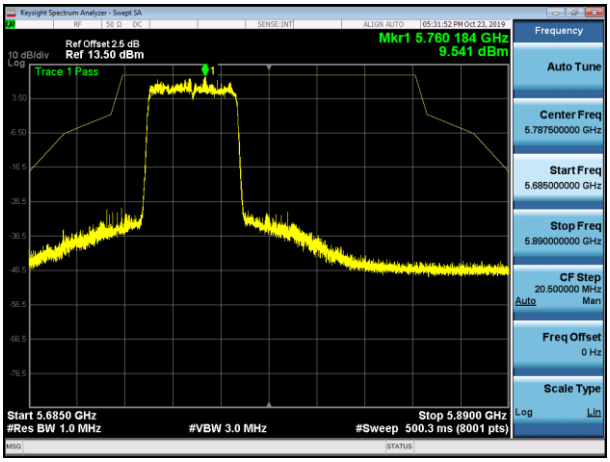
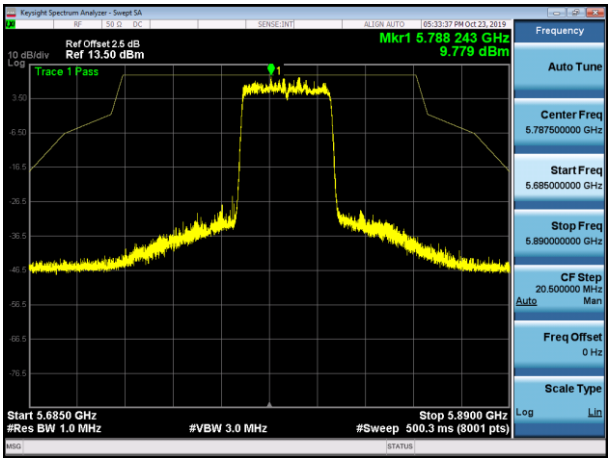
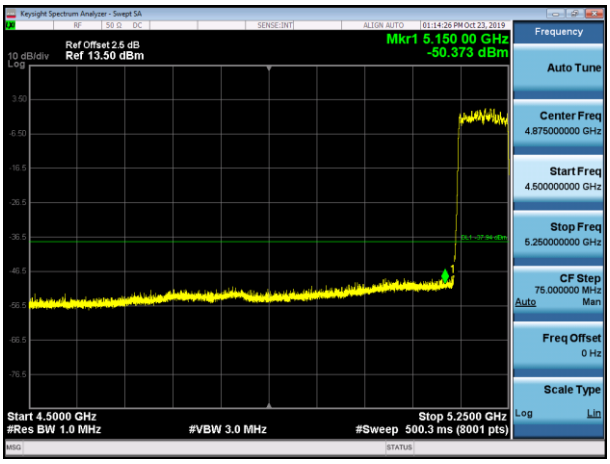
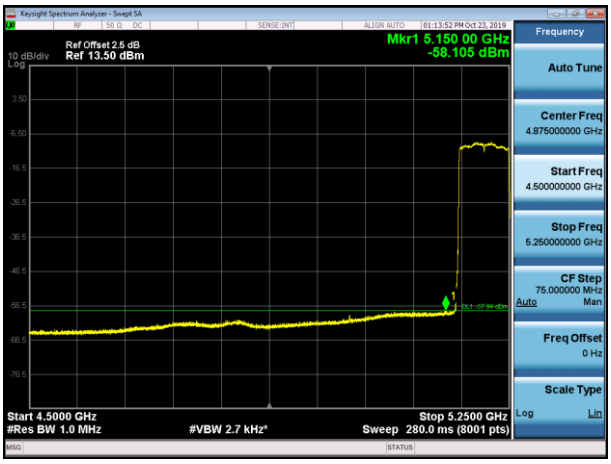
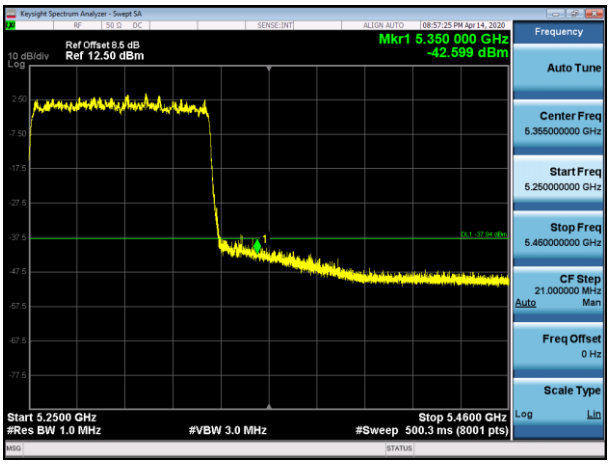
