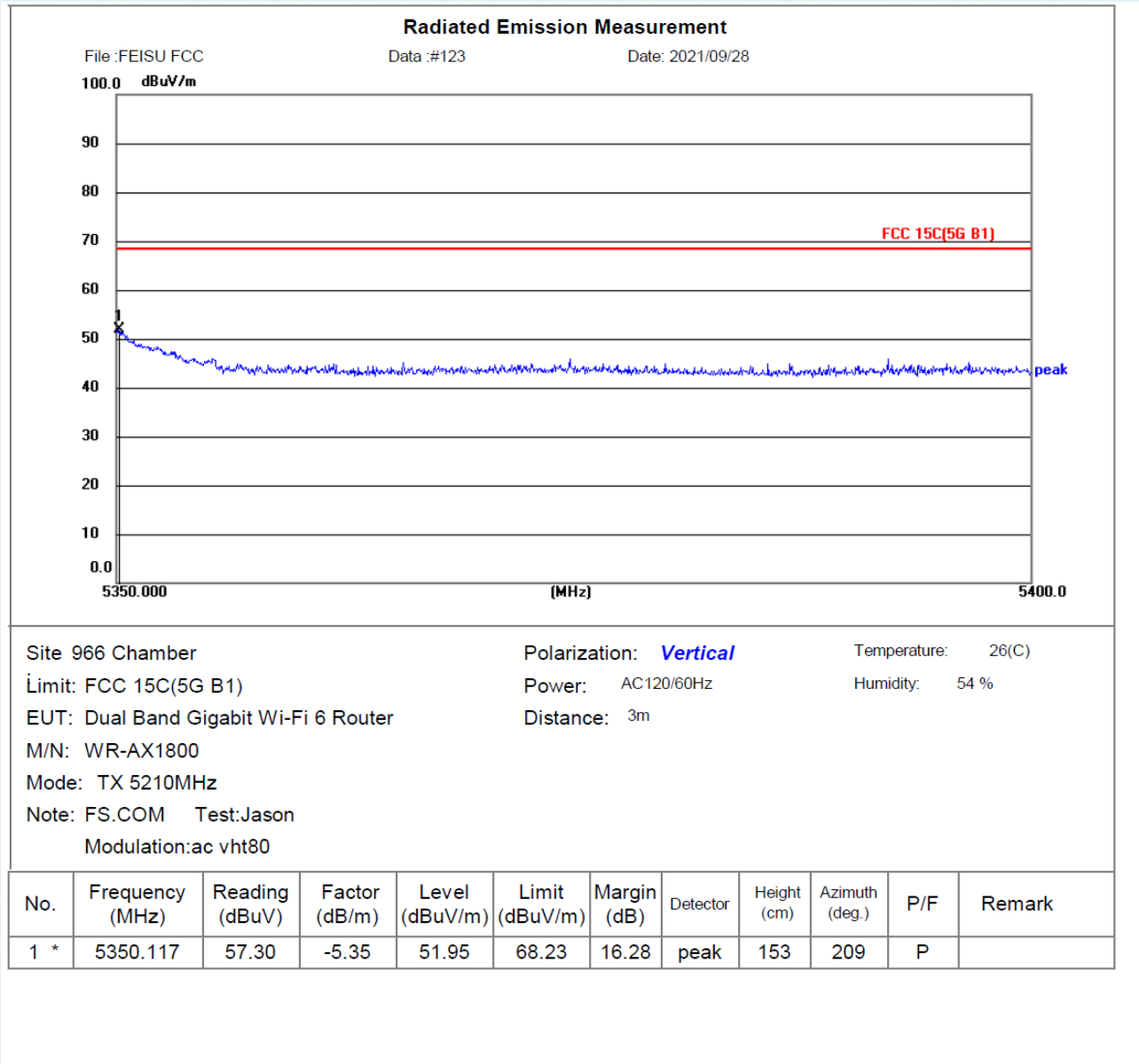


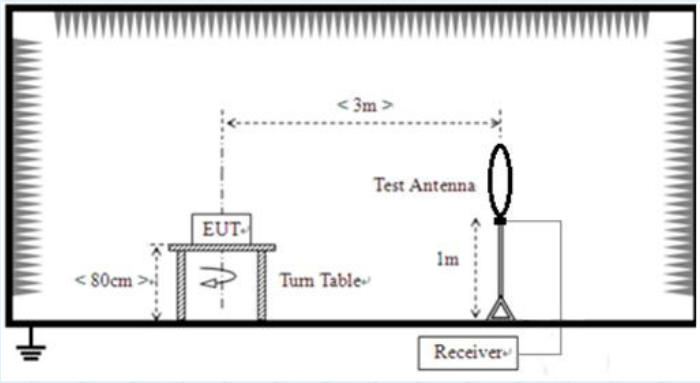
Vertical: 802.11ac VHT80 (TX 5210MHz)

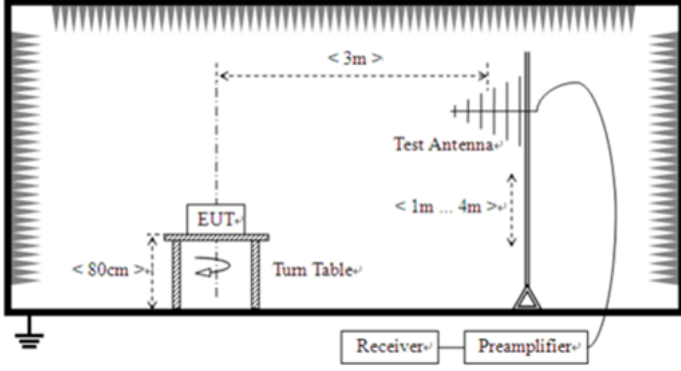
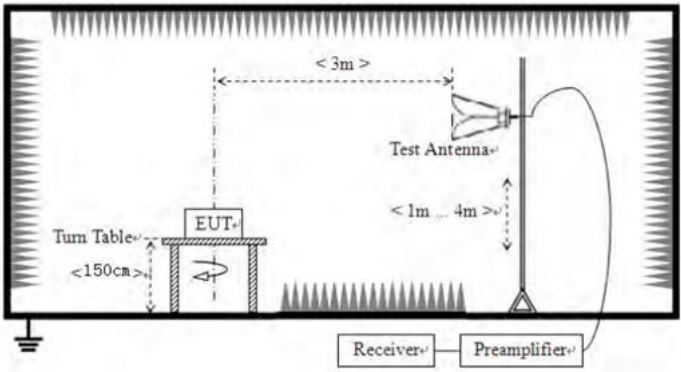


Note: We tested 802.11a/n /ac/ax mode the all data rate and recorded the worst case data.

7.7 Radiated Emission

Test Requirement:	FCC Part15 C Section 15.209 and 15.205				
Test Method:	ANSI C63.10:2013				
Test Frequency Range:	9kHz to 40GHz				
Test site:	Measurement Distance: 3m (Semi-Anechoic Chamber)				
Receiver setup:	Frequency	Detector	RBW	VBW	Value
	9kHz-150KHz	Quasi-peak	200Hz	1kHz	Quasi-peak Value
	150kHz-30MHz	Quasi-peak	9kHz	30kHz	Quasi-peak Value
	30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
AV		1MHz	3MHz	Average Value	
Limit:	Frequency	Limit (uV/m)	Value	Measurement Distance	
	0.009MHz-0.490MHz	2400/F(KHz)	QP	300m	
	0.490MHz-1.705MHz	24000/F(KHz)	QP	300m	
	1.705MHz-30MHz	30	QP	30m	
	30MHz-88MHz	100	QP	3m	
	88MHz-216MHz	150	QP		
	216MHz-960MHz	200	QP		
	960MHz-1GHz	500	QP		
	Above 1GHz	500	Average		
		5000	Peak		
Test Procedure:	<p>Substitution method was performed to determine the actual ERP emission levels of the EUT.</p> <p>The following test procedure as below:</p> <p>1>.Below 1GHz test procedure:</p> <ol style="list-style-type: none"> 1. The EUT was placed on the top of a rotating table (0.8m for below 1GHz and 1.5 meters for above 1GHz) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. 4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. <p>2>.Above 1GHz test procedure:</p>				

	<ol style="list-style-type: none"> 1. On the test site as test setup graph above, the EUT shall be placed at the 0.8m support on the turntable and in the position closest to normal use as declared by the provider. 2. The test antenna shall be oriented initially for vertical polarization and shall be chosen to correspond to the frequency of the transmitter. The output of the test antenna shall be connected to the measuring receiver. 3. The transmitter shall be switched on, if possible, without modulation and the measuring receiver shall be tuned to the frequency of the transmitter under test. 4. The test antenna shall be raised and lowered from 1m to 4m until a maximum signal level is detected by the measuring receiver. Then the turntable should be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver. 5. Repeat step 4 for test frequency with the test antenna polarized horizontally. 6. Remove the transmitter and replace it with a substitution antenna 7. Feed the substitution antenna at the transmitter end with a signal generator connected to the antenna by means of a nonradiating cable. With the antennas at both ends vertically polarized, and with the signal generator tuned to a particular test frequency, raise and lower the test antenna to obtain a maximum reading at the spectrum analyzer. Adjust the level of the signal generator output until the previously recorded maximum reading for this set of conditions is obtained. This should be done carefully repeating the adjustment of the test antenna and generator output. 8. Repeat step 7 with both antennas horizontally polarized for each test frequency. 9. Calculate power in dBm into a reference ideal half-wave dipole antenna by reducing the readings obtained in steps 7 and 8 by the power loss in the cable between the generator and the antenna, and further corrected for the gain of the substitution antenna used relative to an ideal half-wave dipole antenna by the following formula: $\text{EIRP(dBm)} = \text{Pg(dBm)} - \text{cable loss (dB)} + \text{antenna gain (dBi)}$ where: Pg is the generator output power into the substitution antenna.
<p>Test setup:</p>	<p>For radiated emissions from 9kHz to 30MHz</p>  <p>For radiated emissions from 30MHz to 1GHz</p>

	 <p>For radiated emissions above 1GHz</p> 					
Test Instruments:	Refer to section 6 for details					
Test mode:	Refer to section 5.2 for details					
Test environment:	Temp.:	25 °C	Humid.:	52%	Press.:	1012mbar
Test voltage:	AC 120V, 60Hz					
Test results:	Pass					

Remarks:

1. Only the worst case Main Antenna test data.
2. Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis which it is worse case.

Measurement Data:

9 kHz ~ 30 MHz

The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.

30MHz~ 1GHz

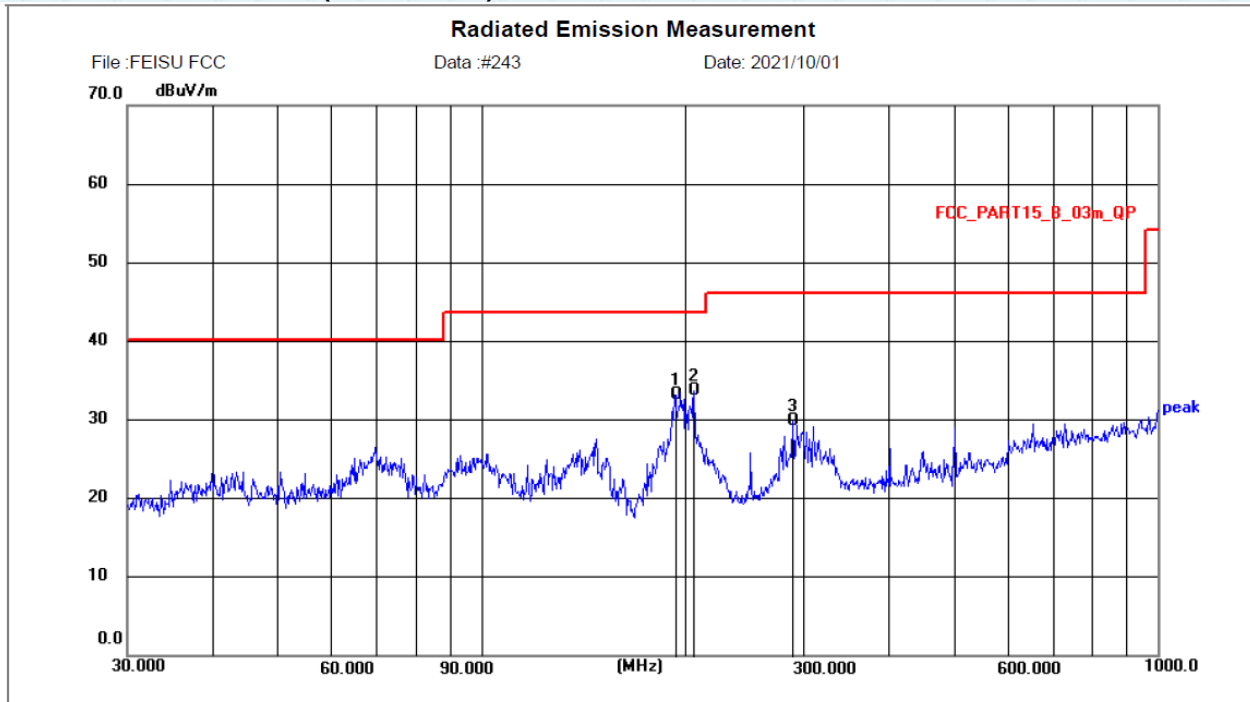
Pre-scan all test modes, found worst case at 802.11n(HT20), and so only show the test result of 802.11n(HT20).

Above 1GHz

Pre-scan all test modes, found worst case at 802.11a, 802.11ax(HE20), 802.11ax(HE40) and 802.11ax(HE80), and so only show the test result of 802.11a, 802.11ax(HE20), 802.11ax(HE40) and 802.11ax(HE80).

30MHz~ 1GHz

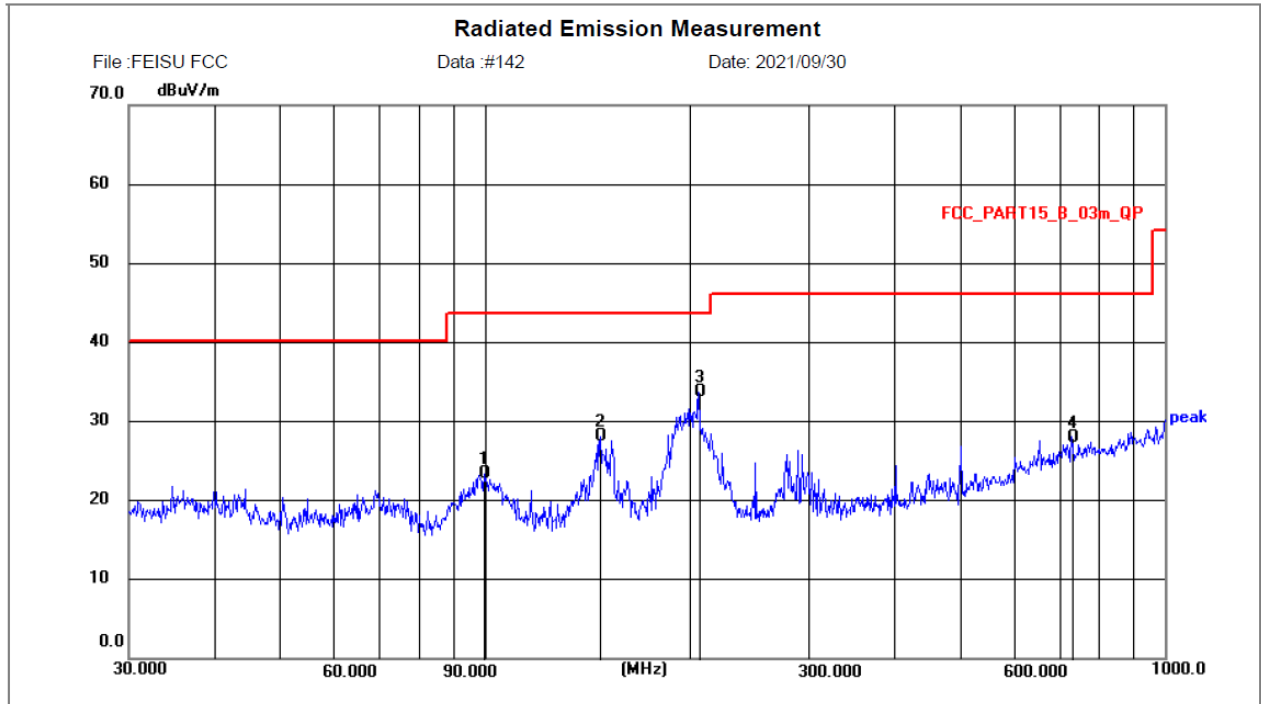
Horizontal: 802.11n HT20 (TX 5180MHz)



Site 966 Chamber Polarization: **Horizontal** Temperature: 26(C)
 Limit: FCC_PART15_B_03m_QP Power: AC120V/60Hz Humidity: 54 %
 EUT: Dual Band Gigabit Wi-Fi 6 Router Distance: 3m
 M/N: WR-AX1800
 Mode: TX 5180MHz
 Note: FS.COM Test: Jason
 Modulation: n HT20

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	193.7726	21.01	12.12	33.13	43.50	10.37	QP	179	146	P	
2 *	206.3975	21.69	12.02	33.71	43.50	9.79	QP	182	25	P	
3	289.0020	15.39	14.51	29.90	46.00	16.10	QP	131	312	P	

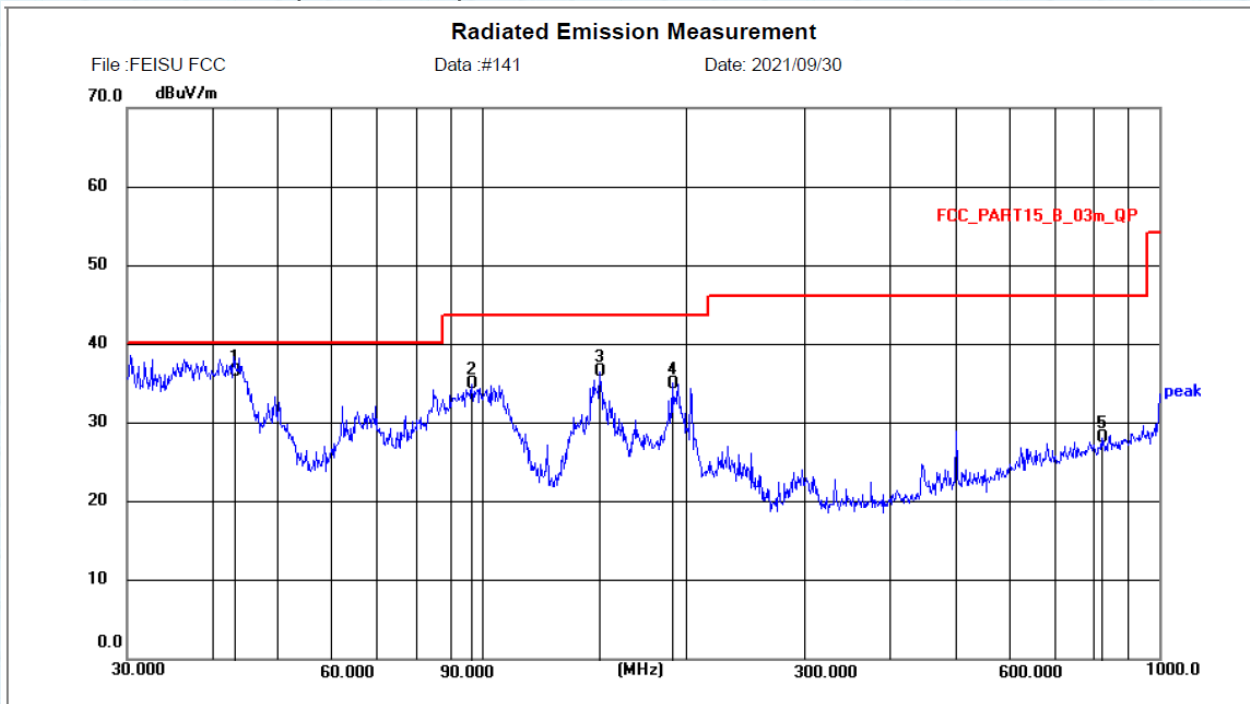
Horizontal: 802.11n HT20 (TX 5240MHz)



Site 966 Chamber Polarization: **Horizontal** Temperature: 26(C)
 Limit: FCC_PART15_B_03m_QP Power: AC120V/60Hz Humidity: 54 %
 EUT: Dual Band Gigabit Wi-Fi 6 Router Distance: 3m
 M/N: WR-AX1800
 Mode: TX 5240MHz
 Note: FS.COM Test:Jason
 Modulation:n HT20

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	99.8777	11.48	11.94	23.42	43.50	20.08	QP	153	243	P	
2	147.9214	12.60	15.55	28.15	43.50	15.35	QP	142	156	P	
3 *	206.3976	21.69	12.02	33.71	43.50	9.79	QP	218	58	P	
4	729.3583	5.70	22.30	28.00	46.00	18.00	QP	132	312	P	

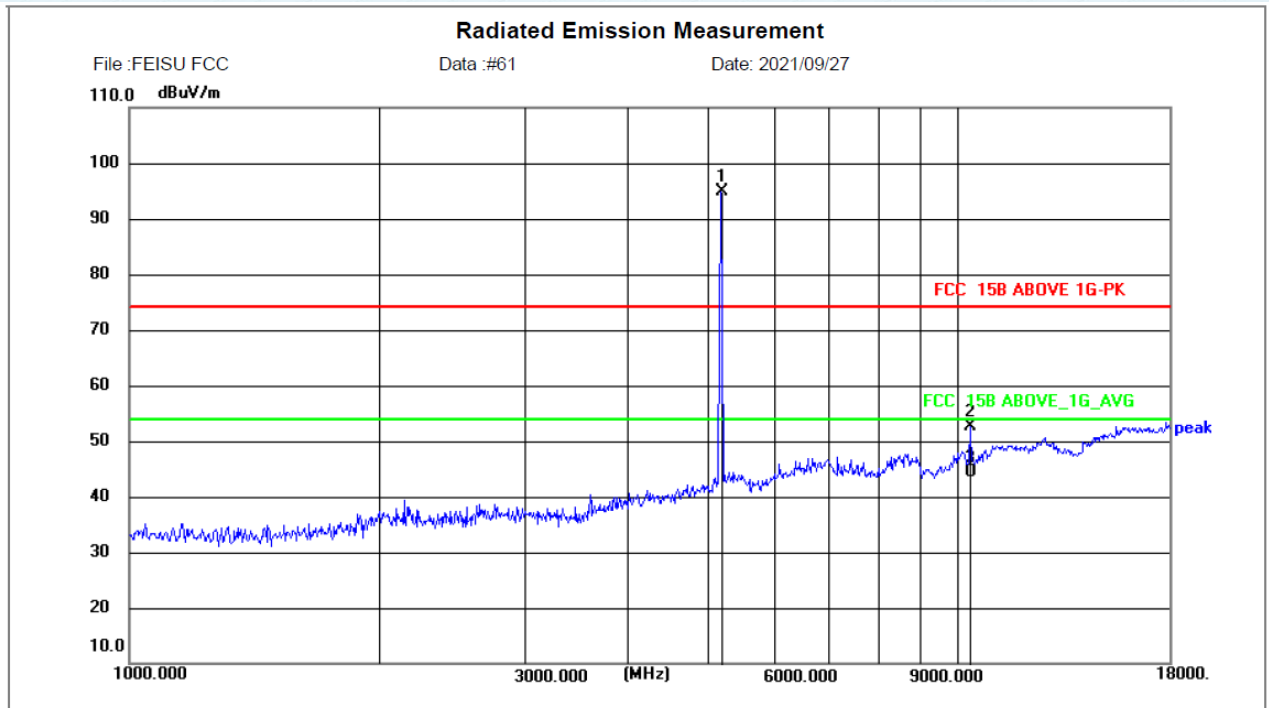
Vertical: 802.11n HT20 (TX 5240MHz)



