

802.11ac VHT20 mode/5825MHz

Environment: Temp: 25°C; Humi:60%

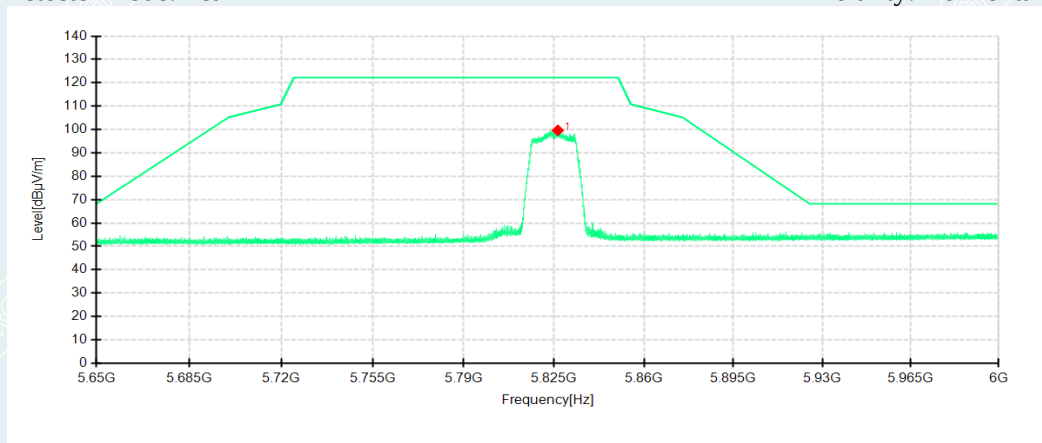
Engineer: Lu Qiang

Detector mode: Peak

Voltage: DC 3.85V

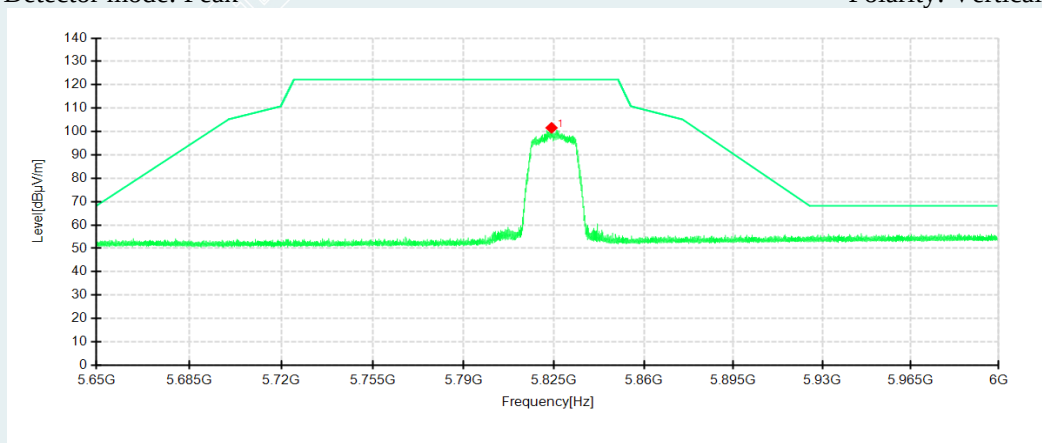
Data: 2022-03-18

Polarity: Horizontal



Detector mode: Peak

Polarity: Vertical



No.	Frequency MHz	Reading dBμV/m	Level dBμV/m	Factor dB	Limit dBμV/m	Margin dB	Height cm	Angle °	Pole
1	5826.4175	83.76	99.65	15.89	122.20	22.55	200	98	Horizontal
1	5823.9850	85.92	101.59	15.67	122.20	20.61	200	262	Vertical

802.11ac VHT40 mode/5755MHz

Environment: Temp: 25℃; Humi:60%

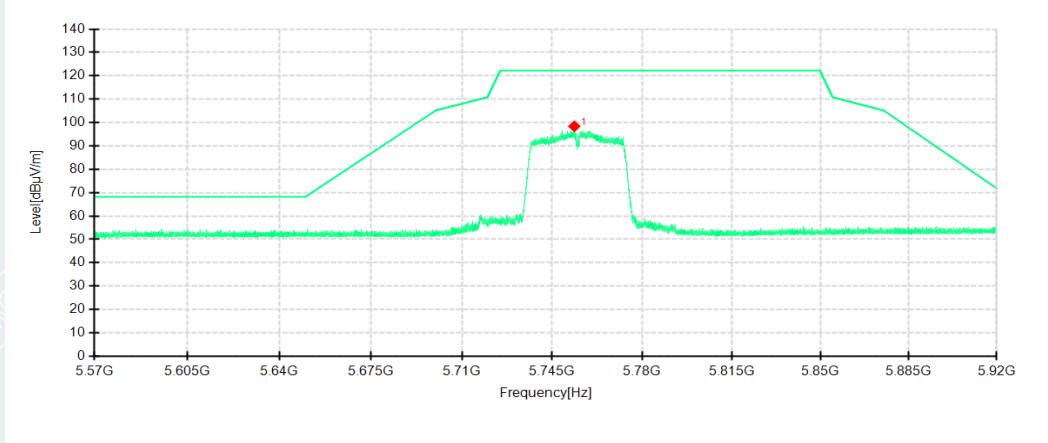
Engineer: Chen Xiacong

Detector mode: Peak

Voltage: DC 3.85V

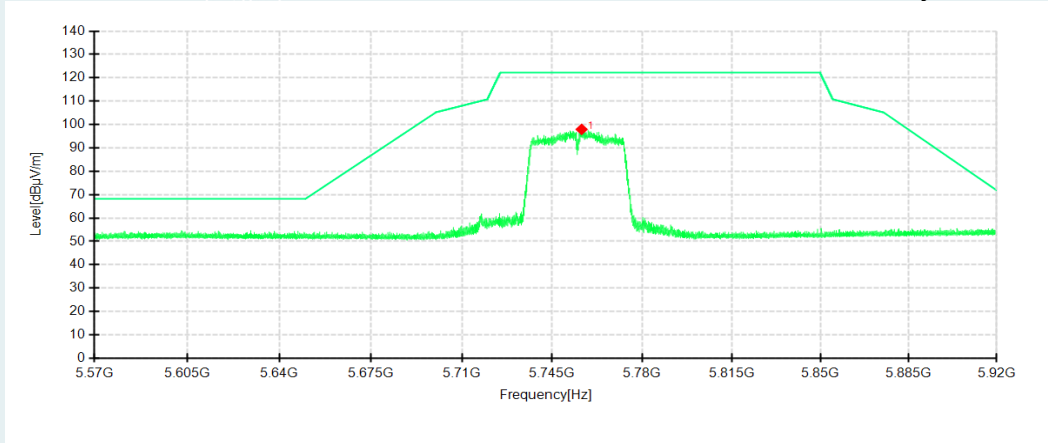
Data: 2022-03-19

Polarity: Horizontal



Detector mode: Peak

Polarity: Vertical



No.	Frequency MHz	Reading dBμV/m	Level dBμV/m	Factor dB	Limit dBμV/m	Margin dB	Height cm	Angle °	Pole
1	5753.5575	83.01	98.39	15.38	122.20	23.81	200	172	Horizontal
1	5756.4100	82.64	97.92	15.28	122.20	24.28	200	259	Vertical

