



# RF TEST REPORT

Product Name: DTEN D7X

Model Name: DB71455, DB71455-S1

FCC ID: 2AQ7Q-DB71455

Issued For : DTEN Inc

97 E Brokaw Road suite 180 San Jose CA 95112

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

Room 205, Building 13, Zone B, Chen Hsong Industrial Park,  
No.177 Renmin West Road, Jinsha Community, Kengzi  
Street, Pingshan New District, Shenzhen, China

Report Number: LGT22G011RF13

Sample Received Date: July 25, 2022

Date of Tested: July 25, 2022 – August 29, 2022

Date of Issue: September 09, 2022

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# TEST REPORT CERTIFICATION

**Applicant** DTEN Inc.  
**Address** 97 E Brokaw Road suite 180 San Jose CA 95112  
**Manufacturer** DTEN Inc  
**Address** 97 E Brokaw Road suite 180 San Jose CA 95112  
**Product Name** DTEN D7X  
**Trade Mark** DTEN  
**Model Name** DB71455, DB71455-S1  
**Sample Status:** Normal

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC Part 15.247, Subpart C ANSI C63.10-2013	PASS

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**Revision History**

Rev.	Issue Date	Contents
00	September 09, 2022	Initial Issue

## 1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:  
KDB 558074 D01 15.247 Meas Guidance v05r02.

<b>FCC Part 15.247, Subpart C</b>			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	--
15.247 (a)(2)	6dB Bandwidth	PASS	--
15.247 (b)(3)	Output Power	PASS	--
15.209	Radiated Spurious Emission	PASS	--
15.247 (d)	Conducted Spurious & Band Edge Emission	PASS	--
15.247 (e)	Power Spectral Density	PASS	--
15.205	Restricted Band Edge Emission	PASS	--
Part 15.247(d)/ Part 15.209(a)	Band Edge Emission	PASS	--
15.203	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.
- (3) For model DB71455 and DB71455-S1, the TP board have two types of A and B. DB71455-S1 with type A and DB71455 with type B were selected as the typical models for all necessary tests performed. For the details of type A&B, please refer to the EUT photos.

### 1.1 TEST FACTORY

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

### 1.2 MEASUREMENT UNCERTAINTY

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

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

## 2. GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF THE EUT

Product Name	DTEN D7X	
Trade Mark	DTEN	
Model Name	DB71455	
Series Model	DB71455-S1	
Model Difference	DB71455-S1 is based on DB71455 to add a camera module on the left and right sides, the other parts are identical.	
Product Description	The EUT is a DTEN D7X	
	Operation Frequency:	802.11b/g/n/ax 20: 2412~2462 MHz 802.11n/ax(40MHz):2422~2452MHz
	Modulation Type:	802.11b(DSSS):CCK,DQPSK,DBPSK 802.11g(OFDM):BPSK,QPSK,16-QAM,64-QAM 802.11n(OFDM):BPSK,QPSK,16-QAM,64-QAM
	Number of Channel:	802.11b/g/n/ax20: 11CH 802.11n/ax 40: 7CH
	Antenna Designation:	Copper tube antenna
	Antenna Gain(dBi):	ANT 1: 2.25 ANT 2: 2.25 MIMO: 5.26
	Duty Cycle:	>98%
Channel List	Please refer to the Note 2.	
Adapter	Input: 100-240V~ 50/60Hz 3.0A Output: N/A	
Battery	N/A	
Hardware version number	OPSC17_V12	
Software versionnumber	3.0.10	
Connecting I/O Port(s)	Please refer to the Note 1.	

802.11 b/g : SISO mode only, 802.11n HT20 /HT40/AX40: MIMO mode only.

Note:

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



2.

Operation Frequency of channel			
802.11b/g/n/ax(20MHz)		Channel List for 802.11n/ax(40MHz)	
Channel	Frequency	Channel	Frequency
01	2412	03	2422
02	2417	04	2427
03	2422	05	2432
04	2427	06	2437
05	2432	07	2442
06	2437	08	2447
07	2442	09	2452
08	2447		
09	2452		
10	2457		
11	2462		

**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

**2.4GHz Test Frequency:**

For 802.11b/g/n (HT20)		For 802.11n (HT40)	
Channel	Freq.(MHz)	Channel	Freq.(MHz)
01	2412	03	2422
06	2437	06	2437
11	2462	09	2452

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

## 2.2 DESCRIPTION OF THE TEST MODES

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 802.11b CH1	1 Mbps
Mode 2	TX IEEE 802.11b CH6	1 Mbps
Mode 3	TX IEEE 802.11 b CH11	1 Mbps
Mode 4	TX IEEE 802.11g CH1	6 Mbps
Mode 5	TX IEEE 802.11g CH6	6 Mbps
Mode 6	TX IEEE 802.11g CH11	6 Mbps
Mode 7	TX IEEE 802.11n HT20 CH1	MCS 0
Mode 8	TX IEEE 802.11n HT20 CH6	MCS 0
Mode 9	TX IEEE 802.11n HT20 CH11	MCS 0
Mode 10	TX IEEE 802.11n HT40 CH3	MCS 0
Mode 11	TX IEEE 802.11n HT40 CH6	MCS 0
Mode 12	TX IEEE 802.11n HT40 CH9	MCS 0

Note:

- (1) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported.
- (2) 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, and the worst case of 120V /60Hz is shown in the report.
- (3) The battery is fully-charged during the radited and RF conducted test.

### AC Conducted Emission

Test Case	
AC Conducted Emission	Mode13: TX Mode + WLAN Link

### 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.

#### Accessories Equipment

Description	Manufacturer	Model	S/N	Rating
USB C-to-C cable	DTEN	N/A	N/A	1.9m
stylus	DTEN	N/A	N/A	N/A
Power cord	XIEKANG ELECTRONIC	N/A	N/A	3m, US plug
Camera	DTEN	N/A	N/A	2pcs

#### Auxiliary Equipment

Description	Manufacturer	Model	S/N	Rating
Keyboard	Lenovo	EKB-536A	N/A	N/A
Mouse	Lenovo	EMS-537A	N/A	N/A
USB Flash disk	Hewlett-Packard	V206	N/A	2pcs
Laptop	Lenovo	小新 Air 14	N/A	N/A
HDMI cable	GIMI	E81280-D	N/A	1.8m, shielded
HDMI cable	SONY	N/A	N/A	1.1m, shielded
Monitor	HKC	T275IU	N/A	N/A
Earphone	N/A	39630078	N/A	N/A
RJ45 cable	N/A	N/A	N/A	1m, unshielded
Router	CHINA TELECOM	WTA541	N/A	N/A

### 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.

Note:

- (1) For detachable type I/O cable should be specified the length in cm in 『Length』 column.
- (2) “YES” is means “with core”; “NO” is means “without core”.

## 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	ESU	100372	2022.04.12	2023.04.11
LISN	COM-POWER	LI-115	02032	2022.04.13	2023.04.12
LISN	SCHWARZBECK	NNLK 8121	00847	2022.08.19	2023.08.18
CE Cable	N.A	C01	N.A	2022.05.05	2023.05.04
Transient Limiter	CYBERTEK	EM5010A	E2250100049	2022.06.02	2023.06.01
Temperature & Humidity	KTJ	TA218B	N.A	2022.05.05	2023.05.04
Testing Software	EMC-I_V1.4.0.3_SKET				

### Radiation Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
EMI Test Receiver	R&S	ESU	100372	2022.04.12	2023.04.11
Spectrum Analyzer	Kesight	N9010B	MY60242508	2022.04.29	2023.04.28
Bilog Antenna	SCHAFFNER	CBL6112B	270S	2022.06.05	2025.06.04
Horn Antenna	SCHWARZBECK	3115	10SL0060	2022.06.02	2025.06.01
Pre-amplifier(0.1M-3GHz)	HP	8447D	2727A05655	2022.04.11	2023.04.10
Pre-amplifier(1-26.5G)	Agilent	8449B	3008A4722	2022.04.12	2023.04.11
RE Cable (9K-1G)	N.A	R01	N.A	2022.05.05	2023.05.04
RE Cable (1-26G)	N.A	R02	N.A	2022.05.05	2023.05.04
Temperature & Humidity	KTJ	TA218B	N.A	2022.05.05	2023.05.04
Testing Software	EMC-I_V1.4.0.3_SKET				

### RF Connected Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Signal Generator	Keysight	N5182B	MY59100717	2022.04.30	2023.04.29
Signal Analyzer	Keysight	N9010B	MY60242508	2022.04.29	2023.04.28
Temperature & Humidity	KTJ	TA218B	N/A	2022.05.05	2023.05.04
Temperature & Humidity test chamber	AISRY	LX-1000L	171200018	2022.05.10	2023.05.09
Attenuator	eastsheep	90db	N/A	2022.04.29	2023.04.28
Testing Software	MTS 8310_2.0.0.0_MWRF-TEST				

### 3. EMC EMISSION TEST

#### 3.1 CONDUCTED EMISSION MEASUREMENT

##### 3.1.1 POWER LINE CONDUCTED EMISSION LIMITS

The radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table.

FREQUENCY (MHz)	Conducted Emissionlimit (dBuV)	
	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

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.

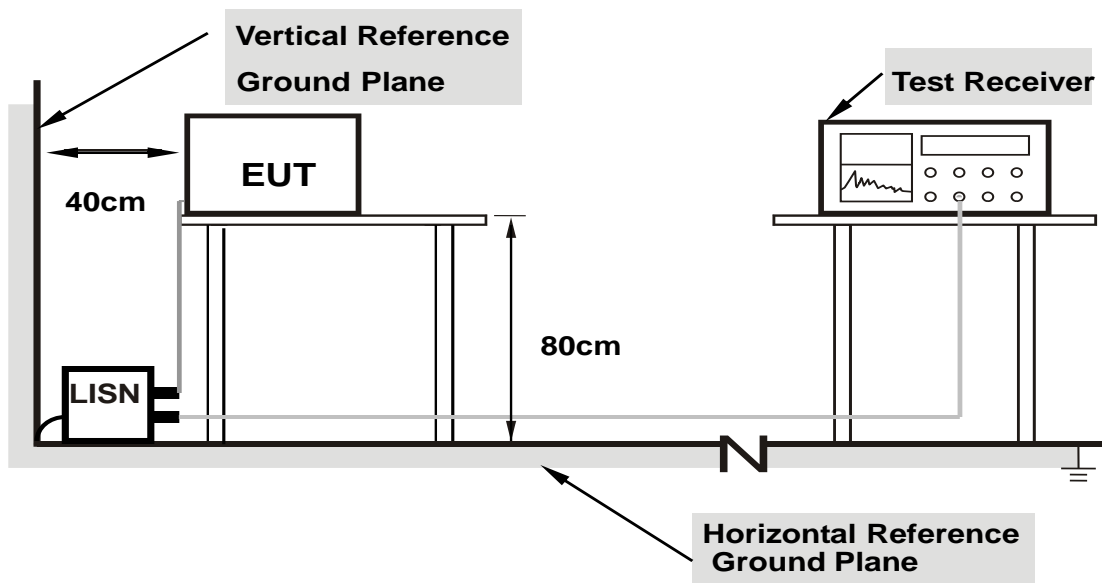
The following table is the setting of the receiver

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 TEST SETUP



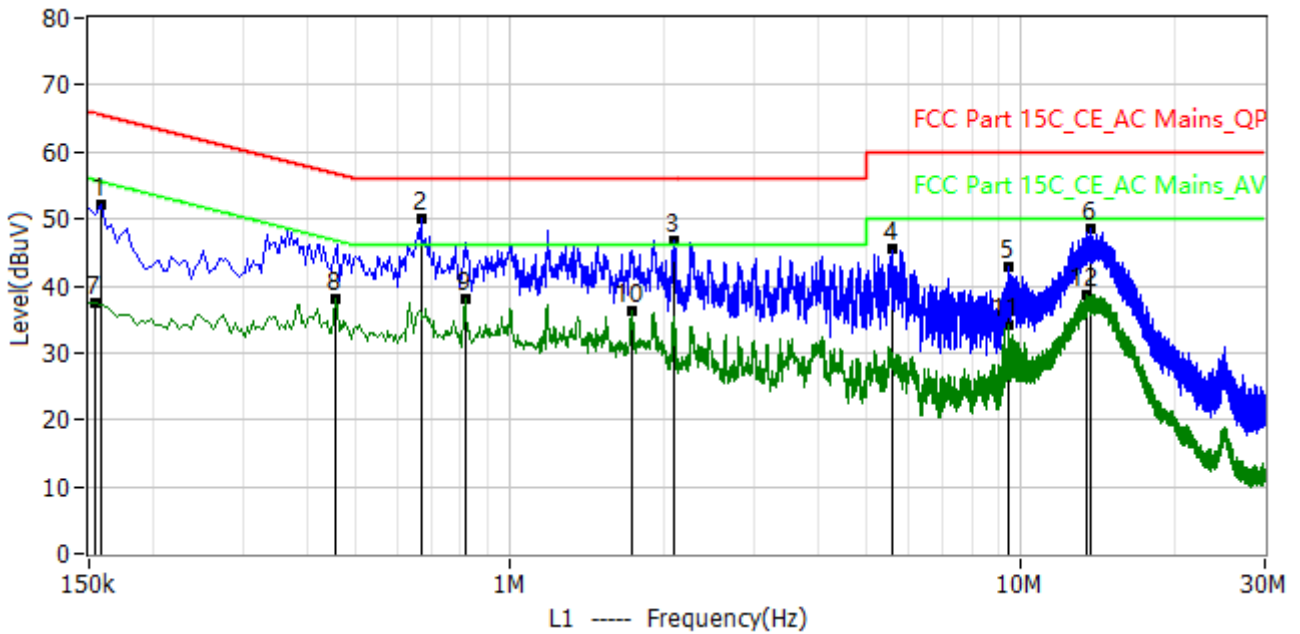
- Note: 1. Support units were connected to second LISN.**
- 2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes support units.**

### 3.1.4 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.

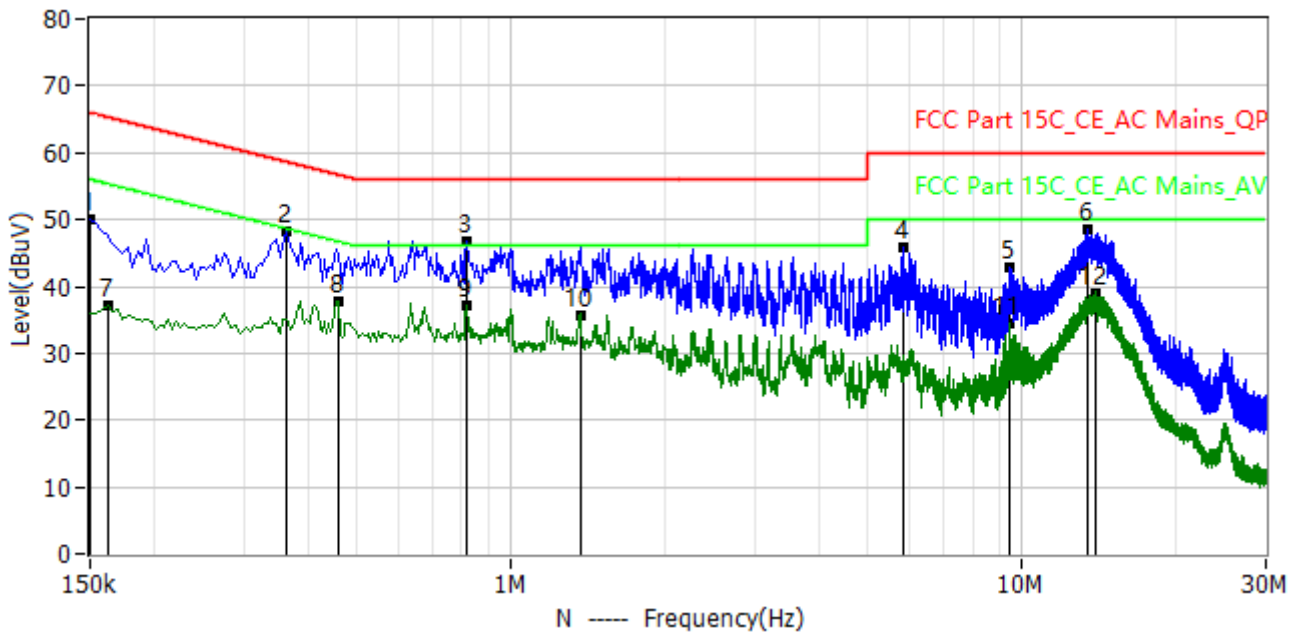
### 3.1.5 TEST RESULT

Test Lab: LGT EMC Lab	Project: LGT22G011
EUT: DTEN D7X	Test Engineer: Terry.zhao
M/N: DB71455	Temperature: 25°C
S/N:	Humidity: 45%RH
Test Mode: TX 2.4GHz	Test Voltage: AC 120V/60Hz
Note:	Test Data: 2022-07-26



No.	Frequency	Limit dBuV	Level dBuV	Delta dB	Reading dBuV	Factor dB	Detector	Phase
1*	158.000kHz	65.6	52.1	-13.5	31.6	20.5	QP	L1
2*	670.000kHz	56.0	49.9	-6.1	29.4	20.5	QP	L1
3*	2.102MHz	56.0	46.6	-9.4	25.9	20.7	QP	L1
4*	5.594MHz	60.0	45.4	-14.6	24.6	20.8	QP	L1
5*	9.482MHz	60.0	42.8	-17.2	21.9	20.9	QP	L1
6*	13.710MHz	60.0	48.4	-11.6	27.3	21.1	QP	L1
7*	154.000kHz	55.8	37.4	-18.4	16.9	20.5	AV	L1
8*	454.000kHz	46.8	38.0	-8.8	17.5	20.5	AV	L1
9*	818.000kHz	46.0	38.1	-7.9	17.6	20.5	AV	L1
10*	1.738MHz	46.0	36.4	-9.6	15.7	20.7	AV	L1
11*	9.414MHz	50.0	34.1	-15.9	13.2	20.9	AV	L1
12*	13.470MHz	50.0	38.7	-11.3	17.6	21.1	AV	L1

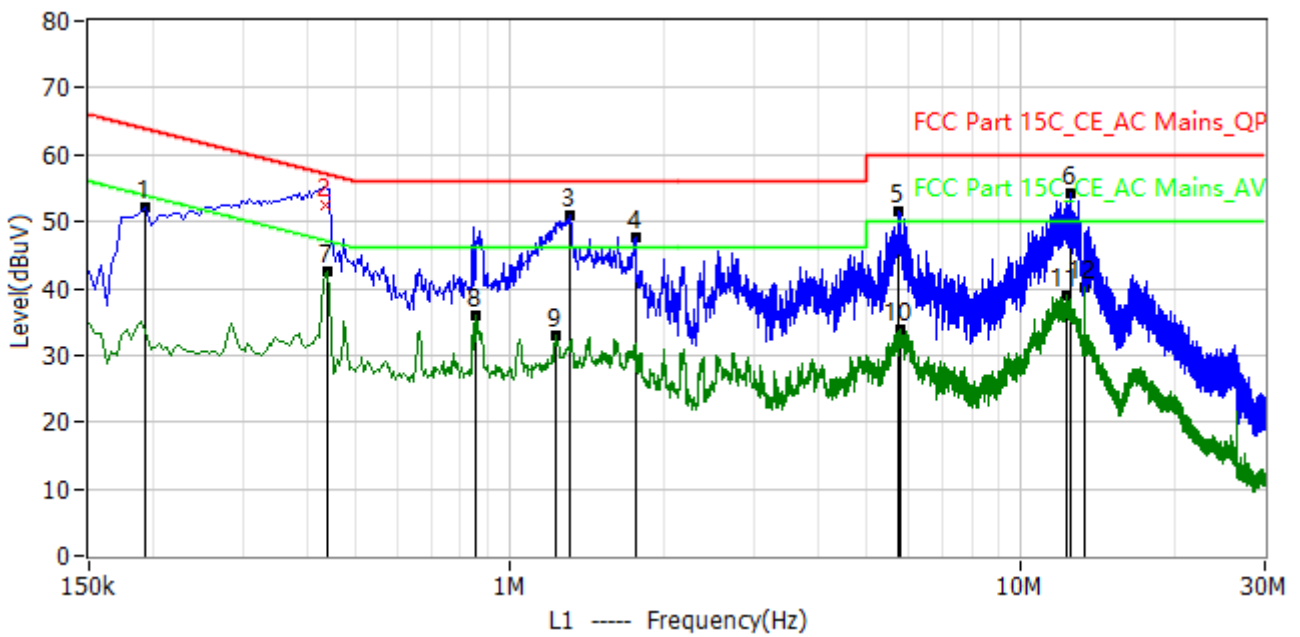
Test Lab: LGT EMC Lab	Project: LGT22G011
EUT: DTEN D7X	Test Engineer: Terry.zhao
M/N: DB71455	Temperature: 25°C
S/N:	Humidity: 45%RH
Test Mode: TX 2.4GHz	Test Voltage: AC 120V/60Hz
Note:	Test Data: 2022-07-26



No.	Frequency	Limit dBuV	Level dBuV	Delta dB	Reading dBuV	Factor dB	Detector	Phase
1*	150.000kHz	66.0	50.1	-15.9	29.6	20.5	QP	N
2*	362.000kHz	58.7	48.3	-10.4	27.8	20.5	QP	N
3*	822.000kHz	56.0	46.8	-9.2	26.3	20.5	QP	N
4*	5.834MHz	60.0	45.8	-14.2	25.0	20.8	QP	N
5*	9.450MHz	60.0	42.9	-17.1	22.0	20.9	QP	N
6*	13.446MHz	60.0	48.6	-11.4	27.6	21.0	QP	N
7*	162.000kHz	55.4	37.1	-18.3	16.6	20.5	AV	N
8*	458.000kHz	46.7	37.7	-9.0	17.2	20.5	AV	N
9*	818.000kHz	46.0	37.3	-8.7	16.8	20.5	AV	N
10*	1.370MHz	46.0	35.8	-10.2	15.2	20.6	AV	N
11*	9.414MHz	50.0	34.4	-15.6	13.5	20.9	AV	N
12*	13.874MHz	50.0	39.1	-10.9	18.0	21.1	AV	N

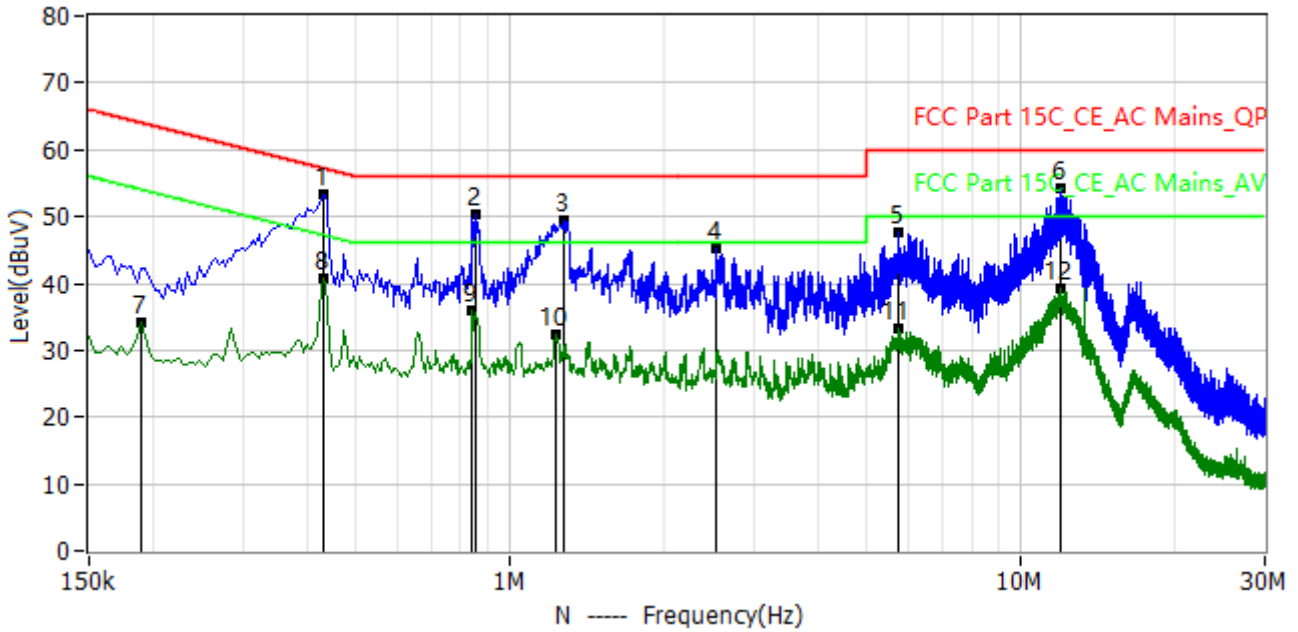


Test Lab: LGT EMC Lab	Project: LGT22G011
EUT: DTEN D7X	Test Engineer: Terry.zhao
M/N: DB71455-S1	Temperature: 25°C
S/N:	Humidity: 45%RH
Test Mode: TX 2.4GHz	Test Voltage: AC 120V/60Hz
Note:	Test Data: 2022-08-15



No.	Frequency	Limit dBuV	Level dBuV	Delta dB	Reading dBuV	Factor dB	Detector	Phase
1*	194.000kHz	63.90	52.09	-11.80	41.59	10.50	PK	L1
2	434.000kHz	57.20	52.52	-4.70	42.02	10.50	QP	L1
3*	1.310MHz	56.00	51.04	-5.00	40.45	10.59	PK	L1
4*	1.758MHz	56.00	47.54	-8.50	36.85	10.69	PK	L1
5*	5.762MHz	60.00	51.60	-8.40	40.76	10.84	PK	L1
6*	12.506MHz	60.00	54.30	-5.70	43.30	11.00	PK	L1
7*	438.000kHz	47.10	42.41	-4.70	31.91	10.50	AV	L1
8*	858.000kHz	46.00	35.83	-10.20	25.31	10.52	AV	L1
9*	1.230MHz	46.00	32.99	-13.00	22.41	10.58	AV	L1
10*	5.806MHz	50.00	33.83	-16.20	22.99	10.84	AV	L1
11*	12.302MHz	50.00	38.91	-11.10	27.92	10.99	AV	L1
12*	13.270MHz	50.00	40.26	-9.70	29.25	11.01	AV	L1

Test Lab: LGT EMC Lab	Project: LGT22G011
EUT: DTEN D7X	Test Engineer: Terry.zhao
M/N: DB71455-S1	Temperature: 25°C
S/N:	Humidity: 45%RH
Test Mode: TX 2.4GHz	Test Voltage: AC 120V/60Hz
Note:	Test Data: 2022-08-15



No.	Frequency	Limit dBuV	Level dBuV	Delta dB	Reading dBuV	Factor dB	Detector	Phase
1*	430.000kHz	57.30	53.29	-4.00	42.79	10.50	QP	N
2*	854.000kHz	56.00	50.23	-5.80	39.71	10.52	QP	N
3*	1.274MHz	56.00	49.38	-6.60	38.79	10.59	QP	N
4*	2.538MHz	56.00	45.10	-10.90	34.34	10.76	QP	N
5*	5.738MHz	60.00	47.53	-12.50	36.69	10.84	QP	N
6*	11.954MHz	60.00	54.20	-5.80	43.20	11.00	QP	N
7*	190.000kHz	54.00	34.11	-19.90	23.61	10.50	AV	N
8*	430.000kHz	47.30	40.87	-6.40	30.37	10.50	AV	N
9*	842.000kHz	46.00	35.97	-10.00	25.45	10.52	AV	N
10*	1.230MHz	46.00	32.33	-13.70	21.75	10.58	AV	N
11*	5.738MHz	50.00	33.25	-16.80	22.41	10.84	AV	N
12*	11.938MHz	50.00	39.14	-10.90	28.14	11.00	AV	N

### 3.2 RADIATED EMISSION MEASUREMENT

#### 3.2.1 RADIATED EMISSION LIMITS

In any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the Restricted band specified on Part15.205(a)&209(a) limit in the table and according to ANSI C63.10-2013 below has to be followed.

LIMITS OF RADIATED EMISSION MEASUREMENT (0.009MHz - 1000MHz)

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 (1000MHz-25GHz)

FREQUENCY (MHz)	(dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

Notes:

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

For Radiated Emission

Spectrum Parameter	Setting
Attenuation	Auto
Detector	Peak/QP/AV
Start Frequency	9 KHz/150KHz(Peak/QP/AV)
Stop Frequency	150KHz/30MHz(Peak/QP/AV)
RB / VB (emission in restricted band)	200Hz (From 9kHz to 0.15MHz)/ 9KHz (From 0.15MHz to 30MHz); 200Hz (From 9kHz to 0.15MHz)/ 9KHz (From 0.15MHz to 30MHz)

Spectrum Parameter	Setting
Attenuation	Auto
Detector	Peak/QP
Start Frequency	30 MHz(Peak/QP)
Stop Frequency	1000 MHz (Peak/QP)
RB / VB (emission in restricted band)	120 KHz / 300 KHz

Spectrum Parameter	Setting
Attenuation	Auto
Detector	Peak
Start Frequency	1000 MHz(Peak/AV)
Stop Frequency	10th carrier hamonic(Peak/AV)
RB / VB (emission in restricted band)	1 MHz / 3 MHz(Peak) 1 MHz/1/T MHz(AVG)

For Restricted band

Spectrum Parameter	Setting
Detector	Peak
Start/Stop Frequency	Lower Band Edge: 2310 to 2430 MHz Upper Band Edge: 2445 to 2500 MHz
RB / VB	1 MHz / 3 MHz(Peak) 1 MHz/1/T MHz(AVG)

Receiver Parameter	Setting
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

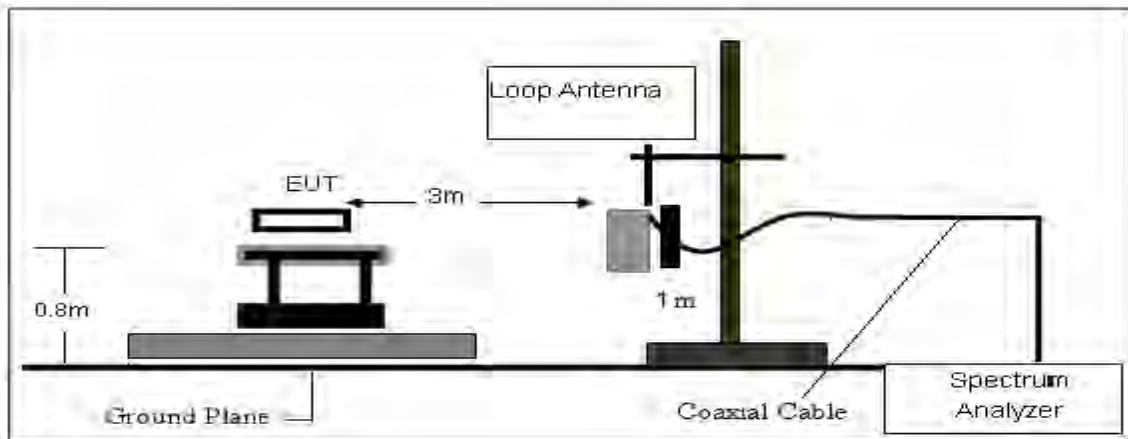
- a. The measuring distance at 3 m shall be used for measurements at frequency 0.009MHz up to 1GHz, and above 1GHz.
- b. The EUT was placed on the top of a rotating table 0.8 m (above 1GHz is 1.5 m) above the ground at a 3 m anechoic chamber test site. The table was rotated 360 degree to determine the 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:

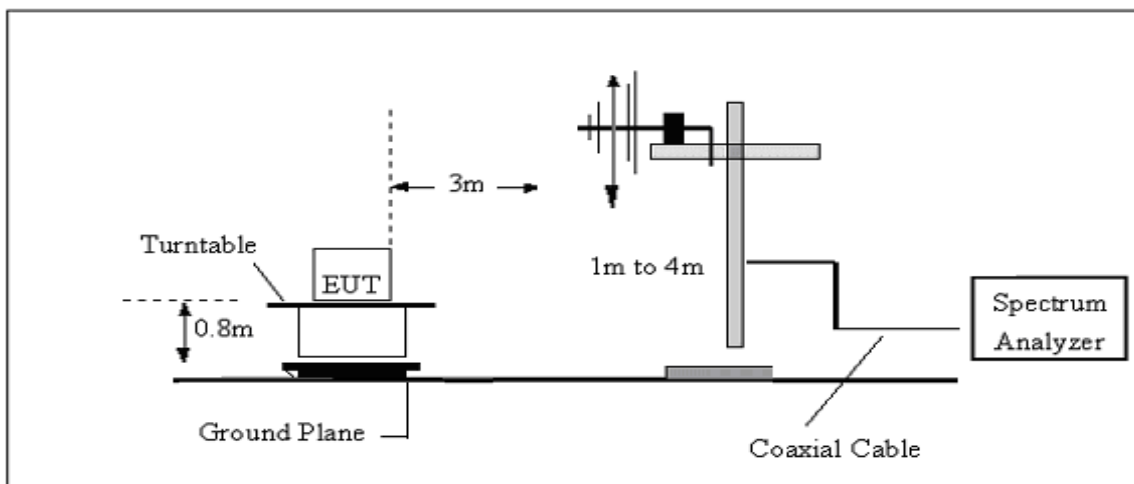
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported.

### 3.2.3 TEST SETUP

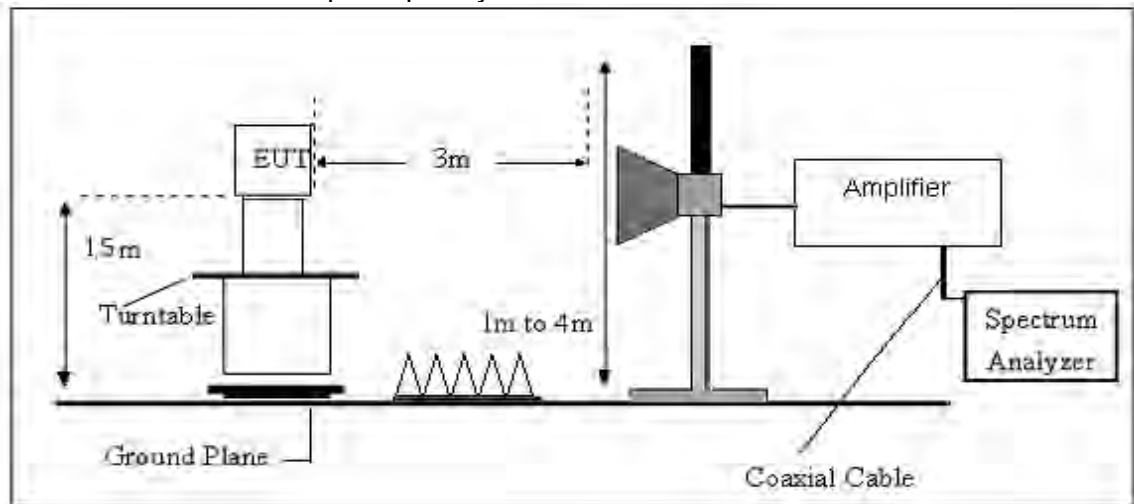
(A) Radiated Emission Test-Up Frequency Below 30MHz



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



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



### 3.2.4 EUT OPERATING CONDITIONS

Please refer to section 3.1.4 of this report.

