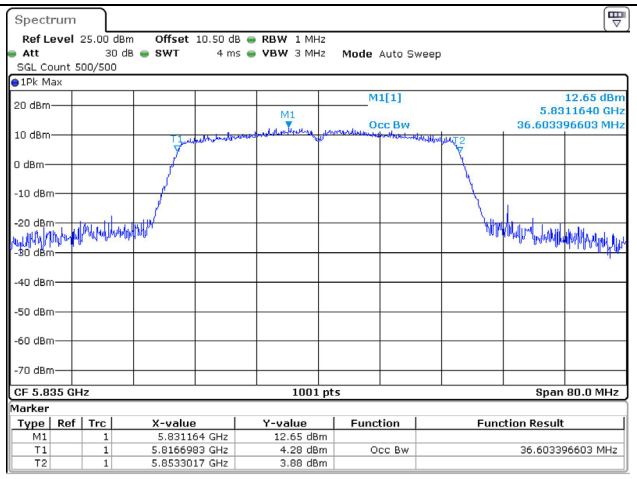
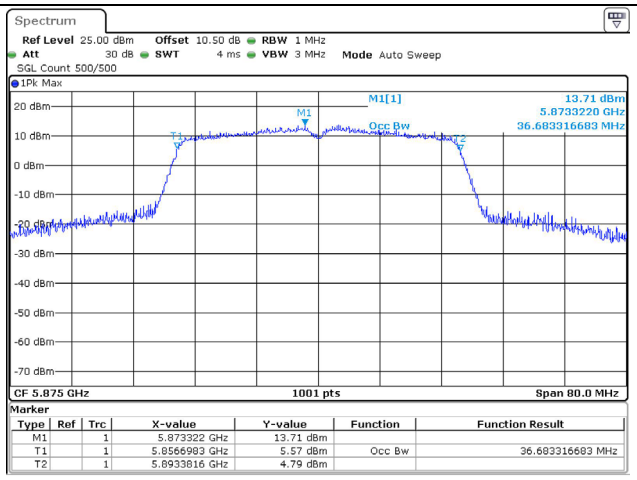
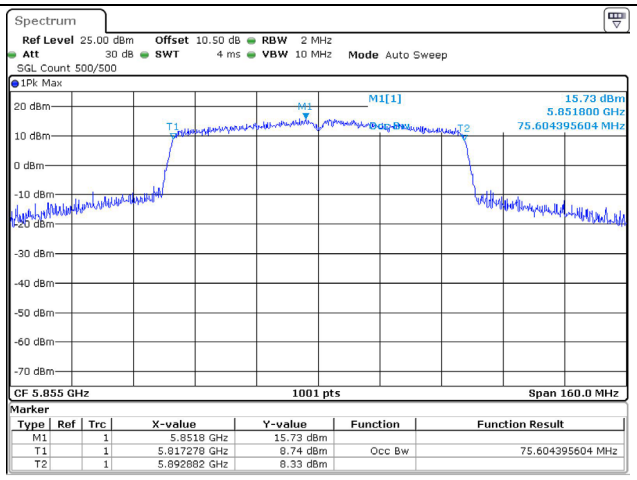
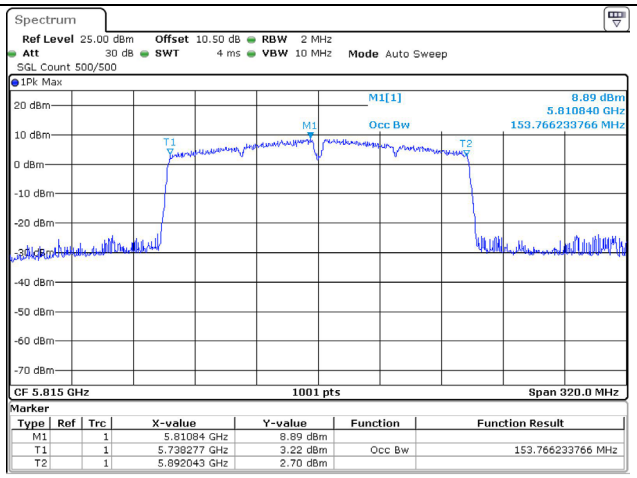
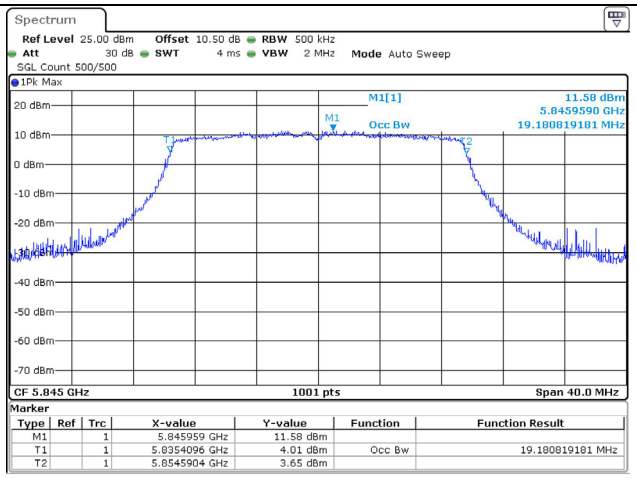
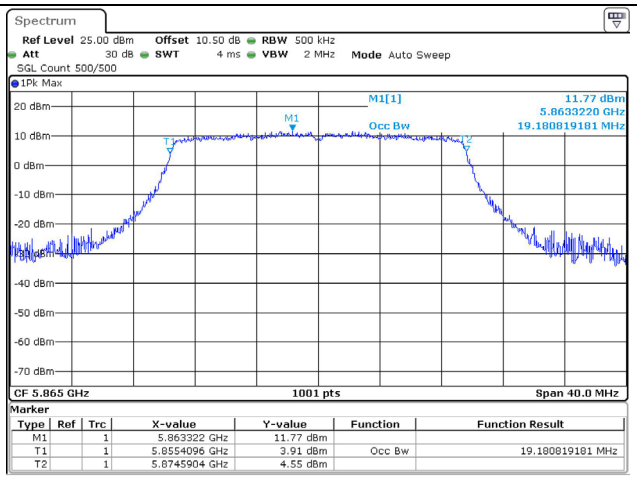
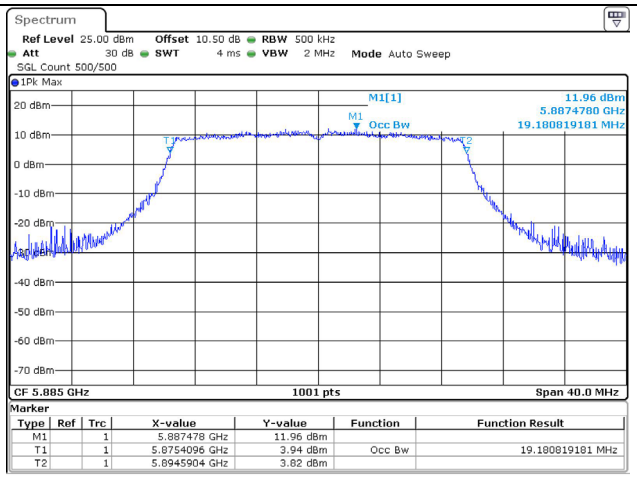
