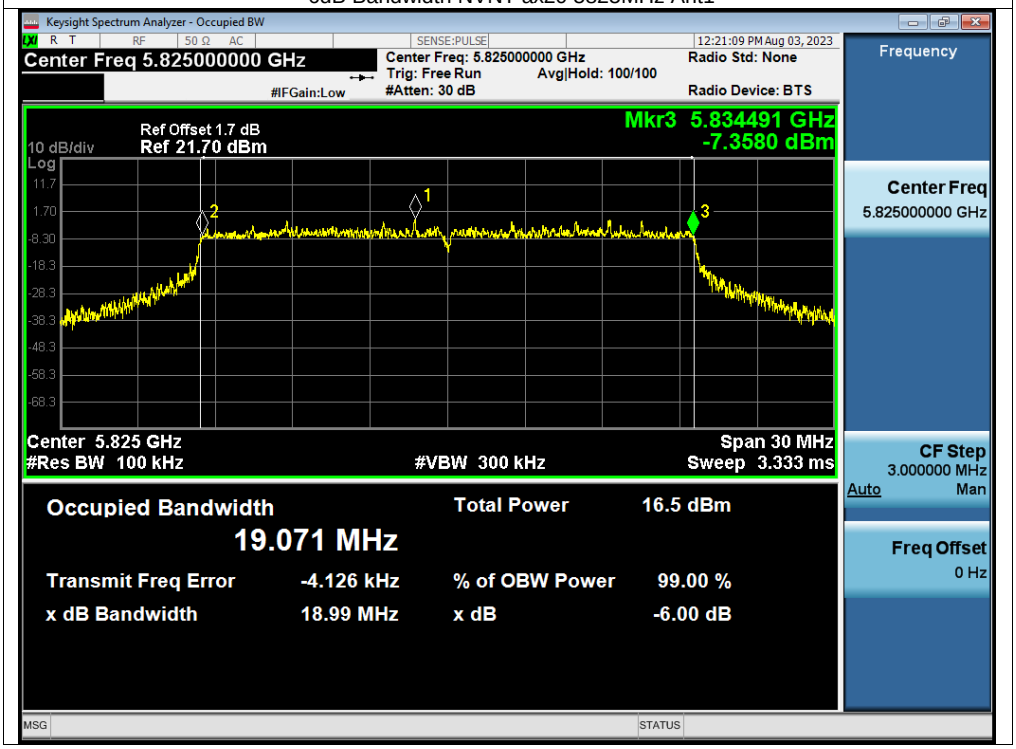
-6dB Bandwidth NVNT ax20 5745MHz Ant1



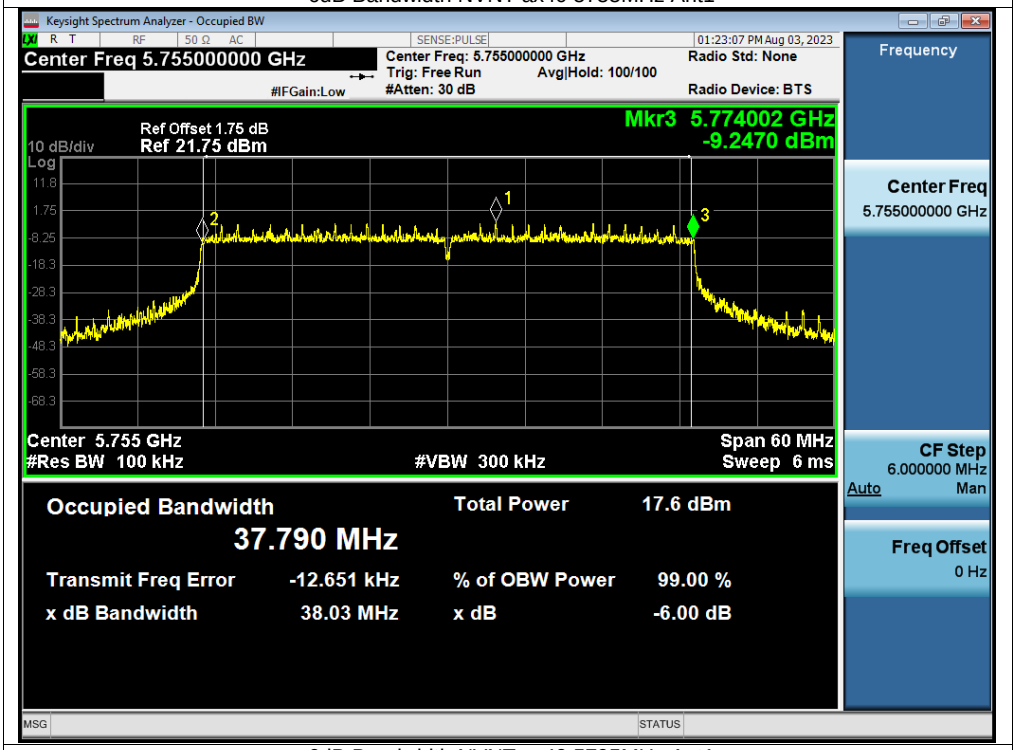
-6dB Bandwidth NVNT ax20 5785MHz Ant1



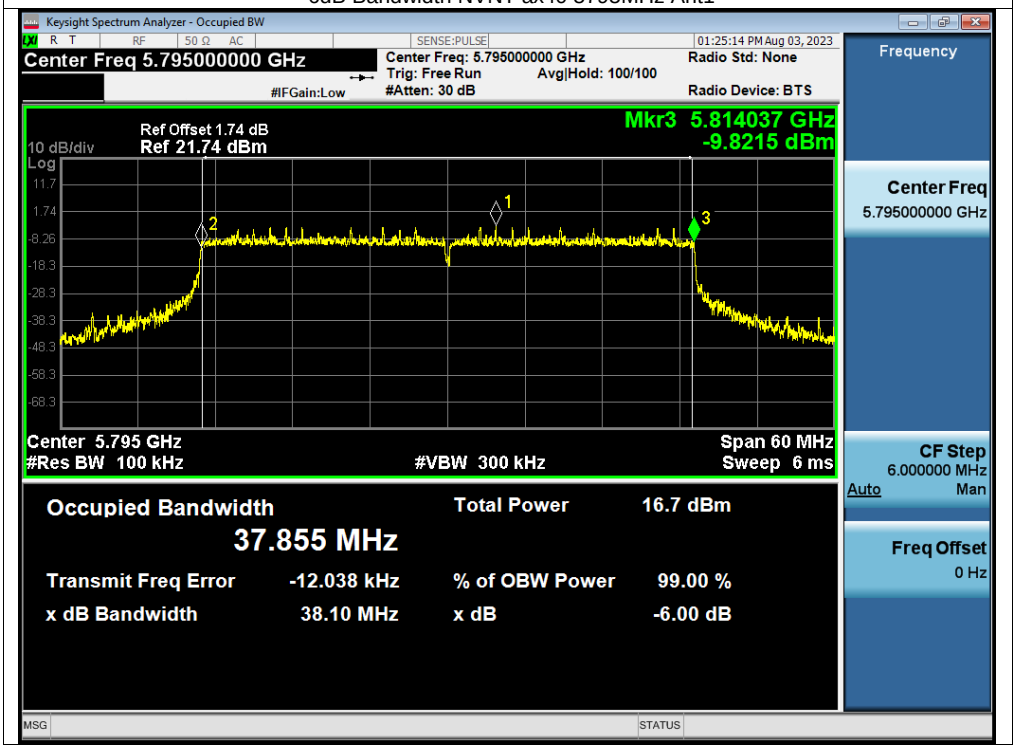
-6dB Bandwidth NVNT ax20 5825MHz Ant1



-6dB Bandwidth NVNT ax40 5755MHz Ant1



-6dB Bandwidth NVNT ax40 5795MHz Ant1



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