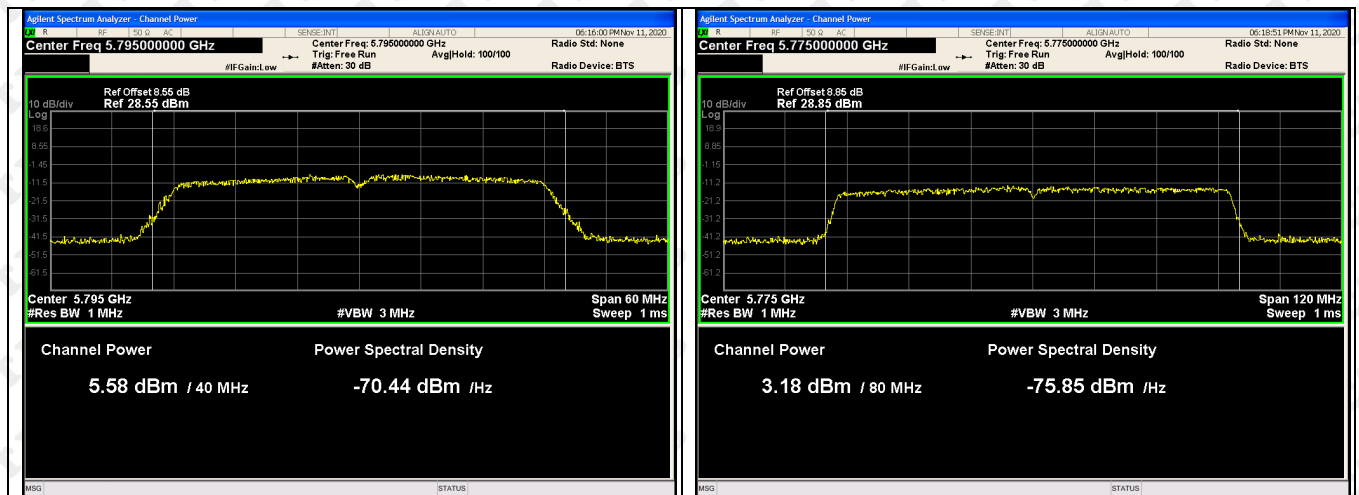
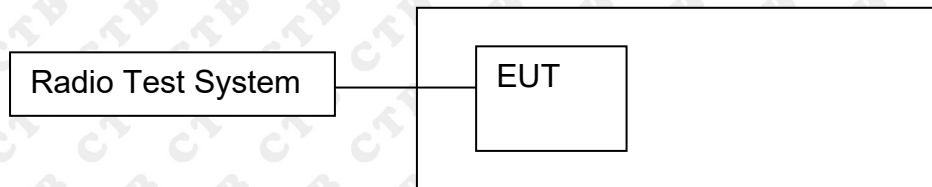




10. EMISSION BANDWIDTH& OCCUPIED BANDWIDTH

10.1 Block Diagram Of Test Setup



10.2 Limits

(1) For the band 5.15-5.25 GHz.

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

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

(e) Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

10.3 Test Procedure

According to KDB789033 D02v02r01 sectionE, the following is the measurement procedure.

1. Emission Bandwidth (EBW)

- Set RBW = approximately 1% of the emission bandwidth.
- Set the VBW > RBW.
- Detector = Peak.
- Trace mode = max hold.
- 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%.

2. Minimum Emission Bandwidth for the band 5.725–5.85 GHz

Section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 kHz for the band 5.725–5.85 GHz. The following procedure shall be used for measuring this bandwidth:

- Set RBW = 100 kHz.
- Set the video bandwidth (VBW) $\geq 3 * \text{RBW}$.

- c) Detector = Peak.
- d) Trace mode = max hold.
- e) Sweep = auto couple.
- f) Allow the trace to stabilize.
- g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Note: The automatic bandwidth measurement capability of a spectrum analyzer or EMI receiver may be employed if it implements the functionality described in this section. For devices that use channel aggregation refer to III.A and III.C for determining emission bandwidth.

D. 99% Occupied Bandwidth

The 99% occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission. Measurement of the 99% occupied bandwidth is *required* only as a condition for using the optional band-edge measurement techniques described in II.G.3.d). Measurements of 99% occupied bandwidth may also optionally be used in lieu of the EBW to define the minimum frequency range over which the 789033 D02 General UNII Test Procedures New Rules v02r01 Page 4 spectrum is integrated when measuring maximum conducted output power as described in II.E. However, the EBW must be measured to determine bandwidth dependent limits on maximum conducted output power in accordance with Section 15.407(a).

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

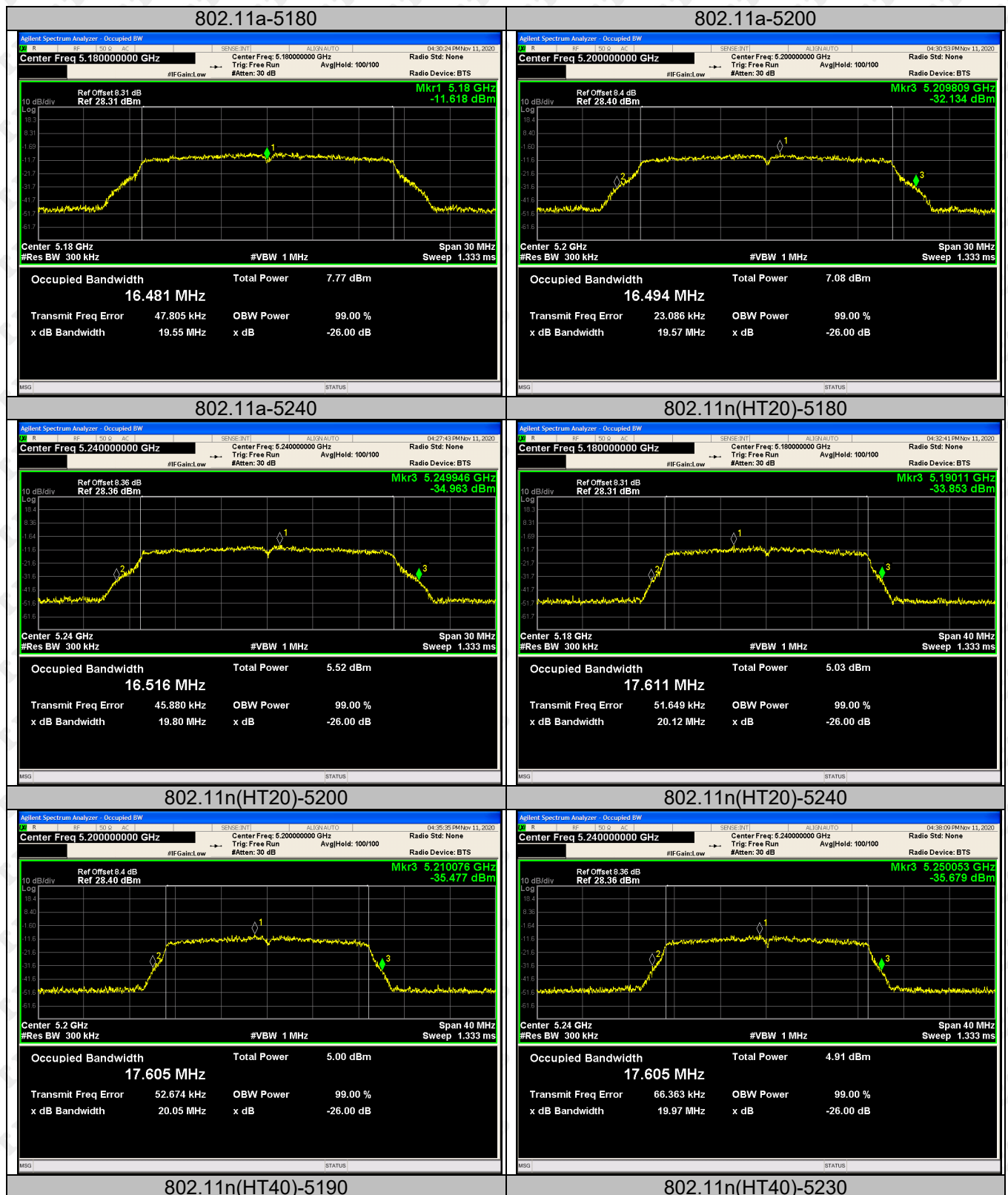
1. Set center frequency to the nominal EUT channel center frequency.
2. Set span = 1.5 times to 5.0 times the OBW.
3. Set RBW = 1% to 5% of the OBW
4. Set VBW $\geq 3 * RBW$
5. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection 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.