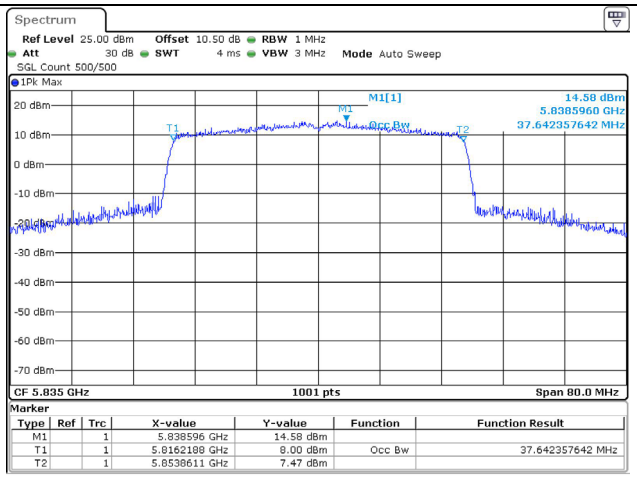
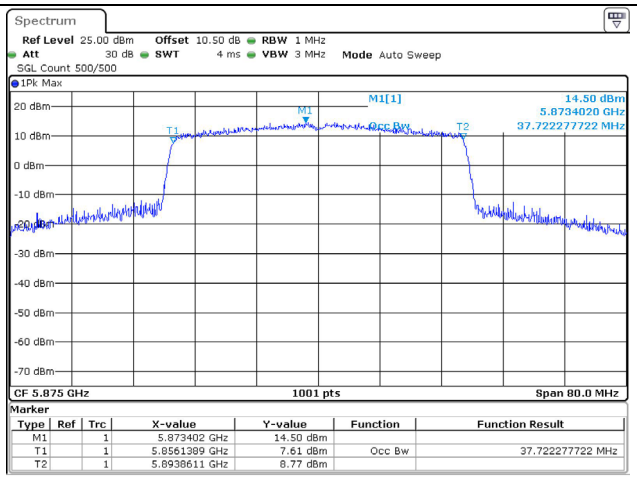
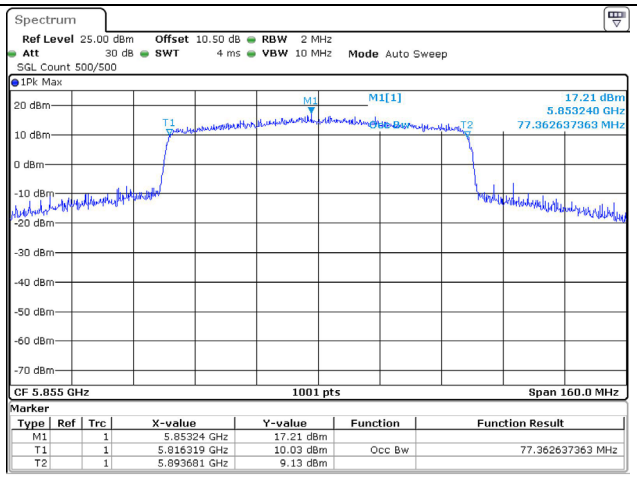
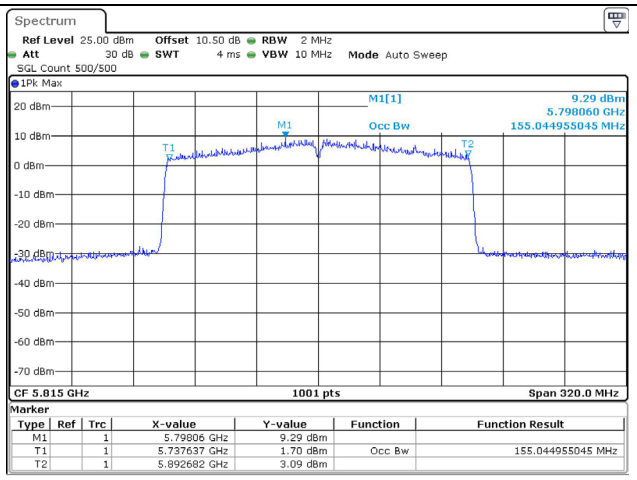
99% Emission Bandwidth	
802.11ac-VHT40 Lowest Channel	
802.11ac-VHT40 Highest Channel	
802.11ac-VHT80 Middle Channel	