### 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

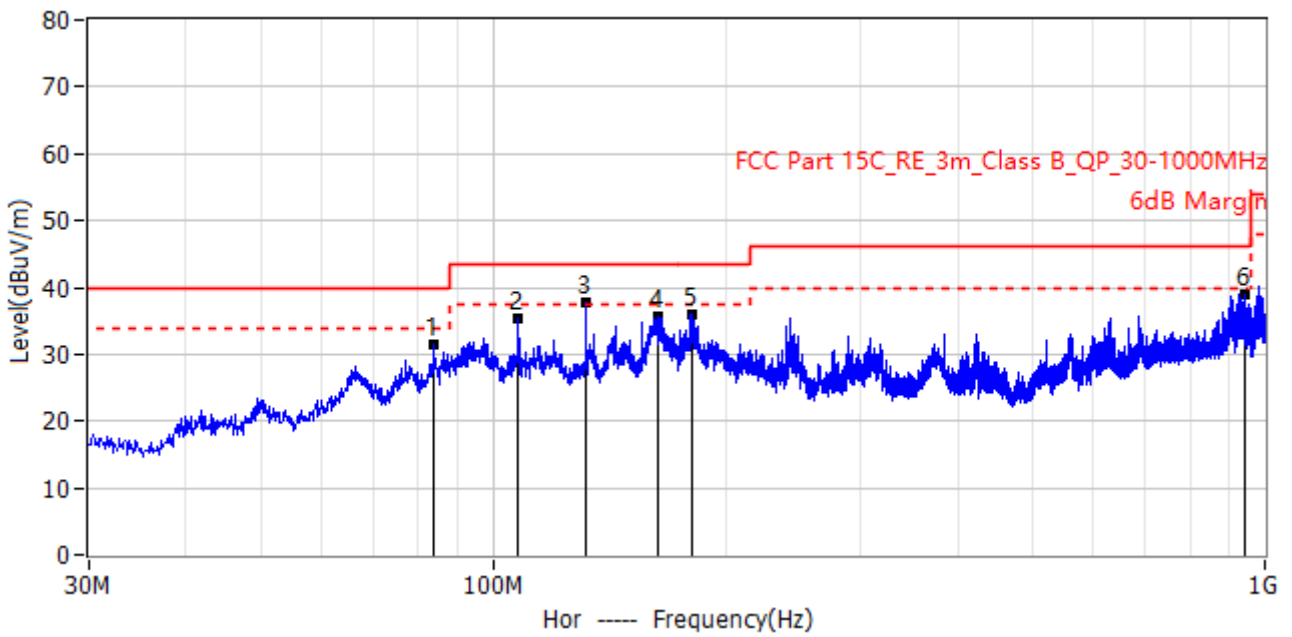
For example

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

$$\text{Factor} = \text{AF} + \text{CL} - \text{AG}$$

### 3.2.6 TEST RESULT

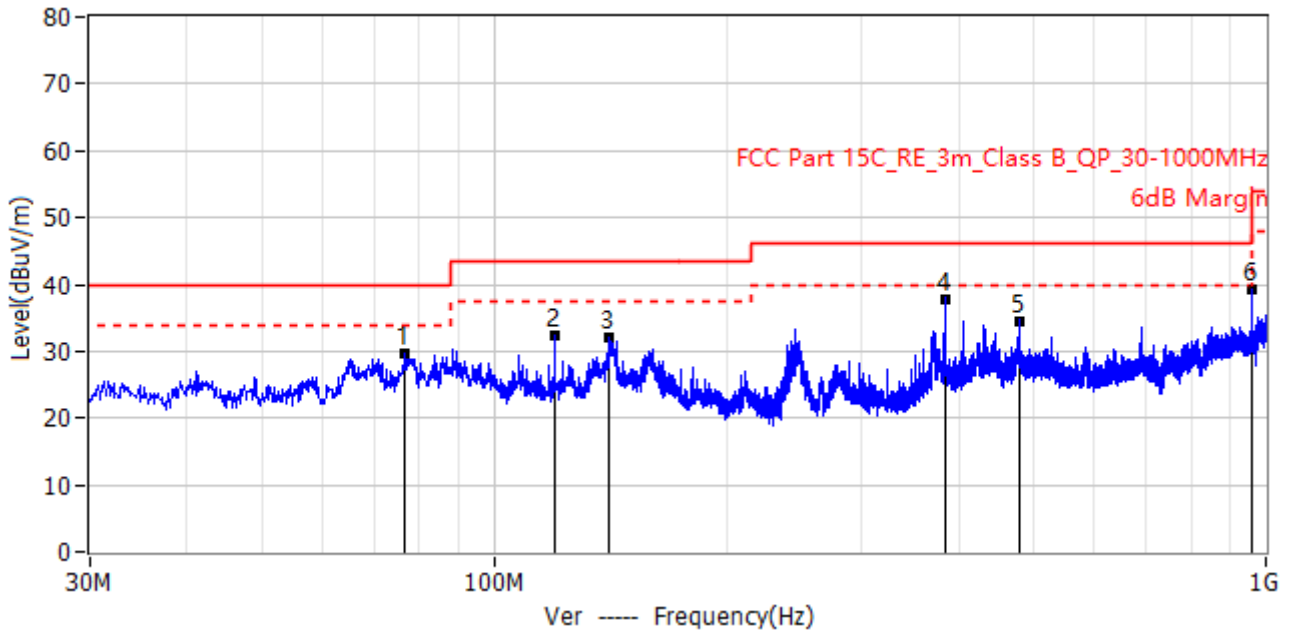
Test Lab: LGT EMC Lab	Project: LGT22G011
EUT: DTEN D7X	Test Engineer: Terry.zhao
M/N: DB71455	Temperature: 23.5°C
S/N:	Humidity: 54%RH
Test Mode: TX 2.4GHz	Test Voltage: AC 120V/60Hz
Note:	Test Data: 2022-08-05



No.	Frequency	Limit dBuV/m	Level dBuV/m	Delta dB	Reading dBuV	Factor dB/m	Detector	Polar	Height cm	Angle deg
1*	83.956MHz	40.0	31.4	-8.6	44.5	-13.1	QP	Hor	200.0	44.0
2*	107.964MHz	43.5	35.3	-8.2	46.0	-10.7	QP	Hor	185.0	0.0
3*	131.971MHz	43.5	37.7	-5.8	48.4	-10.7	QP	Hor	190.0	0.0
4*	163.496MHz	43.5	35.7	-7.8	46.7	-11.0	QP	Hor	200.0	9.0
5*	181.199MHz	43.5	36.0	-7.5	48.0	-12.0	QP	Hor	100.0	38.0
6*	943.134MHz	46.0	39.0	-7.0	36.9	2.1	QP	Hor	100.0	60.0

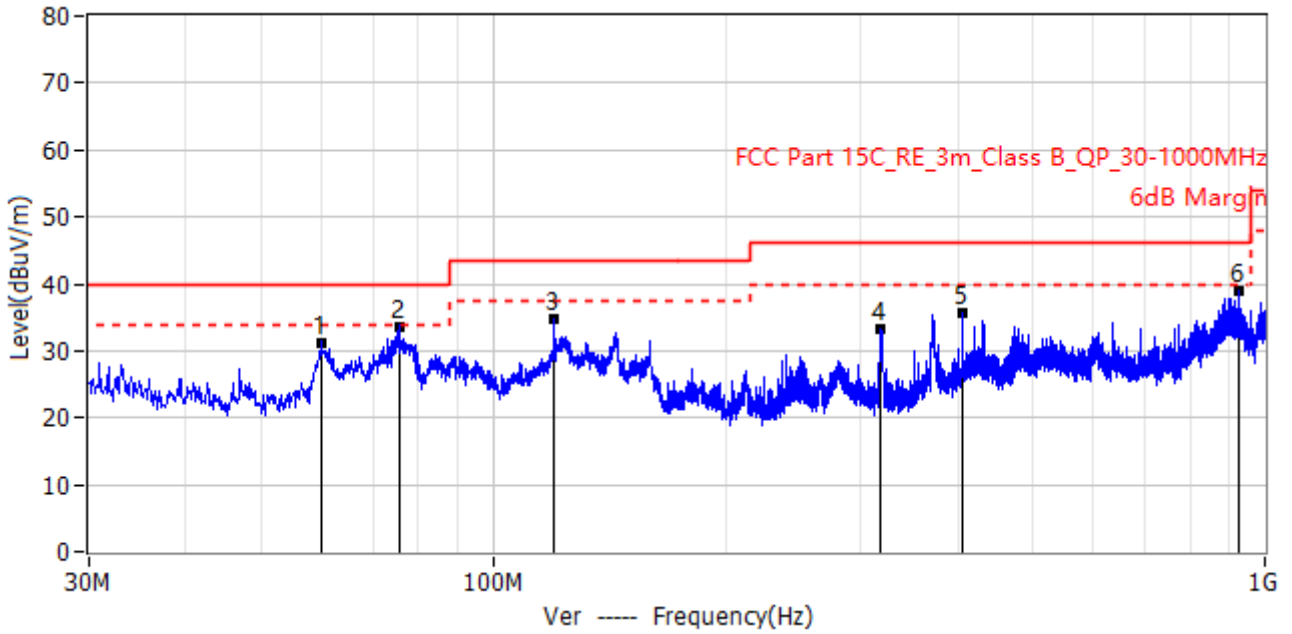


Test Lab: LGT EMC Lab	Project: LGT22G011
EUT: DTEN D7X	Test Engineer: Terry.zhao
M/N: DB71455	Temperature: 23.5°C
S/N:	Humidity: 54%RH
Test Mode: TX 2.4GHz	Test Voltage: AC 120V/60Hz
Note:	Test Data: 2022-08-05



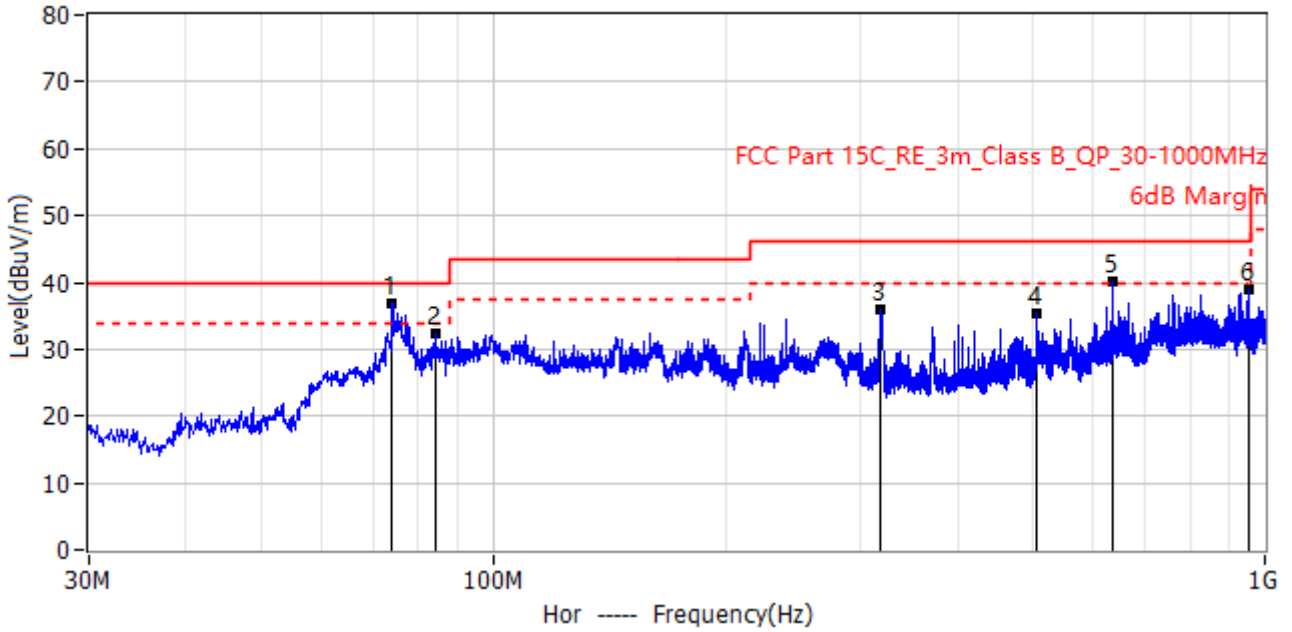
No.	Frequency	Limit dBuV/m	Level dBuV/m	Delta dB	Reading dBuV	Factor dB/m	Detector	Polar	Height cm	Angle deg
1*	76.803MHz	40.0	29.8	-10.2	46.1	-16.3	QP	Ver	100.0	9.0
2*	119.968MHz	43.5	32.3	-11.2	45.3	-13.0	QP	Ver	100.0	348.0
3*	141.308MHz	43.5	32.1	-11.4	42.8	-10.7	QP	Ver	100.0	356.0
4*	383.929MHz	46.0	37.9	-8.1	43.4	-5.5	QP	Ver	100.0	339.0
5*	479.959MHz	46.0	34.6	-11.4	39.2	-4.6	QP	Ver	100.0	348.0
6*	959.988MHz	46.0	39.2	-6.8	36.2	3.0	QP	Ver	100.0	11.0

Test Lab: LGT EMC Lab	Project: LGT22G011
EUT: DTEN D7X	Test Engineer: Terry.zhao
M/N: DB71455-S1	Temperature: 25°C
S/N:	Humidity: 45%RH
Test Mode: TX 2.4GHz	Test Voltage: AC 120V/60Hz
Note:	Test Data: 2022-08-09



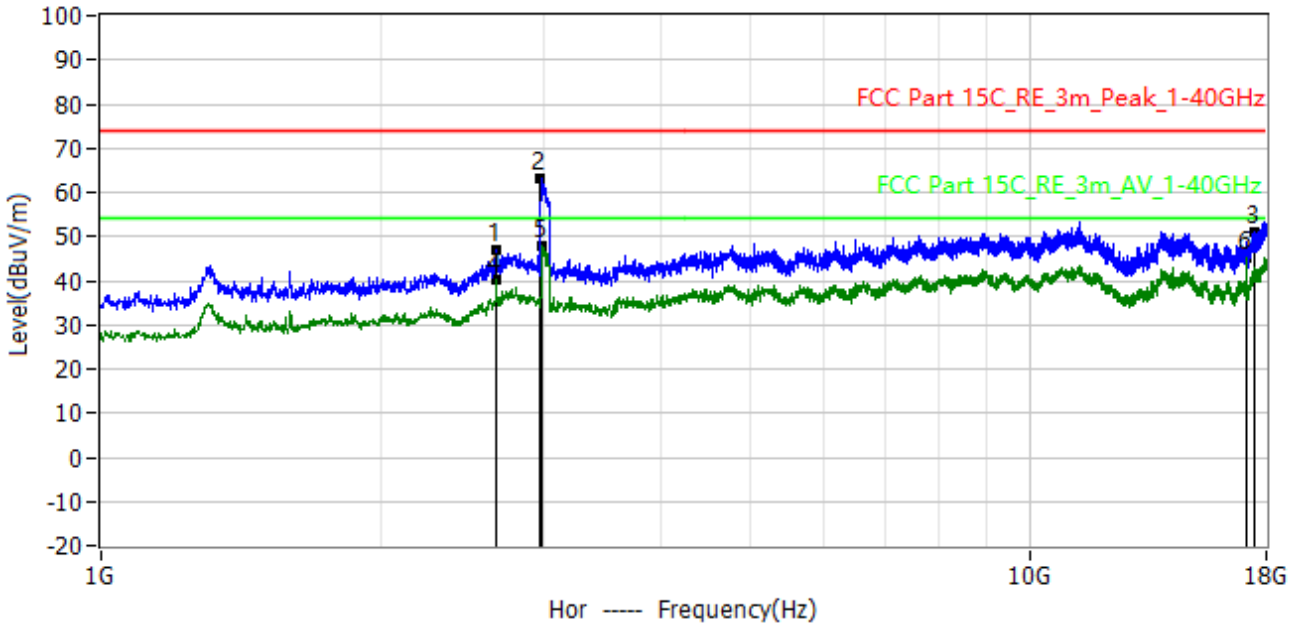
No.	Frequency	Limit dBuV/m	Level dBuV/m	Delta dB	Reading dBuV	Factor dB/m	Detector	Polar	Height cm	Angle deg
1*	59.949MHz	40.0	31.3	-8.7	45.4	-14.1	QP	Ver	100.0	12.0
2*	75.711MHz	40.0	33.7	-6.3	49.9	-16.2	QP	Ver	100.0	132.0
3*	119.968MHz	43.5	34.8	-8.7	47.8	-13.0	QP	Ver	100.0	357.0
4*	318.090MHz	46.0	33.4	-12.6	42.7	-9.3	QP	Ver	100.0	175.0
5*	405.026MHz	46.0	35.6	-10.4	40.8	-5.2	QP	Ver	100.0	16.0
6*	924.098MHz	46.0	39.0	-7.0	35.8	3.2	QP	Ver	100.0	357.0

Test Lab: LGT EMC Lab	Project: LGT22G011
EUT: DTEN D7X	Test Engineer: Terry.zhao
M/N: DB71455-S1	Temperature: 25°C
S/N:	Humidity: 45%RH
Test Mode: TX 2.4GHz	Test Voltage: AC 120V/60Hz
Note:	Test Data: 2022-08-09



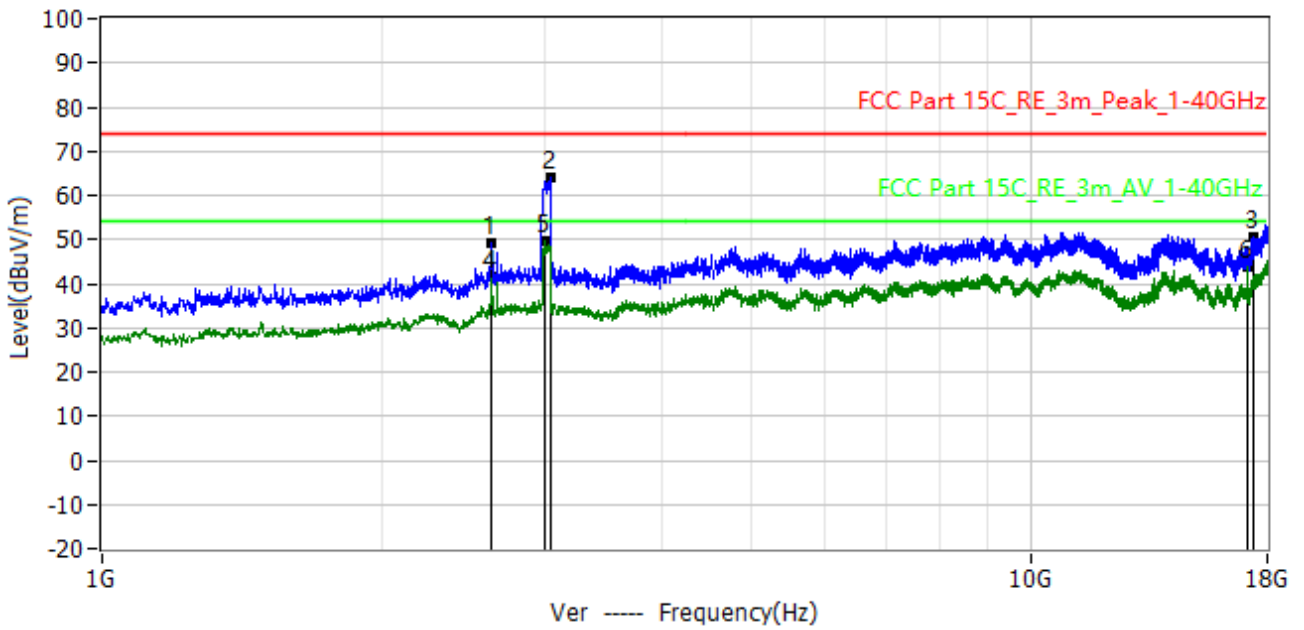
No.	Frequency	Limit dBuV/m	Level dBuV/m	Delta dB	Reading dBuV	Factor dB/m	Detector	Polar	Height cm	Angle deg
1*	74.135MHz	40.0	37.0	-3.0	52.0	-15.0	QP	Hor	200.0	28.0
2*	84.563MHz	40.0	32.4	-7.6	45.3	-12.9	QP	Hor	200.0	0.0
3*	318.211MHz	46.0	36.1	-9.9	42.8	-6.7	QP	Hor	100.0	39.0
4*	507.483MHz	46.0	35.4	-10.6	39.7	-4.3	QP	Hor	200.0	301.0
5*	634.916MHz	46.0	40.2	-5.8	42.7	-2.5	QP	Hor	100.0	96.0
6*	951.985MHz	46.0	38.9	-7.1	37.3	1.6	QP	Hor	100.0	281.0

Test Lab: LGT EMC Lab	Project: LGT22G011
EUT: DTEN D7X	Test Engineer: Terry.zhao
M/N: DB71455	Temperature: 29.3°C
S/N:	Humidity: 54%RH
Test Mode: 802.11b_Lowest_CH	Test Voltage: AC 120V/60Hz
Note:	Test Data: 2022-08-22



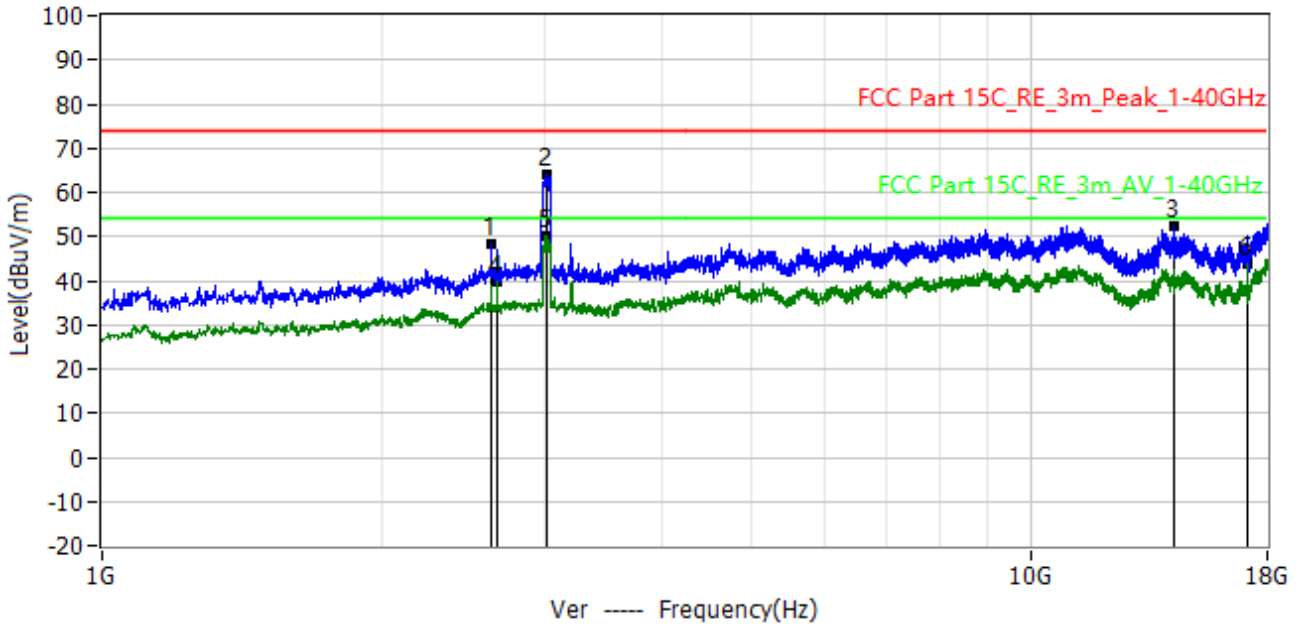
No.	Frequency	Limit dBuV/m	Level dBuV/m	Delta dB	Reading dBuV	Factor dB/m	Detector	Polar	Height cm	Angle deg
1*	2.666GHz	74.00	46.97	-27.03	57.08	-10.11	QP	Hor	100.0	0.0
2*	2.976GHz	74.00	63.12	-10.88	71.59	-8.47	QP	Hor	100.0	0.0
3*	17.462GHz	74.00	51.08	-22.92	39.55	11.53	QP	Hor	100.0	0.0
4*	2.668GHz	54.00	40.41	-13.59	50.51	-10.10	AV	Hor	100.0	0.0
5*	2.989GHz	54.00	47.88	-6.12	56.28	-8.40	AV	Hor	100.0	0.0
6*	17.099GHz	54.00	45.25	-8.75	35.06	10.19	AV	Hor	100.0	0.0

Test Lab: LGT EMC Lab	Project: LGT22G011
EUT: DTEN D7X	Test Engineer: Terry.zhao
M/N: DB71455	Temperature: 29.3°C
S/N:	Humidity: 54%RH
Test Mode: 802.11b_Lowest_CH	Test Voltage: AC 120V/60Hz
Note:	Test Data: 2022-08-22



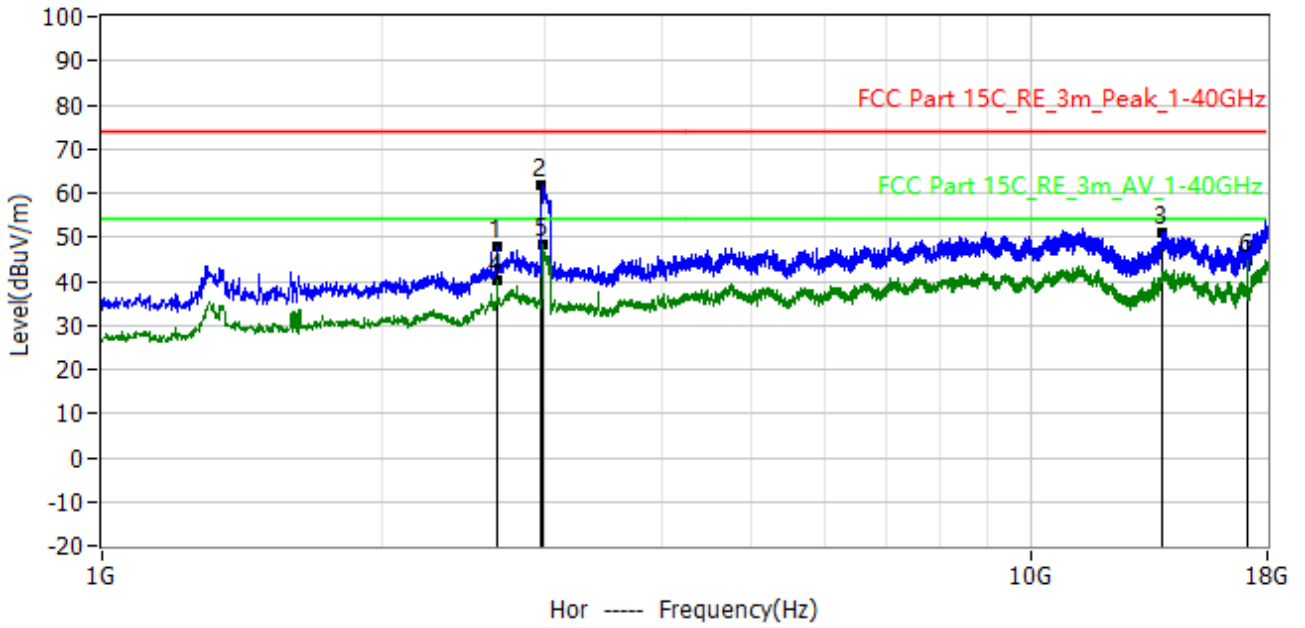
No.	Frequency	Limit dBuV/m	Level dBuV/m	Delta dB	Reading dBuV	Factor dB/m	Detector	Polar	Height cm	Angle deg
1*	2.626GHz	74.00	49.04	-24.96	59.36	-10.32	QP	Ver	100.0	0.0
2*	3.038GHz	74.00	64.21	-9.79	72.56	-8.35	QP	Ver	100.0	0.0
3*	17.369GHz	74.00	50.39	-23.61	39.21	11.18	QP	Ver	100.0	0.0
4*	2.626GHz	54.00	41.35	-12.65	51.67	-10.32	AV	Ver	100.0	0.0
5*	3.000GHz	54.00	49.50	-4.50	57.84	-8.34	AV	Ver	100.0	0.0
6*	17.099GHz	54.00	43.70	-10.30	33.51	10.19	AV	Ver	100.0	0.0

Test Lab: LGT EMC Lab	Project: LGT22G011
EUT: DTEN D7X	Test Engineer: Terry.zhao
M/N: DB71455	Temperature: 29.3°C
S/N:	Humidity: 54%RH
Test Mode: 802.11b_Middle_CH	Test Voltage: AC 120V/60Hz
Note:	Test Data: 2022-08-22



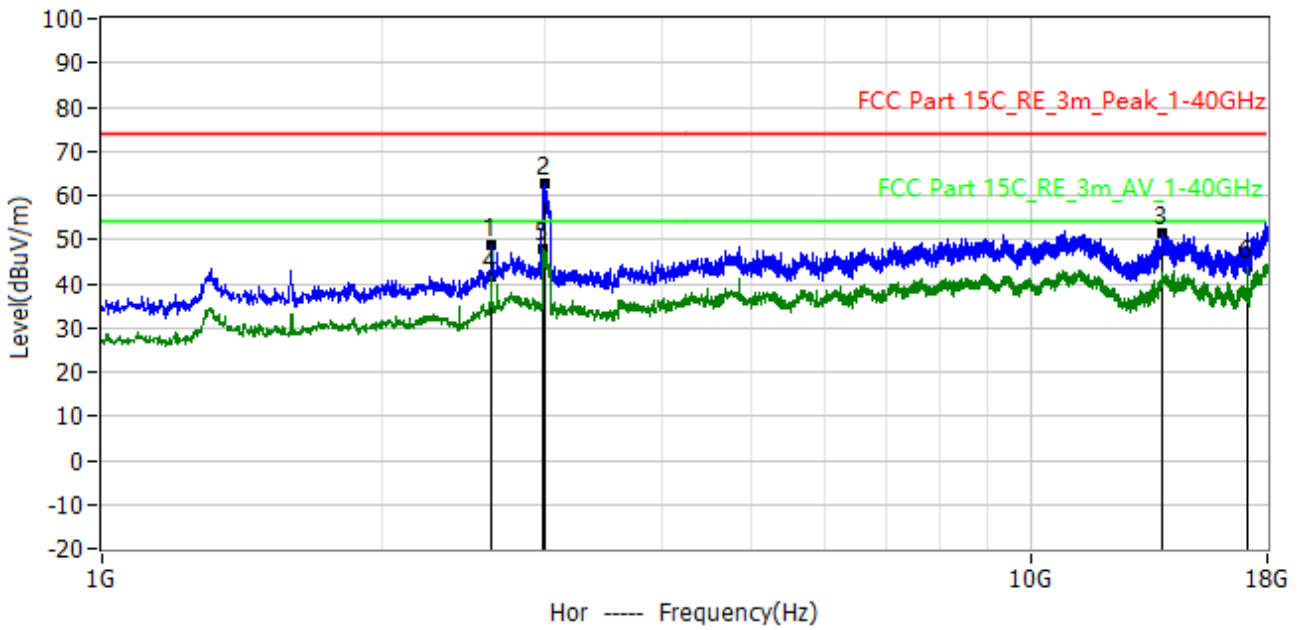
No.	Frequency	Limit dBuV/m	Level dBuV/m	Delta dB	Reading dBuV	Factor dB/m	Detector	Polar	Height cm	Angle deg
1*	2.621GHz	74.00	48.26	-25.74	58.60	-10.34	QP	Ver	100.0	0.0
2*	3.017GHz	74.00	64.13	-9.87	72.48	-8.35	QP	Ver	100.0	0.0
3*	14.277GHz	74.00	52.46	-21.54	46.57	5.89	QP	Ver	100.0	0.0
4*	2.668GHz	54.00	39.92	-14.08	50.02	-10.10	AV	Ver	100.0	0.0
5*	3.019GHz	54.00	49.97	-4.03	58.32	-8.35	AV	Ver	100.0	0.0
6*	17.099GHz	54.00	43.63	-10.37	33.44	10.19	AV	Ver	100.0	0.0

Test Lab: LGT EMC Lab	Project: LGT22G011
EUT: DTEN D7X	Test Engineer: Terry.zhao
M/N: DB71455	Temperature: 29.3°C
S/N:	Humidity: 54%RH
Test Mode: 802.11b_Middle_CH	Test Voltage: AC 120V/60Hz
Note:	Test Data: 2022-08-22



No.	Frequency	Limit dBuV/m	Level dBuV/m	Delta dB	Reading dBuV	Factor dB/m	Detector	Polar	Height cm	Angle deg
1*	2.666GHz	74.00	47.98	-26.02	58.09	-10.11	QP	Hor	100.0	0.0
2*	2.976GHz	74.00	61.78	-12.22	70.25	-8.47	QP	Hor	100.0	0.0
3*	13.861GHz	74.00	51.17	-22.83	45.78	5.39	QP	Hor	100.0	0.0
4*	2.668GHz	54.00	40.14	-13.86	50.24	-10.10	AV	Hor	100.0	0.0
5*	2.983GHz	54.00	48.13	-5.87	56.56	-8.43	AV	Hor	100.0	0.0
6*	17.099GHz	54.00	44.66	-9.34	34.47	10.19	AV	Hor	100.0	0.0

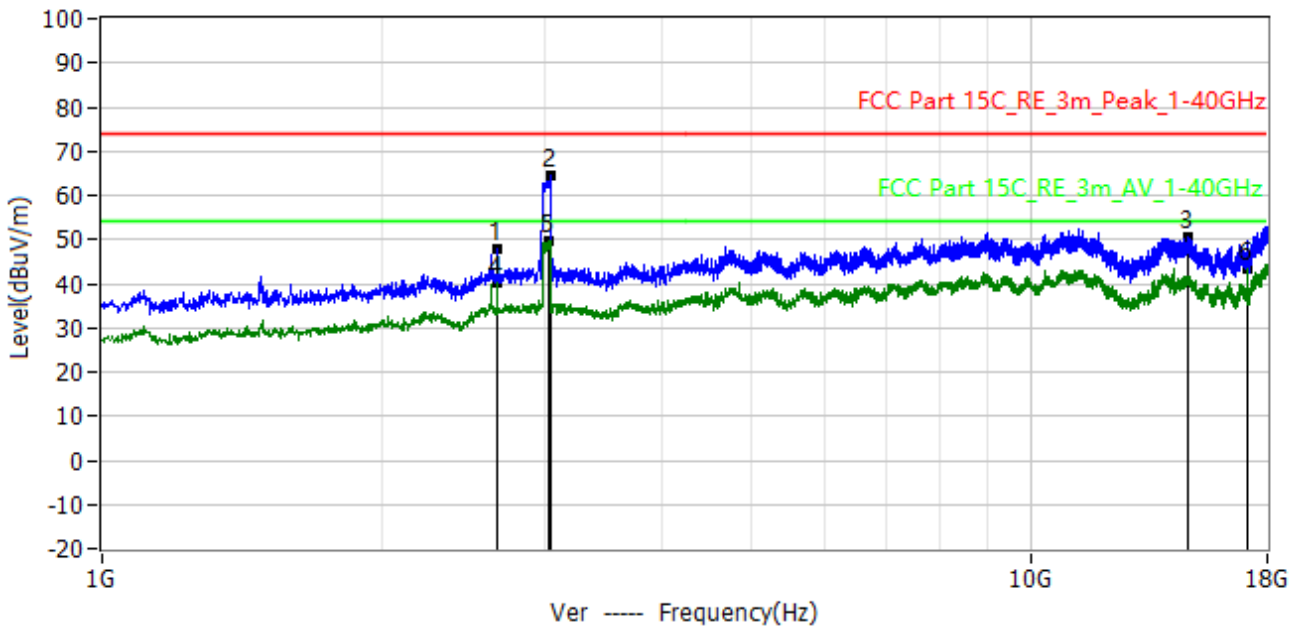
Test Lab: LGT EMC Lab	Project: LGT22G011
EUT: DTEN D7X	Test Engineer: Terry.zhao
M/N: DB71455	Temperature: 29.3°C
S/N:	Humidity: 54%RH
Test Mode: 802.11b_Highest_CH	Test Voltage: AC 120V/60Hz
Note:	Test Data: 2022-08-22



No.	Frequency	Limit dBuV/m	Level dBuV/m	Delta dB	Reading dBuV	Factor dB/m	Detector	Polar	Height cm	Angle deg
1*	2.624GHz	74.00	48.87	-25.13	59.20	-10.33	QP	Hor	100.0	0.0
2*	2.991GHz	74.00	62.50	-11.50	70.89	-8.39	QP	Hor	100.0	0.0
3*	13.867GHz	74.00	51.59	-22.41	46.18	5.41	QP	Hor	100.0	0.0
4*	2.626GHz	54.00	41.73	-12.27	52.05	-10.32	AV	Hor	100.0	0.0
5*	2.981GHz	54.00	47.84	-6.16	56.28	-8.44	AV	Hor	100.0	0.0
6*	17.099GHz	54.00	43.69	-10.31	33.50	10.19	AV	Hor	100.0	0.0



Test Lab: LGT EMC Lab	Project: LGT22G011
EUT: DTEN D7X	Test Engineer: Terry.zhao
M/N: DB71455	Temperature: 29.3°C
S/N:	Humidity: 54%RH
Test Mode: 802.11b_Highest_CH	Test Voltage: AC 120V/60Hz
Note:	Test Data: 2022-08-22



No.	Frequency	Limit dBuV/m	Level dBuV/m	Delta dB	Reading dBuV	Factor dB/m	Detector	Polar	Height cm	Angle deg
1*	2.666GHz	74.00	47.78	-26.22	57.89	-10.11	QP	Ver	100.0	0.0
2*	3.038GHz	74.00	64.70	-9.30	73.05	-8.35	QP	Ver	100.0	0.0
3*	14.764GHz	74.00	50.35	-23.65	44.41	5.94	QP	Ver	100.0	0.0
4*	2.668GHz	54.00	40.39	-13.61	50.49	-10.10	AV	Ver	100.0	0.0
5*	3.023GHz	54.00	49.77	-4.23	58.12	-8.35	AV	Ver	100.0	0.0
6*	17.099GHz	54.00	43.44	-10.56	33.25	10.19	AV	Ver	100.0	0.0

#### 4. CONDUCTED SPURIOUS & BAND EDGE EMISSION

##### 4.1 LIMIT

According to FCC section 15.247(d), in any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

##### 4.2 TEST PROCEDURE

Spectrum Parameter	Setting
Detector	Peak
Start/Stop Frequency	30 MHz to 10th carrier harmonic
RB / VB (emission in restricted band)	100 KHz/300 KHz
Trace-Mode:	Max hold

For Band edge

Spectrum Parameter	Setting
Detector	Peak
Start/Stop Frequency	Lower Band Edge: 2300 to 2432 MHz Upper Band Edge: 2442 to 2500 MHz
RB / VB (emission in restricted band)	100 KHz/300 KHz
Trace-Mode:	Max hold

##### 4.3 DEVIATION FROM STANDARD

No deviation.

##### 4.4 TEST SETUP



The EUT which is powered by the  $\{ \text{Power} \}$ , is connected to the Spectrum Analyzer; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading.

Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. In order to make an accurate measurement, set the span greater than RBW.

##### 4.5 EUT OPERATION CONDITIONS

Please refer to section 3.1.4 of this report.

## 4.6 TEST RESULTS

For the measurement records · refer to the appendix I.

## 5. POWER SPECTRAL DENSITY TEST

### 5.1 LIMIT

FCC Part15.247 , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(e)	Power Spectral Density	$\leq 8$ dBm (RBW $\geq 3$ KHz)	2400-2483.5	PASS

### 5.2 TEST PROCEDURE

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS channel bandwidth.
3. Set the  $100 \text{ kHz} \geq \text{RBW} \geq 3 \text{ kHz}$ .
4. Set the  $\text{VBW} \geq 3 \times \text{RBW}$ .
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

### 5.3 DEVIATION FROM STANDARD

No deviation.

### 5.4 TEST SETUP



### 5.5 EUT OPERATION CONDITIONS

Please refer to section 3.1.4 of this report.

## 5.6 TEST RESULTS

For the measurement records · refer to the appendix I.

## 6. BANDWIDTH TEST

### 6.1 LIMIT

FCC Part15.247,Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(a)(2)	Bandwidth	$\geq 500\text{KHz}$ (6dB bandwidth)	2400-2483.5	PASS

### 6.2 TEST PROCEDURE

The automatic bandwidth measurement capability of an instrument may be employed using the X dB bandwidth mode with X set to 6 dB, if the functionality described above (i.e., RBW = 100 kHz, VBW $\geq$ 3RBW, peak detector with maximum hold) is implemented by the instrumentation function. When using this capability, care shall be taken so that the bandwidth measurement is not influenced by any intermediate power nulls in the fundamental emission that might be $\geq$ 6 dB.

### 6.3 DEVIATION FROM STANDARD

No deviation.

### 6.4 TEST SETUP



### 6.5 EUT OPERATION CONDITIONS

Please refer to section 3.1.4 of this report.

### 6.6 TEST RESULTS

For the measurement records refer to the appendix I.

## 7. PEAK OUTPUT POWER TEST

### 7.1 LIMIT

FCC Part 15.247, Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(b)(3)	Output Power	1 watt or 30dBm	2400-2483.5	PASS

### 7.2 TEST PROCEDURE

One of the following procedures may be used to determine the maximum peak conducted output power of a DTS EUT.

RBW  $\geq$  DTS bandwidth

The following procedure shall be used when an instrument with a resolution bandwidth that is greater than the DTS bandwidth is available to perform the measurement:

- Set the RBW  $\geq$  DTS bandwidth.
- Set VBW  $\geq$  [3  $\times$  RBW].
- Set span  $\geq$  [3  $\times$  RBW].
- Sweep time = auto couple.
- Detector = peak.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use peak marker function to determine the peak amplitude level.

Integrated band power method:

The following procedure can be used when the maximum available RBW of the instrument is less than the

DTS bandwidth:

- Set the RBW = 1 MHz.
- Set the VBW  $\geq$  [3  $\times$  RBW].
- Set the span  $\geq$  [1.5  $\times$  DTS bandwidth].
- Detector = peak.
- Sweep time = auto couple.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use the instrument's band/channel power measurement function with the band limits set equal to the DTS bandwidth edges (for some instruments, this may require a manual override to select the peak detector). If the instrument does not have a band power function, then sum the spectrum levels (in linear power units) at intervals equal to the RBW extending across the DTS channel bandwidth.

