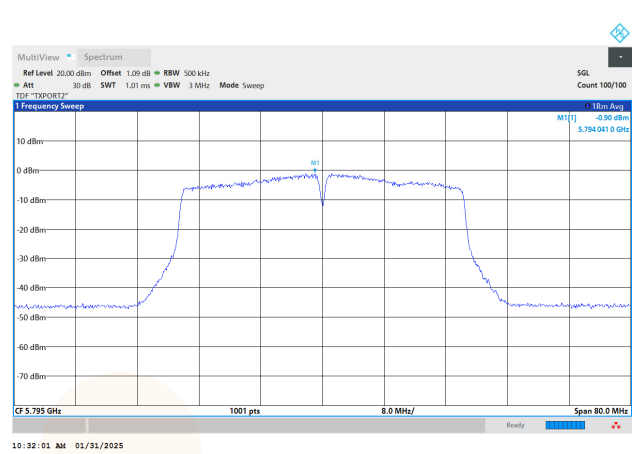
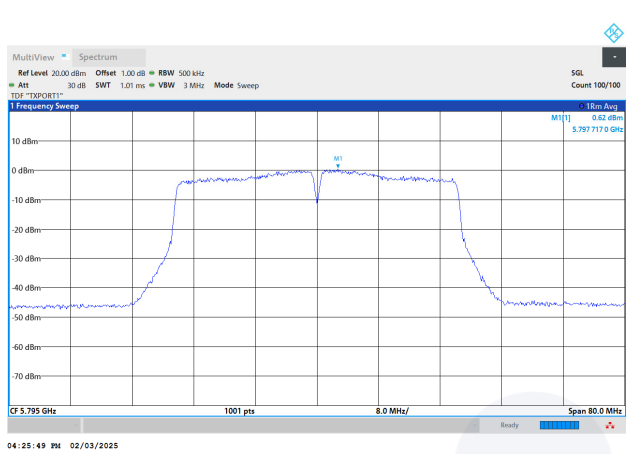


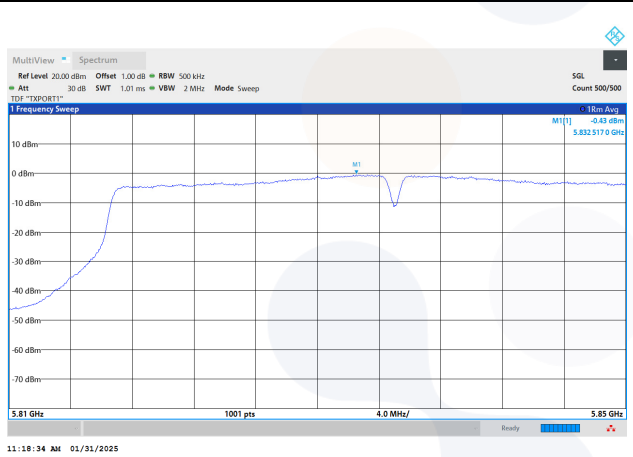
MIMO_ANT1

MIMO_ANT2

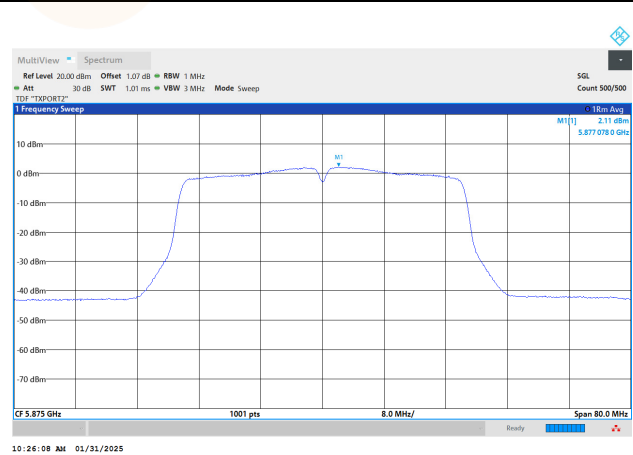
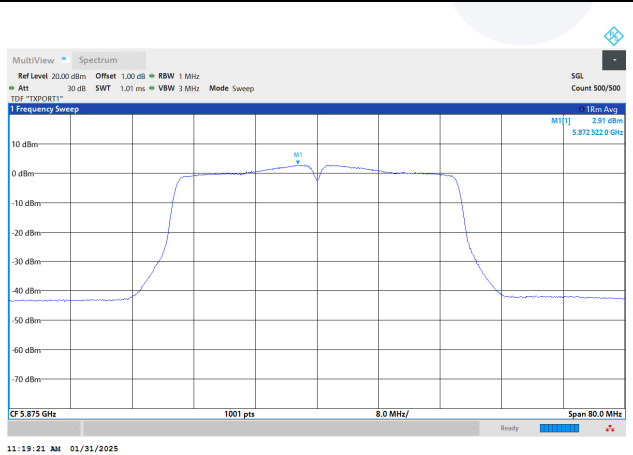
UNII 3 / 802.11n HT40 / High ch.



