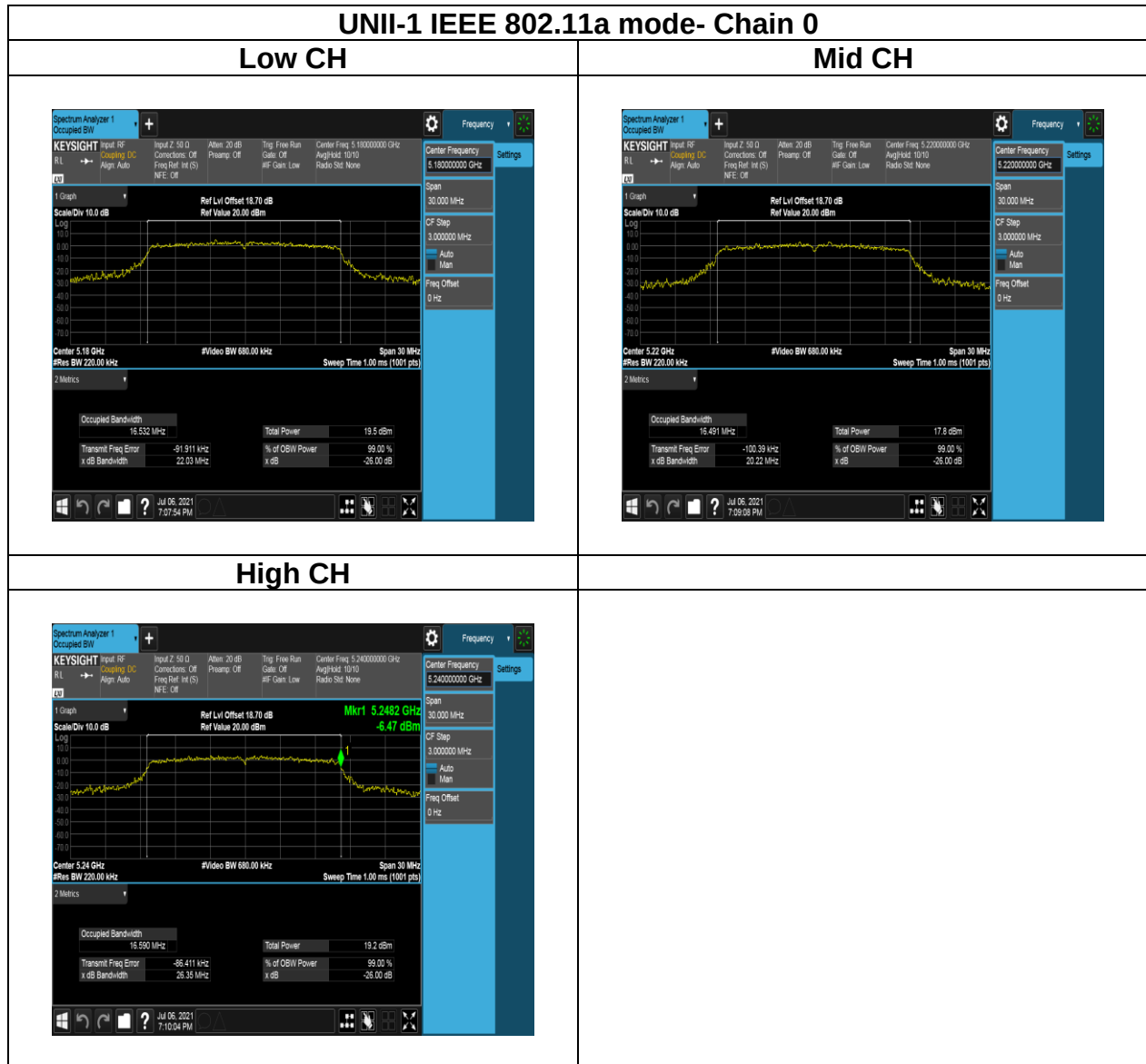


Report No.: T210429C12-RP4

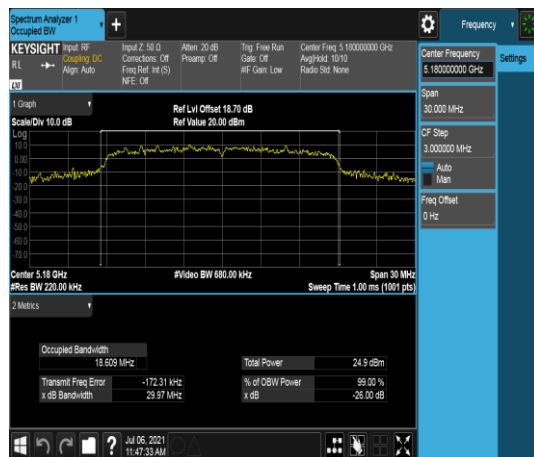
Test Data (26dB BANDWIDTH)