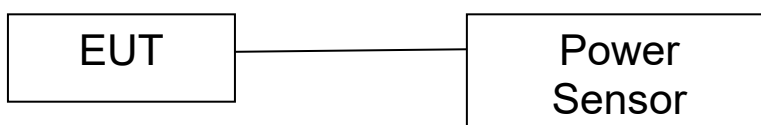
PKPM1 Peak power meter method:

The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall use a fast-responding diode detector.

### 7.3 DEVIATION FROM STANDARD

No deviation.

### 7.4 TEST SETUP



### 7.5 EUT OPERATION CONDITIONS

Please refer to section 3.1.4 of this report.

## 7.6 TEST RESULTS

For the measurement records · refer to the appendix I.



## 8. ANTENNA REQUIREMENT

### 8.1 STANDARD REQUIREMENT

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

### 8.2 EUT ANTENNA

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

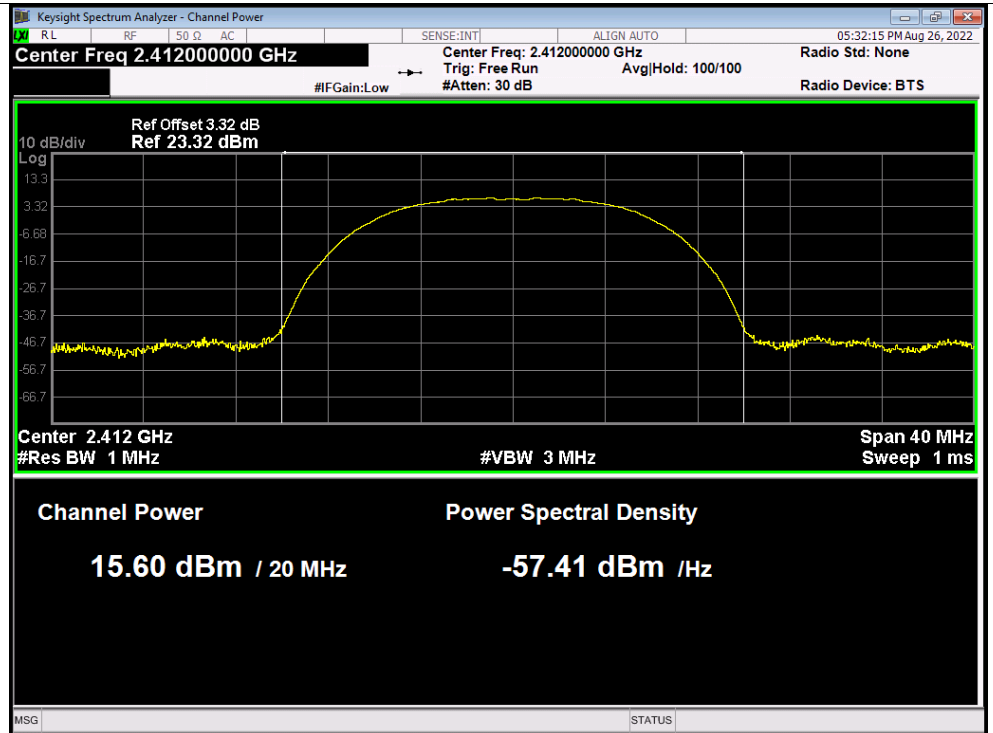
## APPENDIX I:TEST RESULTS

### MAXIMUM PEAK CONDUCTED OUTPUT POWER

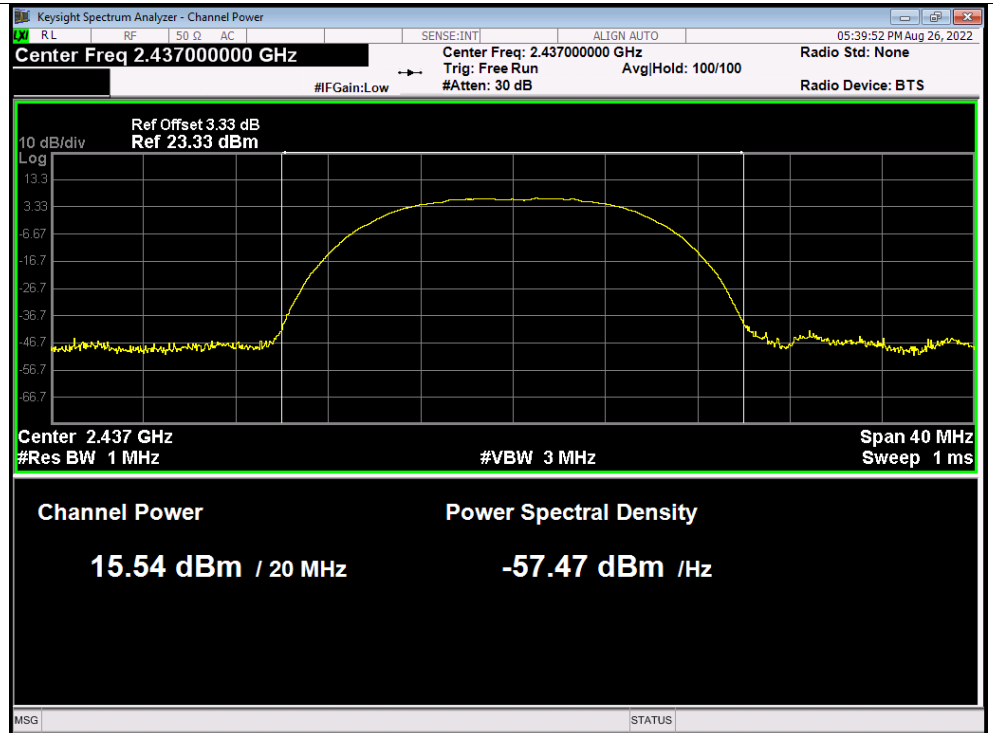
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	15.6	0	15.6	30	Pass
NVNT	b	2437	Ant1	15.54	0	15.54	30	Pass
NVNT	b	2462	Ant1	15.5	0	15.5	30	Pass
NVNT	g	2412	Ant1	17.1	0	17.1	30	Pass
NVNT	g	2437	Ant1	19.09	0	19.09	30	Pass
NVNT	g	2462	Ant1	19.2	0	19.2	30	Pass

### Test Graphs

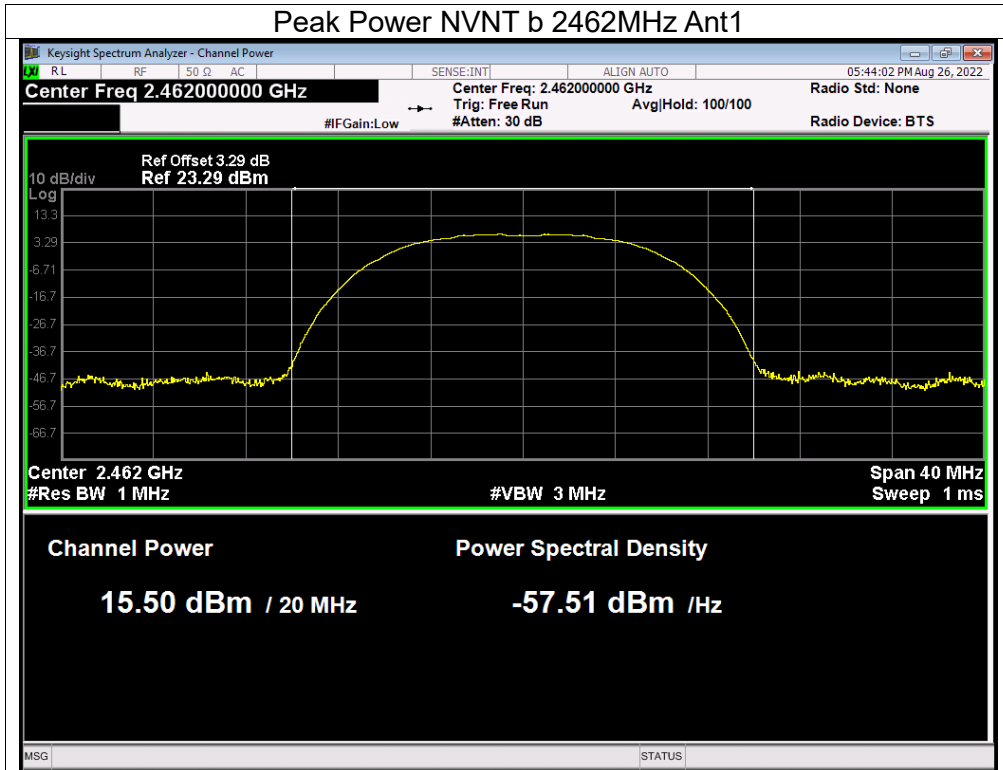
#### Peak Power NVNT b 2412MHz Ant1



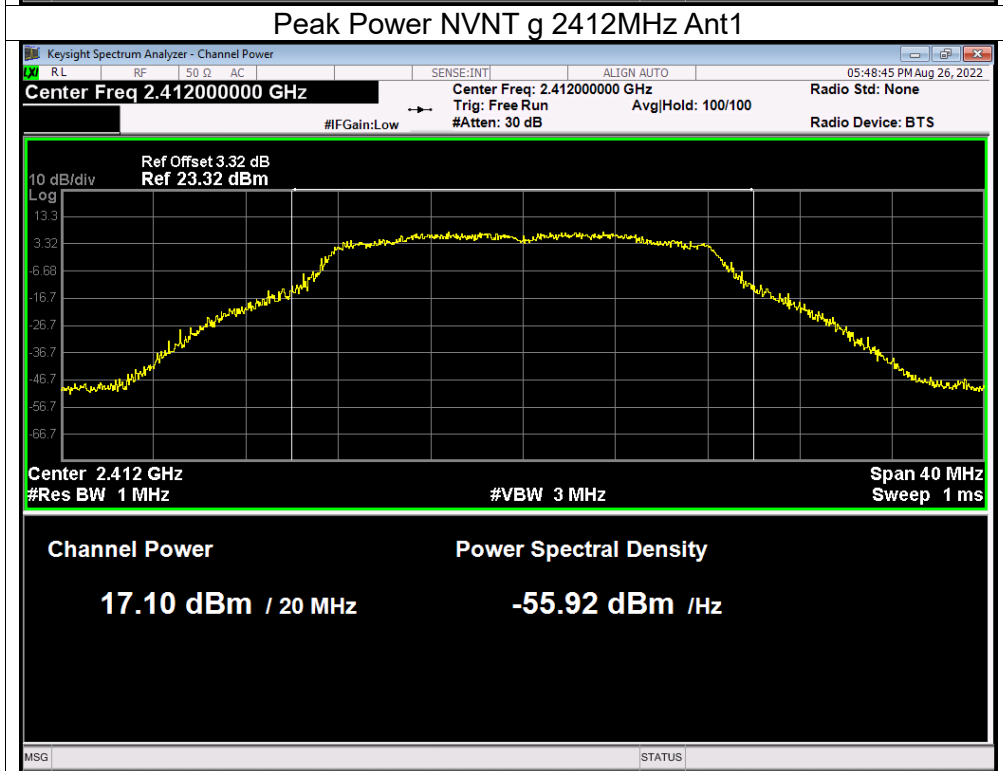
#### Peak Power NVNT b 2437MHz Ant1



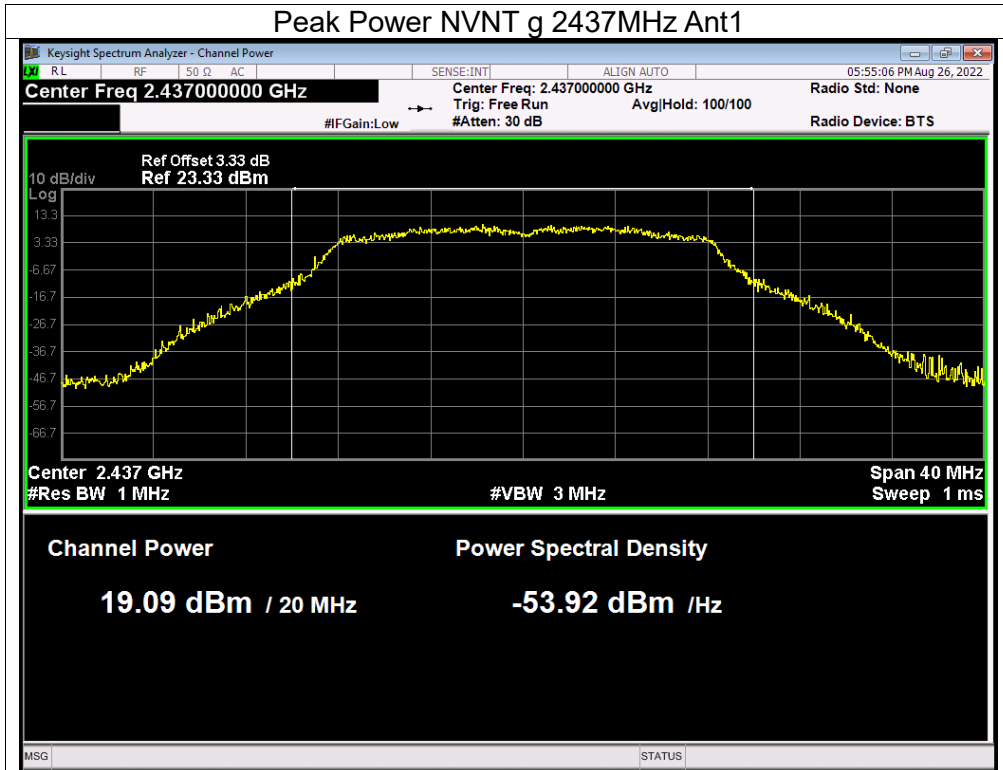
### Peak Power NVNT b 2462MHz Ant1



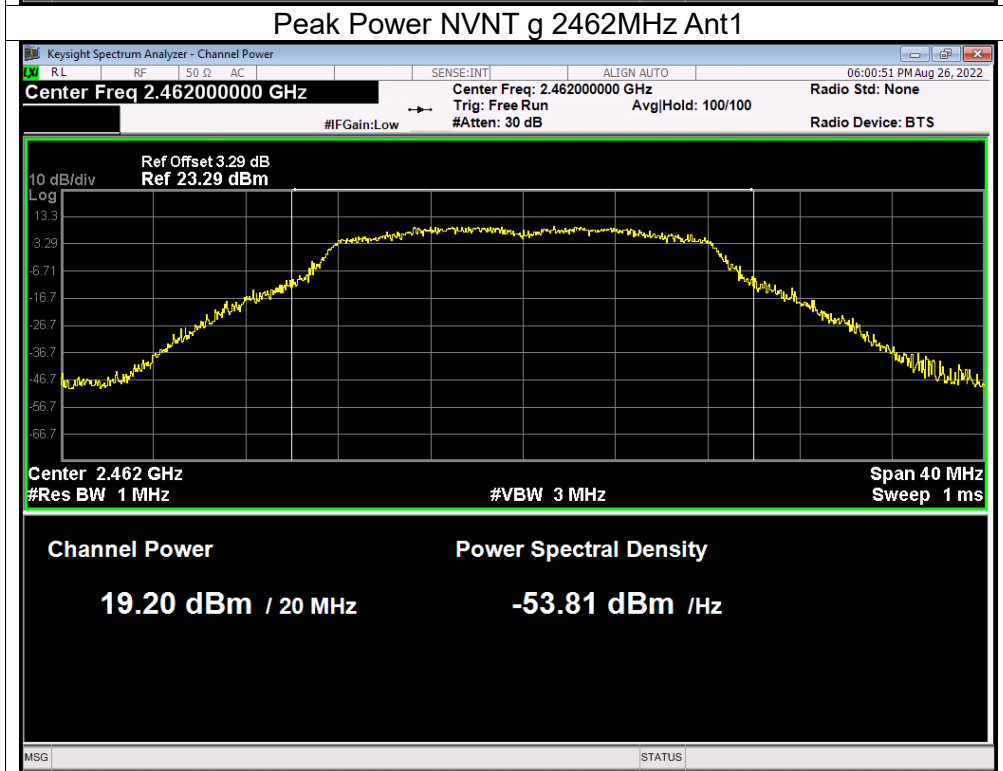
### Peak Power NVNT g 2412MHz Ant1



### Peak Power NVNT g 2437MHz Ant1



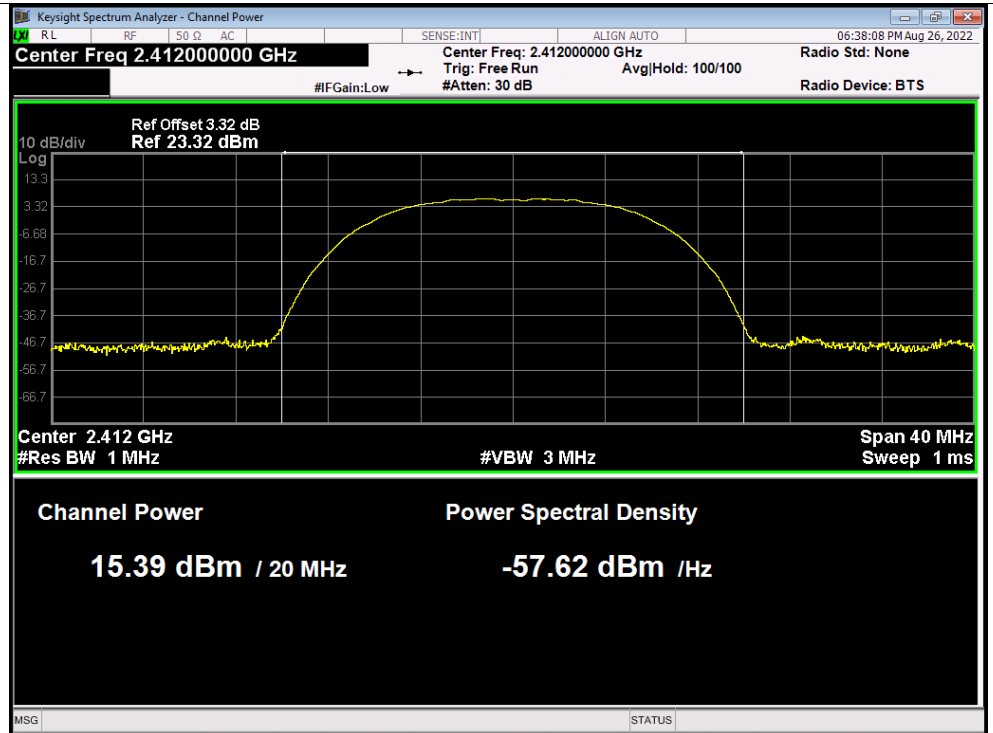
### Peak Power NVNT g 2462MHz Ant1



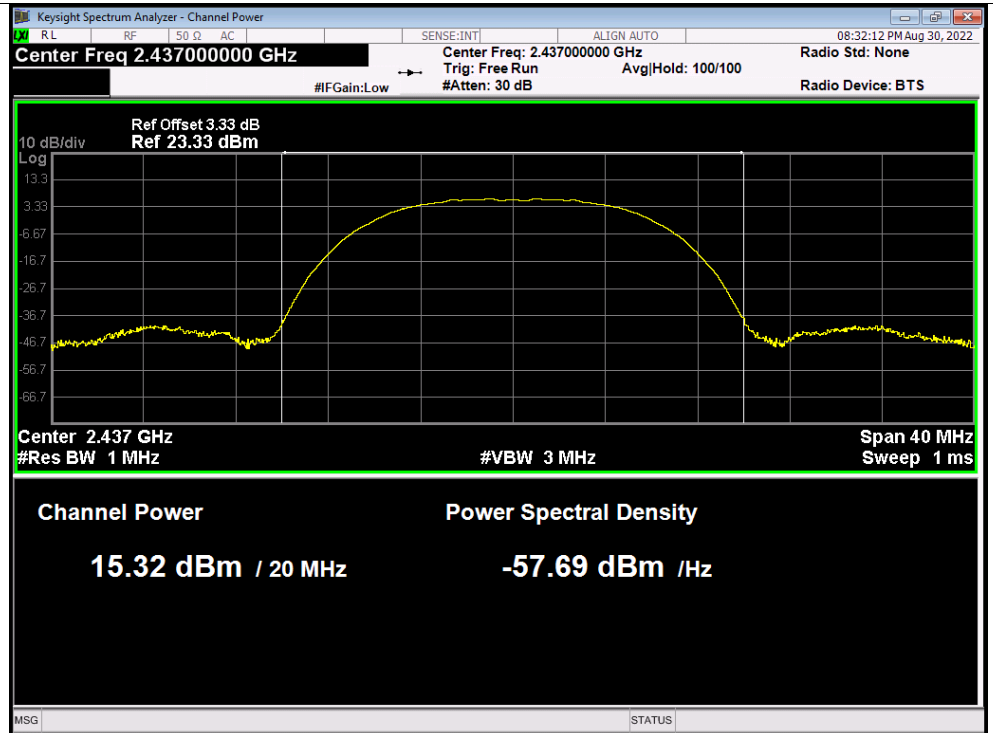
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant2	15.39	0	15.39	30	Pass
NVNT	b	2437	Ant2	15.32	0	15.32	30	Pass
NVNT	b	2462	Ant2	15.35	0	15.35	30	Pass
NVNT	g	2412	Ant2	16.93	0	16.93	30	Pass
NVNT	g	2437	Ant2	18.72	0	18.72	30	Pass
NVNT	g	2462	Ant2	18.7	0	18.7	30	Pass

### Test Graphs

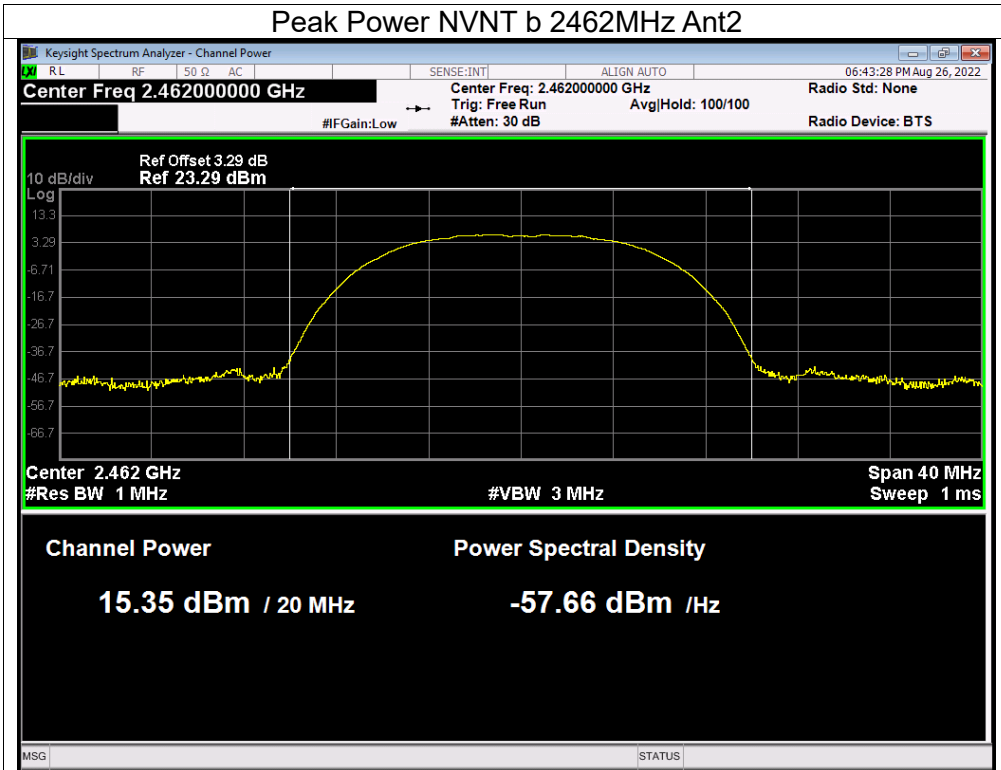
#### Peak Power NVNT b 2412MHz Ant2



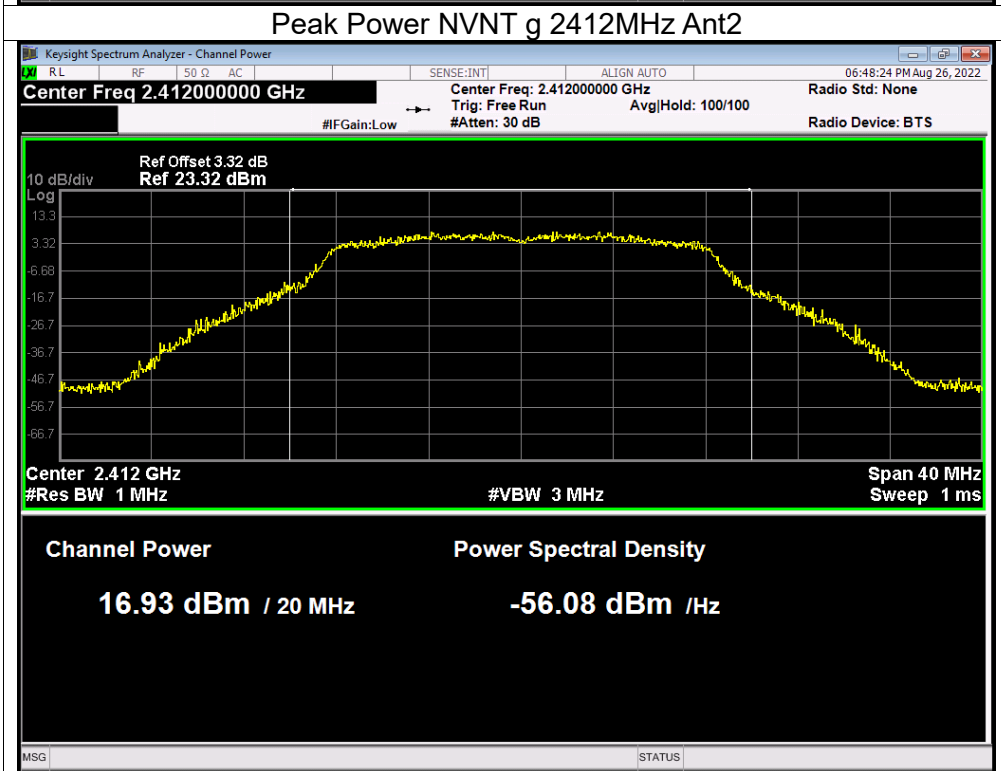
#### Peak Power NVNT b 2437MHz Ant2



### Peak Power NVNT b 2462MHz Ant2

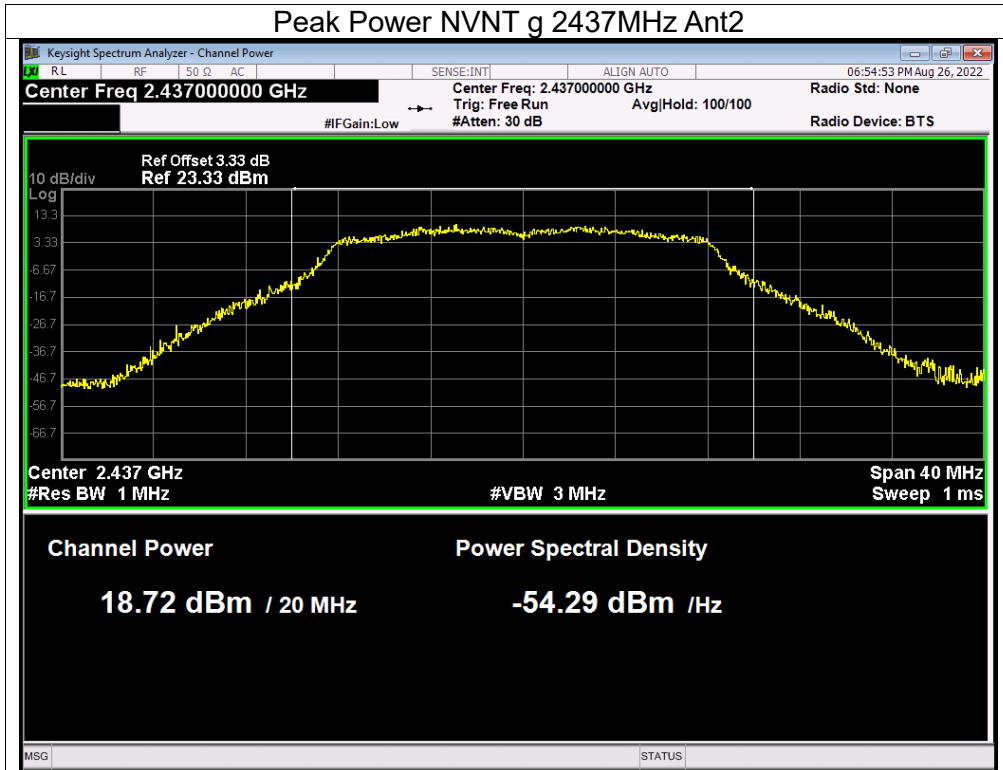


### Peak Power NVNT g 2412MHz Ant2

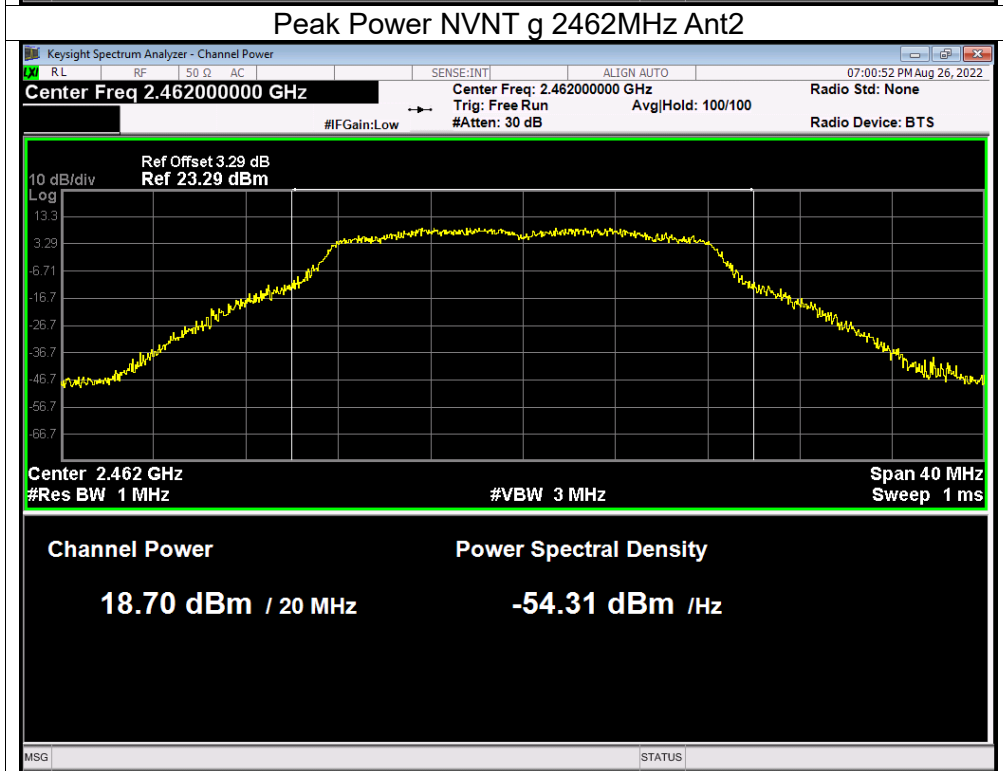




### Peak Power NVNT g 2437MHz Ant2

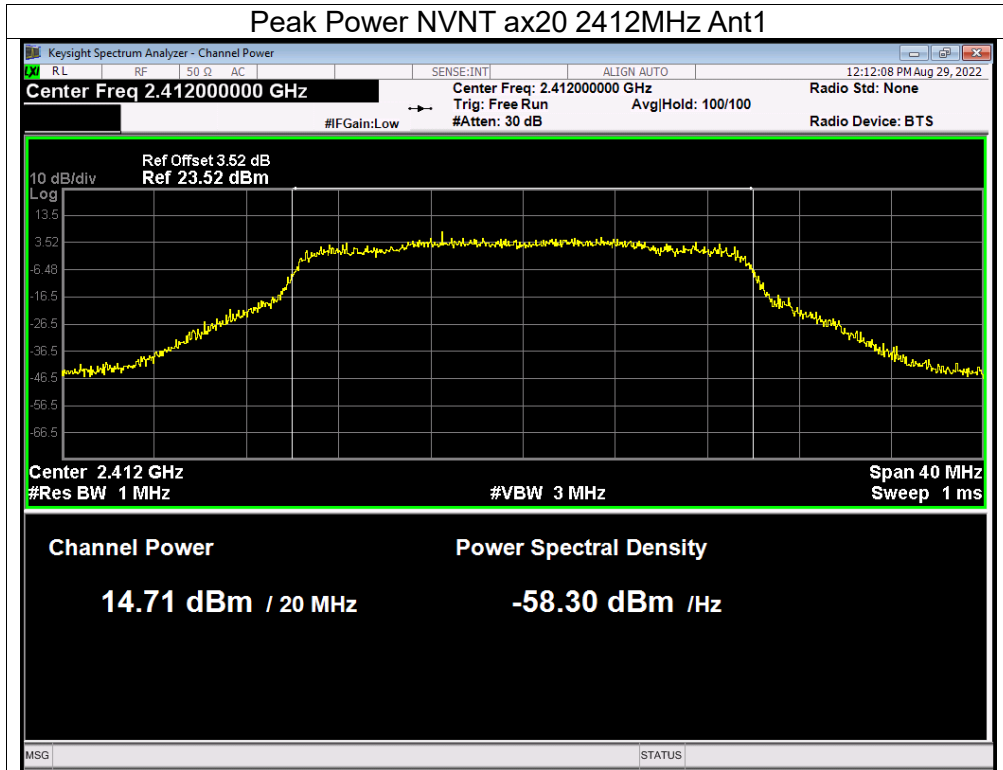


### Peak Power NVNT g 2462MHz Ant2

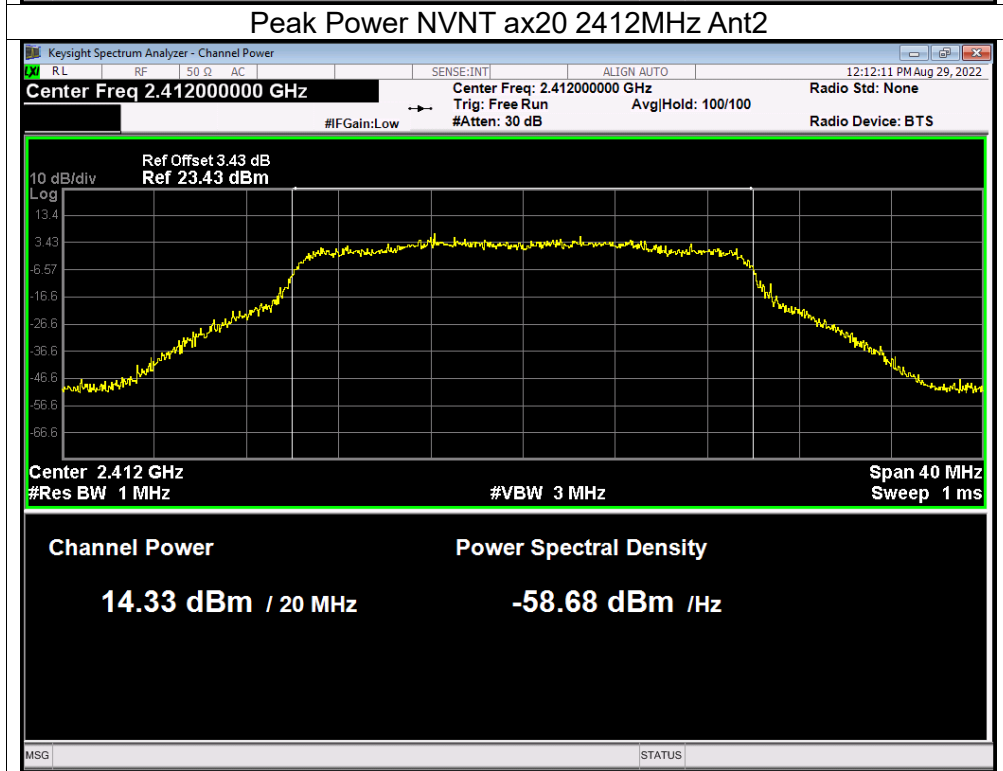


Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	ax20	2412	Ant1	14.71	0	14.71	30	Pass
NVNT	ax20	2412	Ant2	14.33	0	14.33	30	Pass
NVNT	ax20	2412	Sum	17.53	0	17.53	30	Pass
NVNT	ax20	2437	Ant1	16.76	0	16.76	30	Pass
NVNT	ax20	2437	Ant2	16.37	0	16.37	30	Pass
NVNT	ax20	2437	Sum	19.58	0	19.58	30	Pass
NVNT	ax20	2462	Ant1	16.62	0	16.62	30	Pass
NVNT	ax20	2462	Ant2	16.51	0	16.51	30	Pass
NVNT	ax20	2462	Sum	19.58	0	19.58	30	Pass
NVNT	ax40	2422	Ant1	17.35	0	17.35	30	Pass
NVNT	ax40	2422	Ant2	16.78	0	16.78	30	Pass
NVNT	ax40	2422	Sum	20.08	0	20.08	30	Pass
NVNT	ax40	2437	Ant1	16.86	0	16.86	30	Pass
NVNT	ax40	2437	Ant2	16.7	0	16.7	30	Pass
NVNT	ax40	2437	Sum	19.79	0	19.79	30	Pass
NVNT	ax40	2452	Ant1	17.09	0	17.09	30	Pass
NVNT	ax40	2452	Ant2	16.96	0	16.96	30	Pass
NVNT	ax40	2452	Sum	20.04	0	20.04	30	Pass
NVNT	n20	2412	Ant1	14	0	14	30	Pass
NVNT	n20	2412	Ant2	13.72	0	13.72	30	Pass
NVNT	n20	2412	Sum	16.87	0	16.87	30	Pass
NVNT	n20	2437	Ant1	16.03	0	16.03	30	Pass
NVNT	n20	2437	Ant2	15.55	0	15.55	30	Pass
NVNT	n20	2437	Sum	18.81	0	18.81	30	Pass
NVNT	n20	2462	Ant1	15.99	0	15.99	30	Pass
NVNT	n20	2462	Ant2	15.74	0	15.74	30	Pass
NVNT	n20	2462	Sum	18.88	0	18.88	30	Pass
NVNT	n40	2422	Ant1	16.87	0	16.87	30	Pass
NVNT	n40	2422	Ant2	16.13	0	16.13	30	Pass
NVNT	n40	2422	Sum	19.53	0	19.53	30	Pass
NVNT	n40	2437	Ant1	16.55	0	16.55	30	Pass
NVNT	n40	2437	Ant2	16.06	0	16.06	30	Pass
NVNT	n40	2437	Sum	19.32	0	19.32	30	Pass
NVNT	n40	2452	Ant1	16.65	0	16.65	30	Pass
NVNT	n40	2452	Ant2	16.24	0	16.24	30	Pass
NVNT	n40	2452	Sum	19.46	0	19.46	30	Pass