UNII 3&4 / 802.11n HT40 / Low ch.



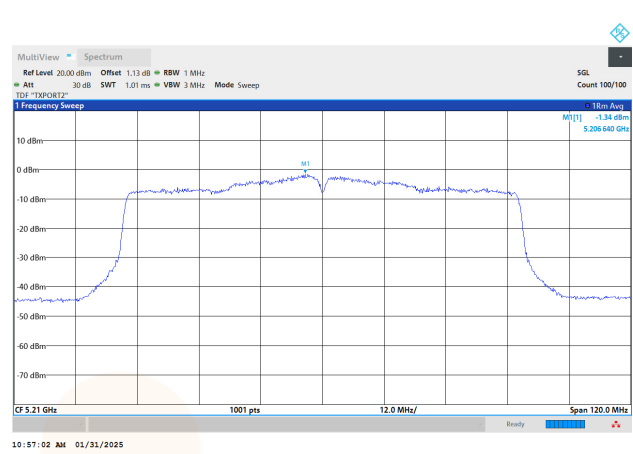
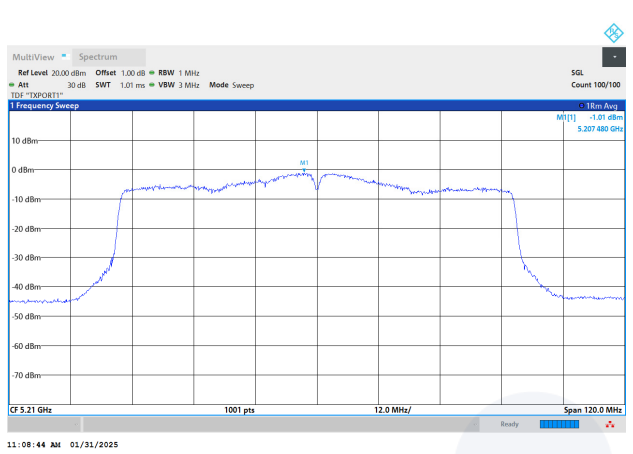
UNII 4 / 802.11n HT40 / High ch.



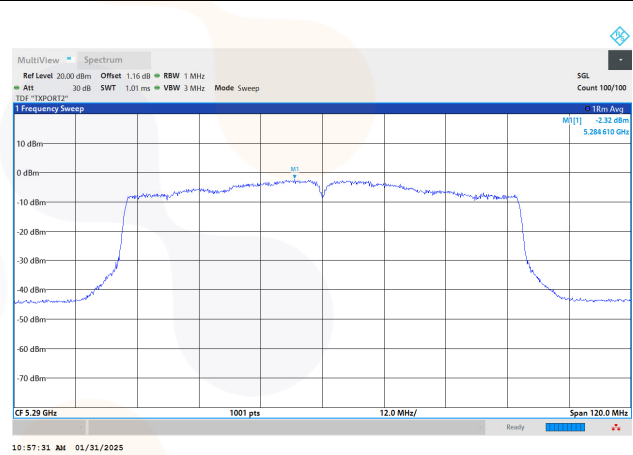
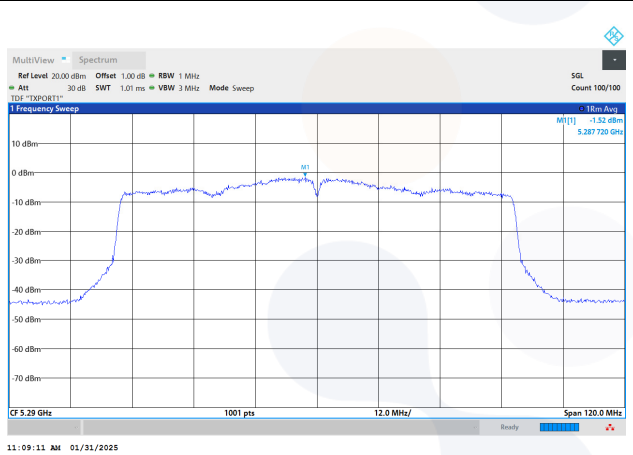
MIMO_ANT1

