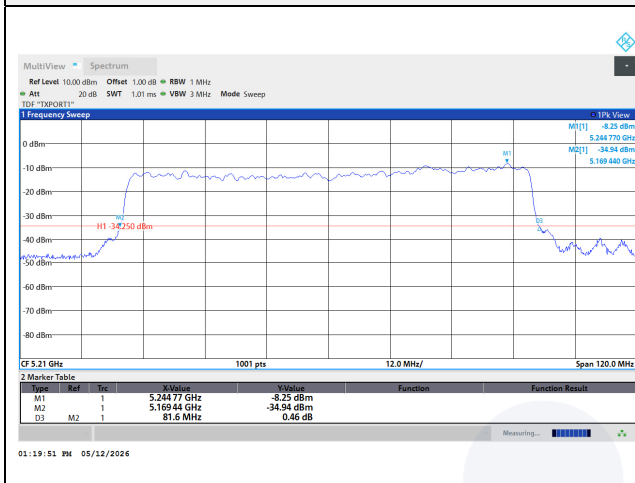


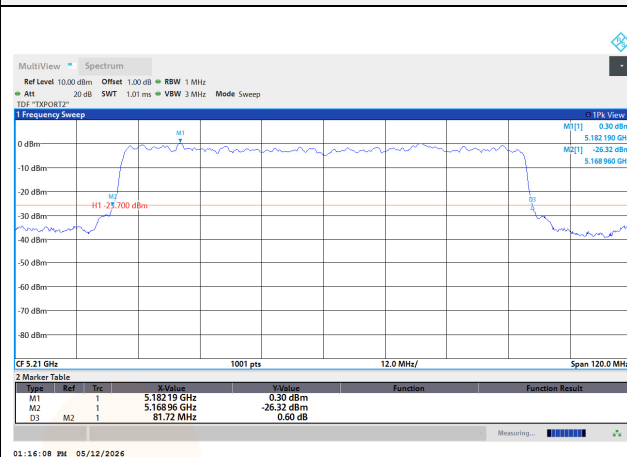
MIMO_ANT1

UNII-1 / 802.11ax HE80 / SU / 5 210 MHz

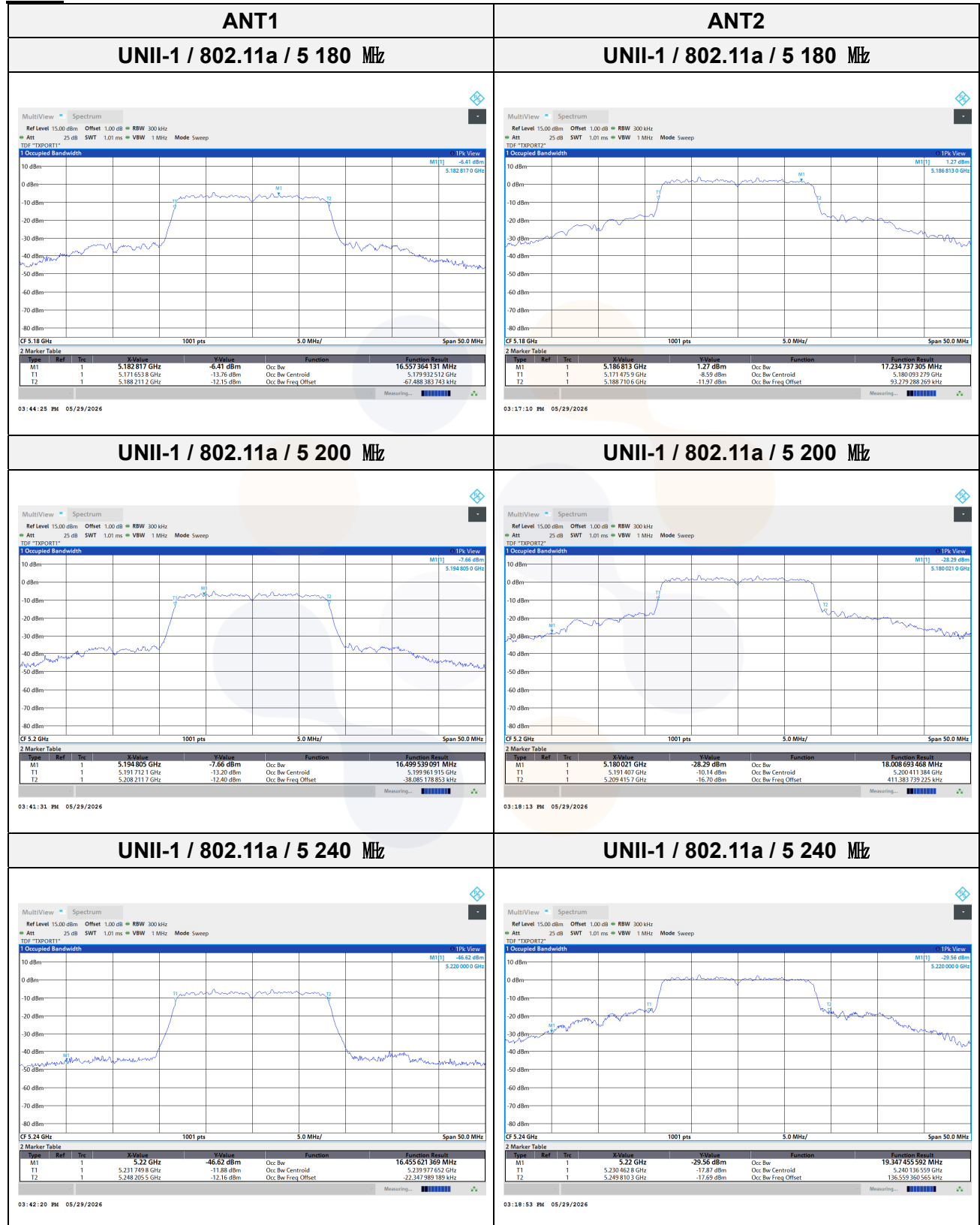


MIMO_ANT2

UNII-1 / 802.11ax HE80 / SU / 5 210 MHz



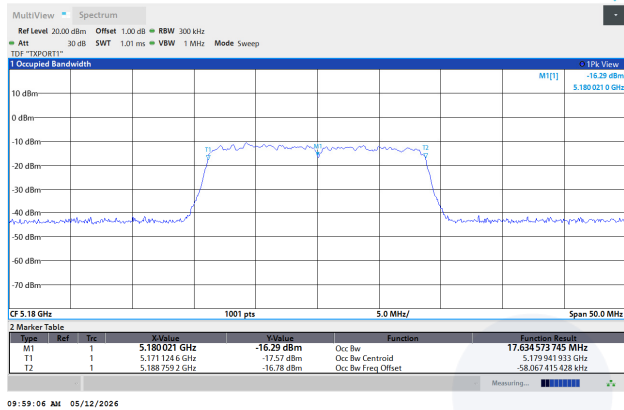
99% bandwidth
SISO



MIMO

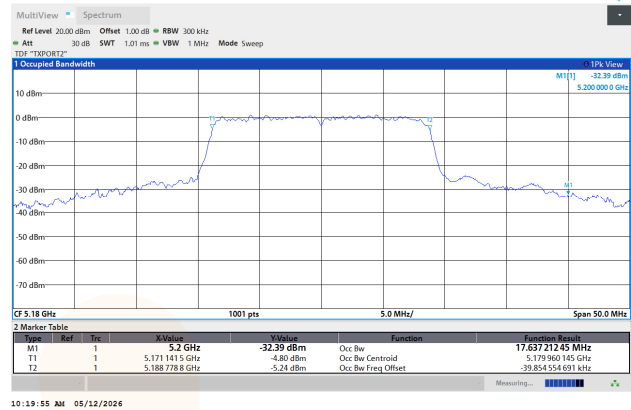
MIMO_ANT1

UNII-1 / 802.11n HT20 / 5 180 MHz

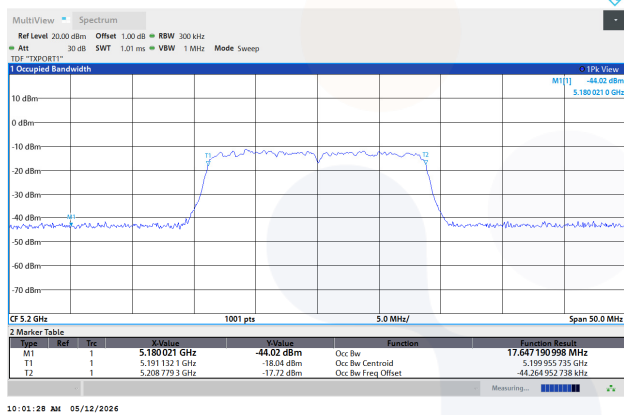


MIMO_ANT2

