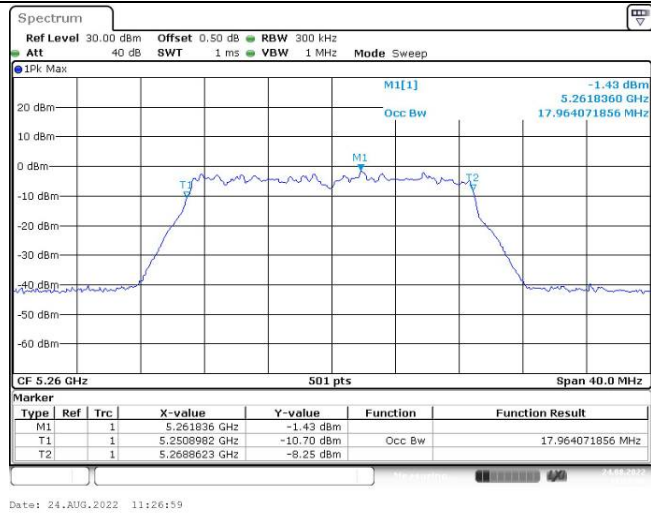
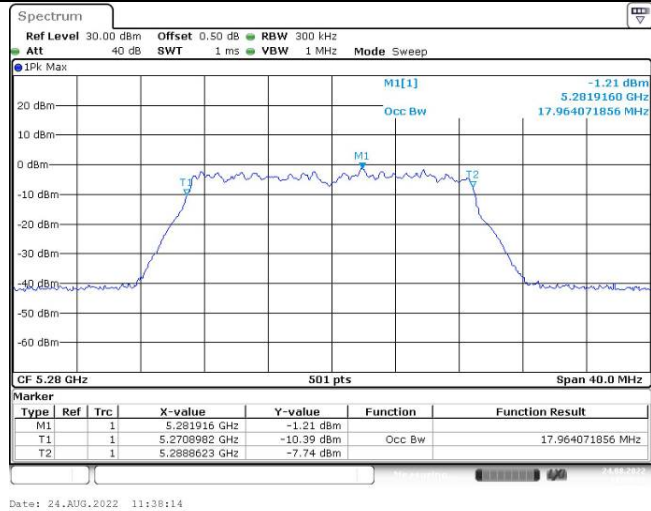
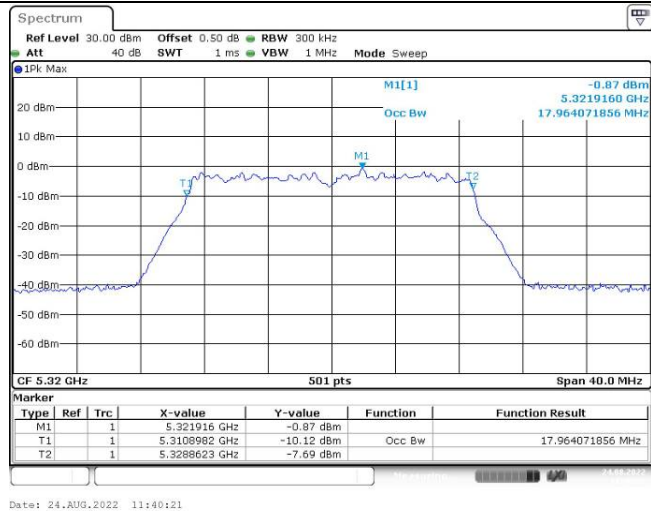
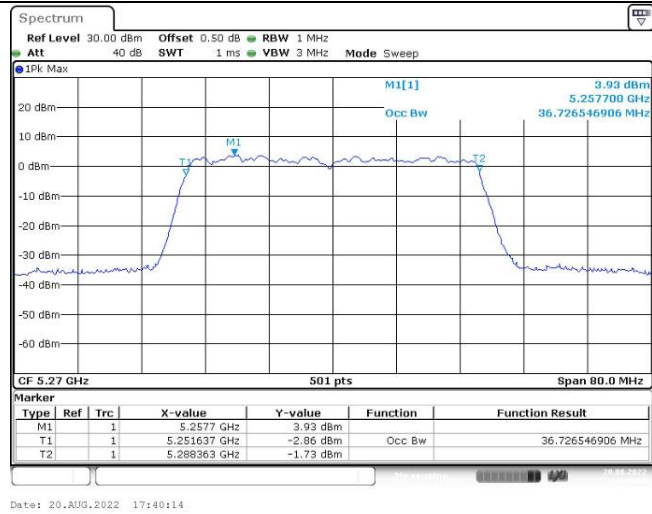
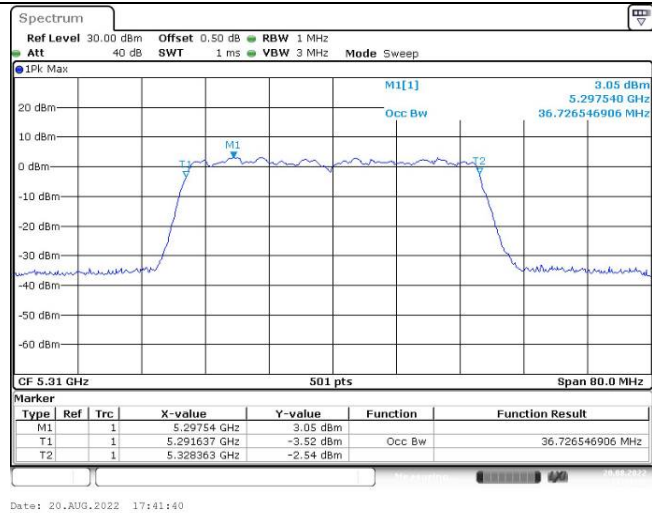
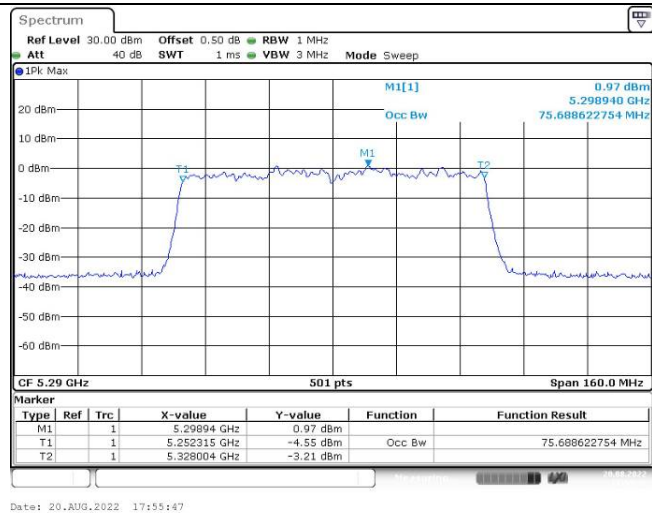


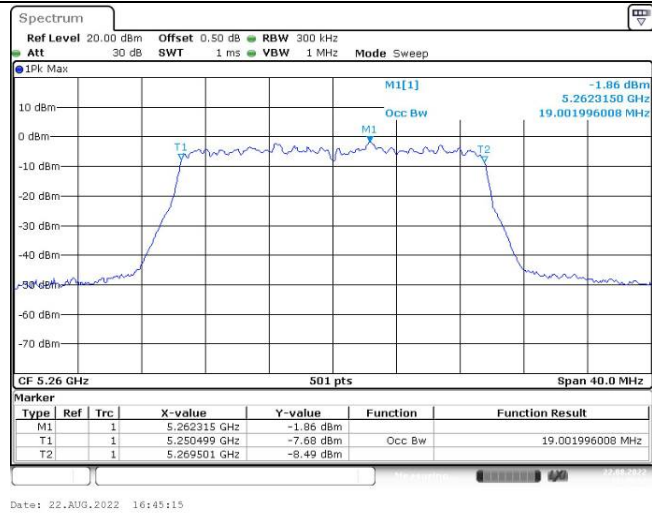
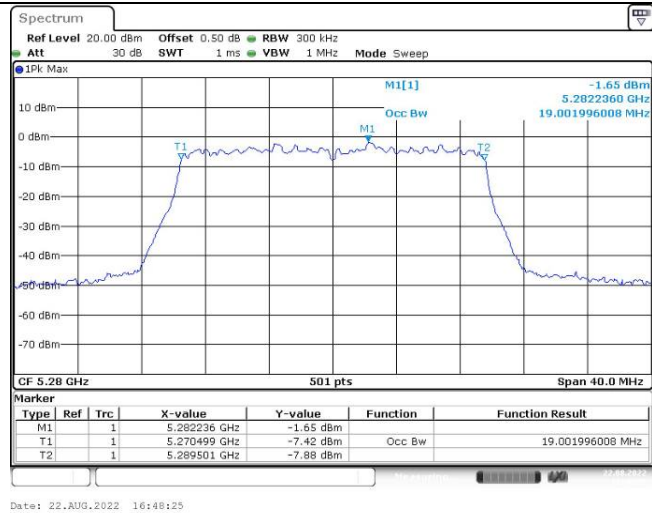
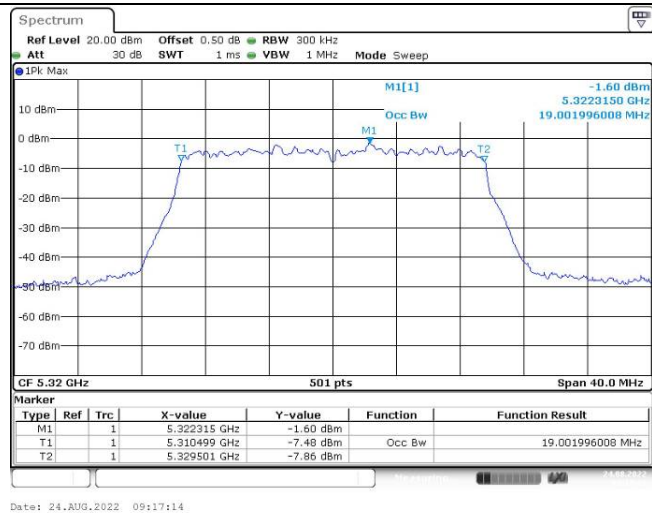
99% Emission Bandwidth

802.11ac vht20
Lowest Channel802.11ac vht20
Middle Channel802.11ac vht20
Highest Channel

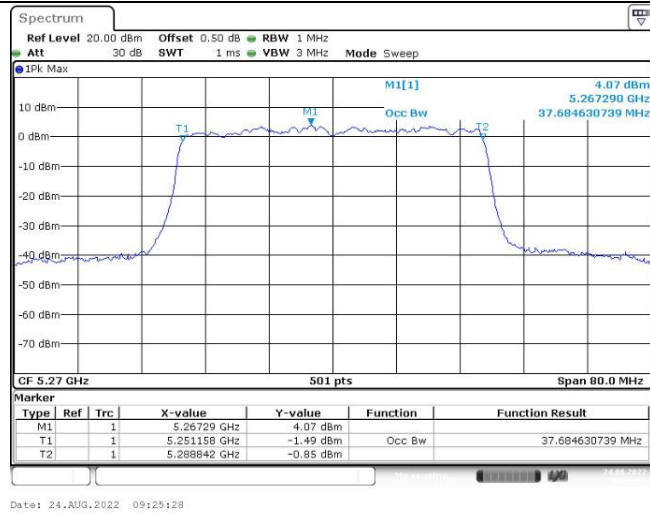
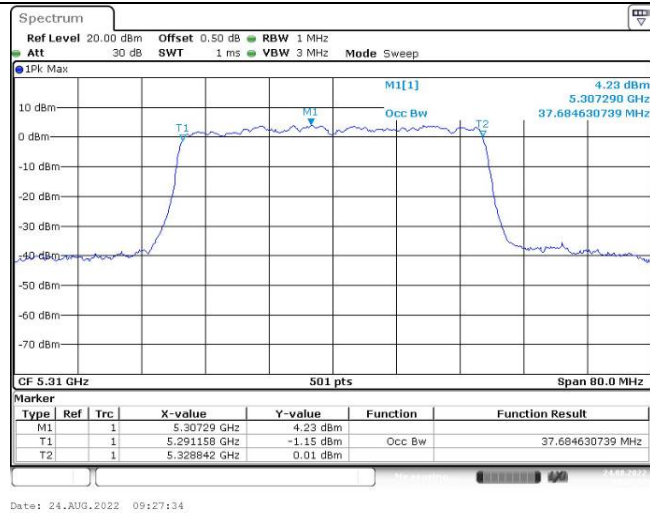
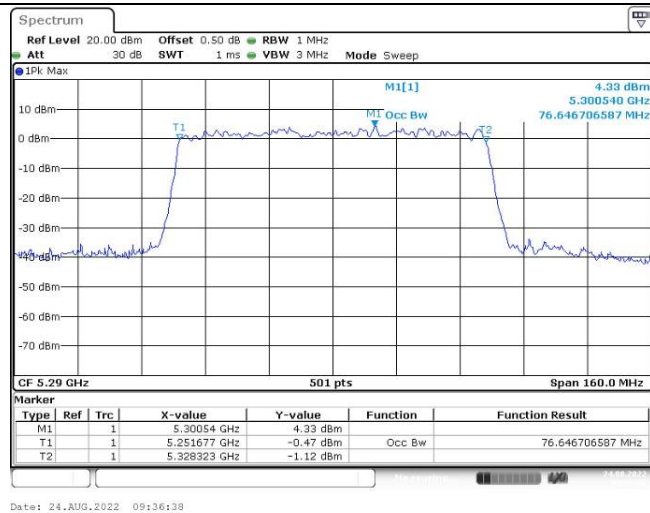
99% Emission Bandwidth

802.11ac vht40
Lowest Channel802.11ac vht40
Highest Channel802.11ac vht80
Middle Channel

99% Emission Bandwidth

802.11ax hew20
Lowest Channel802.11ax hew20
Middle Channel802.11ax hew20
Highest Channel

99% Emission Bandwidth

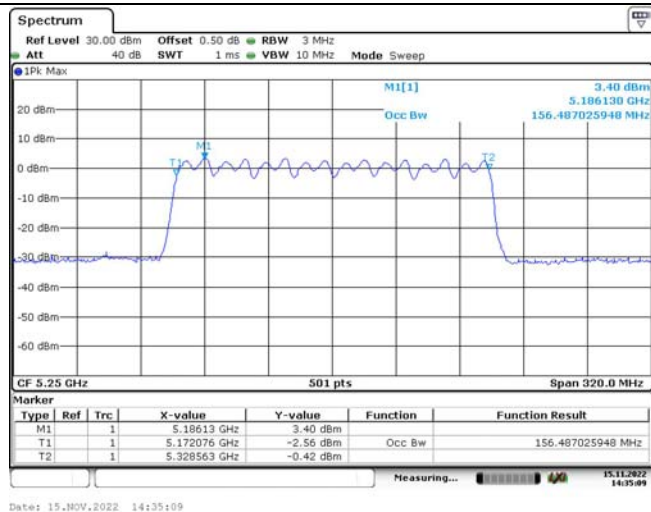
802.11ax hew40
Lowest Channel802.11ax hew40
Highest Channel802.11ax hew80
Middle Channel

