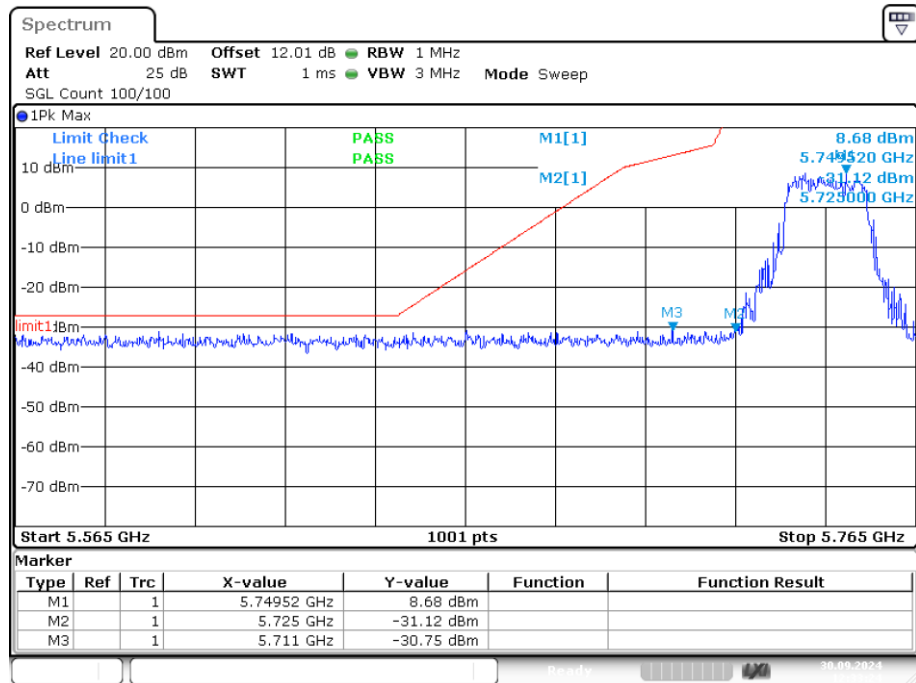
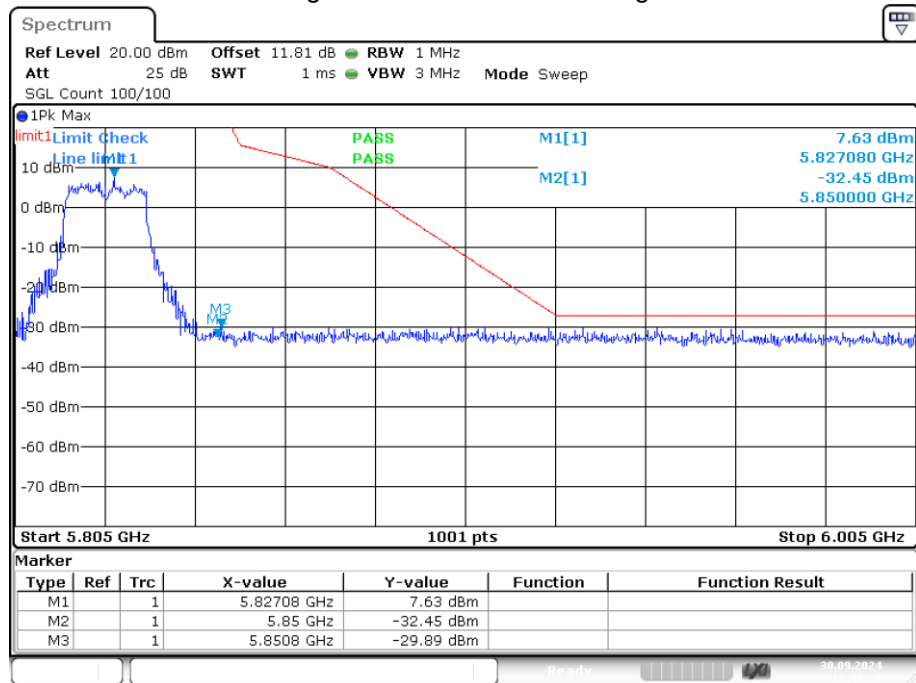
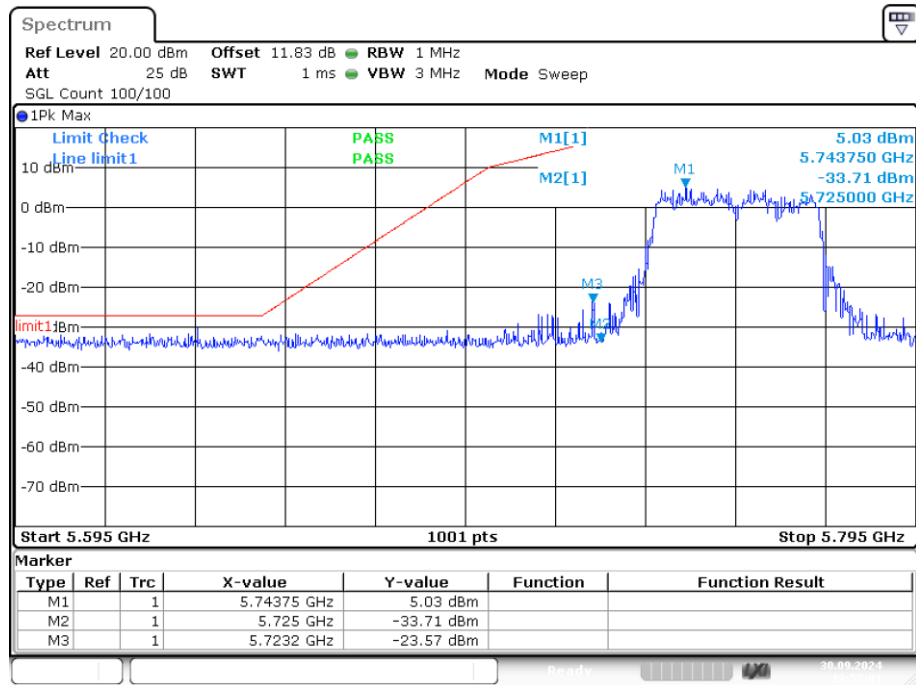