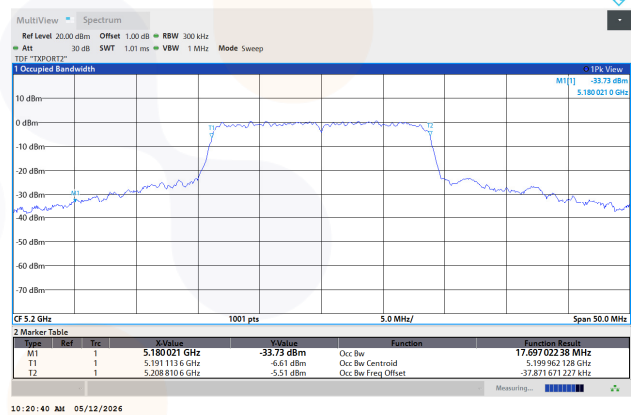
UNII-1 / 802.11n HT20 / 5 180 MHz



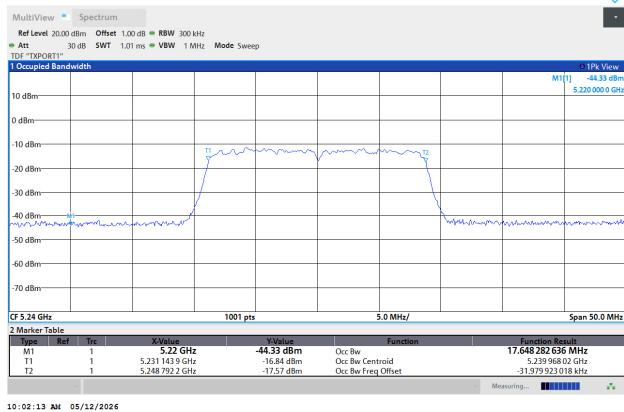
UNII-1 / 802.11n HT20 / 5 200 MHz



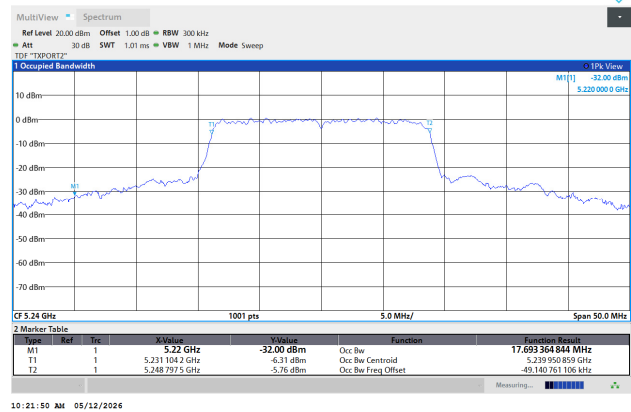
UNII-1 / 802.11n HT20 / 5 200 MHz



UNII-1 / 802.11n HT20 / 5 240 MHz

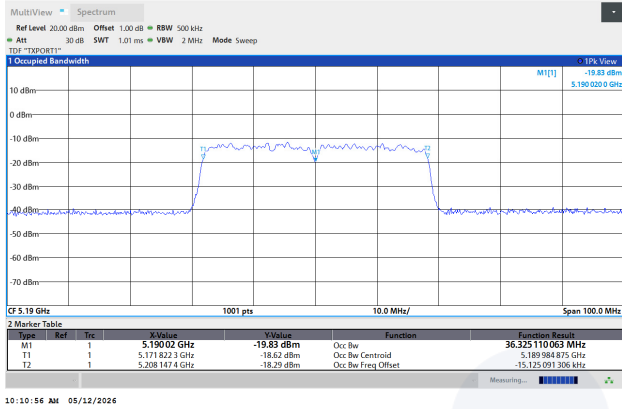


UNII-1 / 802.11n HT20 / 5 240 MHz



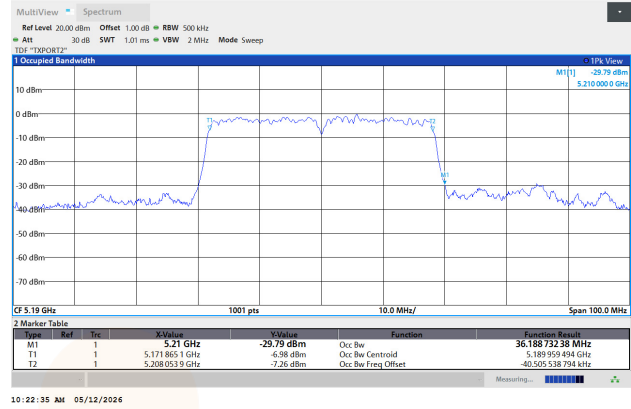
MIMO_ANT1

UNII-1 / 802.11n HT40 / 5 190 MHz

