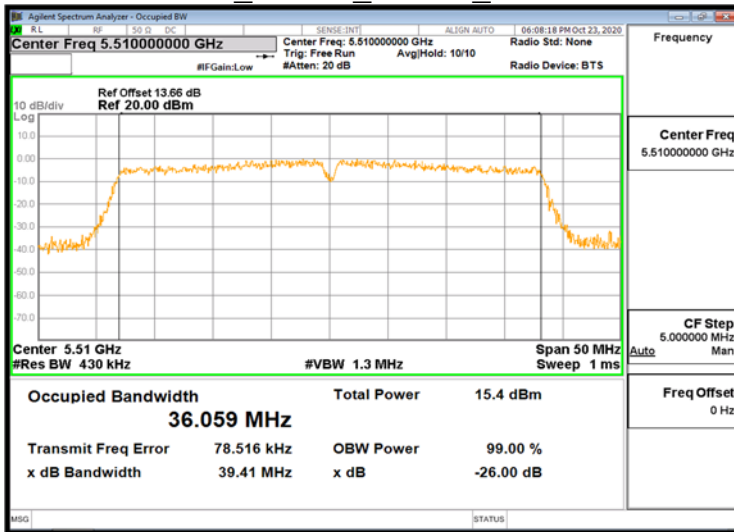
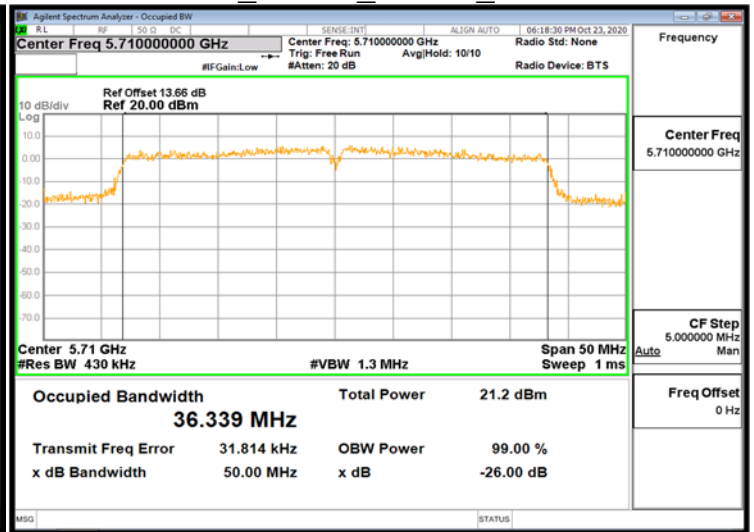


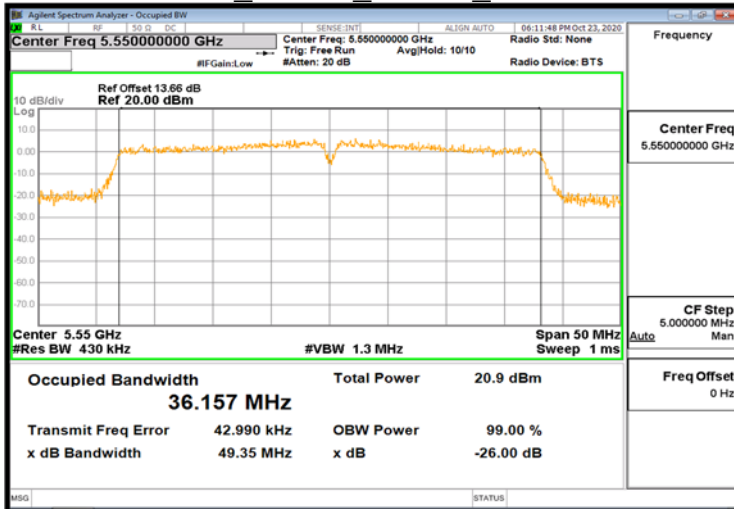
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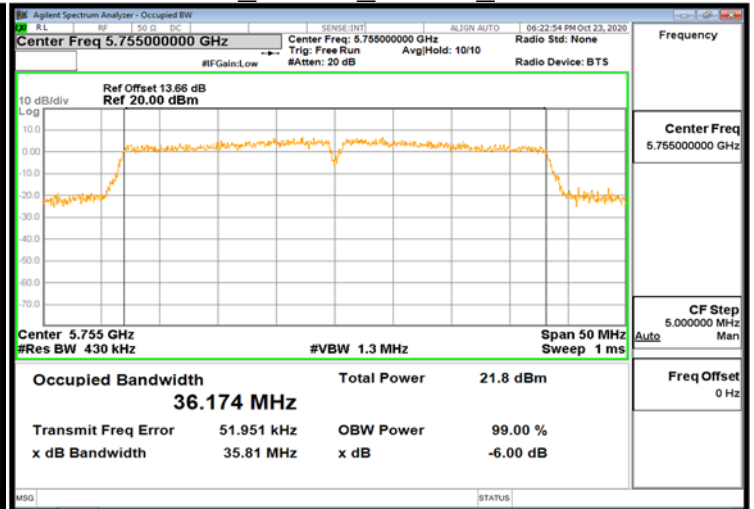
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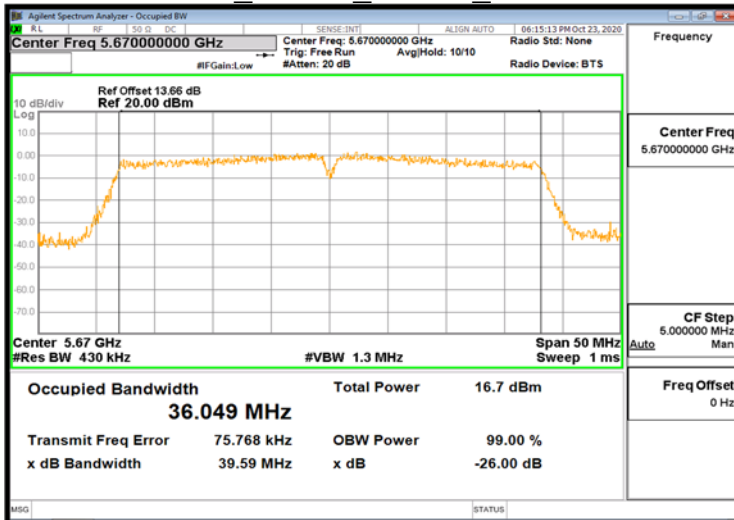
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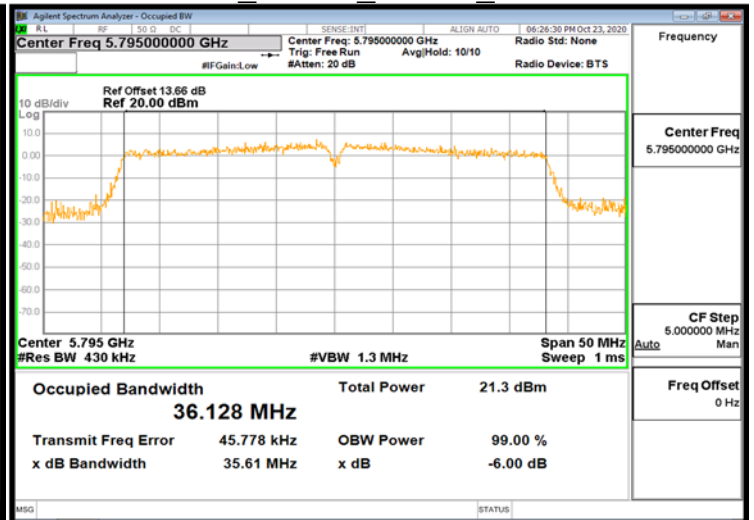
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802.11n\_40MHz\_Chain0\_5670MHz



