RF TEST REPORT

Product Name: Smart Communicator

Model Name: PX5, PX5-A, PX5-C, PX5-E, PX5-D, PX5-G, PX5-H, PX5-M, PX5-P, PX5-S, PX5-X

FCC ID: 2BBDV-PX5

Issued For : Shenzhen Lynknex Communications Co., Ltd.

Room 101,103 Building A5, Hangcheng Innovative Park, Bao'an District, Shenzhen, China

Issued By : Shenzhen LGT Test Service Co., Ltd.

Room 205, Building 13, Zone B, Zhenxiong Industrial Park, No.177, Renmin West Road, Jinsha, Kengzi Street, Pingshan District, Shenzhen, Guangdong, China

Report Number:	LGT23E075RF04
Sample Received Date:	May 31, 2023
Date of Test:	May 31, 2023 – Jun. 30, 2023
Date of Issue:	Jun. 30, 2023

TEST REPORT CERTIFICATION

Applicant:	Shenzhen Lynknex Communications Co., Ltd.
Address:	Room 101,103 Building A5, Hangcheng Innovative Park, Bao'an District, Shenzhen, China
Manufacturer:	Shenzhen Lynknex Communications Co., Ltd.
Address:	Room 101,103 Building A5, Hangcheng Innovative Park, Bao'an District, Shenzhen, China
Product Name:	Smart Communicator
Trademark:	LYNKNEX
Model Name:	PX5, PX5-A, PX5-C, PX5-E, PX5-D, PX5-G, PX5-H, PX5-M, PX5-P, PX5-S, PX5-X
Sample Status:	Normal

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC Part 15.407, Subpart E ANSI C63.10-2013	PASS

Prepared by:

Zane Shan

Zane Shan
Engineer

Approved by:

Vita Li
Technical Director

Table of Contents **Page**

Table of Contents **Page**

Revision History

Rev.	Issue Date	Contents
00	Jun. 30, 2023	Initial Issue

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:
Part 15.407,KDB 789033 D02 General U-NII Test Procedures New Rules v02r01

FCC Part 15.407		
FCC standard	Test Item	Results
15.207	AC Conducted Emission	PASS
15.407 (a) /15.407 (e)	26dB/6dB &99% Bandwidth	PASS
15.407(a)	Maximum Conducted Output Power	PASS
15.407(b)/15.205/15.209	Radiated Emission And (bandedge Emissions) Measurement	PASS
15.407(a)	Power Spectral Density	PASS
15.407(c)	Automatically Discontinue Transmission	PASS
15.203/15.204	Antenna Requirement	PASS

NOTE:

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

(2) All tests are according to ANSI C63.10-2013.

1.1 TEST FACTORY

Company Name:	Shenzhen LGT Test Service Co., Ltd.
Address:	Room 205, Building 13, Zone B, Zhenxiong Industrial Park, No.177, Renmin West Road, Jinsha, Kengzi Street, Pingshan District, Shenzhen, Guangdong, China
Accreditation Certificate:	A2LA Certificate No.: 6727.01
	FCC Registration No.: 746540
	CAB ID: CN0136

1.2 MEASUREMENT UNCERTAINTY

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

No.	Item	Uncertainty
1	RF output power, conducted	±0.68dB
2	Unwanted Emissions, conducted	±2.988dB
3	All emissions, radiated 9K-30MHz	±2.84dB
4	All emissions, radiated 30M-1GHz	±4.39dB
5	All emissions, radiated 1G-6GHz	±5.10dB
6	All emissions, radiated>6G	±5.48dB
7	Conducted Emission (9KHz-150KHz)	±2.79dB
8	Conducted Emission (150KHz-30MHz)	±2.80dB

Note: The measurement uncertainty is not included in the test result.

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

<table>
<tr><td>Product Name:</td><td>Smart Communicator</td></tr>
<tr><td>Trademark:</td><td>LYNKNEX</td></tr>
<tr><td>Model Name:</td><td>PX5</td></tr>
<tr><td>Series Model:</td><td>PX5-A, PX5-C, PX5-E, PX5-D, PX5-G, PX5-H, PX5-M, PX5-P, PX5-S, PX5-X</td></tr>
<tr><td>Model Difference:</td><td>Only different in model name</td></tr>
<tr><td>Product Description:</td><td>The EUT is a Smart Communicator
<table>
<tr><td rowspan="2">Operation Frequency:</td><td>IEEE 802.11a/n(HT20)/ac(VHT20): 5.180GHz-5.240GHz
IEEE 802.11n(HT40)/ac(VHT40): 5.190GHz-5.230GHz
IEEE 802.11ac(VHT80): 5.210GHz</td></tr>
<tr><td>I IEEE 802.11a/n(HT20)/ac(VHT20): 5.745GHz-5.825GHz
IEEE 802.11a/n(HT40)/ac(VHT40): 5.755GHz-5.795GHz
IEEE 802.11ac(VHT80): 5.775GHz</td></tr>
<tr><td>Modulation Type:</td><td>802.11a(OFDM): BPSK, QPSK, 16-QAM, 64-QAM
802.11n(OFDM): BPSK, QPSK, 16-QAM, 64-QAM
802.11ac (OFDM): BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM</td></tr>
<tr><td>Antenna Designation:</td><td>Please refer to the Note 3.</td></tr>
<tr><td>Antenna Gain(dBi)</td><td>2.2</td></tr>
</table>
More details of EUT technical specification, please refer to the User Manual.</td></tr>
<tr><td>Test Channel:</td><td>Please refer to the Note 2.</td></tr>
<tr><td>Adapter:</td><td>Model: MR-0502000US
Input: 100~240V, 50-60Hz, 0.3A
Output: 5V, 2A</td></tr>
<tr><td>Battery:</td><td>Capacity: 6000mAh
Rated Voltage: 3.8V</td></tr>
<tr><td>Hardware Version:</td><td>D950_MB_V1.0_20211018</td></tr>
<tr><td>Software Version:</td><td>PX5_AM_V1_20220915</td></tr>
<tr><td>Connecting I/O Port(s):</td><td>Please refer to the Note 1.</td></tr>
</table>

Note

1. For a more detailed features description, please refer to the manufacturer's specifications or the User Manual.

2.

Operation Frequency of channel			
5.180GHz-5.240GHz		5.745GHz-5.825GHz	
Channel	Frequency	Channel	Frequency
36	5180	149	5745
38	5190	151	5755
40	5200	153	5765
42	5210	157	5785
44	5220	159	5795
46	5230	161	5805
48	5240	165	5825
-	-	-	-

Note:
In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:
Carrier Frequency Channel

Channel List for 802.11a/n/ac(20MHz)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	149	5745	-	-	-	-
40	5200	157	5785	-	-	-	-
48	5240	165	5825	-	-	-	-

Channel List for 802.11n/ac(40MHz)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
38	5190	151	5755	-	-	-	-
46	5230	134	5670	-	-	-	-
159	5795	-	-	-	-	-	-

Channel List for 802.11ac(80MHz)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
42	5210	122	5610	-	-	-	-
155	5775	-	-	-	-	-	-

3.

Ant	Brand	Model Name	Ant Type	Connector	Gain (dBi)	NOTE
1	LYNKNEX	PX5	FPC	N/A	3.05	WLAN Ant

Note: The antenna information refer the manufacturer provide report, applicable only to the tested sample identified in the report.

2.2 DESCRIPTION OF TEST MODES

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

Worst Mode	Description	Data Rate
Mode 1	TX IEEE 802.11a HT20 CH36&CH40&CH48	6 Mbps
Mode 2	TX IEEE 802.11a HT20 CH149&CH157&CH165	6 Mbps
Mode 3	TX IEEE 802.11n HT20 CH36&CH40&CH48	MCS 0
Mode 4	TX IEEE 802.11ac VHT20 CH36&CH40&CH48	NSS1 MCS0
Mode 5	TX IEEE 802.11n HT20 CH149&CH157&CH165	MCS 0
Mode 6	TX IEEE 802.11ac VHT20 CH149&CH157&CH165	NSS1 MCS0
Mode 7	TX IEEE 802.11n HT40 CH38&CH46	MCS 0
Mode 8	TX IEEE 802.11ac VHT40 CH38&CH46	NSS1 MCS0
Mode 9	TX IEEE 802.11n HT40 CH151&CH159	MCS 0
Mode 10	TX IEEE 802.11ac VHT40 CH151&CH159	NSS1 MCS0
Mode 11	TX IEEE 802.11ac VHT80 CH42	NSS1 MCS0
Mode 12	TX IEEE 802.11ac VHT80 CH155	NSS1 MCS0

Note: (1) The measurements are performed at the highest, middle, lowest available channels.

(2) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported.

(3) We have be tested for all avaiable U.S. voltage and frequencies(For 120V,50/60Hz and 240V, 50/60Hz) for which the device is capable of operation.

(4) The battery is fully-charged during the radited and RF conducted test.

AC Conducted Emission

Test Case	
AC Conducted Emission	Mode 13: TX Mode

2.3 TEST SOFTWARE AND POWER LEVEL

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level.

Test software Version	Test program: 5G WIFI B1	
Engineering Mode	Mode Or Modulation type	Power setting
	a	11
	n20	11
	n40	11
	ac80	11
Test software Version	Test program: 5G WIFI B4	
Engineering Mode	Mode Or Modulation type	Power setting
	a	13
	n20	13
	n40	13
	ac80	13

2.4 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS

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

Accessories Equipment

Description	Manufacturer	Model	S/N	Rating
Adapter	Shenzhen Mao two Power Co., Ltd	MR-0502000US	N/A	Input: 100-240V ~ 50/60Hz 0.3A Output: 5V, 2A
USB-A to USB-C Cable	N/A	N/A	N/A	1m, unshielded, without ferrite core

Auxiliary Equipment

Description	Manufacturer	Model	S/N	Rating

Note:

(1) For detachable type I/O cable should be specified the length in cm in 『Length』 column.

2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

Conducted Emission					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Date**	**Cal. Until**
EMI Test Receiver	R&S	ESU8	100372	2023.04.13	2024.04.12
LISN	COM-POWER	LI-115	02032	2023.04.07	2024.04.06
LISN	SCHWARZBECK	NNLK 8121	00847	2023.04.07	2024.04.06
LISN	SCHWARZBECK	NNLK 8122	00160	2023.04.07	2024.04.06
Transient Limiter	CYBERTEK	EM5010A	E2250100049	2023.04.07	2024.04.06
Temperature & Humidity	KTJ	TA218B	N.A	2023.04.24	2024.04.23
Testing Software	EMC-I_V1.4.0.3_SKET				

Radiated Test equipment					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Date**	**Cal. Until**
EMI Test Receiver	R&S	ESU8	100372	2023.04.13	2024.04.12
Active loop Antenna	ETS	6502	00049544	2022.06.02	2025.06.01
Spectrum Analyzer	Keysight	N9010B	MY60242508	2023.04.10	2024.04.09
Bilog Antenna	SCHAFFNER	CBL6112B	2705	2022.06.05	2025.06.04
Horn Antenna	SCHWARZBECK	3115	10SL0060	2022.06.02	2025.06.01
Pre-amplifier(9kHz-1GHz)	EMtrace	RP01A	02017	2023.04.07	2024.04.06
Pre-amplifier(1-26.5G)	Agilent	8449B	3008A4722	2023.04.07	2024.04.06
Wireless Communications Test Set	R&S	CMW 500	137737	2023.04.13	2024.04.12
Temperature & Humidity	KTJ	TA218B	N.A	2023.04.24	2024.04.23
Testing Software	EMC-I_V1.4.0.3_SKET				

Conducted Test equipment					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Date**	**Cal. Until**
Signal Analyzer	Keysight	N9010B	MY60242508	2023.04.10	2024.04.09
Wireless Communications Test Set	R&S	CMW 500	137737	2023.04.13	2024.04.12
MXG Vector Signal Generator	Keysight	N5182B	MY59100717	2023.04.07	2024.04.06
RF Automatic Test system	MW	MW100-RFCB	MW220324LG-33	2023.04.13	2024.04.12
Temperature & Humidity	KTJ	TA218B	N.A	2023.04.24	2024.04.23
Temperature& Humidity test chamber	AISRY	LX-1000L	171200018	2023.05.10	2024.05.09
Attenuator	eastsheep	90db	N.A	2023.04.10	2024.04.09
Testing Software	MTS8200_ V2.0.0.0_MW				

3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

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

0.15 -0.5	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	56.00	46.00	FCC
5.0 -30.0	60.00	50.00	FCC

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

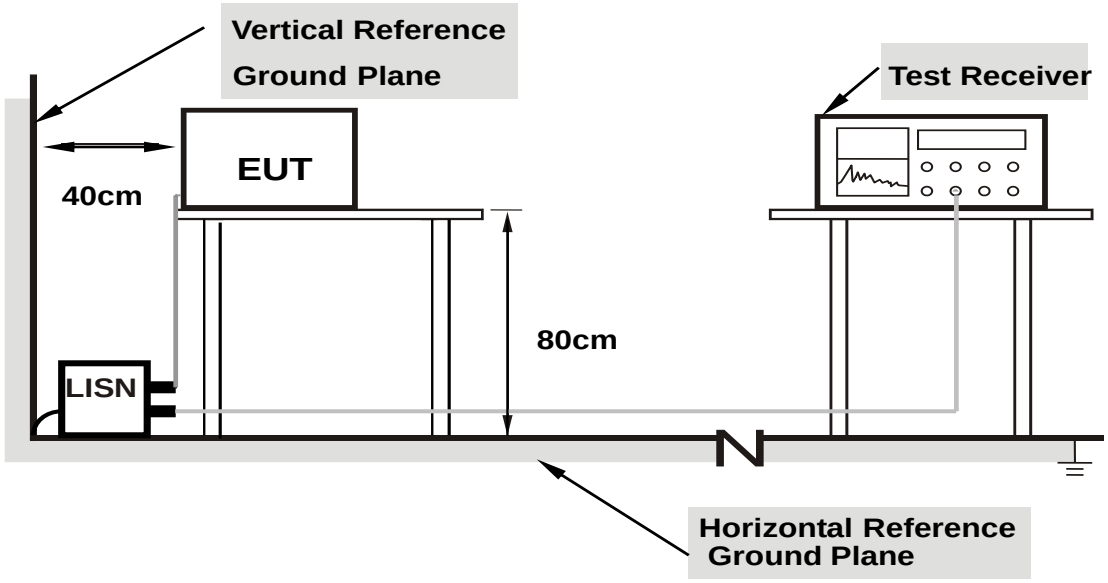
3.1.2 TEST PROCEDURE

a. The EUT is 0.8 m from the horizontal ground plane and 0.4 m from the vertical ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments are powered from additional LISN(s). The LISN provides 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
d. LISN is at least 80 cm from the nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.1.3 DEVIATION FROM TEST STANDARD

No deviation

3.1.4 TEST SETUP



Note: 1. Support units were connected to second LISN.

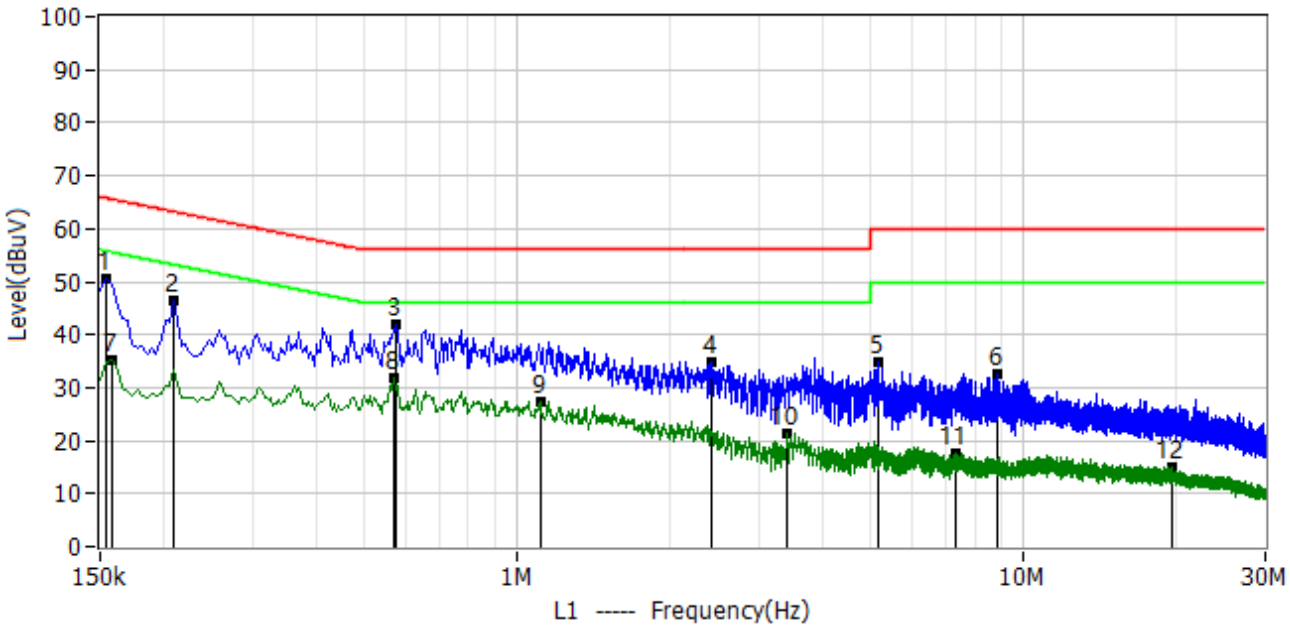
2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes support units.

3.1.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

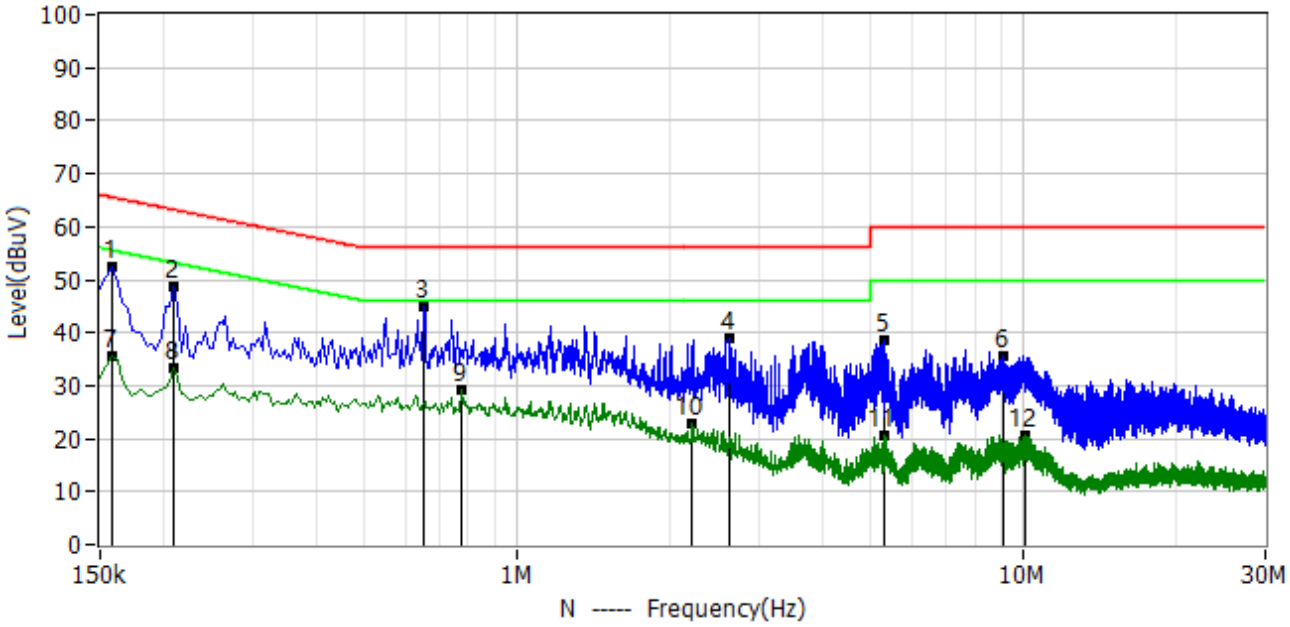
3.1.6 TEST RESULTS

Project: LGT23E075	Test Engineer: Dylan.shi
EUT: Smart Communicator	Temperature: 26.3℃
M/N: PX5	Humidity: 47%RH
Test Voltage: AC 120V/60Hz	Test Data: 2023-06-01
Test Mode: 5G Wi-Fi TX	
Note:	



No.	Frequency	Reading dBuV	Factor dB	Level dBuV	Limit dBuV	Margin dB	Detector	Polar
1*	154.000kHz	39.99	10.57	50.56	65.78	-15.22	PK	L1
2*	210.000kHz	35.80	10.60	46.40	63.21	-16.81	PK	L1
3*	574.000kHz	31.37	10.58	41.95	56.00	-14.05	PK	L1
4*	2.418MHz	24.02	10.74	34.76	56.00	-21.24	PK	L1
5*	5.170MHz	24.27	10.71	34.98	60.00	-25.02	PK	L1
6*	8.878MHz	21.81	10.85	32.66	60.00	-27.34	PK	L1
7*	158.000kHz	24.67	10.57	35.24	55.57	-20.33	AV	L1
8*	570.000kHz	21.09	10.58	31.67	46.00	-14.33	AV	L1
9*	1.110MHz	16.78	10.61	27.39	46.00	-18.61	AV	L1
10*	3.418MHz	10.53	10.73	21.26	46.00	-24.74	AV	L1
11*	7.358MHz	6.90	10.77	17.67	50.00	-32.33	AV	L1
12*	19.686MHz	3.70	11.26	14.96	50.00	-35.04	AV	L1

Project: LGT23E075	Test Engineer: Dylan.shi
EUT: Smart Communicator	Temperature: 26.3℃
M/N: PX5	Humidity: 47%RH
Test Voltage: AC 120V/60Hz	Test Data: 2023-06-01
Test Mode: 5G Wi-Fi TX	
Note:	



No.	Frequency	Reading dBuV	Factor dB	Level dBuV	Limit dBuV	Margin dB	Detector	Polar
1*	158.000kHz	41.79	10.57	52.36	65.57	-13.21	PK	N
2*	210.000kHz	38.13	10.60	48.73	63.21	-14.47	PK	N
3*	654.000kHz	34.45	10.58	45.03	56.00	-10.97	PK	N
4*	2.622MHz	28.25	10.74	38.99	56.00	-17.01	PK	N
5*	5.282MHz	28.05	10.71	38.76	60.00	-21.24	PK	N
6*	9.122MHz	24.76	10.88	35.64	60.00	-24.36	PK	N
7*	158.000kHz	25.11	10.57	35.68	55.57	-19.89	AV	N
8*	210.000kHz	22.87	10.60	33.47	53.21	-19.73	AV	N
9*	778.000kHz	18.64	10.58	29.22	46.00	-16.78	AV	N
10*	2.214MHz	12.00	10.75	22.75	46.00	-23.25	AV	N
11*	5.286MHz	9.84	10.71	20.55	50.00	-29.45	AV	N
12*	10.054MHz	9.79	10.87	20.66	50.00	-29.34	AV	N

3.2 RADIATED EMISSION AND (BANDEDGE) MEASUREMENT

3.2.1 RADIATED EMISSION LIMITS (Frequency Range 9kHz-1000MHz)

In case the emission fall within the restricted band specified on 15.407(b)7&15.205/209(a), then the limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/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
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	Class B (dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	68.2	54

Notes:

(1) The limit for radiated test was performed according to FCC PART 15E.

(2) The tighter limit applies at the band edges.

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

LIMITS OF RESTRICTED FREQUENCY BANDS

FREQUENCY (MHz)	FREQUENCY (MHz)	FREQUENCY (MHz)	FREQUENCY (GHz)
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	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	Above 38.6
13.36-13.41			

Note: In case the emission radiated emission above 1000MHz fall within the restricted band the restricted frequency bands, the peak limit is 74 dBuV/m.

LIMITS OF EMISSIONS OUTSIDE OF THE FREQUENCY BANDS

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

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

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

(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(4) For transmitters operating in the 5.725-5.85 GHz band:

(i) All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Note: dBuV/m(at 3M) = EIRP(dBm) + 95.3.

Peak Limit = -27dBm/MHz + 95.3 = 68.3 dBuV/m.