99% Emission Bandwidth	
802.11ac-VHT160 Middle Channel	
802.11ax-HE20 Lowest Channel	
802.11ax-HE20 Middle Channel	

99% Emission Bandwidth	
802.11ax-HE20 Highest Channel	
802.11ax-HE40 Lowest Channel	
802.11ax-HE40 Highest Channel	

99% Emission Bandwidth	
802.11ax-HE80 Middle Channel	
802.11ax-HE160 Middle Channel	

Note: The test data and plots of 5150-5250MHz, 5250-5350MHz, 5470-5725MHz and 5725-5850MHz band please refer to the Appendix.

FCC §15.407(a)&(h)(1) - CONDUCTED TRANSMITTER OUTPUT POWER & TRANSMIT POWER CONTROL (TPC)

Applicable Standard

FCC § 15.407 (a):

For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. 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.

For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. 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.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. 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.

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. 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. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

For an indoor access point operating in the 5.850-5.895 GHz band, the maximum power spectral density must not exceed 20 dBm e.i.r.p. in any 1-megahertz band. In addition, the maximum e.i.r.p. over the frequency band of operation must not exceed 36 dBm. Indoor access points operating on a channel that spans the 5.725-5.850 GHz and 5.850-5.895 GHz bands must not exceed an e.i.r.p. of 36 dBm.

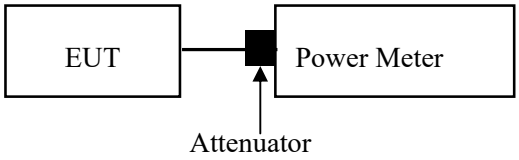
FCC § 15.407 (h) (1) Transmit power control (TPC):

U-NII devices operating in the 5.25-5.35 GHz band and the 5.47-5.725 GHz band shall employ a TPC mechanism. The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30dBm. A TPC mechanism is not required for systems with an e.i.r.p. of less than 500 mW.

Test Procedure

According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method PM-G should be applied

a. Place the EUT on a bench and set it in transmitting mode.
b. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to one test equipment.



Test Data

Environmental Conditions

Temperature:	22~25.5 ℃
Relative Humidity:	50~58 %
ATM Pressure:	101 kPa

The testing was performed by Kungfumaster Liang and Lee Li from 2024-07-16 to 2024-08-03.

EUT operation mode: Transmitting

Test Result: Compliant.

5850-5895 MHz:

Test Modes	Test Frequency (MHz)	Max. Conducted Average Output Power(dBm)					
		Chain 0	Chain 1	Chain 2	Total	EIRP	EIRP LIMIT
802.11a	5845	20.14	15.65	20.39	/	25.23	36
	5865	20.16	15.69	20.41	/	25.25	36
	5885	20.15	15.62	20.43	/	25.27	36
802.11ac vht20	5845	16.42	16.14	16.29	21.06	30.67	36
	5865	16.13	16.26	16.43	21.05	30.66	36
	5885	16.16	16.23	16.47	21.06	30.67	36
802.11ac vht40	5835	16.82	16.90	16.75	21.59	31.20	36
	5875	17.88	18.07	18.15	22.81	32.42	36
802.11ac vht80	5855	18.78	18.92	19.02	23.68	33.29	36
802.11ac vht160	5815	14.54	14.69	14.68	19.41	29.02	36
802.11ax he20	5845	16.41	16.36	16.41	21.16	30.77	36
	5865	16.48	16.32	16.58	21.23	30.84	36
	5885	16.45	16.57	16.63	21.32	30.93	36
802.11ax he40	5835	18.01	17.98	18.11	22.80	32.41	36
	5875	18.11	18.23	18.28	22.98	32.59	36
802.11ax he80	5855	19.02	19.05	19.24	23.88	33.49	36
802.11ax he160	5815	13.91	13.98	13.97	18.72	28.33	36

Note:
The device is an indoor AP.
The device employed Beam-forming for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices: Array Gain = 10 log(NANT/NSS) dB

Antenna Gain:	4.84	dBi	Directional gain:	9.61	dBi

Note: The test data and plots of 5150-5250MHz, 5250-5350MHz, 5470-5725MHz and 5725-5850MHz band, please refer to the Appendix.

FCC §15.407(a) - POWER SPECTRAL DENSITY

For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. 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.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. 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.

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. 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. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

For an indoor access point operating in the 5.850-5.895 GHz band, the maximum power spectral density must not exceed 20 dBm e.i.r.p. in any 1-megahertz band. In addition, the maximum e.i.r.p. over the frequency band of operation must not exceed 36 dBm. Indoor access points operating on a channel that spans the 5.725-5.850 GHz and 5.850-5.895 GHz bands must not exceed an e.i.r.p. of 36 dBm.