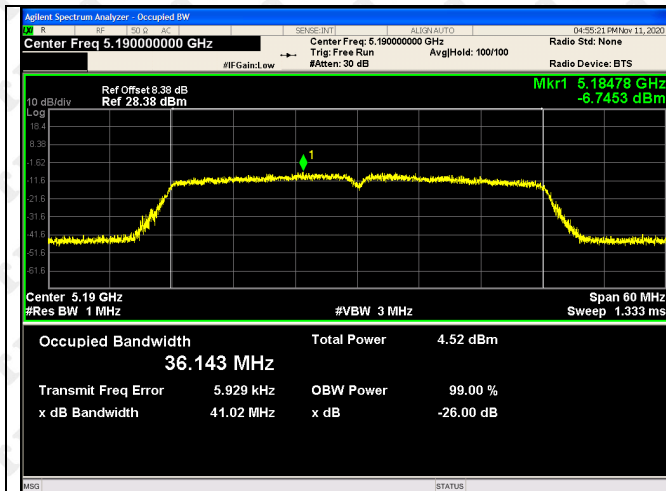
10.4 Test Results

Test mode	Test Channel (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)
802.11a	5180	19.547	16.481	≥ 0.5
	5200	19.571	16.494	≥ 0.5
	5240	19.8	16.516	≥ 0.5
802.11a20	5180	20.259	17.710	≥ 0.5
	5200	20.347	17.712	≥ 0.5
	5240	20.164	17.658	≥ 0.5
802.11a40	5190	40.401	36.117	≥ 0.5
	5230	40.711	36.153	≥ 0.5
802.11a80	5210	81.847	75.810	≥ 0.5
802.11n(HT20)	5180	20.116	17.611	≥ 0.5
	5200	20.046	17.605	≥ 0.5
	5240	19.973	17.605	≥ 0.5
802.11n(HT40)	5190	41.023	36.143	≥ 0.5
	5230	40.758	36.194	≥ 0.5

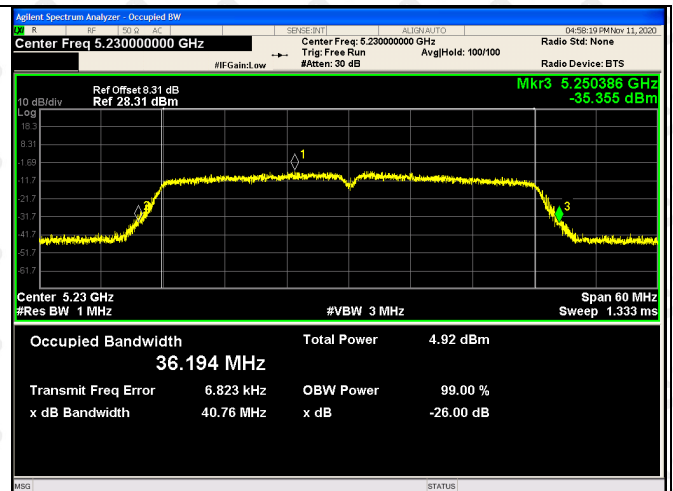
Test mode	Test Channel (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)
802.11a	5745	15.976	16.3445	≥ 0.5
	5785	16.226	16.339	≥ 0.5
	5825	16.129	16.354	≥ 0.5
802.11a20	5745	17.335	17.499	≥ 0.5
	5785	17.336	17.518	≥ 0.5
	5825	17.223	17.522	≥ 0.5
802.11a40	5755	35.624	35.785	≥ 0.5
	5795	35.424	35.844	≥ 0.5
802.11a80	5775	76.106	75.432	≥ 0.5
802.11n(HT20)	5745	17.34	17.533	≥ 0.5
	5785	17.461	17.549	≥ 0.5
	5825	17.289	17.532	≥ 0.5
802.11n(HT40)	5755	35.609	35.866	≥ 0.5
	5795	35.856	35.908	≥ 0.5

Test Graph

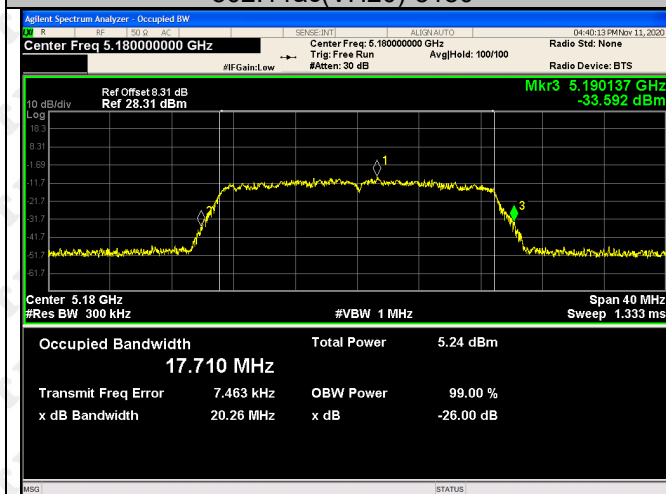




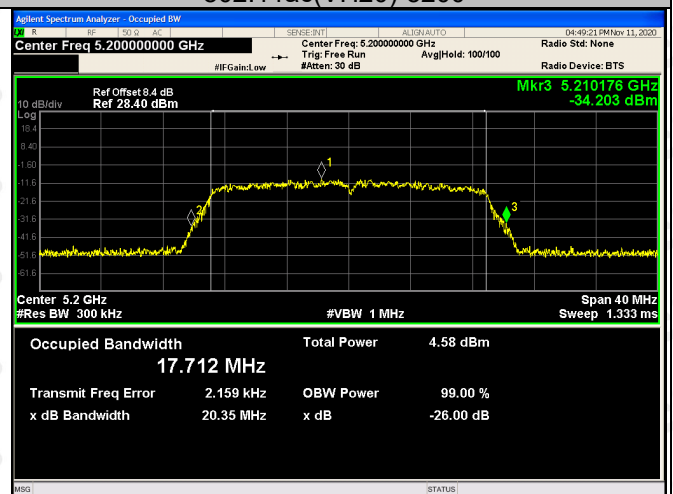
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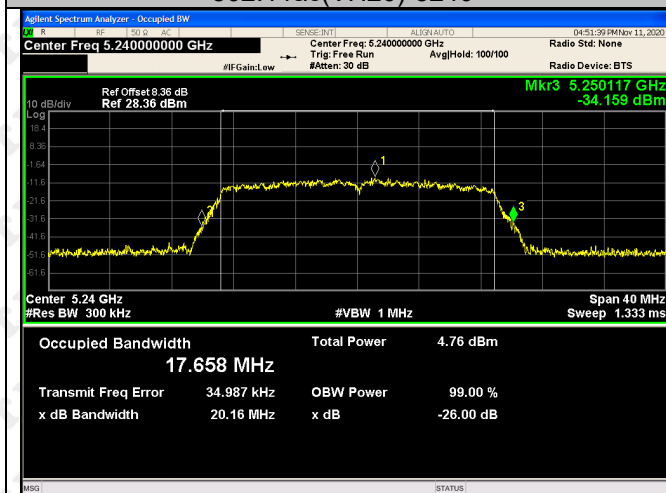
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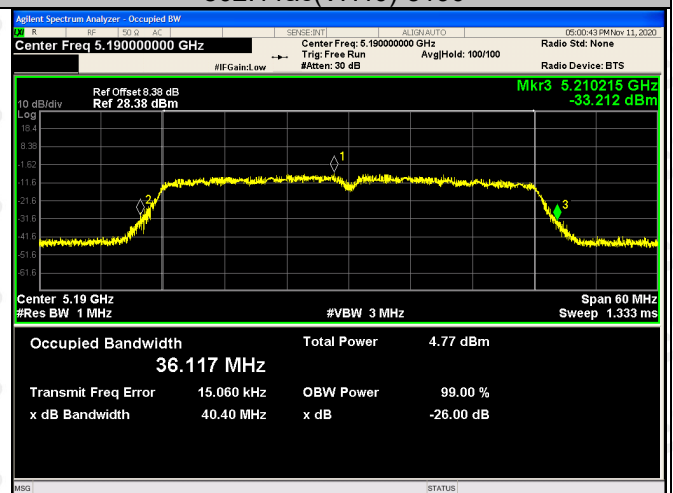
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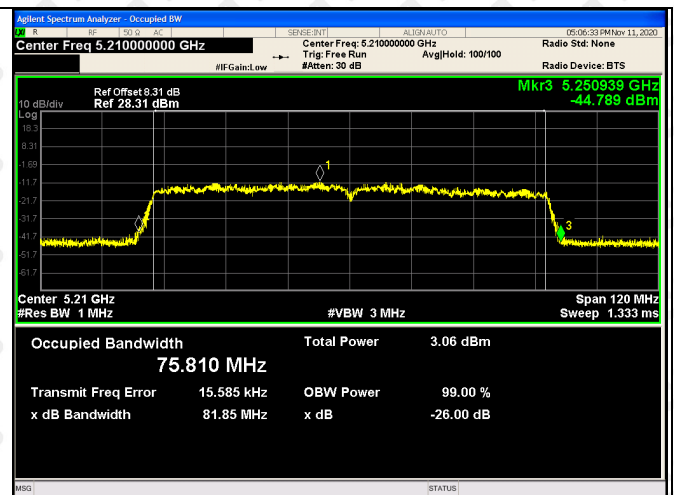
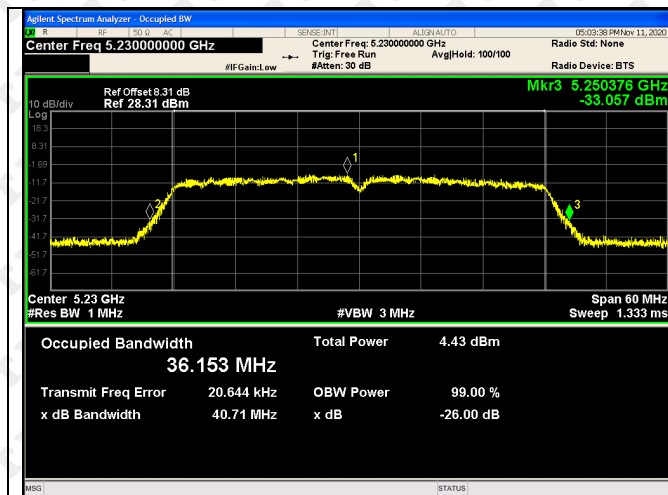
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802.11ac(VH40)-5230