99% Emission Bandwidth

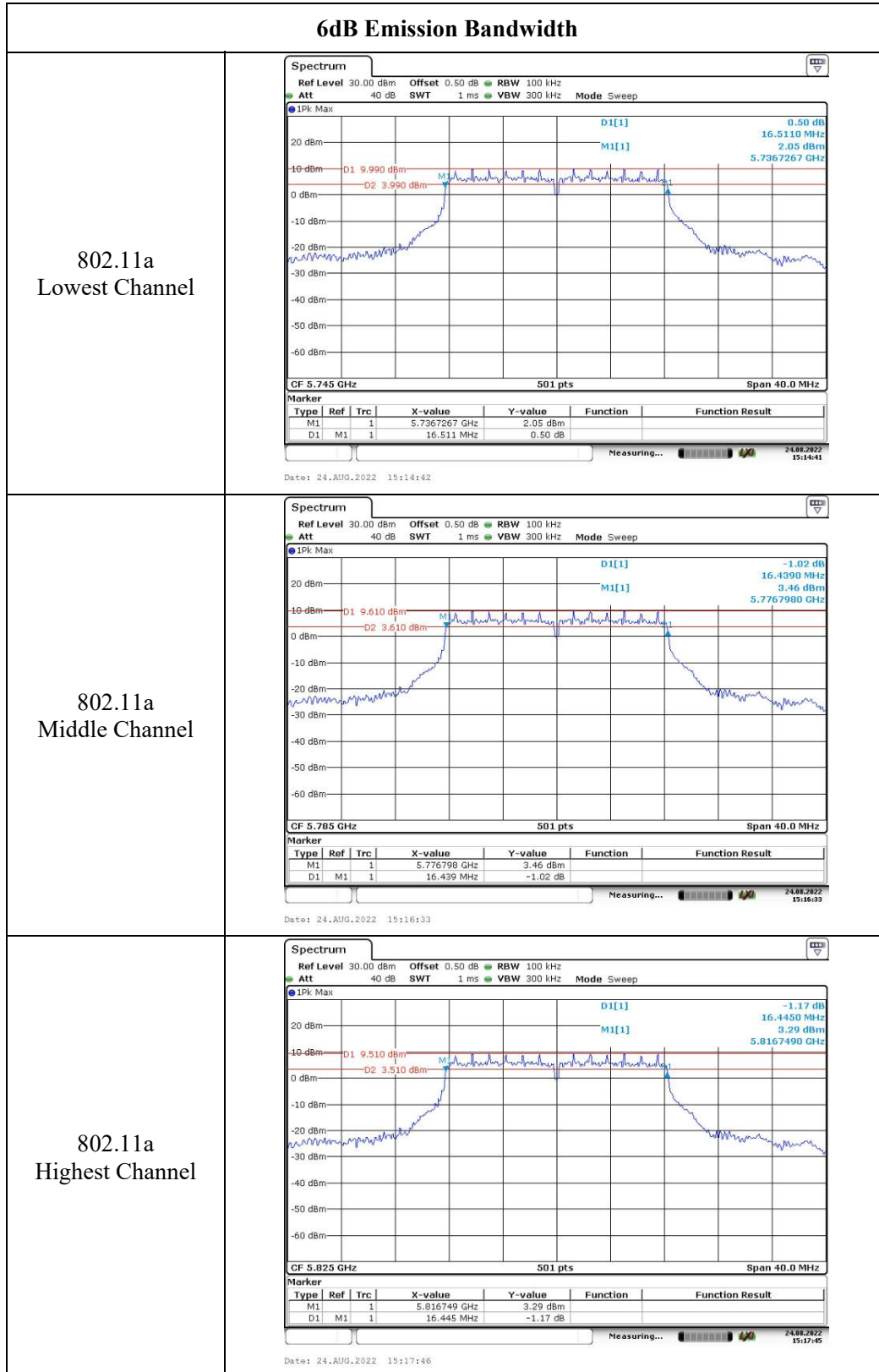
802.11ac vht160



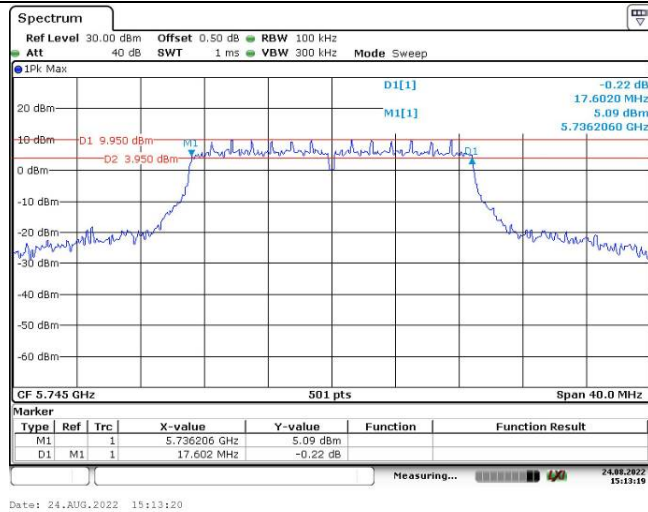
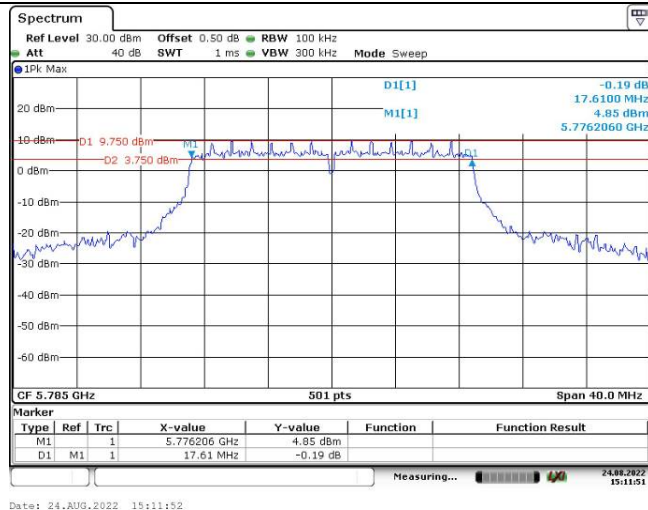
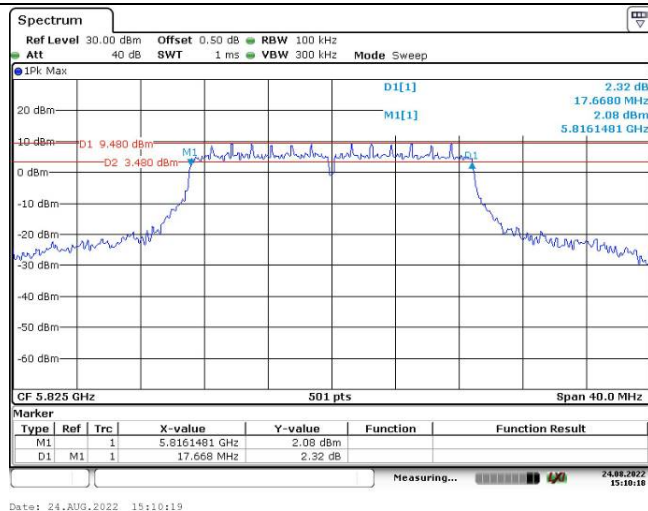
802.11ax hew160



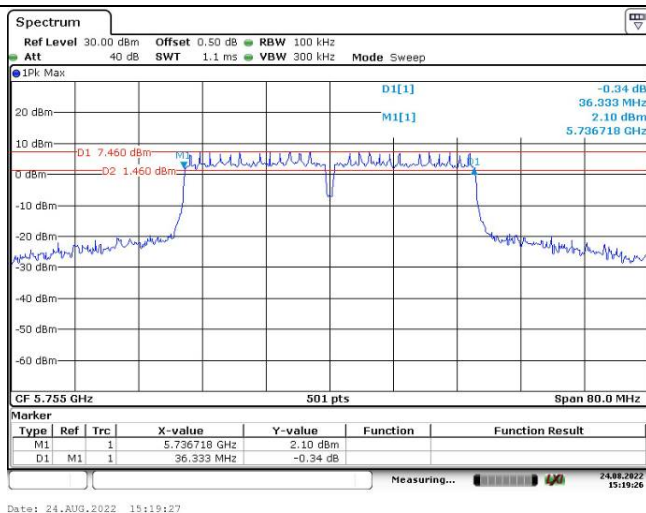
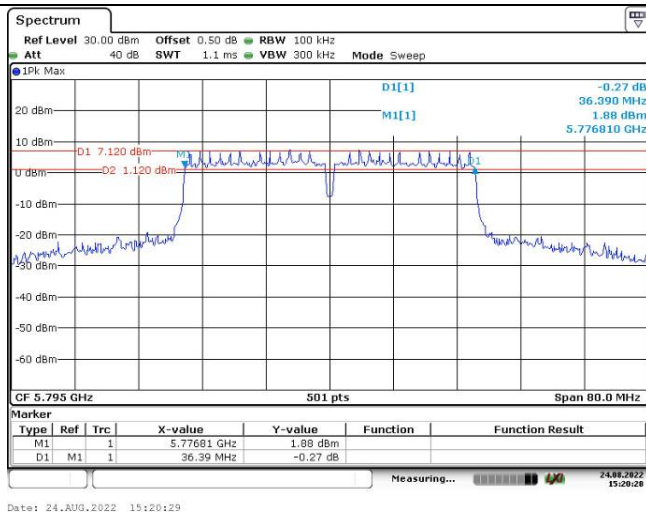
5725-5850MHz:



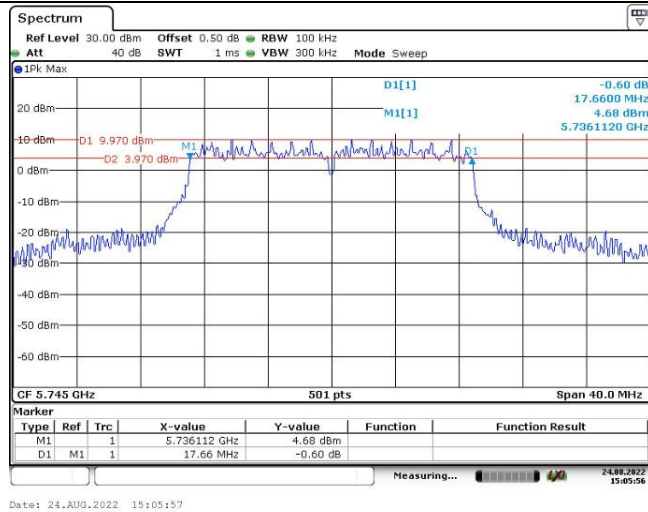
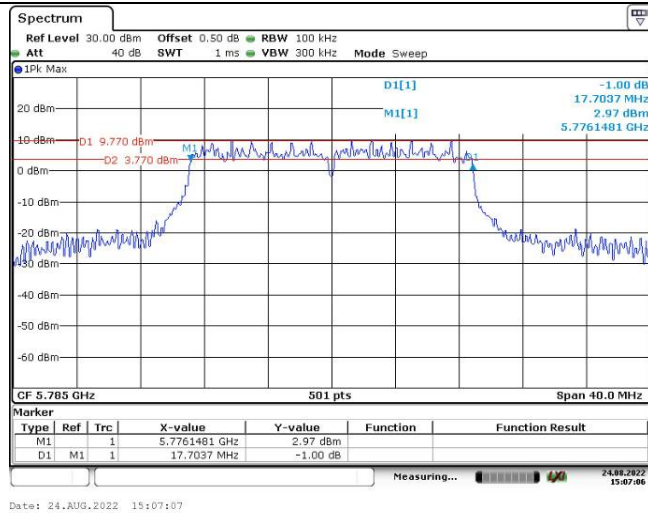
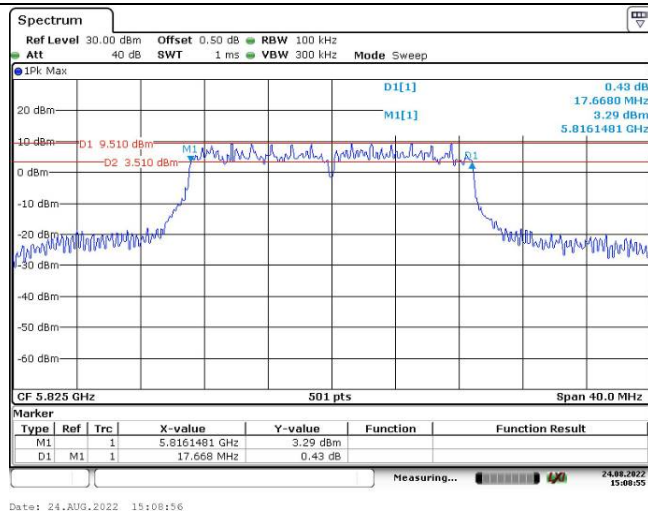
6dB Emission Bandwidth

802.11n ht20
Lowest Channel802.11n ht20
Middle Channel802.11n ht20
Highest Channel

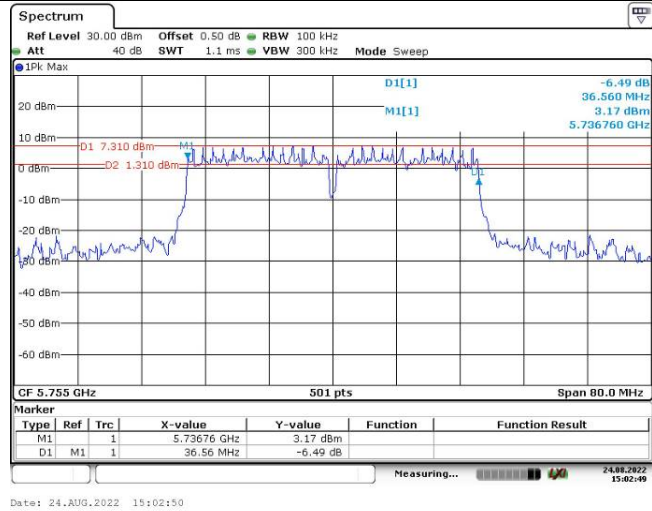
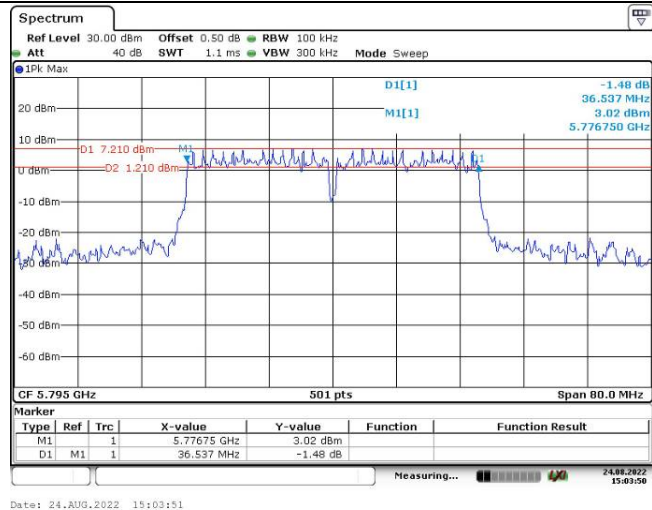
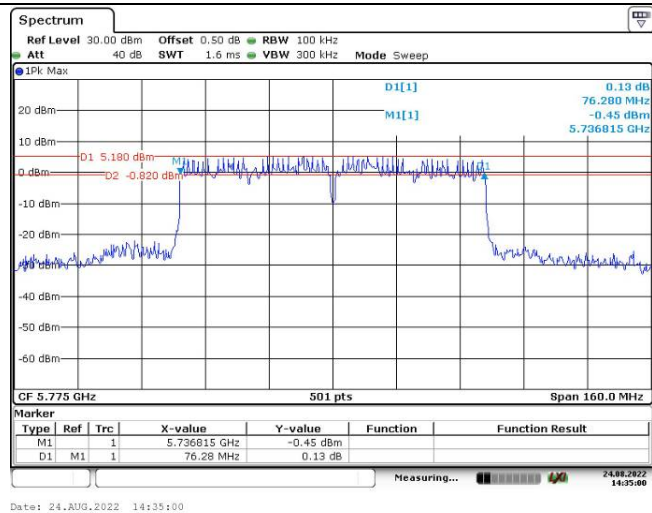
6dB Emission Bandwidth