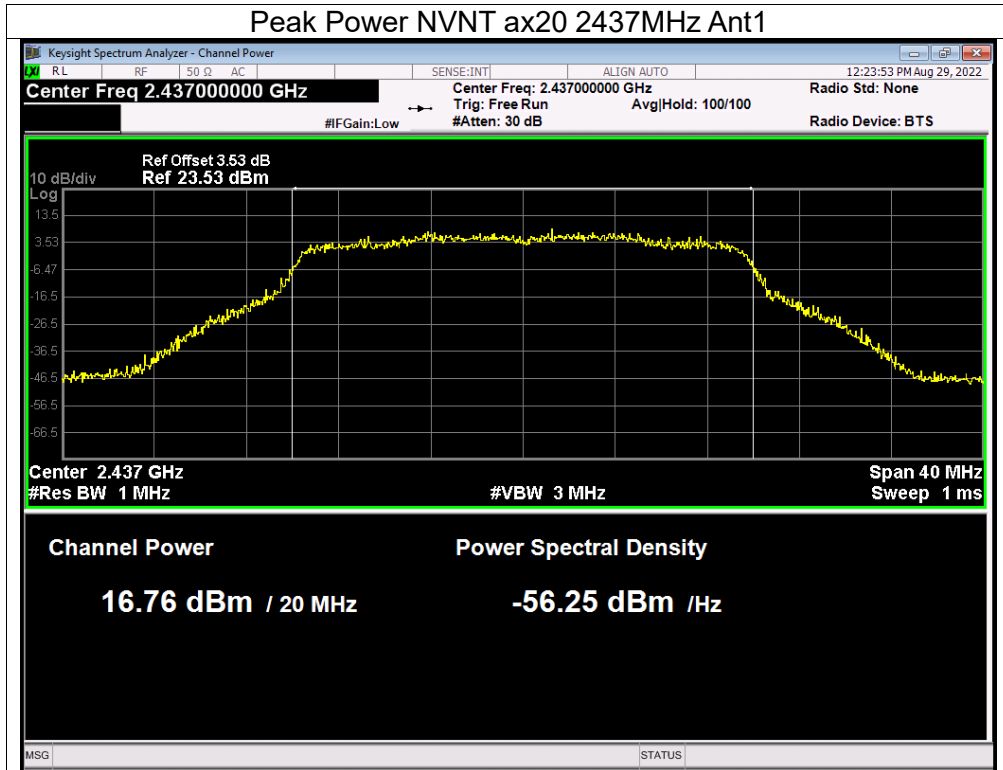
### Peak Power NVNT ax20 2412MHz Ant1



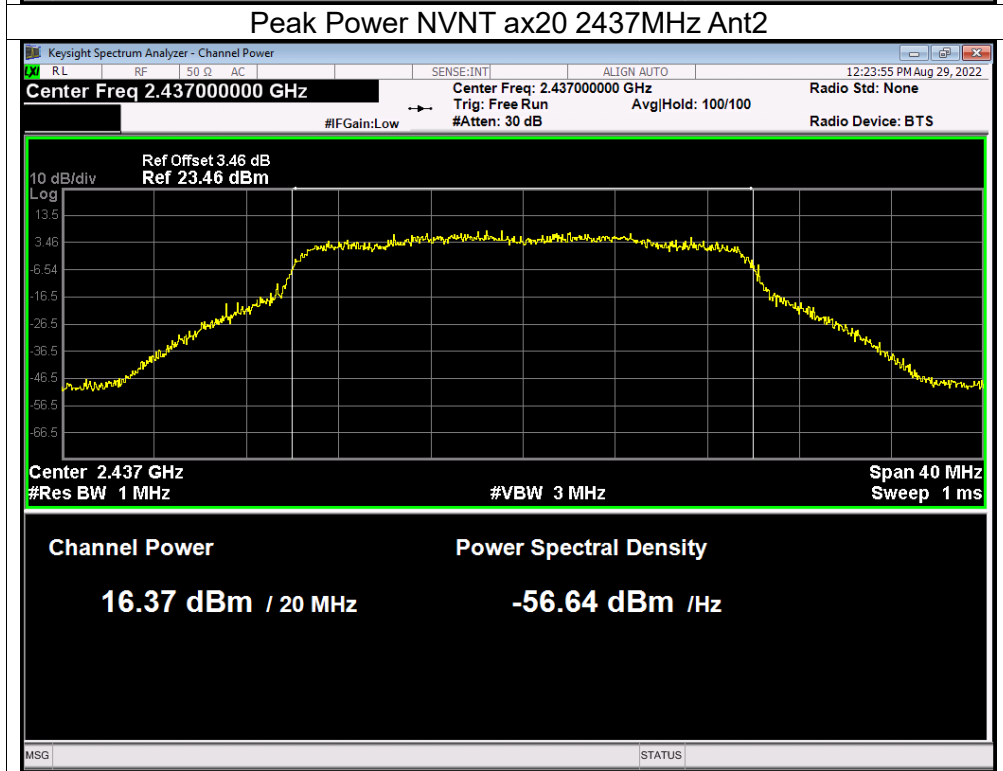
### Peak Power NVNT ax20 2412MHz Ant2



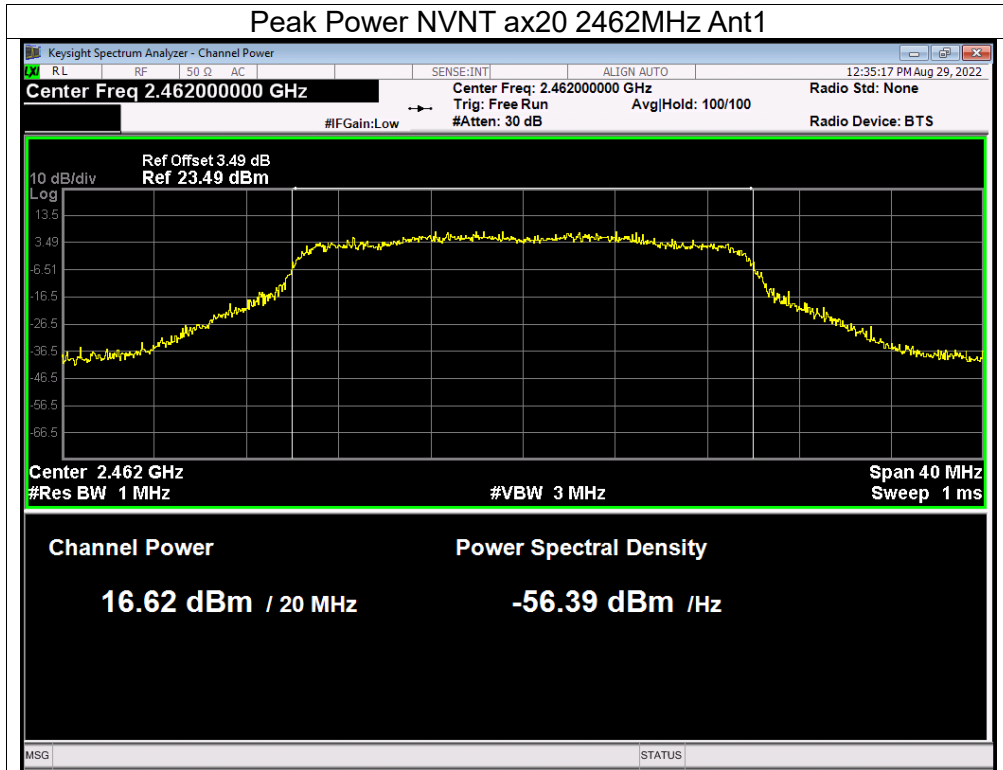
### Peak Power NVNT ax20 2437MHz Ant1



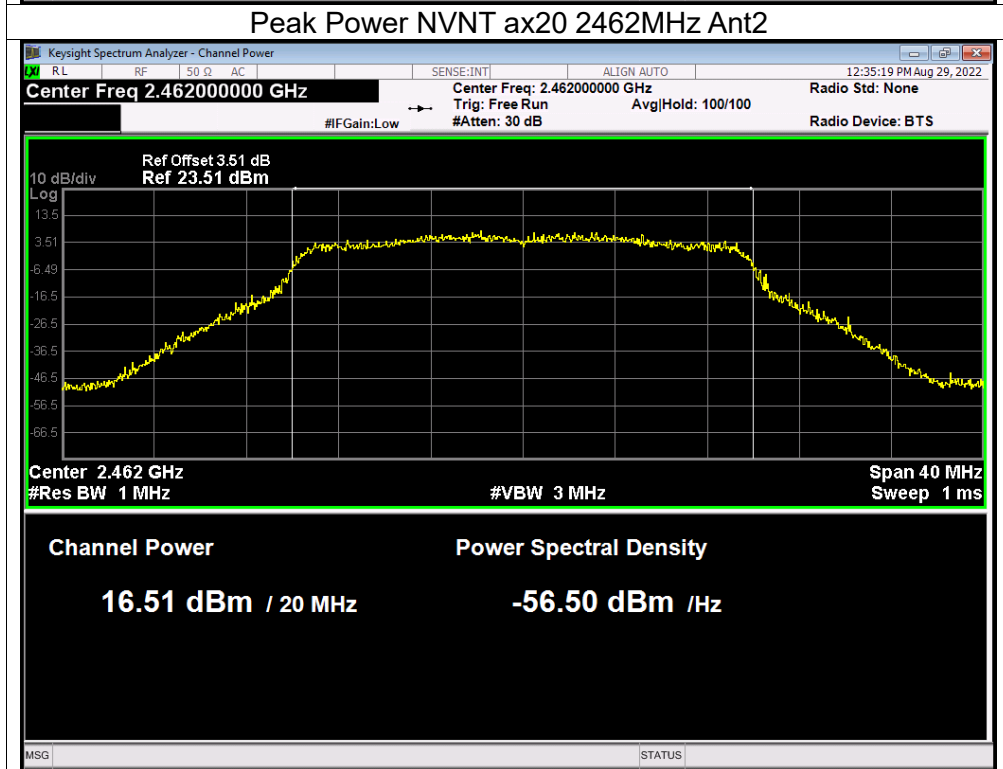
### Peak Power NVNT ax20 2437MHz Ant2



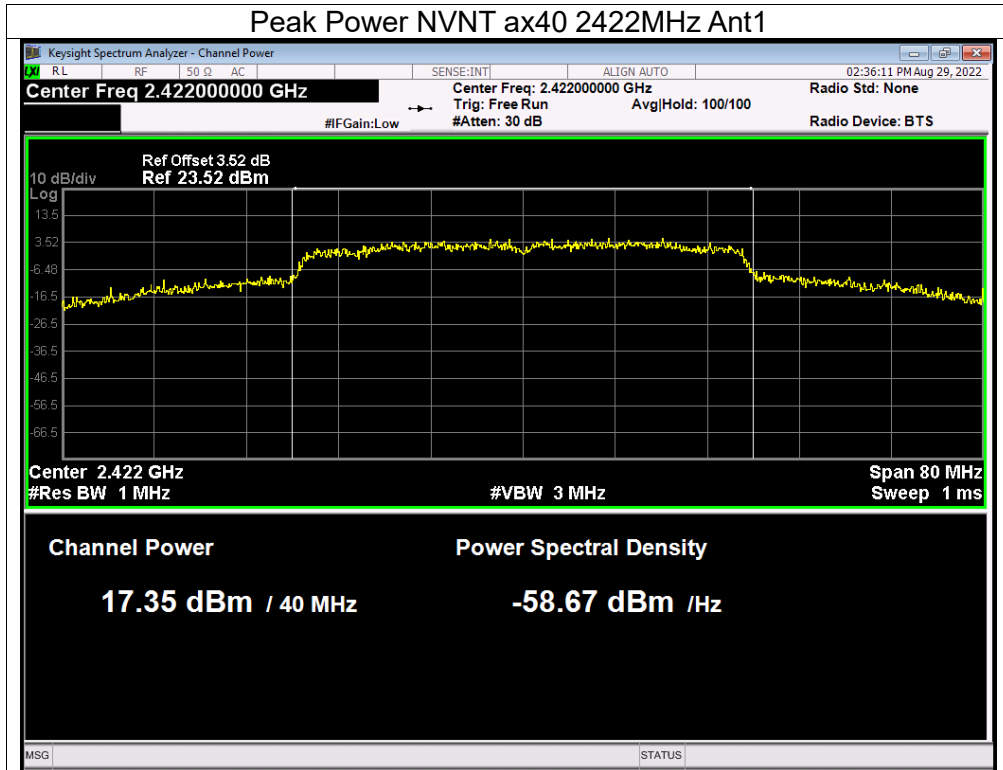
### Peak Power NVNT ax20 2462MHz Ant1



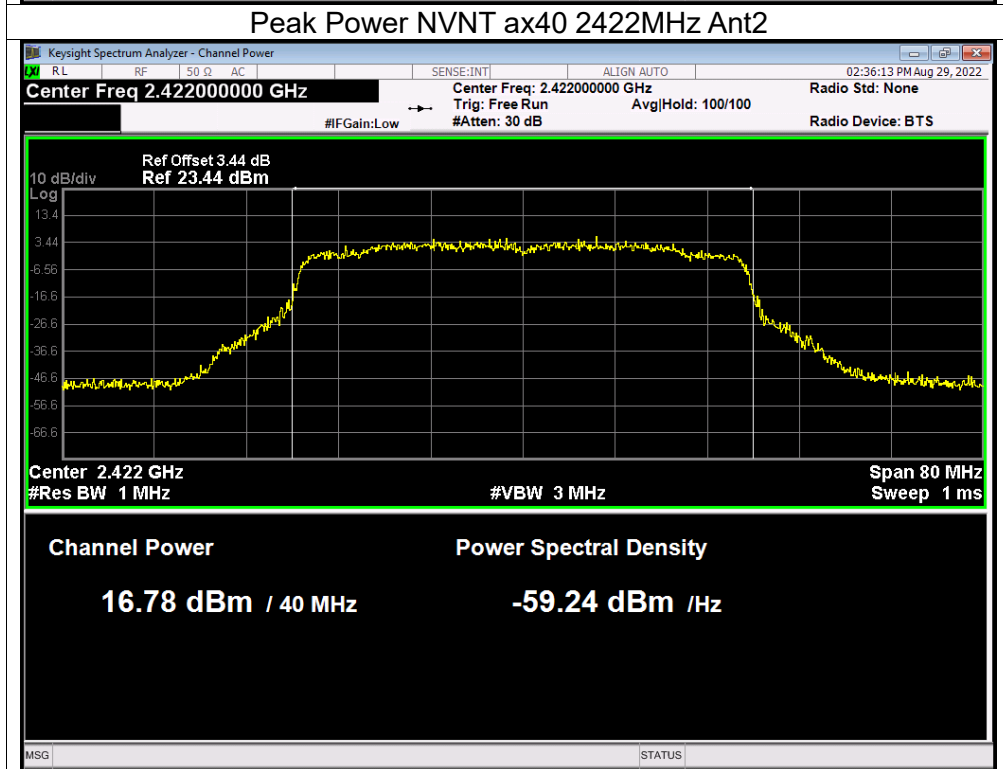
### Peak Power NVNT ax20 2462MHz Ant2



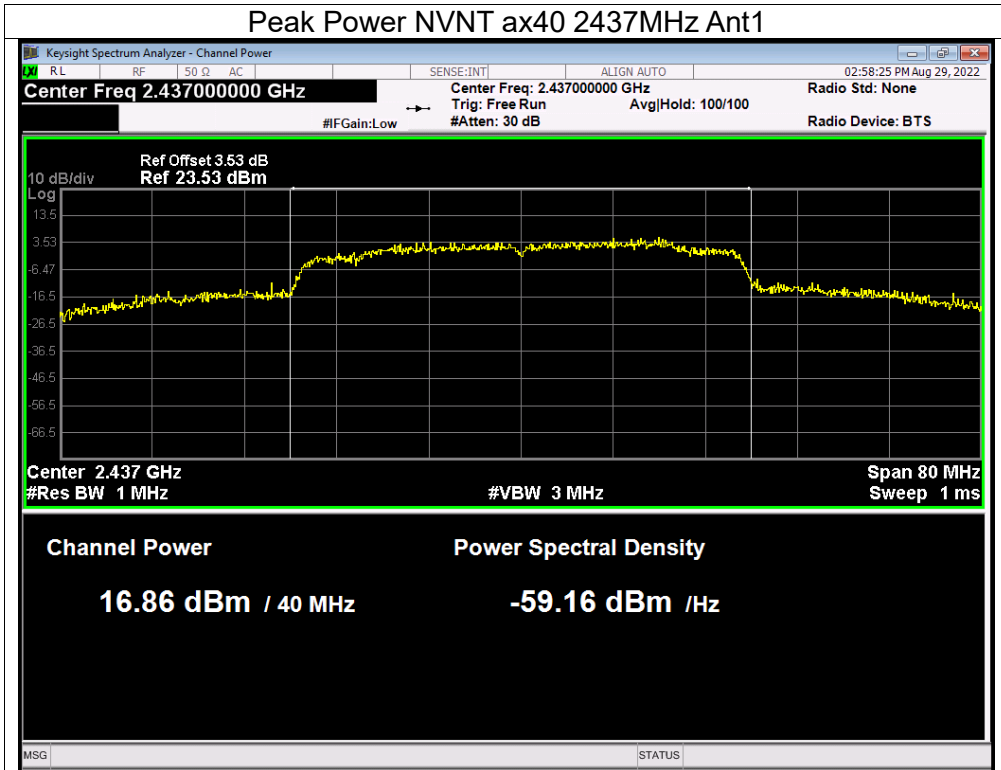
### Peak Power NVNT ax40 2422MHz Ant1



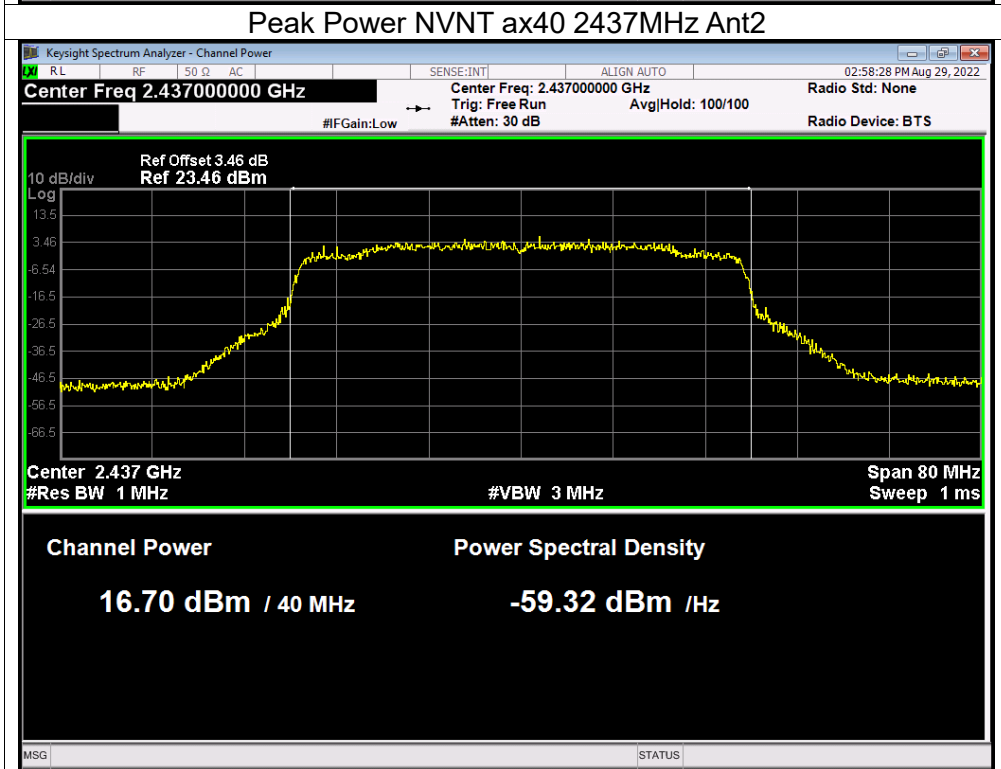
### Peak Power NVNT ax40 2422MHz Ant2



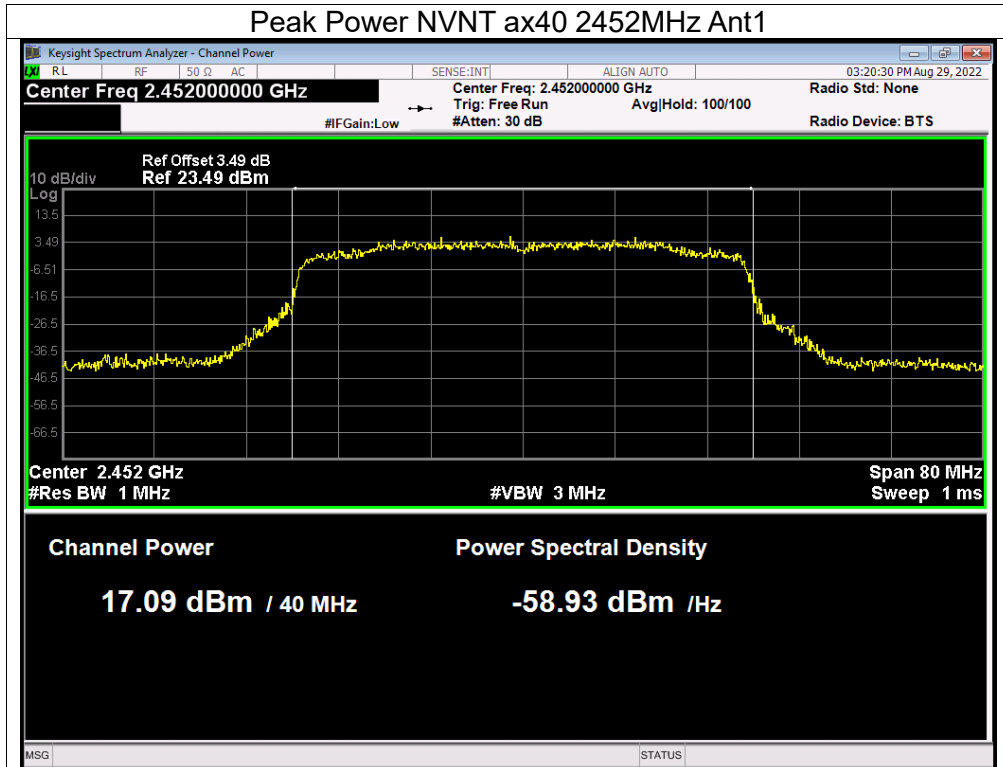
### Peak Power NVNT ax40 2437MHz Ant1



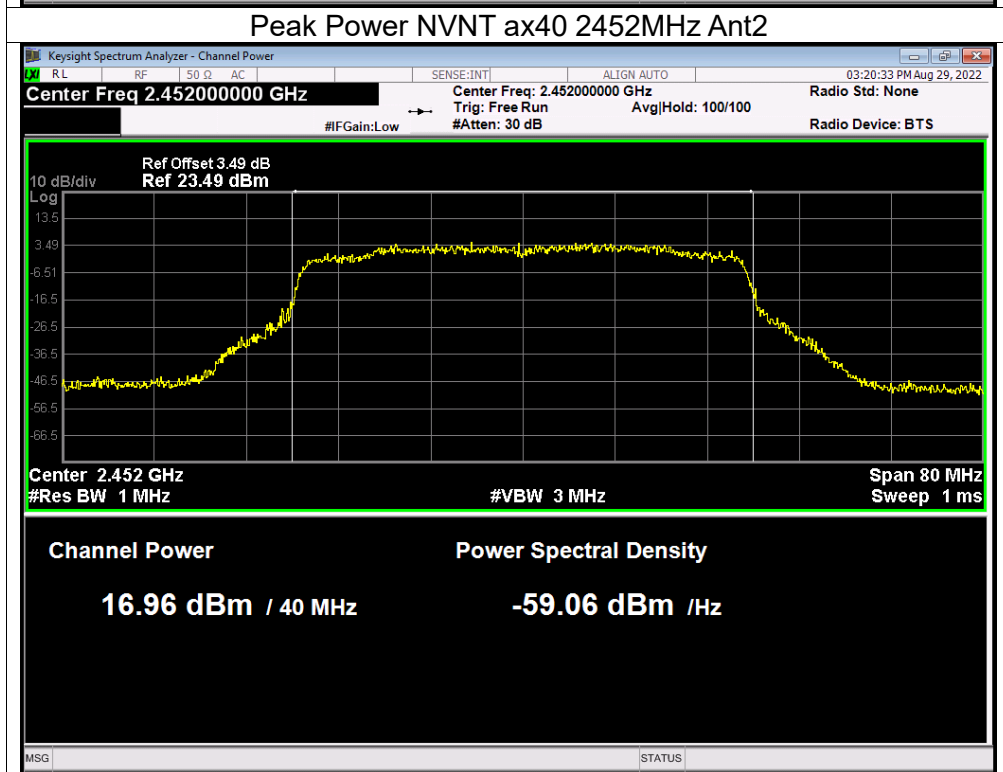
### Peak Power NVNT ax40 2437MHz Ant2



### Peak Power NVNT ax40 2452MHz Ant1

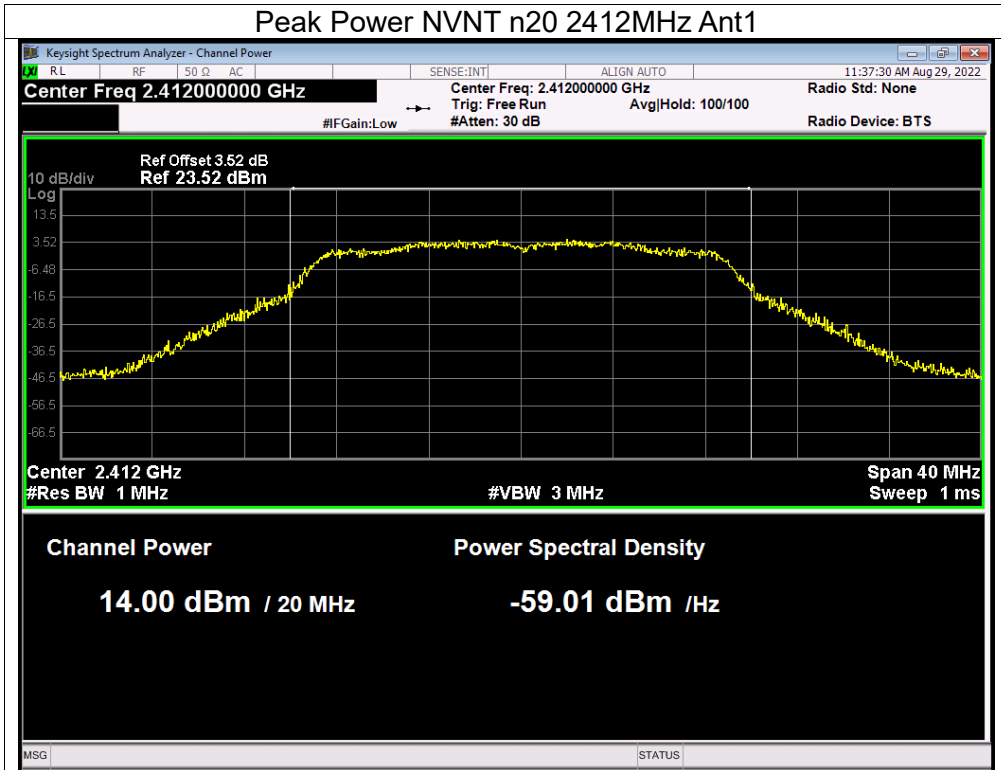


### Peak Power NVNT ax40 2452MHz Ant2

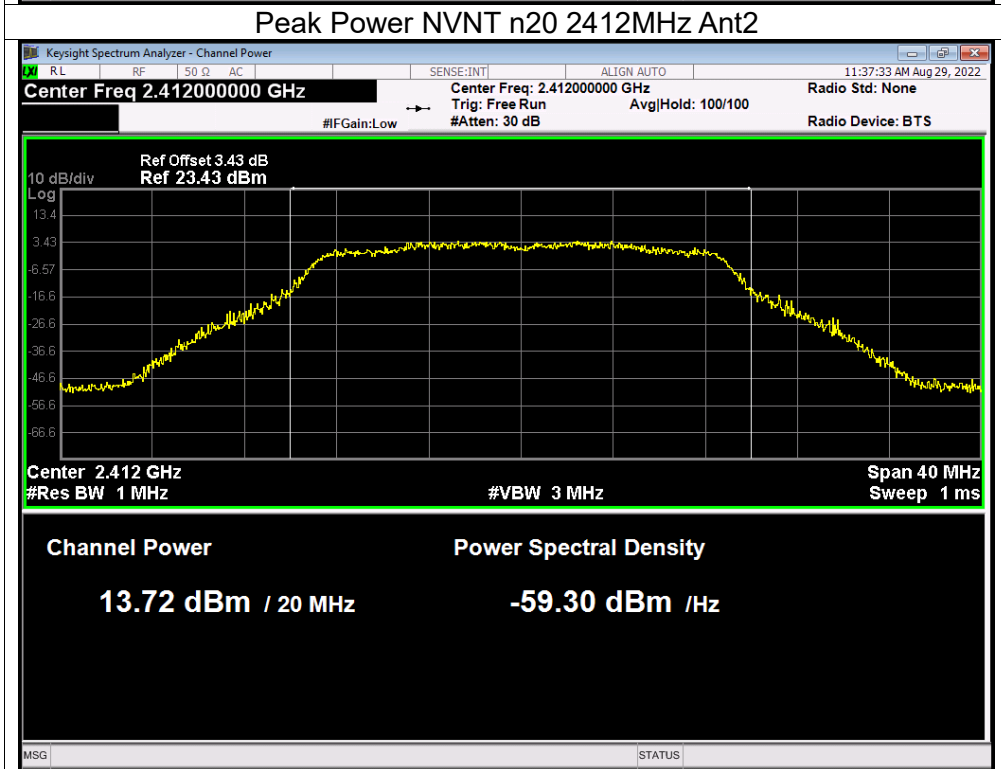




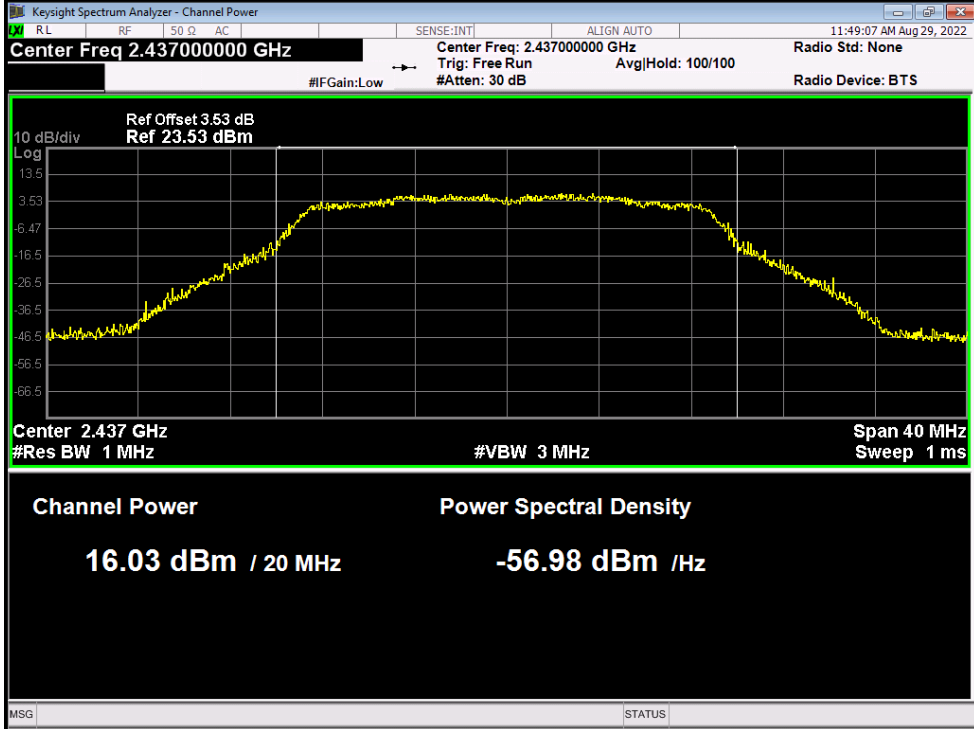
### Peak Power NVNT n20 2412MHz Ant1



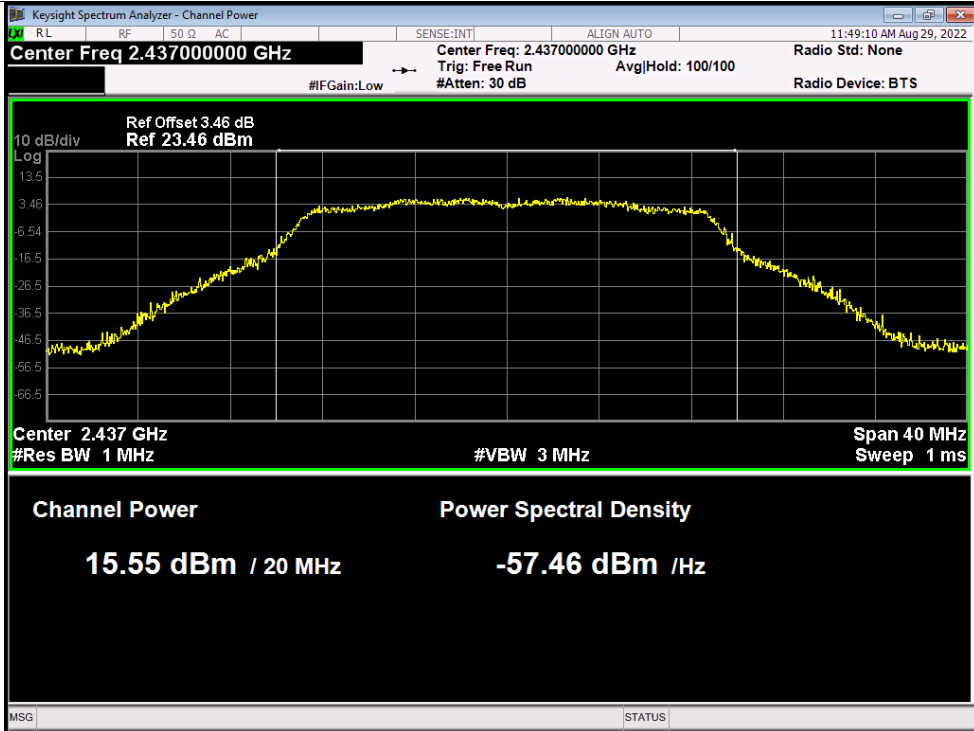
### Peak Power NVNT n20 2412MHz Ant2



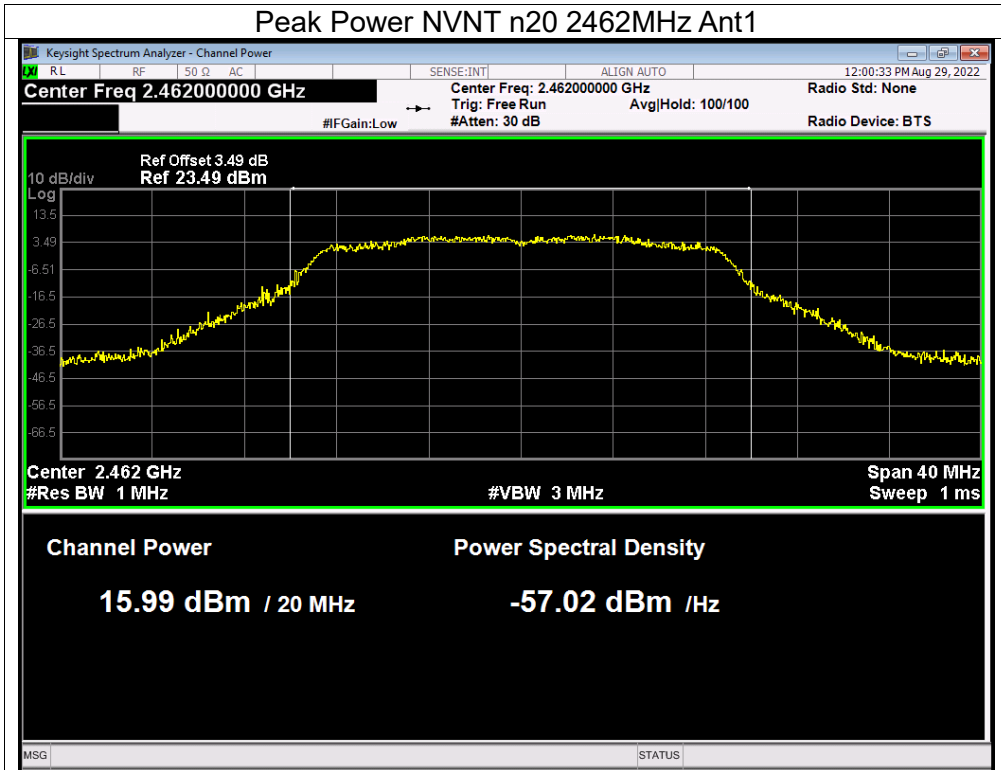
### Peak Power NVNT n20 2437MHz Ant1



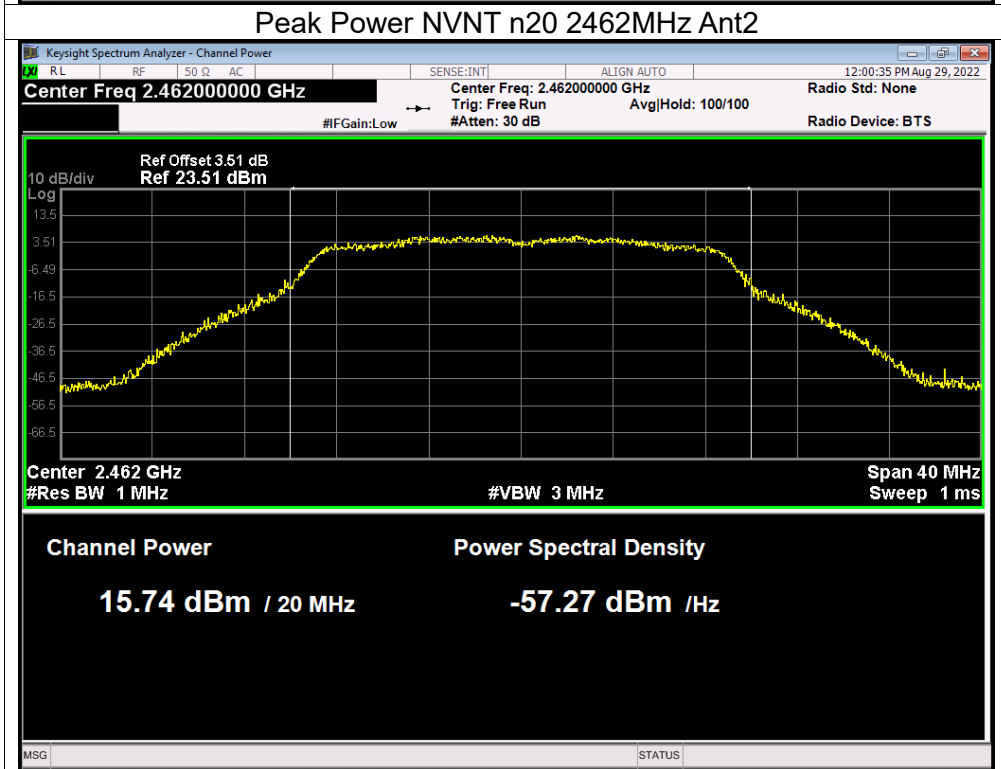
### Peak Power NVNT n20 2437MHz Ant2



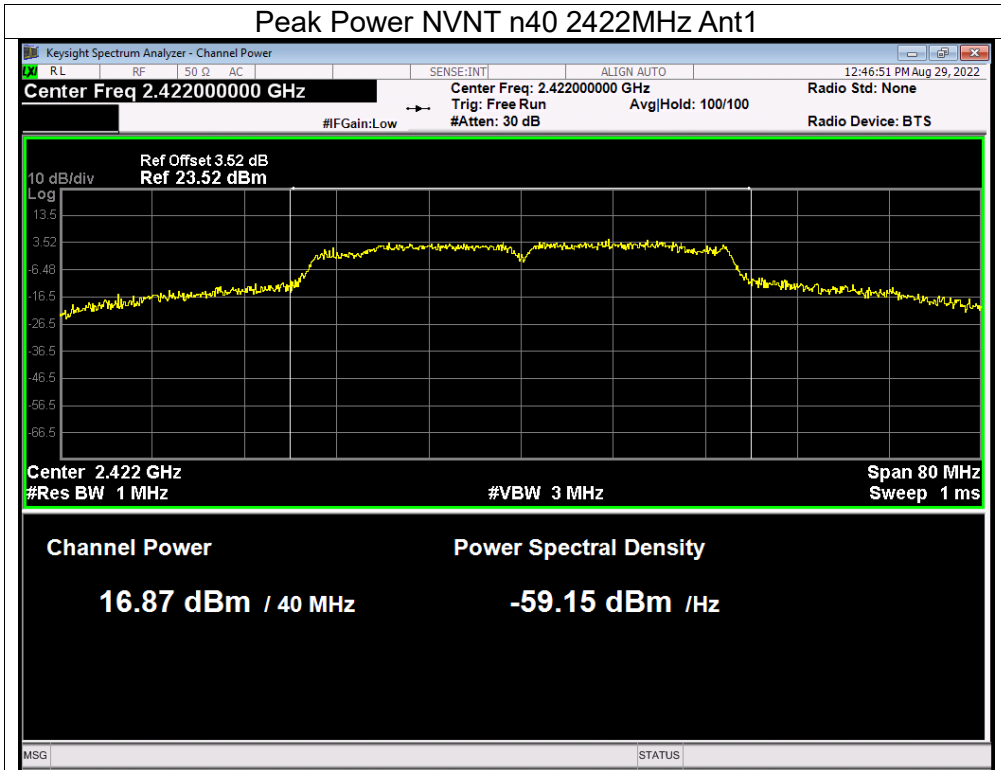
### Peak Power NVNT n20 2462MHz Ant1



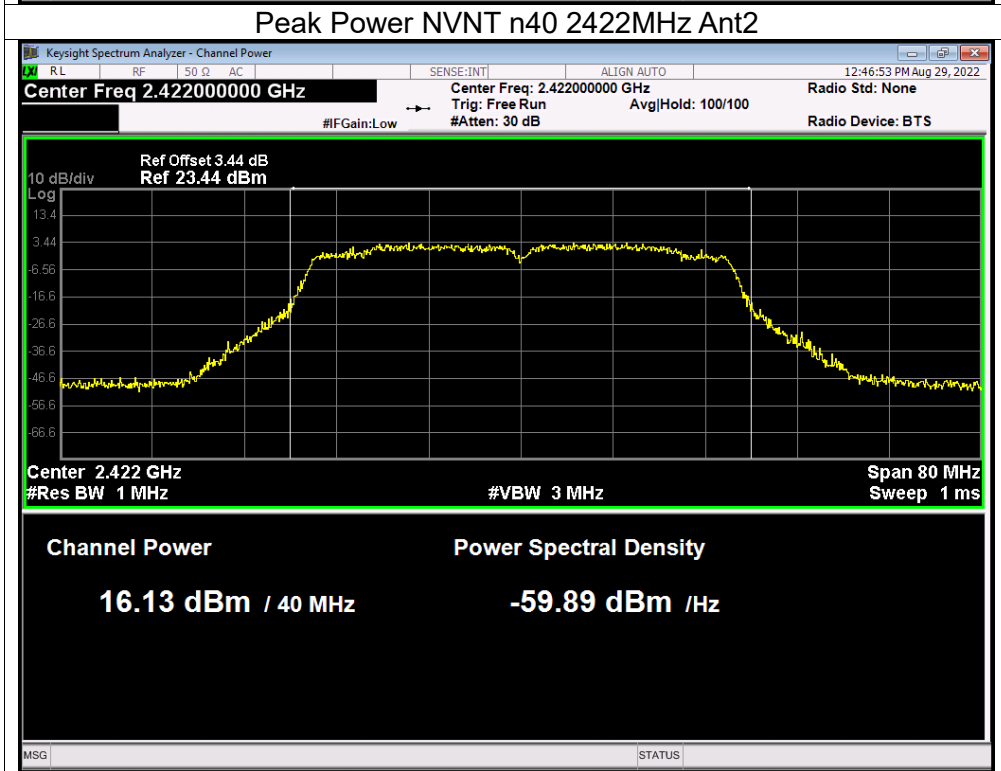
### Peak Power NVNT n20 2462MHz Ant2



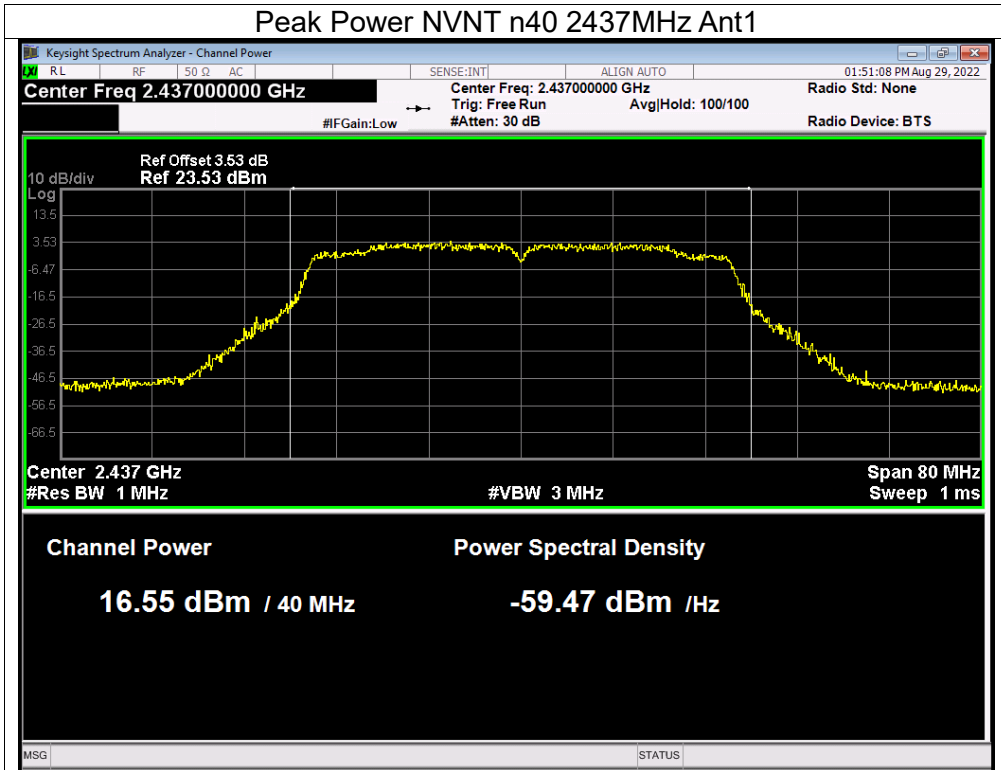
### Peak Power NVNT n40 2422MHz Ant1



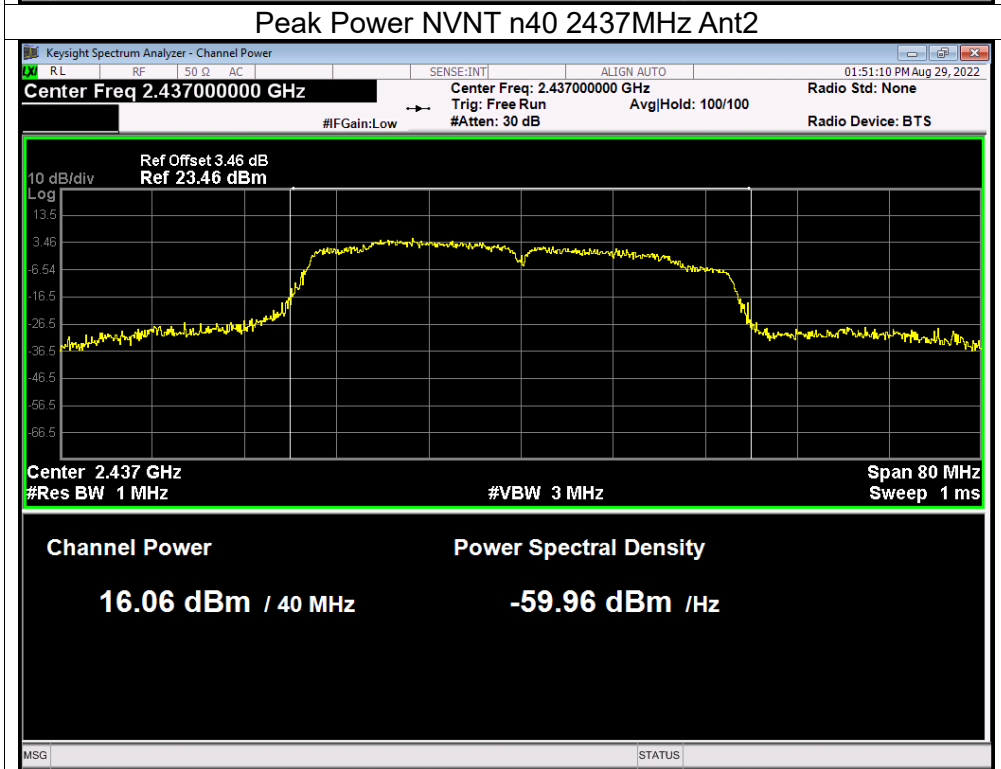