802.11ac VHT40 mode/5795MHz

Environment: Temp: 25℃; Humi:60%

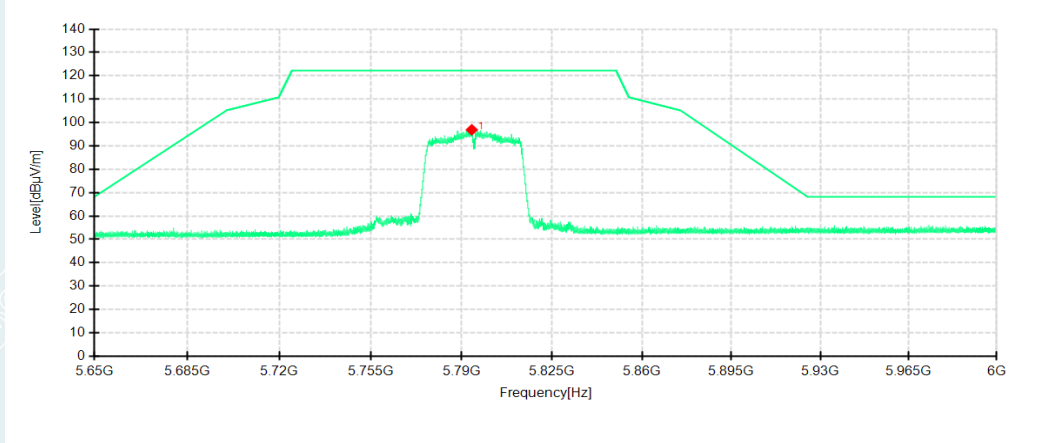
Engineer: Chen Xiacong

Detector mode: Peak

Voltage: DC 3.85V

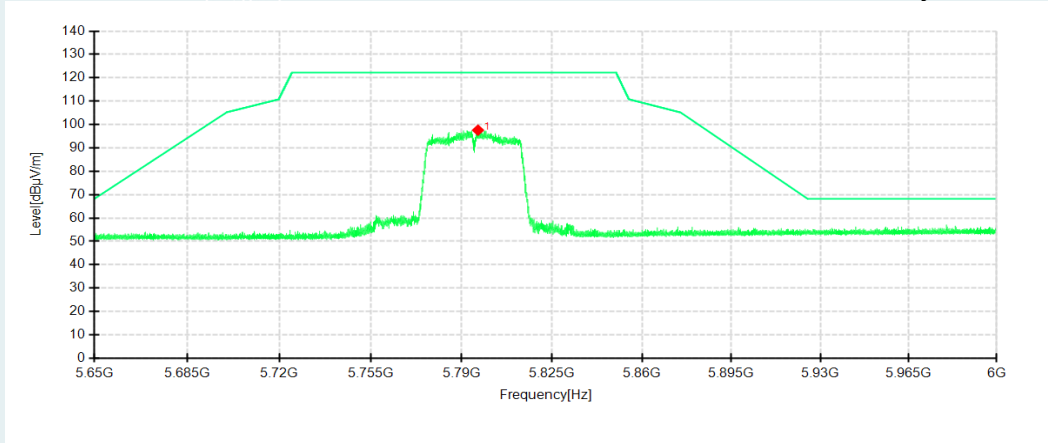
Data: 2022-03-19

Polarity: Horizontal



Detector mode: Peak

Polarity: Vertical



No.	Frequency MHz	Reading dBμV/m	Level dBμV/m	Factor dB	Limit dBμV/m	Margin dB	Height cm	Angle °	Pole
1	5796.2825	82.17	97.58	15.41	122.20	24.62	200	251	Horizontal
1	5796.2825	82.17	97.58	15.41	122.20	24.62	200	251	Vertical

802.11ac VHT80 mode/5775MHz

Environment: Temp: 25°C; Humi:60%

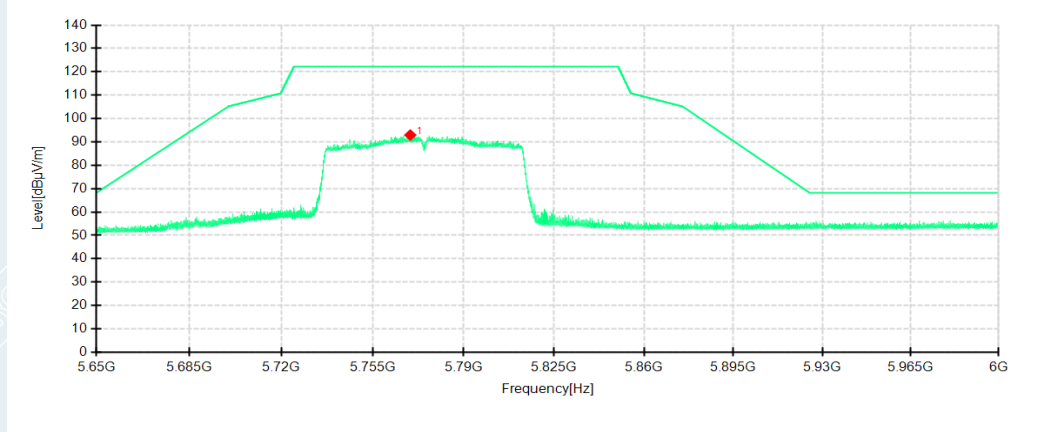
Engineer: Lu Qiang

Detector mode: Peak

Voltage: DC 3.85V

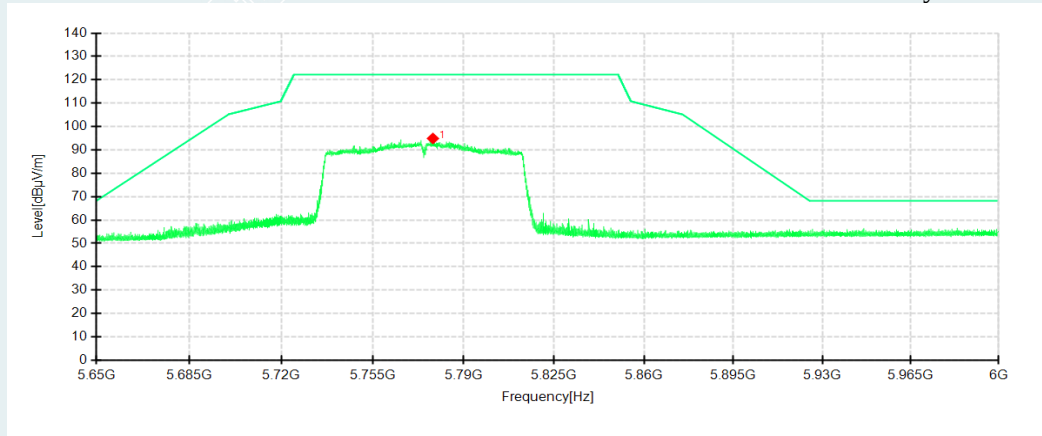
Data: 2022-03-21

Polarity: Horizontal



Detector mode: Peak

Polarity: Vertical



No.	Frequency MHz	Reading dBμV/m	Level dBμV/m	Factor dB	Limit dBμV/m	Margin dB	Height cm	Angle °	Pole
1	5769.4375	77.48	92.94	15.46	122.20	29.26	200	98	Horizontal
1	5778.1350	79.54	94.89	15.35	122.20	27.31	200	262	Vertical

8. 6DB BANDWIDTH & 26DB BANDWIDTH & 99% OCCUPIED BANDWIDTH

8.1. LIMITS

Band	Frequency (MHz)	Test Item	Limit
U-NII-1	5150-5250	26dB Bandwidth&99% Occupied Bandwidth	N/A
U-NII-3	5725-5850	6dB Bandwidth&99% Occupied Bandwidth	6dB Bandwidth $\geq$ 500KHz

8.2. TEST PROCEDURES

For 26dB Bandwidth Measurement :

- Connect EUT antenna terminal to the spectrum analyzer with RF cable.
- Spectrum analyzer setting parameters in accordance with table 1.
- Set the EUT transmit continuously with maximum output power.
- Allow trace to stabilize, measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the instrument. Readjust RBW and repeat measurements as needed until the RBW/EBW ratio is approximately 1%.
- Repeat above procedures until all modes and channels were measured.
- Record the results in the test report.

For 6dB Bandwidth Measurement :

- Connect EUT antenna terminal to the spectrum analyzer with RF cable.
- Spectrum analyzer setting parameters in accordance with table 2.
- Set the EUT transmit continuously with maximum output power.
- Allow trace to stabilize, 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.
- Repeat above procedures until all modes and channels were measured.
- Record the results in the test report.

For 99% Occupied Bandwidth Measurement :

- Connect EUT antenna terminal to the spectrum analyzer with RF cable.
- Spectrum analyzer setting parameters in accordance with table 3.
- Set the EUT transmit continuously with maximum output power.
- Allow trace to stabilize, use the 99% power bandwidth function to measure bandwidth.
- Repeat above procedures until all modes and channels were measured.

Record the results in the test report.