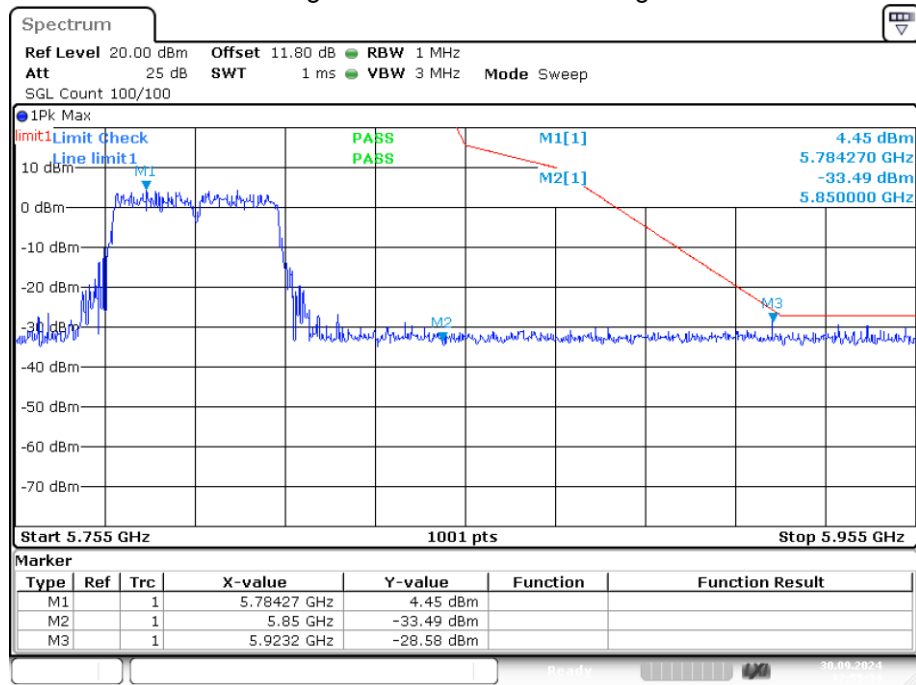
Band Edge NVNT ac20 5825MHz High Ant1



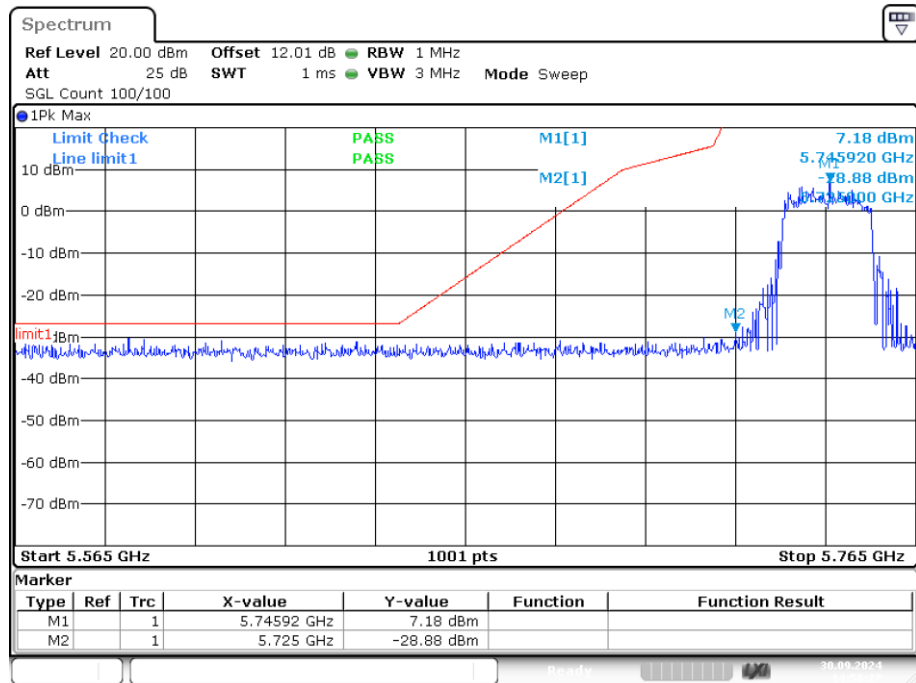
Band Edge NVNT ac40 5755MHz Low Ant1



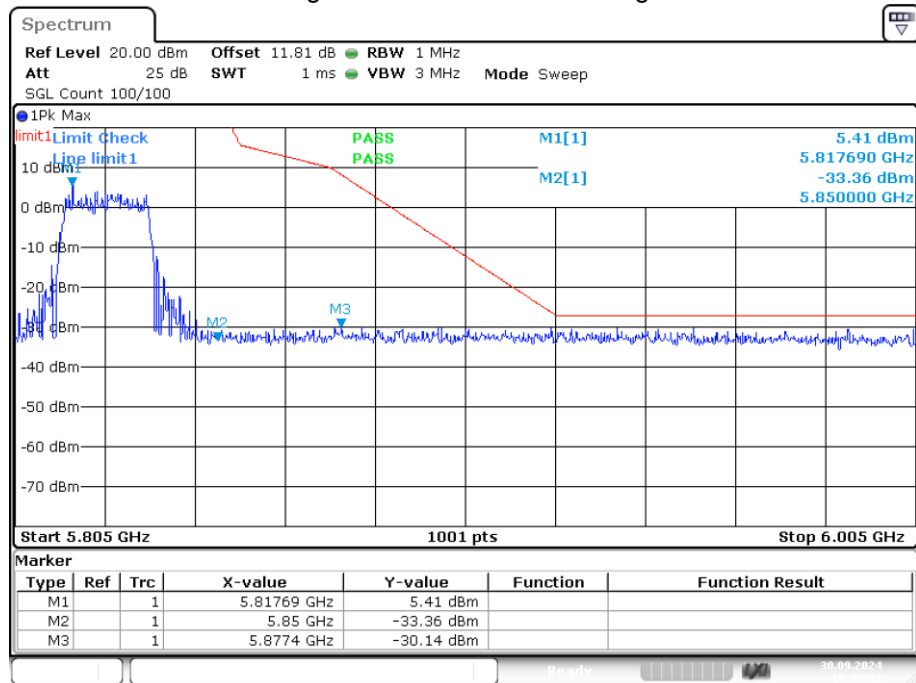
