

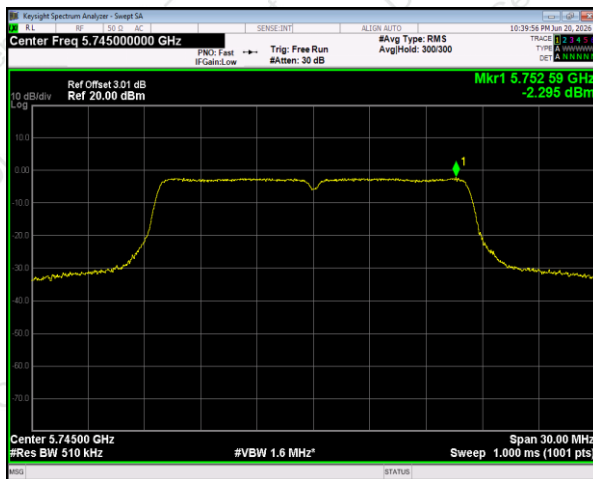


Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1015 hPa	Test Voltage :	AC 120V/60Hz
Test Band :	5.8G		

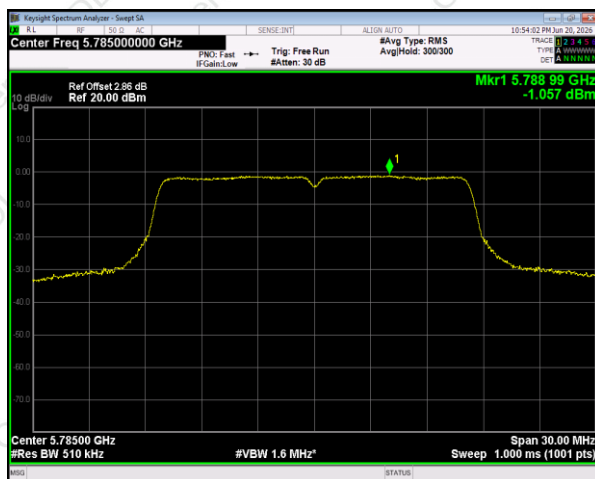
5.8G						
Test mode	Test Channel (MHz)	PSD (dBm/510kHz)	duty cycle Factor (dB)	Total PSD (dBm)	Limit (dBm/500kHz)	Result
802.11a	5745	-2.30	0.48	-1.82	30	Pass
	5785	-1.06	0.48	-0.58	30	Pass
	5825	-1.09	0.48	-0.61	30	Pass
802.11n20	5745	-3.34	0.53	-2.81	30	Pass
	5785	-2.13	0.53	-1.6	30	Pass
	5825	-2.25	0.53	-1.72	30	Pass
802.11n40	5755	-8.30	0.94	-7.36	30	Pass
	5795	-6.99	0.94	-6.05	30	Pass
802.11ac20	5745	-6.94	0.49	-6.45	30	Pass
	5785	-6.16	0.49	-5.67	30	Pass
	5825	-6.13	0.49	-5.64	30	Pass
802.11ac40	5755	-9.14	1.06	-8.08	30	Pass
	5795	-8.69	1.06	-7.63	30	Pass
802.11ac80	5775	-13.48	1.71	-11.77	30	Pass
Note: duty cycle Factor see page 88						



