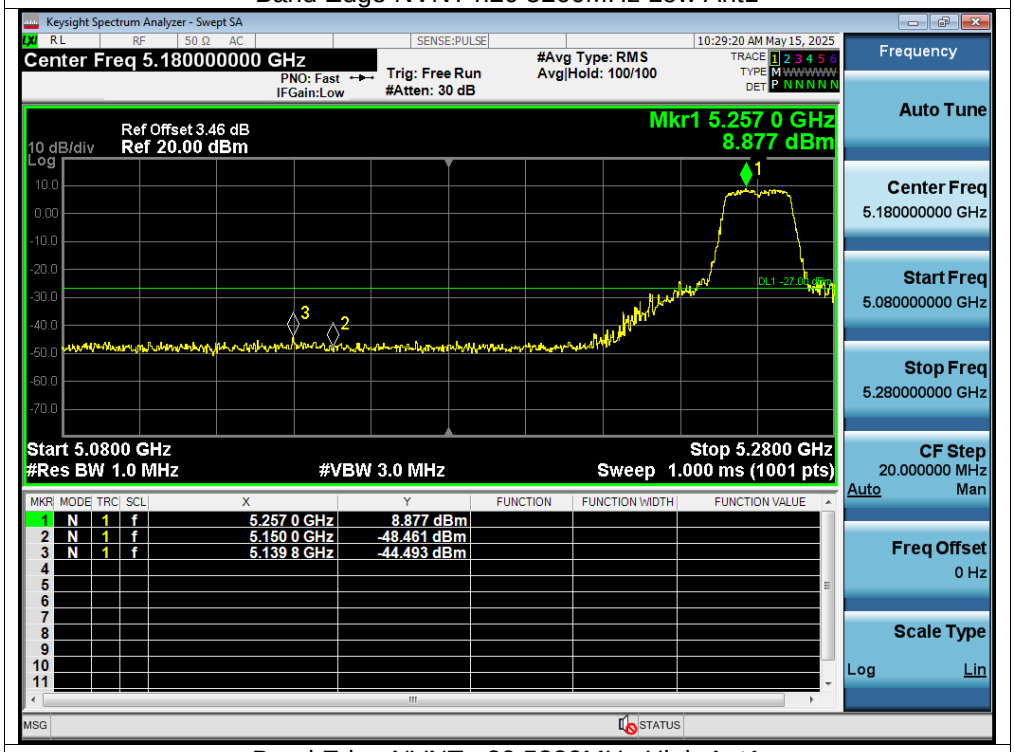
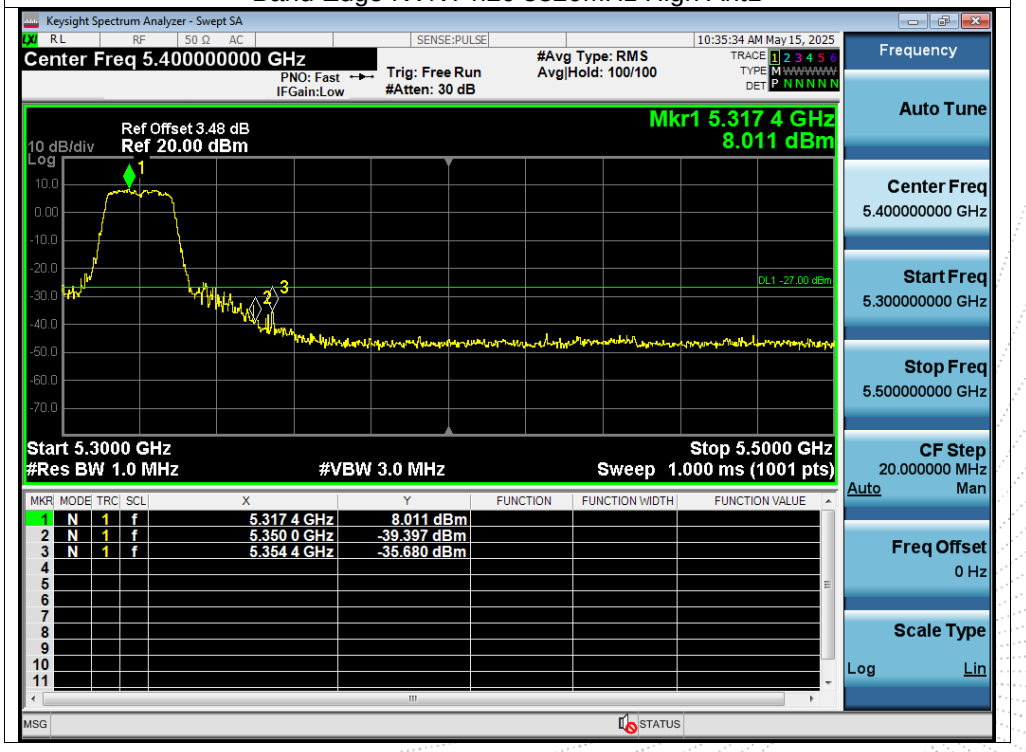
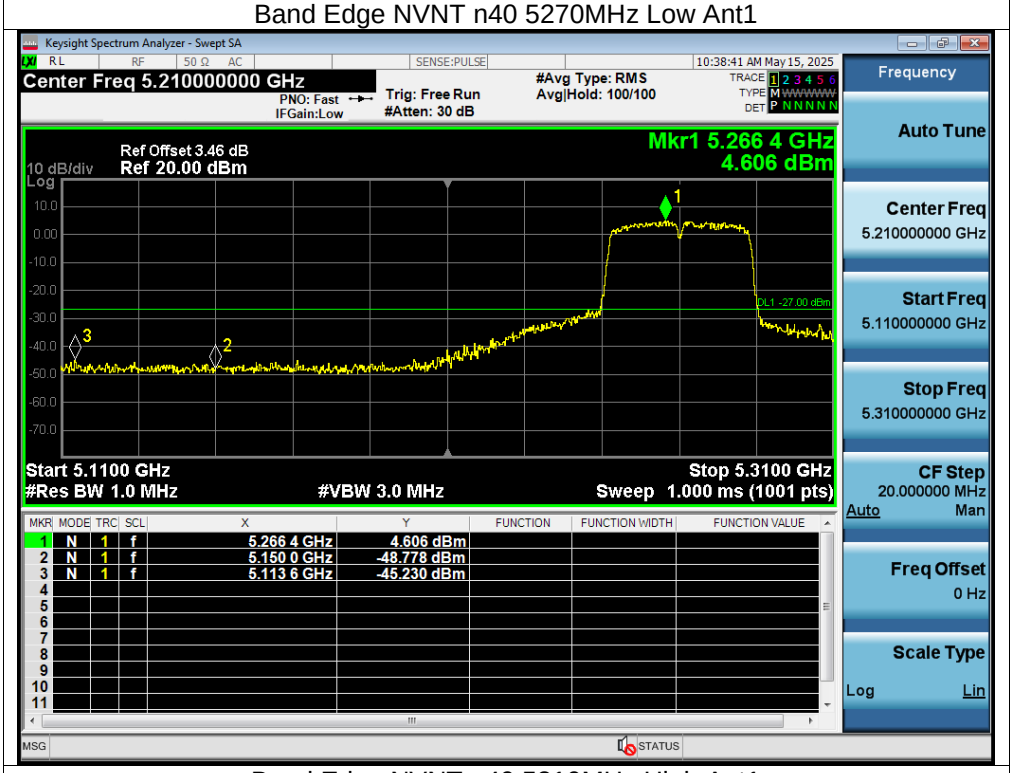
Band Edge NVNT n20 5260MHz Low Ant1



