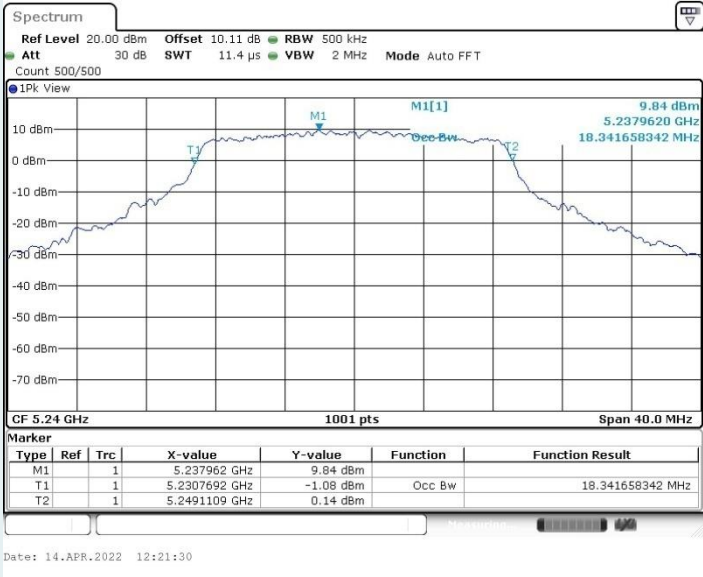
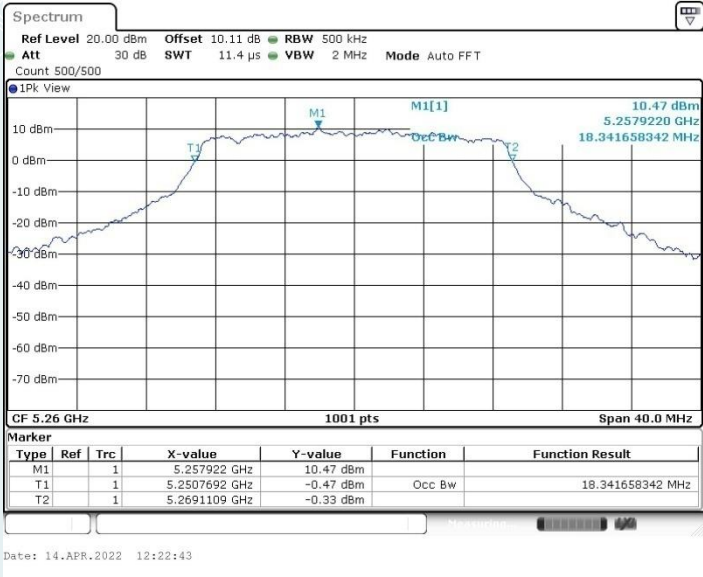