Spectrum Parameter	**Setting**
Attenuation	Auto
Detector	Peak
Start Frequency	1000 MHz(Peak/AV)
Stop Frequency	10th carrier harmonic (Peak/AV)
RB / VB (emission in restricted band)	1 MHz / 1 MHz, AV=1 MHz /3 MHz

For Band edge

Spectrum Parameter	Setting
Detector	Peak
RB / VB (emission in restricted band)	1 MHz / 1 MHz, AV=1 MHz /3 MHz

Receiver Parameter	**Setting**
Attenuation	Auto
Start ~ Stop Frequency	9kHz~90kHz / RB 200Hz for PK & AV
Start ~ Stop Frequency	90kHz~110kHz / RB 200Hz for QP
Start ~ Stop Frequency	110kHz~490kHz / RB 200Hz for PK & AV
Start ~ Stop Frequency	490kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

3.2.2 TEST PROCEDURE

a. The measuring distance at 3 m shall be used for measurements at frequency 0.009MHz up to 1GHz, and above 1GHz.
b. The EUT was placed on the top of a rotating table 0.8 m (above 1GHz is 1.5 m) above the ground at a 3 m anechoic chamber test site. The table was rotated 360 degree to determine the position of the highest radiation.
c. The height of the equipment shall be 0.8 m (above 1GHz is 1.5 m); the height of the test antenna shall vary between 1 m to 4 m. Horizontal and vertical polarization of the antenna are set to make the measurement.
d. 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 QuasiPeak detector mode will be re-measured.
e. If the Peak Mode measured value is compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and no additional QP Mode measurement was performed.
f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

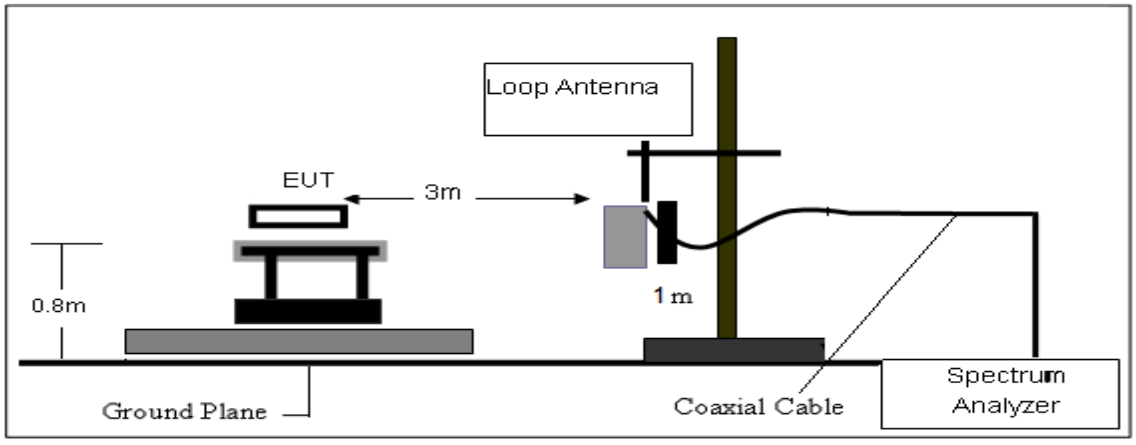
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported.

3.2.2 DEVIATION FROM TEST STANDARD

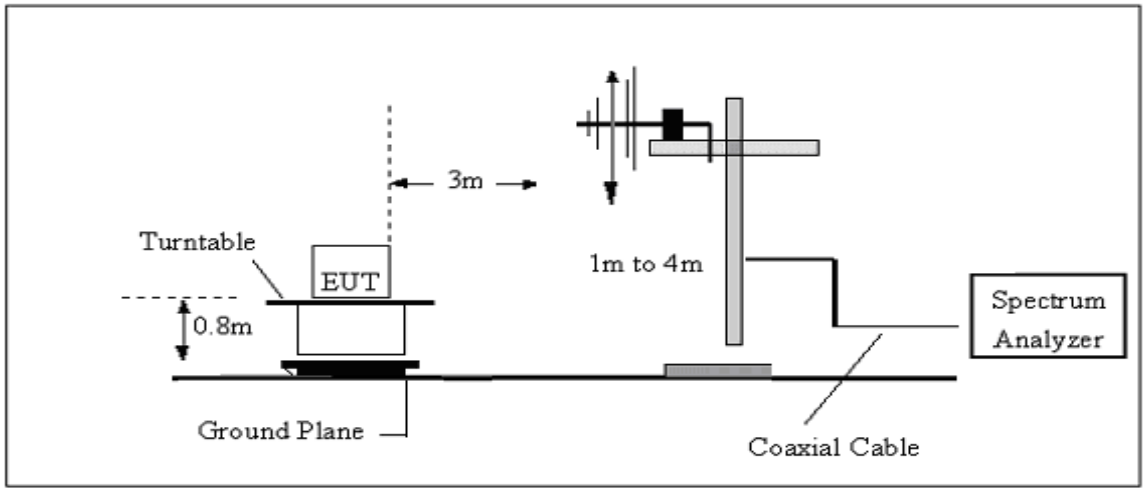
No deviation

3.2.3 TEST SETUP

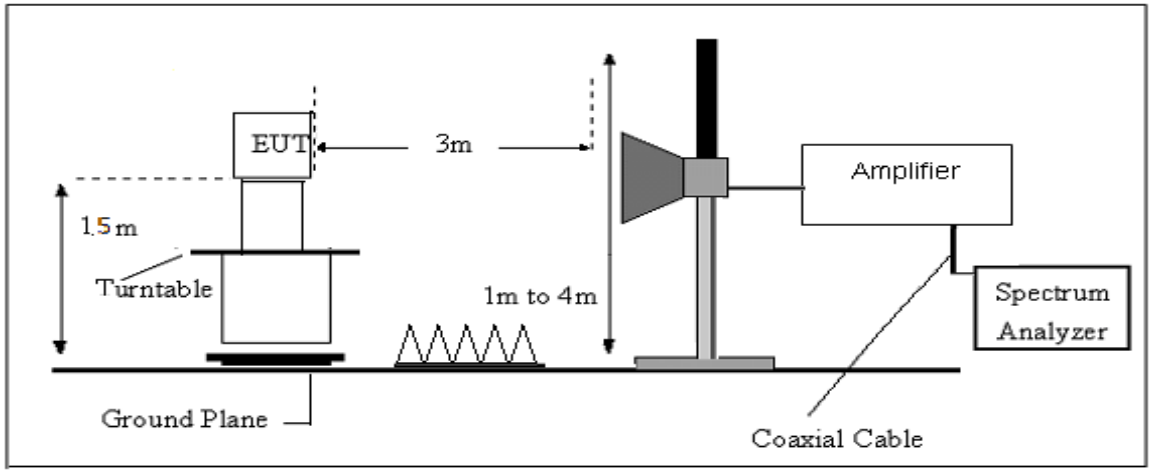
(A) Radiated Emission Test-Up Frequency Below 30MHz



(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



(C) Radiated Emission Test-Up Frequency Above 1GHz



3.2.4 EUT OPERATING CONDITIONS

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

3.2.5 FIELD STRENGTH CALCULATION

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:
FS = RA + AF + CL - AG
Where
FS = Field Strength
CL = Cable Attenuation Factor (Cable Loss)
RA = Reading Amplitude
AG = Amplifier Gain
AF = Antenna Factor
For example

Frequency	FS	RA	AF	CL	AG	Factor
(MHz)	(dBμV/m)	(dBμV/m)	(dB)	(dB)	(dB)	(dB)
300	40	58.1	12.2	1.6	31.9	-18.1

Factor=AF+CL-AG

3.2.6 TEST RESULTS

Results of Radiated Emissions (9 KHz~30MHz)

No.	Frequency	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Remark
1*	-	-	-	-	-	-	-	See Note

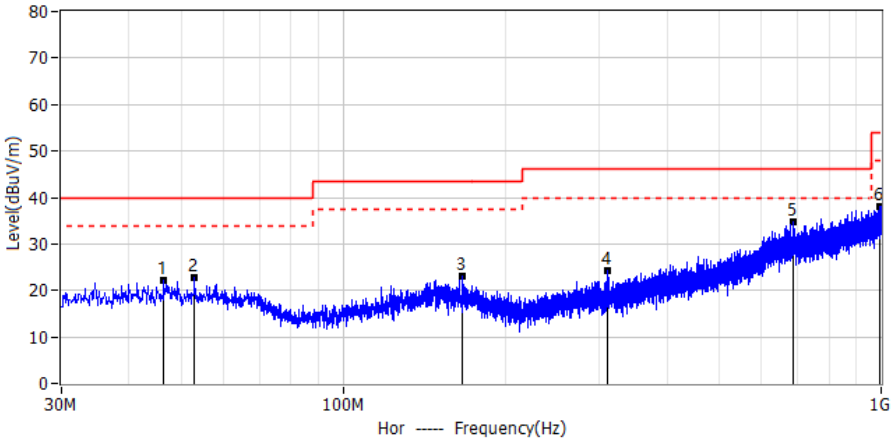
Note:

The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and the permissible value has no need to be reported.

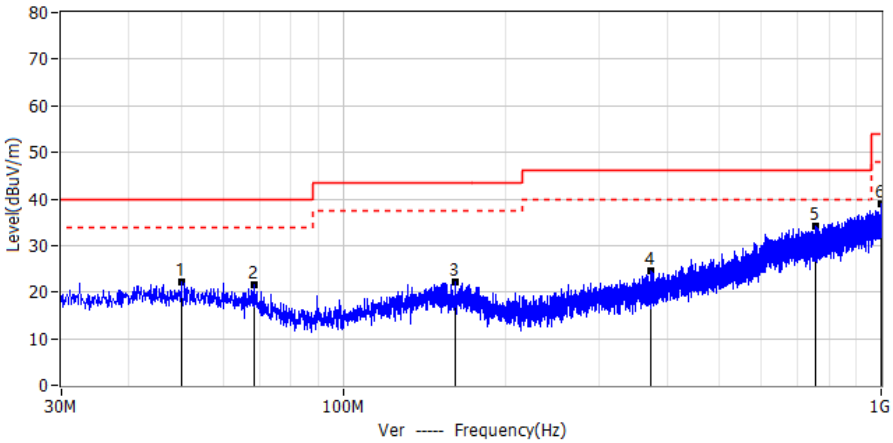
Distance extrapolation factor = 40 log (specific distance / test distance) (dB);
Limit line = specific limits (dBuV) + distance extrapolation factor.

Results of Radiated Emissions (30MHz~1000MHz):

Project: LGT23E075	Test Engineer: Dylan.shi
EUT: Smart Communicator	Temperature: 29.5℃
M/N: PX5	Humidity: 51%RH
Test Voltage: Battery	Test Data: 2023-06-19
Test Mode: 5G Wi-Fi TX	
Note:	



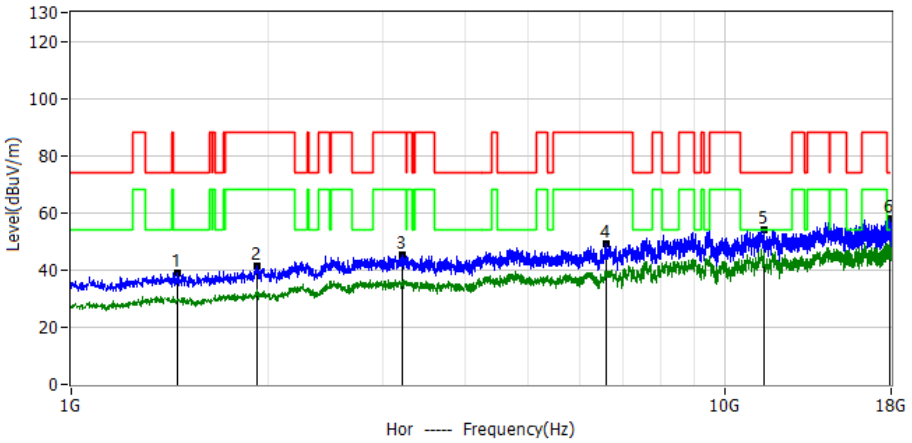
No.	Frequency	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	46.490MHz	3.01	19.26	22.27	40.00	-17.73	PK	Hor
2*	53.038MHz	3.69	19.14	22.83	40.00	-17.17	PK	Hor
3*	166.649MHz	3.21	19.80	23.01	43.50	-20.49	PK	Hor
4*	310.936MHz	4.12	20.26	24.38	46.00	-21.62	PK	Hor
5*	684.993MHz	5.05	29.65	34.70	46.00	-11.30	PK	Hor
6*	992.725MHz	3.45	34.54	37.99	54.00	-16.01	PK	Hor



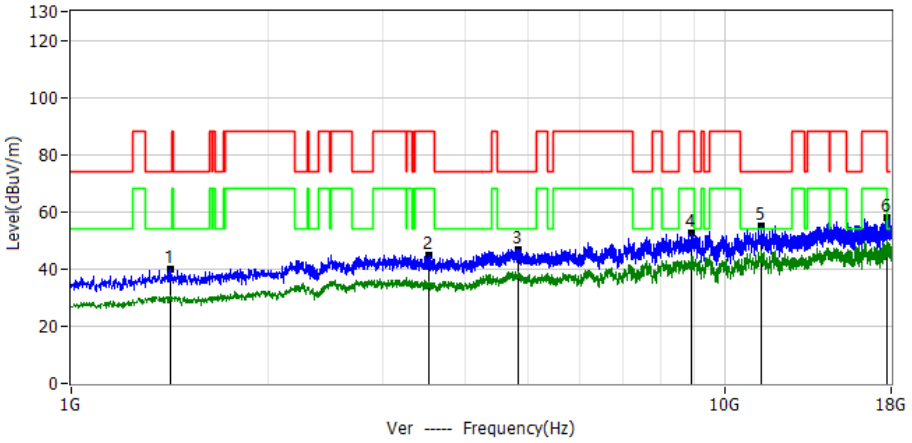
No.	Frequency	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	50.006MHz	2.89	19.36	22.25	40.00	-17.75	PK	Ver
2*	68.558MHz	3.35	18.11	21.46	40.00	-18.54	PK	Ver
3*	161.920MHz	2.25	19.83	22.08	43.50	-21.42	PK	Ver
4*	373.744MHz	2.60	22.03	24.63	46.00	-21.37	PK	Ver
5*	754.954MHz	3.67	30.57	34.24	46.00	-11.76	PK	Ver
6*	997.818MHz	4.37	34.56	38.93	54.00	-15.07	PK	Ver

Results of Radiated Emissions (Above 1000MHz):

Project: LGT23E075	Test Engineer: Dylan.shi
EUT: Smart Communicator	Temperature: 25.8℃
M/N: PX5	Humidity: 59%RH
Test Voltage: Battery	Test Data: 2023-06-18
Test Mode: 802.11n 5180	
Note:	

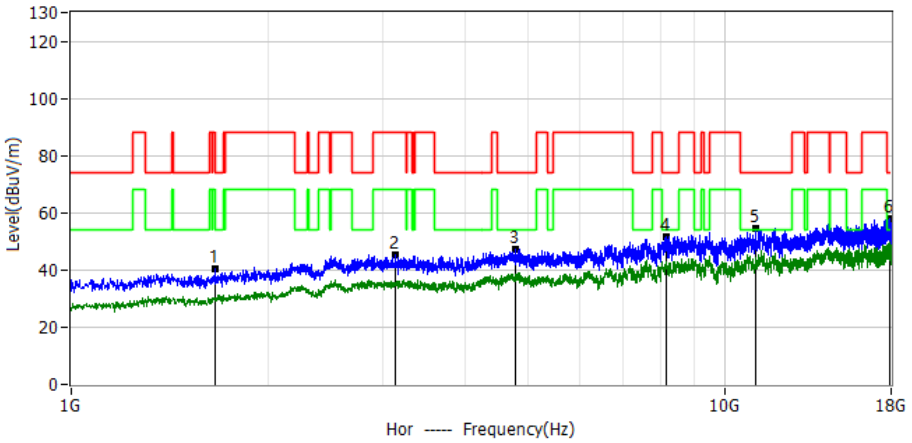


No.	Frequency	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	1.4547GHz	60.05	-21.09	38.96	74.00	-35.04	PK	Hor
2*	1.9222GHz	58.60	-17.02	41.58	88.20	-46.62	PK	Hor
3*	3.2100GHz	53.49	-8.41	45.08	88.20	-43.12	PK	Hor
4*	6.5994GHz	55.34	-6.39	48.95	88.20	-39.25	PK	Hor
5*	11.5039GHz	52.05	1.93	53.98	74.00	-20.02	PK	Hor
6*	17.9341GHz	49.42	8.47	57.89	74.00	-16.11	PK	Hor

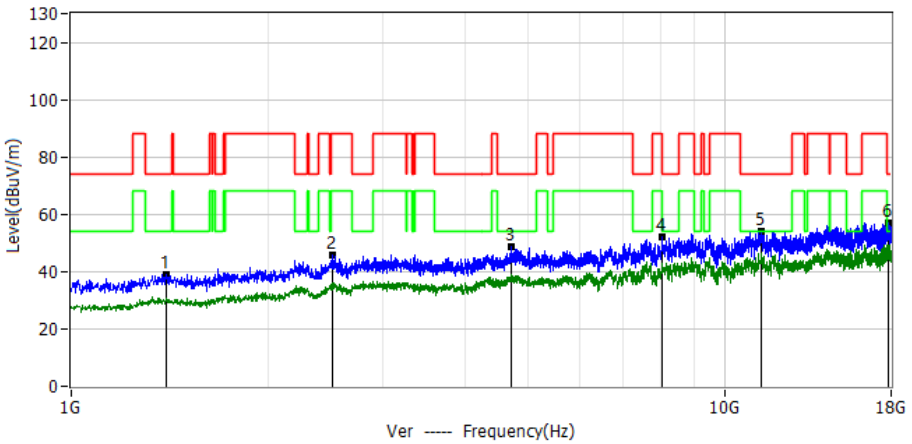


No.	Frequency	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	1.4165GHz	61.30	-21.29	40.01	74.00	-33.99	PK	Ver
2*	3.5245GHz	53.48	-8.47	45.01	88.20	-43.19	PK	Ver
3*	4.8314GHz	52.99	-6.01	46.98	74.00	-27.02	PK	Ver
4*	8.9199GHz	53.95	-1.40	52.55	88.20	-35.65	PK	Ver
5*	11.3827GHz	53.31	1.86	55.17	74.00	-18.83	PK	Ver
6*	17.7110GHz	49.83	8.32	58.15	74.00	-15.85	PK	Ver

Project: LGT23E075	Test Engineer: Dylan.shi
EUT: Smart Communicator	Temperature: 25.8℃
M/N: PX5	Humidity: 59%RH
Test Voltage: Battery	Test Data: 2023-06-18
Test Mode: 802.11n 5200	
Note:	

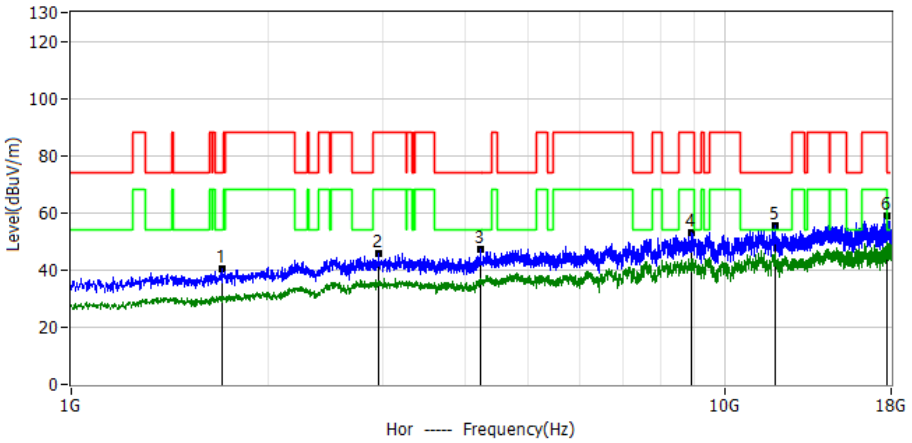


No.	Frequency	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	1.6630GHz	59.93	-19.57	40.36	74.00	-33.64	PK	Hor
2*	3.1335GHz	53.61	-8.38	45.23	88.20	-42.97	PK	Hor
3*	4.7867GHz	53.40	-5.98	47.42	74.00	-26.58	PK	Hor
4*	8.1549GHz	55.40	-3.56	51.84	74.00	-22.16	PK	Hor
5*	11.1660GHz	52.56	1.73	54.29	74.00	-19.71	PK	Hor
6*	17.9426GHz	49.58	8.48	58.06	74.00	-15.94	PK	Hor

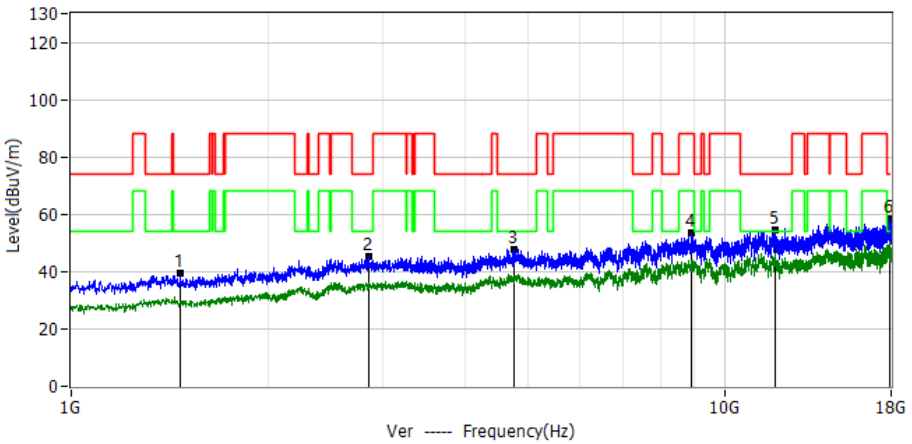


No.	Frequency	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	1.3995GHz	60.44	-21.39	39.05	74.00	-34.95	PK	Ver
2*	2.5172GHz	56.46	-10.89	45.57	88.20	-42.63	PK	Ver
3*	4.7102GHz	54.57	-5.92	48.65	74.00	-25.35	PK	Ver
4*	8.0359GHz	56.19	-3.90	52.29	74.00	-21.71	PK	Ver
5*	11.3742GHz	52.41	1.85	54.26	74.00	-19.74	PK	Ver
6*	17.8300GHz	48.60	8.40	57.00	74.00	-17.00	PK	Ver

Project: LGT23E075	Test Engineer: Dylan.shi
EUT: Smart Communicator	Temperature: 25.8℃
M/N: PX5	Humidity: 59%RH
Test Voltage: Battery	Test Data: 2023-06-18
Test Mode: 802.11n 5240	
Note:	

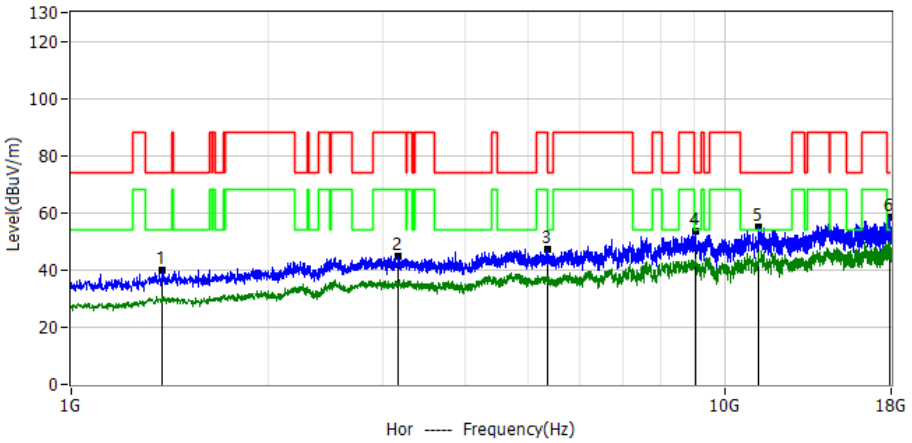


No.	Frequency	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	1.7034GHz	59.38	-19.18	40.20	74.00	-33.80	PK	Hor
2*	2.9507GHz	54.21	-8.60	45.61	88.20	-42.59	PK	Hor
3*	4.2236GHz	54.13	-6.92	47.21	74.00	-26.79	PK	Hor
4*	8.9220GHz	54.46	-1.39	53.07	88.20	-35.13	PK	Hor
5*	11.9395GHz	53.21	2.18	55.39	74.00	-18.61	PK	Hor
6*	17.7152GHz	50.66	8.32	58.98	74.00	-15.02	PK	Hor

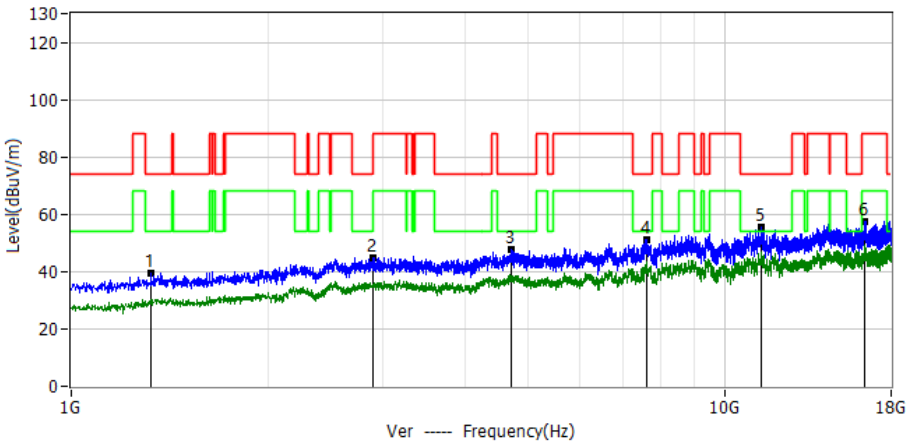


No.	Frequency	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	1.4696GHz	60.21	-21.00	39.21	74.00	-34.79	PK	Ver
2*	2.8487GHz	54.23	-9.14	45.09	74.00	-28.91	PK	Ver
3*	4.7634GHz	53.86	-5.96	47.90	74.00	-26.10	PK	Ver
4*	8.9007GHz	54.90	-1.45	53.45	88.20	-34.75	PK	Ver
5*	11.9459GHz	52.19	2.19	54.38	74.00	-19.62	PK	Ver
6*	17.9426GHz	50.03	8.48	58.51	74.00	-15.49	PK	Ver