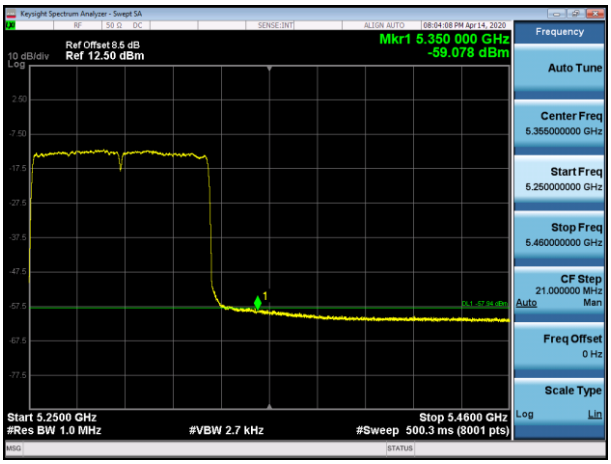
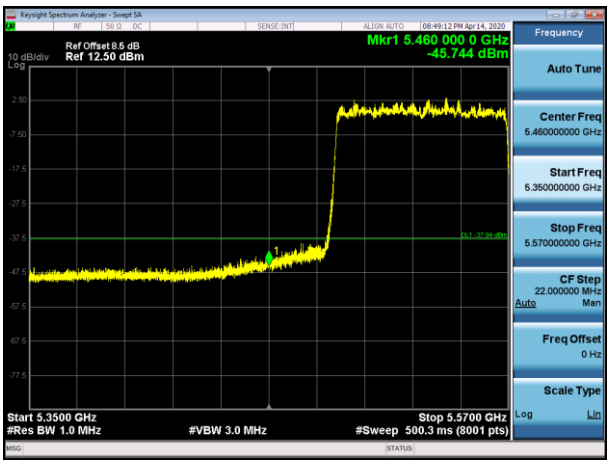
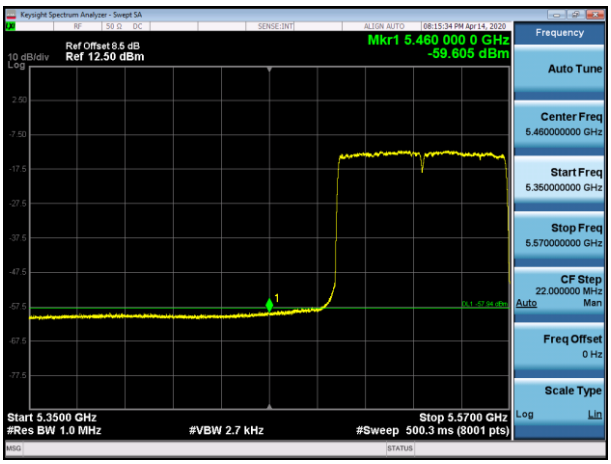
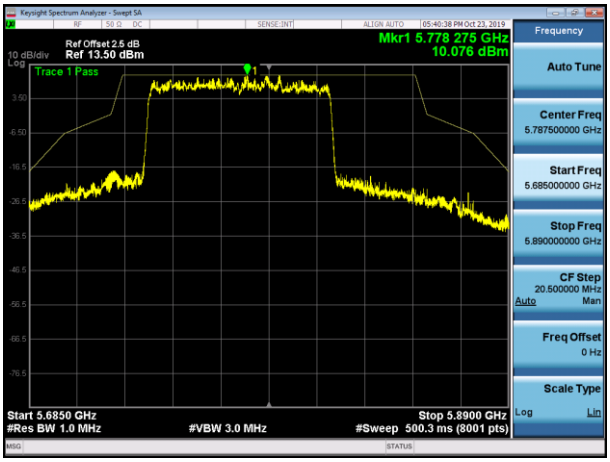
5755MHz with 4*4 Beamforming PK	5795MHz with 4*4 Beamforming PK
	

