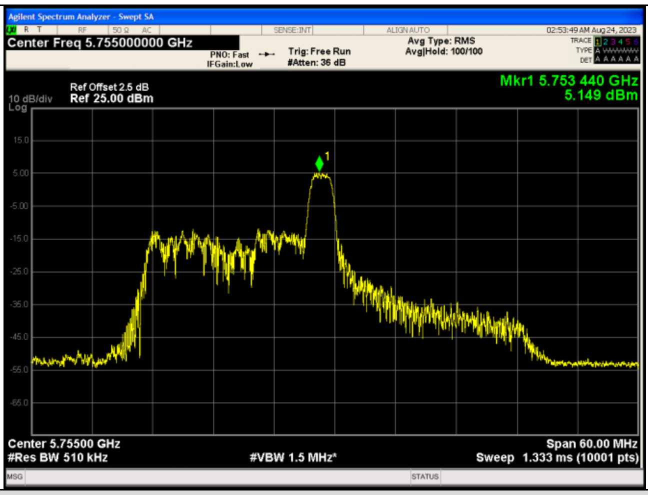
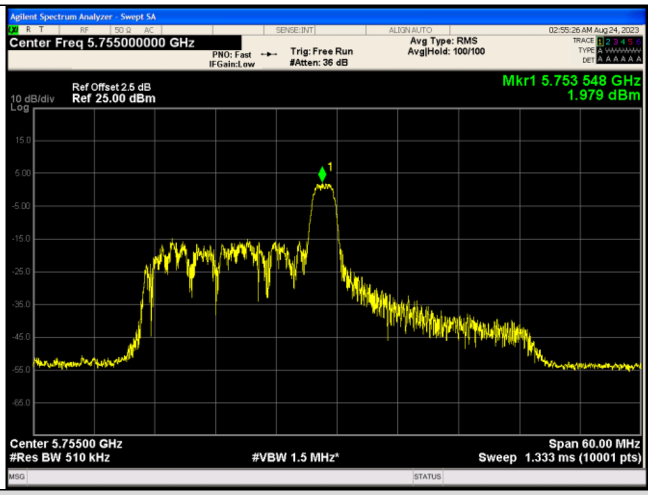
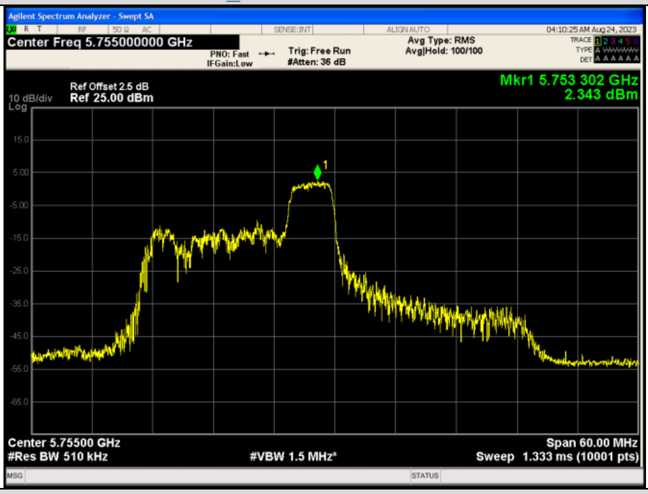


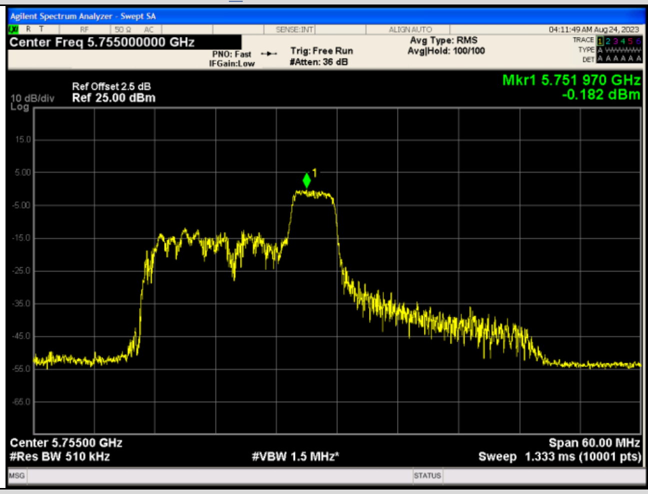
IEEE 802.11ax_Channel 151_40MHz_Antenna 0_RU&Index 26RU8



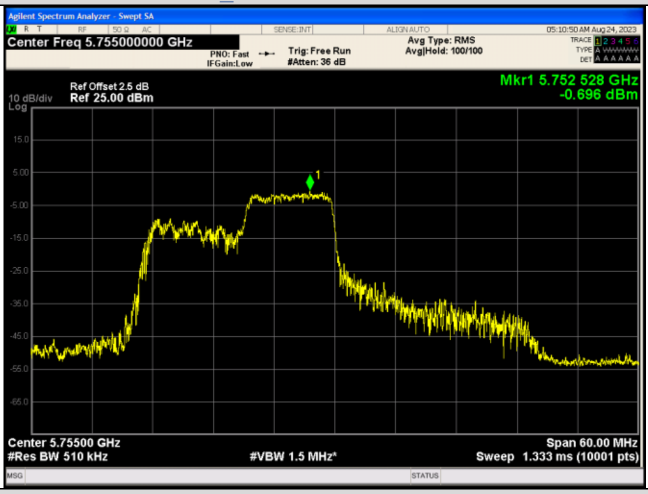
IEEE 802.11ax_Channel 151_40MHz_Antenna 1_RU&Index 26RU8



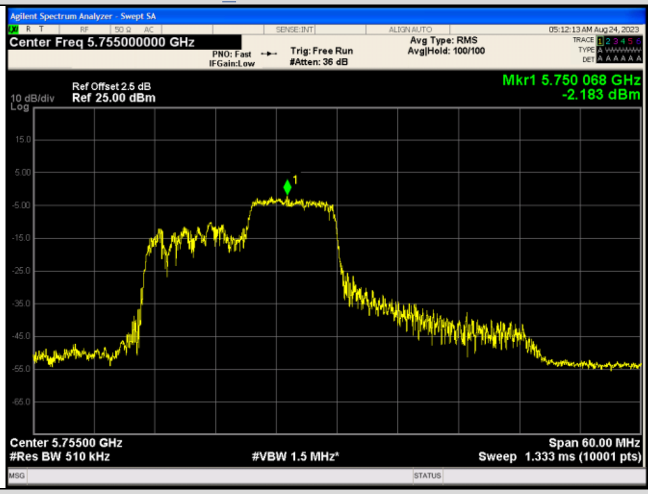
IEEE 802.11ax_Channel 151_40MHz_Antenna 0_RU&Index 52RU40



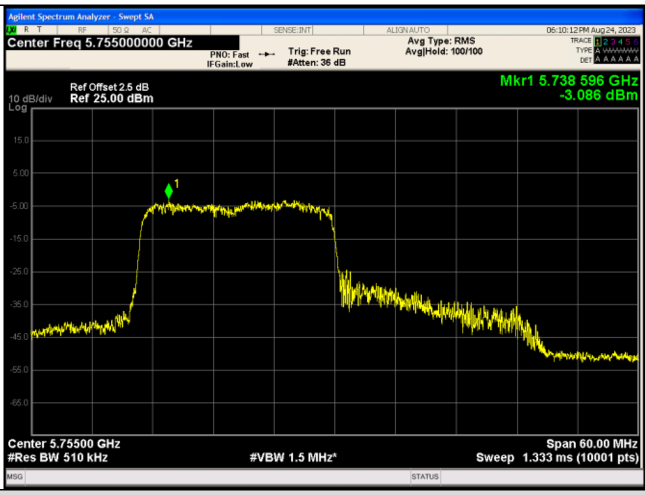
IEEE 802.11ax_Channel 151_40MHz_Antenna 1_RU&Index 52RU40



