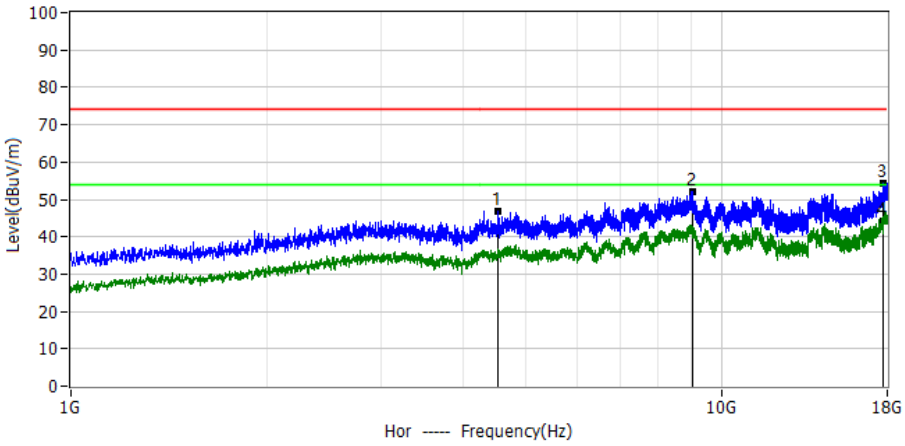
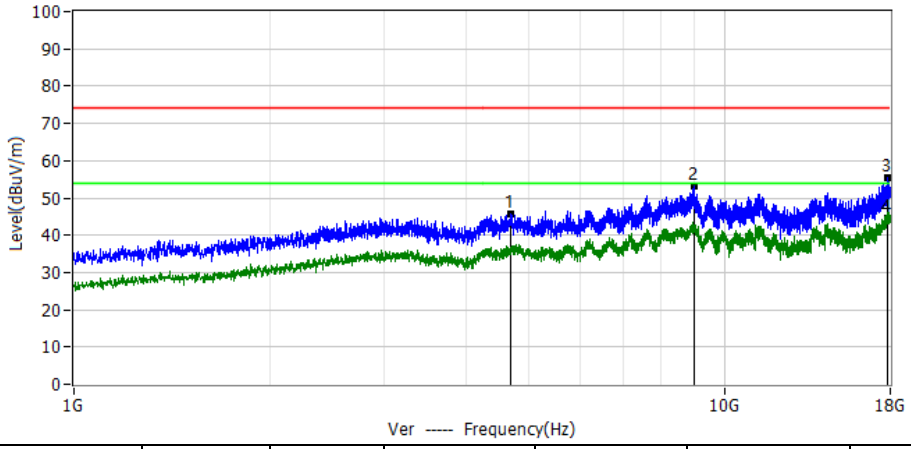
Project: LGT23C004	Test Engineer: Dylan.shi
EUT: Smart Phone	Temperature: 26.7℃
M/N: CP12p	Humidity: 52%RH
Test Voltage: Battery	Test Data: 2023-03-12
Test Mode: 802.11n40 2412	
Note:	

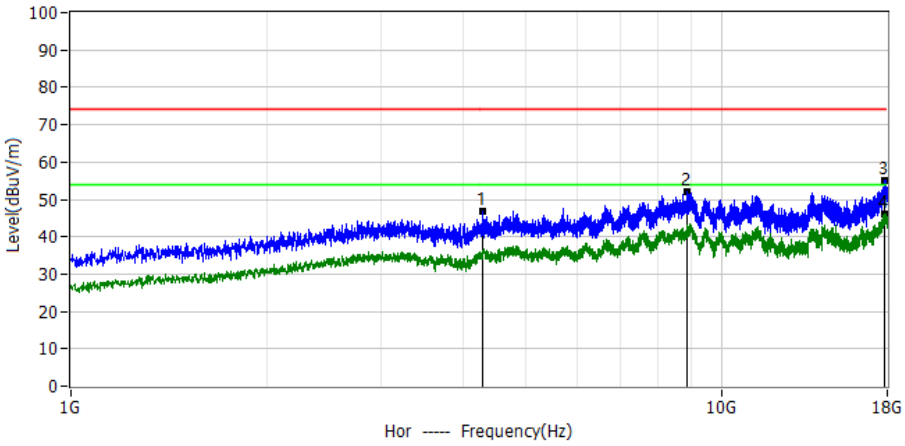


No.	Frequency	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	4.536GHz	52.73	-5.78	46.95	74.00	-27.05	PK	Hor
2*	9.033GHz	53.36	-1.17	52.19	74.00	-21.81	PK	Hor
3*	17.730GHz	46.08	8.33	54.41	74.00	-19.59	PK	Hor
4*	17.730GHz	35.77	8.33	44.10	54.00	-9.90	AV	Hor

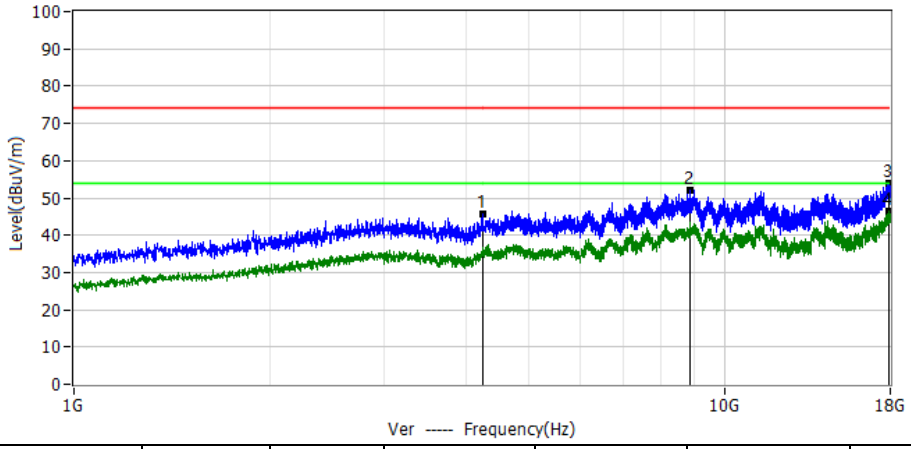


No.	Frequency	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	4.687GHz	51.66	-5.90	45.76	74.00	-28.24	PK	Ver
2*	8.999GHz	54.44	-1.17	53.27	74.00	-20.73	PK	Ver
3*	17.847GHz	46.92	8.41	55.33	74.00	-18.67	PK	Ver
4*	17.847GHz	36.19	8.41	44.60	54.00	-9.40	AV	Ver

Project: LGT23C004	Test Engineer: Dylan.shi
EUT: Smart Phone	Temperature: 26.7℃
M/N: CP12p	Humidity: 52%RH
Test Voltage: Battery	Test Data: 2023-03-12
Test Mode: 802.11n40 2437	
Note:	