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Table 1:

26dB Bandwidth	
Spectrum Parameters	Setting
RBW	approximately 1% of the emission bandwidth
VBW	> RBW
Span	40MHz(20MHz Bandwidth mode) 60MHz(40MHz Bandwidth mode) 120MHz(80MHz Bandwidth mode)
Sweep Time	Auto
Detector	Peak
Trace Mode	Max Hold

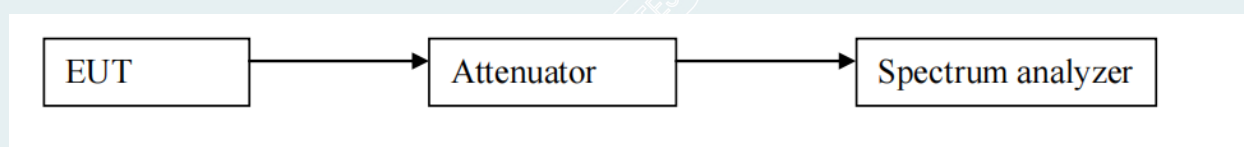
Table 2:

6dB Bandwidth	
Spectrum Parameters	Setting
RBW	100KHz
VBW	300KHz
Span	40MHz(20MHz Bandwidth mode) 60MHz(40MHz Bandwidth mode) 120MHz(80MHz Bandwidth mode)
Sweep Time	Auto
Detector	Peak
Trace Mode	Max Hold

Table 3:

99% Occupied Bandwidth	
Spectrum Parameters	Setting
RBW	1% to 5% of the OBW
VBW	approximately three times the RBW
Span	between 1.5 times and 5.0 times the OBW
Sweep Time	Auto
Detector	Peak
Trace Mode	Max Hold

8.3. TEST SETUP



8.4. TEST RESULTS

Environmental Conditions	23.5°C/48%RH	Test Voltage	DC 3.85V
Tested By	Lu Wei	Tested Date	2022-3-24

6DB BANDWIDTH

TestMode	Antenna	Frequency [MHz]	6db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
802.11a	Ant1	5745	16.320	5736.840	5753.160	0.5	PASS
		5785	16.320	5776.840	5793.160	0.5	PASS
		5825	16.320	5816.840	5833.160	0.5	PASS
802.11n HT20	Ant1	5745	17.520	5736.240	5753.760	0.5	PASS
		5785	17.520	5776.240	5793.760	0.5	PASS
		5825	17.560	5816.200	5833.760	0.5	PASS
802.11n HT40	Ant1	5755	35.840	5737.080	5772.920	0.5	PASS
		5795	36.320	5776.840	5813.160	0.5	PASS
802.11ac VHT20	Ant1	5745	17.520	5736.240	5753.760	0.5	PASS
		5785	17.520	5776.240	5793.760	0.5	PASS
		5825	17.520	5816.240	5833.760	0.5	PASS
802.11ac VHT40	Ant1	5755	35.680	5737.240	5772.920	0.5	PASS
		5795	36.080	5777.080	5813.160	0.5	PASS
802.11ac VHT80	Ant1	5775	75.200	5737.400	5812.600	0.5	PASS

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26DB BANDWIDTH

TestMode	Antenna	Frequency [MHz]	26dB EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
802.11a	Ant1	5180	21.200	5169.360	5190.560	---	PASS
		5200	21.120	5189.440	5210.560	---	PASS
		5240	21.240	5229.320	5250.560	---	PASS
802.11n HT20	Ant1	5180	21.400	5169.360	5190.760	---	PASS
		5200	21.640	5189.200	5210.840	---	PASS
		5240	21.440	5229.280	5250.720	---	PASS
802.11n HT40	Ant1	5190	40.000	5170.080	5210.080	---	PASS
		5230	40.000	5209.920	5249.920	---	PASS
802.11ac VHT20	Ant1	5180	21.400	5169.320	5190.720	---	PASS
		5200	21.480	5189.280	5210.760	---	PASS
		5240	21.520	5229.160	5250.680	---	PASS
802.11ac VHT40	Ant1	5190	40.320	5169.840	5210.160	---	PASS
		5230	40.240	5209.920	5250.160	---	PASS
802.11ac VHT80	Ant1	5210	81.120	5168.880	5250.000	---	PASS

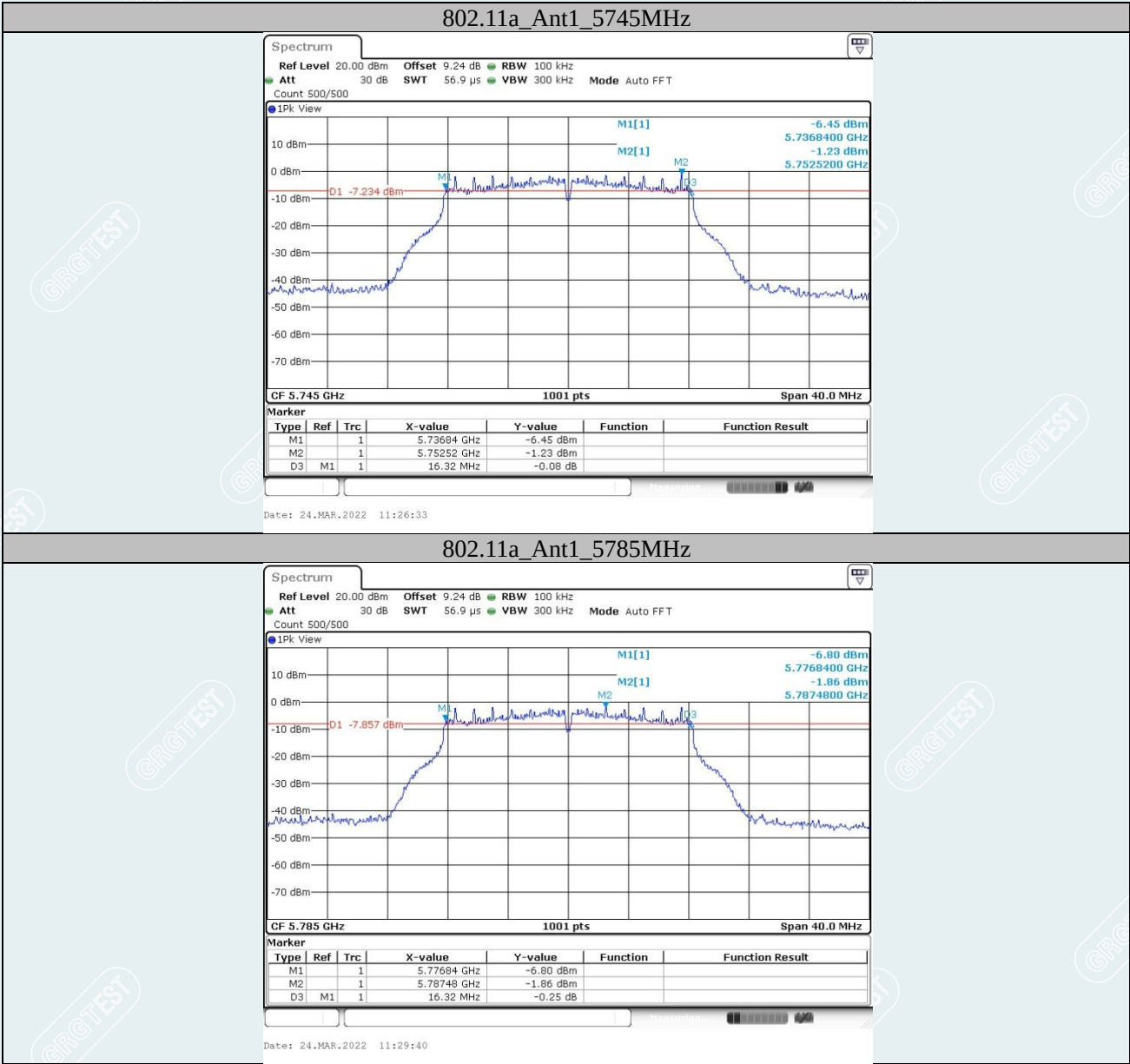
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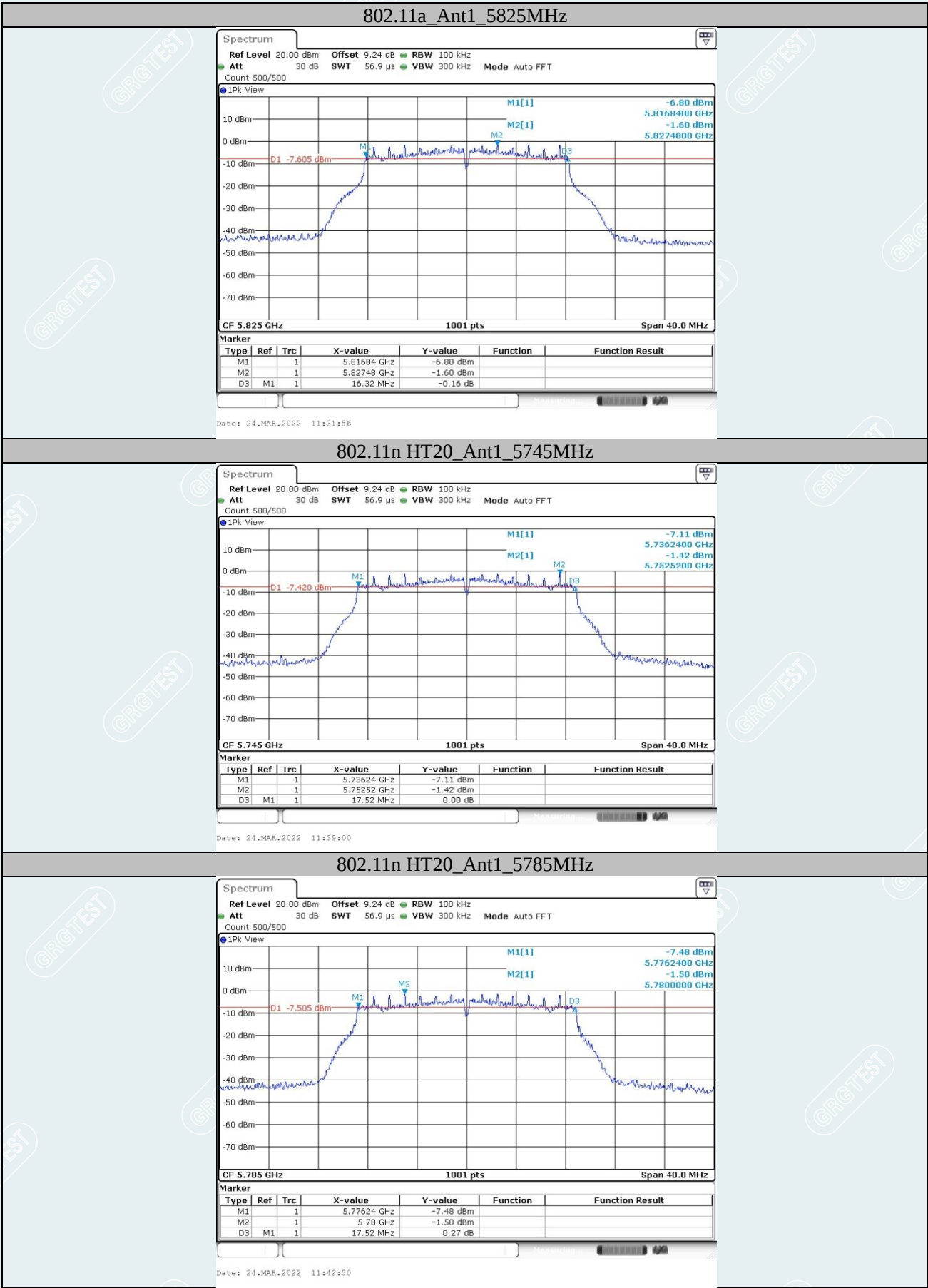
99% OCCUPIED BANDWIDTH