MIMO_ANT2

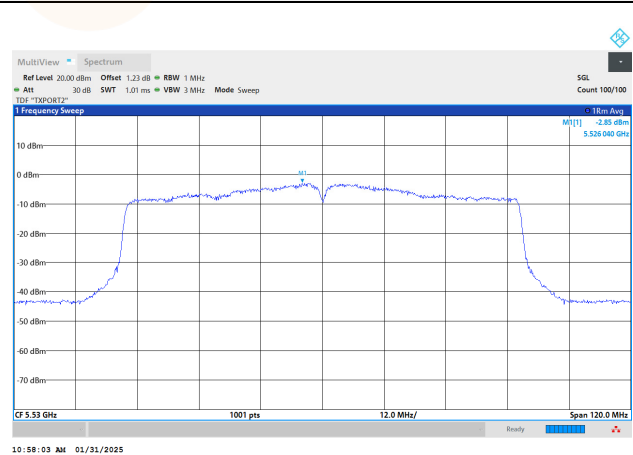
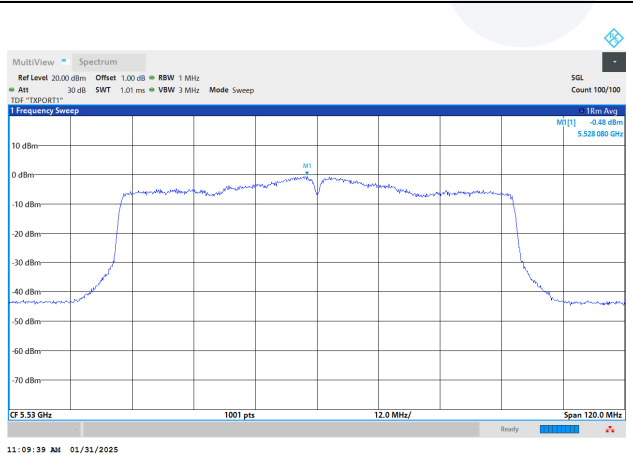
UNII 1 / 802.11ac VHT80 / Low ch.



UNII 2A / 802.11ac VHT80 / Low ch.



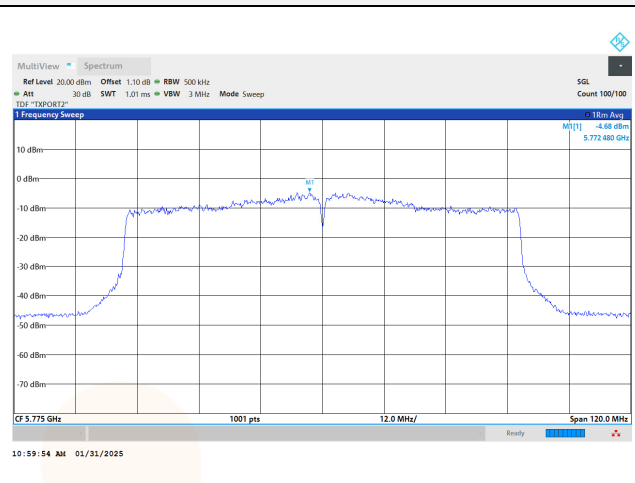
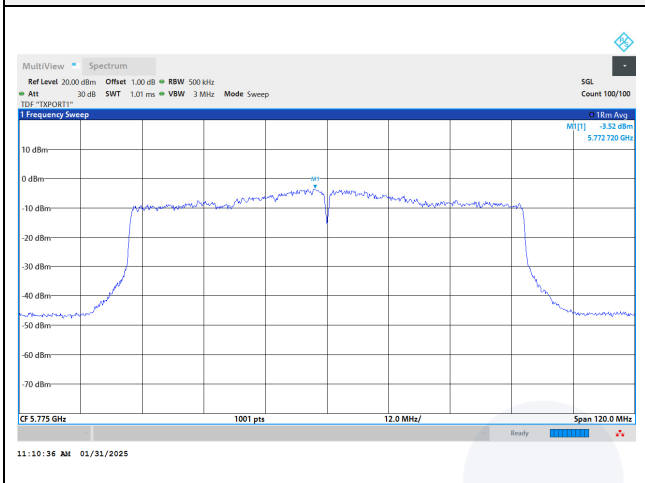
UNII 2C / 802.11ac VHT80 / Low ch.