Band Edge NVNT ac40 5795MHz High Ant1



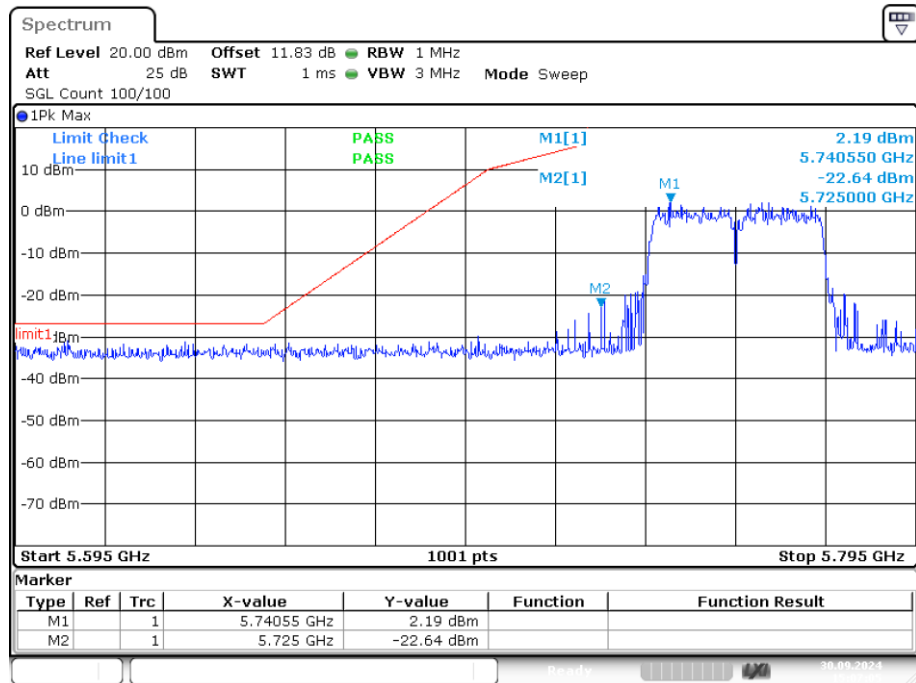
Band Edge NVNT ax20 5745MHz Low Ant1



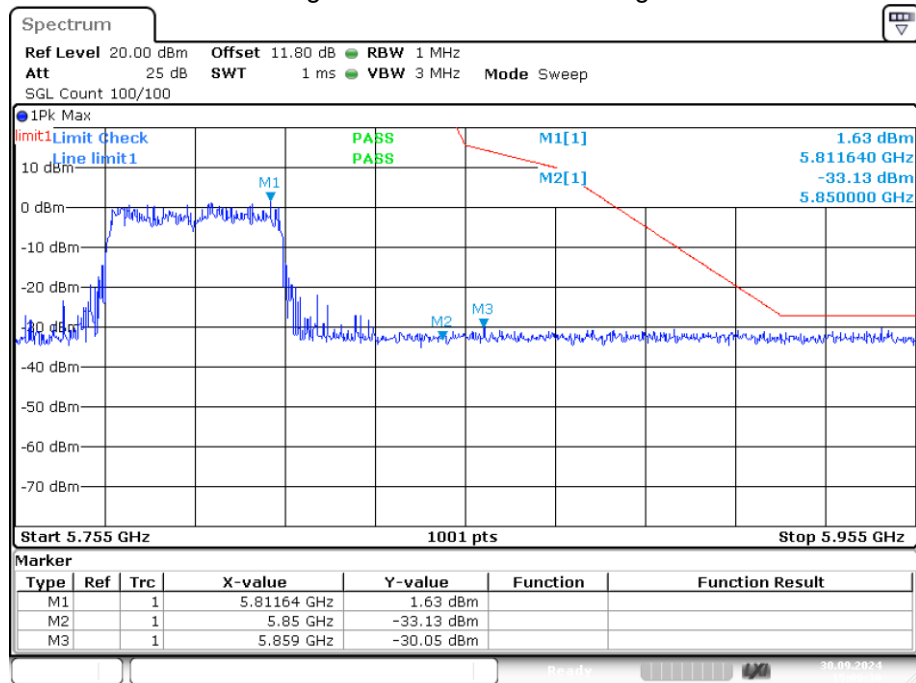
Band Edge NVNT ax20 5825MHz High Ant1