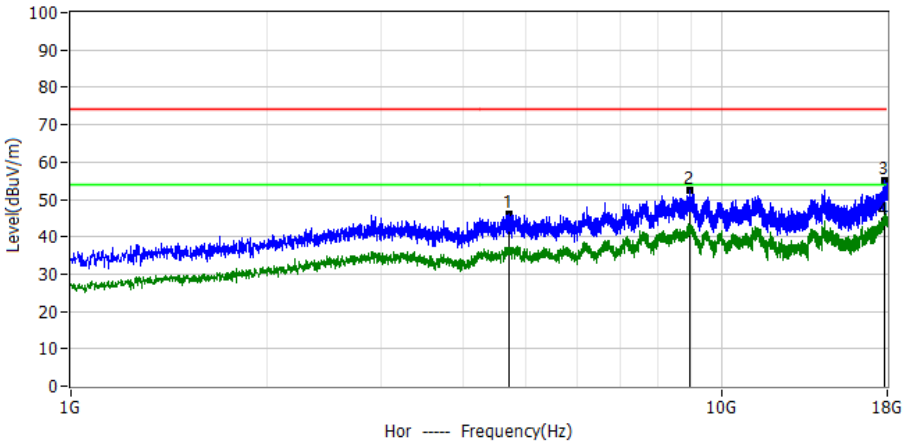


No.	Frequency	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	4.304GHz	53.58	-6.58	47.00	74.00	-27.00	PK	Hor
2*	8.873GHz	53.48	-1.53	51.95	74.00	-22.05	PK	Hor
3*	17.809GHz	46.78	8.39	55.17	74.00	-18.83	PK	Hor
4*	17.809GHz	37.61	8.39	46.00	54.00	-8.00	AV	Hor

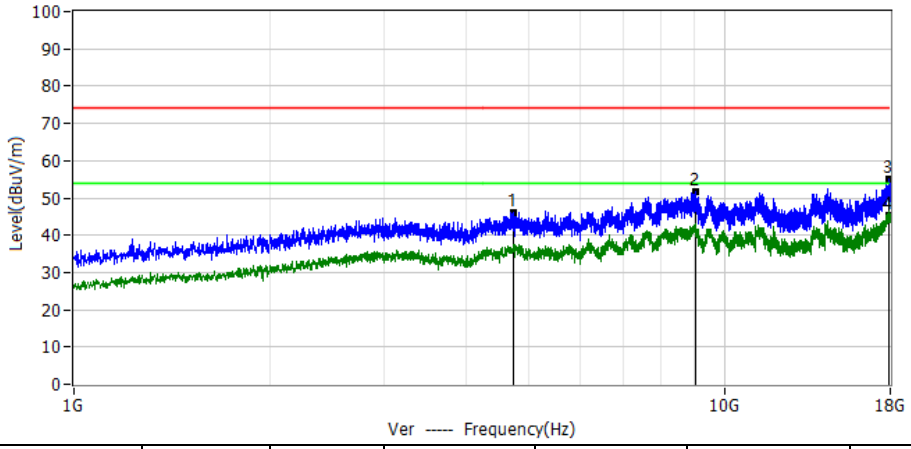


No.	Frequency	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	4.256GHz	52.51	-6.79	45.72	74.00	-28.28	PK	Ver
2*	8.871GHz	53.70	-1.54	52.16	74.00	-21.84	PK	Ver
3*	17.894GHz	45.58	8.45	54.03	74.00	-19.97	PK	Ver
4*	17.894GHz	37.95	8.45	46.40	54.00	-7.60	AV	Ver

Project: LGT23C004	Test Engineer: Dylan.shi
EUT: Smart Phone	Temperature: 26.7℃
M/N: CP12p	Humidity: 52%RH
Test Voltage: Battery	Test Data: 2023-03-12
Test Mode: 802.11n40 2462	
Note:	



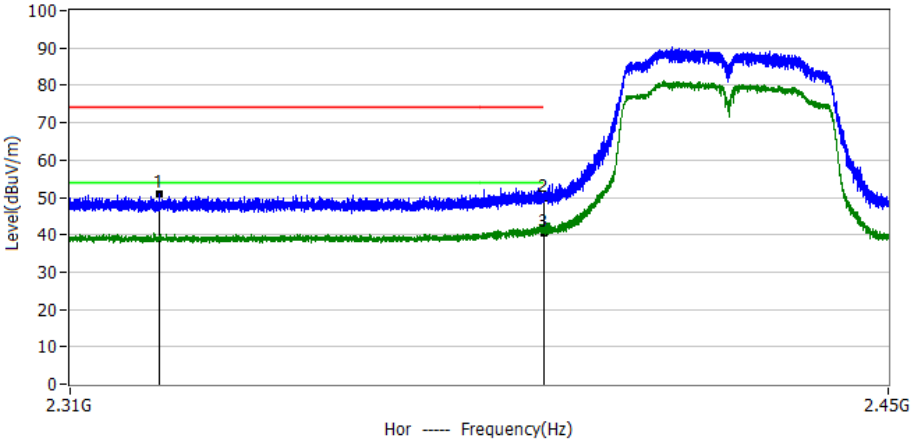
No.	Frequency	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	4.717GHz	52.02	-5.92	46.10	74.00	-27.90	PK	Hor
2*	8.926GHz	53.63	-1.38	52.25	74.00	-21.75	PK	Hor
3*	17.792GHz	46.56	8.37	54.93	74.00	-19.07	PK	Hor
4*	17.792GHz	35.93	8.37	44.30	54.00	-9.70	AV	Hor



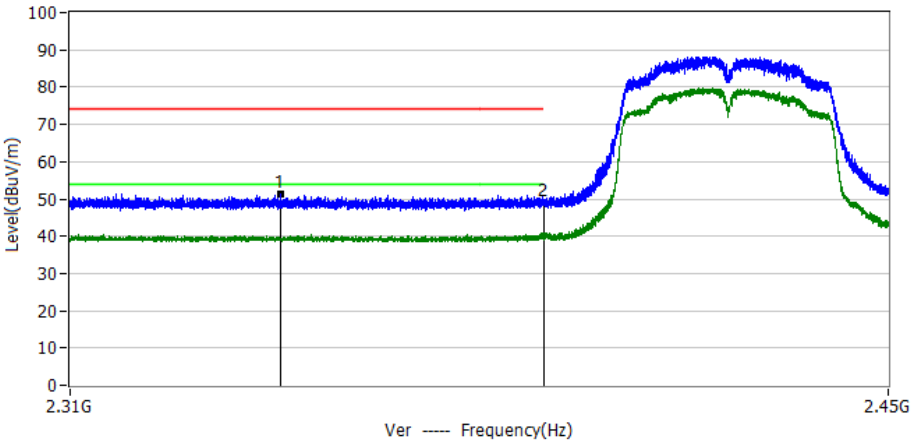
No.	Frequency	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	4.732GHz	52.18	-5.93	46.25	74.00	-27.75	PK	Ver
2*	9.020GHz	52.90	-1.17	51.73	74.00	-22.27	PK	Ver
3*	17.936GHz	46.65	8.48	55.13	74.00	-18.87	PK	Ver
4*	17.936GHz	36.82	8.48	45.30	54.00	-8.70	AV	Ver

