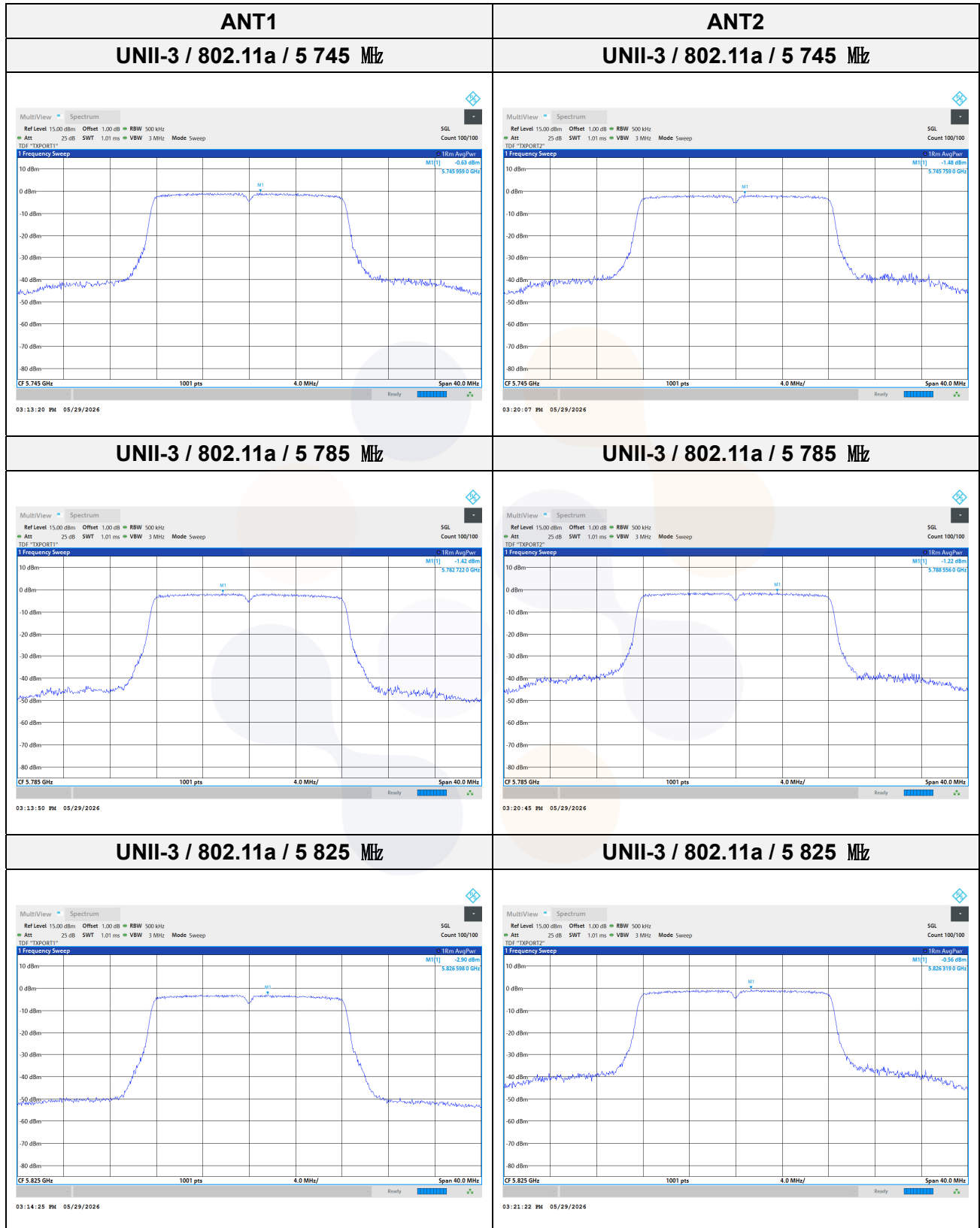