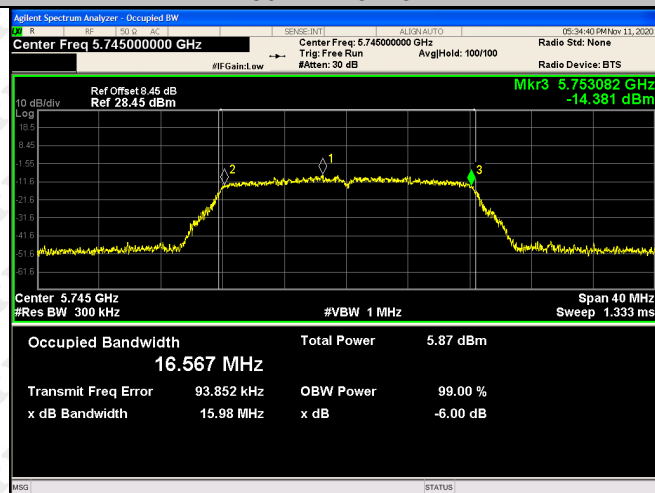


802.11ac(VH80)-5210

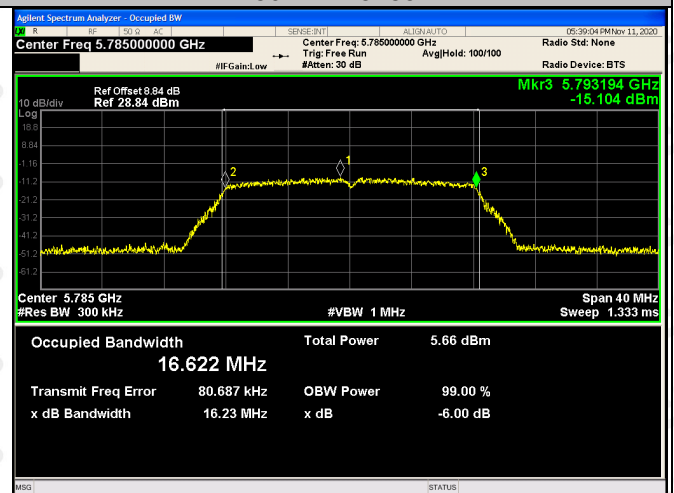


5725-5850MHz

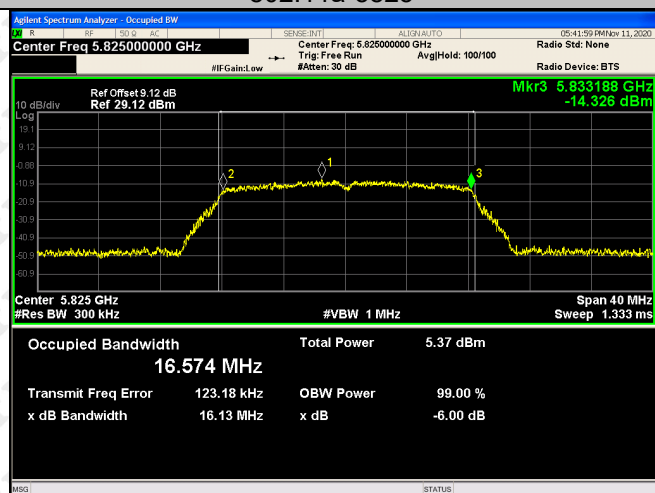
802.11a-5745



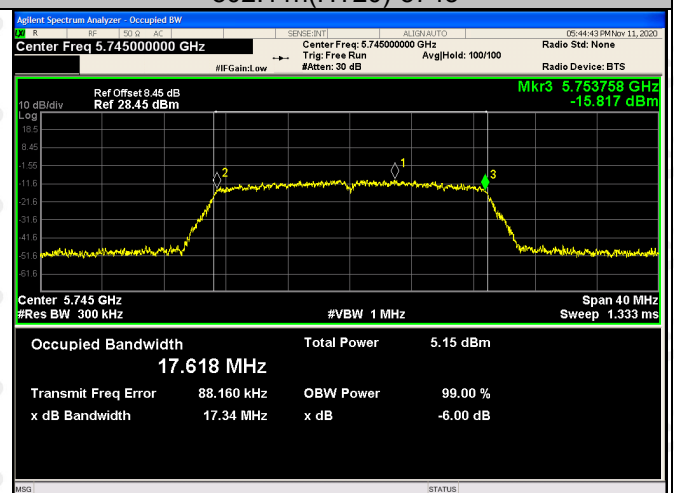
802.11a-5785



802.11a-5825

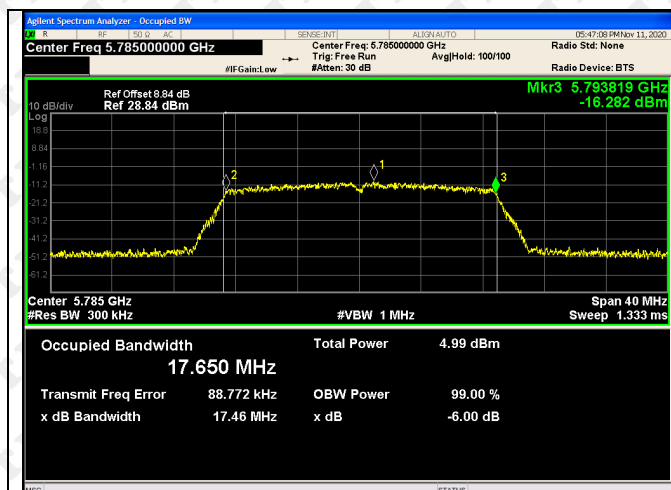


802.11n(HT20)-5745

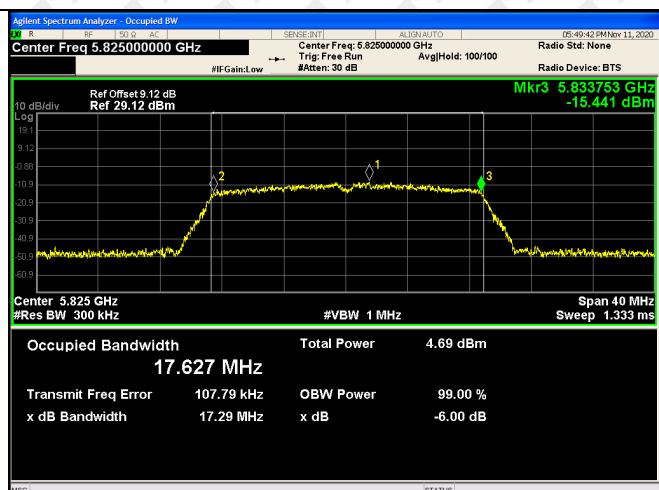


802.11n(HT20)-5785

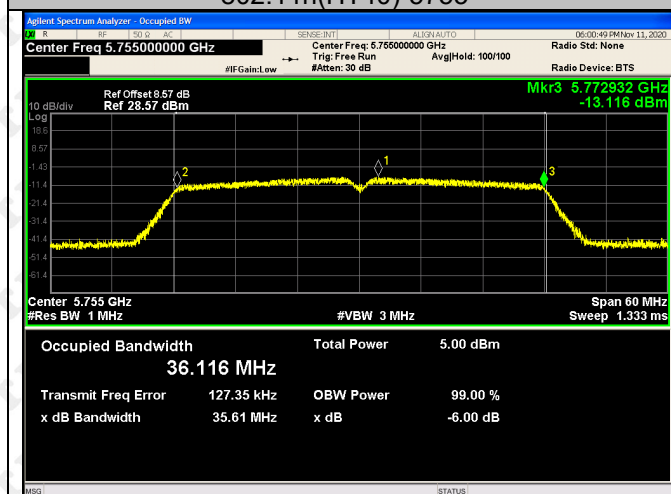
802.11n(HT20)-5825



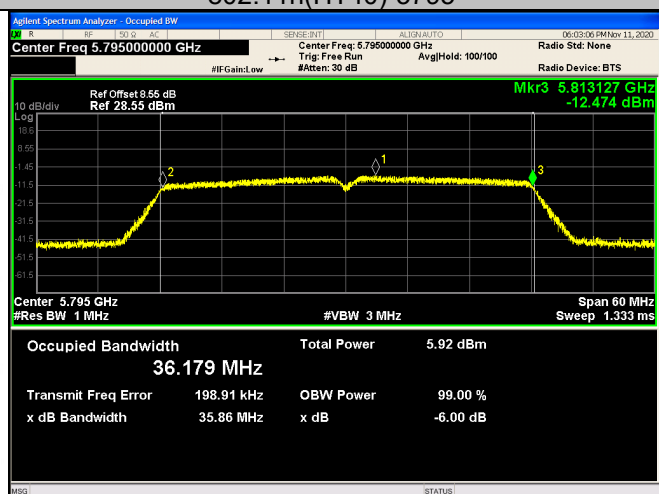
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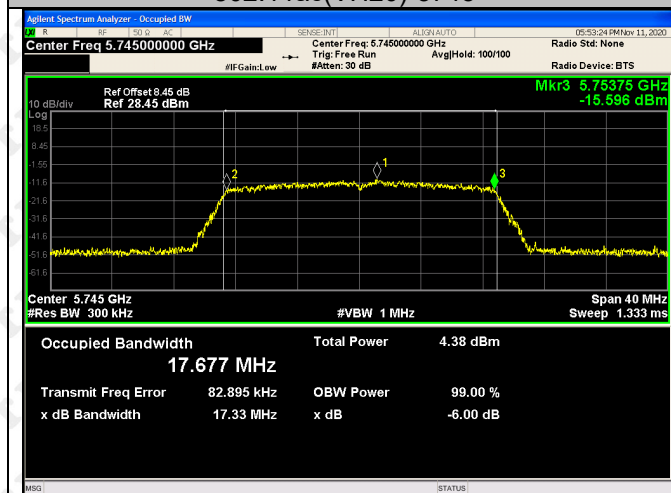
802.11n(HT40)-5795