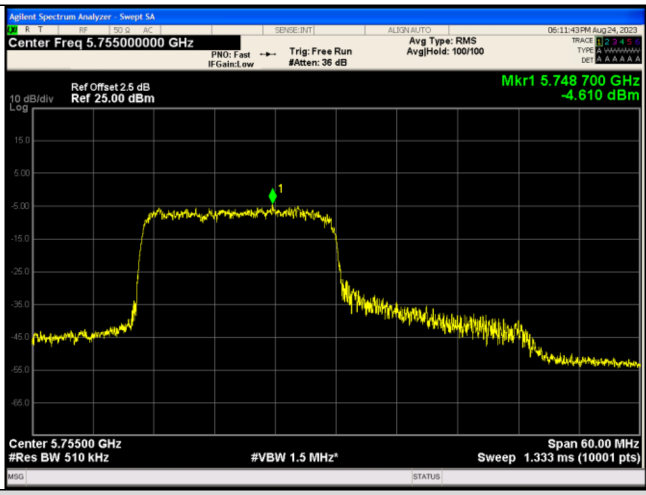
IEEE 802.11ax_Channel 151_40MHz_Antenna 0_RU&Index 106RU54



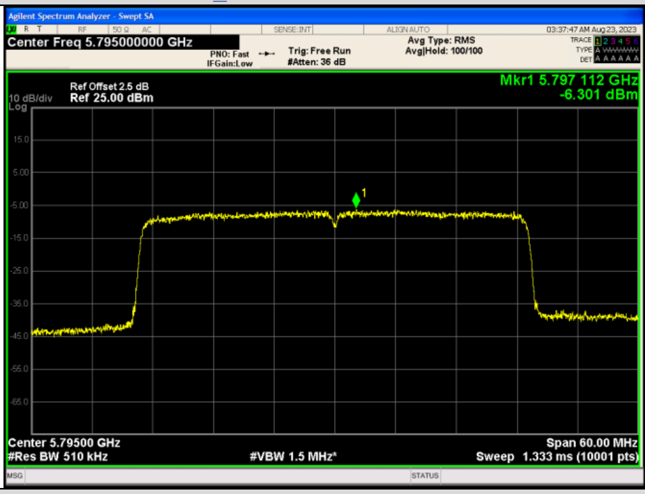
IEEE 802.11ax_Channel 151_40MHz_Antenna 1_RU&Index 106RU54



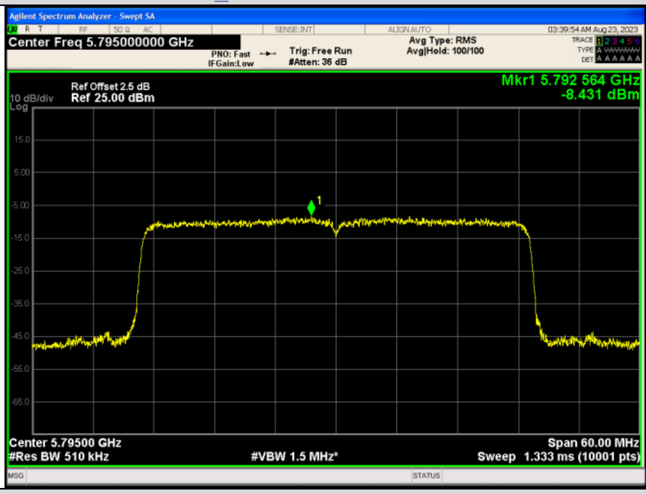
IEEE 802.11ax_Channel 151_40MHz_Antenna 0_RU&Index 242RU61



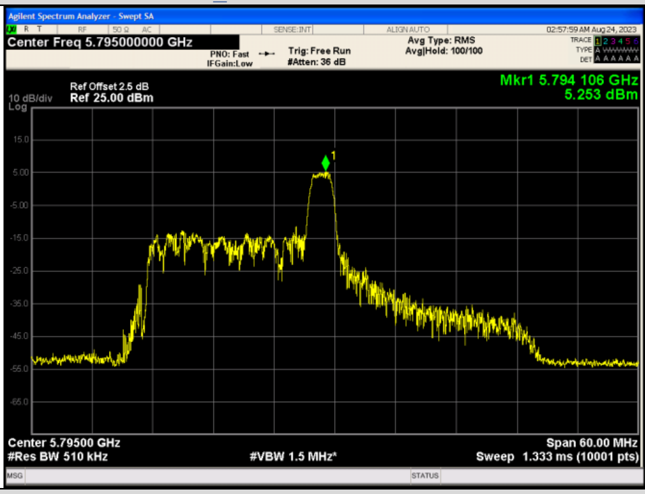
IEEE 802.11ax_Channel 151_40MHz_Antenna 1_RU&Index 242RU61



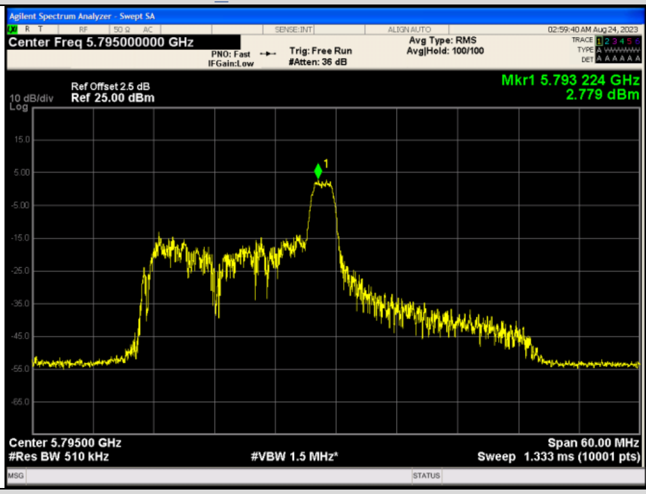
IEEE 802.11ax_Channel 159_40MHz_Antenna 0_RU&Index 484RU65



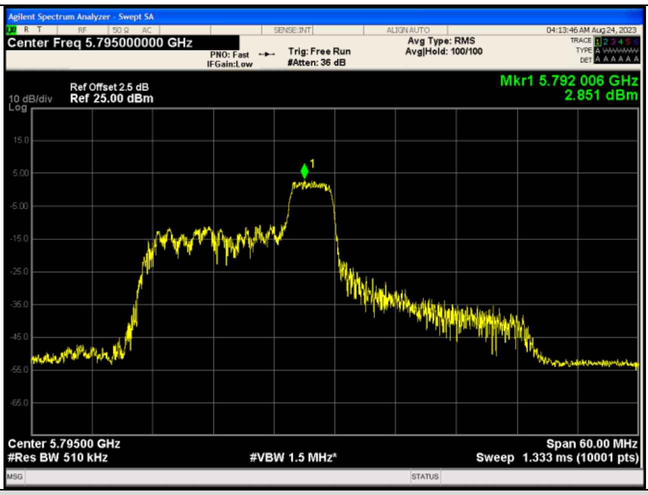
IEEE 802.11ax_Channel 159_40MHz_Antenna 1_RU&Index 484RU65



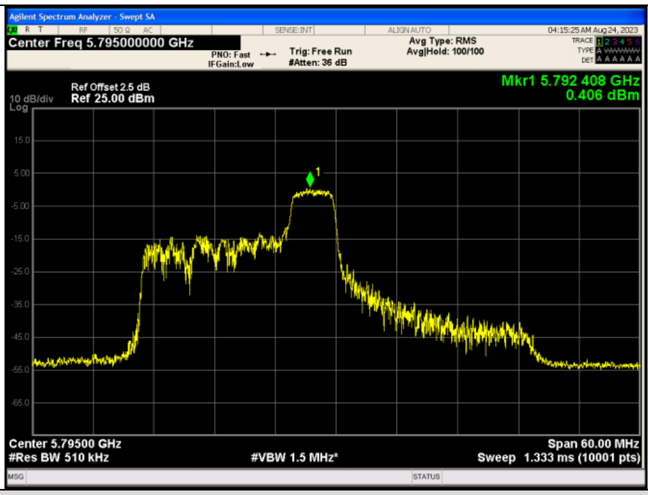
IEEE 802.11ax_Channel 159_40MHz_Antenna 0_RU&Index 26RU8