Site 966 Chamber Polarization: **Vertical** Temperature: 26(C)
 Limit: FCC_PART15_B_03m_QP Power: AC120V/60Hz Humidity: 54 %
 EUT: Dual Band Gigabit Wi-Fi 6 Router Distance: 3m
 M/N: WR-AX1800
 Mode: TX 5240MHz
 Note: FS.COM Test: Jason
 Modulation: n HT20

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1 *	43.0505	21.36	15.10	36.46	40.00	3.54	QP	109	248	P	
2	96.7749	23.19	11.69	34.88	43.50	8.62	QP	136	126	P	
3	149.4857	20.63	15.89	36.52	43.50	6.98	QP	118	214	P	
4	191.0738	22.72	12.28	35.00	43.50	8.50	QP	186	56	P	
5	821.7103	4.91	23.21	28.12	46.00	17.88	QP	131	275	P	

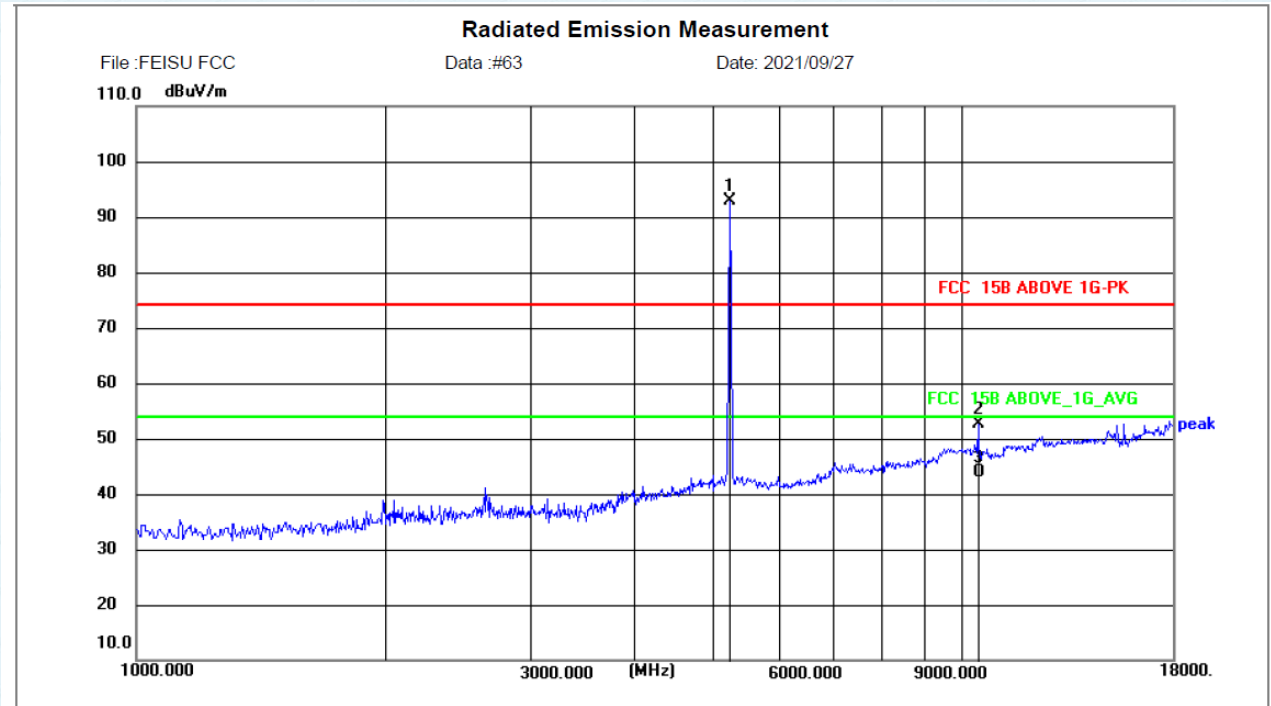
Vertical: 802.11a (TX 5180MHz)



Site: 966 Chamber	Polarization: Vertical	Temperature: 26(C)
Limit: FCC 15B ABOVE 1G-PK	Power: AC120/60Hz	Humidity: 54 %
EUT: Dual Band Gigabit Wi-Fi 6 Router	Distance: 3m	
M/N: WR-AX1800		
Mode: TX 5180MHz		
Note: FS.COM Test: Jason		
Modulation: a		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1 *	5180.332	100.50	-5.67	94.83	/	/	peak	122	248	/	
2	10361.333	40.34	12.39	52.73	74.00	21.27	peak	131	124	P	
3	10361.333	31.88	12.39	44.27	54.00	9.73	AVG	135	132	P	

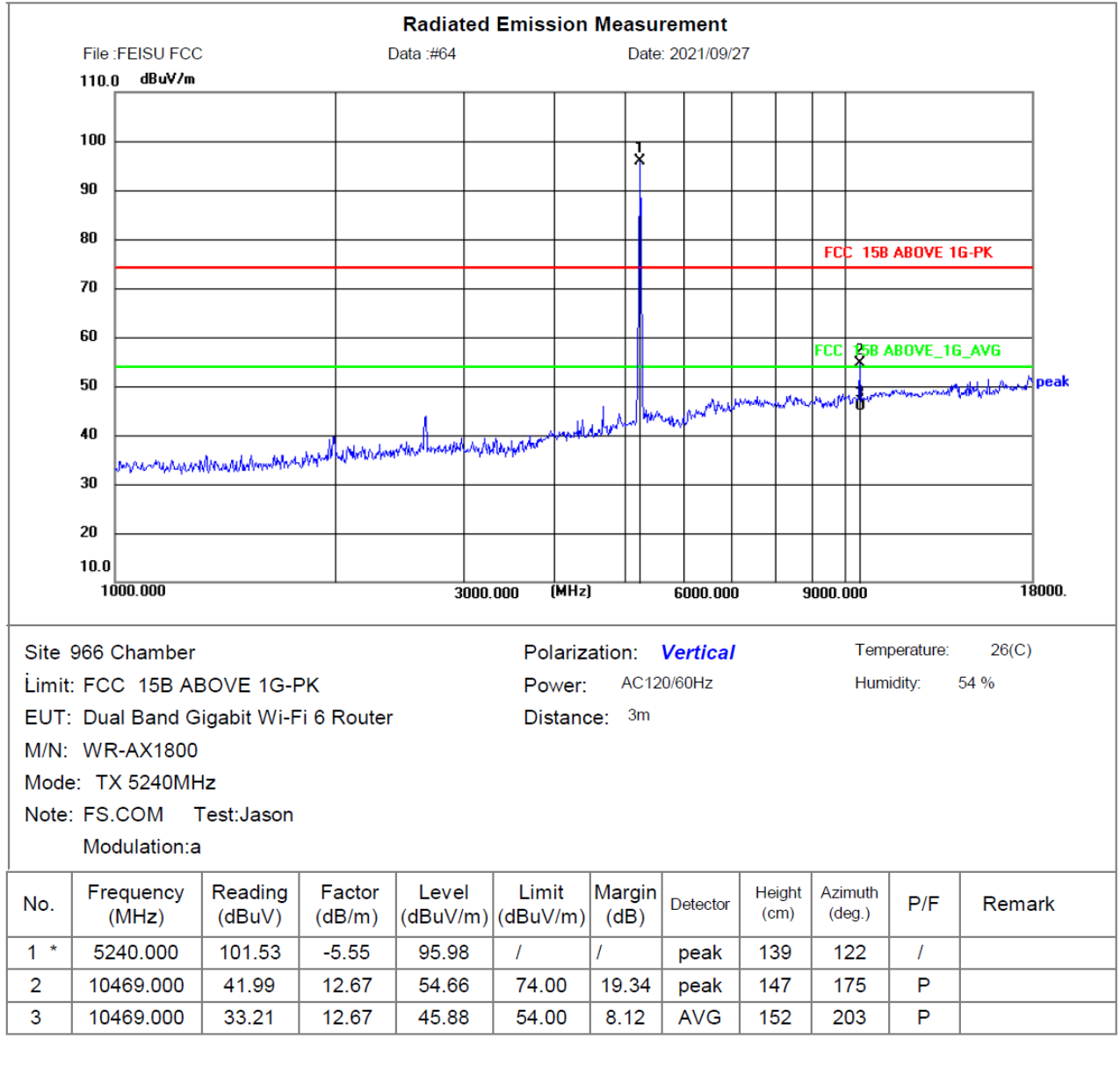
Horizontal: 802.11a (TX 5240MHz)



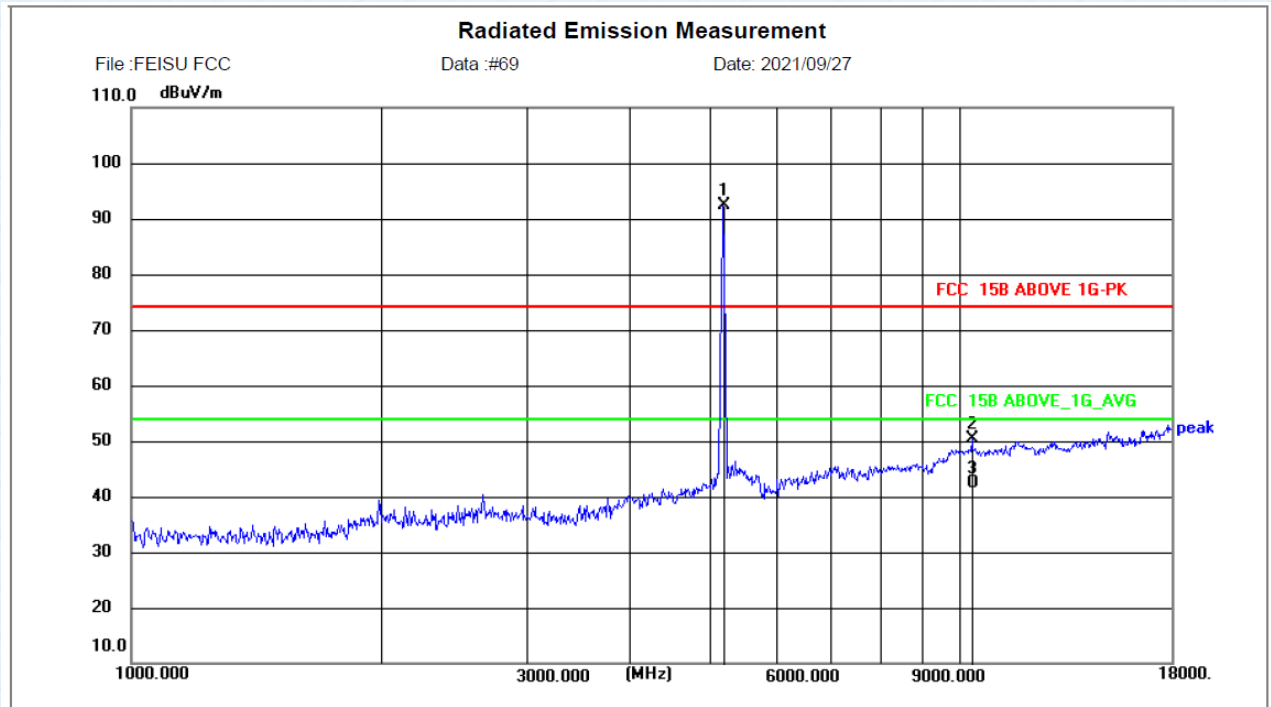
Site 966 Chamber	Polarization: Horizontal	Temperature: 26(C)
Limit: FCC 15B ABOVE 1G-PK	Power: AC120/60Hz	Humidity: 54 %
EUT: Dual Band Gigabit Wi-Fi 6 Router	Distance: 3m	
M/N: WR-AX1800		
Mode: TX 5240MHz		
Note: FS.COM Test:Jason		
Modulation:a		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1 *	5240.333	98.32	-5.56	92.76	/	/	peak	154	228	/	
2	10474.667	39.98	12.68	52.66	74.00	21.34	peak	166	157	P	
3	10474.667	31.15	12.68	43.83	54.00	10.17	AVG	162	136	P	

Vertical: 802.11a (TX 5240MHz)



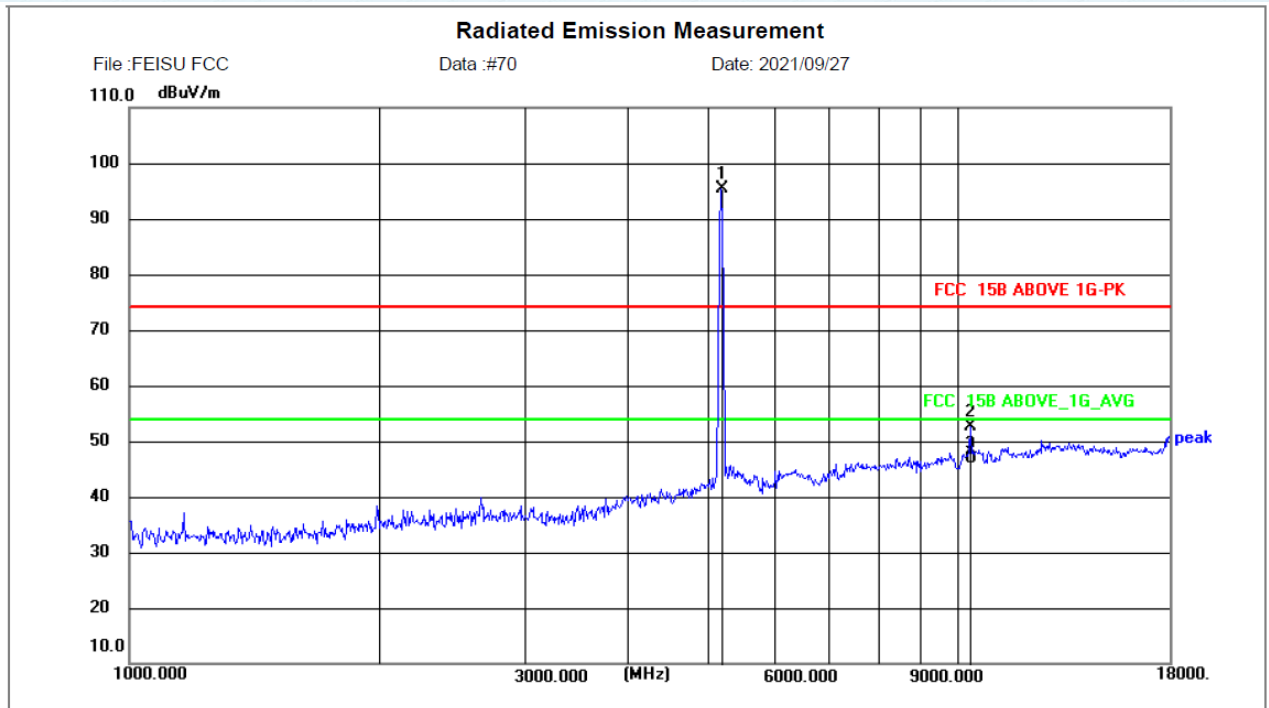
Horizontal: 802.11ax HE20 (TX 5180MHz)



Site 966 Chamber	Polarization: Horizontal	Temperature: 26(C)
Limit: FCC 15B ABOVE 1G-PK	Power: AC120/60Hz	Humidity: 54 %
EUT: Dual Band Gigabit Wi-Fi 6 Router	Distance: 3m	
M/N: WR-AX1800		
Mode: TX 5180MHz		
Note: FS.COM Test:Jason		
Modulation:ax HE20		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1 *	5180.667	98.17	-5.67	92.50	/	/	peak	276	115	/	
2	10355.667	37.96	12.38	50.34	74.00	23.66	peak	215	123	P	
3	10355.667	30.12	12.38	42.50	54.00	11.50	AVG	203	102	P	

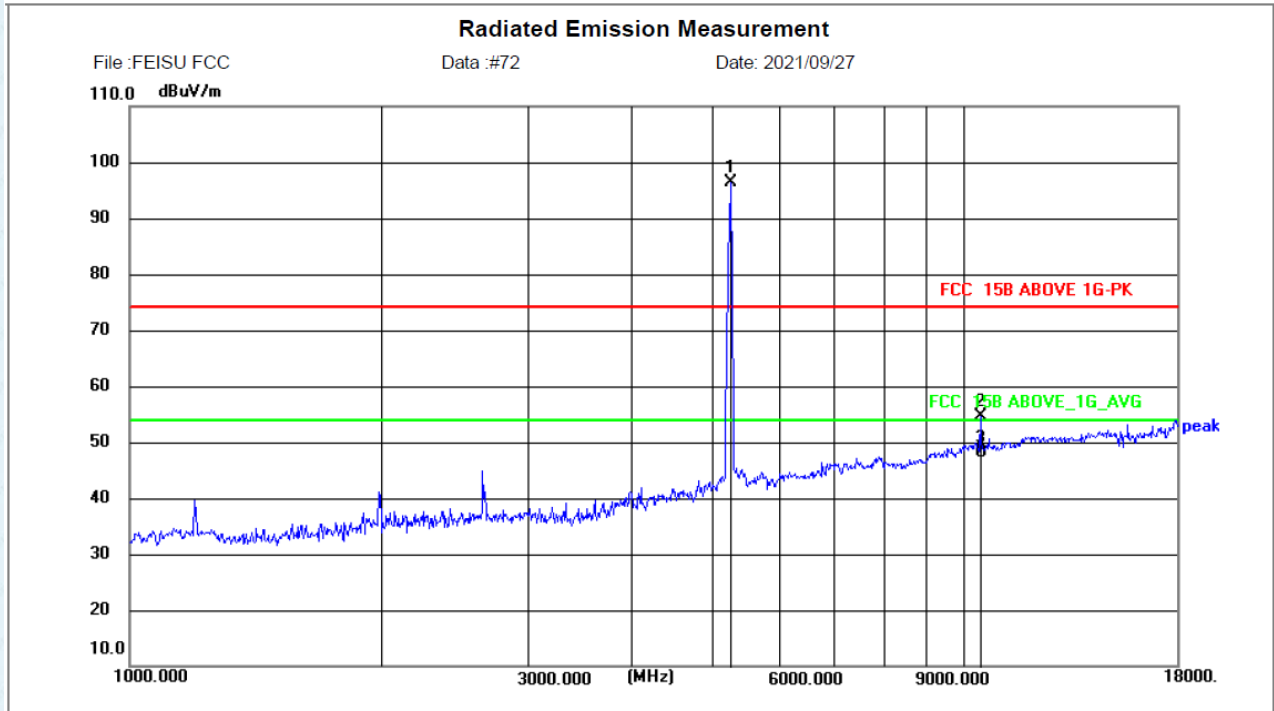
Vertical: 802.11ax HE20 (TX 5180MHz)



Site: 966 Chamber	Polarization: Vertical	Temperature: 26(C)
Limit: FCC 15B ABOVE 1G-PK	Power: AC120/60Hz	Humidity: 54 %
EUT: Dual Band Gigabit Wi-Fi 6 Router	Distance: 3m	
M/N: WR-AX1800		
Mode: TX 5180MHz		
Note: FS.COM Test: Jason		
Modulation: ax HE20		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1 *	5180.667	101.17	-5.67	95.50	/	/	peak	176	331	/	
2	10355.667	40.21	12.38	52.59	74.00	21.41	peak	169	203	P	
3	10355.667	34.52	12.38	46.90	54.00	7.10	AVG	158	214	P	

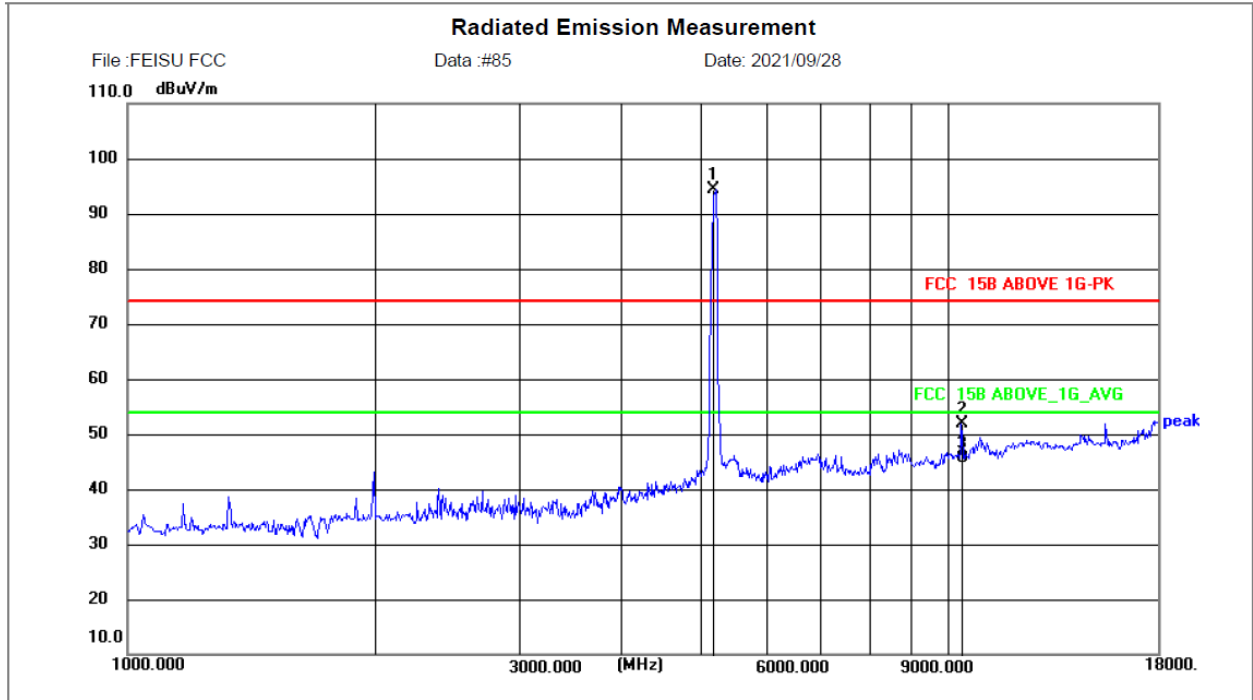
Horizontal: 802.11ax HE20 (TX 5240MHz)



Site 966 Chamber	Polarization: Vertical	Temperature: 26(C)
Limit: FCC 15B ABOVE 1G-PK	Power: AC120/60Hz	Humidity: 54 %
EUT: Dual Band Gigabit Wi-Fi 6 Router	Distance: 3m	
M/N: WR-AX1800		
Mode: TX 5240MHz		
Note: FS.COM Test:Jason		
Modulation:ax HE20		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1 *	5240.667	101.90	-5.56	96.34	/	/	peak	151	256	/	
2	10474.667	41.87	12.68	54.55	74.00	19.45	peak	142	241	P	
3	10474.667	35.36	12.68	48.04	54.00	5.96	AVG	144	203	P	