Project: LGT23E075	Test Engineer: Dylan.shi
EUT: Smart Communicator	Temperature: 25.8℃
M/N: PX5	Humidity: 59%RH
Test Voltage: Battery	Test Data: 2023-06-18
Test Mode: 802.11a 5745	
Note:	

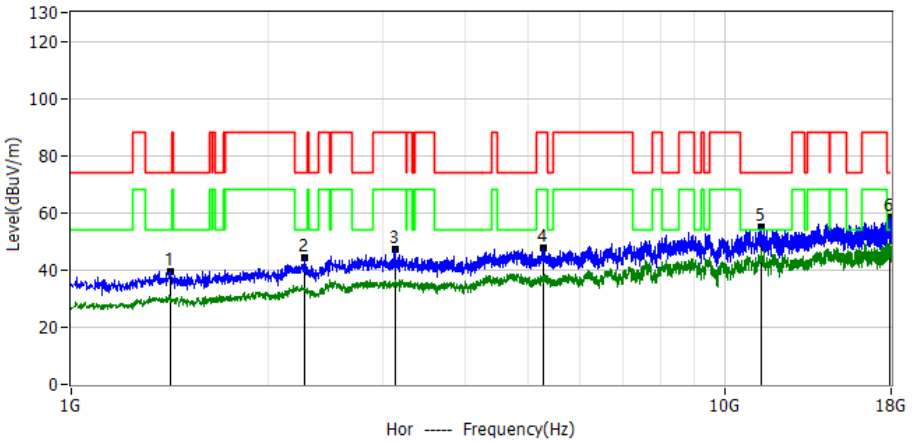


No.	Frequency	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	1.3782GHz	61.39	-21.55	39.84	74.00	-34.16	PK	Hor
2*	3.1717GHz	53.12	-8.40	44.72	88.20	-43.48	PK	Hor
3*	5.3711GHz	54.74	-7.33	47.41	74.00	-26.59	PK	Hor
4*	9.0282GHz	54.69	-1.17	53.52	74.00	-20.48	PK	Hor
5*	11.2744GHz	53.04	1.79	54.83	74.00	-19.17	PK	Hor
6*	17.9426GHz	50.11	8.48	58.59	74.00	-15.41	PK	Hor

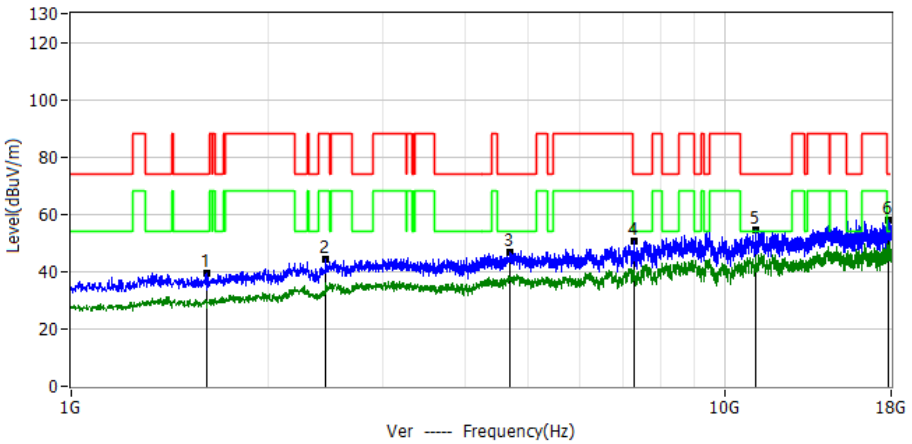


No.	Frequency	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	1.3230GHz	61.53	-21.99	39.54	74.00	-34.46	PK	Ver
2*	2.8997GHz	53.65	-8.87	44.78	74.00	-29.22	PK	Ver
3*	4.7272GHz	53.50	-5.93	47.57	74.00	-26.43	PK	Ver
4*	7.5960GHz	55.35	-4.24	51.11	74.00	-22.89	PK	Ver
5*	11.4082GHz	53.58	1.87	55.45	74.00	-18.55	PK	Ver
6*	16.3680GHz	50.81	6.83	57.64	88.20	-30.56	PK	Ver

Project: LGT23E075	Test Engineer: Dylan.shi
EUT: Smart Communicator	Temperature: 25.8℃
M/N: PX5	Humidity: 59%RH
Test Voltage: Battery	Test Data: 2023-06-18
Test Mode: 802.11a 5785	
Note:	

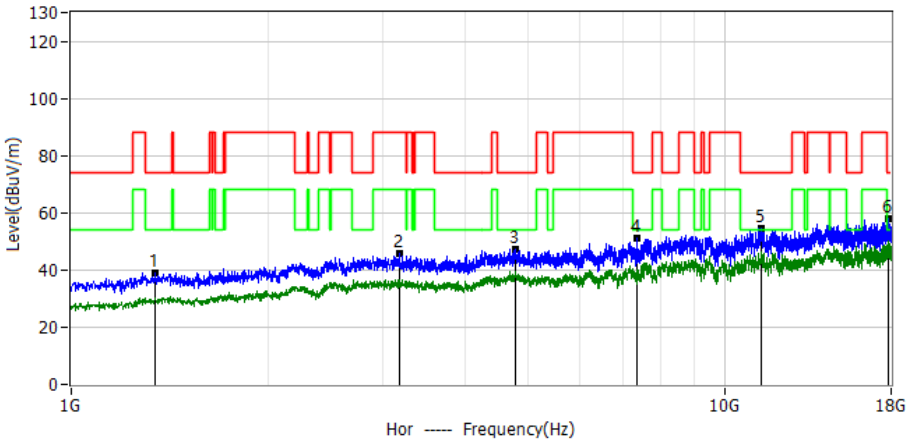


No.	Frequency	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	1.4207GHz	60.83	-21.27	39.56	74.00	-34.44	PK	Hor
2*	2.2750GHz	57.62	-13.35	44.27	74.00	-29.73	PK	Hor
3*	3.1271GHz	55.45	-8.38	47.07	88.20	-41.13	PK	Hor
4*	5.2755GHz	54.65	-7.02	47.63	88.20	-40.57	PK	Hor
5*	11.4040GHz	52.91	1.87	54.78	74.00	-19.22	PK	Hor
6*	17.9511GHz	49.95	8.49	58.44	74.00	-15.56	PK	Hor

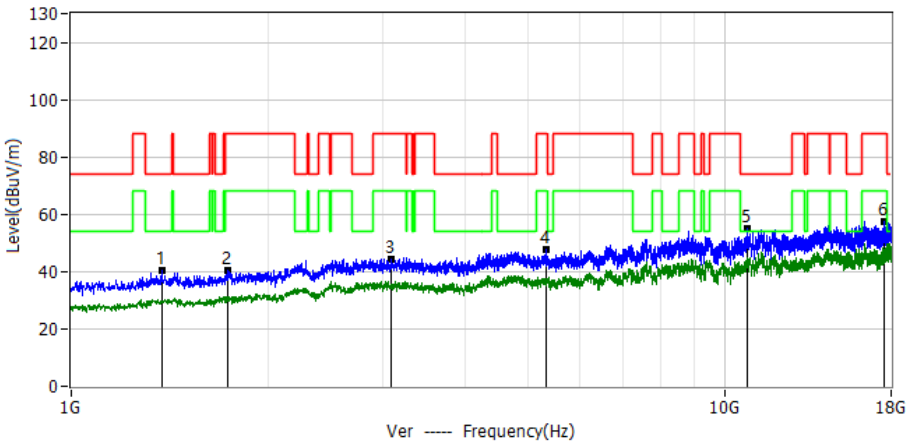


No.	Frequency	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	1.6120GHz	59.36	-20.06	39.30	74.00	-34.70	PK	Ver
2*	2.4556GHz	55.64	-11.45	44.19	88.20	-44.01	PK	Ver
3*	4.6932GHz	52.80	-5.90	46.90	74.00	-27.10	PK	Ver
4*	7.2624GHz	55.81	-4.96	50.85	74.00	-23.15	PK	Ver
5*	11.1617GHz	52.91	1.73	54.64	74.00	-19.36	PK	Ver
6*	17.8321GHz	49.43	8.40	57.83	74.00	-16.17	PK	Ver

Project: LGT23E075	Test Engineer: Dylan.shi
EUT: Smart Communicator	Temperature: 25.8℃
M/N: PX5	Humidity: 59%RH
Test Voltage: Battery	Test Data: 2023-06-18
Test Mode: 802.11a 5825	
Note:	



No.	Frequency	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	1.3442GHz	60.74	-21.82	38.92	74.00	-35.08	PK	Hor
2*	3.1802GHz	54.26	-8.40	45.86	88.20	-42.34	PK	Hor
3*	4.7931GHz	53.13	-5.98	47.15	74.00	-26.85	PK	Hor
4*	7.3601GHz	55.82	-4.69	51.13	74.00	-22.87	PK	Hor
5*	11.3955GHz	52.85	1.86	54.71	74.00	-19.29	PK	Hor
6*	17.8385GHz	49.40	8.41	57.81	74.00	-16.19	PK	Hor

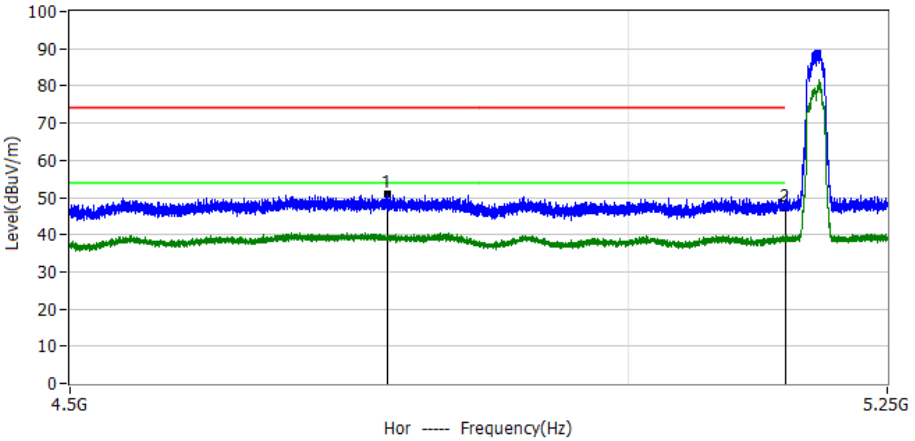


No.	Frequency	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	1.3740GHz	61.94	-21.59	40.35	74.00	-33.65	PK	Ver
2*	1.7395GHz	59.14	-18.84	40.30	88.20	-47.90	PK	Ver
3*	3.0931GHz	52.85	-8.37	44.48	88.20	-43.72	PK	Ver
4*	5.3265GHz	54.83	-7.18	47.65	88.20	-40.55	PK	Ver
5*	10.8324GHz	53.65	1.16	54.81	74.00	-19.19	PK	Ver
6*	17.6047GHz	49.41	8.24	57.65	88.20	-30.55	PK	Ver

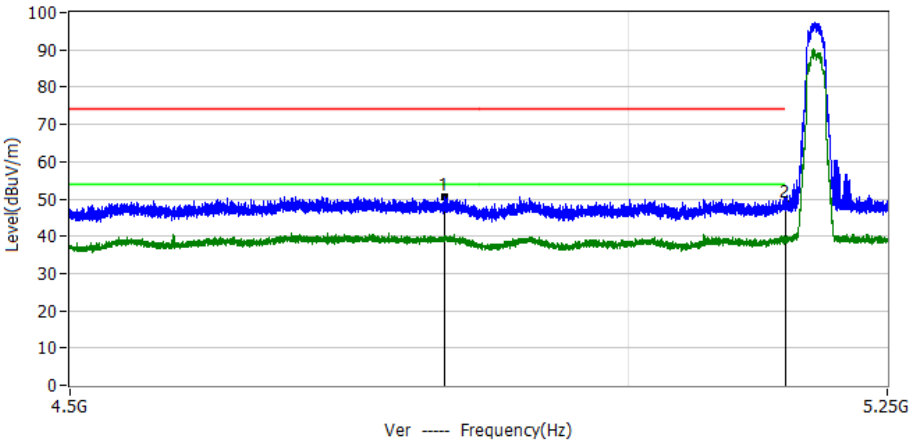
Remark:
In frequency ranges 18~25GHz no any other harmonic emissions detected which are tested to compliance with the limit. No recording in the test report. No any other emissions level which are attenuated less than 20dB below the limit. No recording in the test report.

3.2.7 TEST RESULTS(Band edge Requirements)

Project: LGT23E075	Test Engineer: Dylan.shi
EUT: Smart Communicator	Temperature: 25.8℃
M/N: PX5	Humidity: 59%RH
Test Voltage: Battery	Test Data: 2023-06-10
Test Mode: 802.11n20 5180	
Note:	

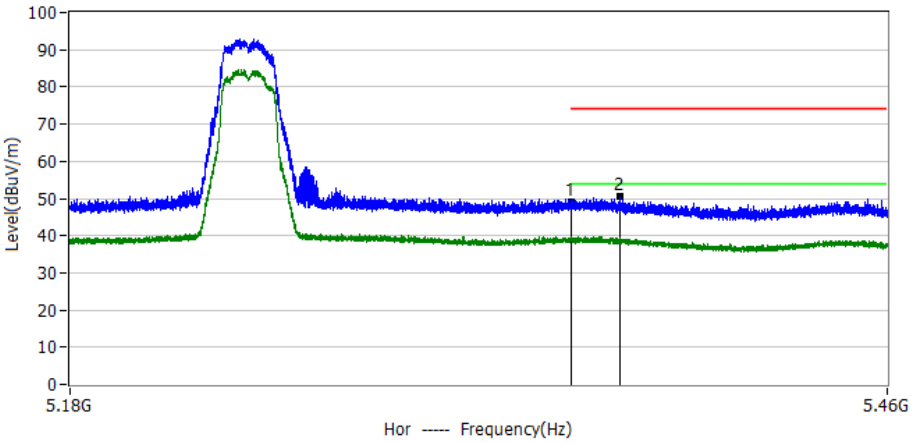


No.	Frequency	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	4.7778GHz	56.76	-5.97	50.79	74.00	-23.21	PK	Hor
2*	5.1500GHz	53.82	-6.62	47.20	74.00	-26.80	PK	Hor

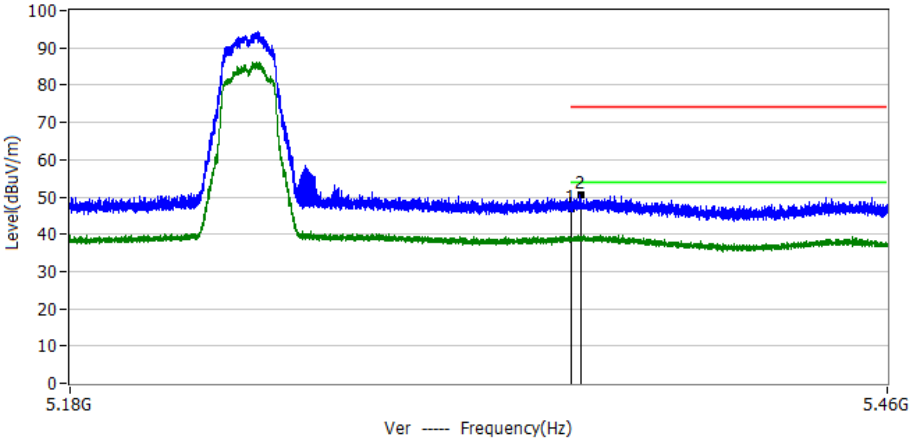


No.	Frequency	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	4.8293GHz	56.62	-6.01	50.61	74.00	-23.39	PK	Ver
2*	5.1500GHz	55.22	-6.62	48.60	74.00	-25.40	PK	Ver

Project: LGT23E075	Test Engineer: Dylan.shi
EUT: Smart Communicator	Temperature: 25.8℃
M/N: PX5	Humidity: 59%RH
Test Voltage: Battery	Test Data: 2023-06-10
Test Mode: 802.11n20 5240	
Note:	

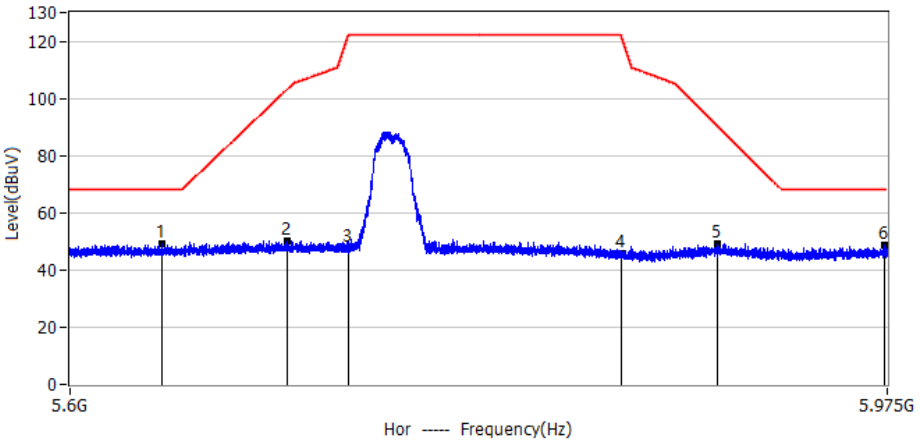


No.	Frequency	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	5.3500GHz	56.46	-7.26	49.20	74.00	-24.80	PK	Hor
2*	5.3669GHz	57.93	-7.31	50.62	74.00	-23.38	PK	Hor

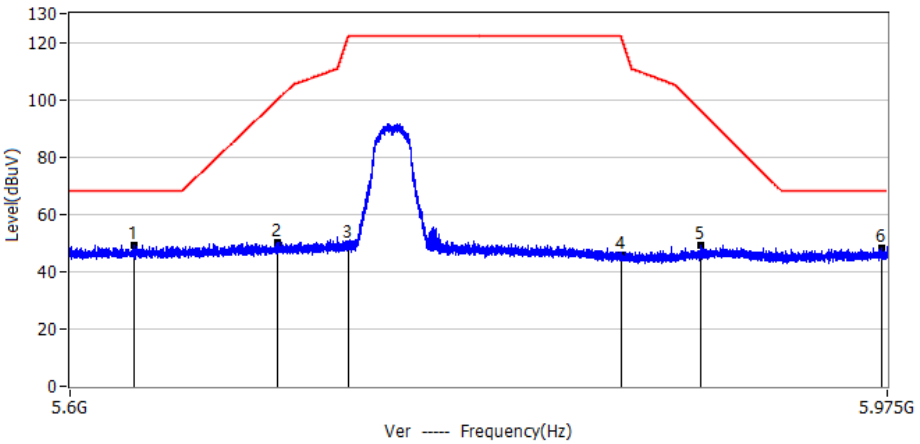


No.	Frequency	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	5.3500GHz	54.16	-7.26	46.90	74.00	-27.10	PK	Ver
2*	5.3531GHz	57.83	-7.27	50.56	74.00	-23.44	PK	Ver

Project: LGT23E075	Test Engineer: Dylan.shi
EUT: Smart Communicator	Temperature: 25.8℃
M/N: PX5	Humidity: 59%RH
Test Voltage: Battery	Test Data: 2023-06-10
Test Mode: 802.11a 5745	
Note:	

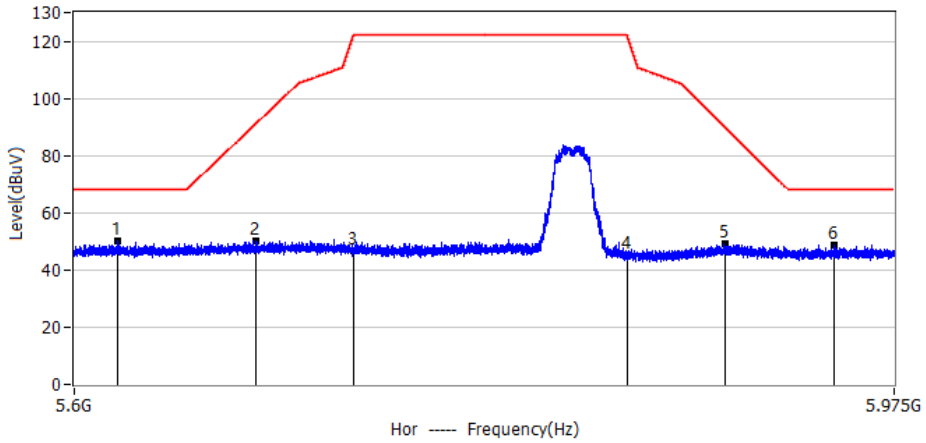


No.	Frequency	Reading dBuV	Factor dB	Level dBuV	Limit dBuV	Margin dB	Detector	Polar
1*	5.6412GHz	56.88	-7.68	49.20	68.20	-19.00	PK	Hor
2*	5.6974GHz	57.77	-7.66	50.11	103.29	-53.18	PK	Hor
3*	5.7250GHz	55.45	-7.65	47.80	122.20	-74.40	PK	Hor
4*	5.8500GHz	53.30	-7.60	45.70	122.20	-76.50	PK	Hor
5*	5.8951GHz	56.65	-7.58	49.07	90.27	-41.20	PK	Hor
6*	5.9734GHz	56.03	-7.55	48.48	68.20	-19.72	PK	Hor

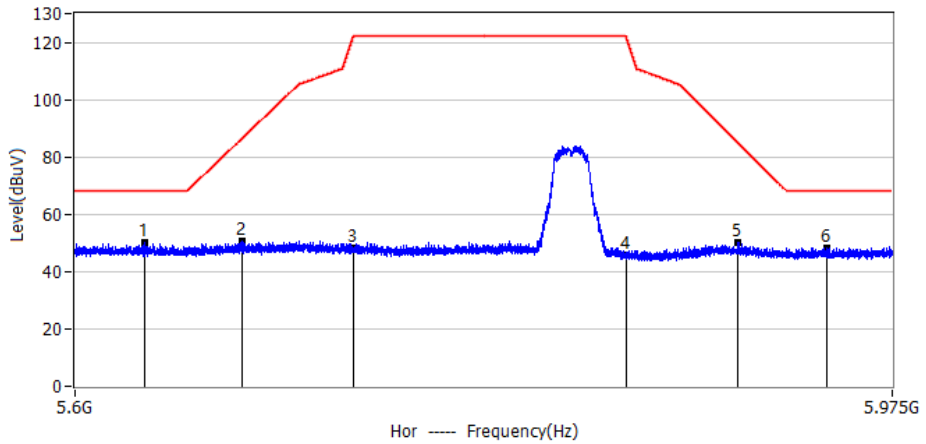


No.	Frequency	Reading dBuV	Factor dB	Level dBuV	Limit dBuV	Margin dB	Detector	Polar
1*	5.6286GHz	57.05	-7.69	49.36	68.20	-18.84	PK	Ver
2*	5.6927GHz	57.82	-7.66	50.16	99.83	-49.67	PK	Ver
3*	5.7250GHz	57.55	-7.65	49.90	122.20	-72.30	PK	Ver
4*	5.8500GHz	53.40	-7.60	45.80	122.20	-76.40	PK	Ver
5*	5.8874GHz	56.89	-7.59	49.30	96.00	-46.70	PK	Ver
6*	5.9721GHz	55.77	-7.55	48.22	68.20	-19.98	PK	Ver
7*	5.7250GHz	NaN	-7.65	NaN	NaN	NaN		Ver
8*	5.8500GHz	NaN	-7.60	NaN	NaN	NaN		Ver

Project: LGT23E075	Test Engineer: Dylan.shi
EUT: Smart Communicator	Temperature: 25.8℃
M/N: PX5	Humidity: 59%RH
Test Voltage: Battery	Test Data: 2023-06-10
Test Mode: 802.11a 5825	
Note:	



No.	Frequency	Reading dBuV	Factor dB	Level dBuV	Limit dBuV	Margin dB	Detector	Polar
1*	5.6195GHz	57.80	-7.69	50.11	68.20	-18.09	PK	Hor
2*	5.6812GHz	57.72	-7.67	50.05	91.35	-41.30	PK	Hor
3*	5.7250GHz	54.45	-7.65	46.80	122.20	-75.40	PK	Hor
4*	5.8500GHz	52.80	-7.60	45.20	122.20	-76.90	PK	Hor
5*	5.8954GHz	56.54	-7.58	48.96	90.10	-41.14	PK	Hor
6*	5.9465GHz	56.35	-7.56	48.79	68.20	-19.41	PK	Hor



No.	Frequency	Reading dBuV	Factor dB	Level dBuV	Limit dBuV	Margin dB	Detector	Polar
1*	5.6307GHz	57.79	-7.69	50.10	68.20	-18.10	PK	Hor
2*	5.6745GHz	58.16	-7.67	50.49	86.36	-35.87	PK	Hor
3*	5.7250GHz	55.65	-7.65	48.00	122.20	-74.20	PK	Hor
4*	5.8500GHz	53.30	-7.60	45.70	122.20	-76.50	PK	Hor
5*	5.9023GHz	57.60	-7.58	50.02	84.96	-34.94	PK	Hor
6*	5.9441GHz	55.90	-7.56	48.34	68.20	-19.86	PK	Hor

4. POWER SPECTRAL DENSITY TEST

4.1 LIMIT

1. For mobile and portable client devices in the 5.15-5.25 GHz band, , the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
2. For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
3. For the band 5.725-5.850 GHz, the peak power spectral density shall not exceed 30 dBm in any 500KHz band. If transmitting antenna directional gain is greater than 6 dBi, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

4.2 TEST PROCEDURE

1. The setting follows Method SA-1 of FCC KDB 789033 D02 General U-NII Test Procedures New Rules v02r01.

For devices operating in the band, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of a RBWs less than 1 MHz, or 500 kHz, “provided that the measured power is integrated over the full reference bandwidth” to show the total power over the specified measurement bandwidth (*i.e.,* 1 MHz, or 500 kHz). If measurements are performed using a reduced resolution bandwidth (< 1 MHz, or < 500 kHz) and integrated over 1 MHz, or 500 KHz bandwidth, the following adjustments to the procedures apply:

a) Set RBW ≥ 1/*T*, where *T* is defined in section II.B.l.a).

b) Set VBW ≥ 3 RBW.

c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add 10 log (500kHz/RBW) to the measured result, whereas RBW (< 500 kHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.

d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add 10 log (1MHz/RBW) to the measured result, whereas RBW (< 1 MHz) is the reduced resolution bandwidth of spectrum analyzer set during measurement.

e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

Note: As a practical matter, it is recommended to use reduced RBW of 100 kHz for the sections 5.c) and 5.d) above, since RBW=100 KHZ is available on nearly all spectrum analyzers.