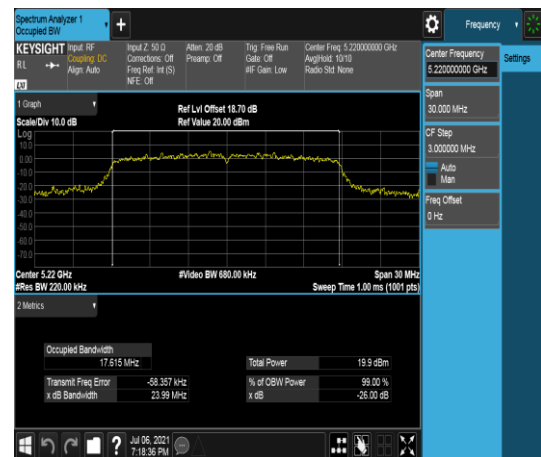
Report No.: T210429C12-RP4

UNII-1 IEEE 802.11n HT20 mode- Chain 0

Low CH



Mid CH



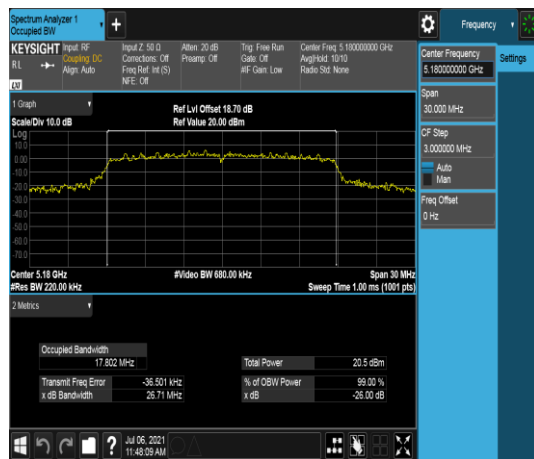
High CH



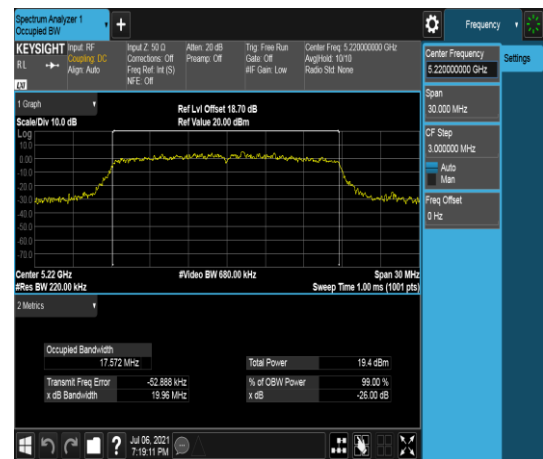
Report No.: T210429C12-RP4

UNII-1 IEEE 802.11n HT20 mode- Chain 1

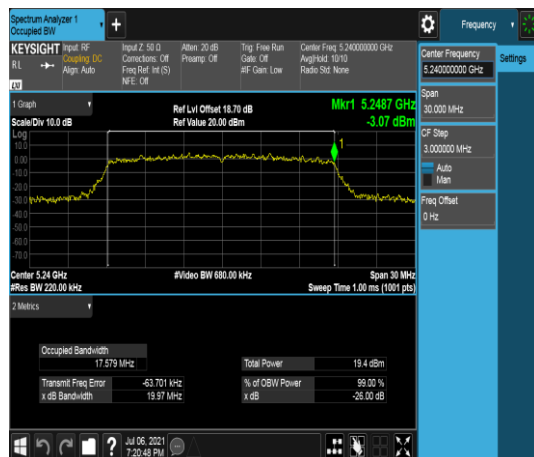
Low CH



Mid CH



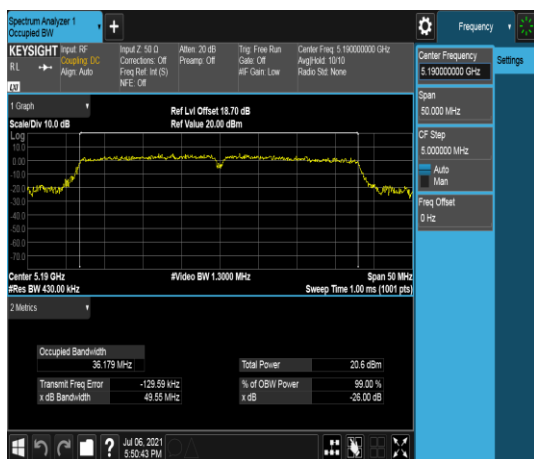
High CH



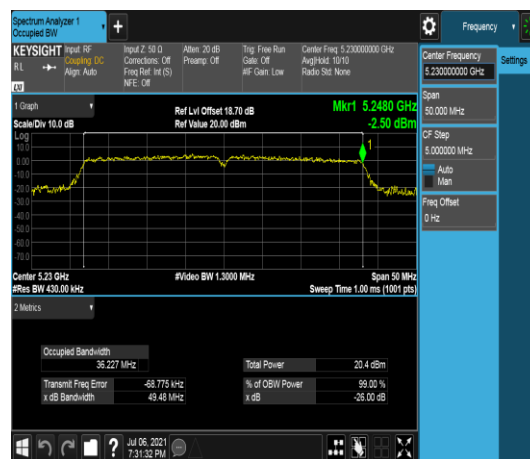
Report No.: T210429C12-RP4

UNII-1 IEEE 802.11n HT40 mode- Chain 0

Low CH

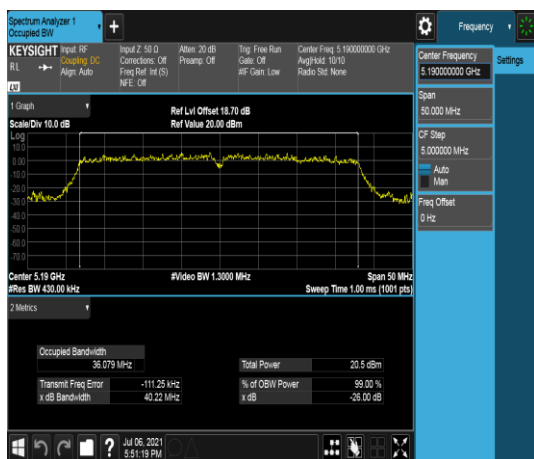


High CH

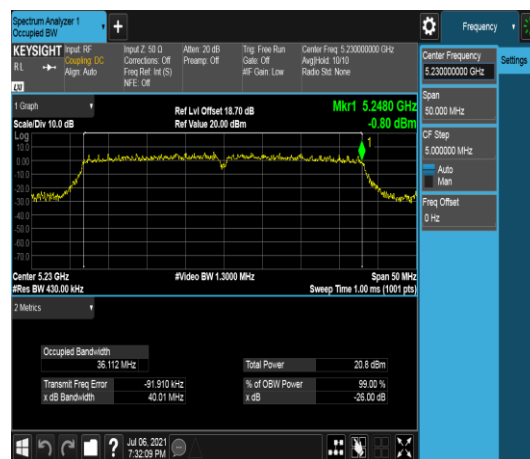


UNII-1 IEEE 802.11n HT40 mode- Chain 1

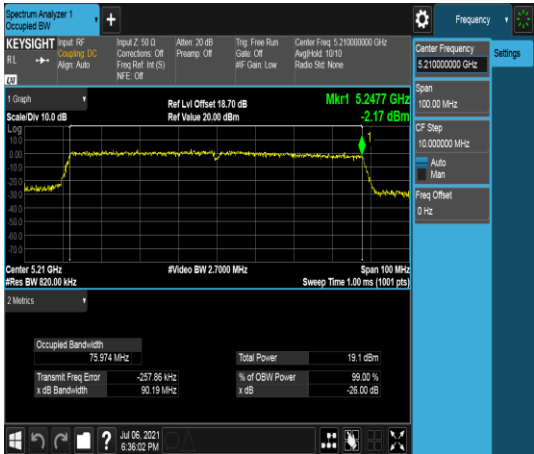
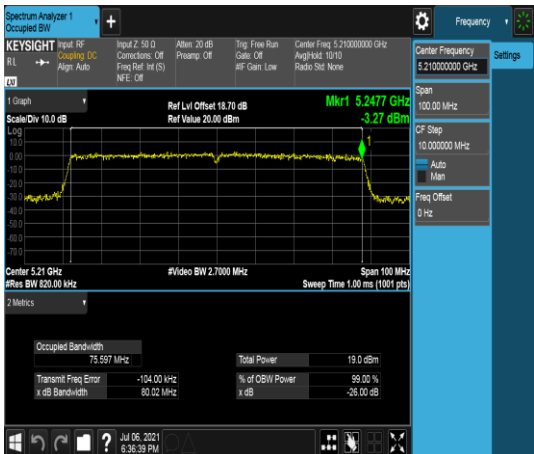
Low CH



High CH

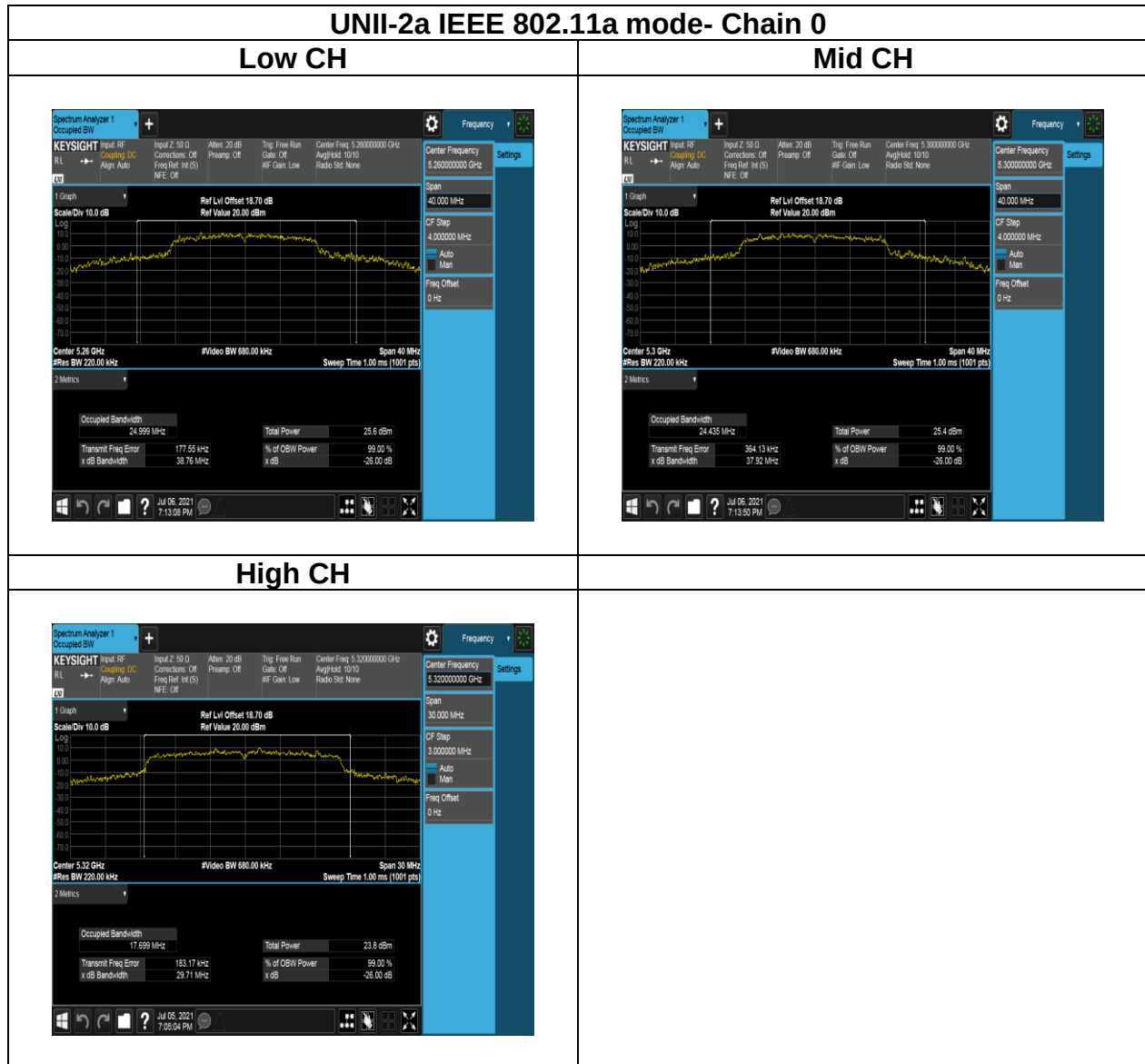


Report No.: T210429C12-RP4

UNII-1 IEEE 802.11ac VHT80 mode- Chain 0	
Low CH	
	
UNII-1 IEEE 802.11ac VHT80 mode- Chain 1	
Low CH	
	

Report No.: T210429C12-RP4

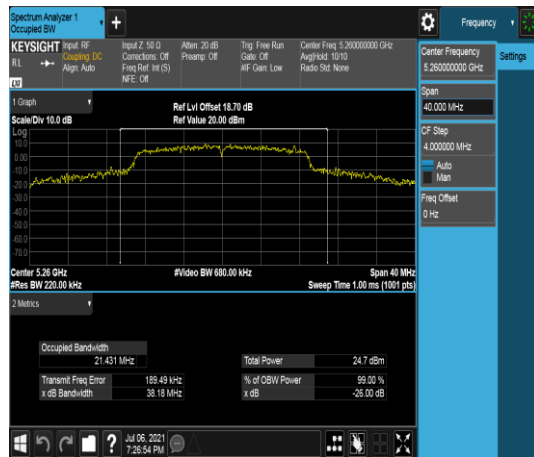
Test Data (26dB BANDWIDTH)