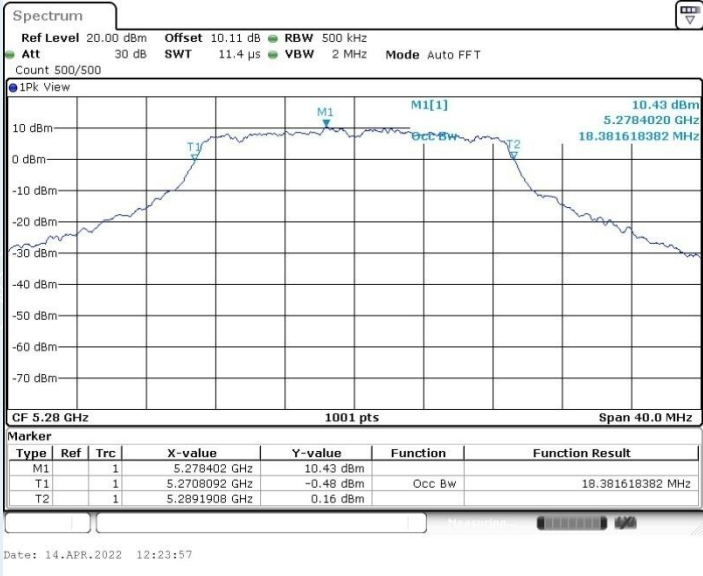
IEEE 802.11n HT20_Ant1_5240 MHz



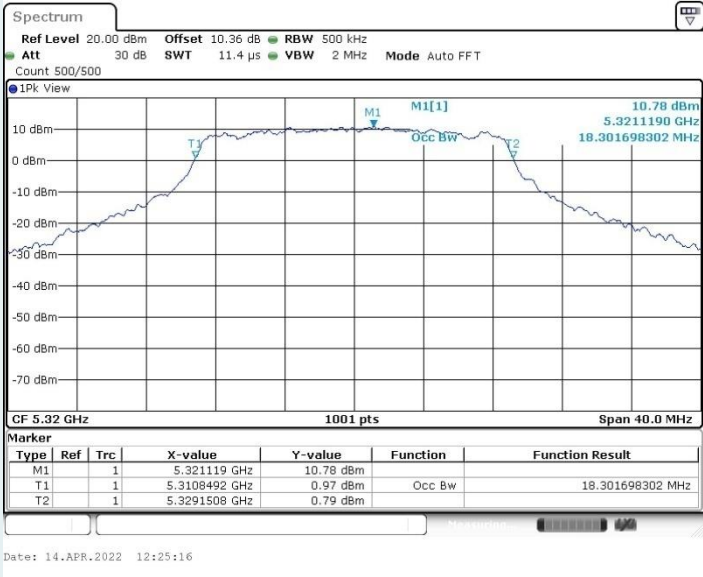
IEEE 802.11n HT20_Ant1_5260 MHz



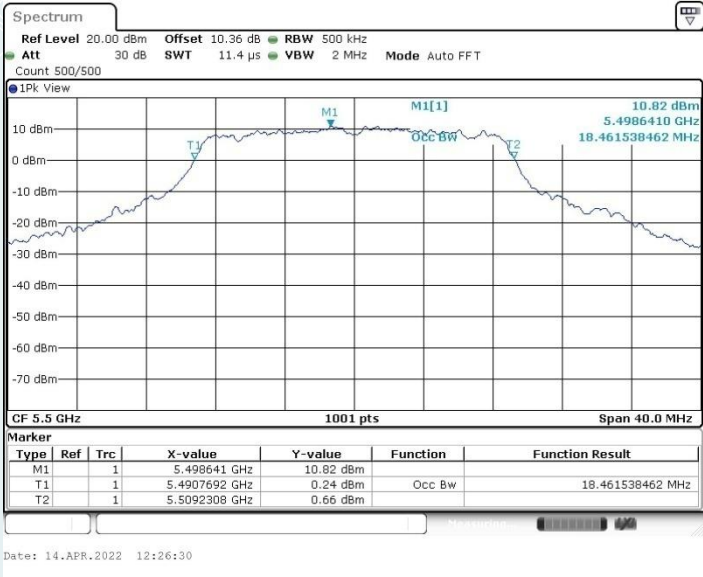
IEEE 802.11n HT20_Ant1_5280 MHz



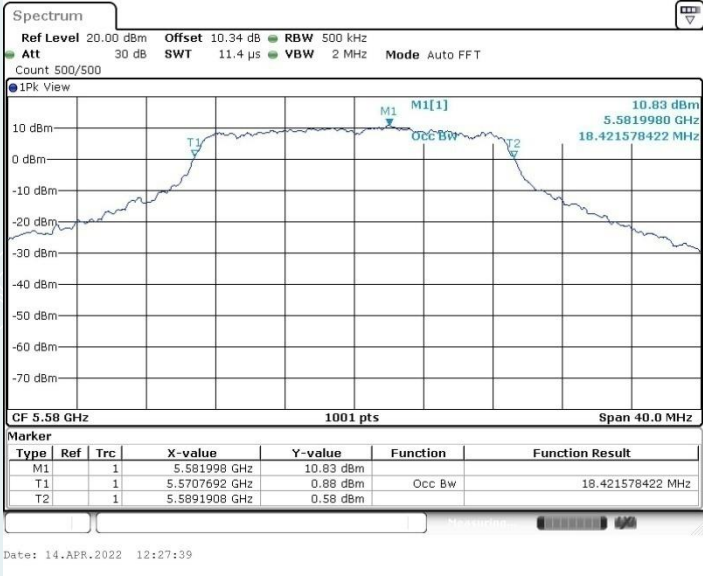
IEEE 802.11n HT20_Ant1_5320 MHz



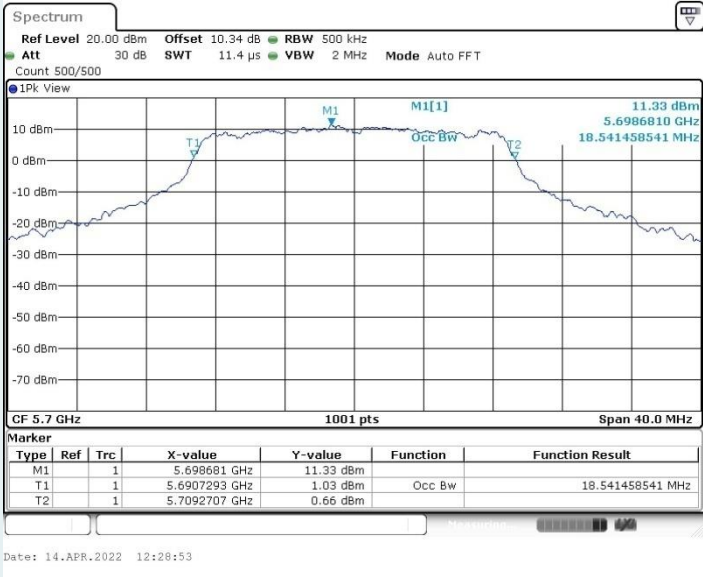
IEEE 802.11n HT20_Ant1_5500 MHz



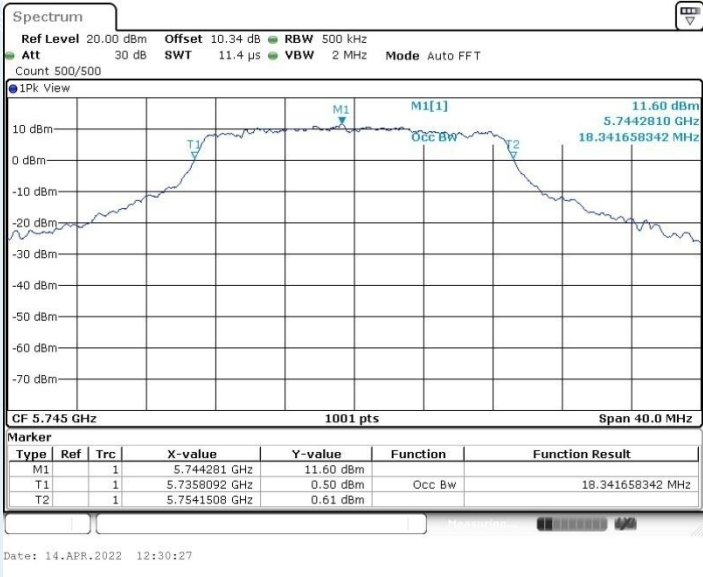
IEEE 802.11n HT20_Ant1_5580 MHz



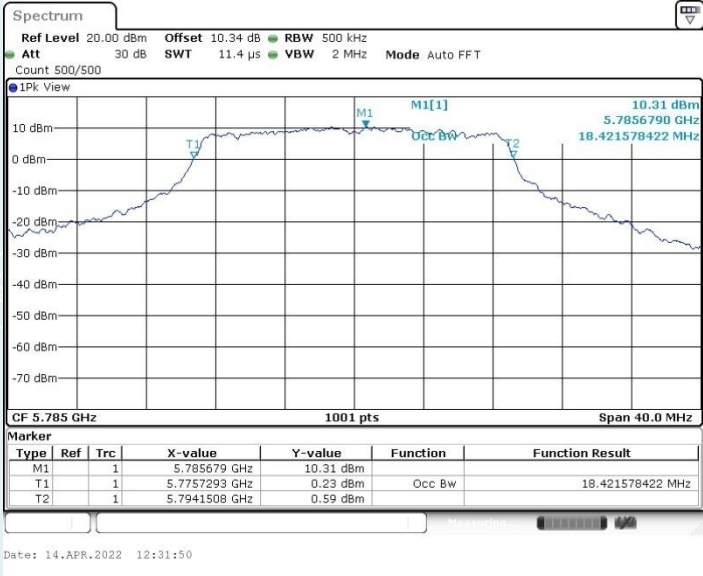
IEEE 802.11n HT20_Ant1_5700 MHz



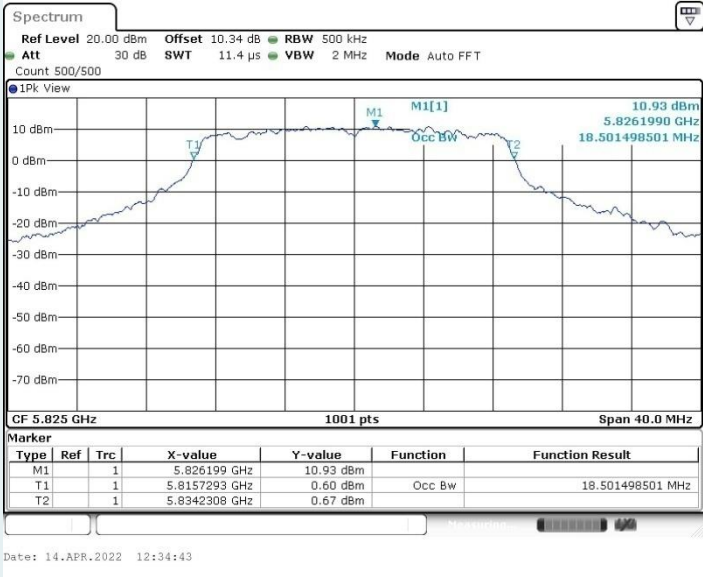
IEEE 802.11n HT20_Ant1_5745 MHz



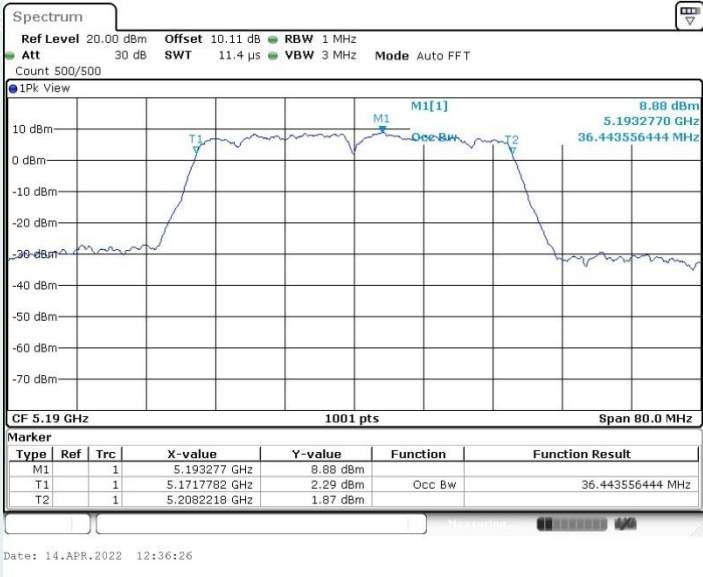
IEEE 802.11n HT20_Ant1_5785 MHz



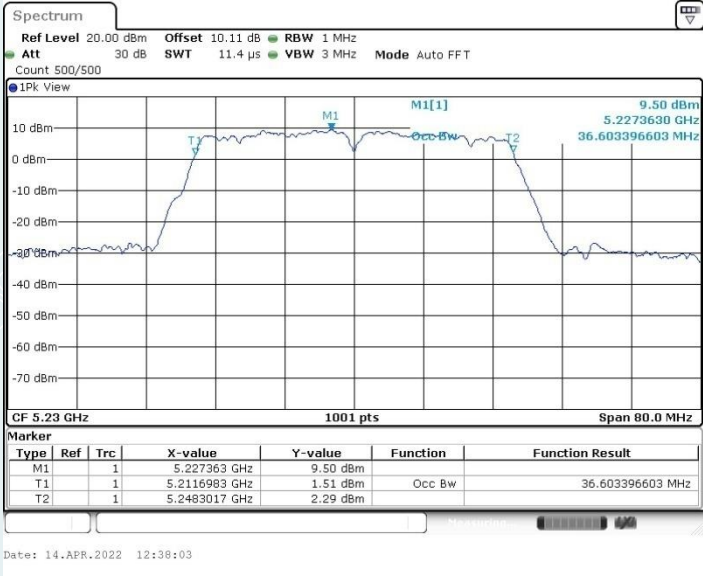
IEEE 802.11n HT20_Ant1_5825 MHz



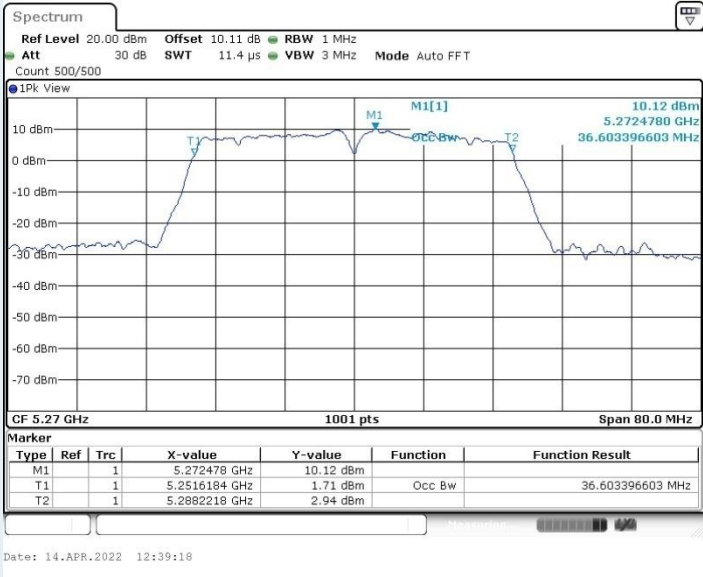