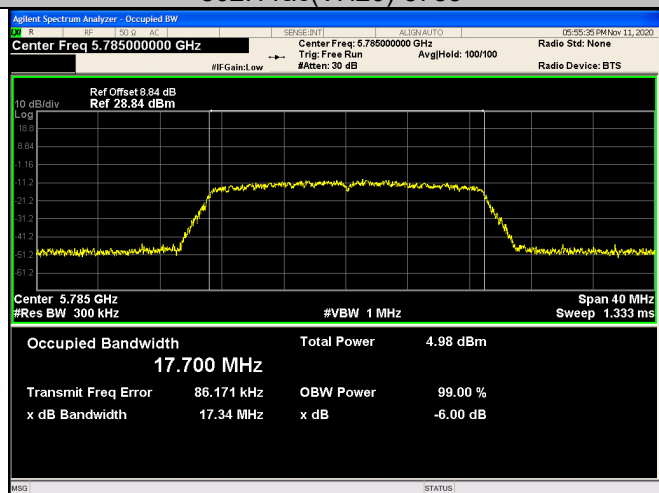
802.11ac(VH20)-5745



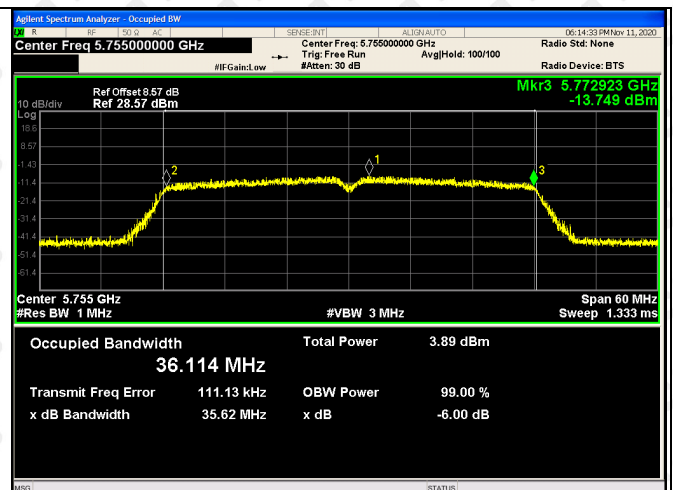
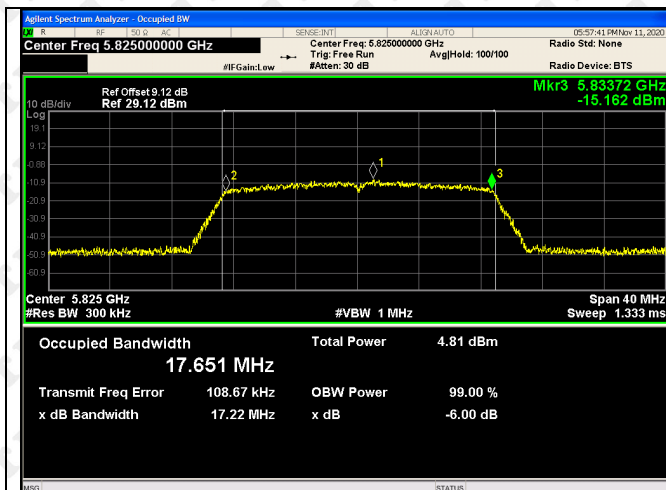
802.11ac(VH20)-5785



802.11ac(VH20)-5825

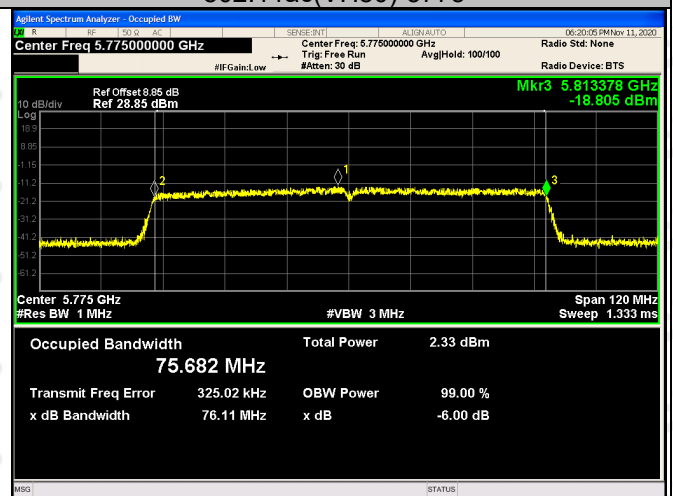
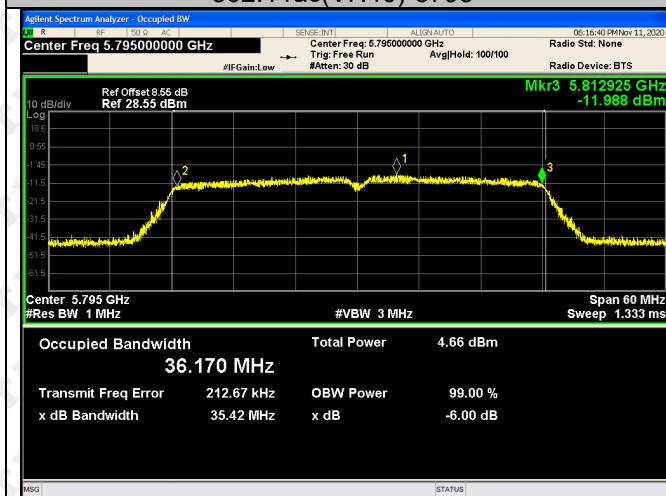


802.11ac(VH40)-5755



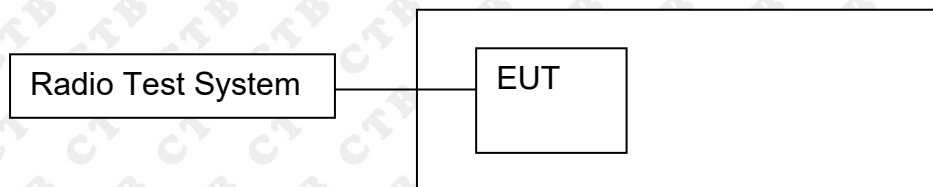
802.11ac(VH40)-5795

802.11ac(VH80)-5775



11. POWER SPECTRAL DENSITY

11.1 Block Diagram Of Test Setup



11.2 Limit

(1) For the band 5.15-5.25 GHz.

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

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

11.3 Test procedure

According to KDB789033 D02v02r01 sectionE, the following is the measurement procedure.

For devices operating in the bands 5.15–5.25 GHz, 5.25–5.35 GHz, and 5.47–5.725 GHz, the preceding procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in Section 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 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 II.B.1.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 $RBW (< 500 \text{ kHz})$ 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 $RBW (< 1 \text{ MHz})$ is the reduced resolution bandwidth of spectrum analyzer set during measurement.

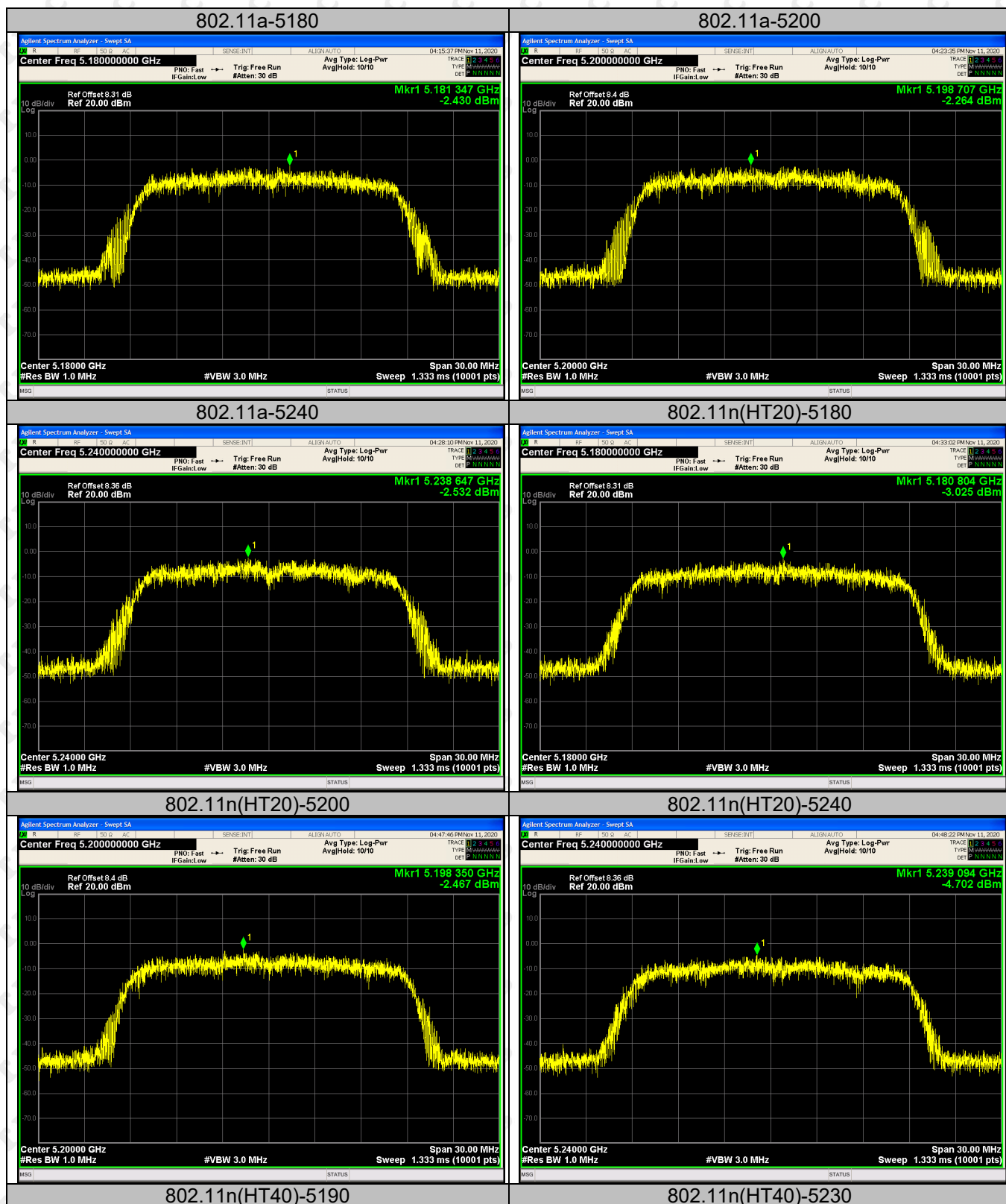
e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