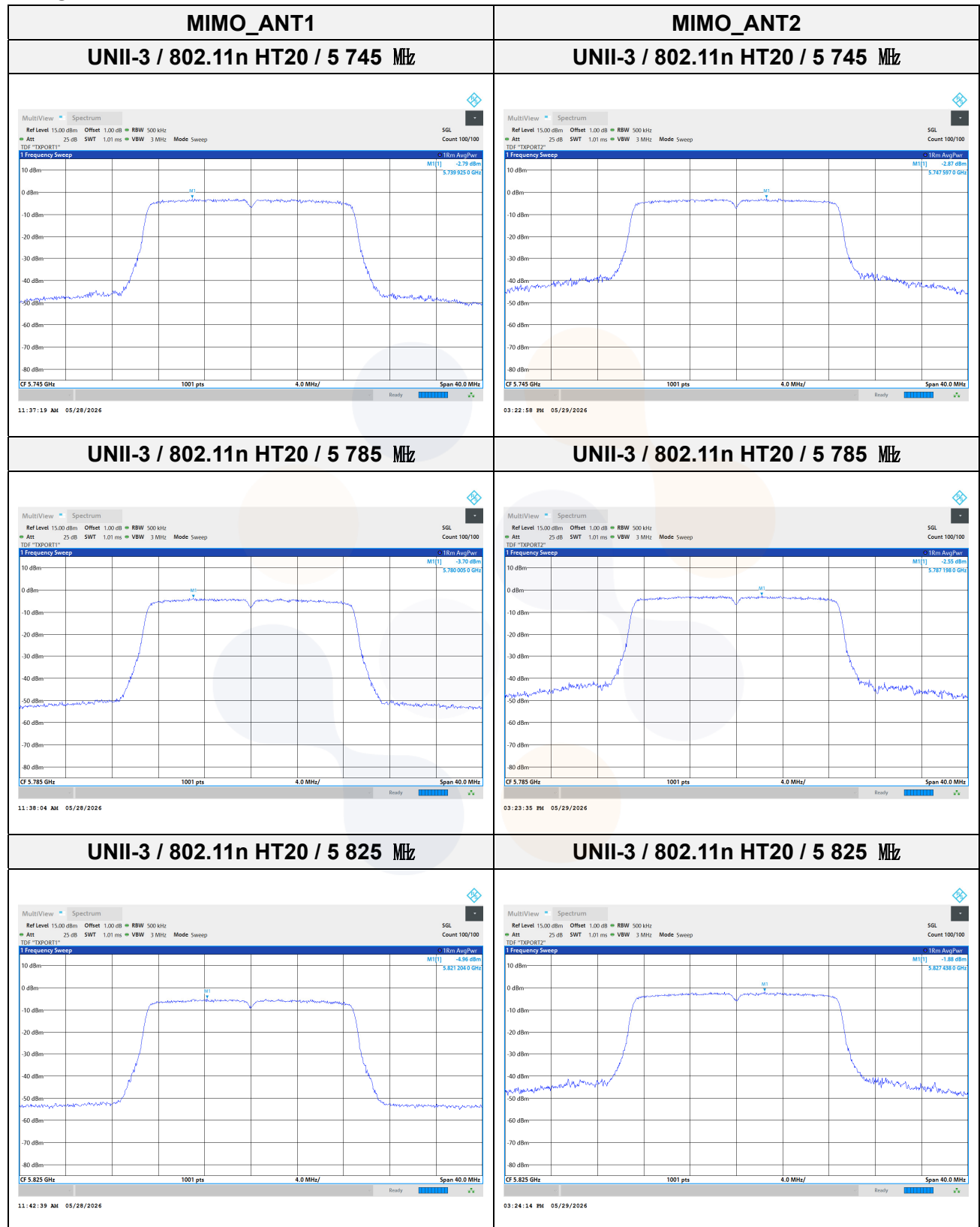