802.11n\_40MHz\_Chain0\_5795MHz

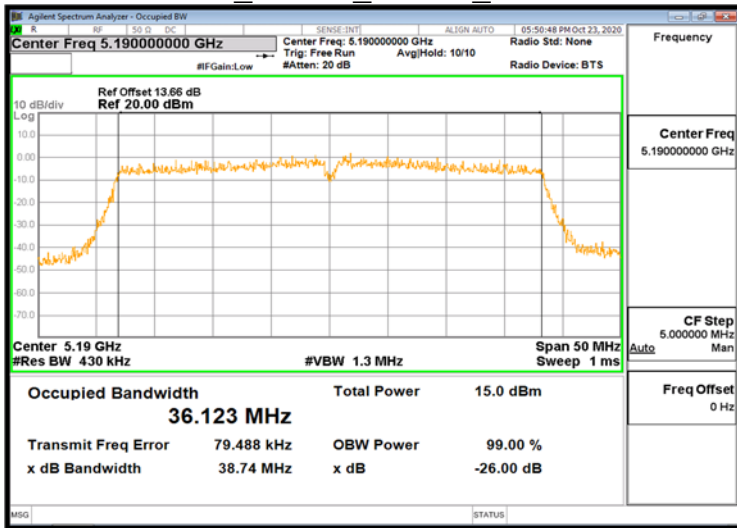


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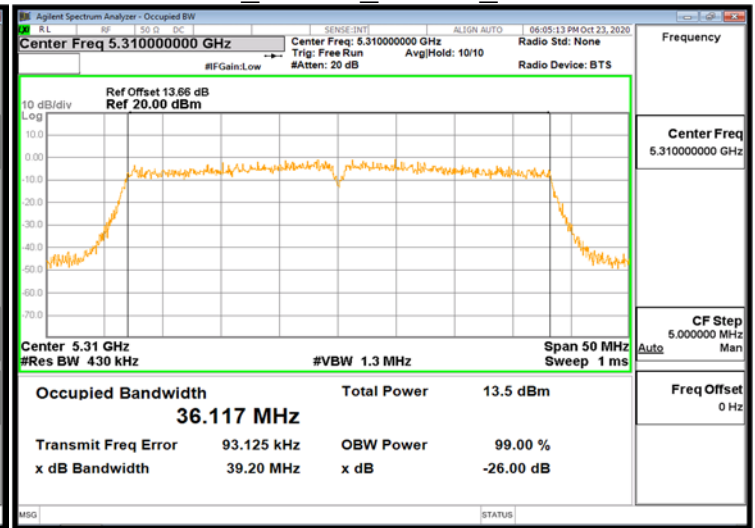
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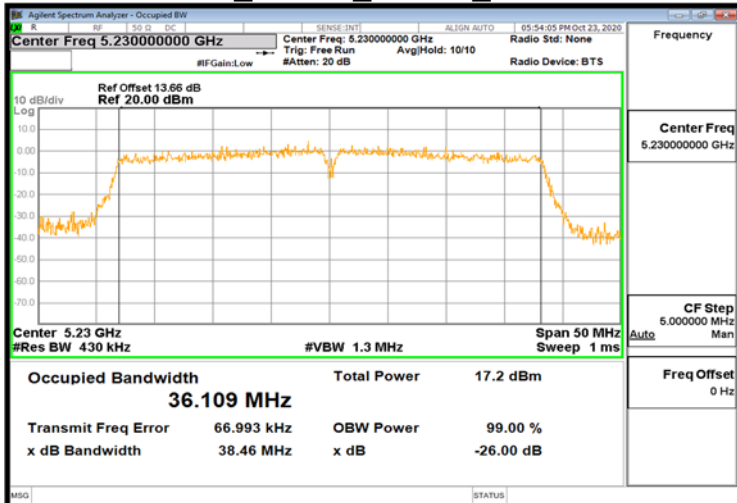
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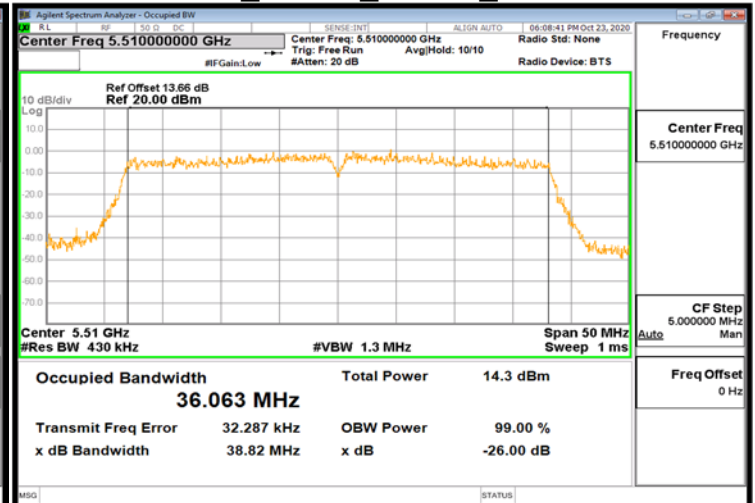
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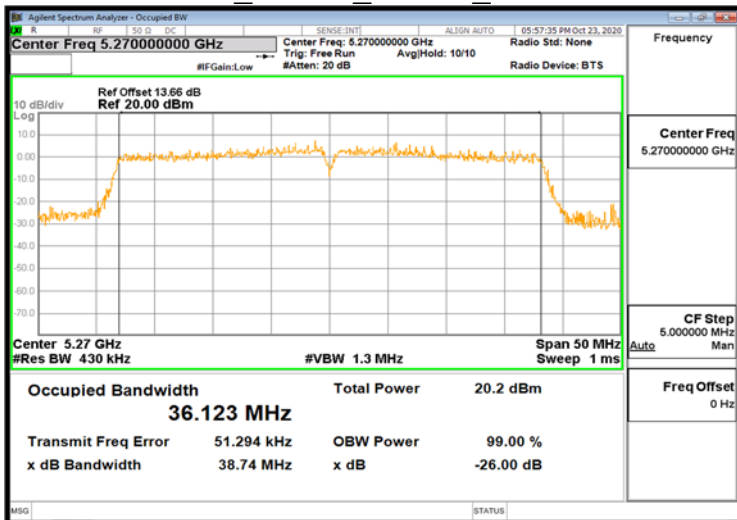
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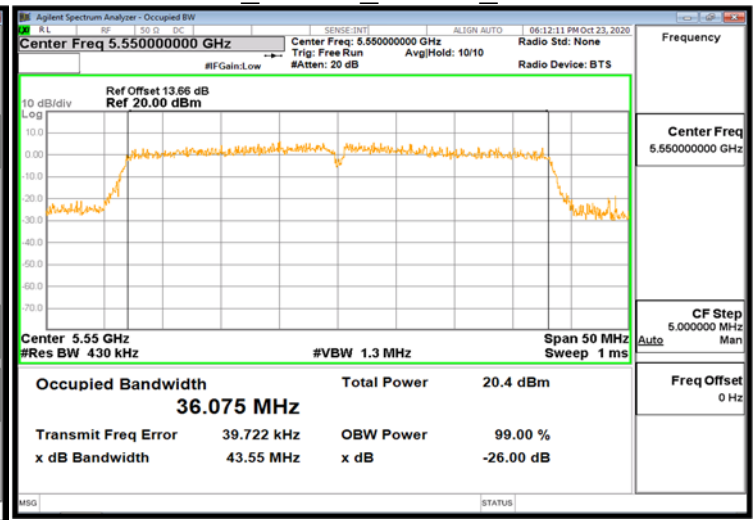
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802.11n\_40MHz\_Chain1\_5270MHz



802.11n\_40MHz\_Chain1\_5550MHz

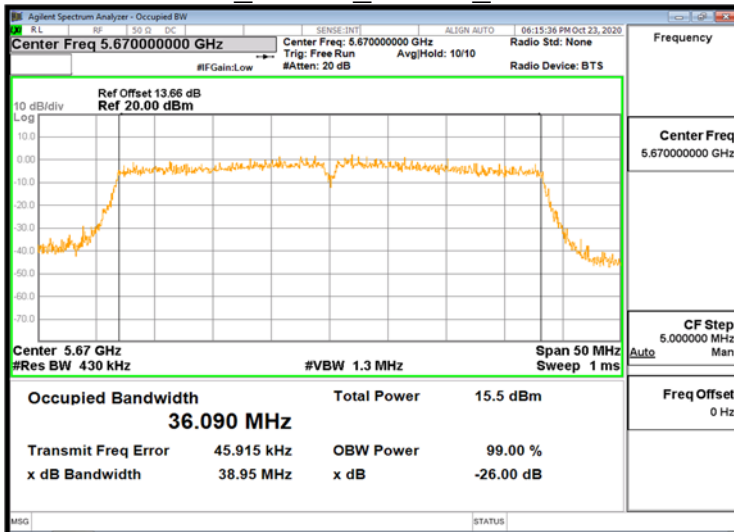


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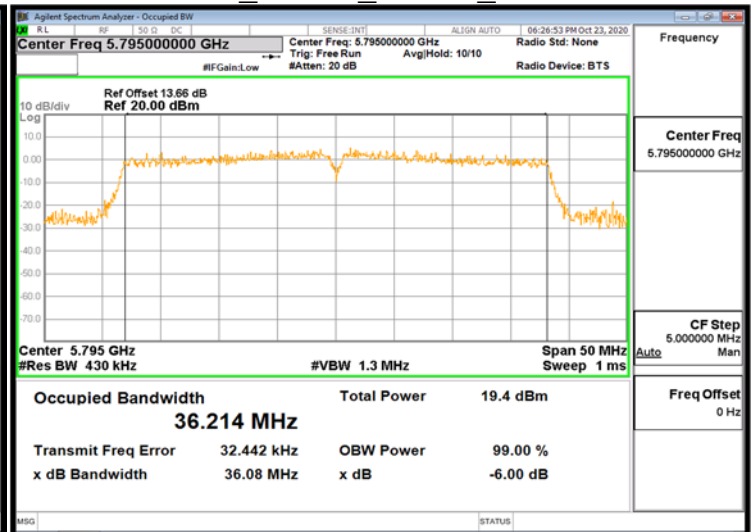
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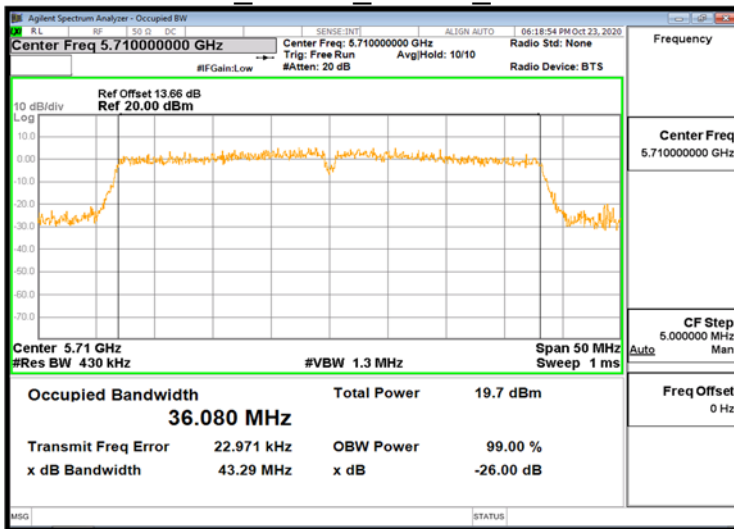
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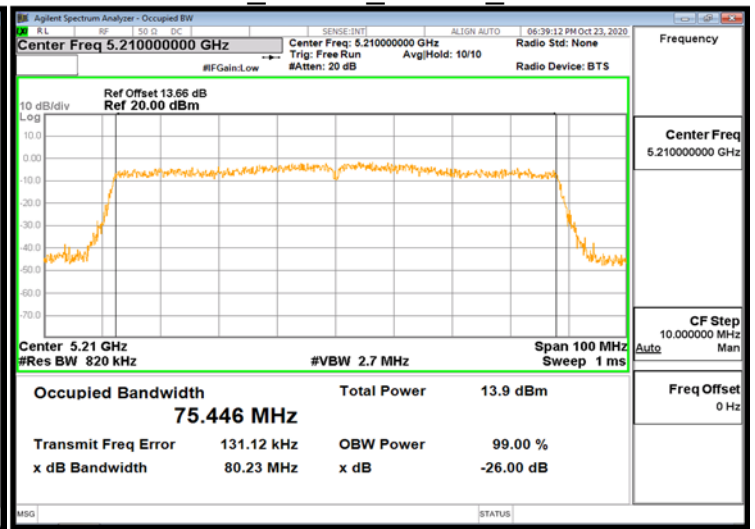
802.11n\_40MHz\_Chain1\_5795MHz



