

Test Mode :	TX (5.8G) --802.11n-HT20
-------------	--------------------------

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5745 MHz)-Above 1G									
V	4679.084	57.62	5.94	35.40	44.00	54.96	74.00	-19.04	PK
V	4679.084	43.40	5.94	35.40	44.00	40.74	54.00	-13.26	AV
V	11490.182	56.96	8.46	39.75	44.50	60.67	68.20	-7.53	PK
V	11490.182	43.33	8.46	39.75	44.50	47.04	54.00	-6.96	AV
V	17235.157	57.55	10.12	38.80	44.10	62.37	68.20	-5.83	PK
V	17235.157	43.76	10.12	38.80	42.70	49.98	54.00	-4.02	AV
H	4679.003	60.33	5.94	35.18	44.00	57.45	74.00	-16.55	PK
H	4679.003	43.20	5.94	35.18	44.00	40.32	54.00	-13.68	AV
H	11490.167	49.49	8.46	38.71	44.50	52.16	68.20	-16.04	PK
H	11490.167	44.62	8.46	38.71	44.50	47.29	54.00	-6.71	AV
H	17235.136	52.31	10.12	38.38	44.10	56.71	68.20	-11.49	PK
H	17235.136	40.22	10.12	38.38	44.10	44.62	54.00	-9.38	AV
middle Channel (5785 MHz)-Above 1G									
V	4592.018	61.19	6.48	36.35	44.05	59.97	74.00	-14.03	PK
V	4592.018	43.40	6.48	36.35	44.05	42.18	54.00	-11.82	AV
V	11570.030	57.18	8.47	37.88	44.51	59.02	68.20	-9.18	PK
V	11570.030	43.43	8.47	37.88	44.51	45.27	54.00	-8.73	AV
V	17355.086	50.25	10.12	38.80	44.10	55.07	68.20	-13.13	PK
V	17355.086	43.97	10.12	38.80	42.70	50.19	54.00	-3.81	AV
H	4592.057	58.60	6.48	36.37	44.05	57.40	74.00	-16.60	PK
H	4592.057	43.83	6.48	36.37	44.05	42.63	54.00	-11.37	AV
H	11570.056	52.38	8.47	38.64	44.50	54.99	68.20	-13.21	PK
H	11570.056	43.53	8.47	38.64	44.50	46.14	54.00	-7.86	AV
H	17355.143	50.80	10.12	38.38	44.10	55.20	68.20	-13.00	PK
H	17355.143	41.01	10.12	38.38	44.10	45.41	54.00	-8.59	AV
High Channel (5825 MHz)-Above 1G									
V	6039.017	57.48	7.10	37.24	43.50	58.32	68.20	-9.88	PK
V	6039.017	43.84	7.10	37.24	43.50	44.68	54.00	-9.32	AV
V	11650.069	59.18	8.46	37.68	44.50	60.82	74.00	-13.18	PK
V	11650.069	43.67	8.46	37.68	44.50	45.31	54.00	-8.69	AV
V	17475.030	55.57	10.12	38.80	44.10	60.39	68.20	-7.81	PK
V	17475.030	43.07	10.12	38.80	42.70	49.29	54.00	-4.71	AV
H	6039.094	57.14	7.10	37.24	43.50	57.98	68.20	-10.22	PK
H	6039.094	43.93	7.10	37.24	43.50	44.77	54.00	-9.23	AV
H	11650.002	54.65	8.46	38.57	44.50	57.18	74.00	-16.82	PK
H	11650.002	43.65	8.46	38.57	44.50	46.18	54.00	-7.82	AV
H	17475.064	53.21	10.12	38.38	44.10	57.61	68.20	-10.59	PK
H	17475.064	40.24	10.12	38.38	44.10	44.64	54.00	-9.36	AV

Note: PK value is lower than the Average value limit, So average didn't record.

The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Test Mode :	TX (5.8G) -- 802.11n-HT40
-------------	---------------------------

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/ m)	Margin (dB)	Detector Type
Low Channel (5755 MHz)-Above 1G									
V	4679.109	56.67	5.94	35.40	44.00	54.01	74.00	-19.99	PK
V	4679.109	43.35	5.94	35.40	44.00	40.69	54.00	-13.31	AV
V	11510.152	55.86	8.46	39.75	44.50	59.57	74.00	-14.43	PK
V	11510.152	43.01	8.46	39.75	44.50	46.72	54.00	-7.28	AV
V	17265.046	55.20	10.12	38.80	44.10	60.02	68.20	-8.18	PK
V	17265.046	2.00	10.12	38.80	42.70	8.22	54.00	-45.78	AV
H	4679.040	59.60	5.94	35.18	44.00	56.72	74.00	-17.28	PK
H	4679.040	43.43	5.94	35.18	44.00	40.55	54.00	-13.45	AV
H	11510.047	53.96	8.46	38.71	44.50	56.63	74.00	-17.37	PK
H	11510.047	44.57	8.46	38.71	44.50	47.24	54.00	-6.76	AV
H	17265.165	53.64	10.12	38.38	44.10	58.04	68.20	-10.16	PK
H	17265.165	43.41	10.12	38.38	44.10	47.81	54.00	-6.19	AV
middle Channel (5795 MHz)-Above 1G									
V	6039.047	59.51	6.48	36.35	44.05	58.29	68.20	-9.91	PK
V	6039.047	43.40	6.48	36.35	44.05	42.18	54.00	-11.82	AV
V	11590.017	58.30	8.47	37.88	44.51	60.14	74.00	-13.86	PK
V	11590.017	43.20	8.47	37.88	44.51	45.04	54.00	-8.96	AV
V	17385.155	55.01	10.12	38.80	44.10	59.83	68.20	-8.37	PK
V	17385.155	41.04	10.12	38.80	42.70	47.26	54.00	-6.74	AV
H	6039.155	57.36	6.48	36.37	44.05	56.16	68.20	-12.04	PK
H	6039.155	43.26	6.48	36.37	44.05	42.06	54.00	-11.94	AV
H	11590.117	54.04	8.47	38.64	44.50	56.65	74.00	-17.35	PK
H	11590.117	40.13	8.47	38.64	44.50	42.74	54.00	-11.26	AV
H	17385.058	50.11	10.12	38.38	44.10	54.51	68.20	-13.69	PK
H	17385.058	42.36	10.12	38.38	44.10	46.76	54.00	-7.24	AV

Note: PK value is lower than the Average value limit, So average didn't record.