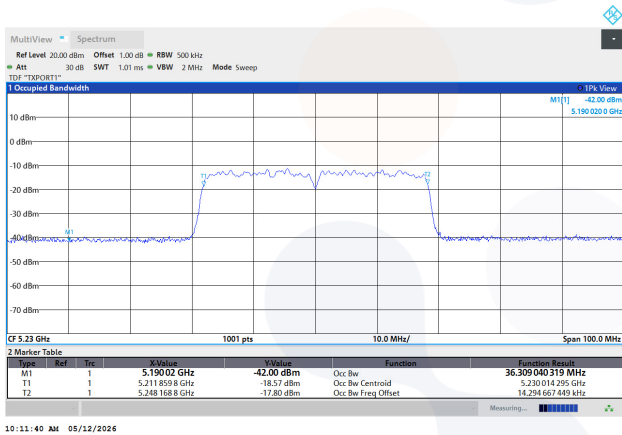


MIMO_ANT2

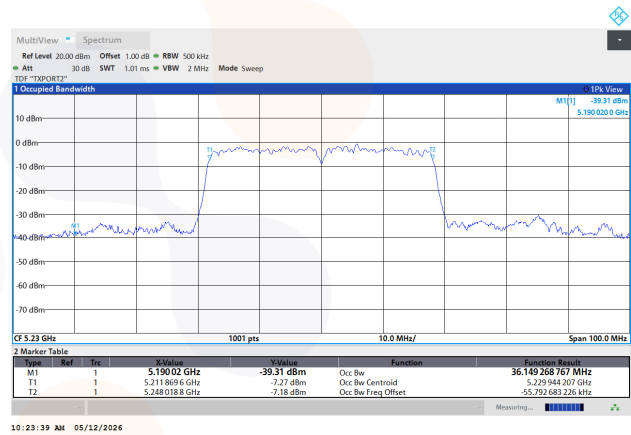
UNII-1 / 802.11n HT40 / 5 190 MHz



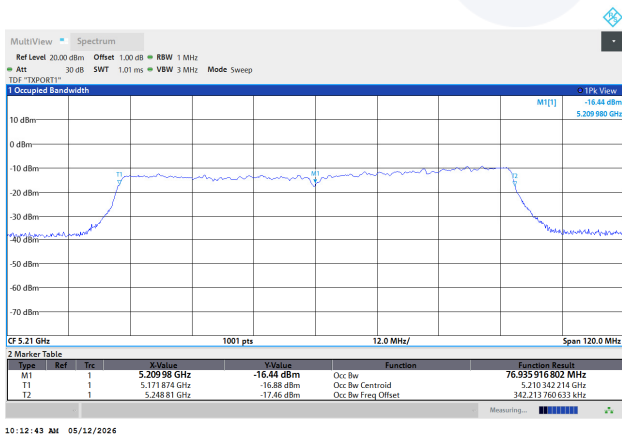
UNII-1 / 802.11n HT40 / 5 230 MHz



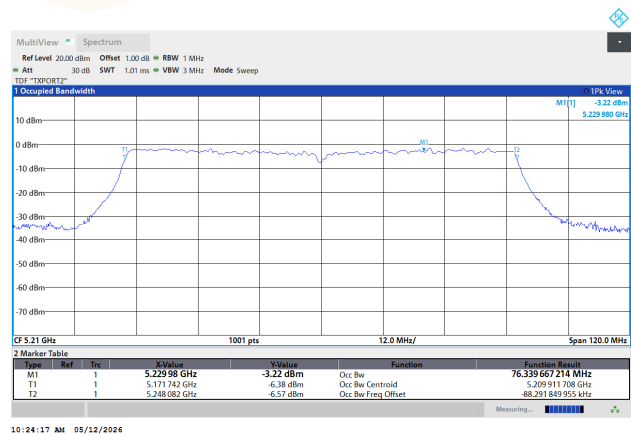
UNII-1 / 802.11n HT40 / 5 230 MHz



UNII-1 / 802.11ac VHT80 / 5 210 MHz

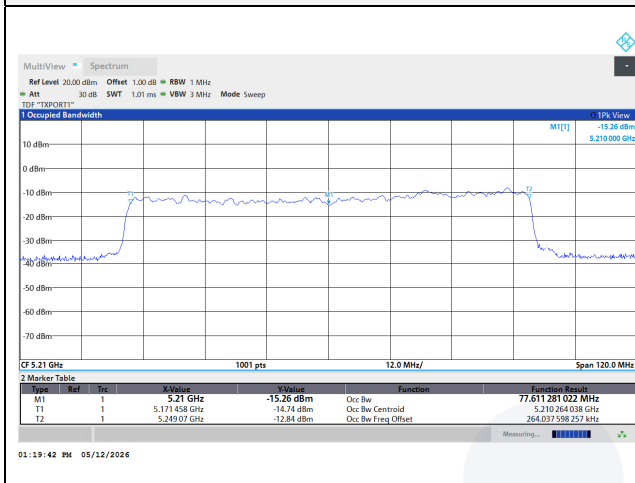


UNII-1 / 802.11ac VHT80 / 5 210 MHz



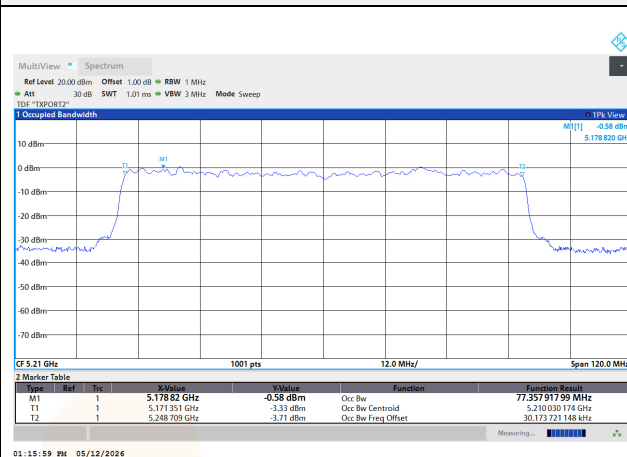
