TEST REPORT

Report No.:	TW2501110-05E
Applicant:	DMR Technologies
Product:	Remote Control
Model No.:	Agri-Pro H20, Agri-Pro
Trademark:	DMR Technologies
Test Standards:	FCC Part 15.247
Test result:	It is herewith confirmed and found to comply with the requirements set up by ANSI C63.10, FCC Part 15.247 for the evaluation of electromagnetic compatibility

Approved By

Terry Tang

Manager

Dated: February 06, 2025

Results appearing herein relate only to the sample tested
The technical reports is issued errors and omissions exempt and is subject to withdrawal at

SHENZHEN TIMEWAY TESTING LABORATORIES

Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le Village, Nanshan District, Shenzhen, China

Tel (755) 83448688, Fax (755) 83442996, E-Mail:info@timeway-lab.com

Special Statement:

FCC-Registration No.: 744189

The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 744189.

Industry Canada (IC) —Registration No.:5205A

The EMC Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 5205A.

A2LA (Certification Number:5013.01)

The EMC Laboratory has been accredited by the American Association for Laboratory Accreditation (A2LA). Certification Number:5013.01

CAB identifier: CN0033

Test Report Conclusion

Content

1.0 General Details

1.1 Test Lab Details

Name: SHENZHEN TIMEWAY TESTING LABORATORIES.

Address: Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le Village, Nanshan District, Shenzhen, China

Telephone: (755) 83448688

Fax: (755) 83442996

Site Listed with Federal Communications commission (FCC)

Registration Number:744189

For 3m Anechoic Chamber

Site Listed with Industry Canada of Ottawa, Canada

Registration Number: IC: 5205A

For 3m Anechoic Chamber

1.2 Applicant Details

Applicant: DMR Technologies

Address: 2050 15th St., Detroit, MI 48216

1.3 Description of EUT

Product:	Remote Control
Manufacturer:	DMR Technologies
Address:	2050 15th St., Detroit, MI 48216
Trademark:	DMR Technologies
Additional Trademark:	N/A
Model Number:	Agri-Pro H20
Additional Model Number:	Agri-Pro
Hardware Version:	V1.2
Software Version:	V1.1
Serial No.:	2025H20A0001
Rating:	Input: DC12V, 3A
Battery:	DC3.7V, 20000mAh Li-ion battery
Type of Modulation	OFDM
Frequency List:	2411MHz, 2422MHz, 2433MHz, 2444MHz, 2455MHz, 2466MHz,
Antenna:	Dipole antennas with gain 3.90dBi Max for each one (Get from the antenna specification)

Remark: EUT supports SISO Mode and MIMO Mode

1.4 Submitted Sample: 2 Samples

1.5 Test Duration

2025-01-09 to 2025-02-06

1.6 Test Uncertainty

Conducted Emissions Uncertainty =3.6dB

Radiated Emissions below 1GHz Uncertainty =4.7dB

Radiated Emissions above 1GHz Uncertainty =6.0dB

Conducted Power Uncertainty =6.0dB

Occupied Channel Bandwidth Uncertainty =5%

Note: The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.

1.7 Test Engineer

The sample tested by

Print Name: Andy Xie

2.0 Test Equipment					
Instrument Type	Manufacturer	Model	Serial No.	Date of Cal.	Due Date
ESPI Test Receiver	R&S	ESPI 3	100379	2024-07-12	2025-07-11
LISN	R&S	EZH3-Z5	100294	2024-07-12	2025-07-11
LISN	R&S	EZH3-Z5	100253	2024-07-12	2025-07-11
Impuls-Begrenzer	R&S	ESH3-Z2	100281	2024-07-12	2025-07-11
Loop Antenna	EMCO	6507	00078608	2022-07-18	2025-07-17
Spectrum	R&S	FSIQ26	100292	2024-07-12	2025-07-11
Horn Antenna	A-INFO	LB-180400-KF	J211060660	2022-07-18	2025-07-17
Horn Antenna	R&S	BBHA 9120D	9120D-631	2022-07-18	2025-07-17
Power meter	Anritsu	ML2487A	6K00003613	2024-07-12	2025-07-11
Power sensor	Anritsu	MA2491A	32263	2024-07-12	2025-07-11
Bilog Antenna	Schwarebeck	VULB9163	9163/340	2022-07-18	2025-07-17
9*6*6 Anechoic	--	--	N/A	2022-07-26	2025-07-25
EMI Test Receiver	RS	ESVB	826156/011	2024-07-12	2025-07-11
EMI Test Receiver	RS	ESCS 30	834115/006	2024-07-12	2025-07-11
Spectrum	HP/Agilent	E4407B	MY50441392	2024-07-12	2025-07-11
Spectrum	RS	FSP	1164.4391.38	2024-07-12	2025-07-11
RF Cable	Zhengdi	ZT26-NJ-NJ-8M/FA	--	2024-07-12	2025-07-11
RF Cable	Zhengdi	7m	--	2024-07-12	2025-07-11
Pre-Amplifier	Schwarebeck	BBV9743	#218	2024-07-12	2025-07-11
Pre-Amplifier	HP/Agilent	8449B	3008A00160	2024-07-12	2025-07-11
LISN	SCHAFFNER	NNB42	00012	2024-07-12	2025-07-11
ESPI Test Receiver	R&S	ESPI 3	100379	2024-07-12	2025-07-11
LISN	R&S	EZH3-Z5	100294	2024-07-12	2025-07-11

2.2 Automation Test Software

For Conducted Emission Test

Name	Version
EZ-EMC	Ver.EMC-CON 3A1.1

For Radiated Emissions

Name	Version
EMI Test Software BL410-EV18.91	V18.905
EMI Test Software BL410-EV18.806 High Frequency	V18.06

3. DESCRIPTION OF TEST MODES

IEEE 802.11b (HT20) mode

The EUT had been tested under operating condition. There are three channels have been tested as following:

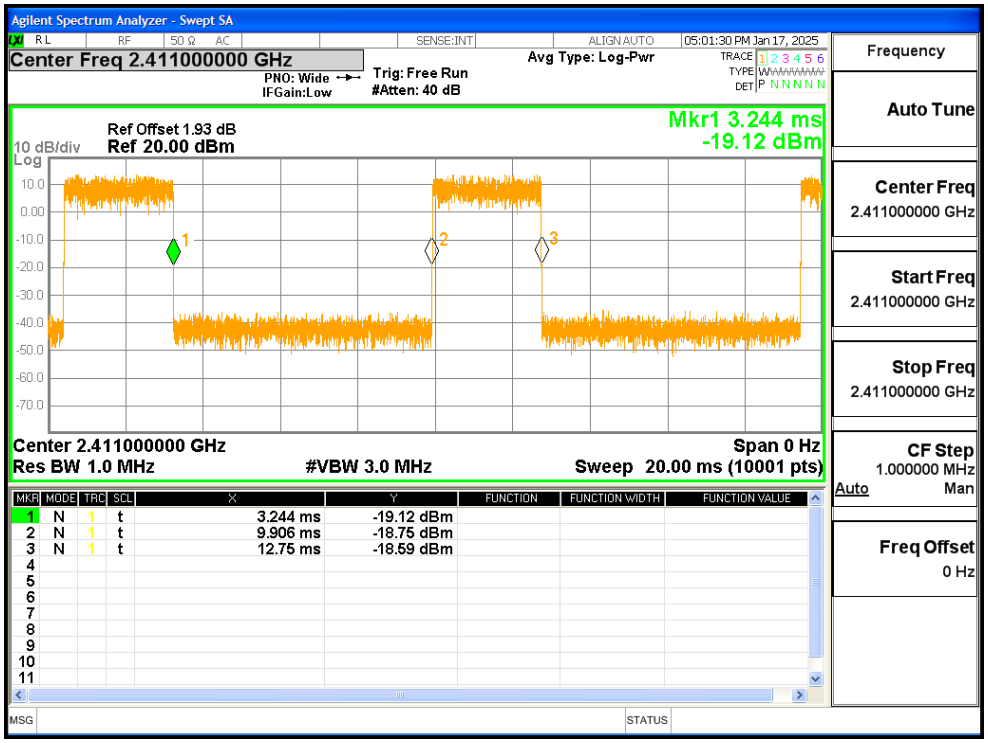
Channel	Frequency (MHz)
Low	2411
Middle	2433
High	2466

Duty Cycle

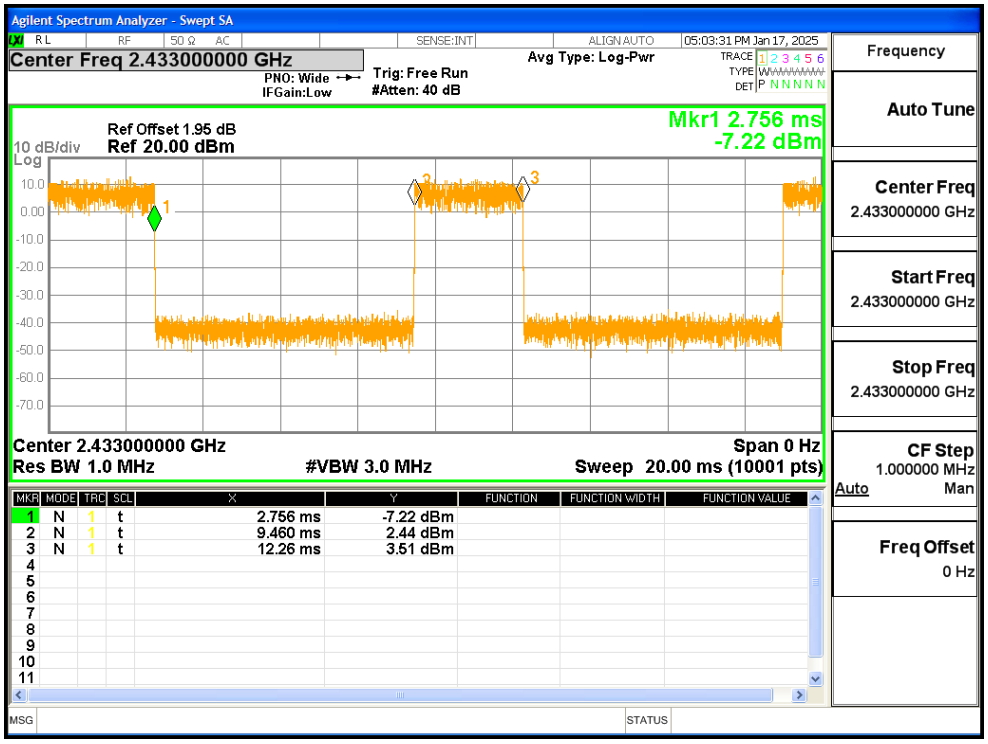
10M Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	-	2411	Ant1	29.9	5.24	0.35
		2433		29.46	5.31	0.36
		2466		29.76	5.26	0.35
		2411	Ant2	29.9	5.24	0.35
		2433		29.81	5.26	0.35
		2466		29.92	5.24	0.35

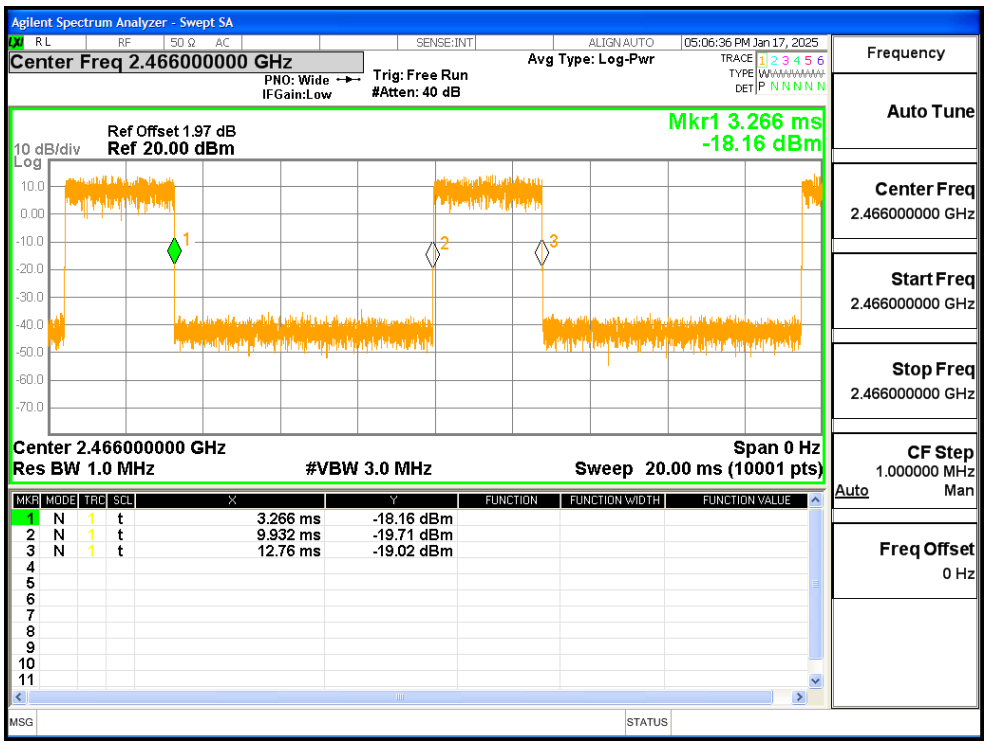
Test Graphs
Duty Cycle NVNT 2411MHz Ant1



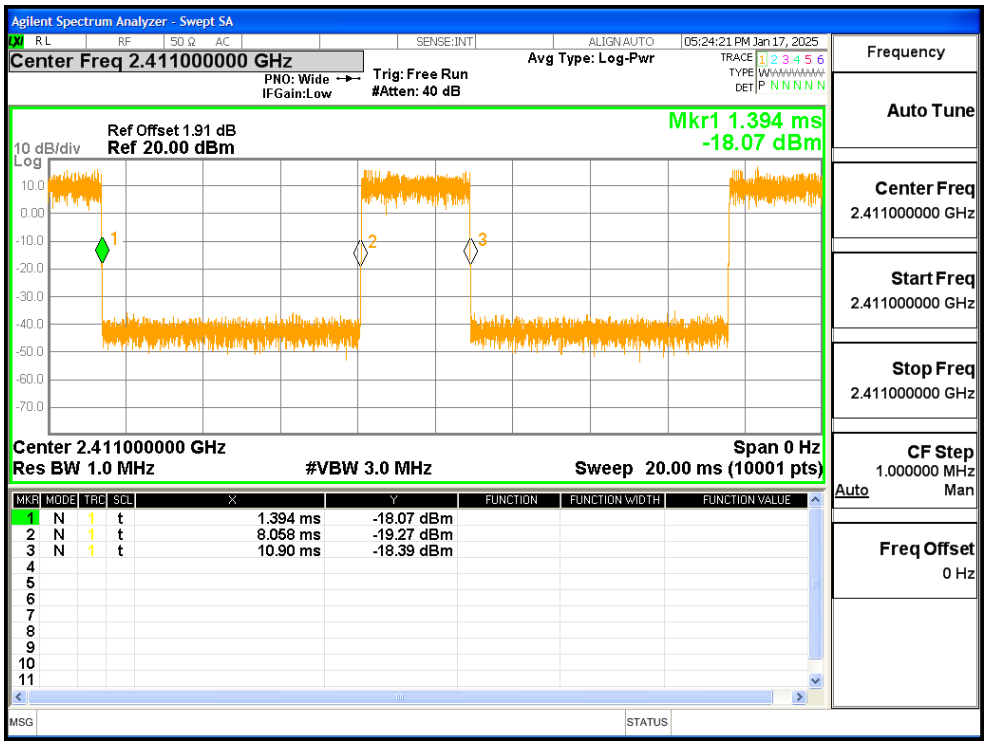
Duty Cycle NVNT 2433MHz Ant1



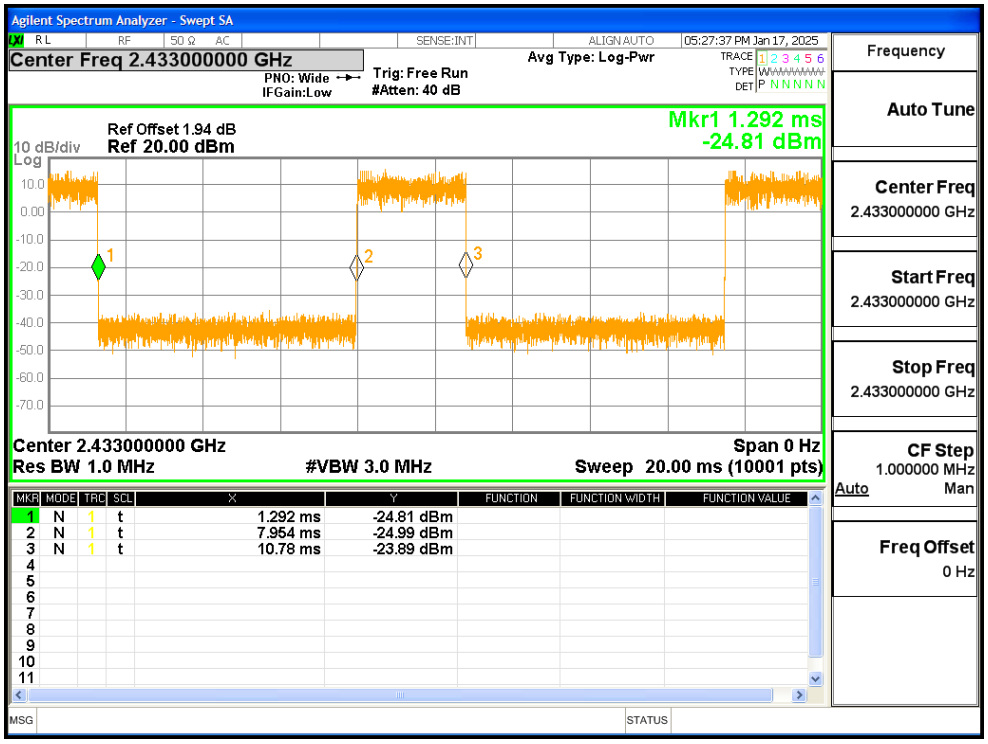
Duty Cycle NVNT 2466MHz Ant1



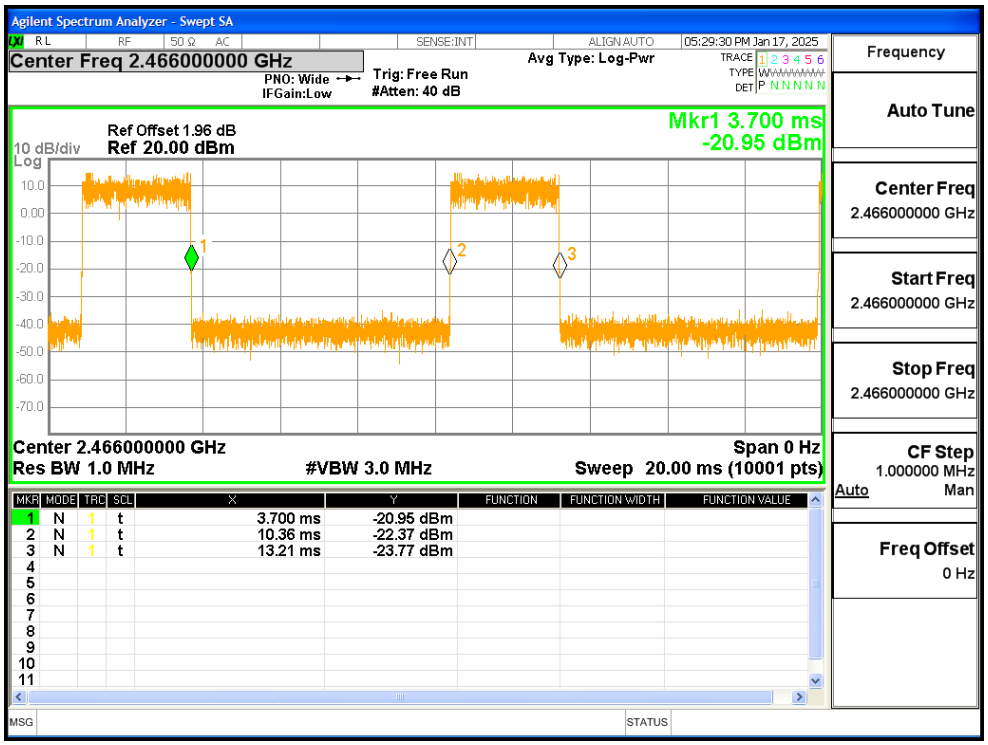
Duty Cycle NVNT 2411MHz Ant2



Duty Cycle NVNT 2433MHz Ant2



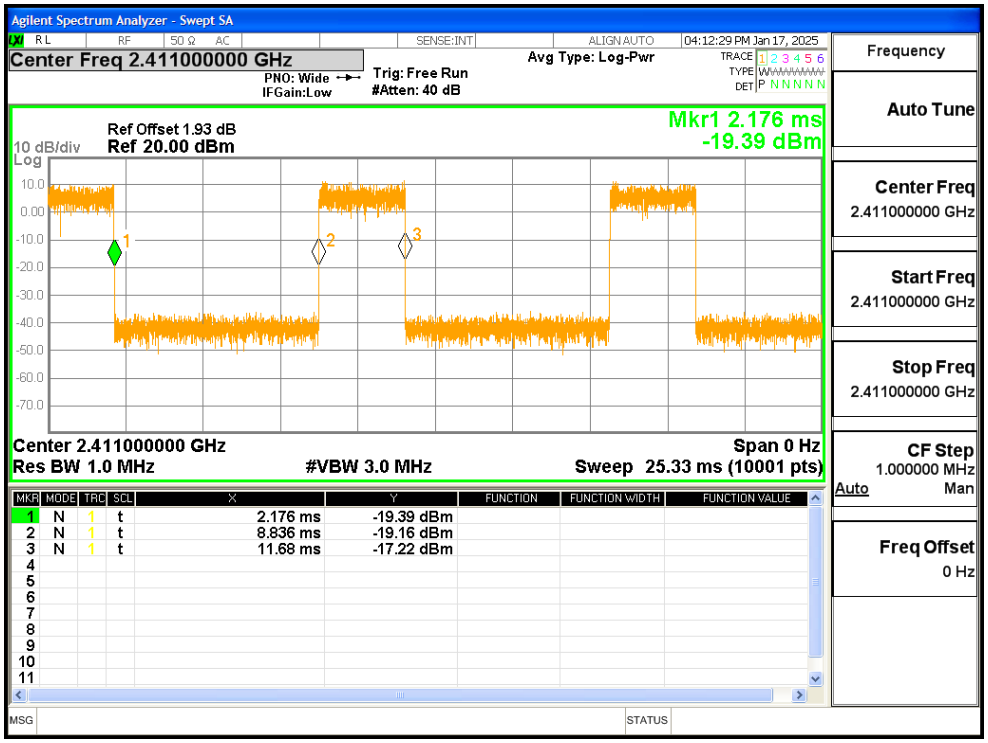
Duty Cycle NVNT 2466MHz Ant2



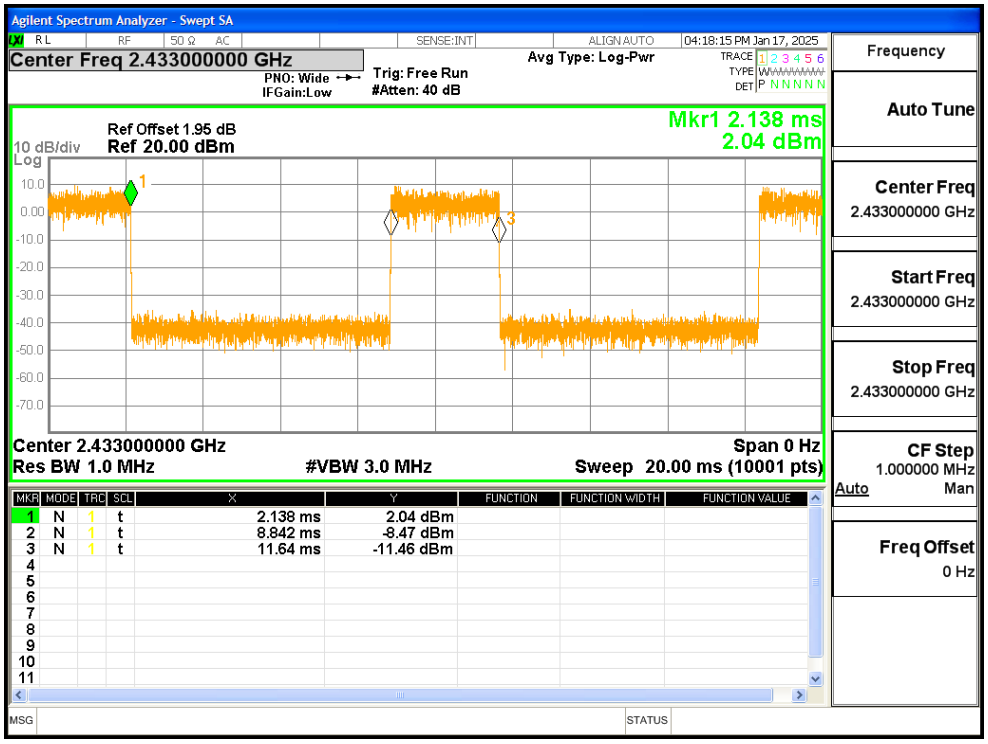
20M Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	-	2411	Ant1	29.91	5.24	0.35
		2433		29.48	5.3	0.36
		2466		29.46	5.31	0.36
		2411	Ant2	29.89	5.24	0.35
		2433		29.52	5.3	0.36
		2466		29.9	5.24	0.35

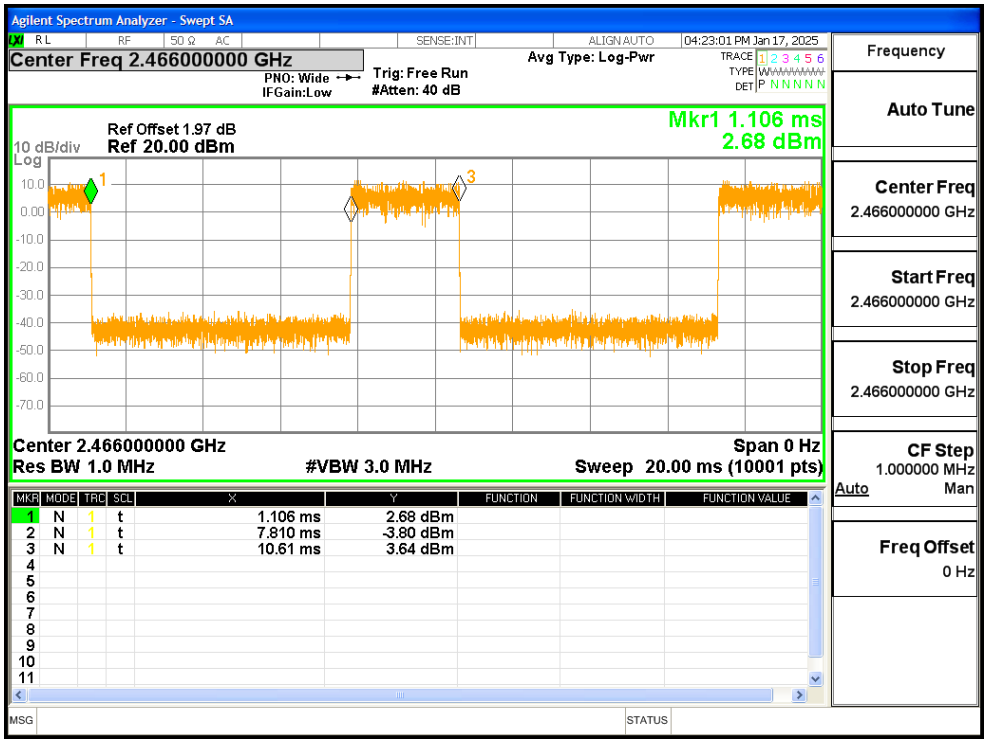
Test Graphs
Duty Cycle NVNT 2411MHz Ant1