802.11n ht40
Lowest Channel802.11n ht40
Highest Channel

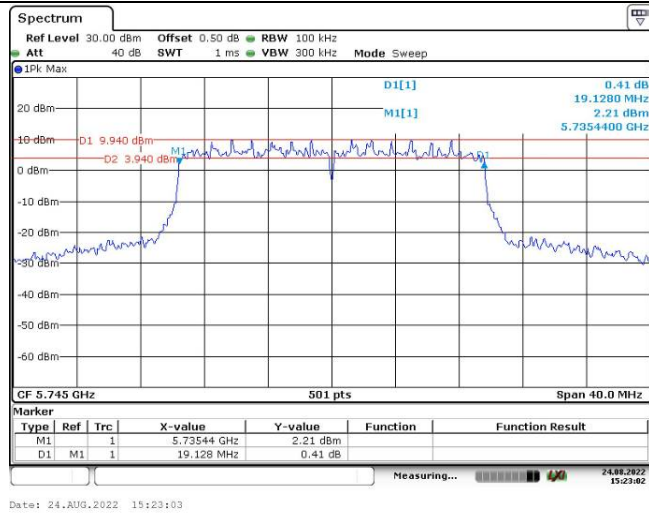
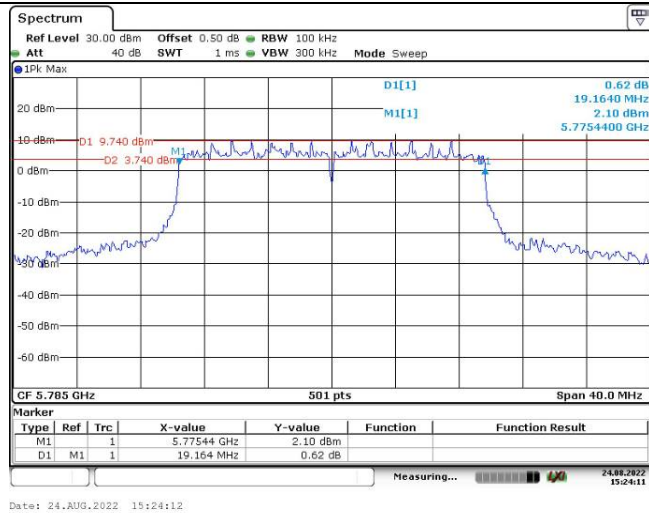
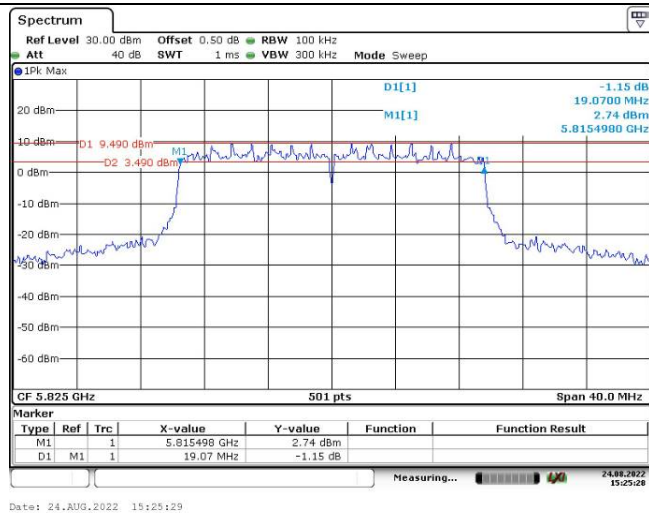
6dB Emission Bandwidth

802.11ac vht20
Lowest Channel802.11ac vht20
Middle Channel802.11ac vht20
Highest Channel

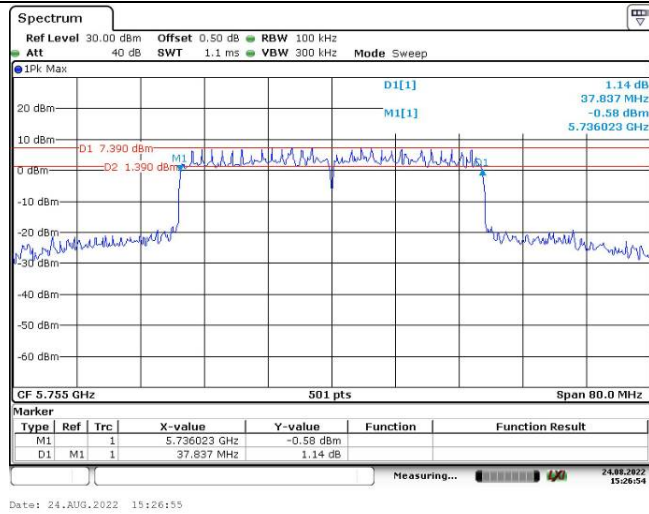
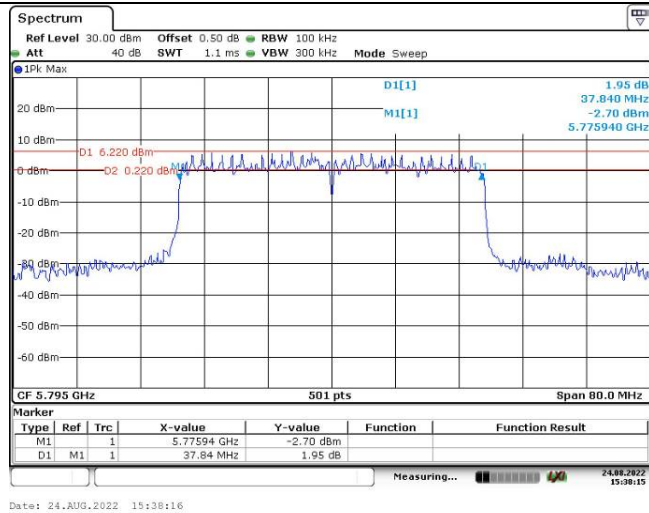
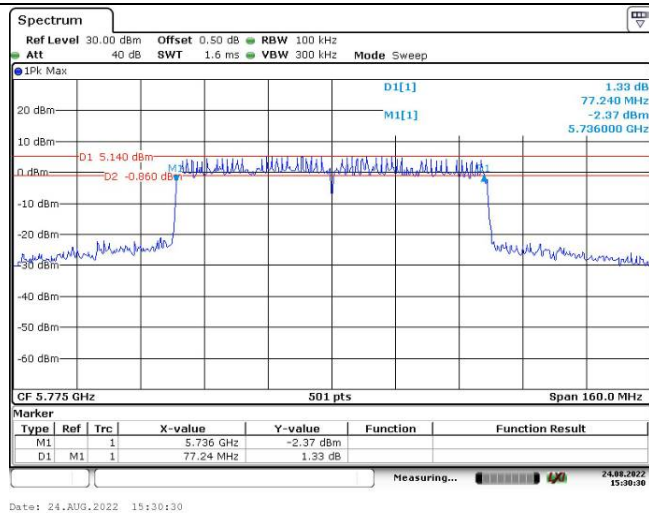
6dB Emission Bandwidth

802.11ac vht40
Lowest Channel802.11ac vht40
Highest Channel802.11ac vht80
Middle Channel

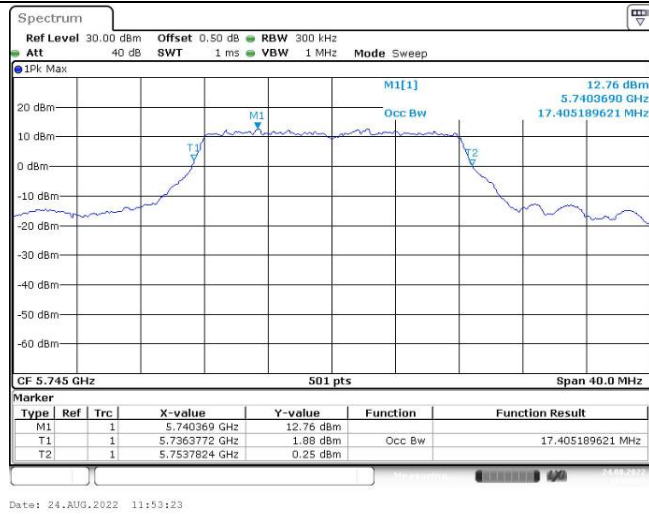
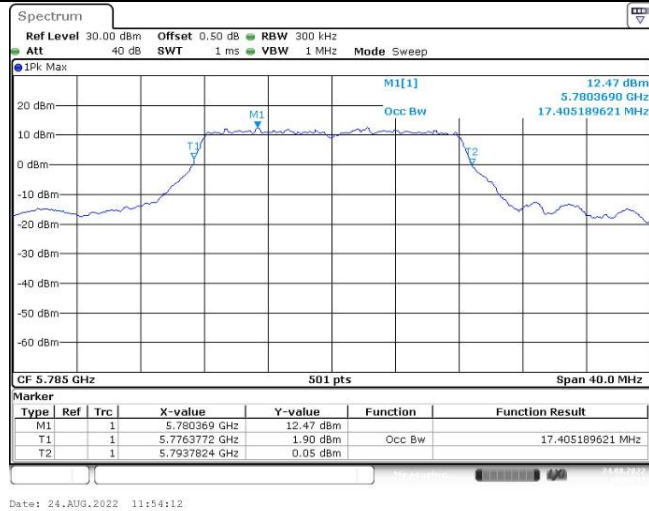
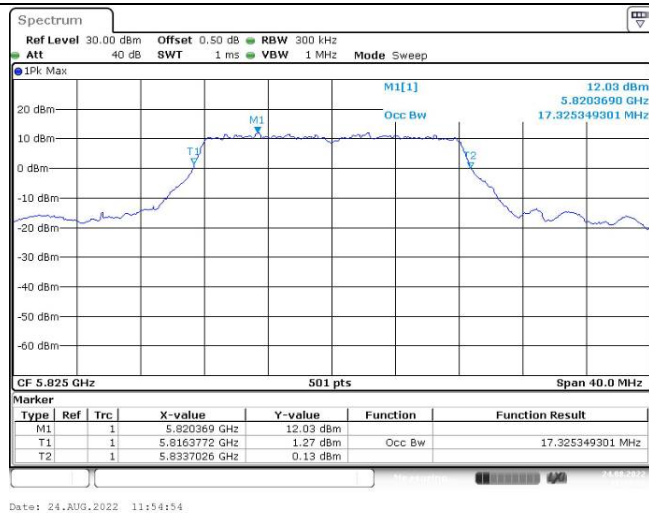
6dB Emission Bandwidth

802.11ax hew20
Lowest Channel802.11ax hew20
Middle Channel802.11ax hew20
Highest Channel

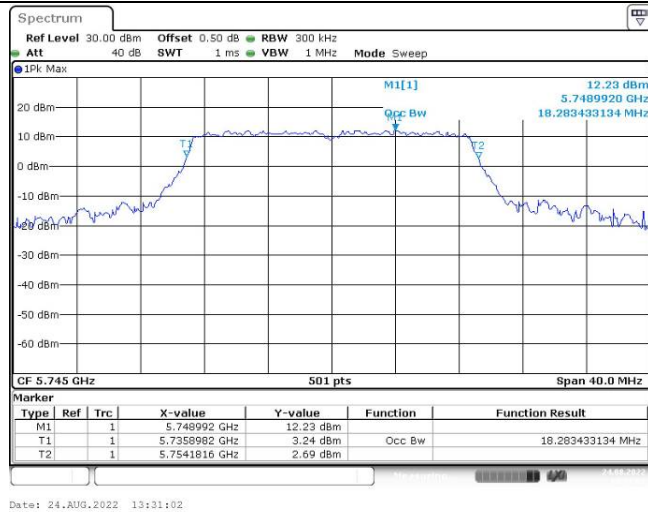
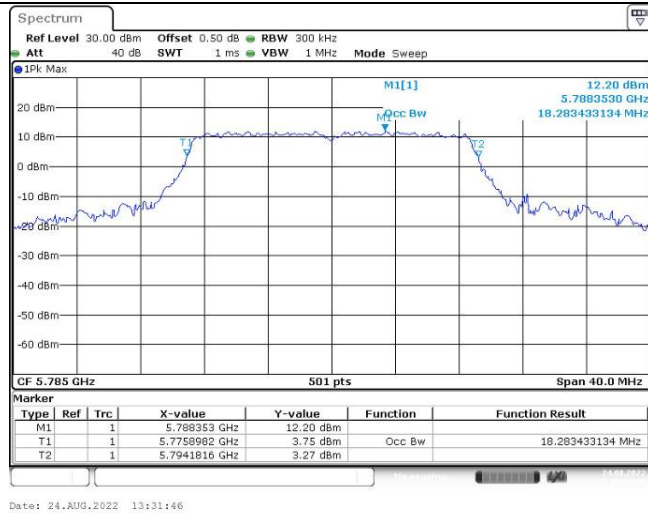
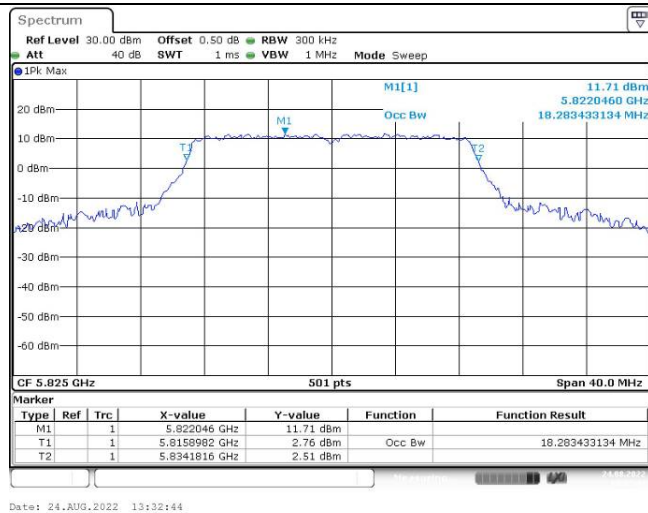
6dB Emission Bandwidth

802.11ax hew40
Lowest Channel802.11ax hew40
Highest Channel802.11ax hew80
Middle Channel