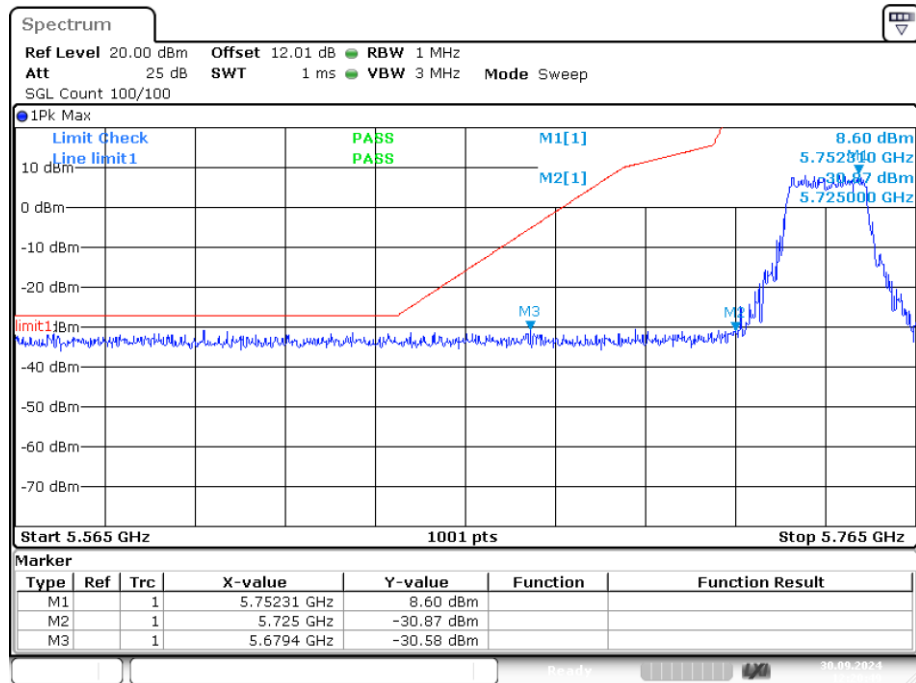
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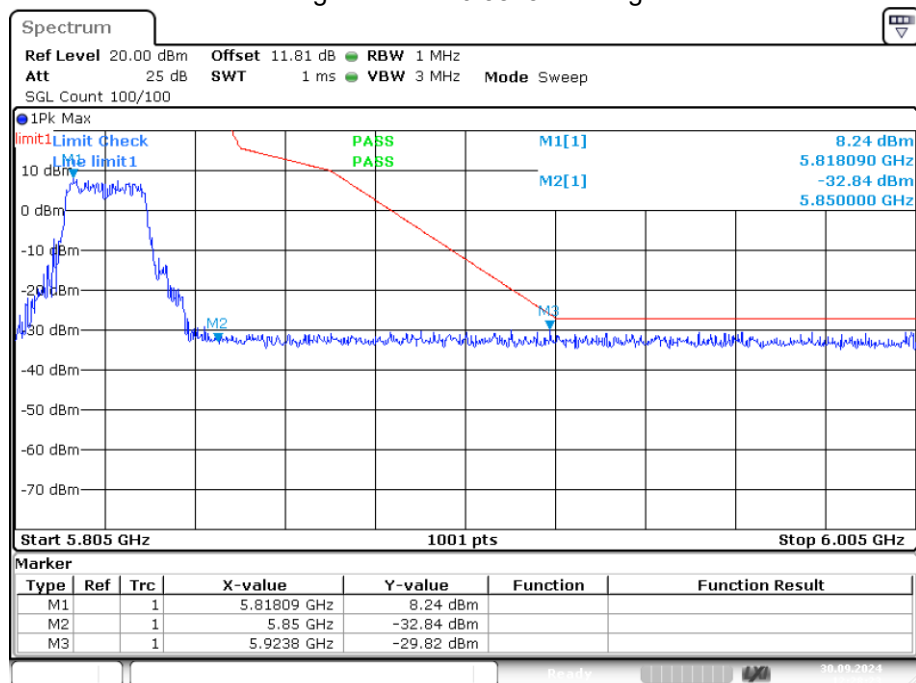
Band Edge NVNT ax40 5795MHz High Ant1