MIMO_ANT1

UNII-1 / 802.11ax HE80 / SU / 5 210 MHz



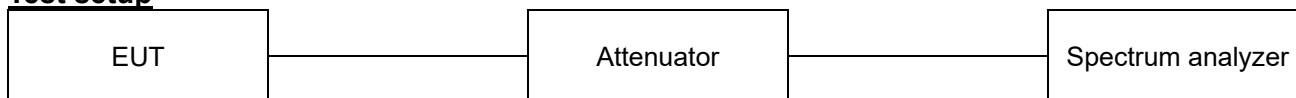
MIMO_ANT2

UNII-1 / 802.11ax HE80 / SU / 5 210 MHz



7.4. 6 dB Bandwidth

Test setup



Limit

According to §15.407(e),

For equipment operating in the band 5 725-5 850 MHz bands, the 6 dB bandwidth shall be at least 500 kHz

Test procedure

ANSI C63.10-2020 Section 12.5.1, 6.9.3

KDB 789033 D02 v02r01 - Section C.2

Test settings

Emission Bandwidth for the band 5.725 to 5.85 GHz and 5.850-5.895 GHz (or 6 dB Bandwidth)

1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW) ≥ 3 RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = No faster than coupled (auto) time.
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 frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Occupied bandwidth (or 99% emission bandwidth)

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission.