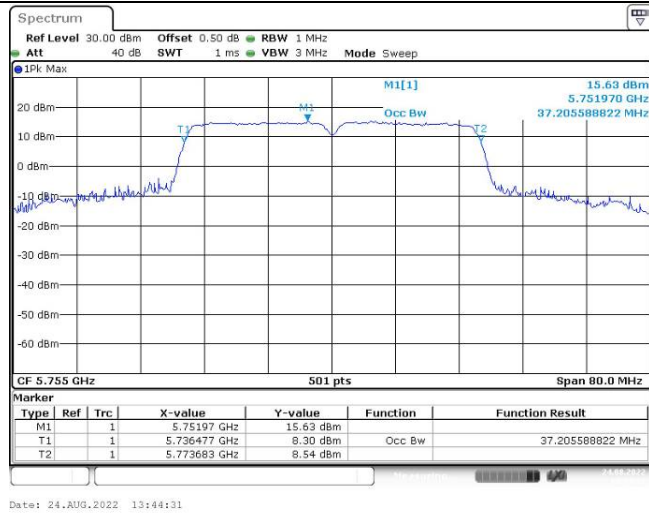
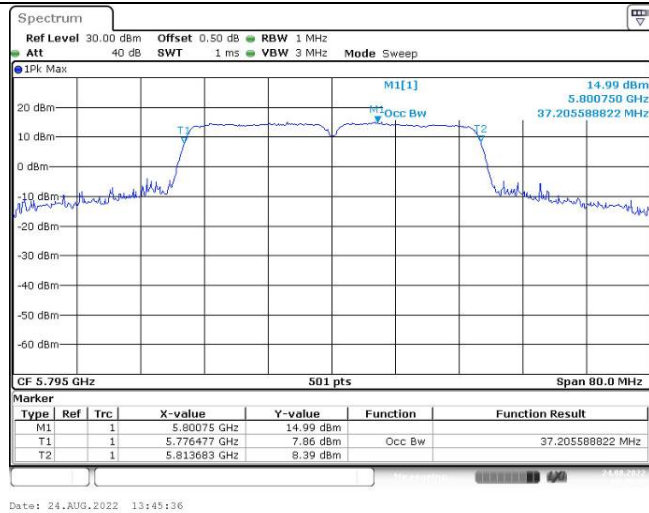
99% Emission Bandwidth

802.11a
Lowest Channel802.11a
Middle Channel802.11a
Highest Channel

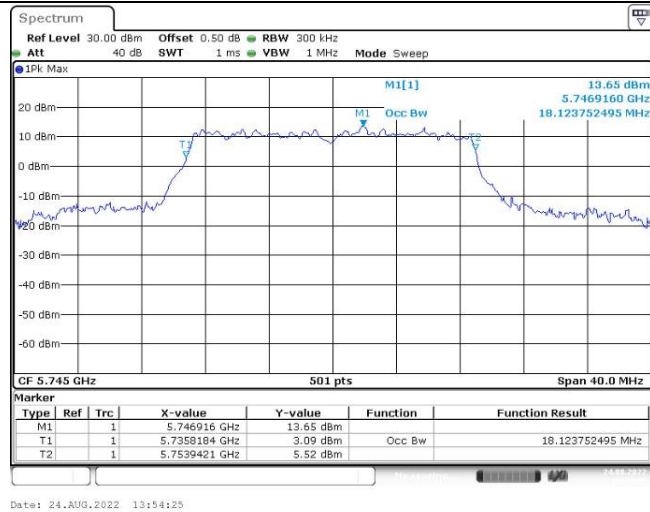
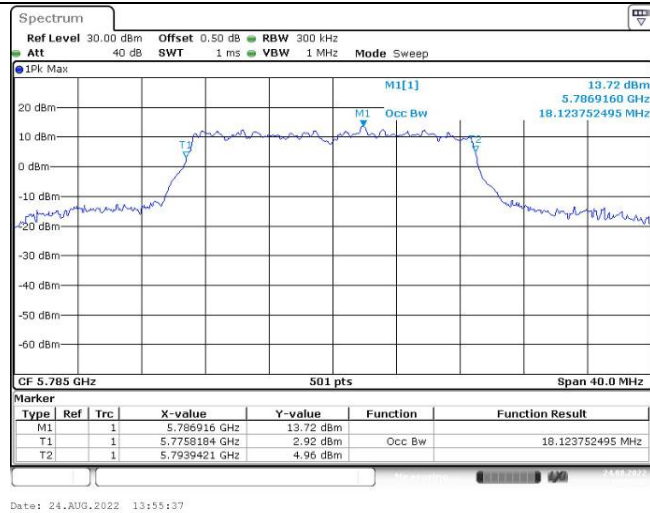
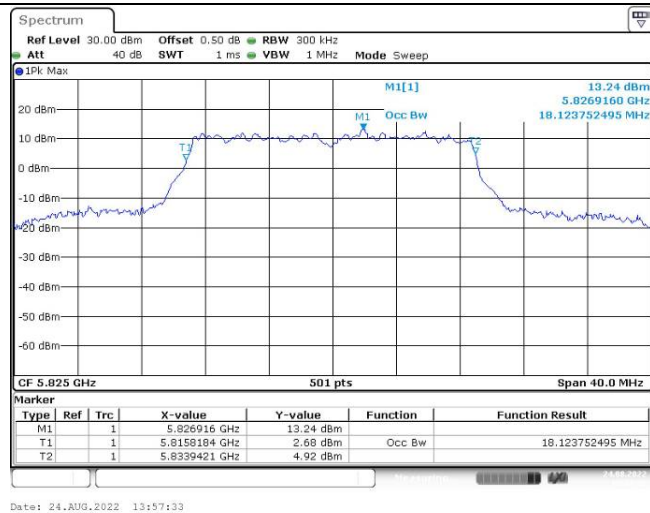
99% Emission Bandwidth

802.11n ht20
Lowest Channel802.11n ht20
Middle Channel802.11n ht20
Highest Channel

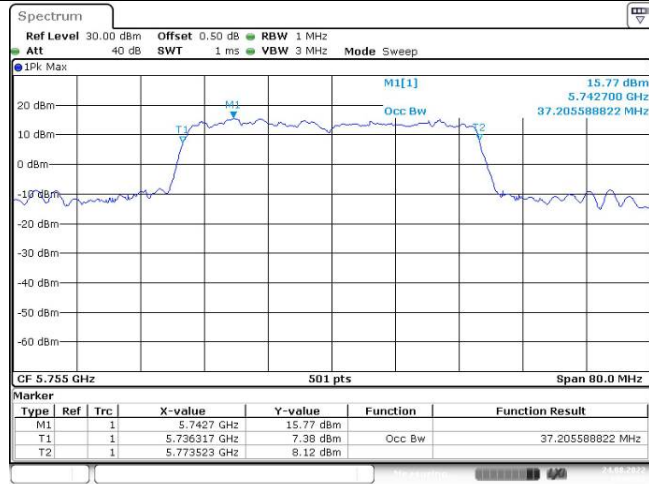
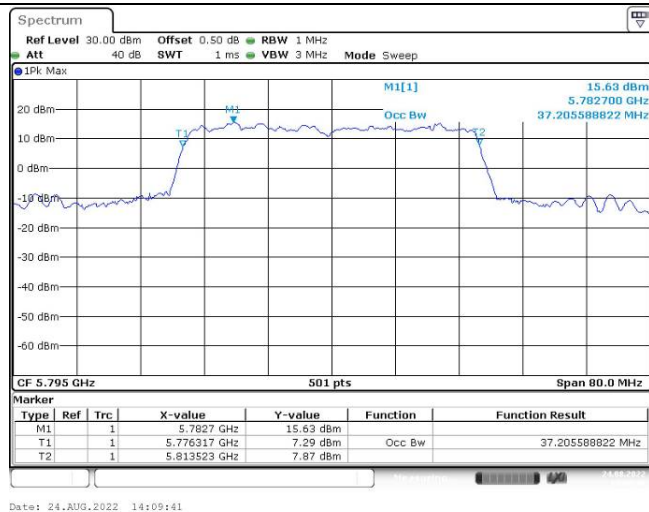
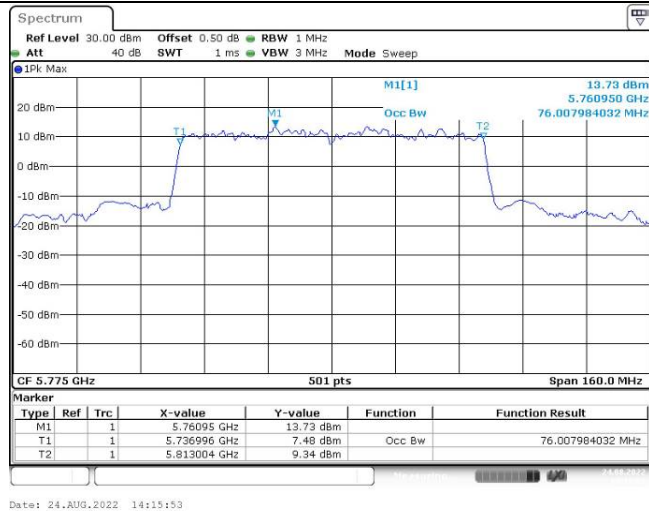
99% Emission Bandwidth

802.11n ht40
Lowest Channel802.11n ht40
Highest Channel

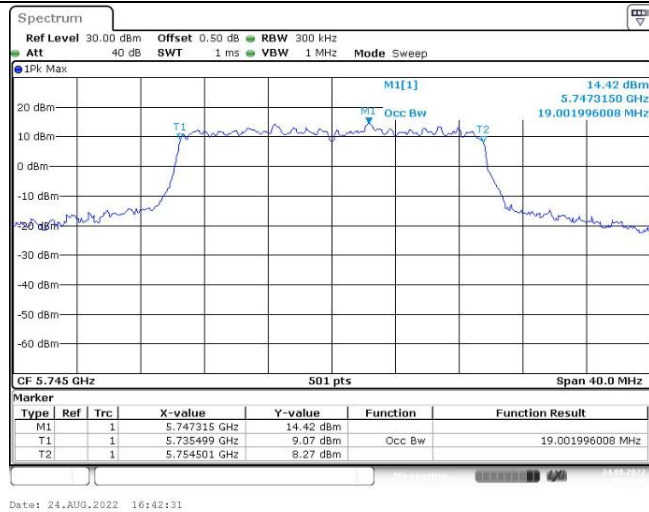
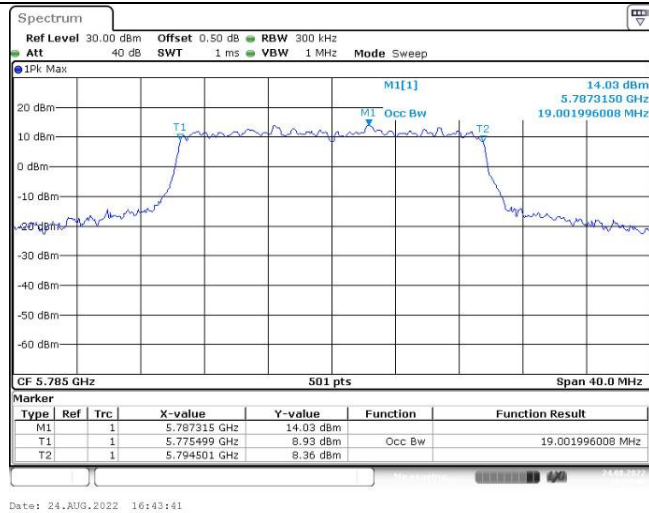
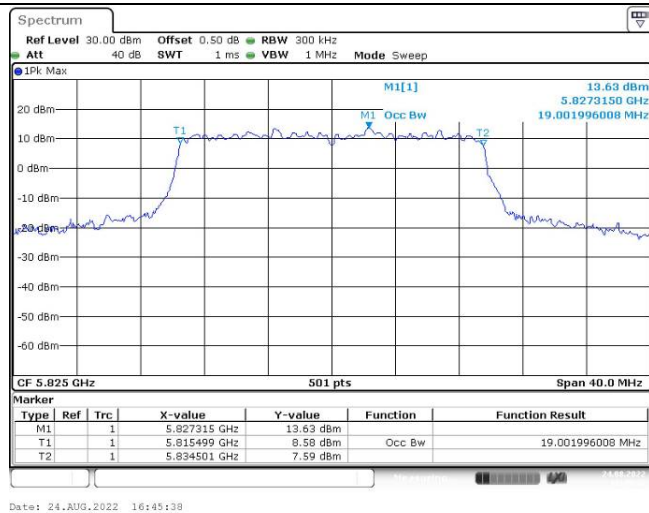
99% Emission Bandwidth

802.11ac vht20
Lowest Channel802.11ac vht20
Middle Channel802.11ac vht20
Highest Channel

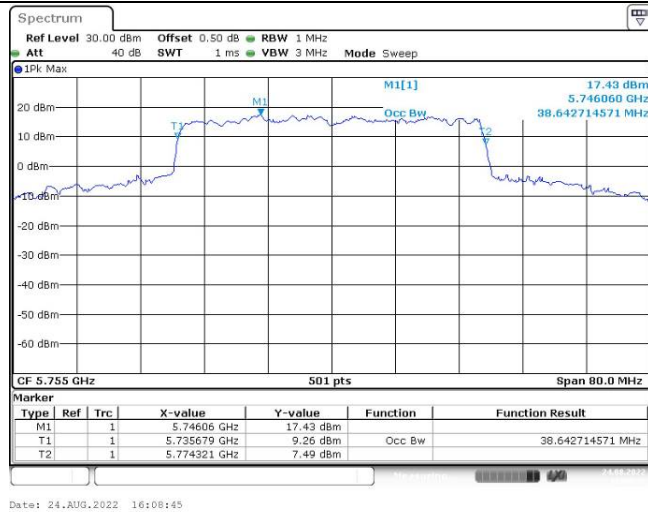
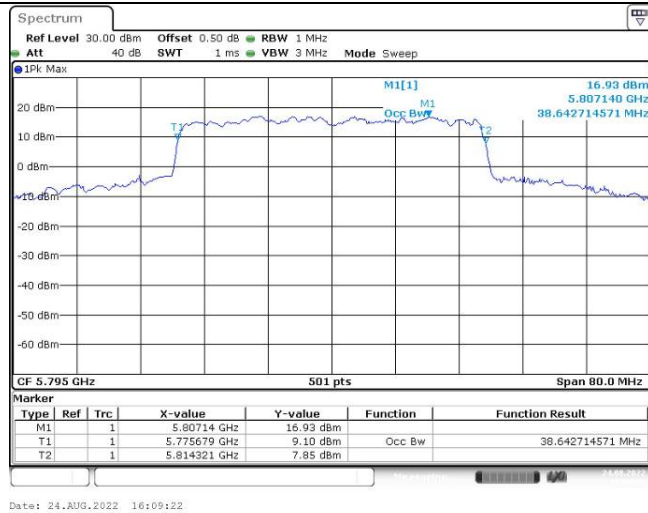
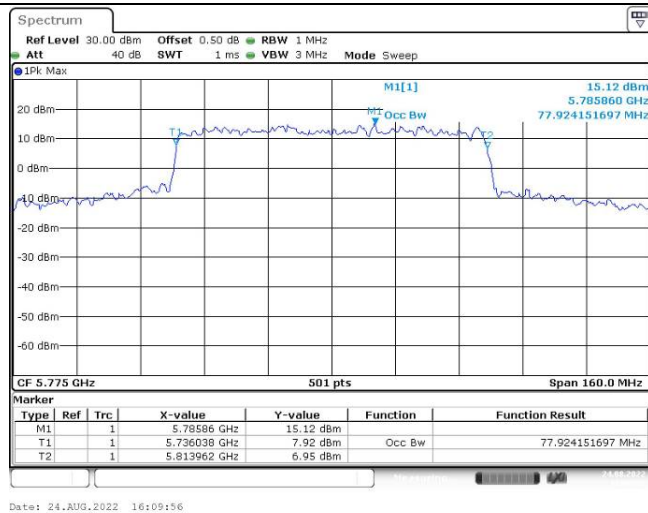
99% Emission Bandwidth

802.11ac vht40
Lowest Channel802.11ac vht40
Highest Channel802.11ac vht80
Middle Channel

6dB Emission Bandwidth

802.11ax hew20
Lowest Channel802.11ax hew20
Middle Channel802.11ax hew20
Highest Channel

6dB Emission Bandwidth

802.11ax hew40
Lowest Channel802.11ax hew40
Highest Channel802.11ax hew80
Middle Channel

4.4 Maximum Conducted Output Power:

Serial Number:	CR22080019-RF-S1	Test Date:	2022/8/20-2022/8/26
Test Site:	RF	Test Mode:	Transmitting
Tester:	Julie Tan	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	26.1-27.6	Relative Humidity: (%)	62-68	ATM Pressure: (kPa)	99.8-100.2
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	USB Wideband Power Sensor	U2021XA	MY54080015	2022-07-15	2023-07-14
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	Each time	N/A
zhuoxiang	Coaxial Cable	SMA-178	211003	Each time	N/A

** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Data:

5150-5250 MHz:

Test Modes	Test Frequency (MHz)	Max. Conducted Average Output Power (dBm)				
		Chain 0	Chain 1	Total	Limit For Non-beamforming	Limit For Beamforming
802.11a	5180	17.15	15.69	/	30	/
	5200	17.26	15.3	/	30	/
	5240	17.54	15.24	/	30	/
802.11n ht20	5180	17.28	18.43	20.90	30	27
	5200	17.37	18.55	21.01	30	27
	5240	16.93	18.58	20.84	30	27
802.11n ht40	5190	16.66	17.7	20.22	30	27
	5230	16.76	17.59	20.21	30	27
802.11ac vht20	5180	15.91	17.29	19.66	30	27
	5200	15.89	17.32	19.67	30	27
	5240	15.85	16.85	19.39	30	27
802.11ac vht40	5190	16.7	19.16	21.11	30	27
	5230	16.15	18.71	20.63	30	27
802.11ac vht80	5210	15.2	15.78	18.51	30	27
802.11ax hew20	5180	15.24	16.11	18.71	30	27
	5200	15.29	16.05	18.70	30	27
	5240	15.21	16.19	18.74	30	27
802.11ax hew40	5190	17.82	19.65	21.84	30	27
	5230	18.18	19.63	21.98	30	27
802.11ax hew80	5210	16.62	16	19.33	30	27

Note:

The device is an indoor AP.