3.2.7 TEST RESULTS(Band edge Requirements)

Project: LGT23C004	Test Engineer: Dylan.shi
EUT: Smart Phone	Temperature: 25.7℃
M/N: CP12p	Humidity: 47%RH
Test Voltage: Battery	Test Data: 2023-03-14
Test Mode: 802.11n40 2422	
Note:	

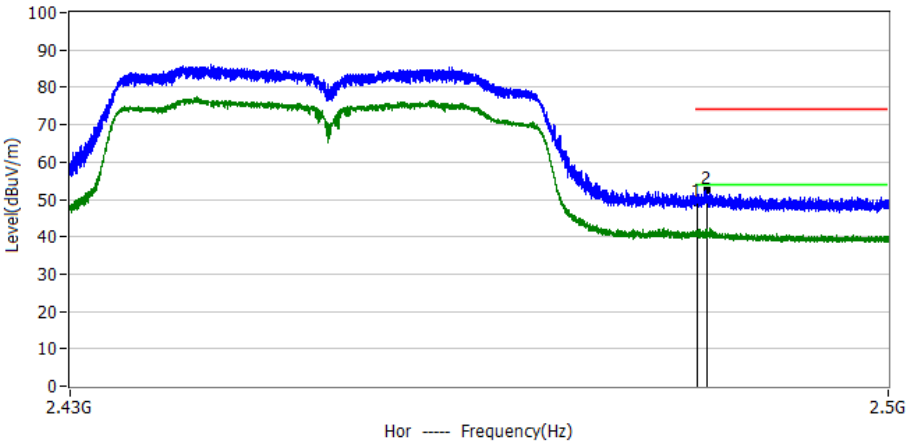


No.	Frequency	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	2.3249GHz	16.66	34.11	50.77	74.00	-23.23	PK	Hor
2*	2.3900GHz	15.95	33.95	49.90	74.00	-24.10	PK	Hor
3*	2.3900GHz	6.55	33.95	40.50	54.00	-13.50	AV	Hor

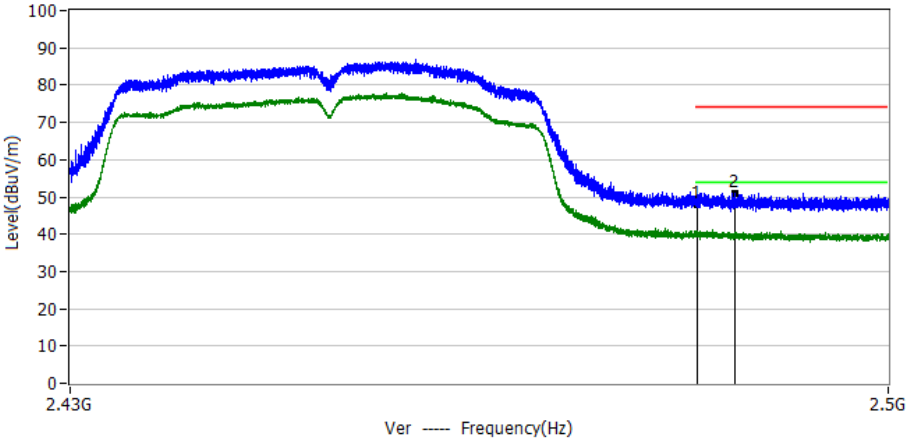


No.	Frequency	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	2.3452GHz	17.36	34.06	51.42	74.00	-22.58	PK	Ver
2*	2.3900GHz	14.95	33.95	48.90	74.00	-25.10	PK	Ver

Project: LGT23C004	Test Engineer: Dylan.shi
EUT: Smart Phone	Temperature: 25.7℃
M/N: CP12p	Humidity: 47%RH
Test Voltage: Battery	Test Data: 2023-03-14
Test Mode: 802.11n40 2452	
Note:	



No.	Frequency	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	2.4835GHz	14.97	34.13	49.10	74.00	-24.90	PK	Hor
2*	2.4843GHz	18.43	34.13	52.56	74.00	-21.44	PK	Hor



No.	Frequency	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	2.4835GHz	13.67	34.13	47.80	74.00	-26.20	PK	Ver
2*	2.4867GHz	16.87	34.13	51.00	74.00	-23.00	PK	Ver

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 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	≤8 dBm (RBW ≥3KHz)	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 kHz ≥ RBW ≥3 kHz.
4. Set the VBW ≥ 3 x 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	≥500KHz (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≥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≥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 Part15.247,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 ≥ 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:

a) Set the RBW ≥ DTS bandwidth.
b) Set VBW ≥ [3 × RBW].
c) Set span ≥ [3 × RBW].
d) Sweep time = auto couple.
e) Detector = peak.
f) Trace mode = max hold.
g) Allow trace to fully stabilize.
h) 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:

a) Set the RBW = 1 MHz.
b) Set the VBW ≥ [3 × RBW].
c) Set the span ≥ [1.5 × DTS bandwidth].
d) Detector = peak.
e) Sweep time = auto couple.
f) Trace mode = max hold.
g) Allow trace to fully stabilize.
h) 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.

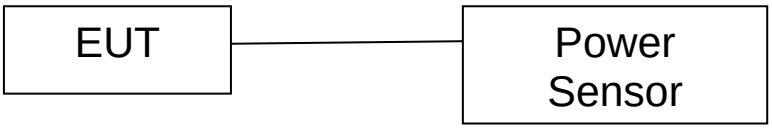
PKPM1 Peak power meter method:

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 partyshall be used with the device.