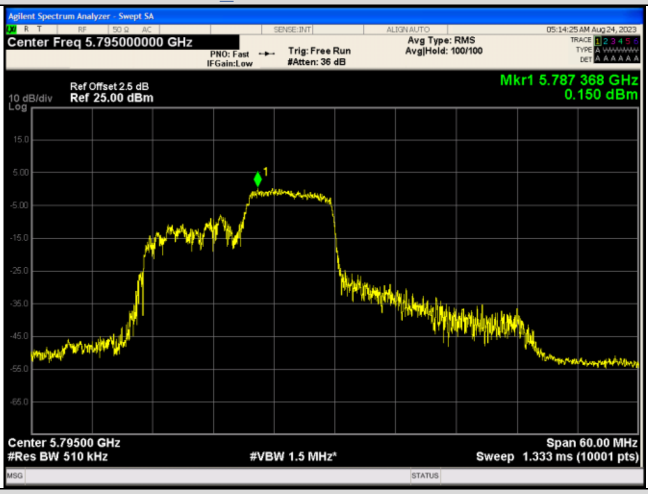
IEEE 802.11ax_Channel 159_40MHz_Antenna 1_RU&Index 26RU8



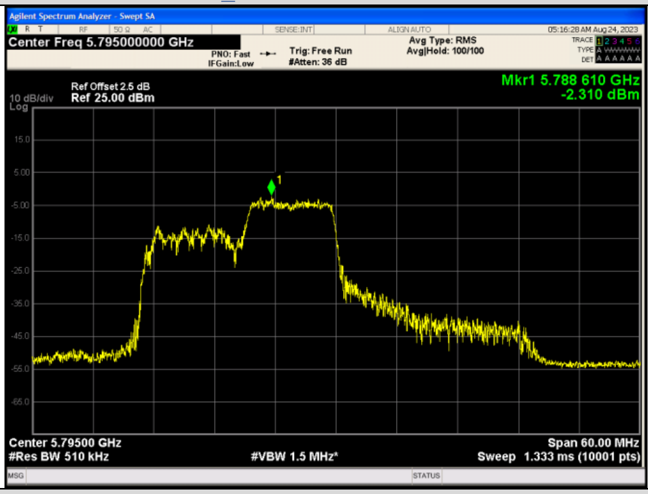
IEEE 802.11ax_Channel 159_40MHz_Antenna 0_RU&Index 52RU40



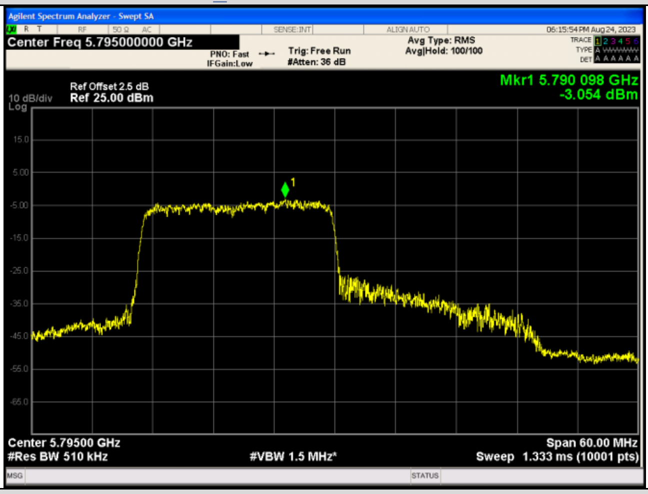
IEEE 802.11ax_Channel 159_40MHz_Antenna 1_RU&Index 52RU40



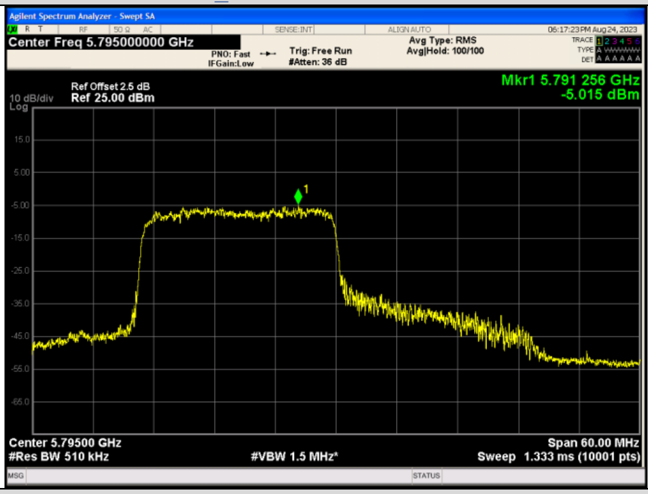
IEEE 802.11ax_Channel 159_40MHz_Antenna 0_RU&Index 106RU54



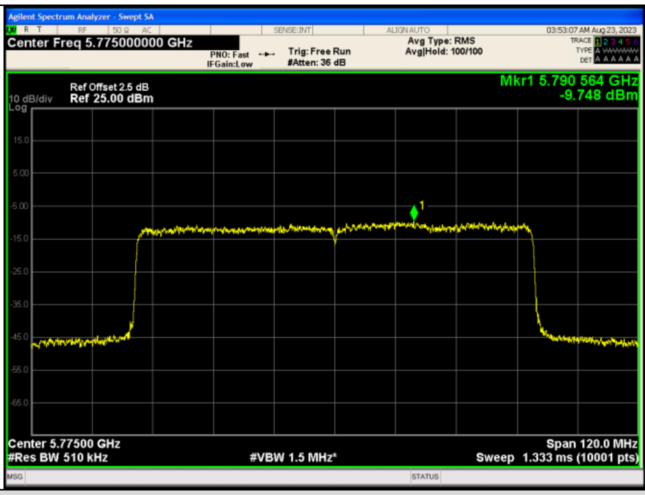
IEEE 802.11ax_Channel 159_40MHz_Antenna 1_RU&Index 106RU54



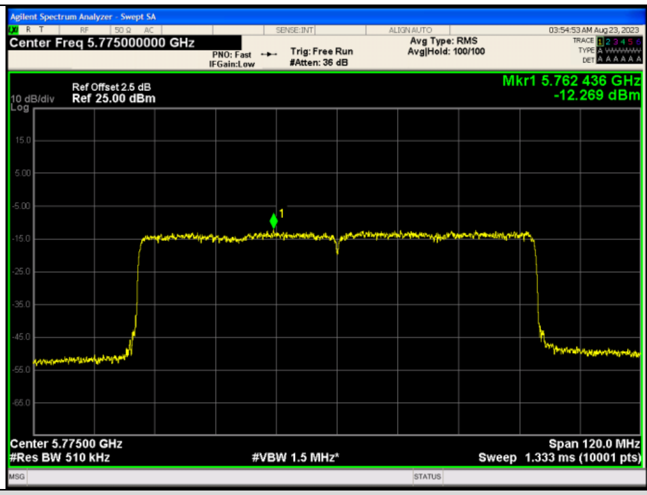
IEEE 802.11ax_Channel 159_40MHz_Antenna 0_RU&Index 242RU61