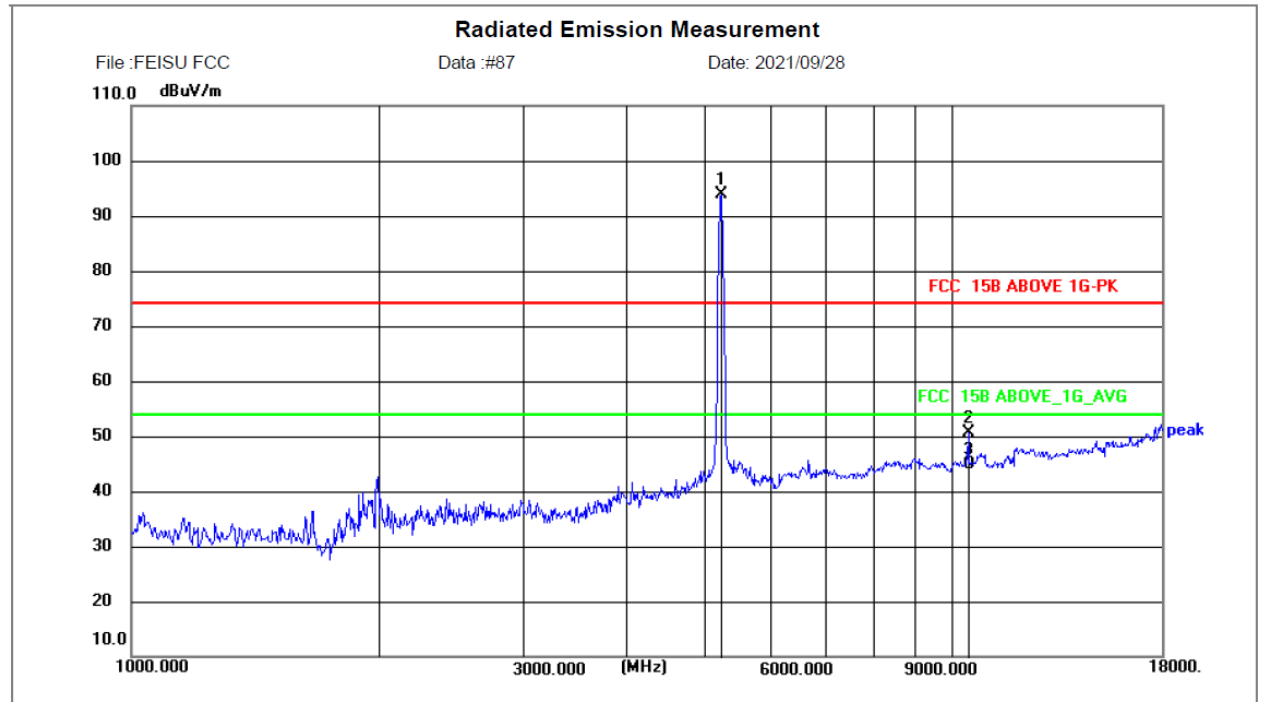
Horizontal: 802.11ax HE40 (TX 5190MHz)



Site 966 Chamber	Polarization: Horizontal	Temperature: 26(C)
Limit: FCC 15B ABOVE 1G-PK	Power: AC120/60Hz	Humidity: 54 %
EUT: Dual Band Gigabit Wi-Fi 6 Router	Distance: 3m	
M/N: WR-AX1800		
Mode: TX 5190MHz		
Note: FS.COM Test:Jason		
Modulation:ax HE40		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1 *	5190.325	99.94	-5.67	94.27	/	/	peak	155	332	/	
2	10389.667	39.33	12.46	51.79	74.00	22.21	peak	136	152	P	
3	10389.667	33.12	12.46	45.58	54.00	8.42	AVG	148	163	P	

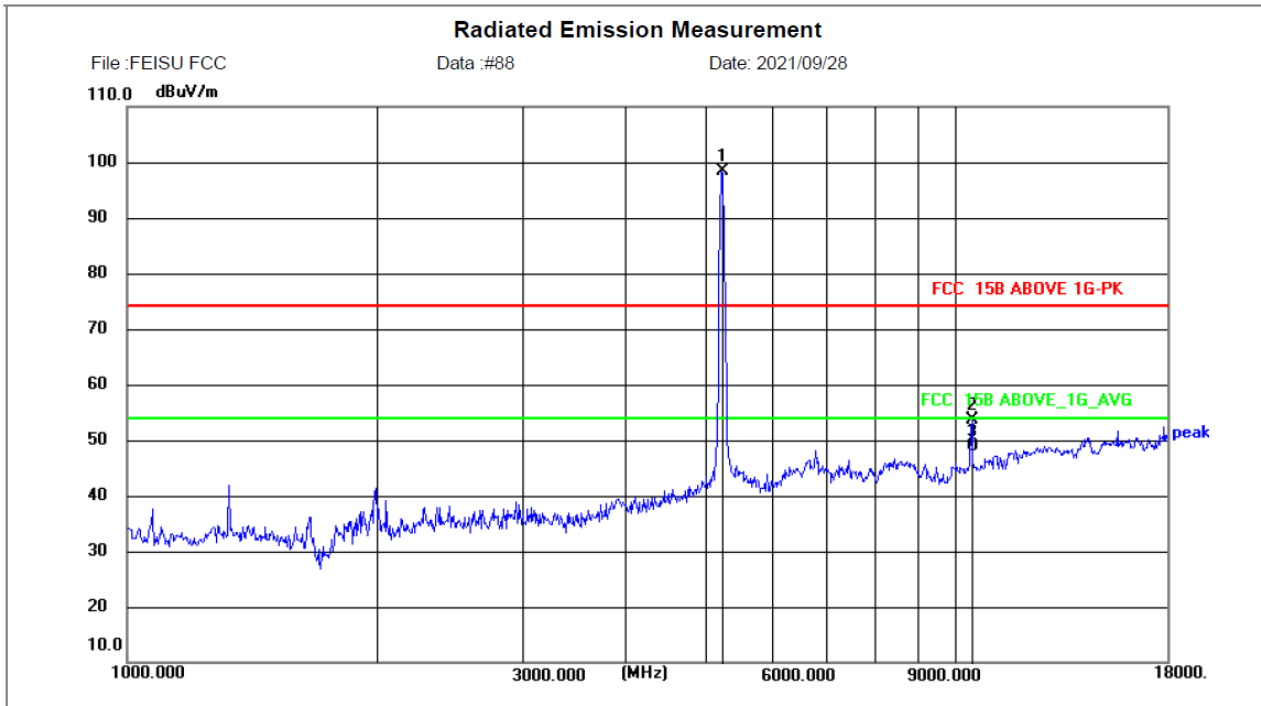
Horizontal: 802.11ax HE40 (TX 5230MHz)



Site 966 Chamber	Polarization: Horizontal	Temperature: 26(C)
Limit: FCC 15B ABOVE 1G-PK	Power: AC120/60Hz	Humidity: 54 %
EUT: Dual Band Gigabit Wi-Fi 6 Router	Distance: 3m	
M/N: WR-AX1800		
Mode: TX 5230MHz		
Note: FS.COM Test:Jason		
Modulation:ax HE40		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1 *	5230.000	99.46	-5.58	93.88	/	/	peak	143	276	/	
2	10457.667	38.06	12.65	50.71	74.00	23.29	peak	152	158	P	
3	10457.667	32.31	12.65	44.96	54.00	9.04	AVG	138	175	P	

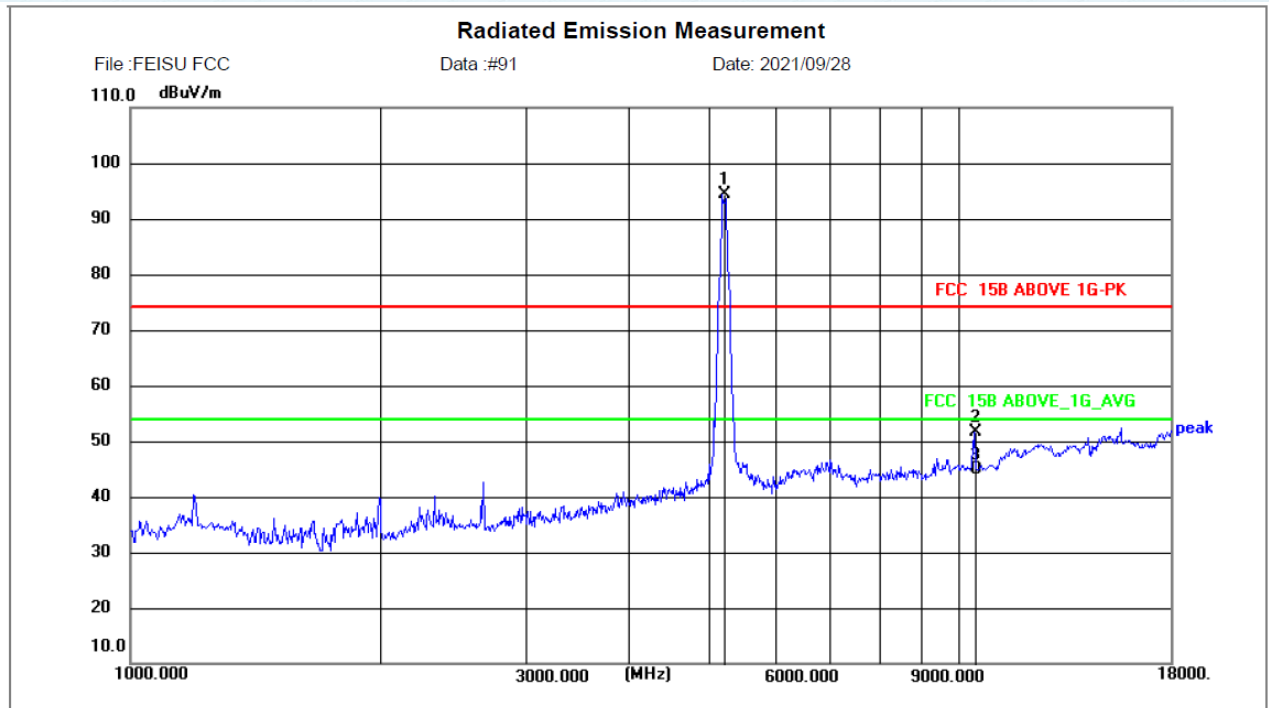
Vertical: 802.11ax HE40 (TX 5230MHz)



Site 966 Chamber	Polarization: Vertical	Temperature: 26(C)
Limit: FCC 15B ABOVE 1G-PK	Power: AC120/60Hz	Humidity: 54 %
EUT: Dual Band Gigabit Wi-Fi 6 Router	Distance: 3m	
M/N: WR-AX1800		
Mode: TX 5230MHz		
Note: FS.COM Test:Jason		
Modulation:ax HE40		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1 *	5230.000	104.03	-5.59	98.44	/	/	peak	151	145	/	
2	10457.667	40.86	12.65	53.51	74.00	20.49	peak	135	136	P	
3	10457.667	36.21	12.65	48.86	54.00	5.14	AVG	143	17	P	

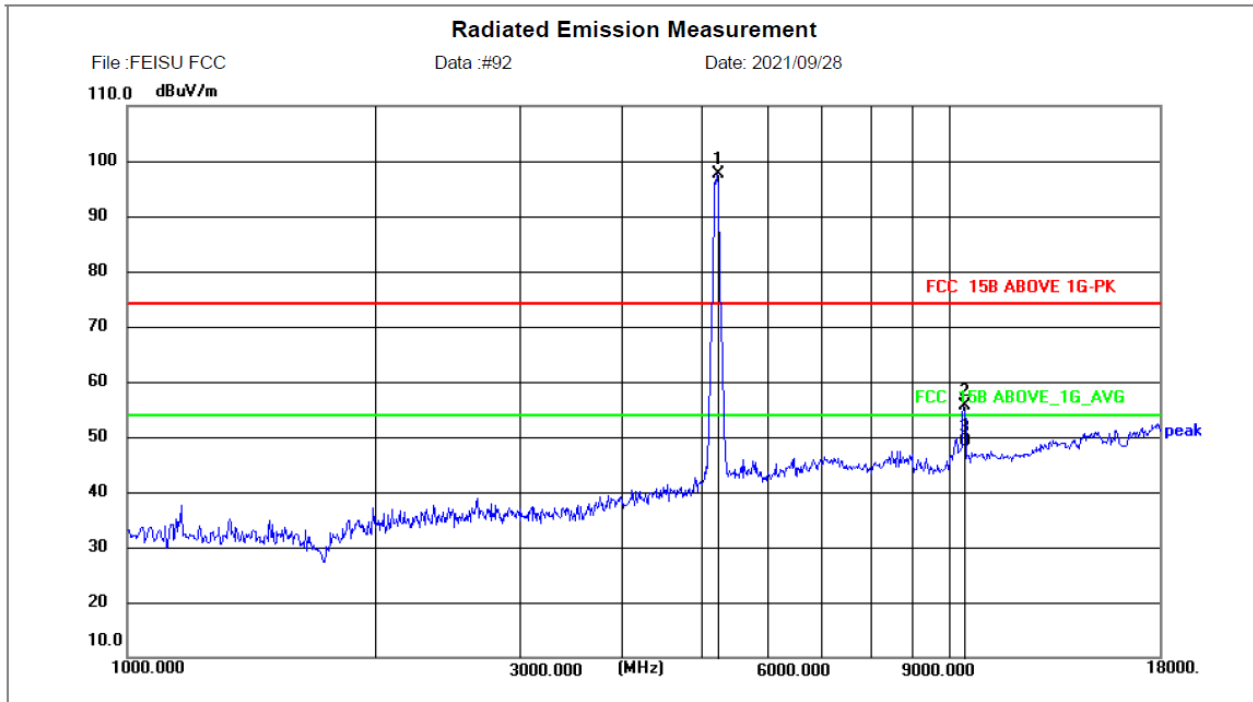
Horizontal: 802.11ax HE80 (TX 5210MHz)



Site: 966 Chamber	Polarization: Horizontal	Temperature: 26(C)
Limit: FCC 15B ABOVE 1G-PK	Power: AC120/60Hz	Humidity: 54 %
EUT: Dual Band Gigabit Wi-Fi 6 Router	Distance: 3m	
M/N: WR-AX1800		
Mode: TX 5210MHz		
Note: FS.COM Test: Jason		
Modulation: ax HE80		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1 *	5210.000	100.04	-5.63	94.41	/	/	peak	152	158	/	
2	10440.667	38.92	12.59	51.51	74.00	22.49	peak	148	121	P	
3	10440.667	32.36	12.59	44.95	54.00	9.05	AVG	163	206	P	

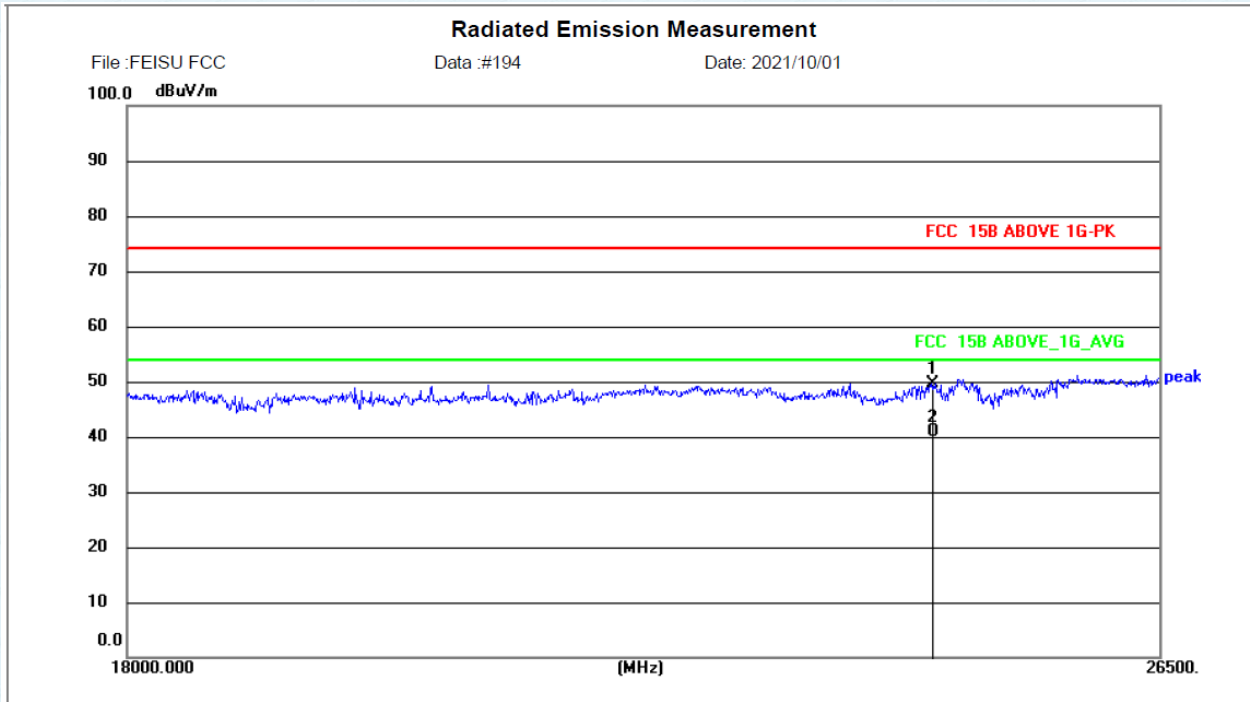
Vertical: 802.11ax HE80 (TX 5210MHz)



Site 966 Chamber	Polarization: Vertical	Temperature: 26(C)
Limit: FCC 15B ABOVE 1G-PK	Power: AC120/60Hz	Humidity: 54 %
EUT: Dual Band Gigabit Wi-Fi 6 Router	Distance: 3m	
M/N: WR-AX1800		
Mode: TX 5210MHz		
Note: FS.COM Test:Jason		
Modulation:ax HE80		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1 *	5210.667	103.29	-5.61	97.68	/	/	peak	166	251	/	
2	10423.667	43.01	12.55	55.56	74.00	18.44	peak	158	167	P	
3	10423.667	36.69	12.55	49.24	54.00	4.76	AVG	149	138	P	

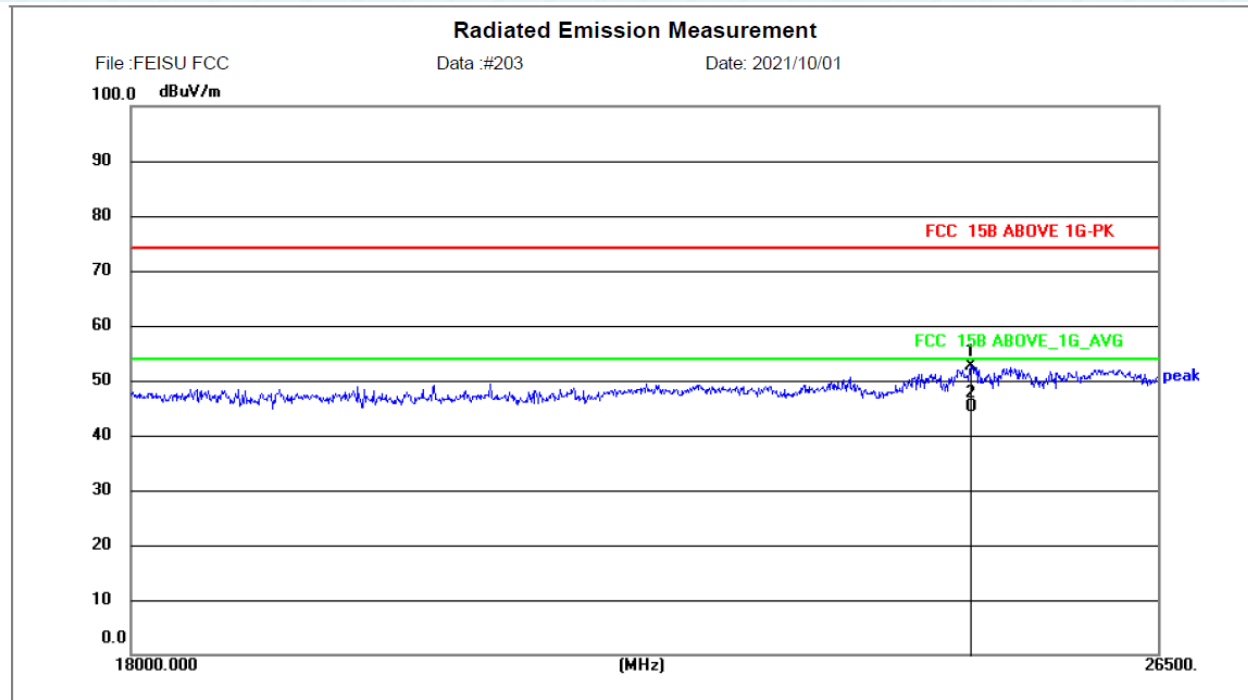
Vertical: 802.11a (TX 5240MHz)



Site 966 Chamber	Polarization: Vertical	Temperature: 26(C)
Limit: FCC 15B ABOVE 1G-PK	Power: AC120/60Hz	Humidity: 54 %
EUT: Dual Band Gigabit Wi-Fi 6 Router	Distance: 3m	
M/N: WR-AX1800		
Mode: TX 5240MHz		
Note: FS.COM Test:Jason		
Modulation:a		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	24338.167	28.89	20.69	49.58	74.00	24.42	peak	153	31	P	
2 *	24338.167	20.14	20.69	40.83	54.00	13.17	AVG	128	102	P	

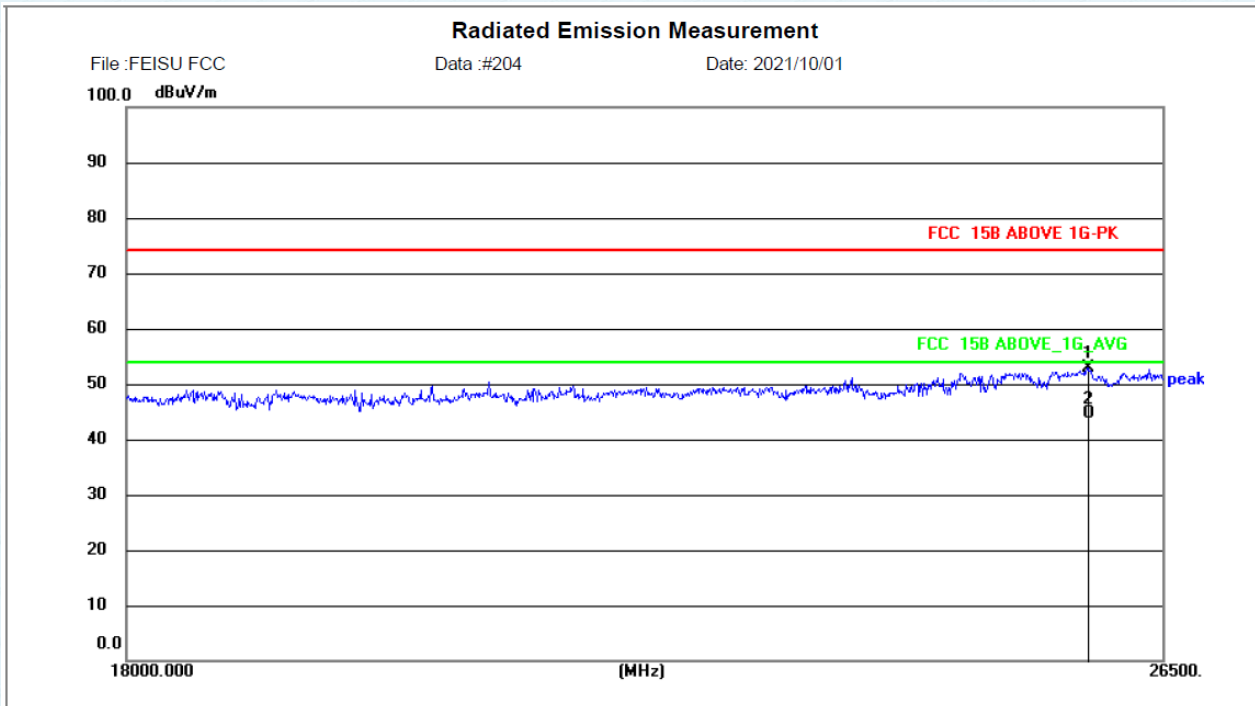
Horizontal: 802.11ax HE20 (TX 5180MHz)