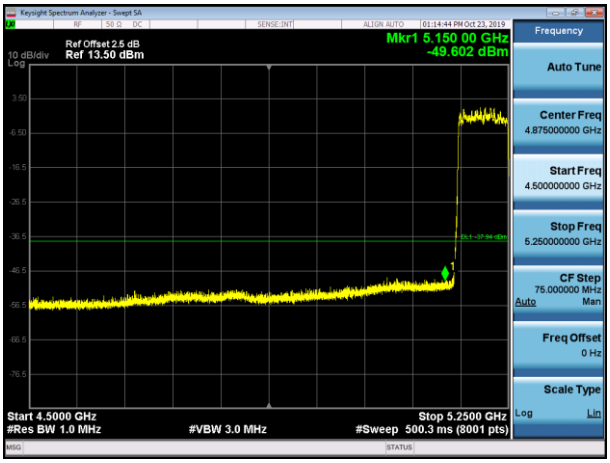
802.11ax(80MHz)

5210MHz with 4*4 CDD PK	5210MHz with 4*4 CDD AV
	
5290MHz with 4*4 CDD PK	5290MHz with 4*4 CDD AV
	
5530MHz with 4*4 CDD PK	5530MHz with 4*4 CDD AV
	

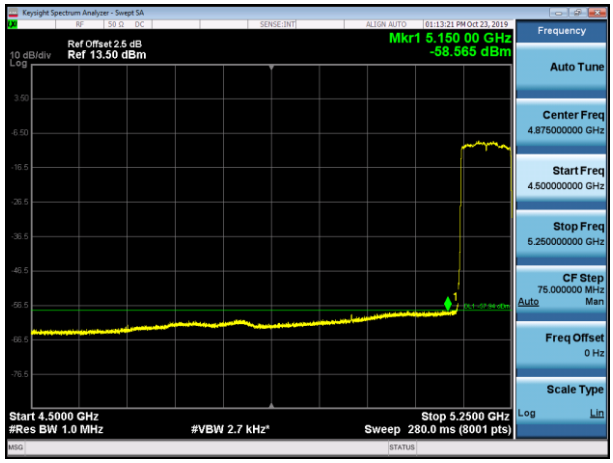
5775MHz with 4*4 CDD PK



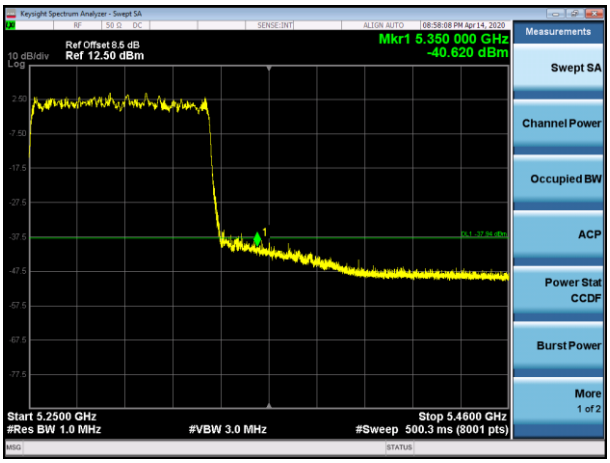