4.3 DEVIATION FROM STANDARD

No deviation.

4.4 TEST SETUP

4.5 EUT OPERATION CONDITIONS

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

4.6 TEST RESULTS

For the measurement records，refer to the appendix I.

5. BANDWIDTH MEASUREMENT

5.1 EMISSION BANDWIDTH (EBW) 26 BANDWID PROCEDURES / LIMIT

The following procedure shall be used for measuring 26 bandwidth.

5.1.1 TEST PROCEDURE

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > =RBW.
4. Detector = Peak.
5. Trace mode = max hold.
6. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

5.1.2 DEVIATION FROM STANDARD

No deviation.

5.1.3 TEST SETUP

5.1.4 EUT OPERATION CONDITIONS

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

5.1.5 TEST RESULTS

For the measurement records，refer to the appendix I.

5.2 OCCUPIED BANDWIDTH (99%) TEST APPLIED PROCEDURES / LIMIT

The following procedure shall be used for measuring (99 %) power bandwidth.

5.2.1 TEST PROCEDURE

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures v02r01.
The following procedure shall be used for measuring (99 %) power bandwidth:
1. Set center frequency to the nominal EUT channel center frequency.
2. Set span = 1.5 times to 5.0 times the OBW.
3. Set RBW = 1 % to 5 % of the OBW
4. Set VBW ≥ 3 · RBW
5. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
6. Use the 99 % power bandwidth function of the instrument (if available).
7. If the instrument does not have a 99 % power bandwidth function, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5 % of the total is reached; that frequency is recorded as the upper frequency. The 99% occupied bandwidth is the difference between these two frequencies.

5.2.2 DEVIATION FROM STANDARD

No deviation.

5.2.3 TEST SETUP

5.2.4 EUT OPERATION CONDITIONS

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

5.2.5 TEST RESULTS

For the measurement records，refer to the appendix I.

5.3 MINIMUM EMISSION BANDWIDTH(6 DB) PROCEDURES / LIMIT

Section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 KHz for the band 5.725-5.85 GHz. The following procedure shall be used for measuring this bandwidth.

5.3.1 TEST PROCEDURE

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures v02r01.
a) Set RBW = 100 kHz.
b) Set the video bandwidth (VBW) ≥ 3 × RBW.
c) Detector = Peak.
d) Trace mode = max hold.
e) Sweep = auto couple.
f) Allow the trace to stabilize.
g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

5.3.2 DEVIATION FROM STANDARD

No deviation.

5.3.3 TEST SETUP

5.3.4 EUT OPERATION CONDITIONS

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

5.3.5 TEST RESULTS

For the measurement records，refer to the appendix I.

6. MAXIMUM CONDUCTED OUTPUT POWER

6.1 LIMIT

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

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz,If transmitting antennas of directional gain greater than 6 dBi are used.

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. If transmitting antennas of directional gain greater than 6 dBi are used.

FCC Part15 (15.407) , Subpart E				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.407(a) (1) (iv)	Peak Output Power	0.25 watt	5150-5250	PASS
		The lesser of 250 mW or 11 dBm + 10 log (26 dB emission bandwidth)	5250-5350 5470-5725	
15.407(a) (3)		1 watt	5725-5825	

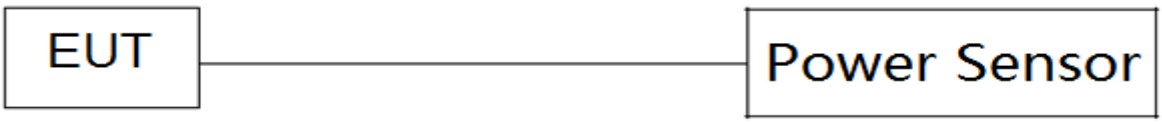
6.2 TEST PROCEDURE

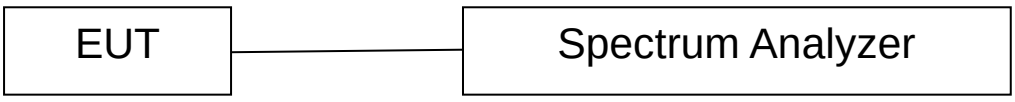
The EUT was directly connected to the Power Sensor&PC

6.3 DEVIATION FROM STANDARD

No deviation.

6.4 TEST SETUP





6.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 5 Unless otherwise a special operating condition is specified in the follows during the testing.

6.6 TEST RESULTS

For the measurement records，refer to the appendix I.

7. AUTOMATICALLY DISCONTINUE TRANSMISSION

7.1 LIMIT OF AUTOMATICALLY DISCONTINUE TRANSMISSION

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization to describe how this requirement is met.

7.2 TEST RESULT OF AUTOMATICALLY DISCONTINUE TRANSMISSION

During no any information transmission, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission

8. ANTENNA REQUIREMENT

8.1 STANDARD REQUIREMENT

Part 15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

8.2 EUT ANTENNA

The EUT antenna is FPC Antenna. It comply with the standard requirement.

APPENDIX I:TEST RESULTS

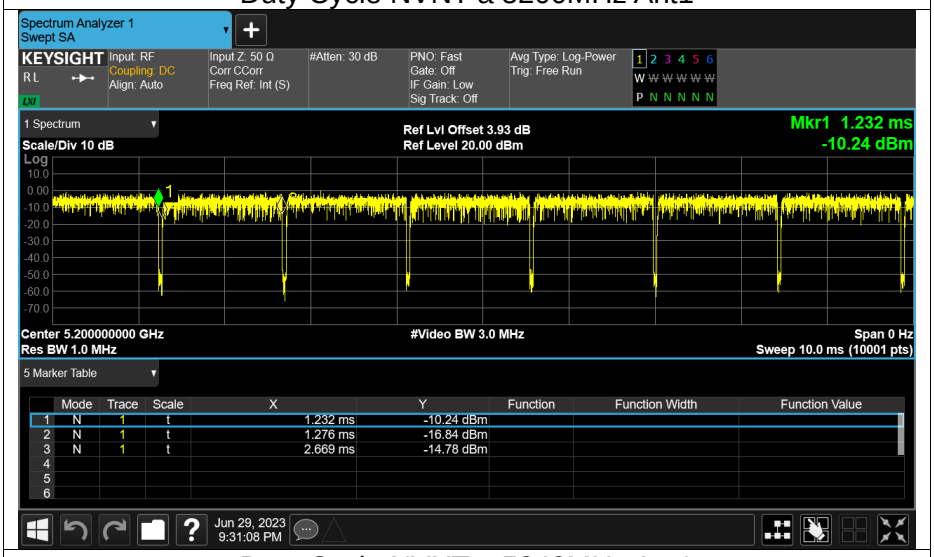
Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5180	Ant1	96.94	0.13	0.72
NVNT	a	5200	Ant1	96.94	0.13	0.72
NVNT	a	5240	Ant1	96.94	0.13	0.72
NVNT	a	5745	Ant1	96.94	0.13	0.72
NVNT	a	5785	Ant1	96.94	0.13	0.72
NVNT	a	5825	Ant1	96.94	0.13	0.72
NVNT	n20	5180	Ant1	96.73	0.14	0.77
NVNT	n20	5200	Ant1	96.73	0.14	0.77
NVNT	n20	5240	Ant1	96.73	0.14	0.77
NVNT	n20	5745	Ant1	96.73	0.14	0.77
NVNT	n20	5785	Ant1	96.73	0.14	0.77
NVNT	n20	5825	Ant1	96.73	0.14	0.77
NVNT	n40	5190	Ant1	93.79	0.28	1.54
NVNT	n40	5230	Ant1	93.79	0.28	1.54
NVNT	n40	5755	Ant1	93.93	0.27	1.54
NVNT	n40	5795	Ant1	93.93	0.27	1.54
NVNT	ac80	5210	Ant1	88.32	0.54	3.08
NVNT	ac80	5775	Ant1	88.59	0.53	3.07