TestMode	Antenna	Frequency [MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
802.11a	Ant1	5180	17.542	5171.209	5188.751	---	PASS
		5200	17.383	5191.449	5208.831	---	PASS
		5240	17.103	5231.568	5248.671	---	PASS
		5745	17.423	5736.289	5753.711	---	PASS
		5785	17.463	5776.369	5793.831	---	PASS
		5825	17.542	5816.169	5833.711	---	PASS
802.11n HT20	Ant1	5180	18.422	5170.849	5189.271	---	PASS
		5200	18.462	5190.849	5209.311	---	PASS
		5240	18.781	5230.490	5249.271	---	PASS
		5745	18.342	5735.809	5754.151	---	PASS
		5785	18.382	5775.809	5794.191	---	PASS
		5825	18.541	5815.689	5834.231	---	PASS
802.11n HT40	Ant1	5190	36.364	5171.778	5208.142	---	PASS
		5230	36.444	5211.778	5248.222	---	PASS
		5755	36.364	5736.858	5773.222	---	PASS
		5795	36.444	5776.858	5813.302	---	PASS
802.11ac VHT20	Ant1	5180	18.621	5170.490	5189.111	---	PASS
		5200	18.222	5190.809	5209.031	---	PASS
		5240	18.262	5230.929	5249.191	---	PASS
		5745	18.302	5735.889	5754.191	---	PASS
		5785	18.541	5775.809	5794.351	---	PASS
		5825	18.422	5815.809	5834.231	---	PASS
802.11ac VHT40	Ant1	5190	36.444	5171.858	5208.302	---	PASS
		5230	36.444	5211.778	5248.222	---	PASS
		5755	36.444	5736.778	5773.222	---	PASS
		5795	36.603	5776.778	5813.382	---	PASS
802.11ac VHT80	Ant1	5210	76.084	5171.958	5248.042	---	PASS
		5775	76.084	5736.798	5812.882	---	PASS