Test Procedure

According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01

Duty cycle ≥98%

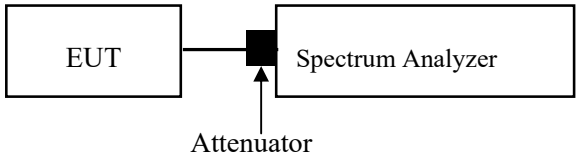
KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method SA-1 should be applied.

Duty cycle <98%, duty cycle variations are less than ±2%

KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method SA-2 should be applied.

Duty cycle <98%, duty cycle variations exceed ±2%

KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method SA-3 should be applied.



Test Data

Environmental Conditions

Temperature:	22~25.5 ℃
Relative Humidity:	50~58 %
ATM Pressure:	101 kPa

The testing was performed by Kungfumaster Liang and Lee Li from 2024-07-27 to 2024-08-02.

EUT operation mode: Transmitting

Test Result: Compliant.

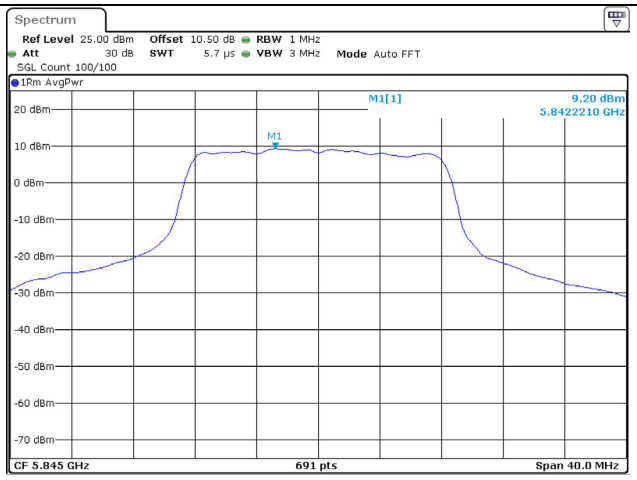
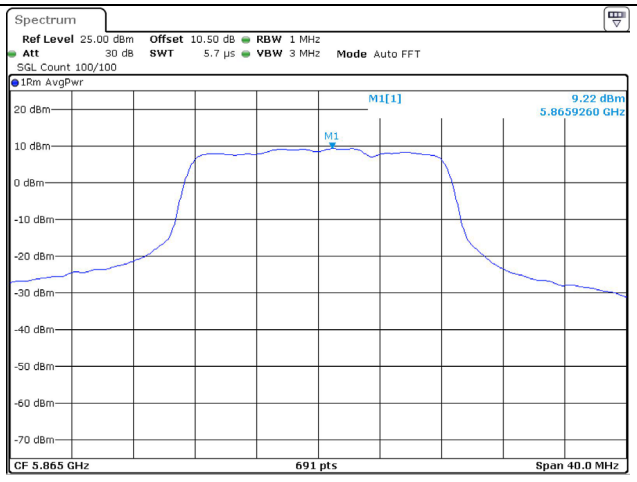
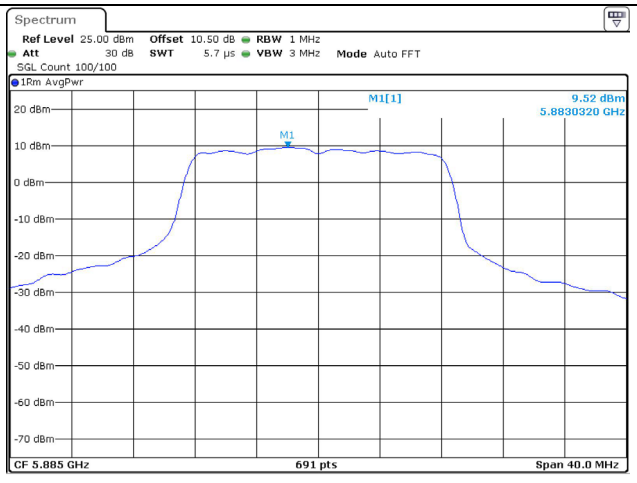
5850-5895 MHz:

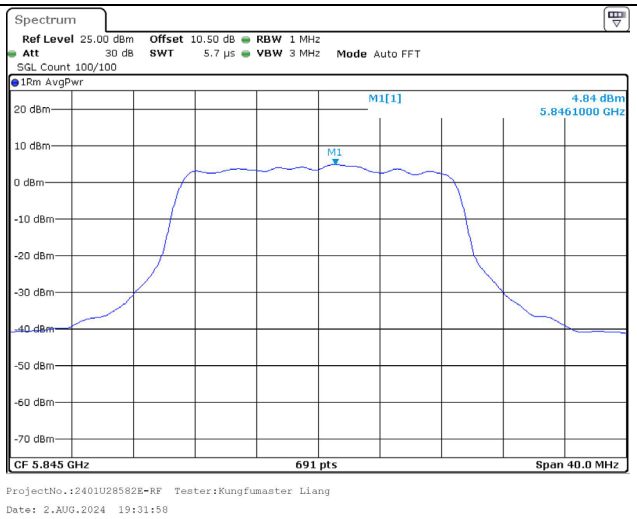
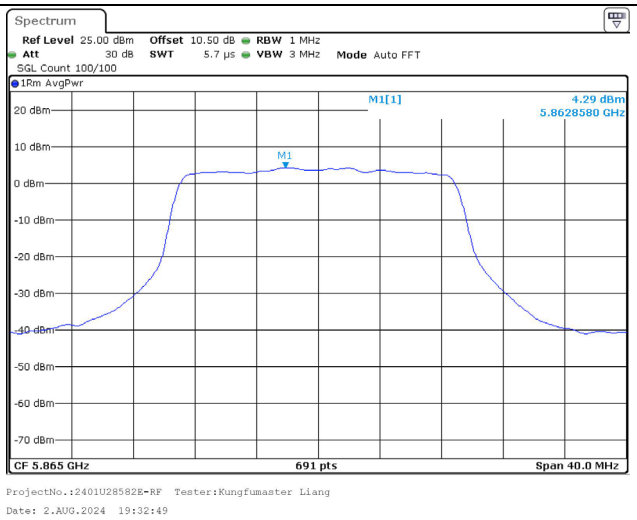
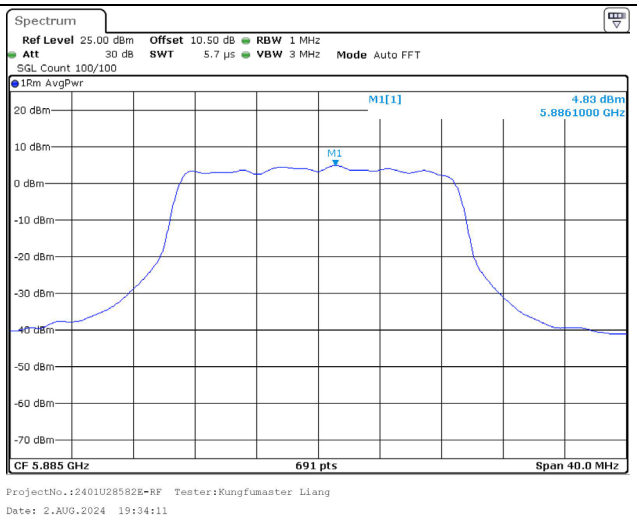
Test Modes	Test Frequency (MHz)	Maximum Power Spectral Density(dBm/MHz)					
		Chain 0	Chain 1	Chain 2	Total	EIRP	EIRP LIMIT
802.11a	5845	9.20	4.56	9.82	/	14.66	20
	5865	9.22	4.37	10.03	/	14.87	20
	5885	9.52	4.51	9.84	/	14.68	20
802.11ac vht20	5845	4.84	4.30	4.53	9.33	18.94	20
	5865	4.29	4.29	5.33	9.44	19.05	20
	5885	4.83	4.13	5.37	9.58	19.19	20
802.11ac vht40	5835	2.77	2.21	3.62	7.68	17.29	20
	5875	4.70	4.39	4.59	9.33	18.94	20
802.11ac vht80	5855	2.12	1.95	2.66	7.03	16.64	20
802.11ac vht160	5815	-5.08	-5.17	-4.27	-0.05	9.56	20
802.11ax he20	5845	5.25	4.87	4.76	9.74	19.35	20
	5865	5.24	4.90	4.92	9.79	19.40	20
	5885	5.31	4.88	5.06	9.86	19.47	20
802.11ax he40	5835	4.70	4.56	5.01	9.53	19.14	20
	5875	4.61	4.49	4.82	9.41	19.02	20
802.11ax he80	5855	2.75	2.39	2.66	7.37	16.98	20
802.11ax he160	5815	-5.40	-5.51	-5.06	-0.55	9.06	20

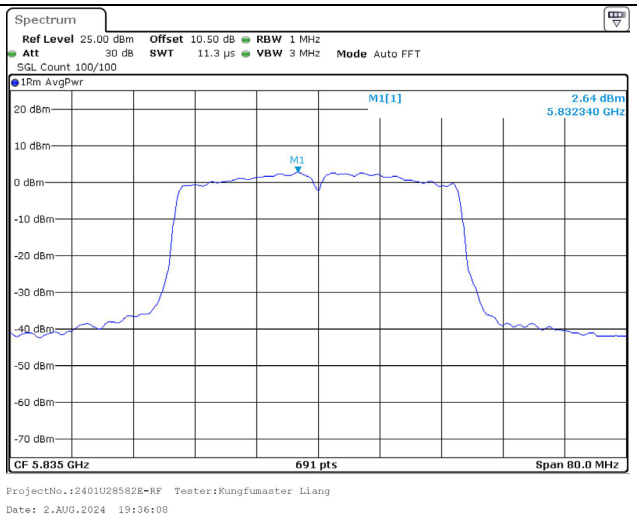
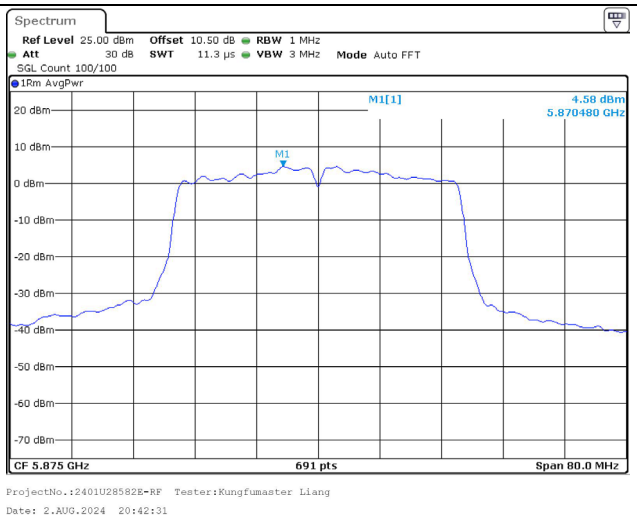
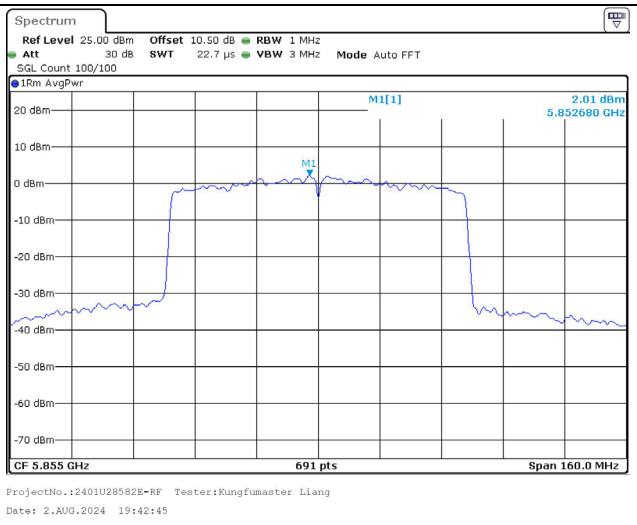
Note: The device is a Indoor AP
The device employed Beam-forming for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices: Array Gain = 10 log(NANT/NSS) dB