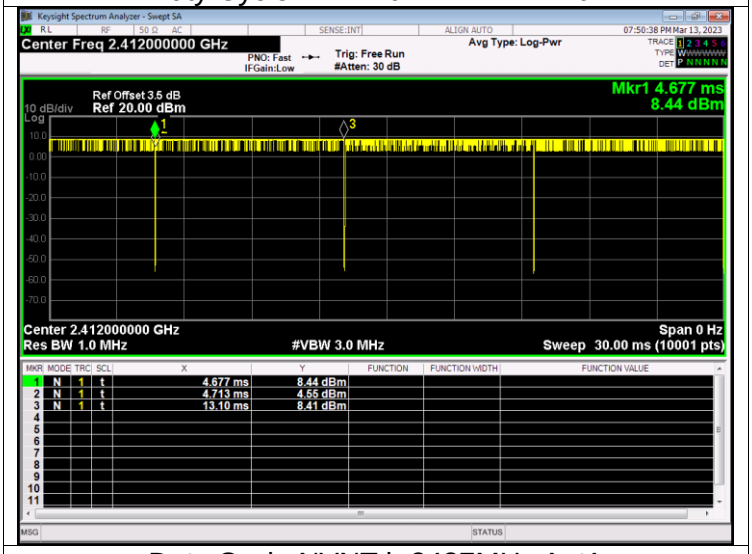
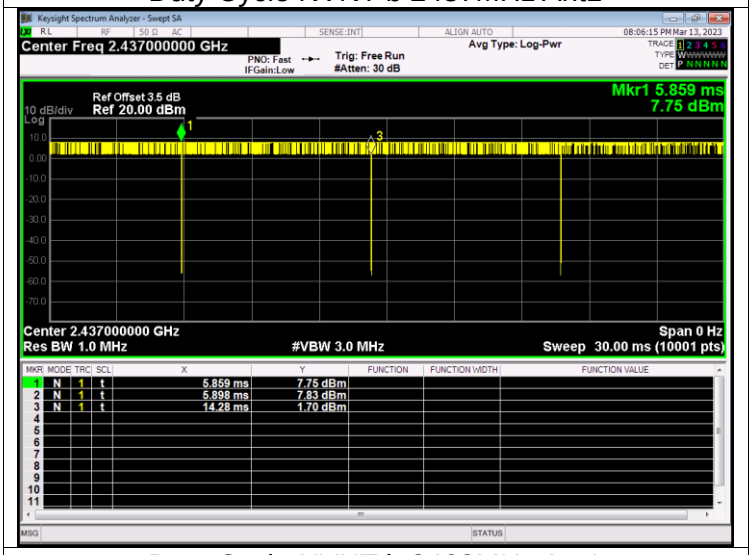
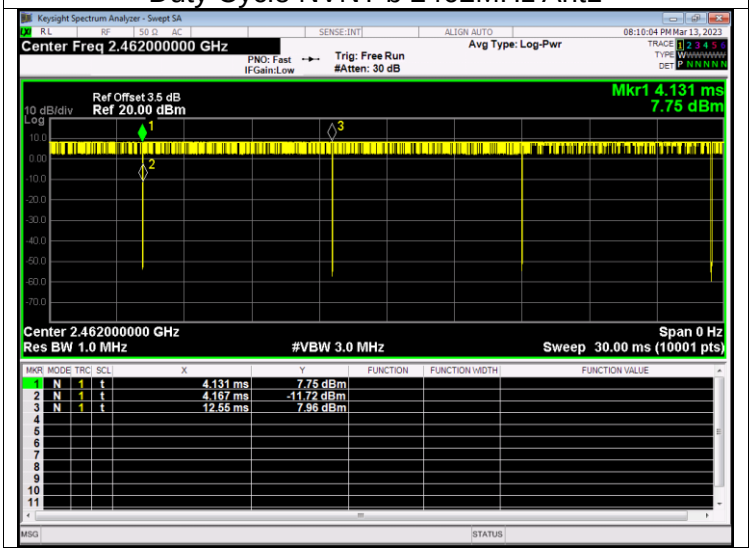
8.2 EUT ANTENNA

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

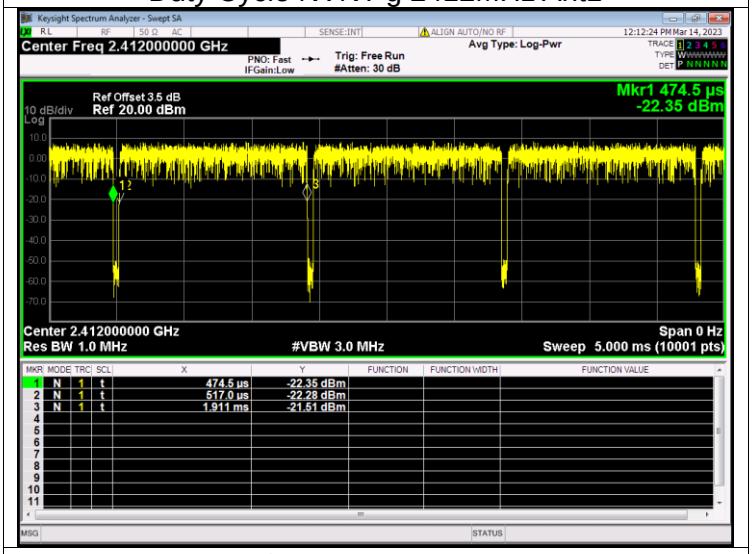
APPENDIX I:TEST RESULTS

Duty Cycle

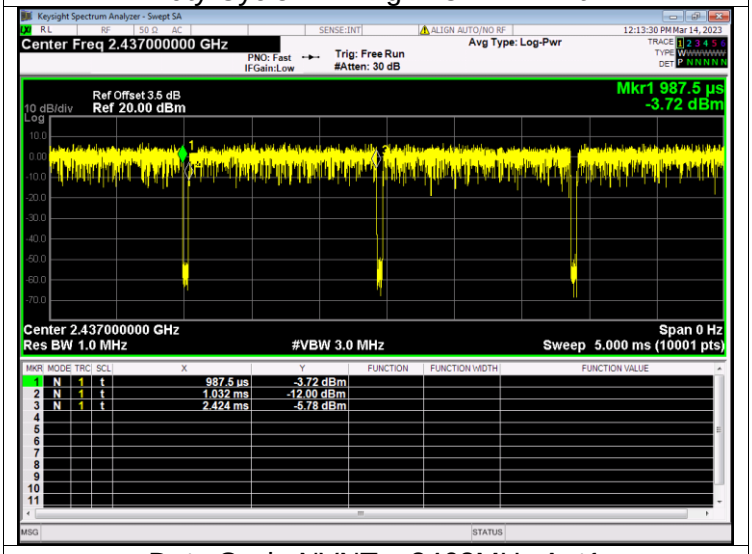
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	b	2412	Ant1	99.57	0	0.12
NVNT	b	2437	Ant1	99.54	0	0.12
NVNT	b	2462	Ant1	99.57	0	0.12
NVNT	g	2412	Ant1	97.04	0.13	0.72
NVNT	g	2437	Ant1	96.94	0.13	0.72
NVNT	g	2462	Ant1	97.01	0.13	0.72
NVNT	n20	2412	Ant1	96.84	0.14	0.77
NVNT	n20	2437	Ant1	96.73	0.14	0.77
NVNT	n20	2462	Ant1	96.84	0.14	0.77
NVNT	n40	2422	Ant1	93.93	0.27	1.54
NVNT	n40	2437	Ant1	93.86	0.28	1.54
NVNT	n40	2452	Ant1	93.94	0.27	1.54