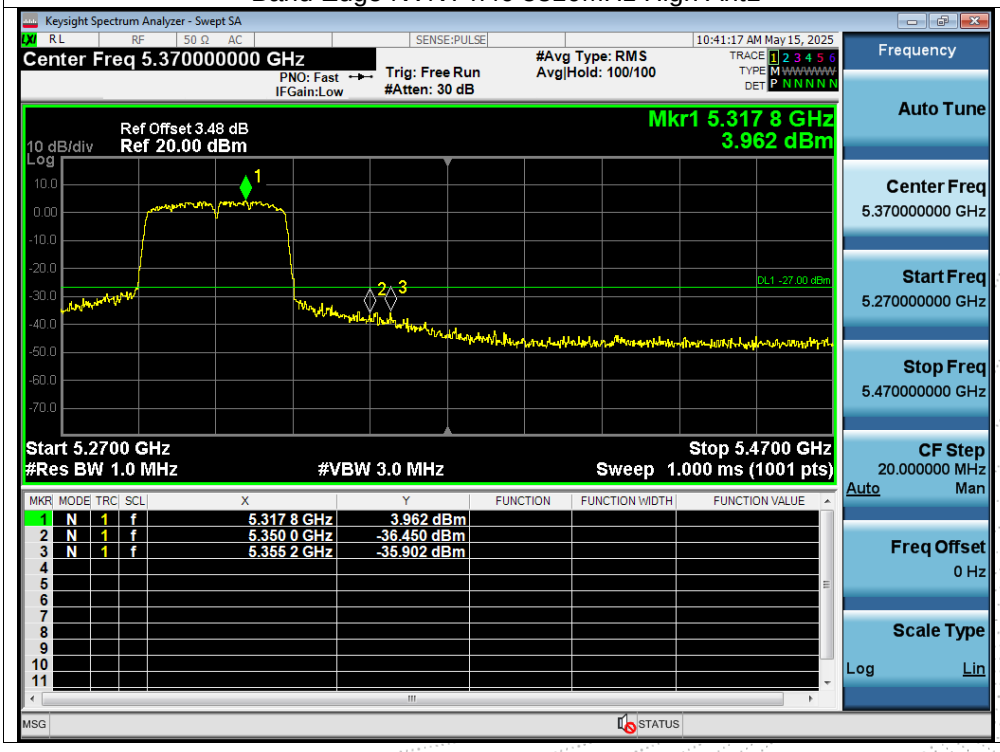
Band Edge NVNT n20 5320MHz High Ant1



Band Edge NVNT n40 5270MHz Low Ant1



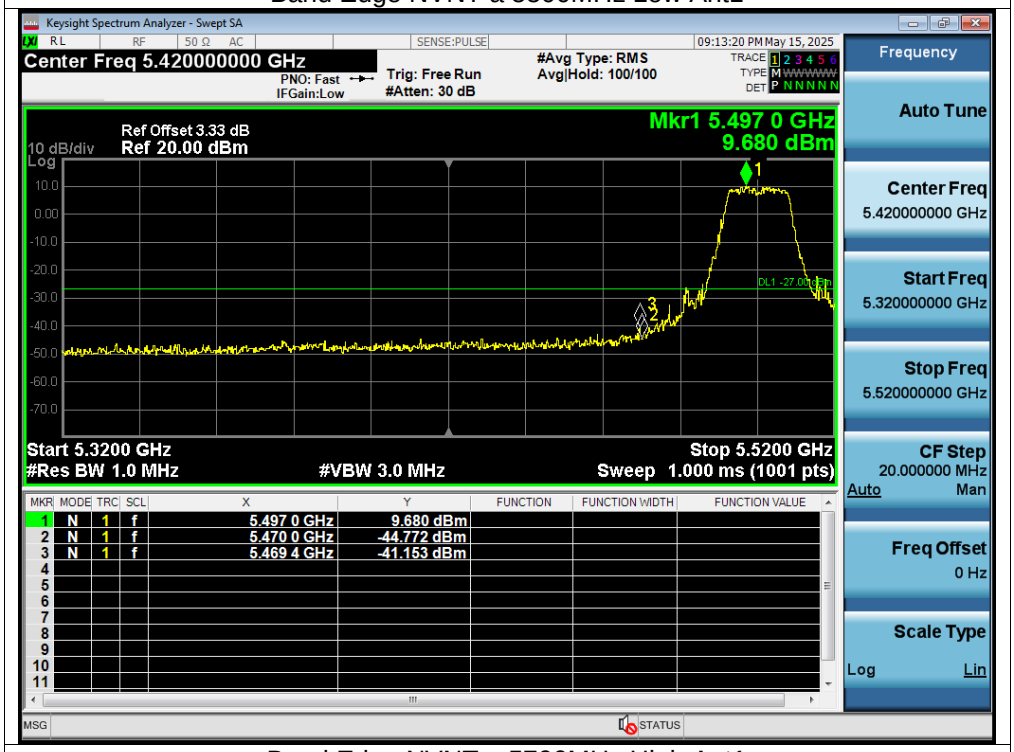
Band Edge NVNT n40 5310MHz High Ant1



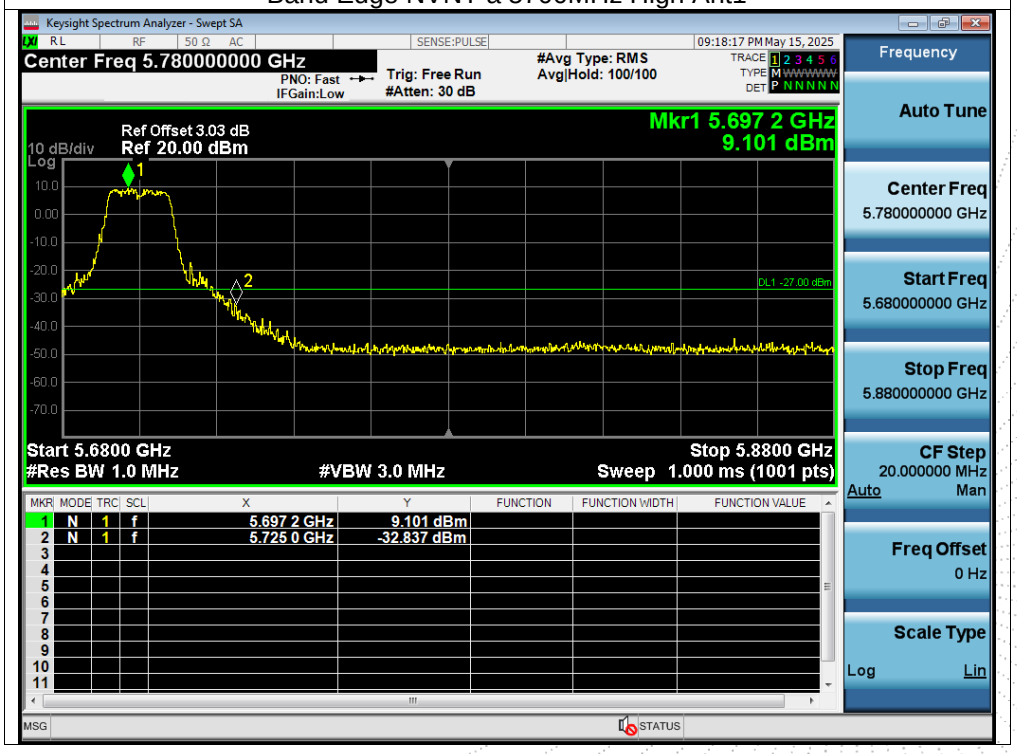
Test Mode:	5500-5700MHz

Test Graphs

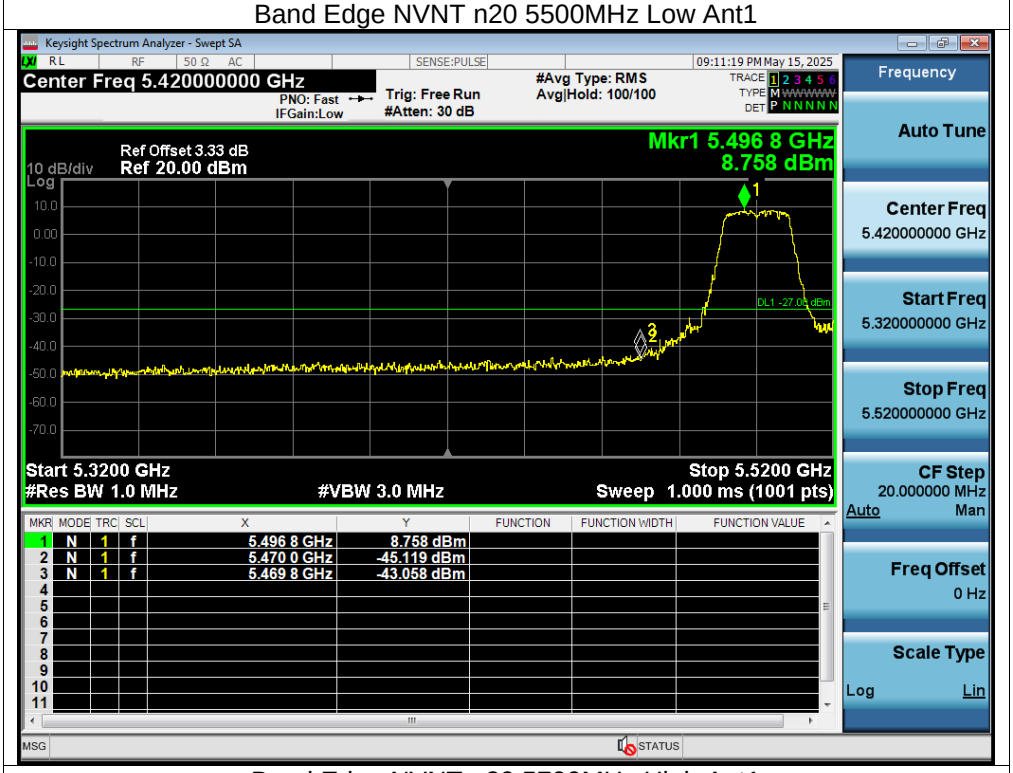
Band Edge NVNT a 5500MHz Low Ant1



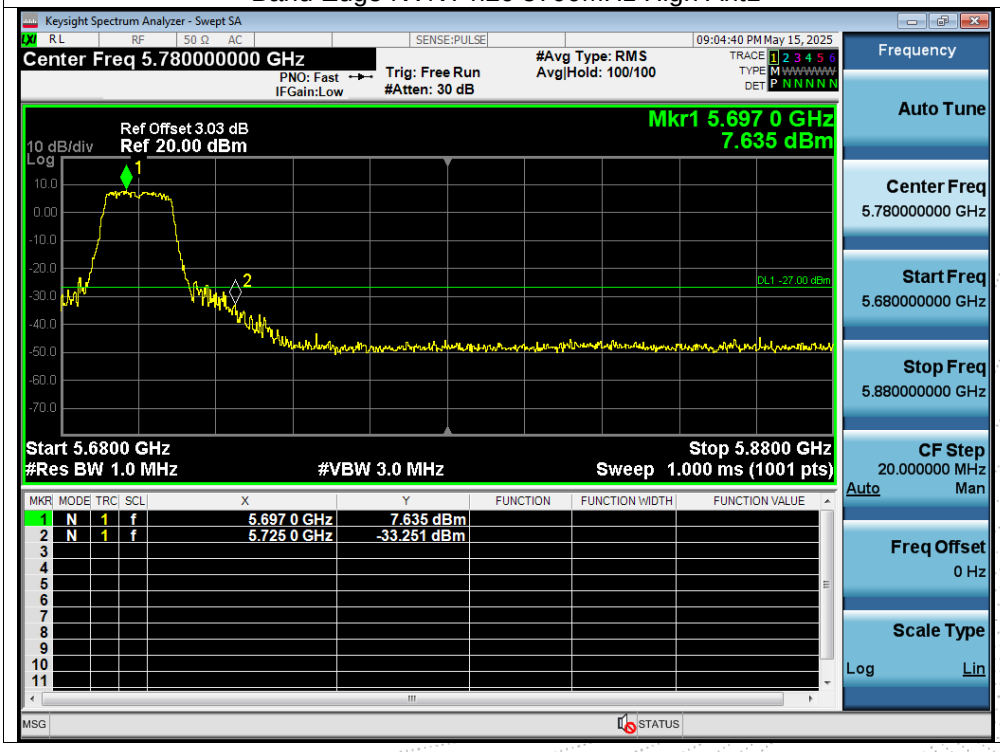
Band Edge NVNT a 5700MHz High Ant1



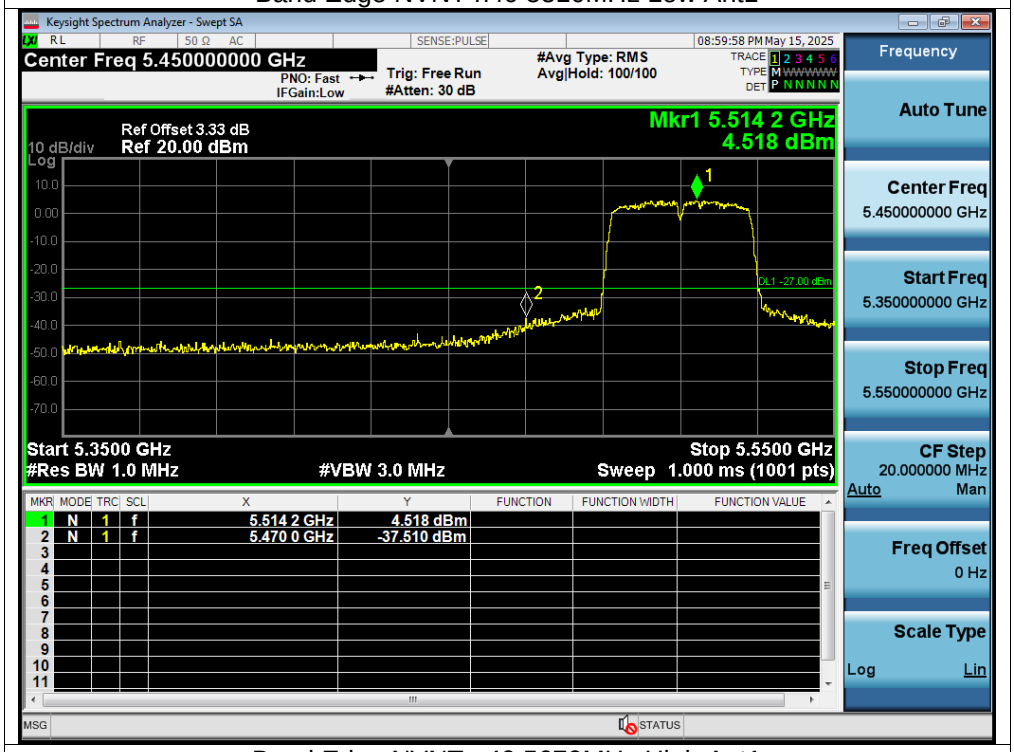
Band Edge NVNT n20 5500MHz Low Ant1