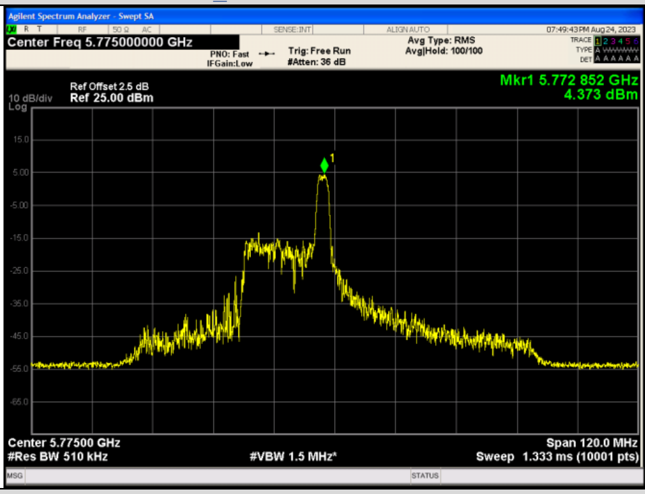
IEEE 802.11ax_Channel 159_40MHz_Antenna 1_RU&Index 242RU61



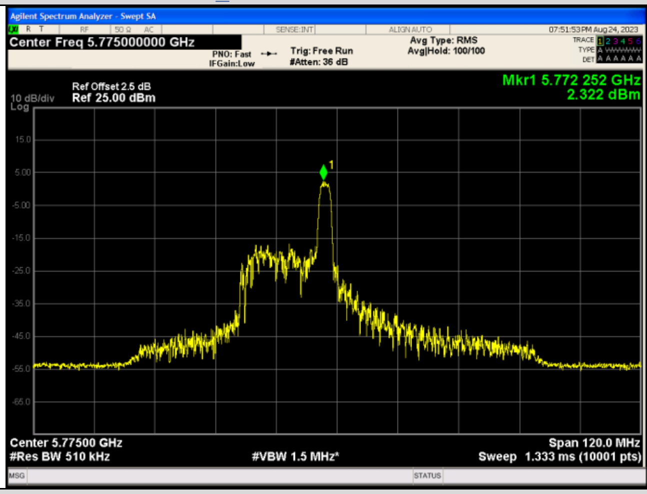
IEEE 802.11ax_Channel 155_80MHz_Antenna 0_RU&Index 997RU67



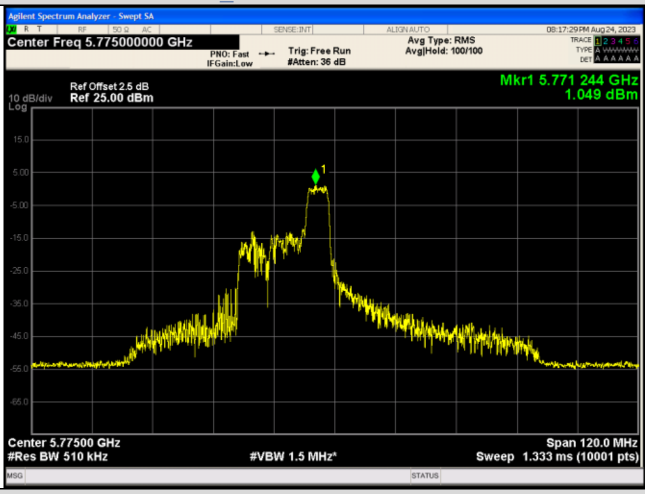
IEEE 802.11ax_Channel 155_80MHz_Antenna 1_RU&Index 997RU67



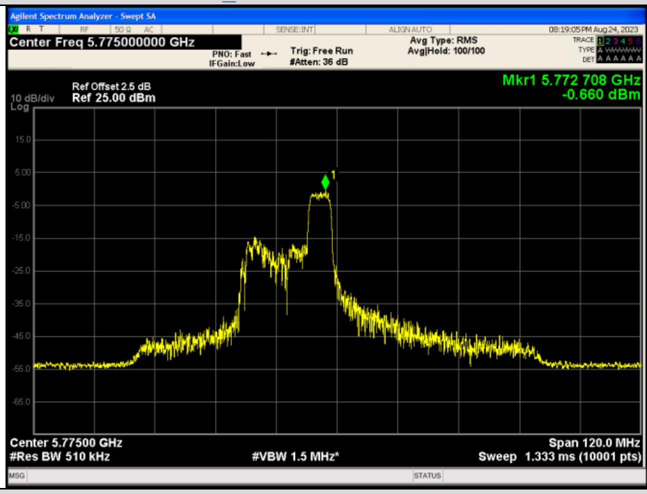
IEEE 802.11ax_Channel 155_80MHz_Antenna 0_RU&Index 26RU17



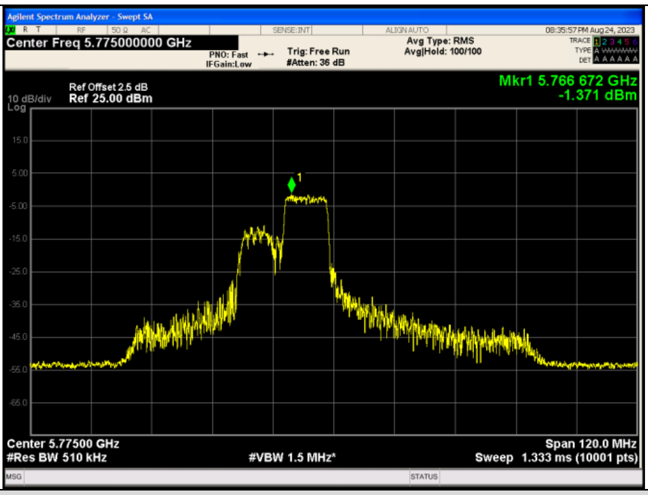
IEEE 802.11ax_Channel 155_80MHz_Antenna 1_RU&Index 26RU17



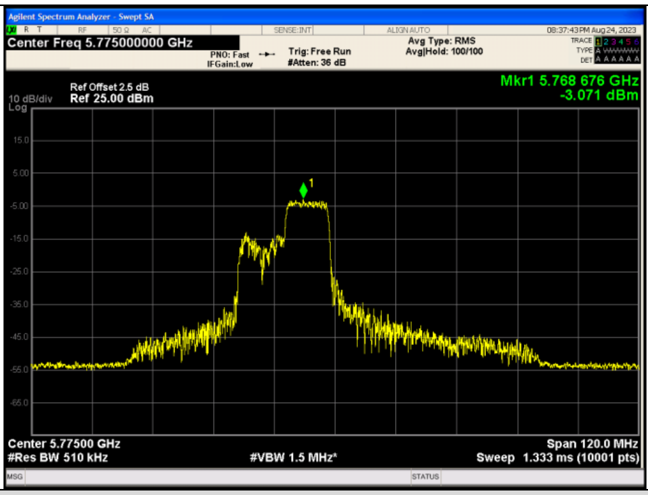
IEEE 802.11ax_Channel 155_80MHz_Antenna 0_RU&Index 52RU44



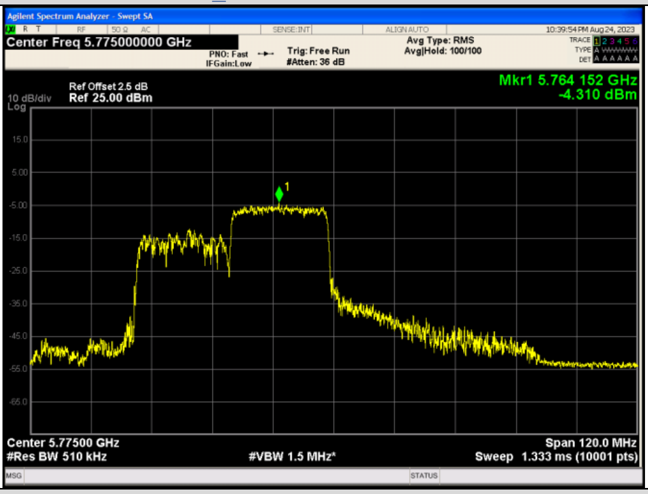
IEEE 802.11ax_Channel 155_80MHz_Antenna 1_RU&Index 52RU44