The duty cycle factor has been calculated into the test data.

The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices:

$$\text{Array Gain} = 0 \text{ dB (i.e., no array gain) for } N_{\text{ANT}} \leq 4;$$

So:

For Non-beamforming mode:

Directional gain = 6dBi

For Beamforming mode:

Directional gain = 6+3 = 9 dBi

5250-5350 MHz:

Test Modes	Test Frequency (MHz)	Max. Conducted Average Output Power (dBm)				
		Chain 0	Chain 1	Total	Limit For Non-beamforming	Limit For Beamforming
802.11a	5260	12.8	14.52	/	24	/
	5280	12.32	14.46	/	24	/
	5320	12.38	14.73	/	24	/
802.11n ht20	5260	8.28	8.6	11.45	24	21
	5280	8.46	8.68	11.58	24	21
	5320	8.63	8.89	11.77	24	21
802.11n ht40	5270	11.46	12.35	14.94	24	21
	5310	10.64	11.29	13.99	24	21
802.11ac vht20	5260	7.03	7.83	10.46	24	21
	5280	7.16	7.63	10.41	24	21
	5320	7.18	7.99	10.61	24	21
802.11ac vht40	5270	11.23	11.03	14.14	24	21
	5310	10.07	10.99	13.56	24	21
802.11ac vht80	5290	12.26	13.64	16.01	24	21
802.11ax hew20	5260	7.53	8.4	11.00	24	21
	5280	7.71	8.58	11.18	24	21
	5320	7.75	8.78	11.31	24	21
802.11ax hew40	5270	10.21	11.36	13.83	24	21
	5310	10.45	11.83	14.20	24	21
802.11ax hew80	5290	12.49	13.43	16.00	24	21
802.11ac hew160	5250	11.62	10.38	14.05	24	21
802.11ax hew160	5250	10.69	11.85	14.32	24	21

Note:

The duty cycle factor has been calculated into the result.

The device is an indoor AP. The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices:

$$\text{Array Gain} = 0 \text{ dB (i.e., no array gain) for } N_{\text{ANT}} \leq 4;$$

So:

For Non-beamforming mode:

Directional gain = 6dBi

For Beamforming mode:

Directional gain = 6+3 = 9.0 dBi

5725-5850 MHz:

Test Modes	Test Frequency (MHz)	Max. Conducted Average Output Power (dBm)				
		Chain 0	Chain 1	Total	Limit For Non-beamforming	Limit For Beamforming
802.11a	5745	21.69	20.97	N/A	30	/
	5785	21.23	20.72	N/A	30	/
	5825	20.71	20.5	N/A	30	/
802.11n ht20	5745	21.11	21.82	24.49	30	27
	5785	20.97	21.33	24.16	30	27
	5825	20.63	20.97	23.81	30	27
802.11n ht40	5755	20.85	21.31	24.10	30	27
	5795	20.6	20.97	23.80	30	27
802.11ac vht20	5745	21.29	21.95	24.64	30	27
	5785	21.15	21.43	24.30	30	27
	5825	20.88	20.84	23.87	30	27
802.11ac vht40	5755	19.73	21.04	23.44	30	27
	5795	19.41	20.4	22.94	30	27
802.11ac vht80	5775	19.06	20.35	22.76	30	27
802.11ax hew20	5745	21.45	22.13	24.81	30	27
	5785	21.27	21.65	24.47	30	27
	5825	21.02	20.94	23.99	30	27
802.11ax hew40	5755	21.78	23.05	25.47	30	27
	5795	21.57	22.51	25.08	30	27
802.11ax hew80	5775	20.95	22.82	25.00	30	27

Note:

The duty cycle factor has been calculated into the result.

The device is an indoor AP. The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices:

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

So:

For Non-beamforming mode:

Directional gain = 6dBi

For Beamforming mode:

Directional gain = 6+3 = 9 dBi

4.5 Maximum power spectral density:

Serial Number:	CR22080019-RF-S1	Test Date:	2022/8/20-2022/11/15
Test Site:	RF	Test Mode:	Transmitting
Tester:	Julie Tan	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	26.1-27.6	Relative Humidity: (%)	62-68	ATM Pressure: (kPa)	99.8-100.2
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101943	2021-10-10	2022-10-09
zhuoxiang	Coaxial Cable	SMA-178	211003	Each time	N/A
Mini-Circuits	DC Block	BLK-18-S+	1554404	Each time	N/A

** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Data:

5150-5250 MHz:

Test Modes	Test Frequency (MHz)	Maximum Power Spectral Density (dBm/MHz)			
		Chain 0	Chain 1	Total	Limit
802.11a	5180	7.73	10.31	/	17
	5200	7.83	10.34	/	17
	5240	8.55	10.75	/	17
802.11n ht20	5180	7.5	7.81	10.67	11
	5200	7.61	8.19	10.92	11
	5240	7.61	8.17	10.91	11
802.11n ht40	5190	4.39	7.76	9.40	11
	5230	4.72	7.5	9.34	11
802.11ac vht20	5180	7.27	7.86	10.59	11
	5200	7.5	7.94	10.74	11
	5240	7.65	7.96	10.82	11
802.11ac vht40	5190	5.23	7.09	9.27	11
	5230	5.12	7.55	9.51	11
802.11ac vht80	5210	2.26	4.6	6.60	11
802.11ax hew20	5180	7.21	7.23	10.23	11
	5200	7.51	7.52	10.53	11
	5240	7.81	7.88	10.86	11
802.11ax hew40	5190	6.47	7.92	10.27	11
	5230	7.03	7.91	10.50	11
802.11ax hew80	5210	2.89	3.87	6.42	11

Note :

The device is an Indoor AP.

Method SA-3 in KDB 789033 D02 General UNII Test Procedures New Rules v02r01 was used for PSD test

The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power spectral density (PSD) measurements on the devices:

$$\text{Array Gain} = 10 \log(N_{\text{ANT}}/N_{\text{SS}}) \text{ dB.}$$

So:

Directional gain = $G_{\text{ANT}} + \text{Array Gain} = 6 + 10 \cdot \log(2/1) = 9 \text{ dBi}$ for Non-beamforming modeDirectional gain = $G_{\text{ANT}} + \text{Array Gain} = 6 + 3 + 10 \cdot \log(2/1) = 12 \text{ dBi}$ for Beamforming mode

The worst limit Beamforming mode was used in the table.

5250-5350 MHz:

Test Modes	Test Frequency (MHz)	Maximum Power Spectral Density (dBm/MHz)			
		Chain 0	Chain 1	Total	Limit
802.11a	5260	7.61	7.33	/	11
	5280	7.95	7.54	/	11
	5320	7.44	7.41	/	11
802.11n ht20	5260	-0.64	2.91	4.50	5
	5280	-0.43	2.62	4.37	5
	5320	0.18	2.99	4.82	5
802.11n ht40	5270	0.46	2.66	4.71	5
	5310	-0.74	3.04	4.56	5
802.11ac vht20	5260	0.26	2.92	4.80	5
	5280	0.67	1.85	4.31	5
	5320	1.07	2.3	4.74	5
802.11ac vht40	5270	0.26	2.86	4.76	5
	5310	-0.56	3.21	4.73	5
802.11ac vht80	5290	0.1	2.54	4.50	5
802.11ax hew20	5260	0.85	2.33	4.66	5
	5280	0.75	2.59	4.78	5
	5320	1.16	2.58	4.94	5
802.11ax hew40	5270	0.6	2.92	4.92	5
	5310	1.55	2.32	4.96	5
802.11ax hew80	5290	0.45	2.99	4.91	5
802.11ac vht160	5250	-2.86	-2.3	0.44	5
802.11ax hew160	5250	-4.82	-5.17	-1.98	5

Note :

The device is an Indoor AP.

Method SA-3 in KDB 789033 D02 General UNII Test Procedures New Rules v02r01 was used for PSD test

The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power spectral density (PSD) measurements on the devices:

$$\text{Array Gain} = 10 \log(N_{\text{ANT}}/N_{\text{SS}}) \text{ dB.}$$

So:

$$\text{Directional gain} = G_{\text{ANT}} + \text{Array Gain} = 6 + 10 \cdot \log(2/1) = 9 \text{ dBi for Non-beamforming mode}$$

$$\text{Directional gain} = G_{\text{ANT}} + \text{Array Gain} = 6 + 3 + 10 \cdot \log(2/1) = 12 \text{ dBi for Beamforming mode}$$

The worst limit Beamforming mode was used in the table.

5725-5850 MHz:

Test Modes	Test Frequency (MHz)	Reading (dBm/300kHz)		Maximum Power Spectral Density (dBm/500kHz)			
		Chain 0	Chain 1	Chain 0	Chain 1	Total	Limit
802.11a	5745	11.6	10.41	13.82	12.63	/	30
	5785	11.63	10.1	13.85	12.32	/	30
	5825	10.99	9.99	13.21	12.21	/	30
802.11n ht20	5745	11.23	10.57	13.45	12.79	16.14	24
	5785	10.97	10.59	13.19	12.81	16.01	24
	5825	10.86	9.74	13.08	11.96	15.57	24
802.11n ht40	5755	9.16	6.85	11.38	9.07	13.39	24
	5795	8.82	6.69	11.04	8.91	13.11	24
802.11ac vht20	5745	12.61	10.92	14.83	13.14	17.08	24
	5785	12.22	10.96	14.44	13.18	16.87	24
	5825	12.51	10.51	14.73	12.73	16.85	24
802.11ac vht40	5755	8.72	8.24	10.94	10.46	13.72	24
	5795	8.62	7.55	10.84	9.77	13.35	24
802.11ac vht80	5775	5.95	3.9	8.17	6.12	10.28	24
802.11ax hew20	5745	13.28	10.74	15.5	12.96	17.42	24
	5785	13	10.05	15.22	12.27	17.00	24
	5825	12.55	9.62	14.77	11.84	16.56	24
802.11ax hew40	5755	10.81	10.02	13.03	12.24	15.66	24
	5795	10.34	9.34	12.56	11.56	15.10	24
802.11ax hew80	5775	8.02	5.63	10.24	7.85	12.22	24

Note :

Method SA-3 in KDB 789033 D02 General UNII Test Procedures New Rules v02r01 was used for PSD test

If measurement bandwidth of Maximum PSD is specified in 500 kHz, add $10\log(500\text{kHz}/\text{RBW})$ to the measured result, whereas RBW (< 500 KHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement

The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power spectral density (PSD) measurements on the devices:

$$\text{Array Gain} = 10 \log(N_{\text{ANT}}/N_{\text{SS}}) \text{ dB.}$$

So:

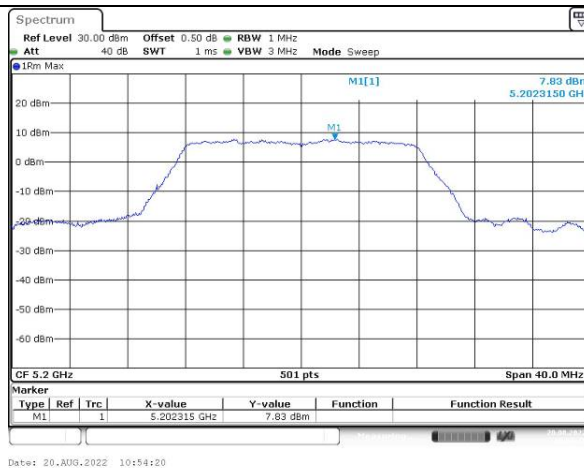
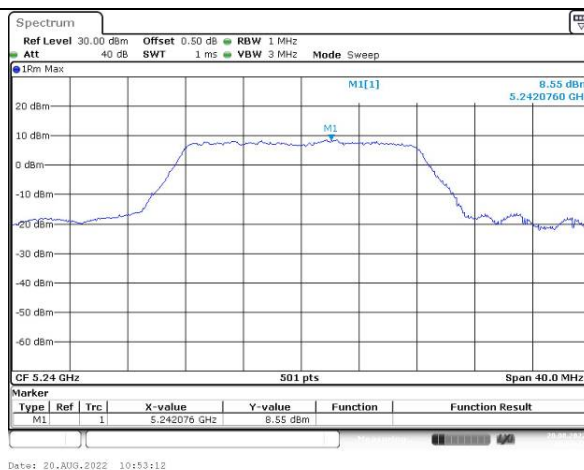
Directional gain = $G_{\text{ANT}} + \text{Array Gain} = 6 + 10 \cdot \log(2/1) = 9 \text{ dBi}$ for Non-beamforming modeDirectional gain = $G_{\text{ANT}} + \text{Array Gain} = 6 + 3 + 10 \cdot \log(2/1) = 12 \text{ dBi}$ for Beamforming mode

The worst limit Beamforming mode was used in the table.