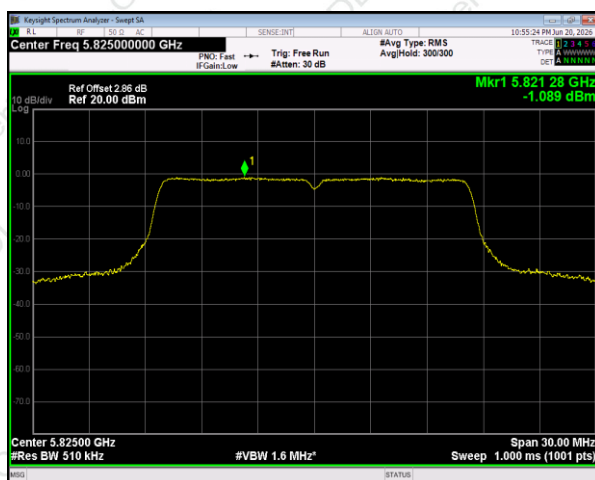
(802.11a) PSD plot on channel 149



(802.11a) PSD plot on channel 157

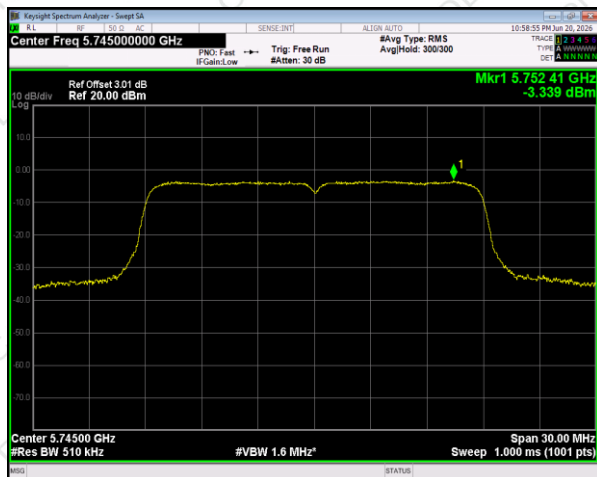


(802.11a) PSD plot on channel 165

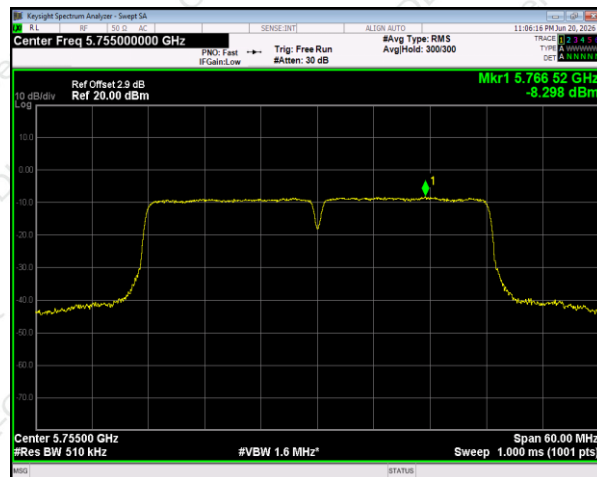




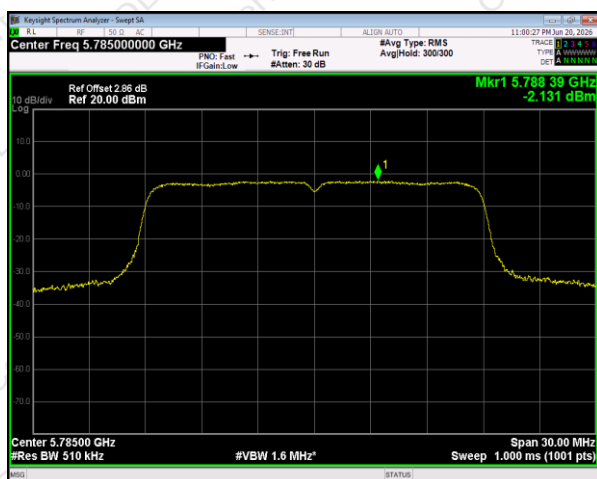
(802.11n20) PSD plot on channel 149



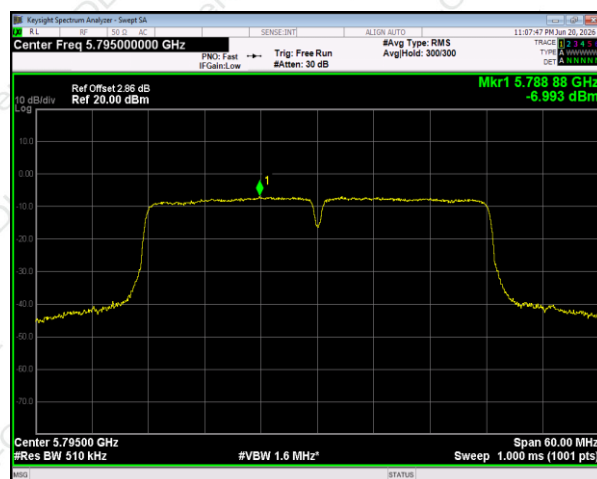
(802.11n40) PSD plot on channel 151



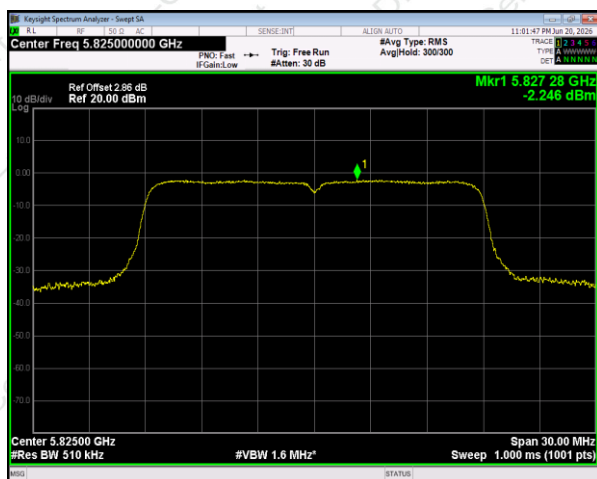
(802.11n20) PSD plot on channel 157



(802.11n40) PSD plot on channel 159

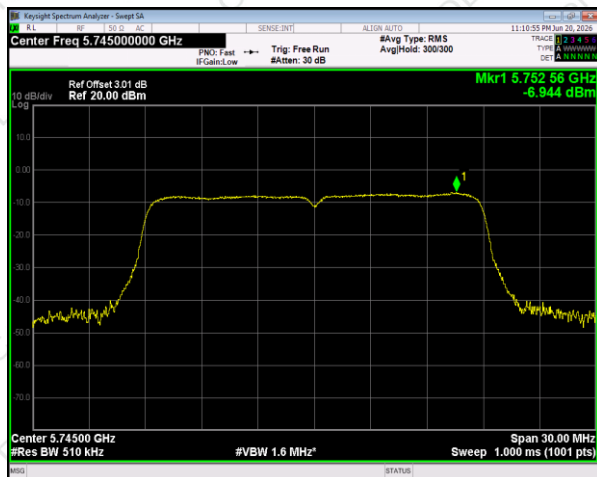


(802.11n20) PSD plot on channel 165

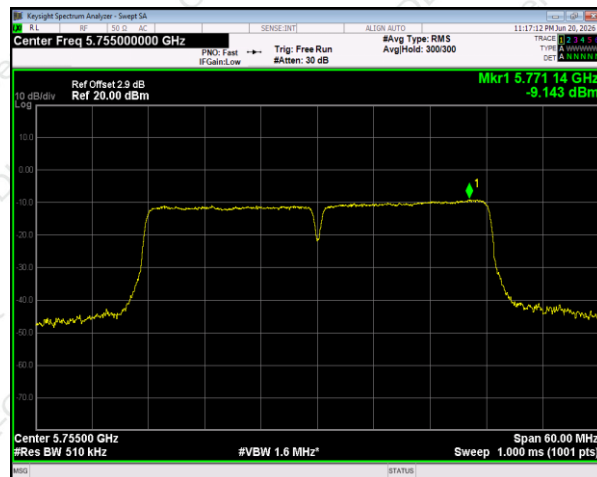




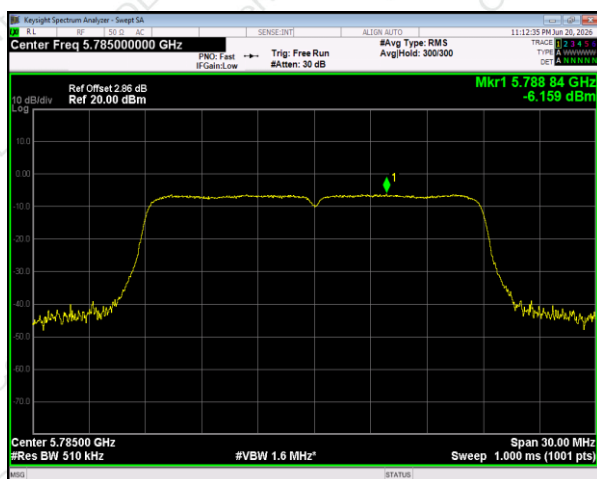
(802.11ac20) PSD plot on channel 149



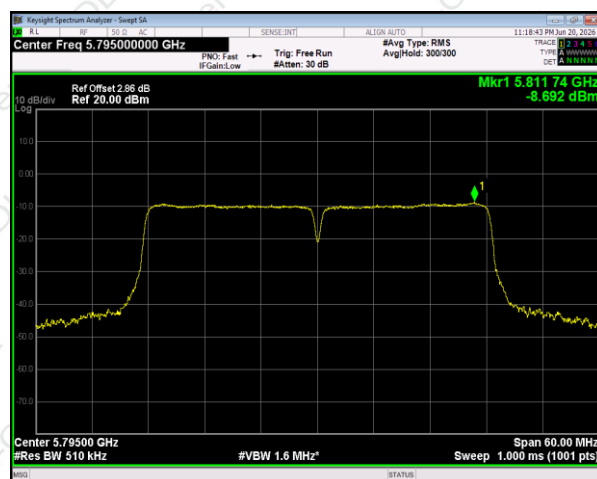
(802.11ac40) PSD plot on channel 151



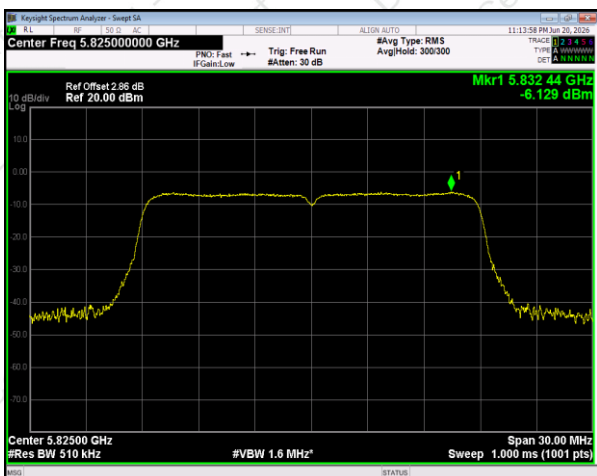
(802.11ac20) PSD plot on channel 157



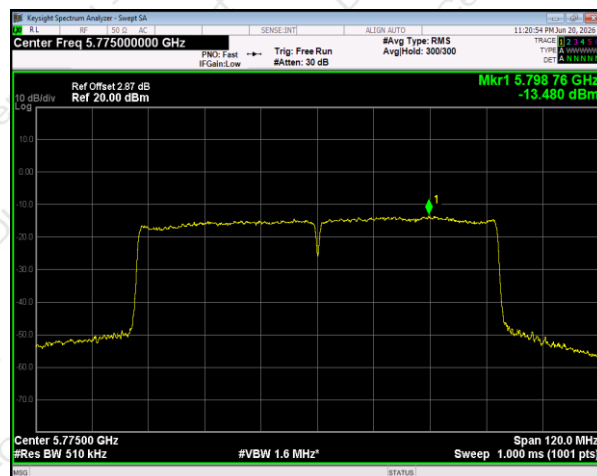
(802.11ac40) PSD plot on channel 159



(802.11ac20) PSD plot on channel 165



(802.11ac80) PSD plot on channel 155





6. 26DB EMISSION BANDWIDTH & 6DB OCCUPIED BANDWIDTH

6.1 APPLIED PROCEDURES / 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, the minimum bandwidth 6 dB bandwidth of U-NII devices shall be at least 500KHz. 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.

6.2 TEST PROCEDURE

The following procedure shall be used for measuring 6dB Occupied Bandwidth:

The procedure for this method is as follows:

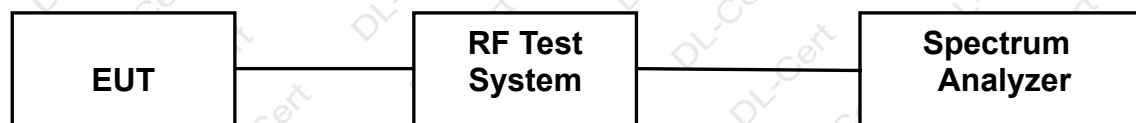
- Set RBW = 100KHz.
- Set the VBW > RBW.
- Detector = Peak.
- Trace mode = max hold.
- Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

The following procedure shall be used for measuring 26dB Emission bandwidth:

The procedure for this method is as follows:

- Set RBW = shall be in the range of 1% to 5% 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 peak of the emission.

Compare this with the RBW setting of the instrument. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is in the range of 1% to 5%.



6.3 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 6.2 Unless otherwise a special operating condition is specified in the follows during the testing.



6.4 TEST RESULTS

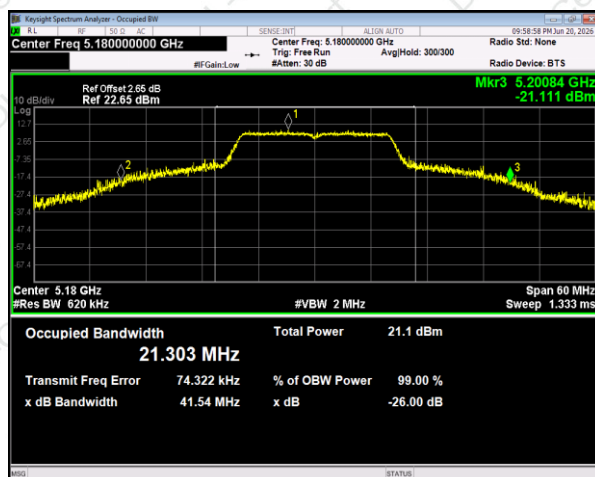
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	AC 120V/60Hz
Test Band :	5.2G		

5.2G				
Test Mode	Test Channel (MHz)	26dB Emission Bandwidth (MHz)	Limit(KHz)	Result
802.11a	5180	41.54	N/A	Pass
	5200	41.22		
	5240	42.30		
802.11n20	5180	39.01	N/A	Pass
	5200	38.10		
	5240	36.33		
802.11n40	5190	56.52	N/A	Pass
	5230	57.41		
802.11ac20	5180	29.55	N/A	Pass
	5200	29.82		
	5240	29.22		
802.11ac40	5190	53.10	N/A	Pass
	5230	55.38		
802.11ac80	5210	86.88	N/A	Pass

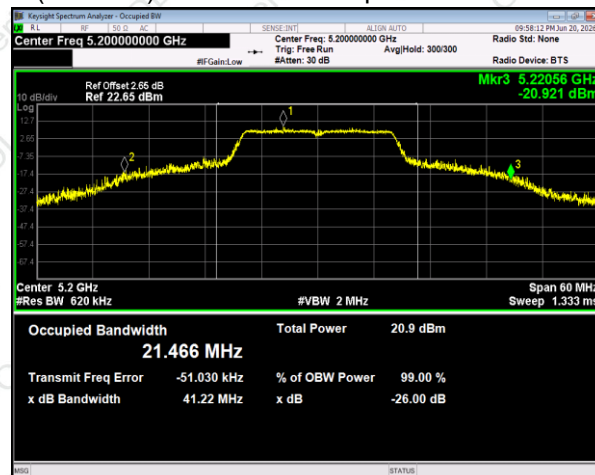


5.2G Test plot

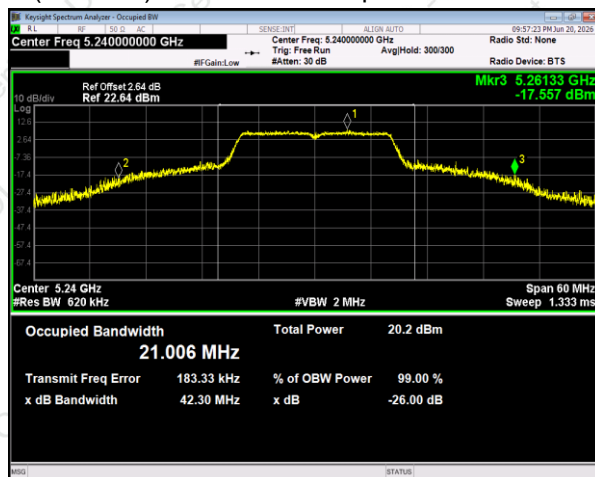
(802.11 a) 26dB Bandwidth plot on channel 36



(802.11 a) 26dB Bandwidth plot on channel 48



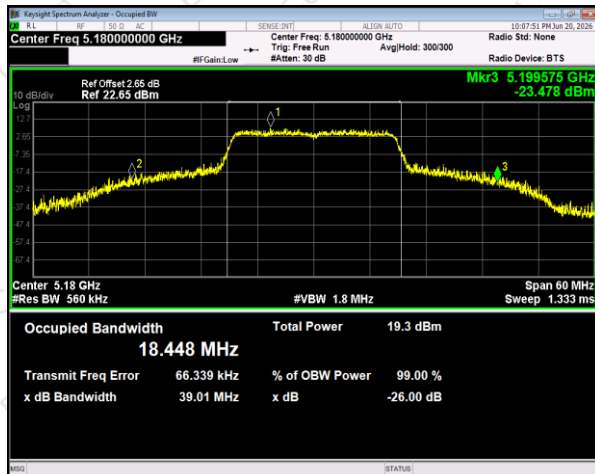
(802.11 a) 26dB Bandwidth plot on channel 48



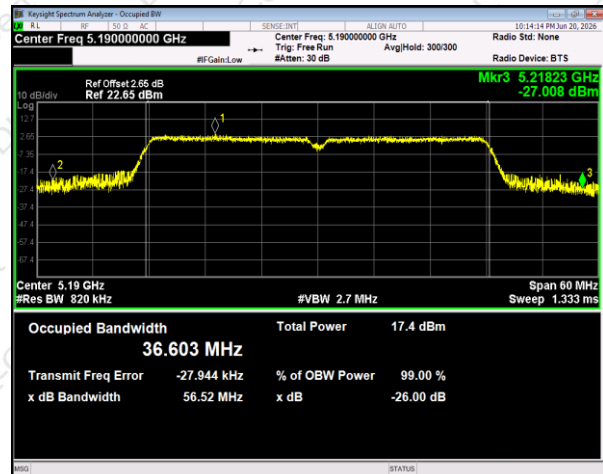


5.2G Test plot

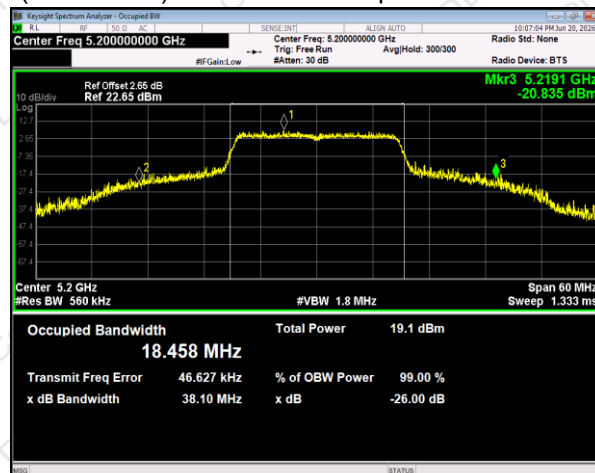
(802.11 n20) 26dB Bandwidth plot on channel 36



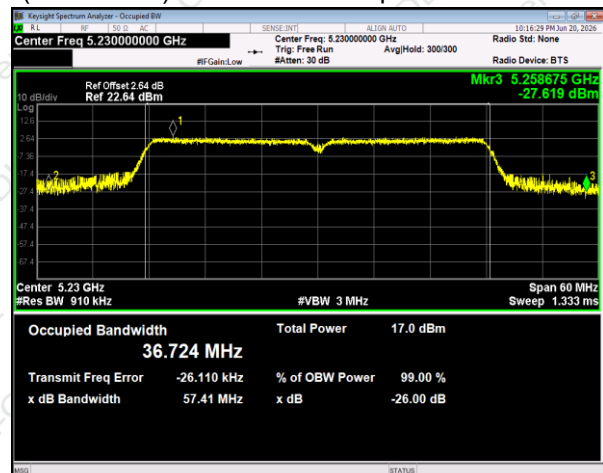
(802.11 n40) 26dB Bandwidth plot on channel 38