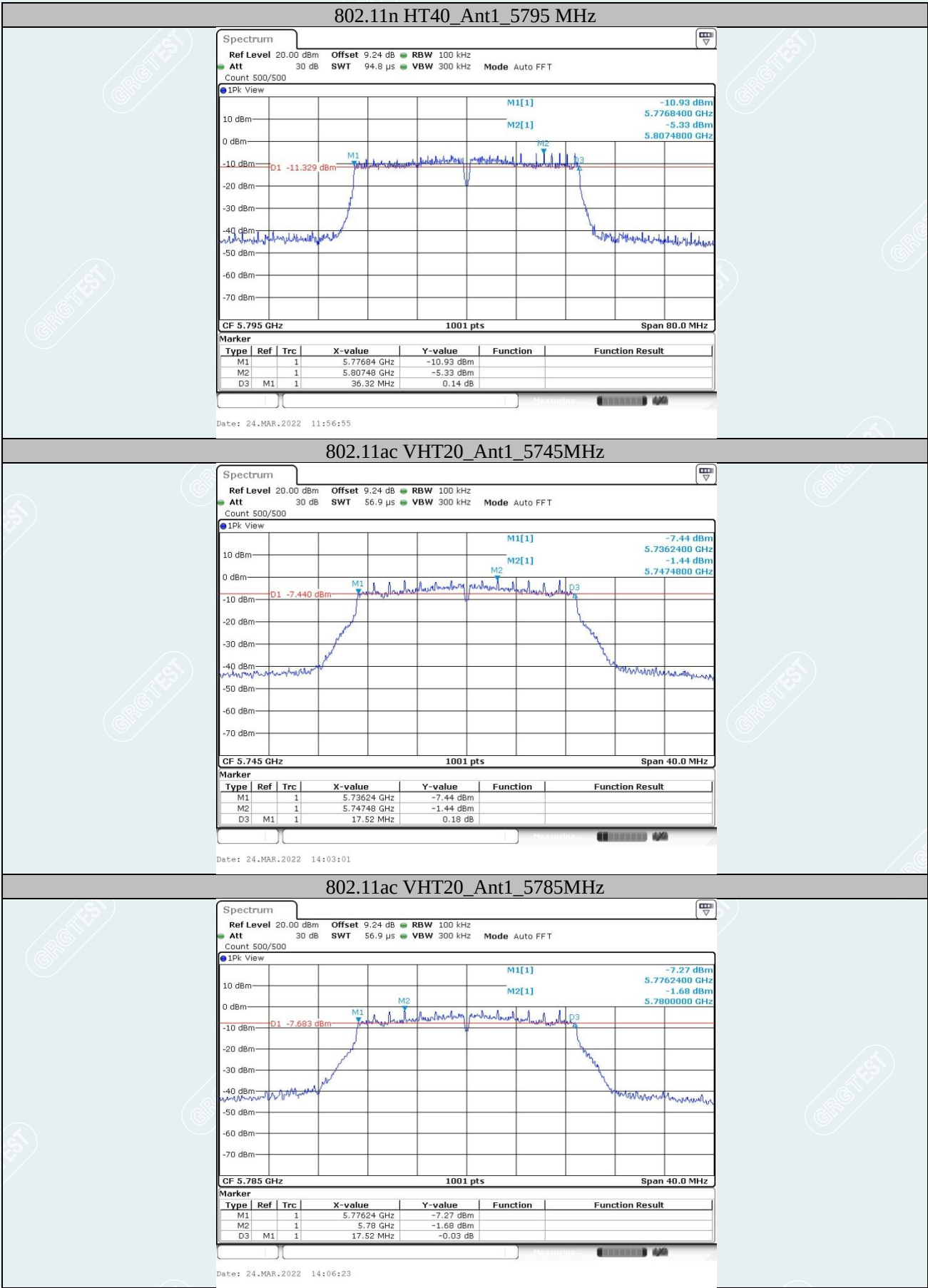
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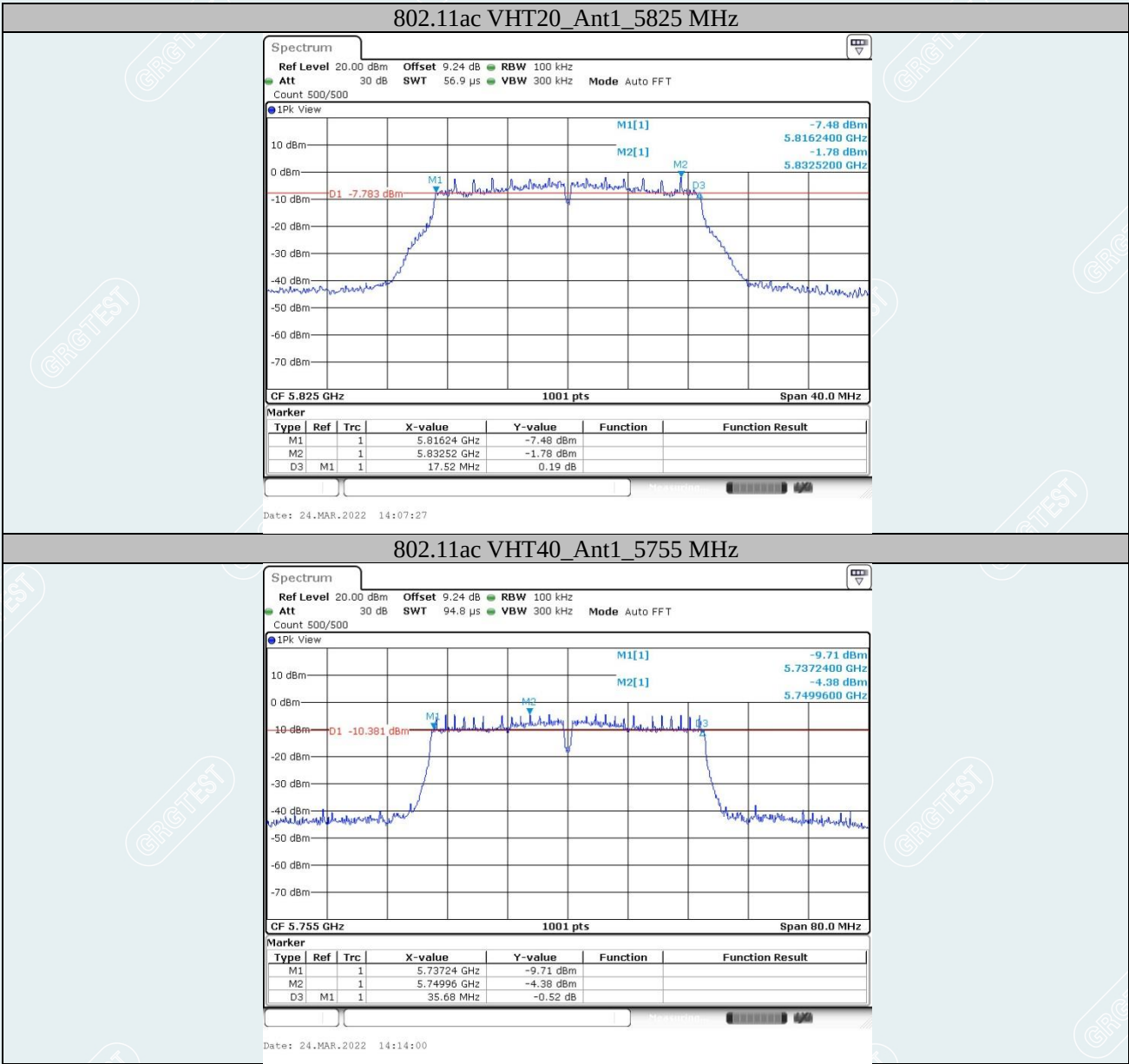
6DB BANDWIDTH