5210MHz with 4*4 Beamforming PK



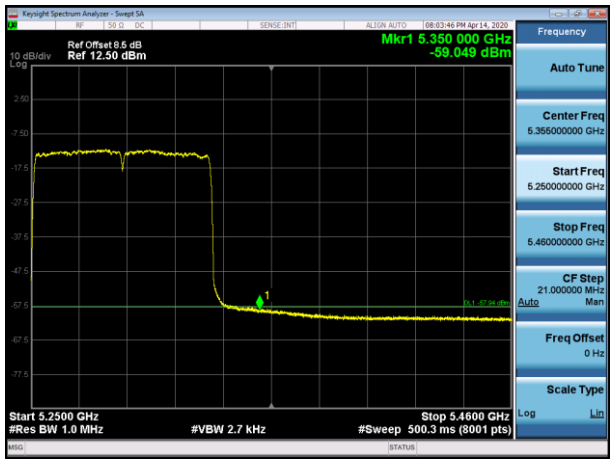
5210MHz with 4*4 Beamforming AV



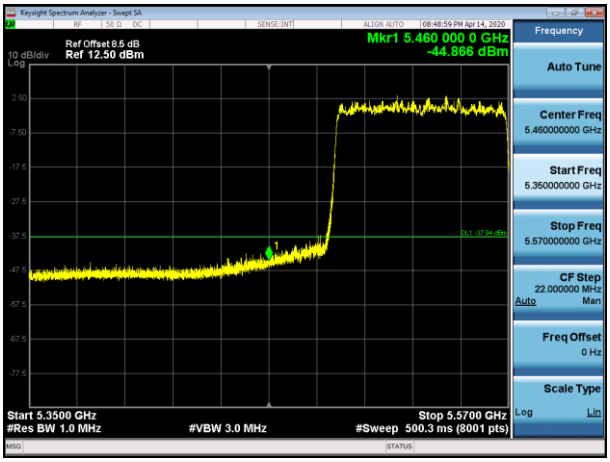
5290MHz with 4*4 Beamforming PK



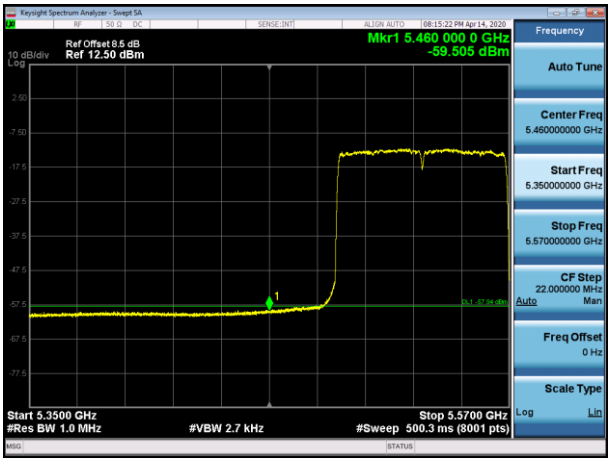
5290MHz with 4*4 Beamforming AV



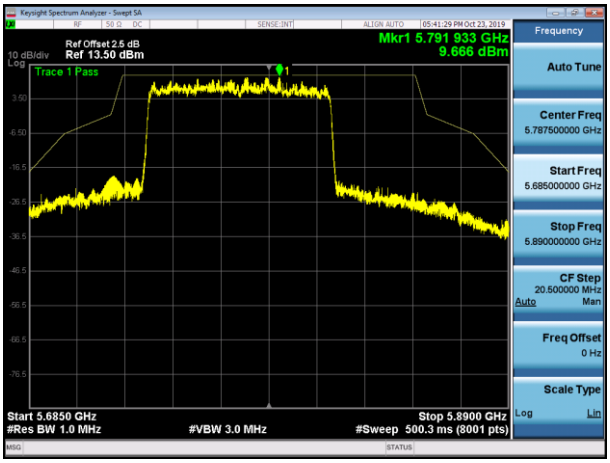