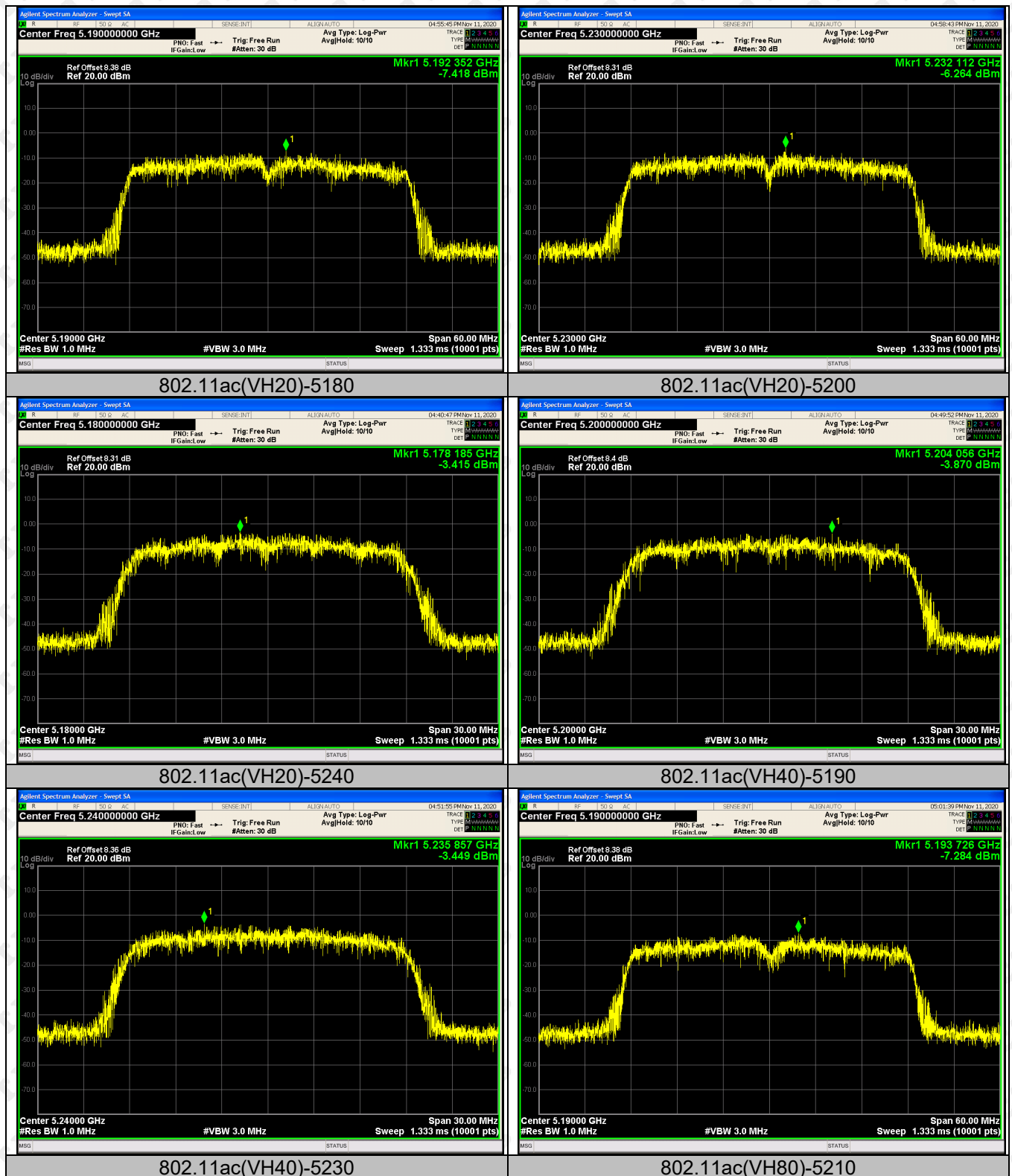
Note: As a practical matter, it is recommended to use reduced RBW of 100 kHz for the II.F.5.c) and II.F.5.d), since $RBW=100 \text{ kHz}$ is available on nearly all spectrum analyzers.

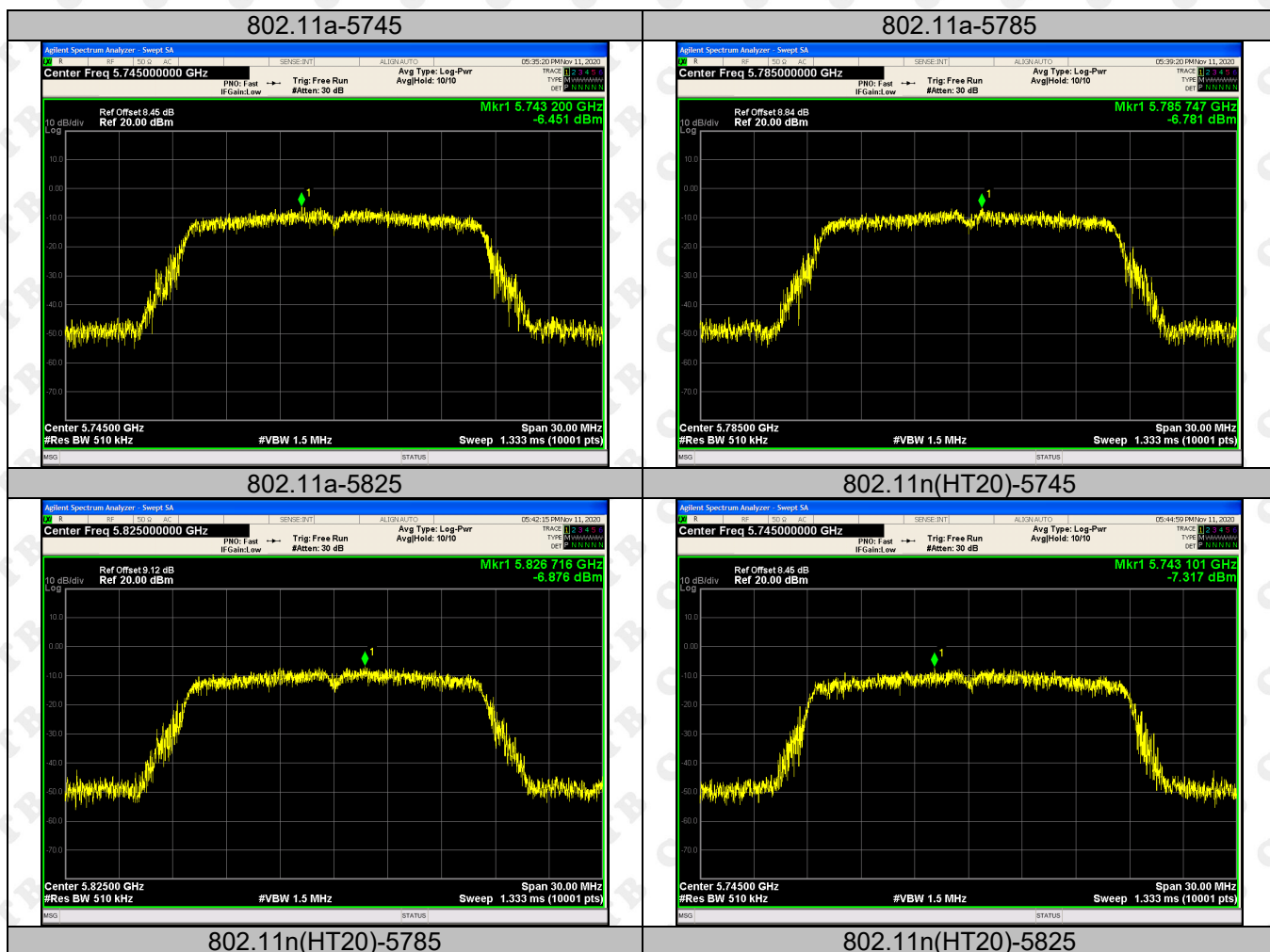
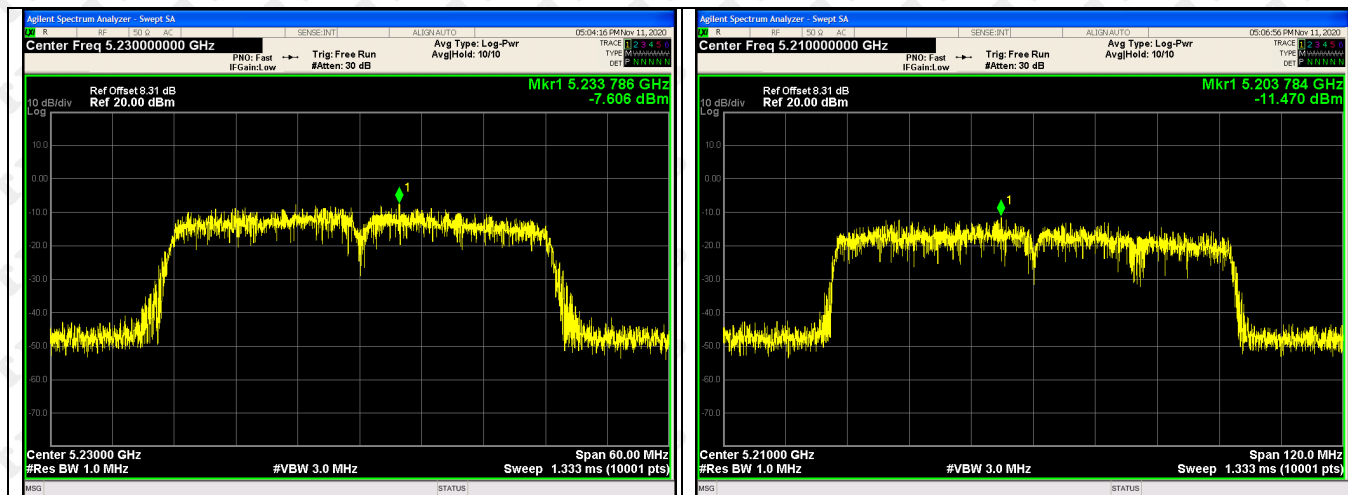
11.4 Test Result