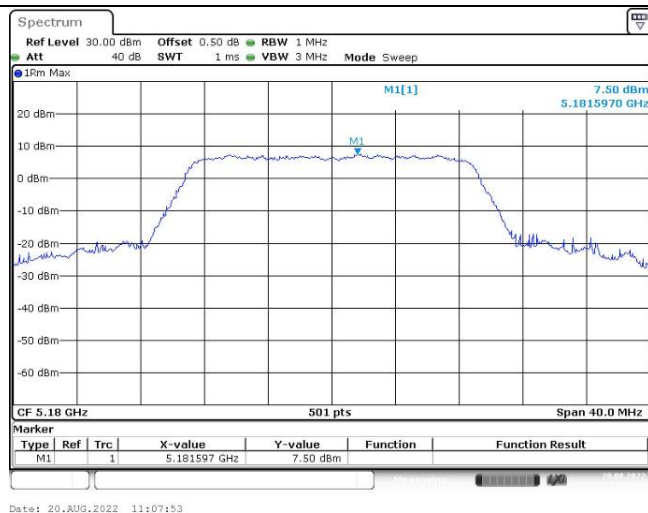
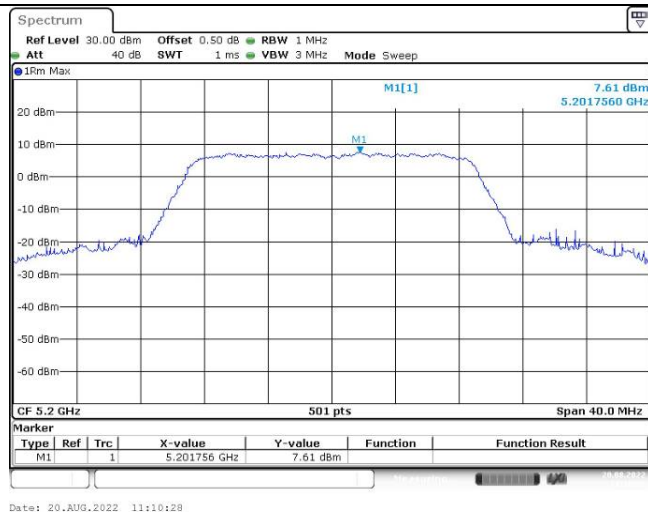
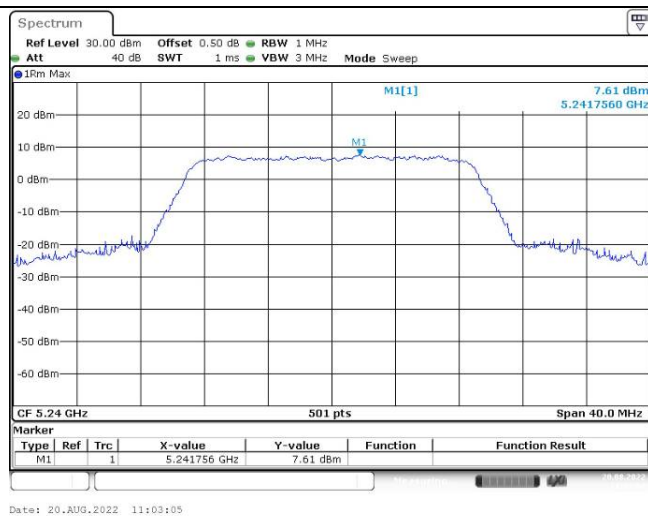
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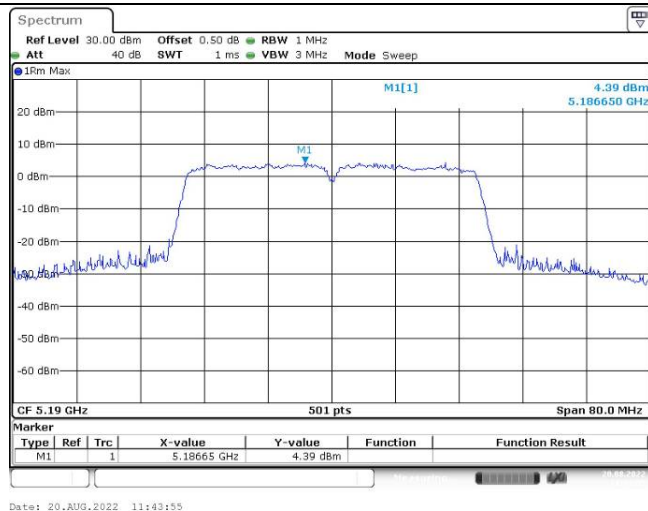
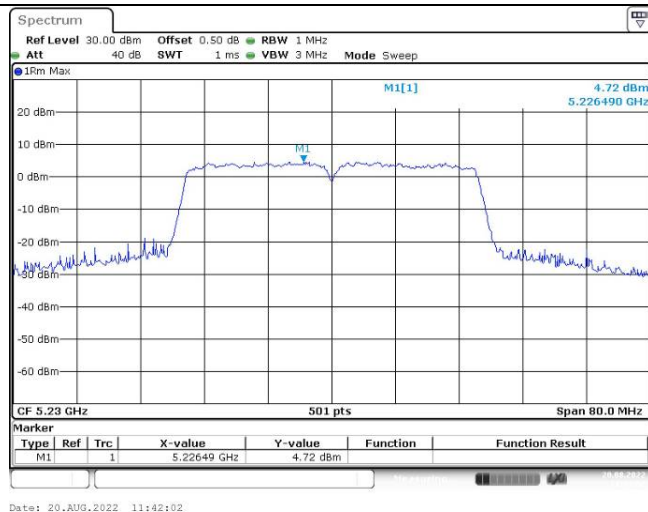
Chain0:

Maximum power spectral density

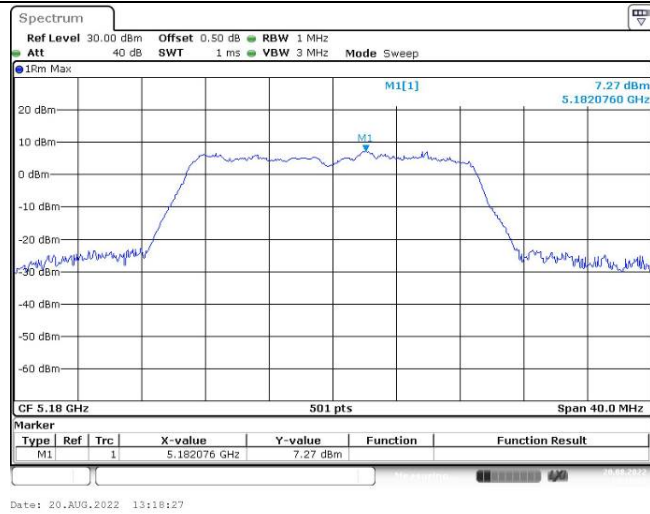
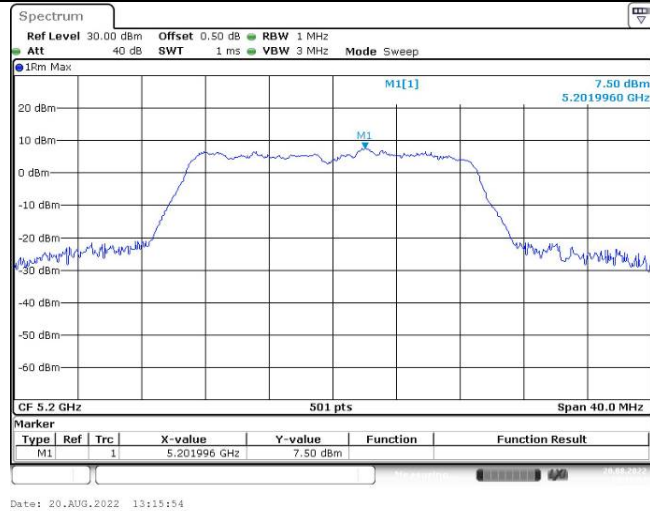
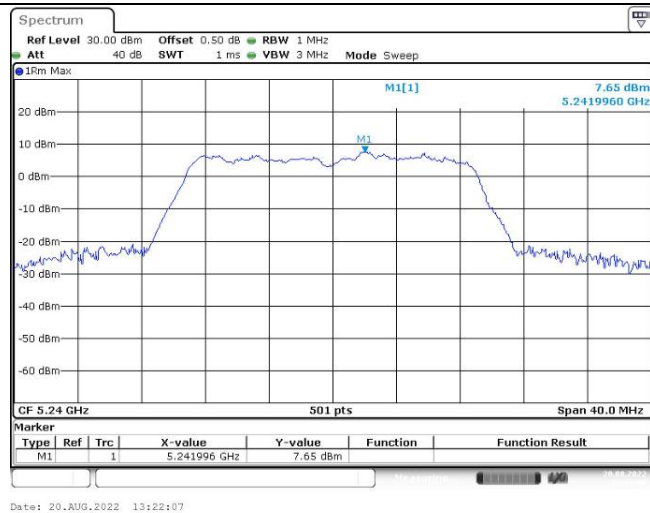
802.11a
Lowest Channel802.11a
Middle Channel802.11a
Highest Channel

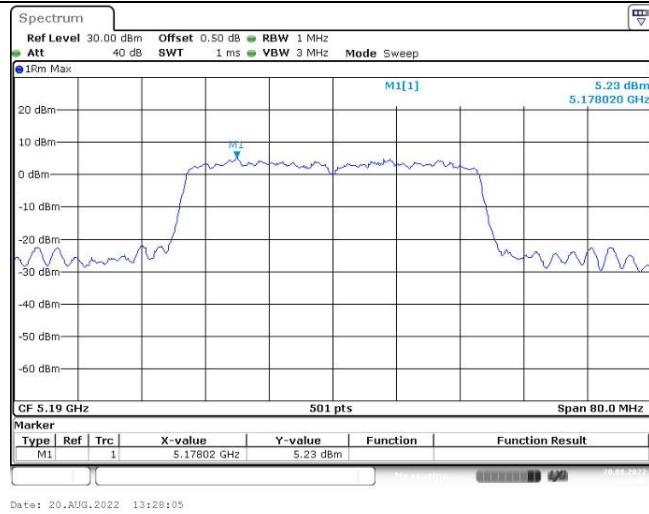
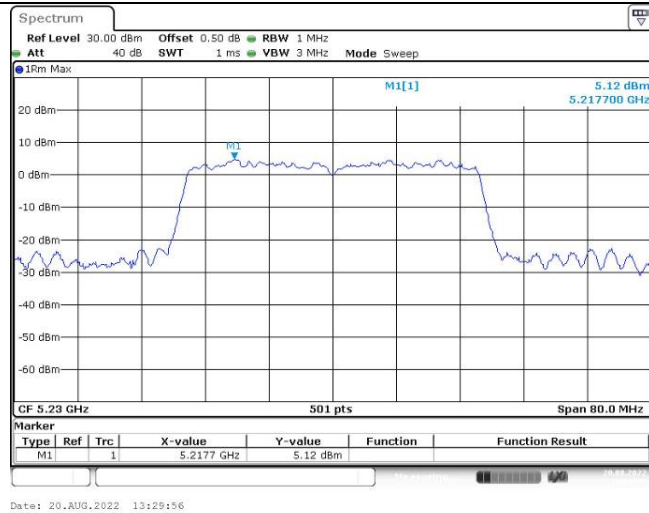
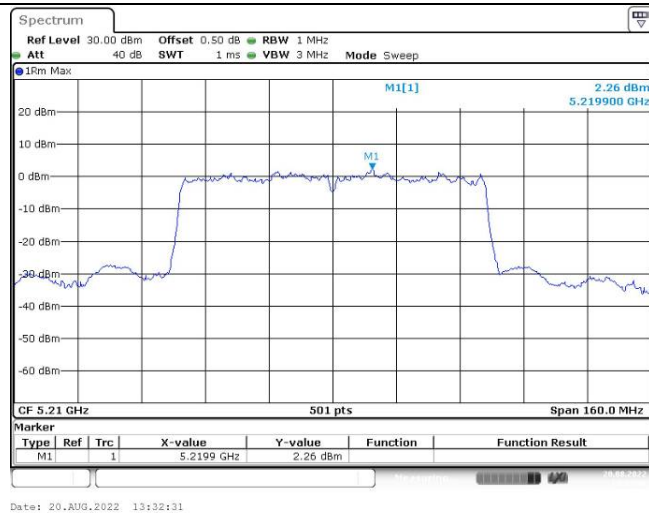
Maximum power spectral density

802.11n ht20
Lowest Channel802.11n ht20
Middle Channel802.11n ht20
Highest Channel

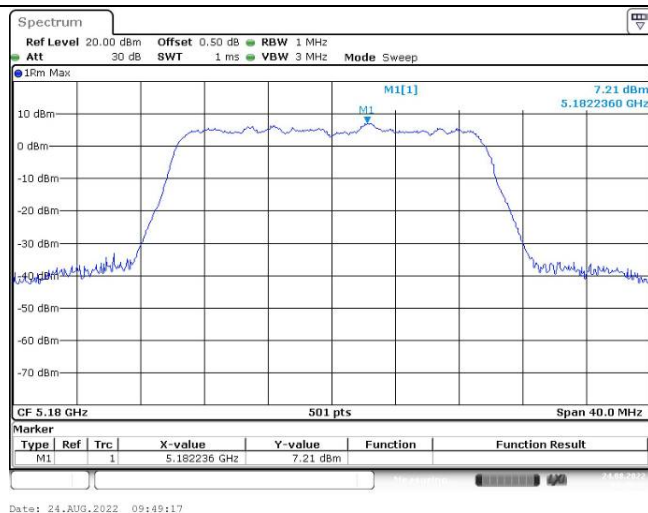
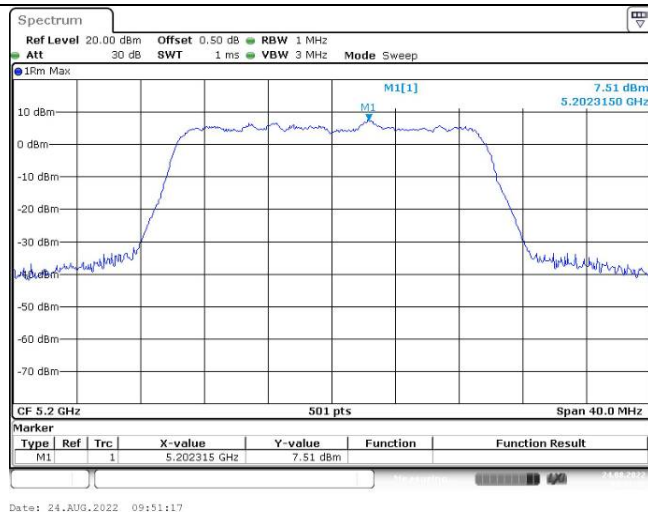
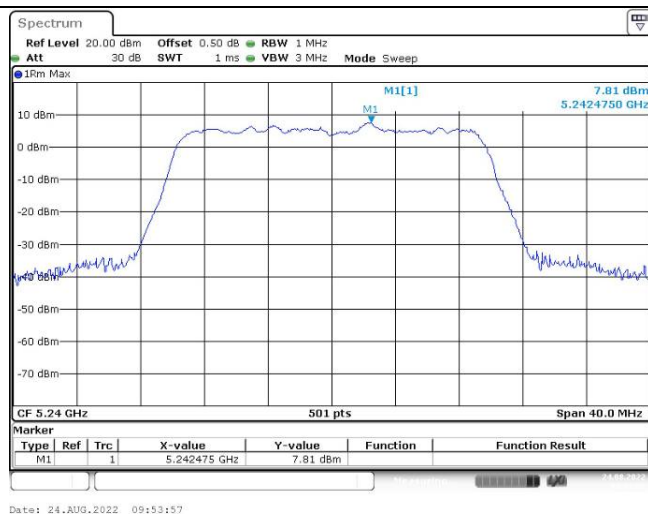
Maximum power spectral density802.11n ht40
Lowest Channel802.11n ht40
Highest Channel