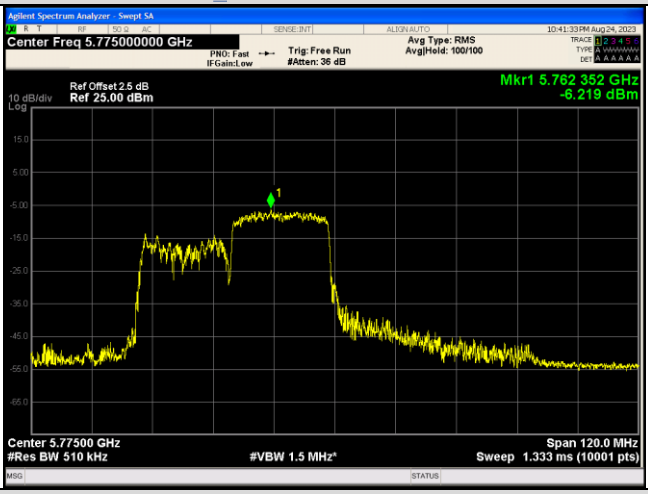
IEEE 802.11ax_Channel 155_80MHz_Antenna 0_RU&Index 106RU56



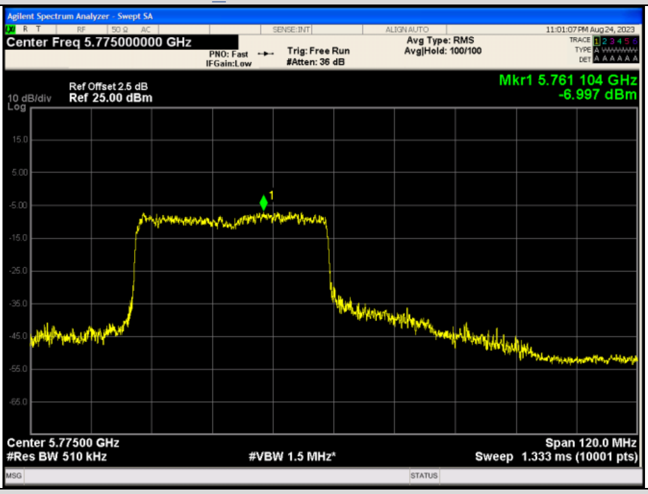
IEEE 802.11ax_Channel 155_80MHz_Antenna 1_RU&Index 106RU56



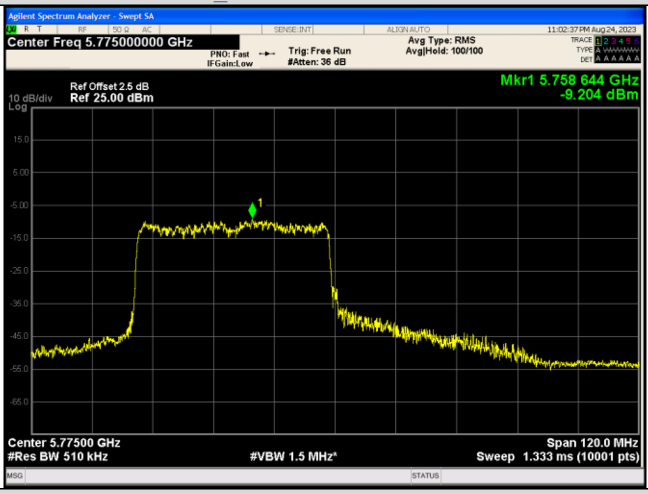
IEEE 802.11ax_Channel 155_80MHz_Antenna 0_RU&Index 242RU62



IEEE 802.11ax_Channel 155_80MHz_Antenna 1_RU&Index 242RU62



IEEE 802.11ax_Channel 155_80MHz_Antenna 0_RU&Index 484RU65



IEEE 802.11ax_Channel 155_80MHz_Antenna 1_RU&Index 484RU65

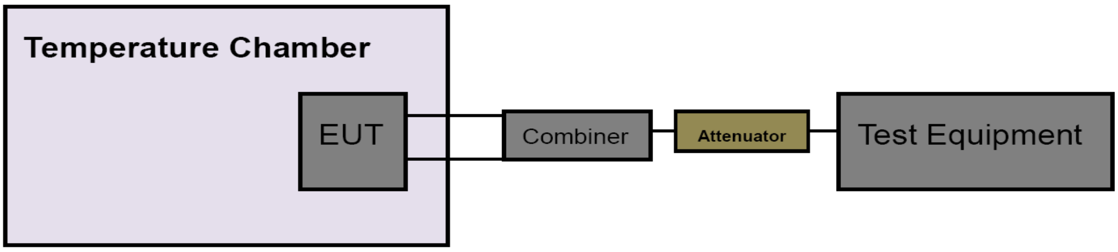
3.7. Frequency Stability

Limit

FCC CFR Title 47 Part 15 Subpart E Section 15.407(g)

Test Item	Limit	Frequency Range (MHz)
Frequency Stability	Specified in the user's manual, the transmitter center frequency tolerance shall be ±20 ppm maximum for the 5 GHz band (IEEE 802.11n specification)	5150~5250
		5250~5350
		5500~5700
		5725~5850

Test Configuration



Test Procedure

The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above.

(1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
(2) Set analyzer center frequency to transmitting frequency.
(3) Set the span to encompass the entire emissions bandwidth (EBW) of the signal.
(4) Set the RBW to: 8MHz, VBW=8MHz with peak detector and max hold settings.
(5) The test extreme voltage is to change the primary supply voltage from 230V to 110V percent of the nominal value.
(6) Extreme temperature is -10℃~40℃

NOTE: The EUT was set to continuously transmitting in continuously un-modulation transmitting mode.

Test Mode

Please refer to the clause 2.4.

Test Result

Condition	Mode	Ch.	Antenna	Center Frequency (MHz)	Calculated Value of Center Frequency(MHz)	Result (ppm)	Limit (ppm)	State
NT/NV	20M	36	0	5180.0	5179.984618	-2.97	20	PASS
			1	5180.0	5179.978568	-4.14		PASS
		40	0	5200.0	5199.967318	-6.29		PASS
			1	5200.0	5199.963143	-7.09		PASS
		48	0	5240.0	5239.966555	-6.38		PASS
			1	5240.0	5239.960943	-7.45		PASS
	40M	38	0	5190.0	5189.963768	-6.98		PASS
			1	5190.0	5189.957905	-8.11		PASS
		46	0	5230.0	5229.961593	-7.34		PASS
			1	5230.0	5229.957830	-8.06		PASS
	80M	42	0	5210.0	5209.967568	-6.22		PASS
			1	5210.0	5209.964518	-6.81		PASS
LT/NV	20M	36	0	5180.0	5179.973043	-5.2		PASS
			1	5180.0	5179.971918	-5.42		PASS
		40	0	5200.0	5199.961443	-7.41		PASS
			1	5200.0	5199.960568	-7.58		PASS
		48	0	5240.0	5239.958230	-7.97		PASS
			1	5240.0	5239.957518	-8.11		PASS
	40M	38	0	5190.0	5189.956555	-8.37		PASS
			1	5190.0	5189.955755	-8.53		PASS
		46	0	5230.0	5229.956405	-8.34		PASS
			1	5230.0	5229.955893	-8.43		PASS
	80M	42	0	5210.0	5209.963055	-7.09		PASS
			1	5210.0	5209.962593	-7.18		PASS
HT/NV	20M	36	0	5180.0	5179.970681	-5.66		PASS
			1	5180.0	5179.969918	-5.81		PASS
		40	0	5200.0	5199.959918	-7.71		PASS
			1	5200.0	5199.959568	-7.78		PASS
		48	0	5240.0	5239.957055	-8.2		PASS
			1	5240.0	5239.956718	-8.26		PASS
	40M	38	0	5190.0	5189.955568	-8.56		PASS
			1	5190.0	5189.955018	-8.67		PASS
		46	0	5230.0	5229.955518	-8.51		PASS
			1	5230.0	5229.955218	-8.56		PASS
	80M	42	0	5210.0	5209.961755	-7.34		PASS
			1	5210.0	5209.961418	-7.41		PASS
-10℃/NV	20M	36	0	5180.0	5179.969180	-5.95		PASS
			1	5180.0	5179.968393	-6.1		PASS
		40	0	5200.0	5199.958843	-7.91		PASS
			1	5200.0	5199.958618	-7.96		PASS
		48	0	5240.0	5239.956205	-8.36		PASS
			1	5240.0	5239.956018	-8.39		PASS
	40M	38	0	5190.0	5189.954980	-8.67		PASS
			1	5190.0	5189.954930	-8.68		PASS
		46	0	5230.0	5229.954868	-8.63		PASS
			1	5230.0	5229.954730	-8.66		PASS
	80M	42	0	5210.0	5209.961118	-7.46		PASS
			1	5210.0	5209.960980	-7.49		PASS
0℃/NV	20M	36	0	5180.0	5179.967818	-6.21		PASS
			1	5180.0	5179.967330	-6.31		PASS
		40	0	5200.0	5199.958280	-8.02		PASS
			1	5200.0	5199.958105	-8.06		PASS
		48	0	5240.0	5239.955868	-8.42		PASS
			1	5240.0	5239.955693	-8.46		PASS
	40M	38	0	5190.0	5189.954855	-8.7		PASS
			1	5190.0	5189.954768	-8.72		PASS
		46	0	5230.0	5229.954618	-8.68		PASS
			1	5230.0	5229.954518	-8.7		PASS
	80M	42	0	5210.0	5209.960855	-7.51		PASS
			1	5210.0	5209.960743	-7.53		PASS
10℃/NV	20M	36	0	5180.0	5179.966655	-6.44		PASS