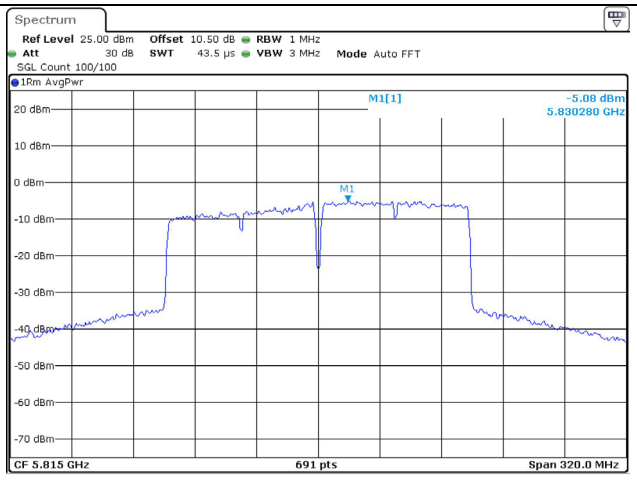
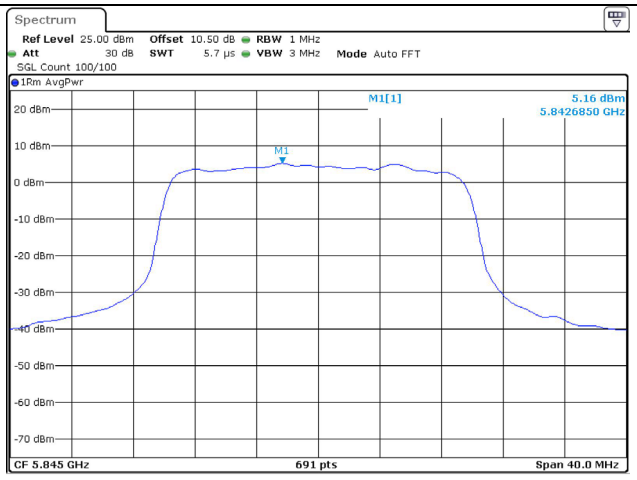
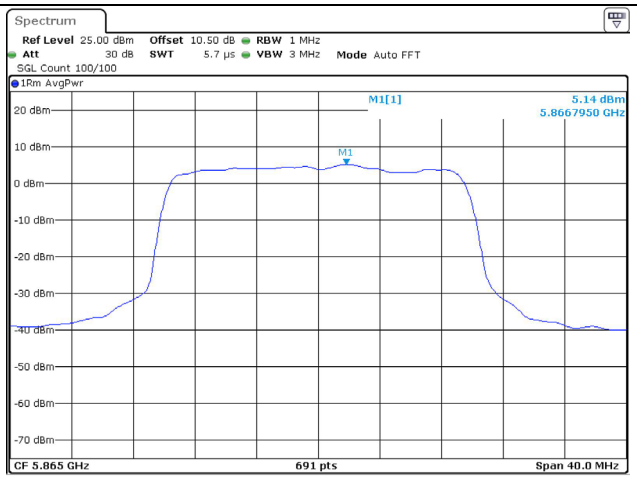
Antenna Gain:	4.84	dBi	Directional gain:	9.61	dBi