### Peak Power NVNT n40 2422MHz Ant2



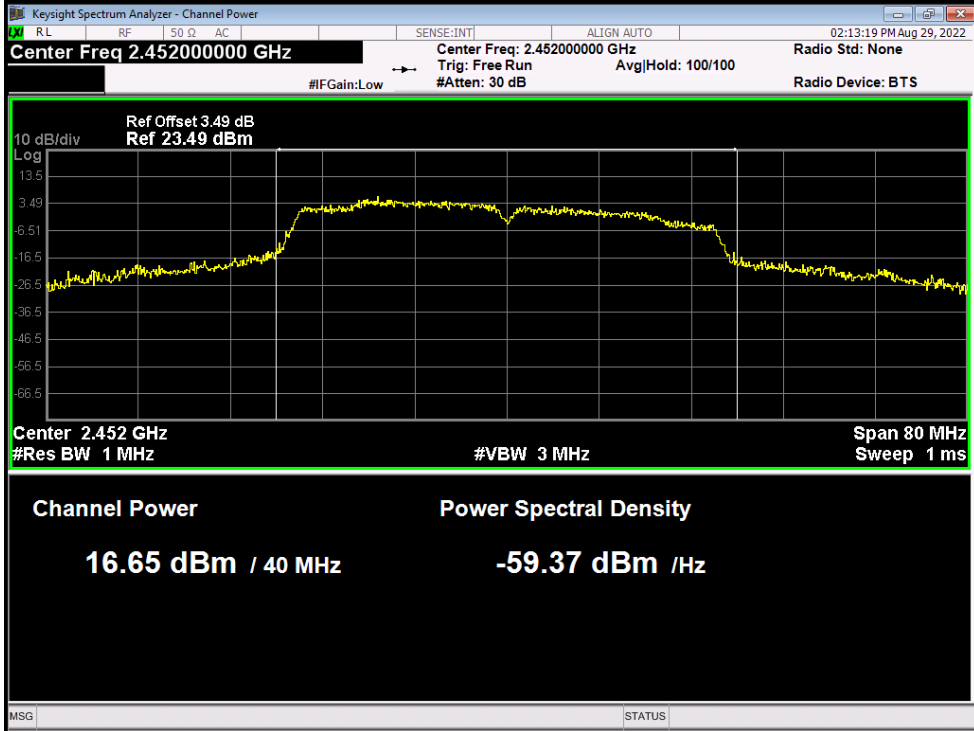
### Peak Power NVNT n40 2437MHz Ant1



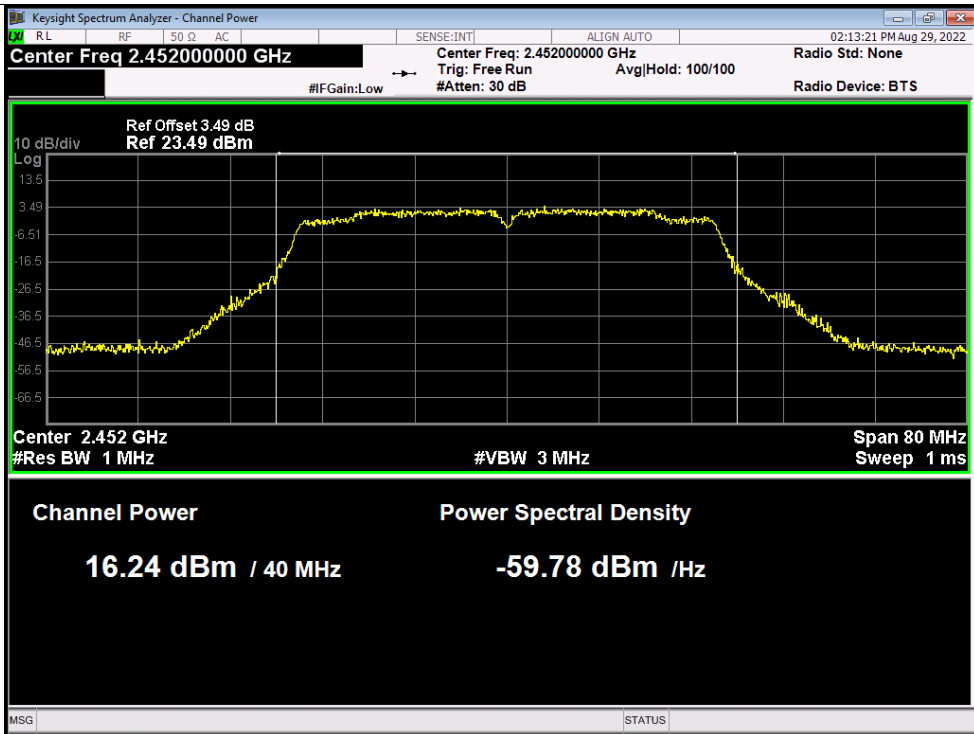
### Peak Power NVNT n40 2437MHz Ant2



### Peak Power NVNT n40 2452MHz Ant1



### Peak Power NVNT n40 2452MHz Ant2

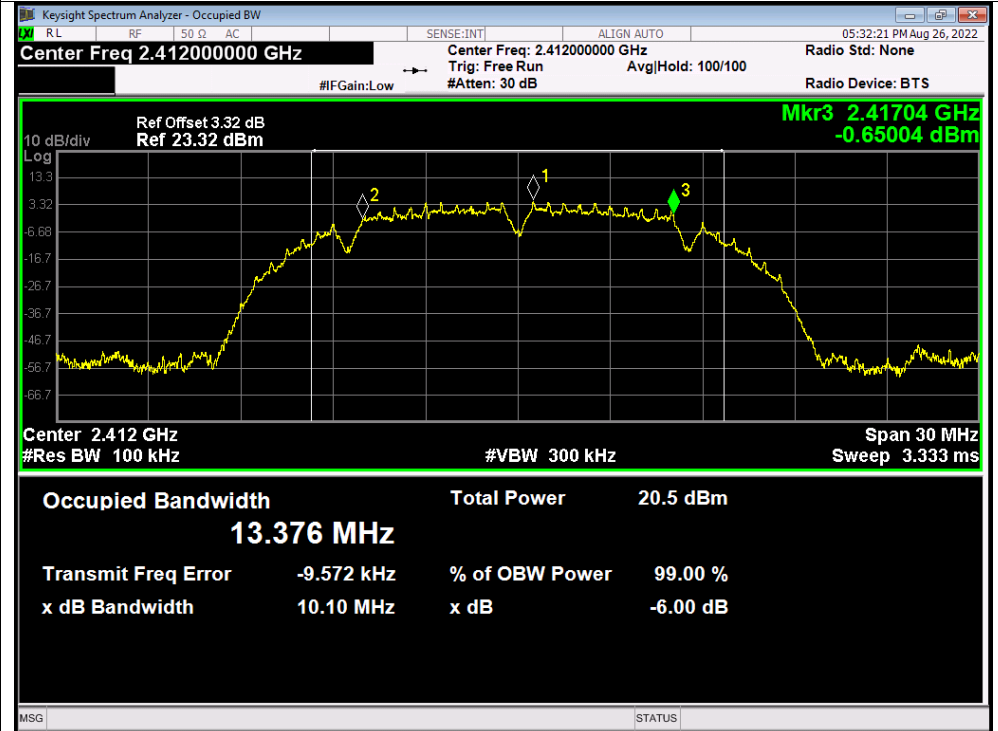


-6DB BANDWIDTH

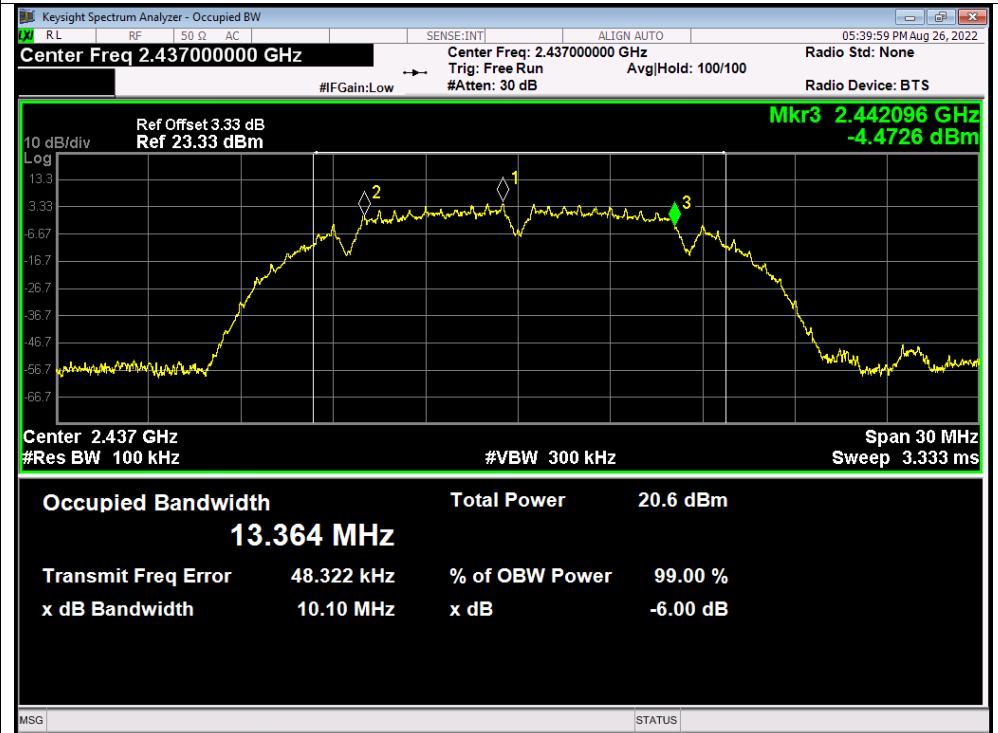
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	10.1	0.5	Pass
NVNT	b	2437	Ant1	10.095	0.5	Pass
NVNT	b	2462	Ant1	10.084	0.5	Pass
NVNT	g	2412	Ant1	15.121	0.5	Pass
NVNT	g	2437	Ant1	15.118	0.5	Pass
NVNT	g	2462	Ant1	15.127	0.5	Pass
NVNT	n20	2412	Ant1	15.124	0.5	Pass
NVNT	n20	2437	Ant1	15.108	0.5	Pass
NVNT	n20	2462	Ant1	15.126	0.5	Pass
NVNT	n40	2422	Ant1	35.068	0.5	Pass
NVNT	n40	2437	Ant1	33.838	0.5	Pass
NVNT	n40	2452	Ant1	35.086	0.5	Pass
NVNT	ax20	2412	Ant1	15.121	0.5	Pass
NVNT	ax20	2437	Ant1	15.111	0.5	Pass
NVNT	ax20	2462	Ant1	15.101	0.5	Pass
NVNT	ax40	2422	Ant1	35.109	0.5	Pass
NVNT	ax40	2437	Ant1	35.081	0.5	Pass
NVNT	ax40	2452	Ant1	35.093	0.5	Pass

### Test Graphs

#### -6dB Bandwidth NVNT b 2412MHz Ant1

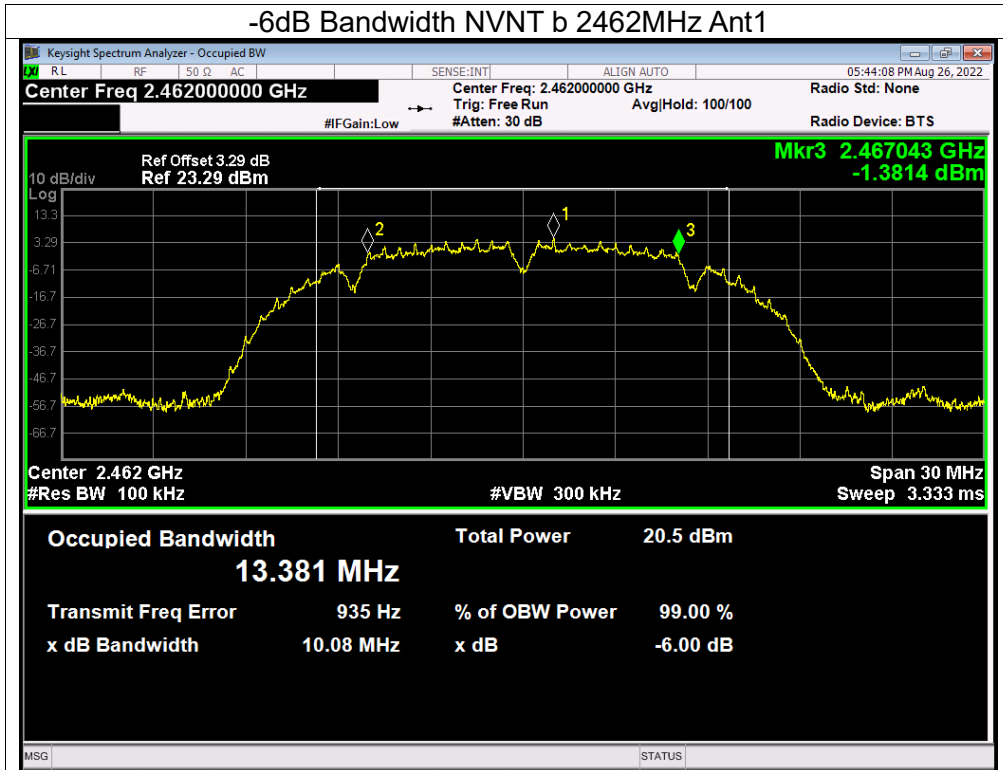


#### -6dB Bandwidth NVNT b 2437MHz Ant1

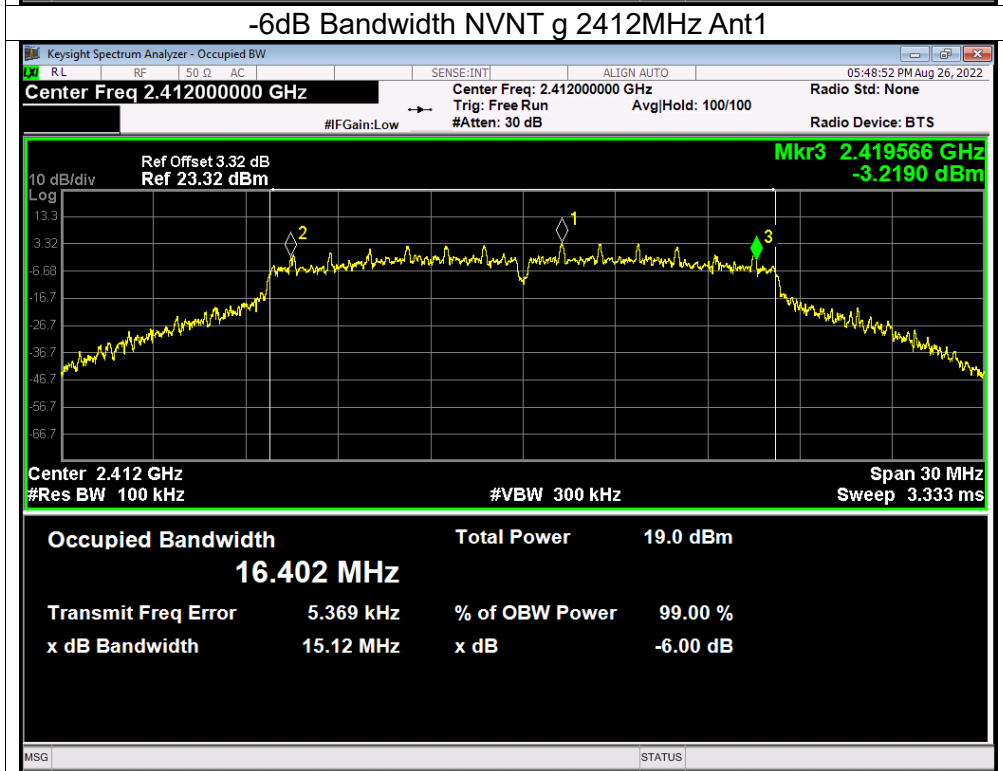




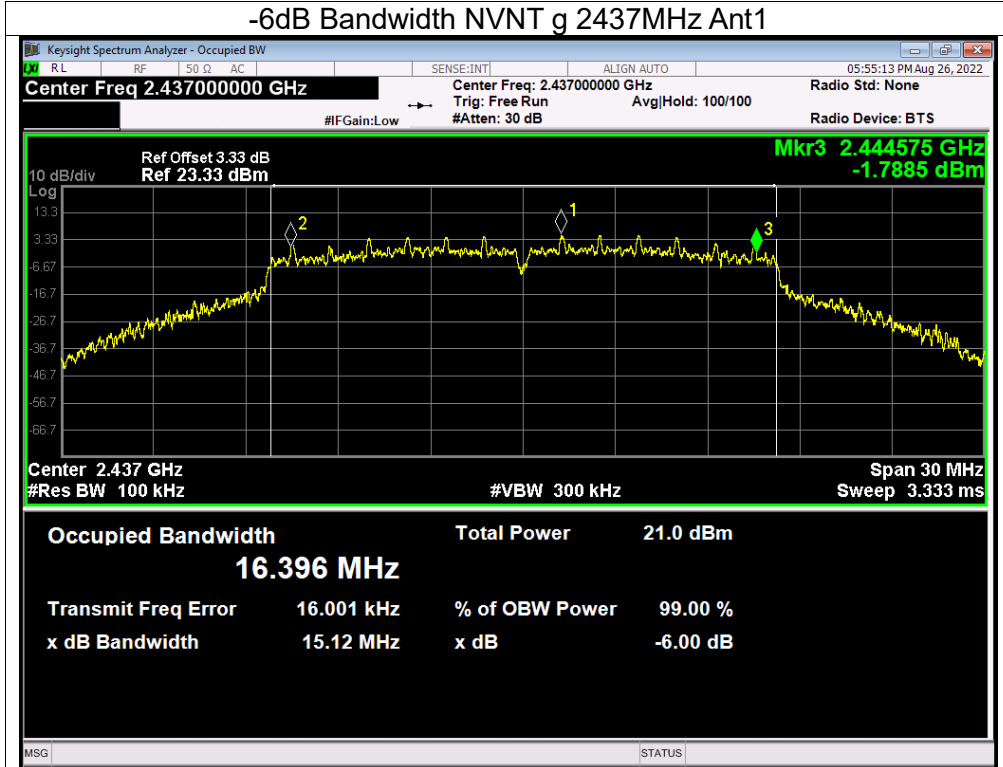
### -6dB Bandwidth NVNT b 2462MHz Ant1



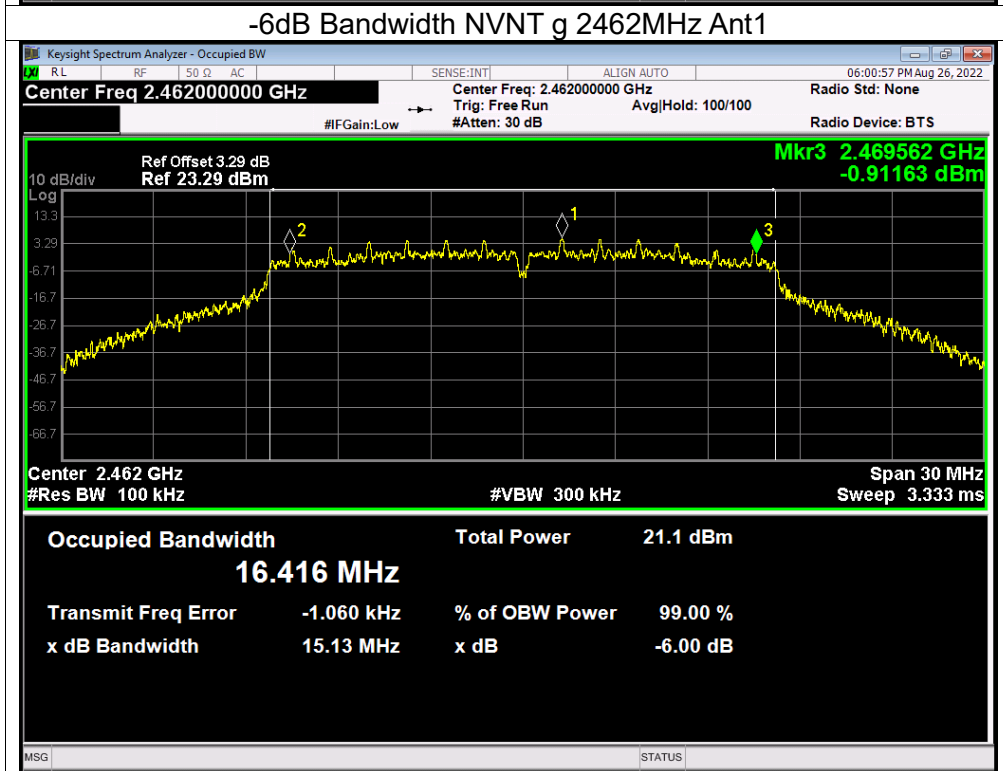
### -6dB Bandwidth NVNT g 2412MHz Ant1



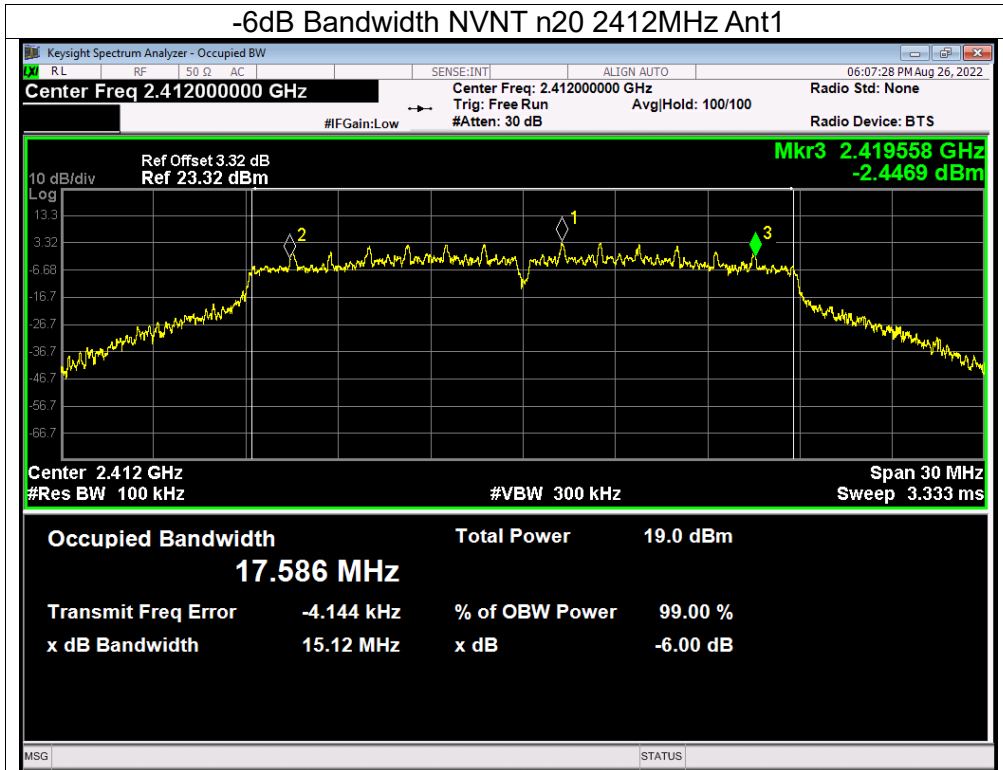
### -6dB Bandwidth NVNT g 2437MHz Ant1



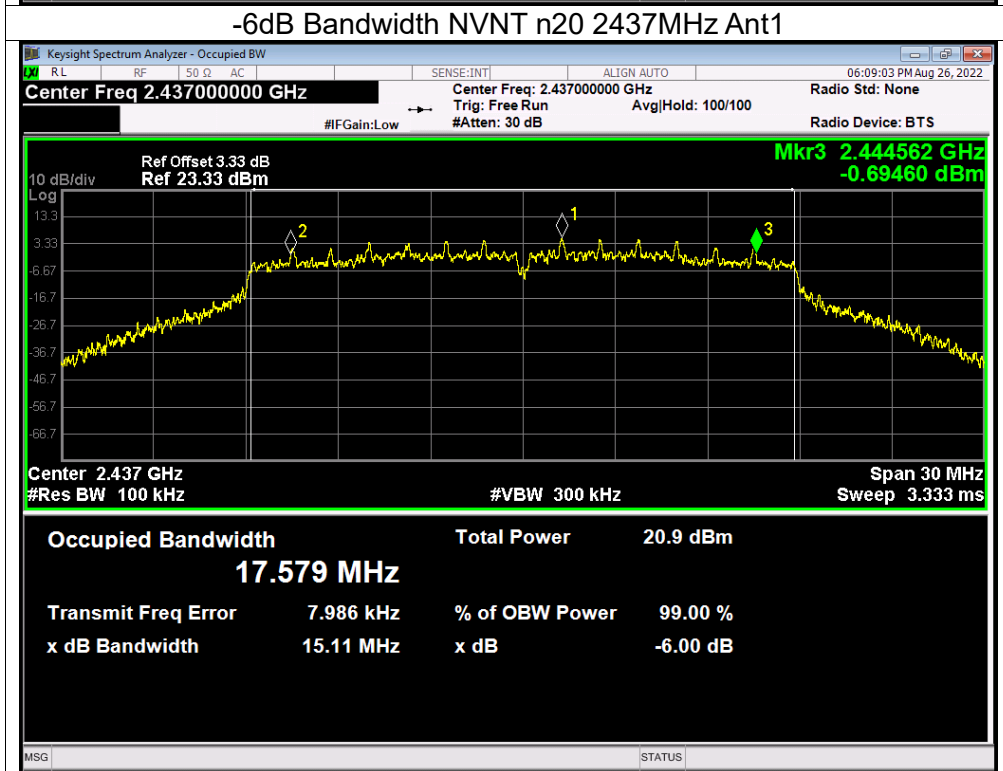
### -6dB Bandwidth NVNT g 2462MHz Ant1



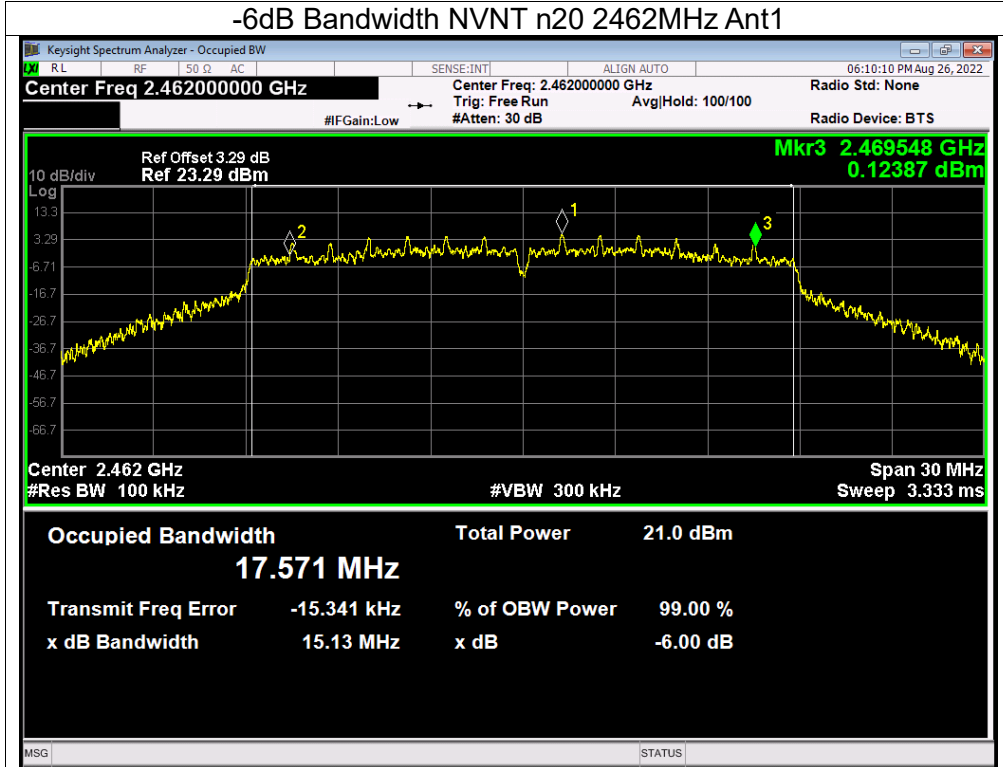
### -6dB Bandwidth NVNT n20 2412MHz Ant1