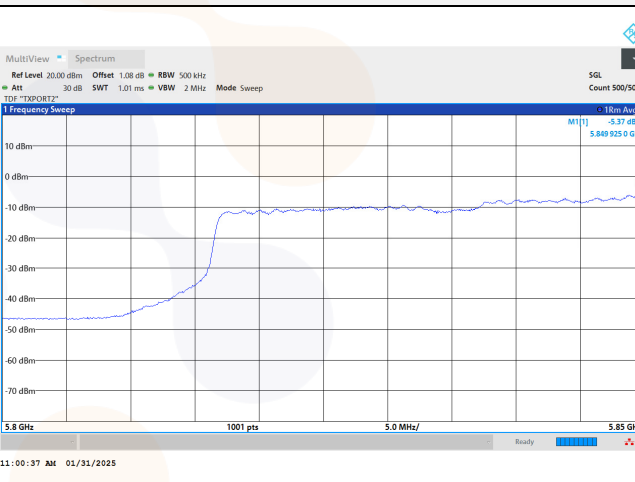
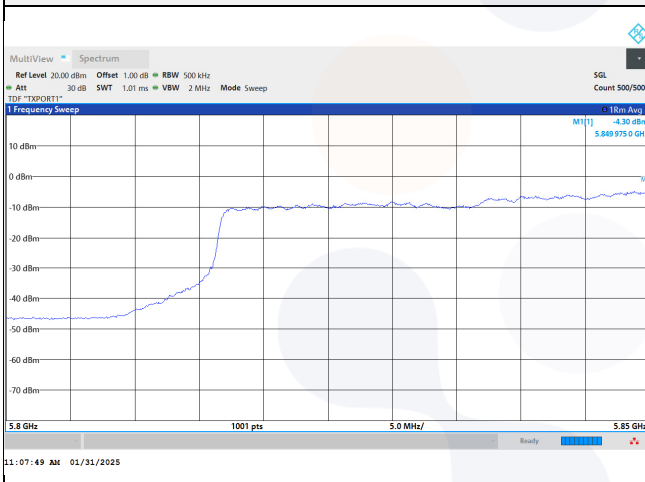
MIMO_ANT1

MIMO_ANT2

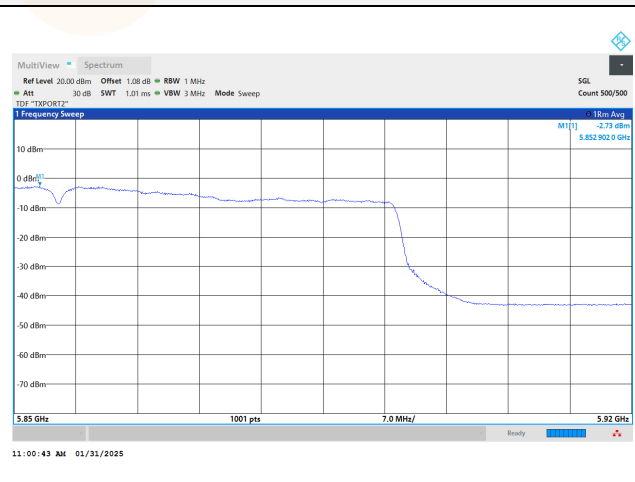
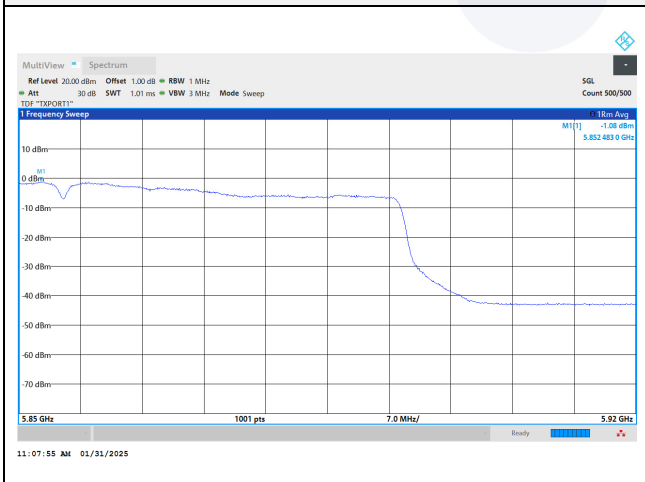
UNII 3 / 802.11ac VHT80 / Low ch.



UNII 3&4 / 802.11ac VHT80 / Mid ch.



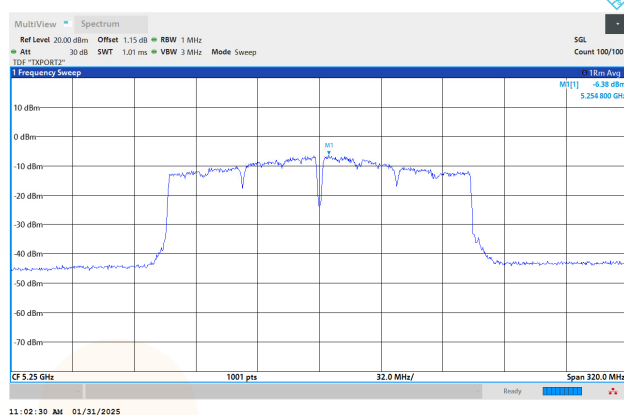
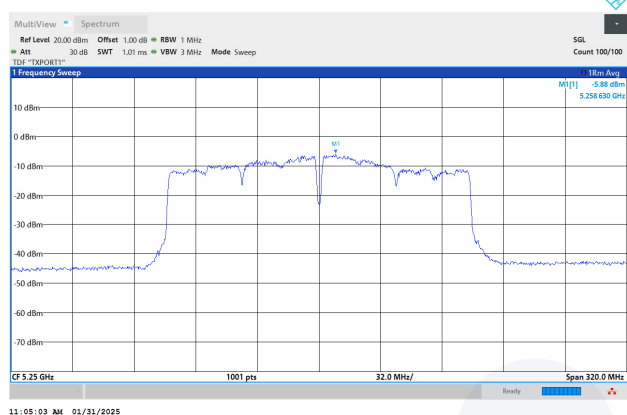
UNII 4 / 802.11ac VHT80 / Mid ch.