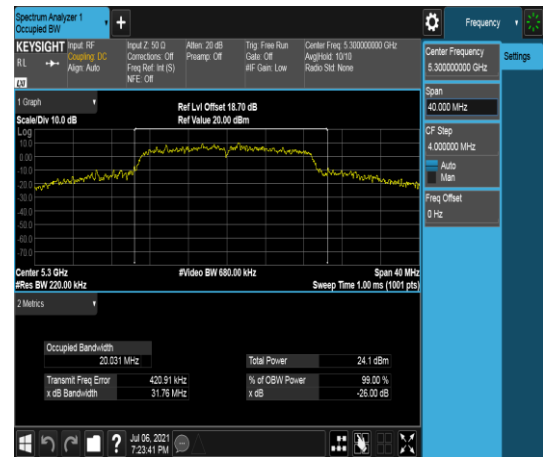
Report No.: T210429C12-RP4

UNII-2a IEEE 802.11n HT20 mode- Chain 0

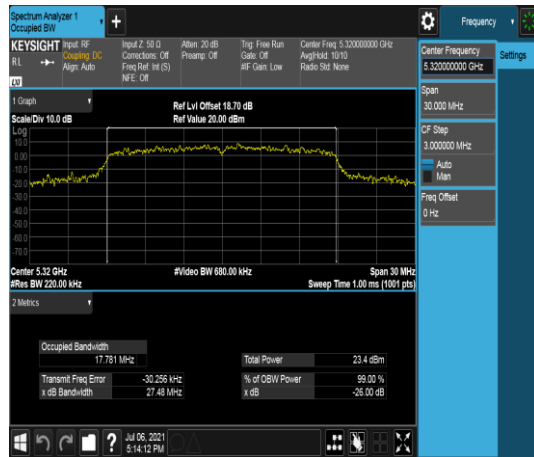
Low CH



Mid CH



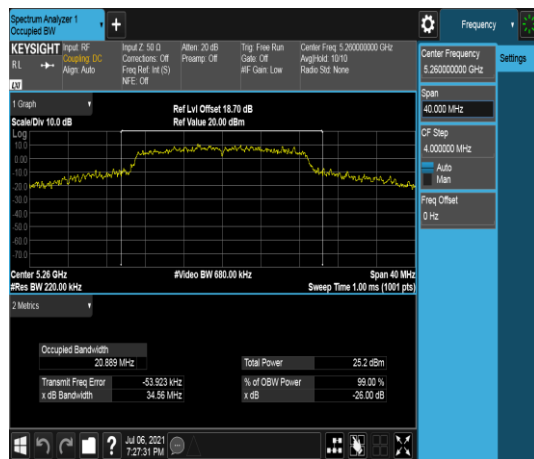
High CH



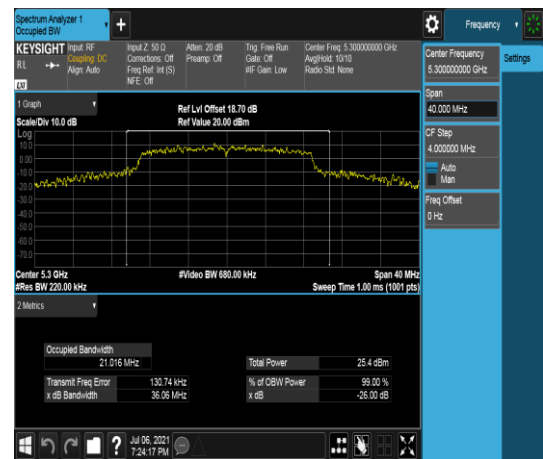
Report No.: T210429C12-RP4

UNII-2a IEEE 802.11n HT20 mode- Chain 1

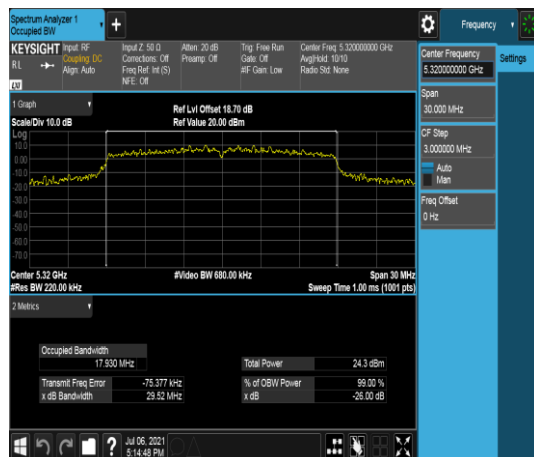
Low CH



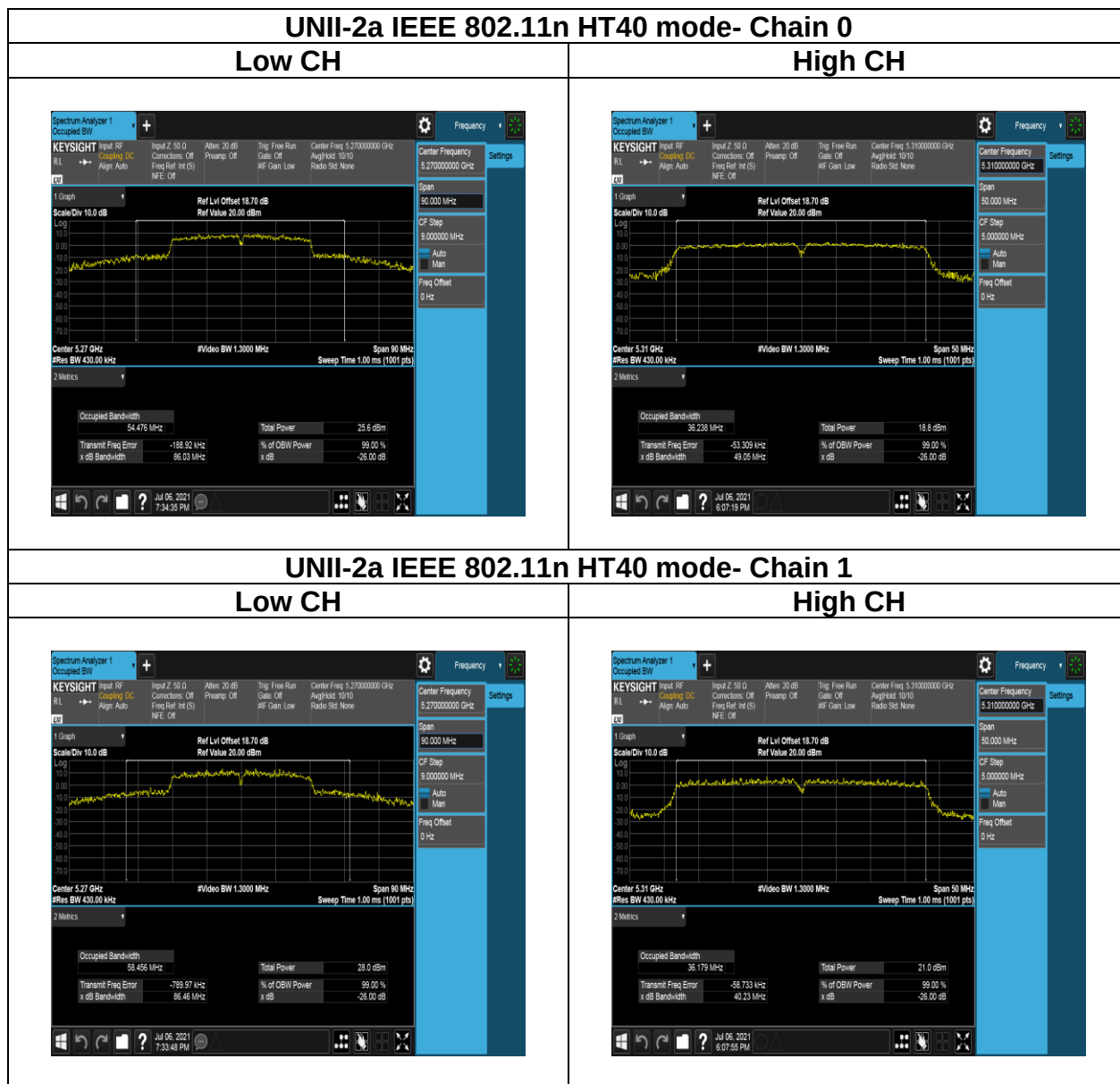
Mid CH



High CH

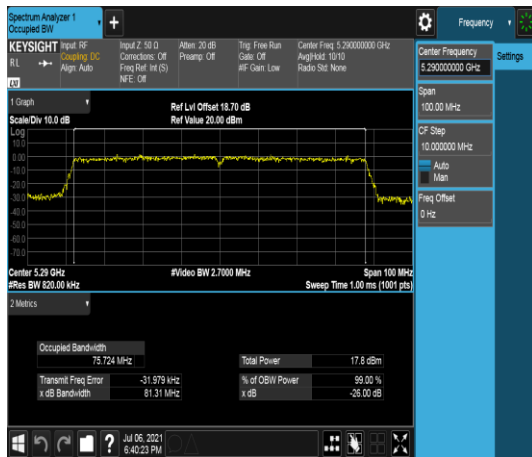


Report No.: T210429C12-RP4



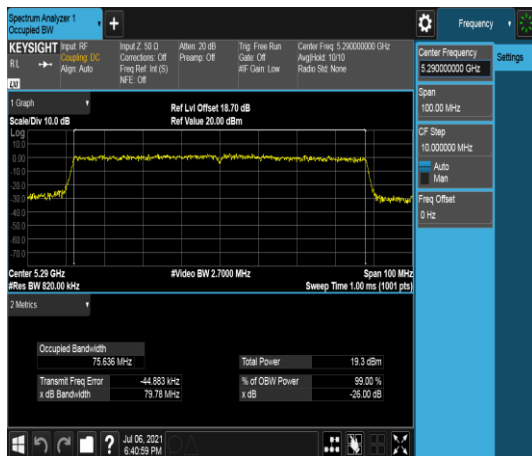
UNII-2a IEEE 802.11ac VHT80 mode- Chain 0

Low CH



UNII-2a IEEE 802.11ac VHT80 mode- Chain 1

Low CH



Report No.: T210429C12-RP4

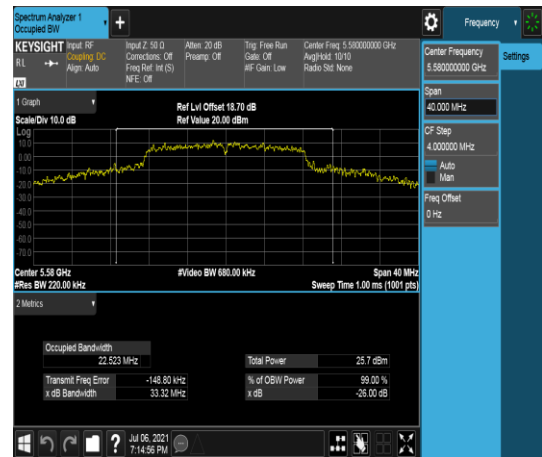
Test Data (26dB BANDWIDTH)