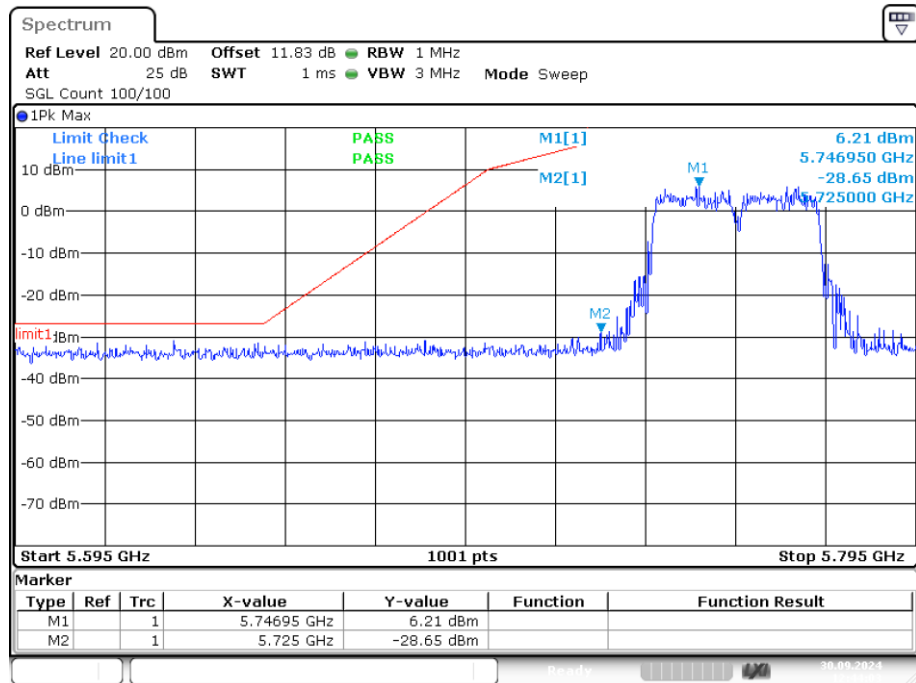
Band Edge NVNT n20 5745MHz Low Ant1



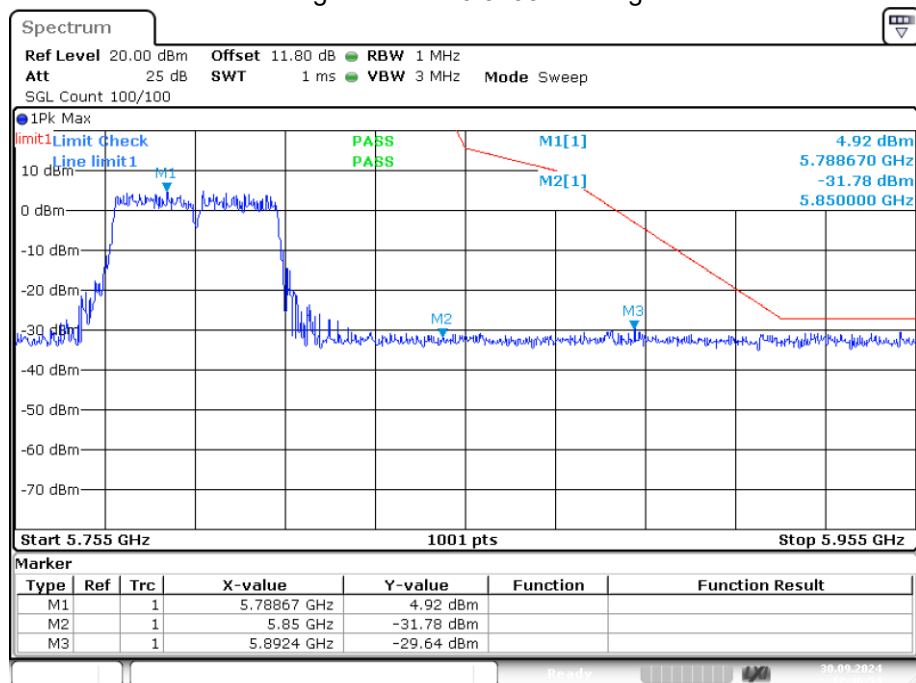
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Band Edge NVNT n40 5755MHz Low Ant1