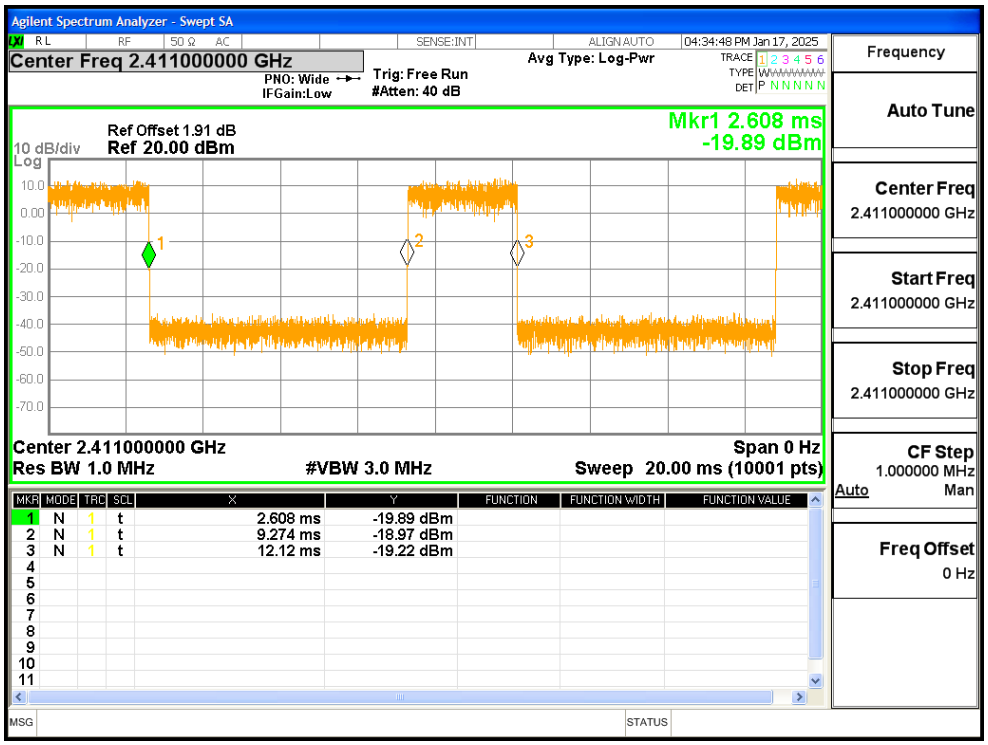
Duty Cycle NVNT 2433MHz Ant1



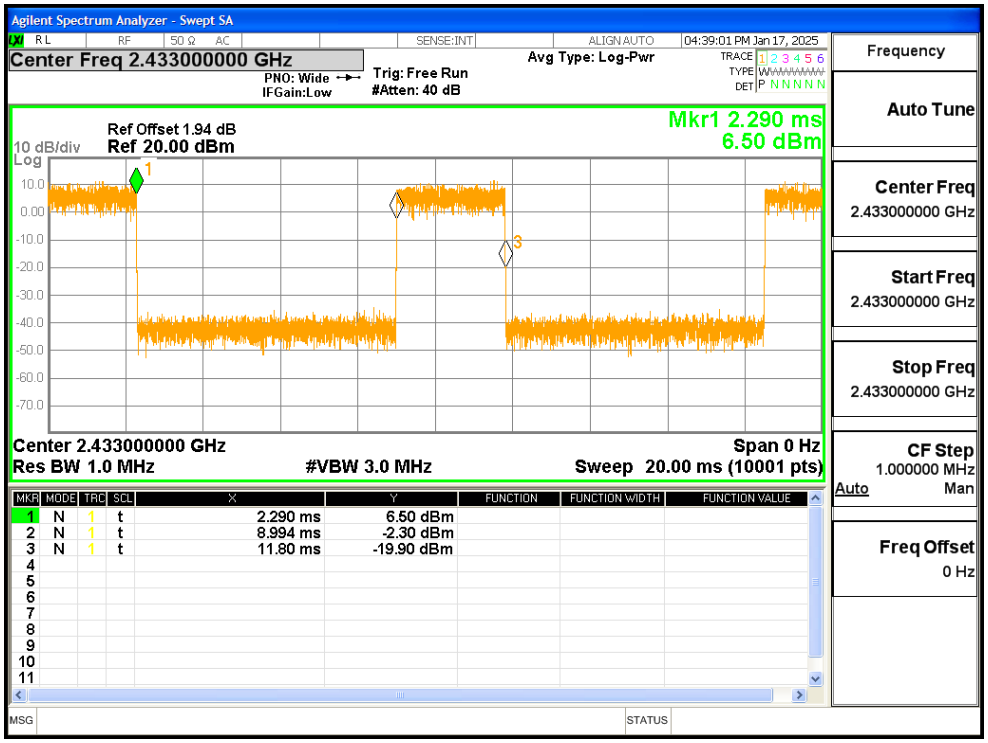
Duty Cycle NVNT 2466MHz Ant1



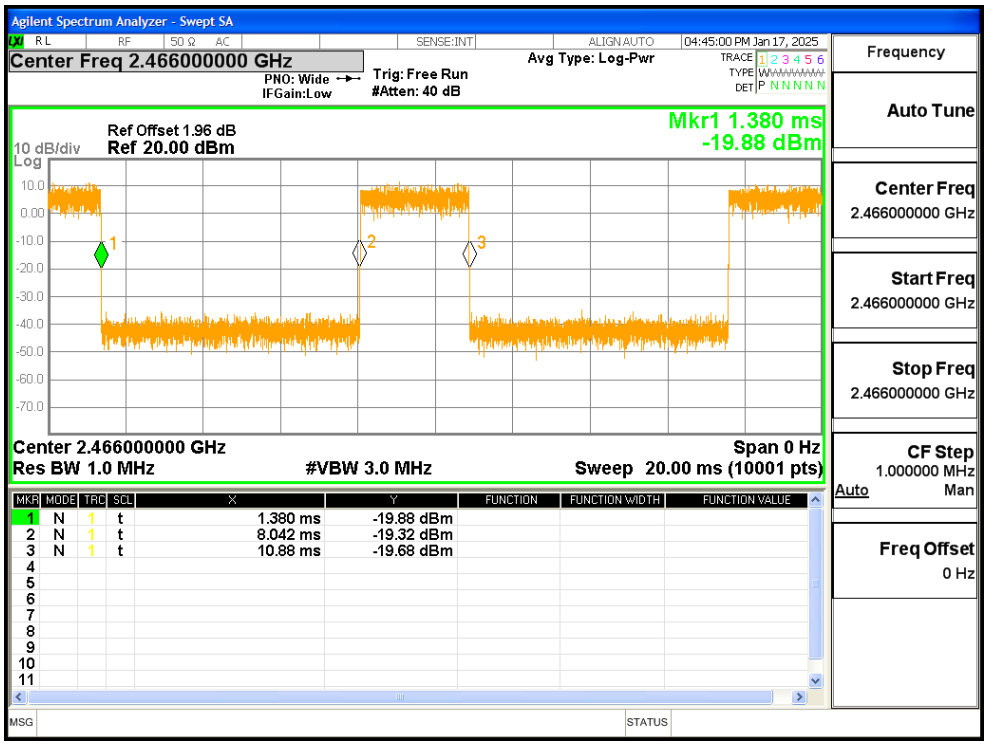
Duty Cycle NVNT 2411MHz Ant2



Duty Cycle NVNT 2433MHz Ant2



Duty Cycle NVNT 2466MHz Ant2



4.0 Technical Details

4.1 Summary of test results

The EUT has been tested according to the following specifications:

Standard	Test Type	Result	Notes
FCC Part 15, Paragraph15.203	Antenna Requirement	Pass	Complies
FCC Part 15, Paragraph15.207	Conducted Emission Test	Pass	Complies
FCC Part 15 Subpart C Paragraph 15.247(a)(2) Limit	Spectrum bandwidth of a Orthogonal Frequency Division Multiplex System Limit: 6dB bandwidth>500kHz	Pass	Complies
FCC Part 15, Paragraph 15.247(b)	Maximum peak output power Limit: max. 30dBm	Pass	Complies
FCC Part 15, Paragraph 15.109,15.205 & 15.209	Transmitter Radiated Emission Limit: Table 15.209	Pass	Complies
FCC Part 15, Paragraph 15.247(e)	Power Spectral Density Limit: max. 8dBm/3kHz	Pass	Complies
FCC Part 15, Paragraph 15.247(d)	Out of Band Emission and Restricted Band Radiation Limit: 20dB less than peak value of fundamental frequency Restricted band limit: Table 15.209	Pass	Complies

4.2 Test Standards

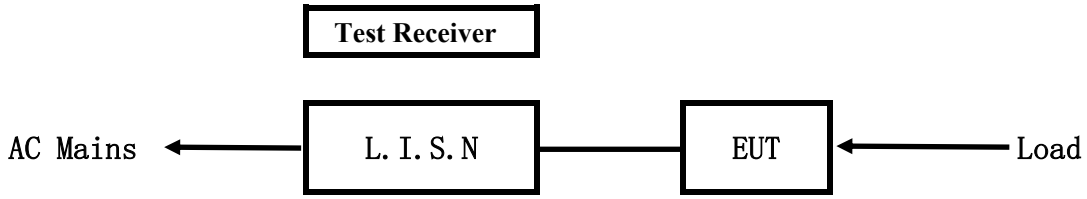
FCC Part 15 Subpart & Subpart C, Paragraph 15.247

5.0 EUT Modification

No modification by SHENZHEN TIMEWAY TESTING LABORATORIES.

6.0 Power Line Conducted Emission Test

6.1 Schematics of the test



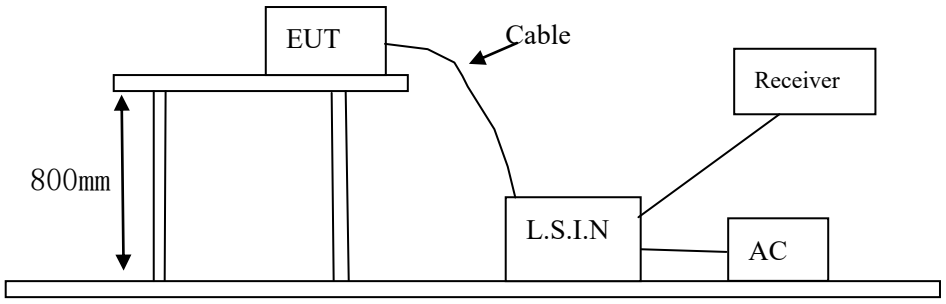
EUT: Equipment Under Test

6.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.10-2013.The Frequency spectrum from 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.10 –2013.

Test Voltage: 120V, 60Hz

Block diagram of Test setup



6.3 Configuration of the EUT

The EUT was configured according to ANSI C63.10-2013. All interface ports were connected to the appropriate peripherals. All peripherals and cables are listed below.

A. EUT

Device	Manufacturer	Model	FCC ID
Remote Control	DMR Technologies	Agri-Pro H20, Agri-Pro	2BM3J-H20

B. Internal Device

Device	Manufacturer	Model	FCC ID/DOC
N/A			

C. Peripherals

Device	Manufacturer	Model	FCC ID/DOC	Cable
Power Supply	Xiaomi	MDY-12-EF	--	Input: 100-240V~, 50/60Hz, 1.7A; Output: DC5V, 3A; 5-20A; 6.2- 3.25A(67W Max)

6.4 EUT Operating Condition

Operating condition is according to ANSI C63.10-2013.

A Setup the EUT and simulators as shown on follow

B Enable AF signal and confirm EUT active to normal condition

6.5 Power line conducted Emission Limit according to Paragraph 15.207

Frequency (MHz)	Limits (dB μ V)	
	Qua i-peak Level	Average Level
0.15 ～ 0.50	66.0～56.0*	56.0～46.0*
0.50 ～ 5.00	56.0	46.0
5.00 ～ 30.00	60.0	50.0

Notes: 1. *Decreasing linearly with logarithm of frequency.

2. The tighter limit shall apply at the transition frequencies

6.6 Test Results

The frequency spectrum from 0.15MHz to 30MHz was investigated. All reading are quasi-peak values with a resolution bandwidth of 9kHz.

Note: Only the worst case was recorded in the test report.

A: Conducted Emission on Live Terminal (150kHz to 30MHz)

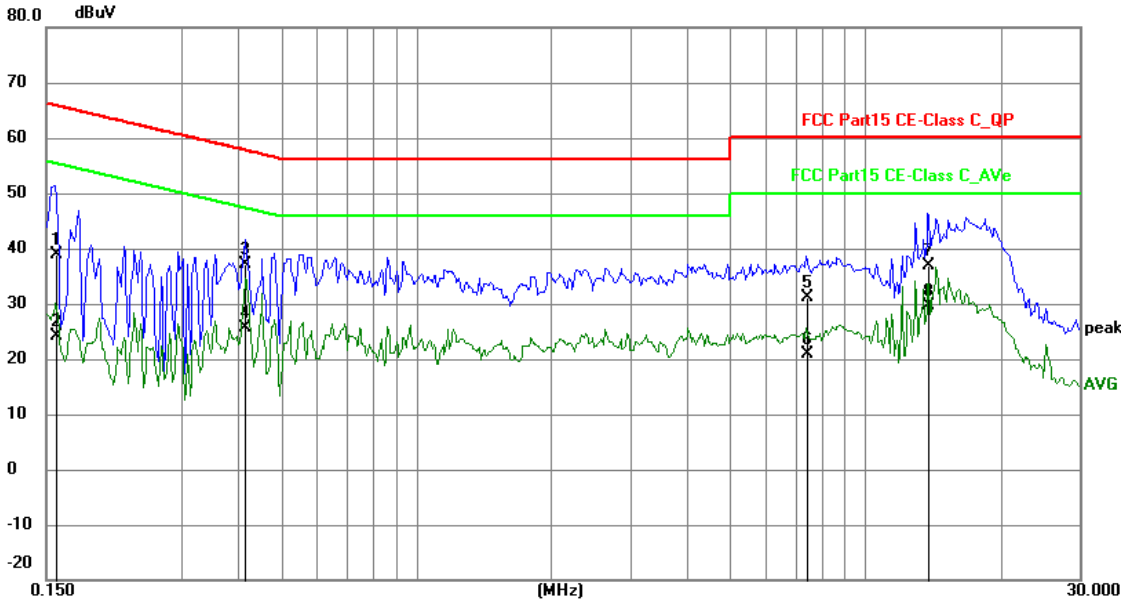
EUT Operating Environment

Temperature: 26℃ Humidity: 65%RH Atmospheric Pressure: 101 kPa

EUT set Condition: Keep Transmitting

Results: Pass

Please refer to following diagram for individual



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1578	28.54	10.34	38.88	65.58	-26.70	QP	P
2	0.1578	13.76	10.34	24.10	55.58	-31.48	AVG	P
3	0.4152	26.68	10.38	37.06	57.54	-20.48	QP	P
4	0.4152	15.37	10.38	25.75	47.54	-21.79	AVG	P
5	7.3719	18.12	12.96	31.08	60.00	-28.92	QP	P
6	7.3719	7.89	12.96	20.85	50.00	-29.15	AVG	P
7	13.8381	21.99	14.83	36.82	60.00	-23.18	QP	P
8	13.8381	14.91	14.83	29.74	50.00	-20.26	AVG	P

B: Conducted Emission on Neutral Terminal (150kHz to 30MHz)

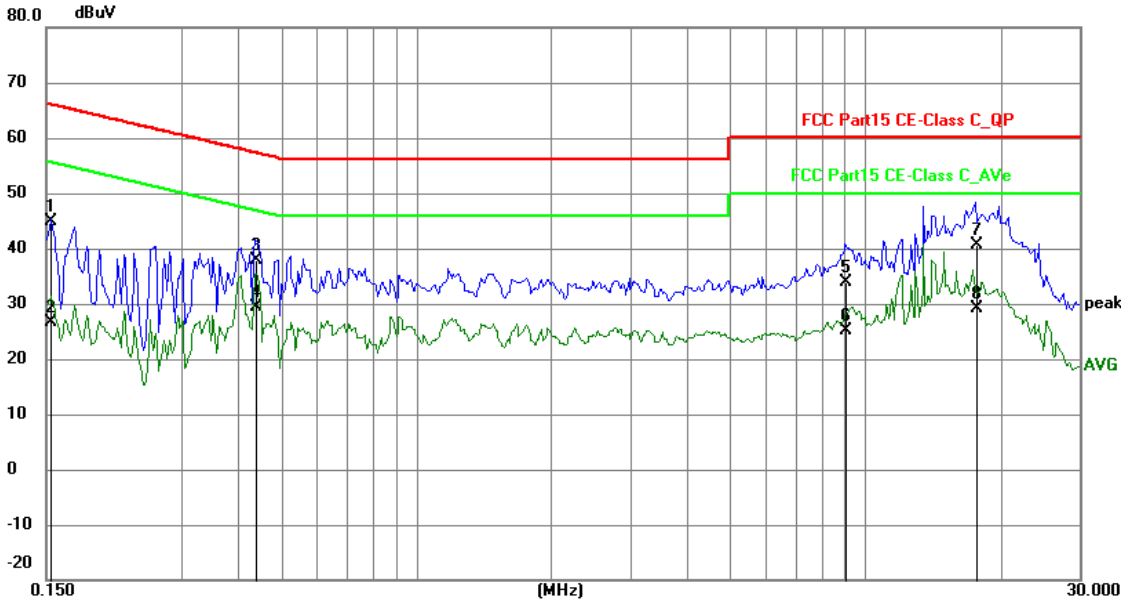
EUT Operating Environment

Temperature: 26℃ Humidity: 65%RH Atmospheric Pressure: 101 kPa

EUT set Condition: Keep Transmitting

Results: Pass

Please refer to following diagram for individual



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1539	34.46	10.34	44.80	65.79	-20.99	QP	P
2	0.1539	16.26	10.34	26.60	55.79	-29.19	AVG	P
3	0.4386	27.47	10.38	37.85	57.09	-19.24	QP	P
4	0.4386	19.00	10.38	29.38	47.09	-17.71	AVG	P
5	9.0372	20.48	13.51	33.99	60.00	-26.01	QP	P
6	9.0372	11.67	13.51	25.18	50.00	-24.82	AVG	P
7	17.6523	24.81	15.82	40.63	60.00	-19.37	QP	P
8	17.6523	13.40	15.82	29.22	50.00	-20.78	AVG	P

7 Radiated Emission Test

7.1 Test Method and test Procedure:

(1) The EUT was tested according to ANSI C63.10-2013. The radiated test was performed at Timeway EMC Laboratory. This site is on file with the FCC laboratory division, Registration No. 744189

(2) The EUT, peripherals were put on the turntable which table size is 1m x 1.5 m, table high 0.8 m. All set up is according to ANSI C63.10-2013.

(3) The frequency spectrum from 30 MHz to 25 GHz was investigated. All readings from 30 MHz to 1 GHz are Quasi-peak values with a resolution bandwidth of 120 kHz. F For measurement above 1GHz, peak values with RBW=1MHz VBW=3MHz and PK detector. AV value with RBW=1MHz, VBW=3MHz and RMS detector. Measurements were made at 3 meters.

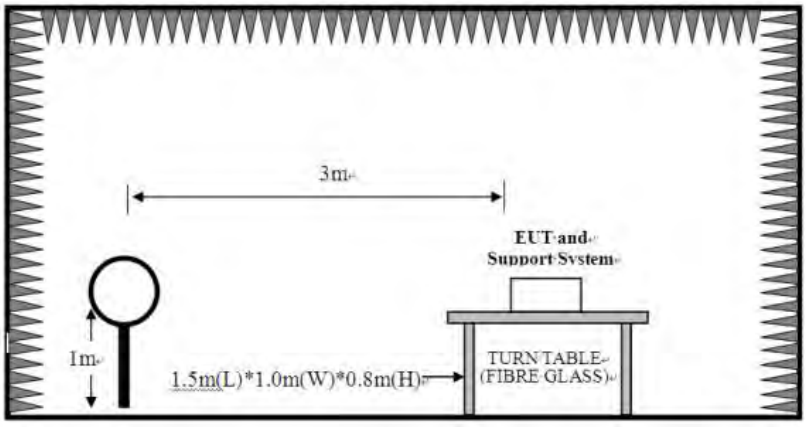
(4) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.

(5) Maximizing procedure was performed on the six (6) highest emissions to ensure EUT compliance is with all installation combinations. All data was recorded in the peak detection mode. Quasi-peak readings was performed only when an emission was found to be marginal (within -4 dB of specification limit), and are distinguished with a "**QP**" in the data table.

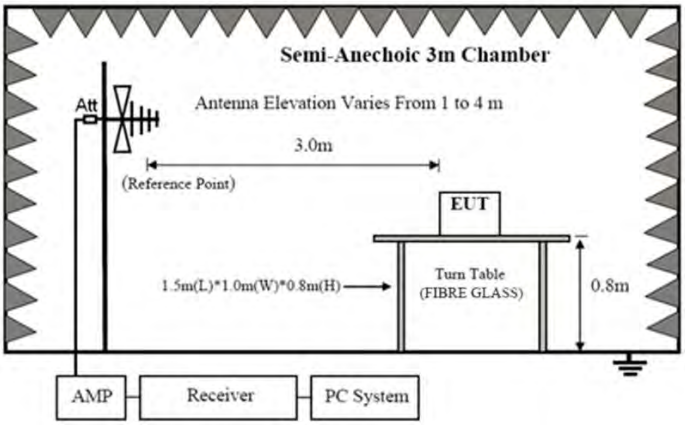
(6) The antenna polarization: Vertical polarization and Horizontal polarization.

Block diagram of Test setup

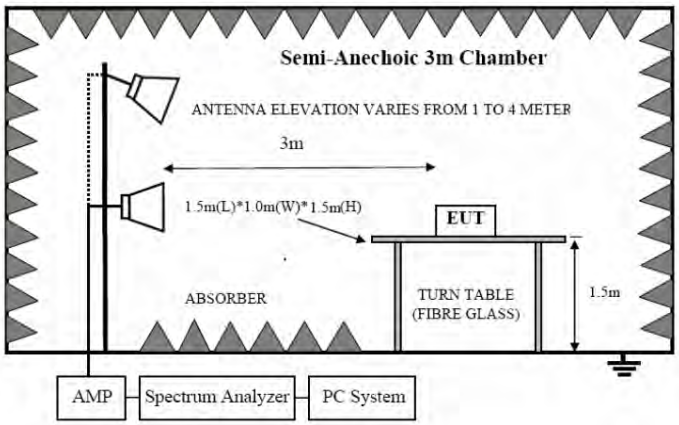
For radiated emissions from 9kHz to 30MHz



For radiated emissions from 30MHz to1GHz



For radiated emissions above 1GHz



7.2 Configuration of The EUT

Same as section 5.3 of this report

7.3 EUT Operating Condition

Same as section 5.4 of this report.

7.4 Radiated Emission Limit

All emission from a digital device, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strength specified below:

Frequencies in restricted band are complied to limit on Paragraph 15.209

Frequency Range (MHz)	Distance (m)	Field strength (dB μ V/m)
0.009-0.049	3	20log(2400/F(kHz)) +40log (300/3)
0.490-1.705	3	20log(24000/F(kHz)) +40log (30/3)
1.705-30	3	69.5
30-88	3	40.0
88-216	3	43.5
216-960	3	46.0
Above 960	3	54.0

Note: 1. RF Voltage (dBuV) = 20 log RF Voltage (uV)

2. In the Above Table, the tighter limit applies at the band edges.

3. Distance refers to the distance in meters between the measuring instrument antenna and the EUT

4. All scanning using PK detector. And the final emission level was get using QP detector for frequency range from 30-1000MHz.As to 1G-25G, the final emission level got using PK. For fundamental measurement, PK detector used.

5. For radiated emissions from 9kHz to 30MHz，the emission level is much less than the limit for more than 20dB. No necessary to take down the record.

6. Batteries were fully charged during test.

7. MIMO mode was tested and it was the worst case

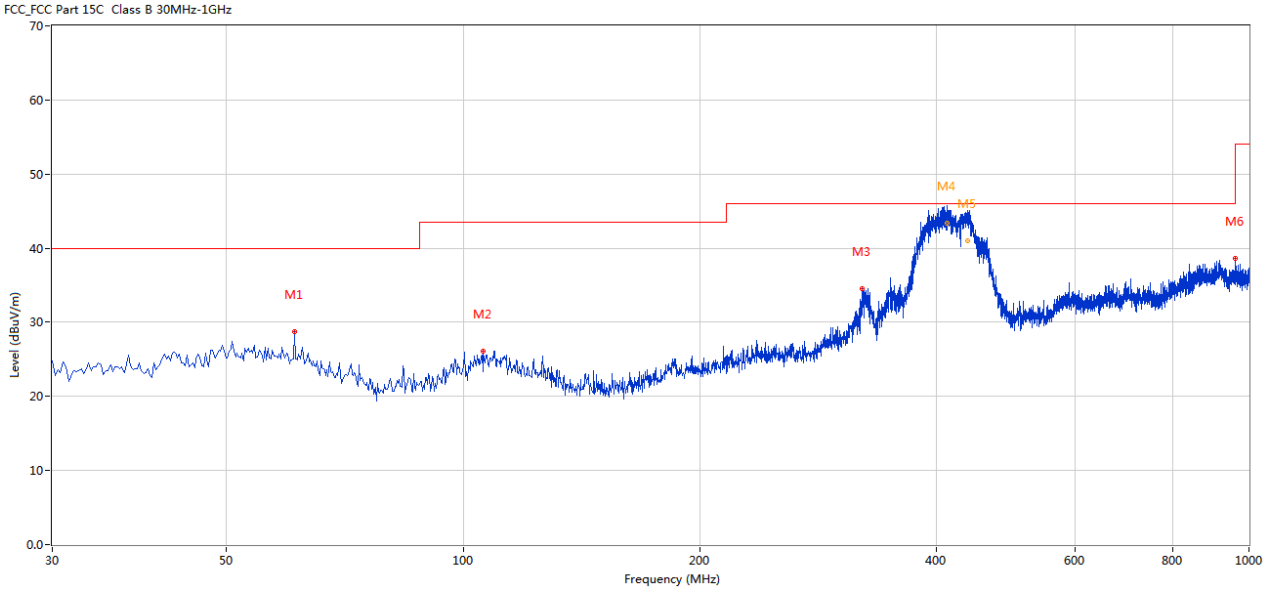
Test result

General Radiated Emission Data and Harmonics Radiated Emission Data

Radiated Emission In Horizontal (30MHz----1000MHz)

EUT set Condition: **Keep Transmitting**

Results: **Pass**



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	61.032	28.69	-5.51	40.0	11.31	Peak	15.00	100	Horizontal	Pass
2	106.126	26.13	-6.16	43.5	17.37	Peak	281.00	100	Horizontal	Pass
3	322.139	34.56	-3.76	46.0	11.44	Peak	28.00	100	Horizontal	Pass
4*	412.916	43.43	-1.29	46.0	2.57	QP	252.00	138	Horizontal	Pass
5*	438.490	40.94	-0.94	46.0	5.06	QP	126.00	107	Horizontal	Pass
6	959.755	38.59	5.25	46.0	7.41	Peak	207.00	100	Horizontal	Pass

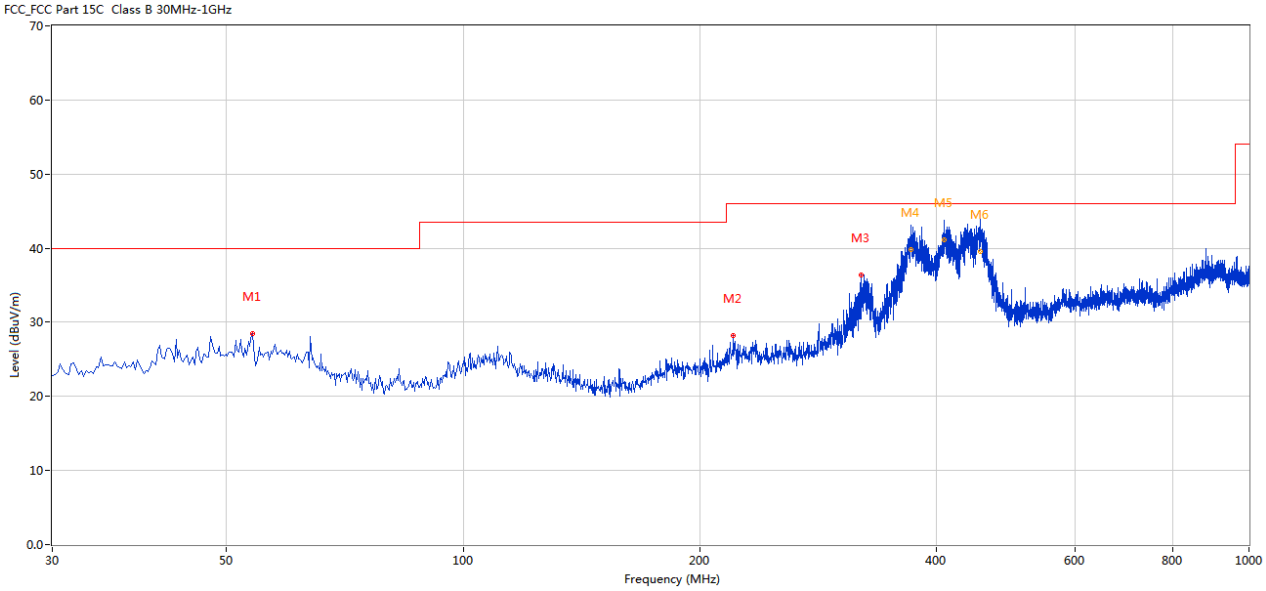
Test result

General Radiated Emission Data and Harmonics Radiated Emission Data

Radiated Emission In Vertical (30MHz----1000MHz)

EUT set Condition: **Keep Transmitting**

Results: **Pass**



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	54.002	28.49	-5.20	40.0	11.51	Peak	43.00	100	Vertical	Pass
2	220.800	28.21	-6.18	46.0	17.79	Peak	0.00	100	Vertical	Pass
3	320.685	36.41	-3.85	46.0	9.59	Peak	92.00	100	Vertical	Pass
4*	371.799	39.83	-1.79	46.0	6.17	QP	60.00	113	Vertical	Pass
5*	409.861	41.10	-1.06	46.0	4.90	QP	24.00	193	Vertical	Pass
6*	454.972	39.56	-0.98	46.0	6.44	QP	232.00	120	Vertical	Pass

Operation Mode: Transmitting under 2411MHz

Frequency (MHz)	Level@3m (dB μ V/m)	Antenna Polarity	Limit@3m (dB μ V/m)
4822.00	62.6 (PK) / 45.3 (AV)	H	74(Peak)/ 54(AV)
4822.00	57.5 (PK) / 42.1 (AV)	V	74(Peak)/ 54(AV)
7233.00	--	H/V	74(Peak)/ 54(AV)
9644.00	--	H/V	74(Peak)/ 54(AV)
12055	--	H/V	74(Peak)/ 54(AV)
14466	--	H/V	74(Peak)/ 54(AV)
16877	--	H/V	74(Peak)/ 54(AV)
19288	--	H/V	74(Peak)/ 54(AV)
21699	--	H/V	74(Peak)/ 54(AV)
24110	--	H/V	74(Peak)/ 54(AV)