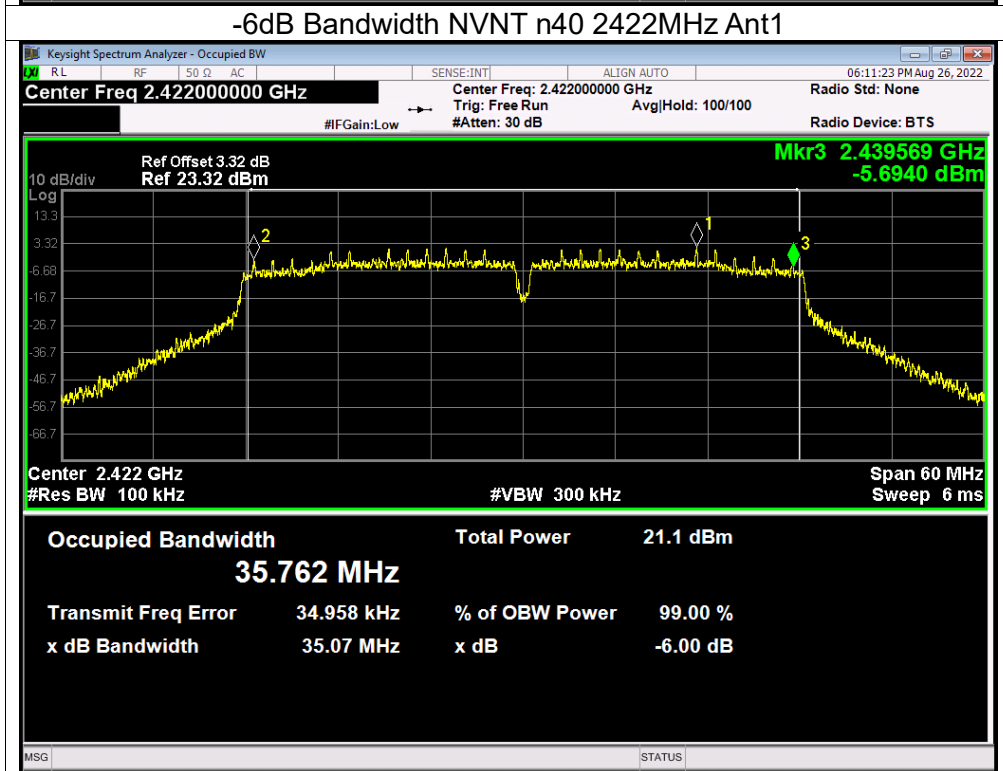
### -6dB Bandwidth NVNT n20 2437MHz Ant1



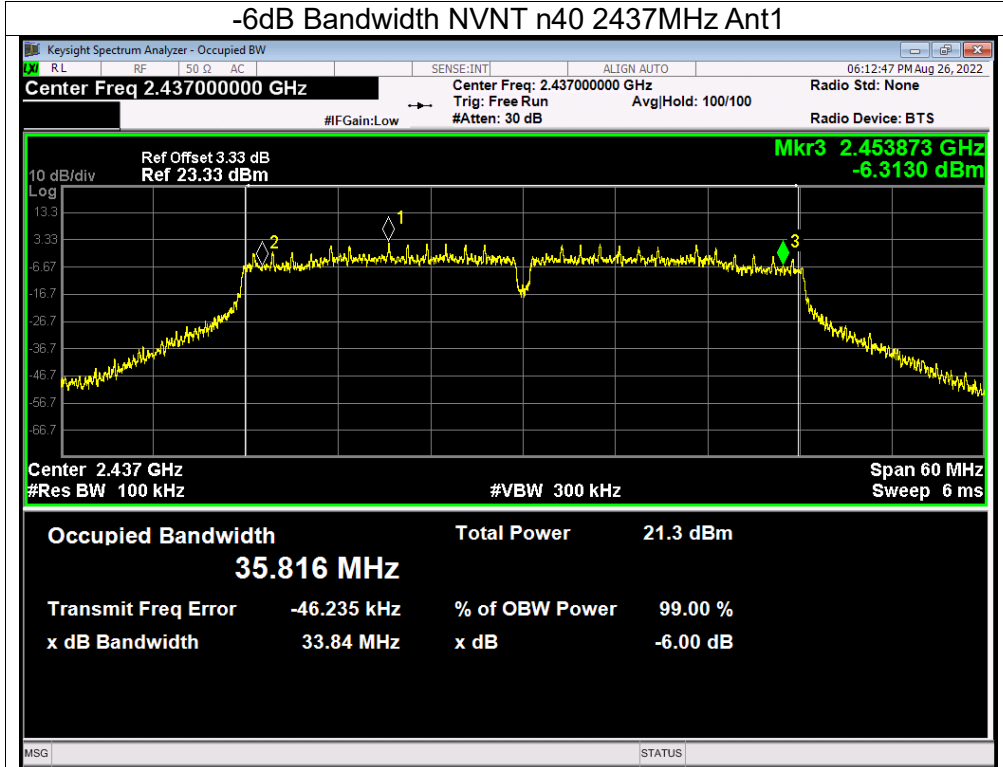
### -6dB Bandwidth NVNT n20 2462MHz Ant1



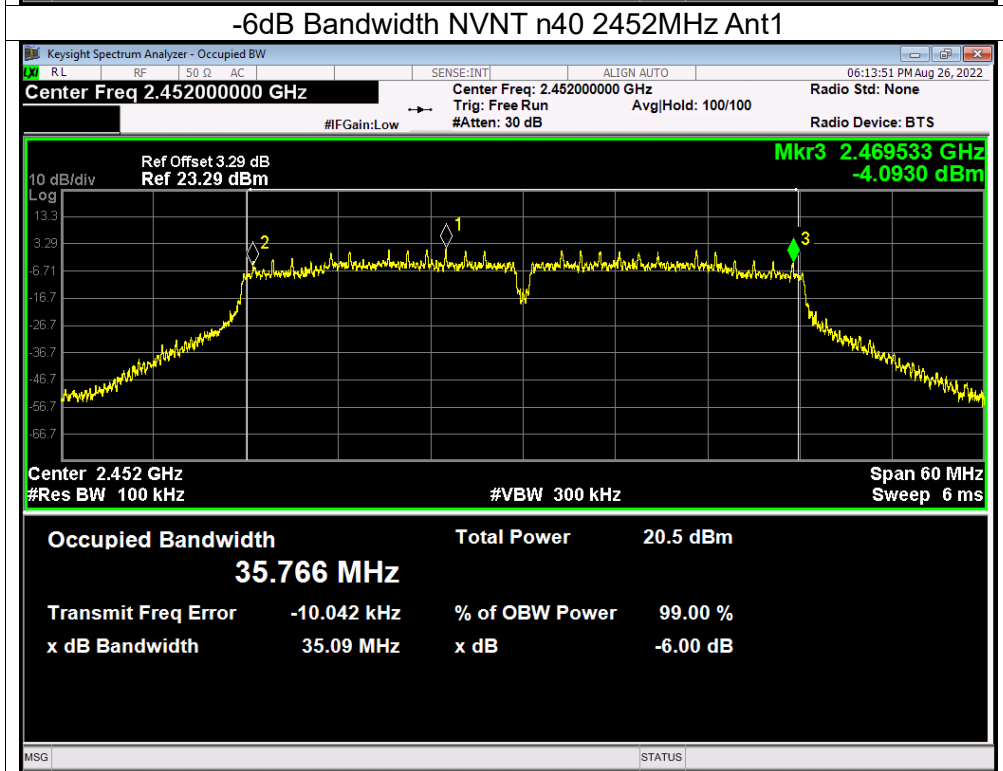
### -6dB Bandwidth NVNT n40 2422MHz Ant1



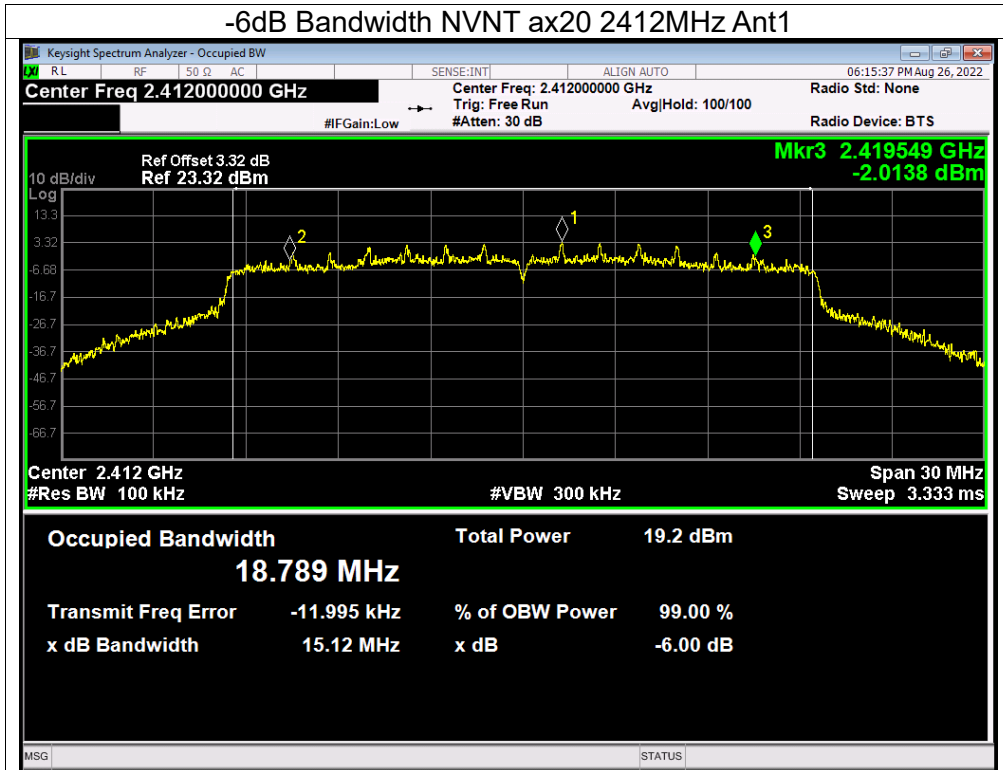
### -6dB Bandwidth NVNT n40 2437MHz Ant1



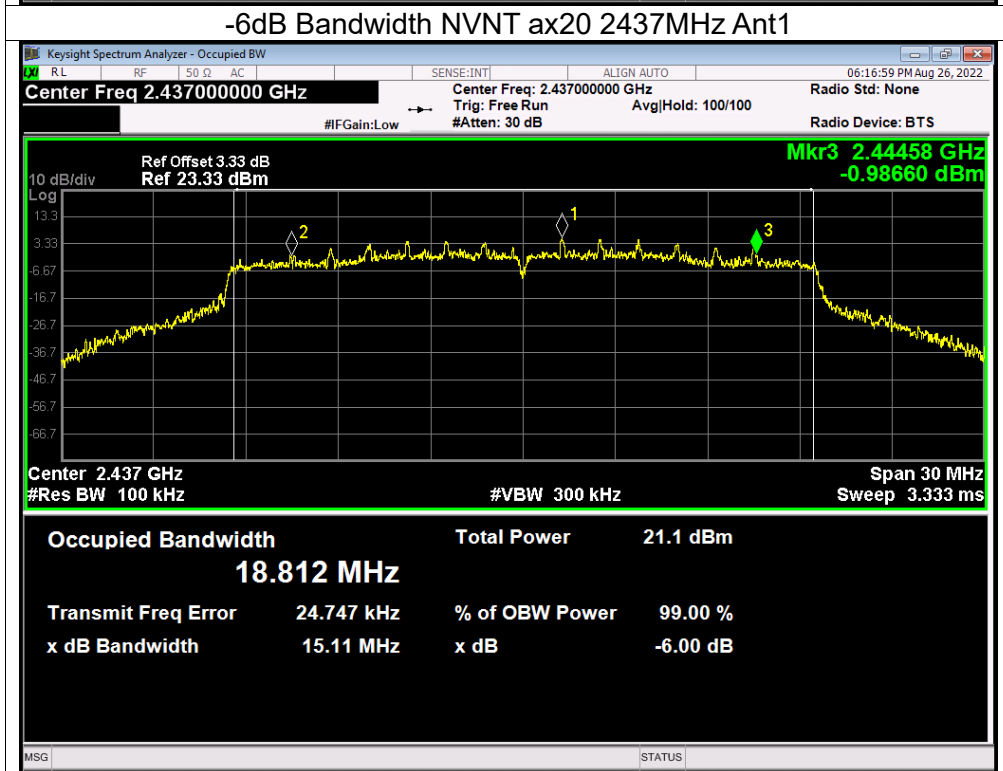
### -6dB Bandwidth NVNT n40 2452MHz Ant1



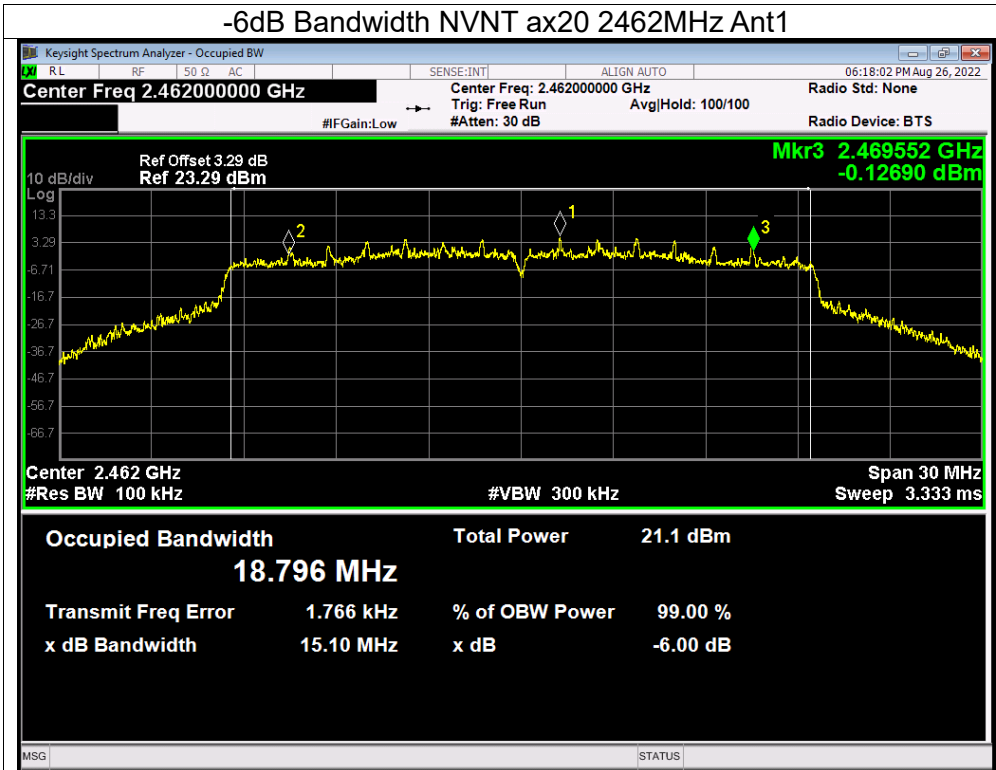
### -6dB Bandwidth NVNT ax20 2412MHz Ant1



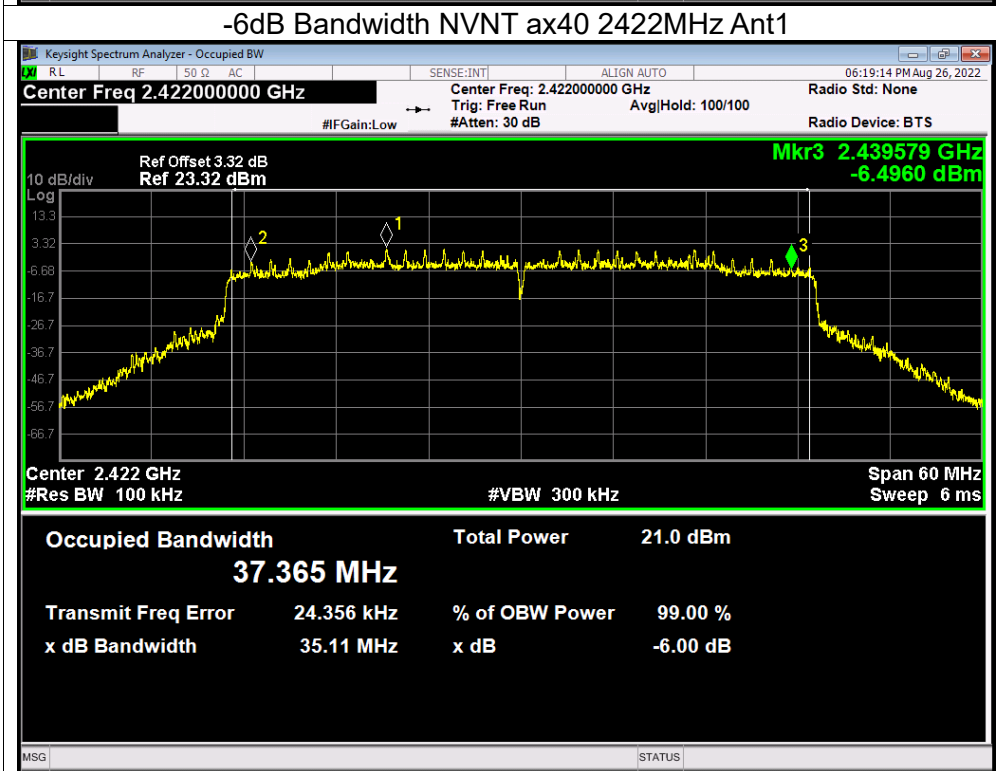
### -6dB Bandwidth NVNT ax20 2437MHz Ant1



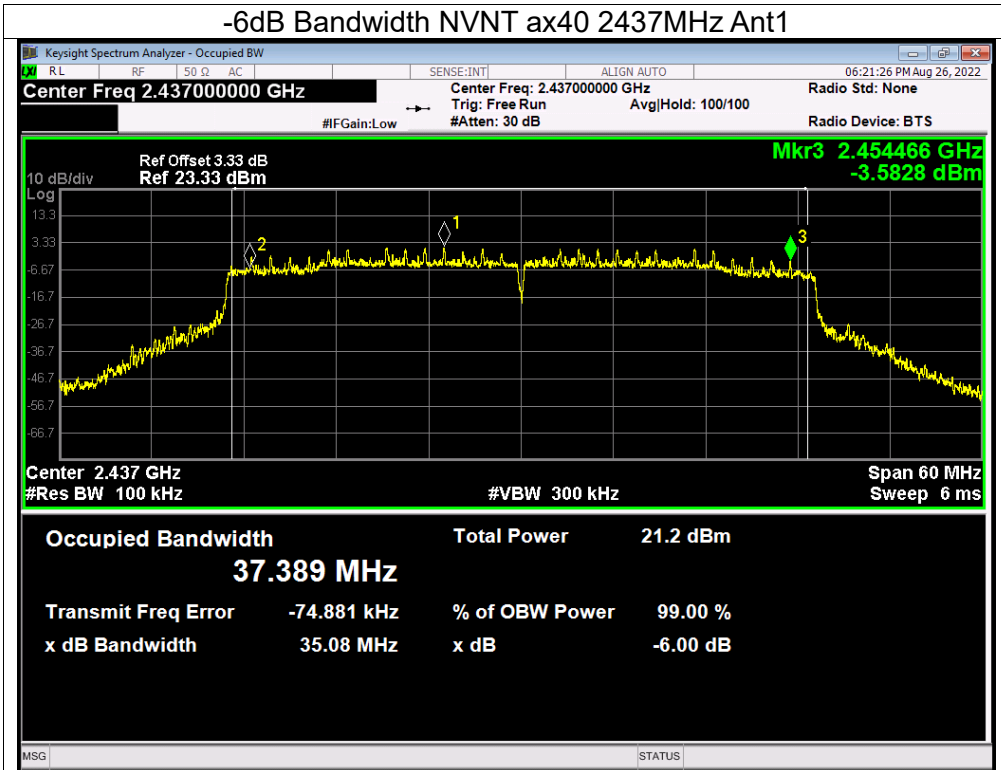
### -6dB Bandwidth NVNT ax20 2462MHz Ant1



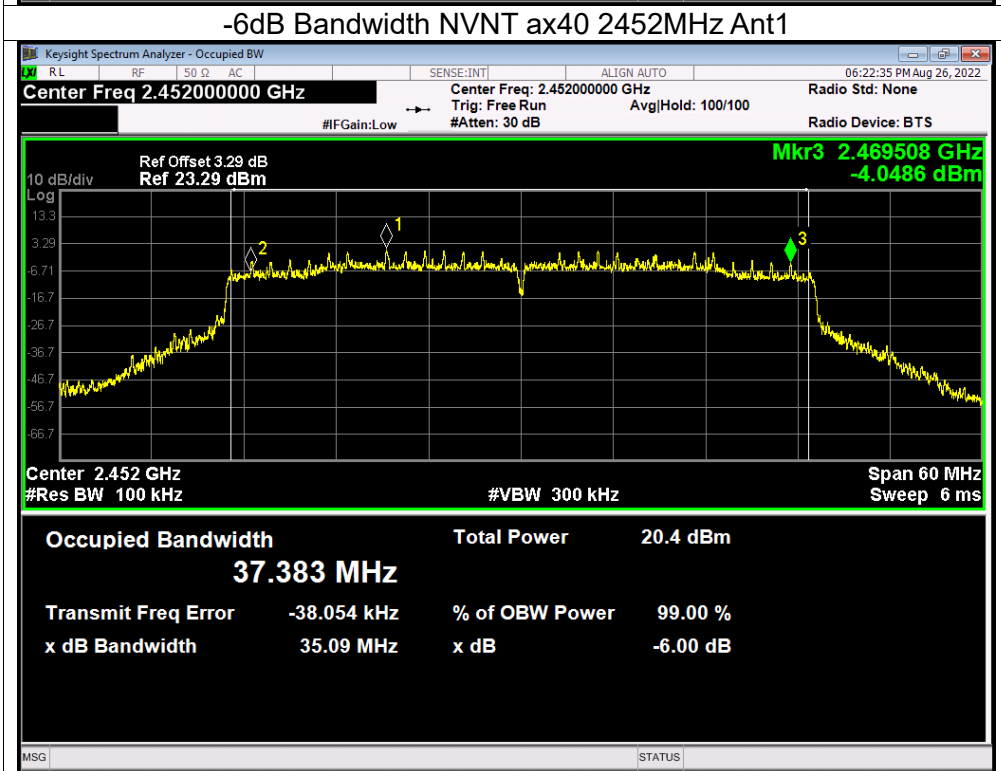
### -6dB Bandwidth NVNT ax40 2422MHz Ant1



### -6dB Bandwidth NVNT ax40 2437MHz Ant1



### -6dB Bandwidth NVNT ax40 2452MHz Ant1



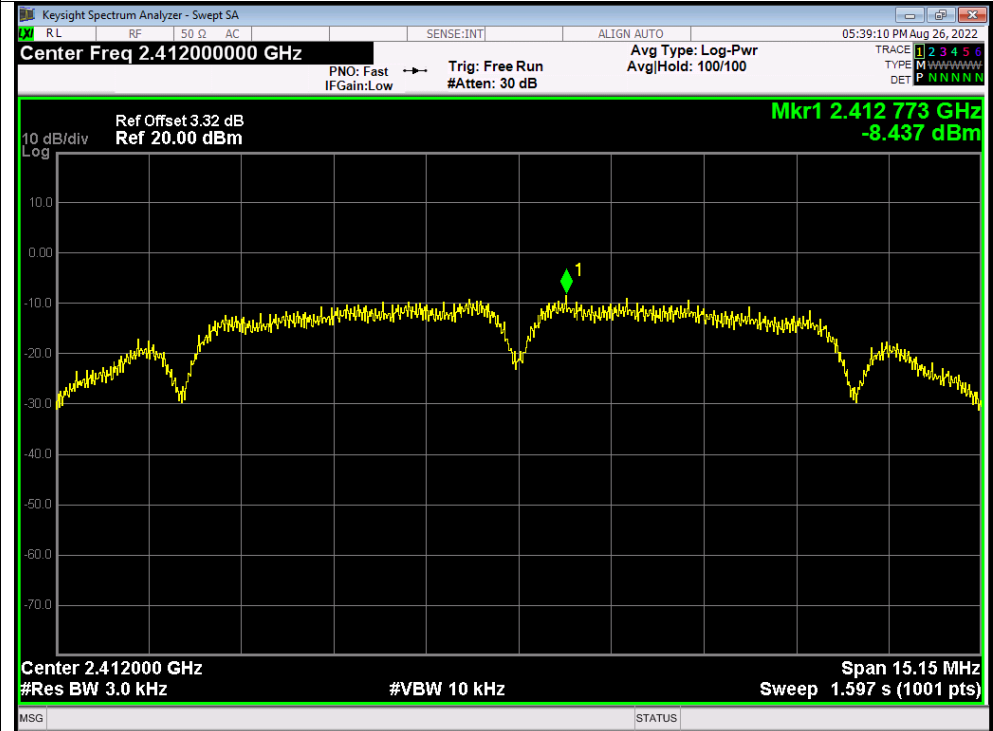


MAXIMUM POWER SPECTRAL DENSITY LEVEL

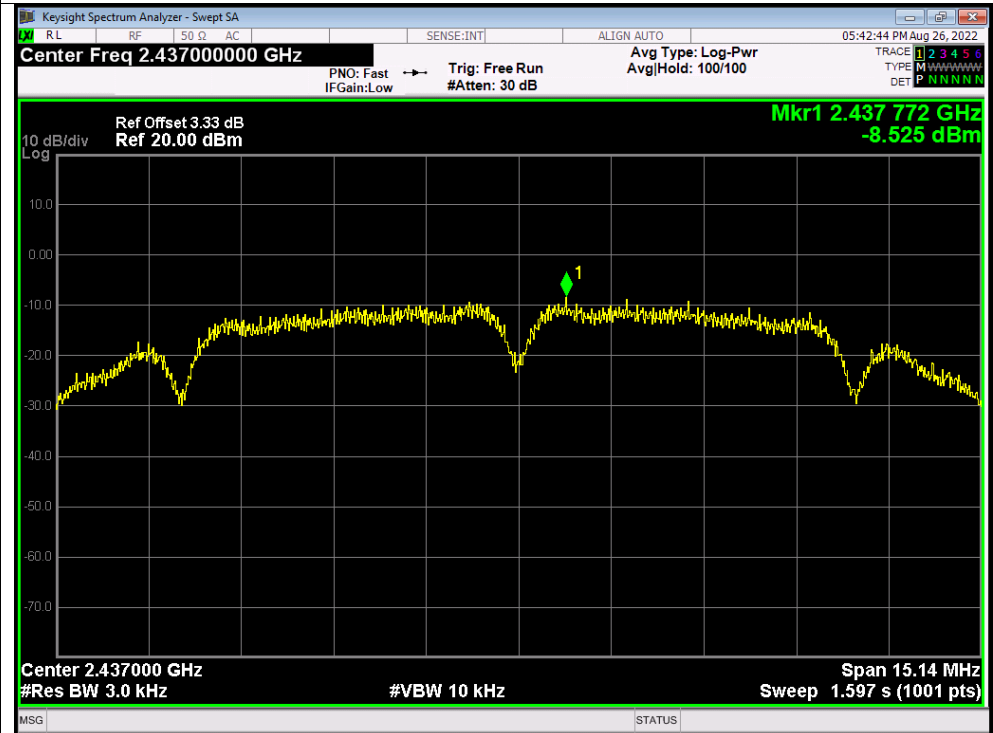
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Duty Factor (dB)	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant1	-8.44	0	-8.44	8	Pass
NVNT	b	2437	Ant1	-8.53	0	-8.53	8	Pass
NVNT	b	2462	Ant1	-8.5	0	-8.5	8	Pass
NVNT	g	2412	Ant1	-11.92	0	-11.92	8	Pass
NVNT	g	2437	Ant1	-9.22	0	-9.22	8	Pass
NVNT	g	2462	Ant1	-9.5	0	-9.5	8	Pass

# Test Graphs

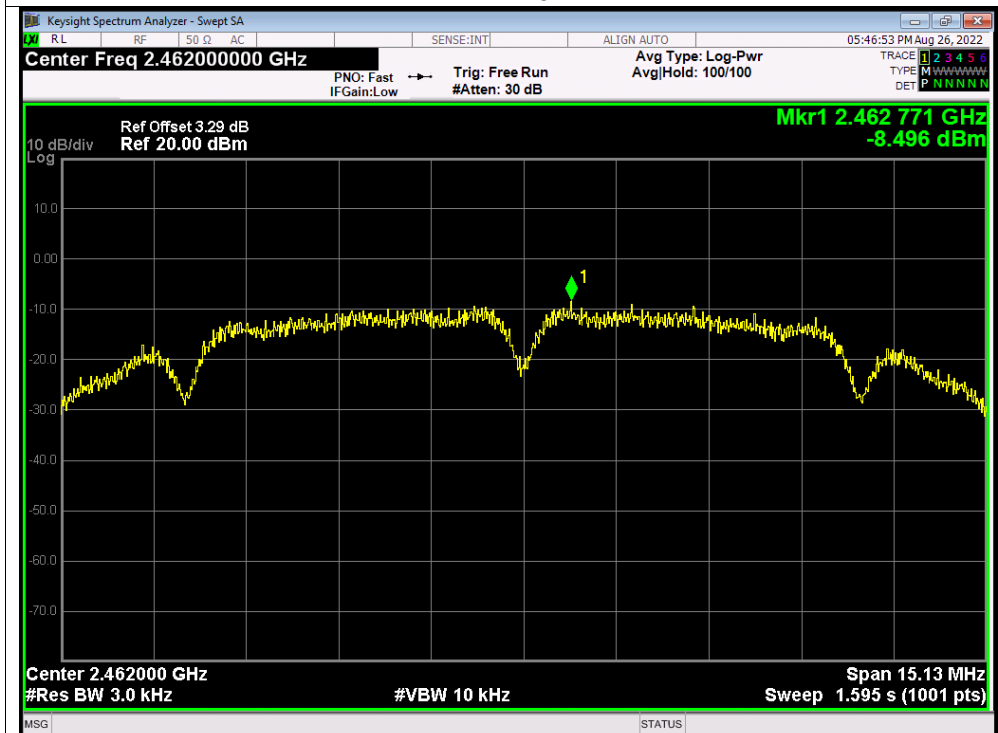
## PSD NVNT b 2412MHz Ant1



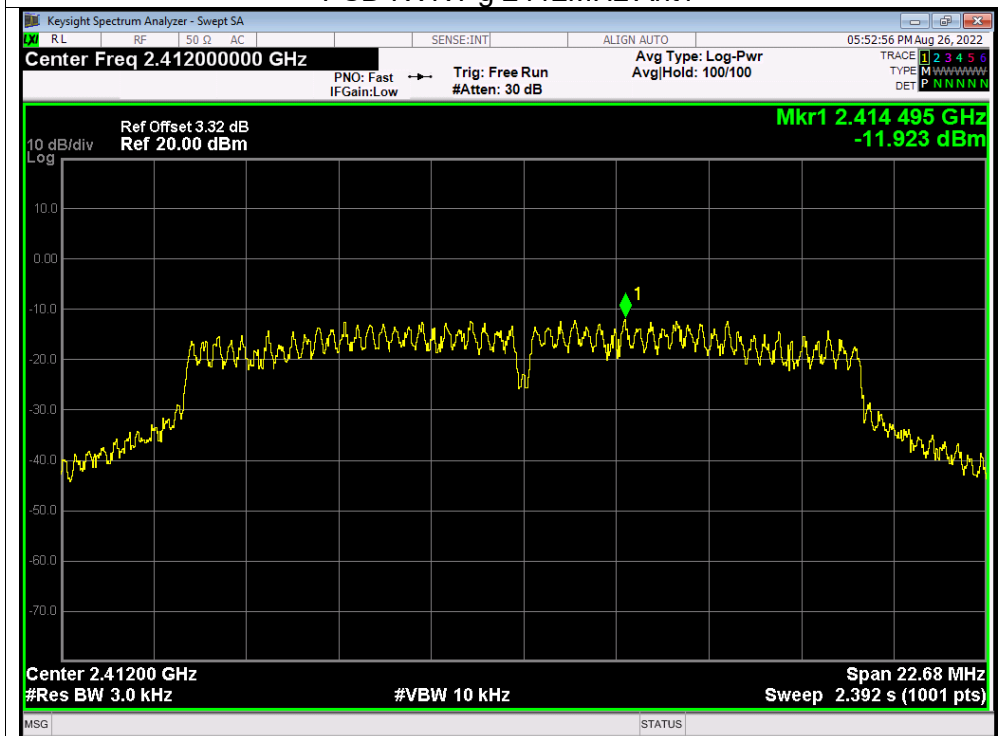
## PSD NVNT b 2437MHz Ant1



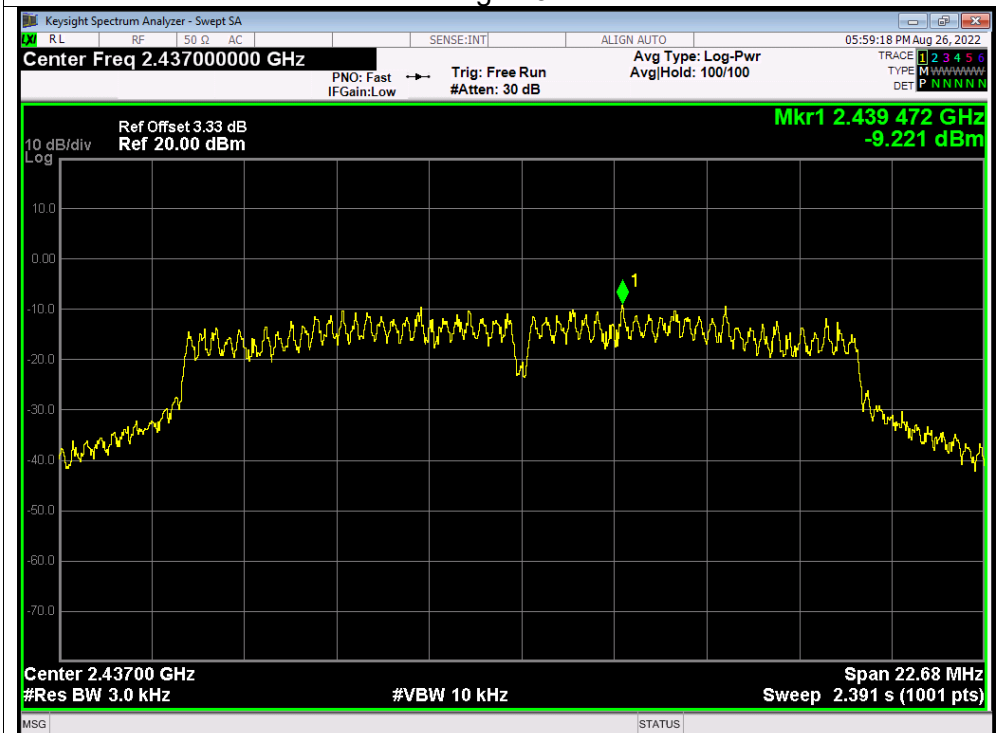
### PSD NVNT b 2462MHz Ant1



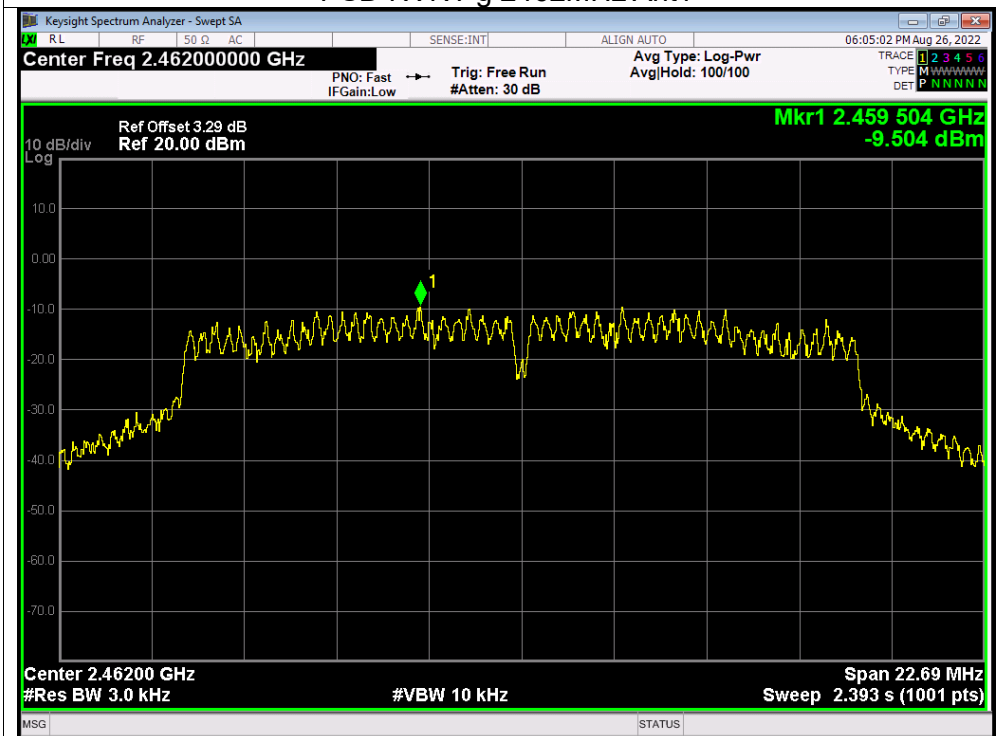
### PSD NVNT g 2412MHz Ant1



### PSD NVNT g 2437MHz Ant1



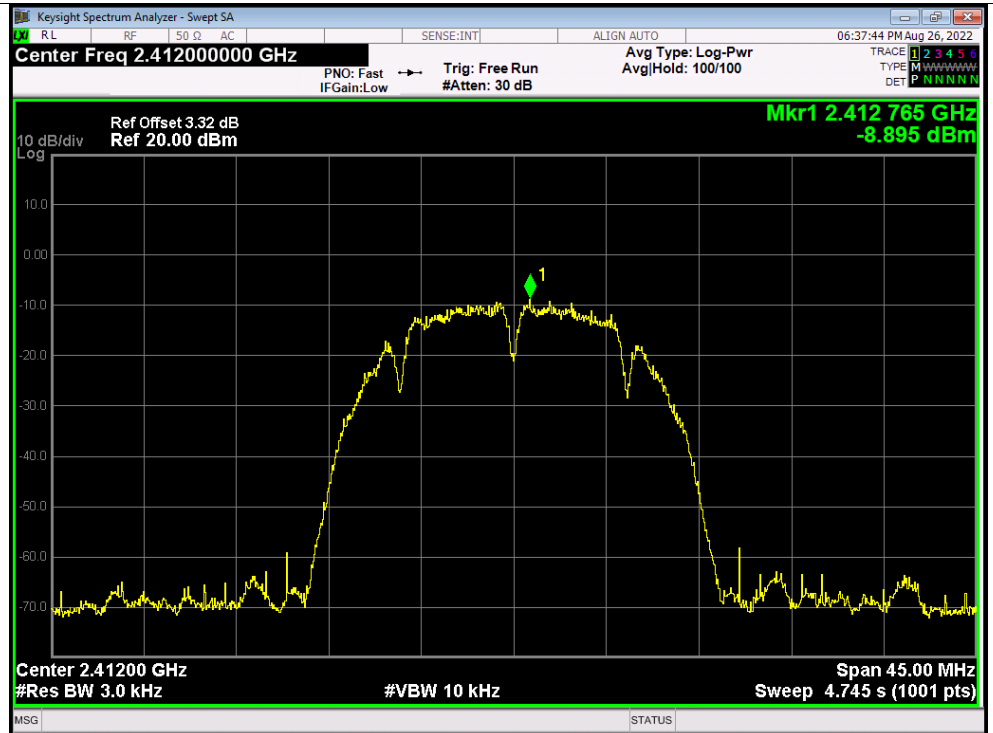
### PSD NVNT g 2462MHz Ant1



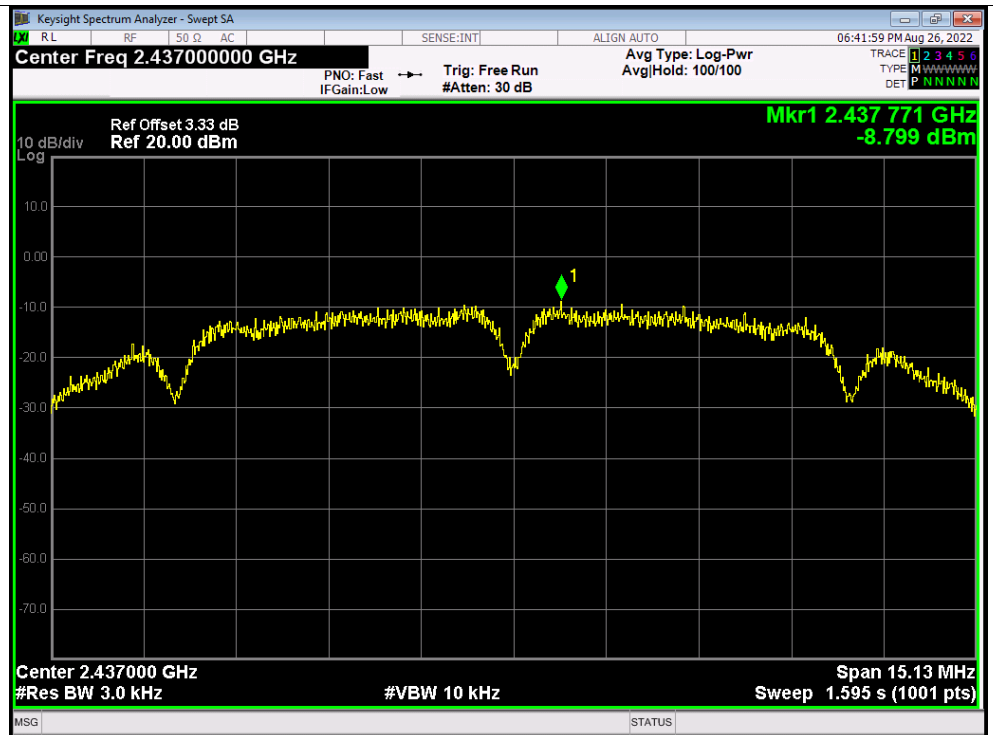
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Duty Factor (dB)	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant2	-8.9	0	-8.9	8	Pass
NVNT	b	2437	Ant2	-8.8	0	-8.8	8	Pass
NVNT	b	2462	Ant2	-8.73	0	-8.73	8	Pass
NVNT	g	2412	Ant2	-11.68	0	-11.68	8	Pass
NVNT	g	2437	Ant2	-9.54	0	-9.54	8	Pass
NVNT	g	2462	Ant2	-9.39	0	-9.39	8	Pass