The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Test Mode :	TX (5.8G) --802.11AC20
-------------	------------------------

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5745 MHz)-Above 1G									
V	4679.075	56.84	5.94	35.40	44.00	54.18	74.00	-19.82	PK
V	4679.075	43.29	5.94	35.40	44.00	40.63	54.00	-13.37	AV
V	11490.198	54.67	8.46	39.75	44.50	58.38	74.00	-15.62	PK
V	11490.198	43.02	8.46	39.75	44.50	46.73	54.00	-7.27	AV
V	17235.126	59.48	10.12	38.80	44.10	54.30	68.20	-13.90	PK
V	17235.126	43.87	10.12	38.80	42.70	50.09	54.00	-3.91	AV
H	4679.188	55.23	5.94	35.18	44.00	52.35	74.00	-21.65	PK
H	4679.188	43.54	5.94	35.18	44.00	40.66	54.00	-13.34	AV
H	11490.142	50.00	8.46	38.71	44.50	52.67	74.00	-21.33	PK
H	11490.142	40.14	8.46	38.71	44.50	42.81	54.00	-11.19	AV
H	17235.129	51.04	10.12	38.38	44.10	55.44	68.20	-12.76	PK
H	17235.129	40.22	10.12	38.38	44.10	44.62	54.00	-9.38	AV
middle Channel (5785 MHz)-Above 1G									
V	4592.083	56.96	6.48	36.35	44.05	55.74	74.00	-18.26	PK
V	4592.083	43.33	6.48	36.35	44.05	42.11	54.00	-11.89	AV
V	11570.145	57.75	8.47	37.88	44.51	59.59	74.00	-14.41	PK
V	11570.145	43.77	8.47	37.88	44.51	45.61	54.00	-8.39	AV
V	17355.040	50.30	10.12	38.80	44.10	55.12	68.20	-13.08	PK
V	17355.040	39.98	10.12	38.80	42.70	46.20	54.00	-7.80	AV
H	4592.186	59.66	6.48	36.37	44.05	58.46	74.00	-15.54	PK
H	4592.186	43.68	6.48	36.37	44.05	42.48	54.00	-11.52	AV
H	11570.086	54.09	8.47	38.64	44.50	56.70	74.00	-17.3	PK
H	11570.086	41.44	8.47	38.64	44.50	44.05	54.00	-9.95	AV
H	17355.130	51.02	10.12	38.38	44.10	55.42	68.20	-12.78	PK
H	17355.130	42.61	10.12	38.38	44.10	47.01	54.00	-6.99	AV
High Channel (5825 MHz)-Above 1G									
V	6039.088	57.47	7.10	37.24	43.50	58.31	68.20	-9.89	PK
V	6039.088	43.50	7.10	37.24	43.50	44.34	54.00	-9.66	AV
V	11650.086	50.57	8.46	37.68	44.50	52.21	68.20	-15.99	PK
V	11650.086	43.74	8.46	37.68	44.50	45.38	54.00	-8.62	AV
V	17475.045	57.75	10.12	38.80	44.10	62.57	68.20	-5.63	PK
V	17475.045	43.46	10.12	38.80	42.70	49.68	54.00	-4.32	AV
H	6039.140	57.79	7.10	37.24	43.50	58.63	68.20	-9.57	PK
H	6039.140	43.23	7.10	37.24	43.50	44.07	54.00	-9.93	AV
H	11650.134	52.17	8.46	38.57	44.50	54.70	68.20	-13.5	PK
H	11650.134	40.02	8.46	38.57	44.50	42.55	54.00	-11.45	AV
H	17475.028	53.17	10.12	38.38	44.10	57.57	68.20	-10.63	PK
H	17475.028	43.00	10.12	38.38	44.10	47.40	54.00	-6.60	AV

Note: PK value is lower than the Average value limit, So average didn't record.

The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Test Mode :	TX (5.8G) -- 802.11AC40
-------------	-------------------------

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5755 MHz)-Above 1G									
V	4679.115	59.44	5.94	35.40	44.00	56.78	74.00	-17.22	PK
V	4679.115	43.34	5.94	35.40	44.00	40.68	54.00	-13.32	AV
V	11510.175	56.56	8.46	39.75	44.50	60.27	74.00	-13.73	PK
V	11510.175	43.18	8.46	39.75	44.50	46.89	54.00	-7.11	AV
V	17265.137	48.53	10.12	38.80	44.10	53.35	68.20	-14.85	PK
V	17265.137	2.00	10.12	38.80	42.70	8.22	54.00	-45.78	AV
H	4679.184	56.40	5.94	35.18	44.00	53.52	74.00	-20.48	PK
H	4679.184	43.26	5.94	35.18	44.00	40.38	54.00	-13.62	AV
H	11510.033	53.09	8.46	38.71	44.50	55.76	74.00	-18.24	PK
H	11510.033	40.40	8.46	38.71	44.50	43.07	54.00	-10.93	AV
H	17265.004	52.55	10.12	38.38	44.10	56.95	68.20	-11.25	PK
H	17265.004	40.62	10.12	38.38	44.10	45.02	54.00	-8.98	AV
middle Channel (5795 MHz)-Above 1G									
V	6039.184	56.45	6.48	36.35	44.05	55.23	68.20	-12.97	PK
V	6039.184	43.03	6.48	36.35	44.05	41.81	54.00	-12.19	AV
V	11590.037	55.09	8.47	37.88	44.51	56.93	74.00	-17.07	PK
V	11590.037	43.58	8.47	37.88	44.51	45.42	54.00	-8.58	AV
V	17385.092	55.03	10.12	38.80	44.10	59.85	68.20	-8.35	PK
V	17385.092	41.11	10.12	38.80	42.70	47.33	54.00	-6.67	AV
H	6039.193	58.83	6.48	36.37	44.05	57.63	68.20	-10.57	PK
H	6039.193	43.10	6.48	36.37	44.05	41.90	54.00	-12.10	AV
H	11590.161	50.93	8.47	38.64	44.50	53.54	74.00	-20.46	PK
H	11590.161	40.78	8.47	38.64	44.50	43.39	54.00	-10.61	AV
H	17385.083	53.35	10.12	38.38	44.10	57.75	68.20	-10.45	PK
H	17385.083	44.36	10.12	38.38	44.10	48.76	54.00	-5.24	AV

Note: PK value is lower than the Average value limit, So average didn't record.