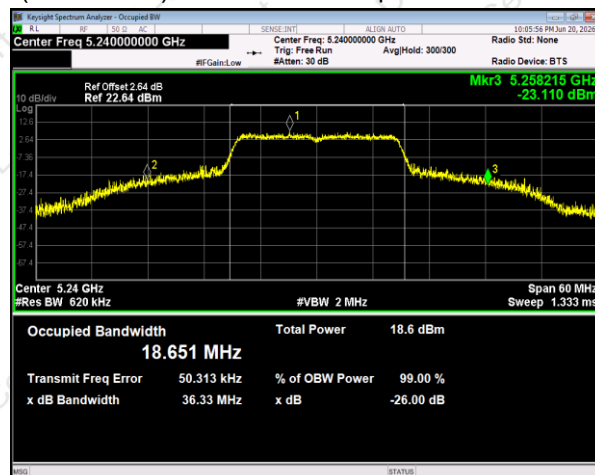
(802.11 n20) 26dB Bandwidth plot on channel 40



(802.11 n40) 26dB Bandwidth plot on channel 46



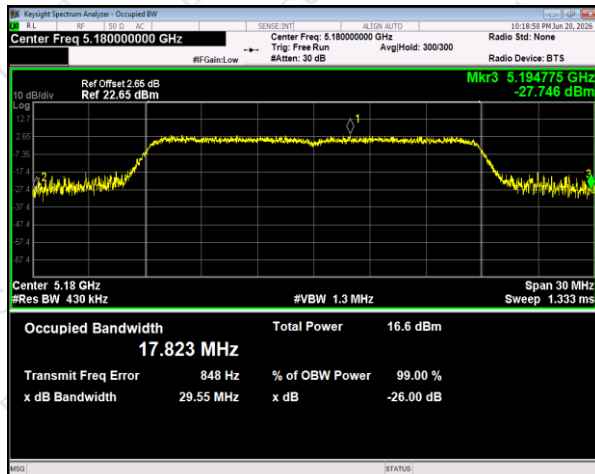
(802.11 n20) 26dB Bandwidth plot on channel 48



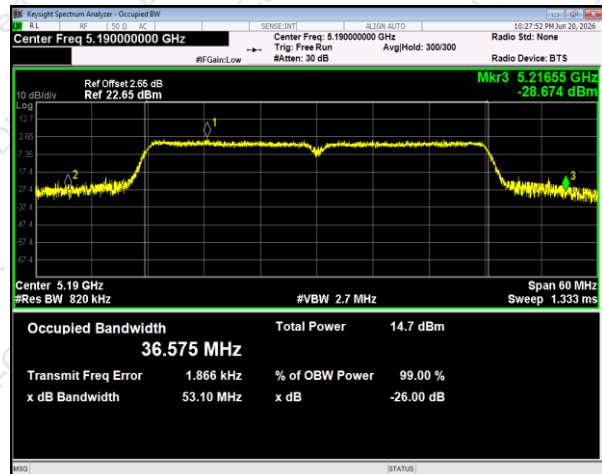


5.2G Test plot

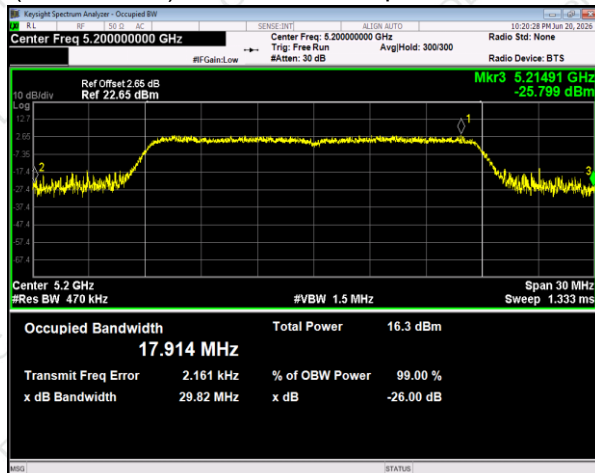
(802.11 ac20) 26dB Bandwidth plot on channel 36



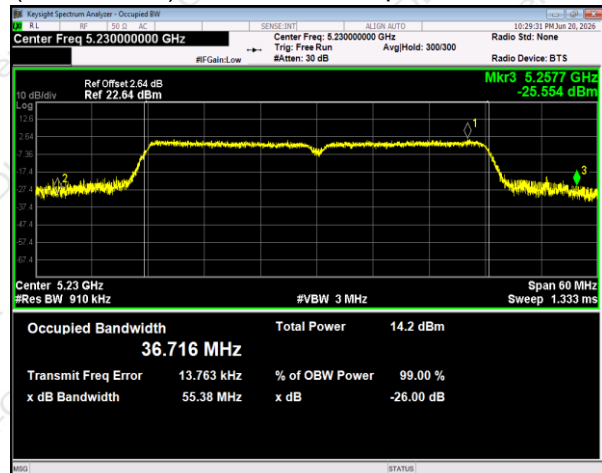
(802.11 ac40) 26dB Bandwidth plot on channel 38



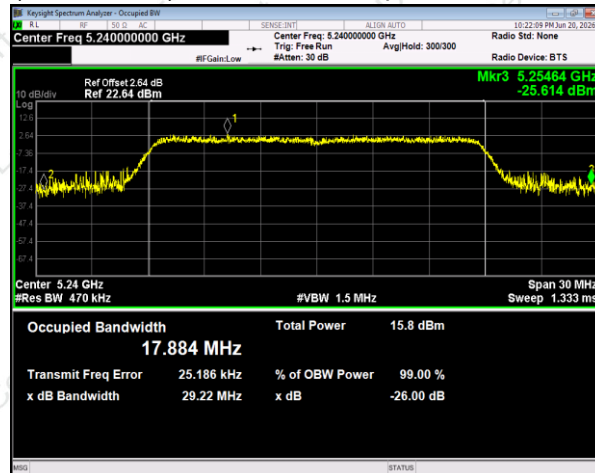
(802.11 ac20) 26dB Bandwidth plot on channel 40



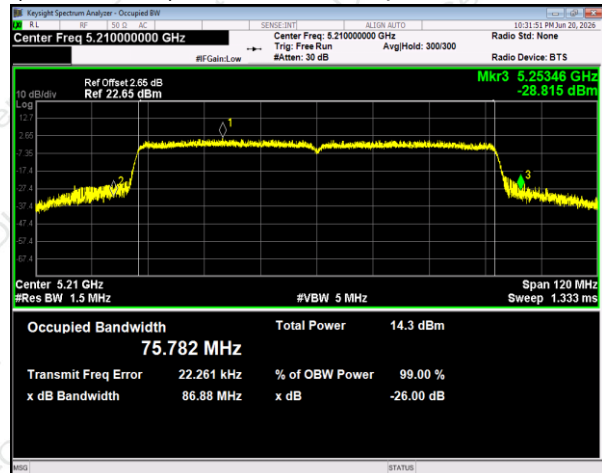
(802.11 ac40) 26dB Bandwidth plot on channel 46



(802.11 ac20) 26dB Bandwidth plot on channel 48



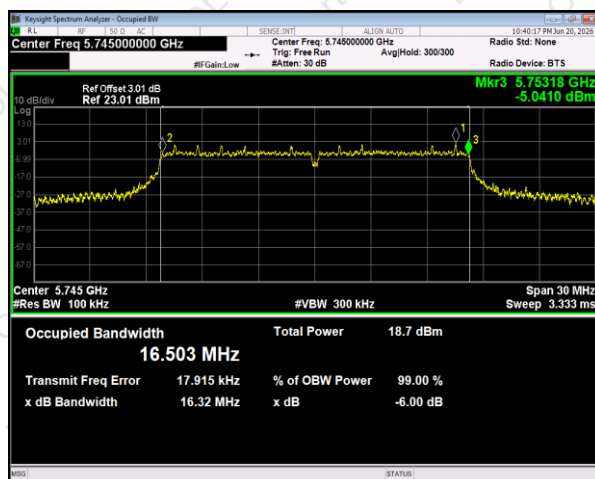
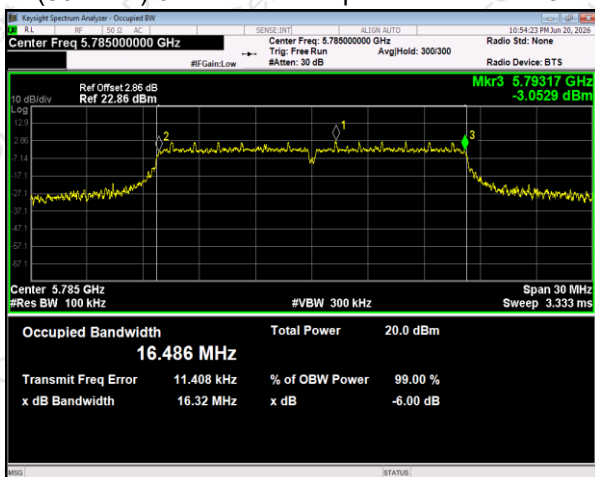
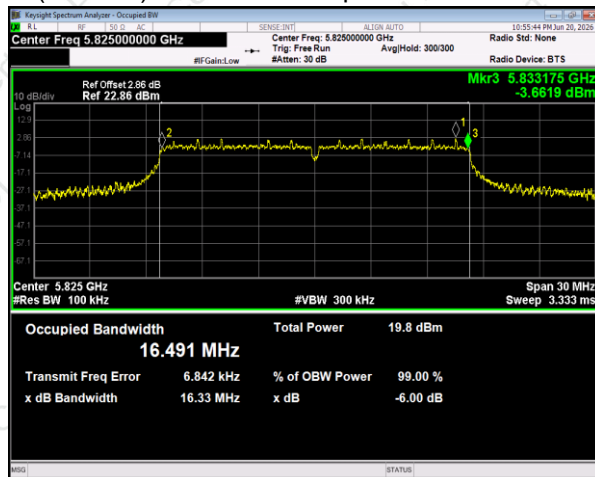
(802.11 ac80) 26dB Bandwidth plot on channel 42





Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	AC 120V/60Hz
Test Band :	5.8G		

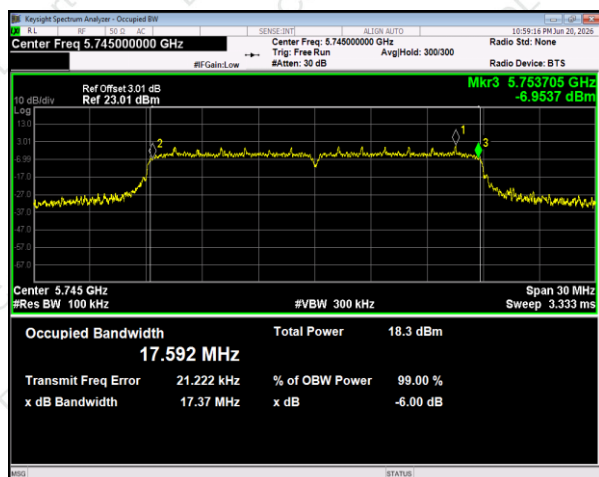
5.8G				
Test Mode	Test Channel (MHz)	6dB Occupied Bandwidth (MHz)	Limit(KHz)	Result
802.11a	5745	16.32	>500	Pass
	5785	16.32		
	5825	16.33		
802.11n20	5745	17.37	>500	Pass
	5785	17.11		
	5825	17.10		
802.11n40	5755	35.71	>500	Pass
	5795	35.62		
802.11ac20	5745	17.00	>500	Pass
	5785	17.25		
	5825	17.25		
802.11ac40	5755	35.77	>500	Pass
	5795	36.13		
802.11ac80	5775	75.36	>500	Pass

**5.8G Test plot****(802.11a) 6dB Bandwidth plot on channel 149****(802.11a) 6dB Bandwidth plot on channel 157****(802.11a) 6dB Bandwidth plot on channel 165**