UNII-2c IEEE 802.11a mode- Chain 0

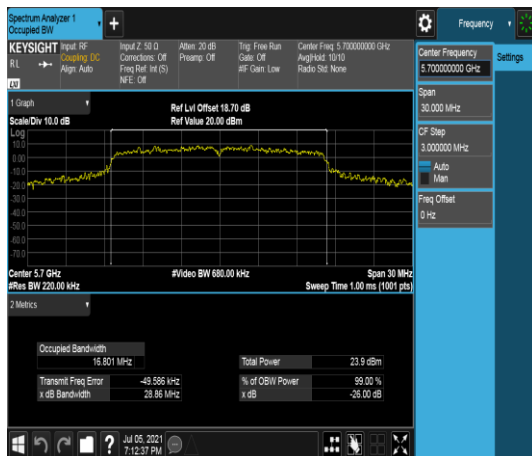
Low CH



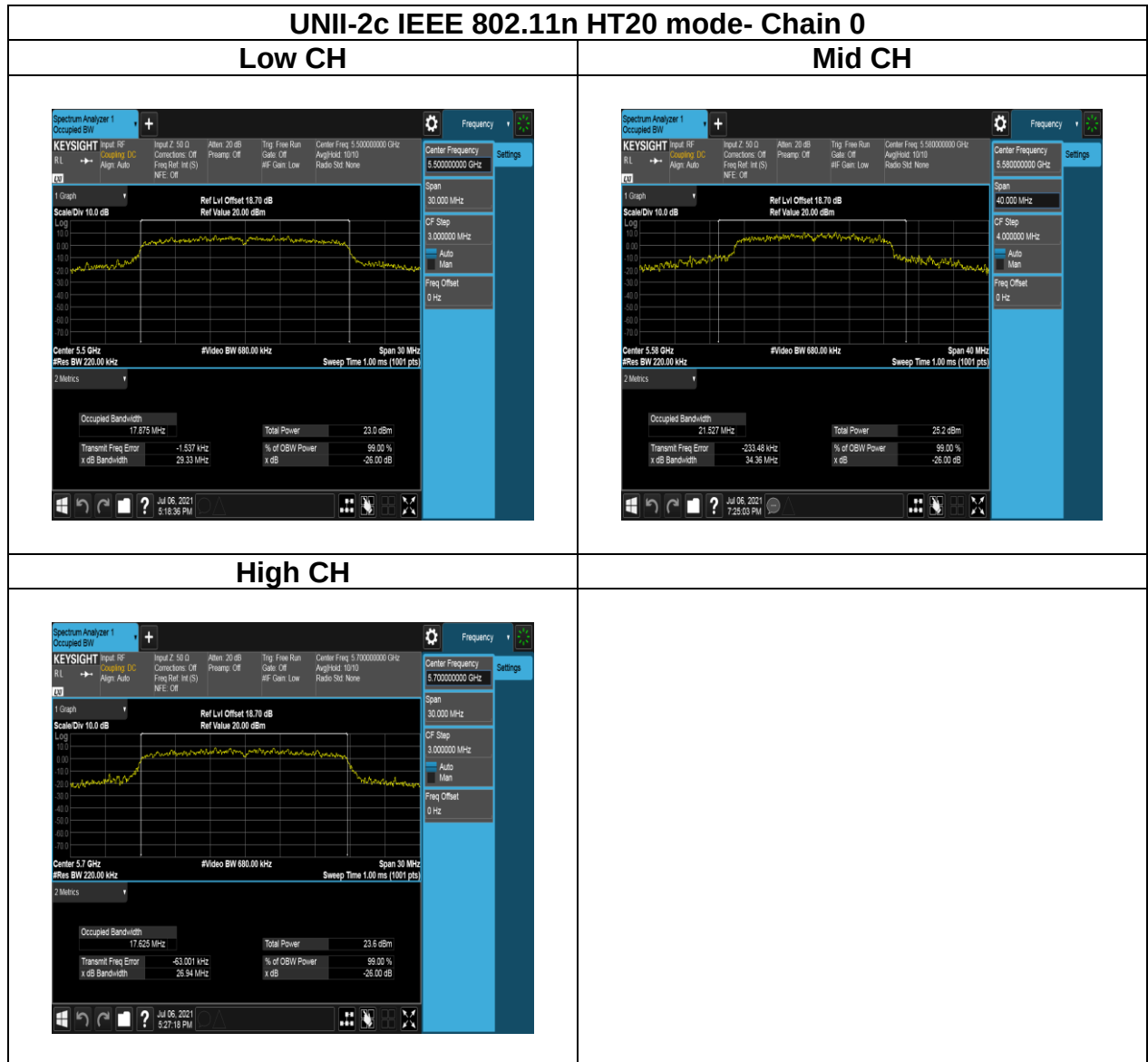
Mid CH



High CH



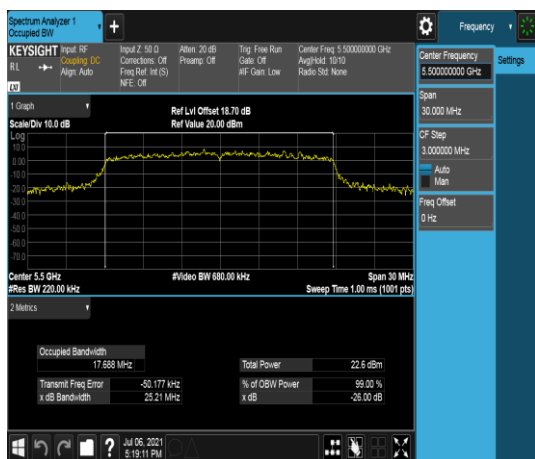
Report No.: T210429C12-RP4



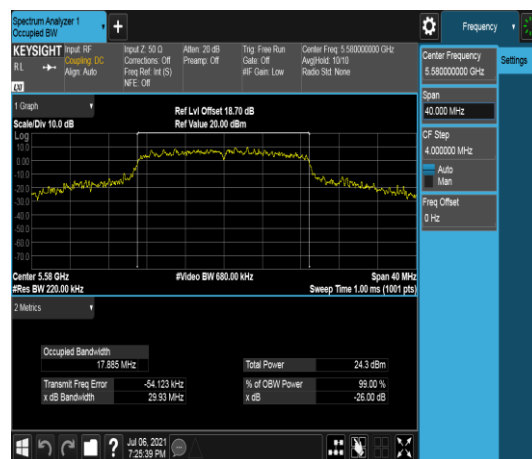
Report No.: T210429C12-RP4

UNII-2c IEEE 802.11n HT20 mode- Chain 1

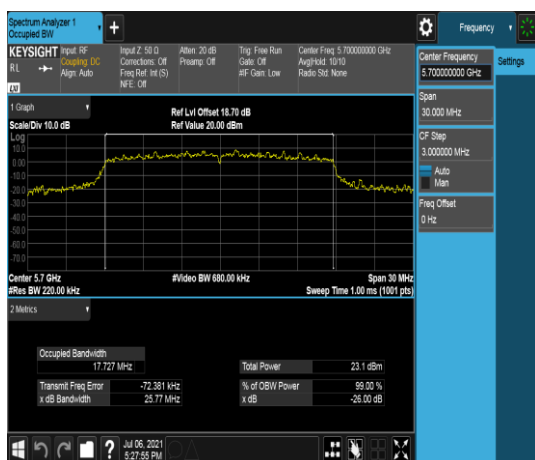
Low CH



Mid CH



High CH



Report No.: T210429C12-RP4

UNII-2c IEEE 802.11n HT40 mode- Chain 0

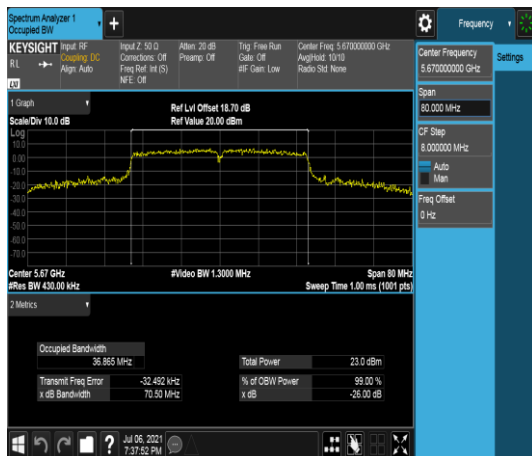
Low CH



Mid CH



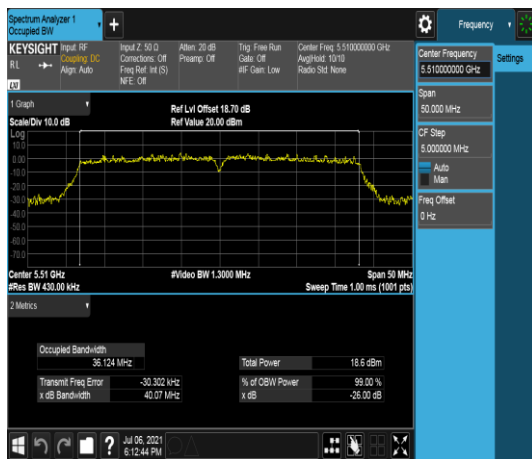
High CH



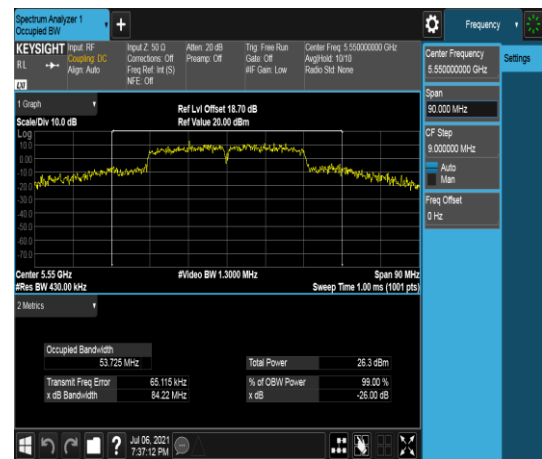
Report No.: T210429C12-RP4

UNII-2c IEEE 802.11n HT40 mode- Chain 1

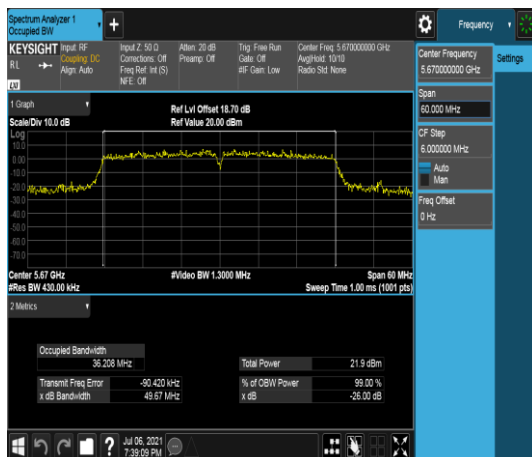
Low CH



Mid CH



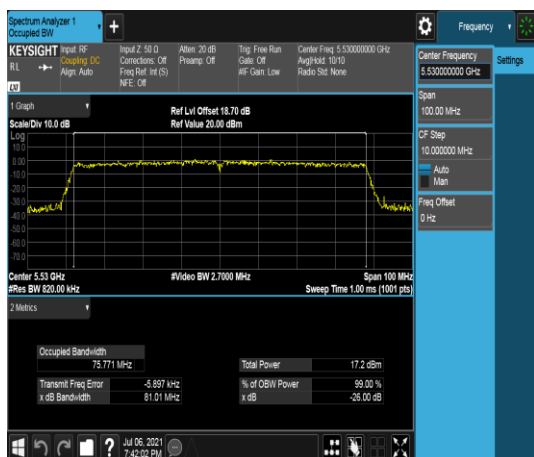
High CH



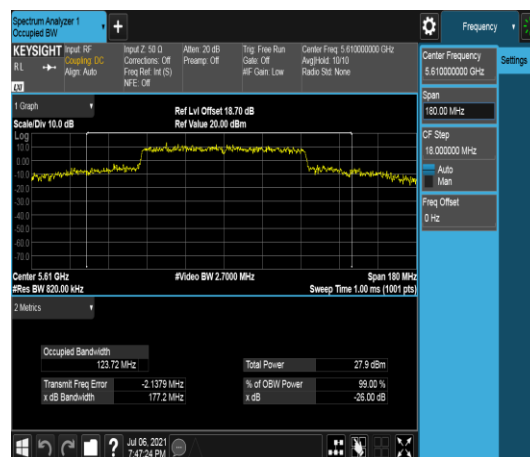
Report No.: T210429C12-RP4

UNII-2c IEEE 802.11ac VHT80 mode- Chain 0

Low CH

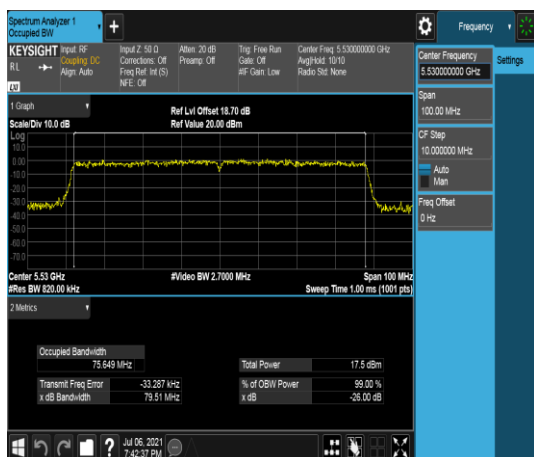


High CH

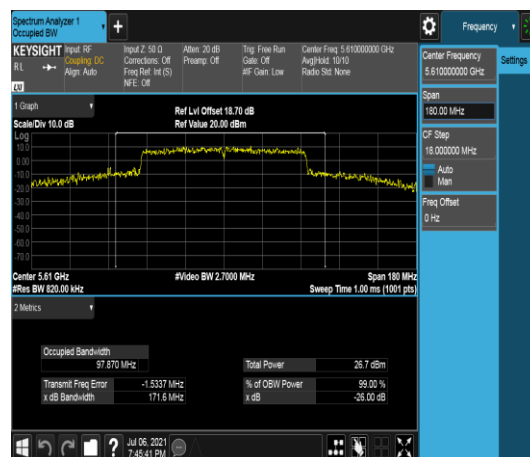


UNII-2c IEEE 802.11ac VHT80 mode- Chain 1

Low CH



High CH



Report No.: T210429C12-RP4

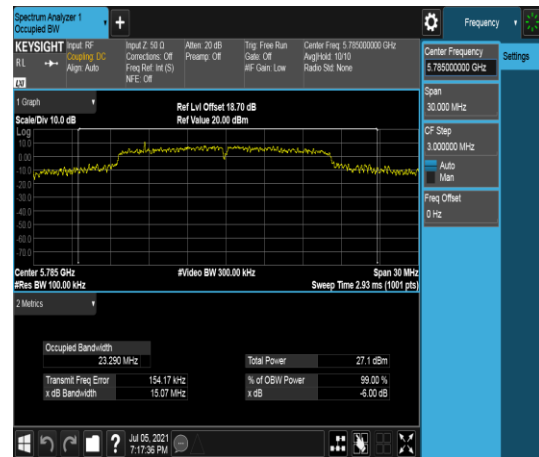
Test Data (6dB BANDWIDTH)