IEEE 802.11n HT40_Ant1_5190 MHz



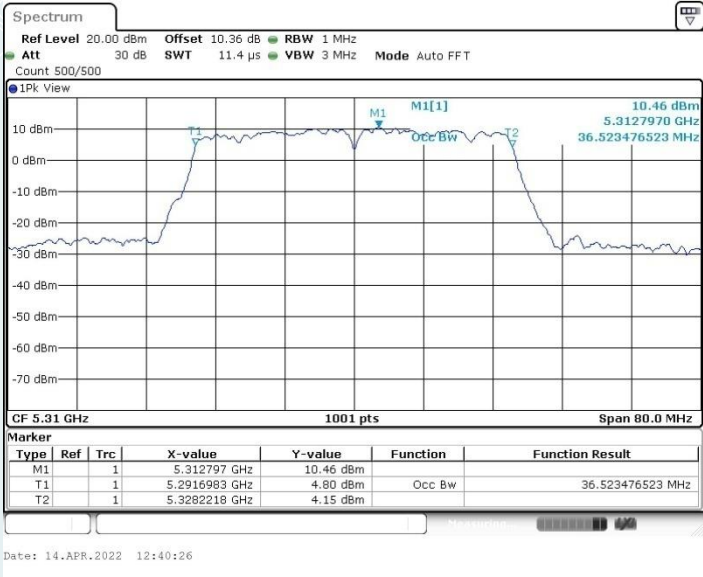
IEEE 802.11n HT40_Ant1_5230 MHz



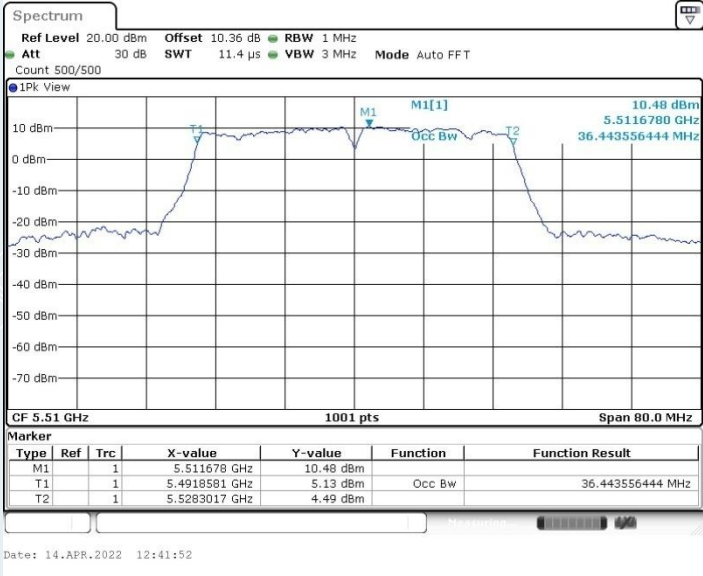
IEEE 802.11n HT40_Ant1_5270 MHz



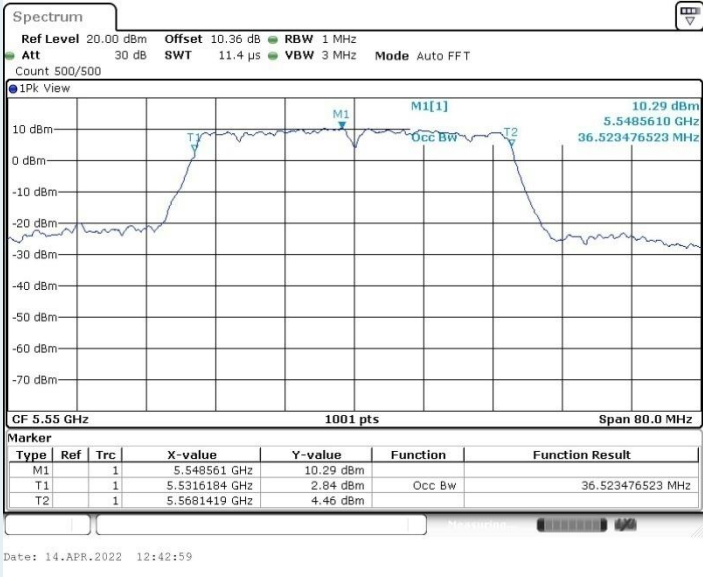
IEEE 802.11n HT40_Ant1_5310 MHz



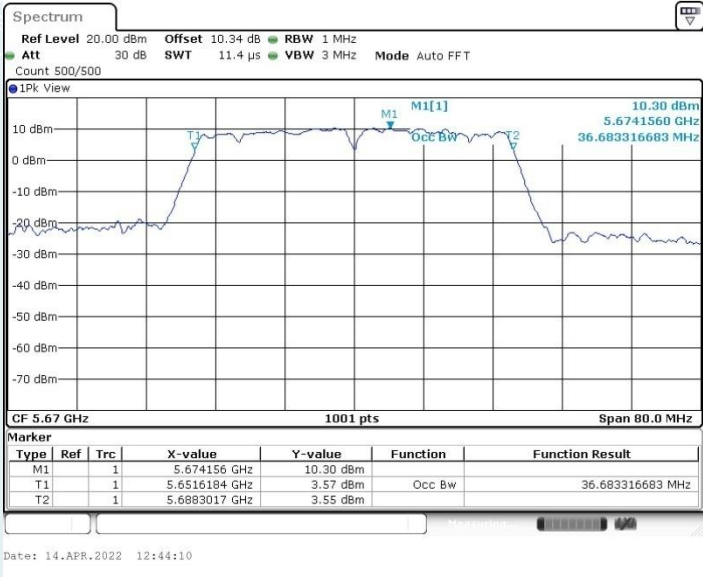
IEEE 802.11n HT40_Ant1_5510 MHz



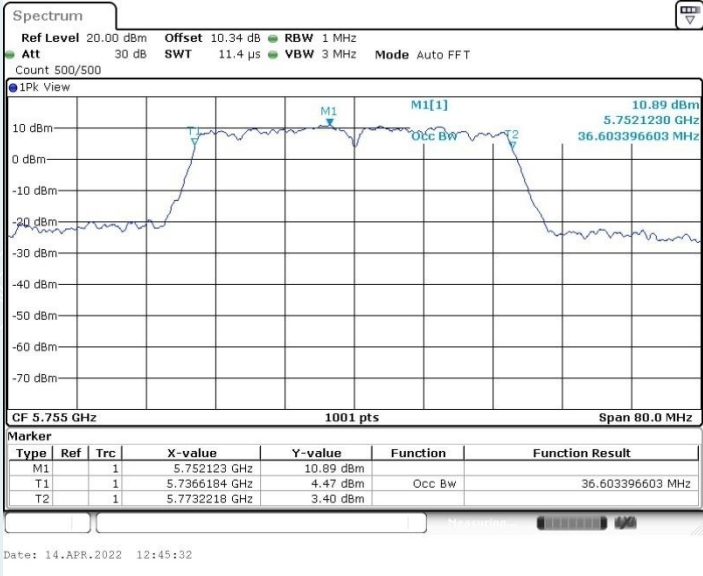
IEEE 802.11n HT40_Ant1_5550 MHz



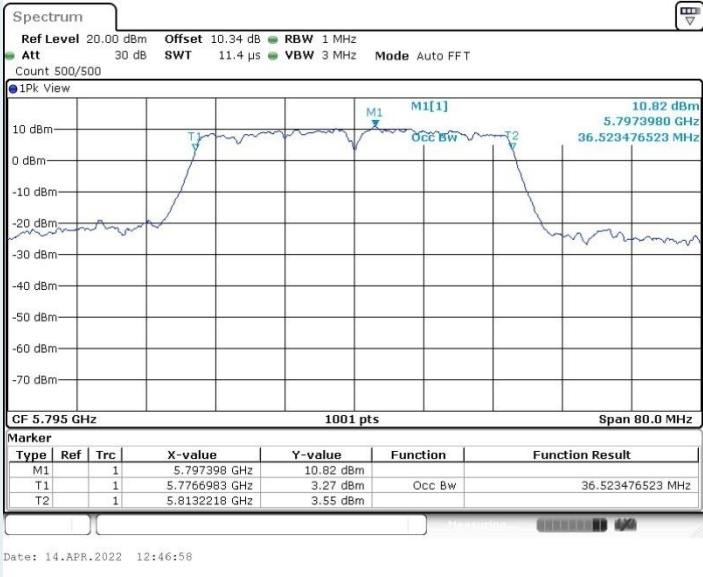
IEEE 802.11n HT40_Ant1_5670 MHz



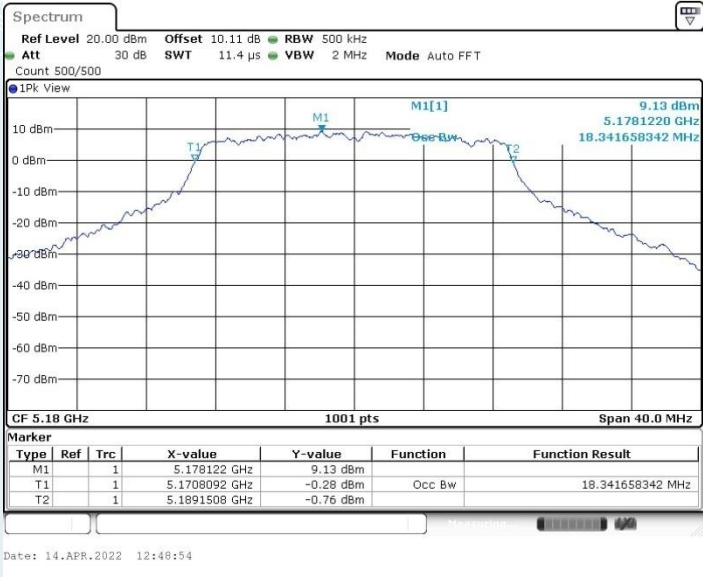
IEEE 802.11n HT40_Ant1_5755 MHz



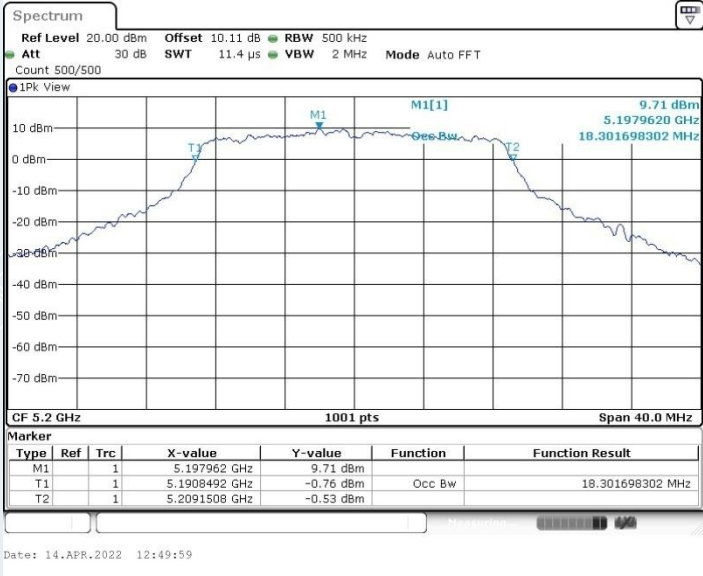
IEEE 802.11n HT40_Ant1_5795 MHz



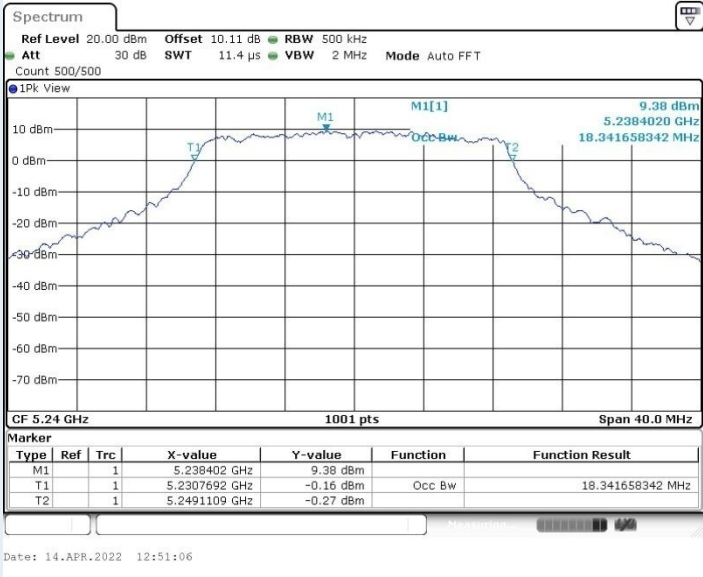
IEEE 802.11ac VHT20_Ant1_5180 MHz



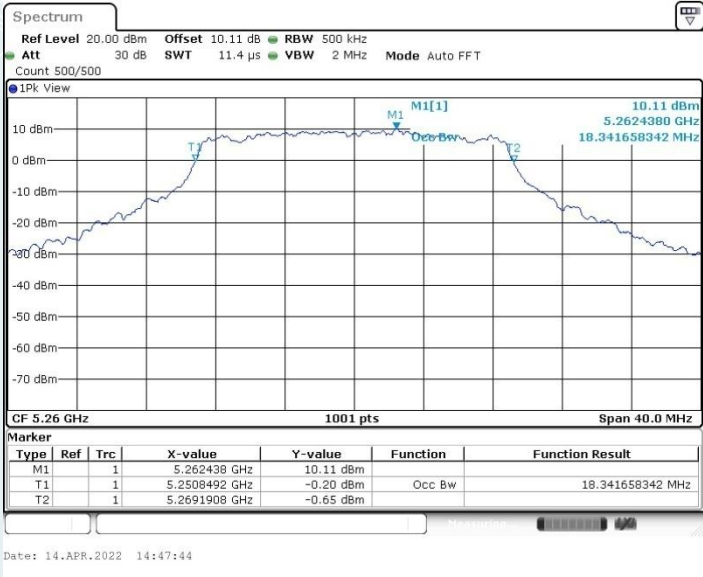