Site 966 Chamber	Polarization: Horizontal	Temperature: 26(C)
Limit: FCC 15B ABOVE 1G-PK	Power: AC120/60Hz	Humidity: 54 %
EUT: Dual Band Gigabit Wi-Fi 6 Router	Distance: 3m	
M/N: WR-AX1800		
Mode: TX 5180MHz		
Note: FS.COM Test:Jason		
Modulation:ax HE20		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	24700.833	32.12	20.57	52.69	74.00	21.31	peak	146	32	P	
2 *	24700.833	24.54	20.57	45.11	54.00	8.89	AVG	175	108	P	

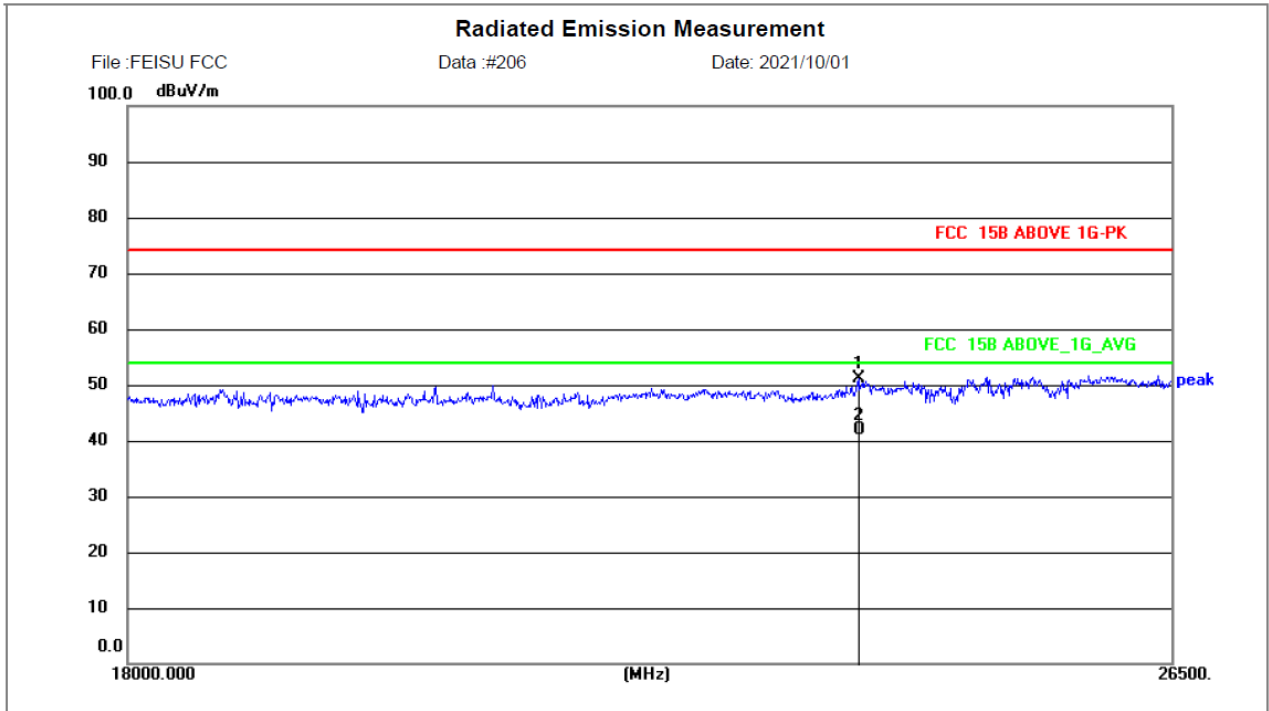
Vertical: 802.11ax HE20 (TX 5180MHz)



Site 966 Chamber	Polarization: Vertical	Temperature: 26(C)
Limit: FCC 15B ABOVE 1G-PK	Power: AC120/60Hz	Humidity: 54 %
EUT: Dual Band Gigabit Wi-Fi 6 Router	Distance: 3m	
M/N: WR-AX1800		
Mode: TX 5180MHz		
Note: FS.COM Test:Jason		
Modulation:ax HE20		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	25780.333	32.77	20.23	53.00	74.00	21.00	peak	134	114	P	
2 *	25780.333	24.42	20.23	44.65	54.00	9.35	AVG	127	98	P	

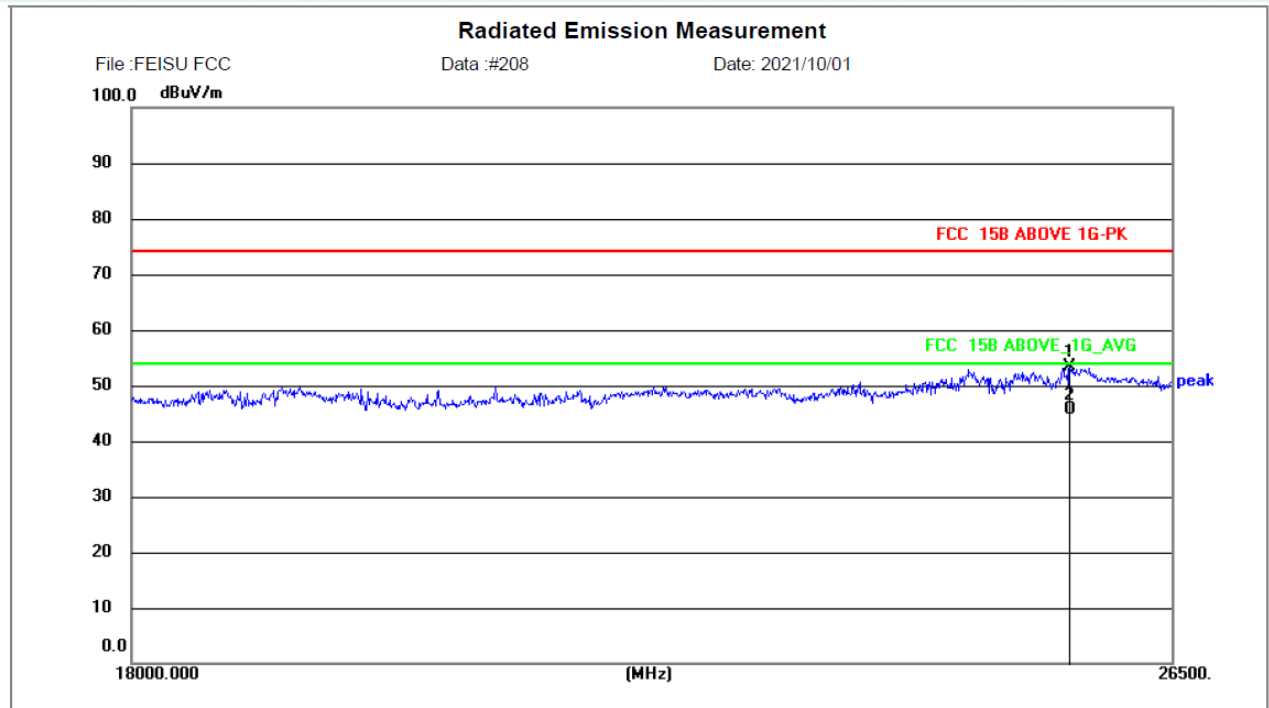
Vertical: 802.11ax HE20 (TX 5240MHz)



Site 966 Chamber	Polarization: Vertical	Temperature: 26(C)
Limit: FCC 15B ABOVE 1G-PK	Power: AC120/60Hz	Humidity: 54 %
EUT: Dual Band Gigabit Wi-Fi 6 Router	Distance: 3m	
M/N: WR-AX1800		
Mode: TX 5240MHz		
Note: FS.COM Test:Jason		
Modulation:ax HE20		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	23601.500	29.11	21.96	51.07	74.00	22.93	peak	156	178	P	
2 *	23601.500	20.04	21.96	42.00	54.00	12.00	AVG	173	125	P	

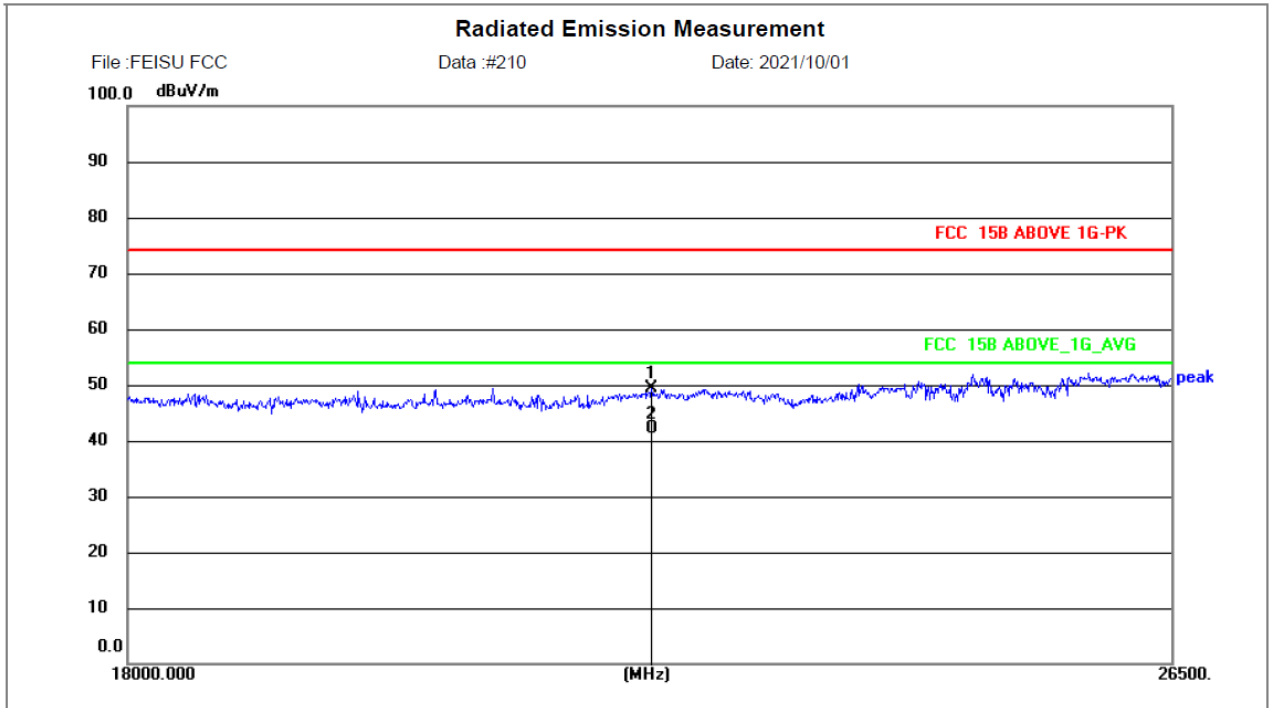
Vertical: 802.11ax HE40 (TX 5190MHz)



Site: 966 Chamber	Polarization: Vertical	Temperature: 26(C)
Limit: FCC 15B ABOVE 1G-PK	Power: AC120/60Hz	Humidity: 54 %
EUT: Dual Band Gigabit Wi-Fi 6 Router	Distance: 3m	
M/N: WR-AX1800		
Mode: TX 5190MHz		
Note: FS.COM Test:Jason		
Modulation:ax HE40		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	25522.500	33.00	20.31	53.31	74.00	20.69	peak	129	334	P	
2 *	25522.500	25.20	20.31	45.51	54.00	8.49	AVG	134	302	P	

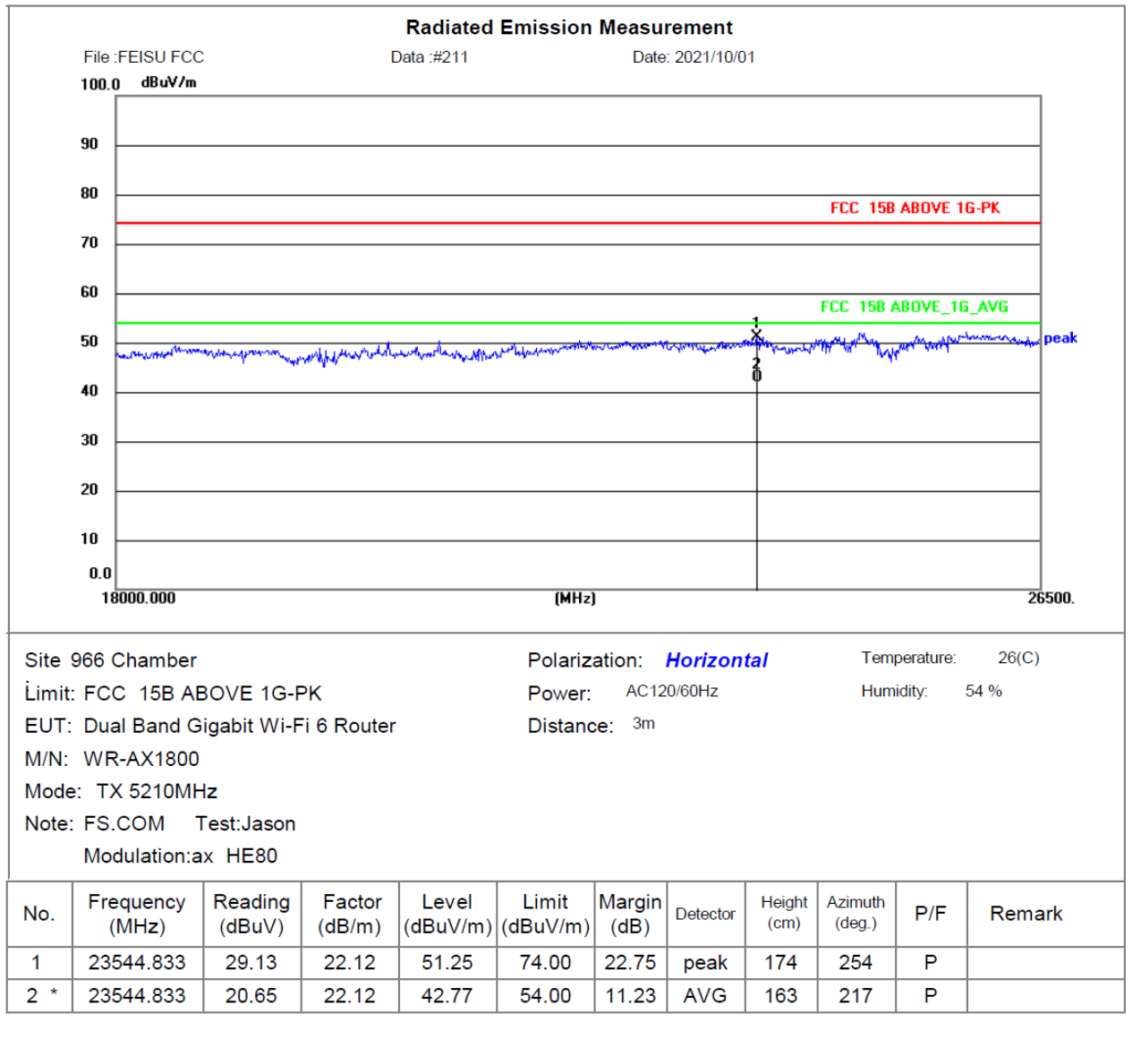
Vertical: 802.11ax HE40 (TX 5230MHz)



Site 966 Chamber	Polarization: Vertical	Temperature: 26(C)
Limit: FCC 15B ABOVE 1G-PK	Power: AC120/60Hz	Humidity: 54 %
EUT: Dual Band Gigabit Wi-Fi 6 Router	Distance: 3m	
M/N: WR-AX1800		
Mode: TX 5230MHz		
Note: FS.COM Test:Jason		
Modulation:ax HE40		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	21861.833	25.85	23.42	49.27	74.00	24.73	peak	136	118	P	
2 *	21861.833	18.70	23.42	42.12	54.00	11.88	AVG	142	135	P	

Horizontal: 802.11ax HE80 (TX 5210MHz)



26.5GHz~ 40GHz

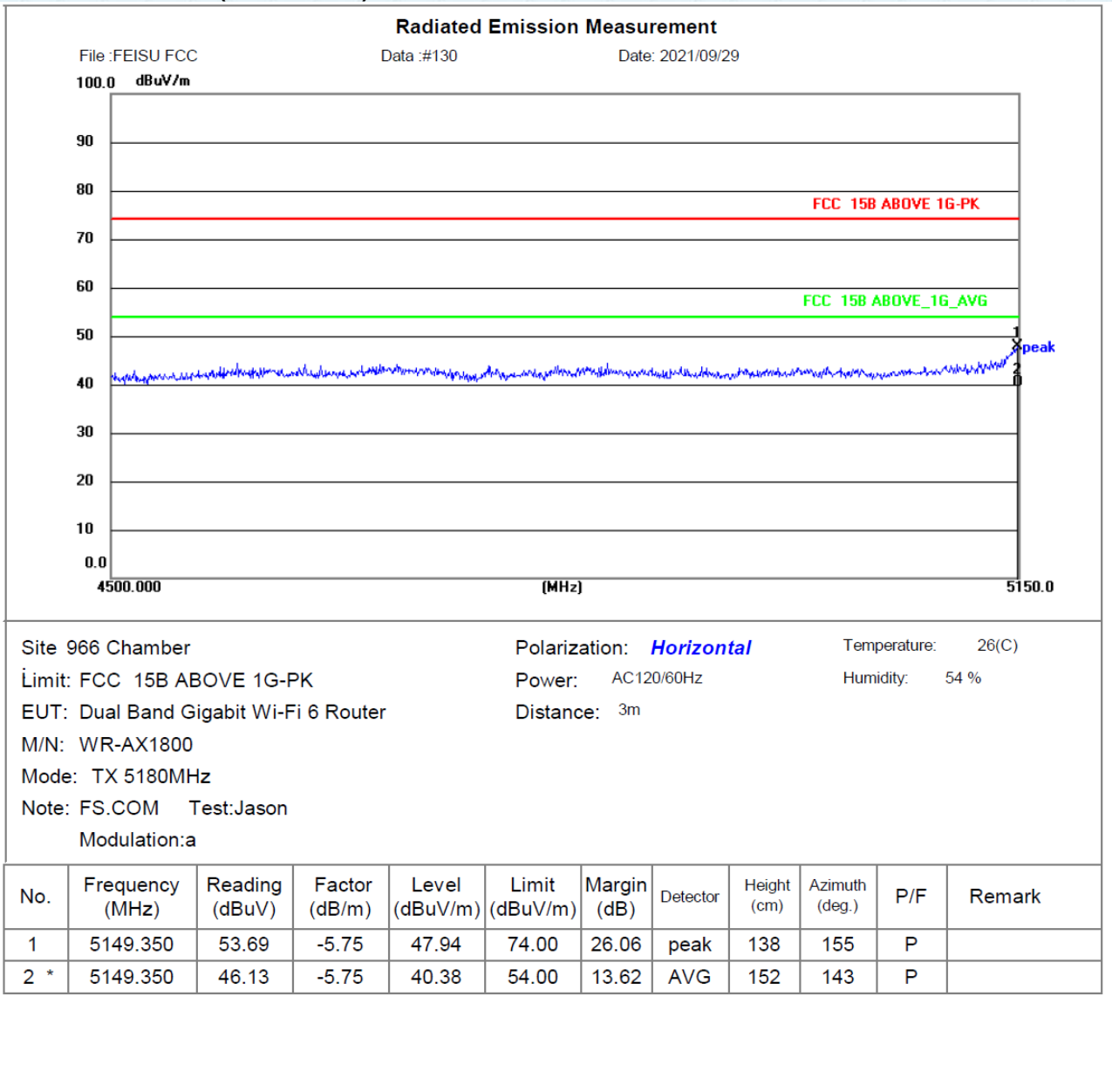
The test trace is same as the ambient noise (the test frequency range: 26.5GHz~40GHz), therefore no data appear in the report.