Test Graphs
Duty Cycle NVNT b 2412MHz Ant1

Duty Cycle NVNT b 2437MHz Ant1

Duty Cycle NVNT b 2462MHz Ant1


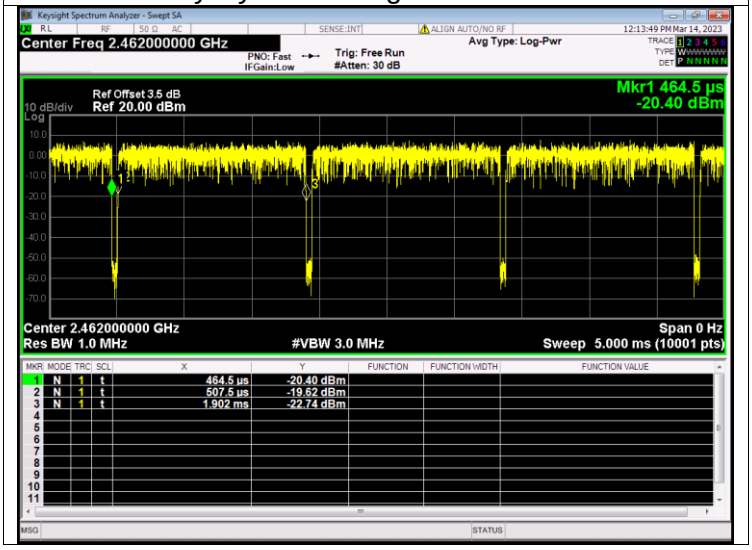
Duty Cycle NVNT g 2412MHz Ant1



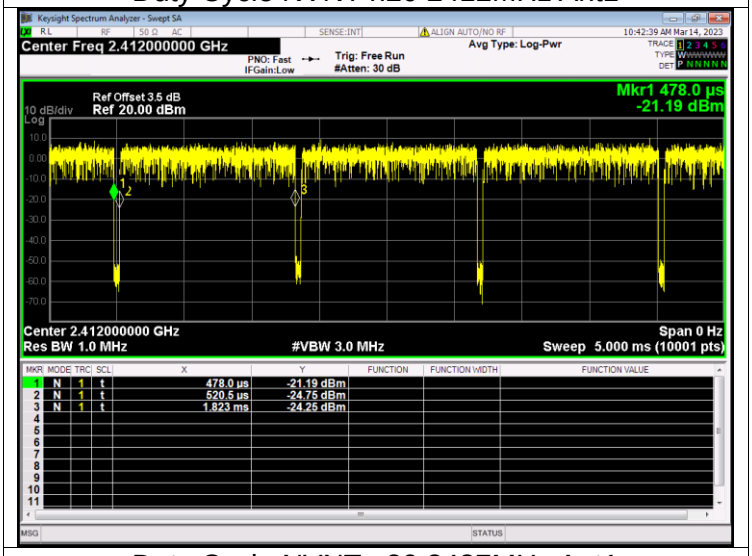
Duty Cycle NVNT g 2437MHz Ant1



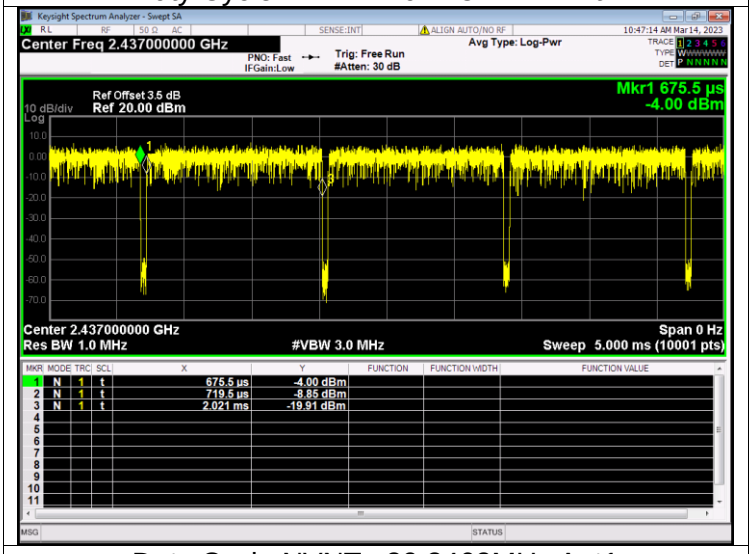
Duty Cycle NVNT g 2462MHz Ant1



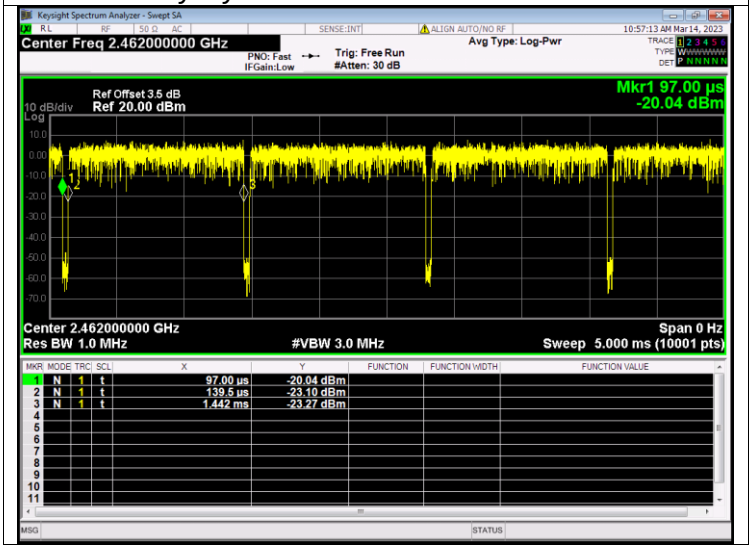
Duty Cycle NVNT n20 2412MHz Ant1