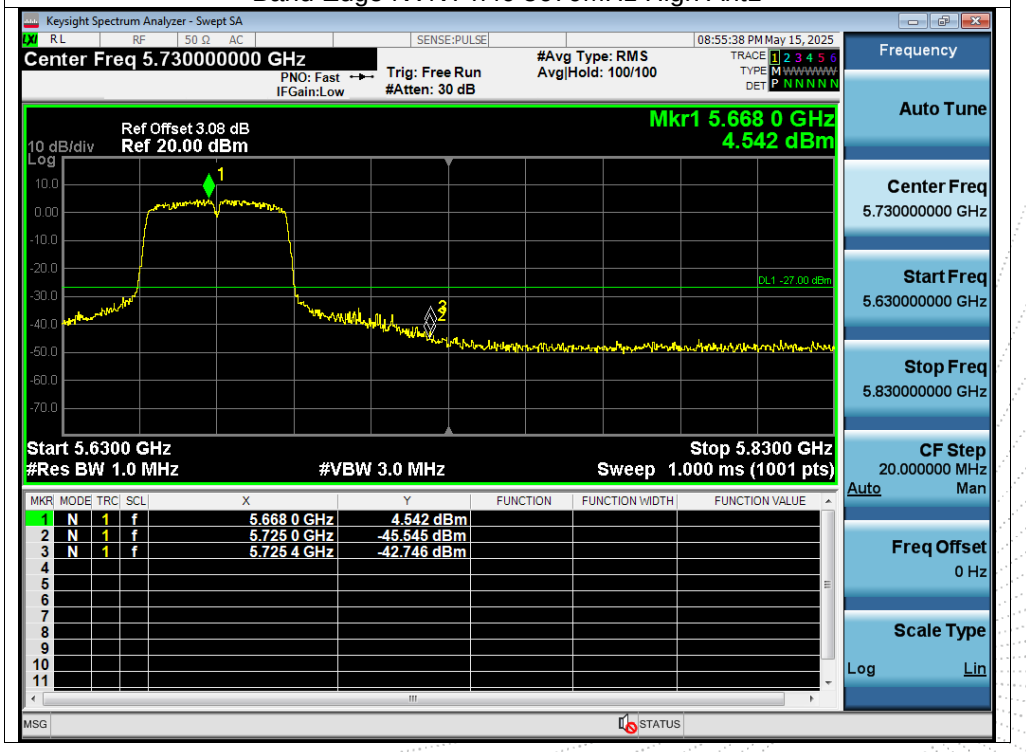
Band Edge NVNT n20 5700MHz High Ant1



Band Edge NVNT n40 5510MHz Low Ant1



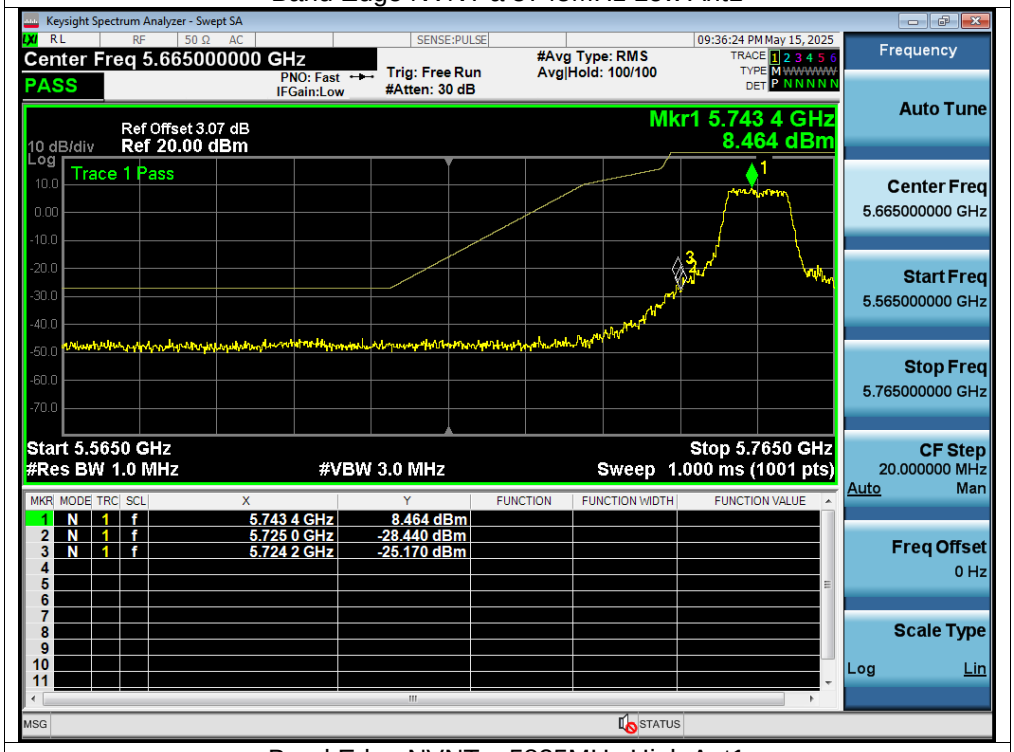
Band Edge NVNT n40 5670MHz High Ant1



Test Mode:	5745-5825MHz

Test Graphs

Band Edge NVNT a 5745MHz Low Ant1



Band Edge NVNT a 5825MHz High Ant1

Band Edge NVNT n20 5745MHz Low Ant1

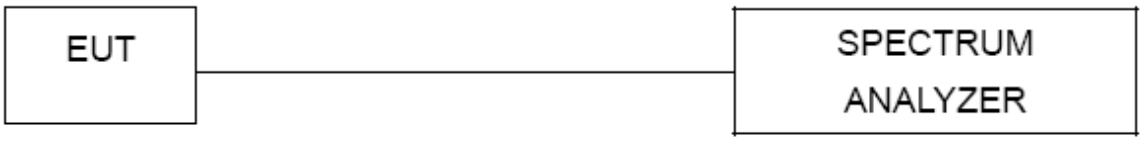
Band Edge NVNT n20 5825MHz High Ant1

Band Edge NVNT n40 5755MHz Low Ant1

Band Edge NVNT n40 5795MHz High Ant1

12. Spurious RF Conducted Emissions