IEEE 802.11ac VHT20_Ant1_5200 MHz



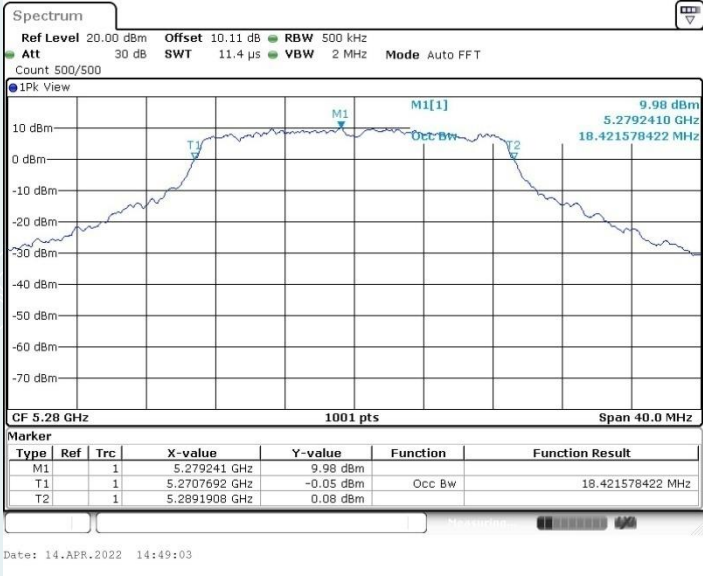
IEEE 802.11ac VHT20_Ant1_5240 MHz



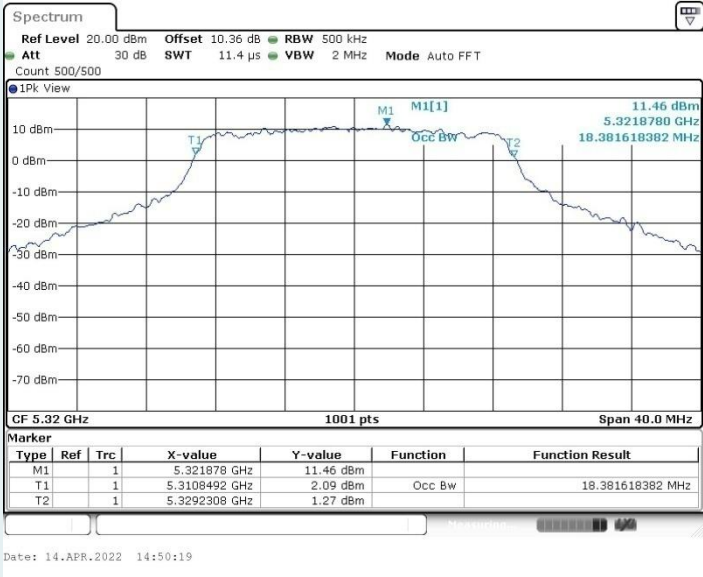
IEEE 802.11ac VHT20_Ant1_5260 MHz



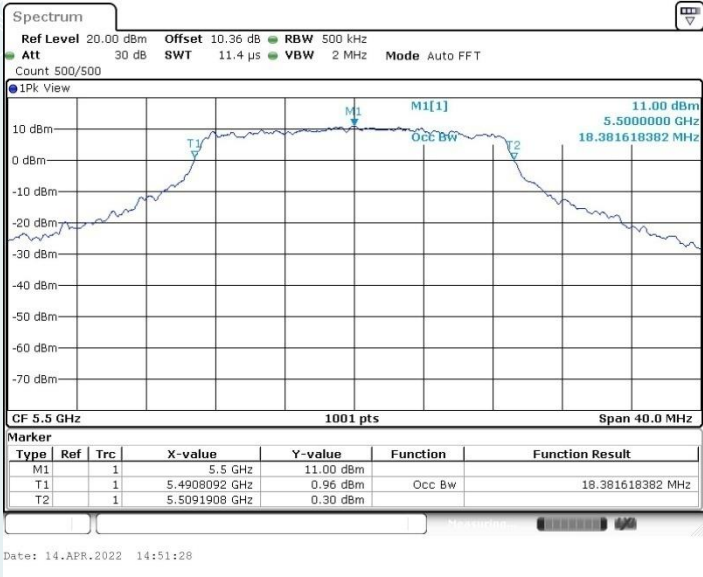
IEEE 802.11ac VHT20_Ant1_5280 MHz



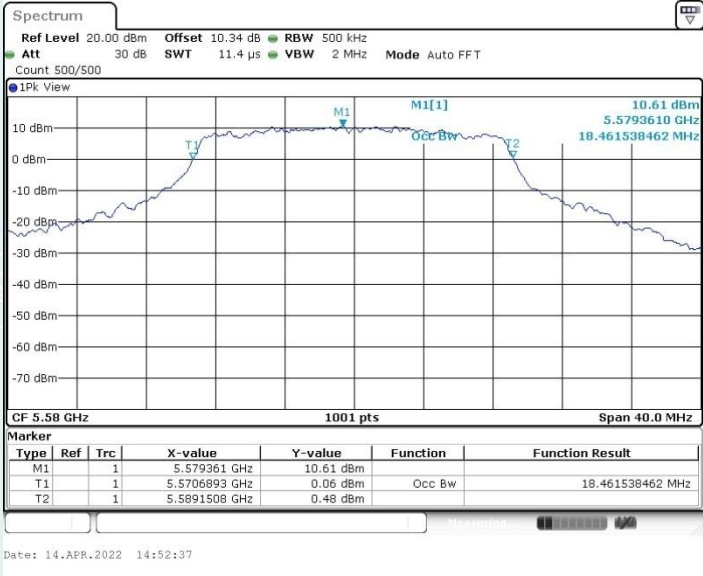
IEEE 802.11ac VHT20_Ant1_5320 MHz



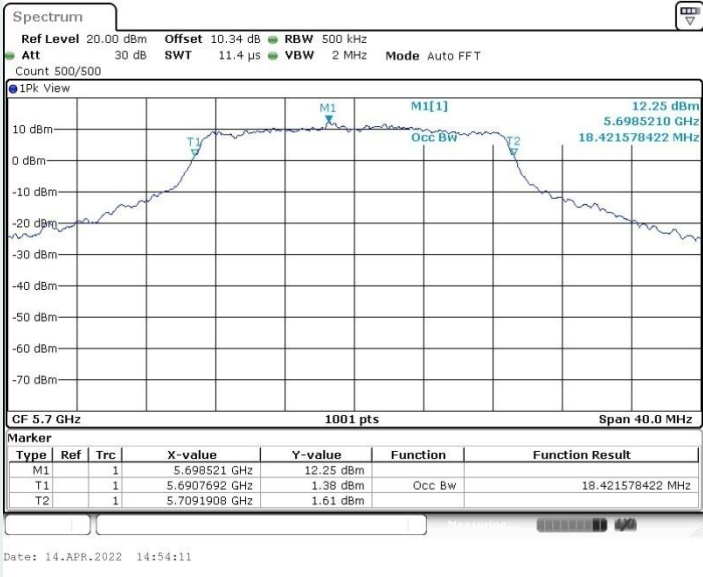
IEEE 802.11ac VHT20_Ant1_5500 MHz



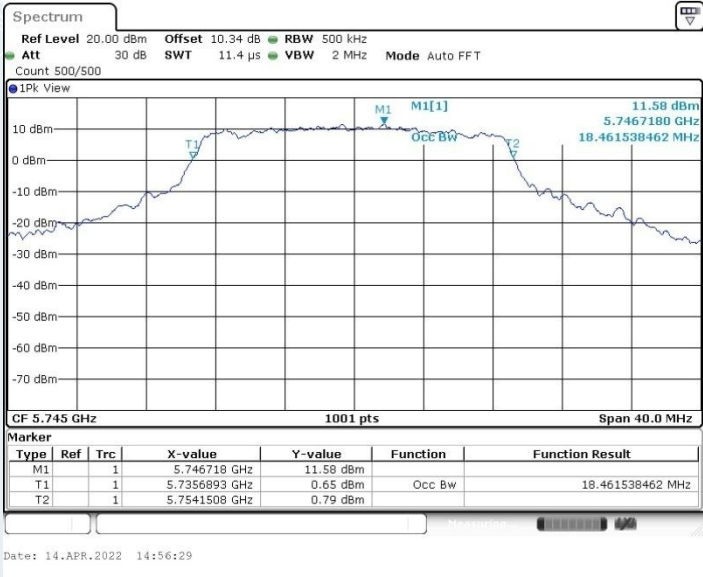
IEEE 802.11ac VHT20_Ant1_5580 MHz



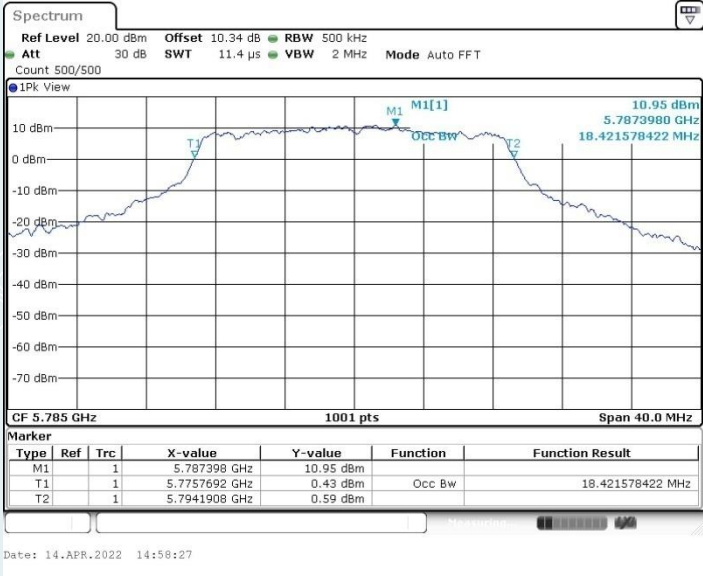
IEEE 802.11ac VHT20_Ant1_5700 MHz



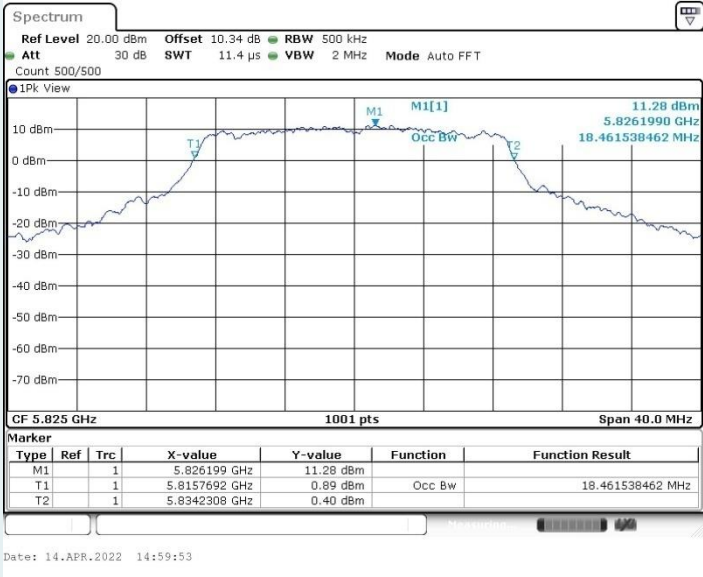
IEEE 802.11ac VHT20_Ant1_5745 MHz



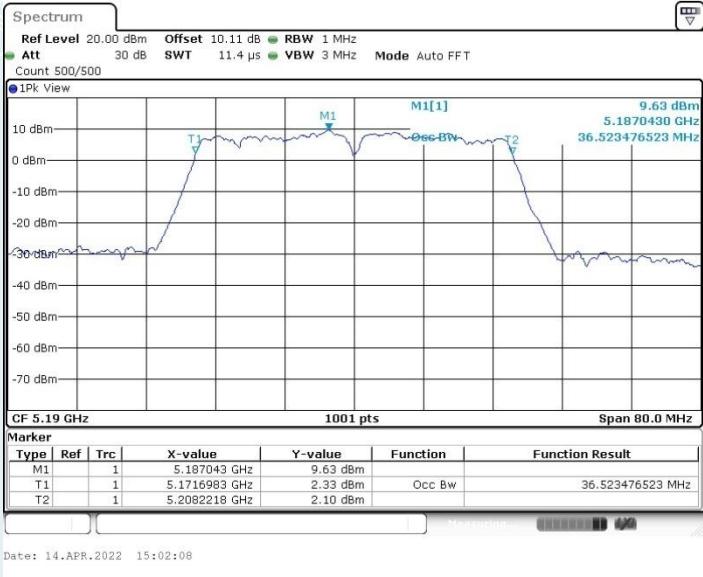
IEEE 802.11ac VHT20_Ant1_5785 MHz



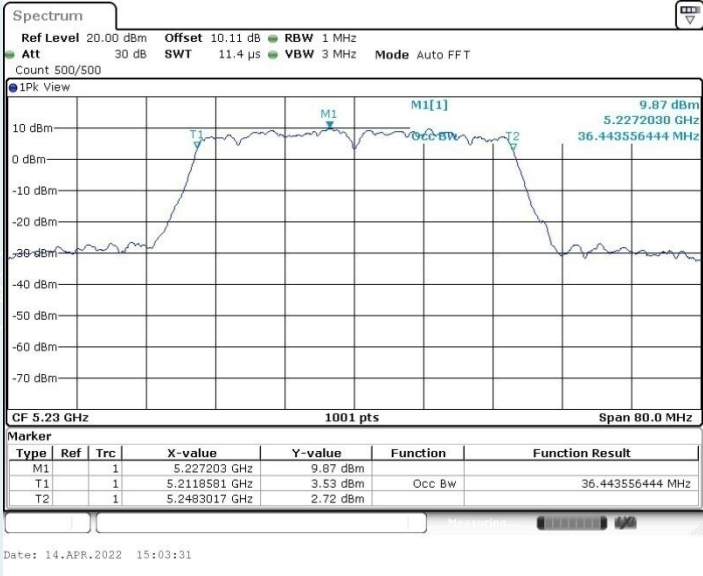