Notes:

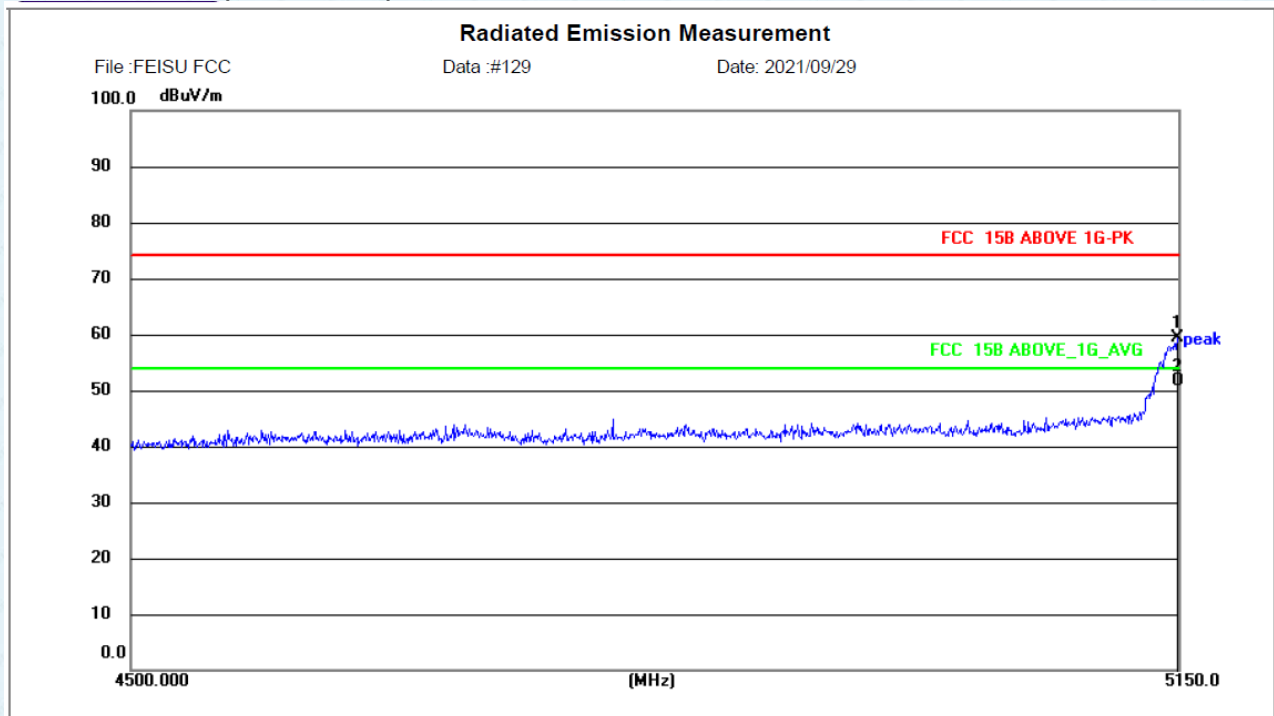
1. Level = Read Level + Antenna Factor+ Cable loss- Preamp Factor.
2. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

Spurious Emission in restricted band:

Horizontal: 802.11a (TX 5180MHz)



Vertical: 802.11a (TX 5180MHz)



Site 966 Chamber Polarization: **Vertical** Temperature: 26(C)

Limit: FCC 15B ABOVE 1G-PK Power: AC120/60Hz Humidity: 54 %

EUT: Dual Band Gigabit Wi-Fi 6 Router Distance: 3m

M/N: WR-AX1800

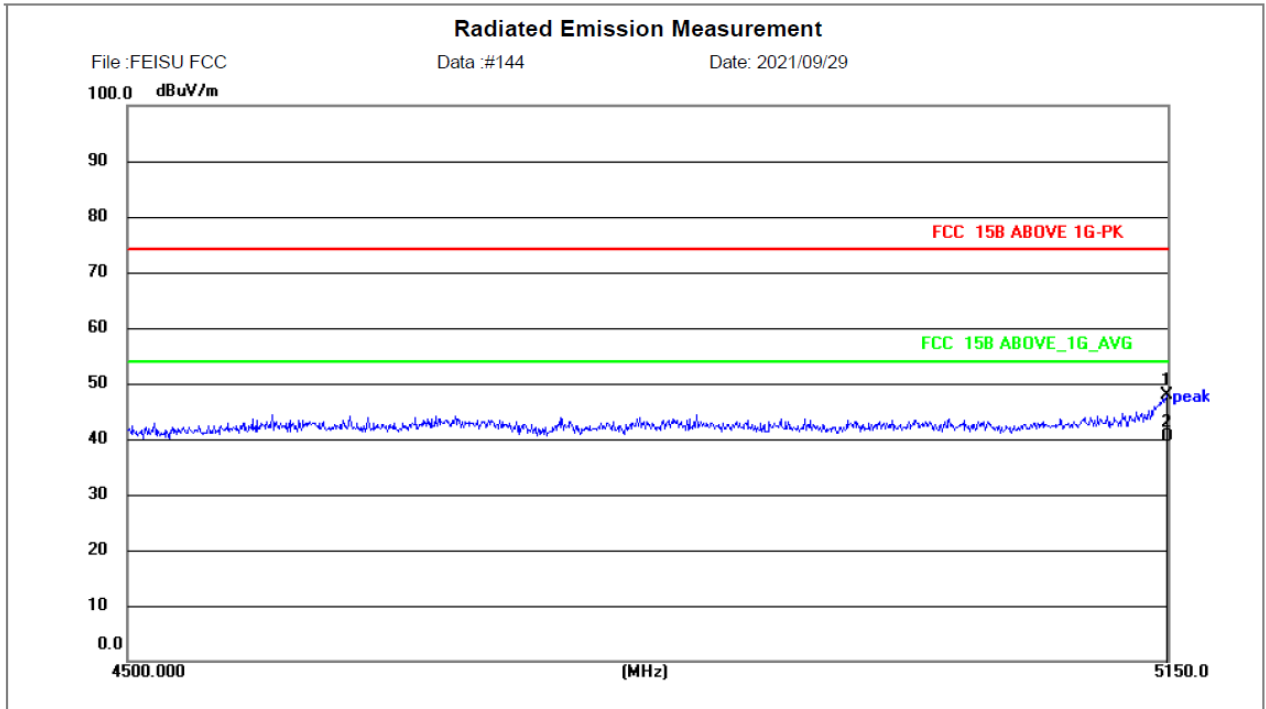
Mode: TX 5180MHz

Note: FS.COM Test:Jason

Modulation:a

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5149.350	65.21	-5.75	59.46	74.00	14.54	peak	156	147	P	
2 *	5149.350	57.28	-5.75	51.53	54.00	2.47	AVG	138	201	P	

Horizontal: 802.11n (HT20) (TX 5180MHz)



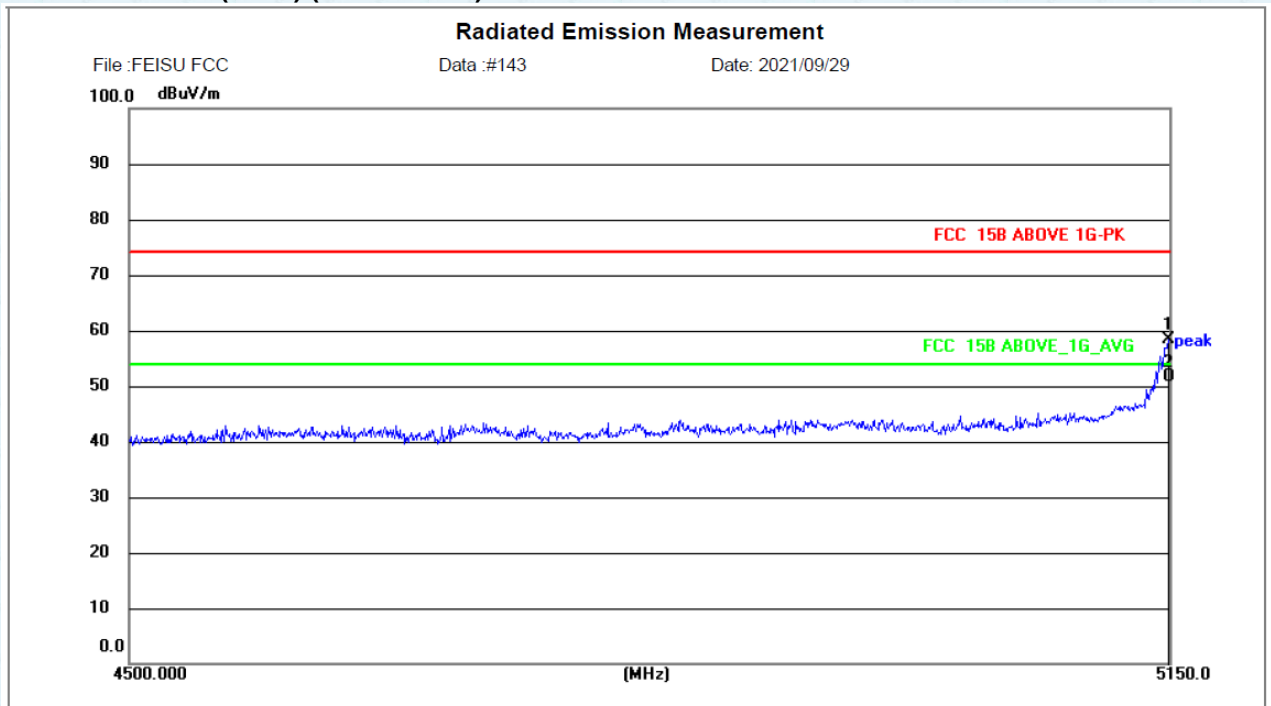
Site: 966 Chamber
 Limit: FCC 15B ABOVE 1G-PK
 EUT: Dual Band Gigabit Wi-Fi 6 Router
 M/N: WR-AX1800
 Mode: TX 5180MHz
 Note: FS.COM Test: Jason
 Modulation: n HT20

Polarization: **Horizontal**
 Power: AC120/60Hz
 Distance: 3m

Temperature: 26(C)
 Humidity: 54 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5149.350	53.69	-5.75	47.94	74.00	26.06	peak	141	214	P	
2 *	5149.350	46.15	-5.75	40.40	54.00	13.60	AVG	155	176	P	

Vertical: 802.11n (HT20) (TX 5180MHz)



Site 966 Chamber Polarization: **Vertical** Temperature: 26(C)

Limit: FCC 15B ABOVE 1G-PK Power: AC120/60Hz Humidity: 54 %

EUT: Dual Band Gigabit Wi-Fi 6 Router Distance: 3m

M/N: WR-AX1800

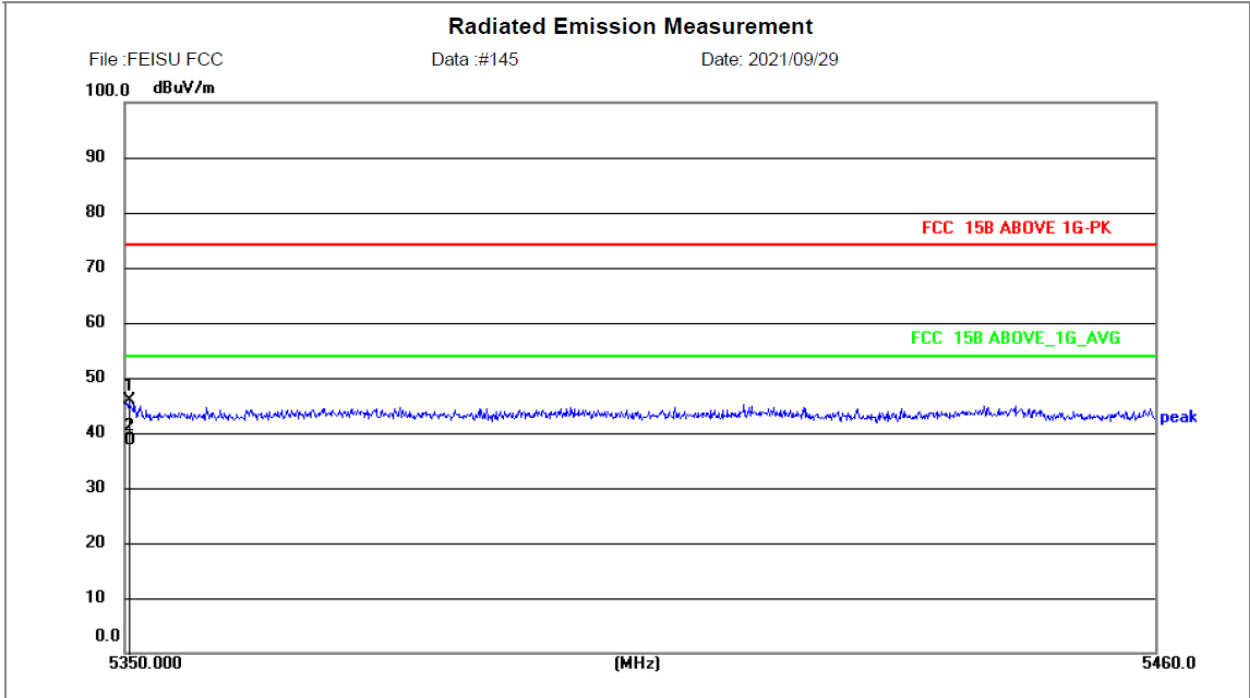
Mode: TX 5180MHz

Note: FS.COM Test:Jason

Modulation:n HT20

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5149.350	64.21	-5.75	58.46	74.00	15.54	peak	158	27	P	
2 *	5149.350	57.36	-5.75	51.61	54.00	2.39	AVG	149	358	P	

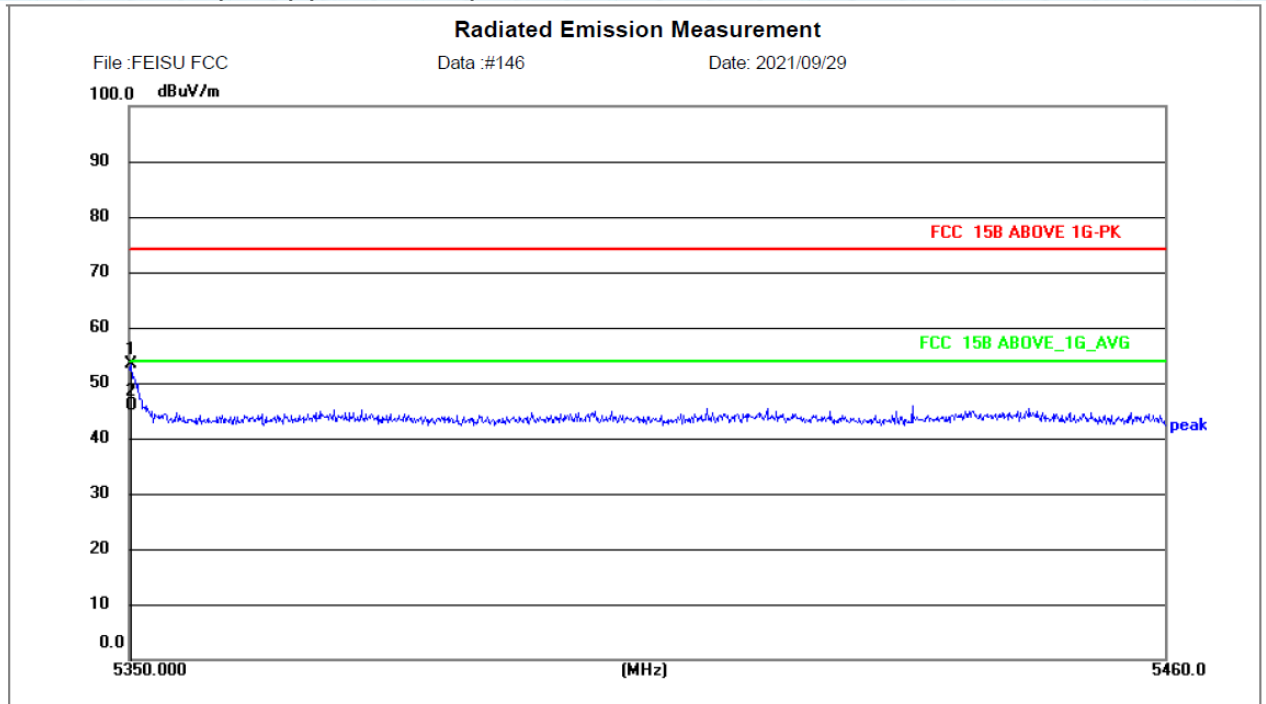
Horizontal: 802.11n (HT20) (TX 5240MHz)



Site 966 Chamber	Polarization: <i>Horizontal</i>	Temperature: 26(C)
Limit: FCC 15B ABOVE 1G-PK	Power: AC120/60Hz	Humidity: 54 %
EUT: Dual Band Gigabit Wi-Fi 6 Router	Distance: 3m	
M/N: WR-AX1800		
Mode: TX 5240MHz		
Note: FS.COM Test:Jason		
Modulation:n HT20		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5350.476	51.20	-5.35	45.85	74.00	28.15	peak	169	236	P	
2 *	5350.476	43.98	-5.35	38.63	54.00	15.37	AVG	158	217	P	

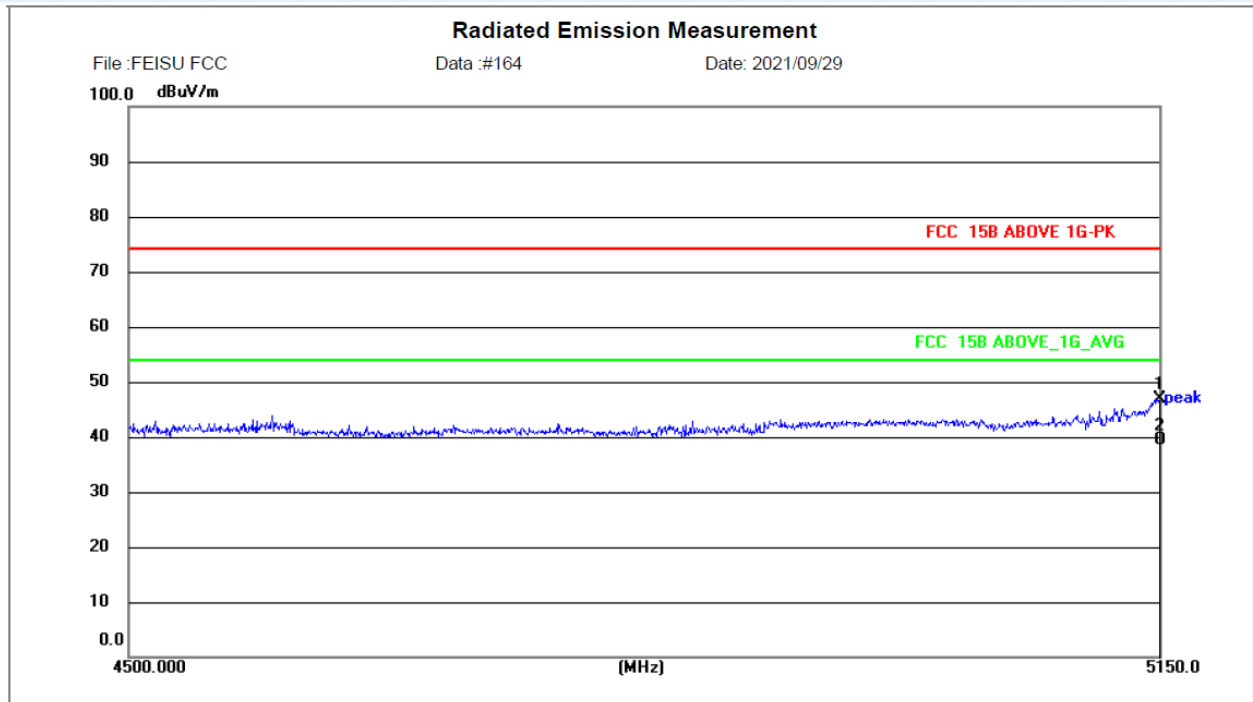
Vertical: 802.11n (HT20) (TX 5240MHz)



Site 966 Chamber	Polarization: Vertical	Temperature: 26(C)
Limit: FCC 15B ABOVE 1G-PK	Power: AC120/60Hz	Humidity: 54 %
EUT: Dual Band Gigabit Wi-Fi 6 Router	Distance: 3m	
M/N: WR-AX1800		
Mode: TX 5240MHz		
Note: FS.COM Test:Jason		
Modulation:n HT20		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5350.220	58.79	-5.35	53.44	74.00	20.56	peak	144	36	P	
2 *	5350.220	51.23	-5.35	45.88	54.00	8.12	AVG	151	217	P	

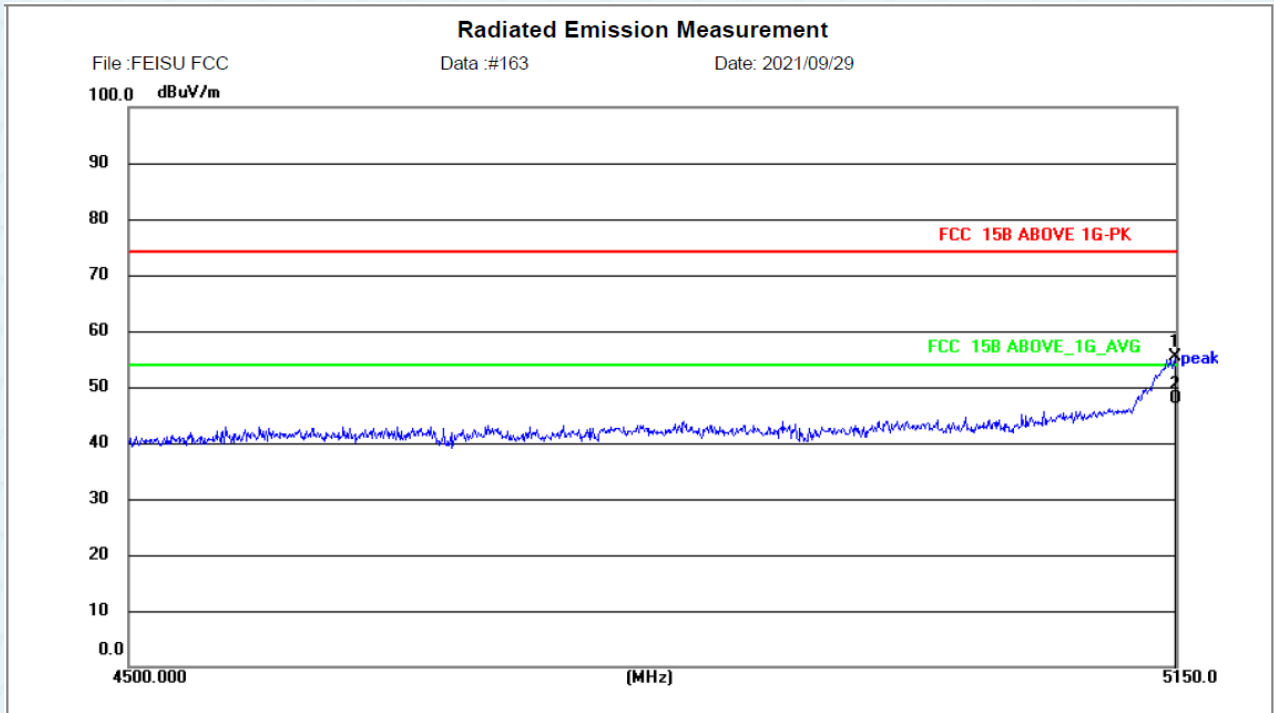
Horizontal: 802.11n (HT40) (TX 5190MHz)



File :FEISU FCC Data :#164 Date: 2021/09/29
 Site 966 Chamber Polarization: **Horizontal** Temperature: 26(C)
 Limit: FCC 15B ABOVE 1G-PK Power: AC120/60Hz Humidity: 54 %
 EUT: Dual Band Gigabit Wi-Fi 6 Router Distance: 3m
 M/N: WR-AX1800
 Mode: TX 5190MHz
 Note: FS.COM Test:Jason
 Modulation:n HT40

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5150.000	52.58	-5.76	46.82	74.00	27.18	peak	143	106	P	
2 *	5150.000	45.24	-5.76	39.48	54.00	14.52	AVG	152	132	P	