			1	5180.0	5179.966180	-6.53		PASS
		40	0	5200.0	5199.957893	-8.1		PASS
			1	5200.0	5199.957805	-8.11		PASS
		48	0	5240.0	5239.955593	-8.47		PASS
			1	5240.0	5239.955468	-8.5		PASS
	40M	38	0	5190.0	5189.954668	-8.73		PASS
			1	5190.0	5189.954618	-8.74		PASS
		46	0	5230.0	5229.954368	-8.73		PASS
			1	5230.0	5229.954380	-8.72		PASS
	80M	42	0	5210.0	5209.960405	-7.6		PASS
			1	5210.0	5209.960255	-7.63		PASS
20℃/NV	20M	36	0	5180.0	5179.965805	-6.6		PASS
			1	5180.0	5179.964718	-6.81		PASS
		40	0	5200.0	5199.957655	-8.14		PASS
			1	5200.0	5199.957130	-8.24		PASS
		48	0	5240.0	5239.955405	-8.51		PASS
			1	5240.0	5239.955280	-8.53		PASS
	40M	38	0	5190.0	5189.954580	-8.75		PASS
			1	5190.0	5189.954480	-8.77		PASS
		46	0	5230.0	5229.954318	-8.73		PASS
			1	5230.0	5229.954168	-8.76		PASS
	80M	42	0	5210.0	5209.960205	-7.64		PASS
			1	5210.0	5209.960130	-7.65		PASS
30℃/NV	20M	36	0	5180.0	5179.964268	-6.9		PASS
			1	5180.0	5179.962718	-7.2		PASS
		40	0	5200.0	5199.957130	-8.24		PASS
			1	5200.0	5199.957130	-8.24		PASS
		48	0	5240.0	5239.955180	-8.55		PASS
			1	5240.0	5239.954980	-8.59		PASS
	40M	38	0	5190.0	5189.954243	-8.82		PASS
			1	5190.0	5189.954293	-8.81		PASS
		46	0	5230.0	5229.954043	-8.79		PASS
			1	5230.0	5229.954005	-8.79		PASS
	80M	42	0	5210.0	5209.960093	-7.66		PASS
			1	5210.0	5209.959980	-7.68		PASS
40℃/NV	20M	36	0	5180.0	5179.962455	-7.25		PASS
			1	5180.0	5179.962105	-7.32		PASS
		40	0	5200.0	5199.957055	-8.26		PASS
			1	5200.0	5199.956793	-8.31		PASS
		48	0	5240.0	5239.954955	-8.6		PASS
			1	5240.0	5239.954943	-8.6		PASS
	40M	38	0	5190.0	5189.954255	-8.81		PASS
			1	5190.0	5189.954305	-8.8		PASS
		46	0	5230.0	5229.953918	-8.81		PASS
			1	5230.0	5229.953843	-8.83		PASS
	80M	42	0	5210.0	5209.959830	-7.71		PASS
			1	5210.0	5209.959493	-7.77		PASS

Condition	Mode	Ch.	Antenna	Center Frequency (MHz)	Calculated Value of Center Frequency(MHz)	Result (ppm)	Limit (ppm)	State
NT/NV	20M	149	0	5745.0	5744.960505	-6.87		PASS
			1	5745.0	5744.954755	-7.88		PASS
		157	0	5785.0	5784.956805	-7.47		PASS
			1	5785.0	5784.952080	-8.28		PASS
		165	0	5825.0	5824.956718	-7.43		PASS
			1	5825.0	5824.952405	-8.17		PASS
	40M	151	0	5755.0	5754.955818	-7.68		PASS
			1	5755.0	5754.951980	-8.34		PASS
		159	0	5795.0	5794.983893	-2.78		PASS
			1	5795.0	5794.978868	-3.65		PASS
	80M	155	0	5775.0	5774.963418	-6.33		PASS
			1	5775.0	5774.958255	-7.23		PASS
LT/NV	20M	149	0	5745.0	5744.953230	-8.14		PASS
			1	5745.0	5744.951918	-8.37		PASS
		157	0	5785.0	5784.951055	-8.46		PASS
			1	5785.0	5784.950318	-8.59		PASS
		165	0	5825.0	5824.950693	-8.46		PASS
			1	5825.0	5824.949705	-8.63		PASS
	40M	151	0	5755.0	5754.950768	-8.55		PASS
			1	5755.0	5754.950080	-8.67		PASS
		159	0	5795.0	5794.977743	-3.84		PASS
			1	5795.0	5794.965618	-5.93		PASS
	80M	155	0	5775.0	5774.956668	-7.5		PASS
			1	5775.0	5774.955905	-7.64		PASS
HT/NV	20M	149	0	5745.0	5744.951418	-8.46		PASS
			1	5745.0	5744.951055	-8.52		PASS
		157	0	5785.0	5784.949855	-8.67		PASS
			1	5785.0	5784.949705	-8.69		PASS
		165	0	5825.0	5824.949317	-8.7		PASS
			1	5825.0	5824.949242	-8.71		PASS
	40M	151	0	5755.0	5754.949792	-8.72	20	PASS
			1	5755.0	5754.949080	-8.85		PASS
		159	0	5795.0	5794.964568	-6.11		PASS
			1	5795.0	5794.964105	-6.19		PASS
	80M	155	0	5775.0	5774.955330	-7.74		PASS
			1	5775.0	5774.954755	-7.83		PASS
-10℃/NV	20M	149	0	5745.0	5744.950693	-8.58		PASS
			1	5745.0	5744.950555	-8.61		PASS
		157	0	5785.0	5784.949230	-8.78		PASS
			1	5785.0	5784.949142	-8.79		PASS
		165	0	5825.0	5824.948880	-8.78		PASS
			1	5825.0	5824.948655	-8.81		PASS
	40M	151	0	5755.0	5754.948980	-8.87		PASS
			1	5755.0	5754.948830	-8.89		PASS
		159	0	5795.0	5794.963418	-6.31		PASS
			1	5795.0	5794.962993	-6.39		PASS
	80M	155	0	5775.0	5774.954105	-7.95		PASS
			1	5775.0	5774.953705	-8.02		PASS
0℃/NV	20M	149	0	5745.0	5744.950430	-8.63		PASS
			1	5745.0	5744.950205	-8.67		PASS
		157	0	5785.0	5784.949080	-8.8		PASS
			1	5785.0	5784.948967	-8.82		PASS
		165	0	5825.0	5824.948542	-8.83		PASS
			1	5825.0	5824.948492	-8.84		PASS
	40M	151	0	5755.0	5754.948767	-8.9		PASS
			1	5755.0	5754.948655	-8.92		PASS
		159	0	5795.0	5794.962518	-6.47		PASS
			1	5795.0	5794.961680	-6.61		PASS
	80M	155	0	5775.0	5774.953255	-8.09		PASS
			1	5775.0	5774.953180	-8.11		PASS
10℃/NV	20M	149	0	5745.0	5744.950043	-8.7		PASS
			1	5745.0	5744.949967	-8.71		PASS