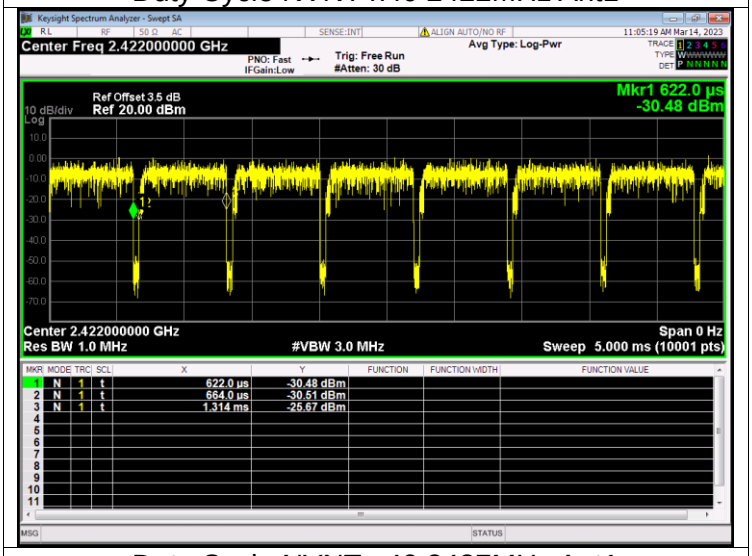
Duty Cycle NVNT n20 2437MHz Ant1



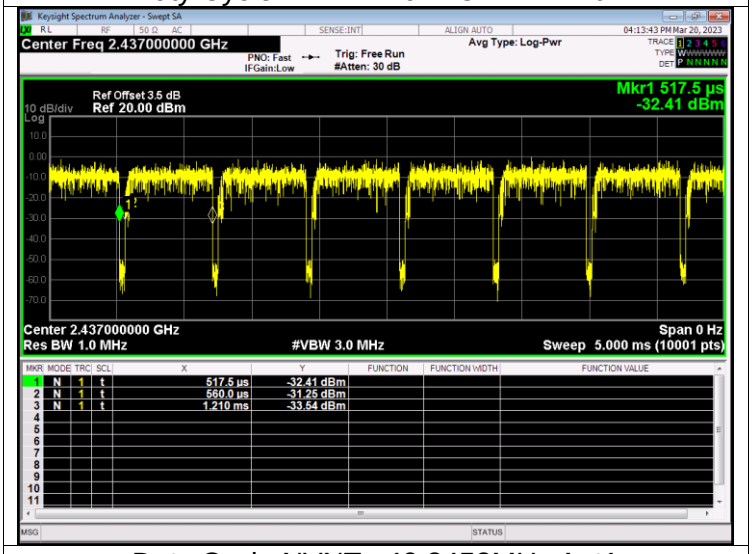
Duty Cycle NVNT n20 2462MHz Ant1



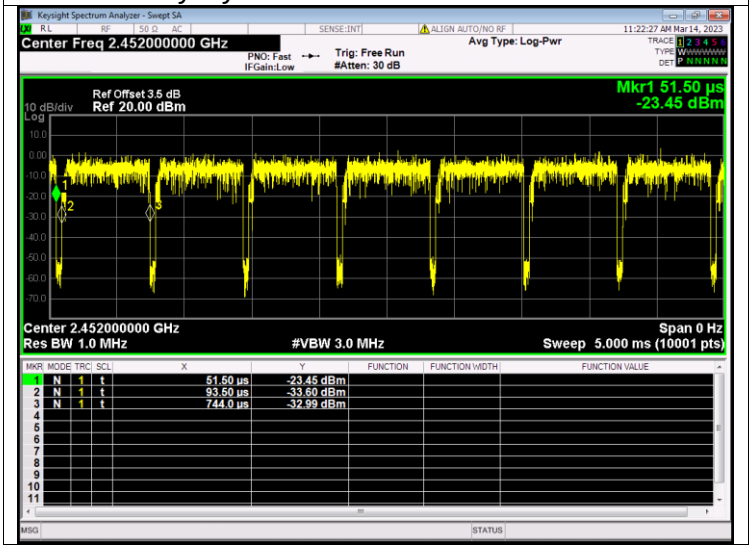
Duty Cycle NVNT n40 2422MHz Ant1



Duty Cycle NVNT n40 2437MHz Ant1



Duty Cycle NVNT n40 2452MHz Ant1

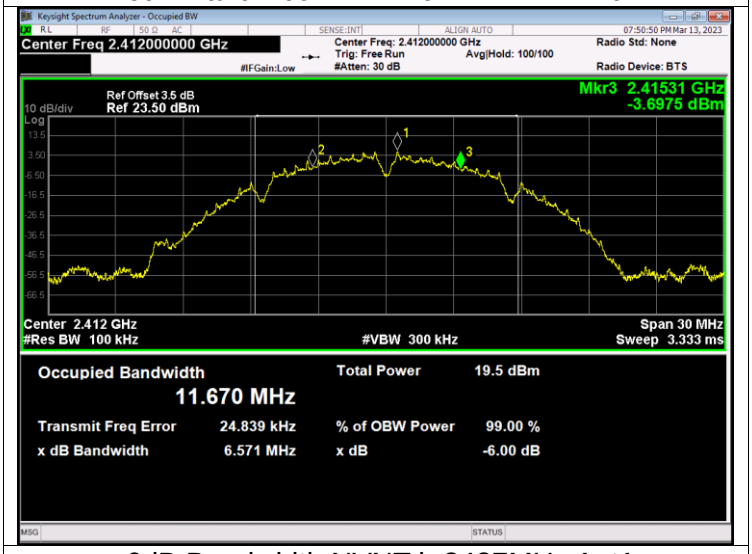
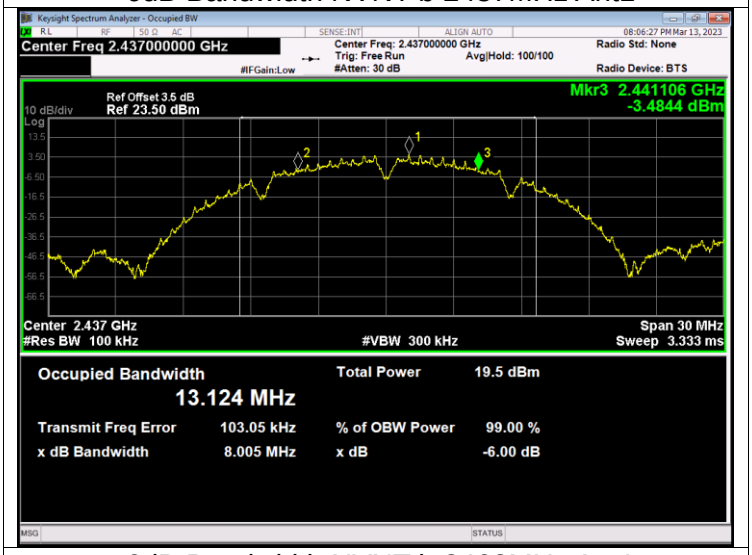
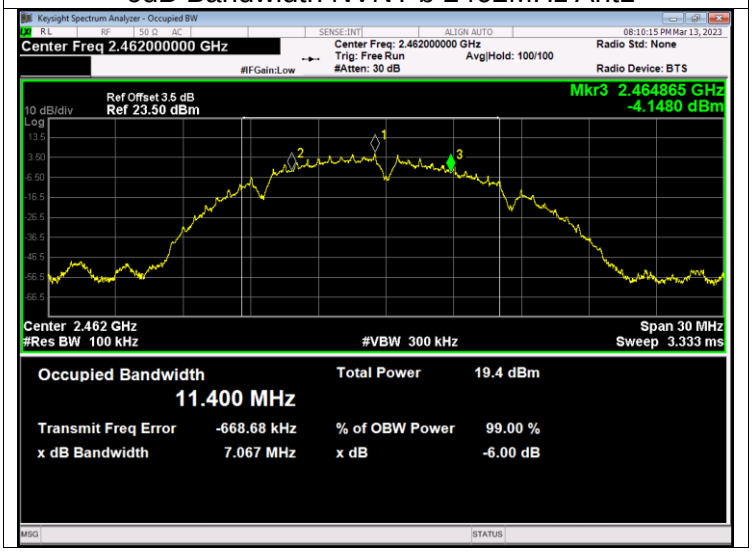