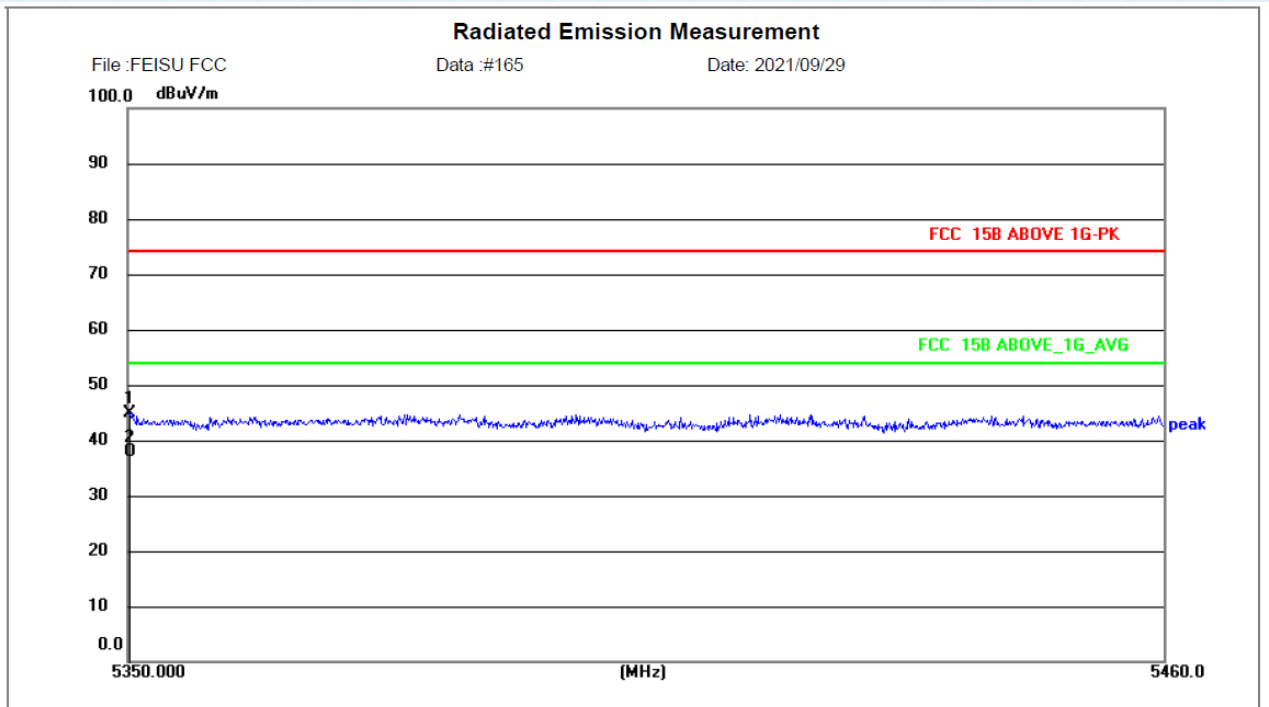
Vertical: 802.11n (HT40) (TX 5190MHz)



Site 966 Chamber	Polarization: Vertical	Temperature: 26(C)
Limit: FCC 15B ABOVE 1G-PK	Power: AC120/60Hz	Humidity: 54 %
EUT: Dual Band Gigabit Wi-Fi 6 Router	Distance: 3m	
M/N: WR-AX1800		
Mode: TX 5190MHz		
Note: FS.COM Test:Jason		
Modulation:n HT40		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5149.350	61.21	-5.75	55.46	74.00	18.54	peak	153	58	P	
2 *	5149.350	53.75	-5.75	48.00	54.00	6.00	AVG	162	146	P	

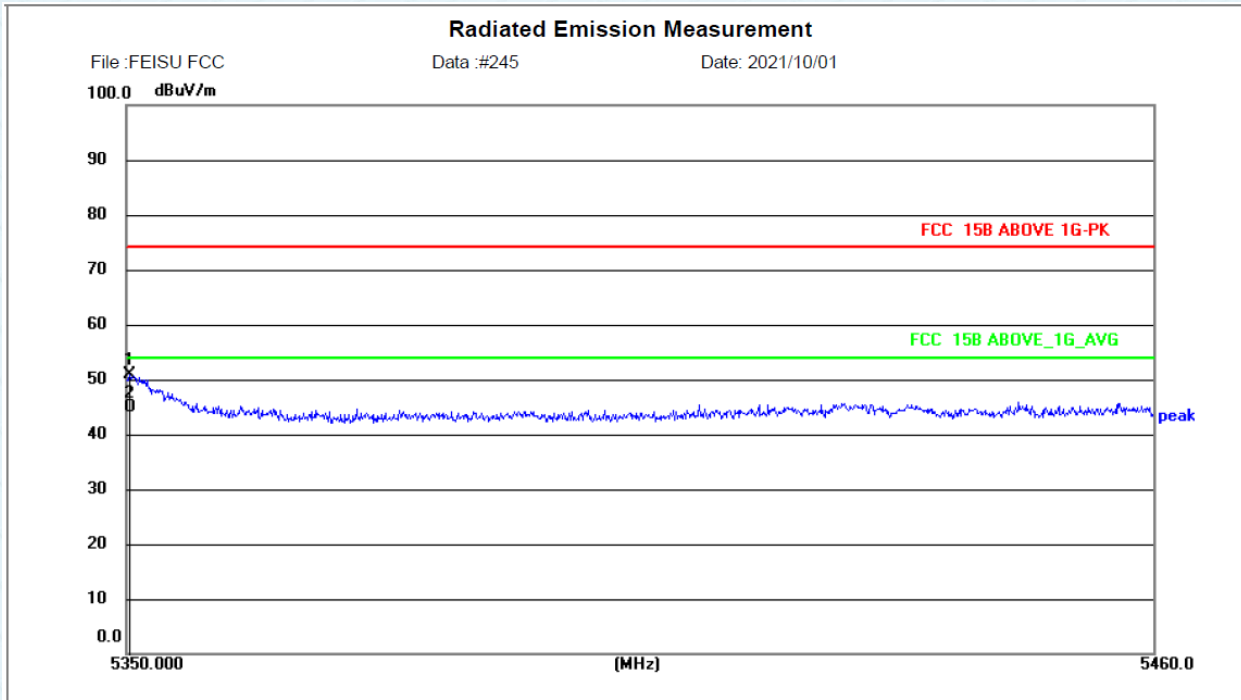
Horizontal: 802.11n (HT40) (TX 5230MHz)



Site: 966 Chamber	Polarization: Horizontal	Temperature: 26(C)
Limit: FCC 15B ABOVE 1G-PK	Power: AC120/60Hz	Humidity: 54 %
EUT: Dual Band Gigabit Wi-Fi 6 Router	Distance: 3m	
M/N: WR-AX1800		
Mode: TX 5230MHz		
Note: FS.COM Test: Jason		
Modulation: n HT40		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5350.293	50.28	-5.35	44.93	74.00	29.07	peak	134	51	P	
2 *	5350.293	43.13	-5.35	37.78	54.00	16.22	AVG	141	102	P	

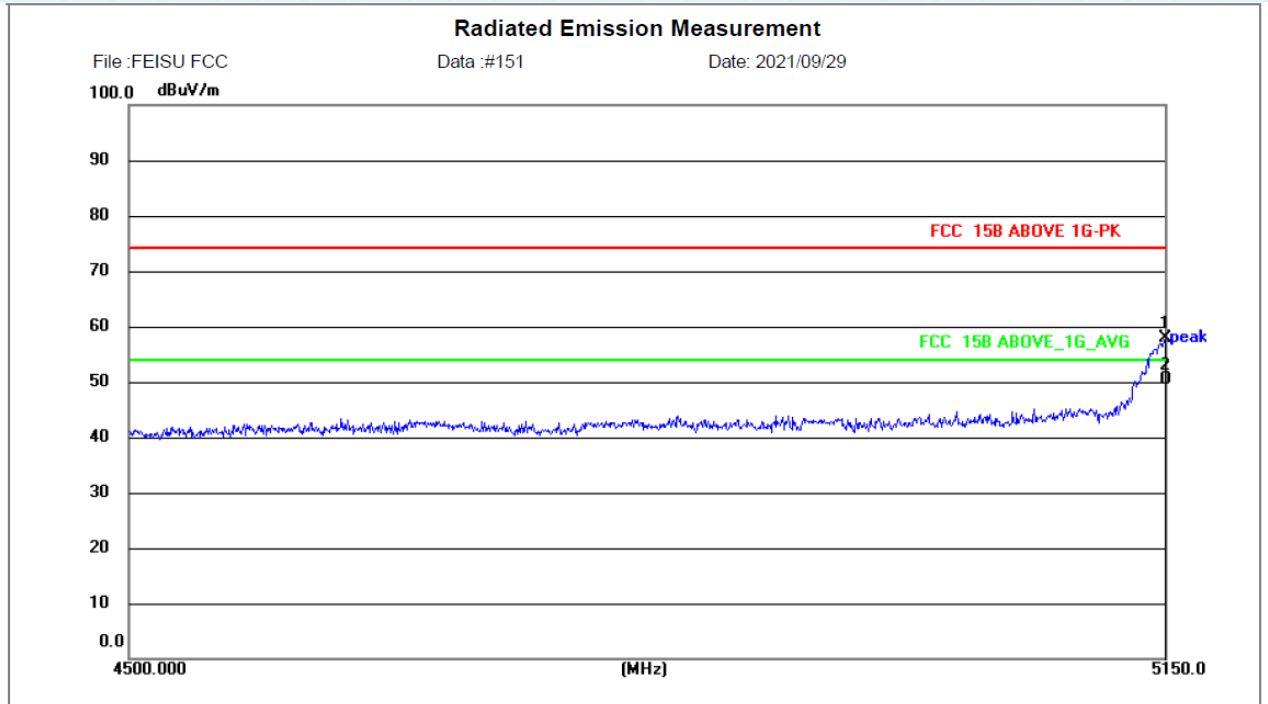
Vertical: 802.11n (HT40) (TX 5230MHz)



Site 966 Chamber	Polarization: Vertical	Temperature: 26(C)
Limit: FCC 15B ABOVE 1G-PK	Power: AC120/60Hz	Humidity: 54 %
EUT: Dual Band Gigabit Wi-Fi 6 Router	Distance: 3m	
M/N: WR-AX1800		
Mode: TX 5230MHz		
Note: FS.COM Test:Jason		
Modulation:n HT40		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5350.330	56.25	-5.35	50.90	74.00	23.10	peak	103	125	P	
2 *	5350.330	50.12	-5.35	44.77	54.00	9.23	AVG	106	109	P	

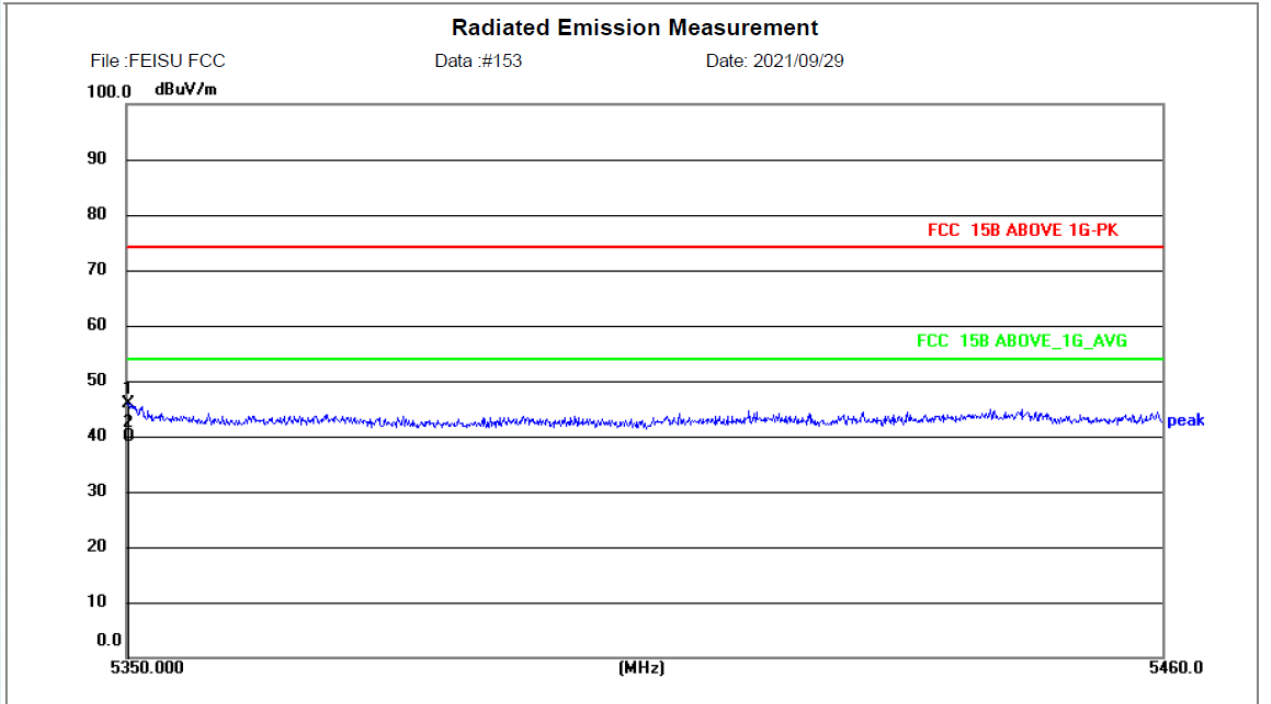
Vertical: 802.11ax (HE20) (TX 5180MHz)



Site: 966 Chamber	Polarization: Vertical	Temperature: 26(C)
Limit: FCC 15B ABOVE 1G-PK	Power: AC120/60Hz	Humidity: 54 %
EUT: Dual Band Gigabit Wi-Fi 6 Router	Distance: 3m	
M/N: WR-AX1800		
Mode: TX 5180MHz		
Note: FS.COM Test: Jason		
Modulation: ax HE20		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5150.000	63.67	-5.76	57.91	74.00	16.09	peak	138	212	P	
2 *	5150.000	56.23	-5.76	50.47	54.00	3.53	AVG	134	149	P	

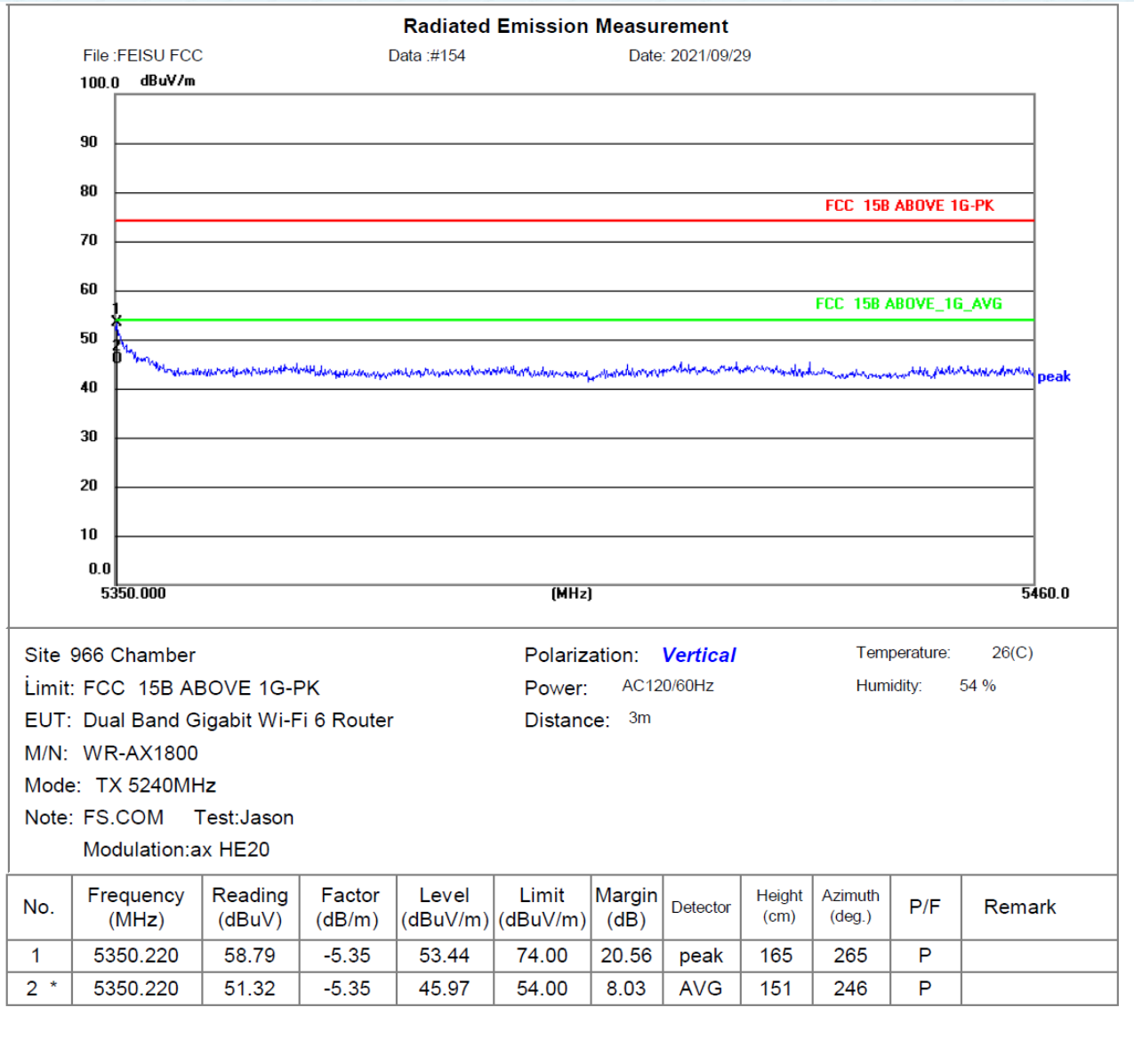
Horizontal: 802.11ax (HE20) (TX 5240MHz)



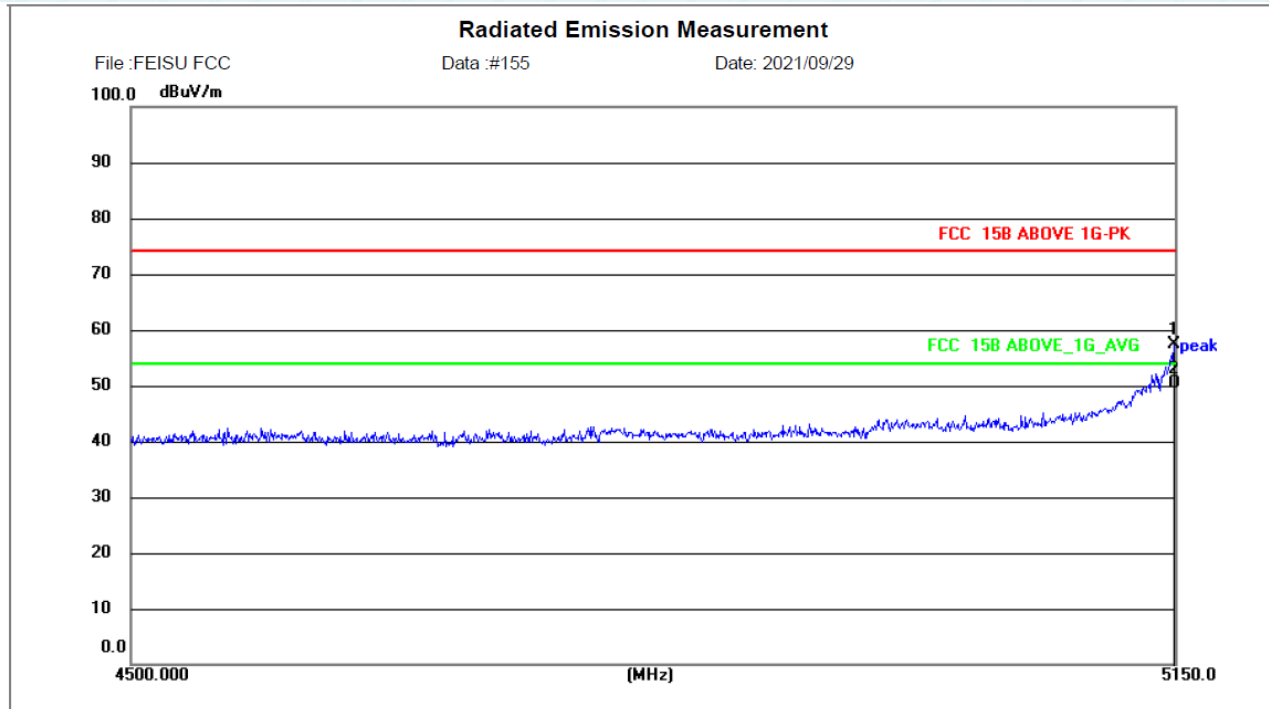
Site 966 Chamber	Polarization: Horizontal	Temperature: 26(C)
Limit: FCC 15B ABOVE 1G-PK	Power: AC120/60Hz	Humidity: 54 %
EUT: Dual Band Gigabit Wi-Fi 6 Router	Distance: 3m	
M/N: WR-AX1800		
Mode: TX 5240MHz		
Note: FS.COM Test:Jason		
Modulation:ax HE20		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5350.293	51.28	-5.35	45.93	74.00	28.07	peak	161	228	P	
2 *	5350.293	45.16	-5.35	39.81	54.00	14.19	AVG	159	149	P	

Vertical: 802.11ax (HE20) (TX 5240MHz)



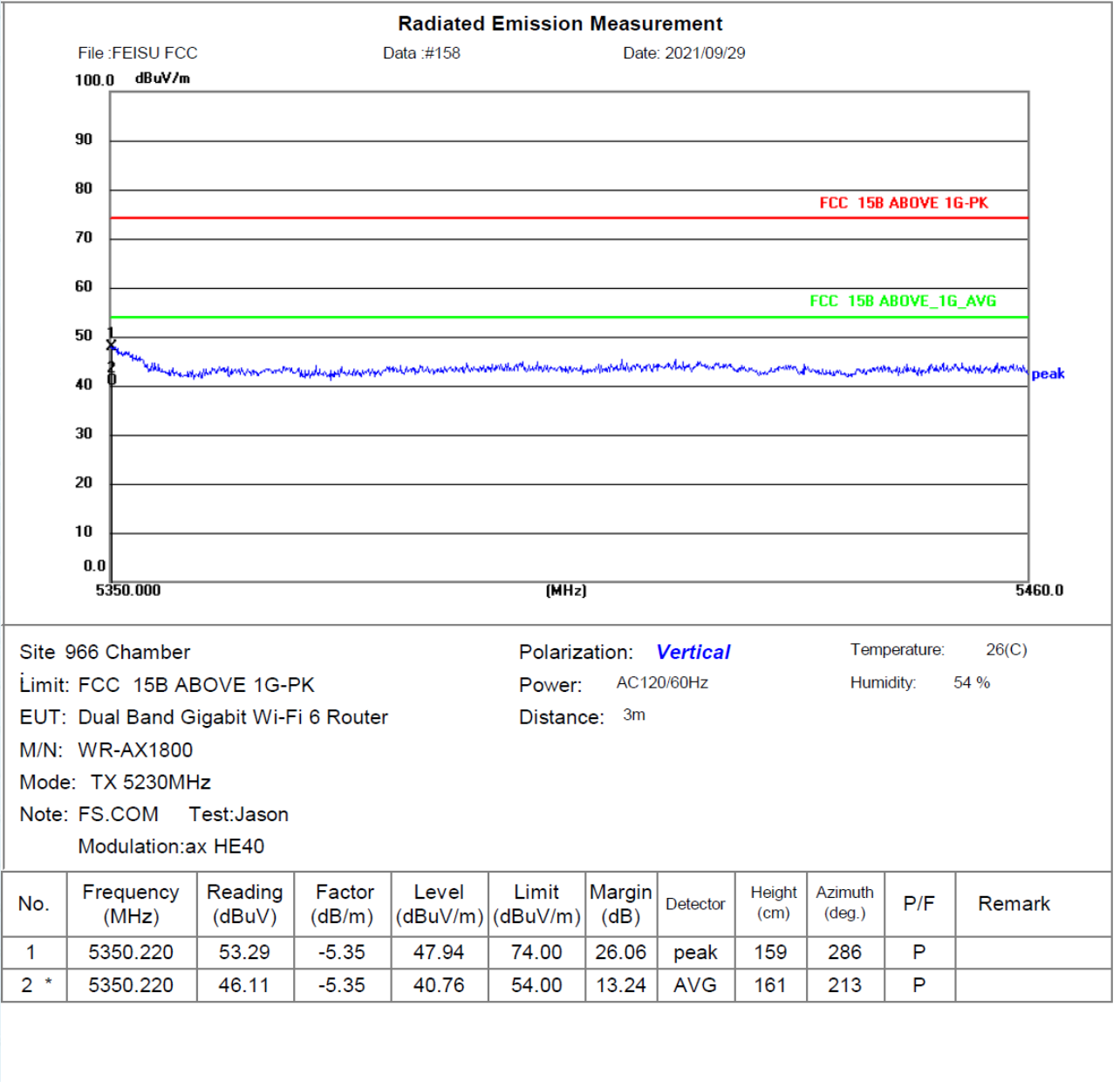
Vertical: 802.11ax (HE40) (TX 5190MHz)