MIMO_ANT1

MIMO_ANT2

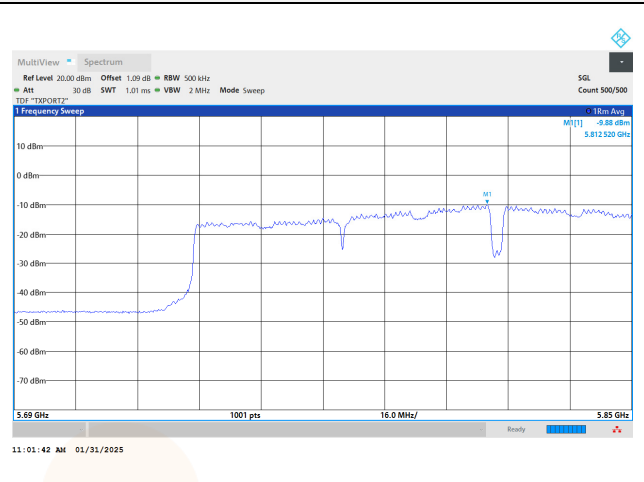
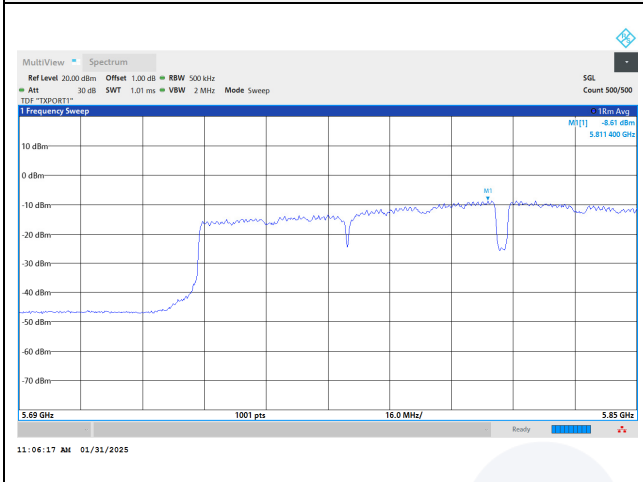
UNII 1&2A / 802.11ac VHT160 / Mid ch.



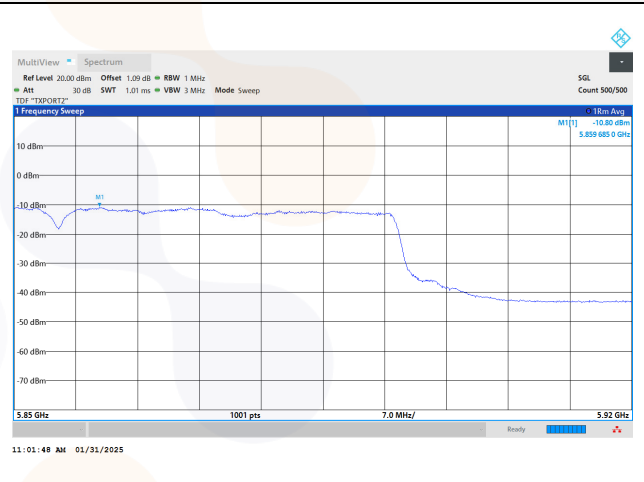
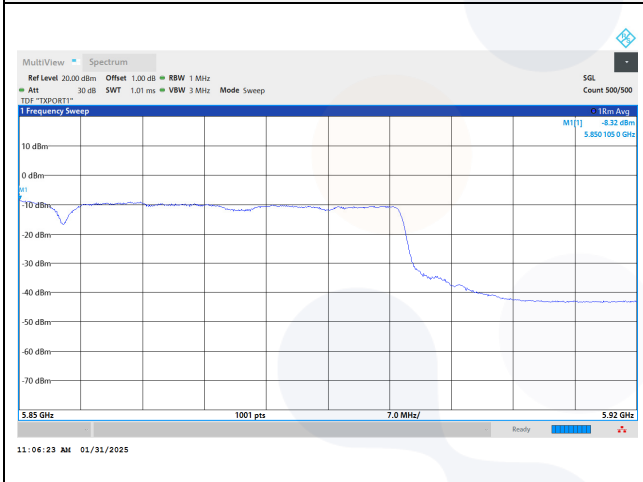
UNII 2C / 802.11ac VHT160 / Mid ch.