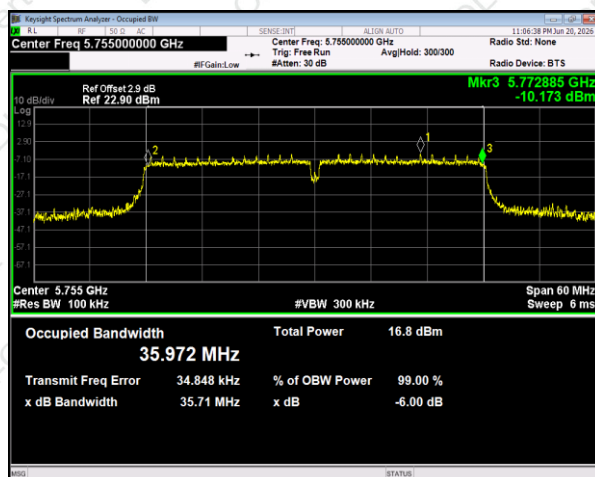


5.8G Test plot

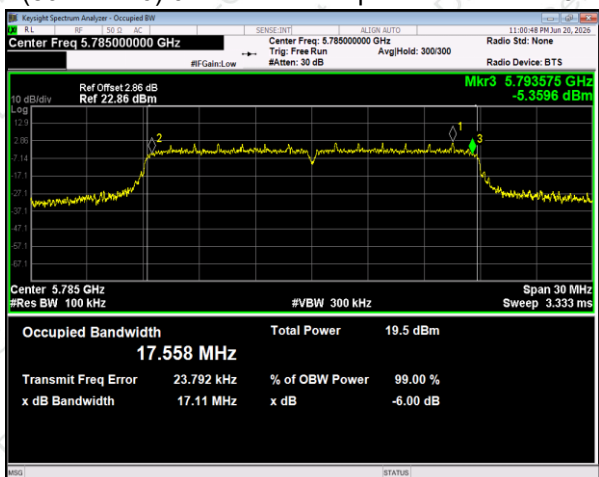
(802.11n20) 6dB Bandwidth plot on channel 149



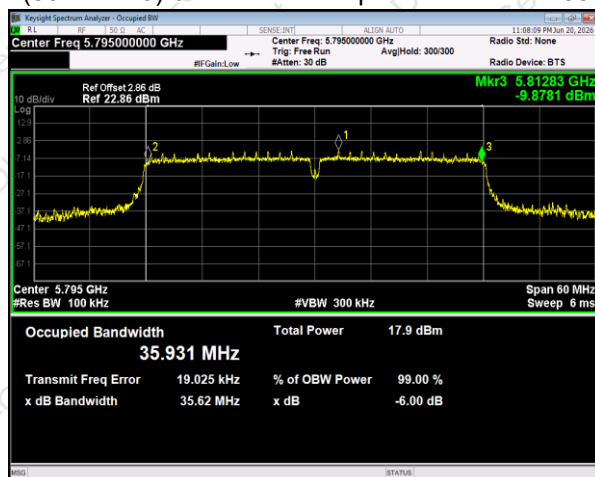
(802.11n40) 6dB Bandwidth plot on channel 151



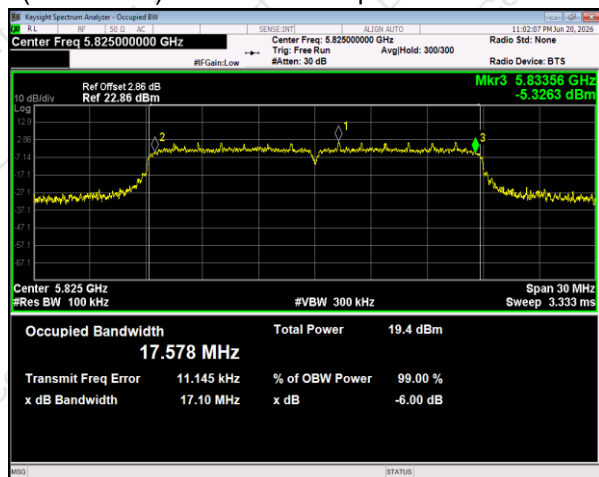
(802.11n20) 6dB Bandwidth plot on channel 157



(802.11n40) 6dB Bandwidth plot on channel 159



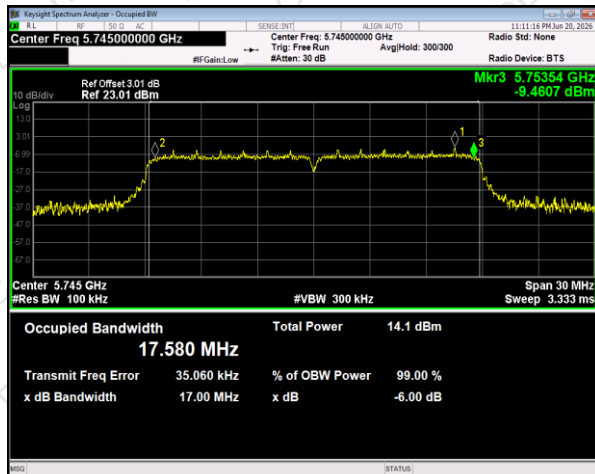
(802.11n20) 6dB Bandwidth plot on channel 165



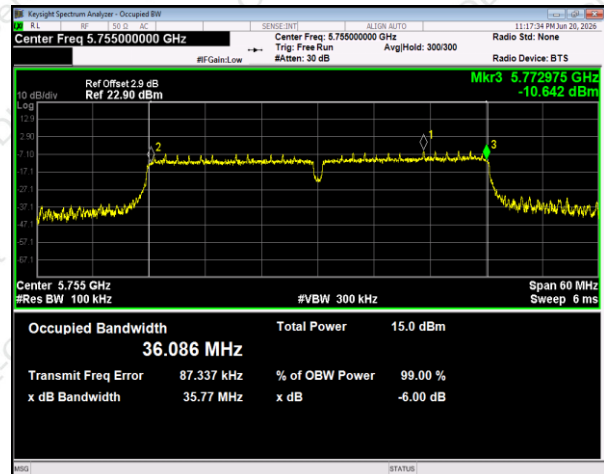


5.8G Test plot

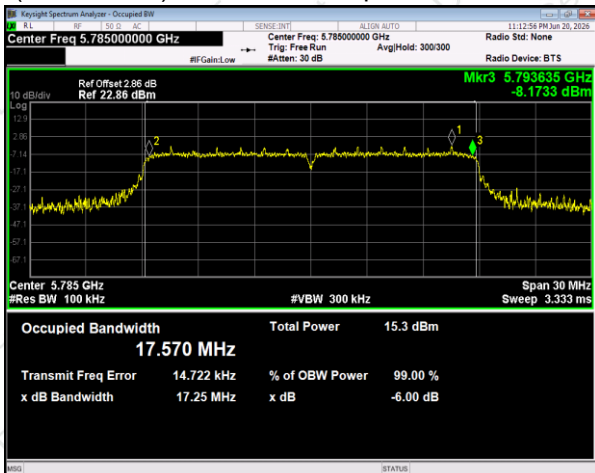
(802.11ac20) 6dB Bandwidth plot on channel 149



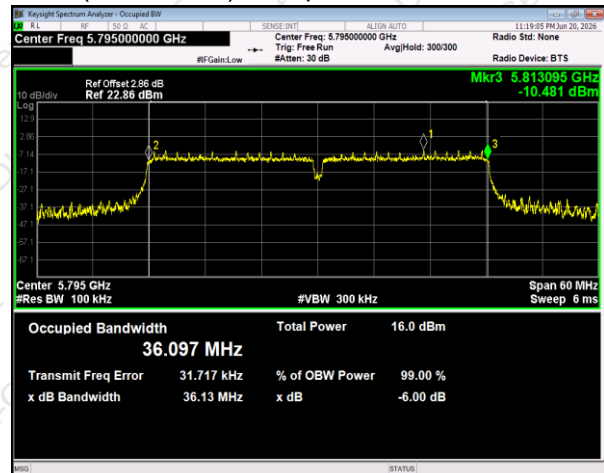
(802.11ac40) PSD plot on channel 151



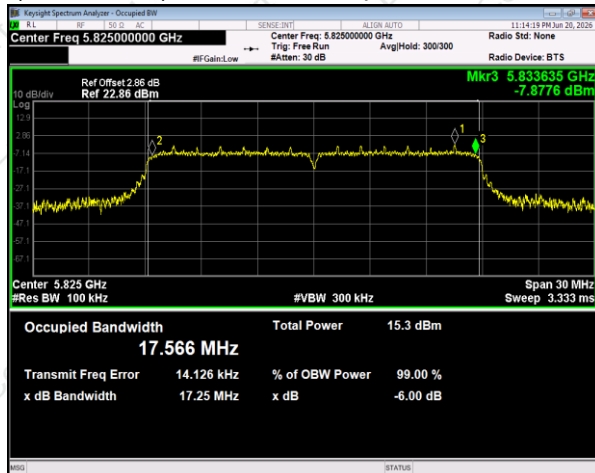
(802.11ac20) 6dB Bandwidth plot on channel 157



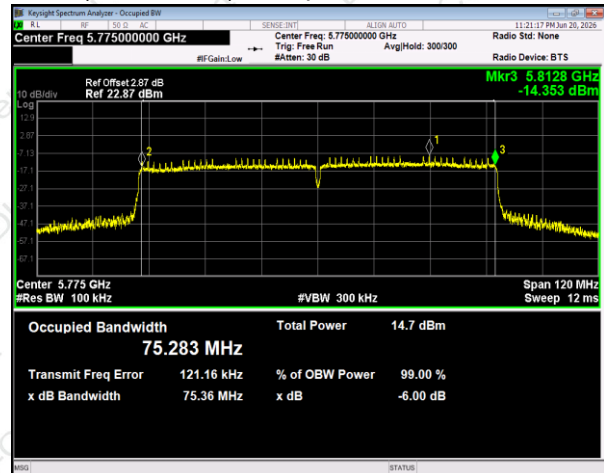
(802.11ac40) PSD plot on channel 159



(802.11ac20) 6dB Bandwidth plot on channel 165



(802.11ac80) PSD plot on channel 155





7. MAXIMUM CONDUCTED OUTPUT POWER

7.1 PPLIED PROCEDURES / LIMIT

According to FCC §15.407

The maximum conducted output power should not exceed:

Frequency Band(MHz)	Limit
5150~5250	250mW
5725~5850	1W

7.2 TEST PROCEDURE

Method PM is Measurement using an RF average power meter. The procedure for this method is as follows:

- Measurements may be performed using a wideband RF power meter with a thermocouple detector or equivalent if all of the following conditions are satisfied:
 - The EUT is configured to transmit continuously, or to transmit with a constant duty cycle.
 - At all times when the EUT is transmitting, it shall be transmitting at its maximum power control level.
 - The integration period of the power meter exceeds the repetition period of the transmitted signal by at least a factor of five.
- If the transmitter does not transmit continuously, measure the duty cycle D of the transmitter output signal as described in 12.2.
- Measure the average power of the transmitter. This measurement is an average over both the ON and OFF periods of the transmitter.
- Correct the measurement in dBm by adding $[10 \log (1 / D)]$, where D is the duty cycle {e.g., $[10 \log (1 / 0.25)]$, if the duty cycle is 25%}.

7.3 DEVIATION FROM STANDARD

No deviation.

7.4 TEST SETUP



7.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 7.4 Unless otherwise a special operating condition is specified in the follows during the testing.



7.6 TEST RESULTS

Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1012 hPa	Test Voltage :	AC 120V/60Hz
Test Band :	5.2G		

802.11 a Mode						
Test Channel	Frequency (MHz)	Output power (dBm)	duty cycle Factor (dB)	Total power (dBm)	Limit (dBm)	Result
CH36	5180	14.06	0.45	14.51	23.98	Pass
CH40	5200	14.09	0.45	14.54	23.98	Pass
CH48	5240	13.23	0.45	13.68	23.98	Pass
802.11 n20 Mode						
Test Channel	Frequency (MHz)	Output power (dBm)	duty cycle Factor (dB)	Total power (dBm)	Limit (dBm)	Result
CH36	5180	12.12	0.50	12.62	23.98	Pass
CH40	5200	11.77	0.50	12.27	23.98	Pass
CH48	5240	11.14	0.50	11.64	23.98	Pass
802.11 n40 Mode						
Test Channel	Frequency (MHz)	Output power (dBm)	duty cycle Factor (dB)	Total power (dBm)	Limit (dBm)	Result
CH38	5190	9.46	0.94	10.40	23.98	Pass
CH46	5230	9.11	0.94	10.05	23.98	Pass
802.11 ac20 Mode						
Test Channel	Frequency (MHz)	Output power (dBm)	duty cycle Factor (dB)	Total power (dBm)	Limit (dBm)	Result
CH36	5180	9.57	1.54	11.11	23.98	Pass
CH40	5200	9.24	1.54	10.78	23.98	Pass
CH48	5240	8.81	1.54	10.35	23.98	Pass
802.11 ac40 Mode						
Test Channel	Frequency (MHz)	Output power (dBm)	duty cycle Factor (dB)	Total power (dBm)	Limit (dBm)	Result
CH38	5190	6.89	0.94	7.83	23.98	Pass
CH46	5230	6.23	0.94	7.17	23.98	Pass
802.11 ac80 Mode						
Test Channel	Frequency (MHz)	Output power (dBm)	duty cycle Factor (dB)	Total power (dBm)	Limit (dBm)	Result
CH42	5210	5.24	1.96	7.2	23.98	Pass
Note: duty cycle Factor see page 84						



Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1012 hPa	Test Voltage :	AC 120V/60Hz
Test Band :	5.8G		

802.11 a Mode						
Test Channel	Frequency (MHz)	Output power (dBm)	duty cycle Factor (dB)	Total power (dBm)	Limit (dBm)	Result
CH149	5745	11.84	0.48	12.32	30	Pass
CH157	5785	12.19	0.48	12.67	30	Pass
CH165	5825	12.25	0.48	12.73	30	Pass
802.11 n20 Mode						
Test Channel	Frequency (MHz)	Output power (dBm)	duty cycle Factor (dB)	Total power (dBm)	Limit (dBm)	Result
CH149	5745	11.63	0.53	12.16	30	Pass
CH157	5785	12.18	0.53	12.71	30	Pass
CH165	5825	12.26	0.53	12.79	30	Pass
802.11 n40 Mode						
Test Channel	Frequency (MHz)	Output power (dBm)	duty cycle Factor (dB)	Total power (dBm)	Limit (dBm)	Result
CH151	5755	9.08	0.94	10.02	30	Pass
CH159	5795	10.03	0.94	10.97	30	Pass
802.11 ac20 Mode						
Test Channel	Frequency (MHz)	Output power (dBm)	duty cycle Factor (dB)	Total power (dBm)	Limit (dBm)	Result
CH149	5745	7.84	0.49	8.33	30	Pass
CH157	5785	8.12	0.49	8.61	30	Pass
CH165	5825	8.03	0.49	8.52	30	Pass
802.11 ac40 Mode						
Test Channel	Frequency (MHz)	Output power (dBm)	duty cycle Factor (dB)	Total power (dBm)	Limit (dBm)	Result
CH151	5755	7.13	1.06	8.19	30	Pass
CH159	5795	8.17	1.06	9.23	30	Pass
802.11 ac80 Mode						
Test Channel	Frequency (MHz)	Output power (dBm)	duty cycle Factor (dB)	Total power (dBm)	Limit (dBm)	Result
CH155	5775	6.17	1.71	7.88	30	Pass
Note: duty cycle Factor see page 88						



8. OUT OF BAND EMISSIONS

8.1 APPLICABLE STANDARD

According to FCC §15.407(b)

Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(2)

(i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

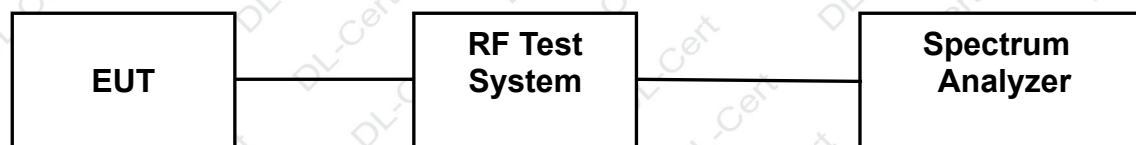
8.2 TEST PROCEDURE

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW of spectrum analyzer to 1 MHz with a convenient frequency span.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

8.3 DEVIATION FROM STANDARD

No deviation.

8.4 TEST SETUP



8.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 8.4 Unless otherwise a special operating condition is specified in the follows during the testing.

8.6 TEST RESULTS



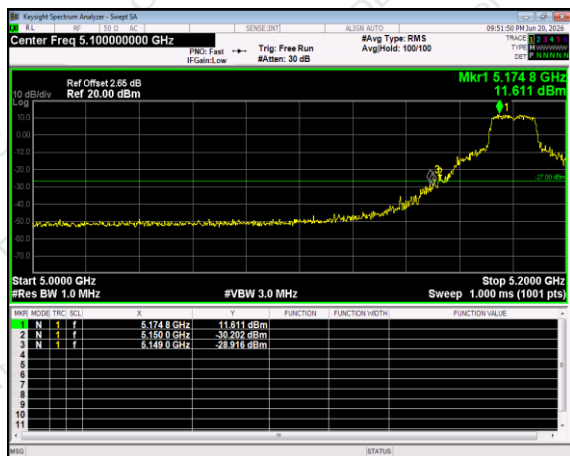
Shenzhen DL Testing Technology Co., Ltd.

Report No.: DLE-260429006R

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	1012 hPa	Test Voltage:	AC 120V/60Hz
Test band:	5.2G	Antenna gain:	2.36dBi
Note: Line loss and antenna gain has been included in the offset.			

5.180~5.240 GHz

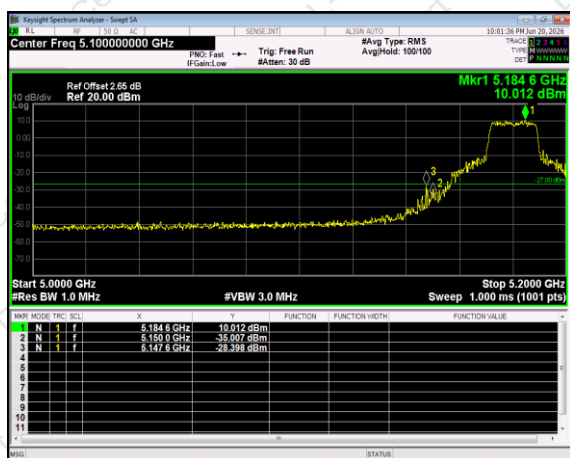
(802.11a) Band Edge, Left Side



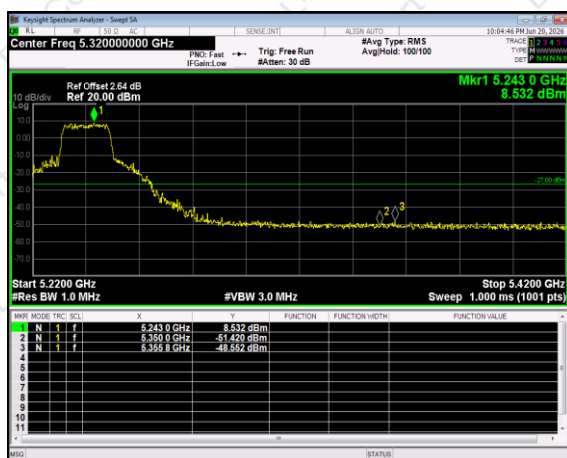
(802.11a) Band Edge, Right Side



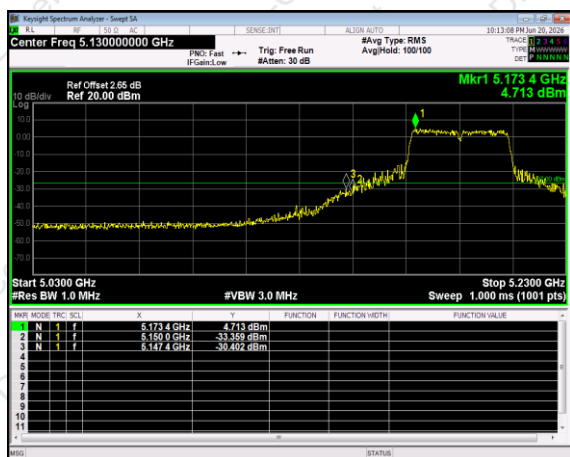
(802.11n20) Band Edge, Left Side



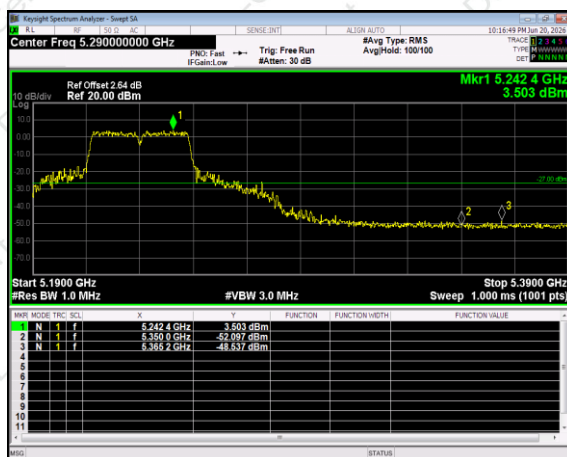
(802.11n20) Band Edge, Right Side



(802.11n40) Band Edge, Left Side

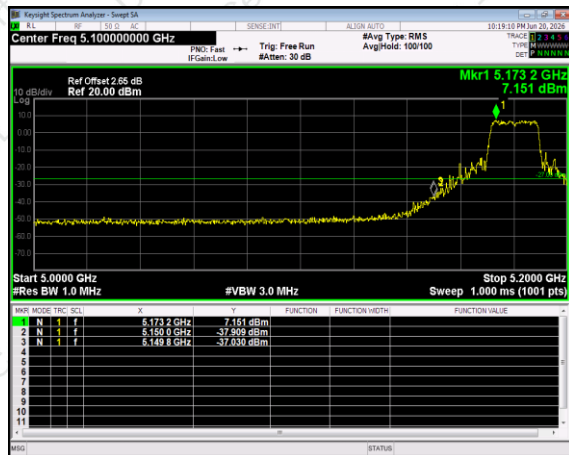


(802.11n40) Band Edge, Right Side





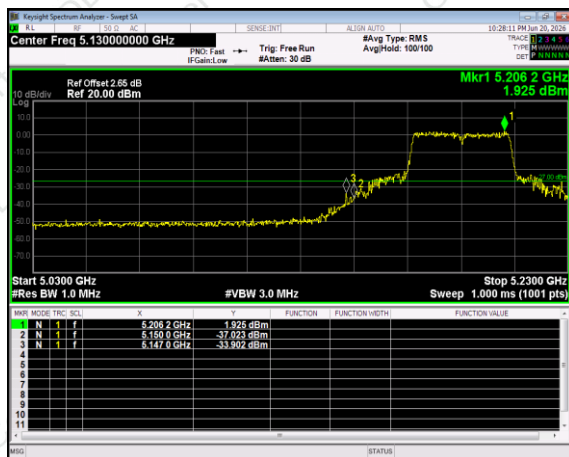
(802.11ac20) Band Edge, Left Side



(802.11ac20) Band Edge, Right Side



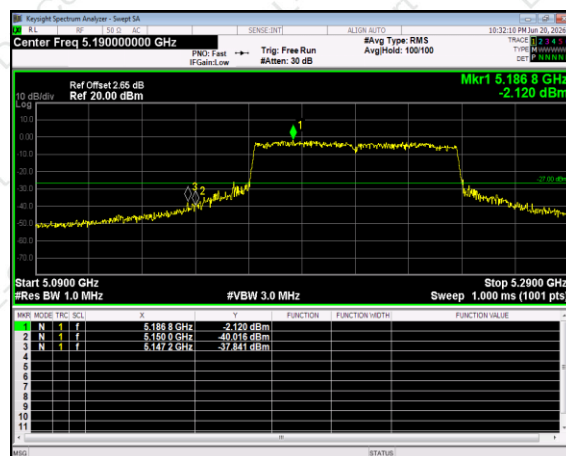
(802.11ac40) Band Edge, Left Side



(802.11ac40) Band Edge, Right Side



(802.11ac80) Band Edge

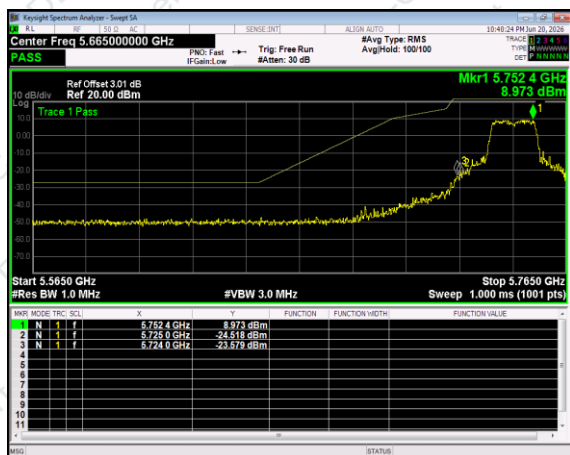




Temperature:	26°C	Relative Humidity:	54%
Pressure:	1012 hPa	Test Voltage:	AC 120V/60Hz
Test band:	5.8G	Antenna gain:	3.4dBi