5530MHz with 4*4 Beamforming PK



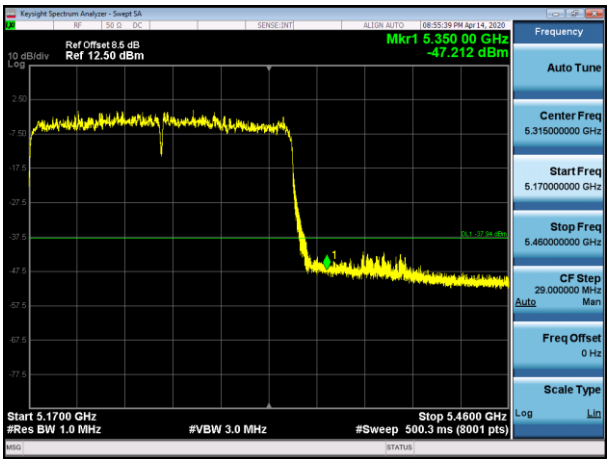
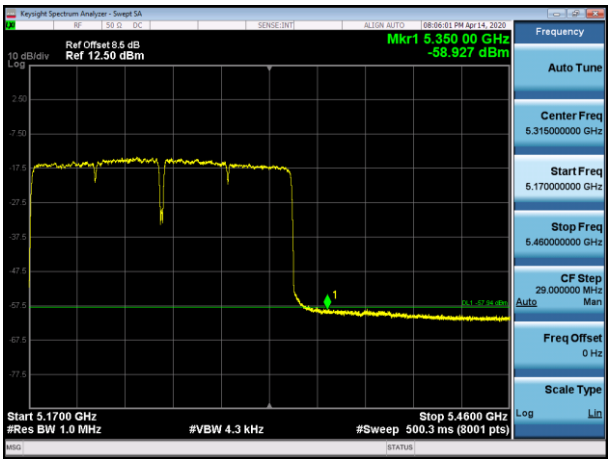
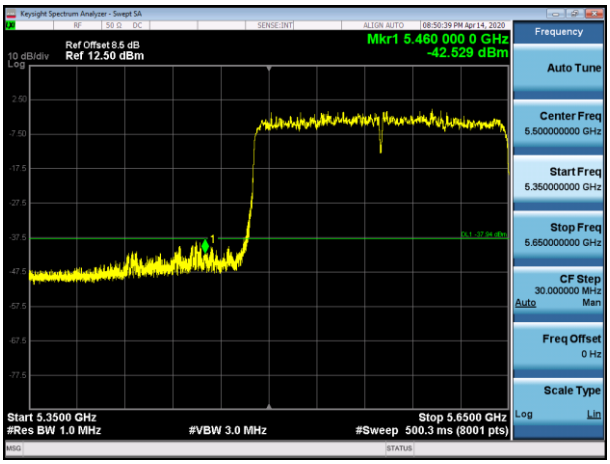
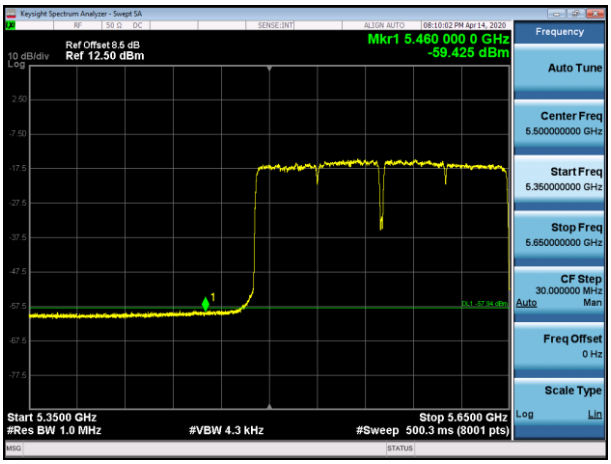
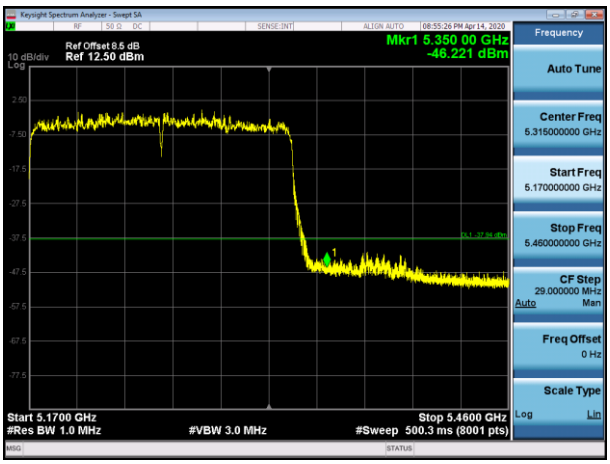
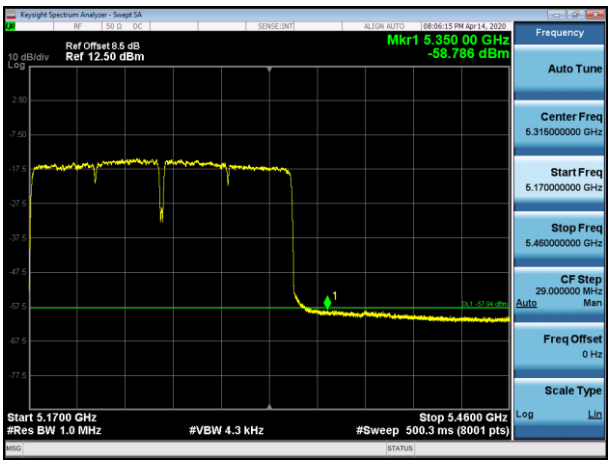
5530MHz with 4*4 Beamforming AV