SISO

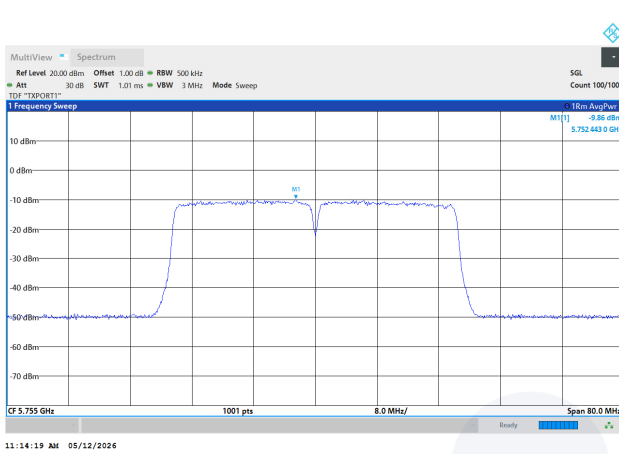


MIMO



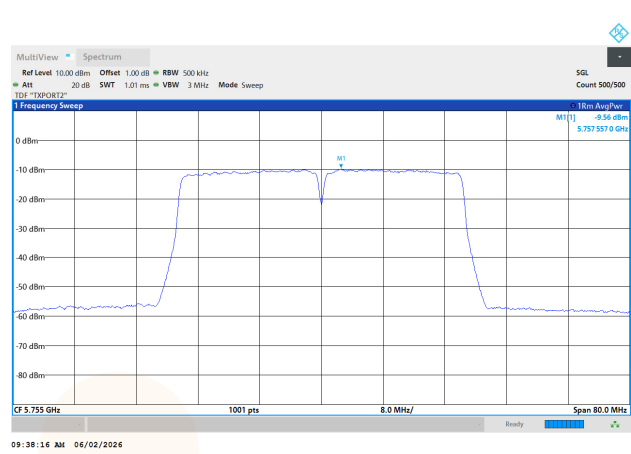
MIMO_ANT1

UNII-3 / 802.11n HT40 / 5 755 MHz

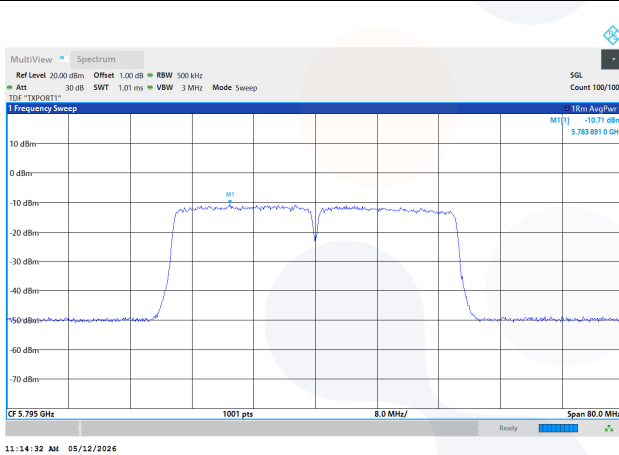


MIMO_ANT2

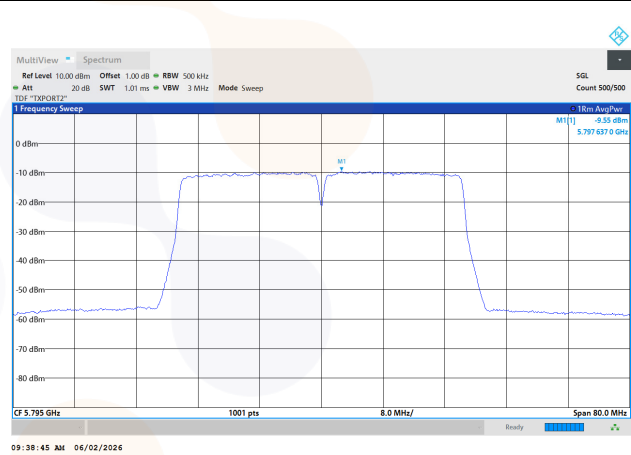
UNII-3 / 802.11n HT40 / 5 755 MHz



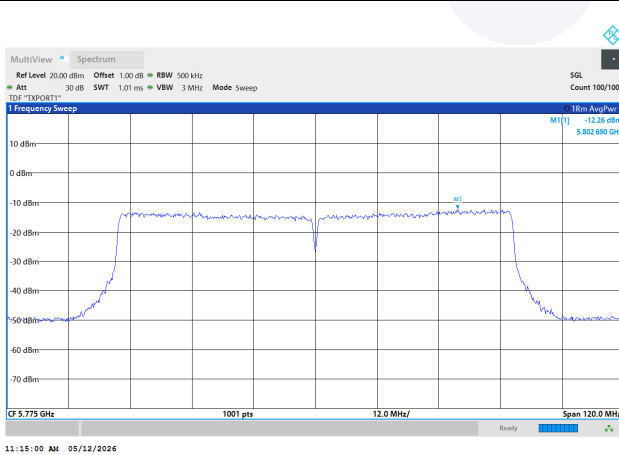
UNII-3 / 802.11n HT40 / 5 795 MHz



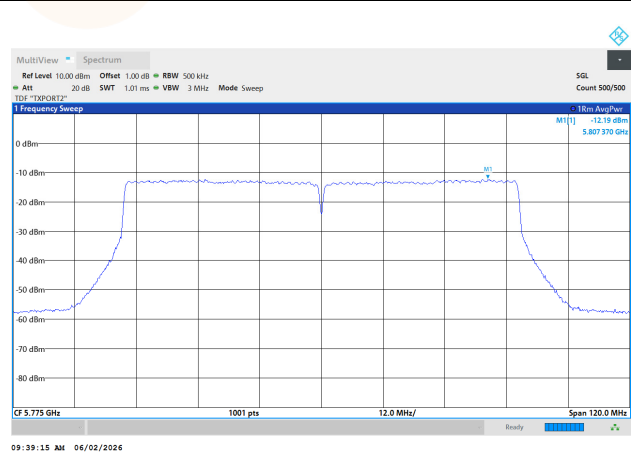
UNII-3 / 802.11n HT40 / 5 795 MHz



UNII-3 / 802.11ac VHT80 / 5 775 MHz

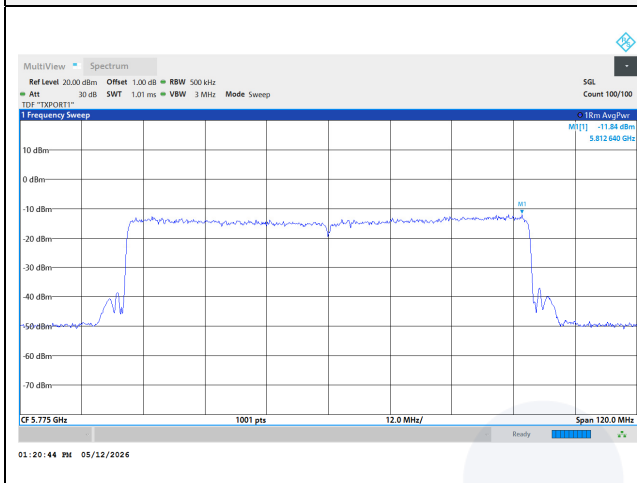


UNII-3 / 802.11ac VHT80 / 5 775 MHz



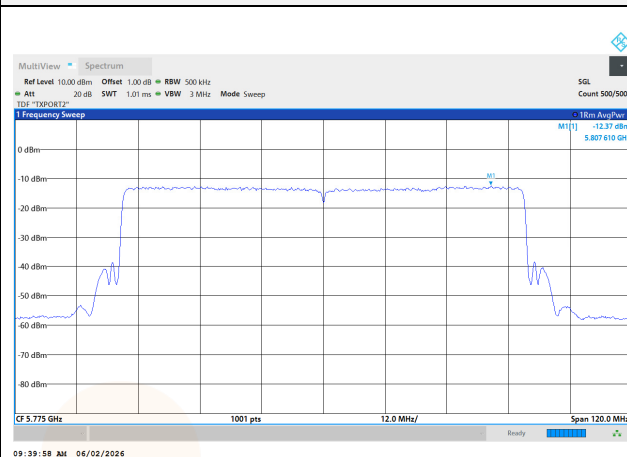
MIMO_ANT1

UNII-3 / 802.11ax HE80 / SU / 5 775 MHz



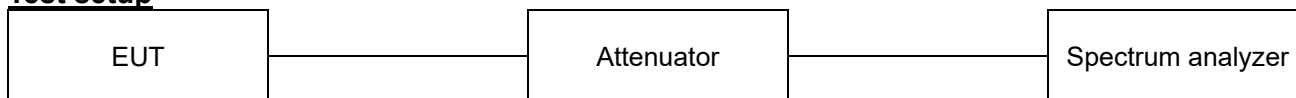
MIMO_ANT2

UNII-3 / 802.11ax HE80 / SU / 5 775 MHz



7.3. 26 dB Bandwidth & 99% Bandwidth

Test setup



Limit

N/A

Test procedure

ANSI C63.10 - Section 12.5.2, 6.9.3

KDB 789033 D02 v02r01 - Section C.1 (26 dB bandwidth), Section D (99% bandwidth)

Test settings

Emission bandwidth for all other bands (or 26 dB Bandwidth)

- Set RBW = Shall be in the range of 1% to 5% 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 peak of the emission. Compare this with the RBW setting of the instrument. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is in the range of 1% to 5%.