The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Test Mode :	TX (5.8G) -- 802.11AC80
-------------	-------------------------

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/ m)	Margin (dB)	Detector Type
Low Channel (5775 MHz)-Above 1G									
V	4679.011	59.02	5.94	35.40	44.00	56.36	74.00	-17.64	PK
V	4679.011	43.99	5.94	35.40	44.00	41.33	54.00	-12.67	AV
V	11550.056	55.29	8.46	39.75	44.50	59.00	74.00	-15.00	PK
V	11550.056	43.98	8.46	39.75	44.50	47.69	54.00	-6.31	AV
V	17325.180	56.22	10.12	38.80	44.10	61.04	68.20	-7.16	PK
V	17325.180	41.38	10.12	38.80	42.70	47.60	54.00	-6.40	AV
H	4679.090	58.42	5.94	35.18	44.00	55.54	74.00	-18.46	PK
H	4679.090	43.14	5.94	35.18	44.00	40.26	54.00	-13.74	AV
H	11550.049	51.22	8.46	38.71	44.50	53.89	74.00	-20.11	PK
H	11550.049	41.46	8.46	38.71	44.50	44.13	54.00	-9.87	AV
H	17325.091	51.54	10.12	38.38	44.10	55.94	68.20	-12.26	PK
H	17325.091	43.46	10.12	38.38	44.10	47.86	54.00	-6.14	AV

Note: PK value is lower than the Average value limit, So average didn't record.

The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

8. Power Spectral Density Test

8.1 Block Diagram Of Test Setup



8.2 Limit

For the band 5.15-5.25 GHz,

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, 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. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, 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.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple colocated 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.

(iv) For client devices in the 5.15-5.25 GHz band, 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

(3) For the band 5.725-5.85 GHz, 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.

8.3 Test Procedure

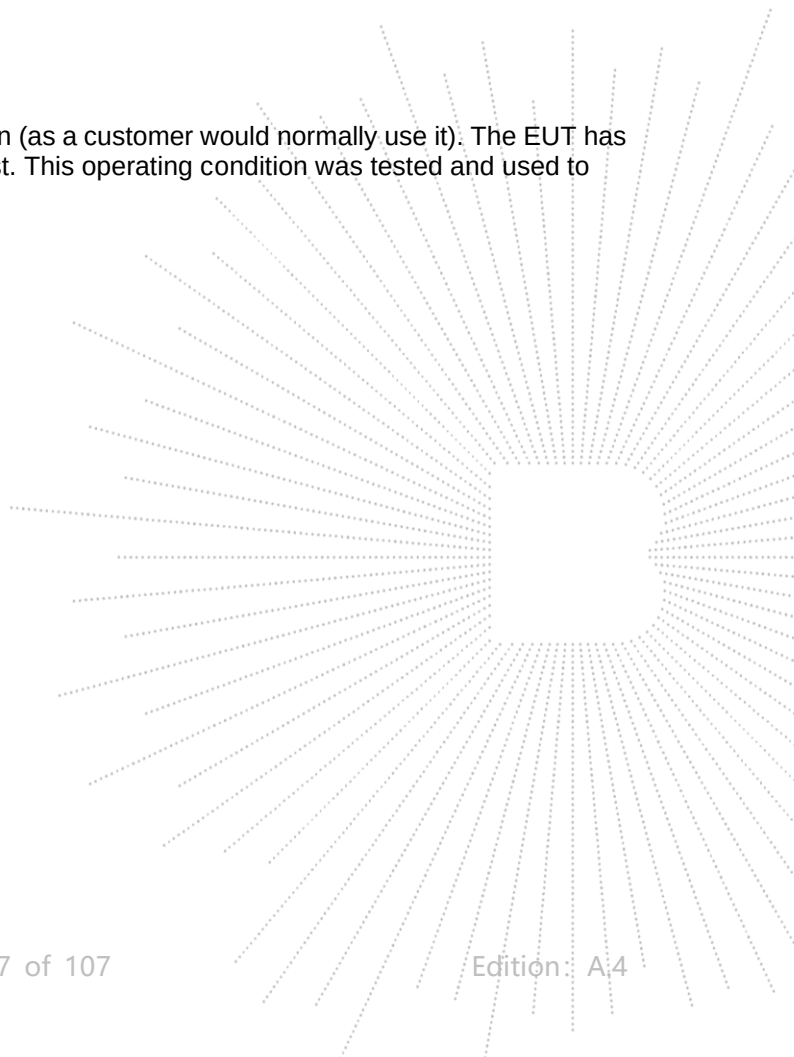
For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of a RBWs less than 1 MHz, or 500 kHz, “provided that the measured power is integrated over the full reference bandwidth” to show the total power over the specified measurement bandwidth (i.e., 1 MHz, or 500 kHz). If measurements are performed using a reduced resolution bandwidth (< 1 MHz, or < 500 kHz) and integrated over 1 MHz, or 500 KHz bandwidth, the following adjustments to the procedures apply:

- a) Set $RBW \geq 1/T$, where T is defined in section II.B.I.a).
- b) Set $VBW \geq 3 RBW$.
- c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add $10\log(500\text{kHz}/RBW)$ to the measured result, whereas RBW (< 500 KHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.
- d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add $10\log(1\text{MHz}/RBW)$ to the measured result, whereas RBW (< 1 MHz) is the reduced resolution bandwidth of spectrum analyzer set during measurement.
- e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

Note: As a practical matter, it is recommended to use reduced RBW of 100 KHz for the sections 5.c) and 5.d) above, since RBW=100 KHz is available on nearly all spectrum analyzers.

8.4 EUT Operating Conditions

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

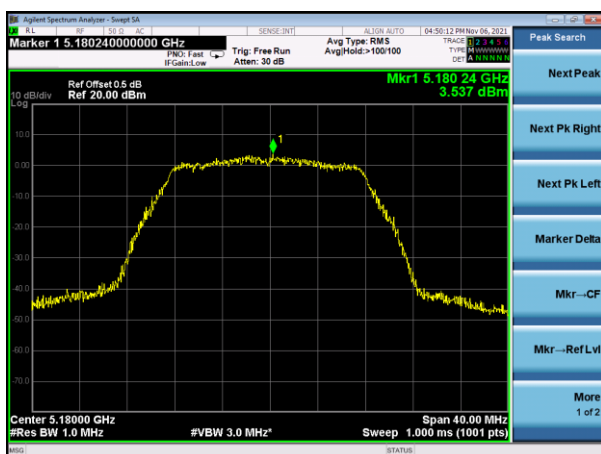


8.5 Test Result

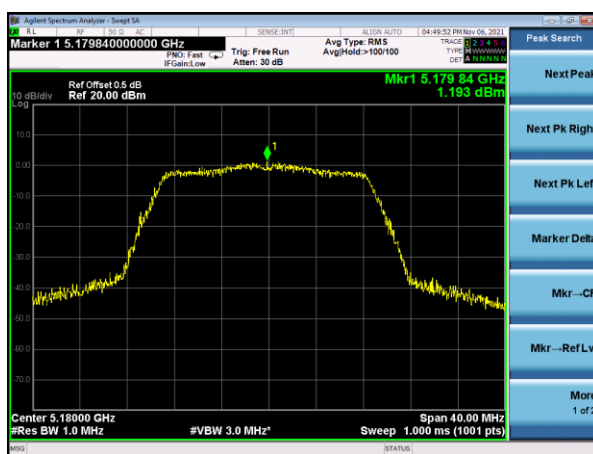
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	DC 5V
Test Mode :	TX Frequency U-NII-1 (5180-5240MHz)		