IEEE 802.11ac VHT20_Ant1_5825 MHz



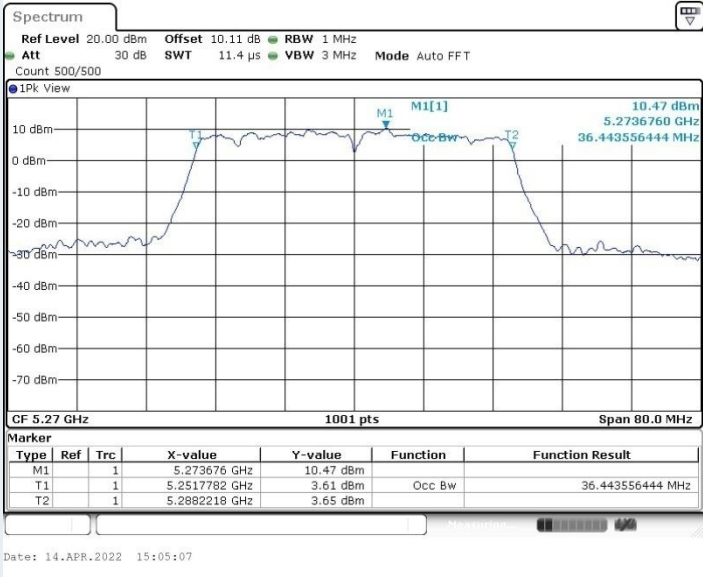
IEEE 802.11ac VHT40_Ant1_5190 MHz



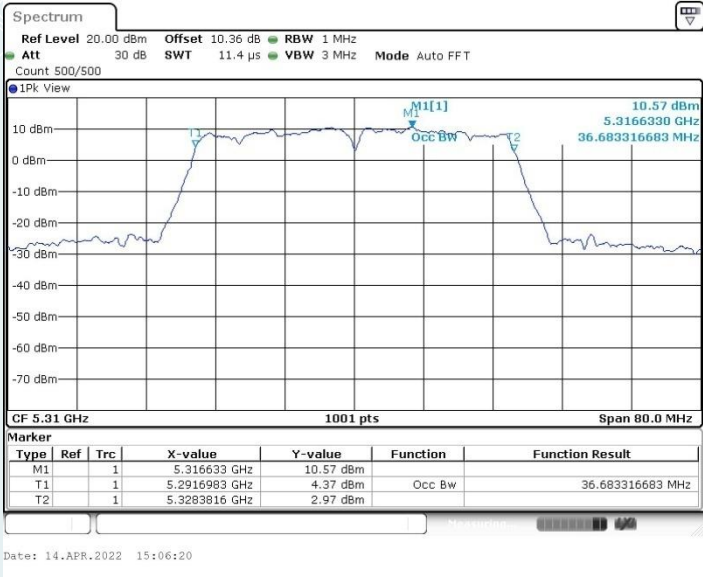
IEEE 802.11ac VHT40_Ant1_5230 MHz



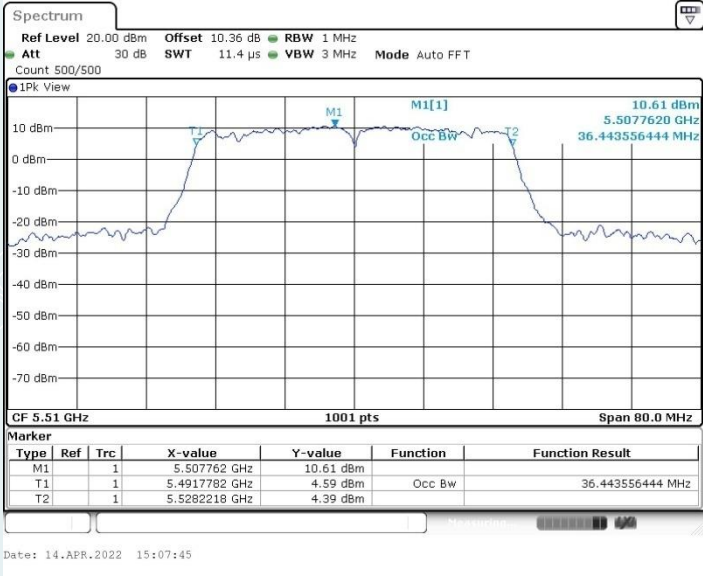
IEEE 802.11ac VHT40_Ant1_5270 MHz



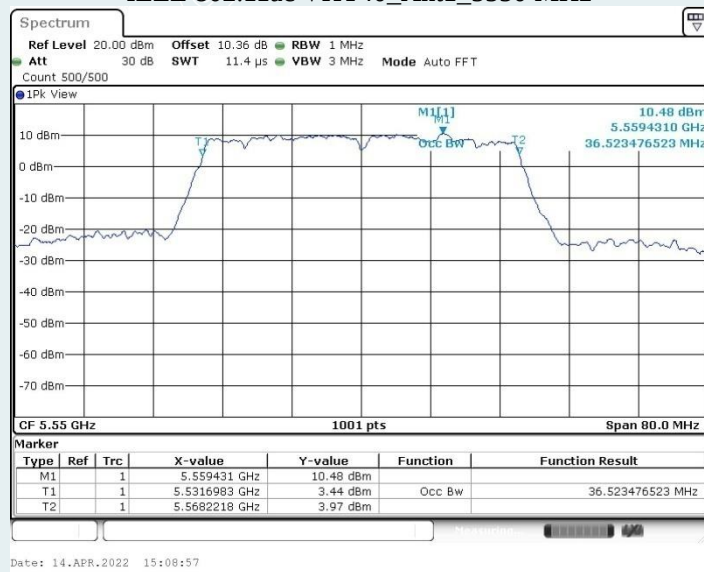
IEEE 802.11ac VHT40_Ant1_5310 MHz



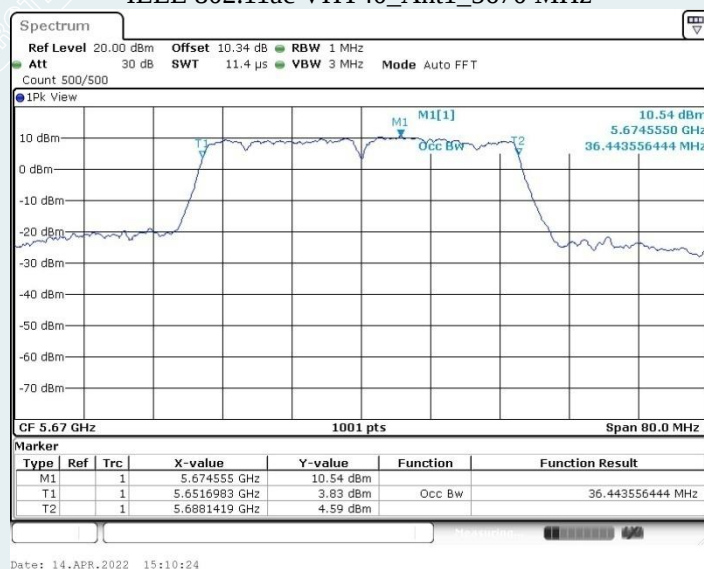
IEEE 802.11ac VHT40_Ant1_5510 MHz



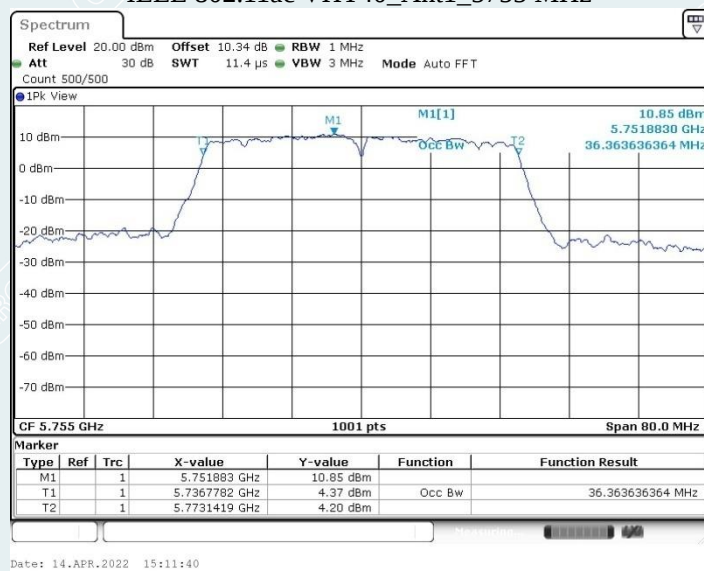
IEEE 802.11ac VHT40_Ant1_5550 MHz



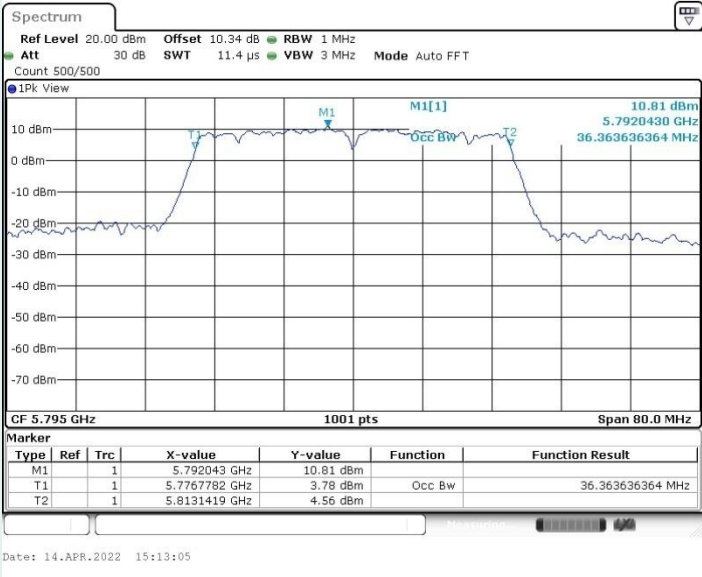
IEEE 802.11ac VHT40_Ant1_5670 MHz



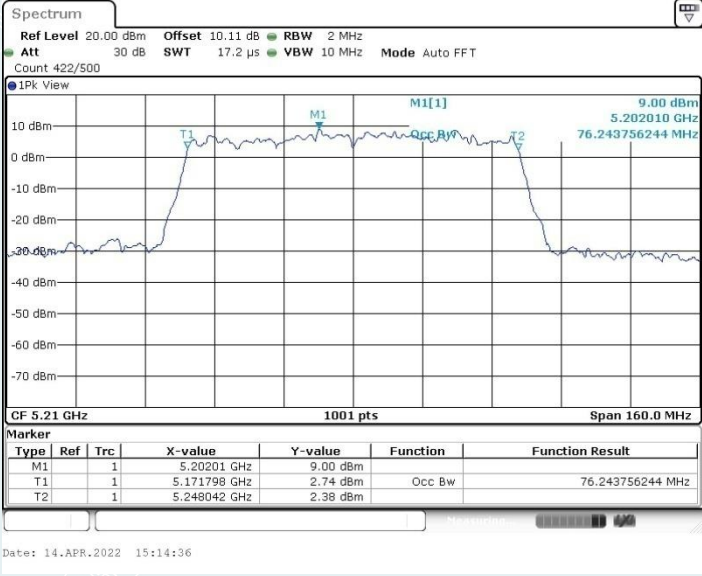
IEEE 802.11ac VHT40_Ant1_5755 MHz



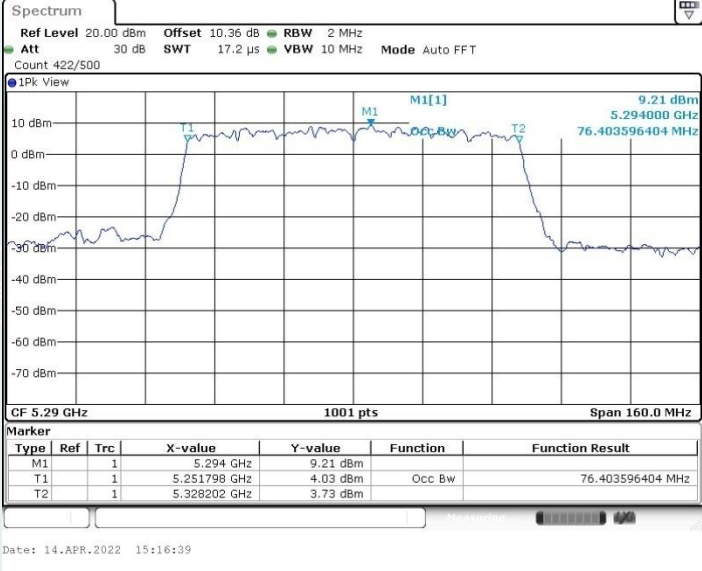
IEEE 802.11ac VHT40_Ant1_5795 MHz



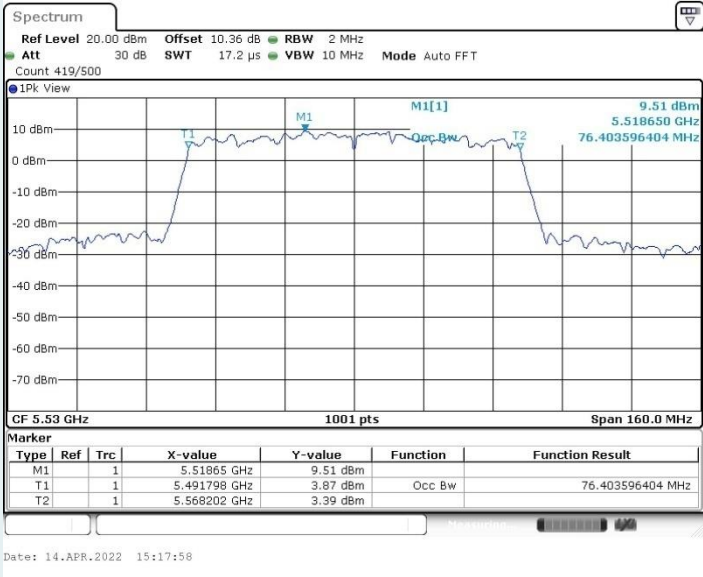
IEEE 802.11ac VHT80_Ant1_5210 MHz