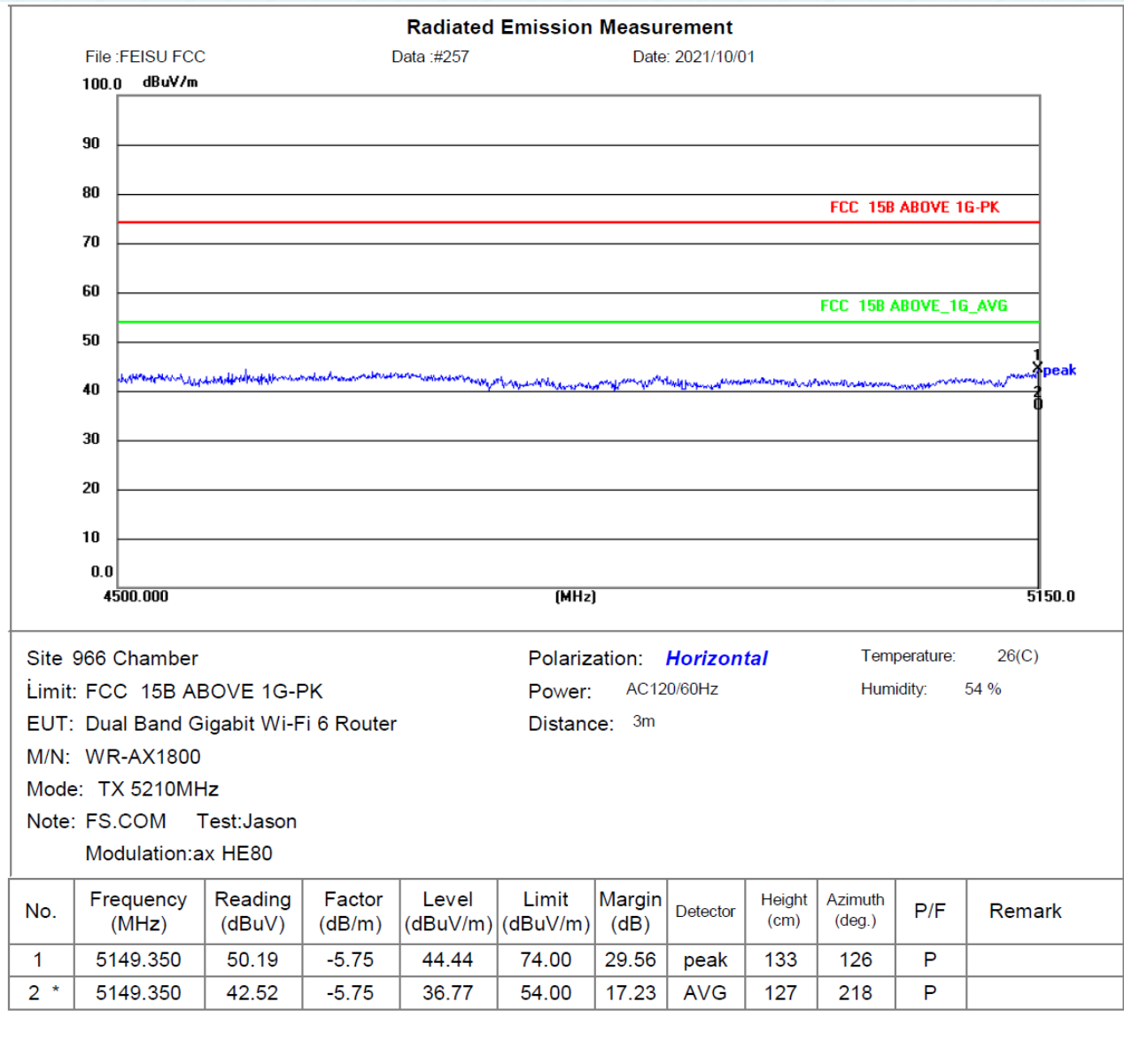
Site 966 Chamber	Polarization: Vertical	Temperature: 26(C)
Limit: FCC 15B ABOVE 1G-PK	Power: AC120/60Hz	Humidity: 54 %
EUT: Dual Band Gigabit Wi-Fi 6 Router	Distance: 3m	
M/N: WR-AX1800		
Mode: TX 5190MHz		
Note: FS.COM Test:Jason		
Modulation:ax HE40		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5149.350	63.21	-5.75	57.46	74.00	16.54	peak	146	187	P	
2 *	5149.350	56.04	-5.75	50.29	54.00	3.71	AVG	152	192	P	

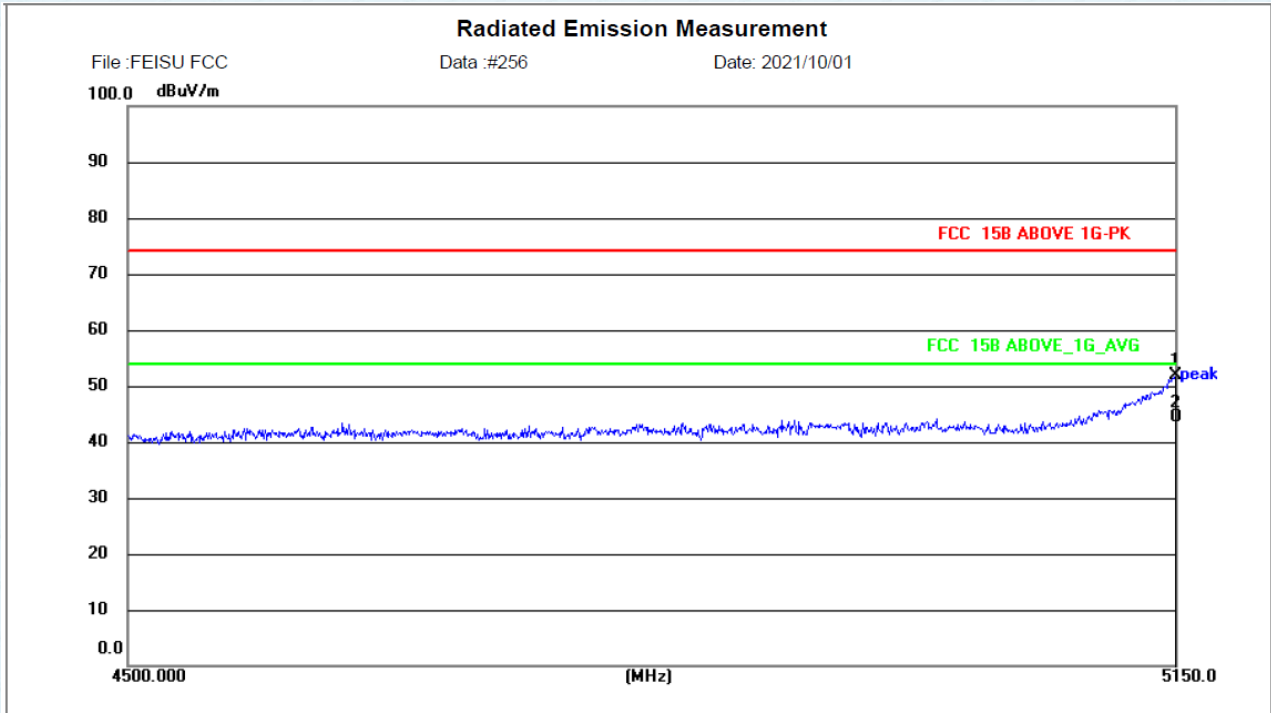
Vertical: 802.11ax (HE40) (TX 5230MHz)



Horizontal: 802.11ax (HE80) (TX 5210MHz)



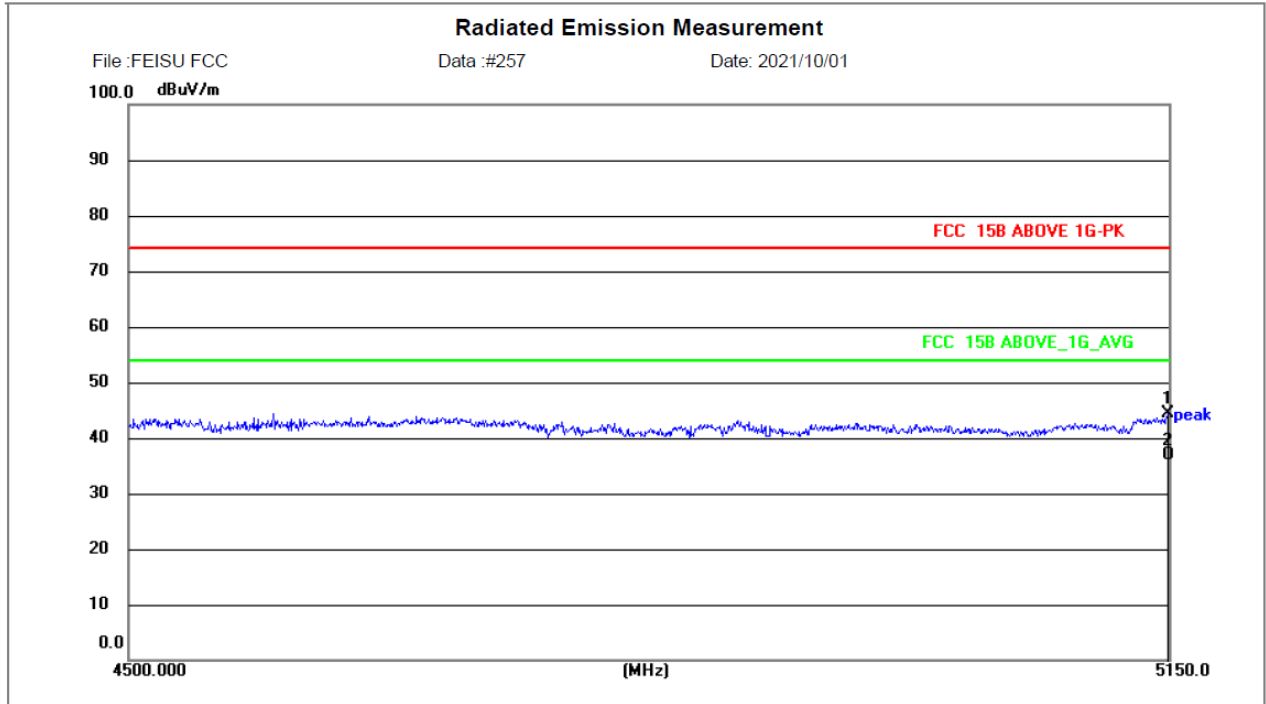
Vertical: 802.11ax (HE80) (TX 5210MHz)



Site 966 Chamber	Polarization: Vertical	Temperature: 26(C)
Limit: FCC 15B ABOVE 1G-PK	Power: AC120/60Hz	Humidity: 54 %
EUT: Dual Band Gigabit Wi-Fi 6 Router	Distance: 3m	
M/N: WR-AX1800		
Mode: TX 5210MHz		
Note: FS.COM Test:Jason		
Modulation:ax HE80		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5150.000	57.67	-5.76	51.91	74.00	22.09	peak	123	203	P	
2 *	5150.000	50.12	-5.76	44.36	54.00	9.64	AVG	116	149	P	

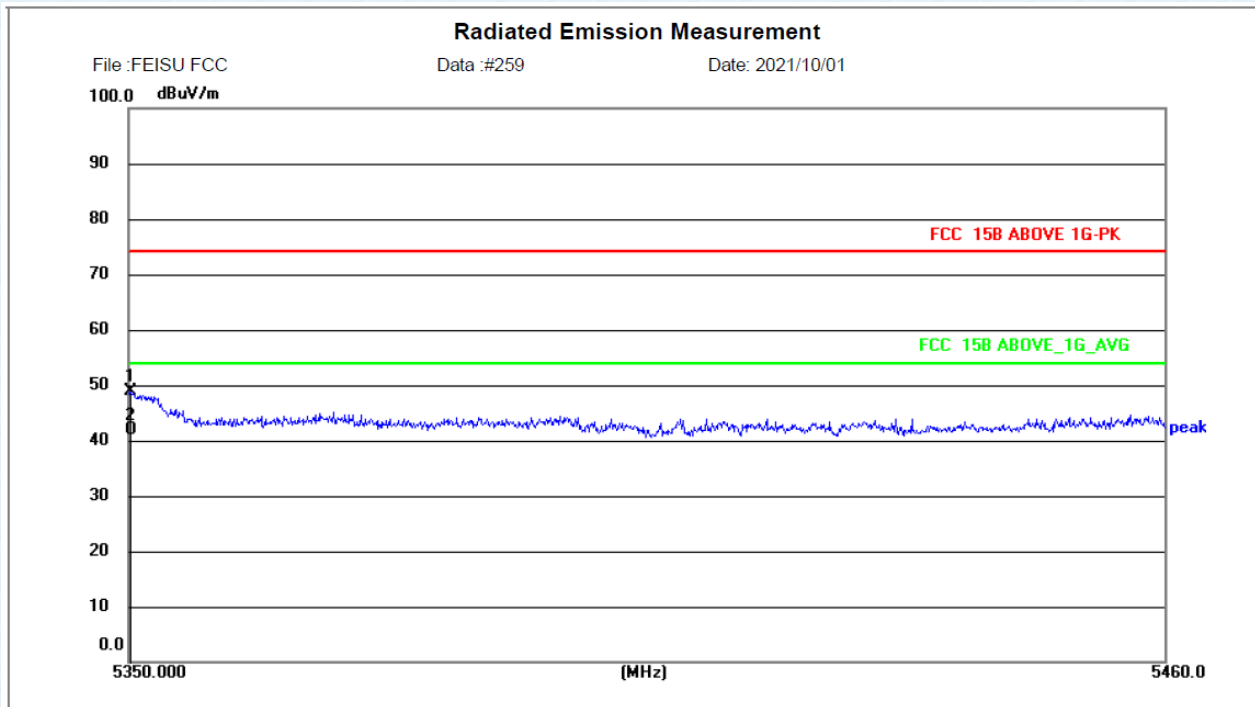
Horizontal: 802.11ax (HE80) (TX 5210MHz)



Site 966 Chamber	Polarization: Horizontal	Temperature: 26(C)
Limit: FCC 15B ABOVE 1G-PK	Power: AC120/60Hz	Humidity: 54 %
EUT: Dual Band Gigabit Wi-Fi 6 Router	Distance: 3m	
M/N: WR-AX1800		
Mode: TX 5210MHz		
Note: FS.COM Test:Jason		
Modulation:ax HE80		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5149.350	50.19	-5.75	44.44	74.00	29.56	peak	133	126	P	
2 *	5149.350	42.52	-5.75	36.77	54.00	17.23	AVG	127	218	P	

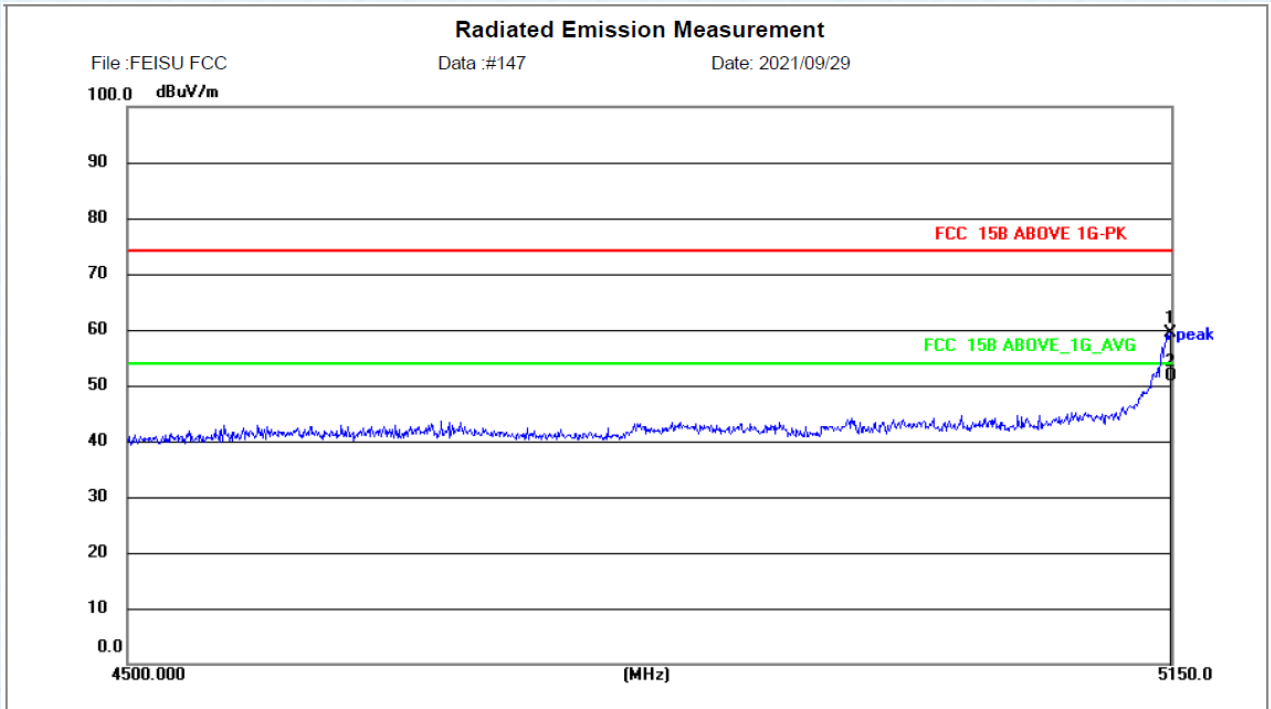
Vertical: 802.11ax (HE80) (TX 5210MHz)



Site 966 Chamber	Polarization: Vertical	Temperature: 26(C)
Limit: FCC 15B ABOVE 1G-PK	Power: AC120/60Hz	Humidity: 54 %
EUT: Dual Band Gigabit Wi-Fi 6 Router	Distance: 3m	
M/N: WR-AX1800		
Mode: TX 5210MHz		
Note: FS.COM Test:Jason		
Modulation:ax HE80		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5350.220	54.29	-5.35	48.94	74.00	25.06	peak	131	228	P	
2 *	5350.220	47.35	-5.35	42.00	54.00	12.00	AVG	109	176	P	

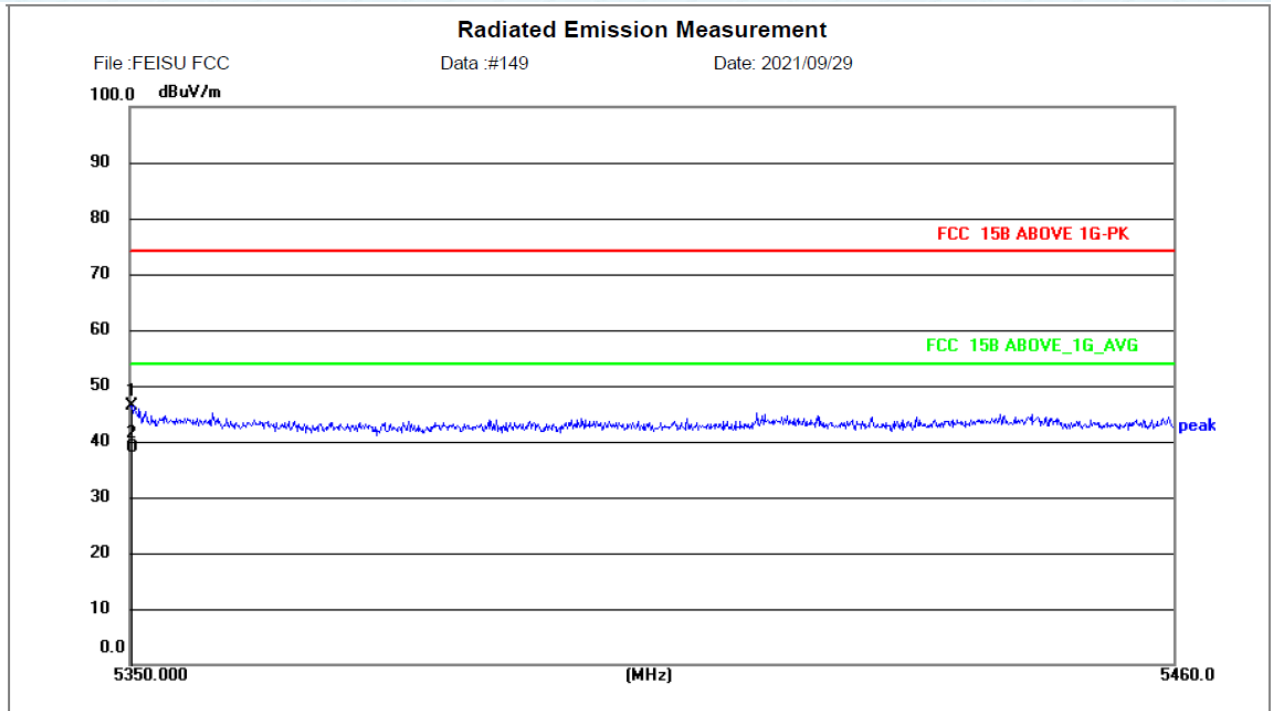
Vertical: 802.11ac (VHT20) (TX 5180MHz)



Site 966 Chamber	Polarization: Vertical	Temperature: 26(C)
Limit: FCC 15B ABOVE 1G-PK	Power: AC120/60Hz	Humidity: 54 %
EUT: Dual Band Gigabit Wi-Fi 6 Router	Distance: 3m	
M/N: WR-AX1800		
Mode: TX 5180MHz		
Note: FS.COM Test:Jason		
Modulation:ac vht20		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5149.350	65.21	-5.75	59.46	74.00	14.54	peak	163	49	P	
2 *	5149.350	57.33	-5.75	51.58	54.00	2.42	AVG	174	104	P	