Test Mode	Frequency	Measured Power Density (dBm/MHz)	Limit (dBm/MHz)	Result
802.11 a	5180 MHz	3.537	11	PASS
	5200 MHz	2.534	11	PASS
	5240 MHz	0.207	11	PASS
802.11 n20	5180 MHz	1.193	11	PASS
	5200 MHz	-0.005	11	PASS
	5240 MHz	-2.836	11	PASS
802.11 n40	5190 MHz	-1.395	11	PASS
	5230 MHz	-3.700	11	PASS
802.11 AC20	5180 MHz	0.841	11	PASS
	5200 MHz	0.421	11	PASS
	5240 MHz	-2.477	11	PASS
802.11 AC40	5190 MHz	-1.319	11	PASS
	5230 MHz	-4.082	11	PASS
802.11 AC80	5210 MHz	-4.461	11	PASS

(802.11a) PSD plot on channel 36



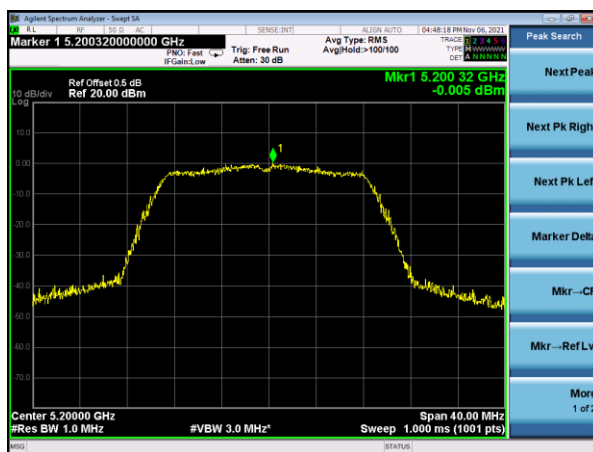
(802.11n20) PSD plot on channel 36



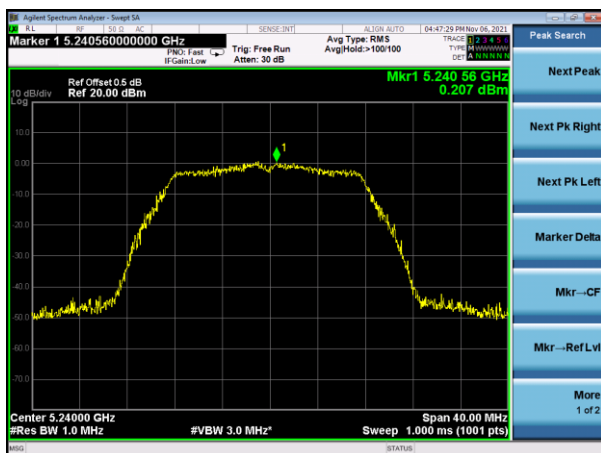
(802.11a) PSD plot on channel 40



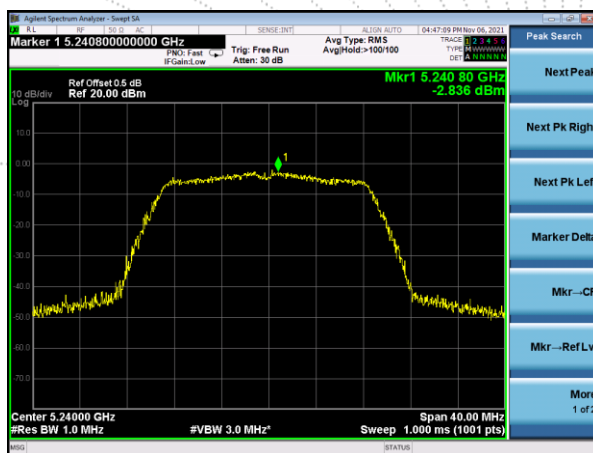
(802.11n20) PSD plot on channel 40



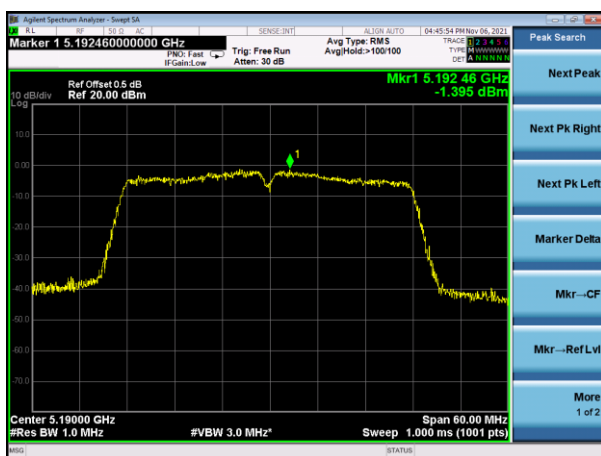
(802.11a) PSD plot on channel 48



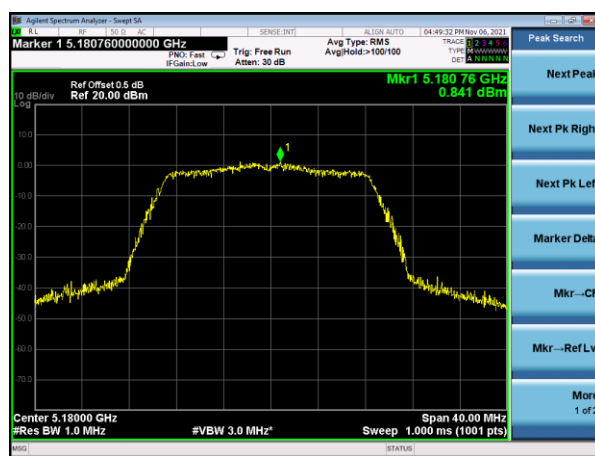
(802.11n20) PSD plot on channel 48



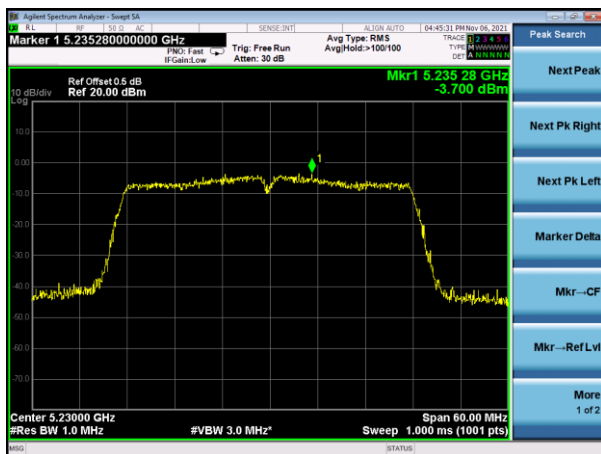
(802.11n40) PSD plot on channel 38



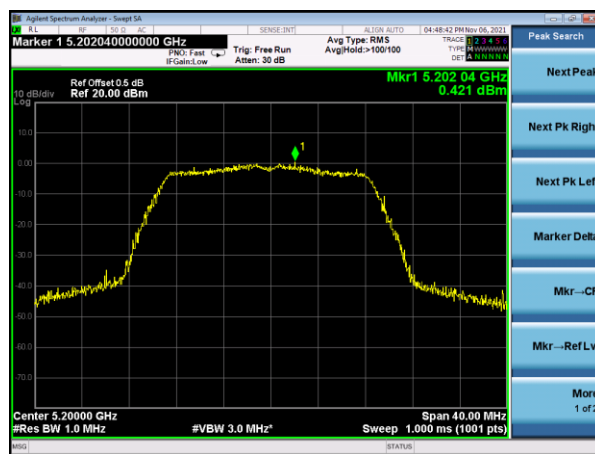
(802.11ac20) PSD plot on channel 36