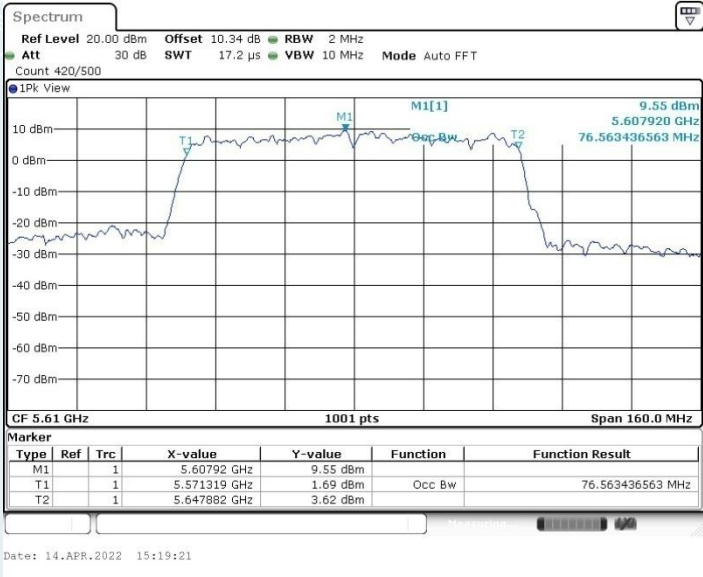
IEEE 802.11ac VHT80_Ant1_5290 MHz



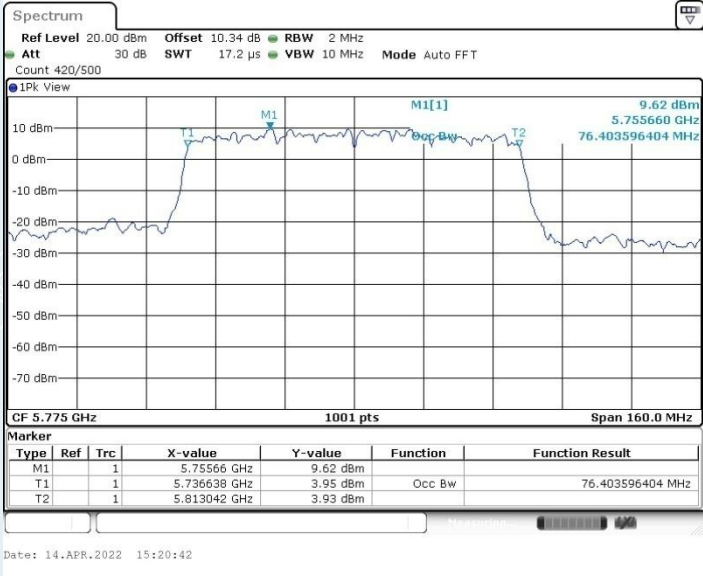
IEEE 802.11ac VHT80_Ant1_5530 MHz



IEEE 802.11ac VHT80_Ant1_5610 MHz



IEEE 802.11ac VHT80_Ant1_5775 MHz



8. OUTPUT POWER

8.1 LIMITS

The FCC 15.407(a), The maximum conducted output power should not exceed:

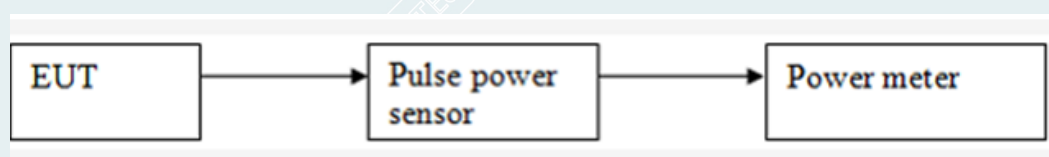
Band	EUT Type	Limit
U-NII-1	Outdoor Access Point	1W(30dBm) (Max. e.i.r.p $\leq$ 125mW at any elevation angle above 30 degrees as measured from the horizon)
	Indoor Access Point	1W(30dBm)
	Fixed point-to-point Access Point	1W(30dBm)
	Mobile and Portable Client Device	250mW(23.98dBm)
U-NII-2A	All Device	250mW(23.98dBm) or $11\text{dBm} + 10 \log_{10} B$, Which is lesser. (B is 26dB Bandwidth in MHz)
U-NII-2C	All Device	250mW(23.98dBm) or $11\text{dBm} + 10 \log_{10} B$, Which is lesser. (B is 26dB Bandwidth in MHz)
U-NII-3	All Device	1W(30dBm)

Note: When the 26dB bandwidth is 20MHz, the power limit is 24.01dBm according to Formula $11\text{dBm} + 10 \log_{10} B$ in the above table. According to the data results of 26dB bandwidth in Section 7, all values are greater than 20MHz, so the power limit of U-NII-2A and U-NII-2C in the above table is 250mW(23.98dBm).

8.2 TEST PROCEDURES

- 1) The RF output of EUT was connected to the broadband average RF power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
- 2) Set to the maximum power setting and enable the EUT transmit continuously.
- 3) Measure the conducted output power and record the results in the test report.