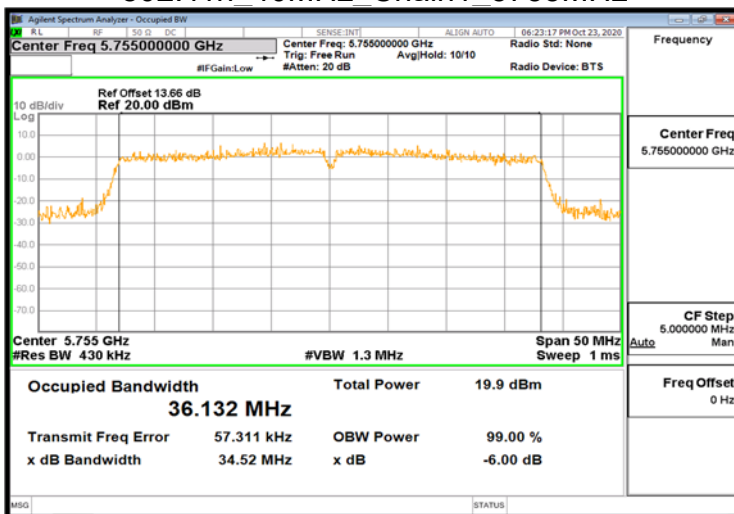
802.11n\_40MHz\_Chain1\_5710MHz



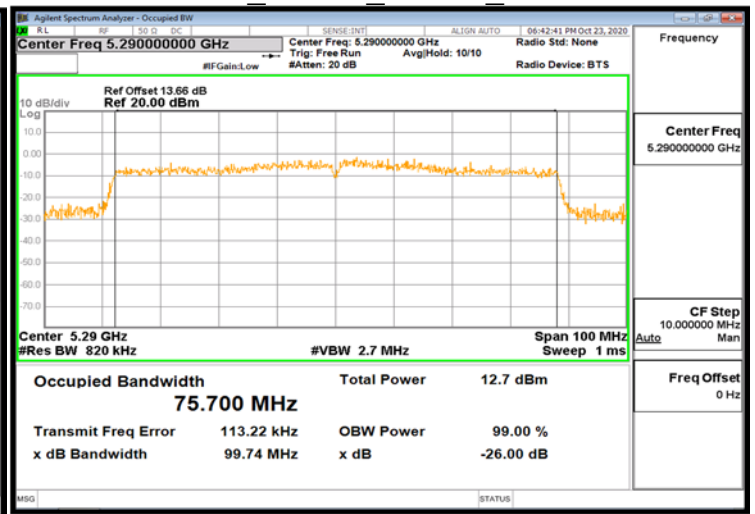
802.11ac\_80MHz\_Chain0\_5210MHz



802.11n\_40MHz\_Chain1\_5755MHz



802.11ac\_80MHz\_Chain0\_5290MHz



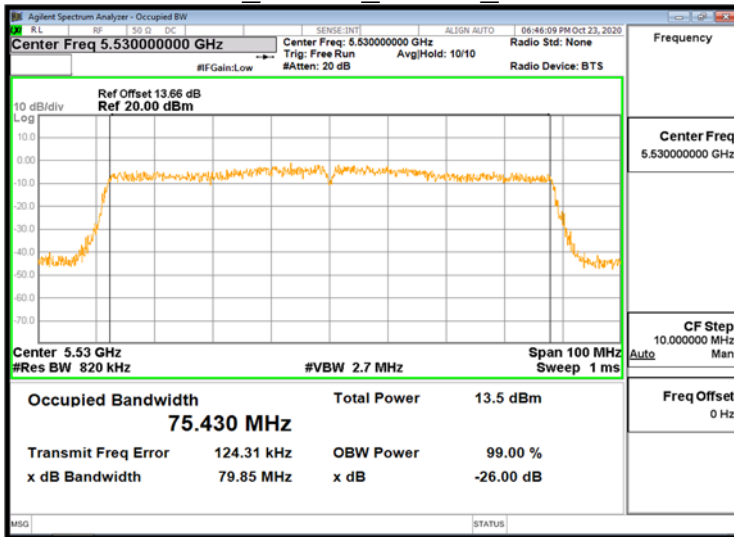
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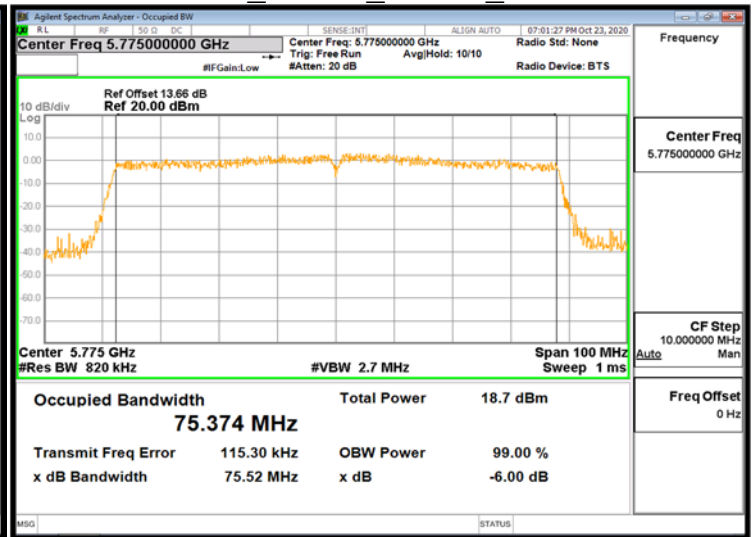
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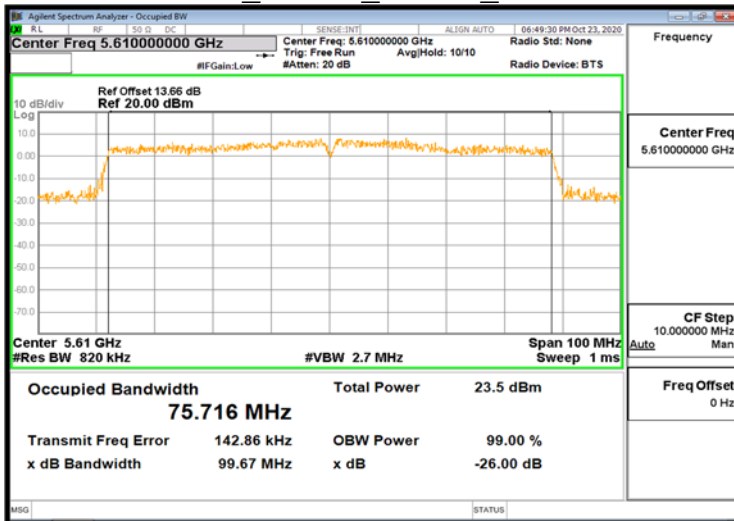
802.11ac\_80MHz\_Chain0\_5530MHz



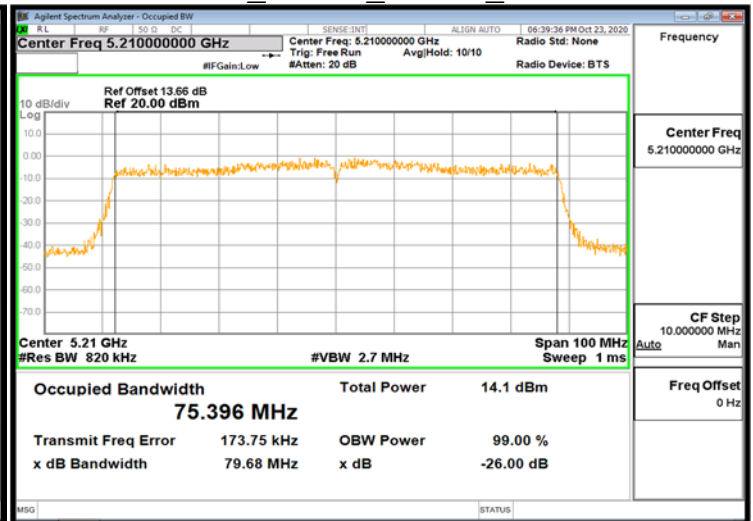
802.11ac\_80MHz\_Chain0\_5775MHz



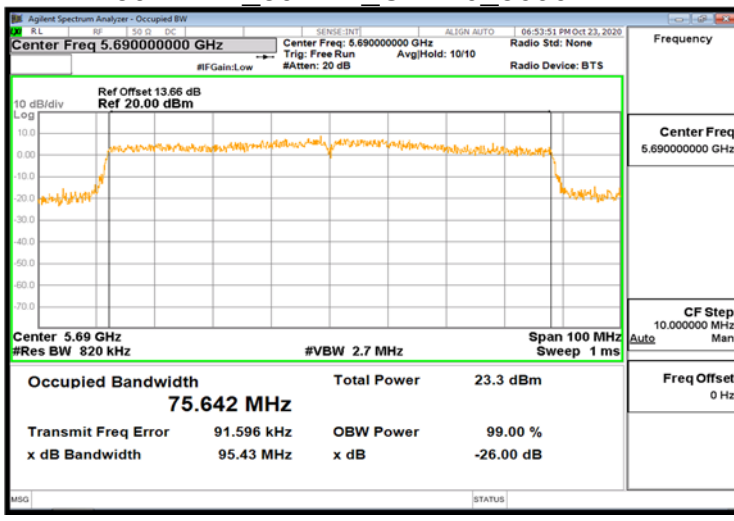
802.11ac\_80MHz\_Chain0\_5610MHz



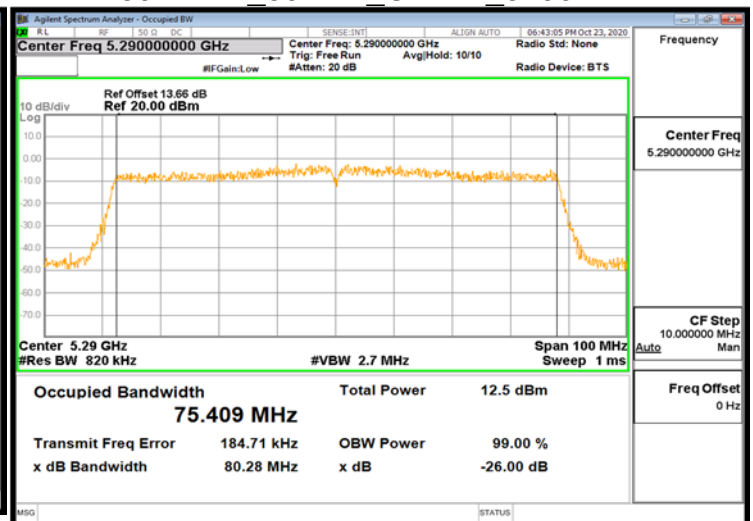
802.11ac\_80MHz\_Chain1\_5210MHz



802.11ac\_80MHz\_Chain0\_5690MHz



802.11ac\_80MHz\_Chain1\_5290MHz

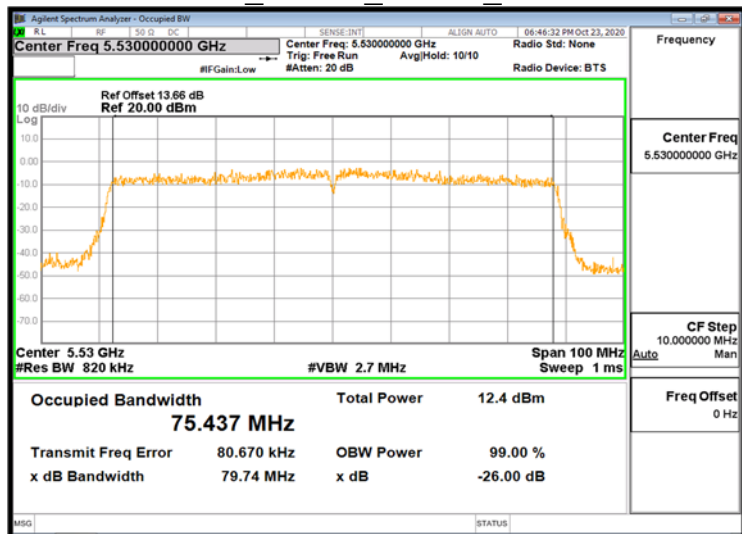


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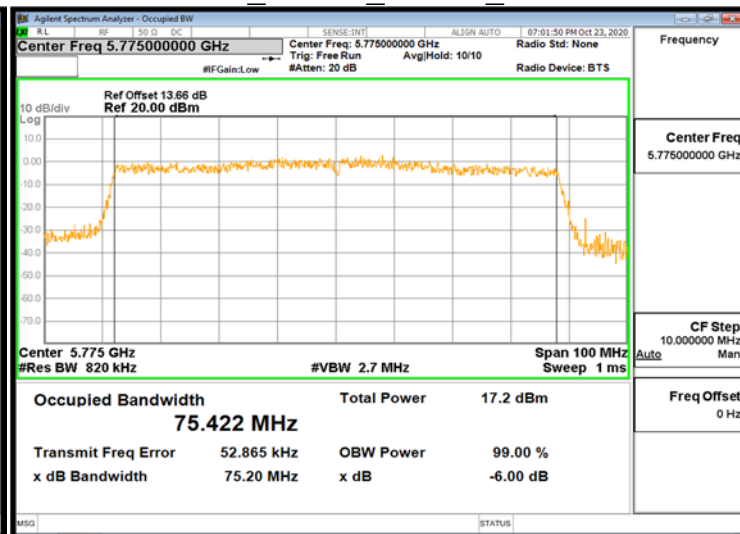
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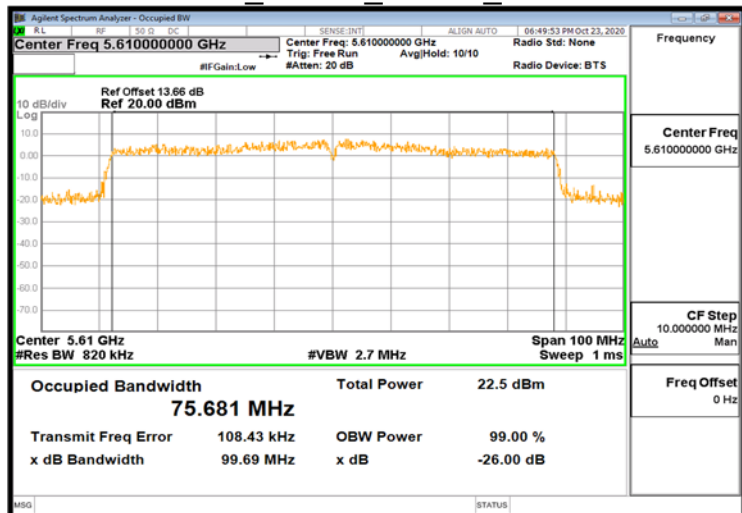
802.11ac\_80MHz\_Chain1\_5530MHz



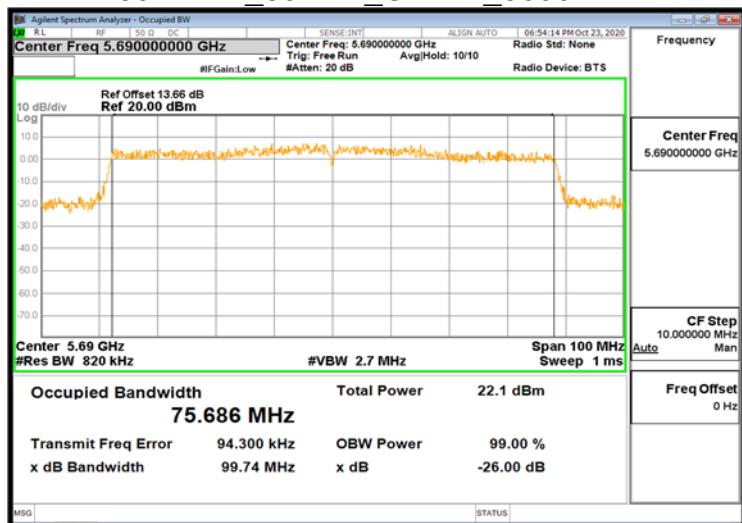
802.11ac\_80MHz\_Chain1\_5775MHz



802.11ac\_80MHz\_Chain1\_5610MHz



802.11ac\_80MHz\_Chain1\_5690MHz



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## 9 MAXIMUM CONDUCTED OUTPUT POWER MEASUREMENT

### 9.1 Standard Applicable

#### FCC

OPERZTION Band	EUT CATEGORY		LIMIT
U-NII-1		Access Point (Master device )	1 Watt(30dBm)
		Fixed point-to-point Access Ponit	1 Watt(30dBm)
	√	Mobile and portable client device	250mW(23.98dBm)
U-NII-2A	√		250mW(23.98dBm) or 11dBm+10 log B
U-NII-2C	√		250mW(23.98dBm) or 11dBm+10 log B
U-NII-3	√		1 Watt(30dBm)
If transmitting antennas of directional gain greater than 6 dBi are used, the Maximum transmit power shall be reduced by the amount in dB that the direction-al gain of the antenna exceeds 6 dBi.			