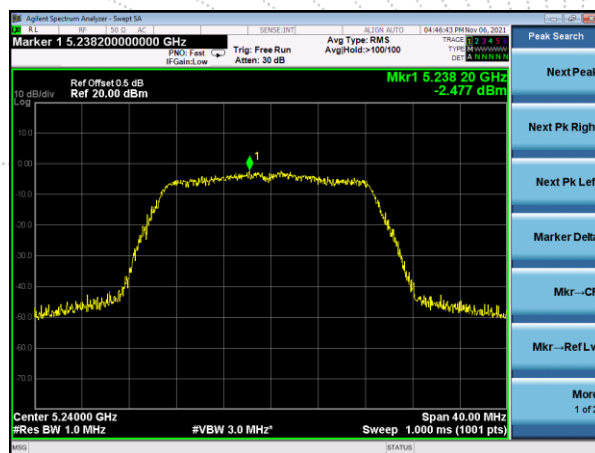
(802.11n40) PSD plot on channel 46



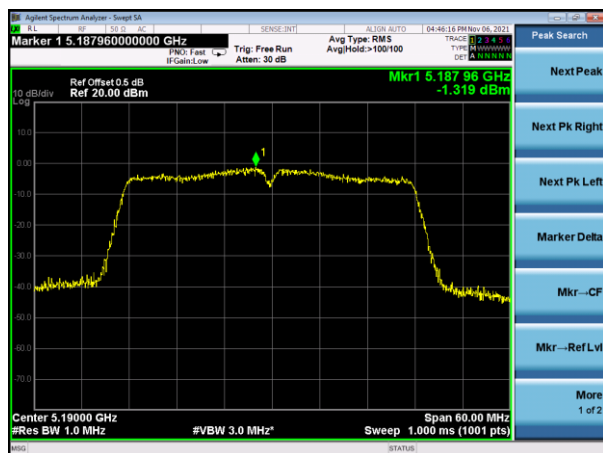
(802.11ac20) PSD plot on channel 40



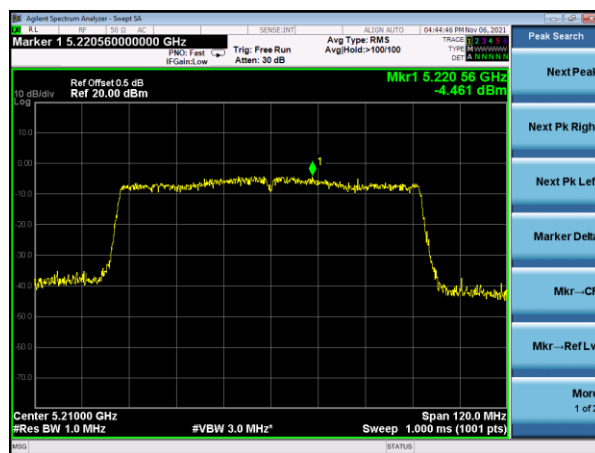
(802.11ac20) PSD plot on channel 48



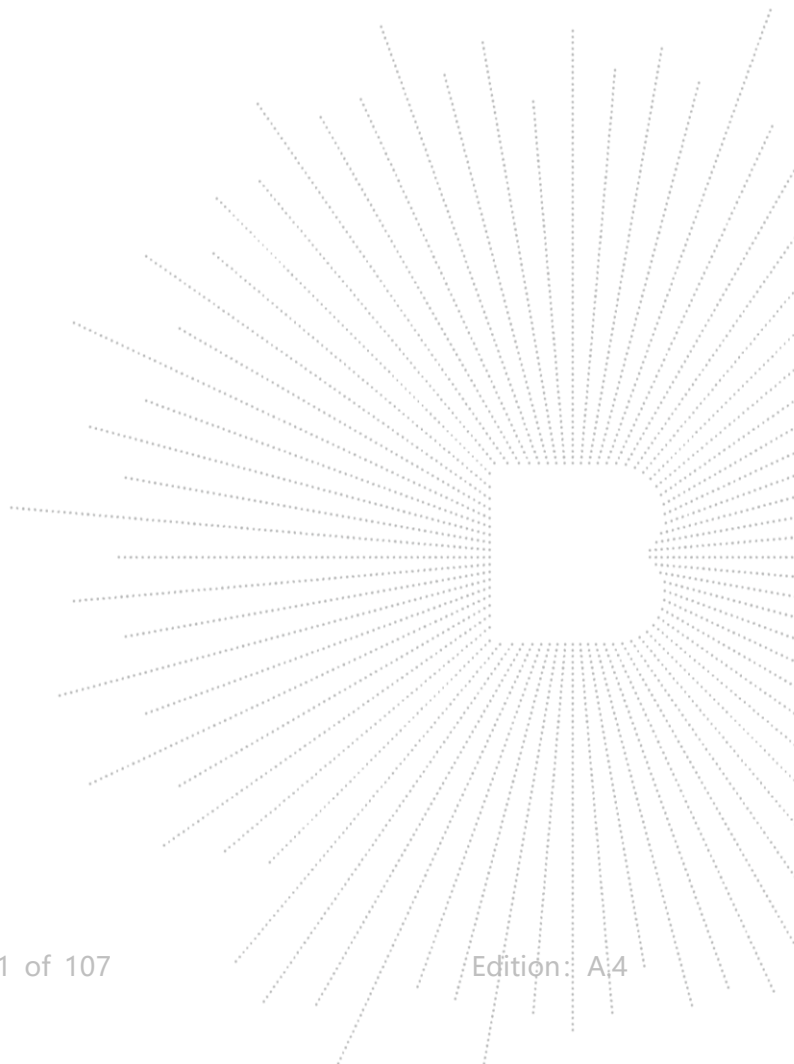
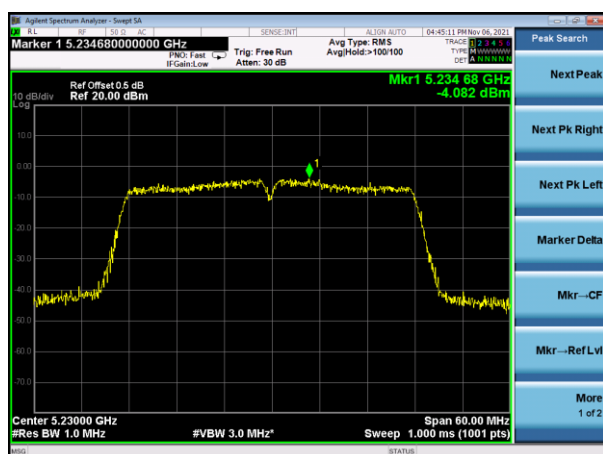
(802.11ac40) PSD plot on channel 38



(802.11ac80) PSD plot on channel 42



(802.11ac40) PSD plot on channel 46



Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	DC 5V
Test Mode :	TX Frequency U-NII-3 (5745-5825MHz)		

Mode	Frequency	Measured Power Density (dBm/500kHz)	Limit (dBm/500kHz)	Result
802.11 a	5745 MHz	-2.628	30	PASS
	5785 MHz	-2.172	30	PASS
	5825 MHz	-1.921	30	PASS
802.11 n20	5745 MHz	-2.939	30	PASS
	5785 MHz	-2.854	30	PASS
	5825 MHz	-2.057	30	PASS
802.11 n40	5755 MHz	-3.377	30	PASS
	5795 MHz	-3.391	30	PASS
802.11 AC20	5745 MHz	-2.609	30	PASS
	5785 MHz	-2.625	30	PASS
	5825 MHz	-1.857	30	PASS
802.11 AC40	5755 MHz	-3.978	30	PASS
	5795 MHz	-3.508	30	PASS
802.11 AC80	5775 MHz	-5.478	30	PASS