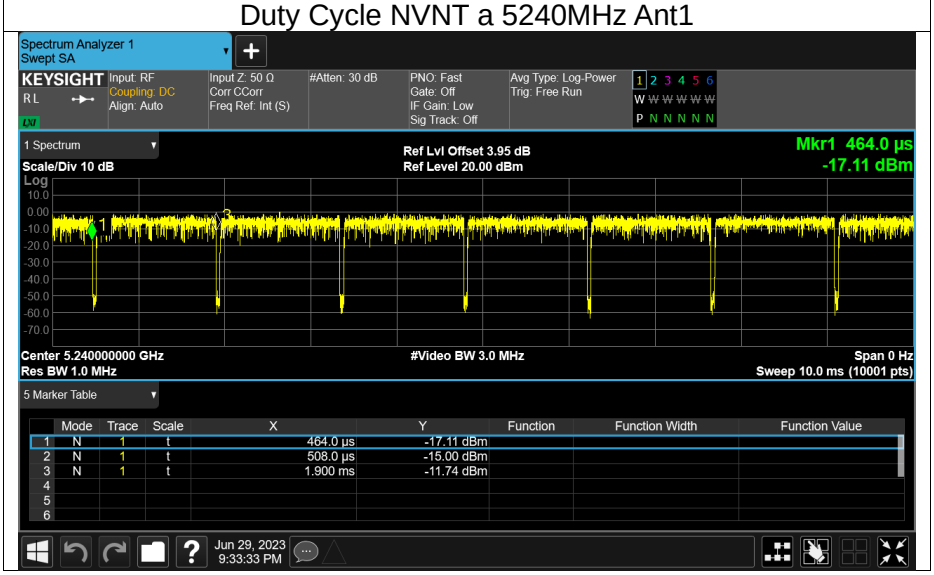
Test Graphs

Duty Cycle NVNT a 5180MHz Ant1

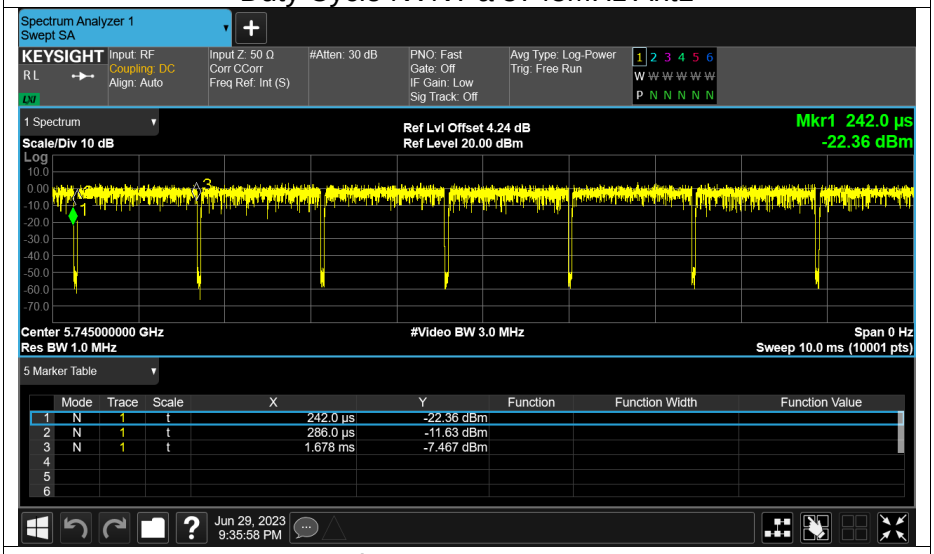
Duty Cycle NVNT a 5200MHz Ant1



Duty Cycle NVNT a 5240MHz Ant1

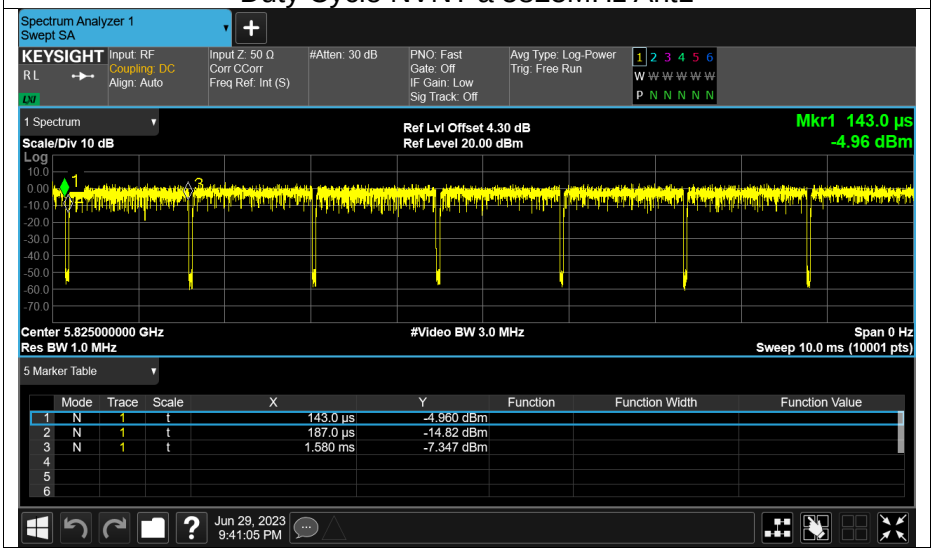


Duty Cycle NVNT a 5745MHz Ant1

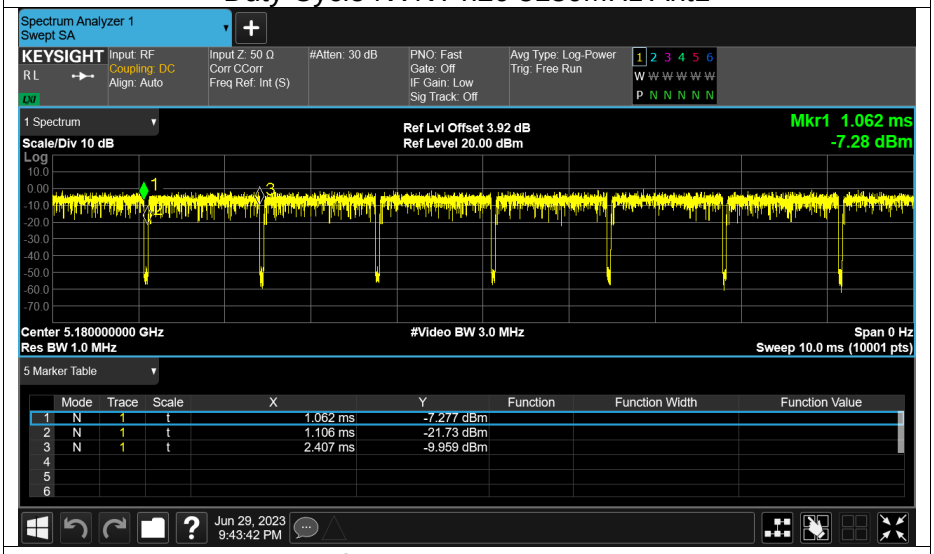


Duty Cycle NVNT a 5785MHz Ant1

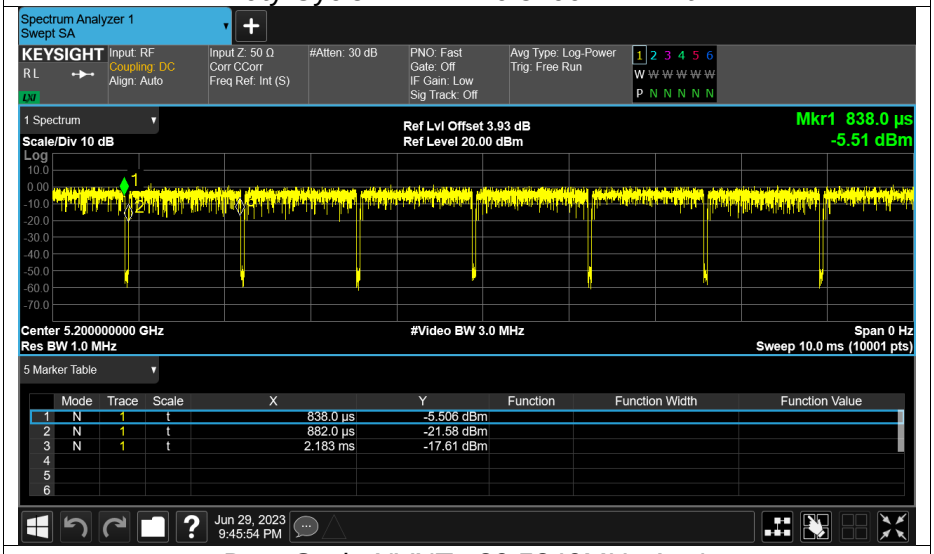
Duty Cycle NVNT a 5825MHz Ant1



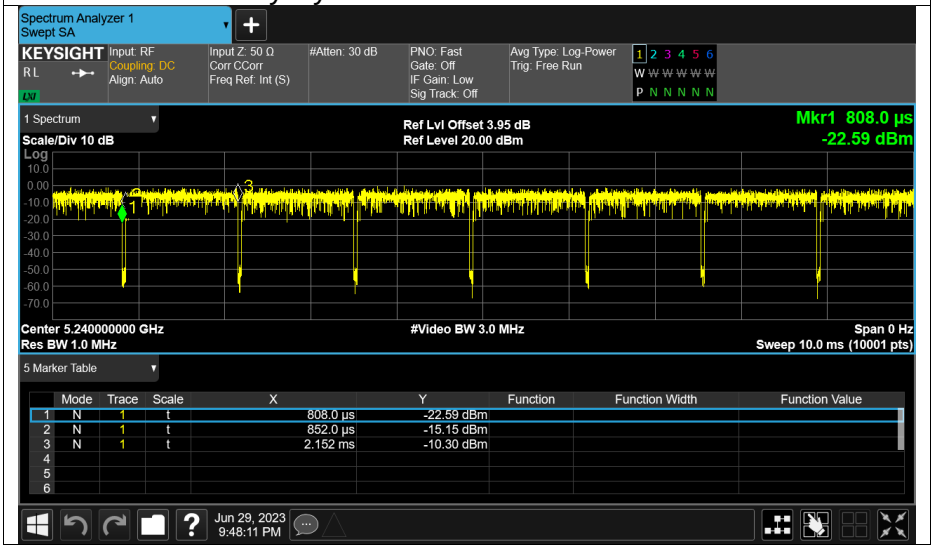
Duty Cycle NVNT n20 5180MHz Ant1



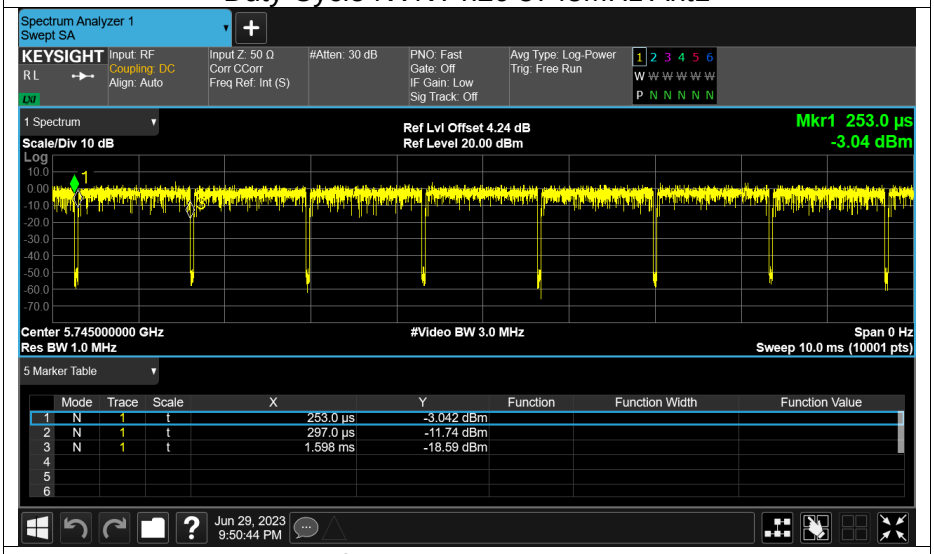
Duty Cycle NVNT n20 5200MHz Ant1



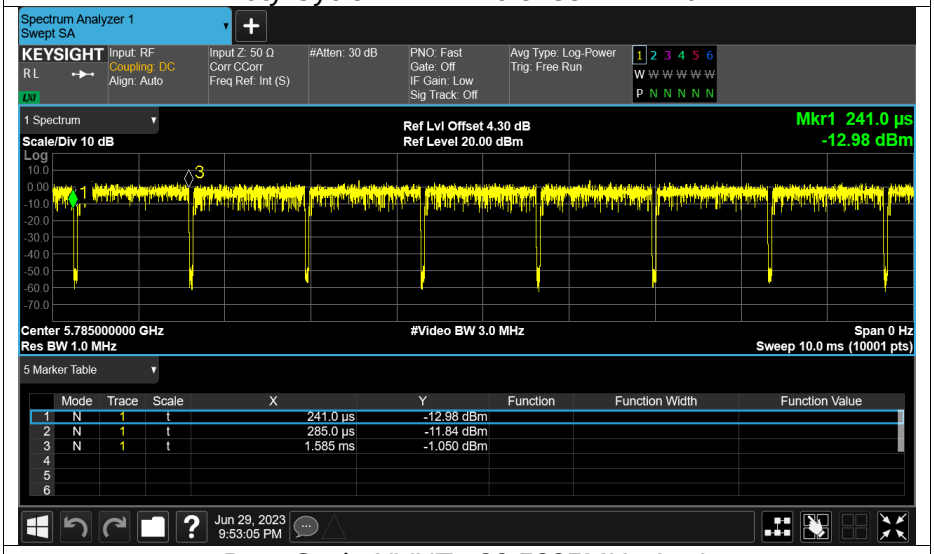
Duty Cycle NVNT n20 5240MHz Ant1



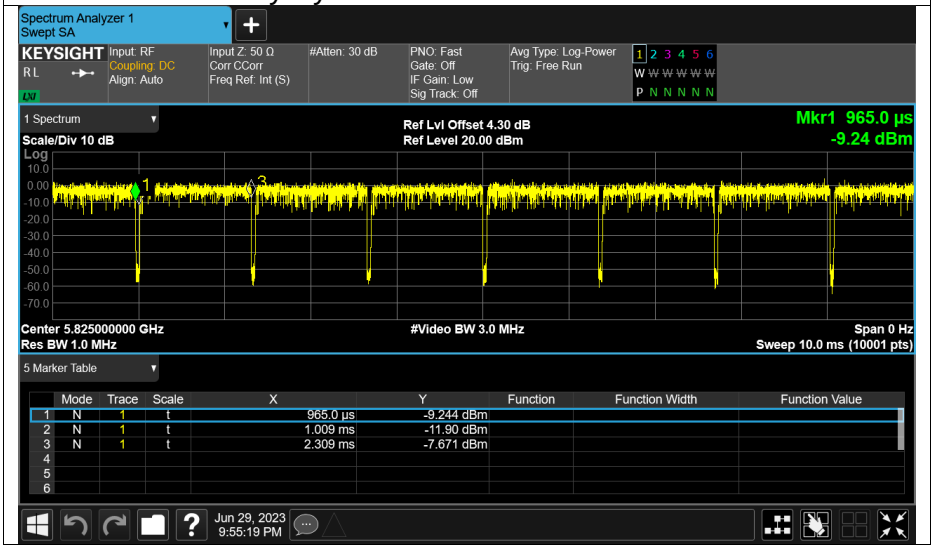
Duty Cycle NVNT n20 5745MHz Ant1



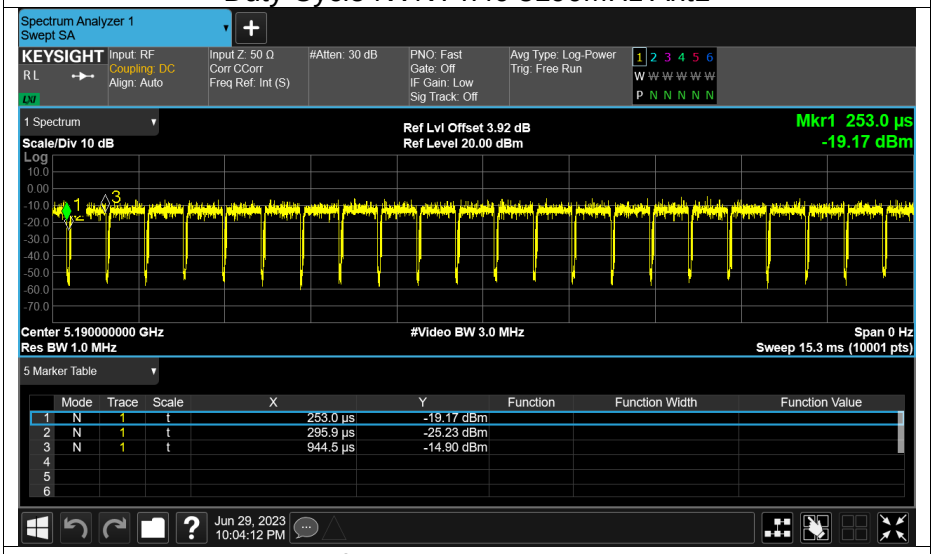
Duty Cycle NVNT n20 5785MHz Ant1



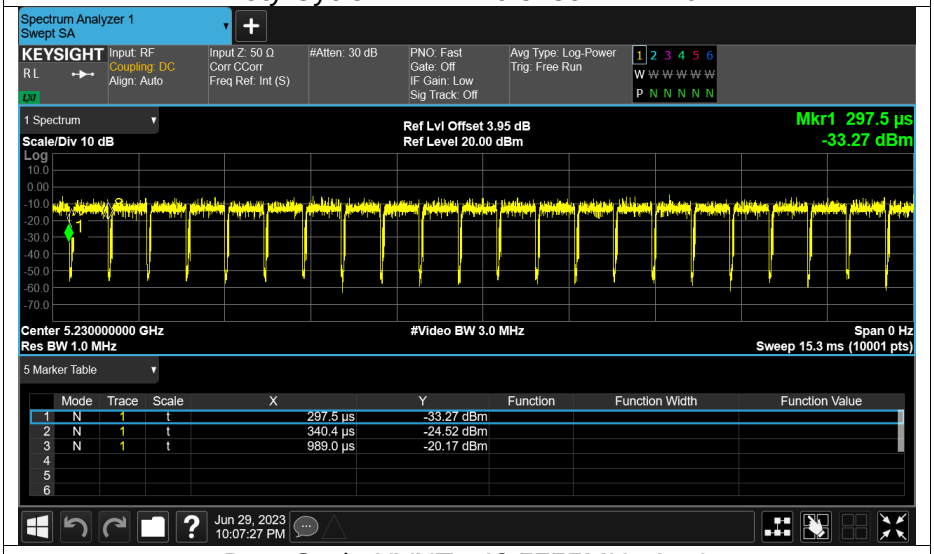
Duty Cycle NVNT n20 5825MHz Ant1



Duty Cycle NVNT n40 5190MHz Ant1

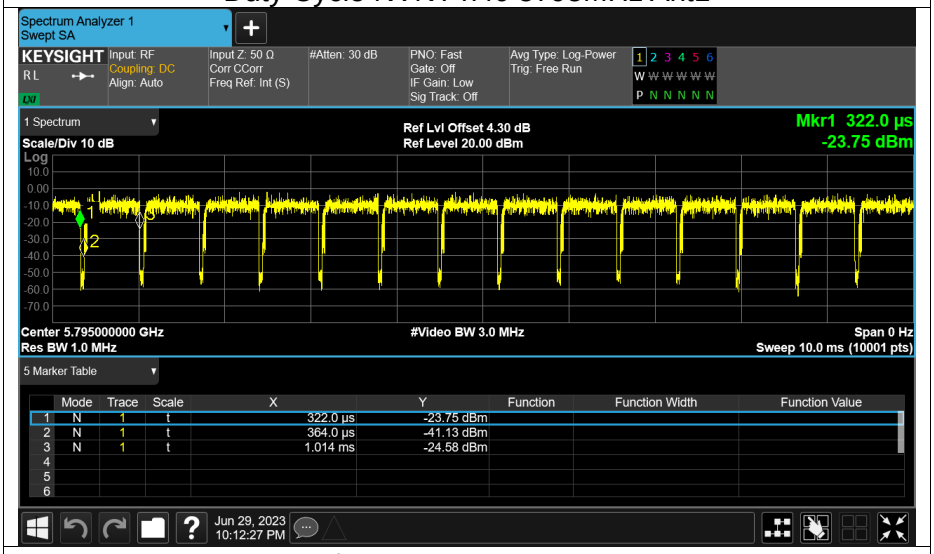


Duty Cycle NVNT n40 5230MHz Ant1

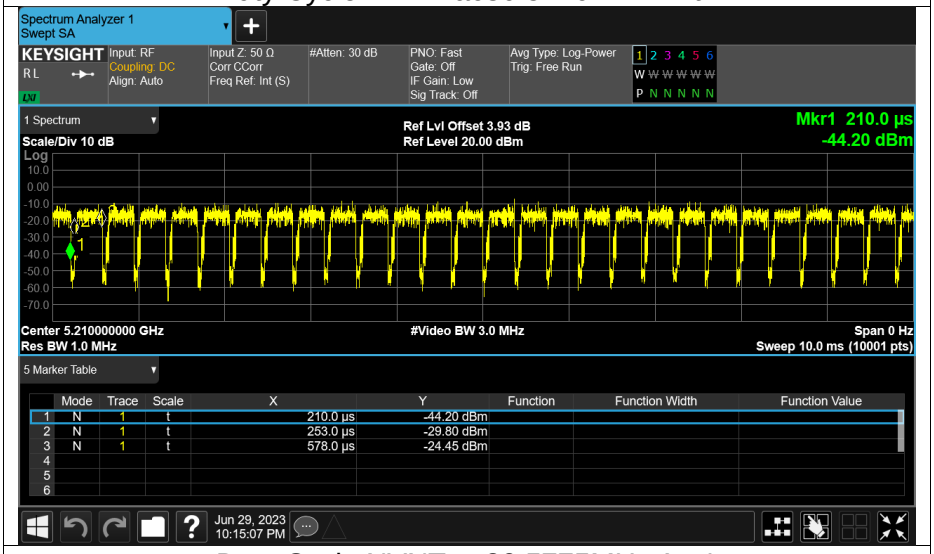


Duty Cycle NVNT n40 5755MHz Ant1

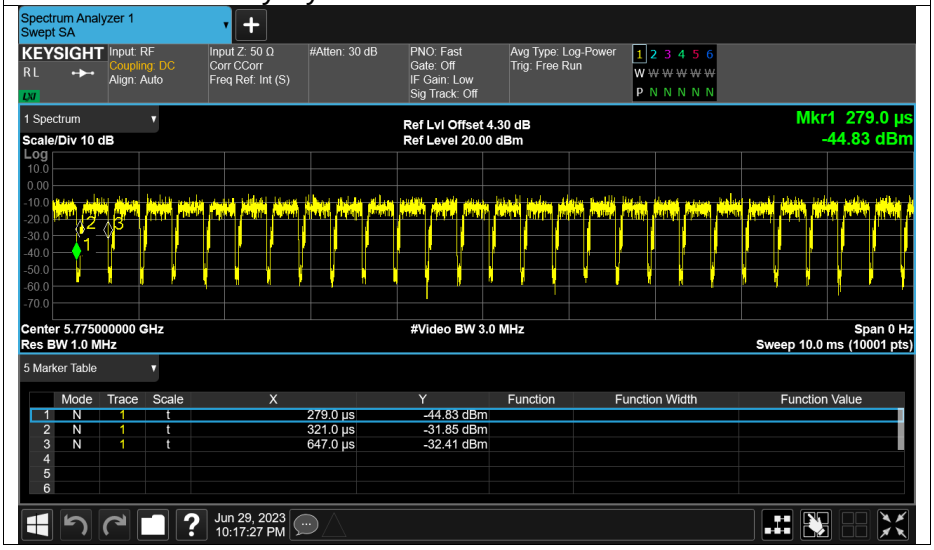
Duty Cycle NVNT n40 5795MHz Ant1



Duty Cycle NVNT ac80 5210MHz Ant1



Duty Cycle NVNT ac80 5775MHz Ant1



Maximum Conducted Output Power

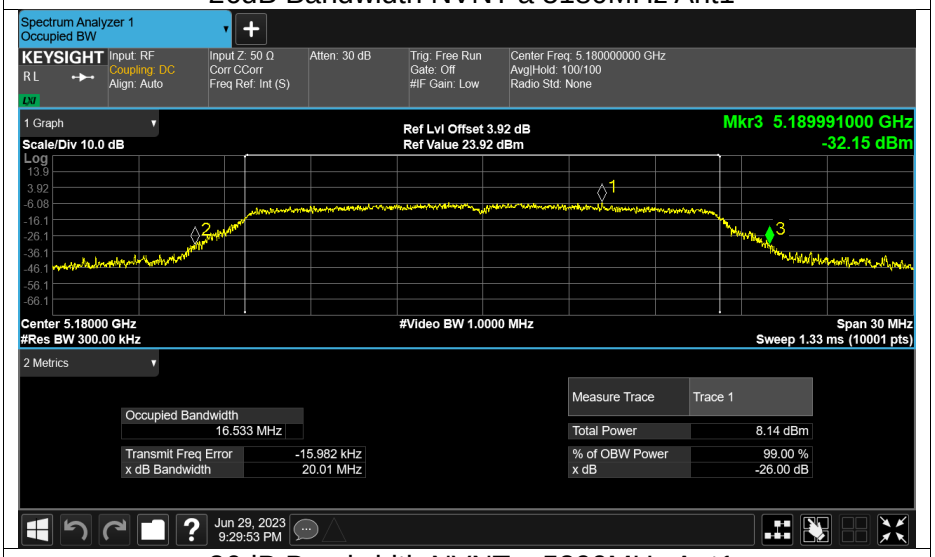
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant1	2.57	0.13	2.7	24	Pass
NVNT	a	5200	Ant1	2.38	0.13	2.51	24	Pass
NVNT	a	5240	Ant1	2.7	0.13	2.83	24	Pass
NVNT	a	5745	Ant1	6.73	0.13	6.86	24	Pass
NVNT	a	5785	Ant1	6.43	0.13	6.56	24	Pass
NVNT	a	5825	Ant1	6.47	0.13	6.6	24	Pass
NVNT	n20	5180	Ant1	2.66	0.14	2.8	24	Pass
NVNT	n20	5200	Ant1	4.72	0.14	4.86	24	Pass
NVNT	n20	5240	Ant1	2.77	0.14	2.91	24	Pass
NVNT	n20	5745	Ant1	6.86	0.14	7	30	Pass
NVNT	n20	5785	Ant1	6.47	0.14	6.61	30	Pass
NVNT	n20	5825	Ant1	6.55	0.14	6.69	30	Pass
NVNT	n40	5190	Ant1	2.55	0.28	2.83	24	Pass