#### ISED

OPERZTION FREQUENCY BAND	LIMIT
5150~5250 MHz	EIRP shall not exceed 200 mW or 10 + 10 log <sub>10</sub> B, dBm
5250~5350 MHz	Conducted output power shall not exceed 250 mW or 11 +10 log <sub>10</sub> B EIRP shall not exceed 1.0 W or 17 + 10 log <sub>10</sub> B, dBm
5470-5600 MHz and 5650-5725 MHz	Conducted output power shall not exceed 250 mW or 11 +10 log <sub>10</sub> B EIRP shall not exceed 1.0 W or 17 + 10 log <sub>10</sub> B, dBm
5725~5850 MHz	Conducted output power shall not exceed 1 W
For equipment operating in the band <b>5725-5850</b> MHz, If transmitting antennas of directional gain greater than 6 dBi are used, the Maximum transmit power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.	

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**Note:**

As per section F. 2). e). (ii) of FCC KDB 662911 D01

If antenna gains are not equal and each transmit antenna is driven by only one spatial stream, directional gain may be calculated by either of the following formulas.

$$\bullet \quad \text{Directional Gain} = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$

where

Each antenna is driven by no more than one spatial stream;

NSS = the number of independent spatial streams of data;

NANT = the total number of antennas

$g_{j,k}$  = / 20 10Gk if the kth antenna is being fed by spatial stream j, or zero if it is not;

$G_k$  is the gain in dBi of the kth antenna.

The antenna gain is greater than 6 dBi, therefore the power limit attenuation has been applied in the test results.

## 9.2 Measurement Procedure

1. Place the EUT on the table and set it in transmitting mode.
2. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules .
3. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the power meter
4. Power Meter is used as the auxiliary test equipment to conduct the output power measurement.
5. Record the max. reading and add 10 log(1/duty cycle).
6. Repeat above procedures until all frequency (low, middle, and high channel) measured were complete.

## 9.3 Measurement Equipment Used

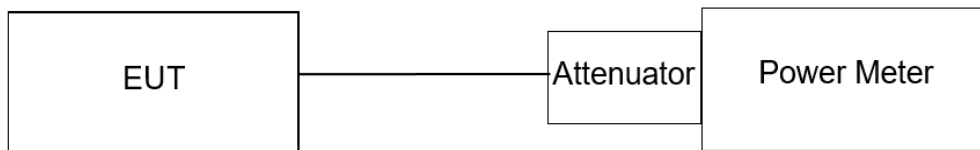
Conducted Emission Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Power Meter	Anritsu	ML2496A	1804001	02/20/2020	02/19/2021
Power Sensor	Anritsu	MA2411B	1726104	02/20/2020	02/19/2021
Power Sensor	Anritsu	MA2411B	1726107	02/20/2020	02/19/2021
DC Power Supply	Agilent	E3640A	MY40000811	12/23/2019	12/22/2020
DC Power Supply	Agilent	E3640A	MY52410006	12/10/2019	12/09/2020
Attenuator	Mini-Circuit	BW-S10W2+	2	01/02/2020	01/01/2021

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## 9.4 Test Set-up



## 9.5 Measurement Result

## 9.5.1 Conducted output power (FCC)

## 802.11a\_Ch1

CH	Frequency (MHz)	Data Rate	TOTAL POWER (dBm)	TOTAL POWER (mW)	REQUIRED LIMIT (dBm)	RESULT
36	5180	6	12.32	17.065	23.98	PASS
44	5220	6	15.89	38.826	23.98	PASS
48	5240	6	<b>15.98</b>	39.639	23.98	PASS
52	5260	6	<b>17.40</b>	54.969	23.98 or $11+10\log(B) = 24.59$	PASS
60	5300	6	17.38	54.717	23.98 or $11+10\log(B) = 24.53$	PASS
64	5320	6	12.57	18.077	23.98 or $11+10\log(B) = 24.18$	PASS
100	5500	6	12.23	16.715	23.98 or $11+10\log(B) = 24.25$	PASS
116	5580	6	<b>17.38</b>	54.717	23.98 or $11+10\log(B) = 25.08$	PASS
140	5700	6	12.14	16.373	23.98 or $11+10\log(B) = 24.25$	PASS
144	5720(U-NII 2C)	6	15.95	39.34	23.98 or $11+10\log(B) = 24.69$	PASS
144	5720 (U-NII 3)	6	11.98	15.76	30	PASS
149	5745	6	17.49	56.120	30	PASS
157	5785	6	17.33	54.090	30	PASS
165	5825	6	<b>17.50</b>	56.249	30	PASS

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## 802.11n\_HT20\_Ch1

CH	Frequency (MHz)	Data Rate	TOTAL POWER (dBm)	TOTAL POWER (mW)	REQUIRED LIMIT (dBm)	RESULT
140	5700	MCS0	11.42	13.855	23.98 or $11+10\log(B) = 24.32$	PASS

## 802.11n\_HT20\_MIMO

CH	Frequency (MHz)	Data Rate	Avg. POWER (dBm)		TOTAL POWER (dBm)	TOTAL POWER (mW)	REQUIRED LIMIT (dBm)	RESULT
			CH 0	CH 1				
36	5180	MCS0	9.61	9.62	12.94	19.685	23.98	PASS
44	5220	MCS0	12.29	12.48	15.71	37.260	23.98	PASS
48	5240	MCS0	12.24	12.87	15.89	38.840	23.98	PASS
52	5260	MCS0	15.62	16.26	19.28	84.687	23.98 or $11+10\log(B) = 24.74$	PASS
60	5300	MCS0	15.46	16.23	19.19	82.955	23.98 or $11+10\log(B) = 25.23$	PASS
64	5320	MCS0	9.16	8.29	12.07	16.118	23.98 or $11+10\log(B) = 24.25$	PASS
100	5500	MCS0	9.89	8.3	12.49	17.757	23.98 or $11+10\log(B) = 24.23$	PASS
116	5580	MCS0	16.48	16.82	19.98	99.534	23.98 or $11+10\log(B) = 24.68$	PASS
144	5720(U-NII 2C)	MCS0	14.50	15.01	18.09	64.425	23.98 or $11+10\log(B) = 24.82$	PASS
144	5720 (U-NII 3)	MCS0	11.49	11.17	14.66	29.269	30	PASS
149	5745	MCS0	16.75	17.46	20.45	110.813	30	PASS
157	5785	MCS0	17.02	17.28	20.48	111.644	30	PASS
165	5825	MCS0	16.92	17.13	20.35	108.459	30	PASS

## 802.11n\_HT40\_MIMO

CH	Frequency (MHz)	Data Rate	Avg. POWER (dBm)		TOTAL POWER (dBm)	TOTAL POWER (mW)	REQUIRED LIMIT (dBm)	RESULT
			CH 0	CH 1				
38	5190	MCS0	9.12	8.89	12.64	18.355	23.98	PASS
46	5230	MCS0	11.51	11.62	15.20	33.086	23.98	PASS
54	5270	MCS0	15.63	15.86	19.38	86.649	23.98 or $11+10\log(B) = 27.33$	PASS
62	5310	MCS0	8.72	8.21	12.10	16.232	23.98 or $11+10\log(B) = 26.88$	PASS
102	5510	MCS0	10.07	9.36	13.36	21.680	23.98 or $11+10\log(B) = 26.93$	PASS
110	5550	MCS0	15.45	15.73	19.22	83.625	23.98 or $11+10\log(B) = 26.92$	PASS
134	5670	MCS0	11.11	10.59	14.49	28.112	23.98 or $11+10\log(B) = 26.94$	PASS
142	5710(U-NII 2C)	MCS0	14.80	15.12	18.59	72.344	23.98 or $11+10\log(B) = 27.43$	PASS
142	5720 (U-NII 3)	MCS0	8.78	7.87	11.98	15.773	30	PASS
151	5755	MCS0	15.71	15.82	19.40	87.025	30	PASS
159	5795	MCS0	15.73	15.84	19.42	87.427	30	PASS

## 802.11ac\_VHT80\_MIMO

CH	Frequency (MHz)	Data Rate	Avg. POWER (dBm)		TOTAL POWER (dBm)	TOTAL POWER (mW)	REQUIRED LIMIT (dBm)	RESULT
			CH 0	CH 1				
42	5210	MCS0	7.24	6.88	11.23	13.262	23.98	PASS
58	5290	MCS0	5.12	5.34	9.39	8.697	23.98 or $11+10\log(B) = 30.04$	PASS
106	5530	MCS0	7.08	6.02	10.74	11.870	23.98 or $11+10\log(B) = 30.05$	PASS
122	5610	MCS0	14.42	15.99	19.44	87.860	23.98 or $11+10\log(B) = 30.99$	PASS
138	5690(U-NII 2C)	MCS0	13.85	15.04	18.65	73.261	23.98 or $11+10\log(B) = 30.98$	PASS
138	5690 (U-NII 3)	MCS0	6.32	7.46	11.09	12.844	30	PASS
155	5775	MCS0	12.14	11.36	15.93	39.173	30	PASS

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## 9.5.2 ISED EIRP

### 802.11a\_Ch1

CH	Frequency (MHz)	TOTAL POWER (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	REQUIRED LIMIT (dBm)		RESULT
36	5180	12.32	4.750	17.07	50.947	23.01	or $10+10\log(B)=$ 22.20	PASS
44	5220	15.89	4.750	20.64	115.909	23.01	or $10+10\log(B)=$ 22.21	PASS
48	5240	<b>15.98</b>	4.750	<b>20.73</b>	<b>118.336</b>	23.01	or $10+10\log(B)=$ 22.21	PASS
52	5260	<b>17.40</b>	4.750	<b>22.15</b>	<b>164.104</b>	30	or $17+10\log(B)=$ 29.23	PASS
60	5300	17.38	4.750	22.13	163.350	30	or $17+10\log(B)=$ 29.23	PASS
64	5320	12.57	4.750	17.32	53.966	30	or $17+10\log(B)=$ 29.20	PASS
100	5500	12.23	4.750	16.98	49.902	30	or $17+10\log(B)=$ 29.19	PASS
116	5580	<b>17.38</b>	4.750	<b>22.13</b>	<b>163.350</b>	30	or $17+10\log(B)=$ 29.23	PASS
140	5700	<b>12.14</b>	4.750	<b>16.89</b>	<b>48.879</b>	30	or $17+10\log(B)=$ 29.20	PASS

### 802.11n\_HT20\_Ch1

CH	Frequency (MHz)	TOTAL POWER (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	REQUIRED LIMIT (dBm)		RESULT
140	5700	<b>11.42</b>	4.750	<b>16.17</b>	<b>41.363</b>	30	or $17+10\log(B)=$ 22.49	PASS