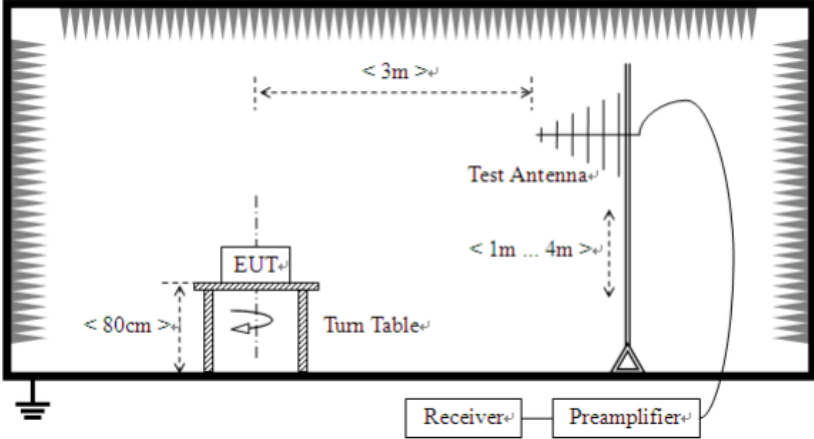


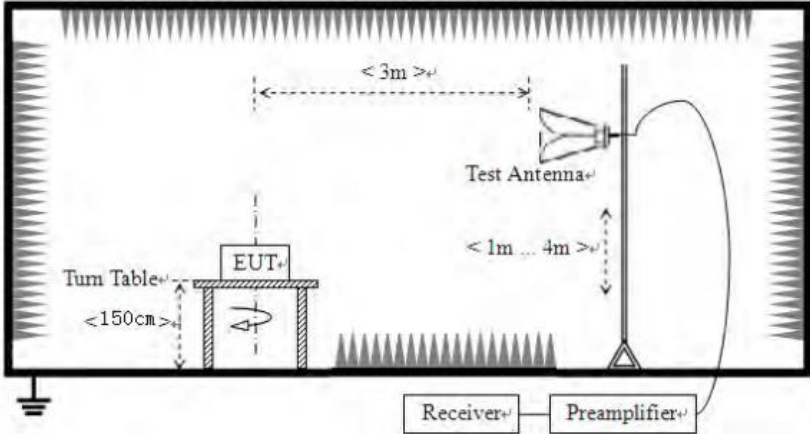
Band Edge NVNT n40 5795MHz High Ant1



4.7 Radiated Emission

Test Requirement:	FCC Part15 C Section 15.209 and 15.205				
Test Method:	ANSI C63.10:2013				
Test Frequency Range:	30MHz to 40GHz				
Test site:	Measurement Distance: 3m (Semi-Anechoic Chamber)				
Receiver setup:	Frequency	Detector	RBW	VBW	Value
	30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		AV	1MHz	3MHz	Average Value
Limit:	Frequency		Limit (dBuV/m @3m)		Remark
	30MHz-88MHz		40.0		Quasi-peak Value
	88MHz-216MHz		43.5		Quasi-peak Value
	216MHz-960MHz		46.0		Quasi-peak Value
	960MHz-1GHz		54.0		Quasi-peak Value
	Above 1GHz		74.0		Peak Value
			54.0		Average Value
Test Procedure:	Substitution method was performed to determine the actual ERP emission levels of the EUT. The following test procedure as below: 1>.Below 1GHz test procedure: 1. The EUT was placed on the top of a rotating table (0.8m for below 1GHz and 1.5 meters for above 1GHz) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. 4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. 2>.Above 1GHz test procedure: 1. On the test site as test setup graph above, the EUT shall be placed at the 1.5m support on the turntable and in the position closest to normal use as declared by the provider. 2. The test antenna shall be oriented initially for vertical polarization and shall be chosen to correspond to the frequency of the transmitter.The output of the test antenna shall be connected to the measuring receiver. 3. The transmitter shall be switched on, if possible, without modulation and the measuring receiver shall be tuned to the frequency of the transmitter under test.				

	4. The test antenna shall be raised and lowered from 1m to 4m until a maximum signal level is detected by the measuring receiver. Then the turntable should be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver. 5. Repeat step 4 for test frequency with the test antenna polarized horizontally. 6. Remove the transmitter and replace it with a substitution antenna 7. Feed the substitution antenna at the transmitter end with a signal generator connected to the antenna by means of a nonradiating cable. With the antennas at both ends vertically polarized, and with the signal generator tuned to a particular test frequency, raise and lower the test antenna to obtain a maximum reading at the spectrum analyzer. Adjust the level of the signal generator output until the previously recorded maximum reading for this set of conditions is obtained. This should be done carefully repeating the adjustment of the test antenna and generator output. 8. Repeat step 7 with both antennas horizontally polarized for each test frequency. 9. Calculate power in dBm into a reference ideal half-wave dipole antenna by reducing the readings obtained in steps 7 and 8 by the power loss in the cable between the generator and the antenna, and further corrected for the gain of the substitution antenna used relative to an ideal half-wave dipole antenna by the following formula: $\text{EIRP(dBm)} = \text{Pg(dBm)} - \text{cable loss (dB)} + \text{antenna gain (dBi)}$ where: Pg is the generator output power into the substitution antenna.
Test setup:	Below 1GHz  Above 1GHz

	
Test Instruments:	Refer to section 5.10 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Measurement Data:**Below 1GHz**

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
34.43	47.71	11.25	0.59	30.08	29.47	40	-10.53	Vertical
53.36	40.97	11.93	0.81	29.96	23.75	40	-16.25	Vertical
120.69	46.75	9.4	1.36	29.57	27.94	43.5	-15.56	Vertical
171.46	43.41	8.5	1.7	29.31	24.30	43.5	-19.20	Vertical
442.16	37.31	16.29	3.05	29.41	27.24	46	-18.76	Vertical
862.52	33.31	21.83	4.69	29.14	30.69	46	-15.31	Vertical
64.91	35.89	8.73	0.9	29.89	15.63	40	-24.37	Horizontal
99.28	33.79	11.73	1.19	29.7	17.01	43.5	-26.49	Horizontal
270.12	45.48	12.53	2.22	29.79	30.44	46	-15.56	Horizontal
349.54	37.06	14.5	2.62	29.73	24.45	46	-21.55	Horizontal
629.81	35.75	19.43	3.83	29.27	29.74	46	-16.26	Horizontal
957.94	40.63	22.54	5.06	29.1	39.13	46	-6.87	Horizontal

Above 1GHz:**802.11a (HT20) 5180MHz**

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.31	26.16	16.29	14.62	32.65	24.42	74.00	-49.58	Vertical
15540.30	29.01	21.83	17.66	34.46	34.04	74.00	-39.96	Vertical
10360.30	30.82	8.73	14.62	32.65	21.52	74.00	-52.48	Horizontal
15540.06	31.79	11.73	17.66	34.46	26.72	74.00	-47.28	Horizontal

802.11a (HT20) 5200MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10400.13	28.08	16.29	14.62	32.65	26.34	74.00	-47.66	Vertical
15600.24	28.67	21.83	17.66	34.46	33.70	74.00	-40.30	Vertical
10400.14	30.50	8.73	14.62	32.65	21.20	74.00	-52.80	Horizontal
15600.21	31.36	11.73	17.66	34.46	26.29	74.00	-47.71	Horizontal