12.1 Block Diagram Of Test Setup



12.2 Limit

Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:
(1)For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
(2)For transmitters operating in the 5.725-5.85 GHz band(i) All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge..
(3)For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
(4)For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

12.3 Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW of spectrum analyzer to 1 MHz with a convenient frequency span.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

12.4 Test Result

Remark: The measurement frequency range is from 9KHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the spurious emissions and bandege measurement data.

About:26.5GHz-40GHz, The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Test Mode:	5180-5240MHz

Test Graphs

Tx. Spurious NVNT a 5180MHz Ant1 Emission

Tx. Spurious NVNT a 5200MHz Ant1 Emission

Tx. Spurious NVNT a 5240MHz Ant1 Emission

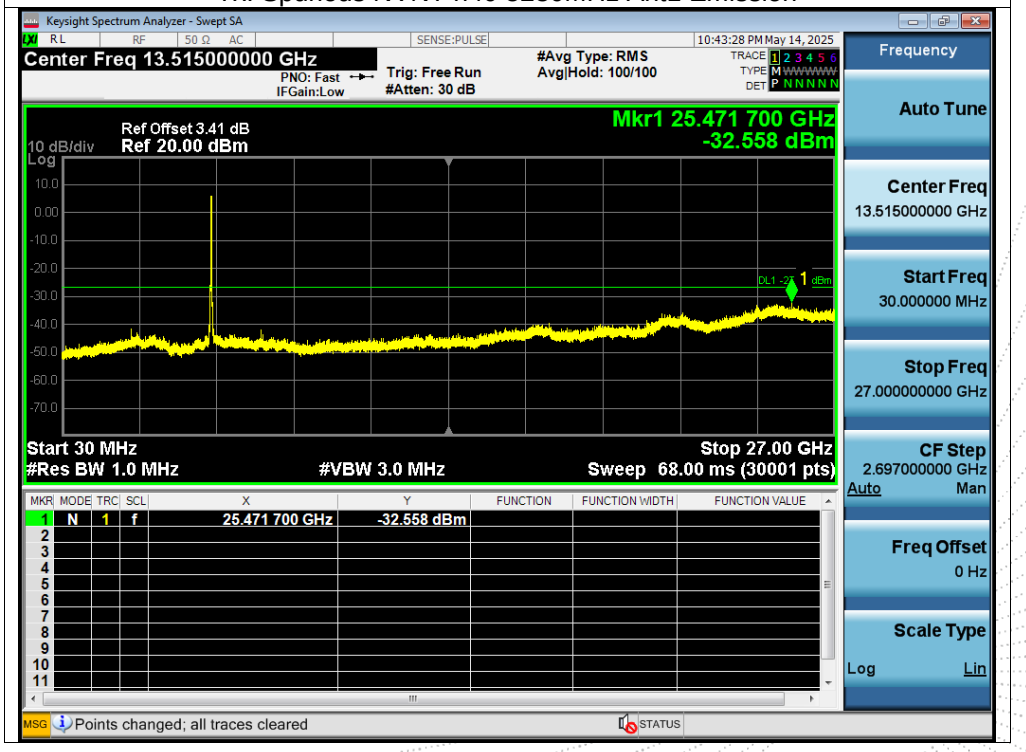
Tx. Spurious NVNT n20 5180MHz Ant1 Emission