Operation Mode: Transmitting under 2433MHz

Frequency (MHz)	Level@3m (dB μ V/m)	Antenna Polarity	Limit@3m (dB μ V/m)
4866.00	61.8 (PK)/ 44.7 (AV)	H	74(Peak)/ 54(AV)
4866.00	55.3 (PK)/ 41.2 (AV)	V	74(Peak)/ 54(AV)
7299.00	--	H/V	74(Peak)/ 54(AV)
9732.00	--	H/V	74(Peak)/ 54(AV)
12165	--	H/V	74(Peak)/ 54(AV)
14598	--	H/V	74(Peak)/ 54(AV)
17031	--	H/V	74(Peak)/ 54(AV)
19464	--	H/V	74(Peak)/ 54(AV)
21897	--	H/V	74(Peak)/ 54(AV)
24330	--	H/V	74(Peak)/ 54(AV)

Operation Mode: Transmitting under 2466MHz

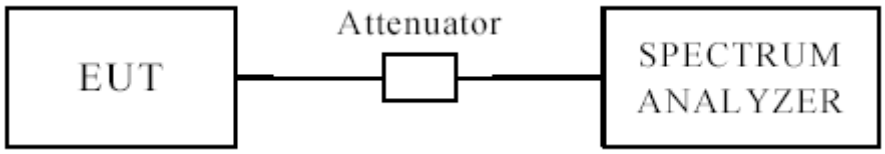
Frequency (MHz)	Level@3m (dB μ V/m)	Antenna Polarity	Limit@3m (dB μ V/m)
4932	63.1 (PK)/ 45.8 (AV)	H	74(Peak)/ 54(AV)
4932	57.9 (PK)/ 42.6 (AV)	V	74(Peak)/ 54(AV)
7398	--	H/V	74(Peak)/ 54(AV)
9864	--	H/V	74(Peak)/ 54(AV)
12330	--	H/V	74(Peak)/ 54(AV)
14796	--	H/V	74(Peak)/ 54(AV)
17262	--	H/V	74(Peak)/ 54(AV)
19728	--	H/V	74(Peak)/ 54(AV)
22194	--	H/V	74(Peak)/ 54(AV)
24660	--	H/V	74(Peak)/ 54(AV)

Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

2. Remark "---" means that the emissions level is too low to be measured
3. 10M Bandwidth is the worst case
4. For radiated Emissions from 18-25GHz and below 30MHz, it is only the floor noise and less than the limit for more than 20dB. No necessary to take down.
5. Note: the final peak measurement results less than the AV limit. No necessary to take down the final AV measurement result

8.0 6dB Bandwidth Measurement

8.1 Test Setup



8.2 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is >500 kHz

8.3 Test Procedure

1. Set resolution bandwidth (RBW) = 100 kHz
2. Set the video bandwidth (VBW) ≥ 3 x RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

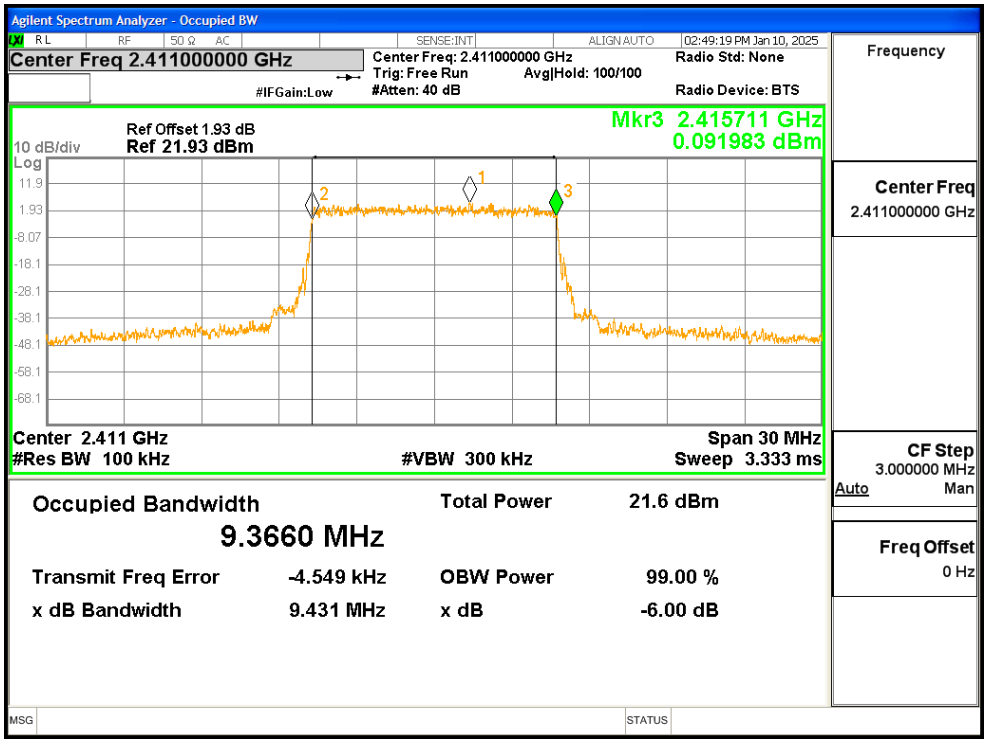
8.4 Test Result

6dB Occupied Bandwidth

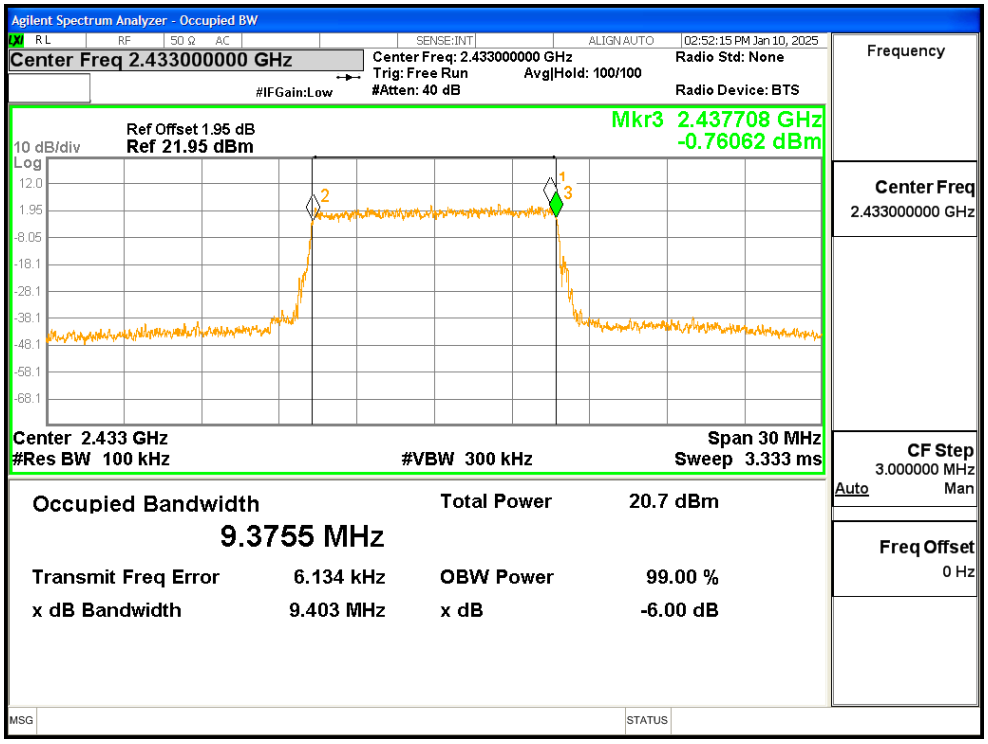
10M Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	-	2411	Ant1	9.431	0.5	Pass
		2433		9.403	0.5	Pass
		2466		9.487	0.5	Pass
		2411	Ant2	9.212	0.5	Pass
		2433		9.422	0.5	Pass
		2466		9.457	0.5	Pass

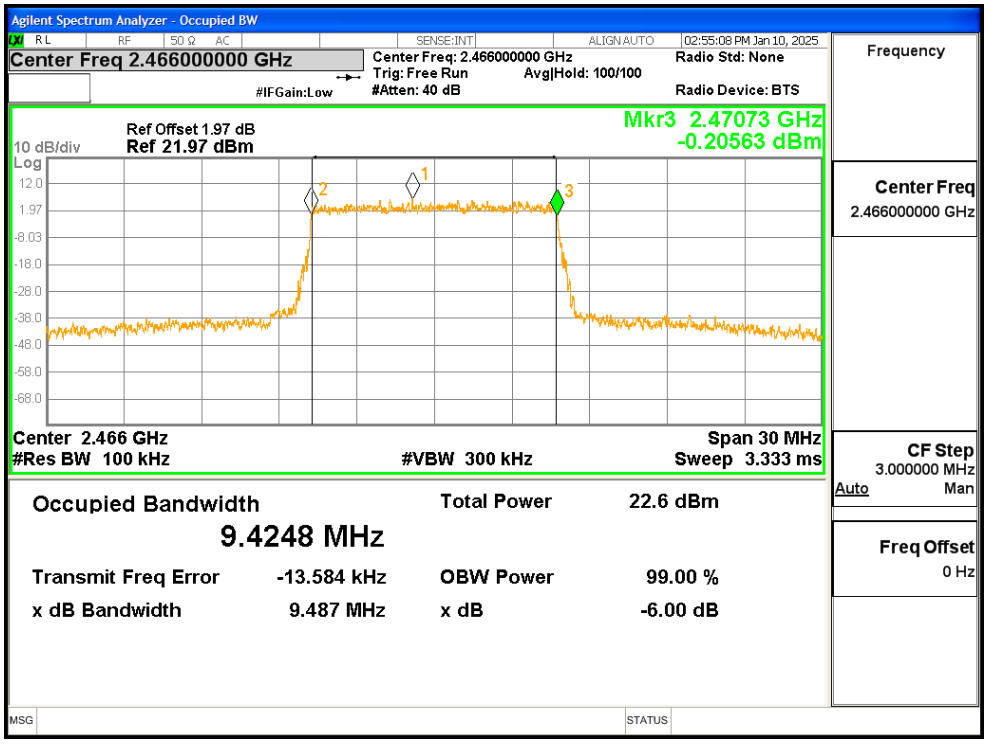
Test Graphs
-6dB Bandwidth NVNT 2411MHz Ant1



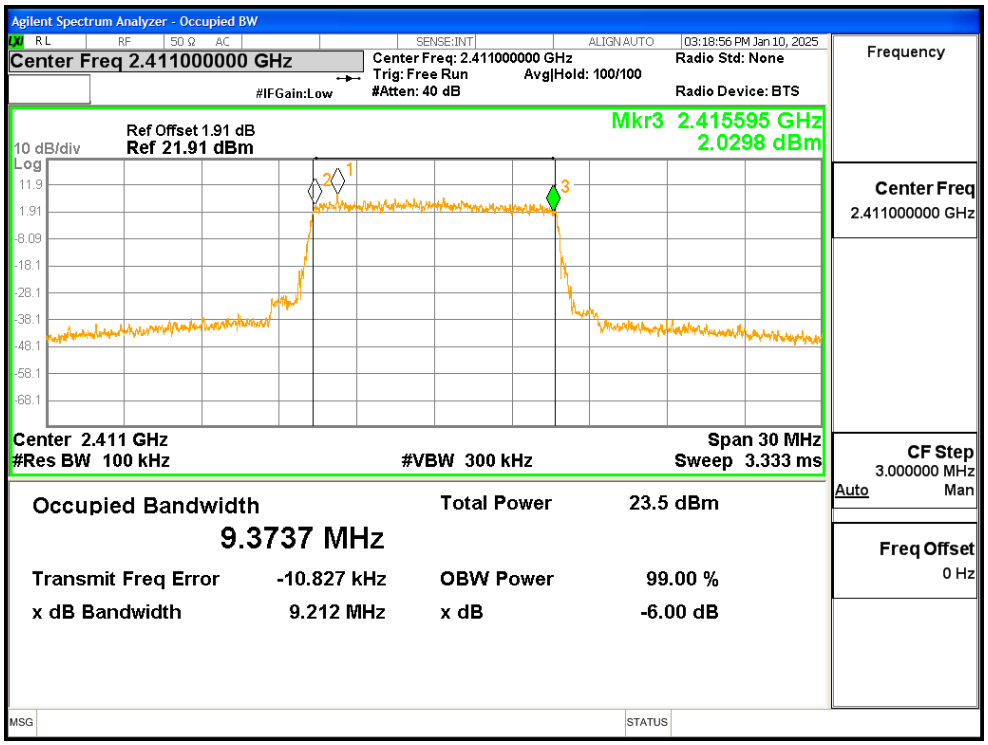
-6dB Bandwidth NVNT 2433MHz Ant1



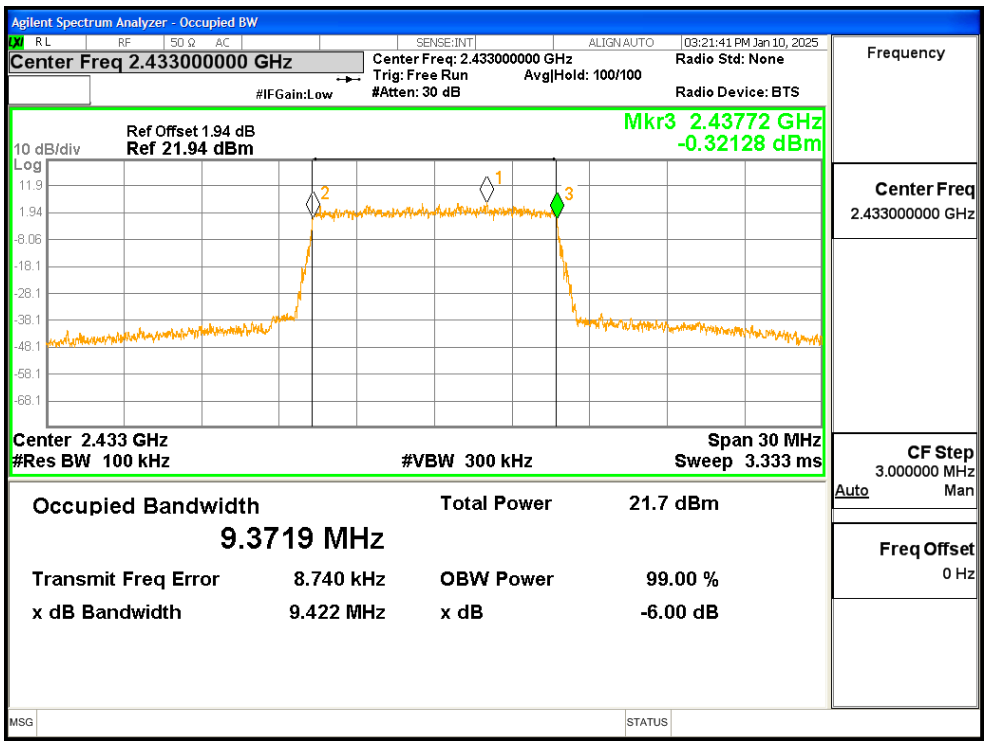
-6dB Bandwidth NVNT 2466MHz Ant1



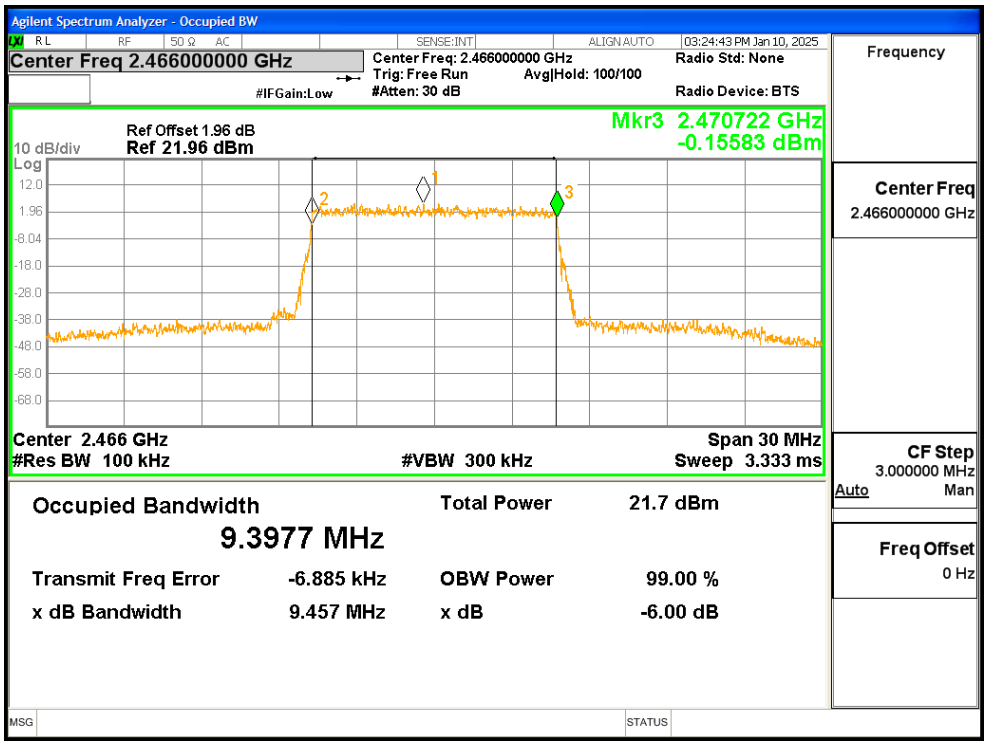
-6dB Bandwidth NVNT 2411MHz Ant2



-6dB Bandwidth NVNT 2433MHz Ant2



-6dB Bandwidth NVNT 2466MHz Ant2

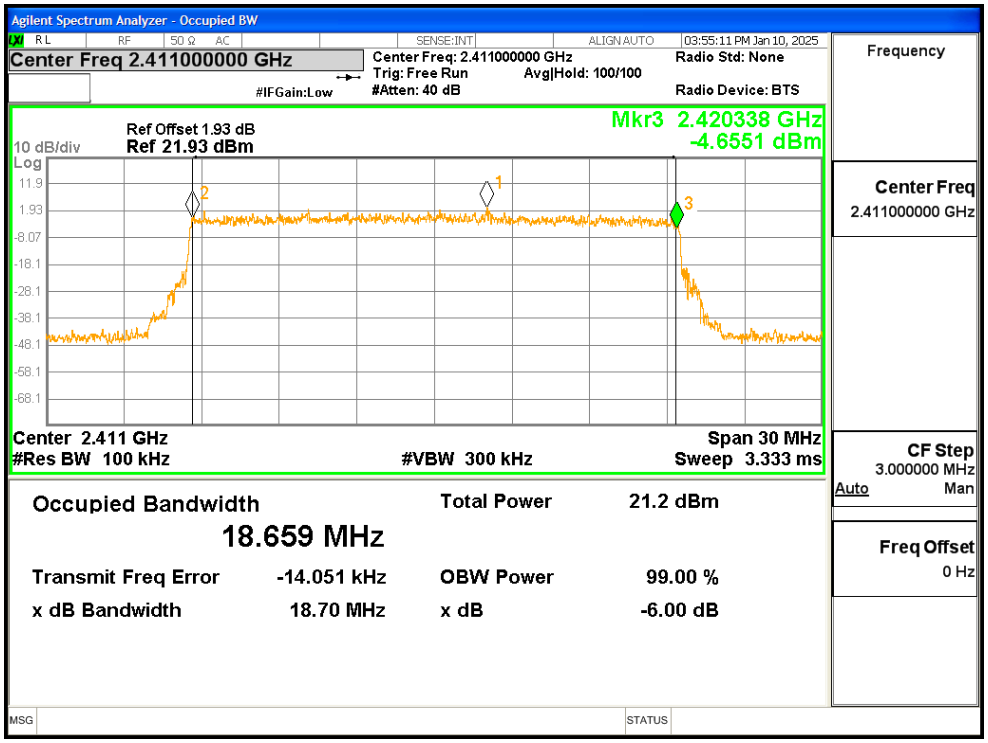


20M Bandwidth

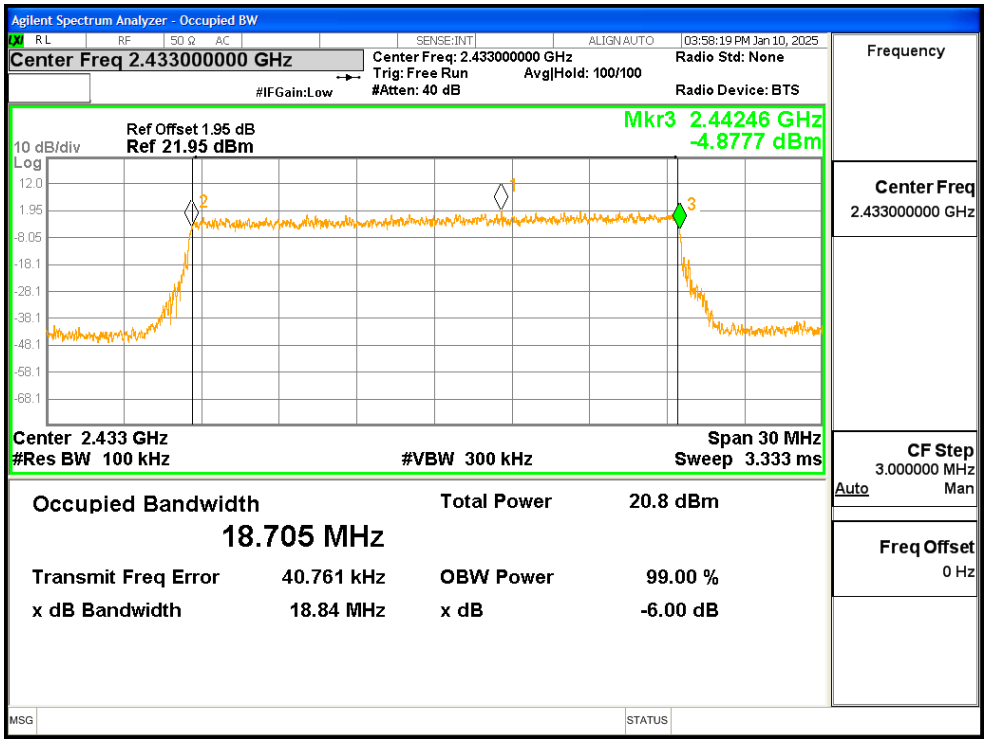
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	-	2411	Ant1	18.70	0.5	Pass
		2433		18.84	0.5	Pass
		2466		18.84	0.5	Pass
		2411	Ant2	18.63	0.5	Pass
		2433		18.78	0.5	Pass
		2466		18.91	0.5	Pass

Test Graphs

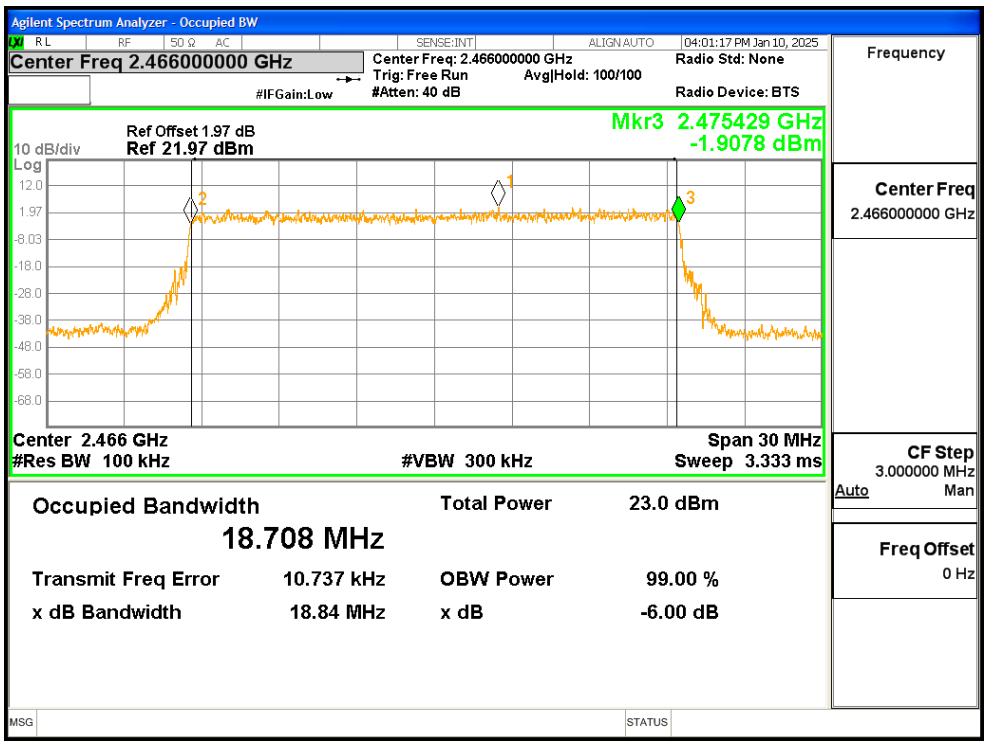
-6dB Bandwidth NVNT 2411MHz Ant1



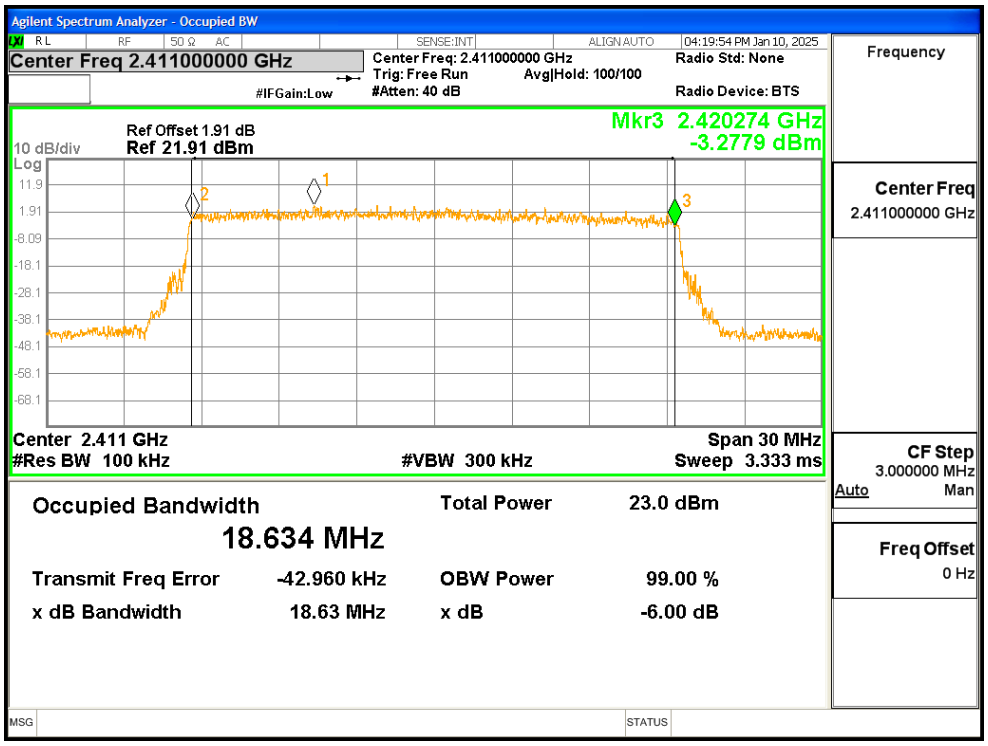
-6dB Bandwidth NVNT 2433MHz Ant1



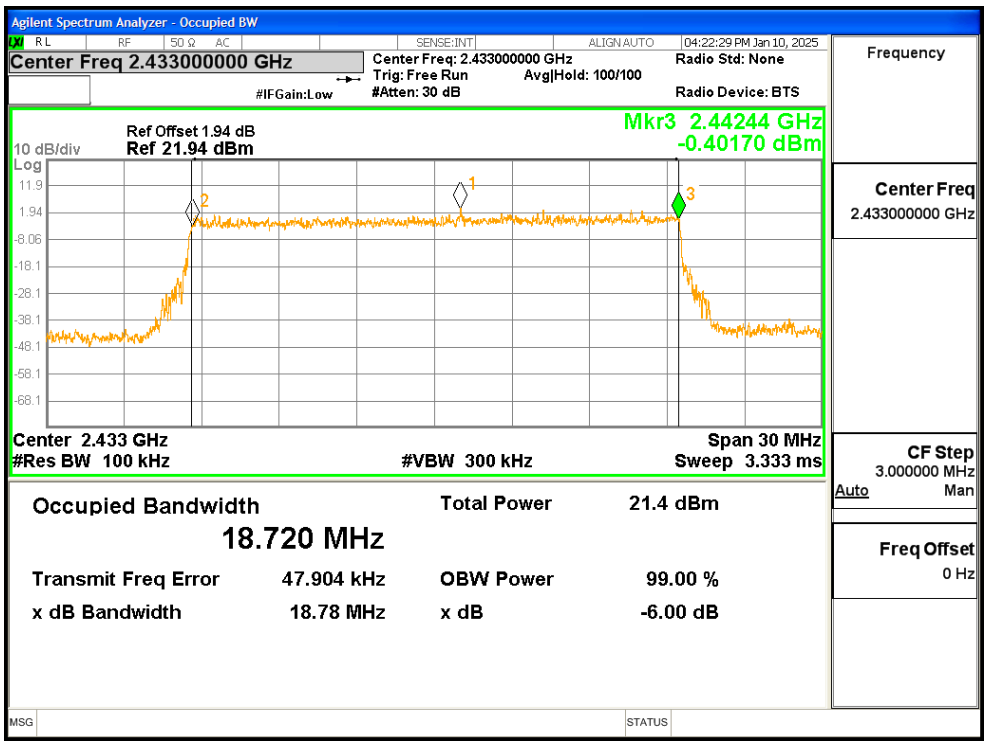
-6dB Bandwidth NVNT 2466MHz Ant1



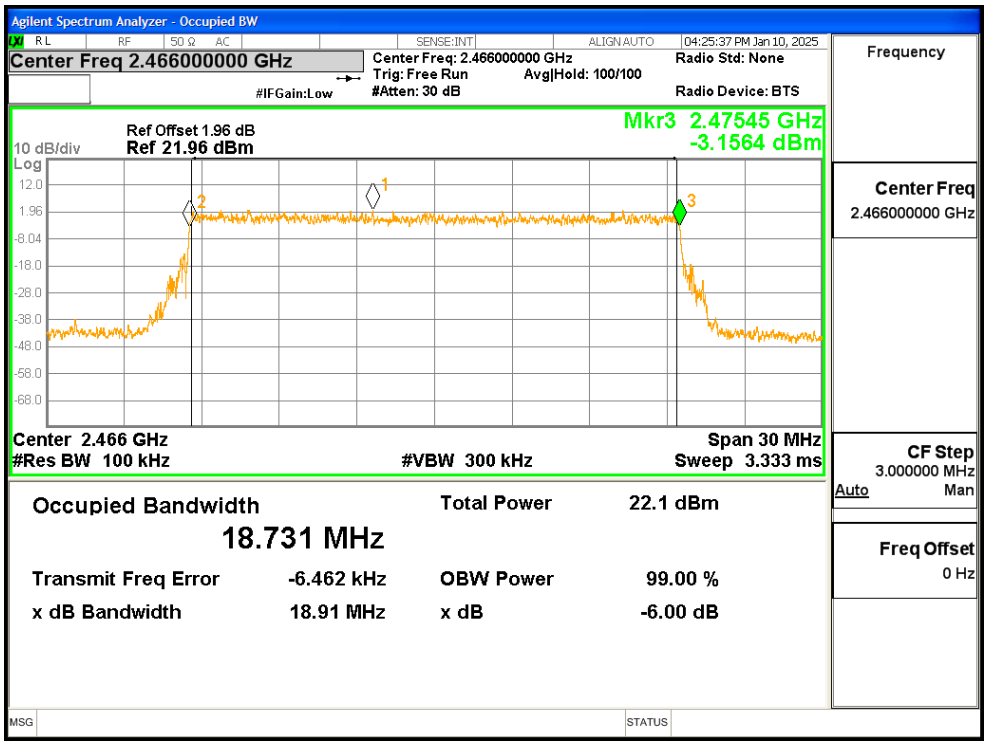
-6dB Bandwidth NVNT 2411MHz Ant2



-6dB Bandwidth NVNT 2433MHz Ant2

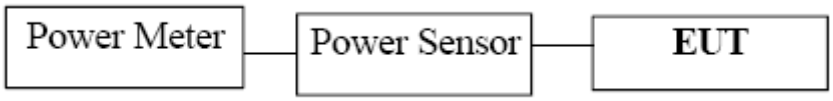


-6dB Bandwidth NVNT 2466MHz Ant2



9. Maximum Output Power

9.1 Test Setup



9.2 Limits of Maximum Output Power

The Maximum Output Power Measurement is 30dBm.