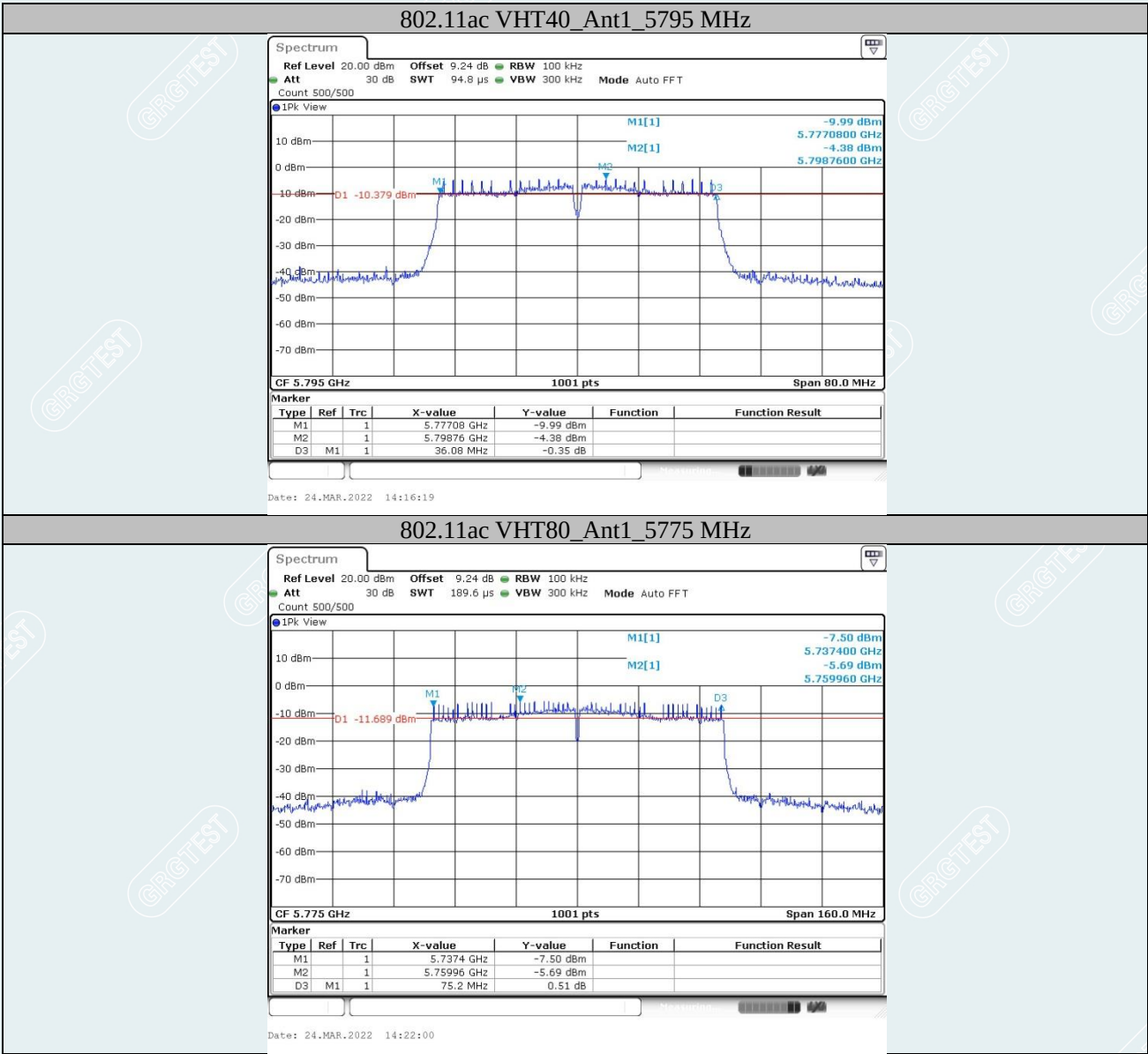




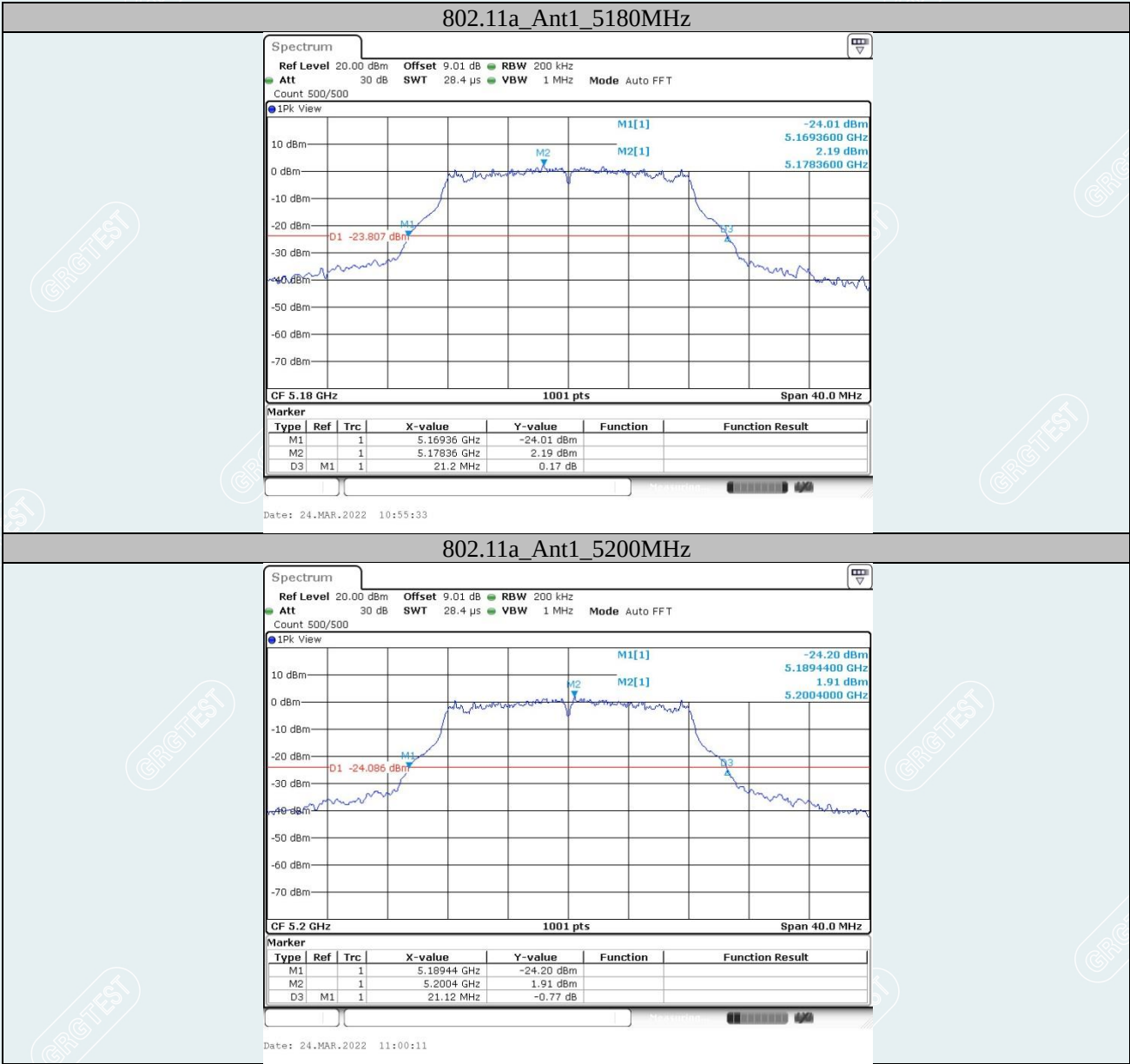


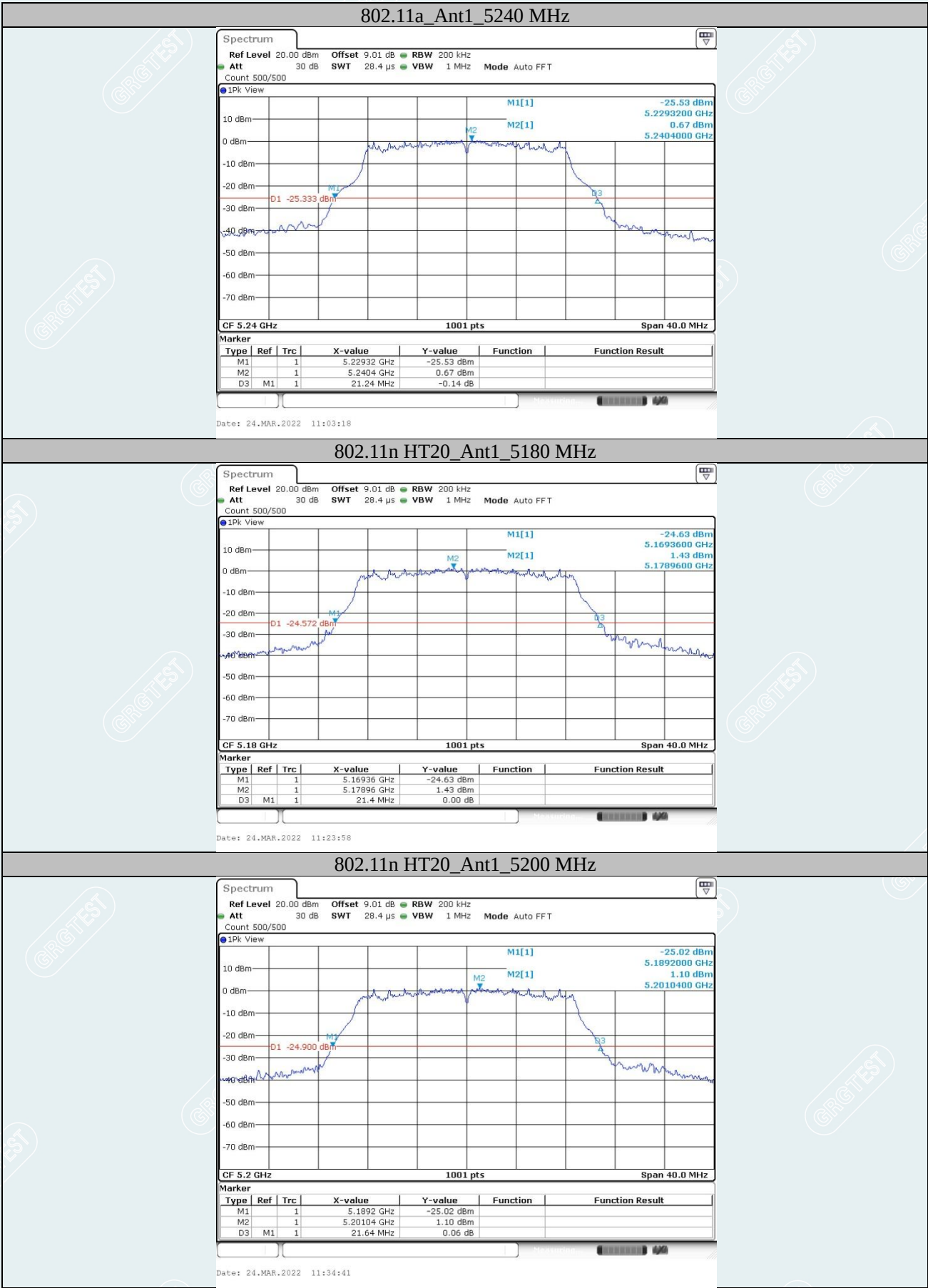




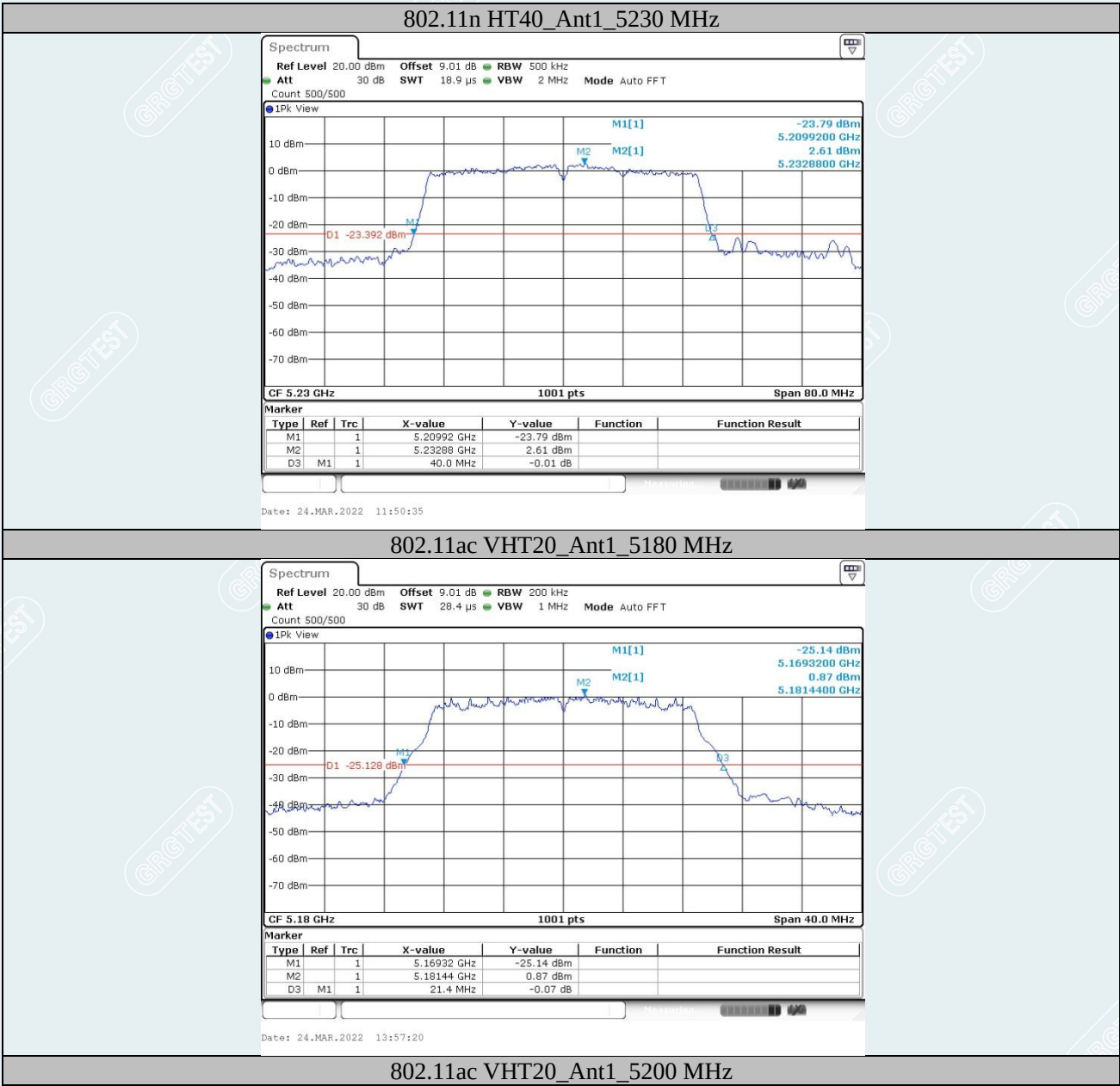


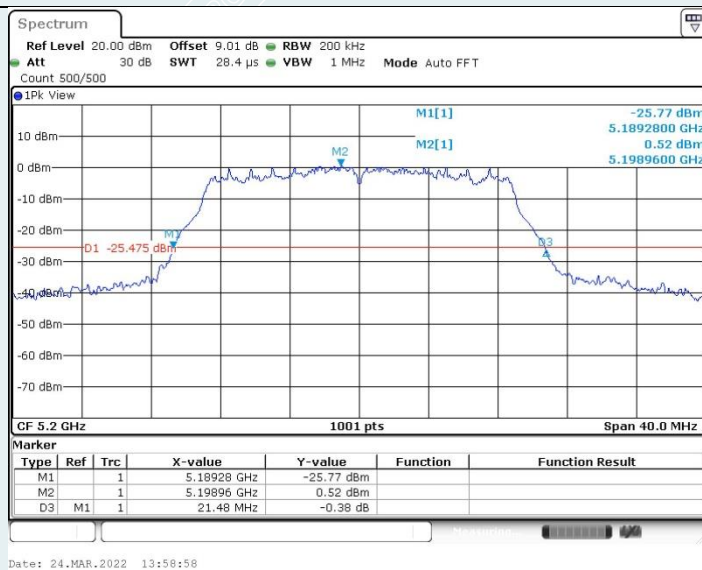