8.3 TEST SETUP



8.4 TEST RESULTS

Environmental Conditions	22.5°C/49%RH	Test Voltage	DC 12V
Tested By	Lu Wei	Test Date	2022-04-03

Test Mode	Antenna	Band	Frequency [MHz]	AVG Conducted Output Power with Duty Factor (dBm)	Limit[dBm]	Verdict
IEEE 802.11a	Ant1	U-NII-1	5180	14.11	≤23.98	PASS
			5200	14.32	≤23.98	PASS
			5240	14.67	≤23.98	PASS
		U-NII-2A	5260	14.94	≤23.98	PASS
			5280	15.28	≤23.98	PASS
			5320	15.88	≤23.98	PASS
		U-NII-2C	5500	15.43	≤23.98	PASS
			5580	16.03	≤23.98	PASS
			5700	16.14	≤23.98	PASS
		U-NII-3	5745	15.90	≤30.00	PASS
			5785	15.81	≤30.00	PASS
			5825	16.22	≤30.00	PASS
IEEE 802.11n HT20	Ant1	U-NII-1	5180	13.97	≤23.98	PASS
			5200	14.13	≤23.98	PASS
			5240	14.47	≤23.98	PASS
		U-NII-2A	5260	14.78	≤23.98	PASS
			5280	15.16	≤23.98	PASS
			5320	15.74	≤23.98	PASS
		U-NII-2C	5500	15.34	≤23.98	PASS
			5580	15.86	≤23.98	PASS
			5700	16.02	≤23.98	PASS
		U-NII-3	5745	15.73	≤30.00	PASS
			5785	15.65	≤30.00	PASS
			5825	16.10	≤30.00	PASS
IEEE 802.11n HT40	Ant1	U-NII-1	5190	13.25	≤23.98	PASS
			5230	13.52	≤23.98	PASS
		U-NII-2A	5270	14.15	≤23.98	PASS
			5310	14.68	≤23.98	PASS
		U-NII-2C	5510	14.72	≤23.98	PASS
			5550	14.94	≤23.98	PASS
			5670	15.18	≤23.98	PASS
		U-NII-3	5755	15.05	≤30.00	PASS
			5795	14.97	≤30.00	PASS

IEEE 802.11ac VHT20	Ant1	U-NII-1	5180	13.92	≤ 23.98	PASS
			5200	14.13	≤ 23.98	PASS
			5240	14.46	≤ 23.98	PASS
		U-NII-2A	5260	14.79	≤ 23.98	PASS
			5280	15.16	≤ 23.98	PASS
			5320	15.75	≤ 23.98	PASS
		U-NII-2C	5500	15.32	≤ 23.98	PASS
			5580	15.81	≤ 23.98	PASS
			5700	15.97	≤ 23.98	PASS
		U-NII-3	5745	15.71	≤ 30.00	PASS
			5785	15.69	≤ 30.00	PASS
			5825	16.04	≤ 30.00	PASS
IEEE 802.11ac VHT40	Ant1	U-NII-1	5190	13.23	≤ 23.98	PASS
			5230	13.51	≤ 23.98	PASS
		U-NII-2A	5270	14.18	≤ 23.98	PASS
			5310	14.71	≤ 23.98	PASS
		U-NII-2C	5510	14.60	≤ 23.98	PASS
			5550	14.93	≤ 23.98	PASS
			5670	15.15	≤ 23.98	PASS
		U-NII-3	5755	15.02	≤ 30.00	PASS
			5795	14.97	≤ 30.00	PASS
IEEE 802.11ac VHT80	Ant1	U-NII-1	5210	12.22	≤ 23.98	PASS
		U-NII-2A	5290	13.17	≤ 23.98	PASS
		U-NII-2C	5530	13.35	≤ 23.98	PASS
			5610	13.67	≤ 23.98	PASS
		U-NII-3	5775	13.72	≤ 30.00	PASS

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9. POWER SPECTRAL DENSITY

9.1 LIMITS

FCC 15.407(a)

The maximum power spectral density should not exceed:

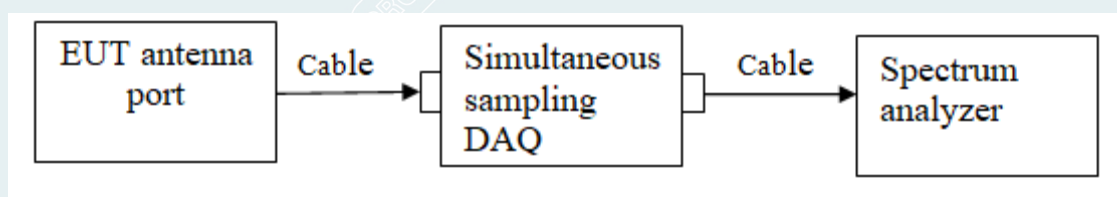
Band	EUT Type	Limit
U-NII-1	Outdoor Access Point	17dBm/MHz
	Indoor Access Point	17dBm/MHz
	Fixed point-to-point Access Point	17dBm/MHz
	Mobile and Portable Client Device	11dBm/MHz
U-NII-2A	All Device	11dBm/MHz
U-NII-2C	All Device	11dBm/MHz
U-NII-3	All Device	30dBm/500kHz

If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

9.2 TEST PROCEDURES

Spectrum Parameters	Setting
RBW	1MHz(For U-NII-1&U-NII-2A&U-NII-2C) 500kHz(For U-NII-3)
VBW	3MHz(For U-NII-1&U-NII-2A&U-NII-2C) 2MHz(For U-NII-3)
Span	encompass the entire 26 dB EBW or 99% OBW of the signal
Sweep Time	Auto
Number of Sweep Point	$\geq 2 \times \text{SPAN} / \text{RBW}$
Detector	RMS(power averaging)
Trace Average	≥ 100 traces

9.3 TEST SETUP



9.4 TEST RESULTS

Environmental Conditions	23.8°C/50%RH	Test Voltage	DC 12V
Tested By	Lu Wei	Test Date	2022-04-14

Test Mode	Antenna	Frequency [MHz]	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
IEEE 802.11a	Ant1	5180	4.95	≤11.00	PASS
		5200	4.94	≤11.00	PASS
		5240	5.56	≤11.00	PASS
		5260	5.88	≤11.00	PASS
		5280	5.87	≤11.00	PASS
		5320	7.03	≤11.00	PASS
		5500	6.86	≤11.00	PASS
		5580	6.52	≤11.00	PASS
		5700	7.44	≤11.00	PASS
IEEE 802.11n HT20	Ant1	5180	4.23	≤11.00	PASS
		5200	4.42	≤11.00	PASS
		5240	4.97	≤11.00	PASS
		5260	4.92	≤11.00	PASS
		5280	5.37	≤11.00	PASS
		5320	6.42	≤11.00	PASS
		5500	6.47	≤11.00	PASS
		5580	5.70	≤11.00	PASS
		5700	6.84	≤11.00	PASS
IEEE 802.11n HT40	Ant1	5190	1.20	≤11.00	PASS
		5230	1.33	≤11.00	PASS
		5270	2.04	≤11.00	PASS
		5310	2.91	≤11.00	PASS
		5510	2.95	≤11.00	PASS
		5550	2.86	≤11.00	PASS
		5670	2.53	≤11.00	PASS
IEEE 802.11ac VHT20	Ant1	5180	4.49	≤11.00	PASS
		5200	4.55	≤11.00	PASS
		5240	4.76	≤11.00	PASS
		5260	5.20	≤11.00	PASS
		5280	5.18	≤11.00	PASS
		5320	6.75	≤11.00	PASS
		5500	6.10	≤11.00	PASS

		5580	6.32	≤ 11.00	PASS
		5700	6.98	≤ 11.00	PASS
IEEE 802.11ac VHT40	Ant1	5190	1.18	≤ 11.00	PASS
		5230	1.53	≤ 11.00	PASS
		5270	1.97	≤ 11.00	PASS
		5310	2.69	≤ 11.00	PASS
		5510	3.00	≤ 11.00	PASS
		5550	3.25	≤ 11.00	PASS
		5670	2.64	≤ 11.00	PASS
IEEE 802.11ac VHT80	Ant1	5210	-2.40	≤ 11.00	PASS
		5290	-1.80	≤ 11.00	PASS
		5530	-0.89	≤ 11.00	PASS
		5610	-0.82	≤ 11.00	PASS

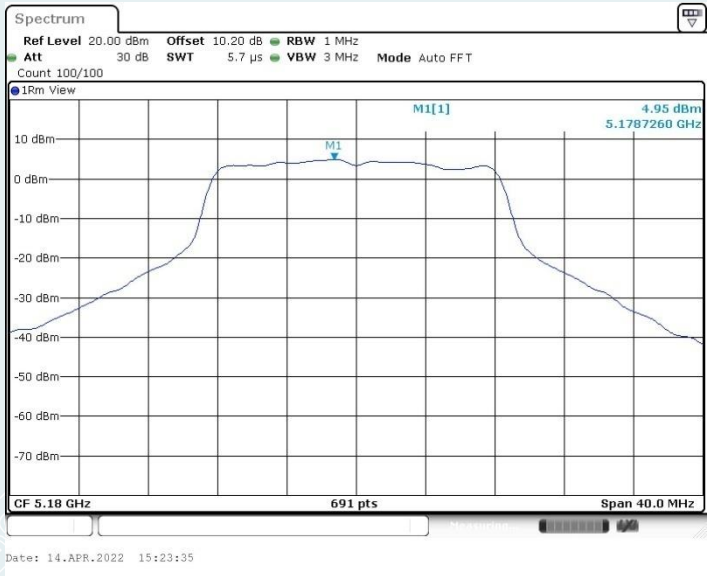
Test Mode	Antenna	Frequency [MHz]	Result [dBm/500kHz]	Limit[dBm/500kHz]	Verdict
IEEE 802.11a	Ant1	5745	4.47	≤ 30.00	PASS
		5785	3.35	≤ 30.00	PASS
		5825	4.17	≤ 30.00	PASS
IEEE 802.11n HT20	Ant1	5745	3.87	≤ 30.00	PASS
		5785	3.30	≤ 30.00	PASS
		5825	3.81	≤ 30.00	PASS
IEEE 802.11n HT40	Ant1	5755	0.07	≤ 30.00	PASS
		5795	-0.35	≤ 30.00	PASS
IEEE 802.11ac VHT20	Ant1	5745	4.17	≤ 30.00	PASS
		5785	3.22	≤ 30.00	PASS
		5825	3.71	≤ 30.00	PASS
IEEE 802.11ac VHT40	Ant1	5755	0.40	≤ 30.00	PASS
		5795	-0.28	≤ 30.00	PASS
IEEE 802.11ac VHT80	Ant1	5775	-4.03	≤ 30.00	PASS

Note: Result already includes duty factor.

----- The following blanks -----

Test Graphs

IEEE 802.11a_Ant1_5180 MHz



IEEE 802.11a_Ant1_5200 MHz