9.3 Test Procedure

The RF power output was measured with a Power meter connected to the RF Antenna connector (conducted measurement) while EUT was operating in transmit mode at the appropriate centre frequency.

Note: The PK power was measured

9.4Test Results

10M Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	-	2411	Ant1	8.91	5.24	14.15	30	Pass
		2433		7.81	5.31	13.12	30	Pass
		2466		9.93	5.26	15.19	30	Pass
		2411	Ant2	10.28	5.24	15.52	30	Pass
		2433		9.42	5.26	14.68	30	Pass
		2466		9.57	5.24	14.81	30	Pass

20M Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	-	2411	Ant1	8.43	5.24	13.67	30	Pass
		2433		7.7	5.3	13	30	Pass
		2466		9.9	5.31	15.21	30	Pass
		2411	Ant2	10.05	5.24	15.29	30	Pass
		2433		8.74	5.3	14.04	30	Pass
		2466		9.43	5.24	14.67	30	Pass

Note: 1. The result basic equation calculation as follow:

Power Output = Power Reading + Cable loss + Attenuator

2. The worse case was recorded

EUT	Remote Control		Model		Agri-Pro H20		
Mode	10M Bandwidth		Test Voltage		DC3.7V		
Temperature	24 deg. C,		Humidity		56% RH		
Frequency (MHz)	Ant 1 Power		Ant 2 Power		Total Max. Power Output -MIMO (dBm)	Power Limit (dBm)	Pass/ Fail
	dBm	mW	dBm	mW			
2411	14.15	26.00	15.52	35.65	17.90	29.09	Pass
2433	13.12	20.51	14.68	29.38	16.98	29.09	Pass
2466	15.19	33.04	14.81	30.27	18.01	29.09	Pass

EUT	Remote Control		Model		Agri-Pro H20		
Mode	20M Bandwidth		Test Voltage		DC3.7V		
Temperature	24 deg. C,		Humidity		56% RH		
Frequency (MHz)	Ant 1 Power		Ant 2 Power		Total Max. Power Output-MIMO (dBm)	Power Limit (dBm)	Pass/ Fail
	dBm	mW	dBm	mW			
2411	13.67	23.28	15.29	33.81	17.57	29.09	Pass
2433	13.00	19.95	14.04	25.35	16.56	29.09	Pass
2466	15.21	33.19	14.67	29.31	17.96	29.09	Pass

Note:1. The result basic equation calculation as follow:

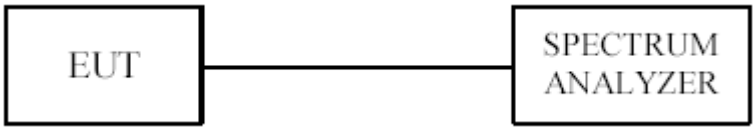
Power Output = Power Reading + Cable loss + Attenuator

2. The worse case was recorded

3. Under MIMO mode, the assembly antenna gain=3.90+10log2=6.91; So, the power limit=30-(6.91-6) =29.09dBm

10. Power Spectral Density Measurement

10.1 Test Setup



10.2 Limits of Power Spectral Density Measurement

The Maximum Power Spectral Density Measurement is 8dBm/3kHz.

10.3 Test Procedure

1. Use this procedure when the maximum peak conducted output power in the fundamental emission is used to demonstrate compliance.
2. Set the RBW = 3 kHz
3. Set the VBW ≥ 10 kHz
4. Set the span to 1.5 times the DTS channel bandwidth.
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.
11. The resulting peak PSD level must be ≤ 8 dBm/3kHz.

10.4Test Result

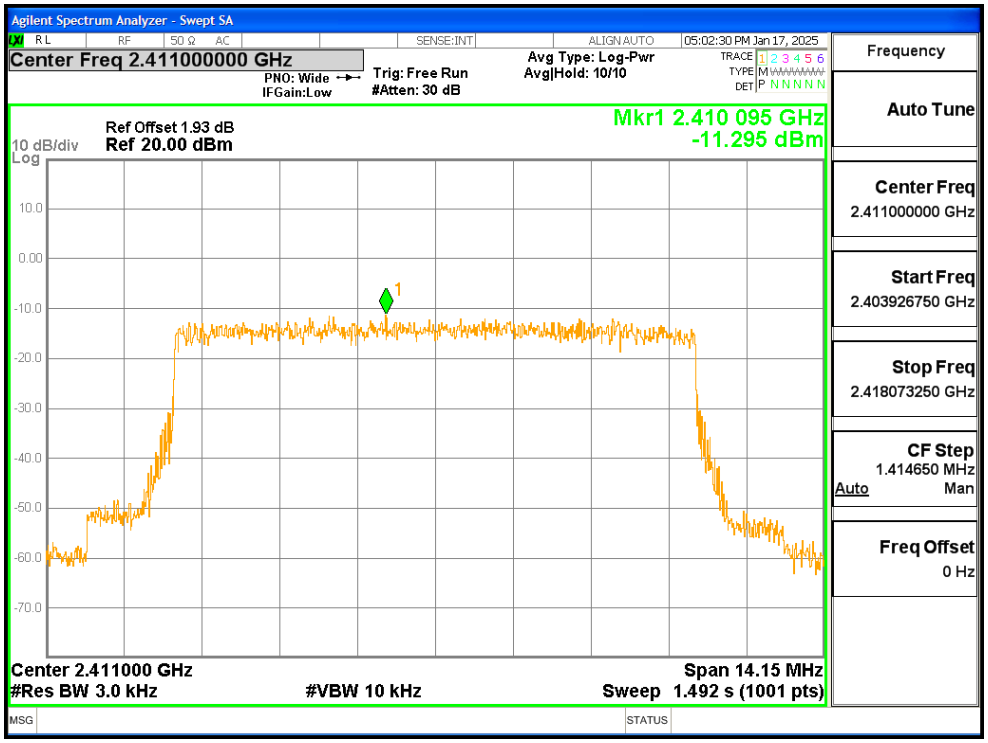
10M Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Duty Factor (dB)	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	-	2411	Ant1	-11.3	5.24	-6.06	8	Pass
		2433		-13.27	5.31	-7.96	8	Pass
		2466		-10.9	5.26	-5.64	8	Pass
		2411	Ant2	-7.8	5.24	-6.06	8	Pass
		2433		-9.34	5.26	-7.96	8	Pass
		2466		-9.29	5.24	-5.64	8	Pass

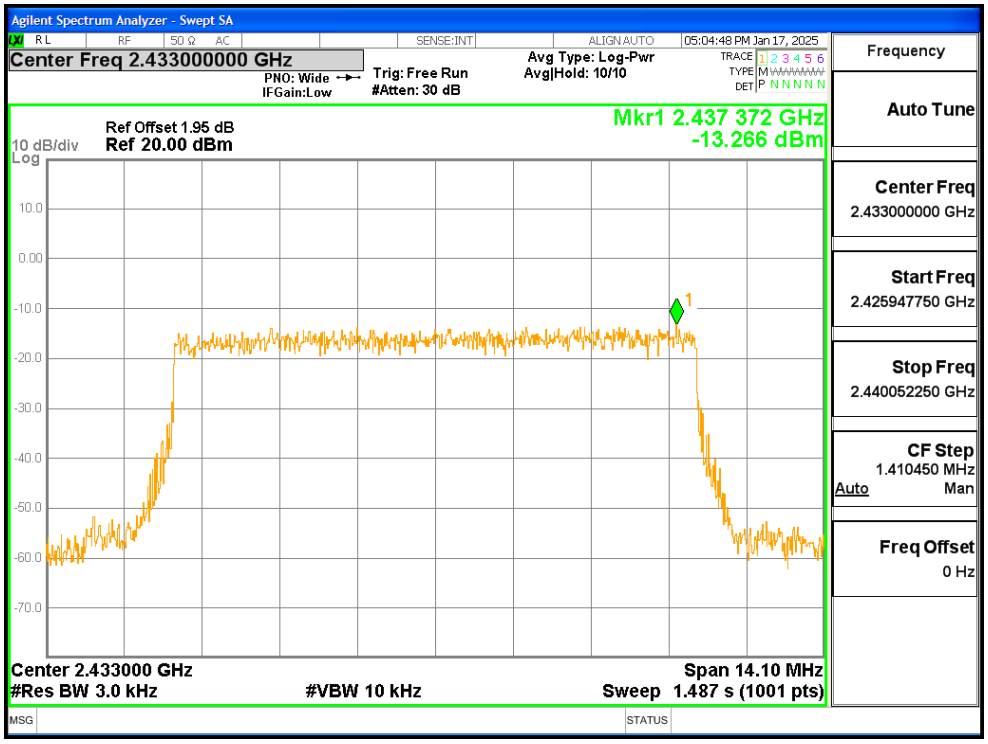
EUT	Remote Control	Model	Agri-Pro H20
Mode	10M Bandwidth	Test Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH

Frequency (MHz)	Ant 1 PSD	Ant 2 PSD	Total Max. Power PSD -MIMO (dBm/3kHz)	PSD Limit (dBm/3kHz)	Pass/ Fail
	dBm/3kHz	dBm/3kHz			
2411	-6.06	-6.06	-3.05	30	Pass
2433	-7.96	-7.96	-4.95	30	Pass
2466	-5.64	-5.64	-2.63	30	Pass

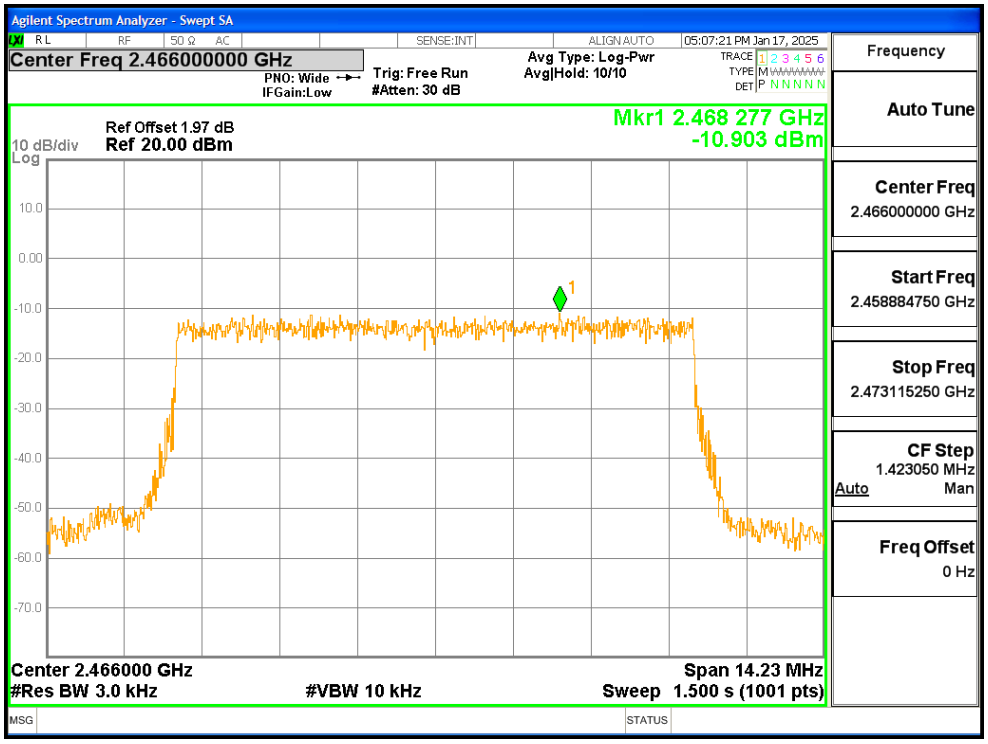
Test Graphs
PSD NVNT 2411MHz Ant1



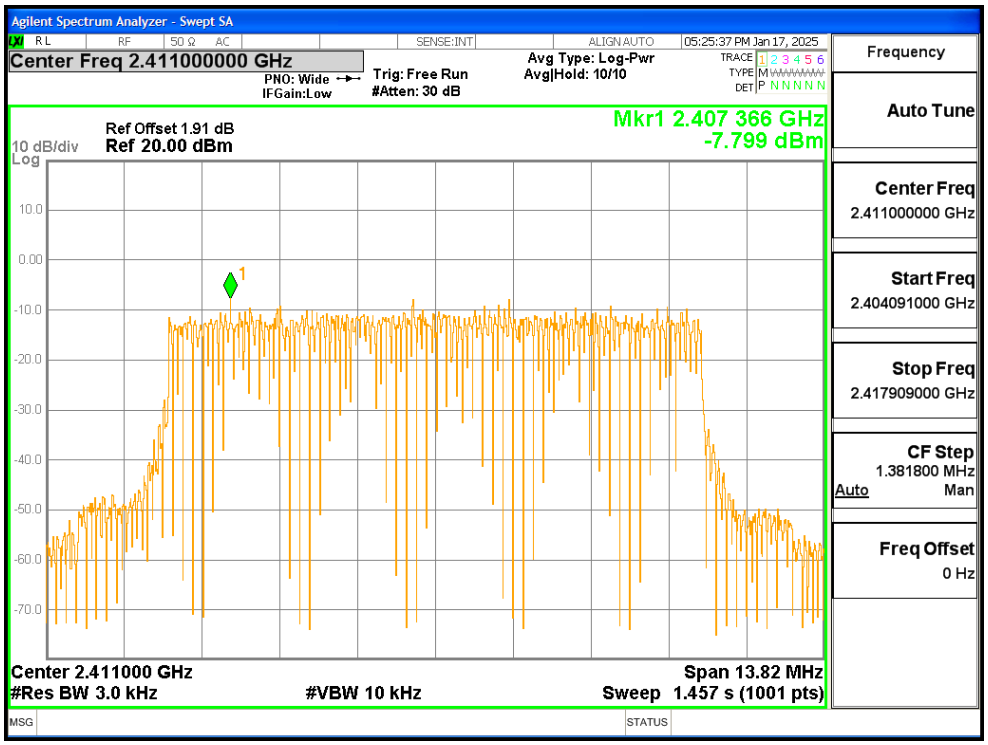
PSD NVNT 2433MHz Ant1



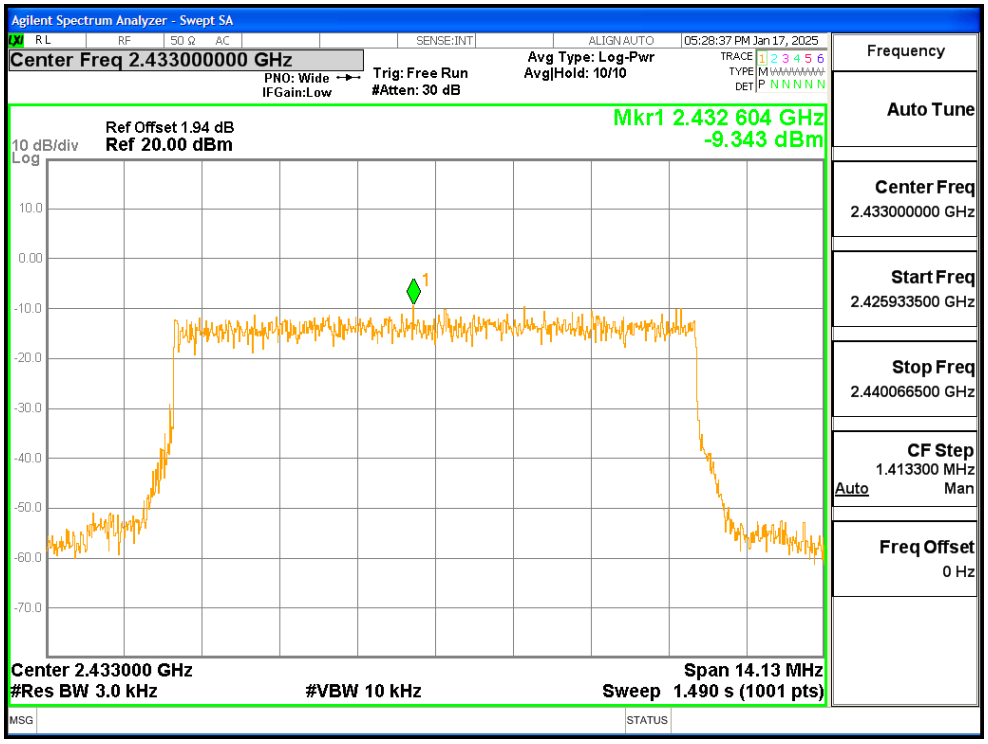
PSD NVNT 2466MHz Ant1



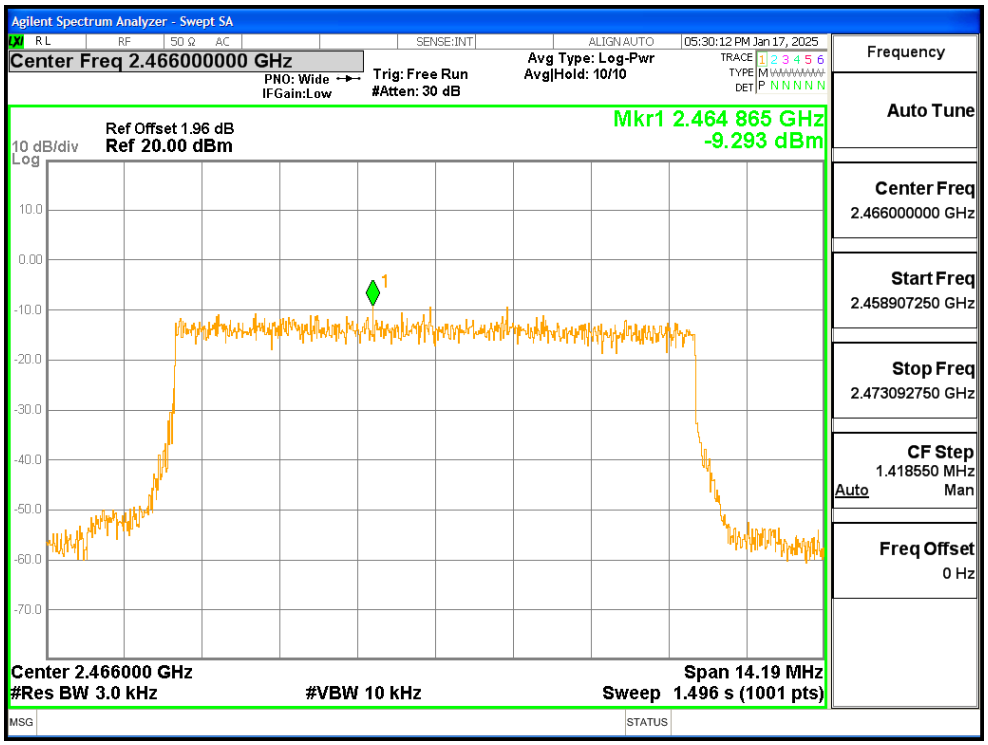
PSD NVNT 2411MHz Ant2



PSD NVNT 2433MHz Ant2



PSD NVNT 2466MHz Ant2



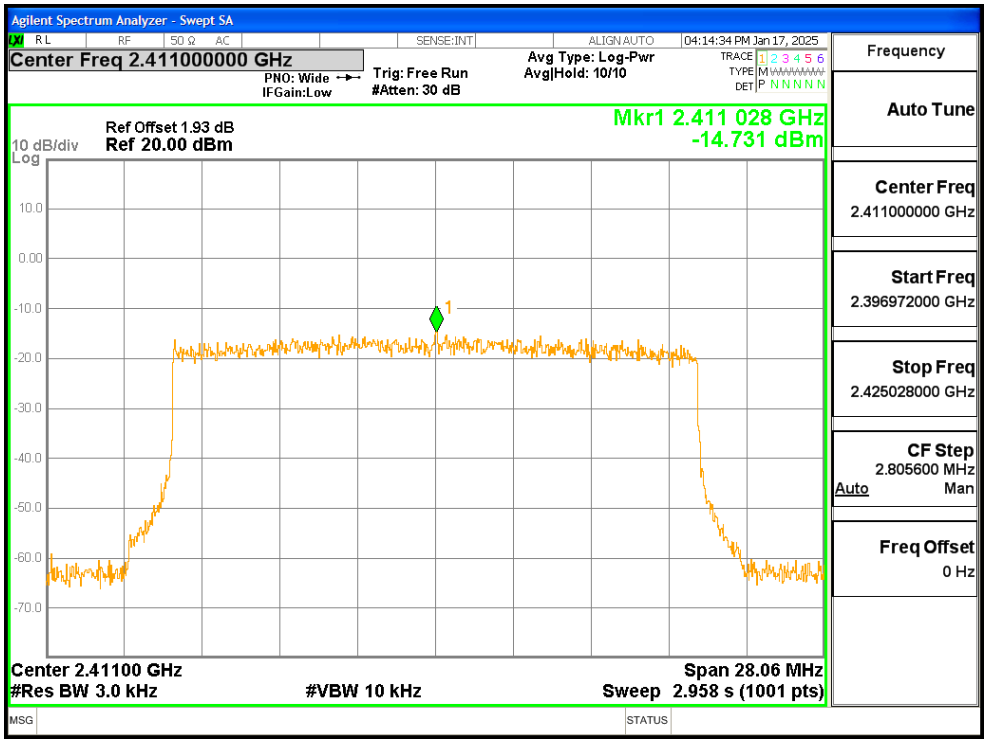
20M Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Duty Factor (dB)	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	-	2411	Ant1	-14.73	5.24	-9.49	8	Pass
		2433		-14.97	5.3	-9.67	8	Pass
		2466		-13.49	5.31	-8.18	8	Pass
		2411	Ant2	-11.24	5.24	-6	8	Pass
		2433		-12.61	5.3	-7.31	8	Pass
		2466		-12.64	5.24	-7.4	8	Pass

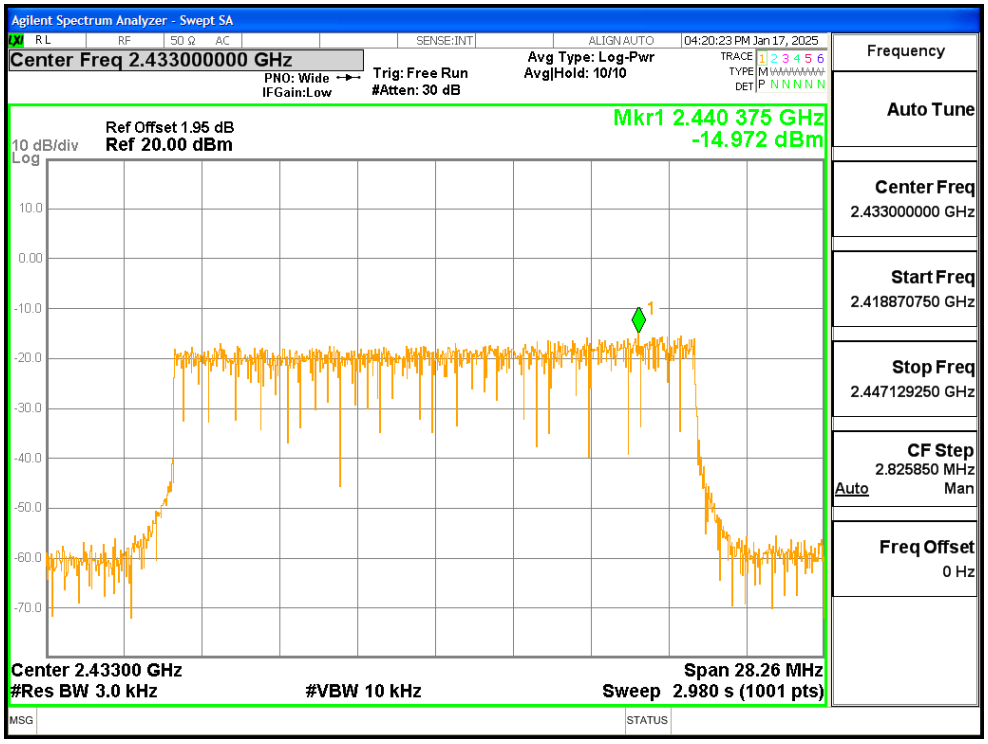
EUT	Remote Control	Model	Agri-Pro H20
Mode	10M Bandwidth	Test Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH

Frequency (MHz)	Ant 1 PSD	Ant 2 PSD	Total Max. Power PSD -MIMO (dBm/3kHz)	PSD Limit (dBm/3kHz)	Pass/ Fail
	dBm/3kHz	dBm/3kHz			
2411	-9.49	-6	-4.39	30	Pass
2433	-9.67	-7.31	-5.32	30	Pass
2466	-8.18	-7.4	-4.76	30	Pass