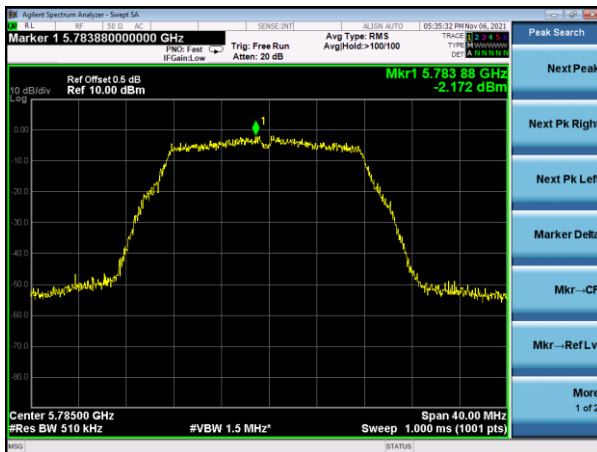
(802.11a) PSD plot on channel 149



(802.11n20) PSD plot on channel 149



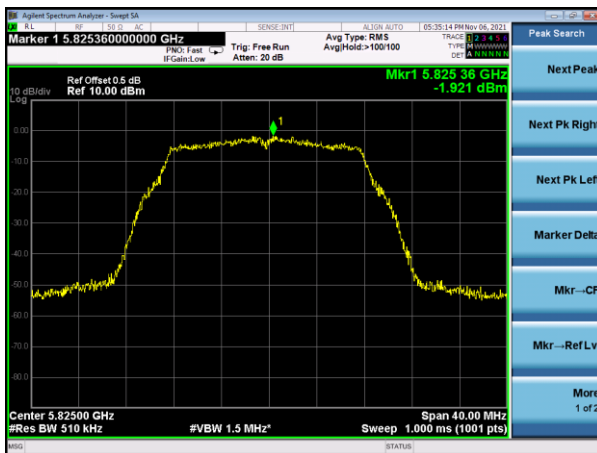
(802.11a) PSD plot on channel 157



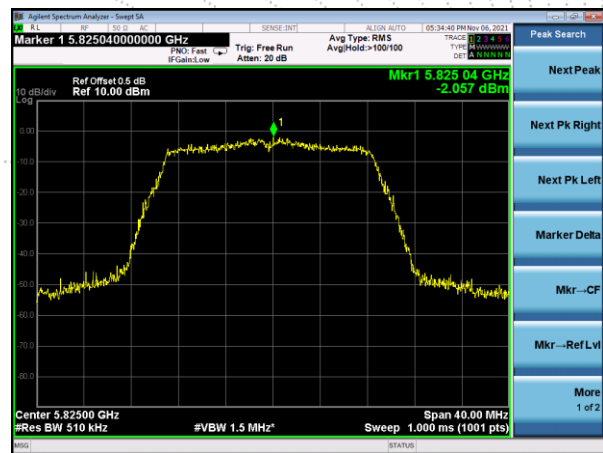
(802.11n20) PSD plot on channel 157



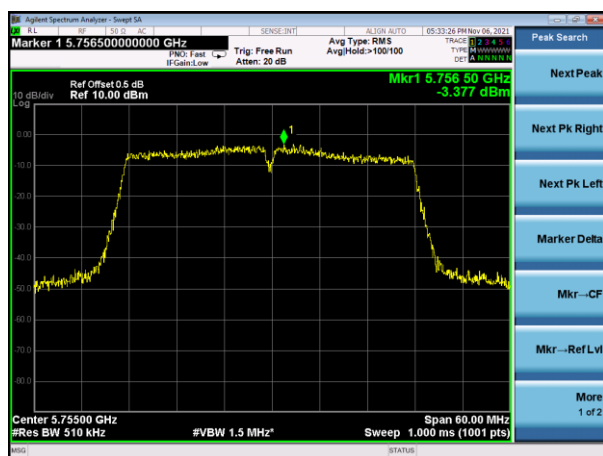
(802.11a) PSD plot on channel 165



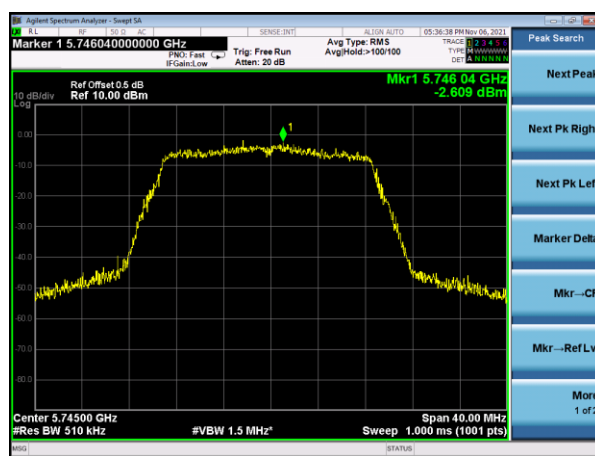
(802.11n20) PSD plot on channel 165



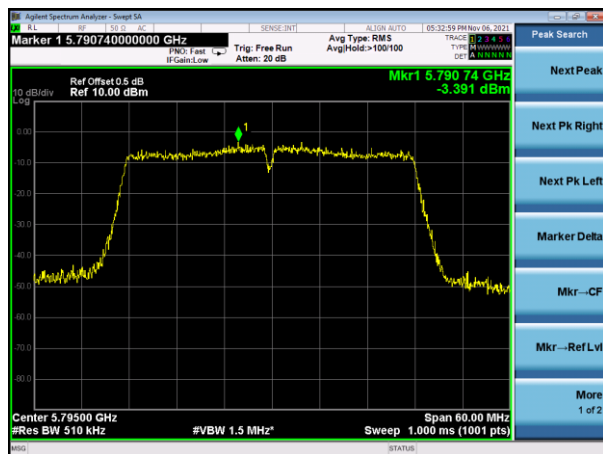
(802.11n40) PSD plot on channel 151



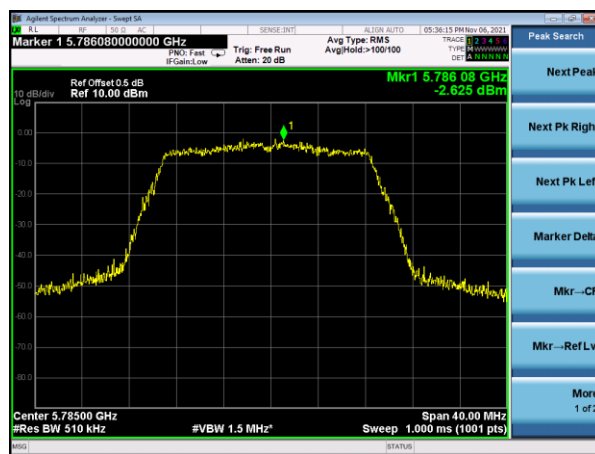
(802.11ac20) PSD plot on channel 149



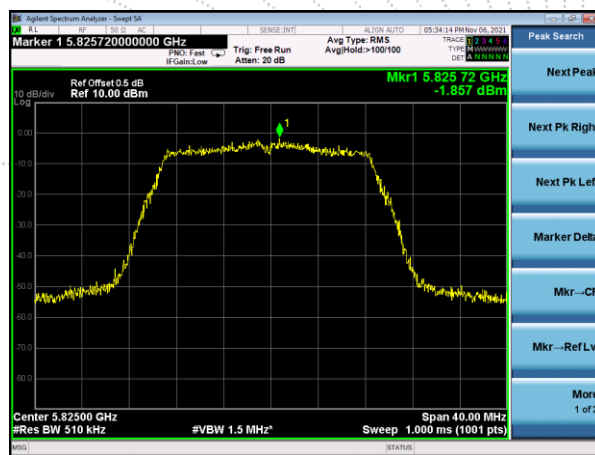
(802.11n40) PSD plot on channel 159



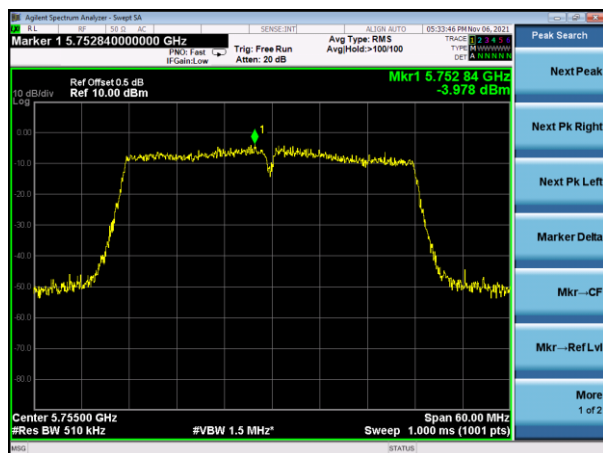
(802.11ac20) PSD plot on channel 157



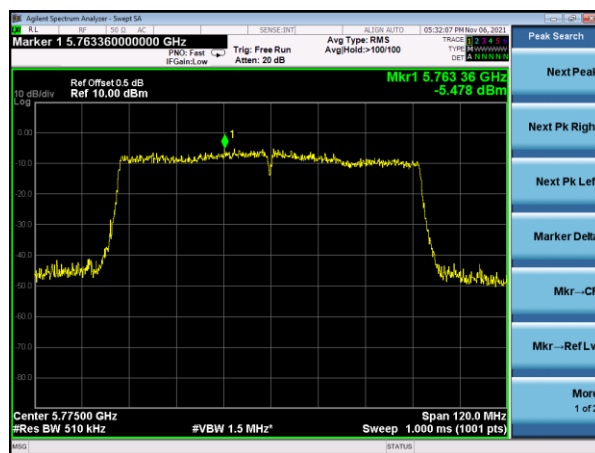
(802.11ac20) PSD plot on channel 165



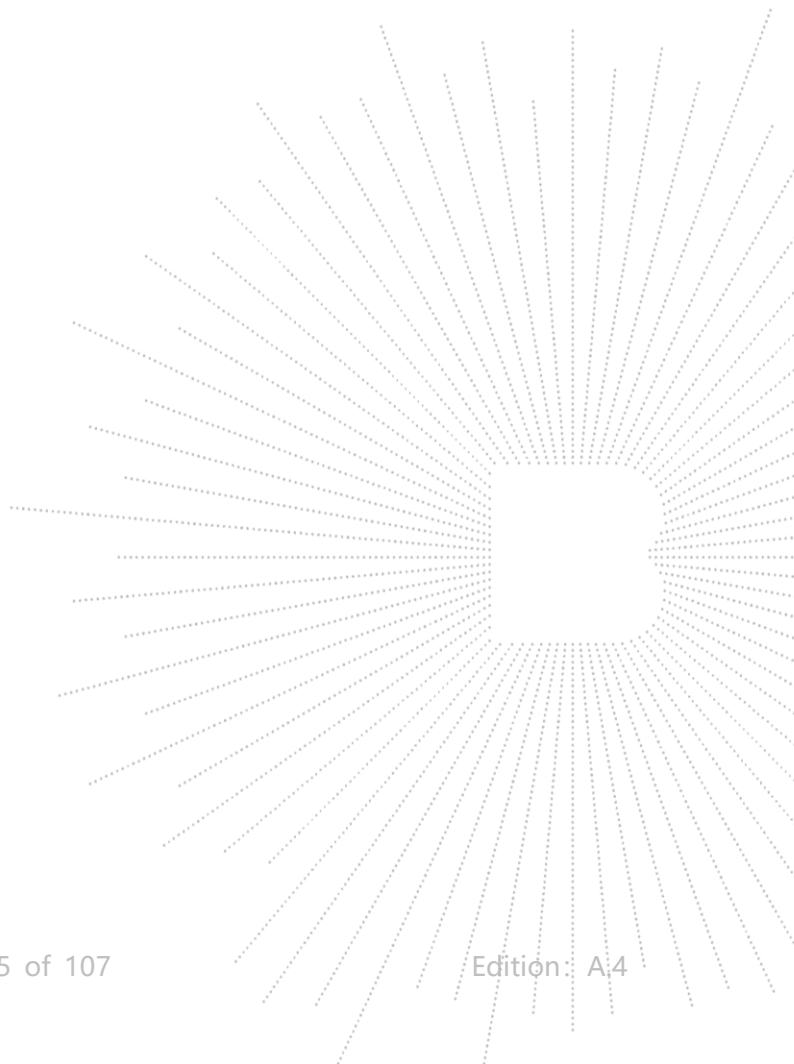
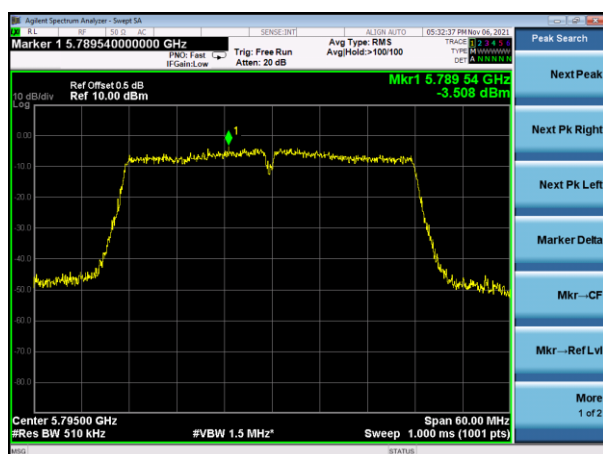
(802.11ac40) PSD plot on channel 151



(802.11ac80) PSD plot on channel 151

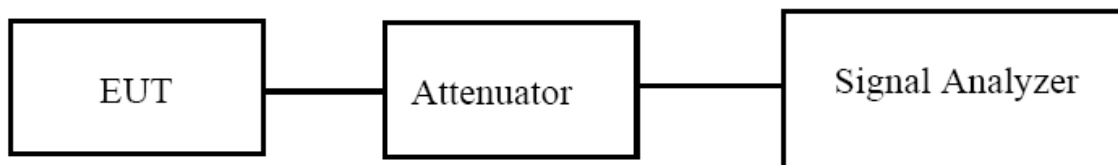


(802.11ac40) PSD plot on channel 159



9. 26dB & 6dB & 99% Emission Bandwidth