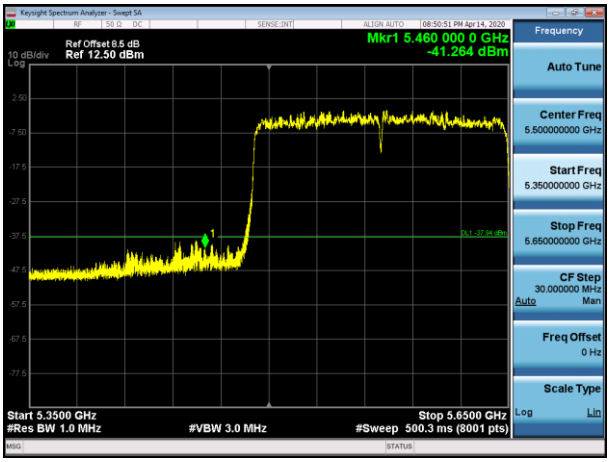
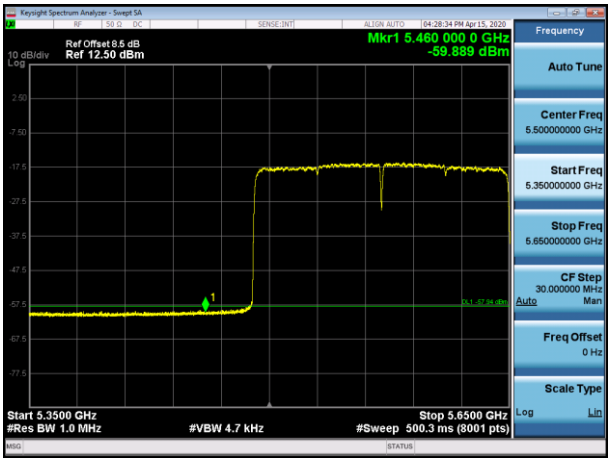


5775MHz with 4*4 Beamforming PK



802.11ax(160MHz)