Occupied bandwidth (or 99% Occupied 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:

- 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.
- 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.
- 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.
- Step a) through step c) might require iteration to adjust within the specified range.
- 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) and report the measured bandwidth.
- 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.
- 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)	26 dB bandwidth (MHz)		99% bandwidth (MHz)	
			ANT1	ANT2	ANT1	ANT2
802.11a	UNII-1	5 180	18.750	31.000	16.557	17.235
		5 200	18.750	34.250	16.500	18.009
		5 240	18.900	33.600	16.456	19.347

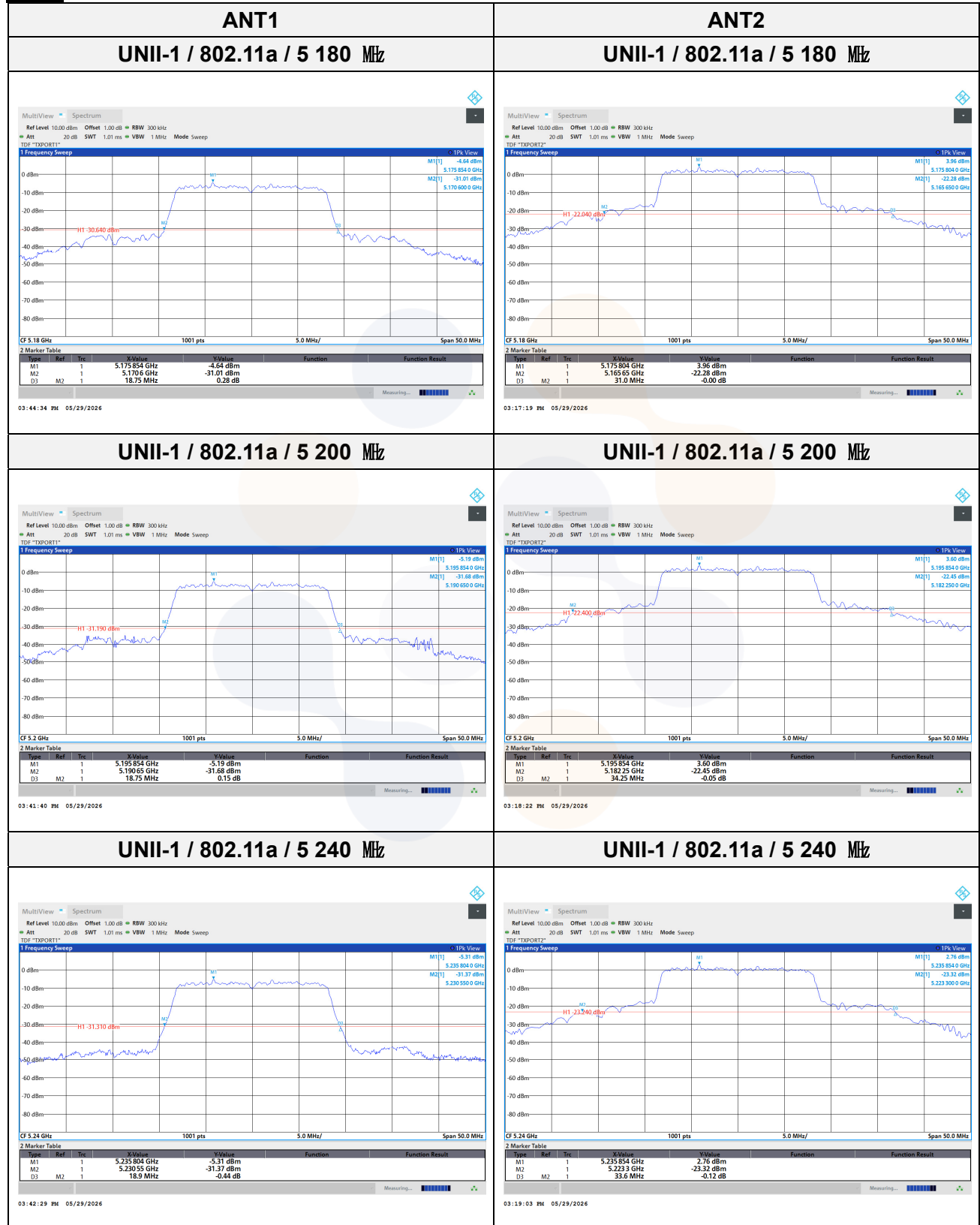
MIMO

Test mode	Band	Frequency(MHz)	26 dB bandwidth (MHz)		99% bandwidth (MHz)	
			ANT1	ANT2	ANT1	ANT2
802.11n HT20	UNII-1	5 180	19.750	20.700	17.635	17.637
		5 200	19.750	24.250	17.647	17.697
		5 240	19.800	23.500	17.648	17.693
802.11n HT40		5 190	39.100	39.200	36.325	36.189
5 230		39.000	39.200	36.309	36.149	
802.11ac VHT80		5 210	87.000	87.480	76.936	76.340
802.11ax HE80 SU		5 210	81.600	81.720	77.611	77.358

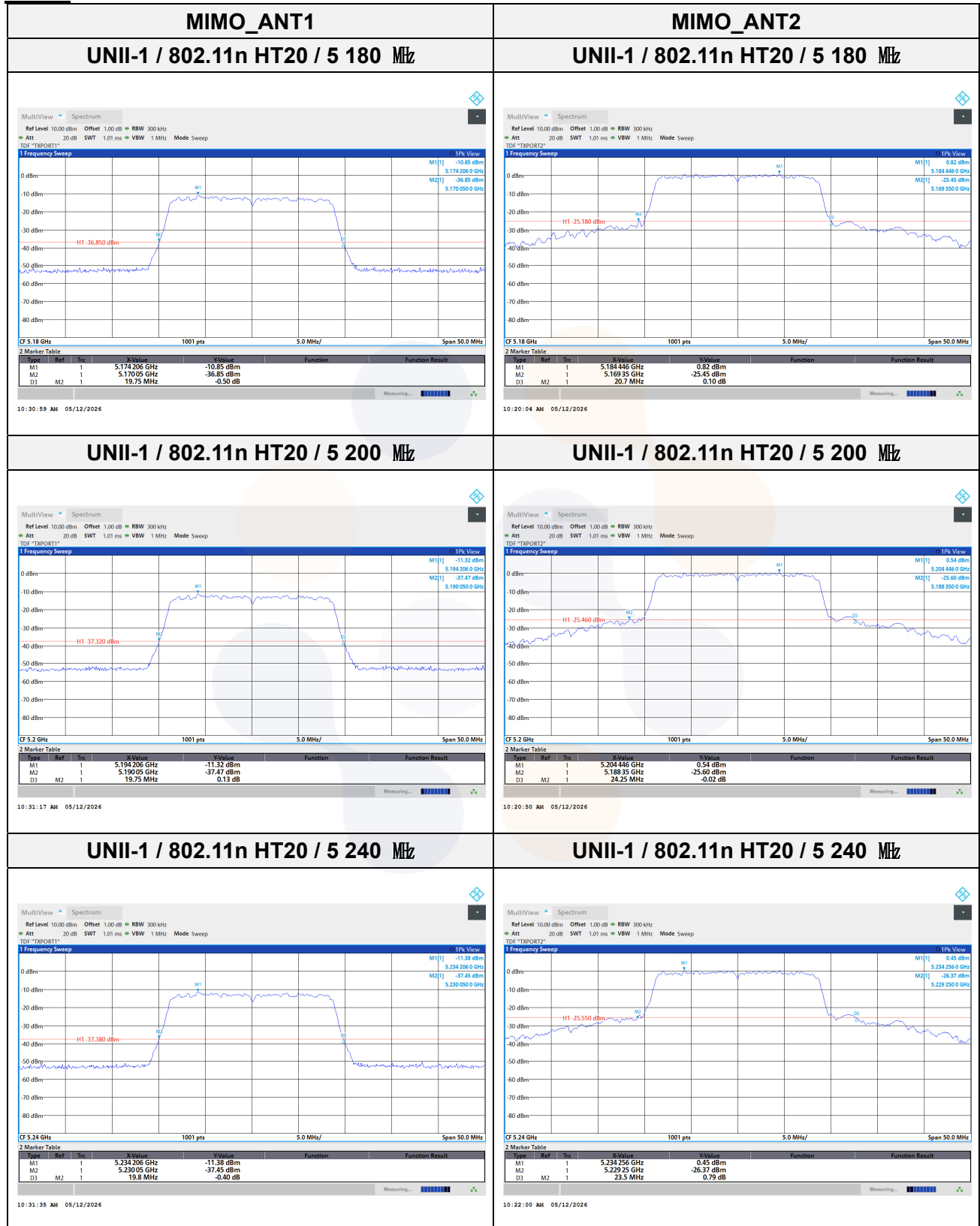
Note.