9.1 Block Diagram Of Test Setup



9.2 Limit

The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. If the device cannot be connected directly, alternative techniques acceptable to the Commission may be used. Measurements in the 5.725-5.85 GHz band are made over a reference bandwidth of 500 kHz or the 26 dB emission bandwidth of the device, whichever is less. Measurements in the 5.15-5.25 GHz, 5.25-5.35 GHz, and the 5.47-5.725 GHz bands are made over a bandwidth of 1 MHz or the 26 dB emission bandwidth of the device, whichever is less. A narrower resolution bandwidth can be used, provided that the measured power is integrated over the full reference bandwidth.

9.3 Test Procedure

a) Set RBW = approximately 1% of the emission bandwidth.

b) Set the VBW > RBW.

c) Detector = Peak.

d) Trace mode = max hold.

e) Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

The following procedure shall be used for measuring (99 %) power bandwidth:

1. Set center frequency to the nominal EUT channel center frequency.
2. Set span = 1.5 times to 5.0 times the OBW.
3. Set RBW = 1 % to 5 % of the OBW
4. Set VBW $\geq 3 \cdot$ RBW
5. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
6. Use the 99 % power bandwidth function of the instrument (if available).
7. If the instrument does not have a 99 % power bandwidth function, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5 % of the total is reached; that frequency is recorded as the upper frequency. The 99% occupied bandwidth is the difference between these two frequencies.

9.4 EUT Operating Conditions

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

9.5 Test Result

Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	DC 5V
Test Mode :	TX Frequency U-NII-1 (5180-5240MHz)		

Mode	Channel	Frequency (MHz)	99% bandwidth(MHz)	26dB bandwidth(MHz)	Result
802.11a	CH36	5180	16.83	21.11	Pass
	CH40	5200	16.89	21.31	Pass
	CH48	5240	16.83	21.44	Pass
802.11 n20	CH36	5180	17.89	21.38	Pass
	CH40	5200	17.90	21.59	Pass
	CH48	5240	17.98	21.43	Pass
802.11 n40	CH 38	5190	36.30	40.31	Pass
	CH 46	5230	36.46	40.53	Pass
802.11 AC20	CH36	5180	17.89	21.41	Pass
	CH40	5200	17.90	21.13	Pass
	CH48	5240	18.00	21.50	Pass
802.11 AC40	CH 38	5190	36.31	40.55	Pass
	CH 46	5230	36.51	40.48	Pass
802.11 AC80	CH 42	5210	75.70	81.66	Pass