		157	0	5785.0	5784.948817	-8.85		PASS
			1	5785.0	5784.948842	-8.84		PASS
		165	0	5825.0	5824.948355	-8.87		PASS
			1	5825.0	5824.948280	-8.88		PASS
	40M	151	0	5755.0	5754.948592	-8.93		PASS
			1	5755.0	5754.948542	-8.94		PASS
		159	0	5795.0	5794.960743	-6.77		PASS
			1	5795.0	5794.960393	-6.83		PASS
	80M	155	0	5775.0	5774.953143	-8.11		PASS
			1	5775.0	5774.953168	-8.11		PASS
20℃/NV	20M	149	0	5745.0	5744.949855	-8.73		PASS
			1	5745.0	5744.949642	-8.77		PASS
		157	0	5785.0	5784.948717	-8.86		PASS
			1	5785.0	5784.948642	-8.88		PASS
		165	0	5825.0	5824.948242	-8.89		PASS
			1	5825.0	5824.948180	-8.9		PASS
	40M	151	0	5755.0	5754.948467	-8.95		PASS
			1	5755.0	5754.948217	-9.0		PASS
		159	0	5795.0	5794.960205	-6.87		PASS
			1	5795.0	5794.959893	-6.92		PASS
	80M	155	0	5775.0	5774.952855	-8.16		PASS
			1	5775.0	5774.952580	-8.21		PASS
30℃/NV	20M	149	0	5745.0	5744.949517	-8.79		PASS
			1	5745.0	5744.949417	-8.8		PASS
		157	0	5785.0	5784.948405	-8.92		PASS
			1	5785.0	5784.948380	-8.92		PASS
		165	0	5825.0	5824.948080	-8.91		PASS
			1	5825.0	5824.947855	-8.95		PASS
	40M	151	0	5755.0	5754.948167	-9.01		PASS
			1	5755.0	5754.948142	-9.01		PASS
		159	0	5795.0	5794.959705	-6.95		PASS
			1	5795.0	5794.959455	-7.0		PASS
	80M	155	0	5775.0	5774.952568	-8.21		PASS
			1	5775.0	5774.952530	-8.22		PASS
40℃/NV	20M	149	0	5745.0	5744.949392	-8.81		PASS
			1	5745.0	5744.949317	-8.82		PASS
		157	0	5785.0	5784.948417	-8.92		PASS
			1	5785.0	5784.948405	-8.92		PASS
		165	0	5825.0	5824.947842	-8.95		PASS
			1	5825.0	5824.947905	-8.94		PASS
	40M	151	0	5755.0	5754.948205	-9.0		PASS
			1	5755.0	5754.948180	-9.0		PASS
		159	0	5795.0	5794.958955	-7.08		PASS
			1	5795.0	5794.958805	-7.11		PASS
	80M	155	0	5775.0	5774.952418	-8.24		PASS
			1	5775.0	5774.952005	-8.31		PASS

3.8. Antenna Requirement

Requirement

FCC CFR Title 47 Part 15 Subpart C Section 15.203
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 antenna that uses a unique coupling to the intentional radiator, 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.

Test Result

Complies

3.9. Dynamic Frequency Selection

Requirement

Table 1: Applicability of DFS Requirements Prior to Use of a Channel

Requirement	Operational Mode		
	Master	Client Without Radar Detection	Client With Radar Detection
Non-Occupancy Period	Yes	Not required	Yes
DFS Detection Threshold	Yes	Not required	Yes
Channel Availability Check Time	Yes	Not required	Not required
U-NII Detection Bandwidth	Yes	Not required	Yes

Table 2: Applicability of DFS requirements during normal operation

Requirement	Operational Mode	
	Master Device or Client with Radar Detection	Client Without Radar Detection
DFS Detection Threshold	Yes	Not required
Channel Closing Transmission Time	Yes	Yes
Channel Move Time	Yes	Yes
U-NII Detection Bandwidth	Yes	Not required

Additional requirements for devices with multiple bandwidth modes	Master Device or Client with Radar Detection	Client Without Radar Detection
U-NII Detection Bandwidth and Statistical Performance Check	All BW modes must be tested	Not required
Channel Move Time and Channel Closing Transmission Time	Test using widest BW mode available	Test using the widest BW mode available for the link
All other tests	Any single BW mode	Not required
Note: Frequencies selected for statistical performance check (Section 7.8.4) should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices it is suggested to select frequencies in each of the bonded 20 MHz channels and the channel center frequency.		

Limit

1. DFS Detection Thresholds

Table 3: DFS Detection Thresholds for Master Devices and Client Devices With Radar Detection

Maximum Transmit Power	Value (See Notes 1, 2, and 3)
EIRP ≥ 200 milliwatt	-64 dBm
EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz	-62 dBm
EIRP < 200 milliwatt that do not meet the power spectral density requirement	-64 dBm

Note 1: This is the level at the input of the receiver assuming a 0dBi receive antenna.
Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.
Note3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.

2. DFS Response Requirements

Table 4: DFS Response Requirement Values

Parameter	Value
Non-occupancy period	Minimum 30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds See Note 1.
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.
U-NII Detection Bandwidth	Minimum 100% of the U-NII 99% transmission power bandwidth. See Note 3.

Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.
Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required facilitating a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.
Note 3: During the U-NII Detection Bandwidth detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

Radar Test Waveforms

This section provides the parameters for required test waveforms, minimum percentage of successful detections, and the minimum number of trials that must be used for determining DFS conformance. Step intervals of 0.1 microsecond for Pulse Width, 1 microsecond for PRI, 1 MHz for chirp width and 1 for the number of pulses will be utilized for the random determination of specific test waveforms.

Table 5 Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (µsec)	PRI (µsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
0	1	1428	18	See Note 1	See Note 1
1	1	Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a	$\text{Roundup}\left\{\left(\frac{1}{360}\right)\cdot\left(\frac{19\cdot 10^6}{PRI_{\mu sec}}\right)\right\}$	60%	30
		Test B: 15 unique PRI values randomly selected within the range of 518-3066 µsec, with a minimum increment of 1 µsec, excluding PRI values selected in Test A			
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120
Note 1: Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests.					

A minimum of 30 unique waveforms are required for each of the Short Pulse Radar Types 2 through 4. If more than 30 waveforms are used for Short Pulse Radar Types 2 through 4, then each additional waveform must also be unique and not repeated from the previous waveforms. If more than 30 waveforms are used for Short Pulse Radar Type 1, then each additional waveform is generated with Test B and must also be unique and not repeated from the previous waveforms in Tests A or B.

For example if in Short Pulse Radar Type 1 Test B a PRI of 3066 µsec is selected, the number of pulses would be Round up $\left\{\left(\frac{1}{360}\right)\cdot\left(\frac{19\cdot 10^6}{3066}\right)\right\}$ = Round up {17.2} = 18.