### 802.11n\_HT20\_MIMO

CH	Frequency (MHz)	TOTAL POWER (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	REQUIRED LIMIT (dBm)		RESULT
36	5180	12.94	4.750	17.69	58.768	23.01	or $10+10\log(B)=$ 22.48	PASS
44	5220	15.71	4.750	20.46	111.236	23.01	or $10+10\log(B)=$ 22.48	PASS
48	5240	<b>15.89</b>	4.750	<b>20.64</b>	<b>115.953</b>	23.01	or $10+10\log(B)=$ 22.49	PASS
52	5260	<b>19.28</b>	4.750	<b>24.03</b>	<b>252.824</b>	30	or $17+10\log(B)=$ 29.51	PASS
60	5300	19.19	4.750	23.94	247.654	30	or $17+10\log(B)=$ 29.52	PASS
64	5320	12.07	4.750	16.82	48.119	30	or $17+10\log(B)=$ 29.48	PASS
100	5500	12.49	4.750	17.24	53.012	30	or $17+10\log(B)=$ 29.48	PASS
116	5580	<b>19.98</b>	4.750	<b>24.73</b>	<b>297.148</b>	30	or $17+10\log(B)=$ 29.5	PASS

### 802.11n\_HT40\_MIMO

CH	Frequency (MHz)	TOTAL POWER (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	REQUIRED LIMIT (dBm)		RESULT
38	5190	12.64	4.750	17.39	54.798	23.01	or $10+10\log(B)=$ 25.57	PASS
46	5230	<b>15.20</b>	4.750	<b>19.95</b>	<b>98.775</b>	23.01	or $10+10\log(B)=$ 25.57	PASS
54	5270	<b>19.38</b>	4.750	<b>24.13</b>	<b>258.680</b>	30	or $17+10\log(B)=$ 32.58	PASS
62	5310	12.10	4.750	16.85	48.457	30	or $17+10\log(B)=$ 32.57	PASS
102	5510	13.36	4.750	18.11	64.723	30	or $17+10\log(B)=$ 32.57	PASS
110	5550	<b>19.22</b>	4.750	<b>23.97</b>	<b>249.653</b>	30	or $17+10\log(B)=$ 32.57	PASS
134	5670	<b>14.49</b>	4.750	<b>19.24</b>	<b>83.925</b>	30	or $17+10\log(B)=$ 32.57	PASS

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## 802.11ac\_VHT80\_MIMO

CH	Frequency (MHz)	TOTAL POWER (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	REQUIRED LIMIT (dBm)			RESULT
42	5210	11.23	4.750	15.98	39.592	23.01	or $10+10\log(B)=$	28.77	PASS
58	5290	9.39	4.750	14.14	25.964	30	or $17+10\log(B)=$	35.77	PASS
106	5530	10.74	4.750	15.49	35.437	30	or $17+10\log(B)=$	35.78	PASS

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## 9.5.3 Conducted output power (ISED)

## 802.11a\_Ch1

CH	Frequency (MHz)	TOTAL POWER (dBm)	TOTAL POWER (mW)	REQUIRED LIMIT (dBm)	RESULT
52	5260	<b>17.40</b>	54.969	23.98 or $11+10\log(B) = 23.23$	PASS
60	5300	17.38	54.717	23.98 or $11+10\log(B) = 23.23$	PASS
64	5320	12.57	18.077	23.98 or $11+10\log(B) = 23.2$	PASS
100	5500	12.23	16.715	23.98 or $11+10\log(B) = 23.19$	PASS
116	5580	<b>17.38</b>	<b>54.717</b>	23.98 or $11+10\log(B) = 23.23$	PASS
140	5700	12.14	16.373	23.98 or $11+10\log(B) = 23.2$	PASS
144	5720(U-NII 2C)	<b>15.95</b>	<b>39.336</b>	23.98 or $11+10\log(B) = 23.24$	PASS
144	5720 (U-NII 3)	11.98	15.760	30	PASS
149	5745	17.49	56.120	30	PASS
157	5785	17.33	54.090	30	PASS
165	5825	<b>17.50</b>	<b>56.249</b>	30	PASS

## 802.11n\_HT20\_Ch1

CH	Frequency (MHz)	TOTAL POWER (dBm)	TOTAL POWER (mW)	REQUIRED LIMIT (dBm)	RESULT
140	5700	<b>11.42</b>	<b>13.855</b>	23.98 or $11+10\log(B) = 23.49$	PASS

## 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	15.62	16.26	19.28	84.687	23.98 or $11+10\log(B) = 23.51$	PASS
60	5300	15.46	16.23	19.19	82.955	23.98 or $11+10\log(B) = 23.52$	PASS
64	5320	9.16	8.29	12.07	16.118	23.98 or $11+10\log(B) = 23.48$	PASS
100	5500	9.89	8.3	12.49	17.757	23.98 or $11+10\log(B) = 23.48$	PASS
116	5580	16.48	16.82	<b>19.98</b>	<b>99.534</b>	23.98 or $11+10\log(B) = 23.5$	PASS
144	5720(U-NII 2C)	14.4991	15.0065	<b>18.09</b>	<b>64.425</b>	23.98 or $11+10\log(B) = 23.5$	PASS
144	5720 (U-NII 3)	11.4888	11.173	14.66	29.269	30	PASS
149	5745	16.75	17.46	20.45	110.813	30	PASS
157	5785	17.02	17.28	<b>20.48</b>	<b>111.644</b>	30	PASS
165	5825	16.92	17.13	20.35	108.459	30	PASS

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## 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	15.63	15.86	19.38	86.649	23.98 or 11+10log(B) = 26.58	PASS
62	5310	8.72	8.21	12.10	16.232	23.98 or 11+10log(B) = 26.57	PASS
102	5510	10.07	9.36	13.36	21.680	23.98 or 11+10log(B) = 26.57	PASS
110	5550	15.45	15.73	<b>19.22</b>	<b>83.625</b>	23.98 or 11+10log(B) = 26.57	PASS
134	5670	11.11	10.59	14.49	28.112	23.98 or 11+10log(B) = 26.57	PASS
142	5710(U-NII 2C)	14.8009	15.1207	<b>18.59</b>	<b>72.344</b>	23.98 or 11+10log(B) = 26.57	PASS
142	5710 (U-NII 3)	8.7803	7.86947	11.98	15.773	30	PASS
151	5755	15.71	15.82	19.40	87.025	30	PASS
159	5795	15.73	15.84	<b>19.42</b>	<b>87.427</b>	30	PASS

## 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	5.12	5.34	<b>9.39</b>	8.697	23.98 or 11+10log(B) = 29.77	PASS
106	5530	7.08	6.02	10.74	11.870	23.98 or 11+10log(B) = 29.78	PASS
122	5610	14.42	15.99	<b>19.44</b>	<b>87.860</b>	23.98 or 11+10log(B) = 29.79	PASS
138	5690(U-NII 2C)	13.8542	15.0417	18.65	73.261	23.98 or 11+10log(B) = 29.79	PASS
138	5690 (U-NII 3)	6.32091	7.45796	11.09	12.844	30	PASS
155	5775	12.14	11.36	<b>15.93</b>	<b>39.173</b>	30	PASS

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## 10 MAXIMUM POWER SPECTRAL DENSITY

### 10.1 Standard Applicable

#### FCC

OPERZTION Band	EUT CATEGORY		LIMIT
U-NII-1		Access Point (Master device )	17dBm/ MHz
		Fixed point-to-point Access Ponit	
	√	Mobile and portable client device	11dBm/ MHz
U-NII-2A	√		11dBm/ MHz
U-NII-2C	√		11dBm/ MHz
U-NII-3	√		30dBm/ 500kHz

If transmitting antennas of directional gain greater than 6 dBi are used, the Maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

#### ISED

OPERZTION FREQUENCY BAND	LIMIT
5150~5250 MHz	EIRP spectral density 10 dBm / MHz
5250~5350 MHz	11dBm / MHz
5470-5600 MHz and 5650-5725 MHz	11dBm / MHz
5725~5850 MHz	30dBm / 500 kHz

For equipment operating in the band **5725-5850** MHz, If transmitting antennas of directional gain greater than 6 dBi are used, 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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**Note:**

As per section F. 2). e). (ii) of FCC KDB 662911 D01

If antenna gains are not equal and each transmit antenna is driven by only one spatial stream, directional gain may be calculated by either of the following formulas.

$$\bullet \quad DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$

where

Each antenna is driven by no more than one spatial stream;

NSS = the number of independent spatial streams of data;

NANT = the total number of antennas

$g_{j,k}$  = / 20 10Gk if the kth antenna is being fed by spatial stream j, or zero if it is not;

$G_k$  is the gain in dBi of the kth antenna.

The antenna gain is greater than 6 dBi in MIMO mode, therefore the the power density limit attenuation has been applied in the test results.

## 10.2 Measurement Procedure

1. Place the EUT on the table and set it in transmitting mode.
2. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules .
3. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to Spectrum.
4. **For U-NII1, U-NII-2A, U-NII-2C Band:**  
Set RBW=1MHz, VBW=3MHz, where span is enough to capture the entire bandwidth, Sweep time = Auto (601 pts), detector = sample, traces 100 sweeps of video averaging. (SA-2 with the omission of procedure x, the integration with 26dB EBW bandwidth)  
**For U-NII-3 Band:**  
Set RBW=500 kHz, VBW≥ 3RBW, where span is enough to capture the entire bandwidth, Sweep time = Auto (601 pts), detector = sample, traces 100 sweeps of video averaging. (SA-2 with the omission of procedure x, the integration with 26dB EBW bandwidth)
5. Use the cursor on spectrum to peak search the highest level of trace
6. Record the max. reading and add 10 log(1/duty cycle).
7. Repeat above procedures until all default test channel (low, middle, and high) was complete.
8. MIMO mode: offset is set following “measure and add 10 Log (N)” on spectrum to measure the PSD for MIMO mode. Offset = cable loss + 10 log (N), where N is number of transmitting antenna.

**Note: For the test of PSD at MIMO mode, the highest emission of worst case employing Measure and add 10 log (N) technical is reported on this report after the comparison between Main Antenna at single transmitting mode and Aux that yields the higher value. The MIMO transmitting mode produces higher value of outcome**

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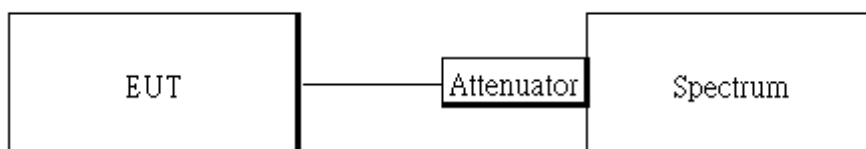
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### 10.3 Measurement Equipment Used

Conducted Emission Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
EXA Spectrum Analyzer	Agilent	N9010A	MY50420195	05/06/2020	05/05/2021
DC Power Supply	Agilent	E3640A	MY40000811	12/23/2019	12/22/2020
DC Power Supply	Agilent	E3640A	MY52410006	12/10/2019	12/09/2020
Attenuator	Mini-Circuit	BW-S10W2+	2	01/02/2020	01/01/2021
DC Block	Mini-Circuits	BLK-18-S+	1	01/02/2020	01/01/2021

### 10.4 Test Set-up



### 10.5 Measurement Result

#### 10.5.1 Power spectral density

POWER DENSITY 802.11a MODE				
Frequency (MHz)	ch1 meas PSD	Maximum Corr'd PSD	Limit	Margin (dB)
5180.00	-0.26	0.30	11.00 dBm/MHz	-10.70
5220.00	2.29	2.59	11.00 dBm/MHz	-8.41
5240.00	1.74	2.04	11.00 dBm/MHz	-8.96
5260.00	3.65	3.95	11.00 dBm/MHz	-7.05
5300.00	4.57	4.87	11.00 dBm/MHz	-6.13
5320.00	-1.33	0.30	11.00 dBm/MHz	-10.70
5500.00	-1.90	0.30	11.00 dBm/MHz	-10.70
5580.00	4.10	4.40	11.00 dBm/MHz	-6.60
5700.00	-3.12	0.30	11.00 dBm/MHz	-10.70
5720 (U-NII 2C)	3.35	3.65	11.00 dBm/MHz	-7.35
5720 (U-NII 3)	1.12	1.42	30.00 dBm/500kHz	-28.58
5745.00	2.25	2.55	30.00 dBm/500kHz	-27.45
5785.00	1.19	1.49	30.00 dBm/500kHz	-28.51
5825.00	1.85	2.15	30.00 dBm/500kHz	-27.85