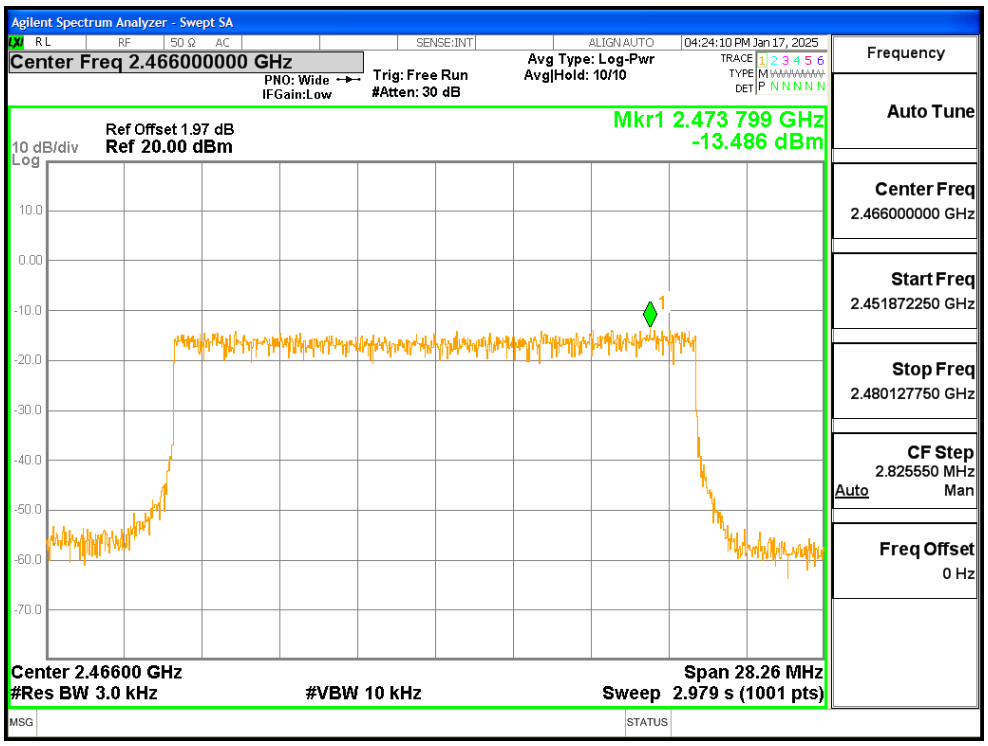
Test Graphs
PSD NVNT 2411MHz Ant1



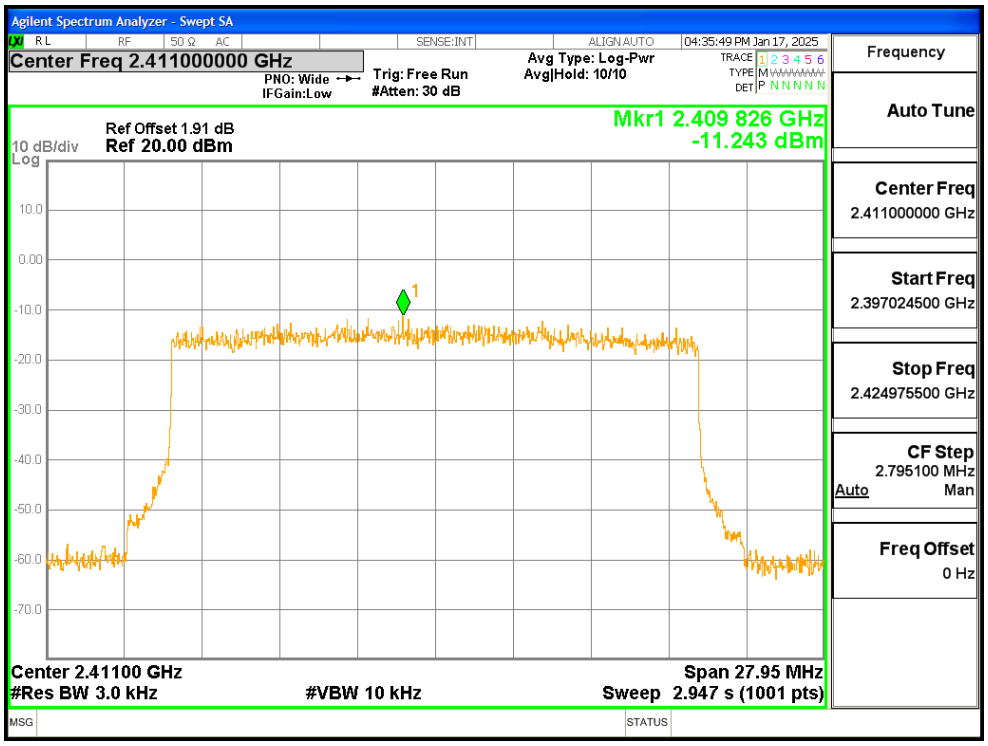
PSD NVNT 2433MHz Ant1



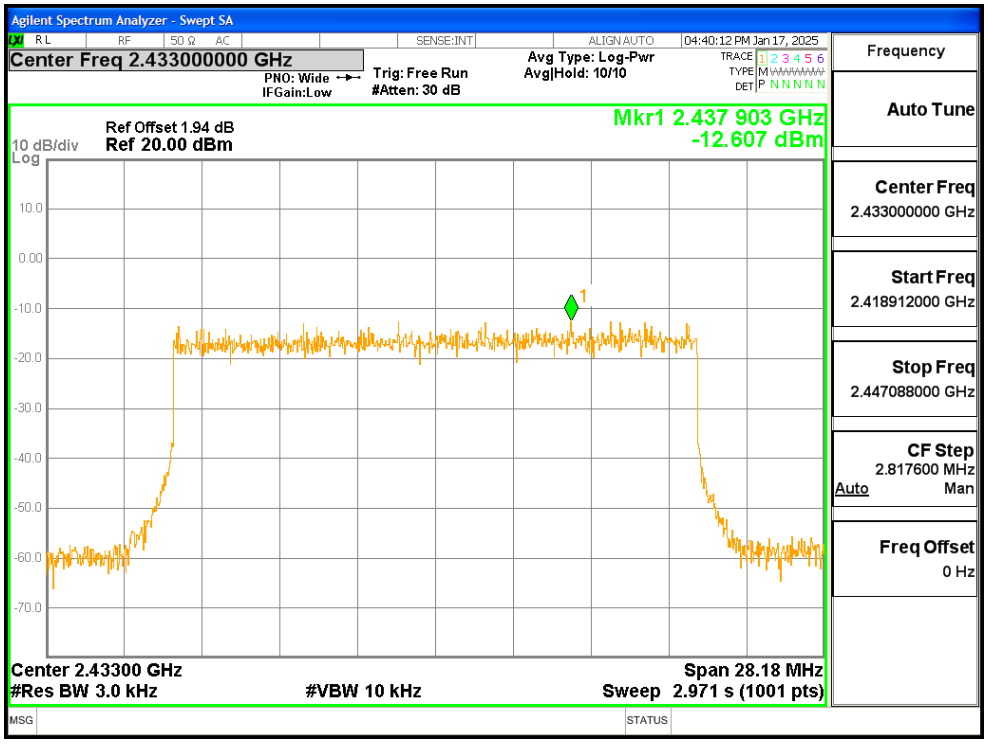
PSD NVNT 2466MHz Ant1



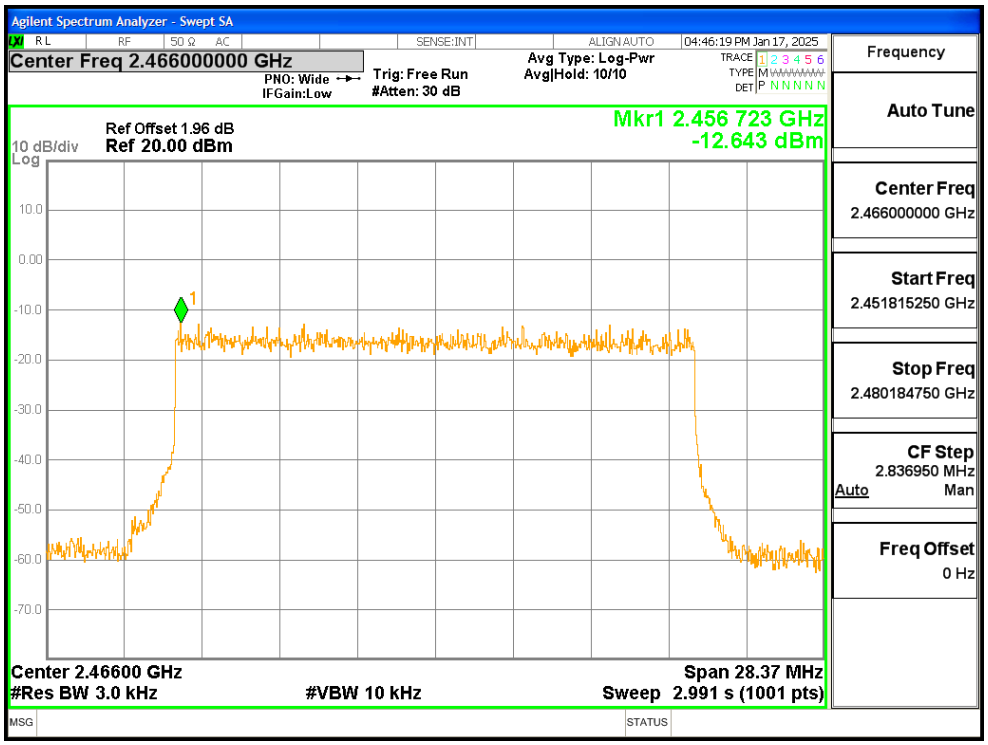
PSD NVNT 2411MHz Ant2



PSD NVNT 2433MHz Ant2

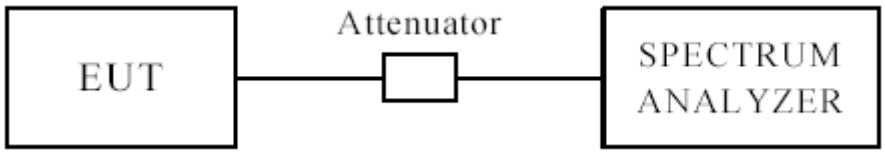


PSD NVNT 2466MHz Ant2



11 Out of Band Measurement

11.1 Test Setup for band edge



The restricted band requirement based on radiated emission test; please see the clause 6 for the test setup

11.2 Limits of Out of Band Emissions Measurement

1. Below –20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).
2. Fall in the restricted bands listed in section 15.205. The maximum permitted average field strength is listed in section 15.209.

11.3 Test Procedure

For signals in the restricted bands above and below the 2.4-2.483GHz allocated band a measurement was made of radiated emission test. (Peak values with RBW=VBW=1MHz and PK detector. AV value with RBW=1MHz, VBW=10Hz and PK detector)

For bandage test, the spectrum set as follows: RBW=100, VBW=300 kHz. A conducted measurement used

11.4 Test Result

Please see next pages

Note: 1. For band-edge measurement, the frequency from 30MHz-25GHz was tested. And It met the FCC rule.
2.Ant 1 and Ant 2 transmitting Simultaneously

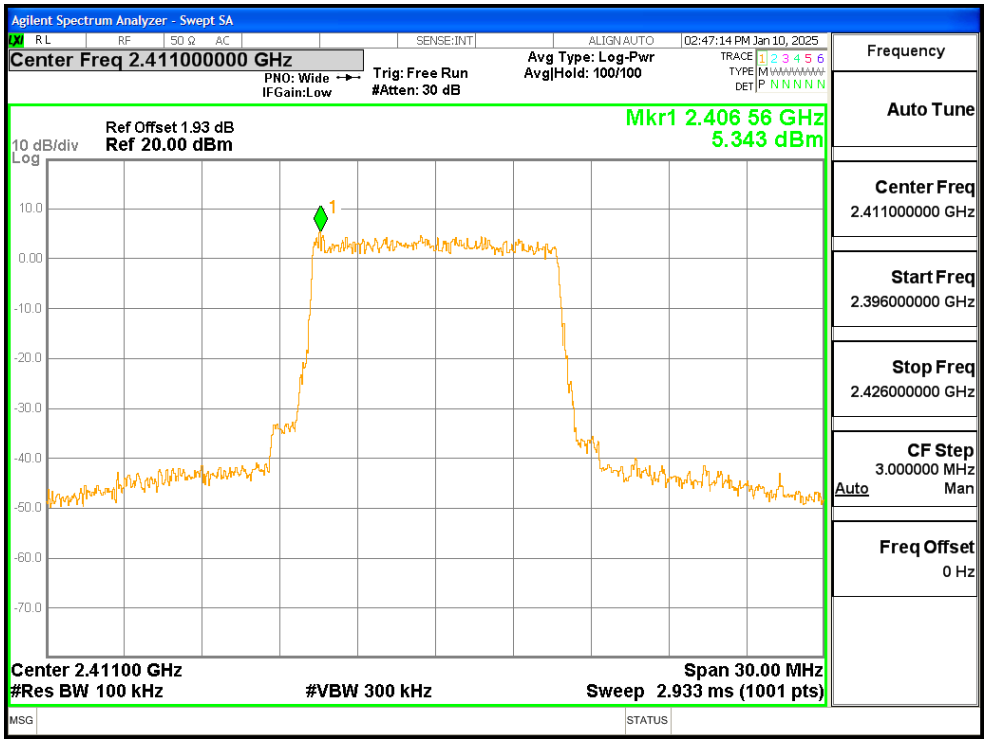
Band Edge

10M Bandwidth

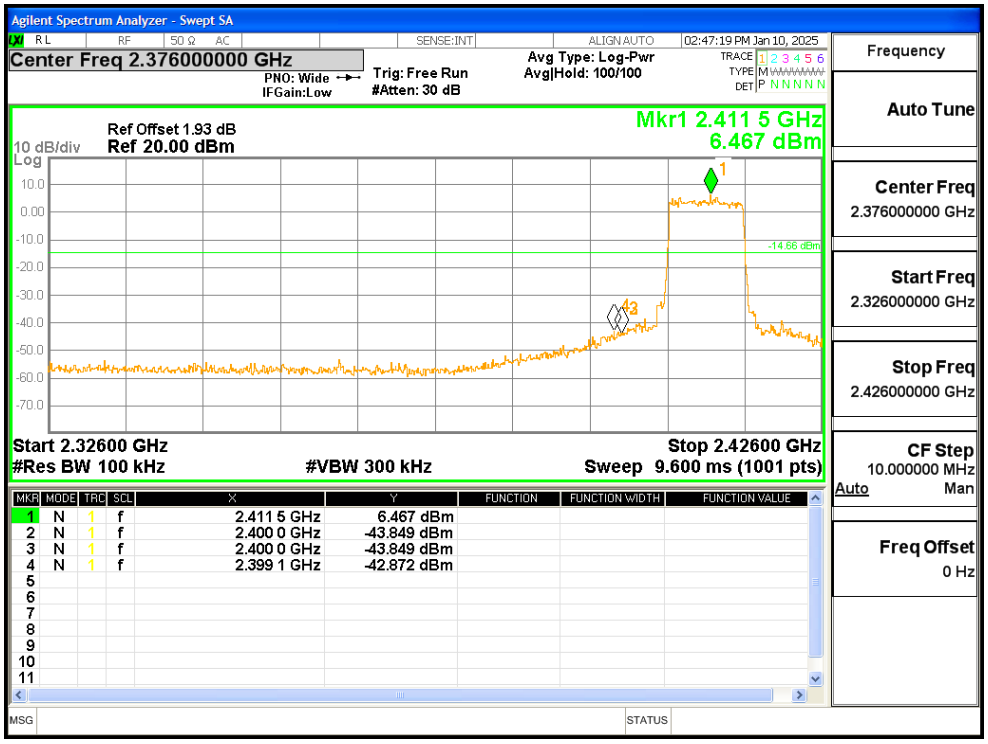
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	-	2411	Ant1	-48.21	-20	Pass
		2466		-49.21	-20	Pass
		2411	Ant2	-47.47	-20	Pass
		2466		-52.76	-20	Pass