26DB BANDWIDTH



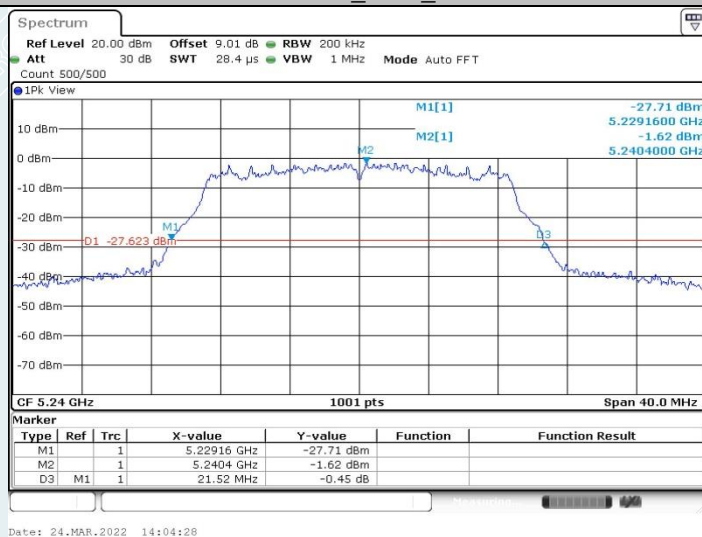




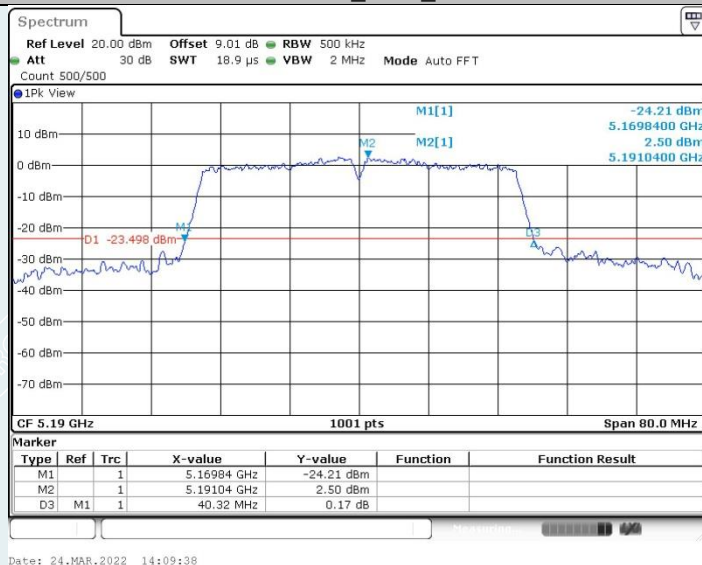




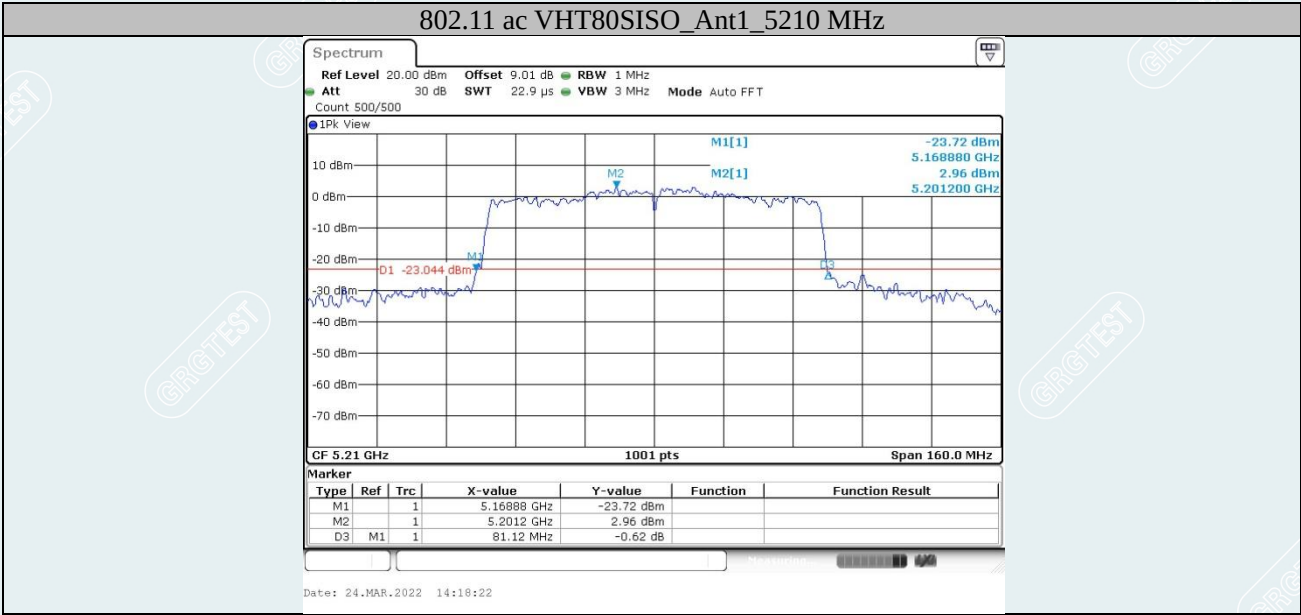
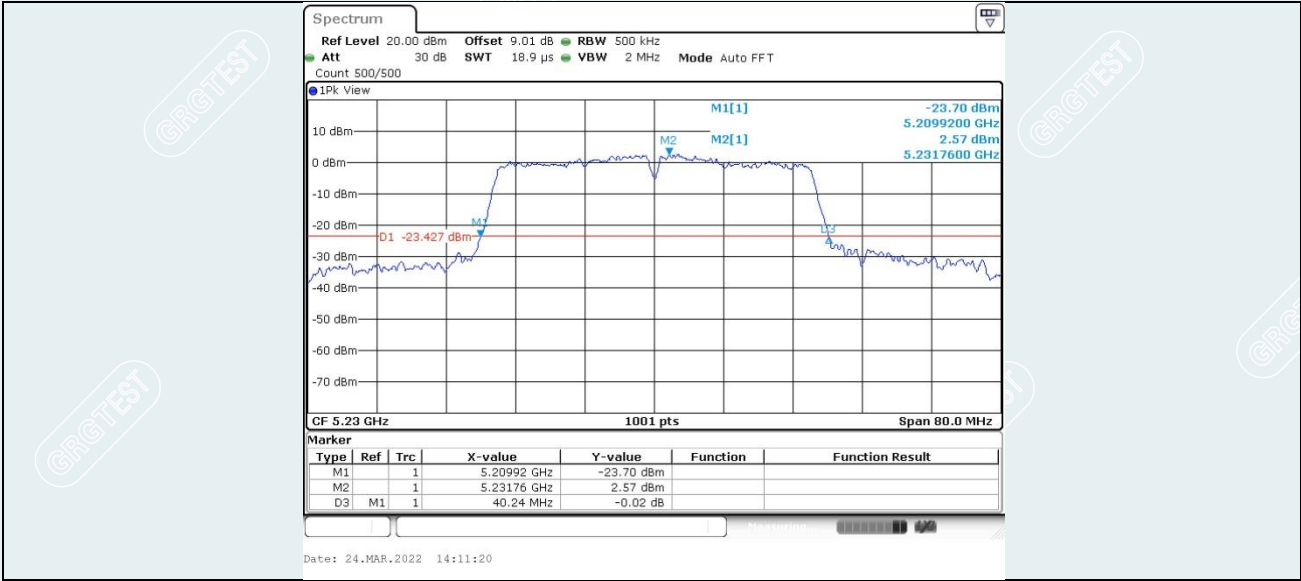
802.11ac VHT20_Ant1_5240 MHz