5.745~5.825 GHz

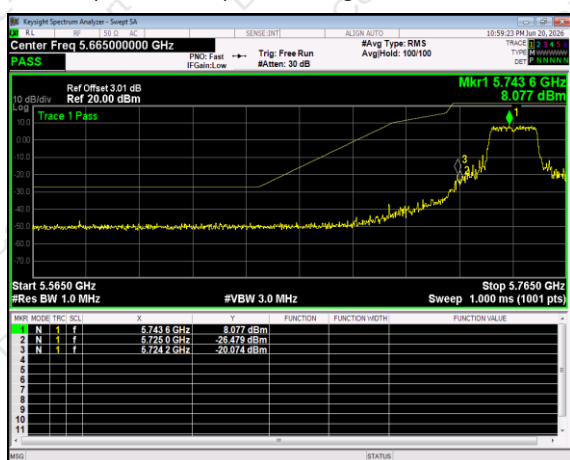
(802.11a) Band Edge, Left Side



(802.11a) Band Edge, Right Side



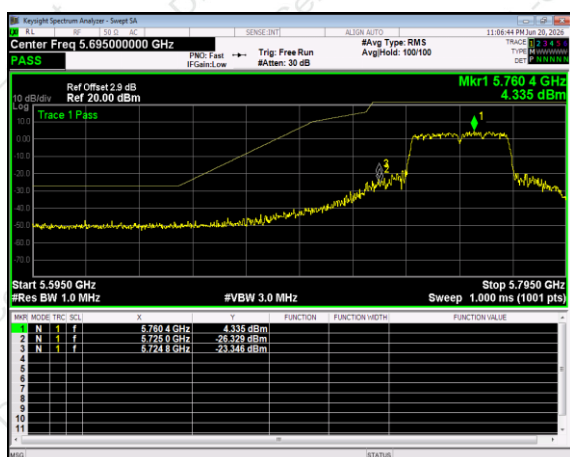
(802.11n20) Band Edge, Left Side



(802.11n20) Band Edge, Right Side



(802.11n40) Band Edge, Left Side

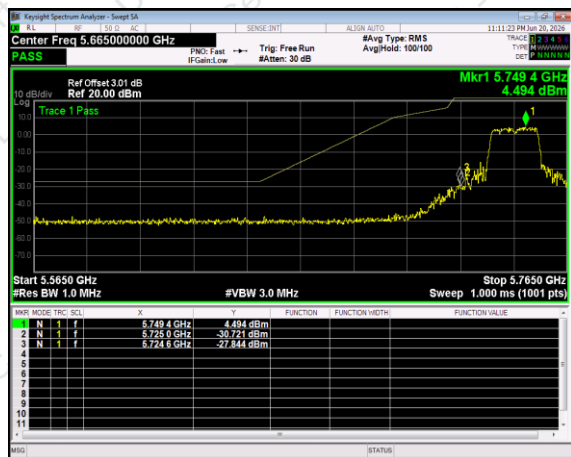


(802.11n40) Band Edge, Right Side





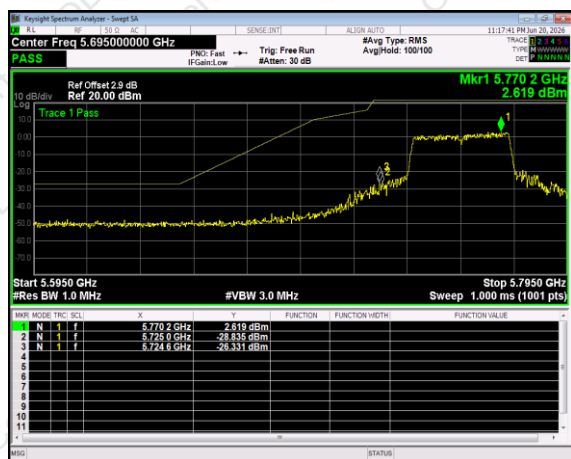
(802.11ac20) Band Edge, Left Side



(802.11ac20) Band Edge, Right Side



(802.11ac40) Band Edge, Left Side



(802.11ac40) Band Edge, Right Side



(802.11ac80) Band Edge





9. Frequency Stability Measurement

9.1 LIMIT

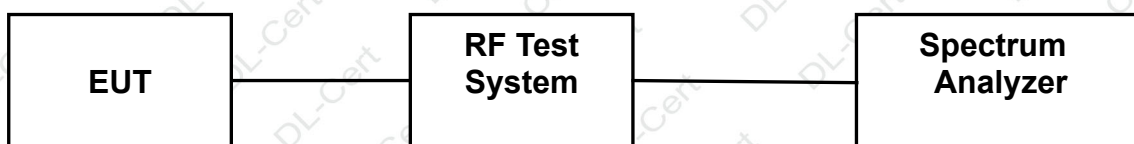
Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

The transmitter center frequency tolerance shall be ± 20 ppm maximum for the 5 GHz band (IEEE 802.11n specification).

9.2 TEST PROCEDURES

1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. EUT have transmitted absence of modulation signal and fixed channelize.
3. Set the spectrum analyzer span to view the entire absence of modulation emissions bandwidth.
4. Set RBW = 10 kHz, VBW = 10 kHz with peak detector and maxhold settings.
5. f_c is declaring of channel frequency. Then the frequency error formula is $(f_c - f)/f_c \times 10^6$ ppm and the limit is less than ± 20 ppm (IEEE 802.11n specification).
6. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value
7. Extreme temperature is $-20^\circ\text{C} \sim 70^\circ\text{C}$.

9.3 TEST SETUP LAYOUT



9.4 EUT OPERATION DURING TEST

The EUT was programmed to be in continuously un-modulation transmitting mode.



9.5 TEST RESULTS

Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	DC 12V
Test Mode :	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)	12.0	5180.0017	5180	0.0017	0.3190
		V max (V)	13.2	5180.0028	5180	0.0028	0.5381
		V min (V)	12.8	5180.0182	5180	0.0182	3.5061
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5180MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	12	T (°C)	-20	5180.0128	5180	0.0128	2.4742
		T (°C)	-10	5180.0044	5180	0.0044	0.8456
		T (°C)	0	5180.0096	5180	0.0096	1.8589
		T (°C)	10	5180.0125	5180	0.0125	2.4188
		T (°C)	20	5180.0119	5180	0.0119	2.2911
		T (°C)	30	5180.0083	5180	0.0083	1.6077
		T (°C)	40	5180.0026	5180	0.0026	0.5071
		T (°C)	50	5180.0030	5180	0.0030	0.5821
		T (°C)	60	5180.0080	5180	0.0080	1.5412
		T (°C)	70	5180.0131	5180	0.0131	2.5213
Limits				±20ppm			
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)	12.0	5200.0080	5200	0.0080	1.5363
		V max (V)	13.2	5200.0079	5200	0.0079	1.5255
		V min (V)	12.8	5200.0134	5200	0.0134	2.5751
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	12	T (°C)	-20	5200.00183	5200	0.00183	0.3516
		T (°C)	-10	5200.00196	5200	0.00196	0.3765
		T (°C)	0	5200.00940	5200	0.00940	1.8083
		T (°C)	10	5200.00229	5200	0.00229	0.4401
		T (°C)	20	5200.00995	5200	0.00995	1.9126
		T (°C)	30	5200.01299	5200	0.01299	2.4973
		T (°C)	40	5200.00608	5200	0.00608	1.1696
		T (°C)	50	5200.00289	5200	0.00289	0.5564
		T (°C)	60	5200.00071	5200	0.00071	0.1364
		T (°C)	70	5200.01089	5200	0.01089	2.0951
Limits				±20ppm			
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)	12.0	5240.0008	5240	0.0008	0.1598
		V max (V)	13.2	5240.0097	5240	0.0097	1.8543
		V min (V)	12.8	5240.0102	5240	0.0102	1.9422
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5240MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	12	T (°C)	-20	5240.0088	5240	0.0088	1.6706
		T (°C)	-10	5240.0044	5240	0.0044	0.8484
		T (°C)	0	5240.0070	5240	0.0070	1.3426
		T (°C)	10	5240.0020	5240	0.0020	0.3856
		T (°C)	20	5240.0043	5240	0.0043	0.8301
		T (°C)	30	5240.0067	5240	0.0067	1.2803
		T (°C)	40	5240.0050	5240	0.0050	0.9577
		T (°C)	50	5240.0112	5240	0.0112	2.1313
		T (°C)	60	5240.0010	5240	0.0010	0.1852
		T (°C)	70	5240.0116	5240	0.0116	2.2146
Limits				±20ppm			
Result				Complies			



Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	DC 12V
Test Mode :	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)	12.0	5745.00072	5745	0.00072	0.1246
		V max (V)	13.2	5745.01061	5745	0.01061	1.8460
		V min (V)	12.8	5745.00114	5745	0.00114	0.1983
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	12	T (°C)	-20	5745.00068	5745	0.00068	0.1191
		T (°C)	-10	5745.00948	5745	0.00948	1.6505
		T (°C)	0	5745.00616	5745	0.00616	1.0726
		T (°C)	10	5745.00862	5745	0.00862	1.5012
		T (°C)	20	5745.00212	5745	0.00212	0.3693
		T (°C)	30	5745.00307	5745	0.00307	0.5336
		T (°C)	40	5745.00279	5745	0.00279	0.4857
		T (°C)	50	5745.00915	5745	0.00915	1.5923
		T (°C)	60	5745.00818	5745	0.00818	1.4231
		T (°C)	70	5745.00209	5745	0.00209	0.3631
Limits				±20ppm			
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)	12.0	5785.00142	5785	0.00142	0.2453
		V max (V)	13.2	5785.00030	5785	0.00030	0.0521
		V min (V)	12.8	5785.00030	5785	0.00030	0.0518
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5785MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	12	T (°C)	-20	5785.01288	5785	0.01288	2.2266
		T (°C)	-10	5785.00818	5785	0.00818	1.4135
		T (°C)	0	5785.01009	5785	0.01009	1.7449
		T (°C)	10	5785.01308	5785	0.01308	2.2608
		T (°C)	20	5785.00877	5785	0.00877	1.5159
		T (°C)	30	5785.01031	5785	0.01031	1.7827
		T (°C)	40	5785.00756	5785	0.00756	1.3064
		T (°C)	50	5785.01133	5785	0.01133	1.9582
		T (°C)	60	5785.00672	5785	0.00672	1.1609
		T (°C)	70	5785.00721	5785	0.00721	1.2465
Limits				±20ppm			
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)	12.0	5825.00292	5825	0.00292	0.5013
		V max (V)	13.2	5825.00729	5825	0.00729	1.2518
		V min (V)	12.8	5825.00018	5825	0.00018	0.0316
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	12	T (°C)	-20	5825.00079	5825	0.00079	0.1359
		T (°C)	-10	5825.01123	5825	0.01123	1.9278
		T (°C)	0	5825.00241	5825	0.00241	0.4144
		T (°C)	10	5825.00406	5825	0.00406	0.6963
		T (°C)	20	5825.00945	5825	0.00945	1.6231
		T (°C)	30	5825.01175	5825	0.01175	2.0178
		T (°C)	40	5825.00714	5825	0.00714	1.2255
		T (°C)	50	5825.00967	5825	0.00967	1.6594
		T (°C)	60	5825.00309	5825	0.00309	0.5305
		T (°C)	70	5825.01238	5825	0.01238	2.1259
Limits				±20ppm			
Result				Complies			



10. DUTY CYCLE

10.1 APPLIED PROCEDURES / LIMIT

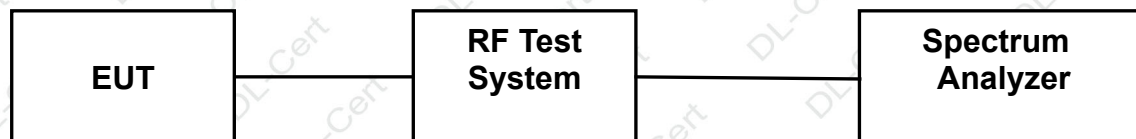
Measurements of duty cycle and transmission duration shall be performed using one of the following techniques:

- a) A diode detector and an oscilloscope that together have a sufficiently short response time to permit accurate measurements of the ON and OFF times of the transmitted signal.
- b) The zero-span mode on a spectrum analyzer or EMI receiver if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the ON and OFF times of the transmitted signal:
 - 1) Set the center frequency of the instrument to the center frequency of the transmission.
 - 2) Set $RBW \geq OBW$ if possible; otherwise, set RBW to the largest available value.
 - 3) Set $VBW \geq RBW$. Set detector = peak or average.
 - 4) The zero-span measurement method shall not be used unless both RBW and VBW are $> 50/T$ and the number of sweep points across duration T exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring the duty cycle shall not be used if $T \leq 16.7 \mu s$.)