Test Graphs

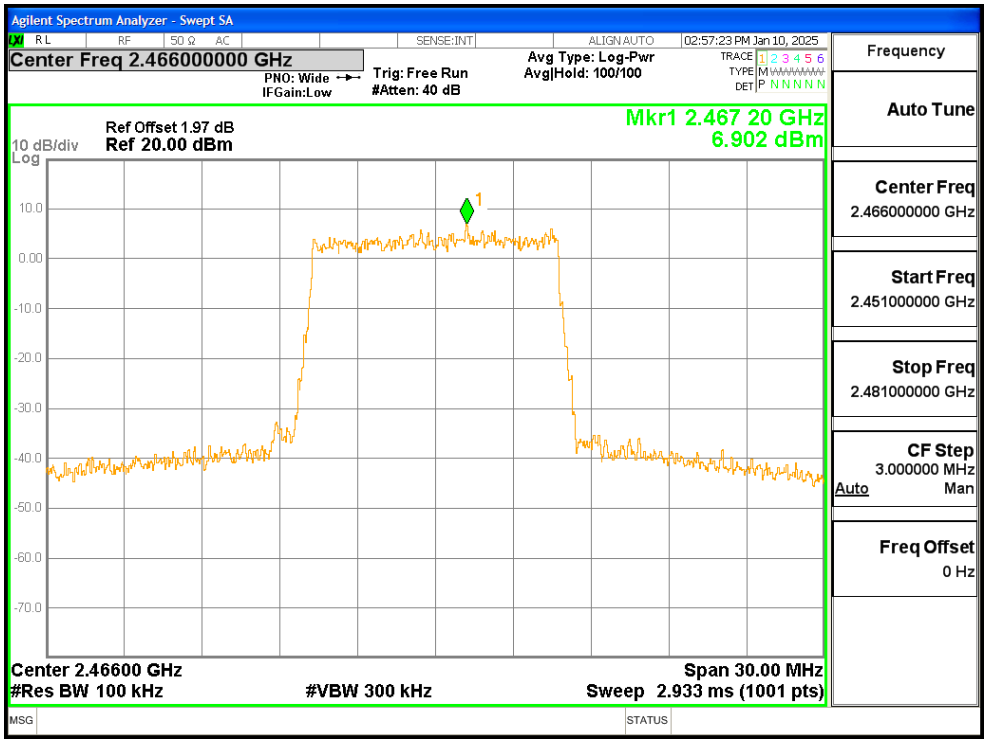
Band Edge NVNT 2411MHz Ant1 Ref



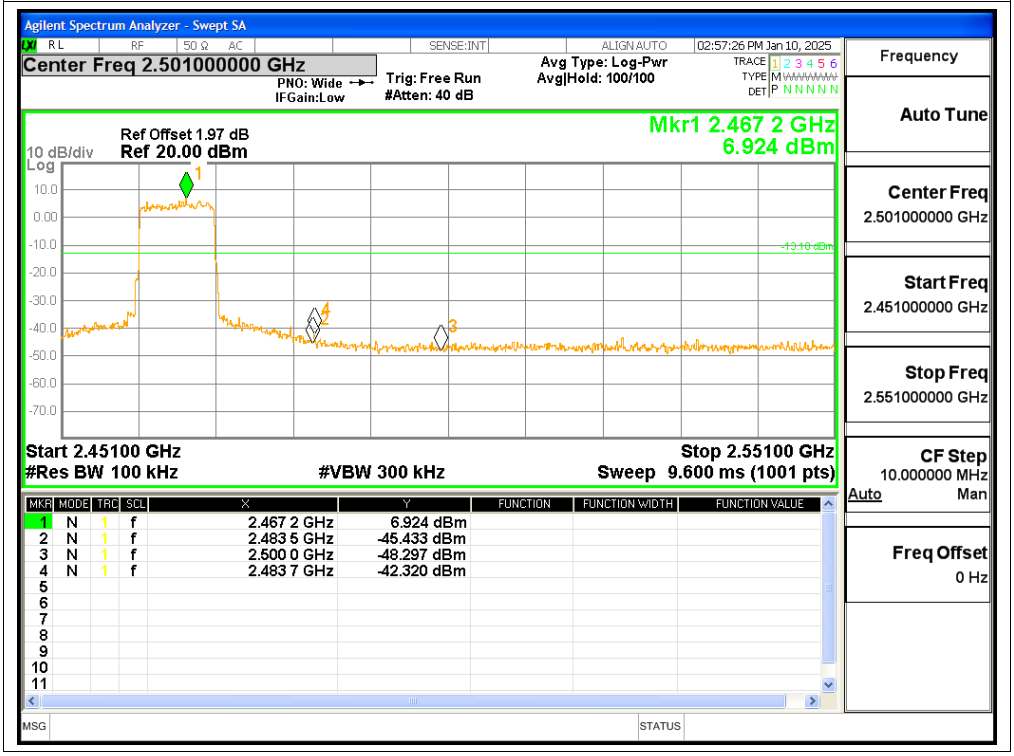
Band Edge NVNT 2411MHz Ant1 Emission



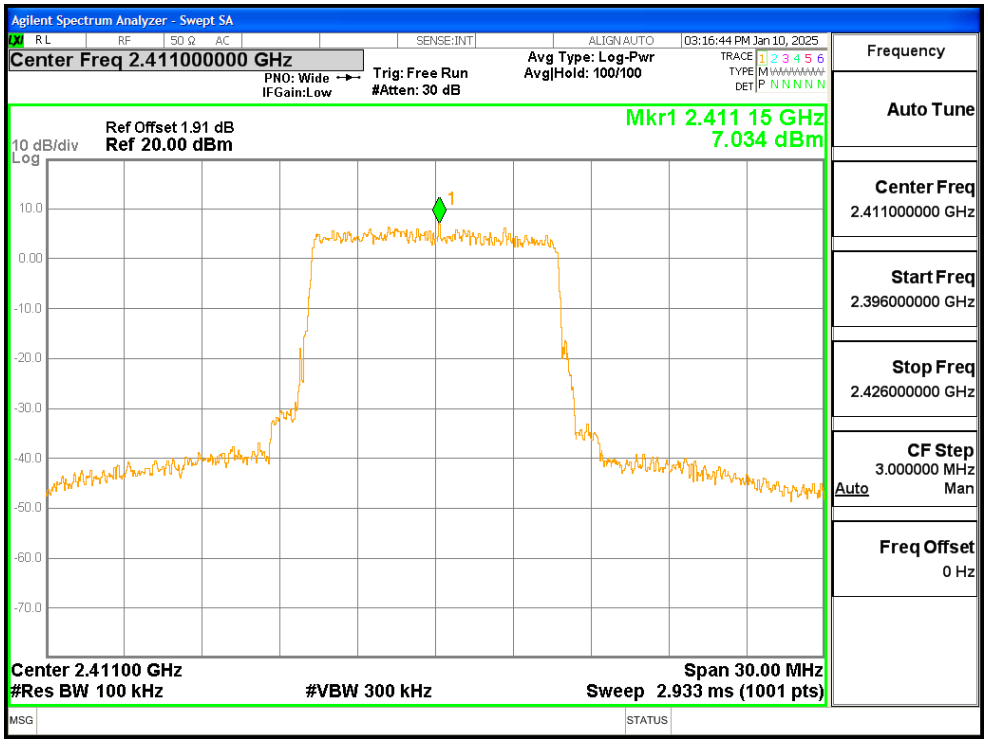
Band Edge NVNT 2466MHz Ant1 Ref



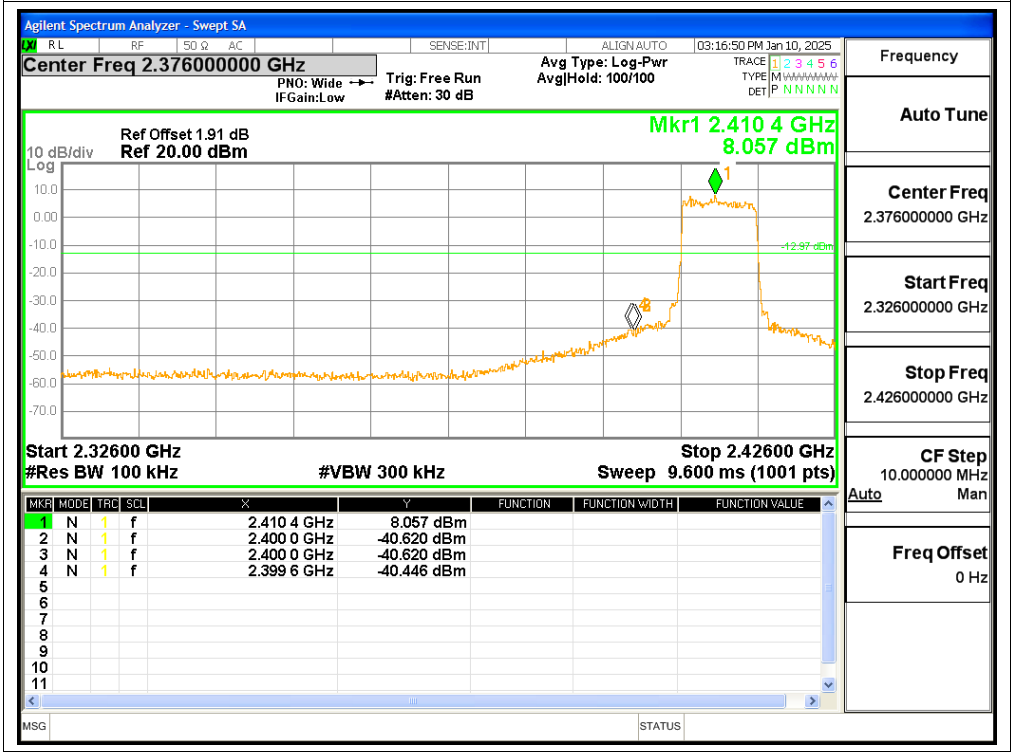
Band Edge NVNT 2466MHz Ant1 Emission



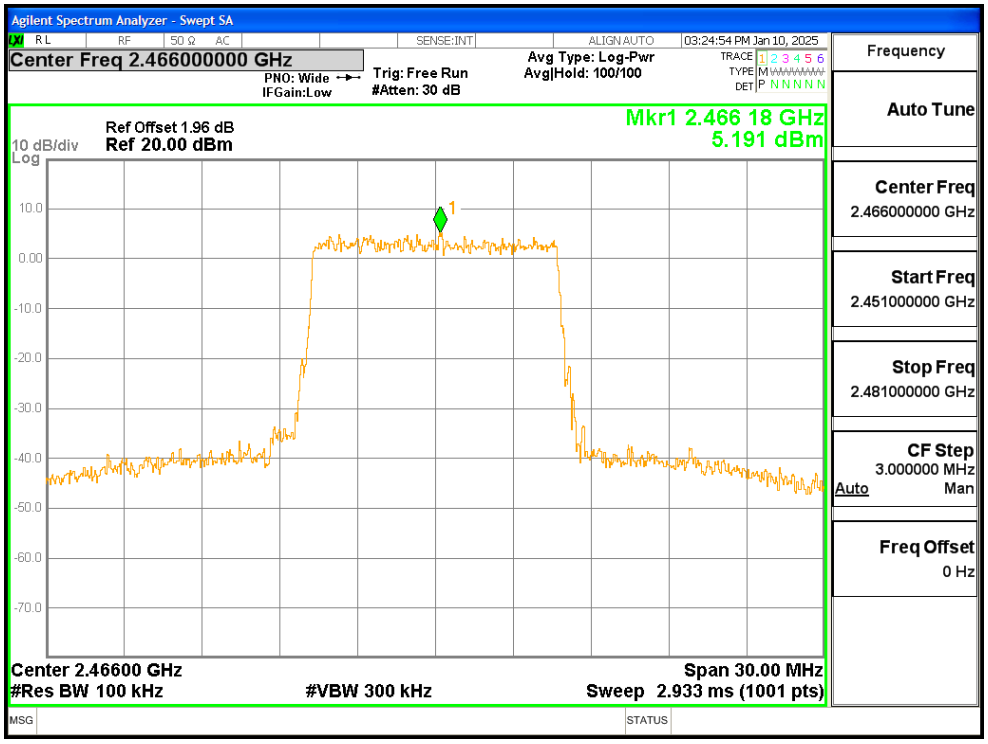
Band Edge NVNT 2411MHz Ant2 Ref



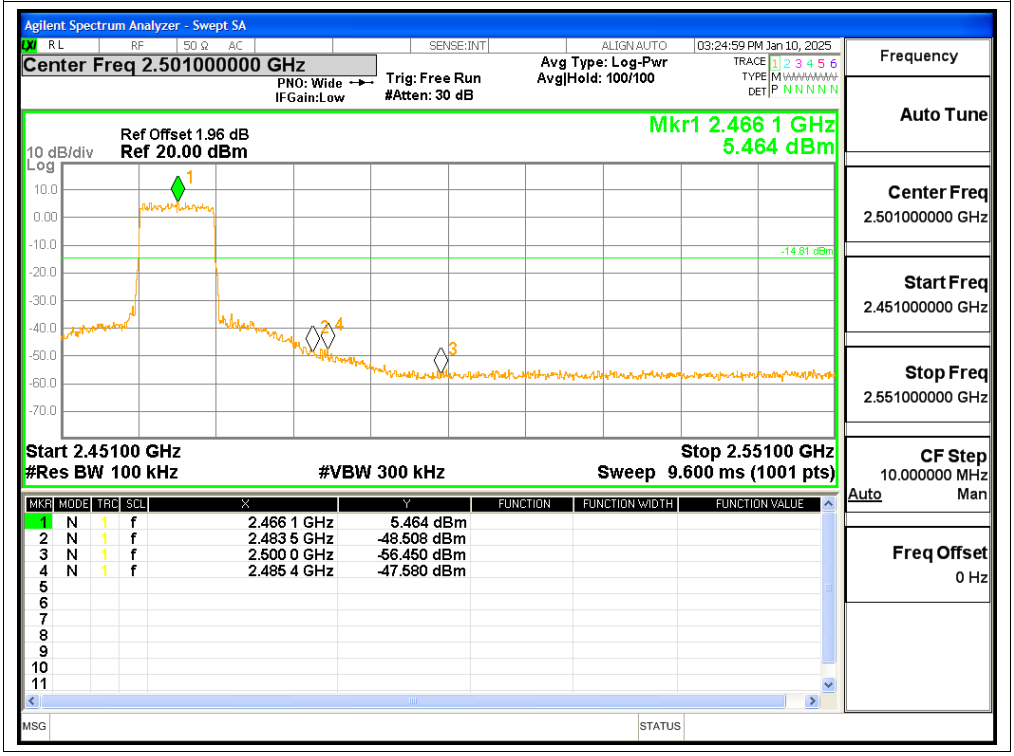
Band Edge NVNT 2411MHz Ant2 Emission



Band Edge NVNT 2466MHz Ant2 Ref



Band Edge NVNT 2466MHz Ant2 Emission

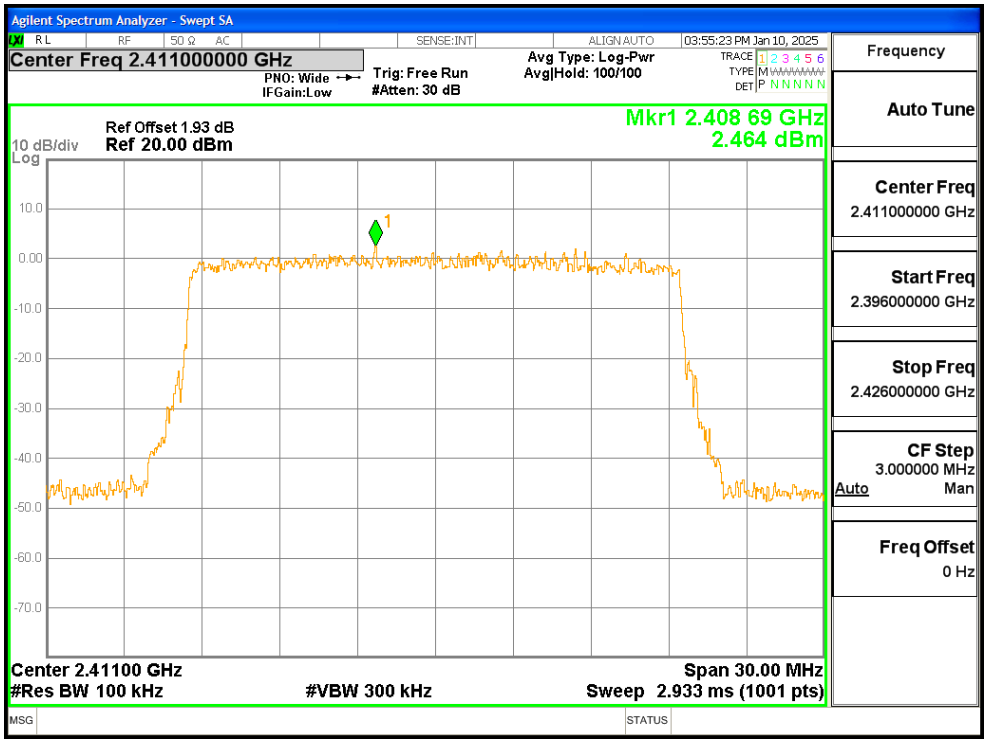


20M Bandwidth

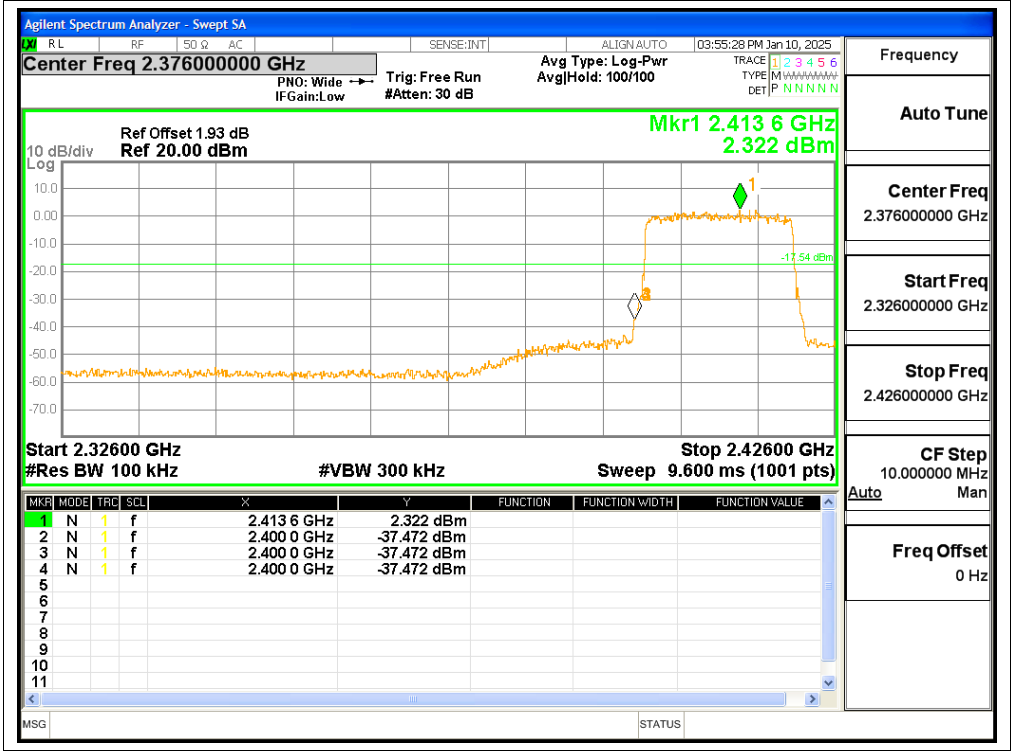
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	--	2411	Ant1	-39.93	-20	Pass
		2466		-45.72	-20	Pass
		2411	Ant2	-41.4	-20	Pass
		2466		-48.6	-20	Pass

Test Graphs

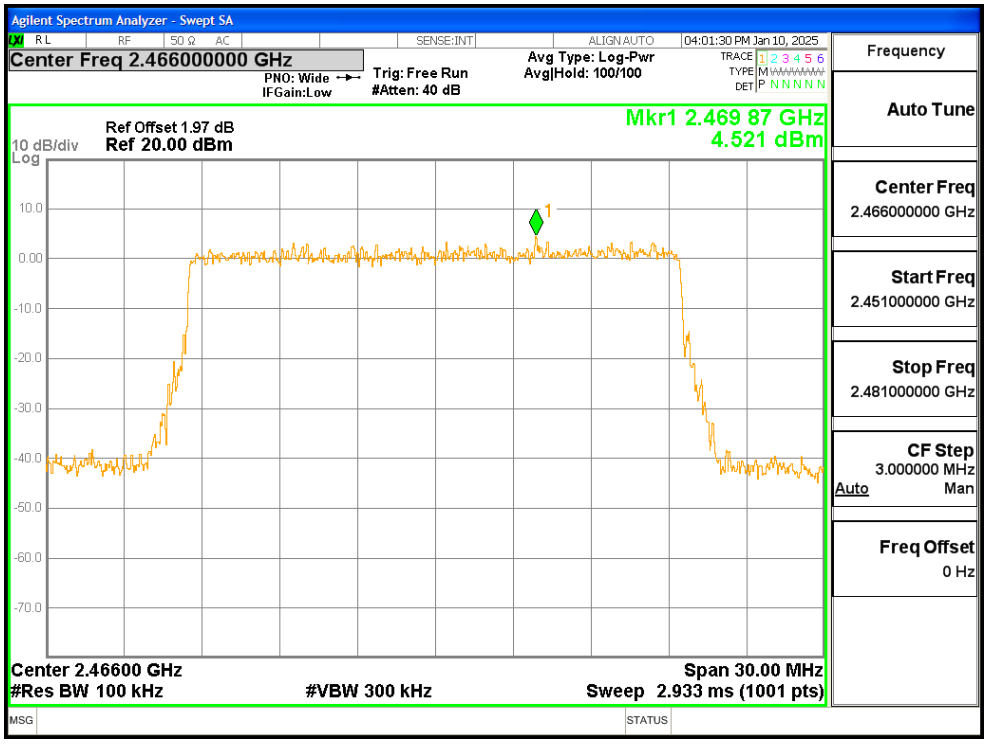
Band Edge NVNT 2411MHz Ant1 Ref



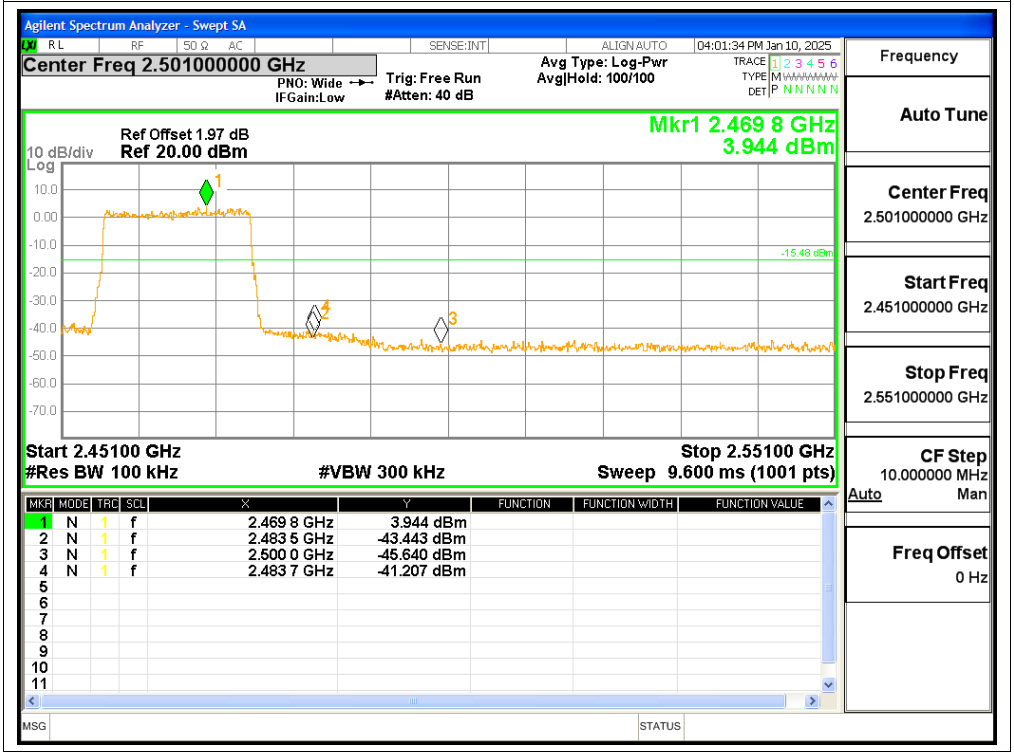
Band Edge NVNT 2411MHz Ant1 Emission



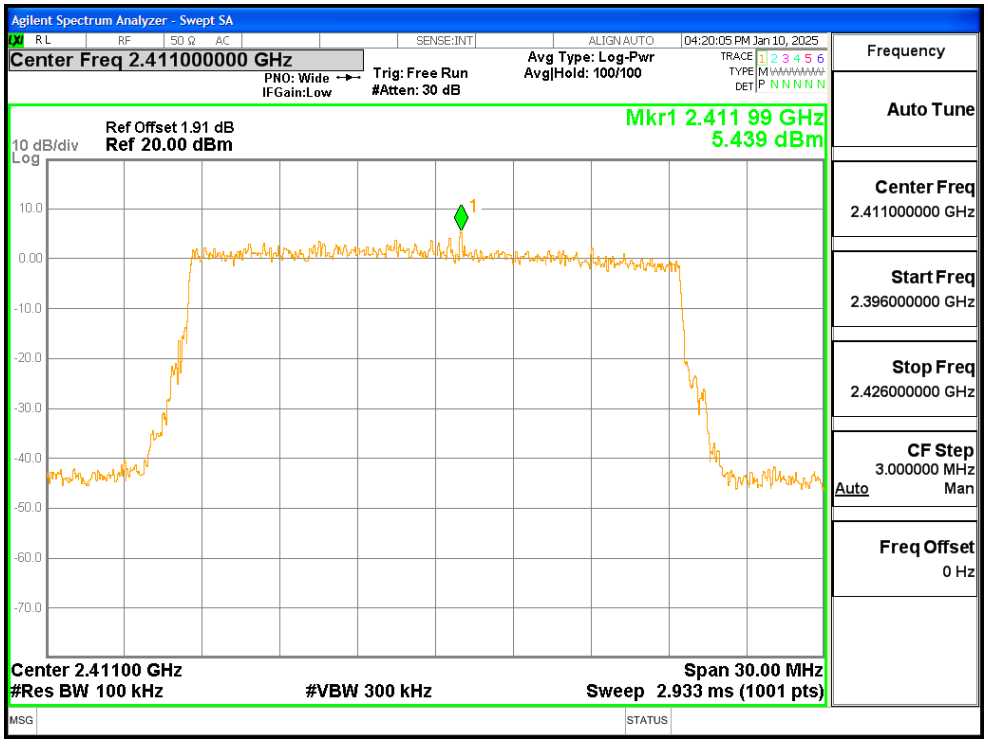
Band Edge NVNT 2466MHz Ant1 Ref



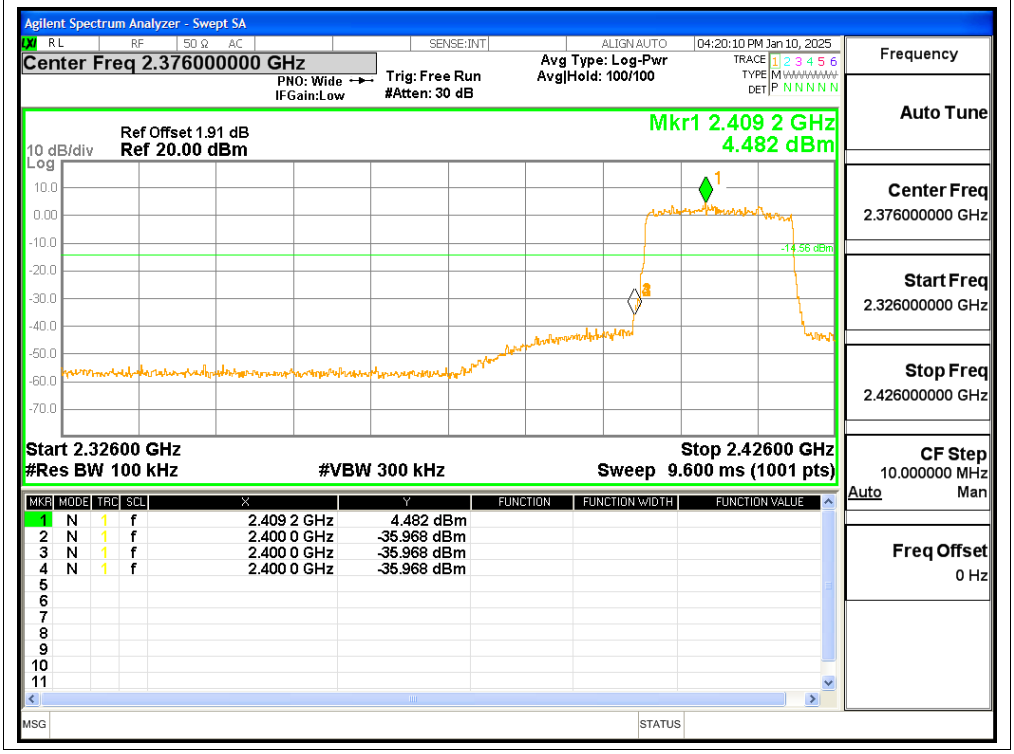
Band Edge NVNT 2466MHz Ant1 Emission



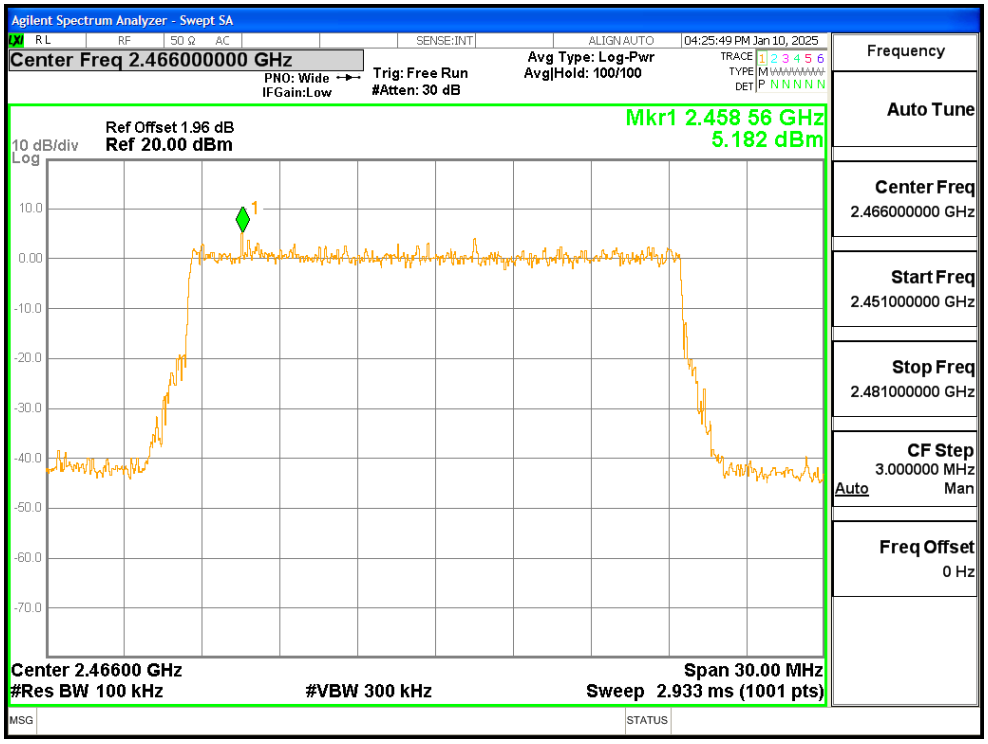
Band Edge NVNT 2411MHz Ant2 Ref



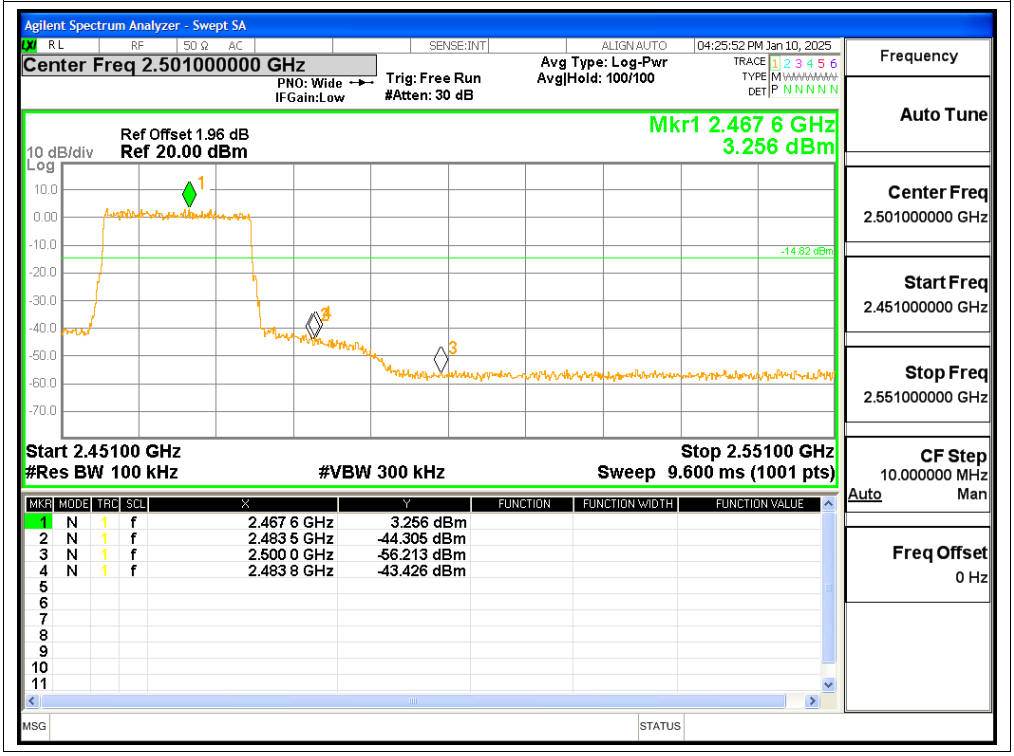
Band Edge NVNT 2411MHz Ant2 Emission



Band Edge NVNT 2466MHz Ant2 Ref



Band Edge NVNT b 2466MHz Ant2 Emission

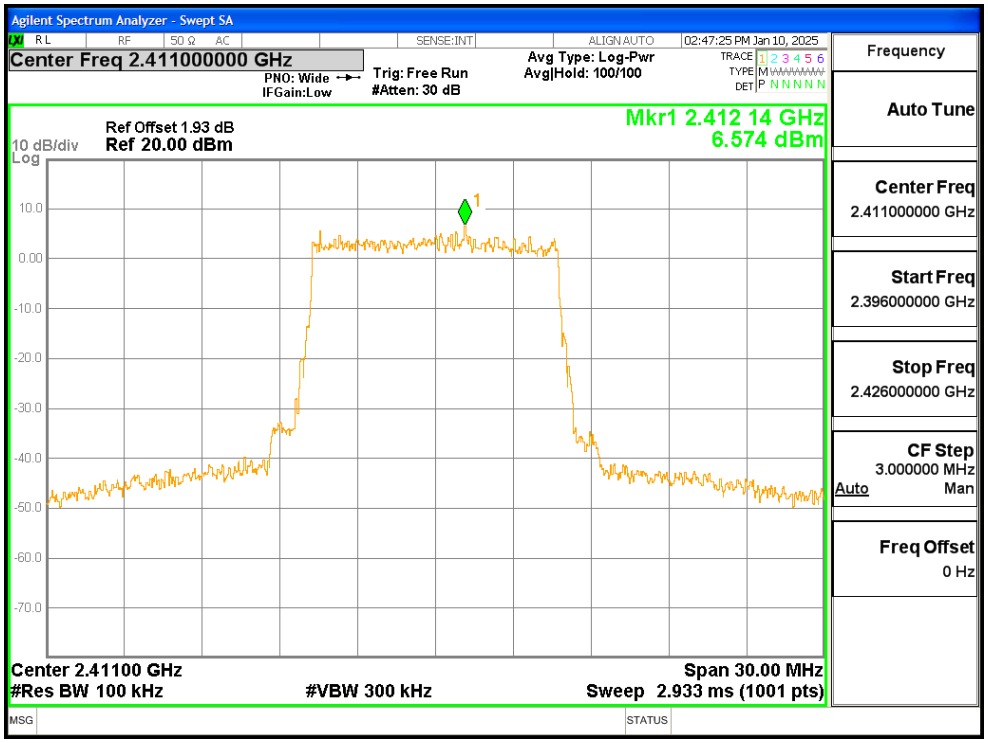


Conducted RF Spurious Emission

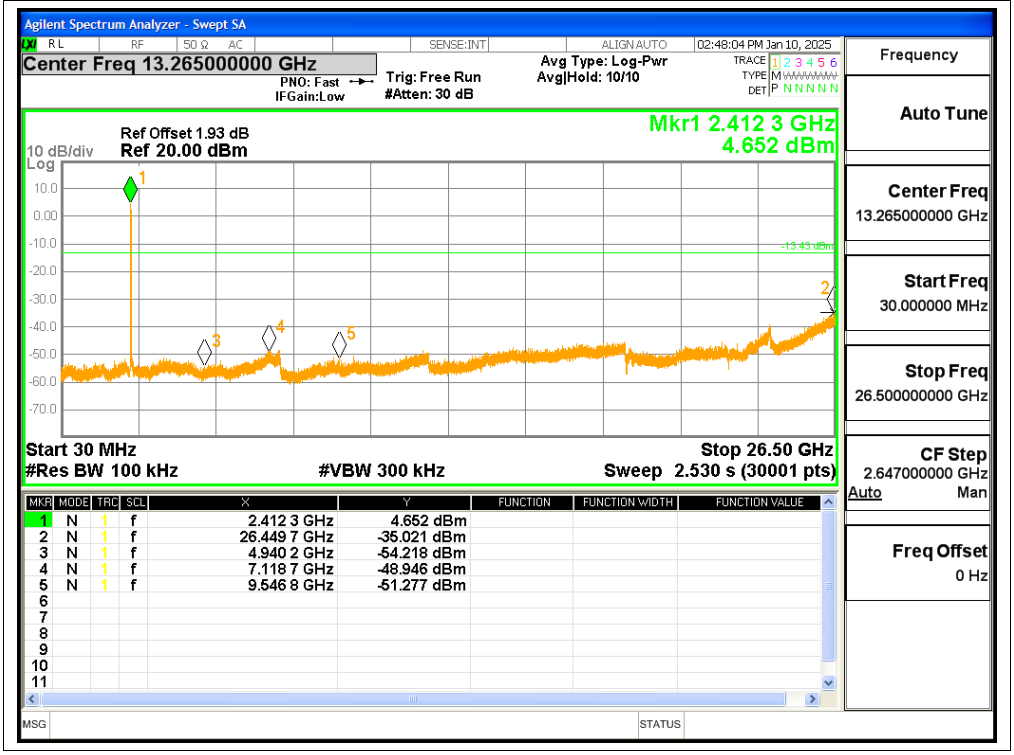
10M Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	--	2411	Ant1	-41.59	-20	Pass
		2433		-39.1	-20	Pass
		2466		-33	-20	Pass
		2411	Ant2	-33.23	-20	Pass
		2433		-40.1	-20	Pass
		2466		-30.67	-20	Pass

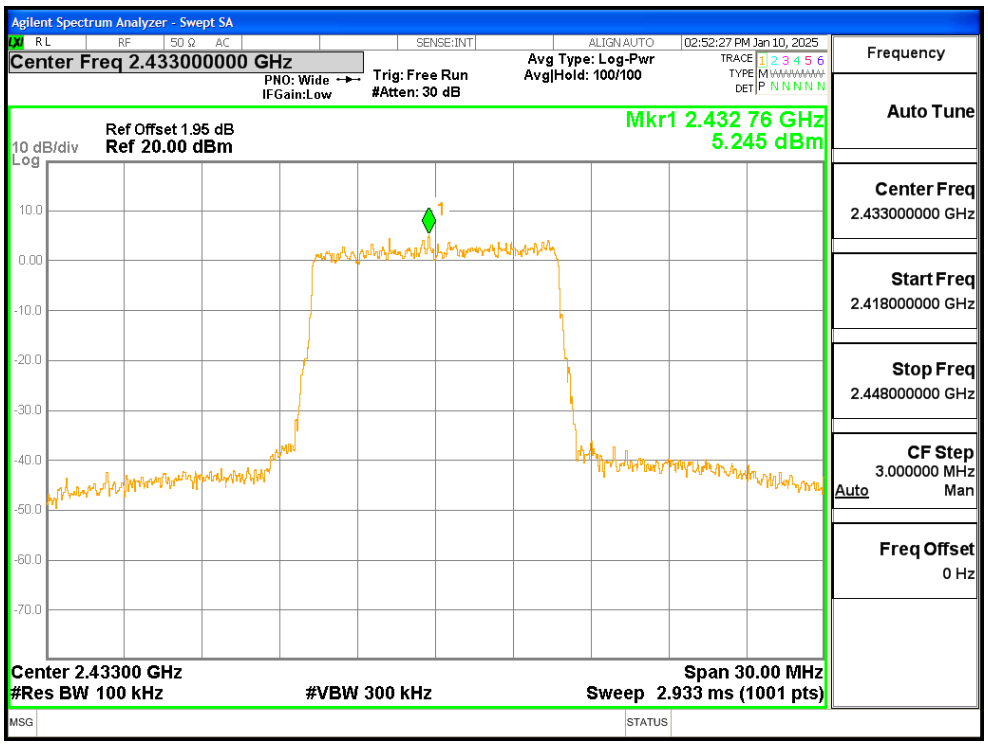
Test Graphs
Tx. Spurious NVNT 2411MHz Ant1 Ref