Maximum Peak Conducted Output Power

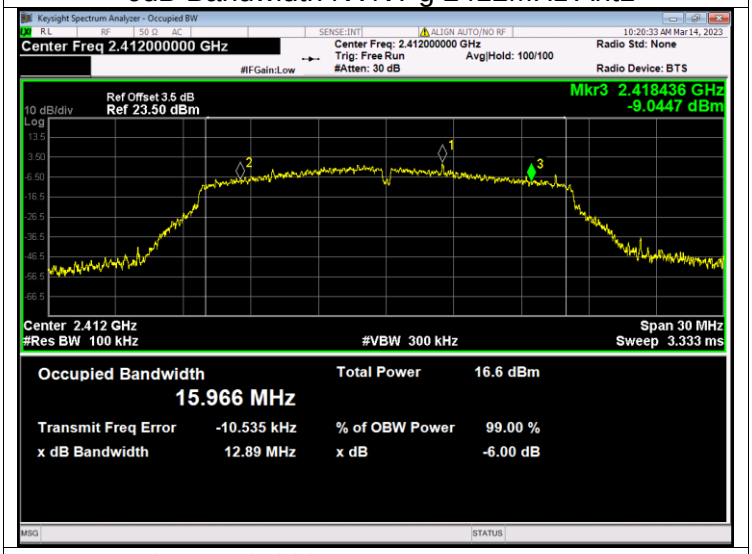
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	14.53	30	Pass
NVNT	b	2437	Ant1	14.44	30	Pass
NVNT	b	2462	Ant1	14.39	30	Pass
NVNT	g	2412	Ant1	15.5	30	Pass
NVNT	g	2437	Ant1	15.28	30	Pass
NVNT	g	2462	Ant1	15.05	30	Pass
NVNT	n20	2412	Ant1	15.23	30	Pass
NVNT	n20	2437	Ant1	15.24	30	Pass
NVNT	n20	2462	Ant1	15.03	30	Pass
NVNT	n40	2422	Ant1	15.81	30	Pass
NVNT	n40	2437	Ant1	14.42	30	Pass
NVNT	n40	2452	Ant1	15.51	30	Pass

-6dB Bandwidth

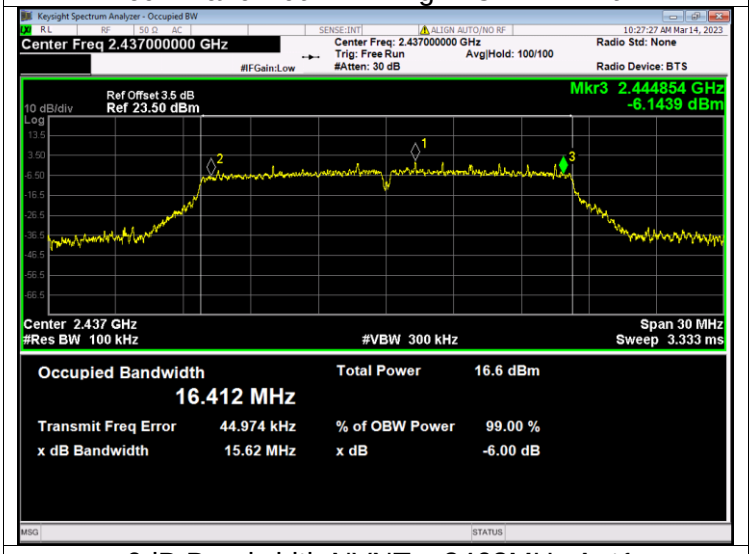
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	6.571	0.5	Pass
NVNT	b	2437	Ant1	8.005	0.5	Pass
NVNT	b	2462	Ant1	7.067	0.5	Pass
NVNT	g	2412	Ant1	12.893	0.5	Pass
NVNT	g	2437	Ant1	15.619	0.5	Pass
NVNT	g	2462	Ant1	9.167	0.5	Pass
NVNT	n20	2412	Ant1	10.11	0.5	Pass
NVNT	n20	2437	Ant1	16.356	0.5	Pass
NVNT	n20	2462	Ant1	11.289	0.5	Pass
NVNT	n40	2422	Ant1	20.047	0.5	Pass
NVNT	n40	2437	Ant1	34.466	0.5	Pass
NVNT	n40	2452	Ant1	13.885	0.5	Pass