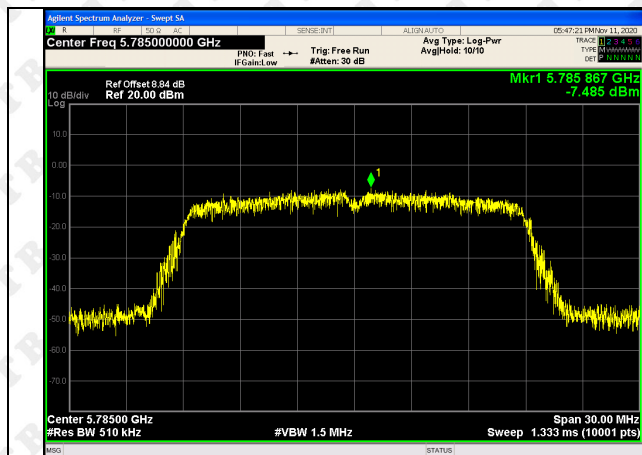
Test mode1	Test Channel (MHz)	PSD [dBm/MHz]	Result
802.11a	5180	-2.43	Pass
	5200	-2.264	Pass
	5240	-2.532	Pass
802.11ac(VH20)	5180	-3.415	Pass
	5200	-3.87	Pass
	5240	-3.449	Pass
802.11ac(VH40)	5190	-7.284	Pass
	5230	-7.606	Pass
802.11ac(VH80)	5210	-11.47	Pass
802.11n(HT20)	5180	-3.025	Pass
	5200	-2.467	Pass
	5240	-4.702	Pass
802.11n(HT40)	5190	-7.418	Pass
	5230	-6.264	Pass

Test mode1	Test Channel (MHz)	PSD [dBm/500kHz]	Result
802.11a	5745	-6.451	Pass
	5785	-6.781	Pass
	5825	-6.876	Pass
802.11ac(VH20)	5745	-7.813	Pass
	5785	-7.601	Pass
	5825	-8.279	Pass
802.11ac(VH40)	5755	-11.849	Pass
	5795	-11.858	Pass
802.11ac(VH80)	5775	-17.488	Pass
802.11n(HT20)	5745	-7.317	Pass
	5785	-7.485	Pass
	5825	-7.68	Pass
802.11n(HT40)	5755	-11.325	Pass
	5795	-10.455	Pass

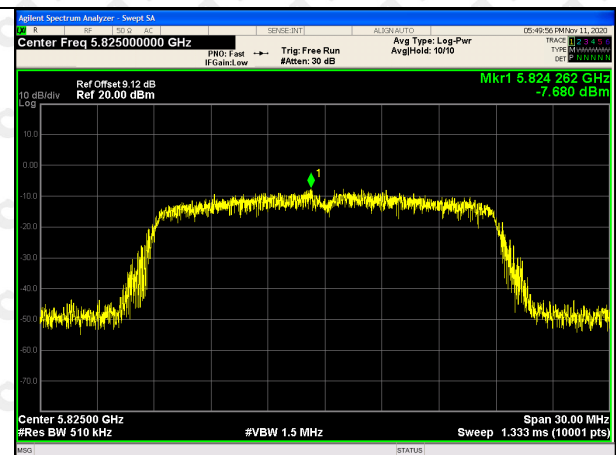




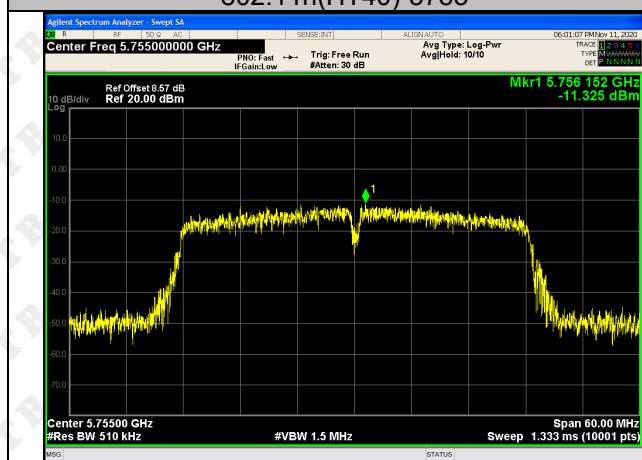




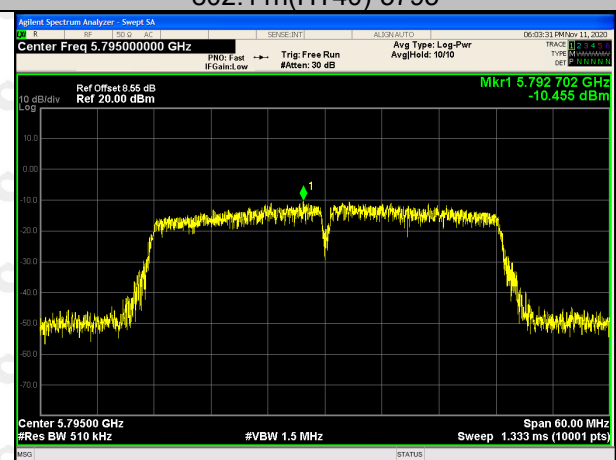
802.11n(HT40)-5755



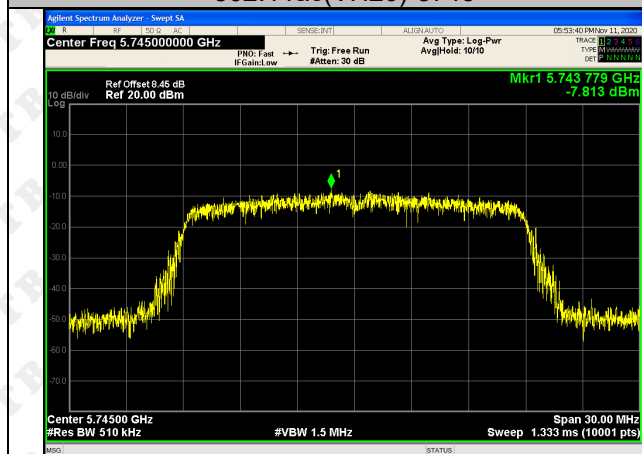
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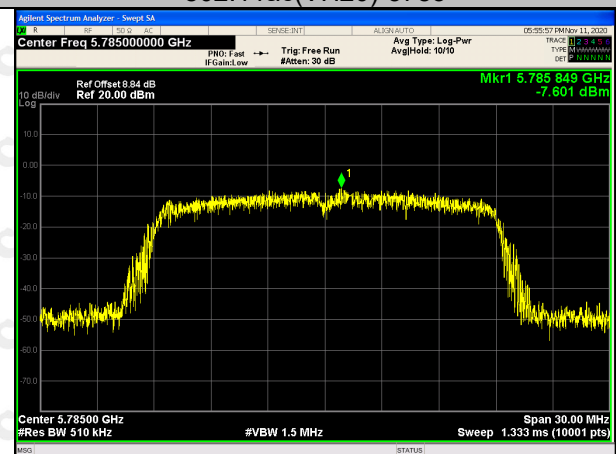
802.11ac(VH20)-5745