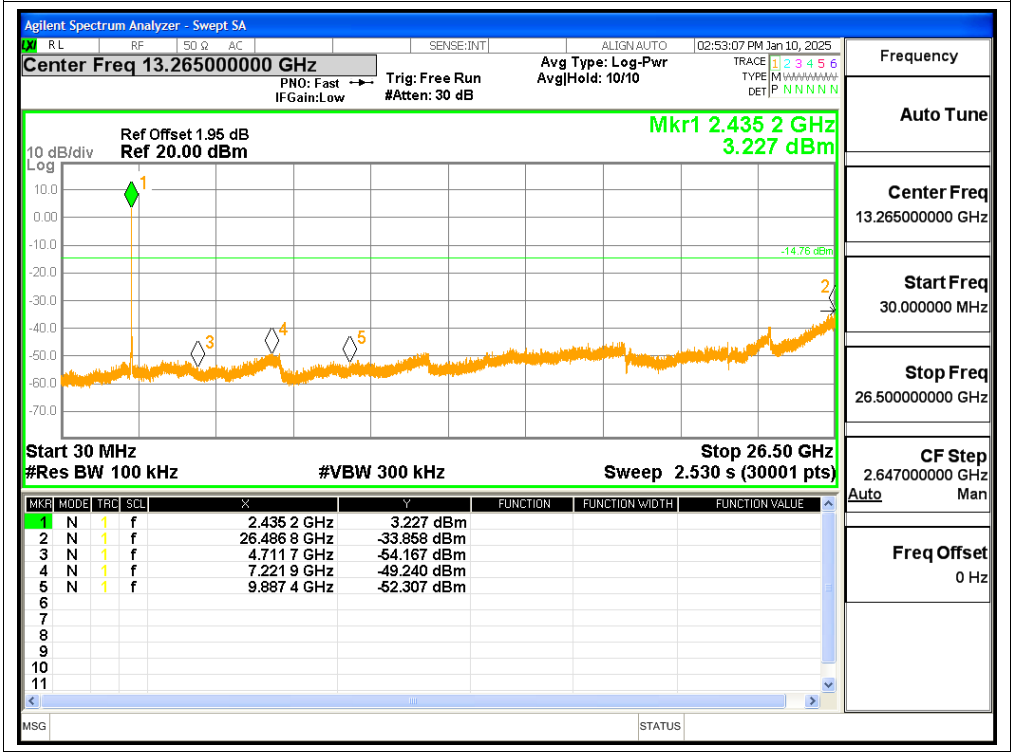
Tx. Spurious NVNT 2411MHz Ant1 Emission



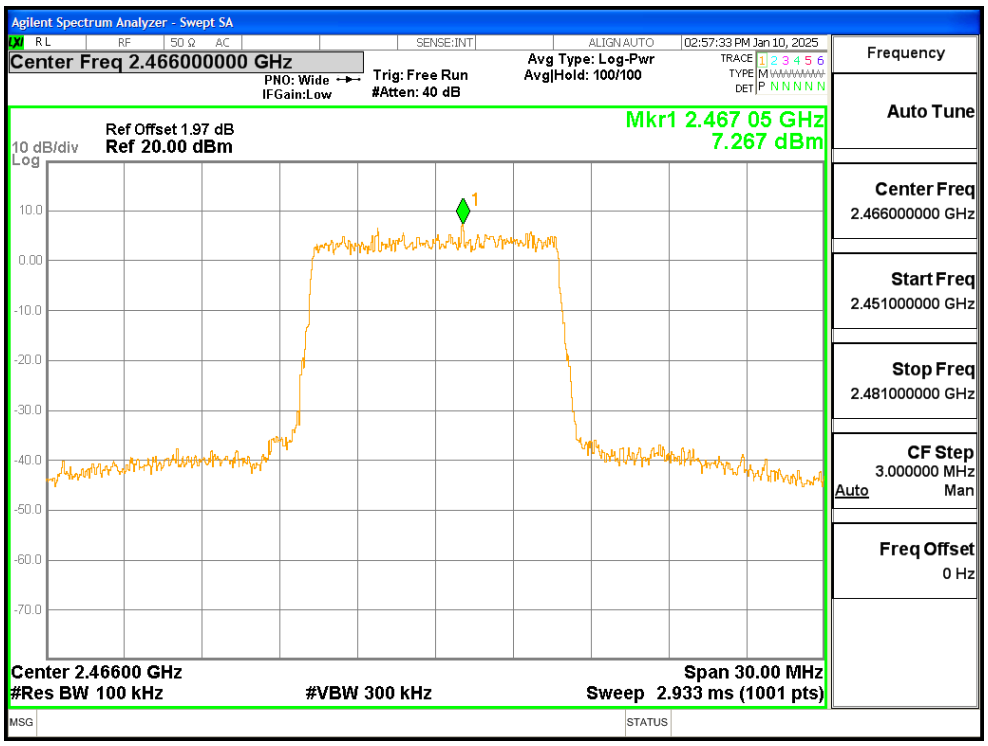
Tx. Spurious NVNT 2433MHz Ant1 Ref



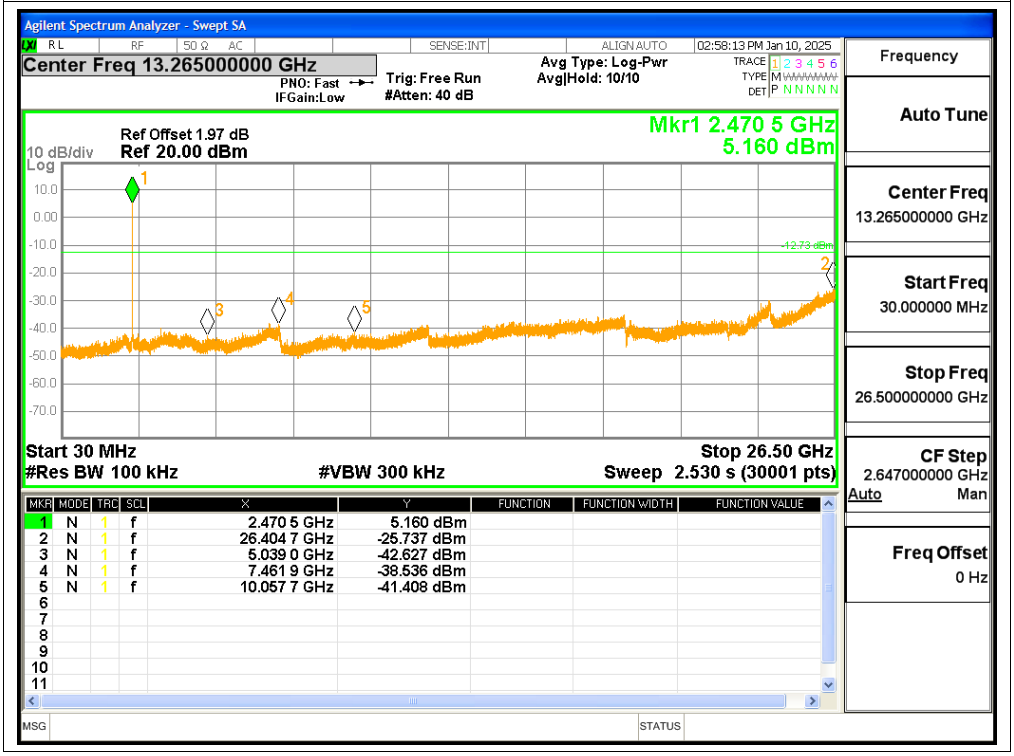
Tx. Spurious NVNT 2433MHz Ant1 Emission



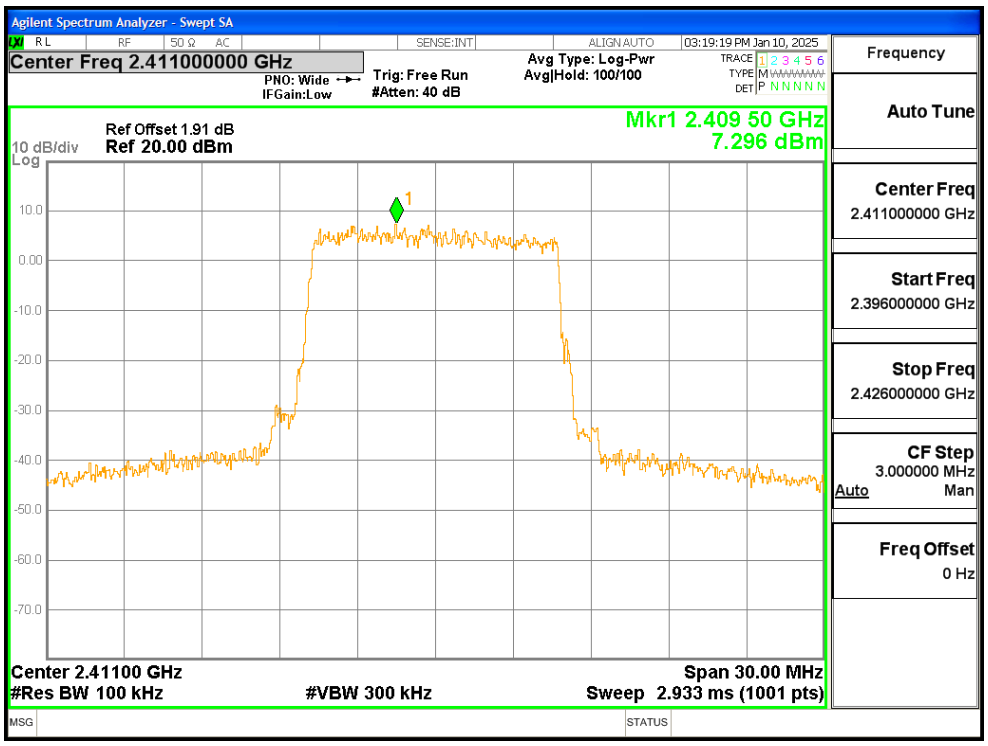
Tx. Spurious NVNT 2466MHz Ant1 Ref



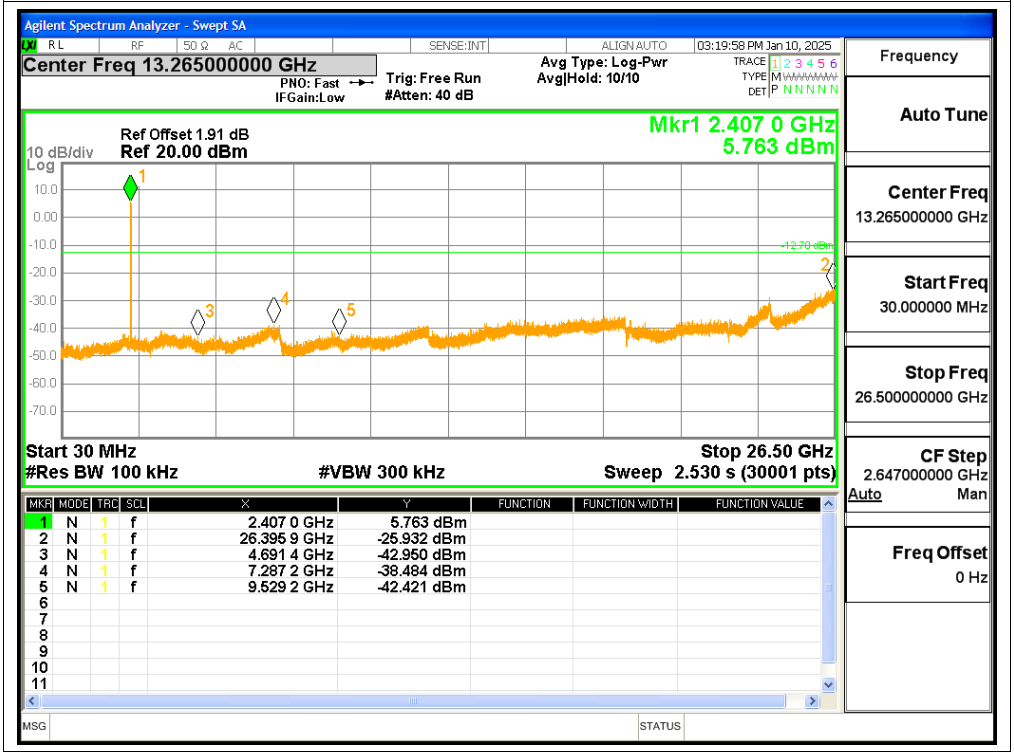
Tx. Spurious NVNT 2466MHz Ant1 Emission



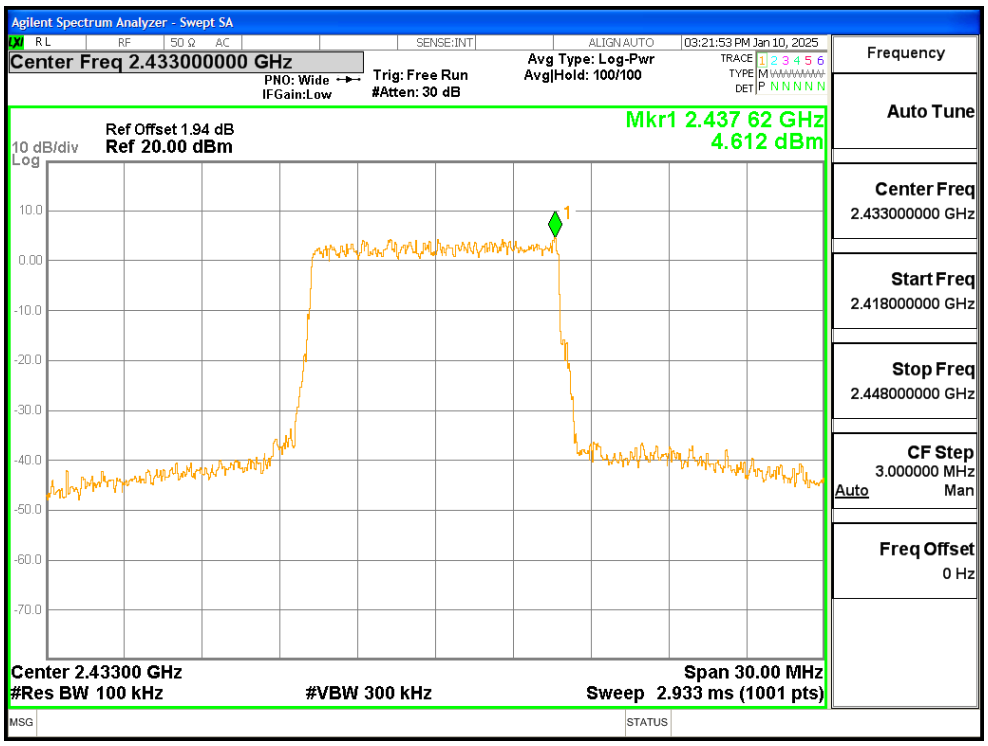
Tx. Spurious NVNT 2411MHz Ant2 Ref



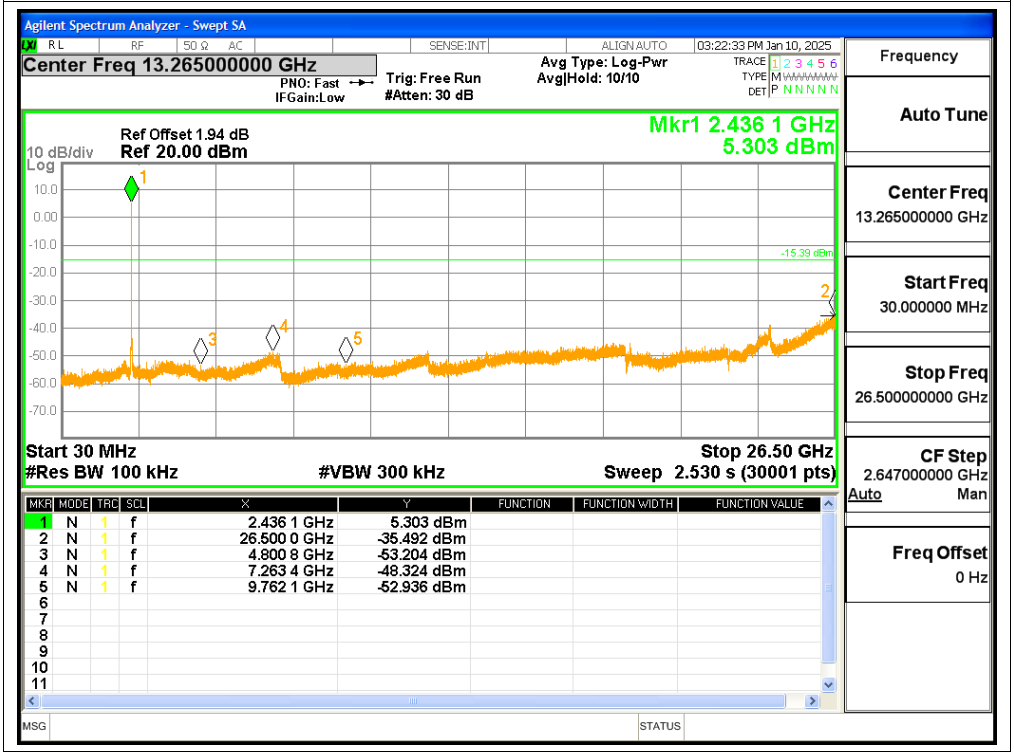
Tx. Spurious NVNT 2411MHz Ant2 Emission



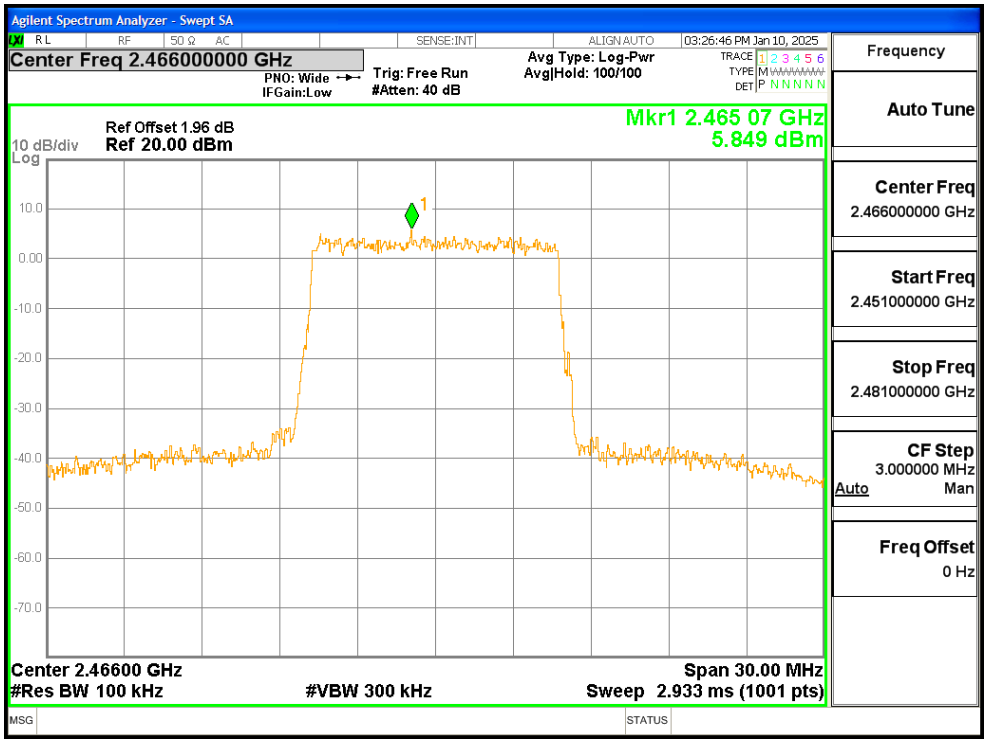
Tx. Spurious NVNT 2433MHz Ant2 Ref



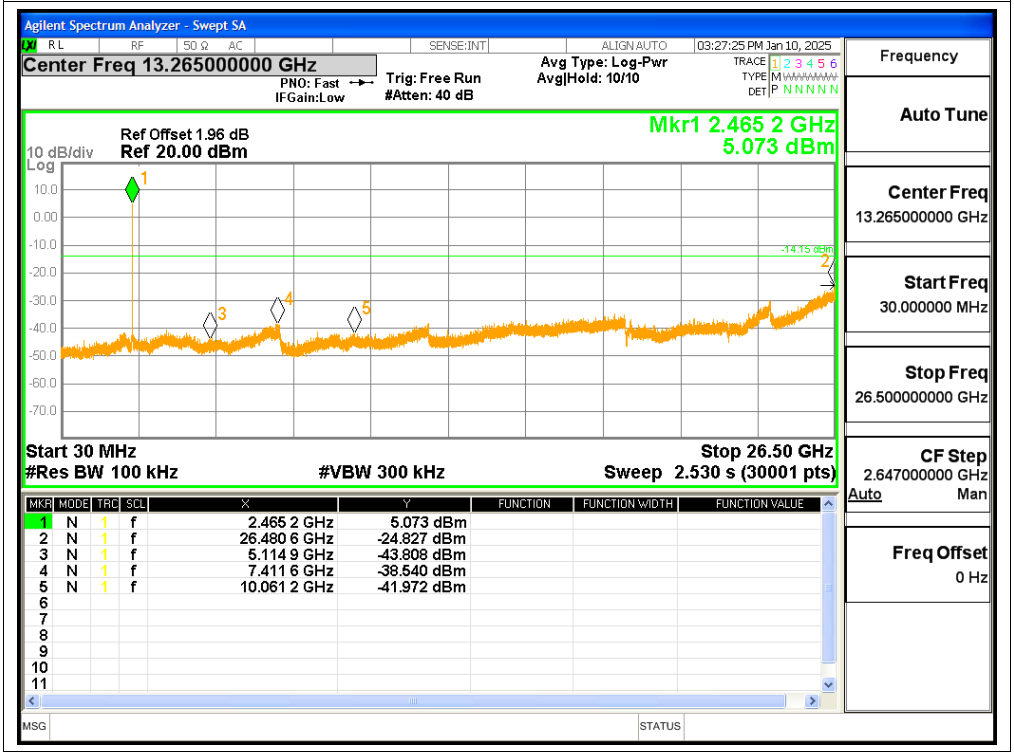
Tx. Spurious NVNT 2433MHz Ant2 Emission



Tx. Spurious NVNT 2466MHz Ant2 Ref



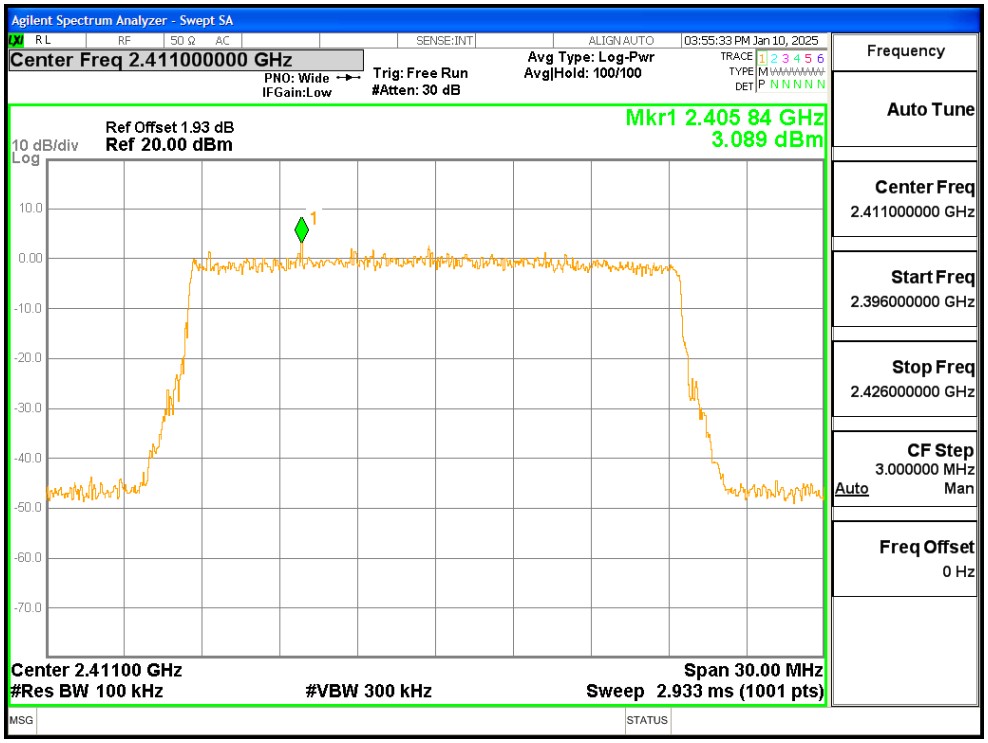
Tx. Spurious NVNT 2466MHz Ant2 Emission



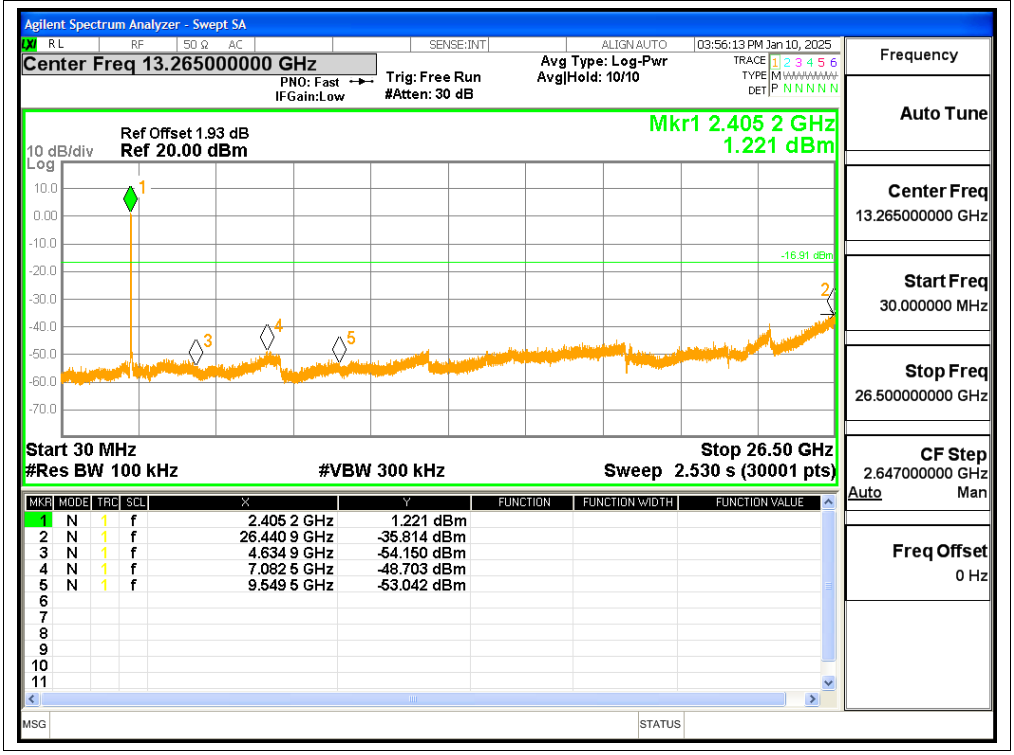
20M Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	-	2411	Ant1	-38.9	-20	Pass
		2433		-38.36	-20	Pass
		2466		-29.66	-20	Pass
		2411	Ant2	-29.68	-20	Pass
		2433		-37.91	-20	Pass
		2466		-29.74	-20	Pass

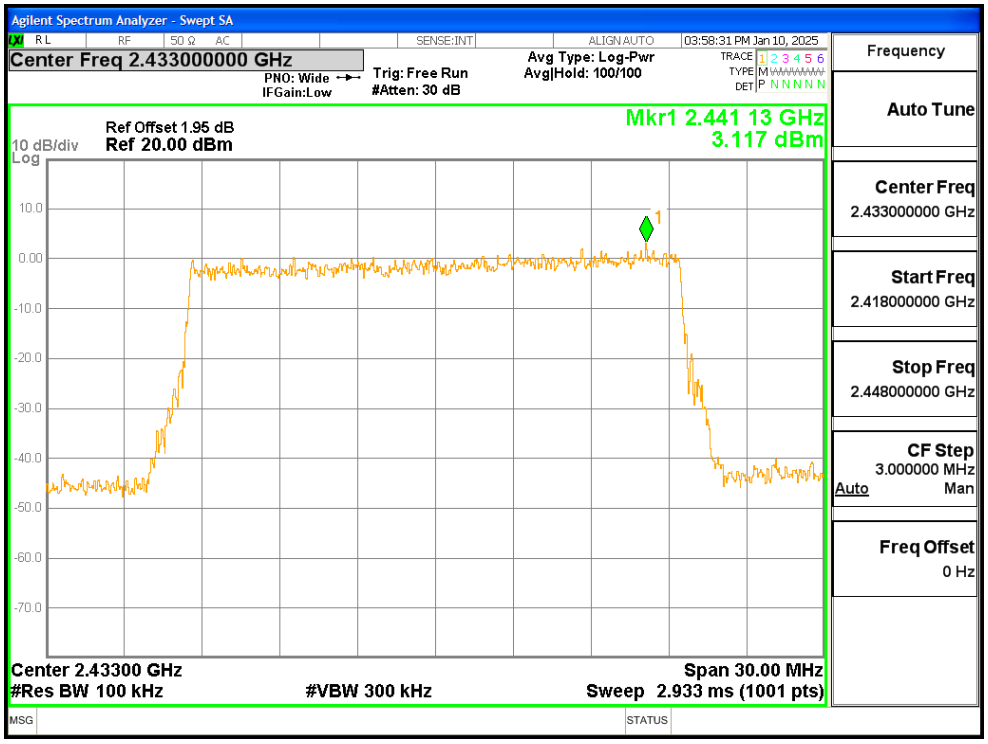
Test Graphs
Tx. Spurious NVNT 2411MHz Ant1 Ref