UNII 3&4 / 802.11ac VHT160 / Mid ch.

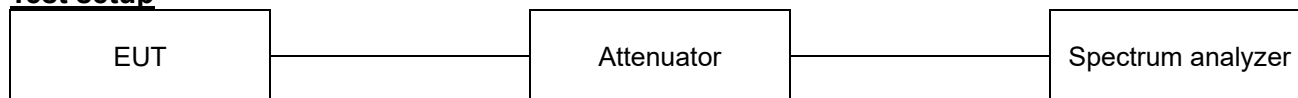


UNII 4 / 802.11ac VHT160 / Mid ch.



8.3. 26 dB Bandwidth & 99% Bandwidth

Test setup



Limit

N/A

Test procedure

ANSI C63.10-2013 Section 12.4

KDB 789033 D02 v02r01 - Section C.1 (26dB bandwidth)

KDB 789033 D02 v02r01 - Section D (99% bandwidth)

Test settings

1. 26 dB Bandwidth

- Set RBW = approximately 1% of the emission bandwidth.
- Set the VBW > RBW.
- Detector = Peak.
- Trace mode = max hold.
- Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

2. 99% Occupied Bandwidth

- Set center frequency to the nominal EUT channel center frequency.
- Set span = 1.5 times to 5.0 times the OBW.
- Set RBW = 1% to 5% of the OBW
- Set VBW $\geq 3 \times$ RBW
- Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
- Use the 99% power bandwidth function of the instrument (if available).
- If the instrument does not have a 99% power bandwidth function, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% occupied bandwidth is the difference between these two frequencies.

Test results

MIMO

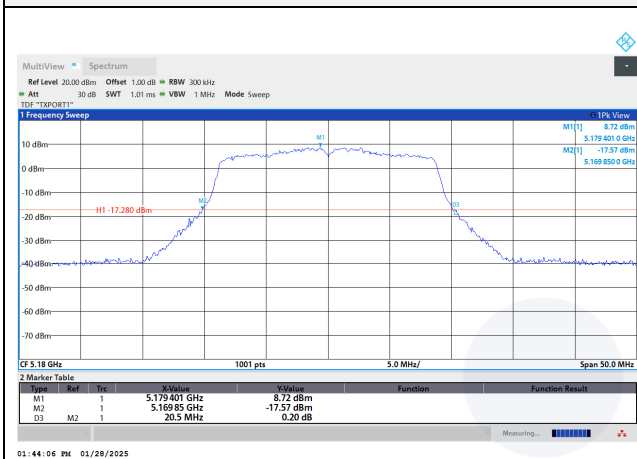
Test mode	Band	Frequency(MHz)	26 dB bandwidth (MHz)		99% bandwidth (MHz)	
			ANT1	ANT2	ANT1	ANT2
802.11a	UNII 1	5 180	19.20	18.90	16.32	16.32
		5 200	19.10	18.85	16.32	16.33
		5 240	19.00	19.00	16.33	16.33
802.11n HT20	UNII 1	5 180	20.45	20.20	17.51	17.53
		5 200	20.50	20.15	17.52	17.53
		5 240	20.60	20.10	17.52	17.52
802.11n HT40	UNII 1	5 190	40.10	39.90	35.90	35.89
		5 230	39.90	40.00	35.91	35.87
802.11ac VHT20	UNII 1	5 180	20.50	19.90	17.51	17.52
		5 200	20.65	20.00	17.51	17.53
		5 240	20.65	20.00	17.52	17.52
802.11ac VHT40	UNII 1	5 190	40.00	39.40	35.91	35.86
		5 230	39.90	39.20	35.93	35.84
802.11ac VHT80	UNII 1	5 210	81.12	80.76	74.89	74.87
802.11ac VHT160	UNII 1&2A	5 250	165.12	164.48	153.77	153.61