Table 5a - Pulse Repetition Intervals Values for Test A

Pulse Repetition Frequency Number	Pulse Repetition Frequency (Pulses Per Second)	Pulse Repetition Interval (Microseconds)
1	1930.5	518
2	1858.7	538
3	1792.1	558
4	1730.1	578
5	1672.2	598
6	1618.1	618
7	1567.4	638
8	1519.8	658

Pulse Repetition Frequency Number	Pulse Repetition Frequency (Pulses Per Second)	Pulse Repetition Interval (Microseconds)
9	1474.9	678
10	1432.7	698
11	1392.8	718
12	1355	738
13	1319.3	758
14	1285.3	778
15	1253.1	798
16	1222.5	818
17	1193.3	838
18	1165.6	858
19	1139	878
20	1113.6	898
21	1089.3	918
22	1066.1	938
23	326.2	3066

Table 6 – Long Pulse Radar Test Waveform

Radar Type	Pulse Width (µsec)	Chirp Width (MHz)	PRI (µsec)	Number of Pulses per Burst	Number of Bursts	Minimum Percentage of Successful Detection	Minimum Number of Trials
5	50-100	5-20	1000-2000	1-3	8-20	80%	30

The parameters for this waveform are randomly chosen. Thirty unique waveforms are required for the Long Pulse Radar Type waveforms. If more than 30 waveforms are used for the Long Pulse Radar Type wave forms, then each additional waveform must also be unique and not repeated from the previous waveforms.

Table 7 – Frequency Hopping Radar Test Waveform

Radar Type	Pulse Width (µsec)	PRI (µsec)	Pulses per Hop	Hopping Rate (kHz)	Hopping Sequence Length (msec)	Minimum Percentage of Successful Detection	Minimum Number of Trials
6	1	333	9	0.333	300	70%	30

For the Frequency Hopping Radar Type, the same Burst parameters are used for each wave form. The hopping sequence is different for each wave form and a 100-length segment is selected from the hopping sequence defined by the following algorithm:

The first frequency in a hopping sequence is selected randomly from the group of 475 integer frequencies from 5250–5724MHz. Next, the frequency that was just chosen is removed from the group and a frequency is randomly selected from the remaining 474 frequencies in the group. This process continues until all 475 frequencies are chosen for the set. For selection of a random frequency, the frequencies remaining within the group are always treated as equally likely.

Calibration of Radar Waveform

Radar Waveform Calibration Procedure

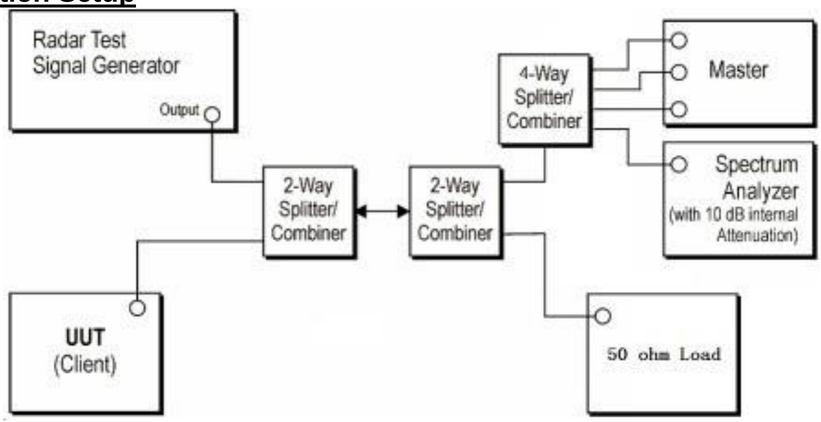
1) A 50 ohm load is connected in place of the spectrum analyzer, and the spectrum analyzer is connected to place of the master

2) The interference Radar Detection Threshold Level is -62dBm + 0dBi +1dB = -61dBm that had been taken into account the output power range and antenna gain.

3) The following equipment setup was used to calibrate the conducted radar waveform. A vector signal generator was utilized to establish the test signal level for radar type 0. During this process there were no transmissions by either the master or client device. The spectrum analyzer was switched to the zero spans (time domain) at the frequency of the radar waveform generator. Peak detection was used. The spectrum analyzer resolution bandwidth (RBW) and video bandwidth (VBW) were set to 3 MHz. The spectrum analyzer had offset -1.0dB to compensate RF cable loss 1.0dB.

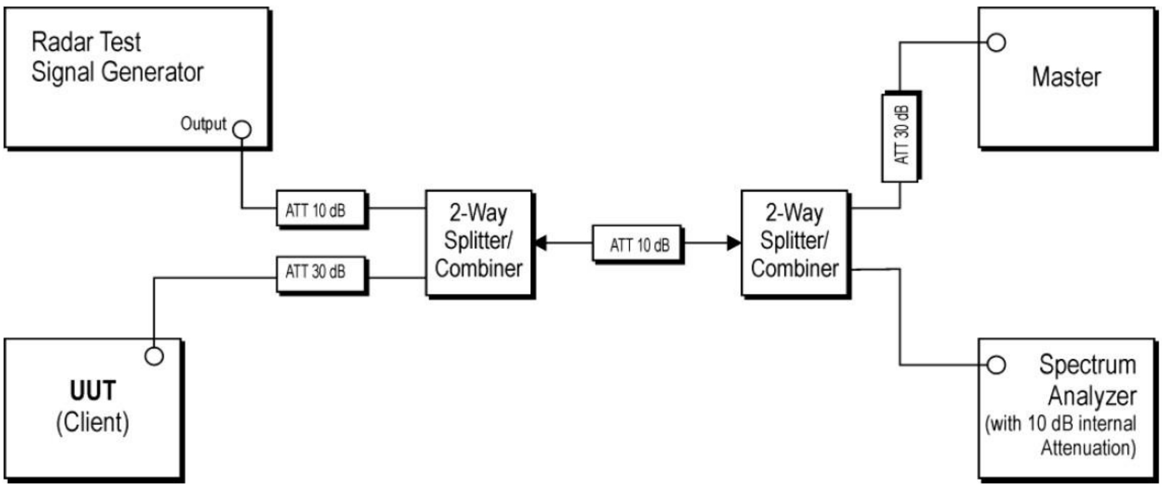
4) The vector signal generator amplitude was set so that the power level measured at the spectrum analyzer was - -62dBm + 0dBi +1dB = -61dBm. Capture the spectrum analyzer plots on short pulse radar waveform.

Conducted Calibration Setup



Test Configuration

Setup for Client with injection at the Master



Test Procedure

1. The radar pulse generator is setup to provide a pulse at frequency that the master and client are operating. A type 0 radar pulse with a 1us pulse width and a 1428us PRI is used for the testing.
2. The vector signal generator is adjusted to provide the radar burst (18 pulses) at the level of approximately -61dBm at the antenna port of the master device
3. A trigger is provided from the pulse generator to the DFS monitoring system in order to capture the traffic and the occurrence of the radar pulse.
4. EUT will associate with the master at channel. The file “iperf.exe” specified by the FCC is streamed from the PC 2 through the master and the client device to the PC 1 and played in full motion video using Media Player Classic Ver. 6.4.8.6 in order to properly load the network for the entire period of the test.
5. When radar burst with a level equal to the DFS Detection Threshold +1dB is generated on the operating channel of the U-NII device. At time T0 the radar waveform generator sends a burst of pulse of the radar waveform at Detection Threshold +1dB.
6. Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel Measure and record the transmissions from the UUT during the observation time (Channel Move Time). One 15 seconds plot is reported for the Short Pulse Radar Type 0. The plot for the Short Pulse Radar Types start at the end of the radar burst. The Channel Move Time will be calculated based on the zoom in 600ms plot of the Short Pulse Radar Type
7. Measurement of the aggregate duration of the Channel Closed Transmission Time method. With the spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by: Dwell (0.3ms) =S (12000ms) / B (4000); where Dwell is the dwell time per spectrum analyzer sampling bin, S is sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by: C (ms)= N X Dwell (0.3ms); where C is the Closing Time, N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission and Dwell is the dwell time per bin.
8. Measurement the EUT for more than 30 minutes following the channel move time to verify that no transmission or beacons occur on this channel.

Test Mode

Please refer to the clause 2.4.

Test Result

☐ **Passed** ☒ **Not Applicable**

************************THE END************************