# Test Graphs

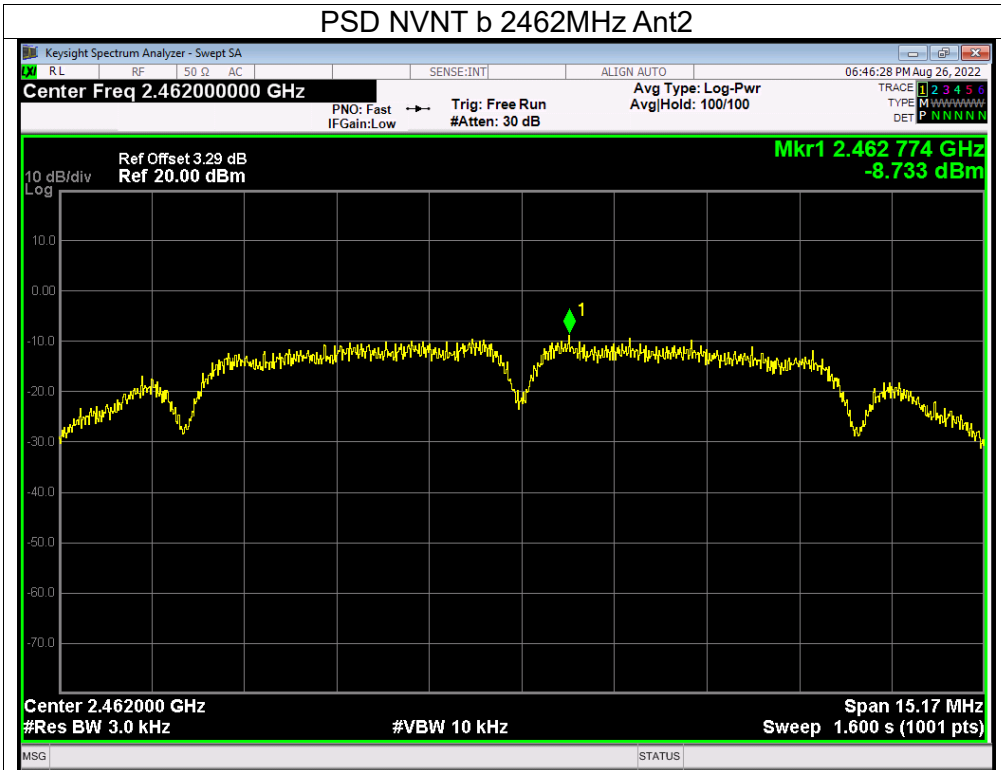
## PSD NVNT b 2412MHz Ant2



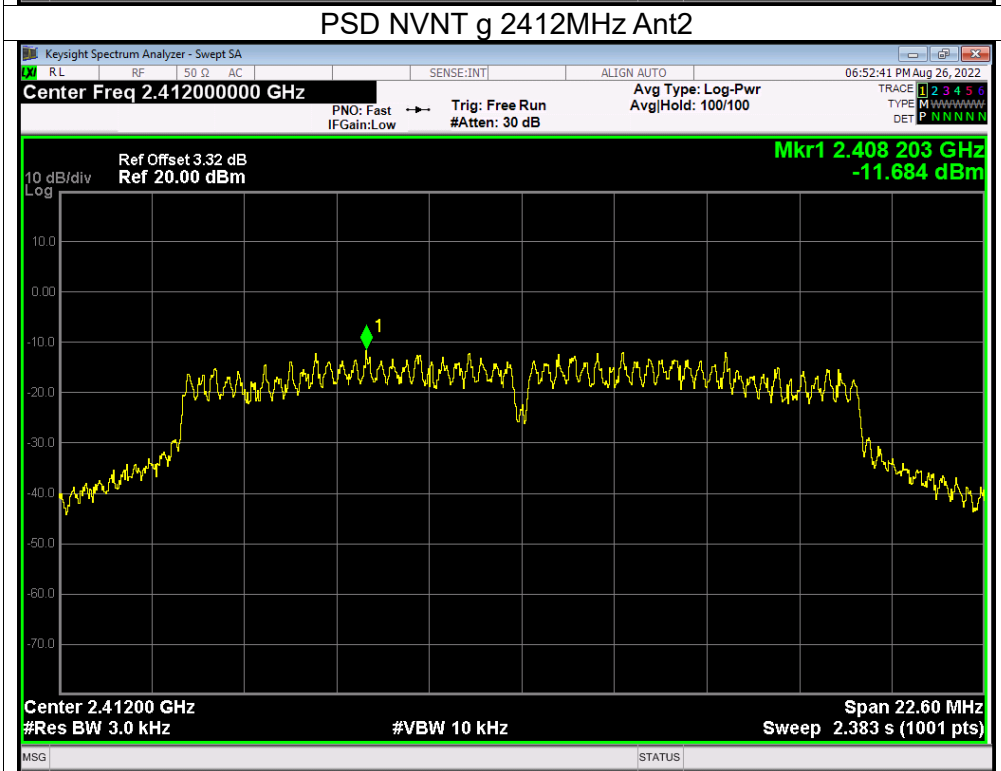
## PSD NVNT b 2437MHz Ant2



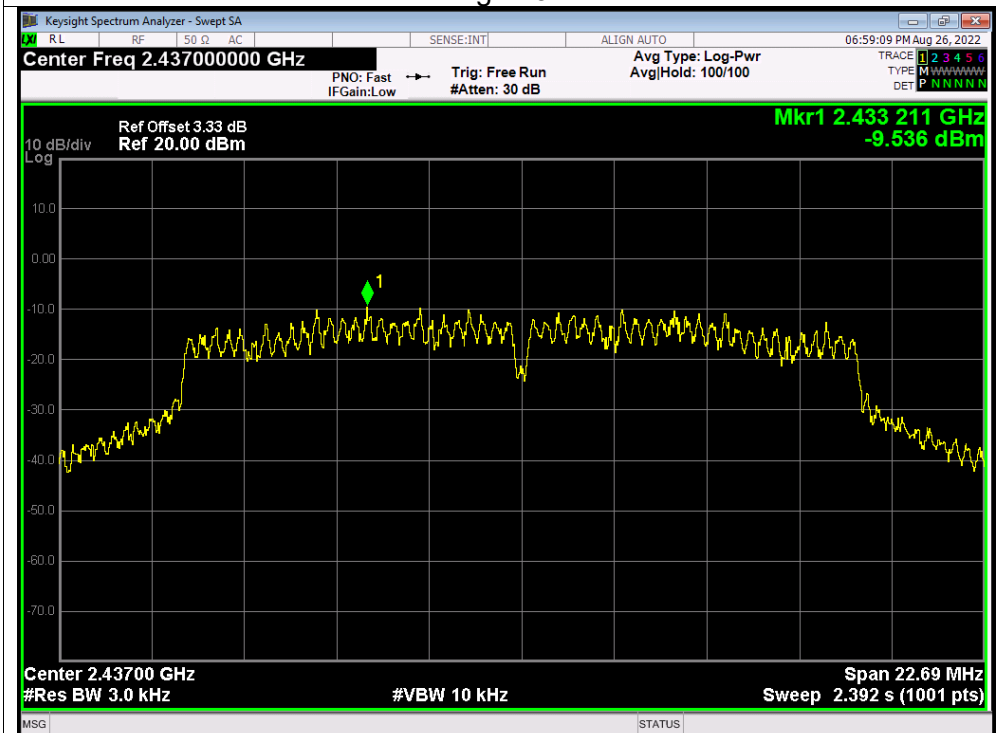
### PSD NVNT b 2462MHz Ant2



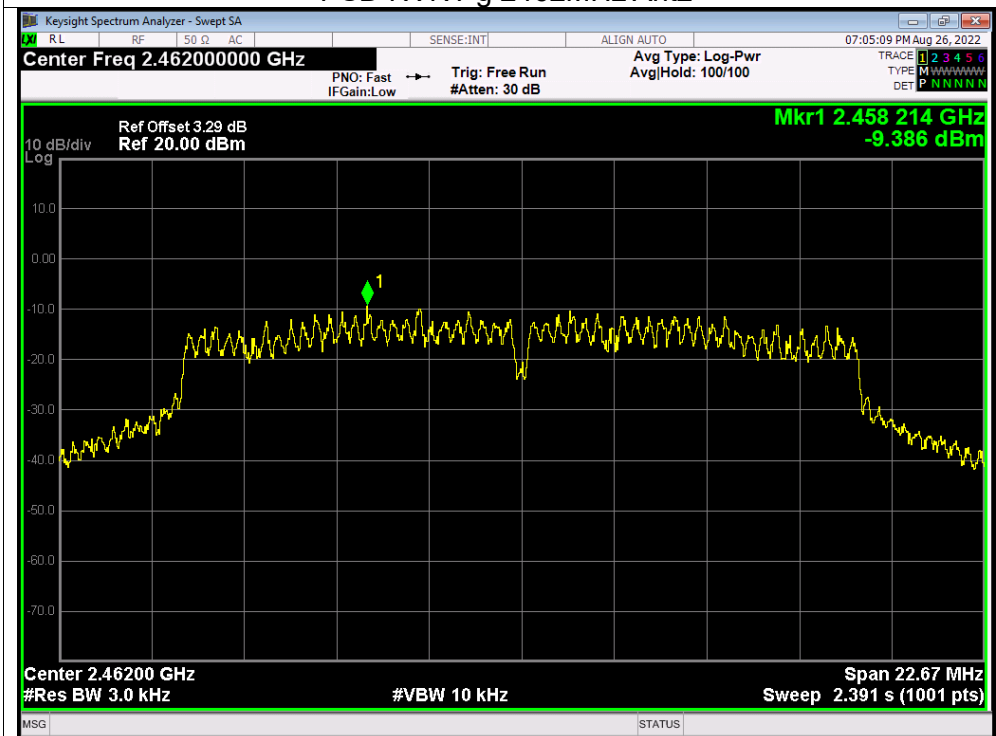
### PSD NVNT g 2412MHz Ant2



### PSD NVNT g 2437MHz Ant2



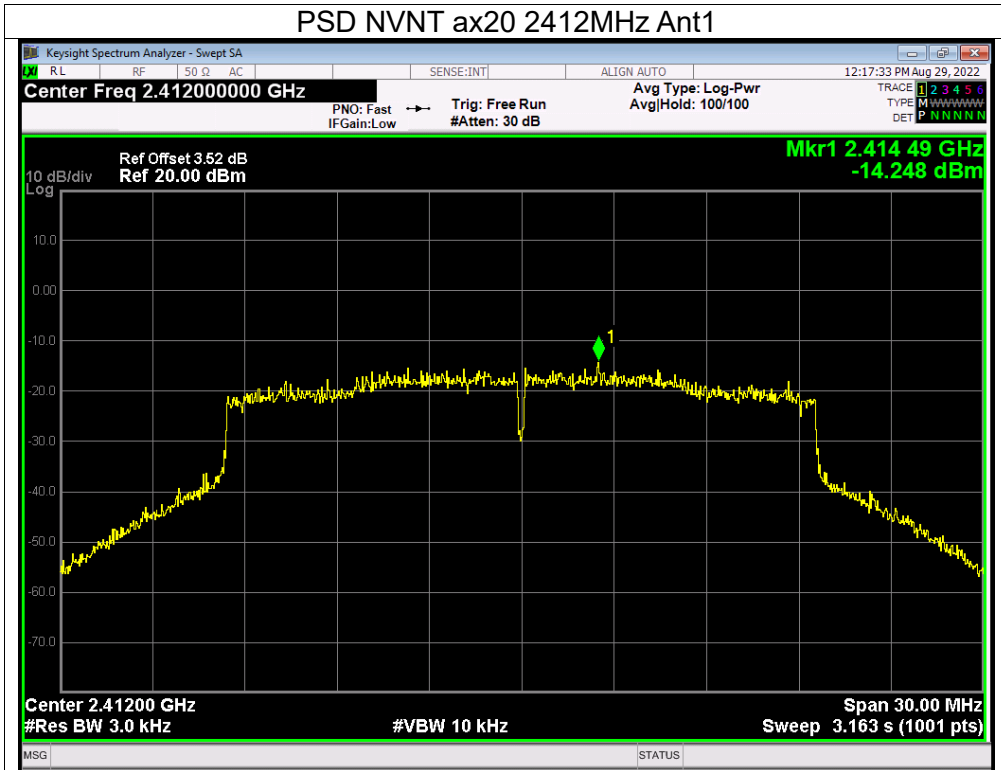
### PSD NVNT g 2462MHz Ant2



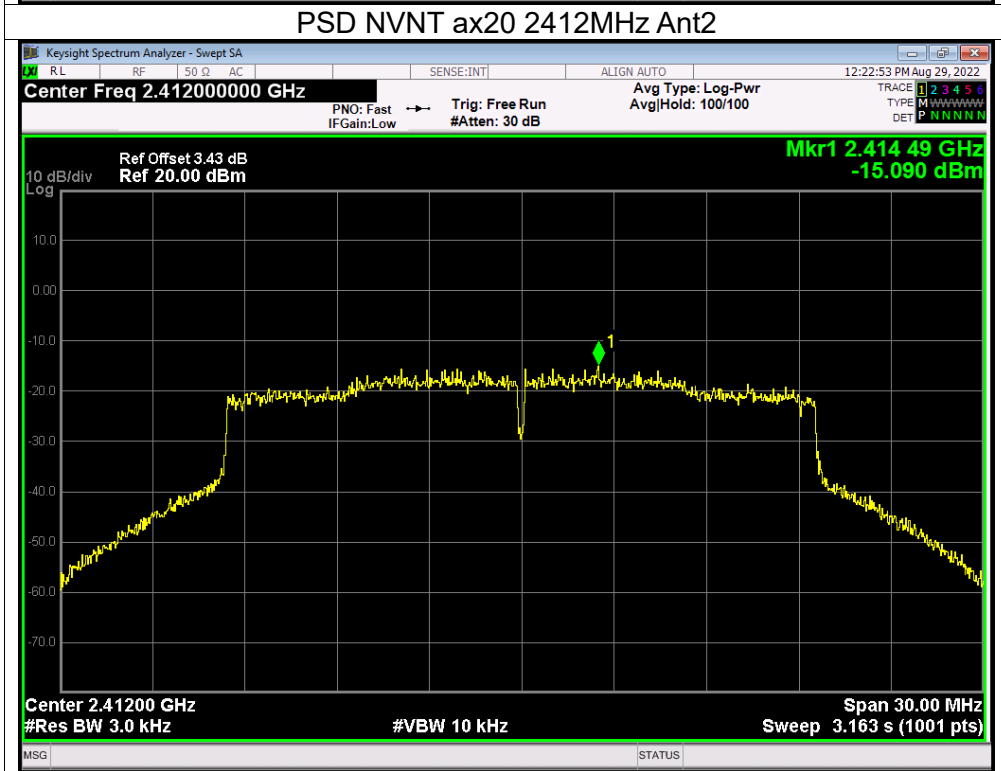


Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Duty Factor (dB)	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	ax20	2412	Ant1	-14.25	0	-14.25	8	Pass
NVNT	ax20	2412	Ant2	-15.09	0	-15.09	8	Pass
NVNT	ax20	2412	Sum	-11.64	0	-11.64	8	Pass
NVNT	ax20	2437	Ant1	-13.18	0	-13.18	8	Pass
NVNT	ax20	2437	Ant2	-13.45	0	-13.45	8	Pass
NVNT	ax20	2437	Sum	-10.3	0	-10.3	8	Pass
NVNT	ax20	2462	Ant1	-12.62	0	-12.62	8	Pass
NVNT	ax20	2462	Ant2	-12.42	0	-12.42	8	Pass
NVNT	ax20	2462	Sum	-9.51	0	-9.51	8	Pass
NVNT	ax40	2422	Ant1	-15.49	0	-15.49	8	Pass
NVNT	ax40	2422	Ant2	-15.89	0	-15.89	8	Pass
NVNT	ax40	2422	Sum	-12.68	0	-12.68	8	Pass
NVNT	ax40	2437	Ant1	-16.09	0	-16.09	8	Pass
NVNT	ax40	2437	Ant2	-16.06	0	-16.06	8	Pass
NVNT	ax40	2437	Sum	-13.06	0	-13.06	8	Pass
NVNT	ax40	2452	Ant1	-15.21	0	-15.21	8	Pass
NVNT	ax40	2452	Ant2	-15.96	0	-15.96	8	Pass
NVNT	ax40	2452	Sum	-12.56	0	-12.56	8	Pass
NVNT	n20	2412	Ant1	-13.54	0	-13.54	8	Pass
NVNT	n20	2412	Ant2	-14.31	0	-14.31	8	Pass
NVNT	n20	2412	Sum	-10.9	0	-10.9	8	Pass
NVNT	n20	2437	Ant1	-12.7	0	-12.7	8	Pass
NVNT	n20	2437	Ant2	-12	0	-12	8	Pass
NVNT	n20	2437	Sum	-9.33	0	-9.33	8	Pass
NVNT	n20	2462	Ant1	-11.07	0	-11.07	8	Pass
NVNT	n20	2462	Ant2	-12.8	0	-12.8	8	Pass
NVNT	n20	2462	Sum	-8.84	0	-8.84	8	Pass
NVNT	n40	2422	Ant1	-14.54	0	-14.54	8	Pass
NVNT	n40	2422	Ant2	-14.71	0	-14.71	8	Pass
NVNT	n40	2422	Sum	-11.61	0	-11.61	8	Pass
NVNT	n40	2437	Ant1	-14.08	0	-14.08	8	Pass
NVNT	n40	2437	Ant2	-12.94	0	-12.94	8	Pass
NVNT	n40	2437	Sum	-10.46	0	-10.46	8	Pass
NVNT	n40	2452	Ant1	-13.32	0	-13.32	8	Pass
NVNT	n40	2452	Ant2	-14.97	0	-14.97	8	Pass
NVNT	n40	2452	Sum	-11.06	0	-11.06	8	Pass