NVNT	n40	5230	Ant1	2.37	0.28	2.65	24	Pass
NVNT	n40	5755	Ant1	6.7	0.27	6.97	30	Pass
NVNT	n40	5795	Ant1	6.09	0.27	6.36	30	Pass
NVNT	ac80	5210	Ant1	2.24	0.54	2.78	24	Pass
NVNT	ac80	5775	Ant1	6.17	0.53	6.7	30	Pass

-26dB Bandwidth

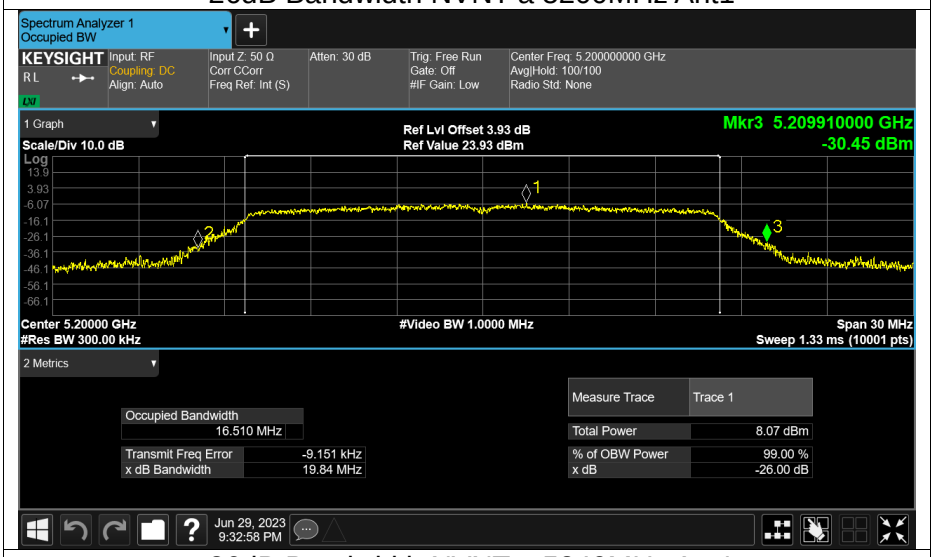
Condition	Mode	Frequency (MHz)	Antenna	-26 dB Bandwidth (MHz)	Limit -26 dB Bandwidth (MHz)	Verdict
NVNT	a	5180	Ant1	20.013	0.5	Pass
NVNT	a	5200	Ant1	19.839	0.5	Pass
NVNT	a	5240	Ant1	20.138	0.5	Pass
NVNT	n20	5180	Ant1	20.33	0.5	Pass
NVNT	n20	5200	Ant1	20.412	0.5	Pass
NVNT	n20	5240	Ant1	20.417	0.5	Pass
NVNT	n40	5190	Ant1	40.087	0.5	Pass
NVNT	n40	5230	Ant1	39.744	0.5	Pass
NVNT	ac80	5210	Ant1	79.211	0.5	Pass

Test Graphs

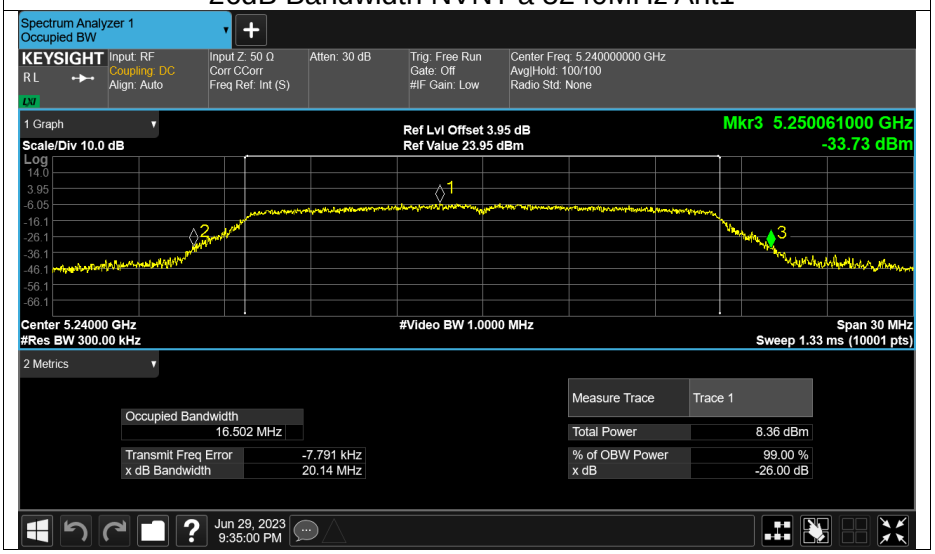
-26dB Bandwidth NVNT a 5180MHz Ant1



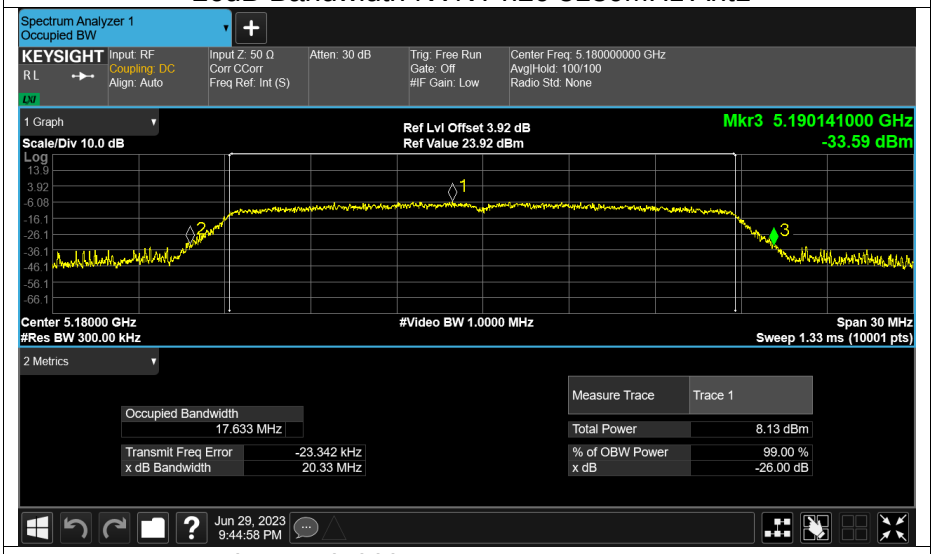
-26dB Bandwidth NVNT a 5200MHz Ant1



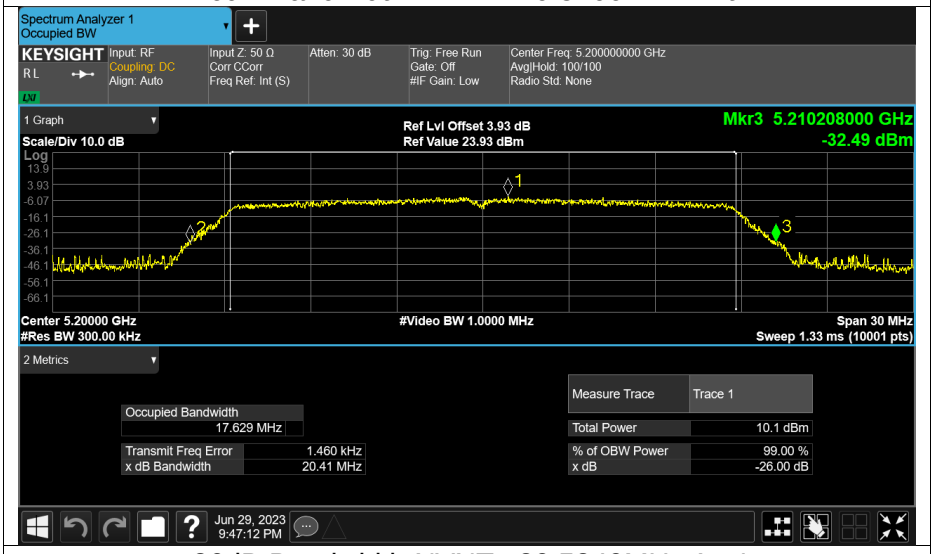
-26dB Bandwidth NVNT a 5240MHz Ant1



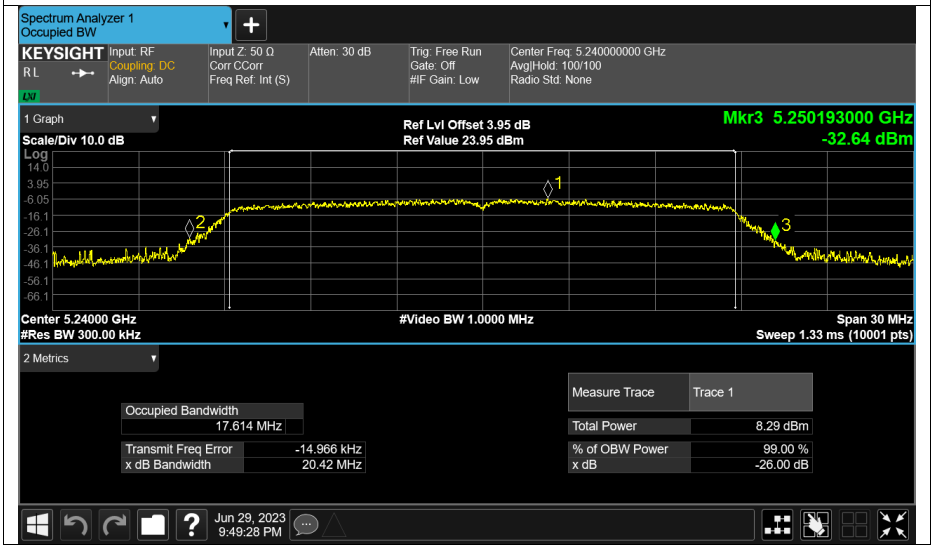
-26dB Bandwidth NVNT n20 5180MHz Ant1



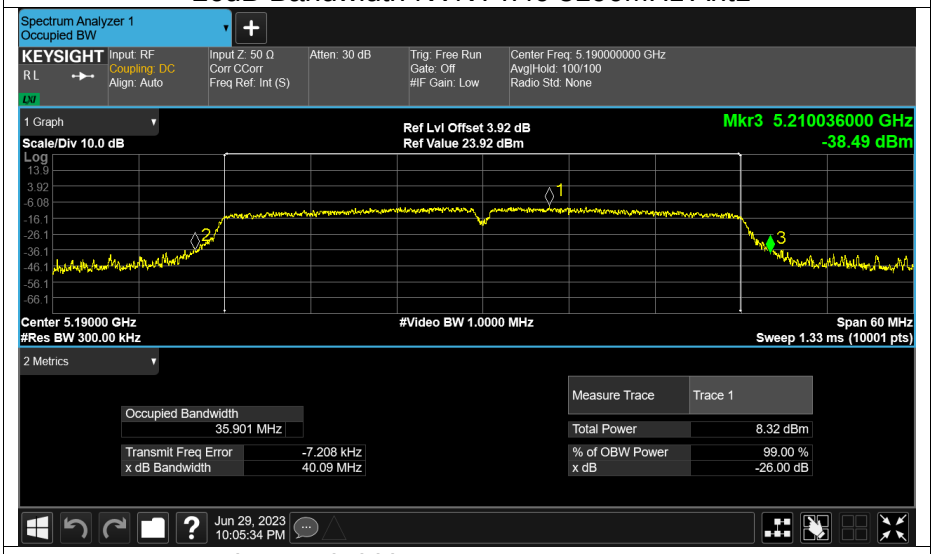
-26dB Bandwidth NVNT n20 5200MHz Ant1



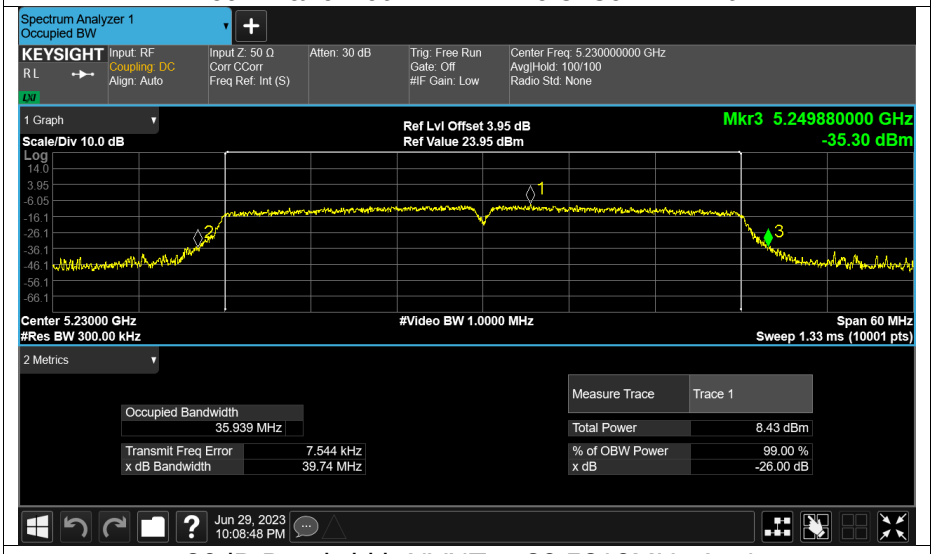
-26dB Bandwidth NVNT n20 5240MHz Ant1



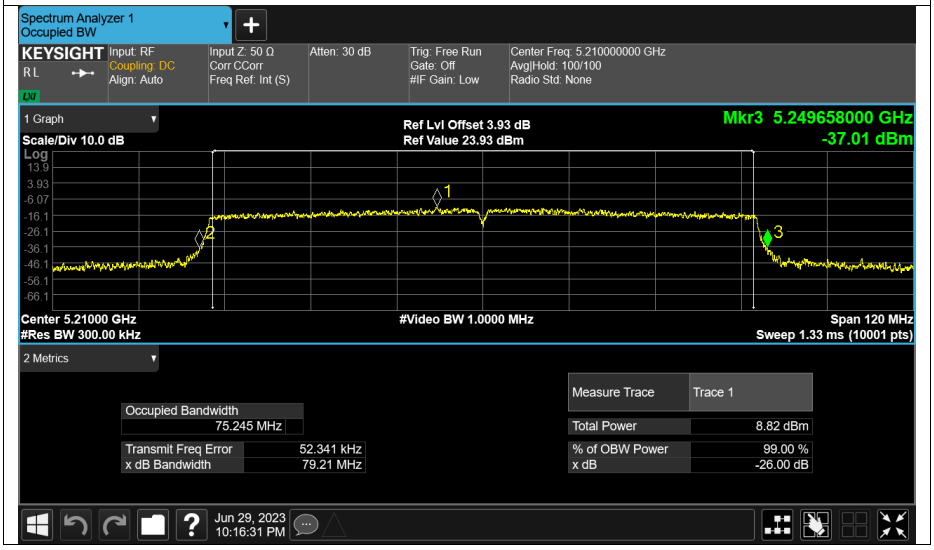
-26dB Bandwidth NVNT n40 5190MHz Ant1



-26dB Bandwidth NVNT n40 5230MHz Ant1



-26dB Bandwidth NVNT ac80 5210MHz Ant1

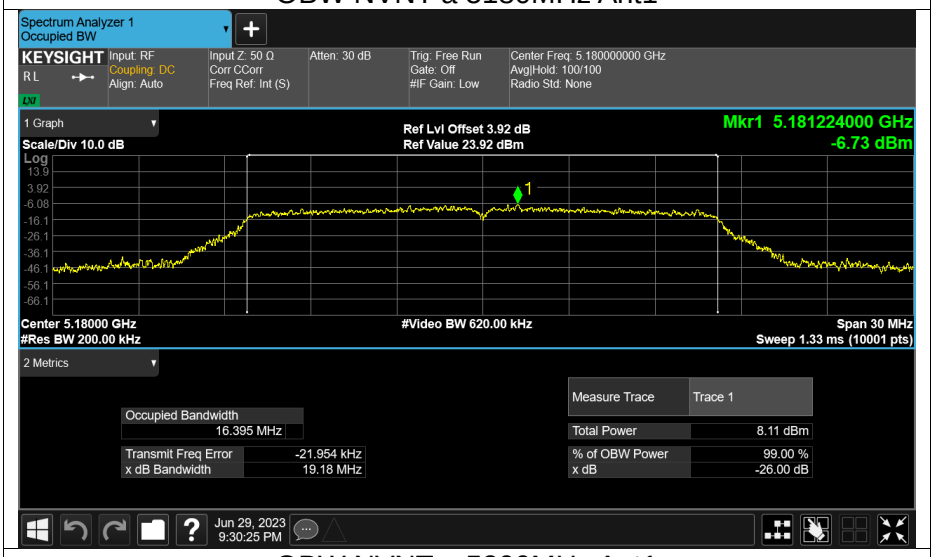


Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	a	5180	Ant1	16.395
NVNT	a	5200	Ant1	16.39
NVNT	a	5240	Ant1	16.416
NVNT	a	5745	Ant1	16.381
NVNT	a	5785	Ant1	16.37
NVNT	a	5825	Ant1	16.352
NVNT	n20	5180	Ant1	17.547
NVNT	n20	5200	Ant1	17.537
NVNT	n20	5240	Ant1	17.544
NVNT	n20	5745	Ant1	17.526
NVNT	n20	5785	Ant1	17.52
NVNT	n20	5825	Ant1	17.507
NVNT	n40	5190	Ant1	36.007
NVNT	n40	5230	Ant1	35.991
NVNT	n40	5755	Ant1	35.899
NVNT	n40	5795	Ant1	35.975
NVNT	ac80	5210	Ant1	75.287
NVNT	ac80	5775	Ant1	75.142