Tx. Spurious NVNT n20 5200MHz Ant1 Emission

Tx. Spurious NVNT n20 5240MHz Ant1 Emission

Tx. Spurious NVNT n40 5190MHz Ant1 Emission

Tx. Spurious NVNT n40 5230MHz Ant1 Emission



Test Mode:	5260-5320MHz

Test Graphs

Tx. Spurious NVNT a 5260MHz Ant1 Emission

Tx. Spurious NVNT a 5280MHz Ant1 Emission

Tx. Spurious NVNT a 5320MHz Ant1 Emission

Tx. Spurious NVNT n20 5260MHz Ant1 Emission

Tx. Spurious NVNT n20 5280MHz Ant1 Emission

Tx. Spurious NVNT n20 5320MHz Ant1 Emission

Tx. Spurious NVNT n40 5270MHz Ant1 Emission

Tx. Spurious NVNT n40 5310MHz Ant1 Emission

Test Mode:	5500-5700MHz

Test Graphs

Tx. Spurious NVNT a 5500MHz Ant1 Emission

Tx. Spurious NVNT a 5580MHz Ant1 Emission

Tx. Spurious NVNT a 5700MHz Ant1 Emission

Tx. Spurious NVNT n20 5500MHz Ant1 Emission

Tx. Spurious NVNT n20 5580MHz Ant1 Emission

Tx. Spurious NVNT n20 5700MHz Ant1 Emission

Tx. Spurious NVNT n40 5510MHz Ant1 Emission

Tx. Spurious NVNT n40 5550MHz Ant1 Emission

Tx. Spurious NVNT n40 5670MHz Ant1 Emission

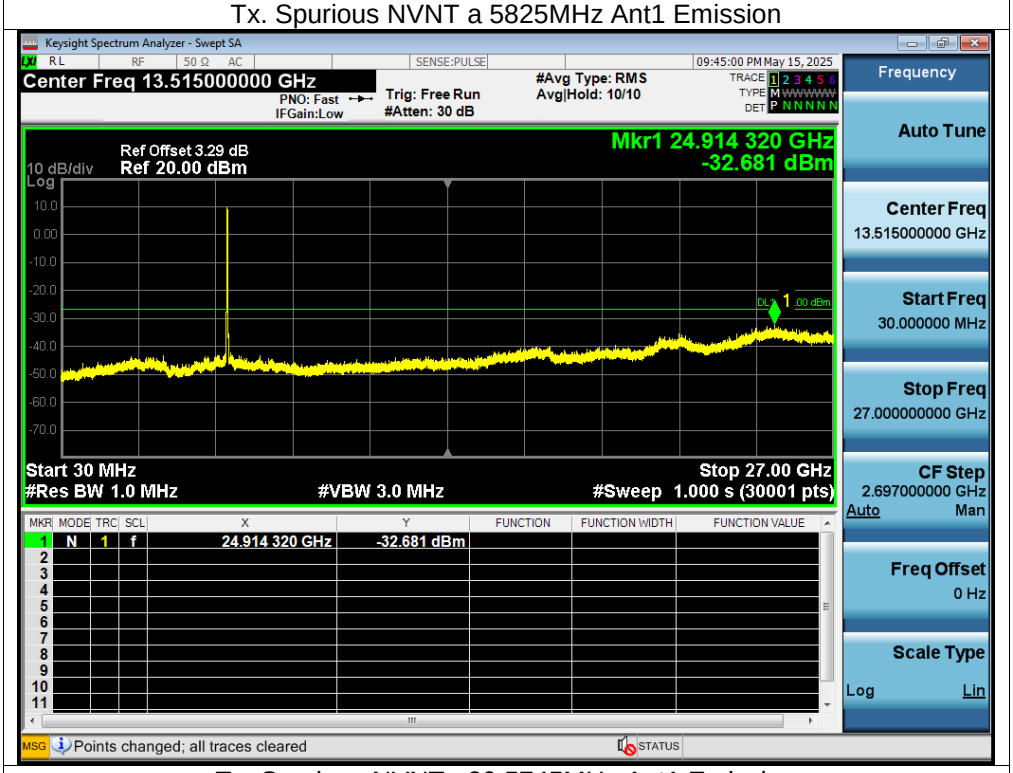
Test Mode:	5745-5825MHz

Test Graphs

Tx. Spurious NVNT a 5745MHz Ant1 Emission

Tx. Spurious NVNT a 5785MHz Ant1 Emission

Tx. Spurious NVNT a 5825MHz Ant1 Emission



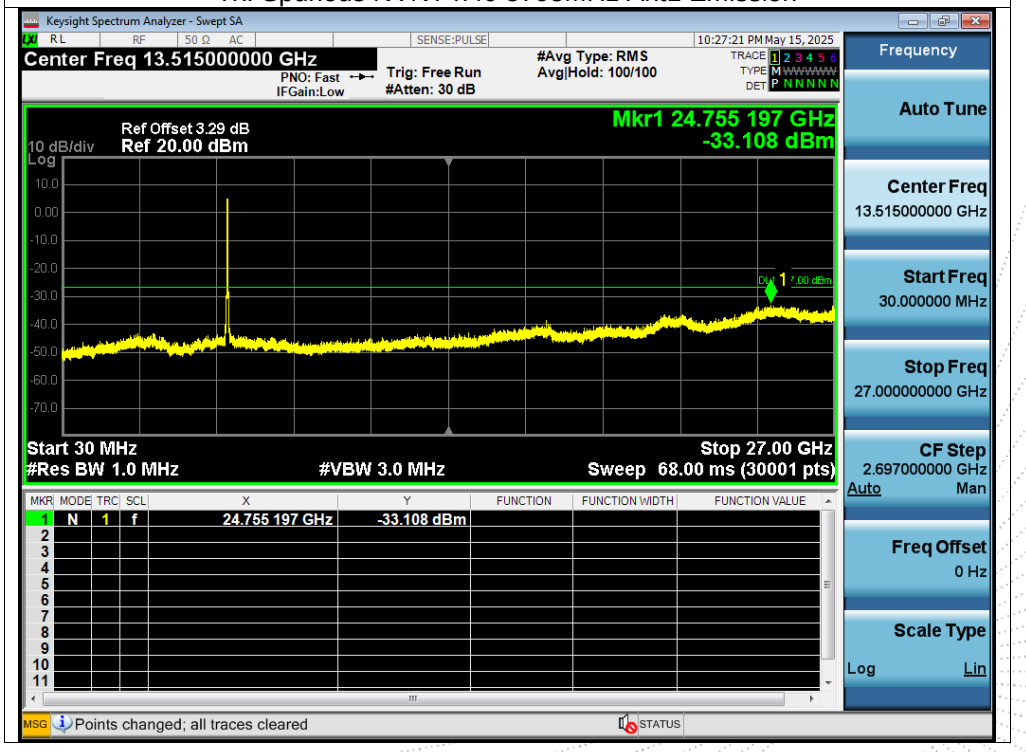
Tx. Spurious NVNT n20 5745MHz Ant1 Emission

Tx. Spurious NVNT n20 5785MHz Ant1 Emission

Tx. Spurious NVNT n20 5825MHz Ant1 Emission

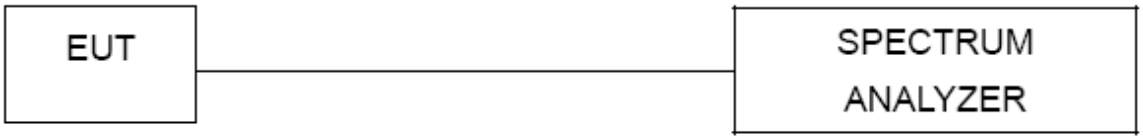
Tx. Spurious NVNT n40 5755MHz Ant1 Emission

Tx. Spurious NVNT n40 5795MHz Ant1 Emission



13. Frequency Stability Measurement

13.1 Block Diagram Of Test Setup



13.2 Limit

Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.
The transmitter center frequency tolerance shall be ± 20 ppm maximum for the 5 GHz band (IEEE 802.11n specification)..

13.3 Test Procedure

1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. EUT have transmitted absence of modulation signal and fixed channelize.
3. Set the spectrum analyzer span to view the entire absence of modulation emissions bandwidth.
4. Set RBW = 10 kHz, VBW = 10 kHz with peak detector and maxhold settings.
5. fc is declaring of channel frequency. Then the frequency error formula is (fc-f)/fc × 106 ppm and he limit is less than ±20ppm (IEEE 802.11nspecification).
6. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value
7. Extreme temperature is -20°C~70°C.