5250MHz with 4*4 CDD PK	5250MHz with 4*4 CDD AV
	
5570MHz with 4*4 CDD PK	5570MHz with 4*4 CDD AV
	
5250MHz with 4*4 Beamforming PK	5250MHz with 4*4 Beamforming AV
	

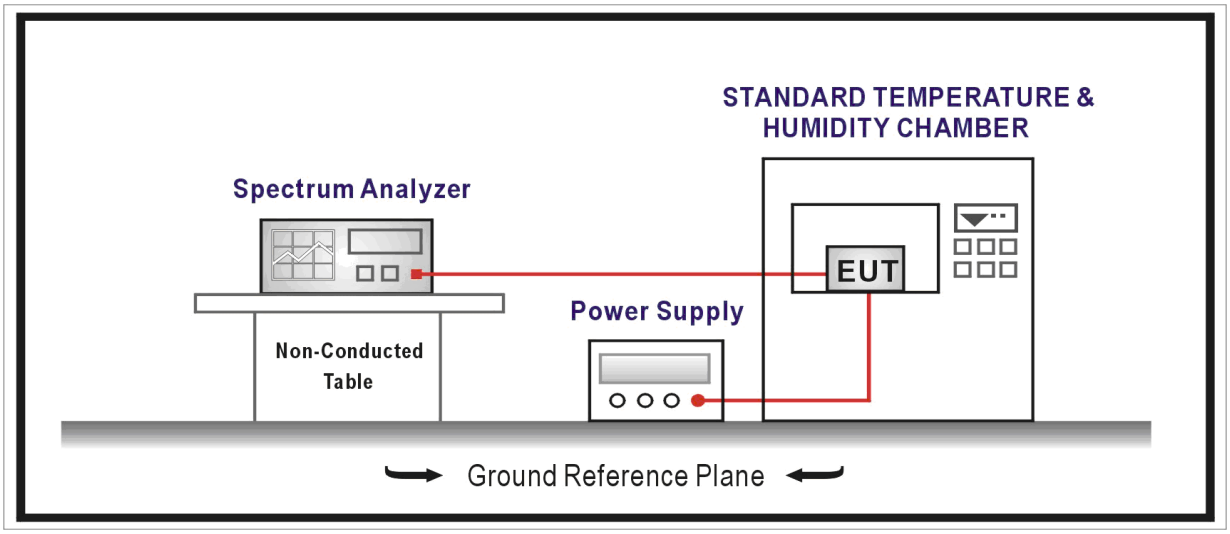
5570MHz with 4*4 Beamforming PK	5570MHz with 4*4 Beamforming AV
	

10. Frequency Stability

10.1. Test Equipment

Frequency Stability / TR-7					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2021.07.11	2022.07.10
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2021.08.12	2022.08.11
MXA Signal Anlyzer	Keysight	N9020A	MY56060147	2021.07.11	2022.07.10
AC Power Supply	IDRC	CF-500TP	979422	N/A	N/A
DC Power Supply	IDRC	CD-035-020PR	977272	N/A	N/A
High and low temperature damp and heat test box	Gaoyu	ASTD-TH-P-1000R	N/A	2021.09.17	2022.09.16
Temperature/Humidity Meter	zhichen	ZC1-2	TR7-TH	2021.08.04	2022.08.03
Note: All equipment are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

10.2. Test Setup



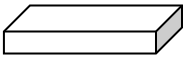
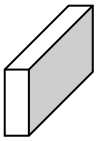
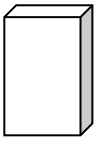
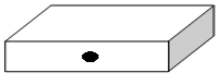
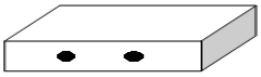
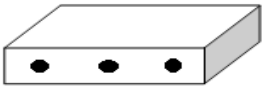
10.3. Limit

Frequency Stability Limit	
UNII Devices	
☒	In-band emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.
IEEE Std. 802.11n-2009	
☒	The transmitter center frequency tolerance shall be ± 20 ppm maximum for the 5 GHz band and ± 25ppm maximum for the 2.4 GHz band.