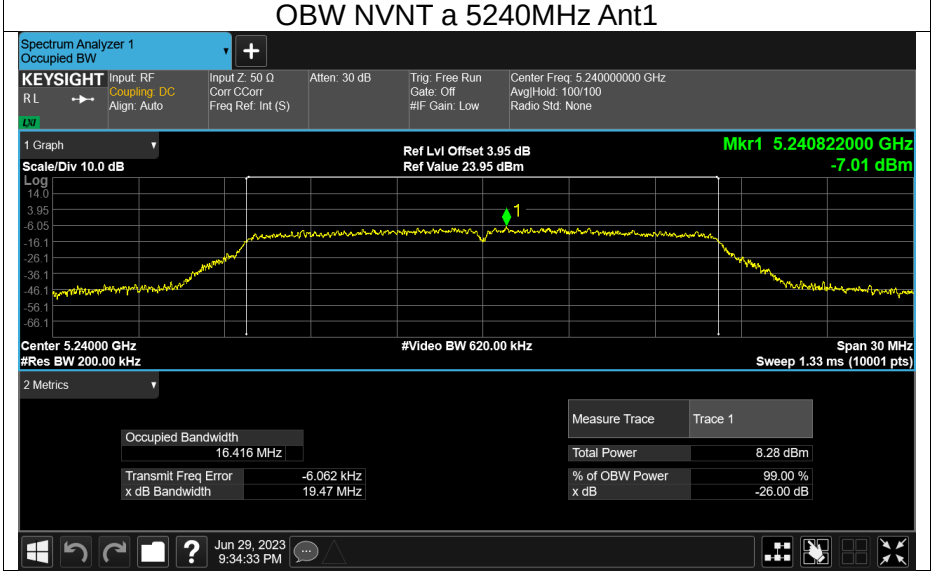
Test Graphs

OBW NVNT a 5180MHz Ant1



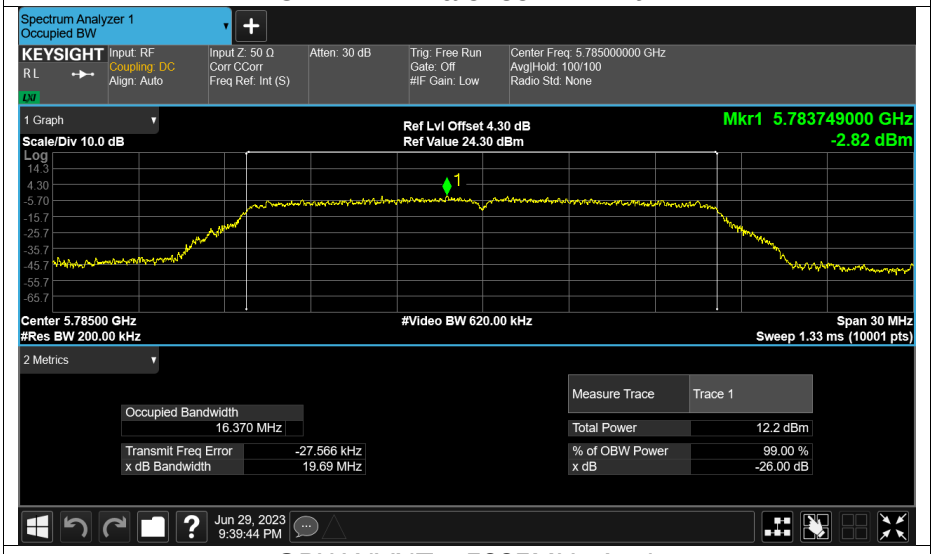
OBW NVNT a 5200MHz Ant1

OBW NVNT a 5240MHz Ant1

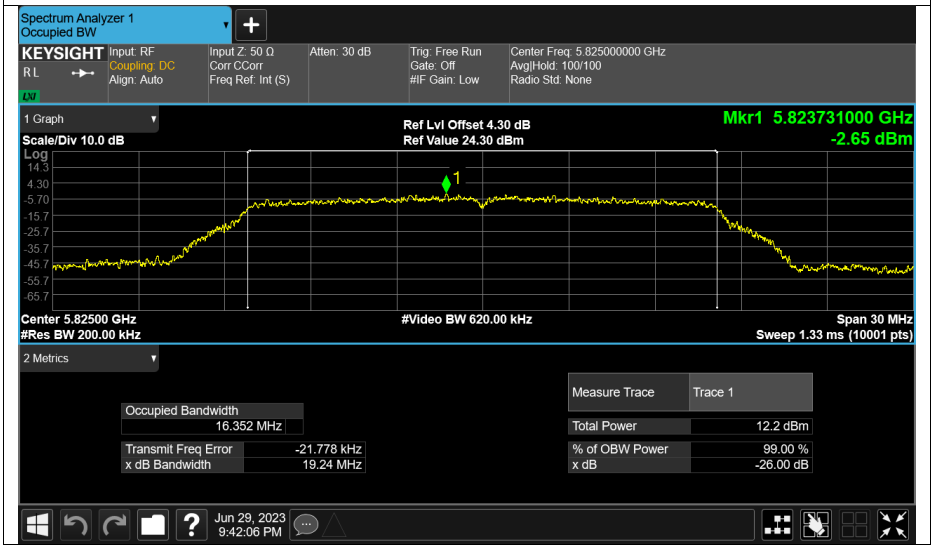


OBW NVNT a 5745MHz Ant1

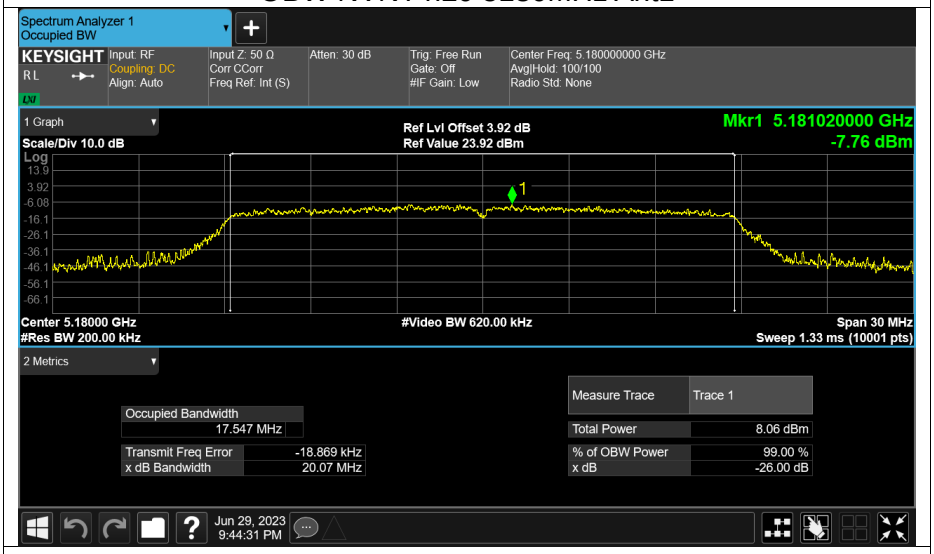
OBW NVNT a 5785MHz Ant1



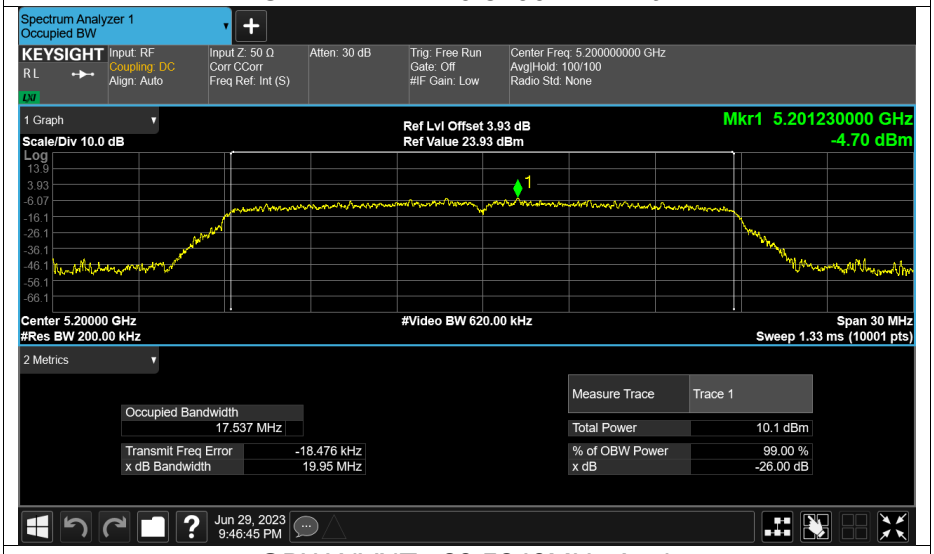
OBW NVNT a 5825MHz Ant1



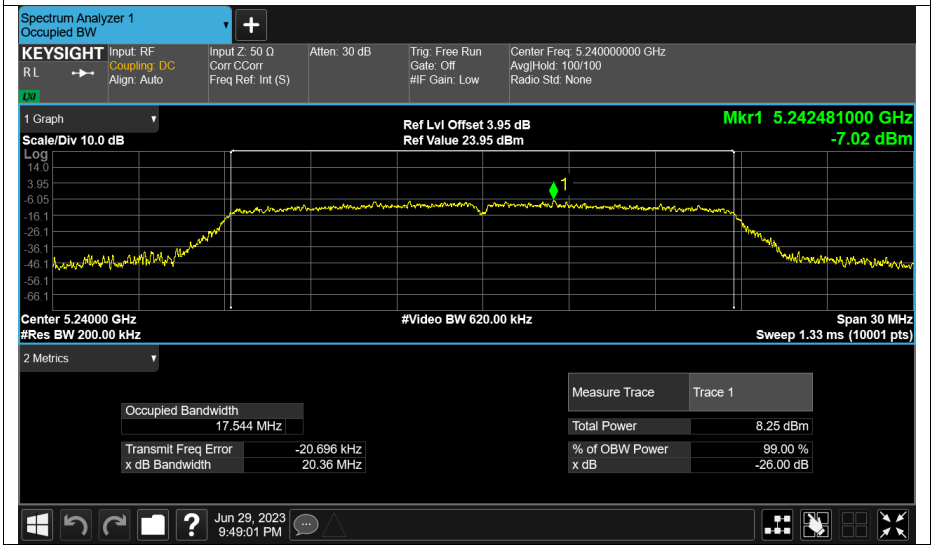
OBW NVNT n20 5180MHz Ant1



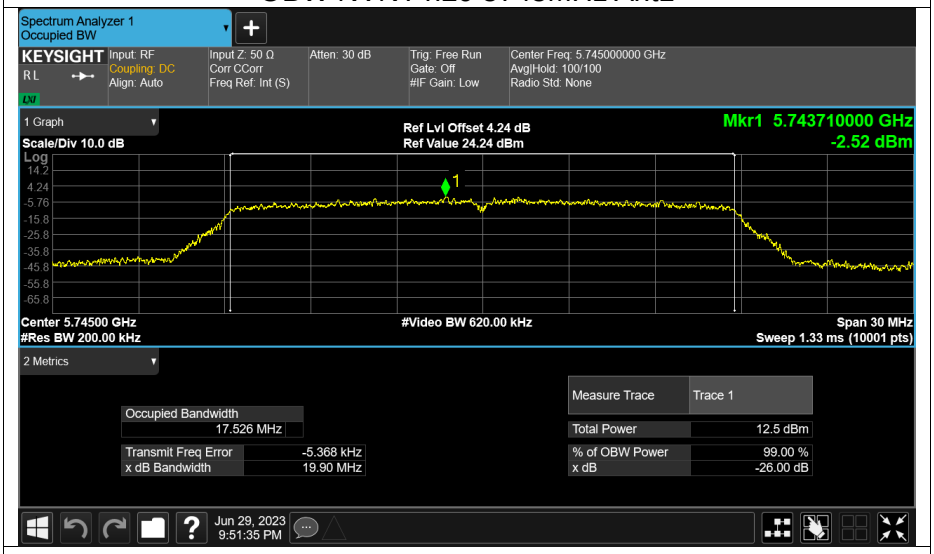
OBW NVNT n20 5200MHz Ant1



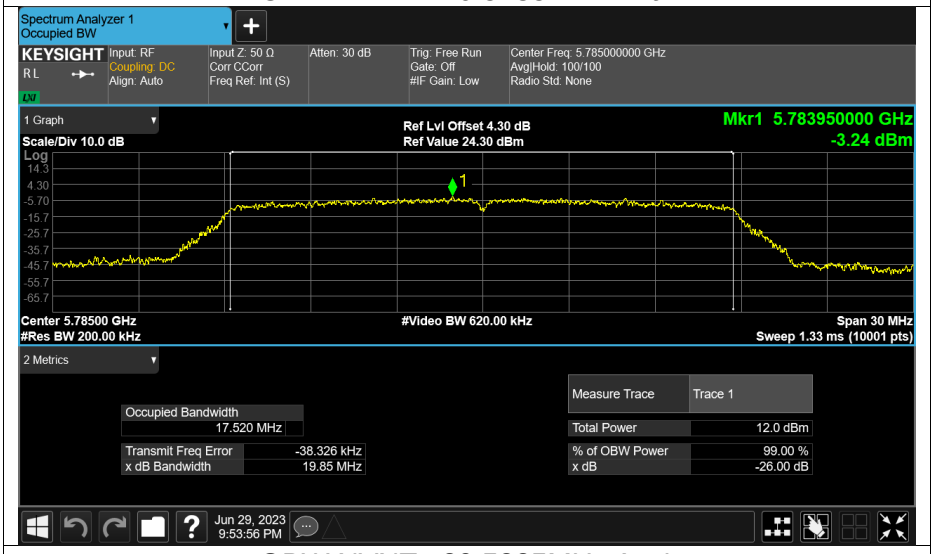
OBW NVNT n20 5240MHz Ant1



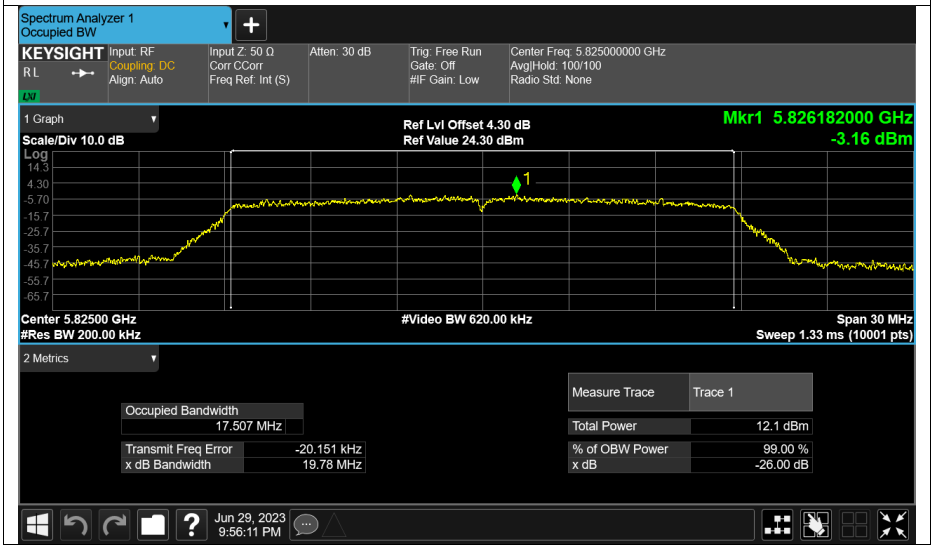
OBW NVNT n20 5745MHz Ant1



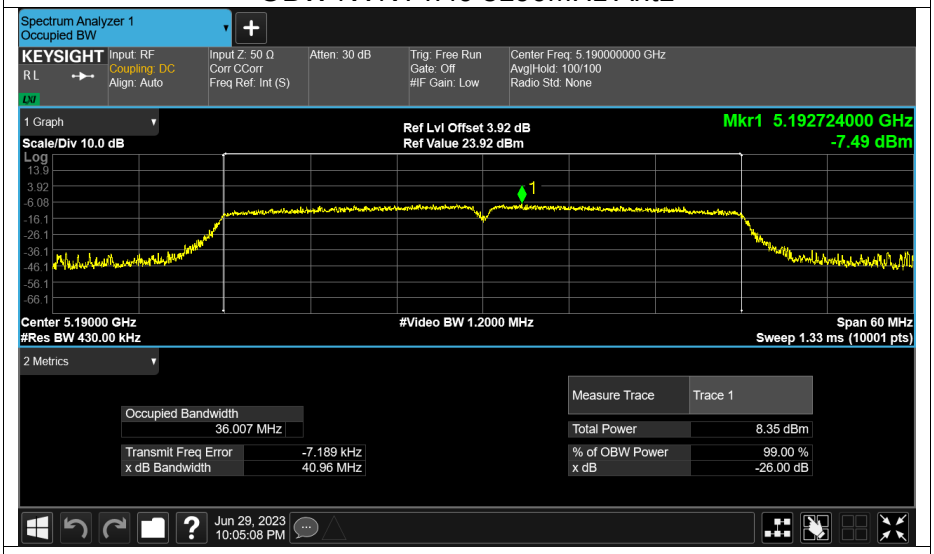
OBW NVNT n20 5785MHz Ant1



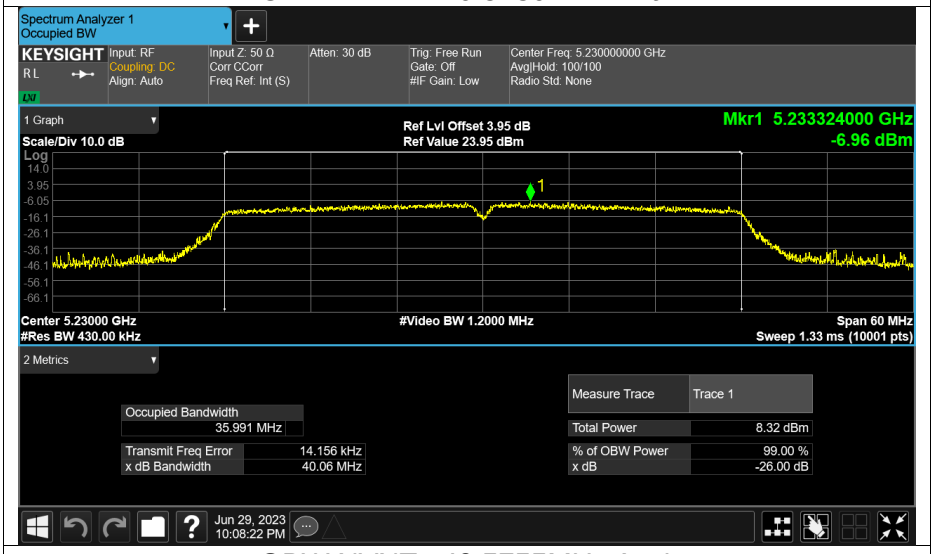
OBW NVNT n20 5825MHz Ant1



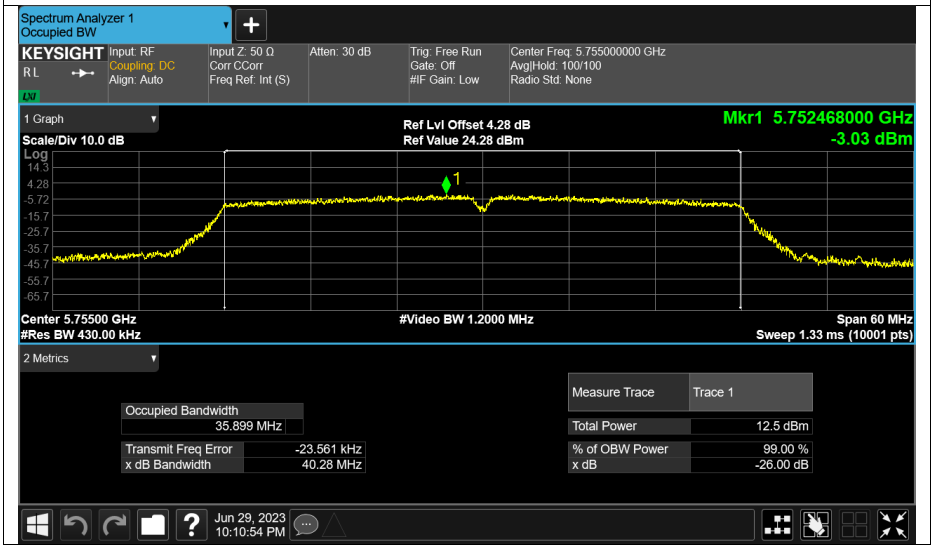
OBW NVNT n40 5190MHz Ant1



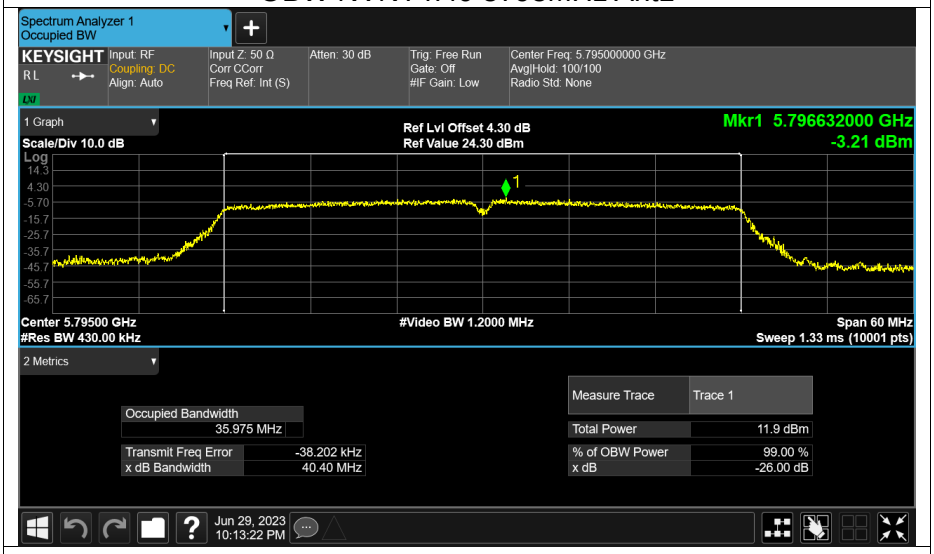
OBW NVNT n40 5230MHz Ant1



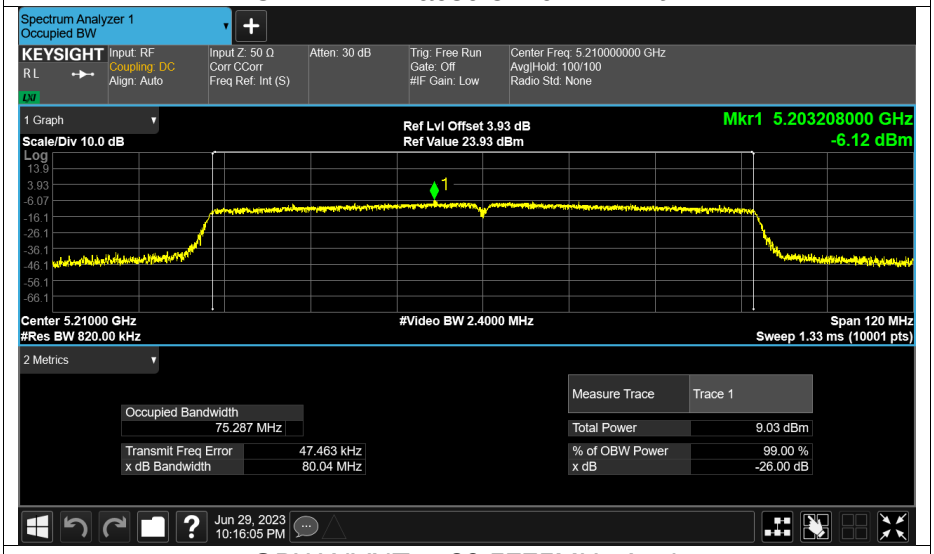
OBW NVNT n40 5755MHz Ant1



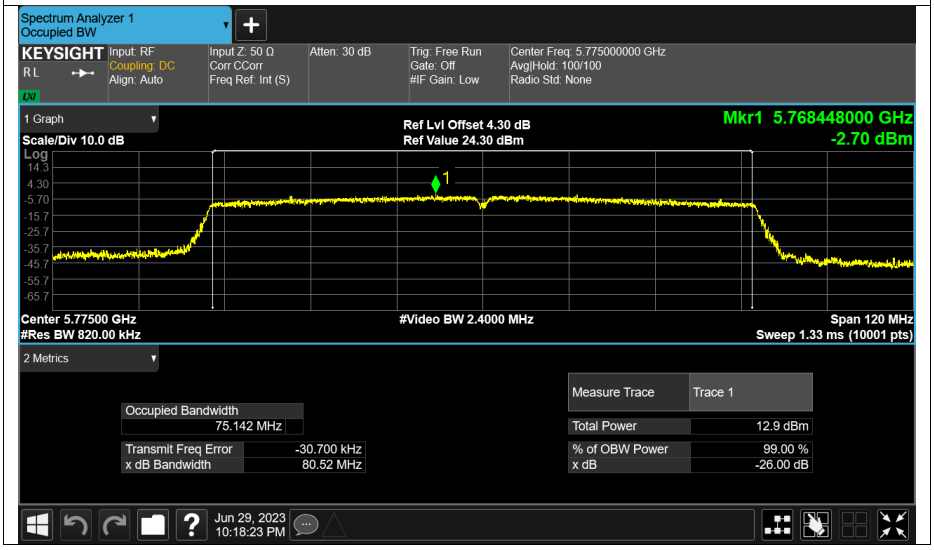
OBW NVNT n40 5795MHz Ant1



OBW NVNT ac80 5210MHz Ant1



OBW NVNT ac80 5775MHz Ant1



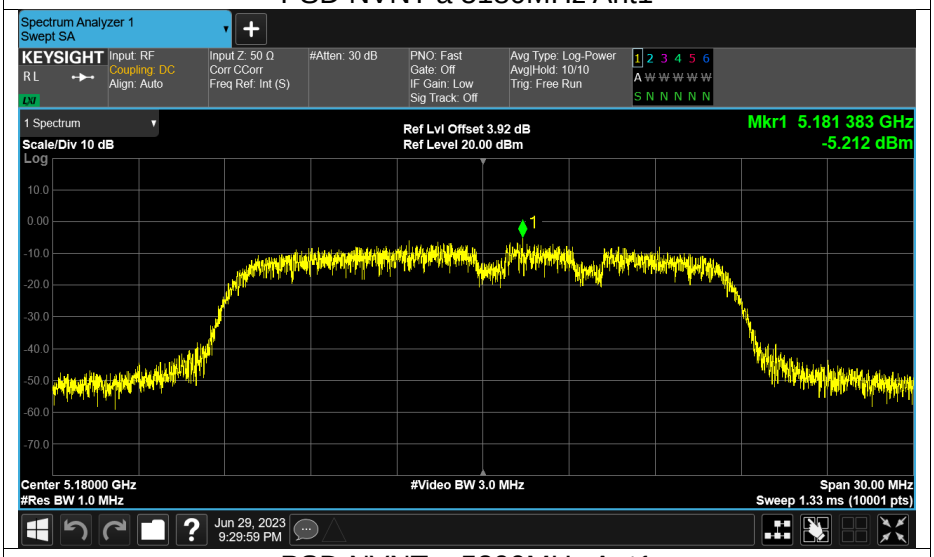
Maximum Power Spectral Density Level

Mode	Frequency (MHz)	Conducted PSD (dBm)	Duty Factor (dB)	Total PSD (dBm/MHz)	Limit (dBm/MHz)	Verdict
a	5180	-5.21	0.13	-5.08	11	Pass
a	5200	-9.39	0.13	-9.26	11	Pass
a	5240	-8.95	0.13	-8.82	11	Pass
n20	5180	-10.18	0.14	-10.04	11	Pass
n20	5200	-7.7	0.14	-7.56	11	Pass
n20	5240	-9.42	0.14	-9.28	11	Pass
n40	5190	-13.51	0.28	-13.23	11	Pass
n40	5230	-14.03	0.28	-13.75	11	Pass
ac80	5210	-18.5	0.54	-17.96	11	Pass

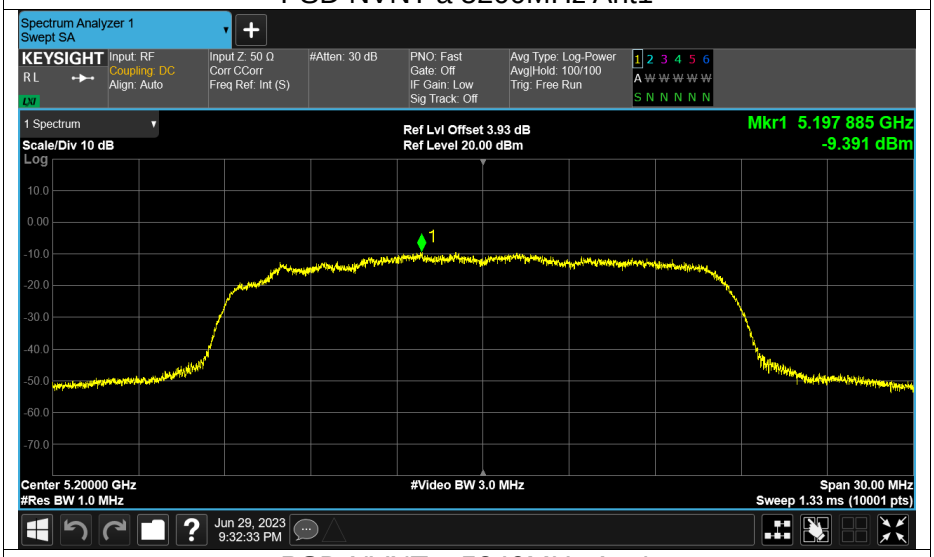
Mode	Frequency (MHz)	Conducted PSD (dBm)	Duty Factor (dB)	Total PSD (dBm/500KHz)	Total PSD (dBm/500KHz)	Verdict
a	5745	-8.55	0.13	-8.42	30	Pass
a	5785	-8.47	0.13	-8.34	30	Pass
a	5825	-8.58	0.13	-8.45	30	Pass
n20	5745	-8.79	0.14	-8.65	30	Pass
n20	5785	-8.79	0.14	-8.65	30	Pass
n20	5825	-9.31	0.14	-9.17	30	Pass
n40	5755	-12.13	0.27	-11.86	30	Pass
n40	5795	-12.48	0.27	-12.21	30	Pass
ac80	5775	-14.63	0.53	-14.1	30	Pass