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POWER DENSITY 802.11n HT20 MODE					
Frequency (MHz)	ch0 meas PSD	ch1 meas PSD	Total Corr'd PSD	Limit	Margin (dB)
5180.00	-3.43	-2.84	0.21	11.00 dBm/MHz	-10.79
5220.00	1.01	0.38	4.04	11.00 dBm/MHz	-6.96
5240.00	-0.29	0.34	3.37	11.00 dBm/MHz	-7.63
5260.00	2.62	2.01	5.66	11.00 dBm/MHz	-5.34
5300.00	3.21	1.48	5.76	11.00 dBm/MHz	-5.24
5320.00	-6.11	-6.26	-2.85	11.00 dBm/MHz	-13.85
5500.00	-4.50	-5.03	-1.43	11.00 dBm/MHz	-12.43
5580.00	1.52	3.02	5.66	11.00 dBm/MHz	-5.34
5700.00	-	-2.51	2.25	11.00 dBm/MHz	-8.75
5720 (U-NII 2C)	3.64	4.44	7.39	11.00 dBm/MHz	-3.61
5720 (U-NII 3)	-2.22	-1.21	1.64	30.00 dBm/500kHz	-28.36
5745.00	-2.45	1.09	3.00	30.00 dBm/500kHz	-27.00
5785.00	-0.79	-0.89	2.49	30.00 dBm/500kHz	-27.51
5825.00	-0.46	-2.35	2.03	30.00 dBm/500kHz	-27.97
POWER DENSITY 802.11n HT40 MODE					
Frequency (MHz)	ch0 meas PSD	ch1 meas PSD	Total Corr'd PSD	Limit	Margin (dB)
5190.00	-10.47	-9.78	-6.48	11.00 dBm/MHz	-17.48
5230.00	-8.54	-6.44	-3.73	11.00 dBm/MHz	-14.73
5270.00	-4.97	-5.43	-1.56	11.00 dBm/MHz	-12.56
5310.00	-8.33	-9.09	-5.06	11.00 dBm/MHz	-16.06
5510.00	-8.01	-9.57	-5.09	11.00 dBm/MHz	-16.09
5550.00	-4.35	-3.50	-0.27	11.00 dBm/MHz	-11.27
5670.00	-7.32	-10.18	-4.89	11.00 dBm/MHz	-15.89
5710 (U-NII 2C)	-5.31	-4.39	-1.20	11.00 dBm/MHz	-12.20
5710 (U-NII 3)	-16.44	-12.23	-10.21	30.00 dBm/500kHz	-40.21
5755.00	-7.51	-8.99	-4.56	30.00 dBm/500kHz	-34.56
5795.00	-6.77	-7.37	-3.43	30.00 dBm/500kHz	-33.43

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POWER DENSITY 802.11ac VHT80 MODE					
Frequency (MHz)	ch0 meas PSD	ch1 meas PSD	Total Corr'd PSD	Limit	Margin (dB)
5210.00	-19.05	-17.00	-13.74	11.00 dBm/MHz	-24.74
5290.00	-19.30	-19.19	-15.08	11.00 dBm/MHz	-26.08
5530.00	-19.52	-19.31	-15.25	11.00 dBm/MHz	-26.25
5610.00	-10.81	-11.31	-6.89	11.00 dBm/MHz	-17.89
5690 (U-NII 2C)	-8.79	-10.04	-5.21	11.00 dBm/MHz	-16.21
5690 (U-NII 3)	-16.81	-19.71	-13.86	30.00 dBm/500kHz	-43.86
5775.00	-13.64	-15.28	-10.22	30.00 dBm/500kHz	-40.22

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## 10.5.2 EIRP spectral density

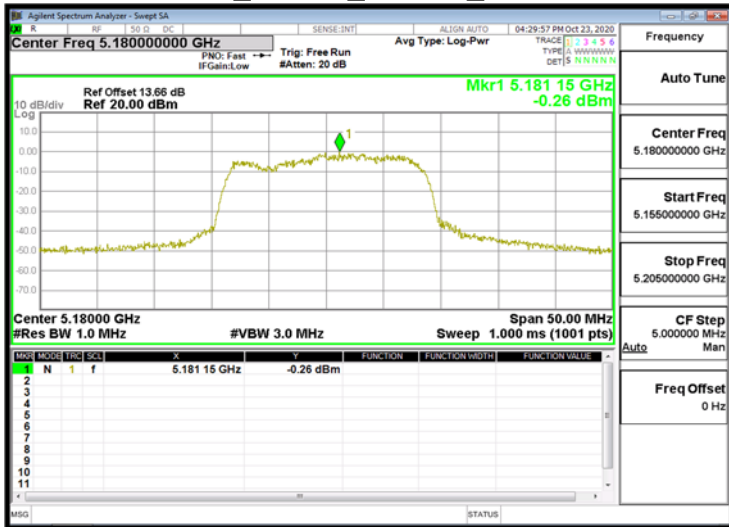
EIRP spectral density 802.11a MODE					
Freq. (MHz)	PSD (dBm)	Ant. Gain (dBi)	EIRP PSD (dBm)	Limit (dBm)	Margin (dB)
5180	0.30	4.75	5.05	10	-4.95
5220	2.59	4.75	7.34	10	-2.66
5240	2.04	4.75	6.79	10	-3.21
EIRP spectral density 802.11n HT20 MODE					
Freq. (MHz)	PSD (dBm)	Ant. Gain (dBi)	EIRP SD (dBm)	Limit (dBm)	Margin (dB)
5180	0.21	4.75	4.96	10	-5.04
5220	4.04	4.75	8.79	10	-1.21
5240	3.37	4.75	8.12	10	-1.88
EIRP spectral density 802.11n HT40 MODE					
Freq. (MHz)	PSD (dBm)	Ant. Gain (dBi)	EIRP SD (dBm)	Limit (dBm)	Margin (dB)
5190	-6.48	4.75	-1.73	10	-11.73
5230	-3.73	4.75	1.02	10	-8.98
EIRP spectral density 802.11ac VHT80 MODE					
Freq. (MHz)	PSD (dBm)	Ant. Gain (dBi)	EIRP SD (dBm)	Limit (dBm)	Margin (dB)
5210	-13.74	4.75	-8.99	10	-18.99

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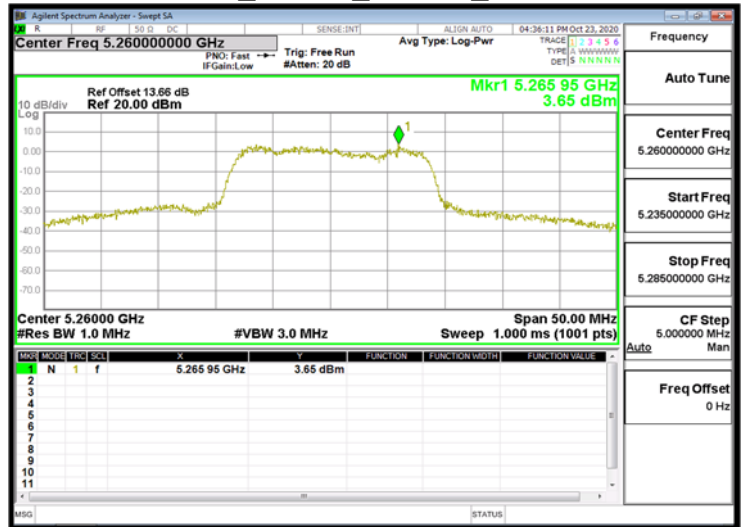
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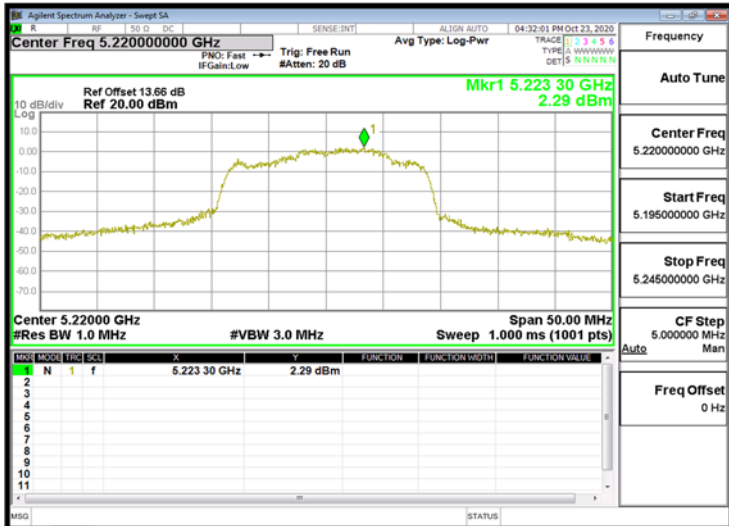
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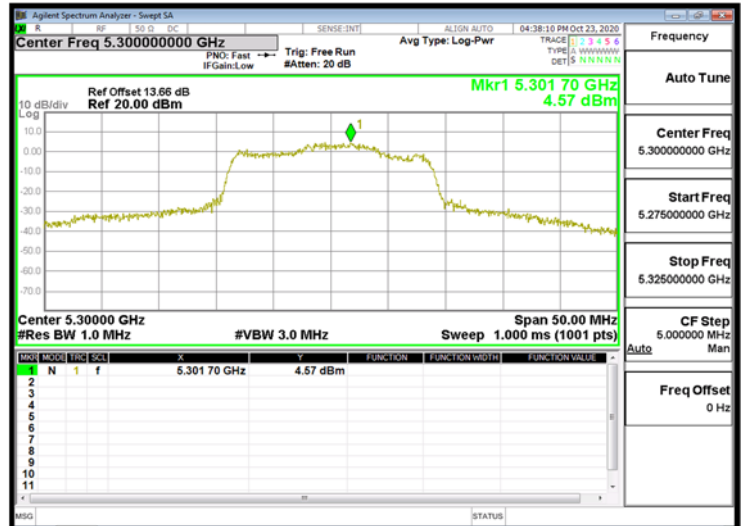
802.11a\_20MHz\_Chain1\_5260MHz



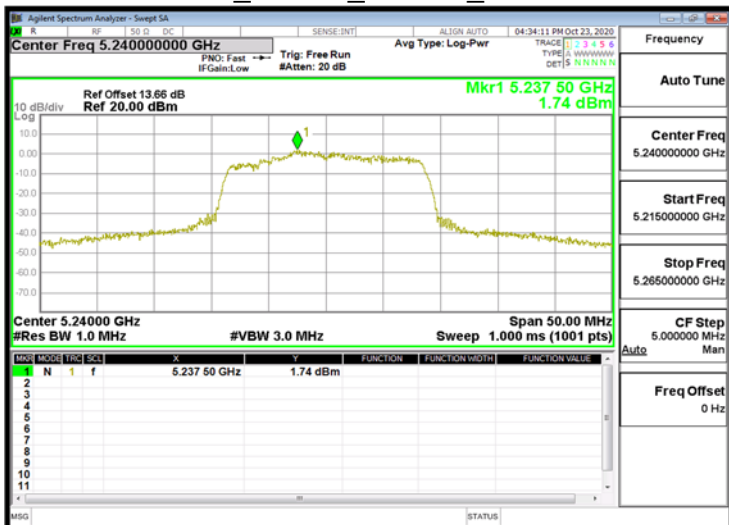
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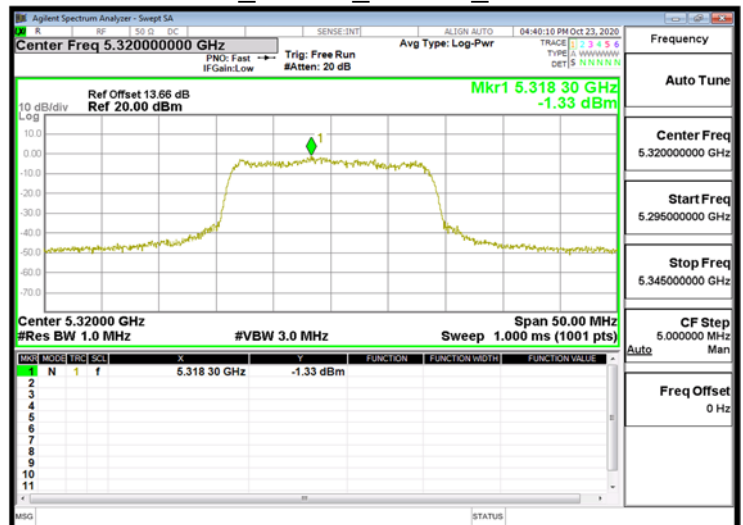
802.11a\_20MHz\_Chain1\_5300MHz