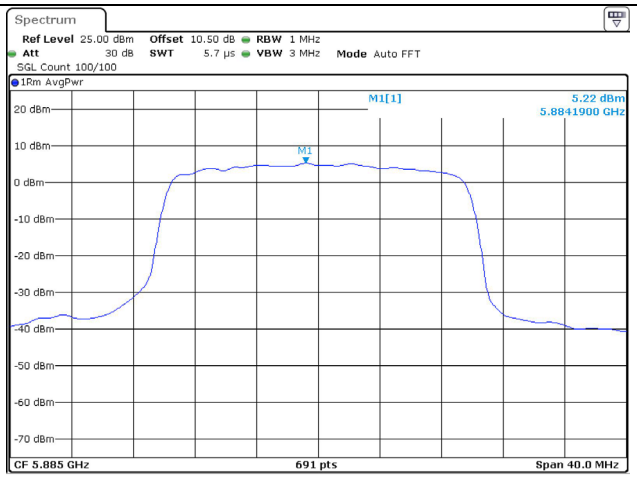
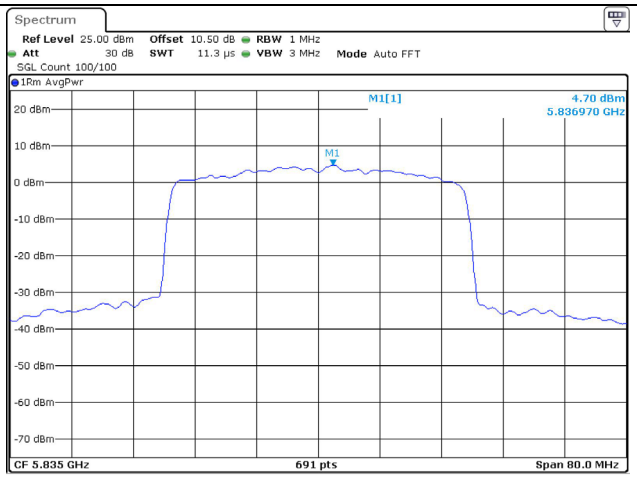
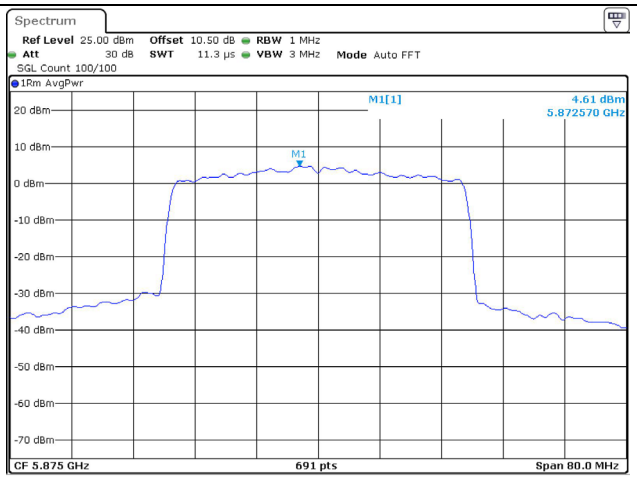
5850-5895 MHz:
ANT0

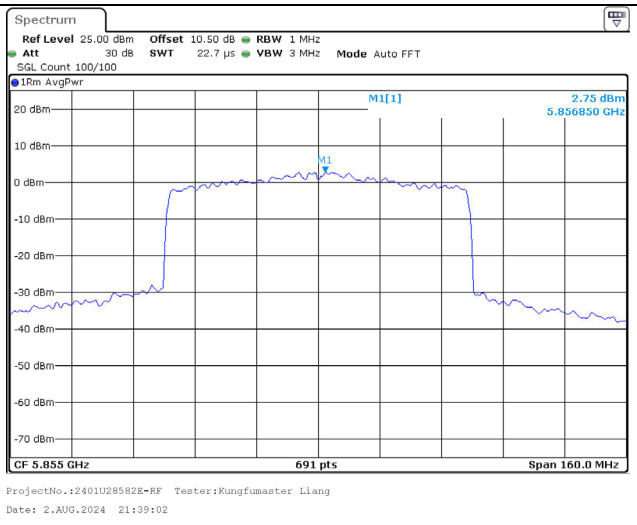
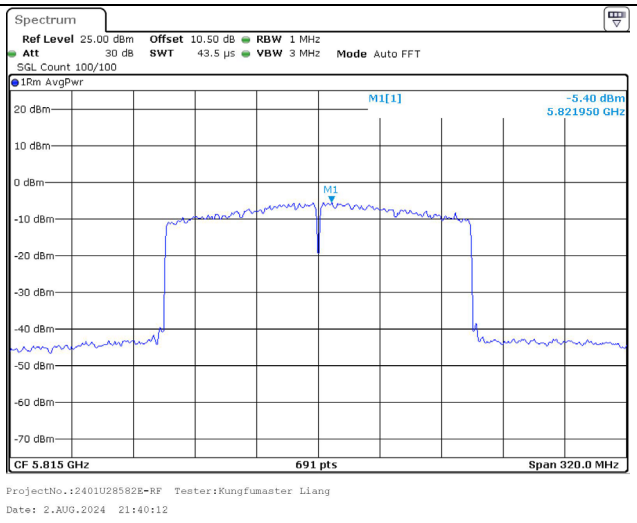
Maximum power spectral density	
802.11a Lowest Channel	
802.11a Middle Channel	
802.11a Highest Channel	

Maximum power spectral density	
802.11ac-VHT20 Lowest Channel	
802.11ac-VHT20 Middle Channel	
802.11ac-VHT20 Highest Channel	