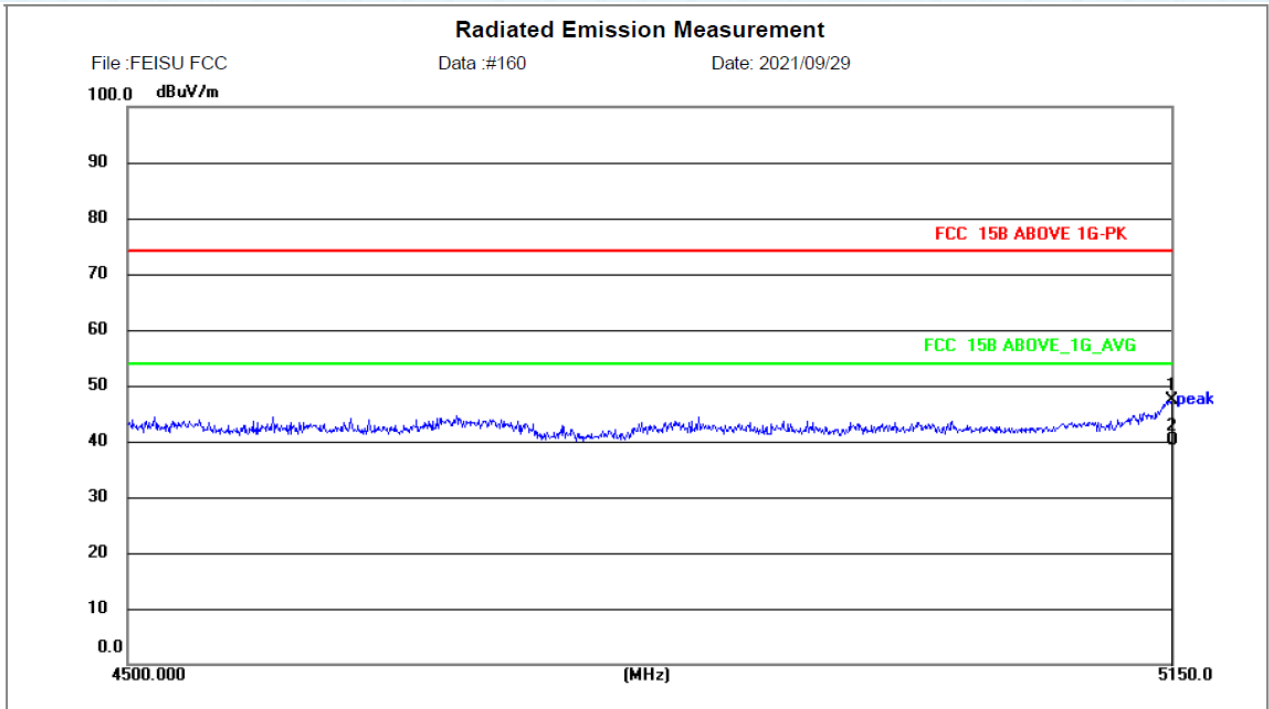
Horizontal: 802.11ac (VHT20) (TX 5240MHz)



Site 966 Chamber	Polarization: Horizontal	Temperature: 26(C)
Limit: FCC 15B ABOVE 1G-PK	Power: AC120/60Hz	Humidity: 54 %
EUT: Dual Band Gigabit Wi-Fi 6 Router	Distance: 3m	
M/N: WR-AX1800		
Mode: TX 5240MHz		
Note: FS.COM Test:Jason		
Modulation:ac vht20		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5350.293	51.78	-5.35	46.43	74.00	27.57	peak	145	321	P	
2 *	5350.293	44.26	-5.35	38.91	54.00	15.09	AVG	161	359	P	

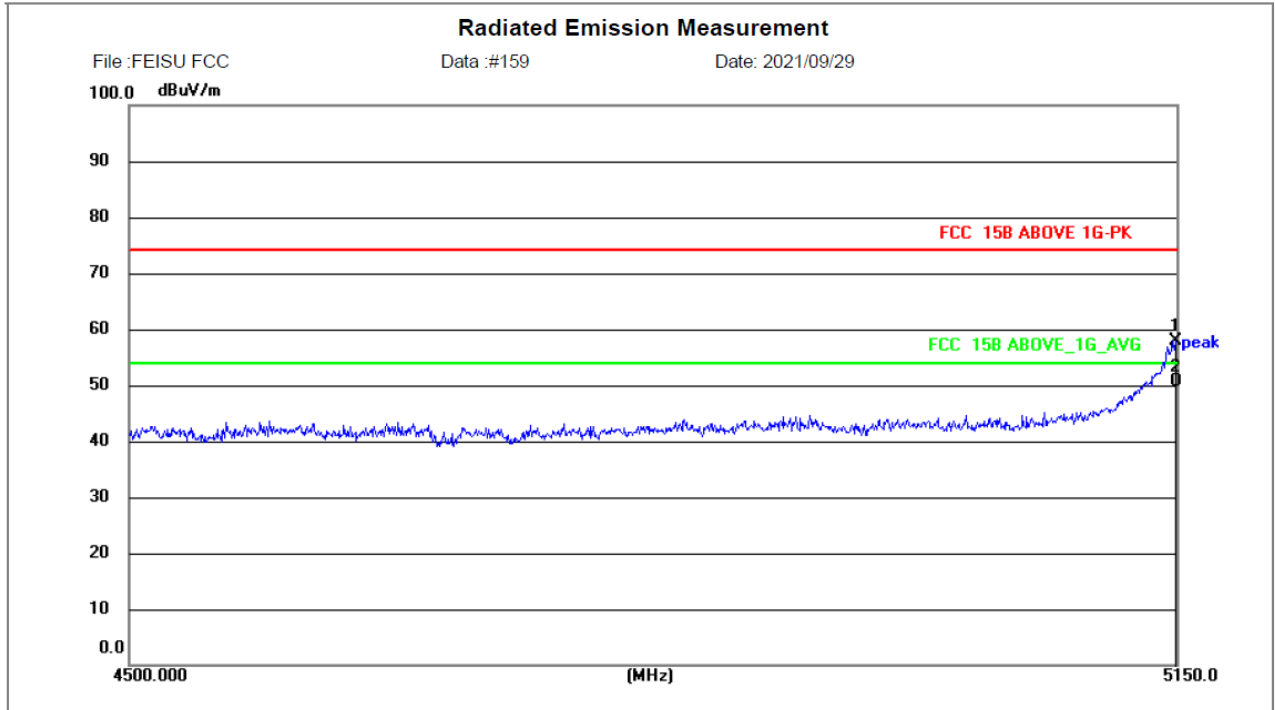
Horizontal: 802.11ac (VHT40) (TX 5190MHz)



Site 966 Chamber	Polarization: Horizontal	Temperature: 26(C)
Limit: FCC 15B ABOVE 1G-PK	Power: AC120/60Hz	Humidity: 54 %
EUT: Dual Band Gigabit Wi-Fi 6 Router	Distance: 3m	
M/N: WR-AX1800		
Mode: TX 5190MHz		
Note: FS.COM Test:Jason		
Modulation:ac vht40		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5150.000	53.08	-5.76	47.32	74.00	26.68	peak	159	244	P	
2 *	5150.000	46.01	-5.76	40.25	54.00	13.75	AVG	164	156	P	

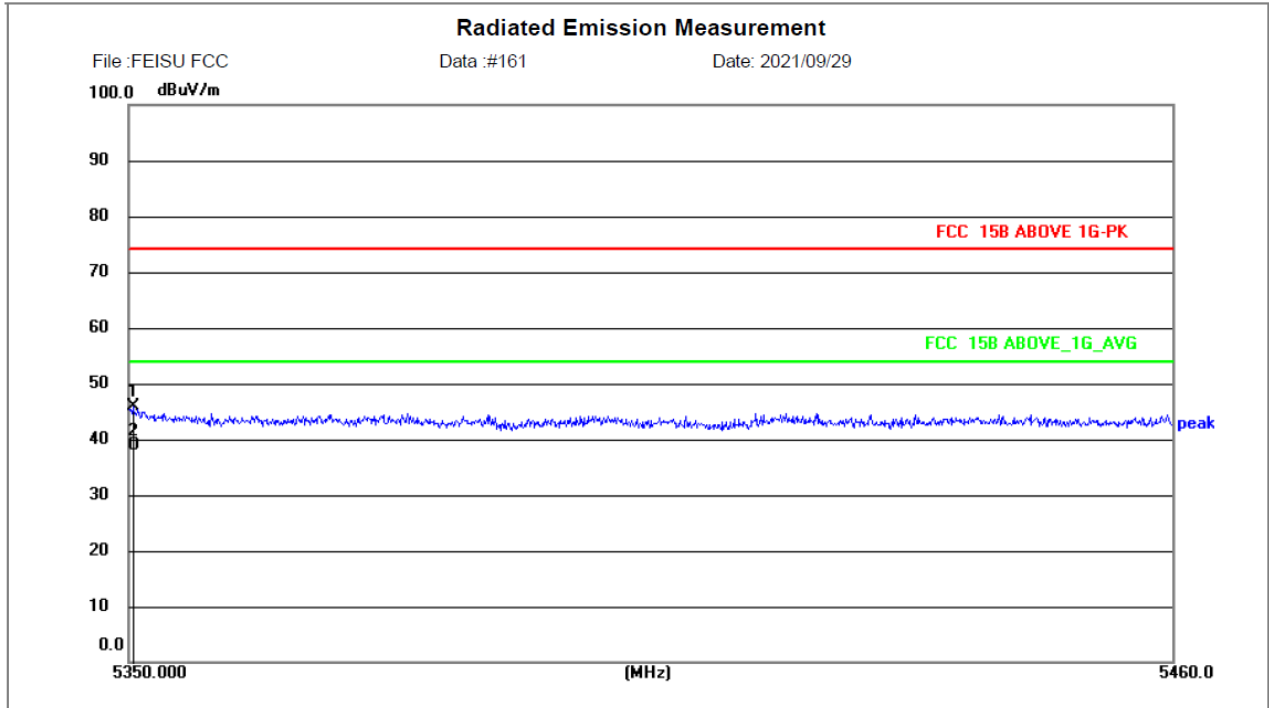
Vertical: 802.11ac (VHT40) (TX 5190MHz)



Site 966 Chamber	Polarization: Vertical	Temperature: 26(C)
Limit: FCC 15B ABOVE 1G-PK	Power: AC120/60Hz	Humidity: 54 %
EUT: Dual Band Gigabit Wi-Fi 6 Router	Distance: 3m	
M/N: WR-AX1800		
Mode: TX 5190MHz		
Note: FS.COM Test:Jason		
Modulation:ac vht40		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5149.350	63.71	-5.75	57.96	74.00	16.04	peak	145	314	P	
2 *	5149.350	56.32	-5.75	50.57	54.00	3.43	AVG	152	301	P	

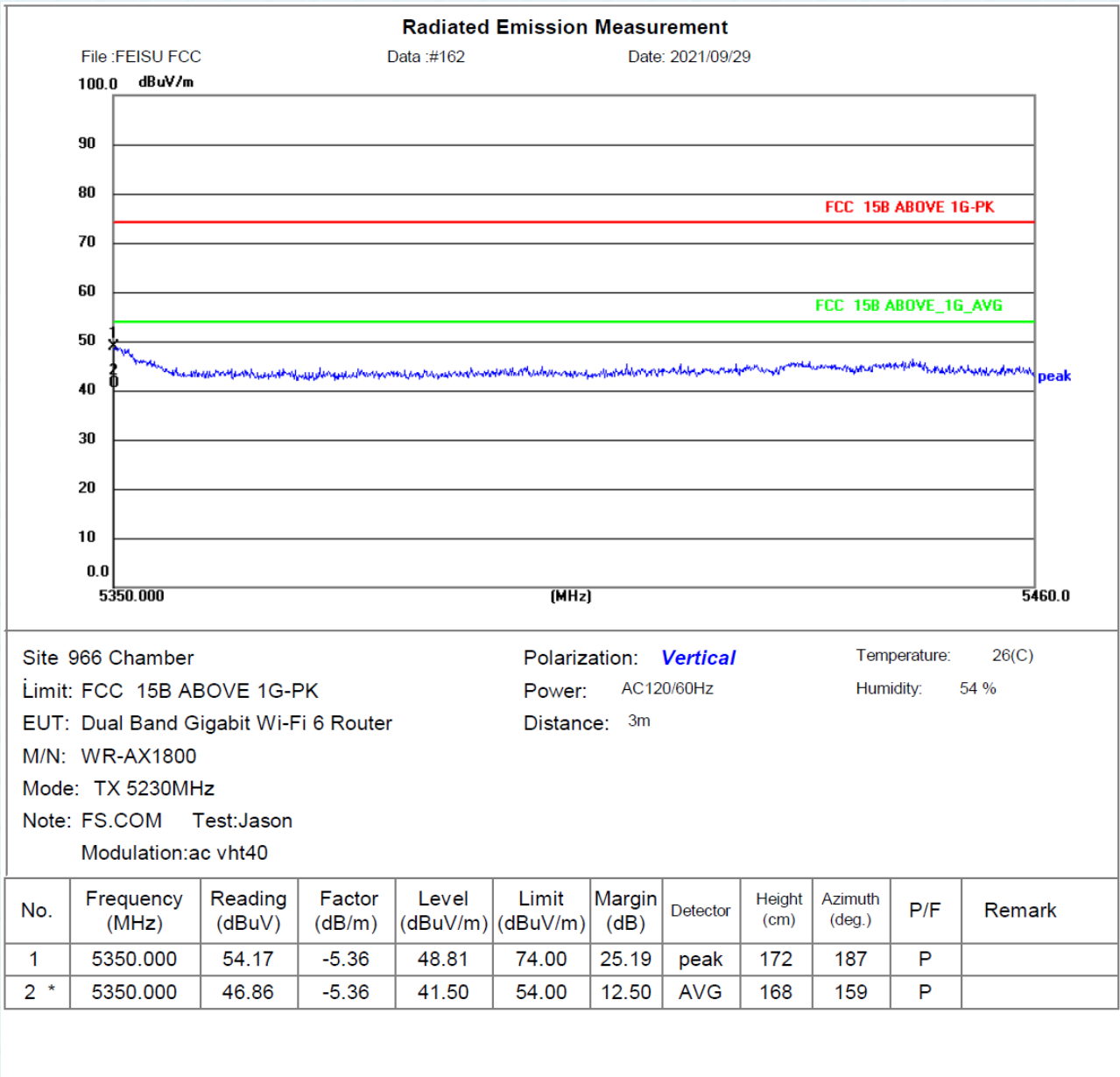
Horizontal: 802.11ac (VHT40) (TX 5230MHz)



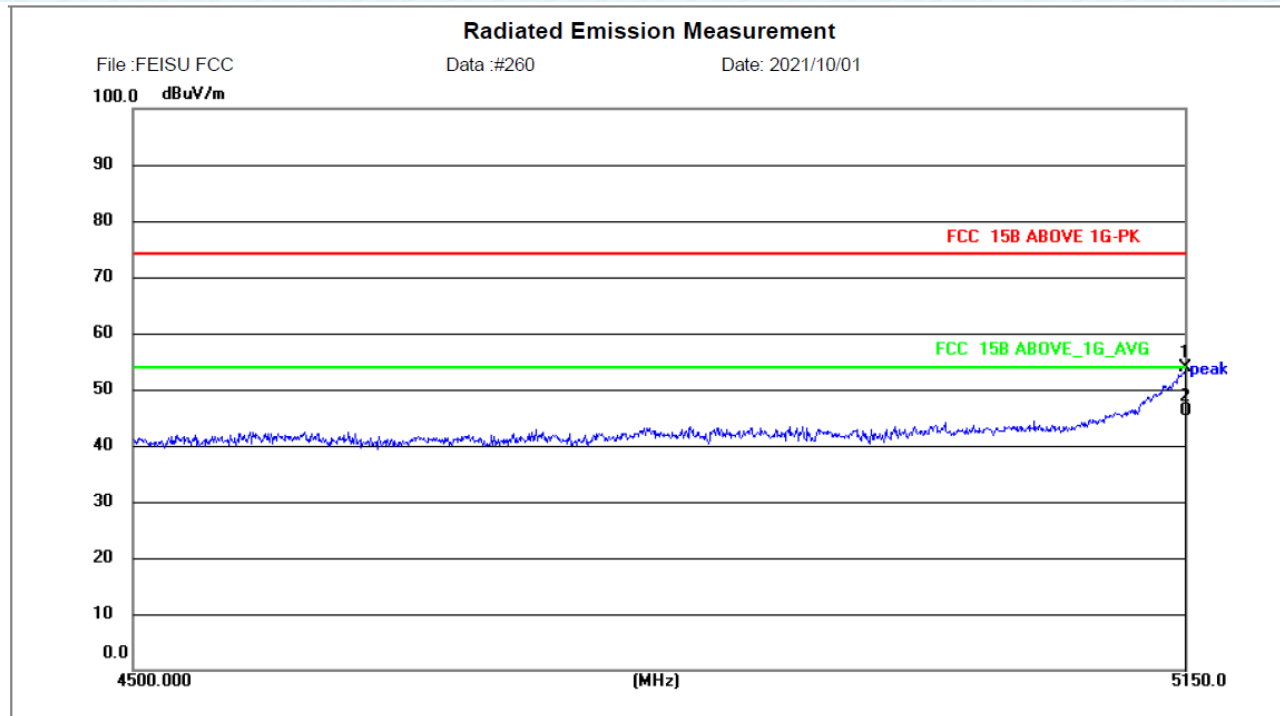
Site 966 Chamber	Polarization: Horizontal	Temperature: 26(C)
Limit: FCC 15B ABOVE 1G-PK	Power: AC120/60Hz	Humidity: 54 %
EUT: Dual Band Gigabit Wi-Fi 6 Router	Distance: 3m	
M/N: WR-AX1800		
Mode: TX 5230MHz		
Note: FS.COM Test:Jason		
Modulation:ac vht40		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5350.476	51.20	-5.35	45.85	74.00	28.15	peak	153	215	P	
2 *	5350.476	44.14	-5.35	38.79	54.00	15.21	AVG	146	203	P	

Vertical: 802.11ac (VHT40) (TX 5230MHz)



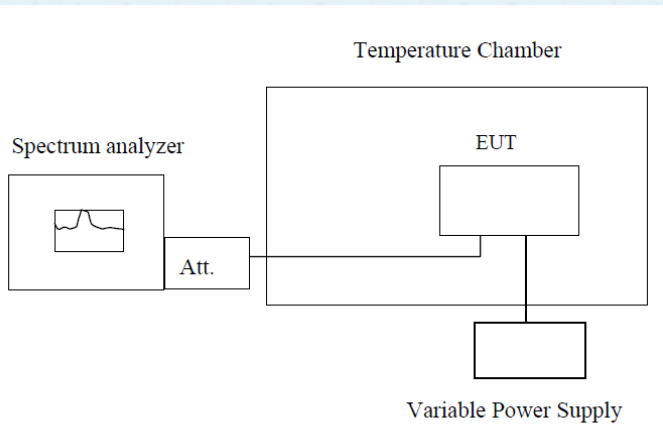
Vertical: 802.11ac (VHT80) (TX 5210MHz)



Site 966 Chamber	Polarization: Vertical	Temperature: 26(C)
Limit: FCC 15B ABOVE 1G-PK	Power: AC120/60Hz	Humidity: 54 %
EUT: Dual Band Gigabit Wi-Fi 6 Router	Distance: 3m	
M/N: WR-AX1800		
Mode: TX 5210MHz		
Note: FS.COM Test:Jason		
Modulation:ac VHT80		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5150.000	59.54	-5.76	53.78	74.00	20.22	peak	116	58	P	
2 *	5150.000	52.01	-5.76	46.25	54.00	7.75	AVG	125	103	P	

7.8 Frequency stability

Test Requirement:	FCC Part15 C Section 15.407(g)
Test Method:	ANSI C63.10:2013, FCC Part 2.1055
Limit:	Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified
Test Procedure:	The EUT was setup to ANSI C63.4, 2003; tested to 2.1055 for compliance to FCC Part 15.407(g) requirements.
Test setup:	 <p>Note : Measurement setup for testing on Antenna connector</p>
Test Instruments:	Refer to section 6 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Remark: Set the EUT transmits at un-modulation mode to test frequency stability.

Pre-scan all test modes, found worst case at 802.11a, and so only show the test result of 802.11a

Measurement data:

Frequency stability versus Temp.									
Worse Case Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (VAC)	0 minute		2 minute		5 minute		10 minute	
		Measured Frequency (MHz)	Pass /Fail	Measured Frequency (MHz)	Pass /Fail	Measured Frequency (MHz)	Pass /Fail	Measured Frequency (MHz)	Pass /Fail
-30	120	5179.95	Pass	5179.96	Pass	5179.96	Pass	5179.97	Pass
-20	120	5179.96	Pass	5179.97	Pass	5179.98	Pass	5179.99	Pass
-10	120	5179.97	Pass	5179.98	Pass	5179.98	Pass	5179.98	Pass
0	120	5179.97	Pass	5179.99	Pass	5179.99	Pass	5179.98	Pass
10	120	5179.98	Pass	5179.98	Pass	5179.99	Pass	5179.99	Pass
20	120	5179.99	Pass	5179.97	Pass	5179.99	Pass	5180.00	Pass
30	120	5179.97	Pass	5179.98	Pass	5179.98	Pass	5179.98	Pass
40	120	5179.98	Pass	5179.98	Pass	5179.98	Pass	5180.01	Pass
50	120	5179.97	Pass	5179.97	Pass	5179.97	Pass	5179.98	Pass

Frequency stability versus Temp.									
Worse Case Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (VAC)	0 minute		2 minute		5 minute		10 minute	
		Measured Frequency (MHz)	Pass /Fail	Measured Frequency (MHz)	Pass /Fail	Measured Frequency (MHz)	Pass /Fail	Measured Frequency (MHz)	Pass /Fail
25	120	5179.99	Pass	5180.00	Pass	5179.99	Pass	5180.00	Pass

Frequency stability versus Temp.									
Worse Case Operating Frequency: 5240MHz									
Temp. (°C)	Power Supply (VAC)	0 minute		2 minute		5 minute		10 minute	
		Measured Frequency (MHz)	Pass /Fail	Measured Frequency (MHz)	Pass /Fail	Measured Frequency (MHz)	Pass /Fail	Measured Frequency (MHz)	Pass /Fail
-30	120	5239.98	Pass	5239.99	Pass	5239.98	Pass	5239.99	Pass
-20	120	5239.97	Pass	5239.98	Pass	5239.98	Pass	5239.97	Pass
-10	120	5239.98	Pass	5239.99	Pass	5239.99	Pass	5239.98	Pass
0	120	5239.99	Pass	5239.99	Pass	5240.01	Pass	5239.99	Pass
10	120	5239.99	Pass	5239.98	Pass	5239.99	Pass	5239.99	Pass
20	120	5240.00	Pass	5239.99	Pass	5239.98	Pass	5240.02	Pass
30	120	5239.98	Pass	5239.97	Pass	5239.98	Pass	5239.98	Pass
40	120	5239.99	Pass	5239.98	Pass	5239.98	Pass	5239.99	Pass
50	120	5239.98	Pass	5239.98	Pass	5239.97	Pass	5239.97	Pass

Frequency stability versus Temp.									
Worse Case Operating Frequency: 5240MHz									
Temp. (°C)	Power Supply (VAC)	0 minute		2 minute		5 minute		10 minute	
		Measured Frequency (MHz)	Pass /Fail	Measured Frequency (MHz)	Pass /Fail	Measured Frequency (MHz)	Pass /Fail	Measured Frequency (MHz)	Pass /Fail
25	120	5239.98	Pass	5239.98	Pass	5239.99	Pass	5240.01	Pass

8 Test Setup Photo

Reference to the **appendix I** for details.

9 EUT Constructional Details

Reference to the **appendix II** for details.

---END---