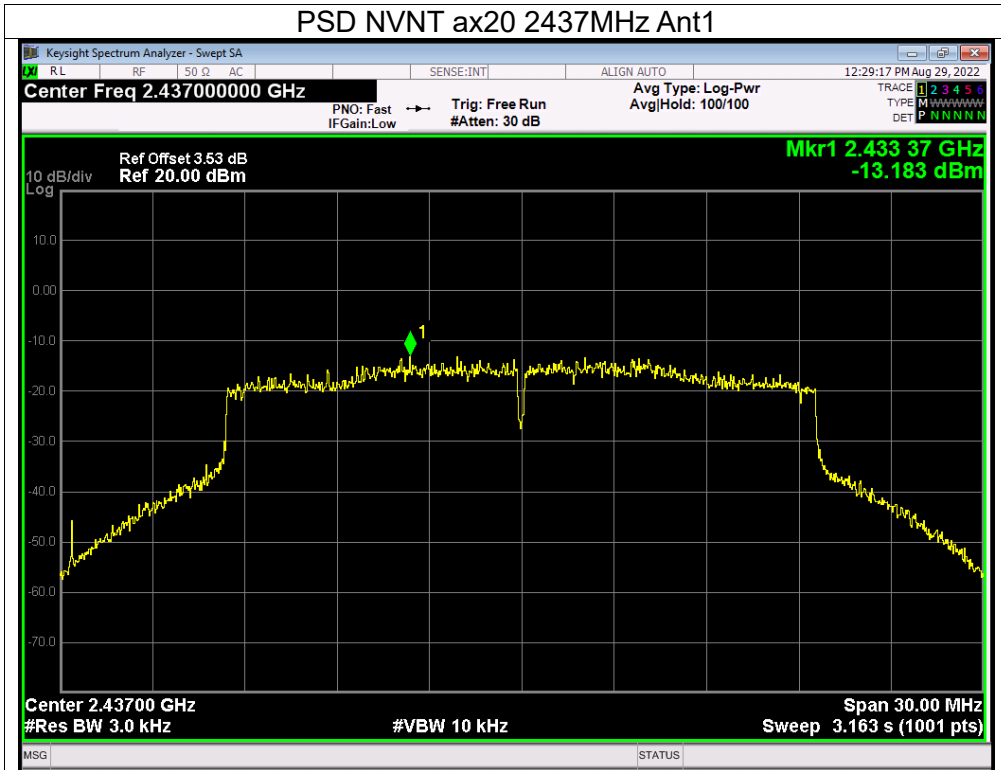
### PSD NVNT ax20 2412MHz Ant1



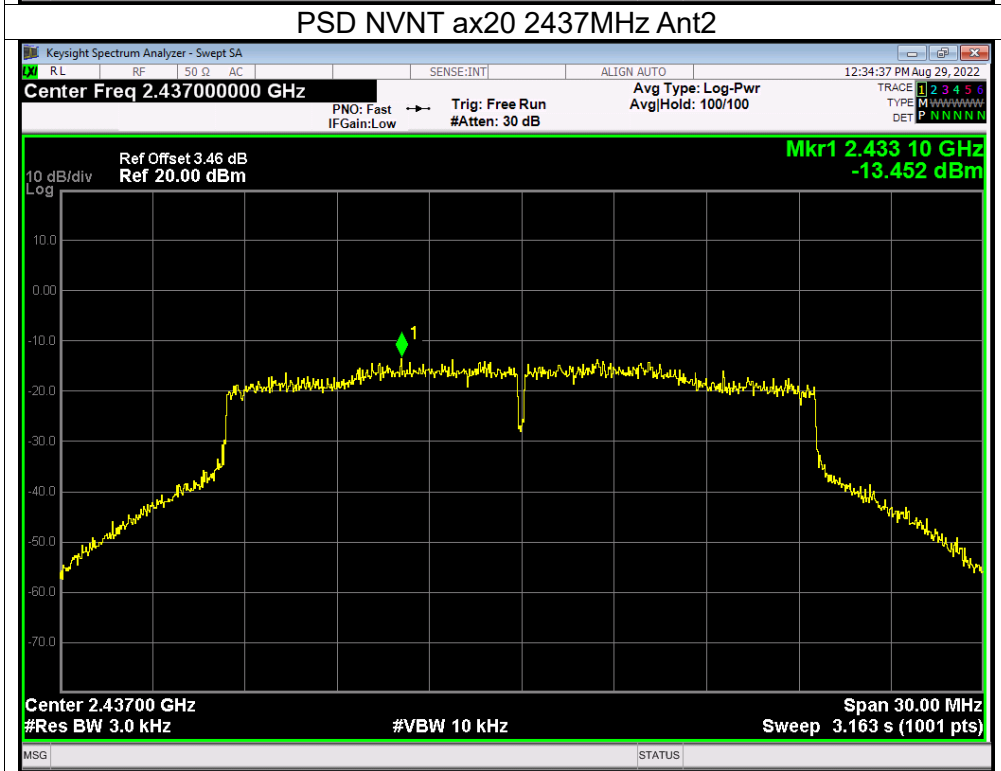
### PSD NVNT ax20 2412MHz Ant2



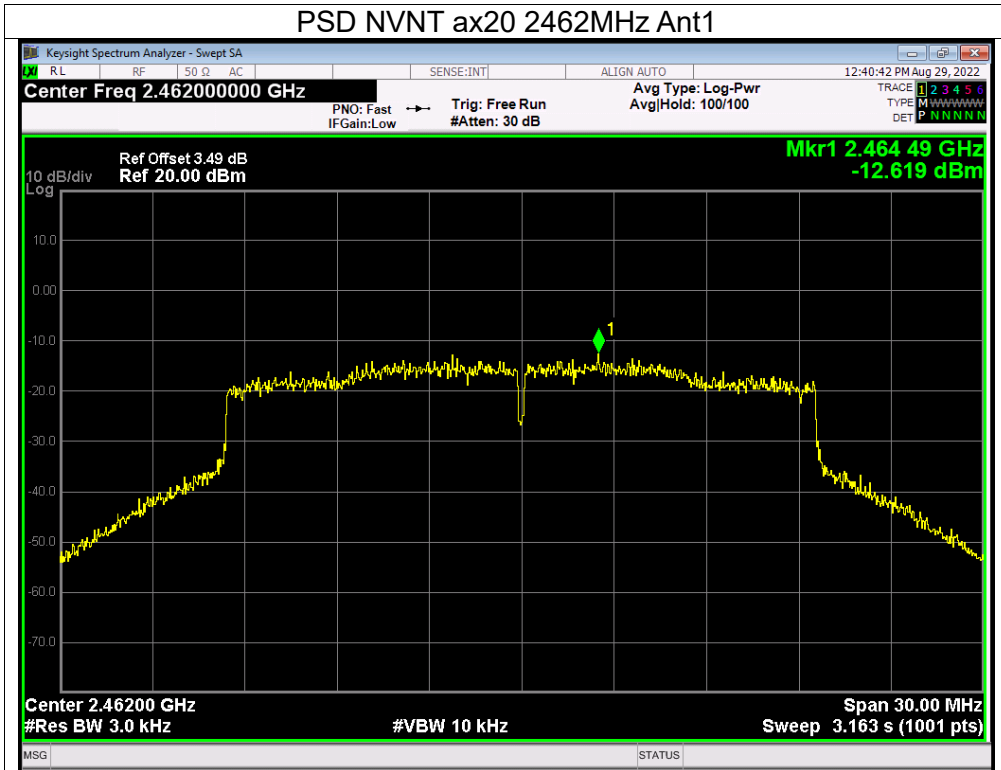
### PSD NVNT ax20 2437MHz Ant1



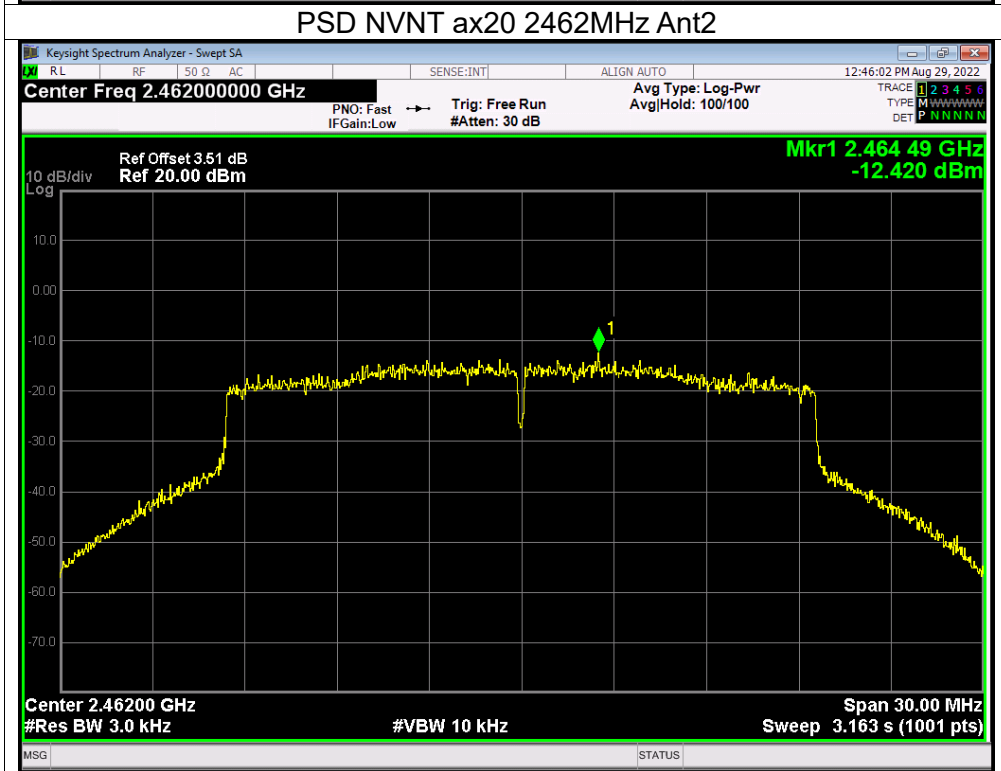
### PSD NVNT ax20 2437MHz Ant2



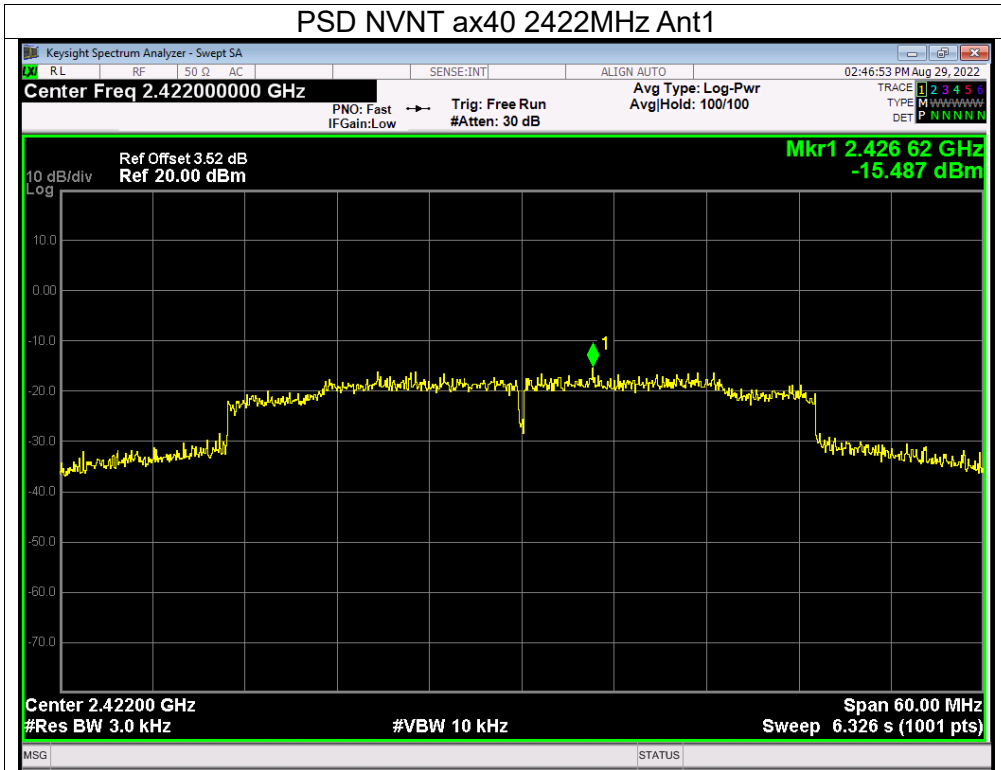
### PSD NVNT ax20 2462MHz Ant1



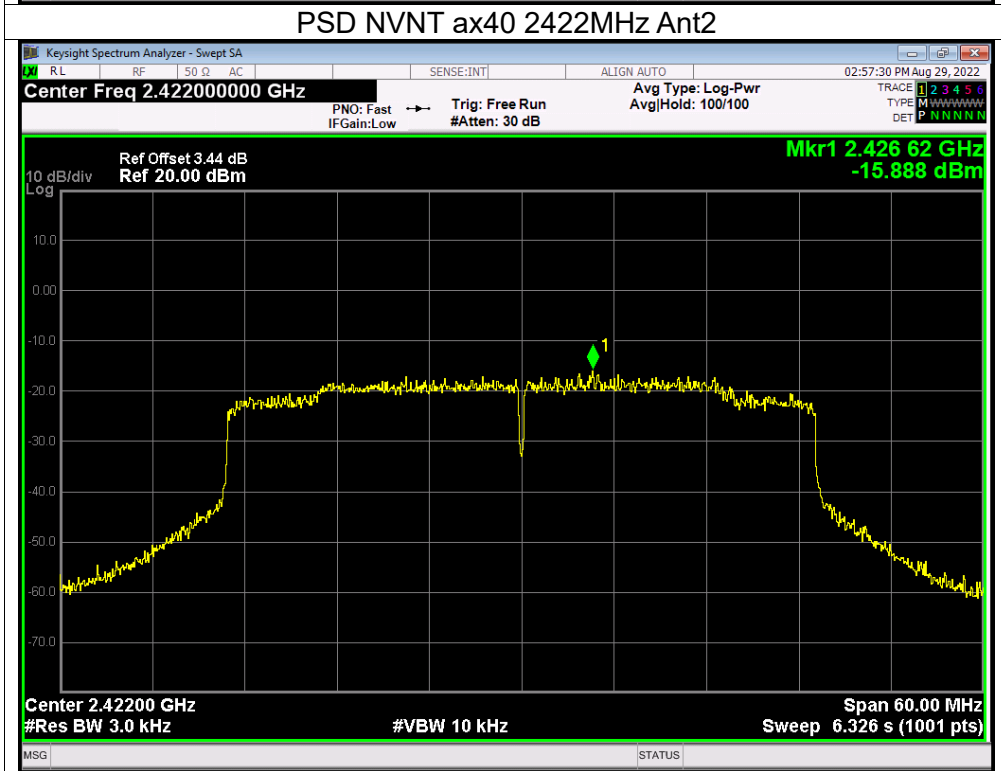
### PSD NVNT ax20 2462MHz Ant2



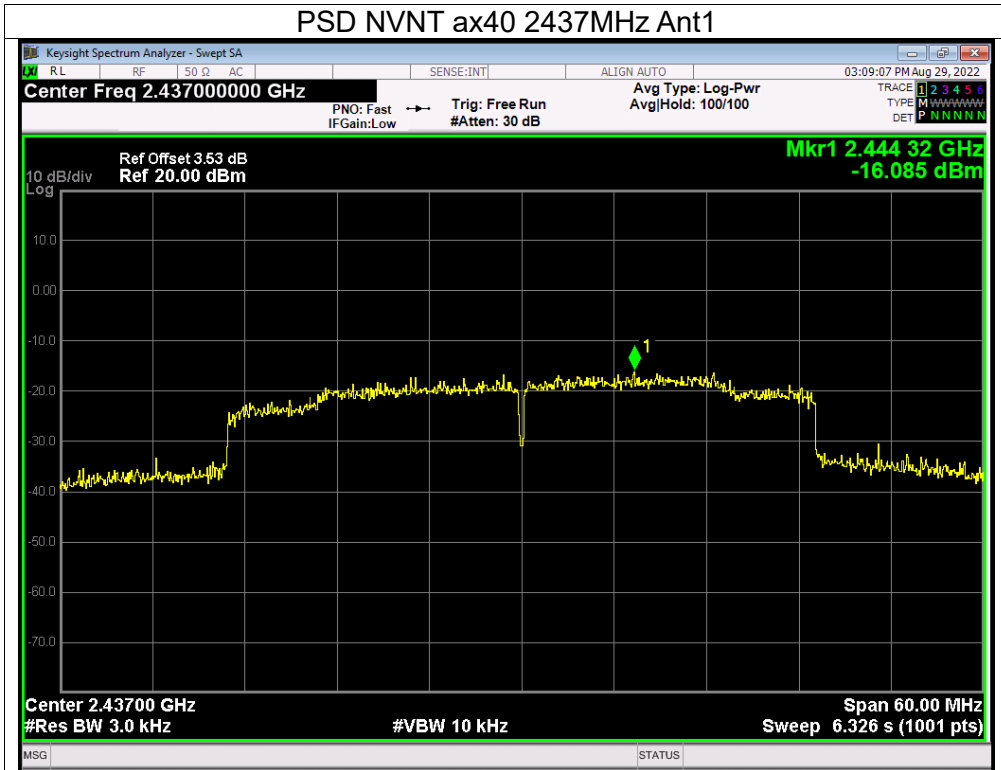
### PSD NVNT ax40 2422MHz Ant1



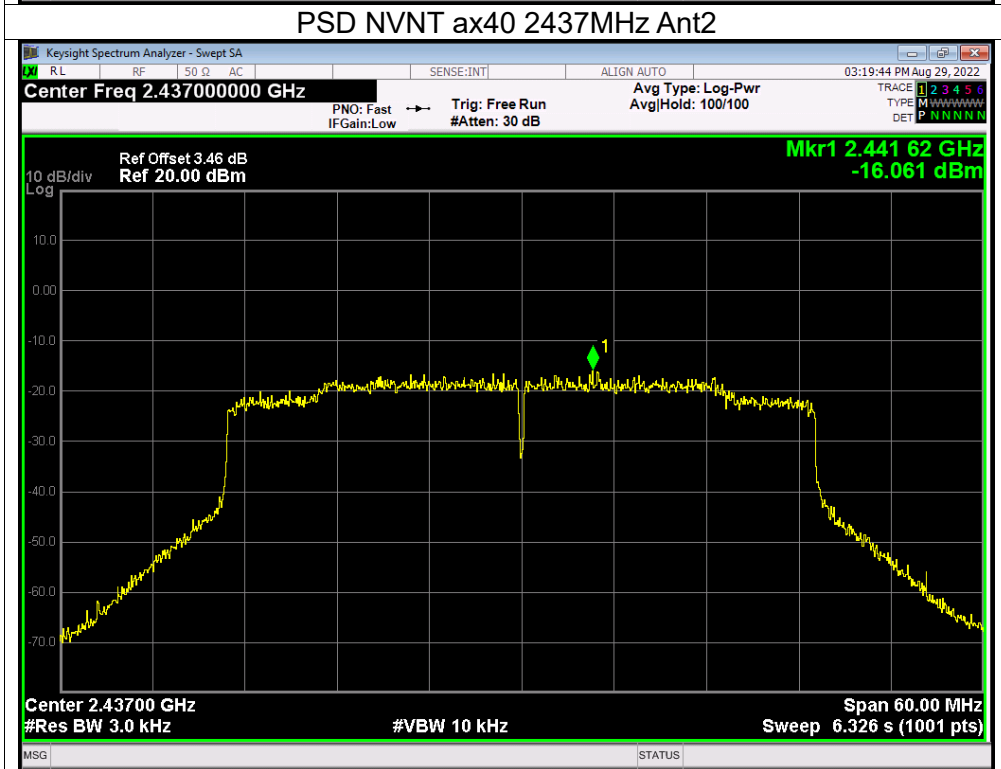
### PSD NVNT ax40 2422MHz Ant2



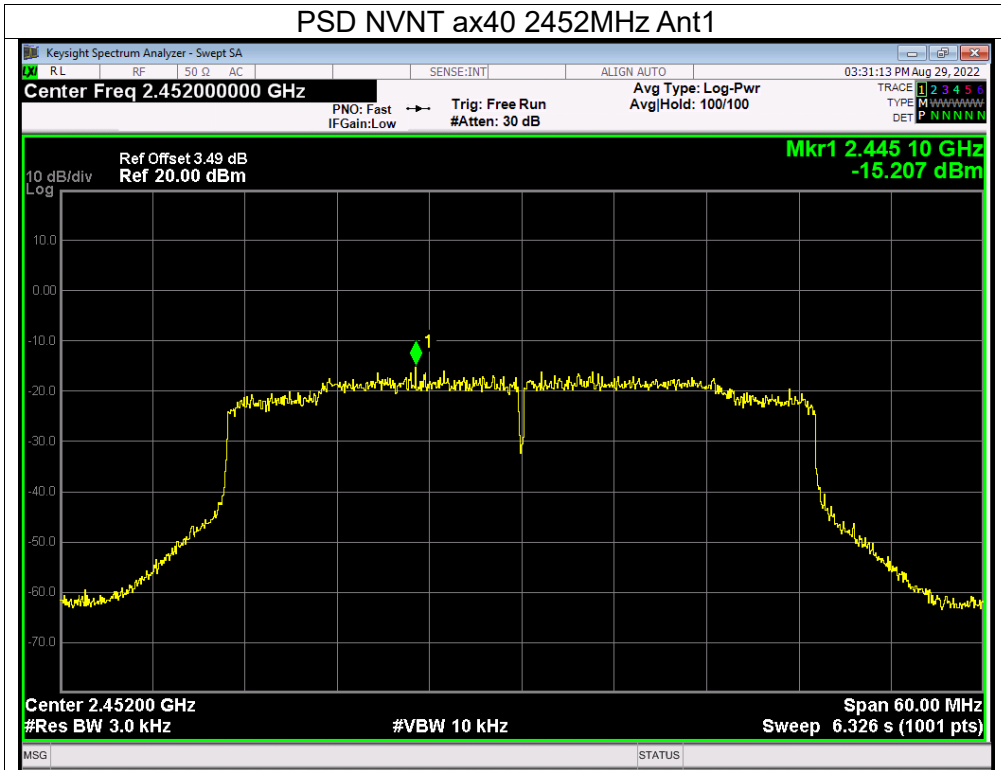
### PSD NVNT ax40 2437MHz Ant1



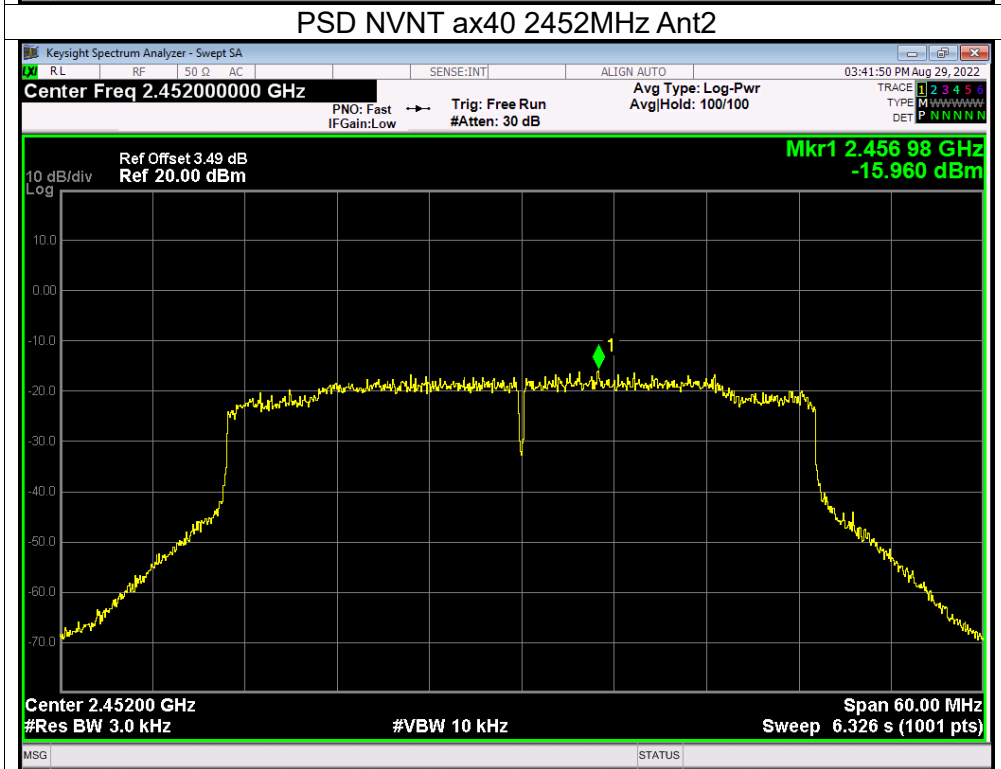
### PSD NVNT ax40 2437MHz Ant2



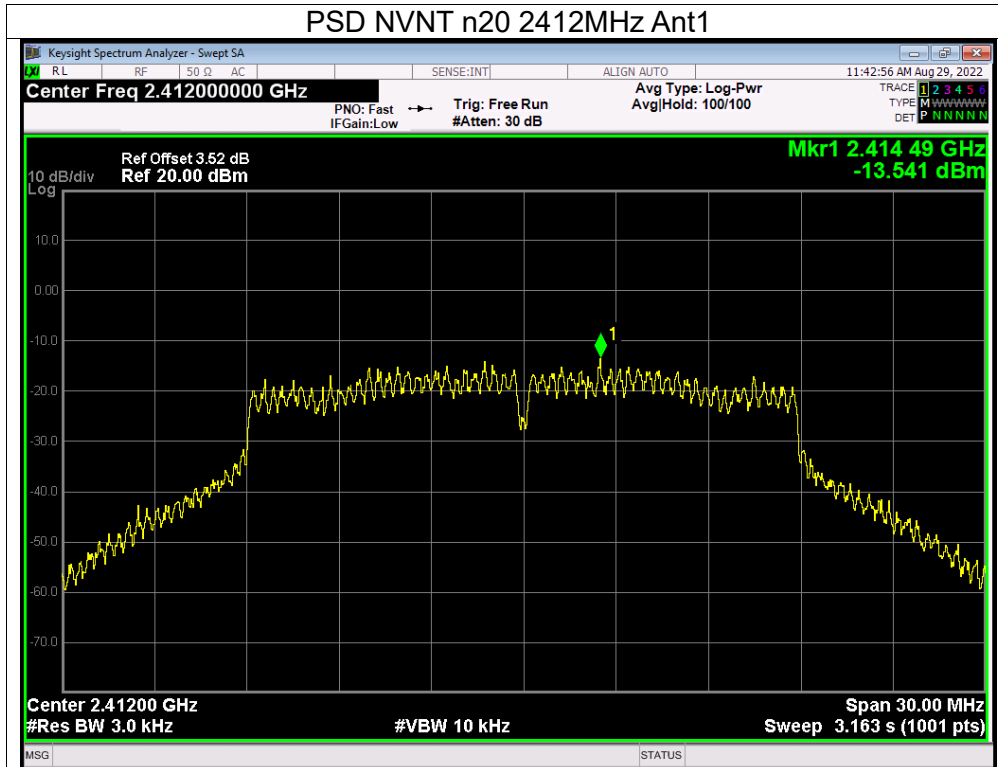
### PSD NVNT ax40 2452MHz Ant1



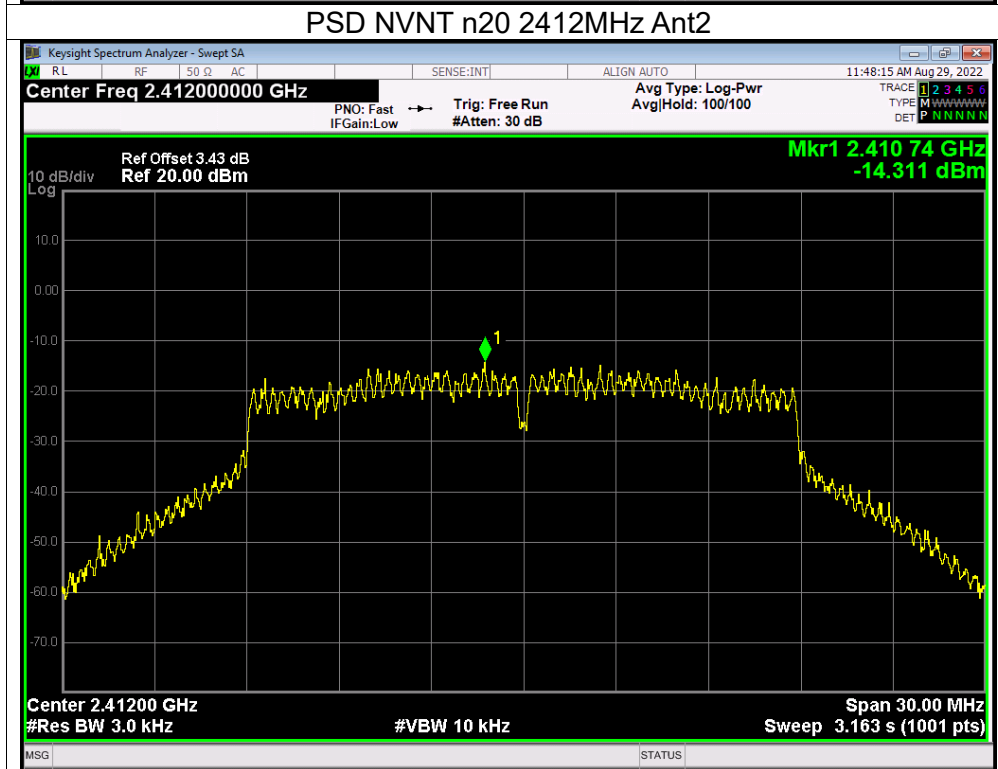
### PSD NVNT ax40 2452MHz Ant2



### PSD NVNT n20 2412MHz Ant1

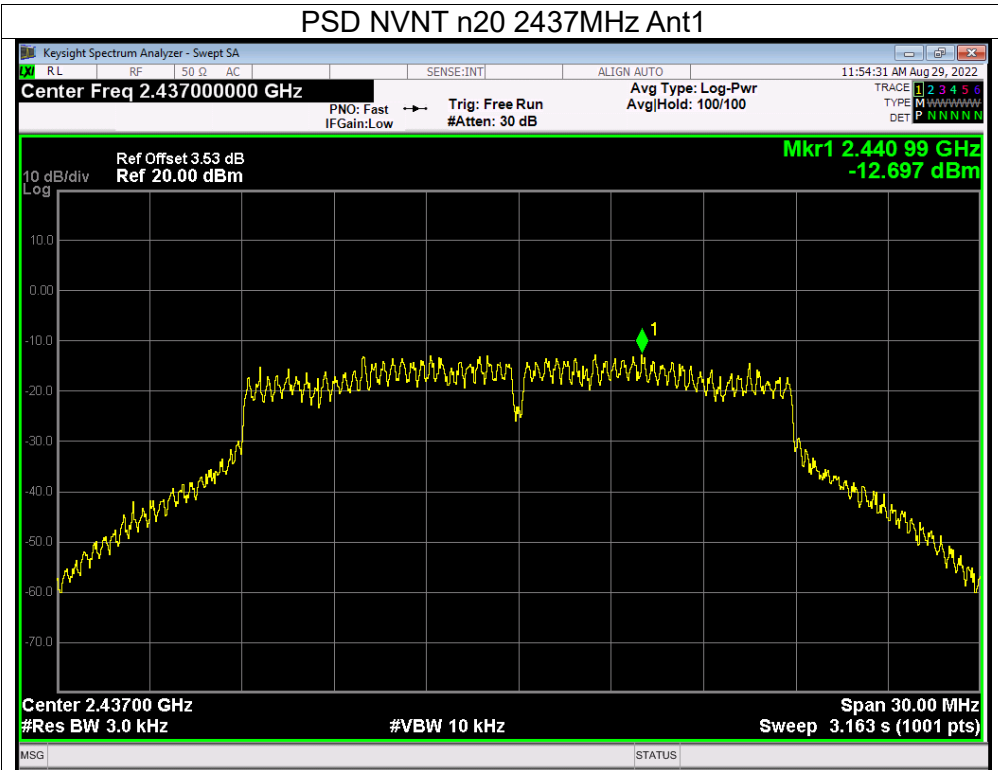


### PSD NVNT n20 2412MHz Ant2

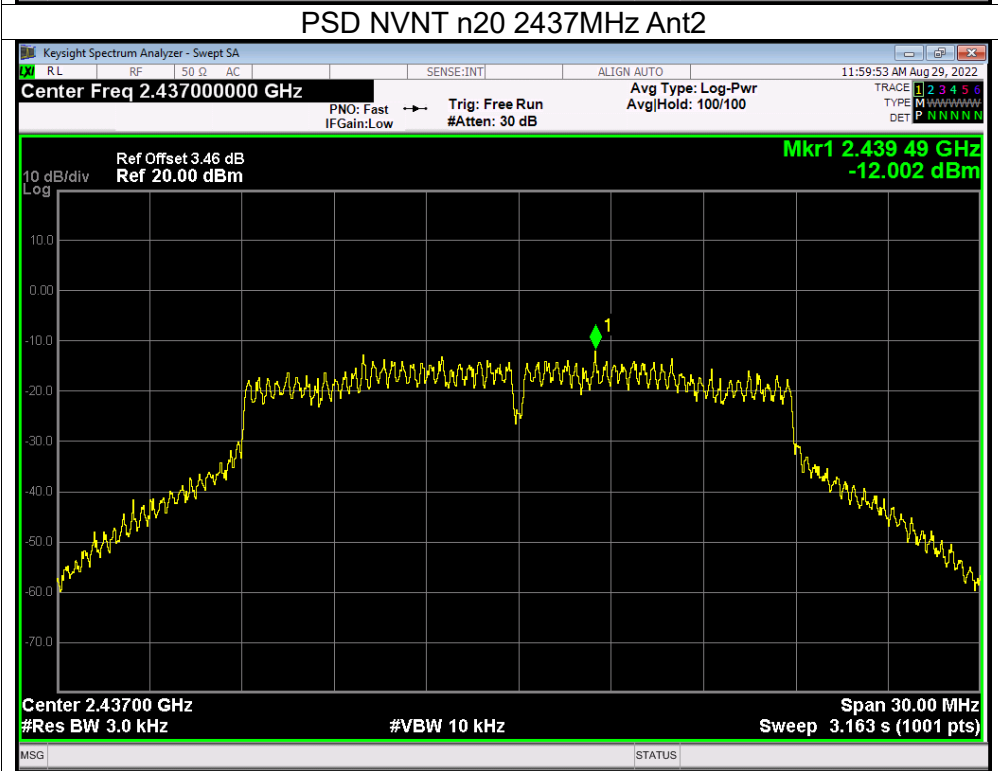




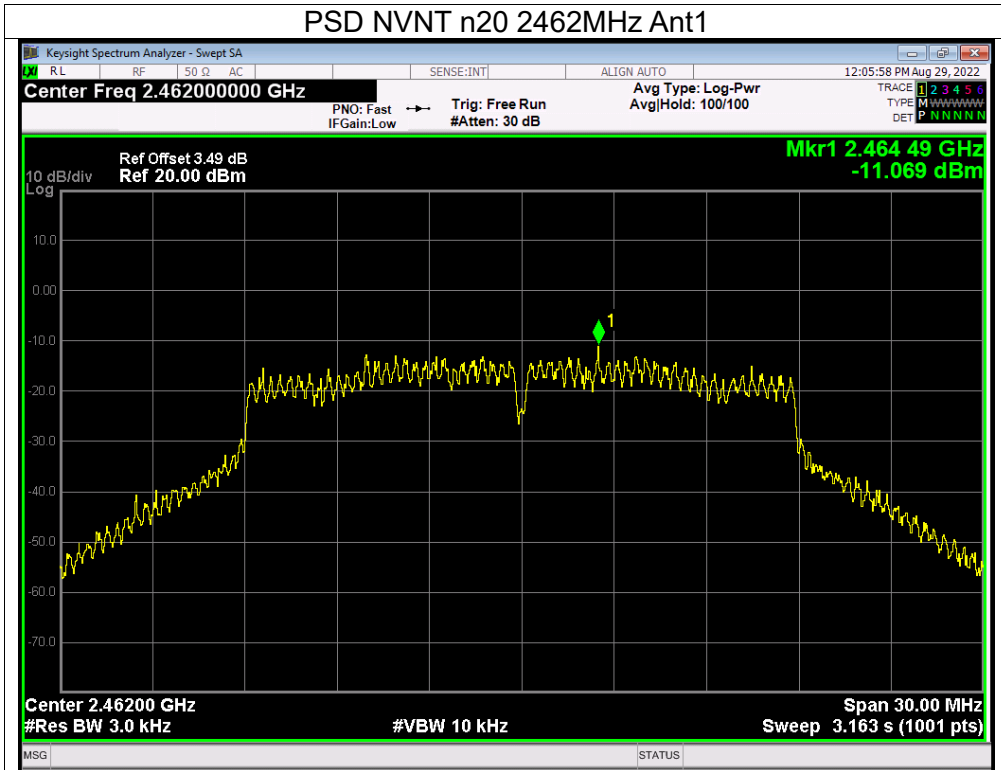
PSD NVNT n20 2437MHz Ant1



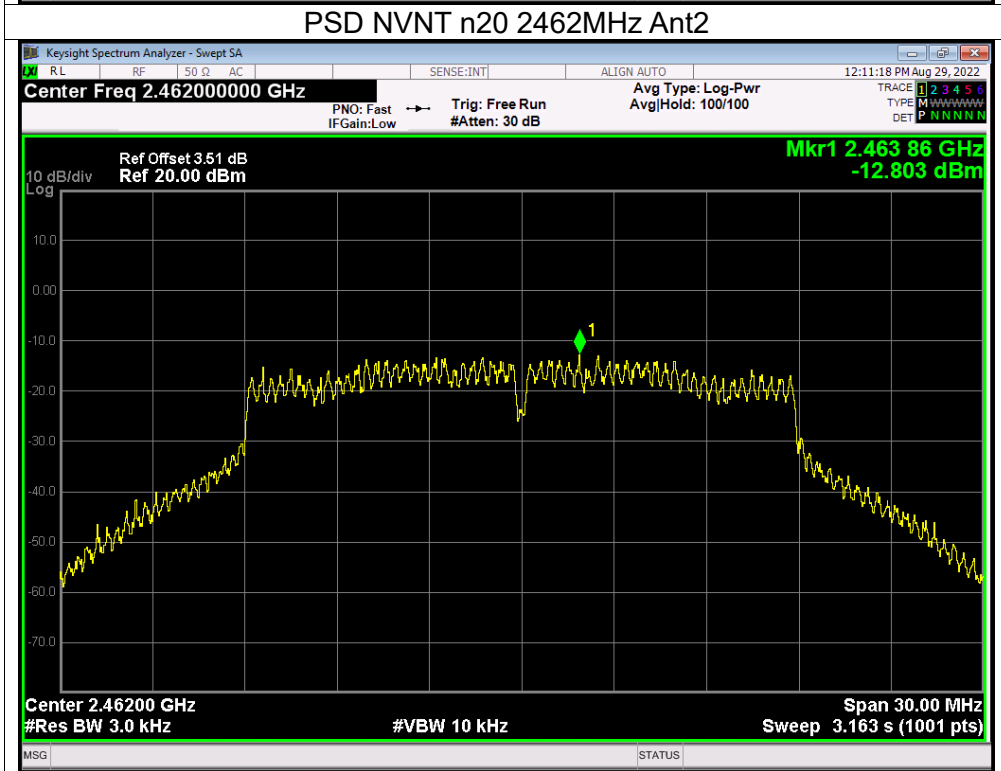
PSD NVNT n20 2437MHz Ant2



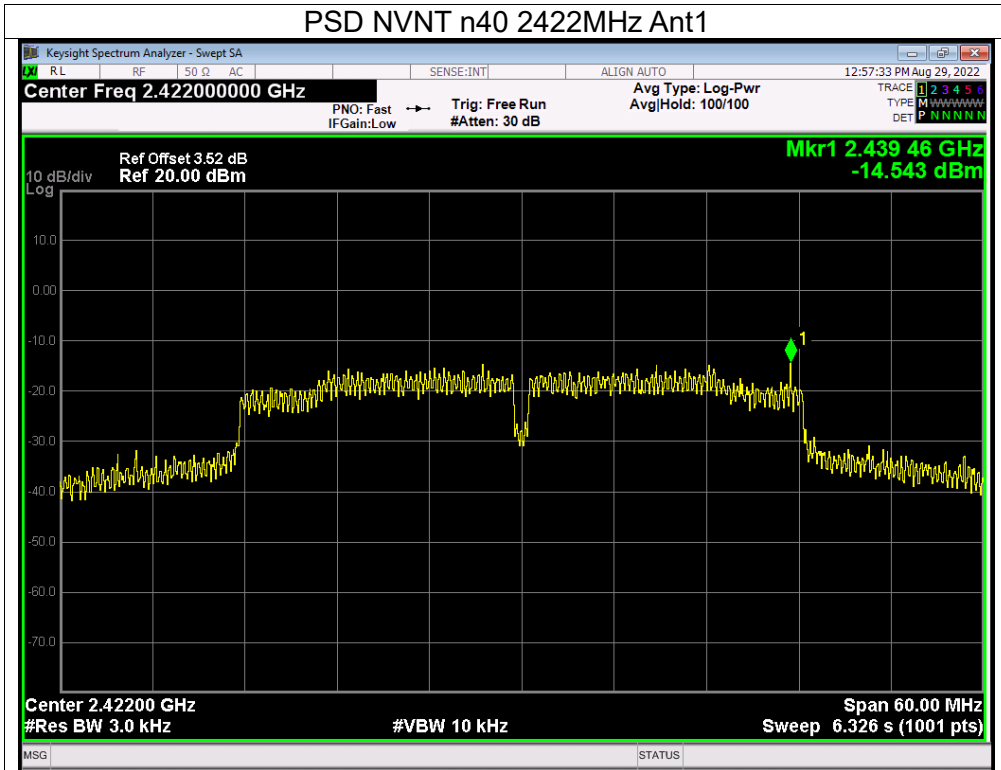
### PSD NVNT n20 2462MHz Ant1



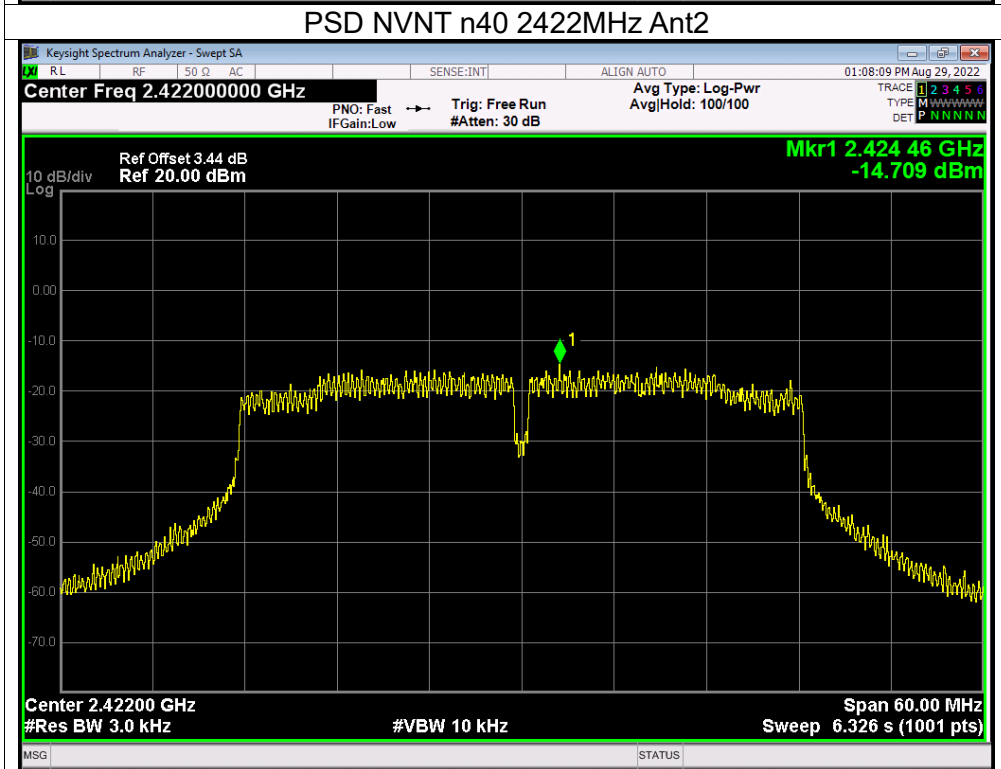
### PSD NVNT n20 2462MHz Ant2



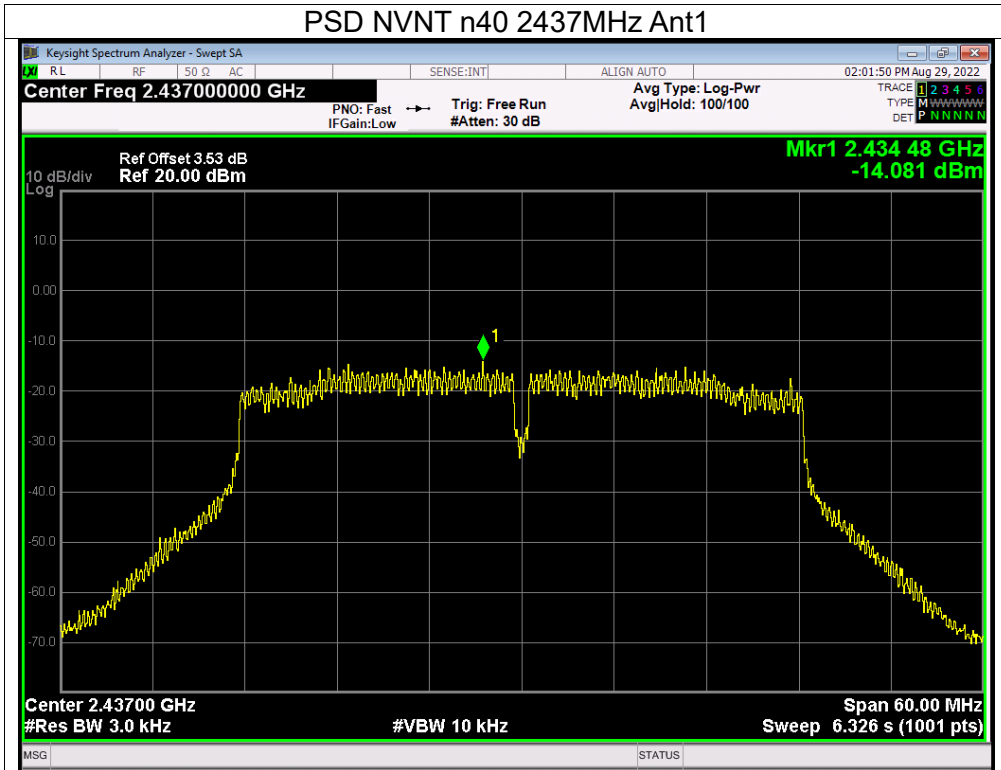
### PSD NVNT n40 2422MHz Ant1



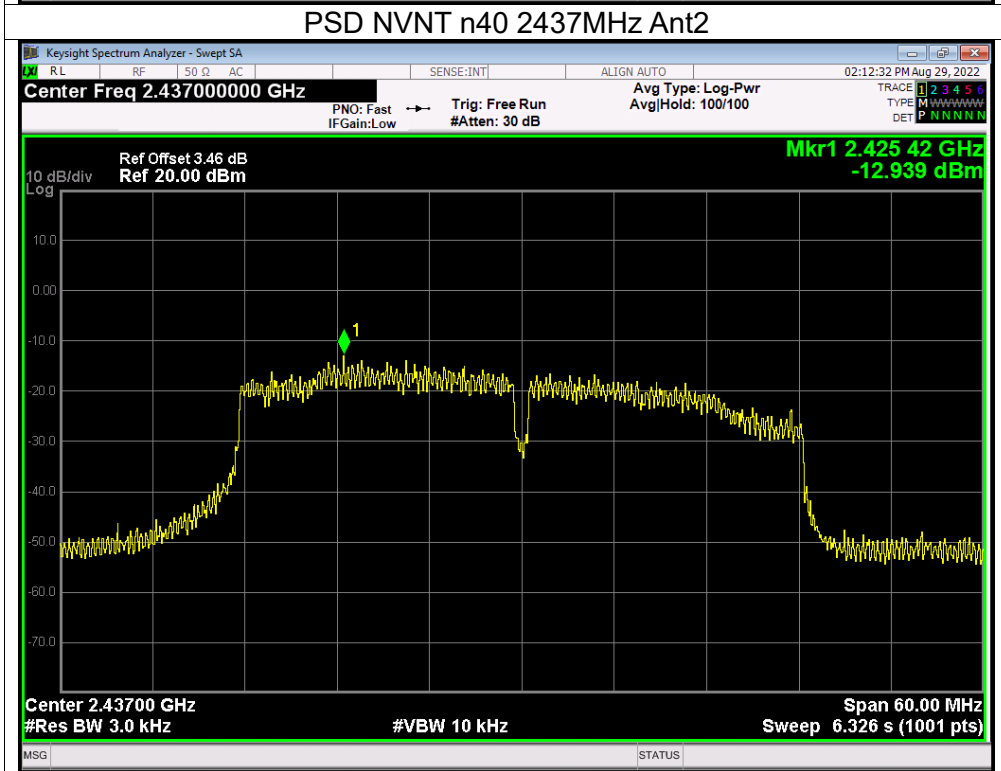
### PSD NVNT n40 2422MHz Ant2



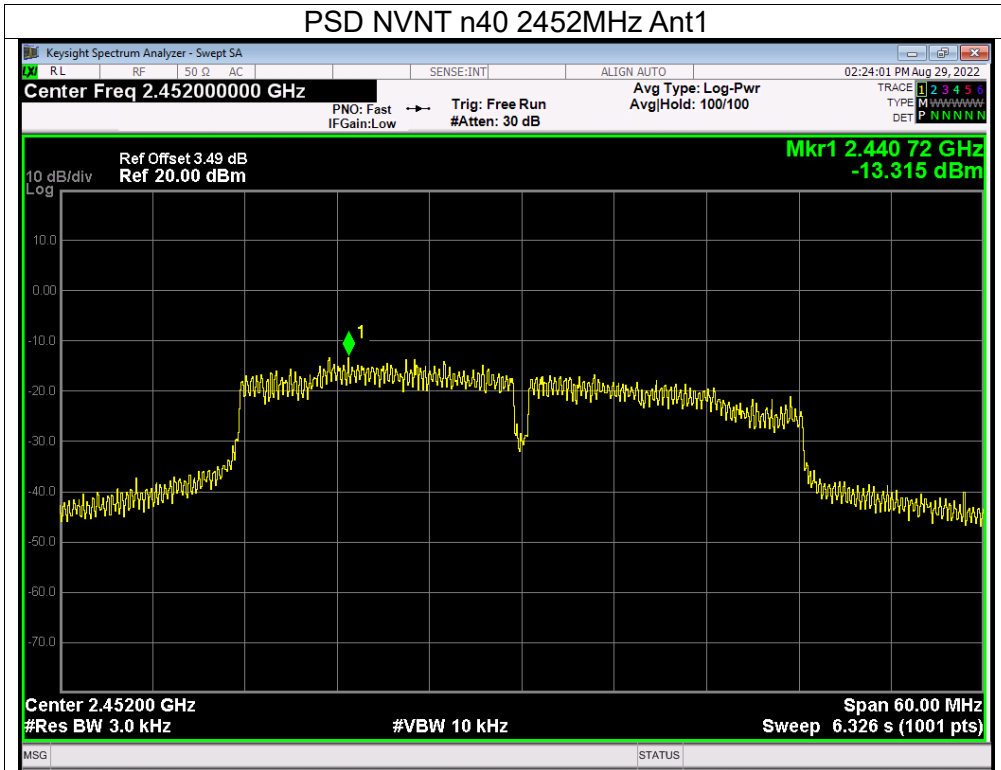
### PSD NVNT n40 2437MHz Ant1



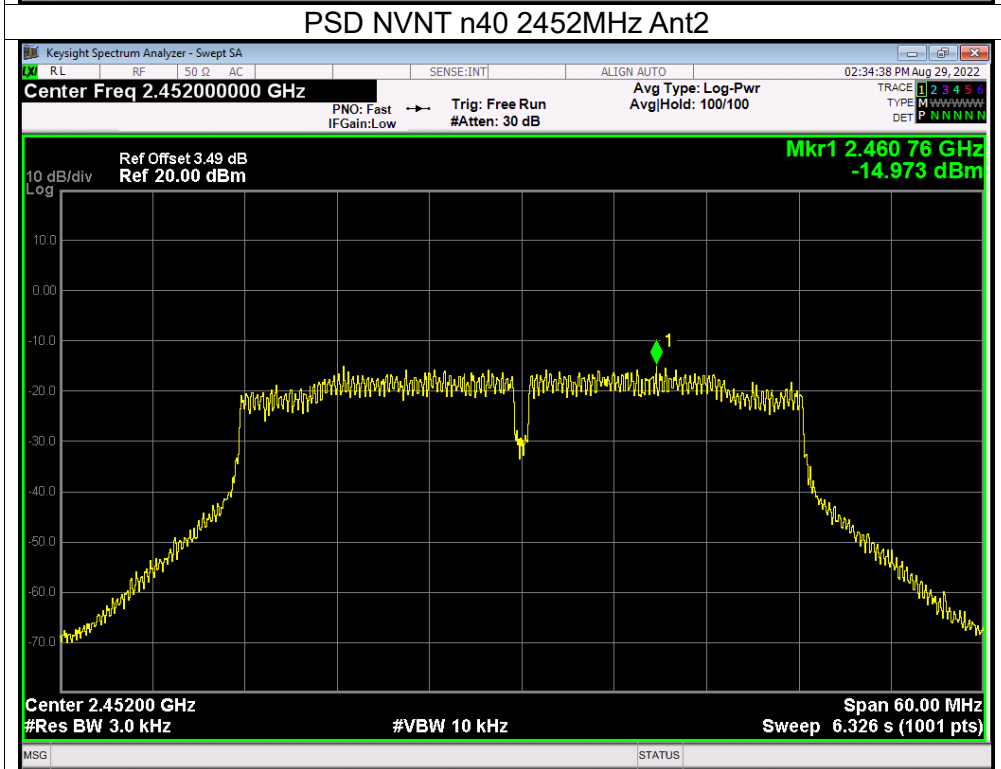
### PSD NVNT n40 2437MHz Ant2



### PSD NVNT n40 2452MHz Ant1



### PSD NVNT n40 2452MHz Ant2



BAND EDGE

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-55.86	-20	Pass
NVNT	b	2462	Ant1	-57.3	-20	Pass
NVNT	g	2412	Ant1	-31.64	-20	Pass
NVNT	g	2462	Ant1	-59.21	-20	Pass
NVNT	n20	2412	Ant1	-31.12	-20	Pass
NVNT	n20	2462	Ant1	-58.24	-20	Pass
NVNT	n40	2422	Ant1	-32.91	-20	Pass
NVNT	n40	2452	Ant1	-52.38	-20	Pass
NVNT	ax20	2412	Ant1	-29.44	-20	Pass
NVNT	ax20	2462	Ant1	-58.8	-20	Pass
NVNT	ax40	2422	Ant1	-30.45	-20	Pass
NVNT	ax40	2452	Ant1	-50.55	-20	Pass