Test mode	Band	Frequency(MHz)	26 dB bandwidth (MHz)	
			ANT1	ANT2
802.11a	UNII 2A	5 260	19.25	18.95
		5 280	19.35	19.10
		5 320	19.15	18.95
	UNII 2C	5 500	19.25	19.00
		5 600	19.35	19.25
		5 700	19.40	19.10
802.11n HT20	UNII 2A	5 260	20.50	20.15
		5 280	20.50	20.15
		5 320	20.50	20.00
	UNII 2C	5 500	20.60	20.15
		5 600	20.55	20.20
		5 700	20.30	20.25
802.11n HT40	UNII 2A	5 270	40.10	40.10
		5 310	39.90	40.00
	UNII 2C	5 510	40.00	39.90
		5 590	39.90	40.10
		5 670	40.10	39.80
802.11ac VHT20	UNII 2A	5 260	20.55	19.95
		5 280	20.60	19.90
		5 320	20.40	19.90
	UNII 2C	5 500	20.40	20.10
		5 600	20.65	20.15
		5 700	20.20	20.10
802.11ac VHT40	UNII 2A	5 270	39.70	39.00
		5 310	40.00	39.30
	UNII 2C	5 510	40.10	39.30
		5 590	39.80	39.60
		5 670	40.10	39.40
802.11ac VHT80	UNII 2A	5 290	81.00	81.00
	UNII 2C	5 530	81.12	80.88
		5 610	81.36	80.88
802.11ac VHT160	UNII 2C	5 570	165.76	163.84

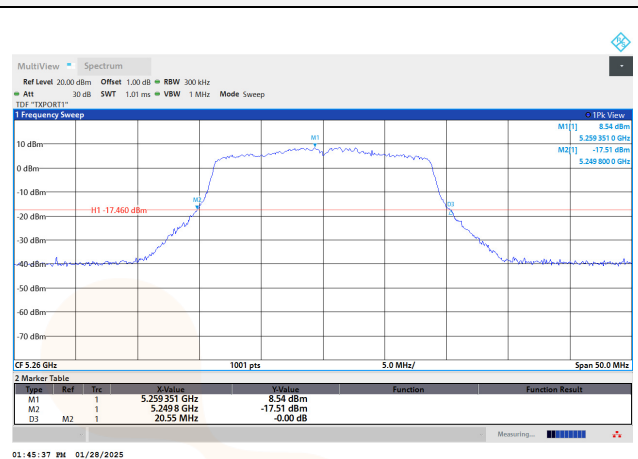
In order to simplify the report, only MIMO ANT1 ac mode test plots are attached

26 dB bandwidth
MIMO

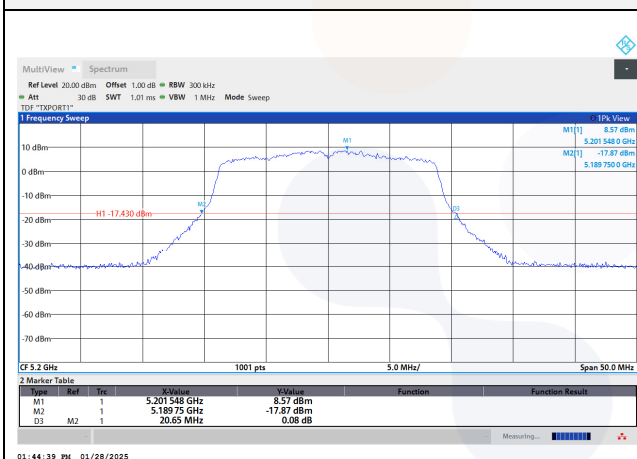
UNII 1 / 802.11ac VHT20 / Low ch.



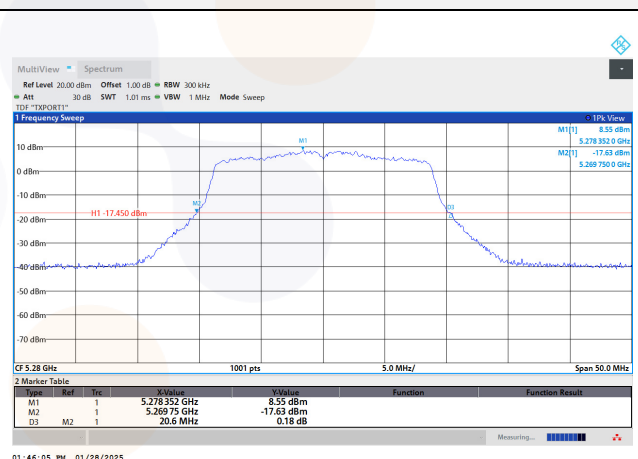
UNII 2A / 802.11ac VHT20 / Low ch.