802.11ac VHT40_Ant1_5190 MHz

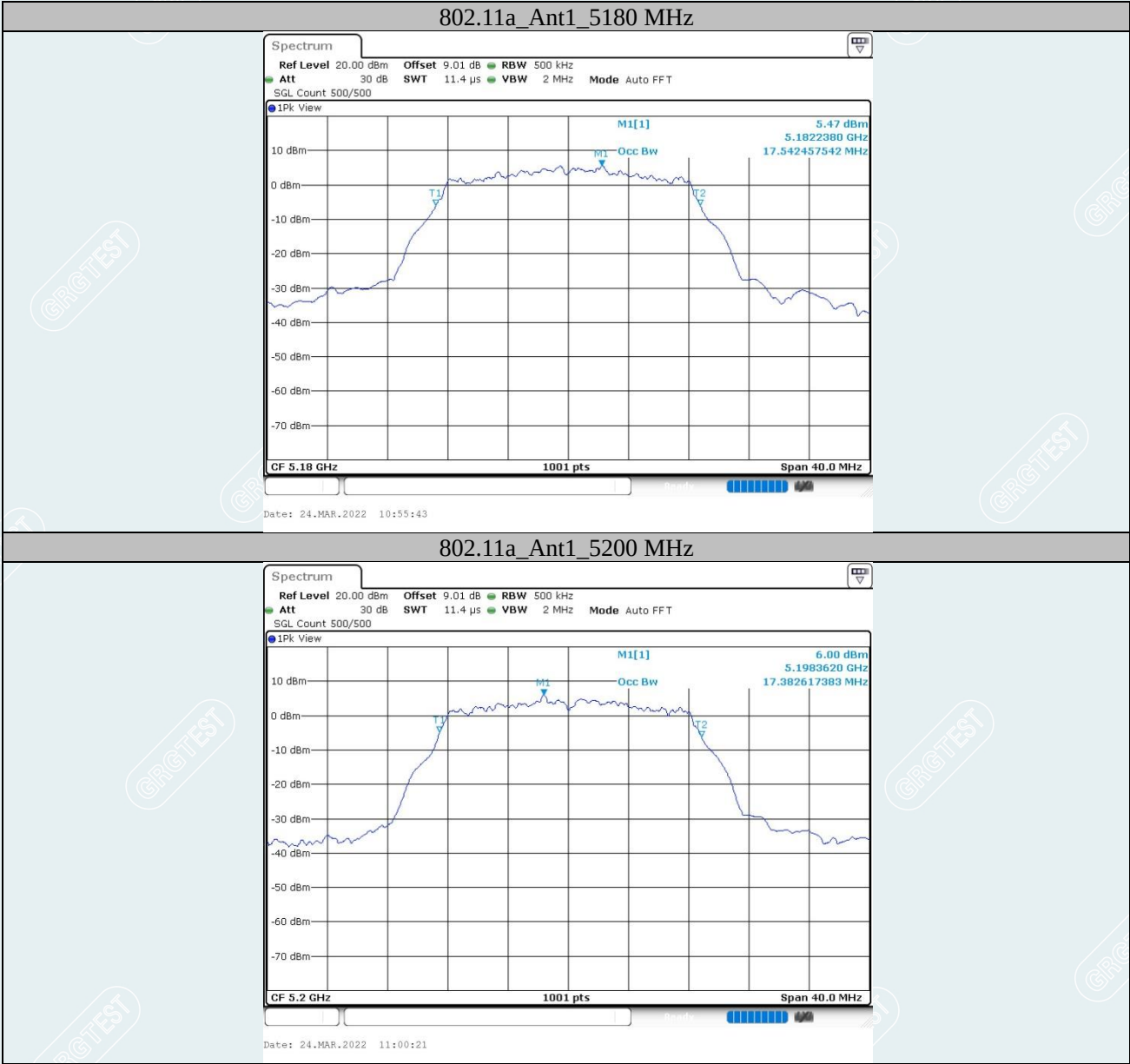


802.11ac VHT40_Ant1_5230 MHz



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99% OCCUPIED BANDWIDTH



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