The following procedure shall be used for measuring 99% power bandwidth:

- a) The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW.
- b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be at least three times the RBW, unless otherwise specified by the applicable requirement.
- c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than $[10 \log (OBW/RBW)]$ below the reference level. Specific guidance is given in 4.1.6.2.
- d) Step a) through step c) might require iteration to adjust within the specified range.
- e) 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.
- f) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.
- g) If the instrument does not have a 99% power bandwidth function, then the trace data points are recovered and directly summed in linear power terms. 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% power bandwidth is the difference between these two frequencies.
- h) The occupied bandwidth shall be reported by providing spectral plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

Test results

SISO

Test mode	Band	Frequency (MHz)	6dB bandwidth (MHz)		Limit (MHz)	99% bandwidth (MHz)	
			ANT1	ANT2		ANT1	ANT2
802.11a	UNII 3	5 745	16.400	16.400	0.50	16.455	16.512
		5 785	16.400	16.400		16.442	16.484
		5 825	16.400	16.400		16.425	16.496

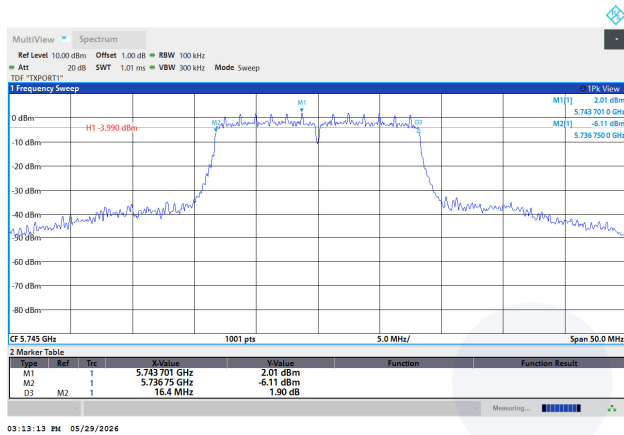
MIMO

Test mode	Band	Frequency (MHz)	6dB bandwidth (MHz)		Limit (MHz)	99% bandwidth (MHz)	
			ANT1	ANT2		ANT1	ANT2
802.11n HT20	UNII 3	5 745	17.500	17.350	0.50	17.570	17.610
		5 785	17.500	17.350		17.559	17.570
		5 825	17.500	17.200		17.559	17.559
802.11n HT40		5 755	35.600	36.000		36.034	36.195
		5 795	35.600	36.200		36.040	36.195
802.11ac VHT80		5 775	75.960	76.320		76.576	76.431
802.11ax HE80 SU		5 775	77.880	77.880		77.444	77.389