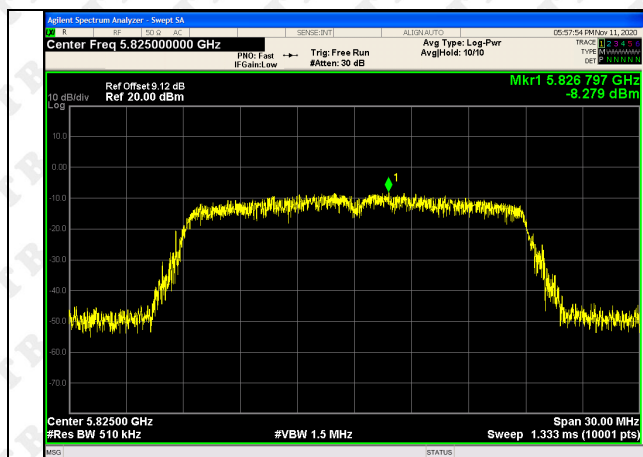
802.11ac(VH20)-5785



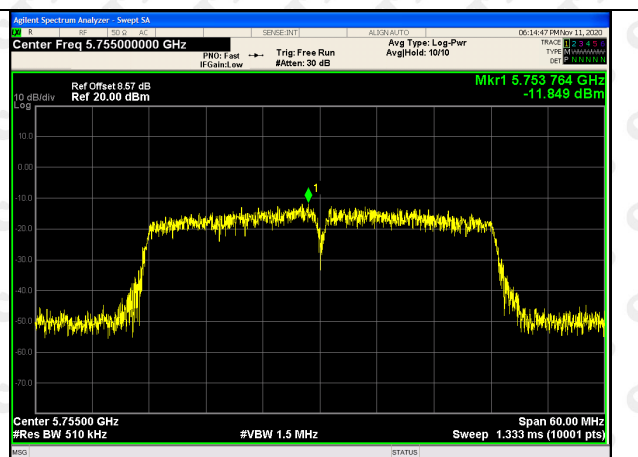
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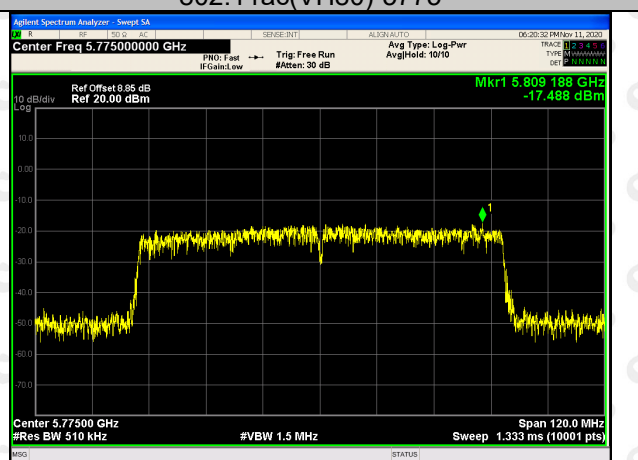
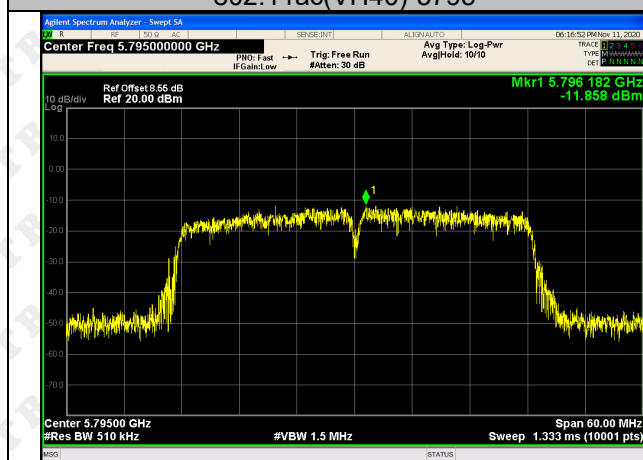
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802.11ac(VH40)-5795

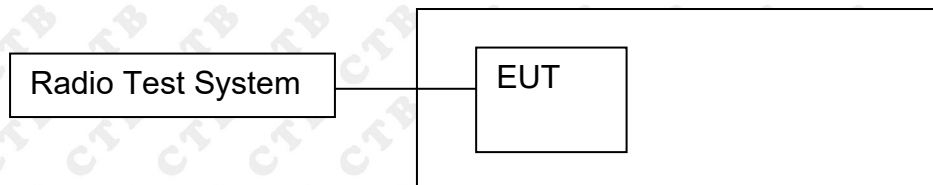


802.11ac(VH80)-5775



12. FREQUENCY STABILITY

12.1 Block Diagram Of Test Setup



12.2 Limit

Manufacturers 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 in the user's manual.

12.3 Test procedure

1. The EUT was placed inside temperature chamber and powered and powered by nominal DC voltage.
2. Set EUT as normal operation.
3. Turn the EUT on and couple its output to spectrum.
4. Turn the EUT off and set the chamber to the highest temperature specified.
5. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT and measure the operating frequency.
6. Repeat step with the temperature chamber set to the lowest temperature.

12.4 Test Result

TX Frequency U-NII-1 (5180-5240MHz)

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5180MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5.00	5180.0556	5180	0.0556	10.7336
		V max (V)	5.75	5180.0323	5180	0.0323	6.2355
		V min (V)	4.25	5180.0246	5180	0.0246	4.7490
Limits				5150-5250 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5180MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5180.0054	5180	0.0054	1.0425
		T (°C)	-10	5180.0105	5180	0.0105	2.0270
		T (°C)	0	5180.0323	5180	0.0323	6.2355
		T (°C)	10	5180.0386	5180	0.0386	7.4517
		T (°C)	20	5180.0293	5180	0.0293	5.6564
		T (°C)	30	5180.0218	5180	0.0218	4.2085
		T (°C)	40	5180.0125	5180	0.0125	2.4131
		T (°C)	50	5180.0097	5180	0.0097	1.8726
		T (°C)	60	5180.0414	5180	0.0414	7.9923
		T (°C)	70	5180.0697	5180	0.0697	13.4556
Limits				5150-5250 MHz			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5.00	5200.0254	5200	0.0254	4.8846
		V max (V)	5.75	5200.0428	5200	0.0428	8.2308
		V min (V)	4.25	5200.0694	5200	0.0694	13.3462
Limits				5150-5250MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5200.0633	5200	0.0633	12.1731
		T (°C)	-10	5200.0526	5200	0.0526	10.1154
		T (°C)	0	5200.0434	5200	0.0434	8.3462
		T (°C)	10	5200.0928	5200	0.0928	17.8462
		T (°C)	20	5200.0635	5200	0.0635	12.2115
		T (°C)	30	5200.0124	5200	0.0124	2.3846
		T (°C)	40	5200.0733	5200	0.0733	14.0962
		T (°C)	50	5200.0416	5200	0.0416	8.0000
		T (°C)	60	5200.0325	5200	0.0325	6.2500
		T (°C)	70	5200.0427	5200	0.0427	8.2115
Limits				5150-5250 MHz			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5240MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5.00	5240.0136	5240	0.0136	2.5954
		V max (V)	5.75	5240.0414	5240	0.0414	7.9008
		V min (V)	4.25	5240.0097	5240	0.0097	1.8511
Limits				5150-5250 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5240MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5240.0094	5240	0.0094	1.7939
		T (°C)	-10	5240.0035	5240	0.0035	0.6679
		T (°C)	0	5240.0144	5240	0.0144	2.7481
		T (°C)	10	5240.0856	5240	0.0856	16.3359
		T (°C)	20	5240.0114	5240	0.0114	2.1756
		T (°C)	30	5240.0125	5240	0.0125	2.3855
		T (°C)	40	5240.0063	5240	0.0063	1.2023
		T (°C)	50	5240.0076	5240	0.0076	1.4504
		T (°C)	60	5240.0053	5240	0.0053	1.0115
		T (°C)	70	5240.0105	5240	0.0105	2.0038
Limits				5150-5250 MHz			
Result				Complies			

TX Frequency(5745-5825MHz)

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5.00	5745.00674	5745	0.00674	1.1728
		V max (V)	5.75	5745.00624	5745	0.00624	1.0855
		V min (V)	4.25	5745.00861	5745	0.00861	1.4994
Limits				5725-5850 MHz			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5745.00906	5745	0.00906	1.5768
		T (°C)	-10	5745.01045	5745	0.01045	1.8183
		T (°C)	0	5745.01162	5745	0.01162	2.0224
		T (°C)	10	5745.01200	5745	0.01200	2.0888
		T (°C)	20	5745.01106	5745	0.01106	1.9247
		T (°C)	30	5745.00876	5745	0.00876	1.5250
		T (°C)	40	5745.00637	5745	0.00637	1.1082
		T (°C)	50	5745.00922	5745	0.00922	1.6050
		T (°C)	60	5745.00032	5745	0.00032	0.0561
		T (°C)	70	5745.00354	5745	0.00354	0.6163
Limits				5725-5850 MHz			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5785MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5.00	5785.01228	5785	0.01228	2.1222
		V max (V)	5.75	5785.01045	5785	0.01045	1.8062
		V min (V)	4.25	5785.00821	5785	0.00821	1.4187
Limits				5725-5850 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5785MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5785.01103	5785	0.01103	1.9074
		T (°C)	-10	5785.00092	5785	0.00092	0.1596
		T (°C)	0	5785.00518	5785	0.00518	0.8960
		T (°C)	10	5785.01156	5785	0.01156	1.9974
		T (°C)	20	5785.00809	5785	0.00809	1.3980
		T (°C)	30	5785.01317	5785	0.01317	2.2759
		T (°C)	40	5785.00068	5785	0.00068	0.1167
		T (°C)	50	5785.00380	5785	0.00380	0.6562
		T (°C)	60	5785.01346	5785	0.01346	2.3274
		T (°C)	70	5785.00719	5785	0.00719	1.2430
Limits				5725-5850 MHz			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (° C)	20	V nom (V)	5.00	5825.00385	5825	0.00385	0.6607
		V max (V)	5.75	5825.01238	5825	0.01238	2.1258
		V min (V)	4.25	5825.01027	5825	0.01027	1.7624
Limits				5725-5850 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5825.01348	5825	0.01348	2.3148
		T (°C)	-10	5825.00472	5825	0.00472	0.8108
		T (°C)	0	5825.01272	5825	0.01272	2.1828
		T (°C)	10	5825.01116	5825	0.01116	1.9166
		T (°C)	20	5825.00163	5825	0.00163	0.2791
		T (°C)	30	5825.00063	5825	0.00063	0.1078
		T (°C)	40	5825.00907	5825	0.00907	1.5563
		T (°C)	50	5825.00404	5825	0.00404	0.6939
		T (°C)	60	5825.00797	5825	0.00797	1.3683
		T (°C)	70	5825.00844	5825	0.00844	1.4483
Limits				5725-5850 MHz			
Result				Complies			

13. OPERATION IN THE ABSENCE OF INFORMATION TO THE TRANSMIT

13.1 Requirement

15.407(c) requirement:

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signal ling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization a description of how this requirement is met.