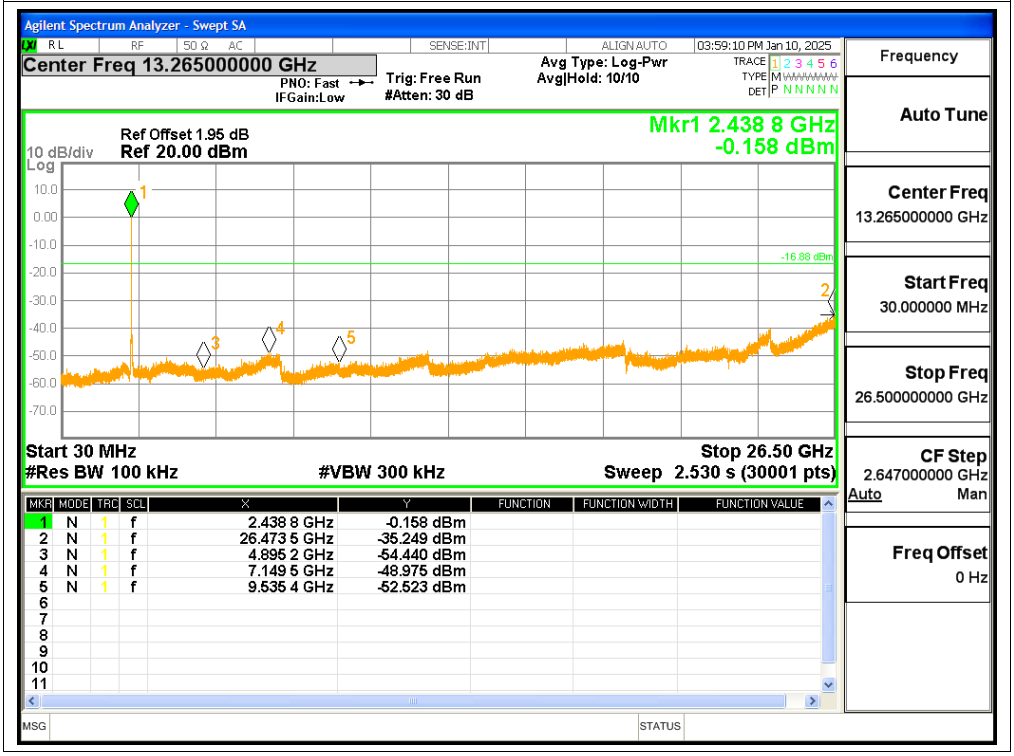
Tx. Spurious NVNT 2411MHz Ant1 Emission



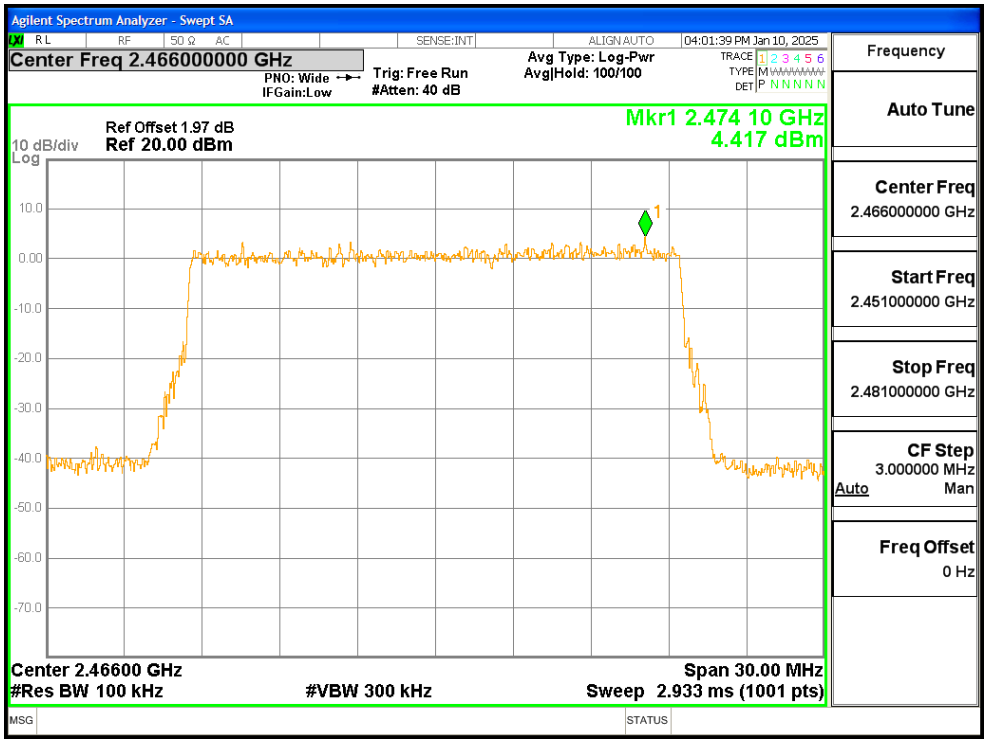
Tx. Spurious NVNT 2433MHz Ant1 Ref



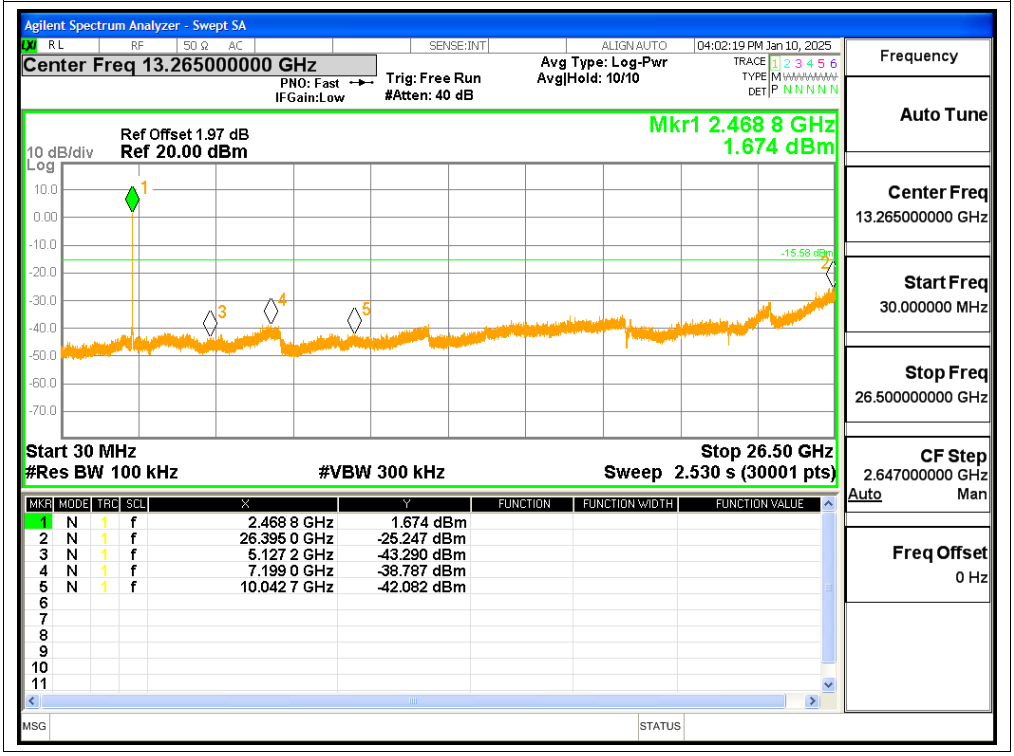
Tx. Spurious NVNT 2433MHz Ant1 Emission



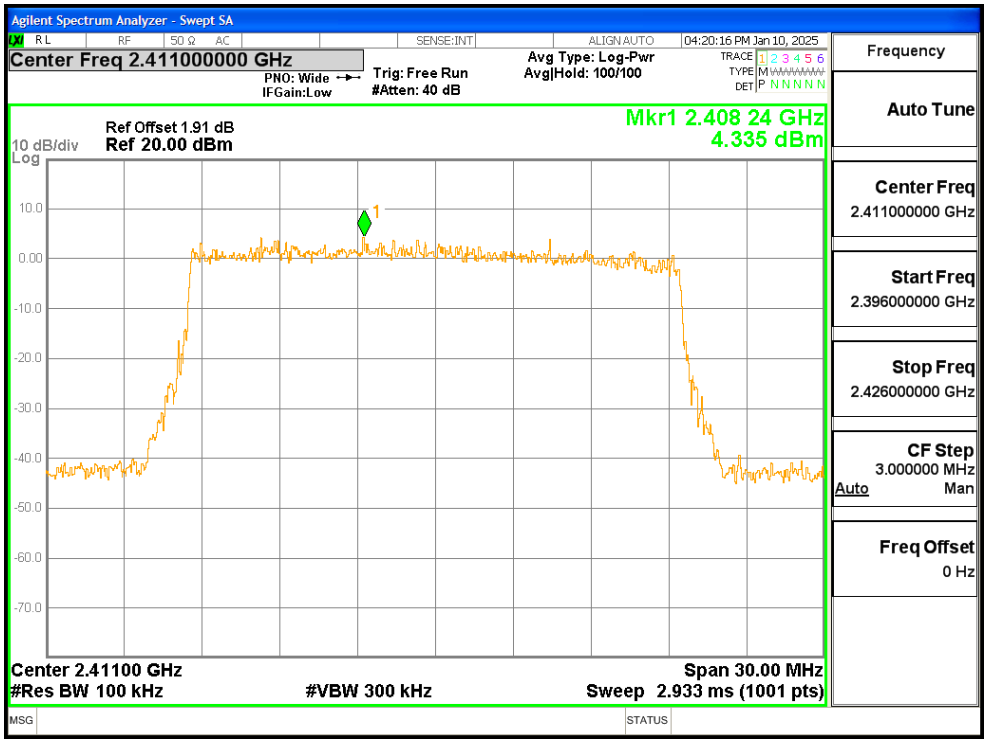
Tx. Spurious NVNT 2466MHz Ant1 Ref



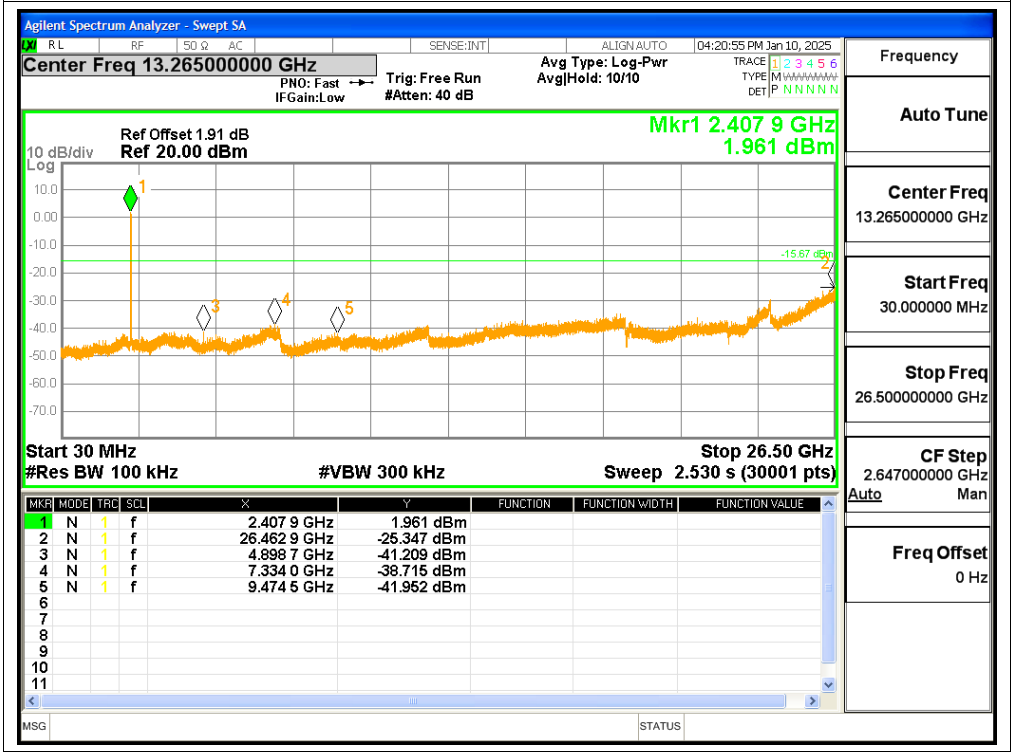
Tx. Spurious NVNT 2466MHz Ant1 Emission



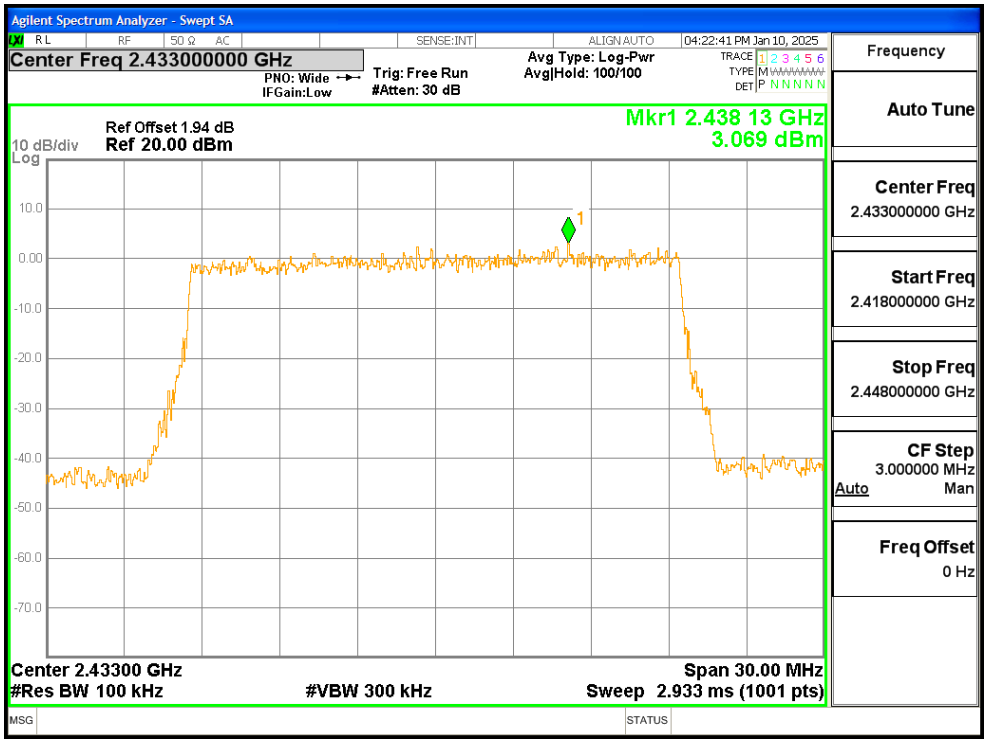
Tx. Spurious NVNT 2411MHz Ant2 Ref



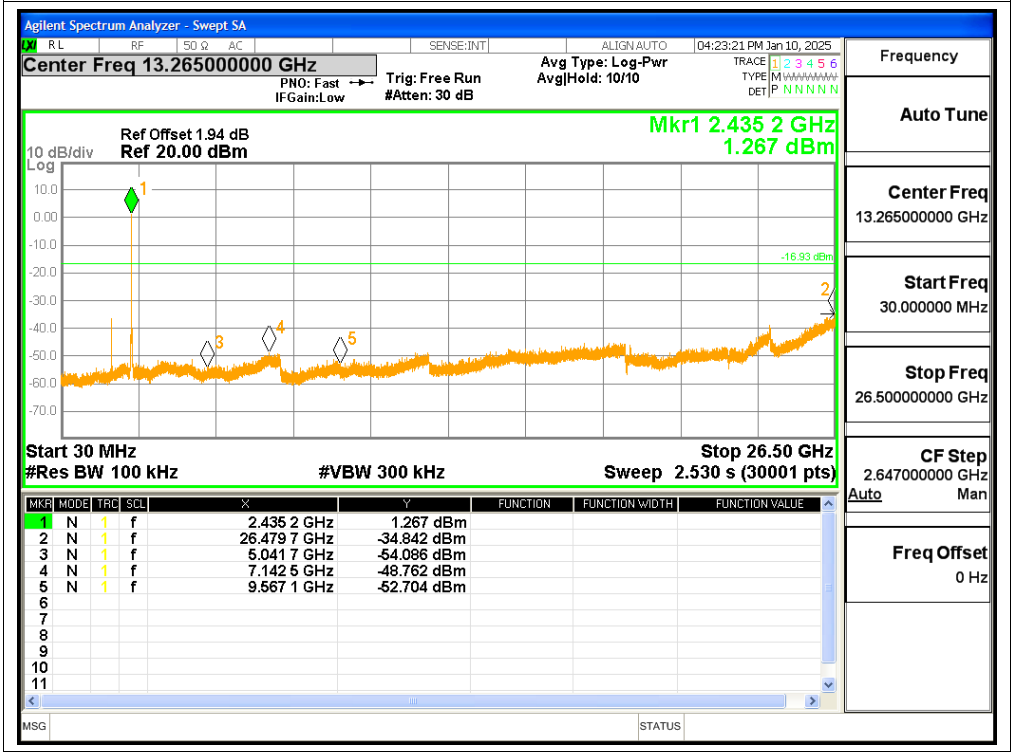
Tx. Spurious NVNT 2411MHz Ant2 Emission



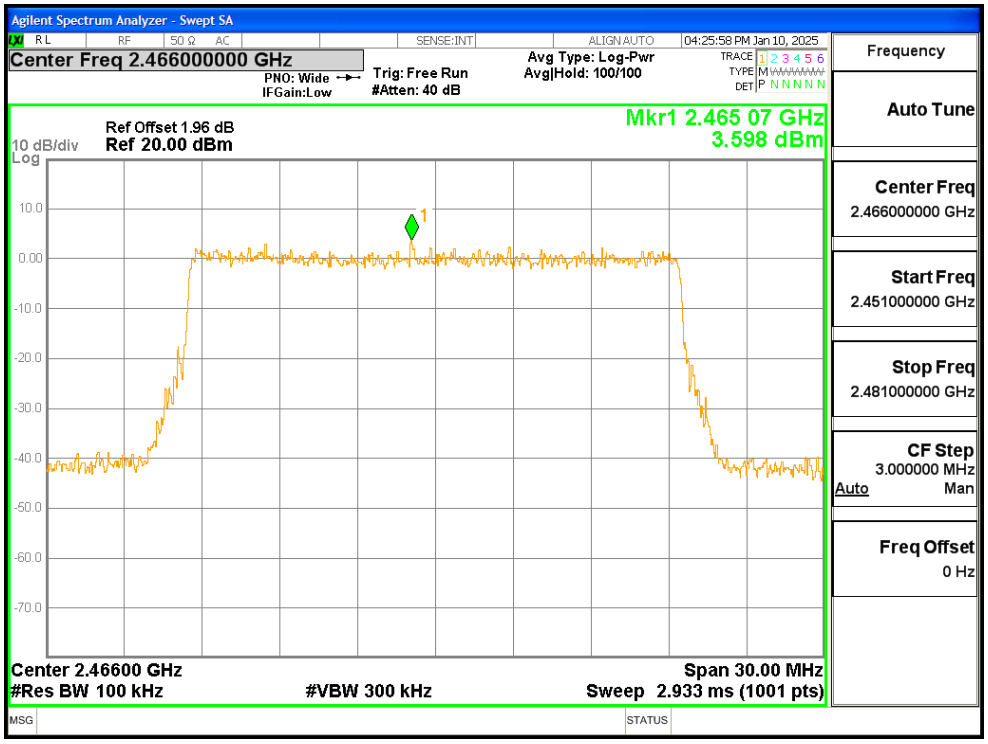
Tx. Spurious NVNT 2433MHz Ant2 Ref



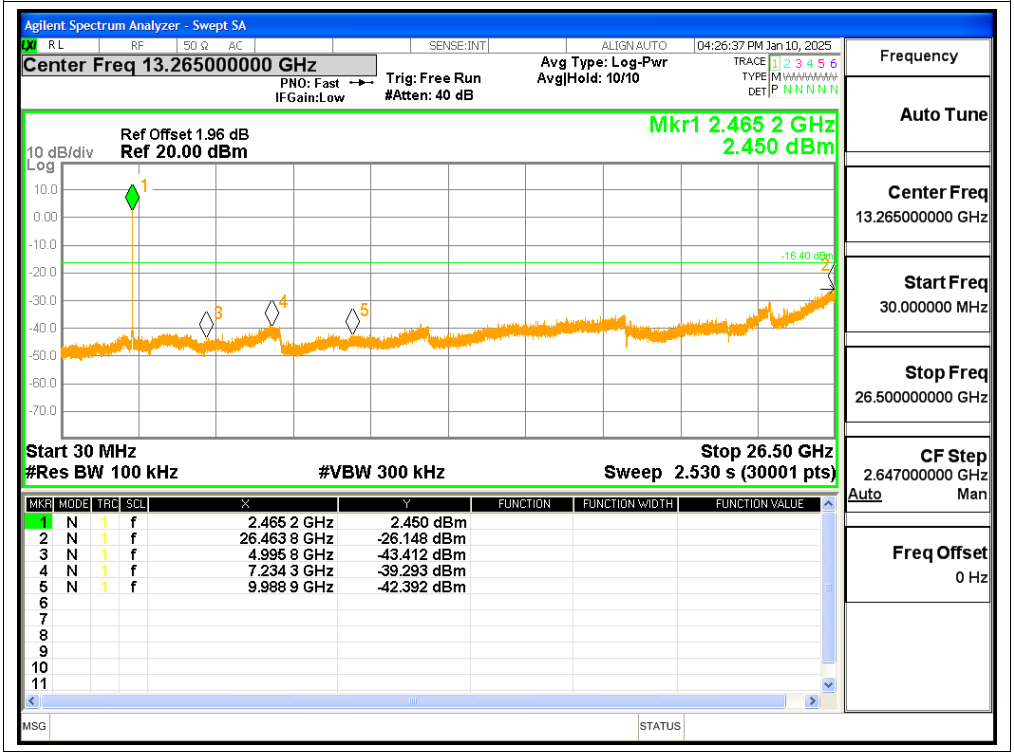
Tx. Spurious NVNT 2433MHz Ant2 Emission



Tx. Spurious NVNT 2466MHz Ant2 Ref



Tx. Spurious NVNT 2466MHz Ant2 Emission



10.5 Restricted band Measurement

EUT	Remote Control		Model	Agri-Pro H20
Mode	Keeping Transmitting		Test Voltage	DC3.7V
Temperature	24 deg. C,		Humidity	56% RH
Test Result:	Pass		Detector	PK
10M Bandwidth, Low Channel, Horizontal				
2390	PK (dBμV/m)	42.29	Limit	74(dBμV/m)
	AV (dBμV/m)	--		54(dBμV/m)
10M Bandwidth, Low Channel, Vertical				
2390	PK (dBμV/m)	46.53	Limit	74(dBμV/m)
	AV (dBμV/m)	--		54(dBμV/m)

10.5 Restricted band Measurement

EUT	Remote Control		Model	Agri-Pro H20
Mode	Keeping Transmitting		Test Voltage	DC3.7V
Temperature	24 deg. C,		Humidity	56% RH
Test Result:	Pass		Detector	PK
10M Bandwidth, High Channel, Horizontal				
2483.5	PK (dBμV/m)	46.93	Limit	74(dBμV/m)
	AV (dBμV/m)	--		54(dBμV/m)
10M Bandwidth, High Channel, Vertical				
2483.5	PK (dBμV/m)	52.18	Limit	74(dBμV/m)
	AV (dBμV/m)	--		54(dBμV/m)

10.5 Restricted band Measurement

EUT	Remote Control		Model	Agri-Pro H20
Mode	Keeping Transmitting		Test Voltage	DC3.7V
Temperature	24 deg. C,		Humidity	56% RH
Test Result:	Pass		Detector	PK
20M Bandwidth, Low Channel, Horizontal				
2390	PK (dBμV/m)	43.87	Limit	74(dBμV/m)
	AV (dBμV/m)	--		54(dBμV/m)
20M Bandwidth, Low Channel Vertical				
2390	PK (dBμV/m)	48.09	Limit	74(dBμV/m)
	AV (dBμV/m)	--		54(dBμV/m)

10.5 Restricted band Measurement

EUT	Remote Control		Model	Agri-Pro H20
Mode	Keeping Transmitting		Test Voltage	DC3.7V
Temperature	24 deg. C,		Humidity	56% RH
Test Result:	Pass		Detector	PK
20M Bandwidth, High Channel, Horizontal				
2483.5	PK (dBμV/m)	50.96	Limit	74(dBμV/m)
	AV (dBμV/m)	--		54(dBμV/m)
20M Bandwidth, High Channel, Vertical				
2483.5	PK (dBμV/m)	58.73	Limit	74(dBμV/m)
	AV (dBμV/m)	46.21		54(dBμV/m)

12.0 Antenna Requirement

12.1 Standard Applicable

For intentional device, according to FCC 47 CFR Section 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.

And according to FCC 47 CFR Section 15.247 (b), if transmitter antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the mount in dB that the directional gain of the antenna exceeds 6 dBi.

12.2 Antenna Connected construction

Dipole antennas with gain 3.90dBi Max for each one (Get from the antenna specification)

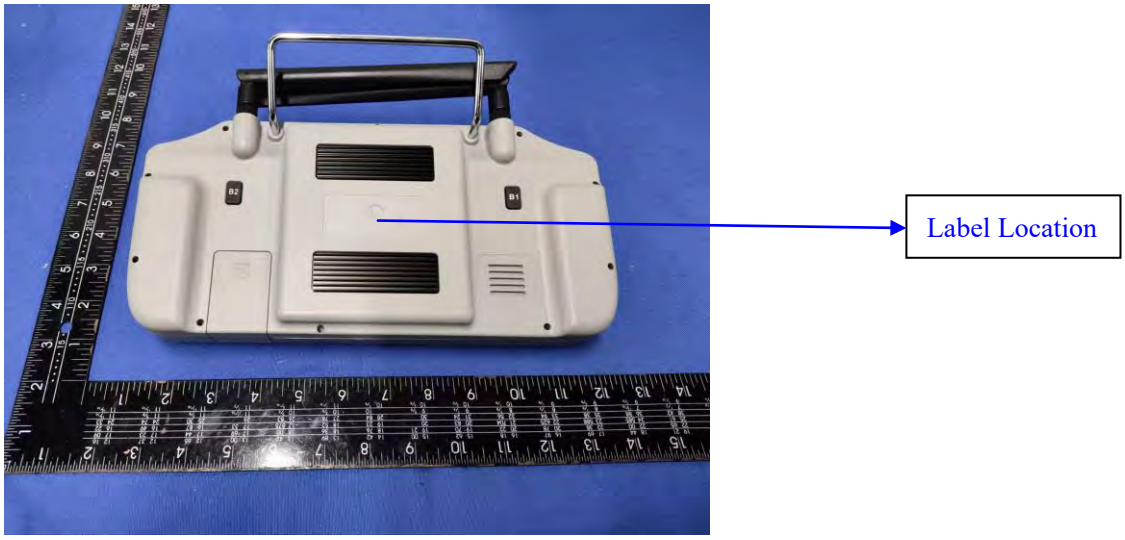
13.0 FCC ID Label

FCC ID: 2BM3J-H20

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation

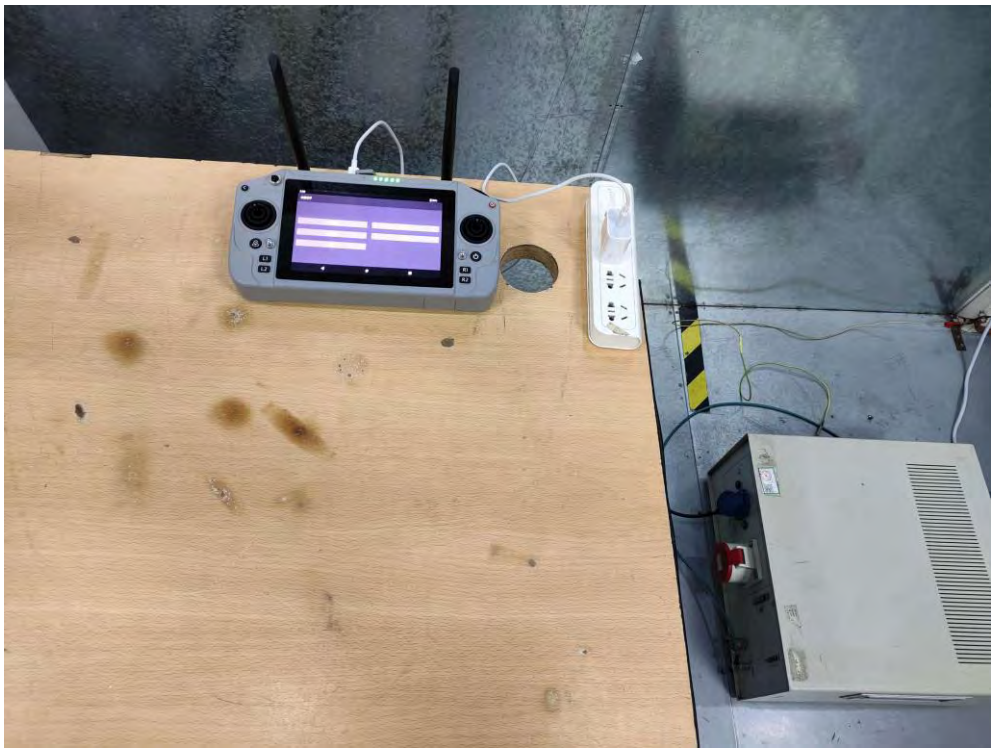
The label must not be a stick-on paper label. The label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

Mark Location:

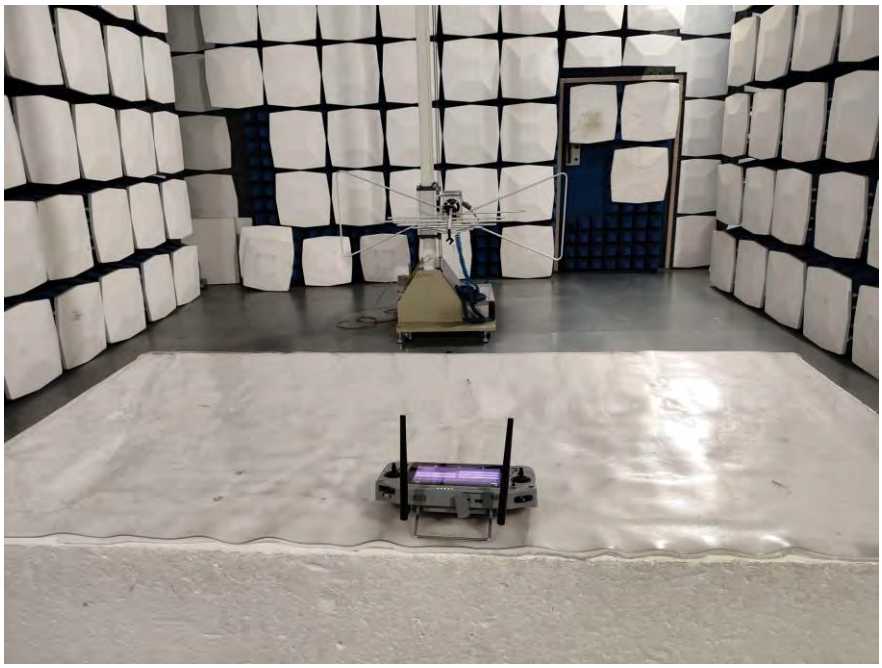


14.0 Photo of testing

Conducted Emission Test Setup:



Radiated Emission Test Setup:



Photographs – EUT

Please refer test report TW2501110-01E

-End of the report-