802.11a (HT20) 5240MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10480.11	27.45	16.29	14.62	32.65	25.71	74.00	-48.29	Vertical
15720.29	29.57	21.83	17.66	34.46	34.60	74.00	-39.40	Vertical
10480.21	30.89	8.73	14.62	32.65	21.59	74.00	-52.41	Horizontal
15720.13	32.00	11.73	17.66	34.46	26.93	74.00	-47.07	Horizontal

802.11n (HT20) 5180MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.10	25.34	16.29	14.62	32.65	23.60	74.00	-50.40	Vertical
15540.09	30.63	21.83	17.66	34.46	35.66	74.00	-38.34	Vertical
10360.11	28.67	8.73	14.62	32.65	19.37	74.00	-54.63	Horizontal
15540.02	33.44	11.73	17.66	34.46	28.37	74.00	-45.63	Horizontal

802.11n (HT20) 5200MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10400.05	24.58	16.29	14.62	32.65	22.84	74.00	-51.16	Vertical
15600.05	27.38	21.83	17.66	34.46	32.41	74.00	-41.59	Vertical
10400.23	29.86	8.73	14.62	32.65	20.56	74.00	-53.44	Horizontal
15600.14	32.90	11.73	17.66	34.46	27.83	74.00	-46.17	Horizontal

802.11n (HT20) 5240MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10480.28	27.10	16.29	14.62	32.65	25.36	74.00	-48.64	Vertical
15720.08	30.42	21.83	17.66	34.46	35.45	74.00	-38.55	Vertical
10480.15	32.19	8.73	14.62	32.65	22.89	74.00	-51.11	Horizontal
15720.09	31.62	11.73	17.66	34.46	26.55	74.00	-47.45	Horizontal

802.11ac (HT20) 5180MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.32	25.23	16.29	14.62	32.65	23.49	74.00	-50.51	Vertical
15540.11	30.06	21.83	17.66	34.46	35.09	74.00	-38.91	Vertical
10360.07	29.34	8.73	14.62	32.65	20.04	74.00	-53.96	Horizontal
15540.08	34.46	11.73	17.66	34.46	29.39	74.00	-44.61	Horizontal

802.11ac (HT20) 5200MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10400.23	27.62	16.29	14.62	32.65	25.88	74.00	-48.12	Vertical
15600.17	29.32	21.83	17.66	34.46	34.35	74.00	-39.65	Vertical
10400.17	31.80	8.73	14.62	32.65	22.50	74.00	-51.50	Horizontal
15600.28	34.12	11.73	17.66	34.46	29.05	74.00	-44.95	Horizontal

802.11ac (HT20) 5240MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10480.12	27.60	16.29	14.62	32.65	25.86	74.00	-48.14	Vertical
15720.05	29.15	21.83	17.66	34.46	34.18	74.00	-39.82	Vertical
10480.17	29.94	8.73	14.62	32.65	20.64	74.00	-53.36	Horizontal
15720.26	31.65	11.73	17.66	34.46	26.58	74.00	-47.42	Horizontal

802.11ax20 5180MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.21	24.89	16.29	14.62	32.65	23.15	74.00	-50.85	Vertical
15540.14	27.96	21.83	17.66	34.46	32.99	74.00	-41.01	Vertical
10360.05	28.79	8.73	14.62	32.65	19.49	74.00	-54.51	Horizontal
15540.31	33.91	11.73	17.66	34.46	28.84	74.00	-45.16	Horizontal

802.11ax20 5200MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10400.00	25.74	16.29	14.62	32.65	24.00	74.00	-50.00	Vertical
15600.04	28.46	21.83	17.66	34.46	33.49	74.00	-40.51	Vertical
10400.04	31.14	8.73	14.62	32.65	21.84	74.00	-52.16	Horizontal
15600.24	30.91	11.73	17.66	34.46	25.84	74.00	-48.16	Horizontal

802.11ax20 5240MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10480.31	24.82	16.29	14.62	32.65	23.08	74.00	-50.92	Vertical
15720.06	29.13	21.83	17.66	34.46	34.16	74.00	-39.84	Vertical
10480.06	29.87	8.73	14.62	32.65	20.57	74.00	-53.43	Horizontal
15720.25	34.57	11.73	17.66	34.46	29.50	74.00	-44.50	Horizontal

802.11n (HT40) 5190MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10380.07	28.04	16.29	14.62	32.65	26.30	74.00	-47.70	Vertical
15570.32	29.17	21.83	17.66	34.46	34.20	74.00	-39.80	Vertical
10380.19	30.27	8.73	14.62	32.65	20.97	74.00	-53.03	Horizontal
15570.03	32.83	11.73	17.66	34.46	27.76	74.00	-46.24	Horizontal

802.11n (HT40) 5230MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10460.31	27.35	16.29	14.62	32.65	25.61	74.00	-48.39	Vertical
15690.01	27.12	21.83	17.66	34.46	32.15	74.00	-41.85	Vertical
10460.03	31.92	8.73	14.62	32.65	22.62	74.00	-51.38	Horizontal
15690.25	31.21	11.73	17.66	34.46	26.14	74.00	-47.86	Horizontal

802.11ac (HT40) 5190MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10380.02	27.38	16.29	14.62	32.65	25.64	74.00	-48.36	Vertical
15570.21	27.12	21.83	17.66	34.46	32.15	74.00	-41.85	Vertical
10380.26	30.11	8.73	14.62	32.65	20.81	74.00	-53.19	Horizontal
15570.25	33.99	11.73	17.66	34.46	28.92	74.00	-45.08	Horizontal