Test Graphs
-6dB Bandwidth NVNT b 2412MHz Ant1

-6dB Bandwidth NVNT b 2437MHz Ant1

-6dB Bandwidth NVNT b 2462MHz Ant1


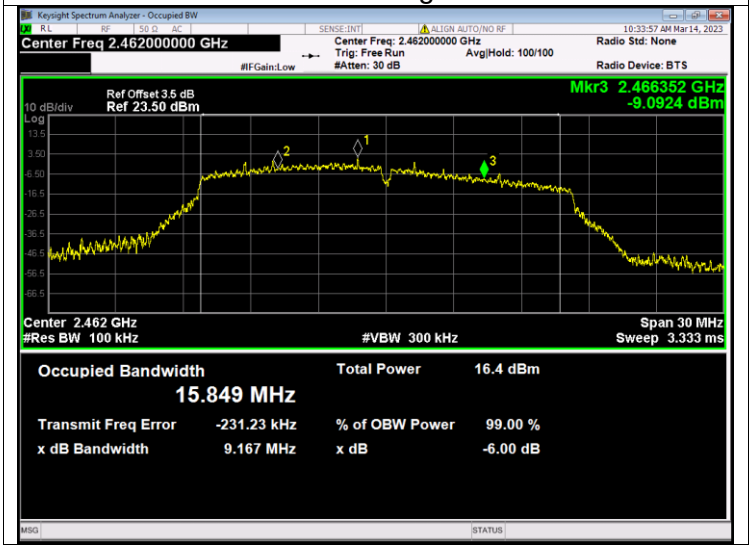
-6dB Bandwidth NVNT g 2412MHz Ant1



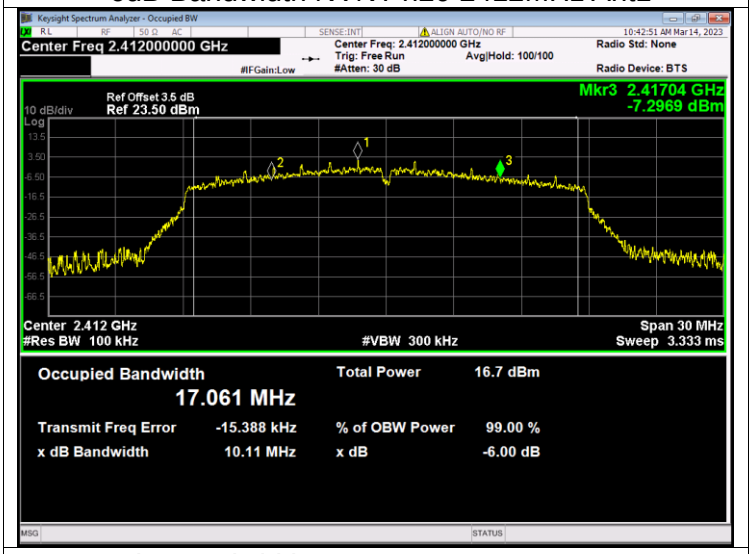
-6dB Bandwidth NVNT g 2437MHz Ant1



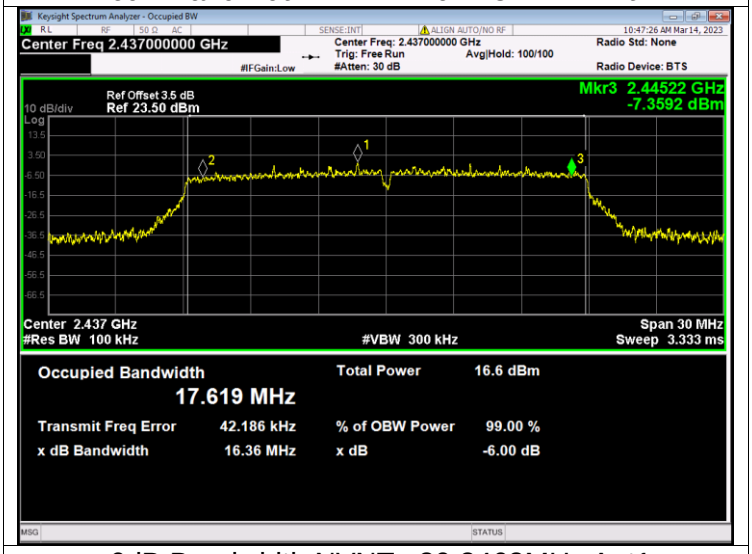
-6dB Bandwidth NVNT g 2462MHz Ant1



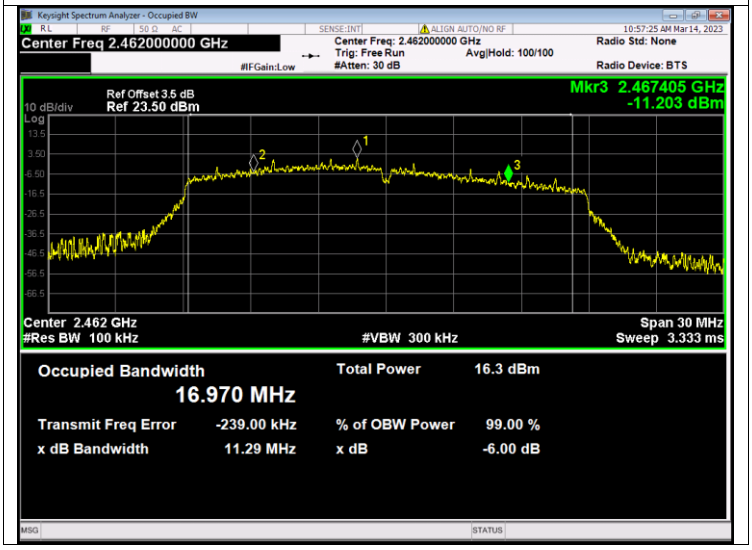
-6dB Bandwidth NVNT n20 2412MHz Ant1



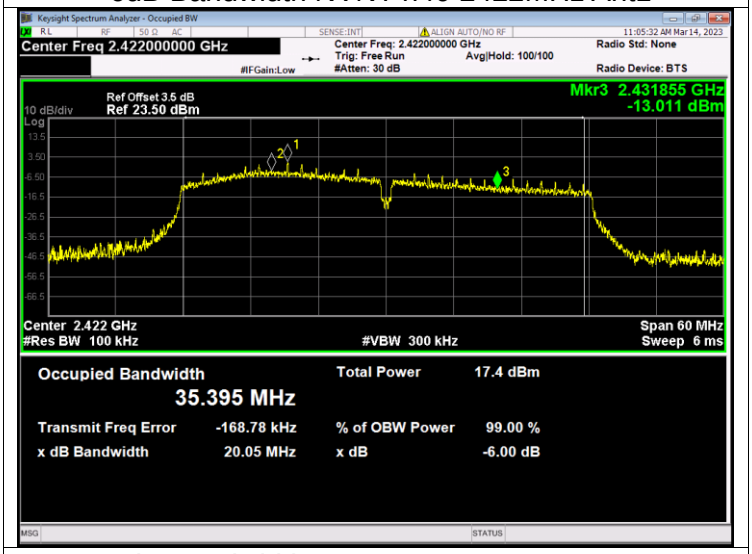
-6dB Bandwidth NVNT n20 2437MHz Ant1



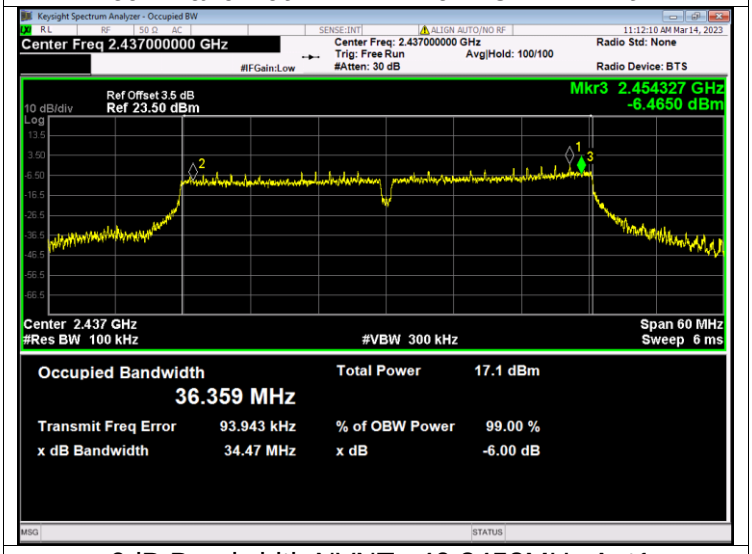
-6dB Bandwidth NVNT n20 2462MHz Ant1



-6dB Bandwidth NVNT n40 2422MHz Ant1



-6dB Bandwidth NVNT n40 2437MHz Ant1



-6dB Bandwidth NVNT n40 2452MHz Ant1