10.2 DEVIATION FROM STANDARD

No deviation.

10.3 TEST SETUP



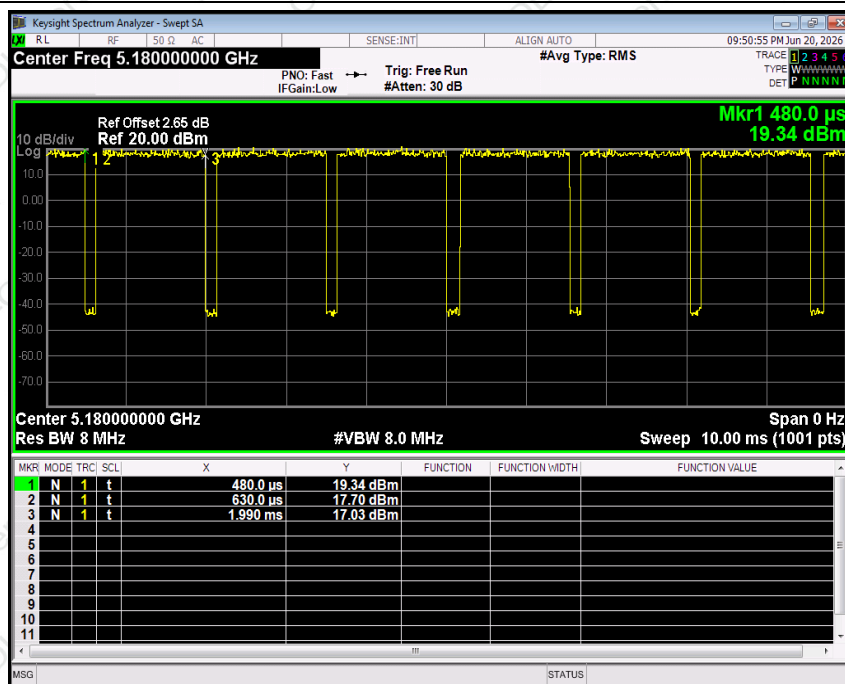


10.4 TEST RESULTS

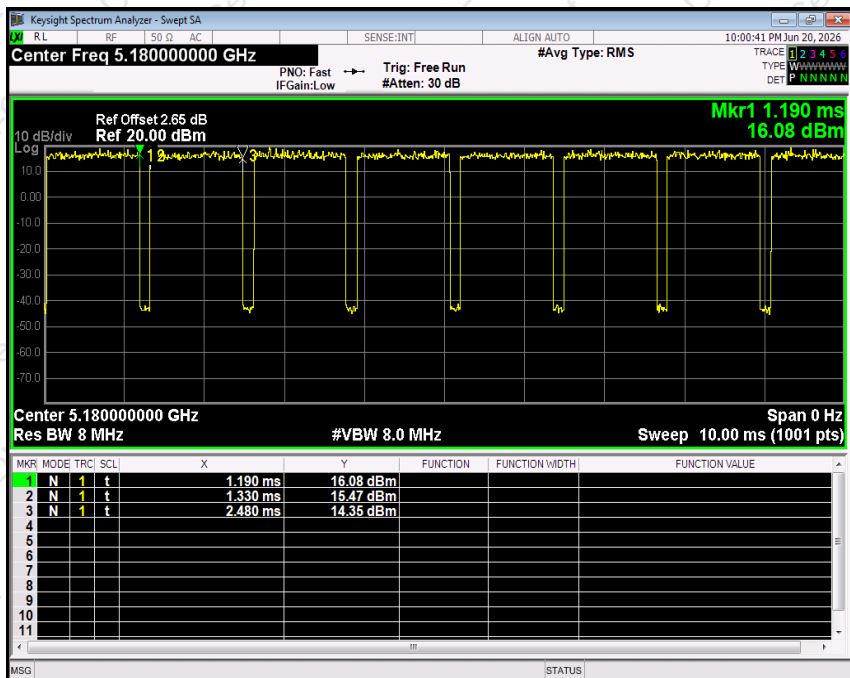
5.2G				
Mode	Frequency (MHz)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Result
802.11a	5180	90.07	0.45	Pass
802.11n20	5180	89.15	0.50	Pass
802.11n40	5190	80.56	0.94	Pass
802.11ac20	5180	70.12	1.54	Pass
802.11ac40	5190	80.56	0.94	Pass
802.11ac80	5210	63.64	1.96	Pass



802.11a

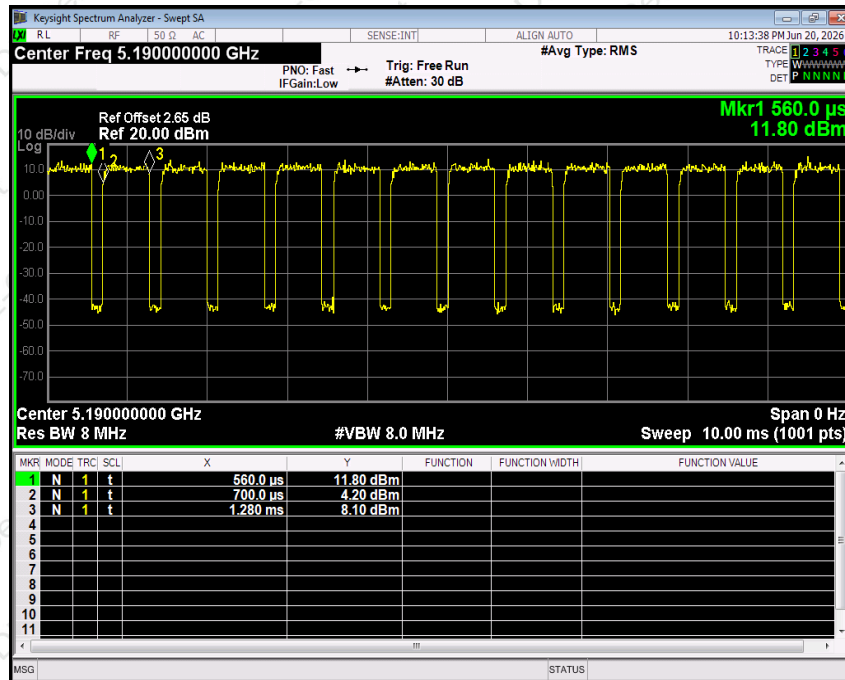


802.11n20

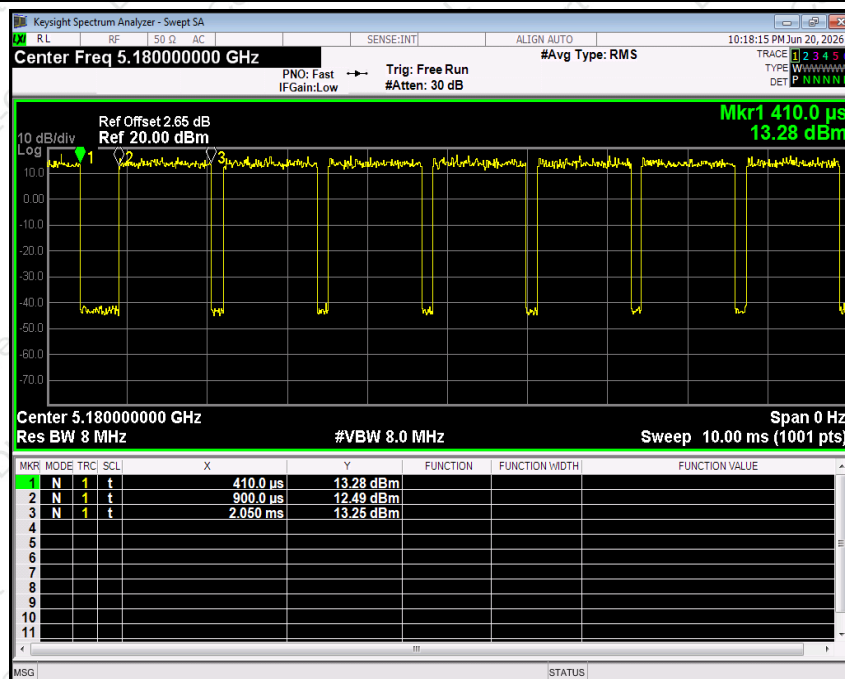




802.11n40

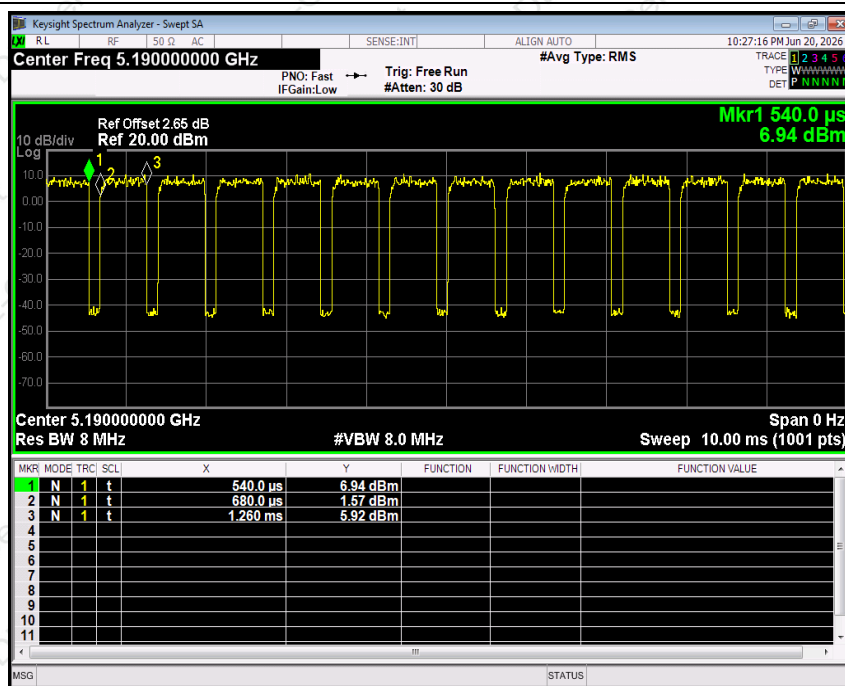


802.11ac20

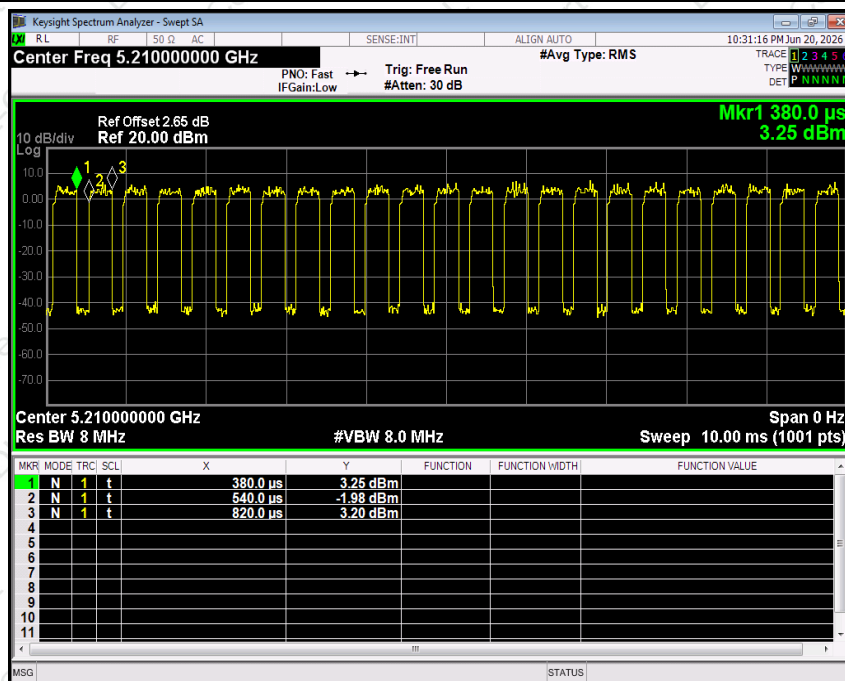




802.11ac40



802.11ac80



Note: All channel have been tested, and the report only reflects the worst case data.