6 dB bandwidth SISO

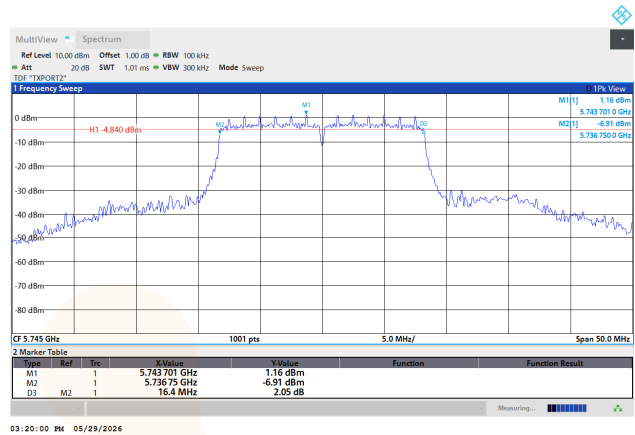
ANT1

UNII-3 / 802.11a / 5 745 MHz

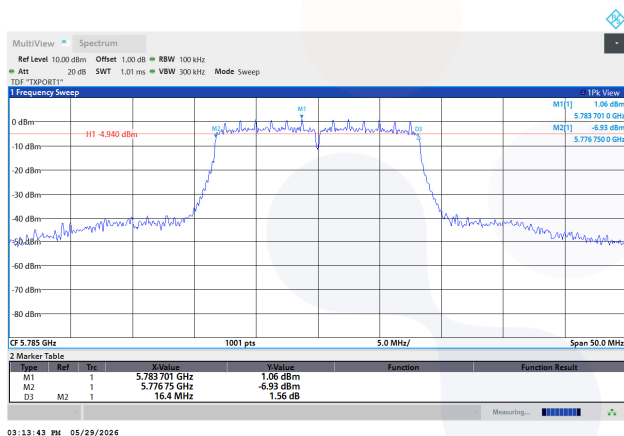


ANT2

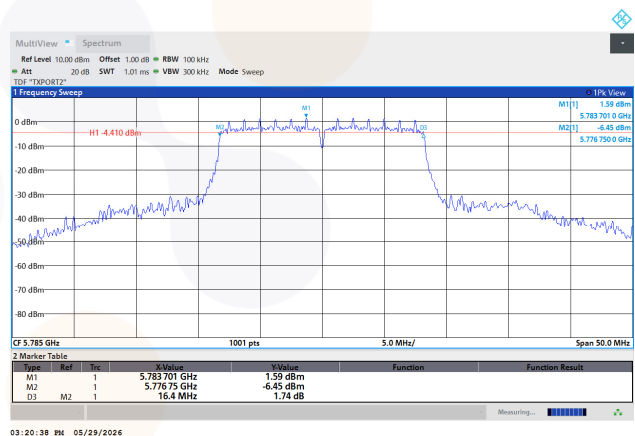
UNII-3 / 802.11a / 5 745 MHz



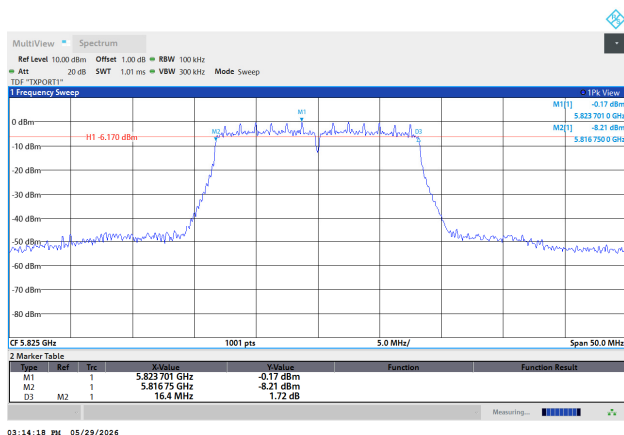
UNII-3 / 802.11a / 5 785 MHz



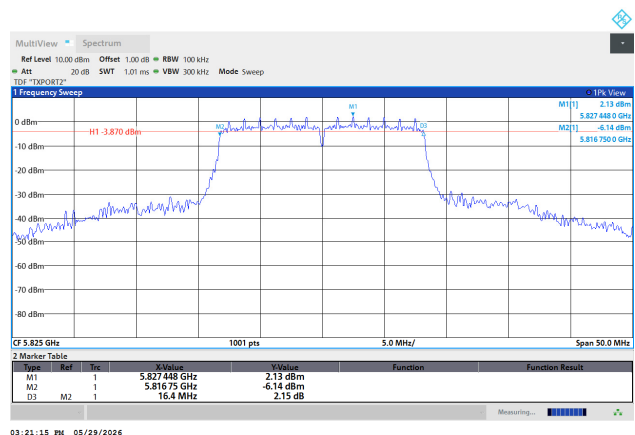
UNII-3 / 802.11a / 5 785 MHz



UNII-3 / 802.11a / 5 825 MHz



UNII-3 / 802.11a / 5 825 MHz



MIMO