802.11a\_20MHz\_Chain1\_5240MHz



802.11a\_20MHz\_Chain1\_5320MHz



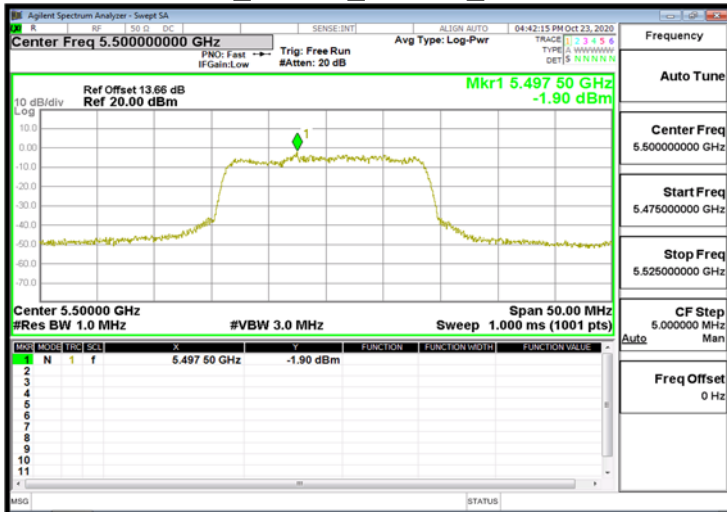
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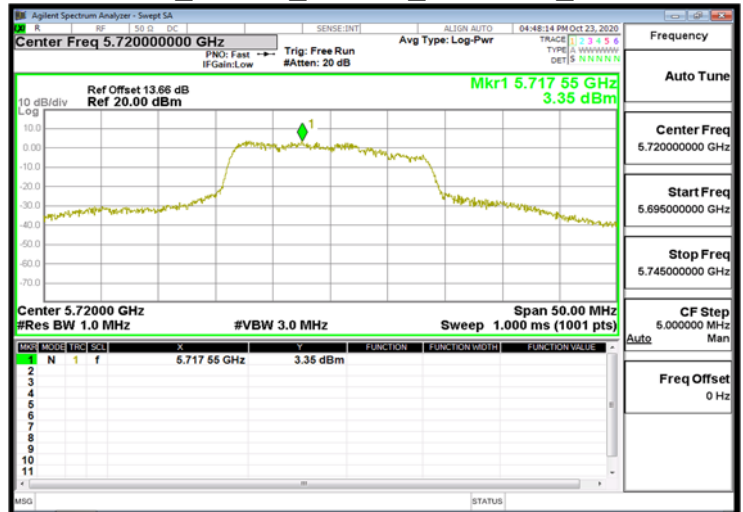
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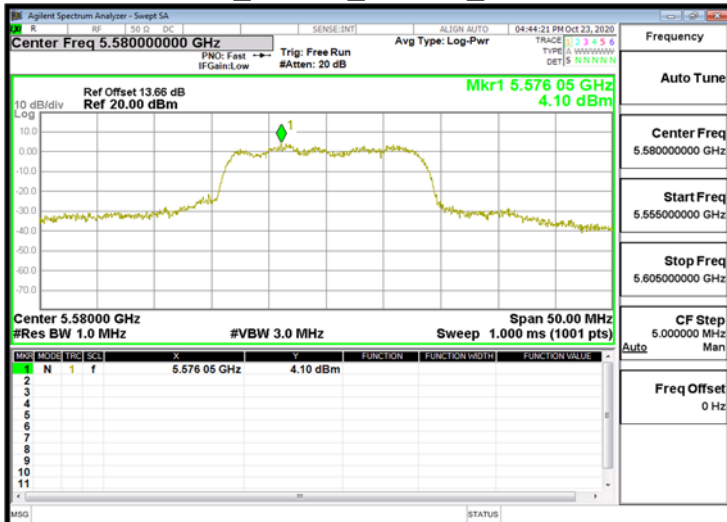
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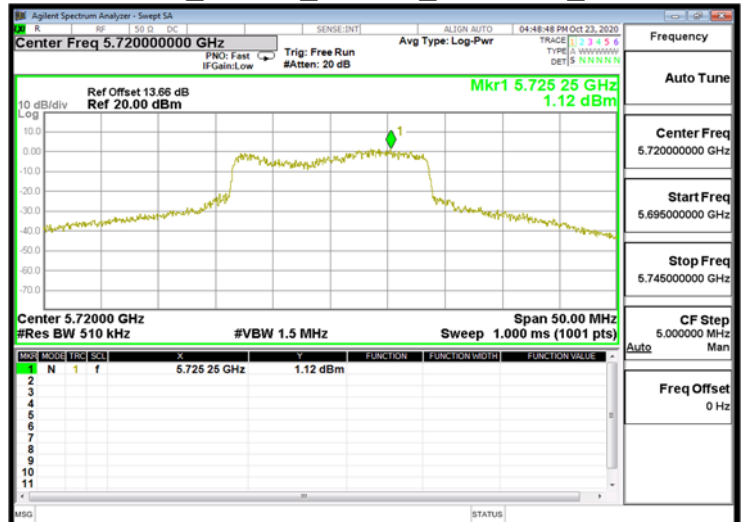
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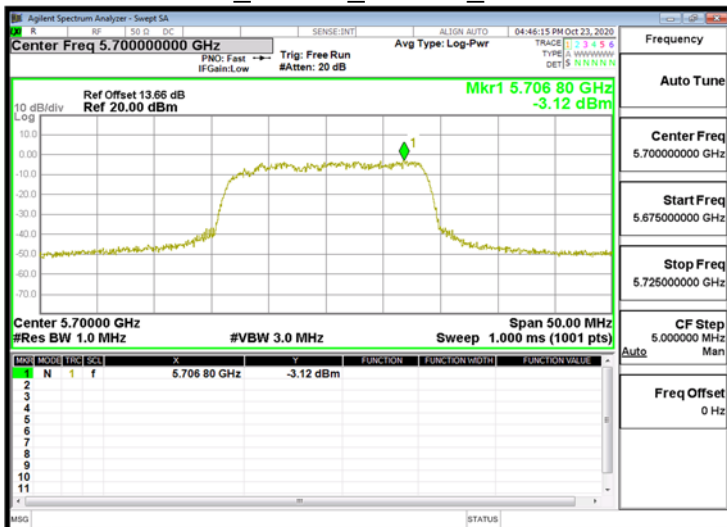
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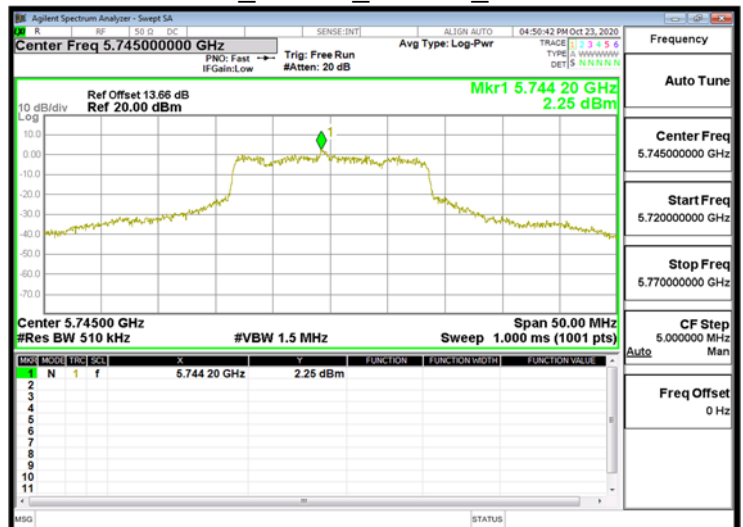
802.11a\_20MHz\_Chain1\_5720MHz\_UNII 3



802.11a\_20MHz\_Chain1\_5700MHz



802.11a\_20MHz\_Chain1\_5745MHz

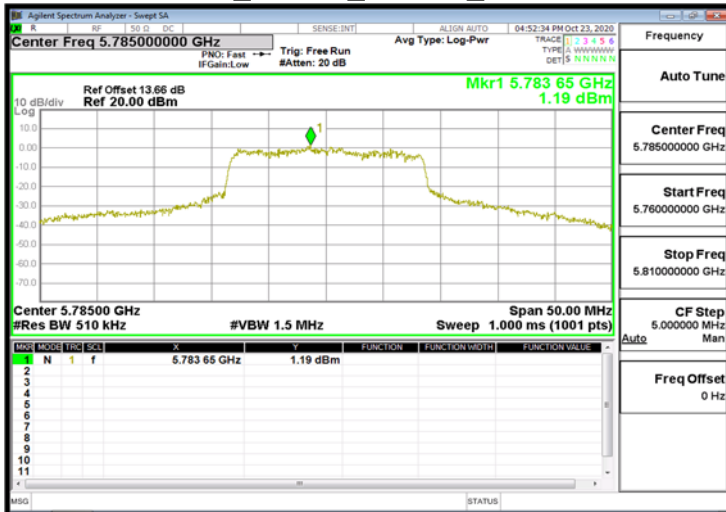


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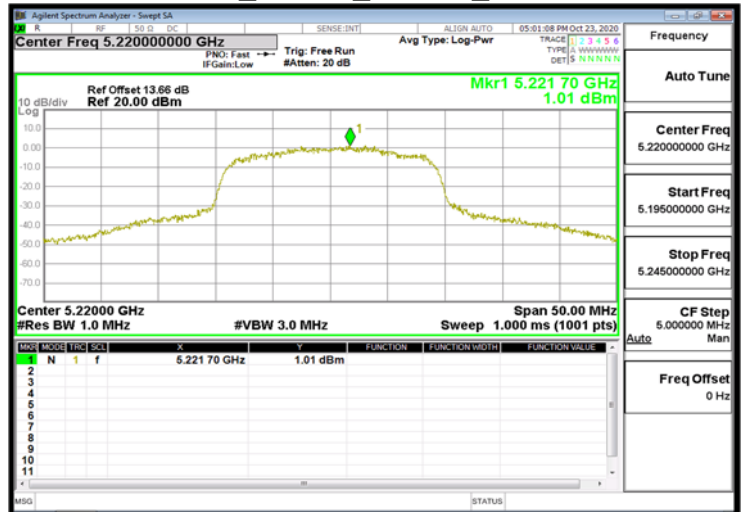
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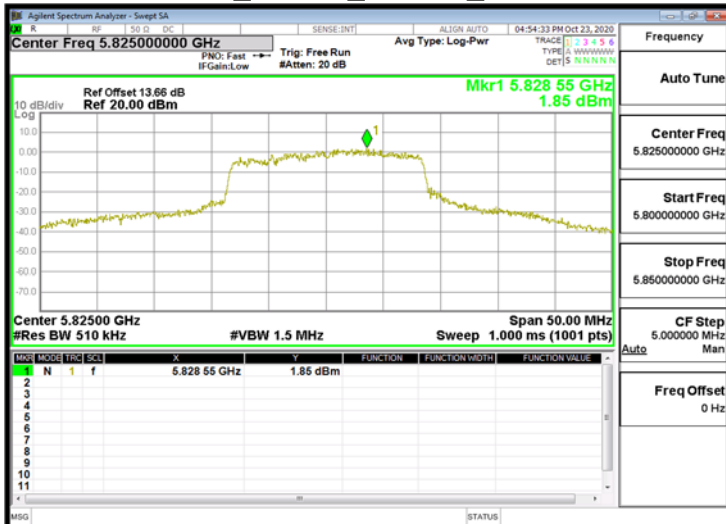
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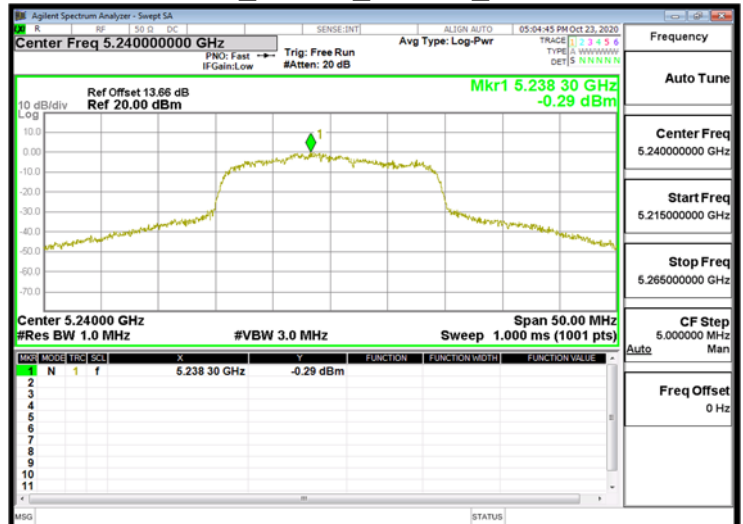
802.11n\_20MHz\_Chain0\_5220MHz