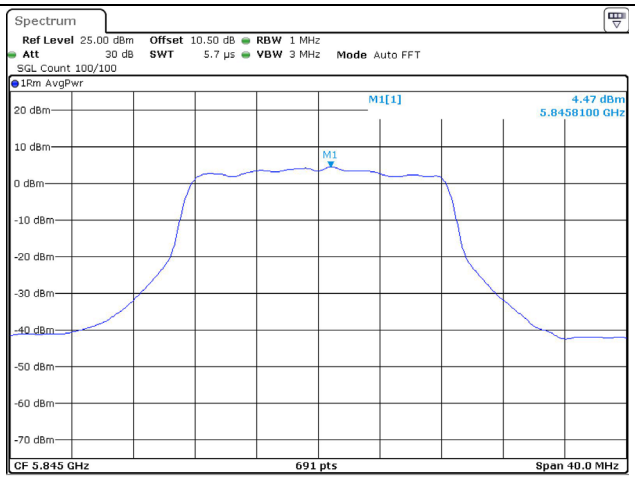
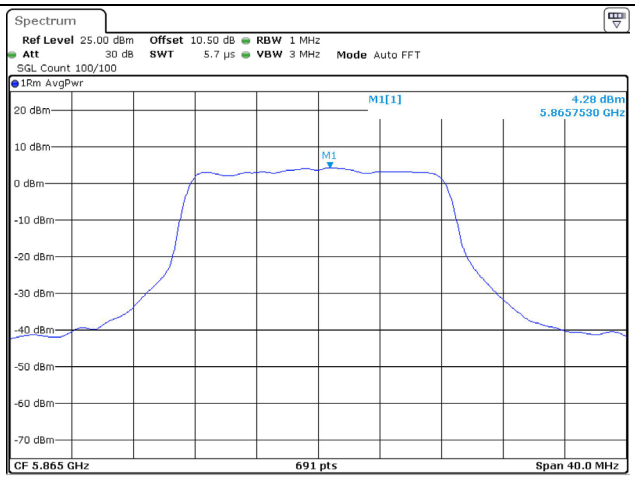
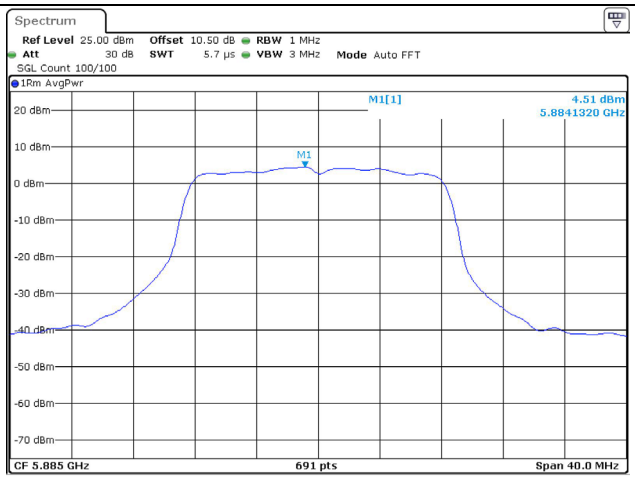
Maximum power spectral density	
802.11ac-VHT40 Lowest Channel	
802.11ac-VHT40 Highest Channel	
802.11ac-VHT80 Middle Channel	

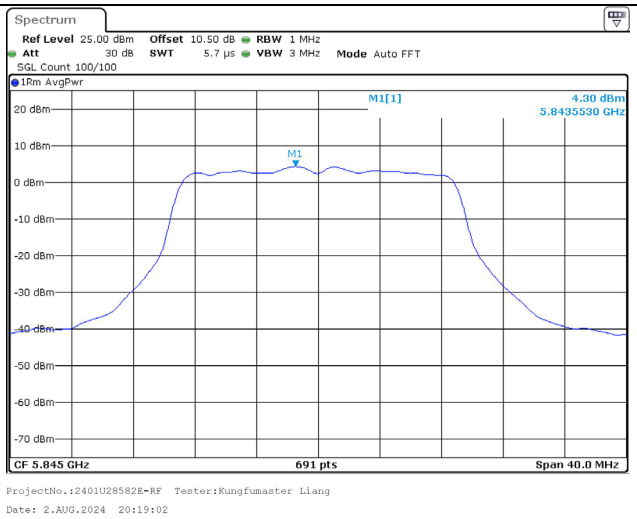
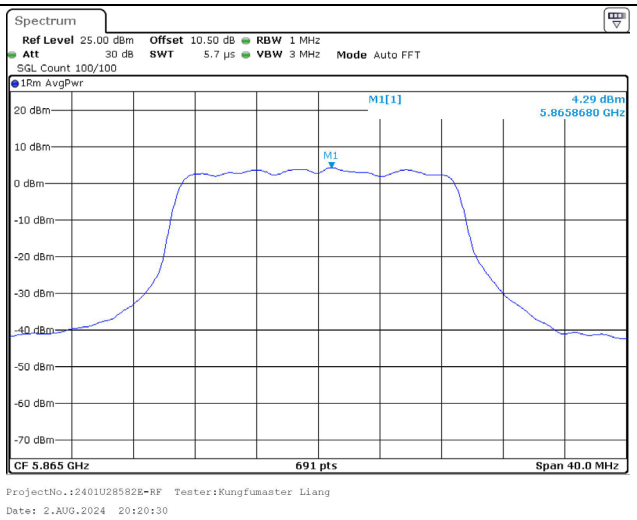
Maximum power spectral density	
802.11ac-VHT160 Middle Channel	
802.11ax-HE20 Lowest Channel	
802.11ax-HE20 Middle Channel	

Maximum power spectral density	
802.11ax-HE20 Highest Channel	
802.11ax-HE40 Lowest Channel	
802.11ax-HE40 Highest Channel	

Maximum power spectral density	
802.11ax-HE80 Middle Channel	
802.11ax-HE160 Middle Channel	

ANT1

Maximum power spectral density	
802.11a Lowest Channel	
802.11a Middle Channel	
802.11a Highest Channel	

Maximum power spectral density	
802.11ac-VHT20 Lowest Channel	
802.11ac-VHT20 Middle Channel	
802.11ac-VHT20 Highest Channel