UNII-3 IEEE 802.11a mode- Chain 0

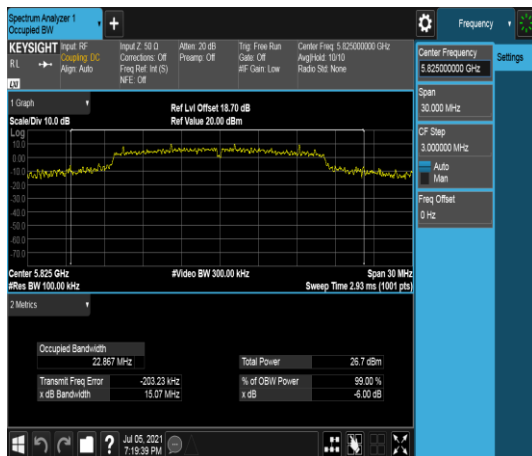
Low CH



Mid CH



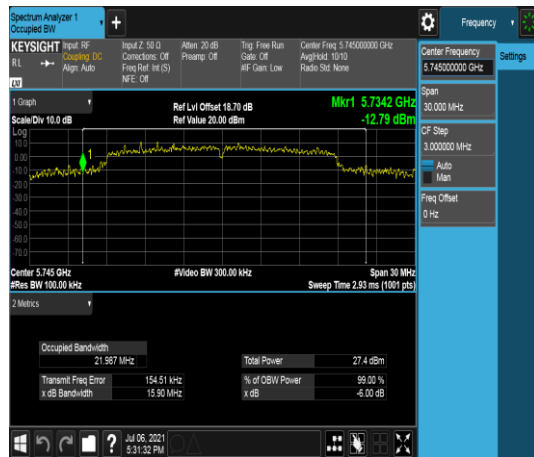
High CH



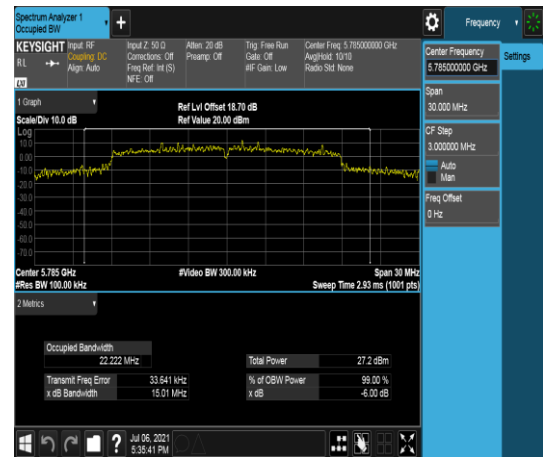
Report No.: T210429C12-RP4

UNII-3 IEEE 802.11n HT20 mode- Chain 0

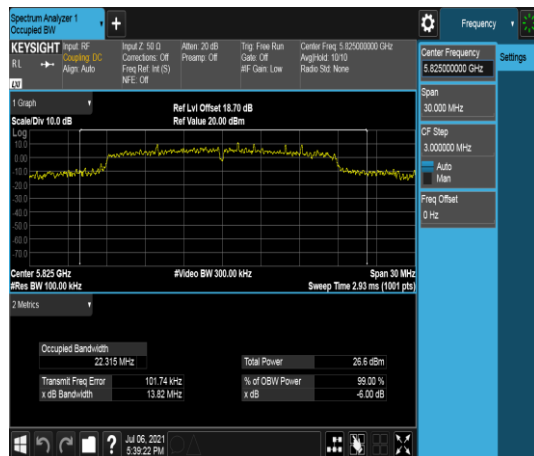
Low CH



Mid CH



High CH



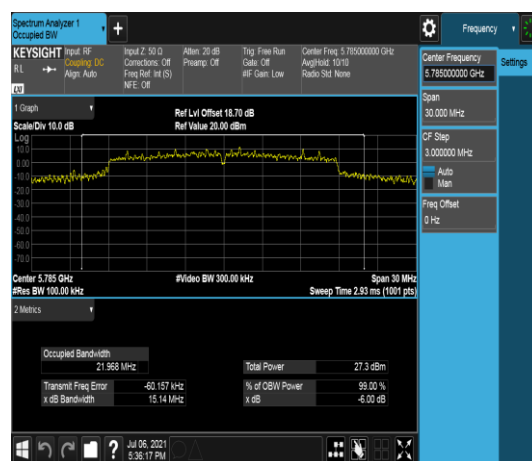
Report No.: T210429C12-RP4

UNII-3 IEEE 802.11n HT20 mode- Chain 1

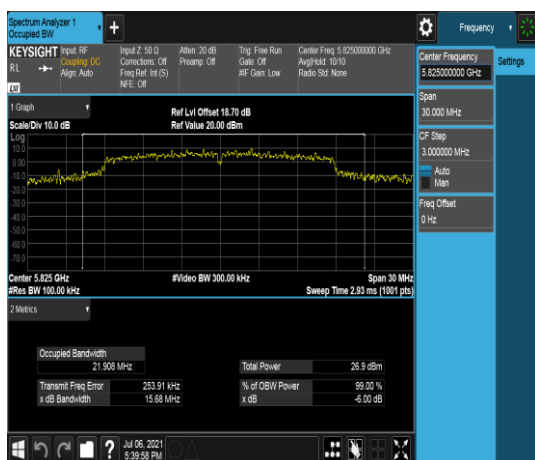
Low CH



Mid CH



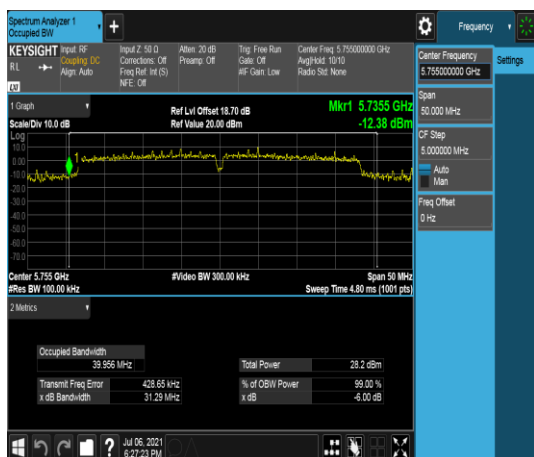
High CH



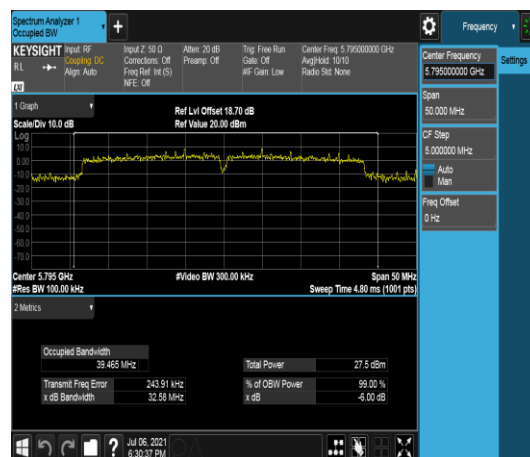
Report No.: T210429C12-RP4

UNII-3 IEEE 802.11n HT40 mode- Chain 0

Low CH

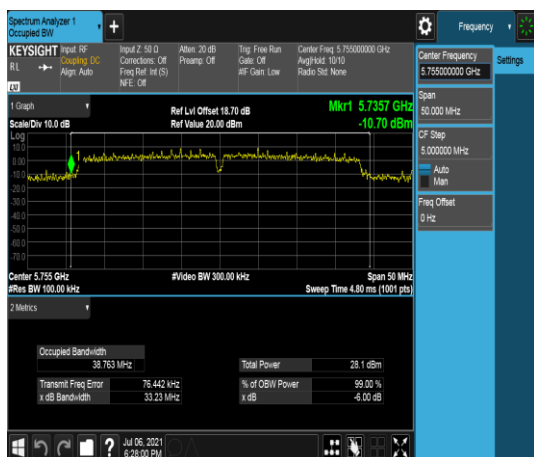


High CH

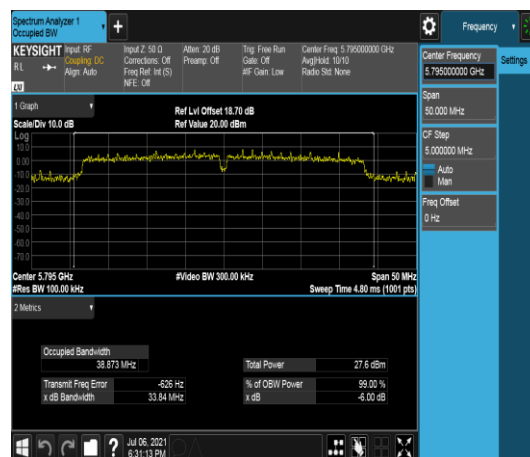


UNII-3 IEEE 802.11n HT40 mode- Chain 1

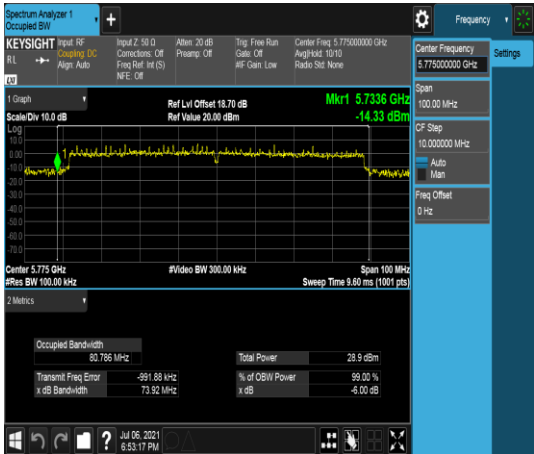
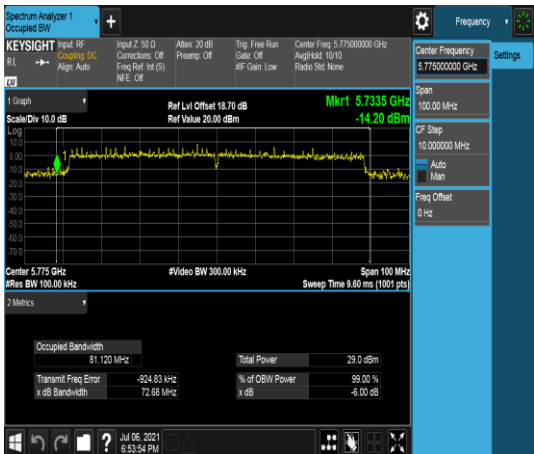
Low CH



High CH



Report No.: T210429C12-RP4

UNII-3 IEEE 802.11ac VHT80 mode- Chain 0	
Low CH	
	
UNII-3 IEEE 802.11ac VHT80 mode- Chain 1	
Low CH	
	

4.2.5 OUTPUT POWER MEASUREMENT

4.2.6 Test Limit

According to §15.407 (a)(1), 15.407(a)(2) and 15.407(a)(3), and RSS-247 section 6.2.1.1, section 6.2.2.1, section 6.2.3.1 and section 6.2.4.1

FCC:

UNII-1 :

For 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(24 dBm), 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.

UNII-2a and 2c:

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.

UNII-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.

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IC:

UNII-1 :

For OEM devices installed in vehicles, the maximum e.i.r.p. shall not exceed 30 mW or $1.76 + 10 \log_{10} B$, dBm, whichever is less. Devices shall implement transmitter power control (TPC) in order to have the capability to operate at least 3 dB below the maximum permitted e.i.r.p. of 30 mW.

For other devices, the maximum e.i.r.p. shall not exceed 200 mW or $10 + 10 \log_{10} B$, dBm, whichever power is less. B is the 99% emission bandwidth in megahertz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

UNII-2a and 2c:

For OEM devices installed in vehicles, the maximum e.i.r.p. shall not exceed 30 mW or $1.76 + 10 \log_{10} B$, dBm, whichever is less. Devices shall implement TPC in order to have the capability to operate at least 3 dB below the maximum permitted e.i.r.p. of 30 mW.

Devices, other than devices installed in vehicles, shall comply with the following:

The maximum conducted output power shall not exceed 250 mW or $11 + 10 \log_{10} B$, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band;

The maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log_{10} B$, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

UNII-2c (5470-5600 MHz and 5650-5725 MHz)

The maximum conducted output power shall not exceed 250 mW or $11 + 10 \log_{10} B$, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log_{10} B$, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

UNII-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.