Duty Cycle= Ton /Total*100%

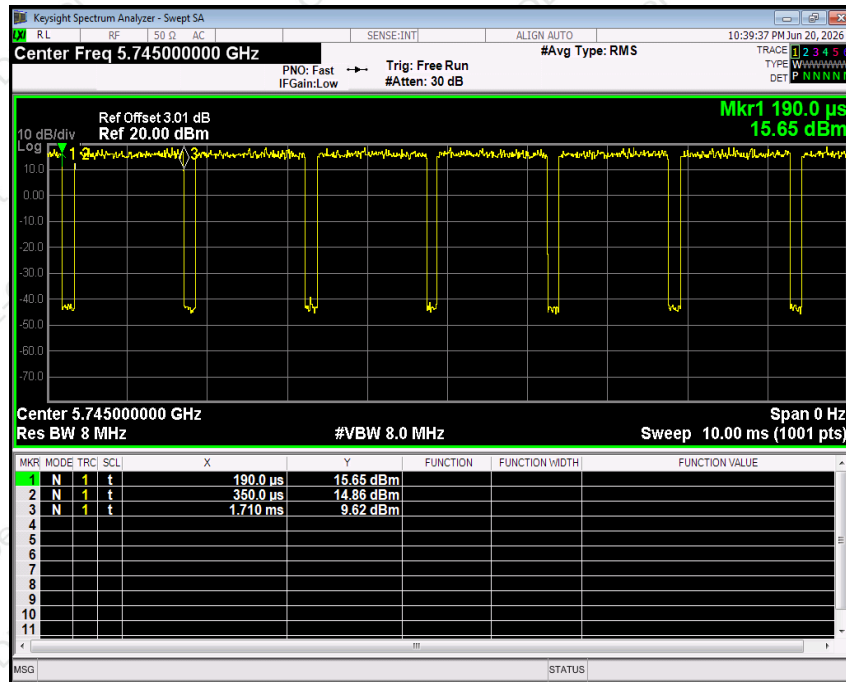
Duty Cycle Correction Factor = 10log (1/Duty Cycle)



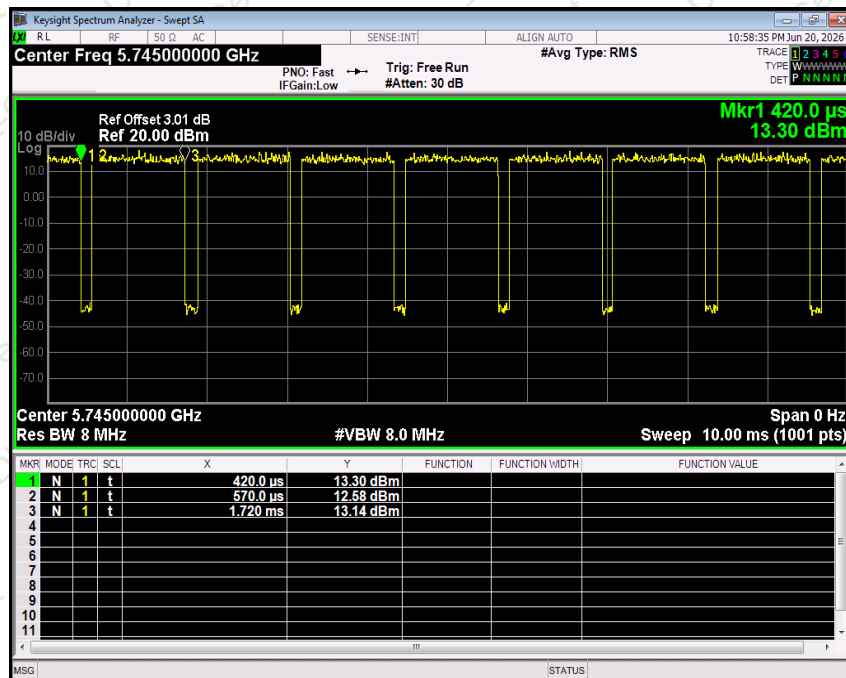
5.8G				
Mode	Frequency (MHz)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Result
802.11a	5745	89.47	0.48	Pass
802.11n20	5745	88.46	0.53	Pass
802.11n40	5755	80.56	0.94	Pass
802.11ac20	5745	89.23	0.49	Pass
802.11ac40	5755	78.38	1.06	Pass
802.11ac80	5775	67.44	1.71	Pass



802.11a

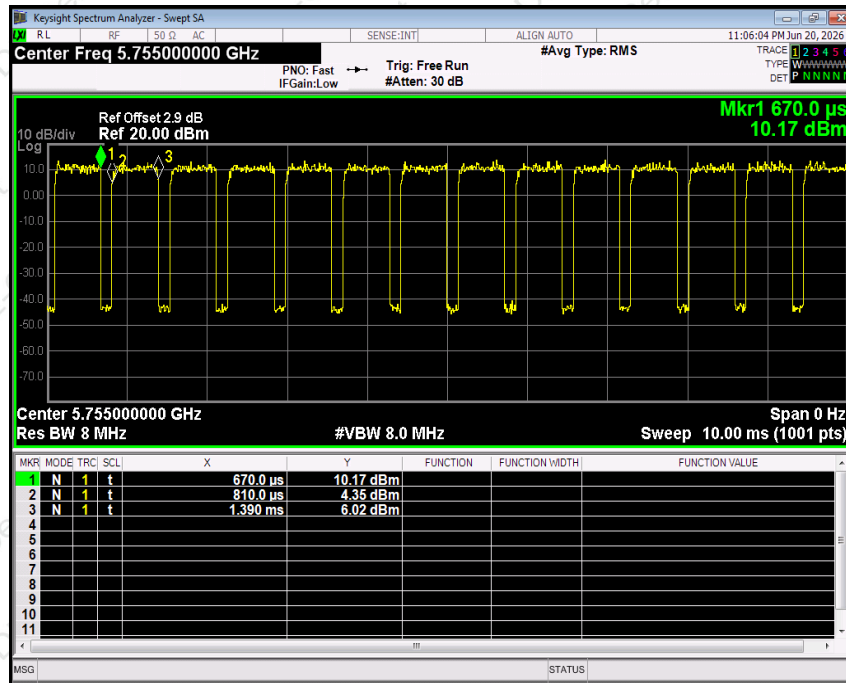


802.11n20

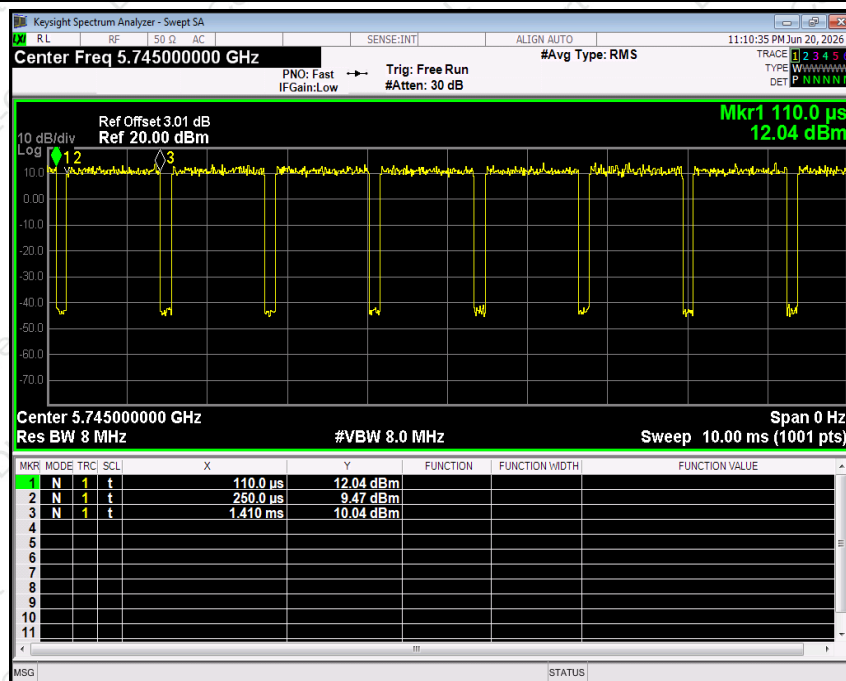




802.11n40

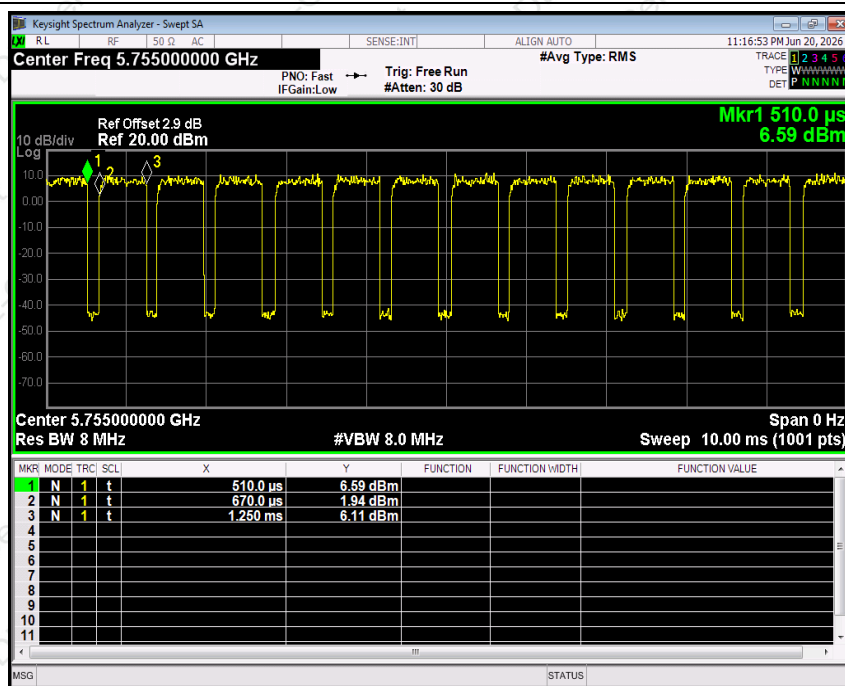


802.11ac20

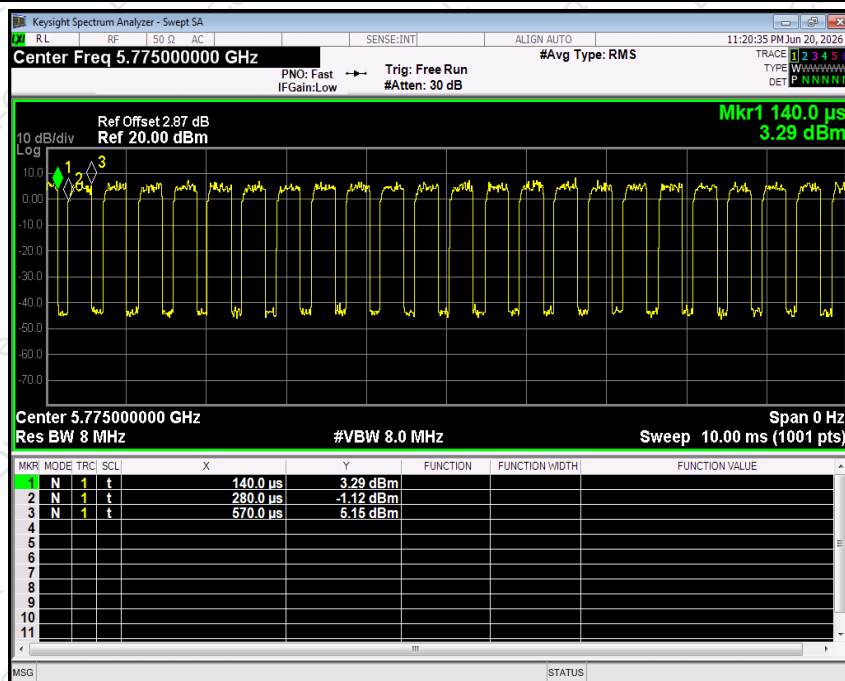




802.11ac40



802.11ac80



Note: All channel have been tested, and the report only reflects the worst case data.

Duty Cycle= Ton /Total*100%

Duty Cycle Correction Factor = 10log (1/Duty Cycle)

**11.ANTENNA REQUIREMENT**

Standard requirement:	FCC Part15 C Section 15.203
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.	
EUT Antenna:	
The antenna is PIFA antenna, the best case gain of the antenna is 3.42dBi (Max), reference to the appendix II for details	



12. TEST SETUP PHOTO

Reference to the appendix I for details.

13. EUT CONSTRUCTIONAL DETAILS

Reference to the appendix II for details.

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