13.4 Test Result

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 3.3V
Test Mode:	TX (5.1G) Mode Frequency U-NII-1 (5180-5240MHz)		

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency:5180MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.30	5180.0104	5180	0.0104	2.0142
		V max (V)	3.80	5180.0194	5180	0.0194	3.7420
		V min (V)	2.81	5180.0062	5180	0.0062	1.1967
Limits				5150-5250 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency:5180MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	3.3	T (°C)	-20	5180.0026	5180	0.0026	0.5099
		T (°C)	-10	5180.0022	5180	0.0022	0.4286
		T (°C)	0	5180.0116	5180	0.0116	2.2346
		T (°C)	10	5180.0033	5180	0.0033	0.6368
		T (°C)	20	5180.0013	5180	0.0013	0.2491
		T (°C)	30	5180.0083	5180	0.0083	1.6009
		T (°C)	40	5180.0095	5180	0.0095	1.8380
		T (°C)	50	5180.0122	5180	0.0122	2.3621
		T (°C)	60	5180.0050	5180	0.0050	0.9696
		T (°C)	70	5180.0123	5180	0.0123	2.3825
Limits				5150-5250 MHz			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.30	5200.0010	5200	0.0010	0.1988
		V max (V)	3.80	5200.0048	5200	0.0048	0.9163
		V min (V)	2.81	5200.0101	5200	0.0101	1.9402
Limits				5150-5250 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	3.3	T (°C)	-20	5200.00939	5200	0.00939	1.8065
		T (°C)	-10	5200.01206	5200	0.01206	2.3183
		T (°C)	0	5200.00928	5200	0.00928	1.7839
		T (°C)	10	5200.01027	5200	0.01027	1.9743
		T (°C)	20	5200.01181	5200	0.01181	2.2720
		T (°C)	30	5200.00207	5200	0.00207	0.3975
		T (°C)	40	5200.00001	5200	0.00001	0.0012
		T (°C)	50	5200.01304	5200	0.01304	2.5081
		T (°C)	60	5200.00776	5200	0.00776	1.4922
		T (°C)	70	5200.01177	5200	0.01177	2.2626
Limits				5150-5250 MHz			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5240MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.30	5240.0045	5240	0.0045	0.8628
		V max (V)	3.80	5240.0042	5240	0.0042	0.8105
		V min (V)	2.81	5240.0026	5240	0.0026	0.4872
Limits				5150-5250 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5240MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	3.3	T (°C)	-20	5240.0005	5240	0.0005	0.1022
		T (°C)	-10	5240.0017	5240	0.0017	0.3153
		T (°C)	0	5240.0115	5240	0.0115	2.1859
		T (°C)	10	5240.0010	5240	0.0010	0.1939
		T (°C)	20	5240.0023	5240	0.0023	0.4415
		T (°C)	30	5240.0019	5240	0.0019	0.3715
		T (°C)	40	5240.0129	5240	0.0129	2.4615
		T (°C)	50	5240.0033	5240	0.0033	0.6316
		T (°C)	60	5240.0003	5240	0.0003	0.0555
		T (°C)	70	5240.0060	5240	0.0060	1.1493
Limits				5150-5250 MHz			
Result				Complies			

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 3.3V
Test Mode:	TX (5.3G) Mode Frequency U-NII-2A (5260-5320MHz)		

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency:5260MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.30	5260.0100	5260	0.0100	1.8958
		V max (V)	3.80	5260.0043	5260	0.0043	0.8110
		V min (V)	2.81	5260.0083	5260	0.0083	1.5732
Limits				5250-5350 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency:5260MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	3.3	T (°C)	-20	5260.0017	5260	0.0017	0.3236
		T (°C)	-10	5260.0121	5260	0.0121	2.2984
		T (°C)	0	5260.0118	5260	0.0118	2.2494
		T (°C)	10	5260.0135	5260	0.0135	2.5705
		T (°C)	20	5260.0002	5260	0.0002	0.0326
		T (°C)	30	5260.0071	5260	0.0071	1.3546
		T (°C)	40	5260.0061	5260	0.0061	1.1589
		T (°C)	50	5260.0029	5260	0.0029	0.5573
		T (°C)	60	5260.0074	5260	0.0074	1.4012
		T (°C)	70	5260.0026	5260	0.0026	0.5010
Limits				5250-5350 MHz			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5280MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.30	5280.0119	5280	0.0119	2.2469
		V max (V)	3.80	5280.0038	5280	0.0038	0.7140
		V min (V)	2.81	5280.0032	5280	0.0032	0.6015
Limits				5250-5350 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5280MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	3.3	T (°C)	-20	5280.00932	5280	0.00932	1.7647
		T (°C)	-10	5280.00651	5280	0.00651	1.2329
		T (°C)	0	5280.00117	5280	0.00117	0.2207
		T (°C)	10	5280.00772	5280	0.00772	1.4628
		T (°C)	20	5280.00105	5280	0.00105	0.1989
		T (°C)	30	5280.00579	5280	0.00579	1.0965
		T (°C)	40	5280.01196	5280	0.01196	2.2660
		T (°C)	50	5280.00448	5280	0.00448	0.8478
		T (°C)	60	5280.01250	5280	0.01250	2.3668
		T (°C)	70	5280.00995	5280	0.00995	1.8837
Limits				5250-5350 MHz			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5320MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.30	5320.0082	5320	0.0082	1.5385
		V max (V)	3.80	5320.0050	5320	0.0050	0.9384
		V min (V)	2.81	5320.0052	5320	0.0052	0.9864
Limits				5250-5350 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5320MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	3.3	T (°C)	-20	5320.0018	5320	0.0018	0.3351
		T (°C)	-10	5320.0067	5320	0.0067	1.2652
		T (°C)	0	5320.0082	5320	0.0082	1.5460
		T (°C)	10	5320.0097	5320	0.0097	1.8312
		T (°C)	20	5320.0016	5320	0.0016	0.3040
		T (°C)	30	5320.0094	5320	0.0094	1.7745
		T (°C)	40	5320.0087	5320	0.0087	1.6287
		T (°C)	50	5320.0099	5320	0.0099	1.8642
		T (°C)	60	5320.0087	5320	0.0087	1.6298
		T (°C)	70	5320.0056	5320	0.0056	1.0580
Limits				5250-5350 MHz			
Result				Complies			

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 3.3V
Test Mode:	TX (5.6G) Mode Frequency U-NII-2C (5500-5700MHz)		