UNII-1 Limit	☒ Antenna not exceed 6 dBi : 24dBm ☒ 200mW or $10 + 10 \log_{10} B$ for IC ☐ Antenna with DG greater than 6 dBi : [Limit = $24 - (DG - 6)$]
UNII-2a/2c Limit	☒ Antenna not exceed 6 dBi : 24dBm ☐ Antenna with DG greater than 6 dBi : [Limit = $24 - (DG - 6)$]
UNII-3 Limit	☒ Antenna not exceed 6 dBi : 30dBm ☐ Antenna with DG greater than 6 dBi : [Limit = $30 - (DG - 6)$]

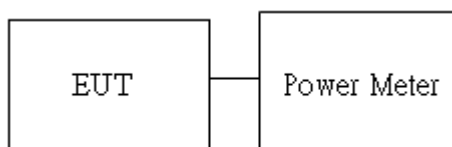
4.2.7 Test Procedure

Test method Refer as KDB 789033 D02, Section E.3.b for BW 20MHz and 40MHz, E.2.b for BW 80MHz.

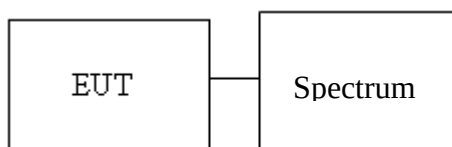
1. The EUT RF output connected to the power meter or spectrum by RF cable.
2. Setting maximum power transmit of EUT.
3. The path loss was compensated to the results for each measurement.
4. Measure and record the result of Average output power. in the test report.

4.2.8 Test Setup

For BW 20MHz and 40MHz



For BW 80MHz



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4.2.9 Test Result

Temperature: 20.1 ~ 25.9°C

Humidity: 54 ~ 61% RH

Tested by: Lance Chen

Test date: July 5 ~ 14, 2021

FCC AVG Power :**802.11a_Ch0**

CH	Frequency (MHz)	Data Rate	Power set	TOTAL POWER (dBm)	TOTAL POWER (mW)	REQUIRED LIMIT (dBm)	RESULT
36	5180	6	14	14.40	27.512	23.98	PASS
44	5220	6	14.5	14.41	27.575	23.98	PASS
48	5240	6	14.5	14.26	26.639	23.98	PASS
52	5260	6	23	20.54	113.114	23.98	PASS
60	5300	6	23	20.19	104.356	23.98	PASS
64	5320	6	17	18.65	73.201	23.98	PASS
100	5500	6	15	17.70	58.819	23.98	PASS
116	5580	6	16.5	20.39	109.274	23.98	PASS
140	5700	6	16	18.94	78.256	23.98	PASS
149	5745	6	23	22.10	162.001	30	PASS
157	5785	6	23	21.77	150.147	30	PASS
165	5825	6	23	21.23	132.592	30	PASS

802.11a_Ch1

CH	Frequency (MHz)	Data Rate	Power set	TOTAL POWER (dBm)	TOTAL POWER (mW)	REQUIRED LIMIT (dBm)	RESULT
36	5180	6	14.5	14.06	25.440	23.98	PASS
44	5220	6	14.5	14.18	26.153	23.98	PASS
48	5240	6	14.5	14.15	25.973	23.98	PASS
52	5260	6	17	19.74	94.084	23.98	PASS
60	5300	6	17	19.74	94.084	23.98	PASS
64	5320	6	15.5	18.29	67.378	23.98	PASS
100	5500	6	15	17.40	54.893	23.98	PASS
116	5580	6	19	19.79	95.174	23.98	PASS
140	5700	6	16	18.80	75.773	23.98	PASS
149	5745	6	20	21.91	155.066	30	PASS
157	5785	6	18	21.15	130.172	30	PASS
165	5825	6	18	21.19	131.376	30	PASS

Report No.: T210429C12-RP4

802.11n_HT20_MIMO

CH	Frequency (MHz)	Data Rate	Power set	Avg. POWER (dBm)		TOTAL POWER (dBm)	TOTAL POWER (mW)	REQUIRED LIMIT (dBm)	RESULT
				CH 0	CH 1				
36	5180	MCS8	15.5	14.03	9.51	15.95	39.340	23.98	PASS
44	5220	MCS8	15.5	13.64	9.31	15.61	36.381	23.98	PASS
48	5240	MCS8	15.5	13.23	9.07	15.25	33.460	23.98	PASS
52	5260	MCS8	18	18.72	19.97	23.00	199.753	23.98	PASS
60	5300	MCS8	18	17.92	19.39	22.33	171.081	23.98	PASS
64	5320	MCS8	17	16.81	17.89	21.00	125.852	23.98	PASS
100	5500	MCS8	16	16.31	16.01	19.78	95.010	23.98	PASS
116	5580	MCS8	17	19.63	18.22	22.60	181.848	23.98	PASS
140	5700	MCS8	16	16.59	15.2	19.57	90.479	23.98	PASS
149	5745	MCS8	23	20.12	18.36	22.94	196.955	30	PASS
157	5785	MCS8	23	19.93	17.86	22.63	183.328	30	PASS
165	5825	MCS8	23	19.12	17.42	21.97	157.317	30	PASS