Maximum power spectral density

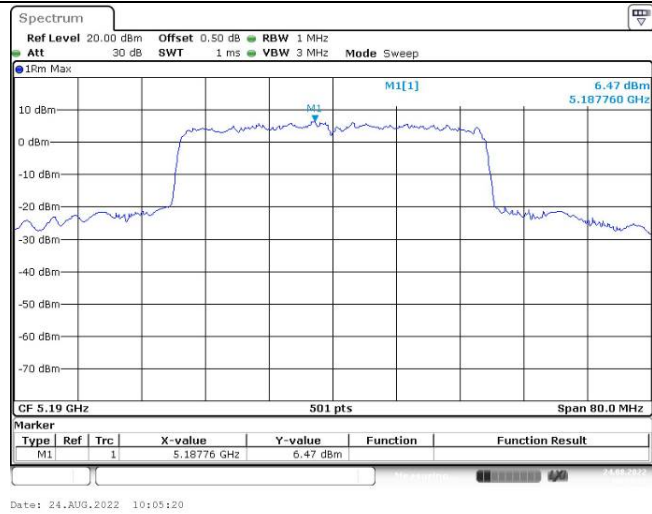
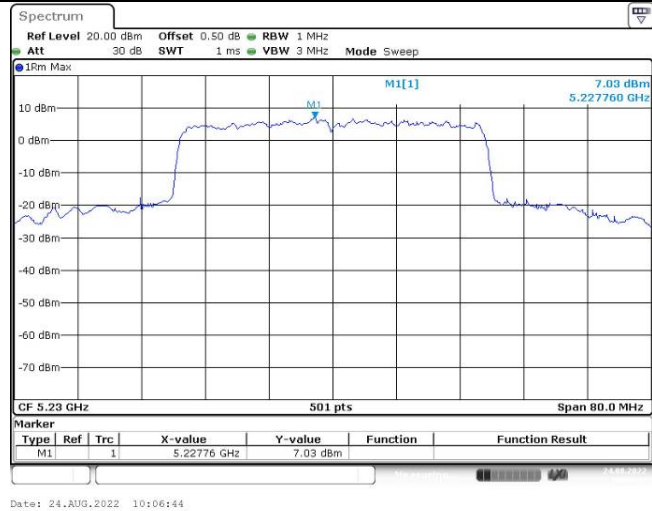
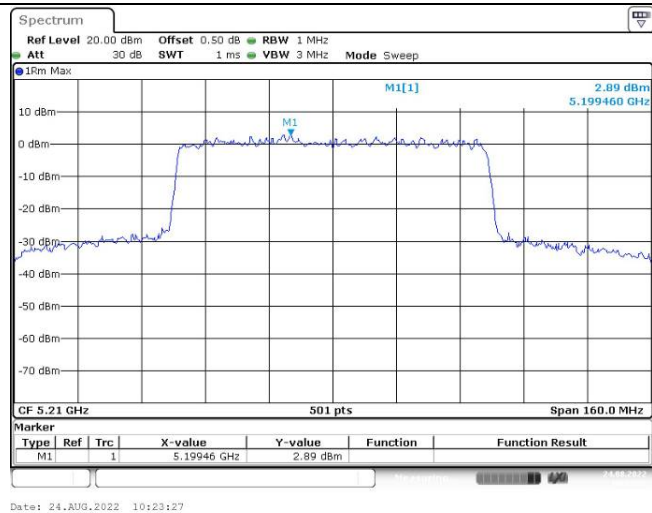
802.11ac vht20
Lowest Channel802.11ac vht20
Middle Channel802.11ac vht20
Highest Channel

Maximum power spectral density802.11ac vht40
Lowest Channel802.11ac vht40
Highest Channel802.11ac vht80
Middle Channel

Maximum power spectral density

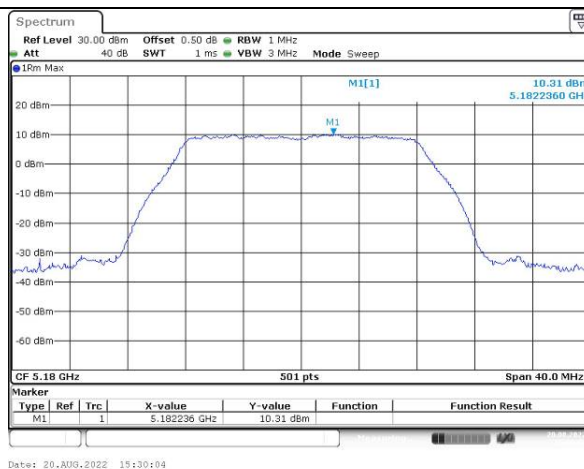
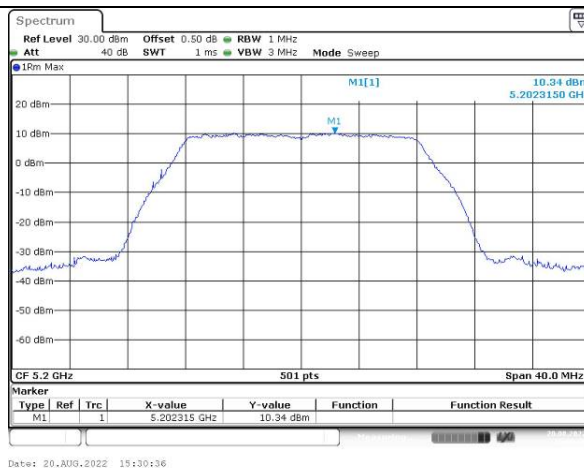
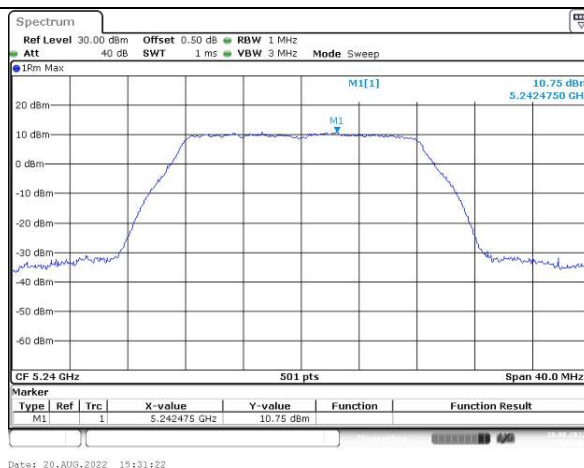
802.11ax hew20
Lowest Channel802.11ax hew20
Middle Channel802.11ax hew20
Highest Channel

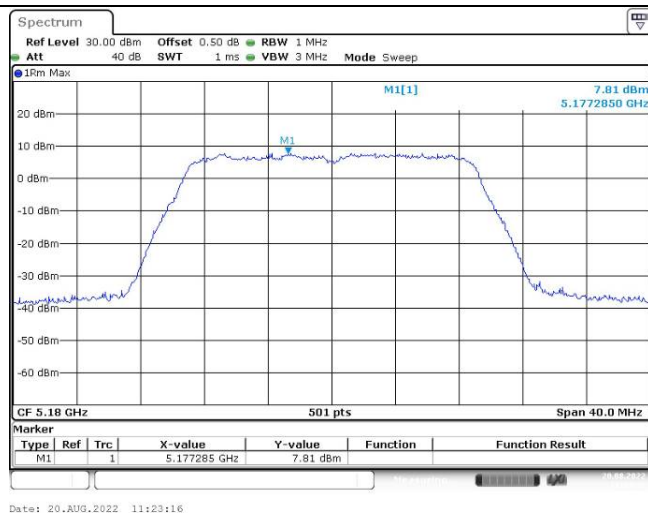
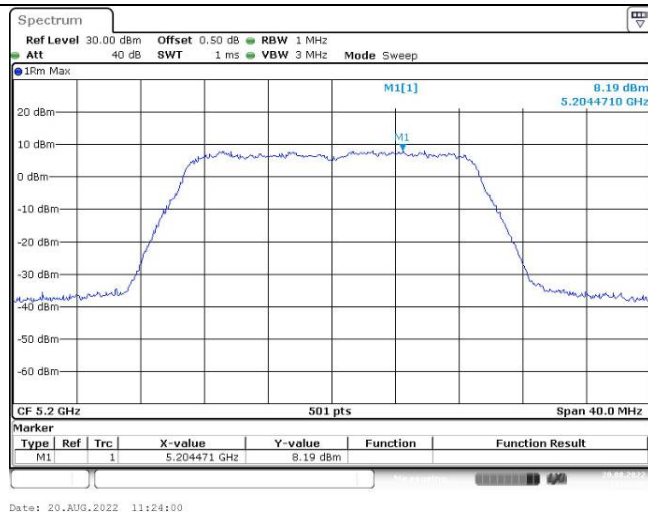
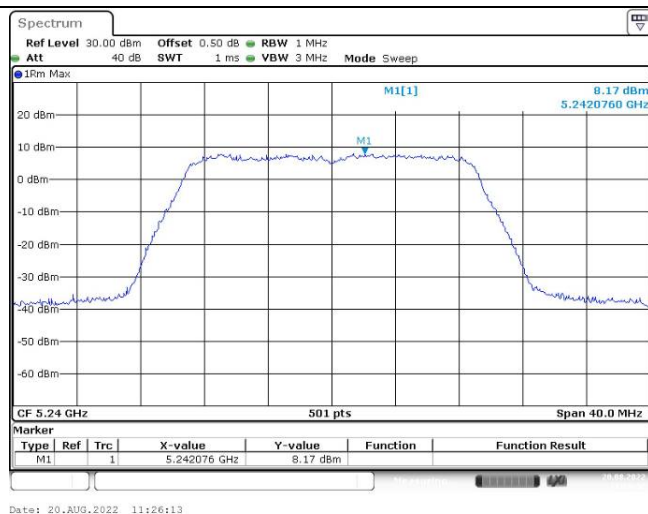
Maximum power spectral density

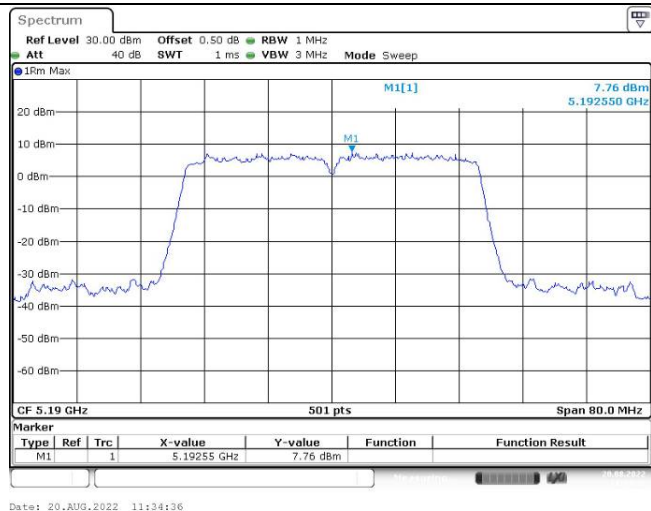
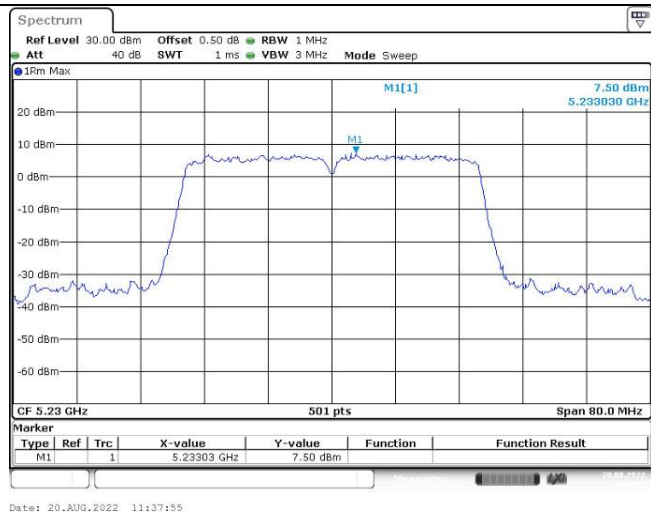
802.11ax hew40
Lowest Channel802.11ax hew40
Highest Channel802.11ax hew80
Middle Channel

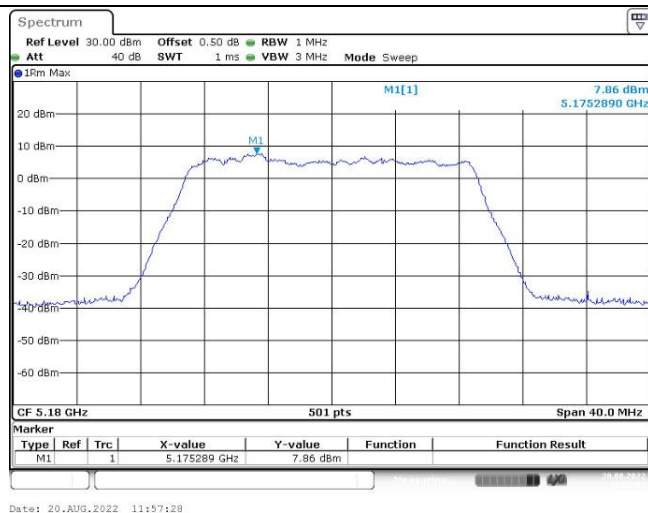
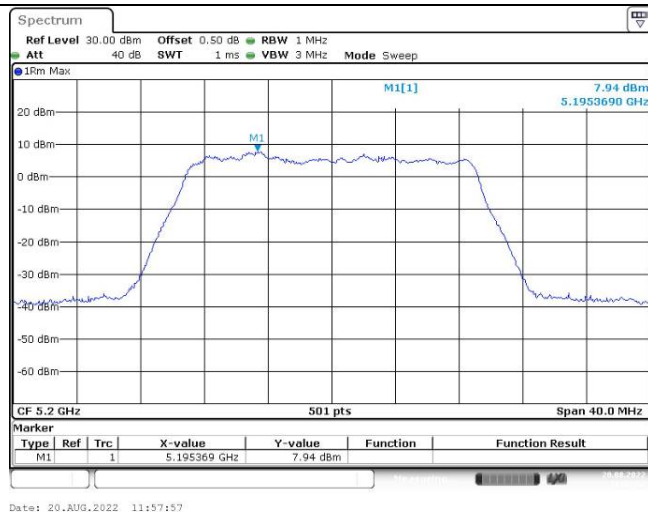
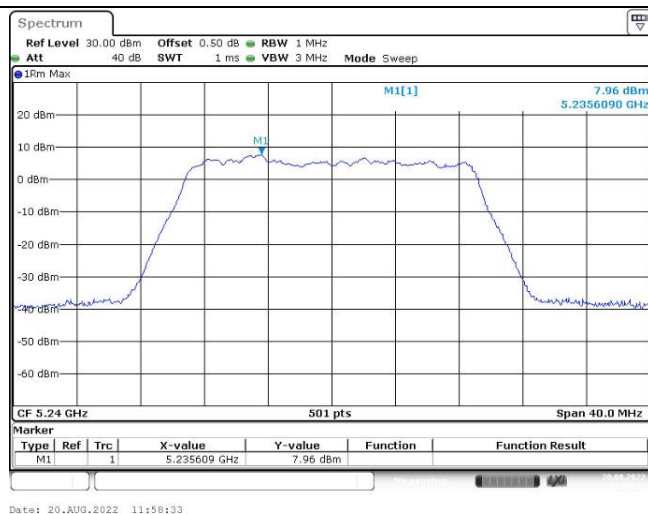
Chain1:

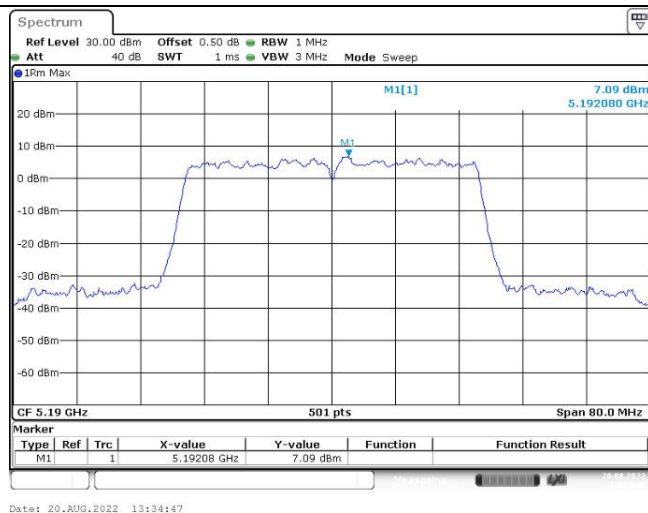
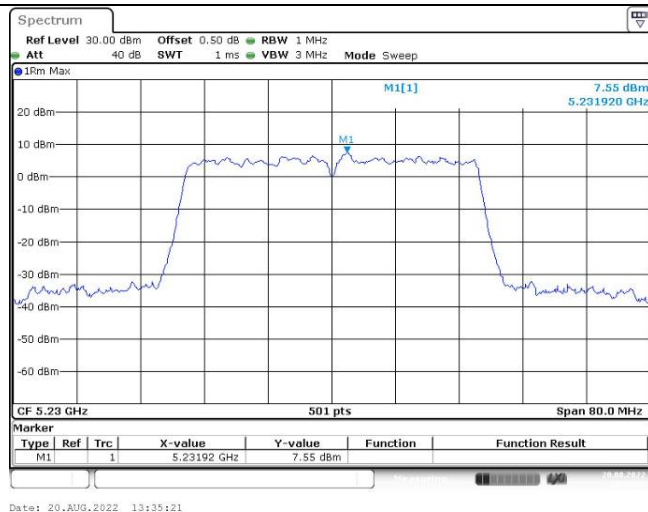
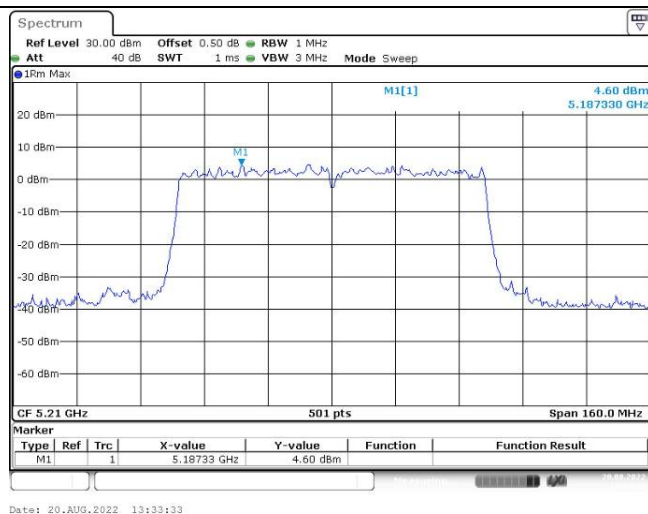
Maximum power spectral density

802.11a
Lowest Channel802.11a
Middle Channel802.11a
Highest Channel

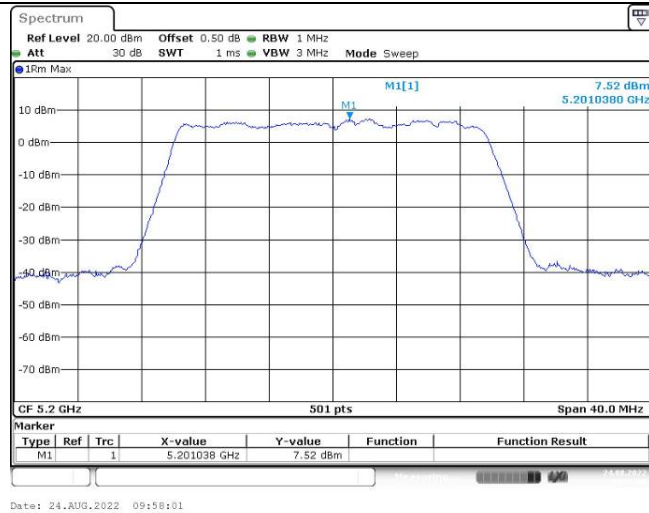
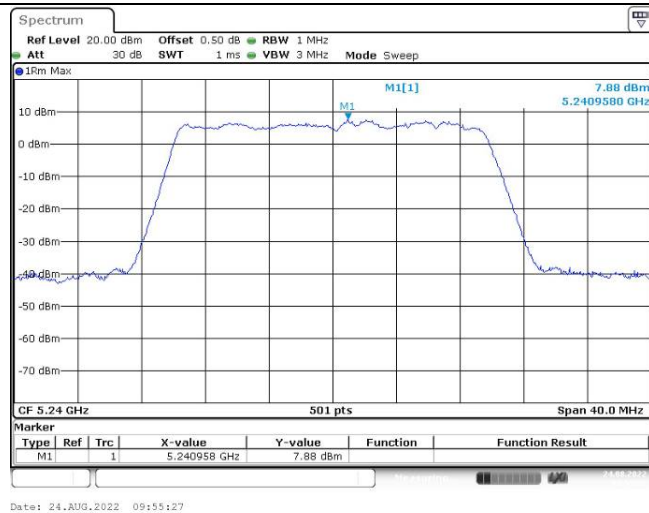
Maximum power spectral density802.11n ht20
Lowest Channel802.11n ht20
Middle Channel802.11n ht20
Highest Channel

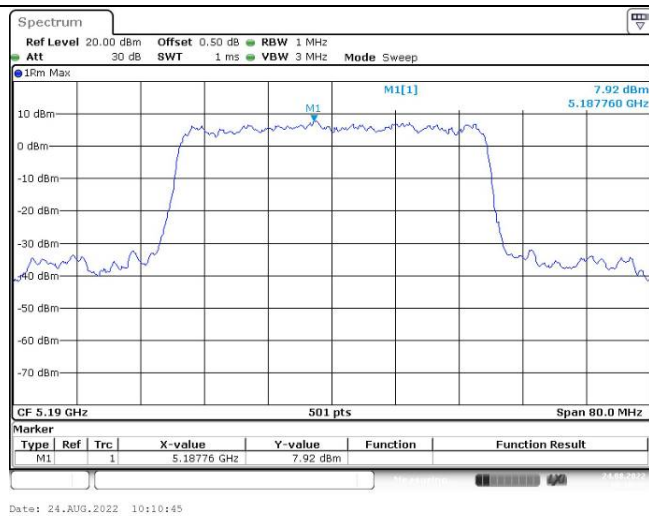
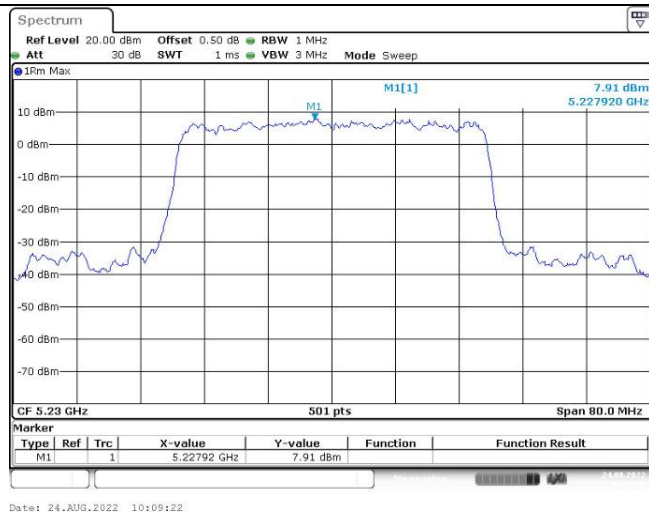
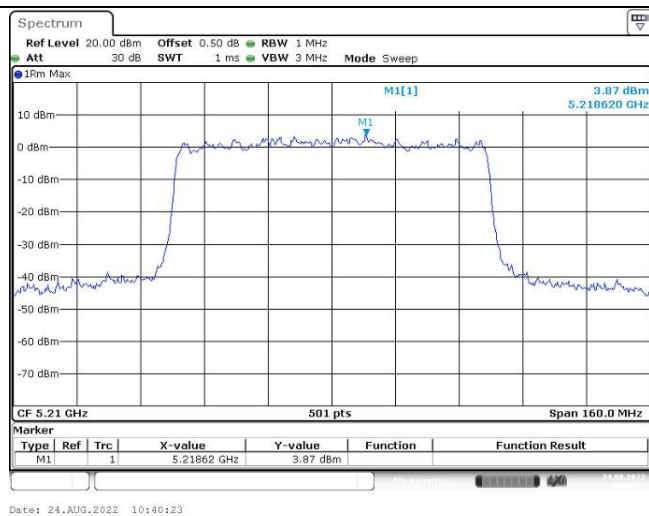
Maximum power spectral density802.11n ht40
Lowest Channel802.11n ht40
Highest Channel

Maximum power spectral density802.11ac vht20
Lowest Channel802.11ac vht20
Middle Channel802.11ac vht20
Highest Channel

Maximum power spectral density802.11ac vht40
Lowest Channel802.11ac vht40
Highest Channel802.11ac vht80
Middle Channel

Maximum power spectral density

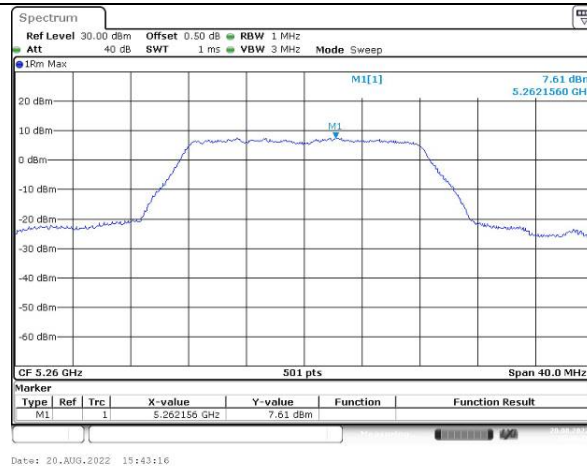
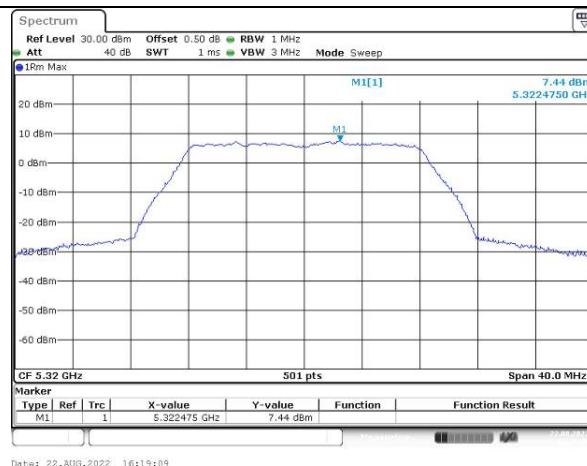
802.11ax hew20
Lowest Channel802.11ax hew20
Middle Channel802.11ax hew20
Highest Channel

Maximum power spectral density802.11ax hew40
Lowest Channel802.11ax hew40
Highest Channel802.11ax hew80
Middle Channel

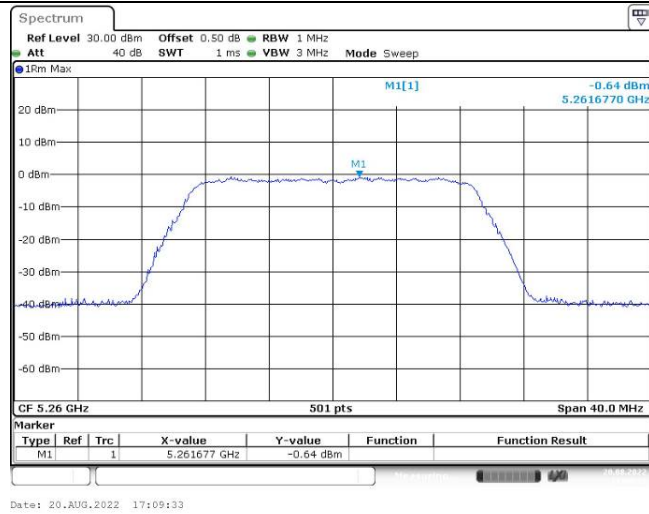
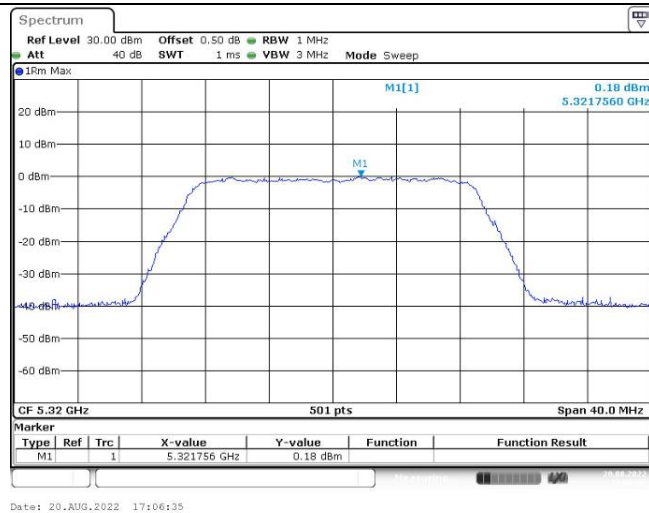
5250 -5350MHz:

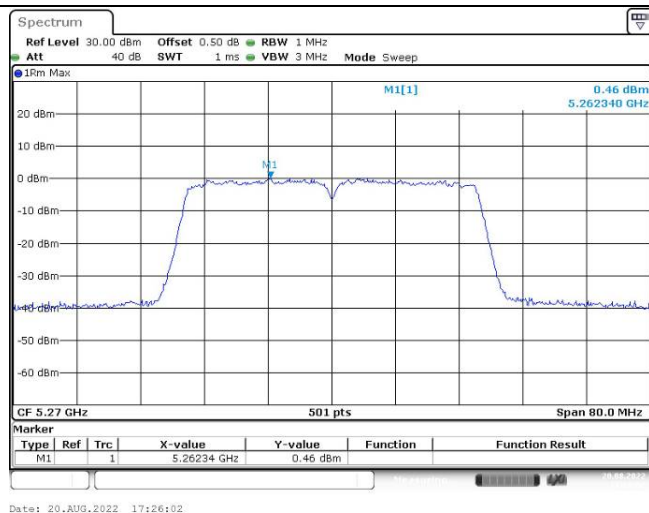
Chain0:

Maximum power spectral density

802.11a
Lowest Channel802.11a
Middle Channel802.11a
Highest Channel

Maximum power spectral density

802.11n ht20
Lowest Channel802.11n ht20
Middle Channel802.11n ht20
Highest Channel

Maximum power spectral density802.11n ht40
Lowest Channel802.11n ht40
Highest Channel