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency:5500MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.30	5500.0136	5500	0.0136	2.4788
		V max (V)	3.80	5500.0088	5500	0.0088	1.6040
		V min (V)	2.81	5500.0109	5500	0.0109	1.9888
Limits				5470-5720 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency:5500MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	3.3	T (°C)	-20	5500.0070	5500	0.0070	1.2706
		T (°C)	-10	5500.0027	5500	0.0027	0.4827
		T (°C)	0	5500.0073	5500	0.0073	1.3263
		T (°C)	10	5500.0051	5500	0.0051	0.9191
		T (°C)	20	5500.0025	5500	0.0025	0.4494
		T (°C)	30	5500.0072	5500	0.0072	1.3084
		T (°C)	40	5500.0081	5500	0.0081	1.4760
		T (°C)	50	5500.0056	5500	0.0056	1.0128
		T (°C)	60	5500.0086	5500	0.0086	1.5546
		T (°C)	70	5500.0033	5500	0.0033	0.6065
Limits				5470-5720 MHz			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5580MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.30	5580.0007	5580	0.0007	0.1228
		V max (V)	3.80	5580.0062	5580	0.0062	1.1188
		V min (V)	2.81	5580.0081	5580	0.0081	1.4497
Limits				5470-5720 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5580MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	3.3	T (°C)	-20	5580.00252	5580	0.00252	0.4509
		T (°C)	-10	5580.00488	5580	0.00488	0.8746
		T (°C)	0	5580.00862	5580	0.00862	1.5443
		T (°C)	10	5580.00253	5580	0.00253	0.4536
		T (°C)	20	5580.01314	5580	0.01314	2.3549
		T (°C)	30	5580.00692	5580	0.00692	1.2403
		T (°C)	40	5580.00556	5580	0.00556	0.9964
		T (°C)	50	5580.00700	5580	0.00700	1.2547
		T (°C)	60	5580.00396	5580	0.00396	0.7102
		T (°C)	70	5580.00553	5580	0.00553	0.9903
Limits				5470-5720 MHz			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency:5700MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.30	5700.0024	5700	0.0024	0.4211
		V max (V)	3.80	5700.0058	5700	0.0058	1.0223
		V min (V)	2.81	5700.0048	5700	0.0048	0.8379
Limits				5470-5720 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency:5700MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	3.3	T (°C)	-20	5700.0031	5700	0.0031	0.5441
		T (°C)	-10	5700.0057	5700	0.0057	0.9955
		T (°C)	0	5700.0088	5700	0.0088	1.5504
		T (°C)	10	5700.0121	5700	0.0121	2.1202
		T (°C)	20	5700.0000	5700	0.0000	0.0027
		T (°C)	30	5700.0086	5700	0.0086	1.5046
		T (°C)	40	5700.0067	5700	0.0067	1.1697
		T (°C)	50	5700.0089	5700	0.0089	1.5671
		T (°C)	60	5700.0104	5700	0.0104	1.8177
		T (°C)	70	5700.0127	5700	0.0127	2.2224
Limits				5470-5720 MHz			
Result				Complies			

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 3.3V
Test Mode:	TX (5.8G) Mode Frequency U-NII-3 (5745-5825MHz)		

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency:5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.30	5745.00568	5745	0.00568	0.9887
		V max (V)	3.80	5745.00703	5745	0.00703	1.2243
		V min (V)	2.81	5745.00126	5745	0.00126	0.2200
Limits				5725-5850 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency:5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	3.3	T (°C)	-20	5745.00257	5745	0.00257	0.4468
		T (°C)	-10	5745.00377	5745	0.00377	0.6560
		T (°C)	0	5745.00214	5745	0.00214	0.3720
		T (°C)	10	5745.01046	5745	0.01046	1.8209
		T (°C)	20	5745.01045	5745	0.01045	1.8190
		T (°C)	30	5745.00736	5745	0.00736	1.2809
		T (°C)	40	5745.00651	5745	0.00651	1.1331
		T (°C)	50	5745.00046	5745	0.00046	0.0804
		T (°C)	60	5745.00377	5745	0.00377	0.6556
		T (°C)	70	5745.00251	5745	0.00251	0.4368
Limits				5725-5850 MHz			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5785MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.30	5785.00288	5785	0.00288	0.4975
		V max (V)	3.80	5785.01057	5785	0.01057	1.8273
		V min (V)	2.81	5785.00883	5785	0.00883	1.5256
Limits				5725-5850 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5785MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	3.3	T (°C)	-20	5785.00374	5785	0.00374	0.6472
		T (°C)	-10	5785.00476	5785	0.00476	0.8229
		T (°C)	0	5785.00202	5785	0.00202	0.3500
		T (°C)	10	5785.00889	5785	0.00889	1.5361
		T (°C)	20	5785.00077	5785	0.00077	0.1329
		T (°C)	30	5785.01316	5785	0.01316	2.2742
		T (°C)	40	5785.01173	5785	0.01173	2.0272
		T (°C)	50	5785.01042	5785	0.01042	1.8015
		T (°C)	60	5785.00008	5785	0.00008	0.0146
		T (°C)	70	5785.00640	5785	0.00640	1.1071
Limits				5725-5850 MHz			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.30	5825.00507	5825	0.00507	0.8705
		V max (V)	3.80	5825.00419	5825	0.00419	0.7193
		V min (V)	2.81	5825.00639	5825	0.00639	1.0974
Limits				5725-5850 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	3.3	T (°C)	-20	5825.00475	5825	0.00475	0.8151
		T (°C)	-10	5825.01215	5825	0.01215	2.0858
		T (°C)	0	5825.01041	5825	0.01041	1.7876
		T (°C)	10	5825.01242	5825	0.01242	2.1320
		T (°C)	20	5825.01175	5825	0.01175	2.0171
		T (°C)	30	5825.00714	5825	0.00714	1.2265
		T (°C)	40	5825.00479	5825	0.00479	0.8220
		T (°C)	50	5825.00722	5825	0.00722	1.2399
		T (°C)	60	5825.01147	5825	0.01147	1.9692
		T (°C)	70	5825.00529	5825	0.00529	0.9088
Limits				5725-5850 MHz			
Result				Complies			

14. Duty Cycle Of Test Signal

14.1 Standard Requirement

Pre-analysis Check: While conducting average power measurement, duty cycle of each mode shall be checked to ensure its duty cycle in order to compensate for the loss due to insufficient ratio of duty cycle. All duty cycle is pre-scanned, and result as obtained below shows only the most representative ones where duty cycle is conducted as the given transmission with given virtual operation that expresses the percentage.

14.2 Formula

Duty Cycle = Ton / (Ton+Toff)

14.3 Test Procedure

1.Set span = Zero
2. RBW = 8MHz
3. VBW = 8MHz,
4. Detector = Peak

14.4 Test Result

Condition	Mode	Frequency (MHz)	Duty Cycle (%)
NVNT	a	5180	100
NVNT	a	5200	100
NVNT	a	5240	100
NVNT	n20	5180	100
NVNT	n20	5200	100
NVNT	n20	5240	100
NVNT	n40	5190	100
NVNT	n40	5230	100

Condition	Mode	Frequency (MHz)	Duty Cycle (%)
NVNT	a	5260	100
NVNT	a	5280	100
NVNT	a	5320	100
NVNT	n20	5260	100
NVNT	n20	5280	100
NVNT	n20	5320	100
NVNT	n40	5270	100
NVNT	n40	5310	100

Condition	Mode	Frequency (MHz)	Duty Cycle (%)
NVNT	a	5500	100
NVNT	a	5580	100
NVNT	a	5700	100
NVNT	n20	5500	100
NVNT	n20	5580	100
NVNT	n20	5700	100
NVNT	n40	5510	100
NVNT	n40	5550	100
NVNT	n40	5670	100

Condition	Mode	Frequency (MHz)	Duty Cycle (%)
NVNT	a	5745	100
NVNT	a	5785	100
NVNT	a	5825	100
NVNT	n20	5745	100
NVNT	n20	5785	100
NVNT	n20	5825	100
NVNT	n40	5755	100
NVNT	n40	5795	100

15. Antenna Requirement

15.1 Limit

15.203 requirements:
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217,§15.219, or §15.221. Further, this requirement does not apply to intentionalradiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

15.2 Test Result

The EUT antenna is PCB antenna Gain 3.01dBi, not using a standard antenna jack or electrical connector for antenna replacement, fulfill the requirement of this section.