802.11n_HT40_MIMO

CH	Frequency (MHz)	Data Rate	Power set	Avg. POWER (dBm)		TOTAL POWER (dBm)	TOTAL POWER (mW)	REQUIRED LIMIT (dBm)	RESULT
				CH 0	CH 1				
38	5190	MCS8	16	13.14	12.91	17.12	51.474	23.98	PASS
46	5230	MCS8	16	13.05	12.89	17.06	50.817	23.98	PASS
54	5270	MCS8	23	18.78	20.45	23.78	239.009	23.98	PASS
62	5310	MCS8	16	11.71	13.12	16.56	45.304	23.98	PASS
102	5510	MCS8	14	10.51	10.44	14.56	28.605	23.98	PASS
110	5550	MCS8	23	19.45	18.34	23.02	200.434	23.98	PASS
134	5670	MCS8	16	15.22	12.07	18.01	63.298	23.98	PASS
151	5755	MCS8	23	19.32	17.53	22.61	182.219	30	PASS
159	5795	MCS8	23	18.97	17.05	22.20	166.135	30	PASS

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802.11ac_VHT80_MIMO

CH	Frequency (MHz)	Data Rate	Power set	Avg. POWER (dBm)		TOTAL POWER (dBm)	TOTAL POWER (mW)	REQUIRED LIMIT (dBm)	RESULT
				CH 0	CH 1				
42	5210	MCS0	14	10.97	10.53	14.96	31.317	23.98	PASS
58	5290	MCS0	14	9.46	10.83	14.40	27.548	23.98	PASS
106	5530	MCS0	12	8.73	8.02	12.59	18.162	23.98	PASS
122	5610	MCS0	18	19.08	16.85	22.31	170.167	23.98	PASS
155	5775	MCS0	23	18.94	17.07	22.31	170.100	30	PASS

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IC AVG Power:**802.11a_Ch0**

CH	Frequency (MHz)	TOTAL POWER (dBm)	TOTAL POWER (mW)	REQUIRED LIMIT (dBm)	RESULT
52	5260	20.54	113.114	23.98	PASS
60	5300	20.19	104.356	23.98	PASS
64	5320	18.65	73.201	23.44	PASS
100	5500	17.70	58.819	23.28	PASS
116	5580	20.39	109.274	23.98	PASS
140	5700	18.94	78.256	23.25	PASS
149	5745	22.10	162.001	30	PASS
157	5785	21.77	150.147	30	PASS
165	5825	21.23	132.592	30	PASS

802.11a_Ch1

CH	Frequency (MHz)	TOTAL POWER (dBm)	TOTAL POWER (mW)	REQUIRED LIMIT (dBm)	RESULT
52	5260	19.74	94.084	23.98	PASS
60	5300	19.74	94.084	23.98	PASS
64	5320	18.29	67.378	23.98	PASS
100	5500	17.40	54.893	23.98	PASS
116	5580	19.79	95.174	23.98	PASS
140	5700	18.80	75.773	23.98	PASS
149	5745	21.91	155.066	30	PASS
157	5785	21.15	130.172	30	PASS
165	5825	21.19	131.376	30	PASS

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802.11n_HT20_MIMO

CH	Frequency (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (dBm)	TOTAL POWER (mW)	REQUIRED LIMIT (dBm)	RESULT
		CH 0	CH 1				
52	5260	18.72	19.97	23.00	199.753	23.98	PASS
60	5300	17.92	19.39	22.33	171.081	23.74	PASS
64	5320	16.81	17.89	21.00	125.852	23.5	PASS
100	5500	16.31	16.01	19.78	95.010	23.47	PASS
116	5580	19.63	18.22	22.60	181.848	23.5	PASS
140	5700	16.59	15.2	19.57	90.479	23.47	PASS
149	5745	20.12	18.36	22.94	196.955	30	PASS
157	5785	19.93	17.86	22.63	183.328	30	PASS
165	5825	19.12	17.42	21.97	157.317	30	PASS

802.11n_HT40_MIMO

CH	Frequency (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (dBm)	TOTAL POWER (mW)	REQUIRED LIMIT (dBm)	RESULT
		CH 0	CH 1				
54	5270	18.78	20.45	23.78	239.009	23.98	PASS
62	5310	11.71	13.12	16.56	45.304	23.98	PASS
102	5510	10.51	10.44	14.56	28.605	23.98	PASS
110	5550	19.45	18.34	23.02	200.434	23.98	PASS
134	5670	15.22	12.07	18.01	63.298	23.98	PASS
151	5755	19.32	17.53	22.61	182.219	30	PASS
159	5795	18.97	17.05	22.20	166.135	30	PASS

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802.11ac_VHT80_MIMO

CH	Frequency (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (dBm)	TOTAL POWER (mW)	REQUIRED LIMIT (dBm)	RESULT
		CH 0	CH 1				
58	5290	9.46	10.83	14.40	27.548	23.98	PASS
106	5530	8.73	8.02	12.59	18.162	23.98	PASS
155	5775	18.94	17.07	22.31	170.100	30	PASS

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IC EIRP Power:**802.11a_Ch0**

CH	Frequency (MHz)	TOTAL POWER (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	REQUIRED LIMIT (dBm)	RESULT
36	5180	14.40	2.60	17.00	50.063	22.8	PASS
44	5220	14.41	2.60	17.01	50.178	23.01	PASS
48	5240	14.26	2.60	16.86	48.475	23.01	PASS
52	5260	20.54	2.60	23.14	205.834	30	PASS
60	5300	20.19	2.60	22.79	189.897	30	PASS
64	5320	18.65	2.60	21.25	133.204	29.44	PASS
100	5500	17.70	2.60	20.30	107.033	29.28	PASS
116	5580	20.39	2.60	22.99	198.846	30	PASS
140	5700	18.94	2.60	21.54	142.402	29.25	PASS

802.11a_Ch1

CH	Frequency (MHz)	TOTAL POWER (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	REQUIRED LIMIT (dBm)	RESULT
36	5180	14.06	2.600	16.66	46.293	23.01	PASS
44	5220	14.18	2.600	16.78	47.590	23.01	PASS
48	5240	14.15	2.600	16.75	47.263	23.01	PASS
52	5260	19.74	2.600	22.34	171.205	30	PASS
60	5300	19.74	2.600	22.34	171.205	30	PASS
64	5320	18.29	2.600	20.89	122.608	30	PASS
100	5500	17.40	2.600	20.00	99.889	30	PASS
116	5580	19.79	2.600	22.39	173.188	30	PASS
140	5700	18.80	2.600	21.40	137.885	30	PASS

802.11n_HT20_MIMO

CH	Frequency (MHz)	TOTAL POWER (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	REQUIRED LIMIT (dBm)	RESULT
36	5180	15.95	5.61	21.56	143.165	22.49	PASS
44	5220	15.61	5.61	21.22	132.397	23.01	PASS
48	5240	15.25	5.61	20.86	121.766	22.99	PASS
52	5260	23.00	5.61	28.61	726.930	30	PASS
60	5300	22.33	5.61	27.94	622.588	29.74	PASS
64	5320	21.00	5.61	26.61	457.993	29.5	PASS
100	5500	19.78	5.61	25.39	345.756	29.47	PASS
116	5580	22.60	5.61	28.21	661.771	29.5	PASS
140	5700	19.57	5.61	25.18	329.267	29.47	PASS

802.11n_HT40_MIMO

CH	Frequency (MHz)	TOTAL POWER (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	REQUIRED LIMIT (dBm)	RESULT
38	5190	17.12	5.61	22.73	187.322	23.01	PASS
46	5230	17.06	5.61	22.67	184.931	23.01	PASS
54	5270	23.78	5.61	29.39	869.788	30	PASS
62	5310	16.56	5.61	22.17	164.867	30	PASS
102	5510	14.56	5.61	20.17	104.100	30	PASS
110	5550	23.02	5.61	28.63	729.411	30	PASS
134	5670	18.01	5.61	23.62	230.351	30	PASS

802.11ac_VHT80_MIMO

CH	Frequency (MHz)	TOTAL POWER (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	REQUIRED LIMIT (dBm)	RESULT
42	5210	14.96	5.61	20.57	113.965	23.01	PASS
58	5290	14.40	5.61	20.01	100.253	30	PASS
106	5530	12.59	5.61	18.20	66.095	30	PASS

4.3 POWER SPECTRAL DENSITY

4.3.1 Test Limit

According to §15.407 (a)(1), 15.407(a)(2) and 15.407(a)(3)

According to RSS-247 section 6.2.1.1, section 6.2.2.1, section 6.2.3.1 and section 6.2.4.1

UNII-1:

FCC: The maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.

IC: The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz 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.

UNII-2a and 2c:

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.

UNII-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.

UNII-1 Limit	☒ Antenna not exceed 6 dBi : 11 dBm/MHz ☒ Antenna not exceed 6 dBi : 10 dBm/MHz for IC ☐ Antenna with DG greater than 6 dBi : [Limit = 11 – (DG – 6)]
UNII-2a Limit	☒ Antenna not exceed 6 dBi : 11 dBm/MHz ☐ Antenna with DG greater than 6 dBi : [Limit = 11 – (DG – 6)]
UNII-2c Limit	☒ Antenna not exceed 6 dBi : 11 dBm/MHz ☐ Antenna with DG greater than 6 dBi : [Limit = 11 – (DG – 6)]
UNII-3 Limit	☒ Antenna not exceed 6 dBi : 30 dBm/500kHz ☐ Antenna with DG greater than 6 dBi : [Limit = 30 – (DG – 6)]

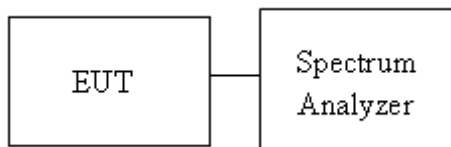
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4.3.2 Test Procedure

Test method Refer as KDB 789033 D02

1. The EUT RF output connected to the spectrum analyzer by RF cable.
2. Setting maximum power transmit of EUT
3. UNII-1, UNII-2a and UNII-2c, SA set RBW = 1MHz, VBW = 3MHz and Detector = RMS, to measurement Power Density.
4. UNII-3, SA set RBW = 300kHz, VBW = 1MHz and Detector = RMS, to measurement Power Density
5. The path loss and Duty Factor were compensated to the results for each measurement by SA.
6. Mark the maximum level.
7. Measure and record the result of power spectral density. in the test report.