802.11ac (HT40) 5230MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10460.24	27.31	16.29	14.62	32.65	25.57	74.00	-48.43	Vertical
15690.10	29.39	21.83	17.66	34.46	34.42	74.00	-39.58	Vertical
10460.30	29.72	8.73	14.62	32.65	20.42	74.00	-53.58	Horizontal
15690.12	32.68	11.73	17.66	34.46	27.61	74.00	-46.39	Horizontal

802.11ax40 5190MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10380.05	28.08	16.29	14.62	32.65	26.34	74.00	-47.66	Vertical
15570.29	30.78	21.83	17.66	34.46	35.81	74.00	-38.19	Vertical
10380.18	29.06	8.73	14.62	32.65	19.76	74.00	-54.24	Horizontal
15570.29	34.73	11.73	17.66	34.46	29.66	74.00	-44.34	Horizontal

802.11ax40 5230MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10460.20	26.23	16.29	14.62	32.65	24.49	74.00	-49.51	Vertical
15690.14	30.31	21.83	17.66	34.46	35.34	74.00	-38.66	Vertical
10460.16	29.72	8.73	14.62	32.65	20.42	74.00	-53.58	Horizontal
15690.05	33.04	11.73	17.66	34.46	27.97	74.00	-46.03	Horizontal

Note:

1. Level = Read Level + Antenna Factor+ Cable loss- Preamp Factor.
2. The test trace is same as the ambient noise (the test frequency range: 18GHz~40GHz), therefore no data appear in the report.
3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.
4. This Report only show the test plots of the worst case (U-NII-1).

4.8 Frequency stability

Test limit	Manufacturers 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.
Test results:	Pass

Measurement Data:

Mode	Voltage (V)	FHL (5180MHz)	Deviation (KHz)	FHH (5240MHz)	Deviation (KHz)
Band 1 (5150-5250 MHz)	DC 2.97V	5179.995	5	5239.990	10
	DC 3.3V	5179.987	13	5239.989	11
	DC 3.63V	5179.993	7	5239.993	7
Mode	Voltage (V)	FHL (5260MHz)	Deviation (KHz)	FHH (5320MHz)	Deviation (KHz)
Band 2 (5250-5350 MHz)	DC 2.97V	5259.995	5	5319.989	11
	DC 3.3V	5259.990	10	5319.990	10
	DC 3.63V	5259.992	8	5319.995	5
Mode	Voltage (V)	FHL (5500MHz)	Deviation (KHz)	FHH (5700MHz)	Deviation (KHz)
Band 3 (5470-5725 MHz)	DC 2.97V	5499.992	8	5699.990	10
	DC 3.3V	5499.991	9	5699.987	13
	DC 3.63V	5499.994	6	5699.993	7
Mode	Voltage (V)	FHL (5745MHz)	Deviation (KHz)	FHH (5825MHz)	Deviation (KHz)
Band 4 (5725-5850 MHz)	DC 2.97V	5744.992	8	5824.990	10
	DC 3.3V	5744.990	10	5824.989	11
	DC 3.63V	5744.994	6	5824.991	9

Mode	Temperature (°C)	FHL (5180MHz)	Deviation (KHz)	FHH (5240MHz)	Deviation (KHz)
Band 1 (5150-5250 MHz)	-20°C	5809.995	5	5239.990	10
	-10°C	5809.992	8	5239.988	12
	-5°C	5809.992	8	5239.994	6
	0°C	5809.990	10	5239.989	11
	+10°C	5809.991	9	5239.991	9
	+20°C	5809.990	10	5239.994	6
	+30°C	5809.989	11	5239.985	15
	+40°C	5809.988	12	5239.988	12
	+50°C	5809.990	10	5239.989	11
Mode	Temperature (°C)	FHL (5260MHz)	Deviation (KHz)	FHH (5320MHz)	Deviation (KHz)
Band 2 (5250-5350 MHz)	-20°C	5259.995	5	5319.991	9
	-10°C	5259.990	10	5319.990	10
	-5°C	5259.993	7	5319.994	6
	0°C	5259.993	7	5319.990	10
	+10°C	5259.993	7	5319.994	6
	+20°C	5259.993	7	5319.989	11
	+30°C	5259.991	9	5319.986	14
	+40°C	5259.989	11	5319.989	11
	+50°C	5259.992	8	5319.987	13
Mode	Temperature (°C)	FHL (5500MHz)	Deviation (KHz)	FHH (5700MHz)	Deviation (KHz)
Band 3 (5470-5725 MHz)	-20°C	5499.991	9	5699.993	7
	-10°C	5499.992	8	5699.992	8
	-5°C	5499.994	6	5699.991	9
	0°C	5499.994	6	5699.989	11
	+10°C	5499.993	7	5699.991	9
	+20°C	5499.992	8	5699.989	11
	+30°C	5499.987	13	5699.990	10
	+40°C	5499.987	13	5699.992	8
	+50°C	5499.990	10	5699.989	11
Mode	Temperature (°C)	FHL (5745MHz)	Deviation (KHz)	FHH (5825MHz)	Deviation (KHz)
Band 4 (5725-5850 MHz)	-20°C	5744.990	10	5824.994	6
	-10°C	5744.987	13	5824.990	10
	-5°C	5744.994	6	5824.992	8
	0°C	5744.991	9	5824.995	5
	+10°C	5744.992	8	5824.992	8
	+20°C	5744.989	11	5824.992	8
	+30°C	5744.987	13	5824.990	10
	+40°C	5744.990	10	5824.988	12
	+50°C	5744.987	13	5824.989	11

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