13.2 Test Results

Operation in the absence of information to the transmit:

While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling signal of ASK message transmitting from remote device and verify whether it shall resend or discontinue transmission. (manufacturer declare)

14. ANTENNA REQUIREMENT

15.203 requirement:

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, 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.

15.247(b) (4) requirement:

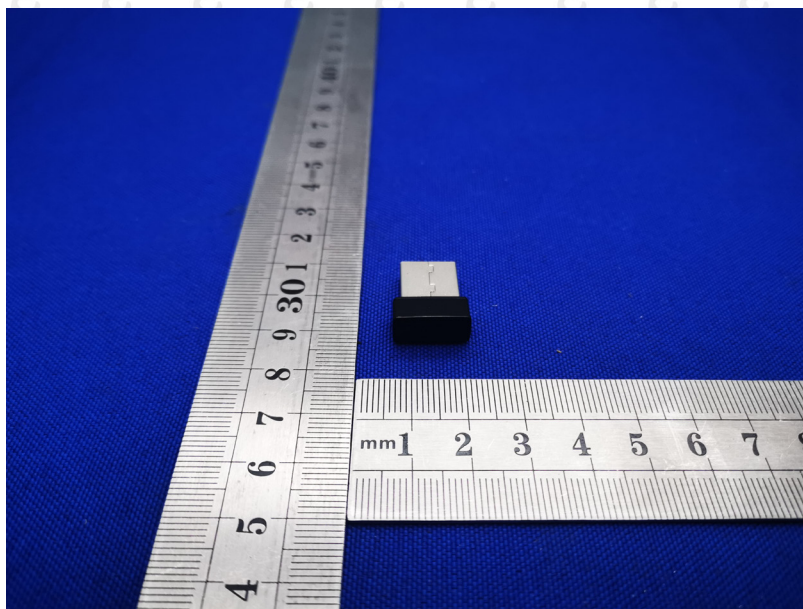
The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

EUT Antenna:

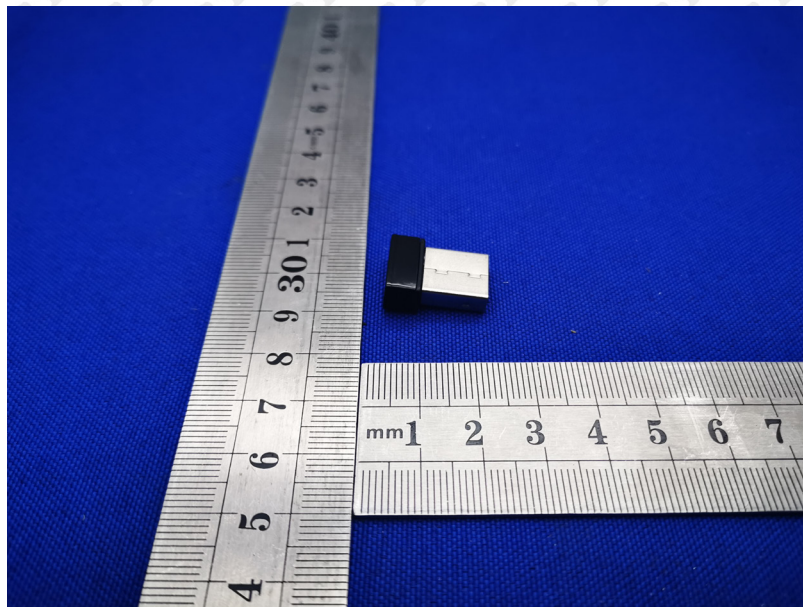
The antenna is Internal Antenna and no consideration of replacement. The best case gain of the antenna is 2.0dBi.

15. EUT PHOTOGRAPHS

EUT Photo 1



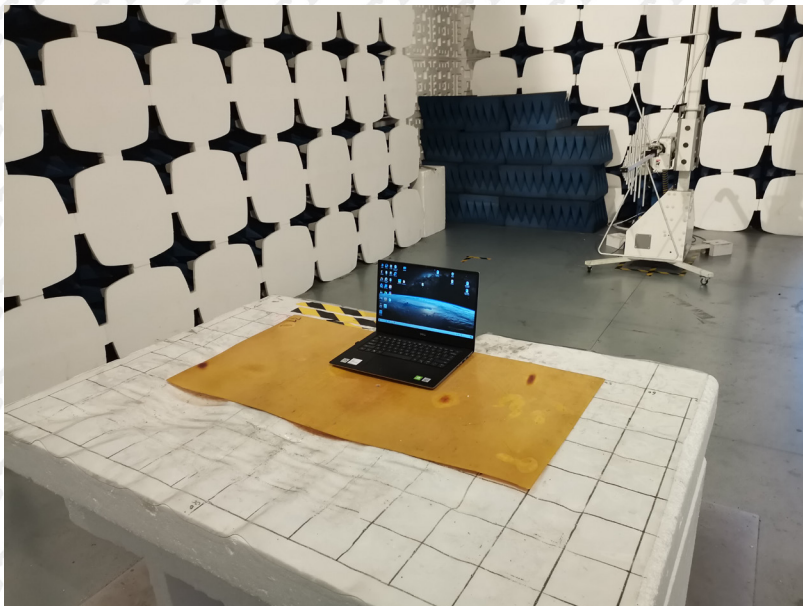
EUT Photo 2



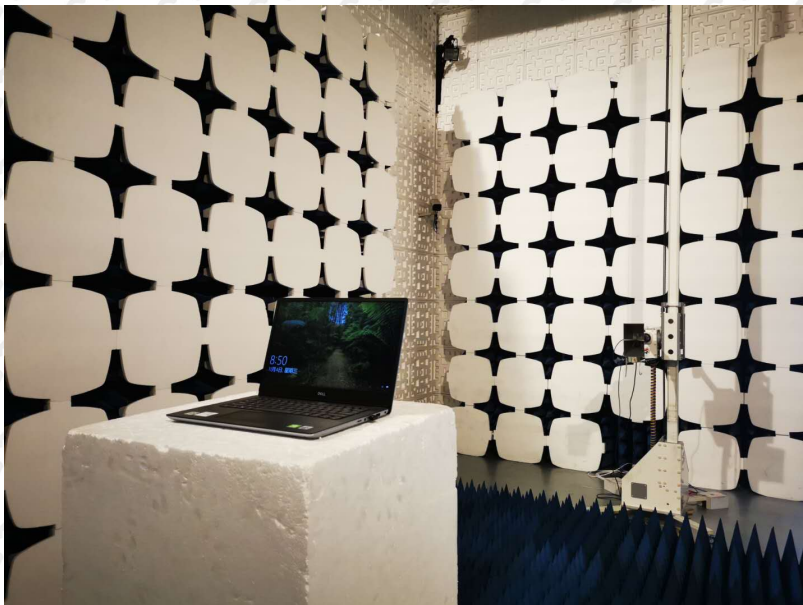
16. EUT TEST SETUP PHOTOGRAPHS

Spurious emissions

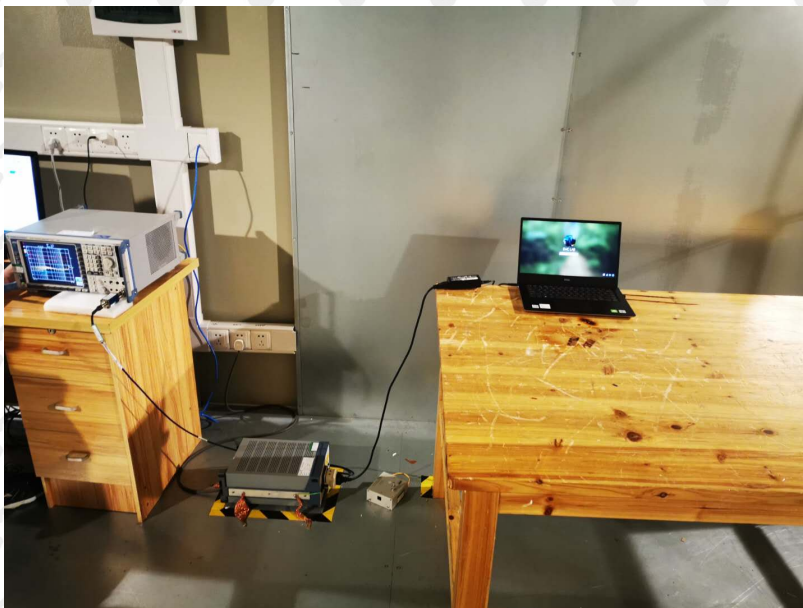
Below 1GHz



Above 1GHz



Conducted Emission



***** END OF REPORT *****