10.4. Test Procedure

Frequency Stability Test Method				
	References Rule		Chapter	Description
☒	ANSI C63.10		6.8	Frequency stability tests
	☒	ANSI C63.10	6.8.1	Frequency stability with respect to ambient temperature
	☒	ANSI C63.10	6.8.2	Frequency stability when varying supply voltage

10.5. EUT test Axis definition

Item	Frequency Stability				
Device Category	☒	Indoor use			
	☐	Outdoor use			
	☐	Fix position use			
	☐	Client use			
Test mode	Mode 1-10				
Test method	☐	Radiated			
		X Axis	Y Axis	Z Axis	
					
		Worst Axis ☐	Worst Axis ☐	Worst Axis ☐	
	☒	Conducted			
	☒	Chain 1			
					
	☒	Chain 1	Chain 2		
					
	☐	Chain 1	Chain 2	Chain 3	
					
	☒	Chain 1	Chain 2	Chain 3	Chain 4
					

10.6. Test Result

Product Name	:	Wireless Access Point	Power	:	AC 120V/60Hz
Test Mode	:	Carrier Wave	Test Site	:	TR-7
Test Date	:	2019.12.05	Test Engineer	:	Simon

Frequency Stability under Temperature at 0min

Temperature Interval (℃)	Test Frequency (MHz)	Deviation (Hz)	ppm	Limit
-30	5220.000	133	0.025	±20
-20	5220.000	85	0.016	±20
-10	5220.000	135	0.026	±20
0	5220.000	14	0.003	±20
10	5220.000	142	0.027	±20
20	5220.000	-142	-0.027	±20
30	5220.000	63	0.012	±20
40	5220.000	-134	-0.026	±20
50	5220.000	19	0.004	±20

Frequency Stability under Temperature at 2min

Temperature Interval (℃)	Test Frequency (MHz)	Deviation (Hz)	ppm	Limit
-30	5220.000	44	0.008	±20
-20	5220.000	134	0.026	±20
-10	5220.000	134	0.026	±20
0	5220.000	-101	-0.019	±20
10	5220.000	150	0.029	±20
20	5220.000	-69	-0.013	±20
30	5220.000	156	0.030	±20
40	5220.000	57	0.011	±20
50	5220.000	-118	-0.023	±20

Frequency Stability under Temperature at 5min

Temperature Interval (℃)	Test Frequency (MHz)	Deviation (Hz)	ppm	Limit
-30	5220.000	-80	-0.015	±20
-20	5220.000	109	0.021	±20
-10	5220.000	58	0.011	±20
0	5220.000	11	0.002	±20
10	5220.000	-98	-0.019	±20
20	5220.000	-72	-0.014	±20
30	5220.000	122	0.023	±20
40	5220.000	99	0.019	±20
50	5220.000	170	0.033	±20

Frequency Stability under Temperature at 10min

Temperature Interval (℃)	Test Frequency (MHz)	Deviation (Hz)	ppm	Limit
-30	5220.000	187	0.036	±20
-20	5220.000	-144	-0.028	±20
-10	5220.000	-72	-0.014	±20
0	5220.000	121	0.023	±20
10	5220.000	175	0.034	±20
20	5220.000	-90	-0.017	±20
30	5220.000	100	0.019	±20
40	5220.000	-97	-0.019	±20
50	5220.000	-64	-0.012	±20

Frequency Stability under Voltage

AC Voltage (V)	Test Frequency (MHz)	Deviation (Hz)	ppm	Limit
102	5220.000	-42	-0.008	±20
120	5220.000	-131	-0.025	±20
138	5220.000	98	0.019	±20

11. Antenna Requirement

11.1. Limit

Antenna Requirement Limit
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

11.2. Antenna Connector Construction

Antenna Connector Construction	
☒	The use of a permanently attached antenna
☐	The antenna use of a unique coupling to the intentional radiator
☐	The use of a nonstandard antenna jack or electrical connector
Please refer to the attached document “Internal Photograph” to show the antenna connector.	

The End