4.3.3 Test Setup



4.3.4 Test Result

Temperature: 20.1 ~ 25.9°C**Humidity:** 54 ~ 61% RH**Tested by:** Lance Chen**Test date:** July 5 ~ 14, 2021

UNII-1 5150-5250 MHz						
POWER DENSITY 802.11a MODE						
Frequency (MHz)	Chain 0 PPSP (dBm/MHz)	Chain 1 PPSP (dBm/MHz)	Duty Factor (dB)	Maximum Corr'd PSD(dBm/MHz)	FCC Limit	Margin (dB)
5180	2.87	-	0.32	3.19	11.00 dBm/MHz	-7.81
5220	3.91	-	0.32	4.23	11.00 dBm/MHz	-6.77
5240	3.35	-	0.32	3.67	11.00 dBm/MHz	-7.33

POWER DENSITY 802.11n HT20 MODE						
Frequency (MHz)	Chain 0 PPSP (dBm/MHz)	Chain 1 PPSP (dBm/MHz)	Duty Factor (dB)	Maximum Corr'd PSD(dBm/MHz)	FCC Limit	Margin (dB)
5180	0.03	-0.52	0.60	3.38	11.00 dBm/MHz	-7.62
5220	-0.19	-0.67	0.60	3.19	11.00 dBm/MHz	-7.81
5240	-0.75	-0.83	0.60	2.82	11.00 dBm/MHz	-8.18

POWER DENSITY 802.11n HT40 MODE						
Frequency (MHz)	Chain 0 PPSP (dBm/MHz)	Chain 1 PPSP (dBm/MHz)	Duty Factor (dB)	Maximum Corr'd PSD(dBm/MHz)	FCC Limit	Margin (dB)
5190	0.04	-0.72	1.08	3.77	11.00 dBm/MHz	-7.23
5230	-0.41	0.06	1.08	3.92	11.00 dBm/MHz	-7.08

POWER DENSITY 802.11ac VHT80 MODE						
Frequency (MHz)	Chain 0 PPSP (dBm/MHz)	Chain 1 PPSP (dBm/MHz)	Duty Factor (dB)	Maximum Corr'd PSD(dBm/MHz)	FCC Limit	Margin (dB)
5210	-5.81	-6.06	1.19	-1.73	11.00 dBm/MHz	-12.73

UNII-1 5150-5250 MHz					
EIRP spectral density 802.11a MODE					
Freq. (MHz)	PSD (dBm)	Ant. Gain (dBi)	EIRP PSD (dBm)	IC Limit (dBm)	Margin (dB)
5180	3.19	5.61	8.80	10	-1.20
5220	4.23	5.61	9.84	10	-0.16
5240	3.67	5.61	9.28	10	-0.72

EIRP spectral density 802.11n HT20 MODE					
Freq. (MHz)	PSD (dBm)	Ant. Gain (dBi)	EIRP SD (dBm)	IC Limit (dBm)	Margin (dB)
5180	3.38	5.61	8.99	10	-1.01
5220	3.19	5.61	8.80	10	-1.20
5240	2.82	5.61	8.43	10	-1.57

EIRP spectral density 802.11n HT40 MODE					
Freq. (MHz)	PSD (dBm)	Ant. Gain (dBi)	EIRP SD (dBm)	IC Limit (dBm)	Margin (dB)
5190	3.77	5.61	9.38	10	-0.62
5230	3.92	5.61	9.53	10	-0.47

EIRP spectral density 802.11ac VHT80 MODE					
Freq. (MHz)	PSD (dBm)	Ant. Gain (dBi)	EIRP SD (dBm)	IC Limit (dBm)	Margin (dB)
5210	-1.73	5.61	3.88	10	-6.12

UNII-2a 5250-5350 MHz						
POWER DENSITY 802.11a MODE						
Frequency (MHz)	Chain 0 PPSD (dBm/MHz)	Chain 1 PPSD (dBm/MHz)	Duty Factor (dB)	Maximum Corr'd PSD(dBm/MHz)	Limit	Margin (dB)
5260	9.84	-	0.32	10.16	11.00 dBm/MHz	-0.84
5300	9.44	-	0.32	9.76	11.00 dBm/MHz	-1.24
5320	7.94	-	0.32	8.26	11.00 dBm/MHz	-2.74

POWER DENSITY 802.11n HT20 MODE						
Frequency (MHz)	Chain 0 PPSD (dBm/MHz)	Chain 1 PPSD (dBm/MHz)	Duty Factor (dB)	Maximum Corr'd PSD(dBm/MHz)	Limit	Margin (dB)
5260	4.21	5.06	0.60	8.27	11.00 dBm/MHz	-2.73
5300	4.32	4.37	0.60	7.95	11.00 dBm/MHz	-3.05
5320	3.27	3.35	0.60	6.92	11.00 dBm/MHz	-4.08

POWER DENSITY 802.11n HT40 MODE						
Frequency (MHz)	Chain 0 PPSD (dBm/MHz)	Chain 1 PPSD (dBm/MHz)	Duty Factor (dB)	Maximum Corr'd PSD(dBm/MHz)	Limit	Margin (dB)
5270	5.13	7.14	1.08	10.34	11.00 dBm/MHz	-0.66
5310	-1.16	-0.21	1.08	3.43	11.00 dBm/MHz	-7.57

POWER DENSITY 802.11ac VHT80 MODE						
Frequency (MHz)	Chain 0 PPSD (dBm/MHz)	Chain 1 PPSD (dBm/MHz)	Duty Factor (dB)	Maximum Corr'd PSD(dBm/MHz)	Limit	Margin (dB)
5290	-6.43	-5.66	1.19	-1.82	11.00 dBm/MHz	-12.82

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UNII-2c 5470-5725 MHz						
POWER DENSITY 802.11a MODE						
Frequency (MHz)	Chain 0 PPSP (dBm/MHz)	Chain 1 PPSP (dBm/MHz)	Duty Factor (dB)	Maximum Corr'd PSD(dBm/MHz)	Limit	Margin (dB)
5500	6.76	-	0.32	7.08	11.00 dBm/MHz	-3.92
5580	10.17	-	0.32	10.49	11.00 dBm/MHz	-0.51
5700	8.36	-	0.32	8.68	11.00 dBm/MHz	-2.32

POWER DENSITY 802.11n HT20 MODE						
Frequency (MHz)	Chain 0 PPSP (dBm/MHz)	Chain 1 PPSP (dBm/MHz)	Duty Factor (dB)	Maximum Corr'd PSD(dBm/MHz)	Limit	Margin (dB)
5500	6.99	6.77	0.60	10.49	11.00 dBm/MHz	-0.51
5580	5.68	0.76	0.60	7.49	11.00 dBm/MHz	-3.51
5700	3.69	-0.56	0.60	5.68	11.00 dBm/MHz	-5.32

POWER DENSITY 802.11n HT40 MODE						
Frequency (MHz)	Chain 0 PPSP (dBm/MHz)	Chain 1 PPSP (dBm/MHz)	Duty Factor (dB)	Maximum Corr'd PSD(dBm/MHz)	Limit	Margin (dB)
5510	-2.54	-2.32	1.08	1.66	11.00 dBm/MHz	-9.34
5550	6.12	6.24	1.08	10.27	11.00 dBm/MHz	-0.73
5670	2.50	1.38	1.08	6.06	11.00 dBm/MHz	-4.94

POWER DENSITY 802.11ac VHT80 MODE						
Frequency (MHz)	Chain 0 PPSP (dBm/MHz)	Chain 1 PPSP (dBm/MHz)	Duty Factor (dB)	Maximum Corr'd PSD(dBm/MHz)	Limit	Margin (dB)
5530	-7.91	-7.78	1.19	-3.64	11.00 dBm/MHz	-14.64
5610	3.74	1.50	1.19	6.96	11.00 dBm/MHz	-4.04

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UNII-3 5725-5825 MHz							
POWER DENSITY 802.11a MODE							
Frequency (MHz)	Chain 0 PPSD (dBm/300kHz)	Chain 1 PPSD (dBm/300kHz)	Duty Factor (dB)	10log (500kHz/RBW) Factor(dB)	Maximum Corr'd PSD (dBm/500kHz)	Limit	Margin (dB)
5745	6.35	-	0.32	2.22	8.89	30.00 dBm/500kHz	-21.11
5785	6.58	-	0.32	2.22	9.12	30.00 dBm/500kHz	-20.88
5825	5.51	-	0.32	2.22	8.05	30.00 dBm/500kHz	-21.95

POWER DENSITY 802.11n HT20 MODE							
Frequency (MHz)	Chain 0 PPSD (dBm/300kHz)	Chain 1 PPSD (dBm/300kHz)	Duty Factor (dB)	10log (500kHz/RBW) Factor(dB)	Maximum Corr'd PSD(dBm/500kHz)	Limit	Margin (dB)
5745	5.80	5.71	0.60	2.22	11.59	30.00 dBm/500kHz	-18.41
5785	5.70	5.52	0.60	2.22	11.44	30.00 dBm/500kHz	-18.56
5825	4.97	5.16	0.60	2.22	10.90	30.00 dBm/500kHz	-19.10

POWER DENSITY 802.11n HT40 MODE							
Frequency (MHz)	Chain 0 PPSD (dBm/300kHz)	Chain 1 PPSD (dBm/300kHz)	Duty Factor (dB)	10log (500kHz/RBW) Factor(dB)	Maximum Corr'd PSD(dBm/500kHz)	Limit	Margin (dB)
5755	2.81	2.47	1.08	2.22	8.95	30.00 dBm/500kHz	-21.05
5795	1.62	1.91	1.08	2.22	8.08	30.00 dBm/500kHz	-21.92

POWER DENSITY 802.11ac VHT80 MODE							
Frequency (MHz)	Chain 0 PPSD (dBm/300kHz)	Chain 1 PPSD (dBm/300kHz)	Duty Factor (dB)	10log (500kHz/RBW) Factor(dB)	Maximum Corr'd PSD(dBm/500kHz)	Limit	Margin (dB)
5775	-0.61	-1.26	1.19	2.22	5.50	30.00 dBm/500kHz	-24.50

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Test Data

UNII-1 IEEE 802.11a mode- chain 0

Low CH



Mid CH



High CH