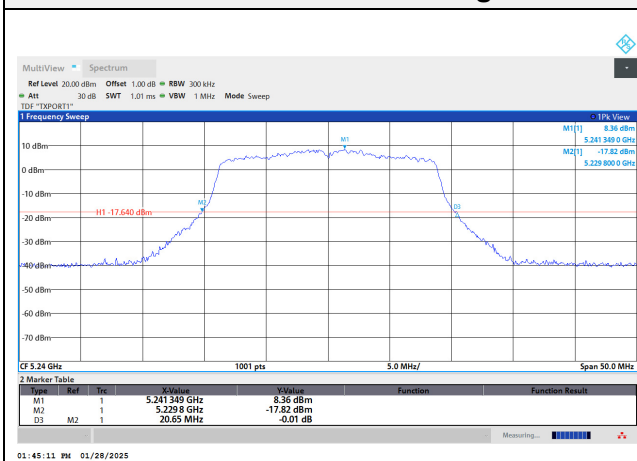
UNII 1 / 802.11ac VHT20 / Mid ch.



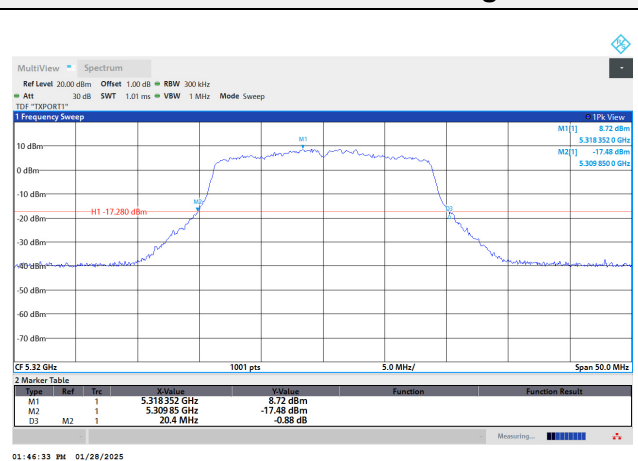
UNII 2A / 802.11ac VHT20 / Mid ch.



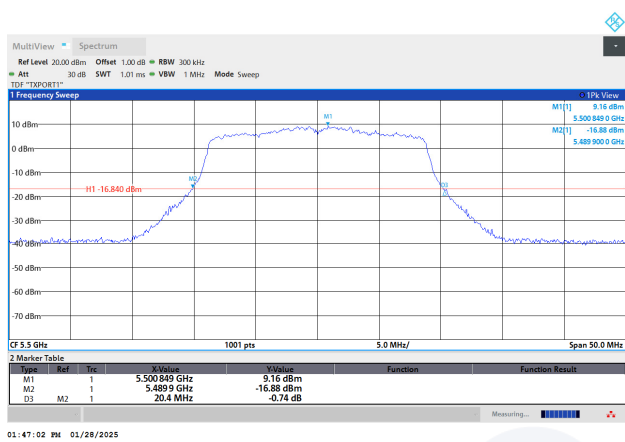
UNII 1 / 802.11ac VHT20 / High ch.



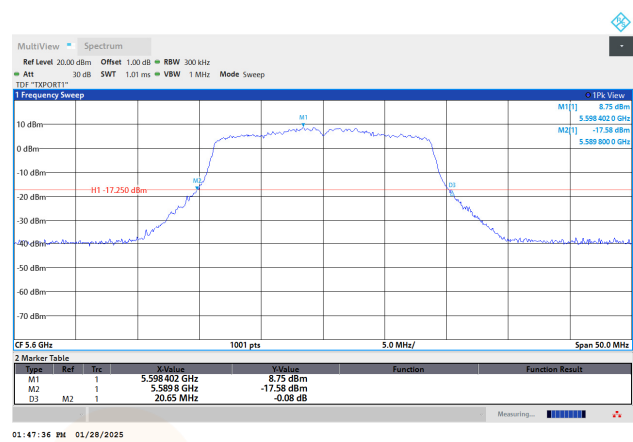
UNII 2A / 802.11ac VHT20 / High ch.



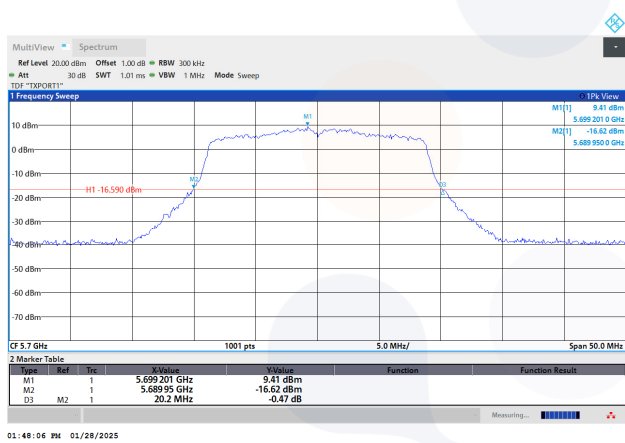
UNII 2C / 802.11ac VHT20 / Low ch.



UNII 2C / 802.11ac VHT20 / Mid ch.



UNII 2C / 802.11ac VHT20 / High ch.



Blank