If 26dB Bandwidth across Band 2A or Band 1 but 99% test results are within the band no addition DFS test is needed on band 1.

26 dB bandwidth SISO



MIMO



MIMO_ANT1

UNII-1 / 802.11n HT40 / 5 190 MHz

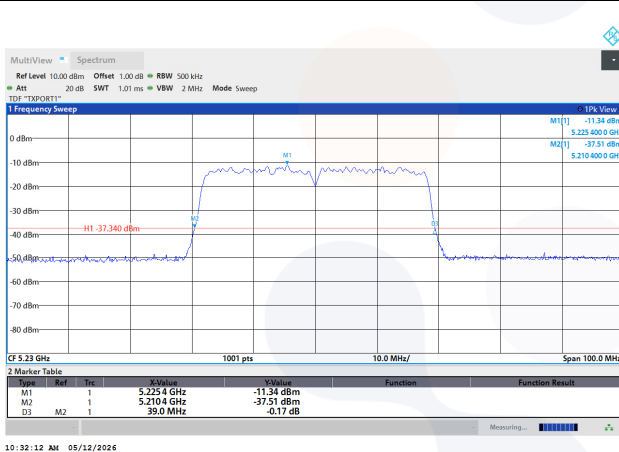


MIMO_ANT2

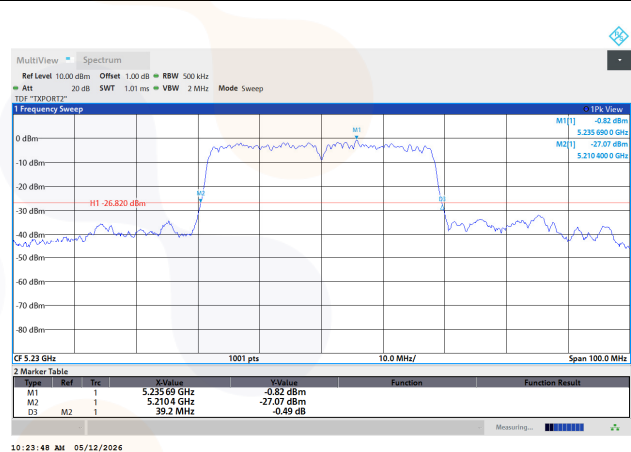
UNII-1 / 802.11n HT40 / 5 190 MHz



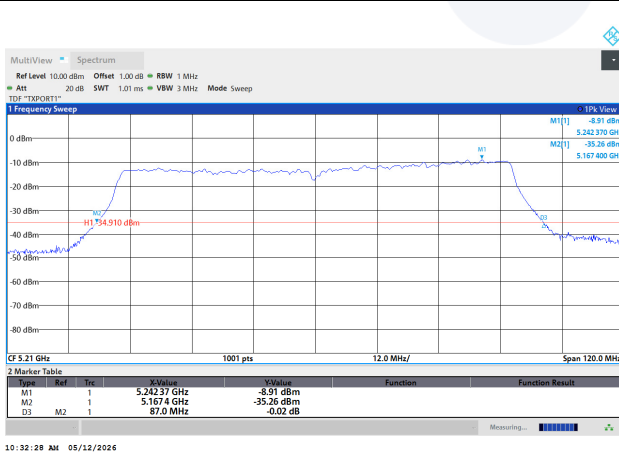
UNII-1 / 802.11n HT40 / 5 230 MHz



UNII-1 / 802.11n HT40 / 5 230 MHz



UNII-1 / 802.11ac VHT80 / 5 210 MHz



UNII-1 / 802.11ac VHT80 / 5 210 MHz