Test Graphs

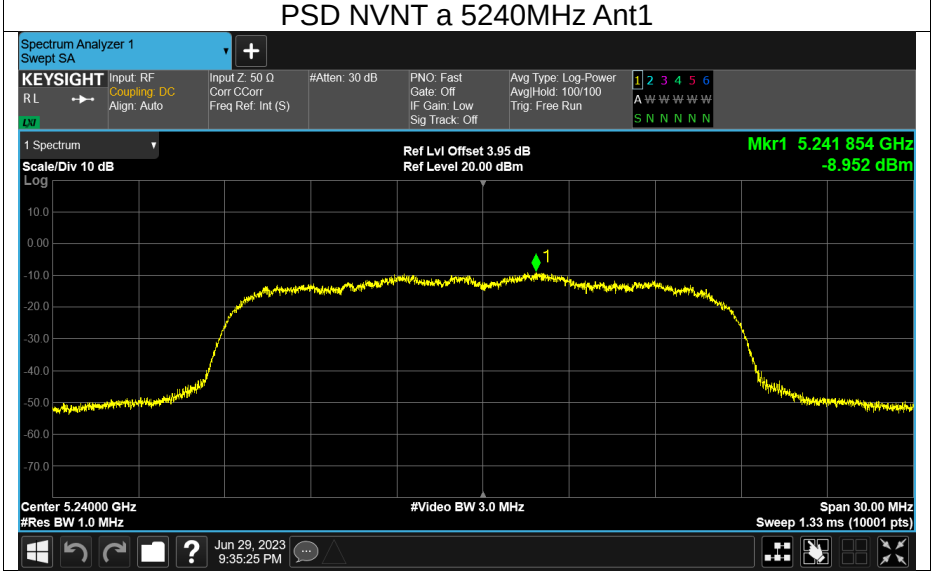
PSD NVNT a 5180MHz Ant1



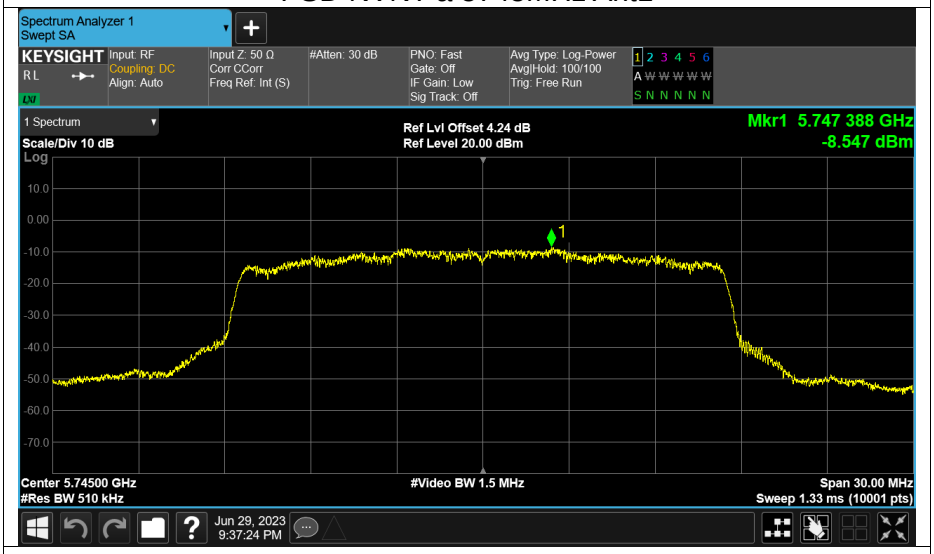
PSD NVNT a 5200MHz Ant1



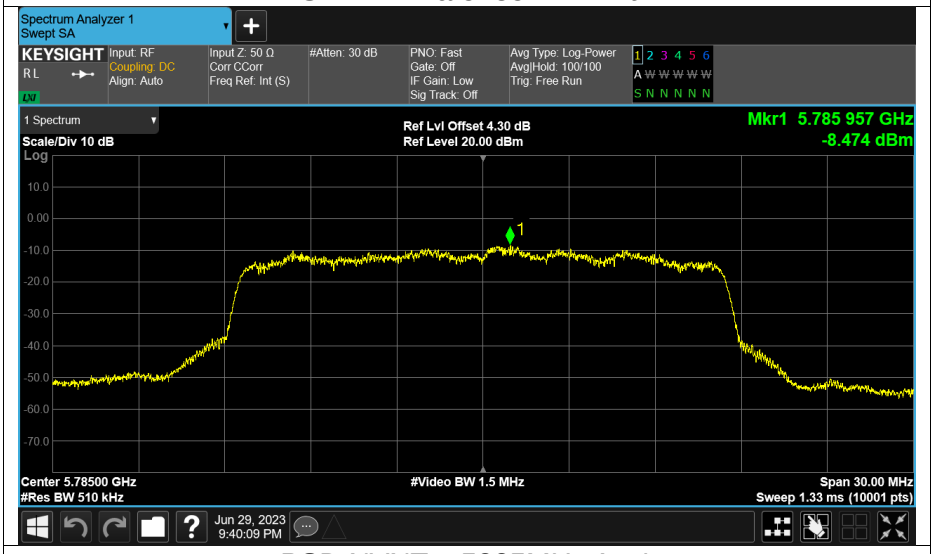
PSD NVNT a 5240MHz Ant1



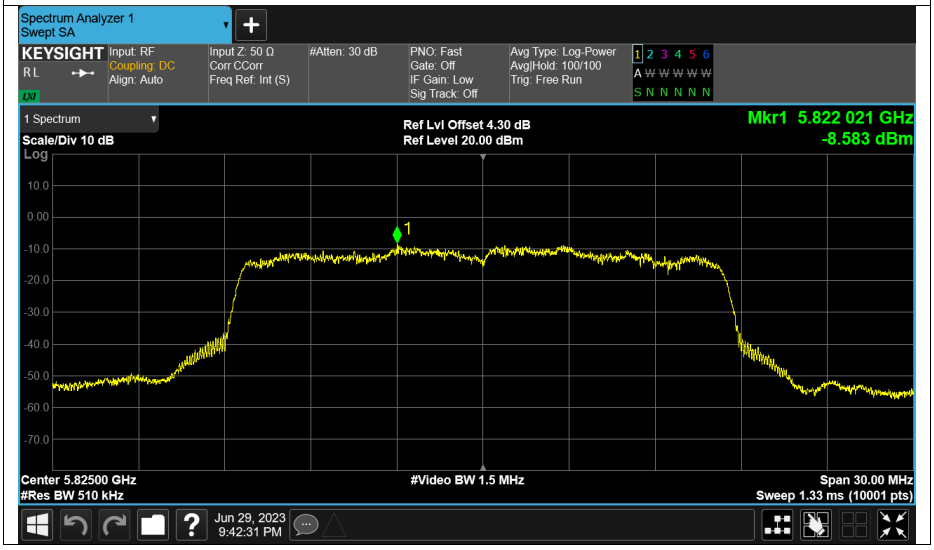
PSD NVNT a 5745MHz Ant1



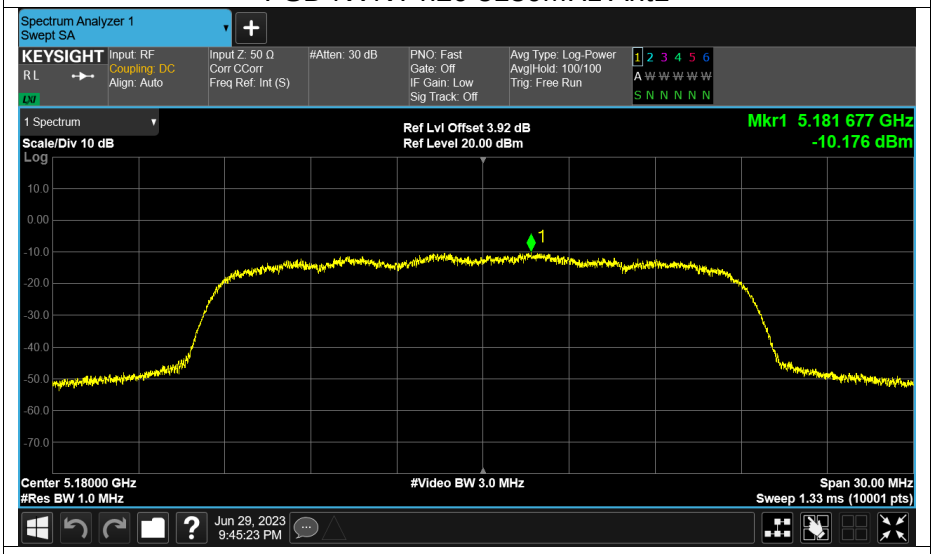
PSD NVNT a 5785MHz Ant1



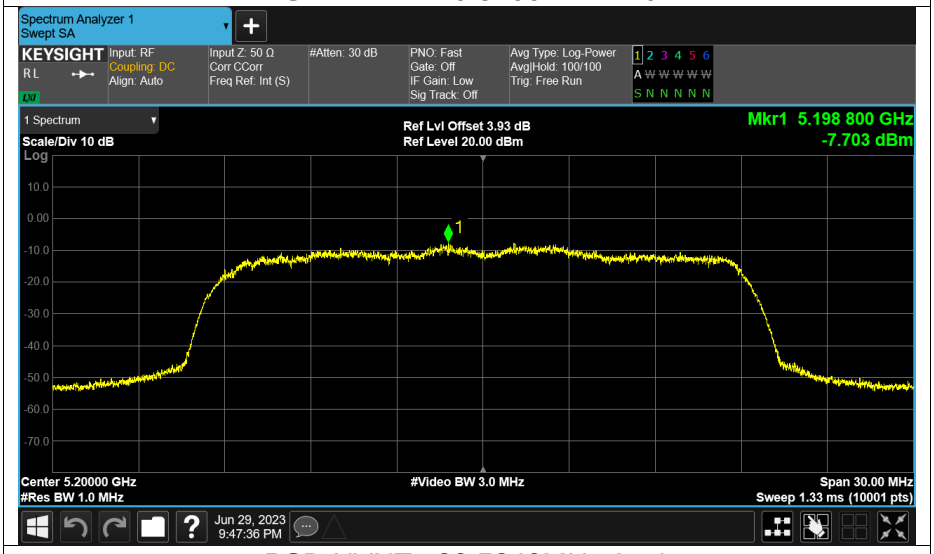
PSD NVNT a 5825MHz Ant1



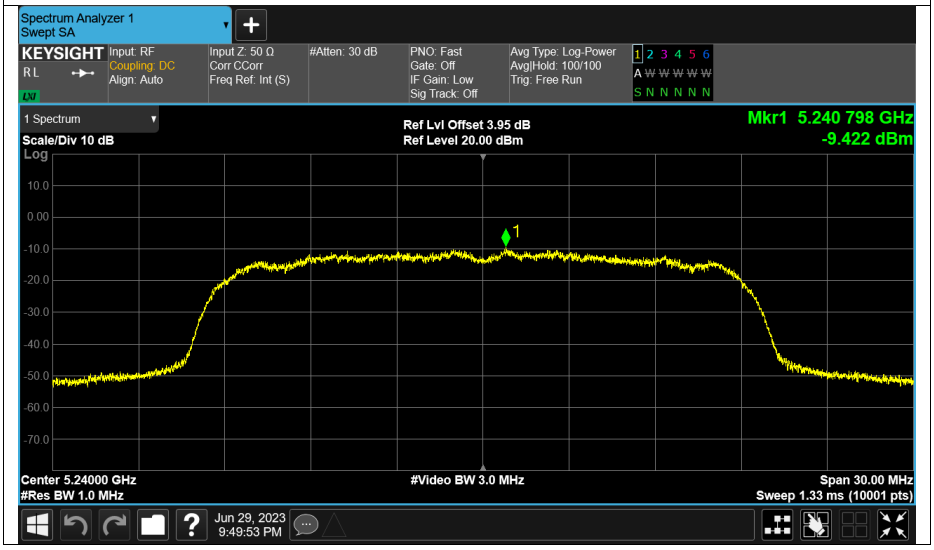
PSD NVNT n20 5180MHz Ant1



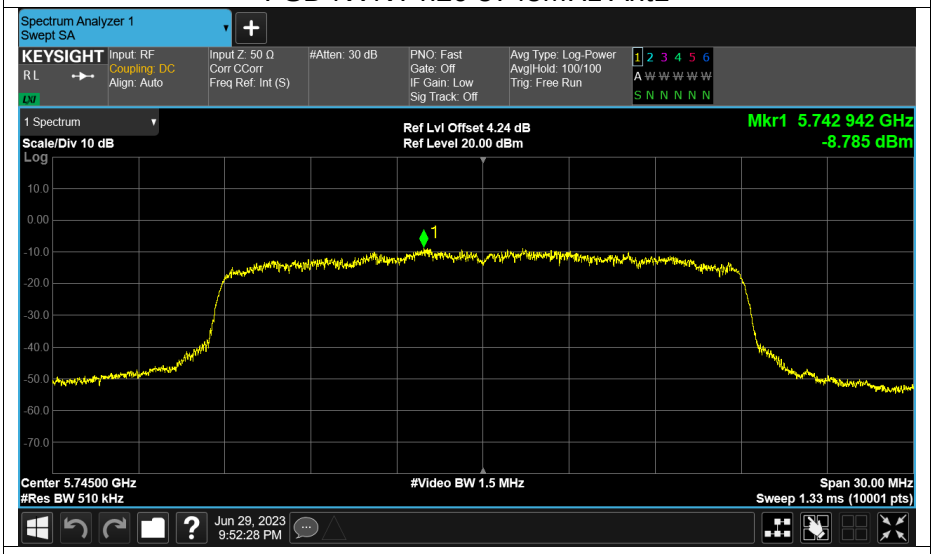
PSD NVNT n20 5200MHz Ant1



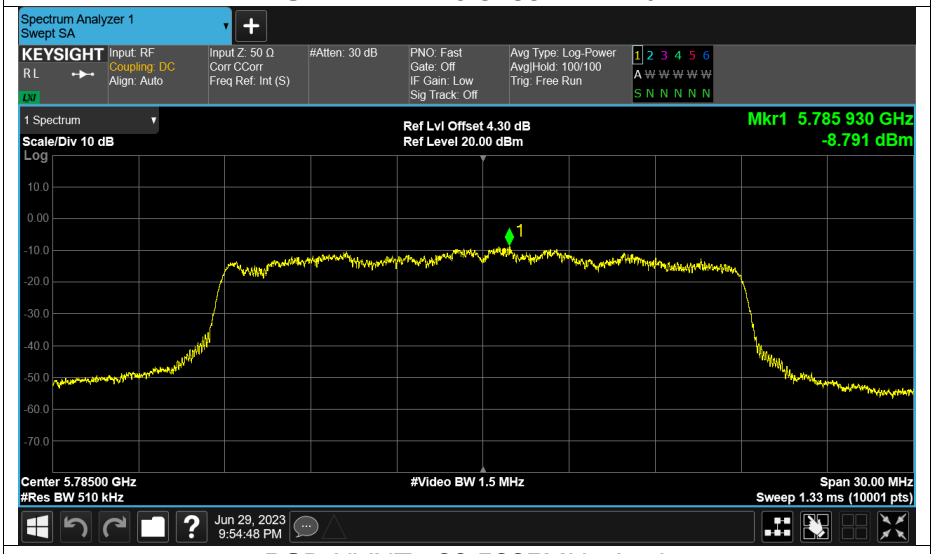
PSD NVNT n20 5240MHz Ant1



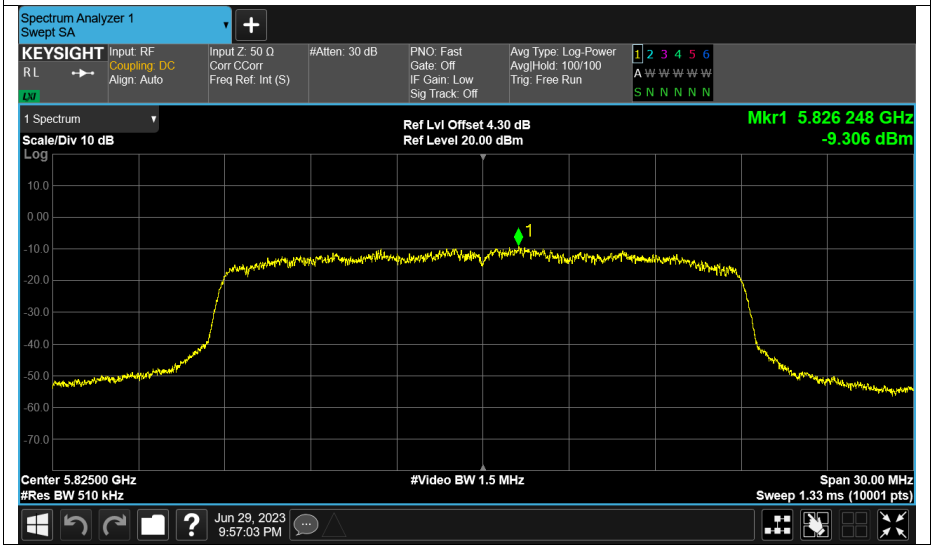
PSD NVNT n20 5745MHz Ant1



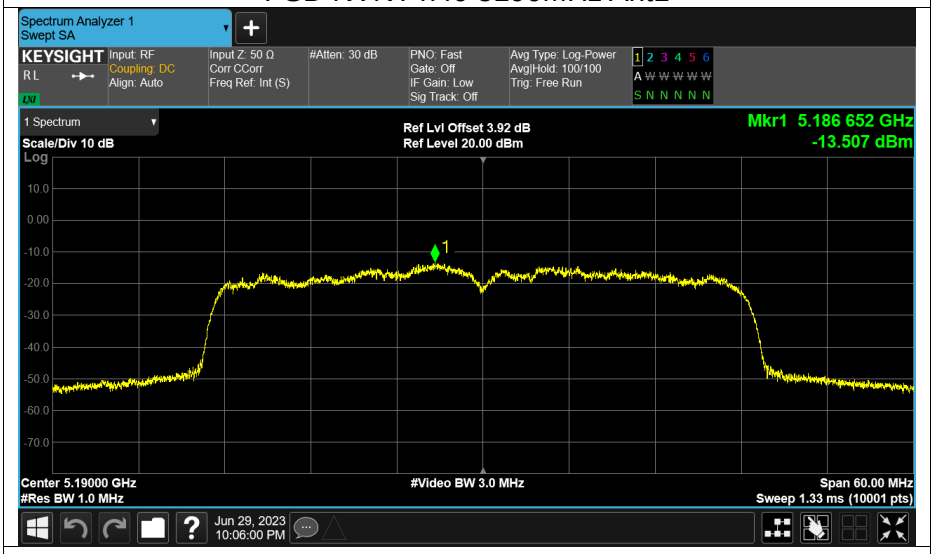
PSD NVNT n20 5785MHz Ant1



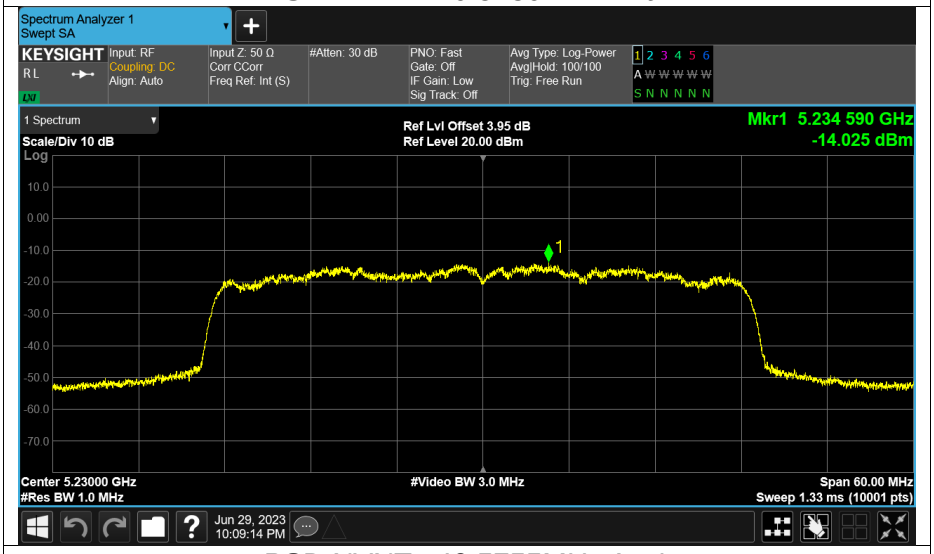
PSD NVNT n20 5825MHz Ant1



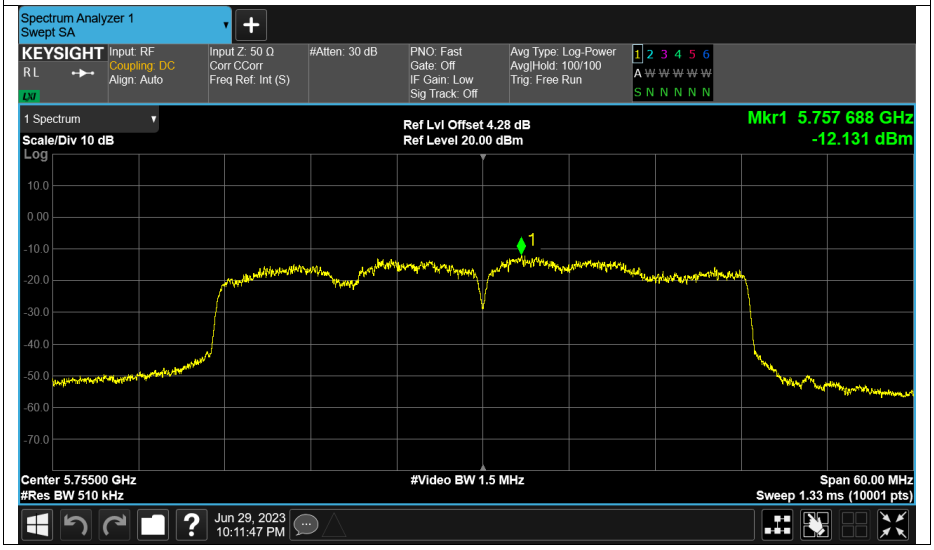
PSD NVNT n40 5190MHz Ant1



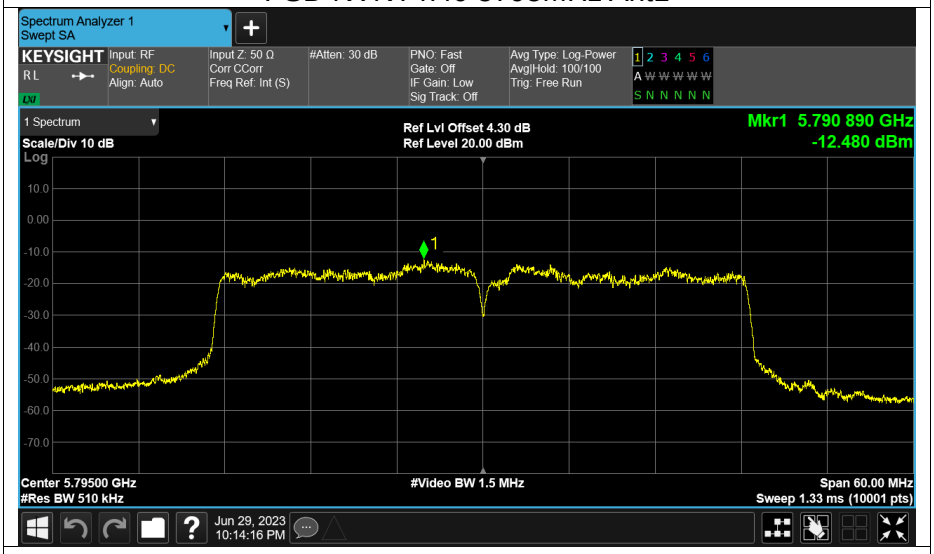
PSD NVNT n40 5230MHz Ant1



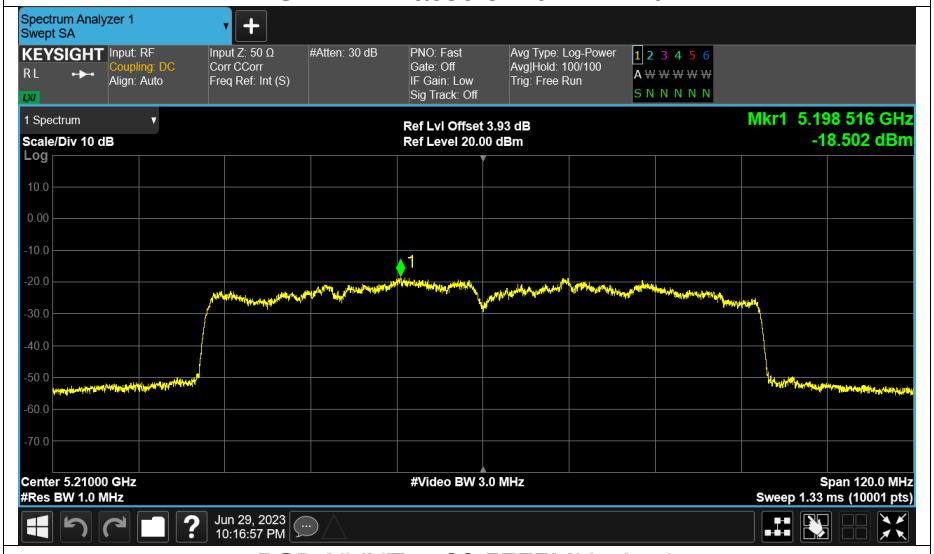
PSD NVNT n40 5755MHz Ant1



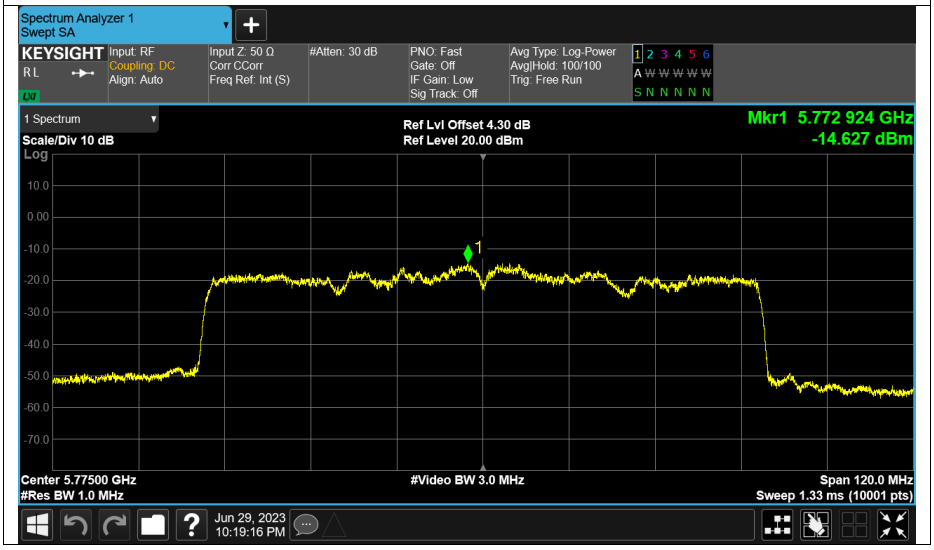
PSD NVNT n40 5795MHz Ant1



PSD NVNT ac80 5210MHz Ant1



PSD NVNT ac80 5775MHz Ant1

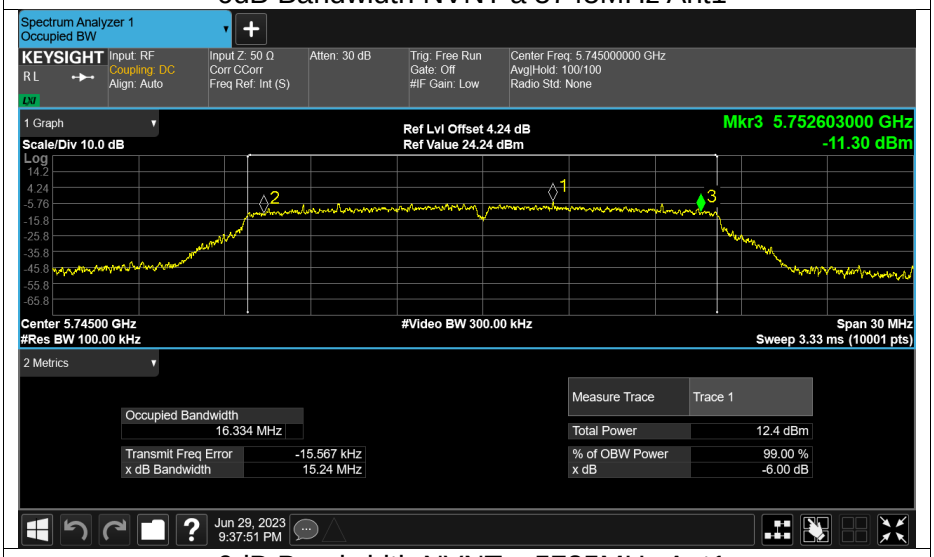


-6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	a	5745	Ant1	15.238	0.5	Pass
NVNT	a	5785	Ant1	14.064	0.5	Pass
NVNT	a	5825	Ant1	13.802	0.5	Pass
NVNT	n20	5745	Ant1	12.6	0.5	Pass
NVNT	n20	5785	Ant1	15.006	0.5	Pass
NVNT	n20	5825	Ant1	15.127	0.5	Pass
NVNT	n40	5755	Ant1	35.098	0.5	Pass
NVNT	n40	5795	Ant1	35.098	0.5	Pass
NVNT	ac80	5775	Ant1	75.092	0.5	Pass

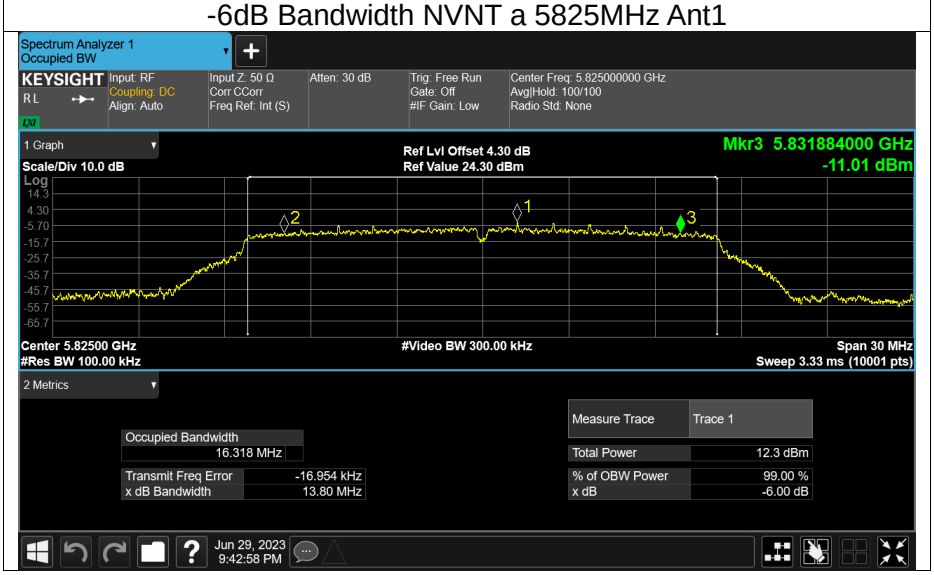
Test Graphs

-6dB Bandwidth NVNT a 5745MHz Ant1

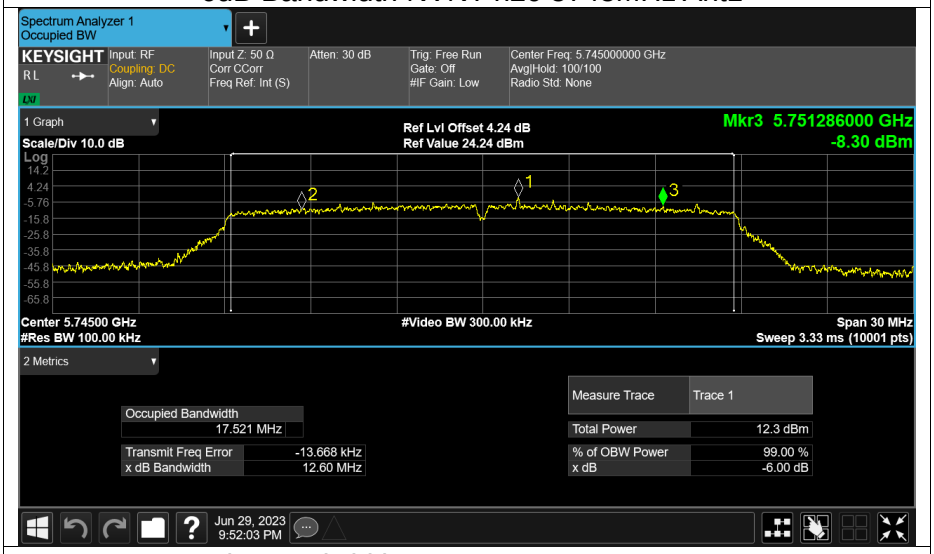


-6dB Bandwidth NVNT a 5785MHz Ant1

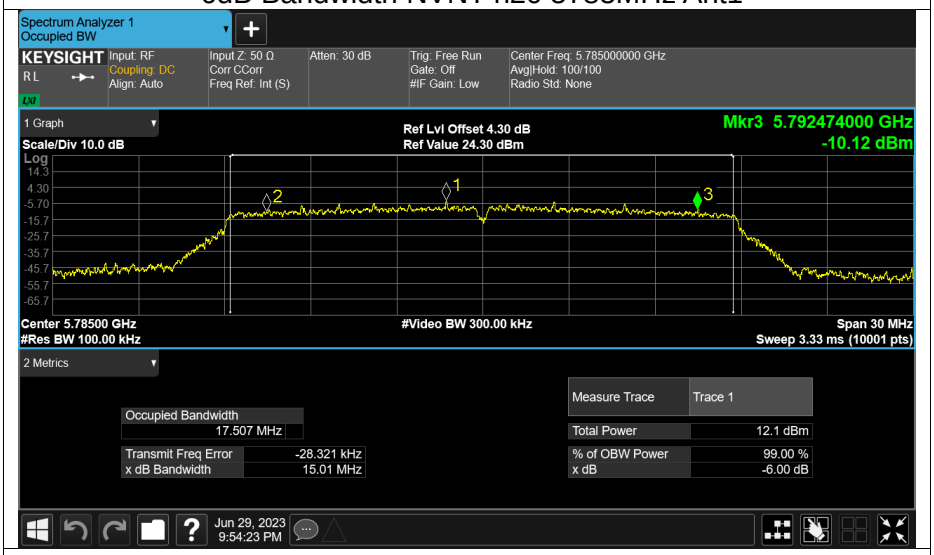
-6dB Bandwidth NVNT a 5825MHz Ant1



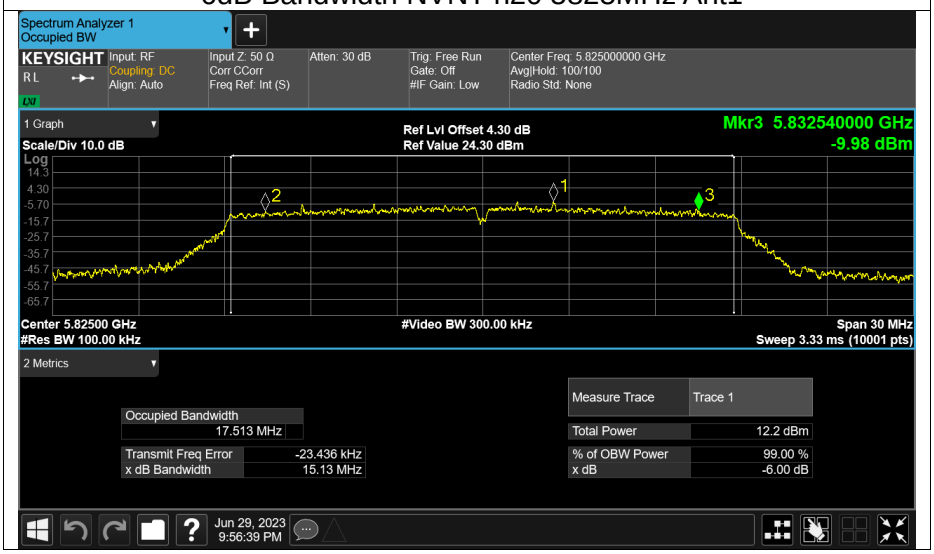
-6dB Bandwidth NVNT n20 5745MHz Ant1



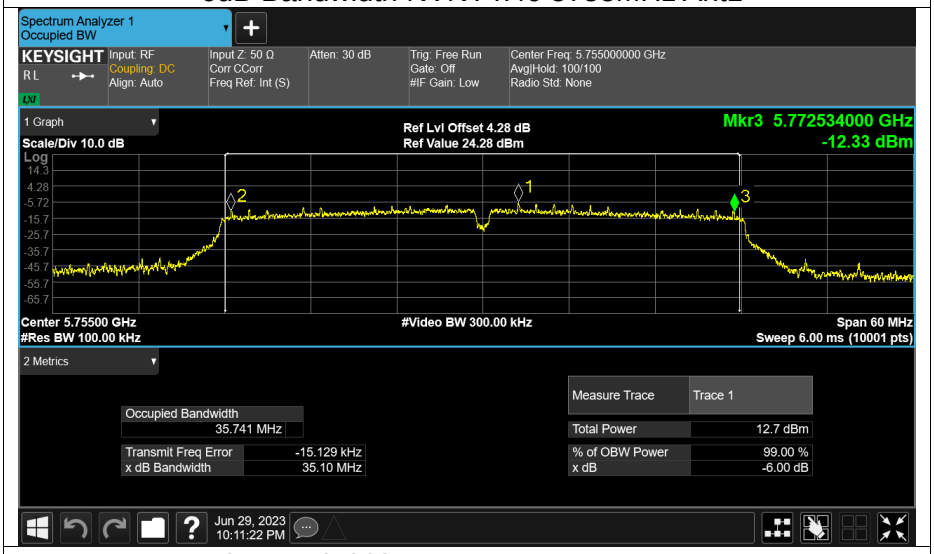
-6dB Bandwidth NVNT n20 5785MHz Ant1



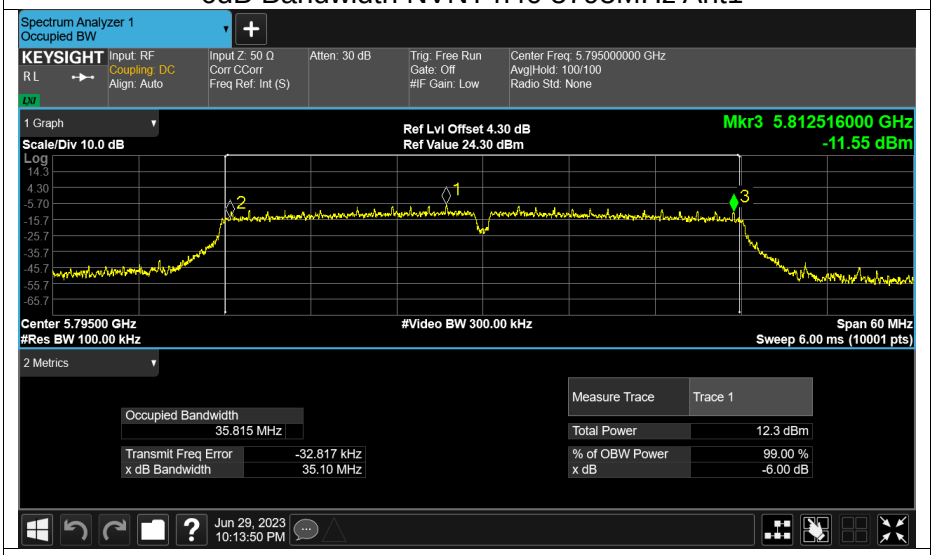
-6dB Bandwidth NVNT n20 5825MHz Ant1



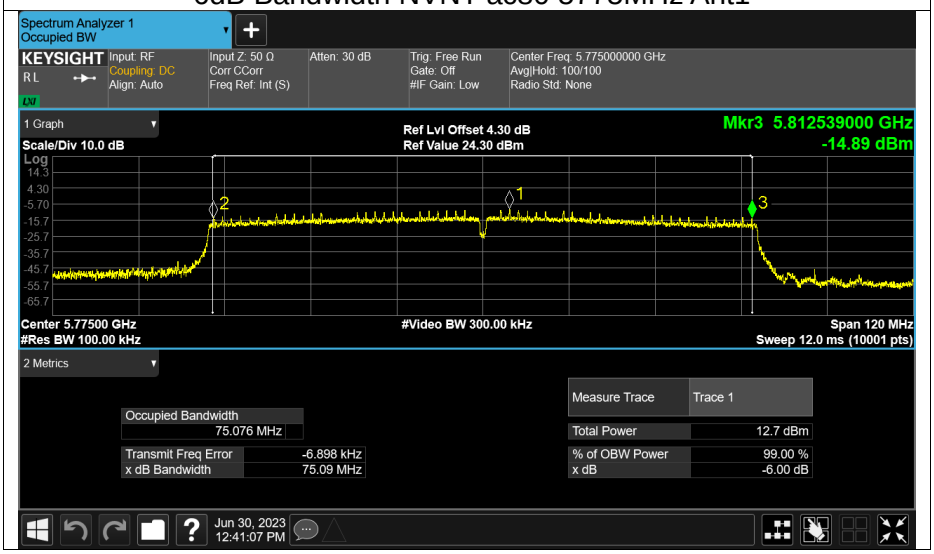
-6dB Bandwidth NVNT n40 5755MHz Ant1



-6dB Bandwidth NVNT n40 5795MHz Ant1



-6dB Bandwidth NVNT ac80 5775MHz Ant1



※※※※※END OF THE REPORT※※※※※