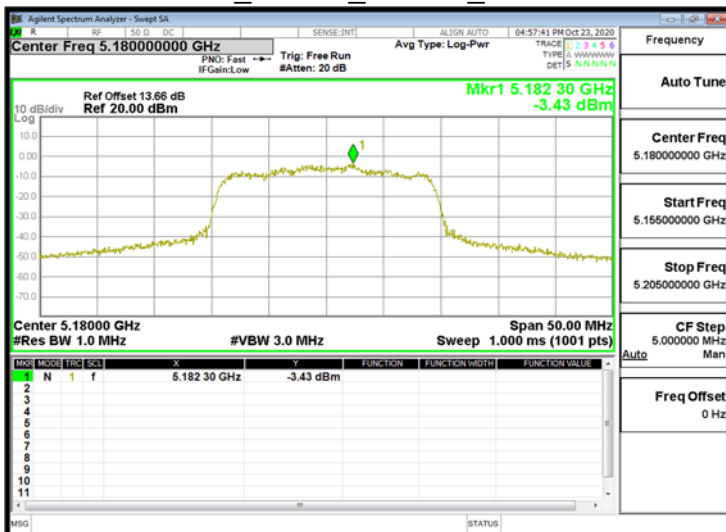
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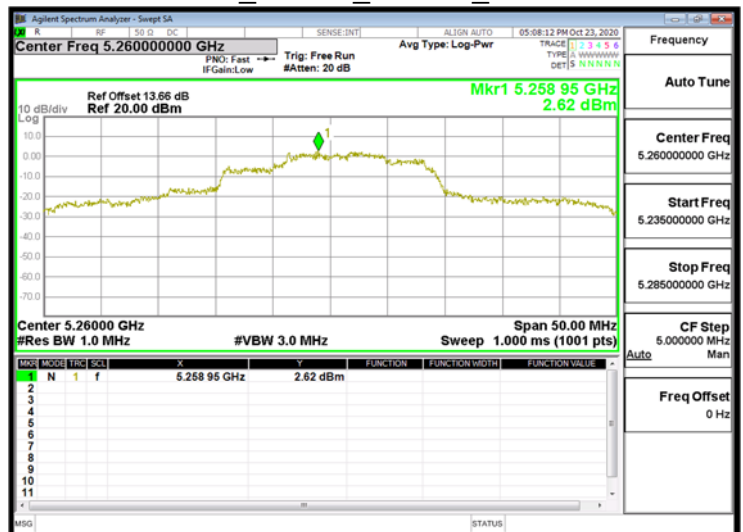
802.11n\_20MHz\_Chain0\_5240MHz



802.11n\_20MHz\_Chain0\_5180MHz



802.11n\_20MHz\_Chain0\_5260MHz

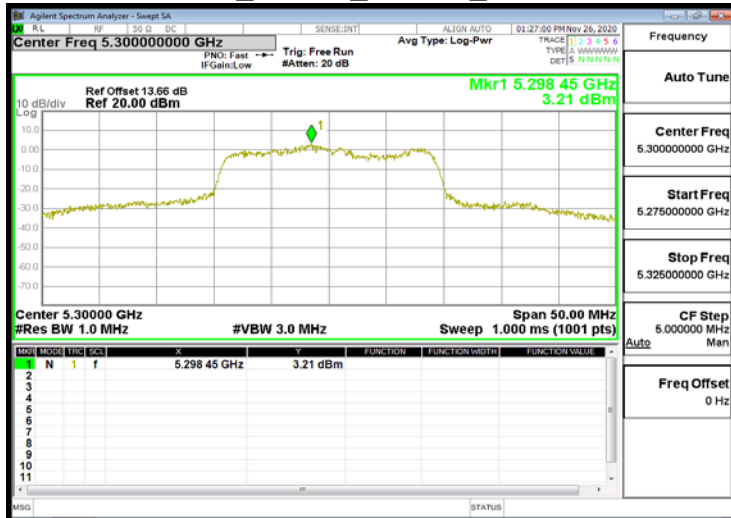


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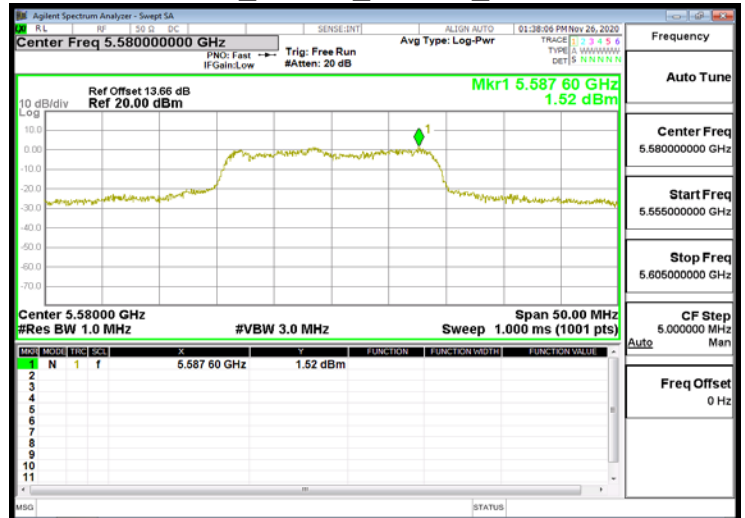
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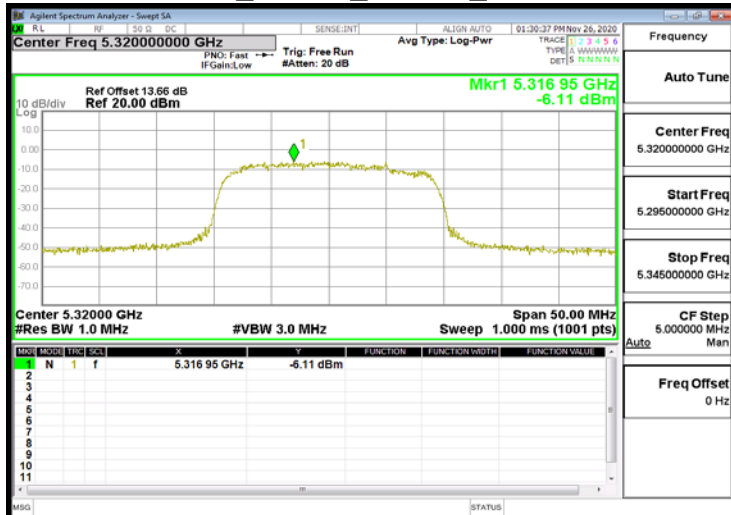
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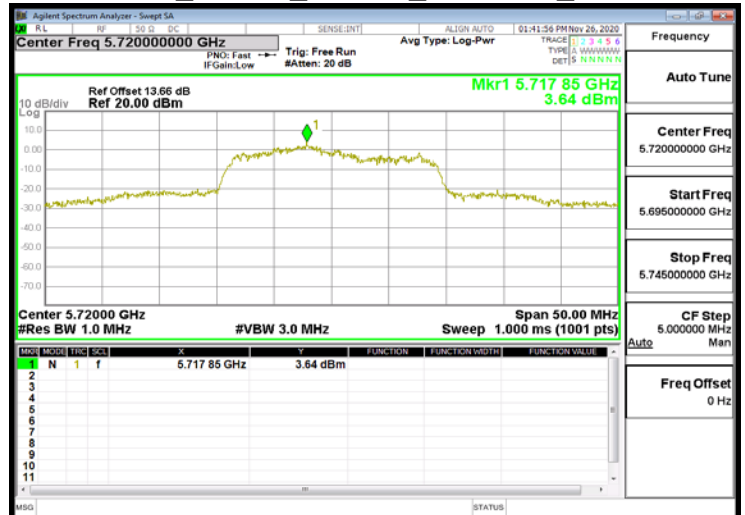
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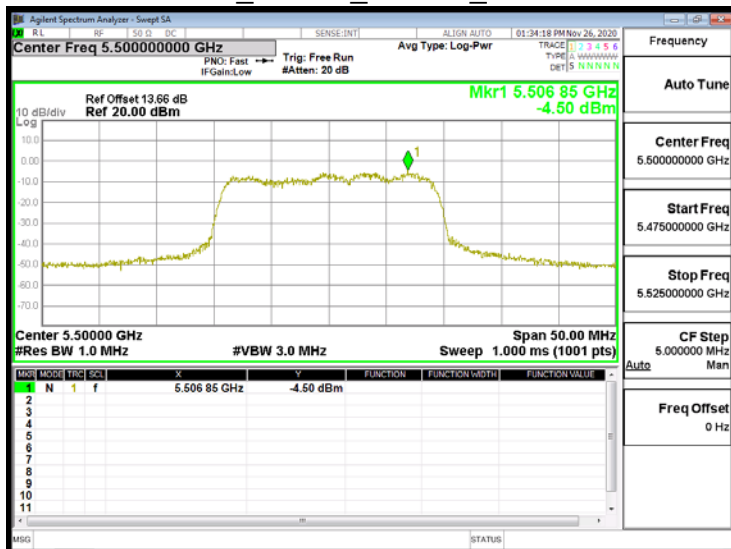
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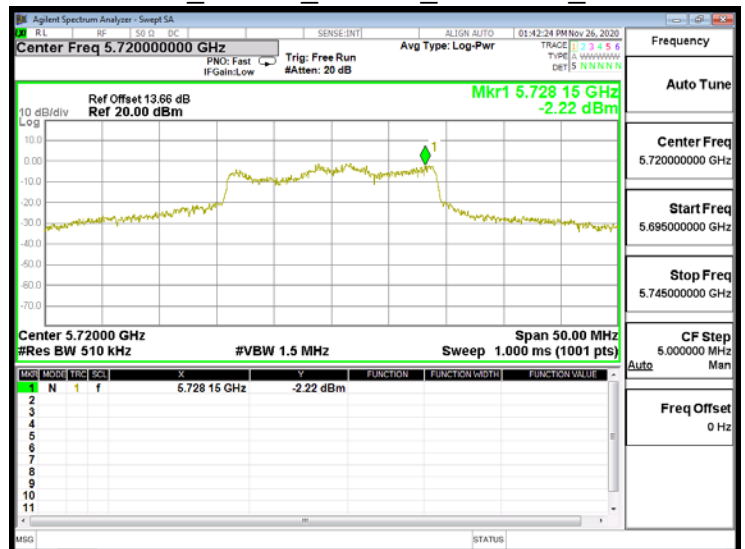
802.11n 20MHz Chain0\_5720MHz\_UNII 2C



802.11n 20MHz Chain0\_5500MHz



802.11n 20MHz Chain0\_5720MHz\_UNII 3



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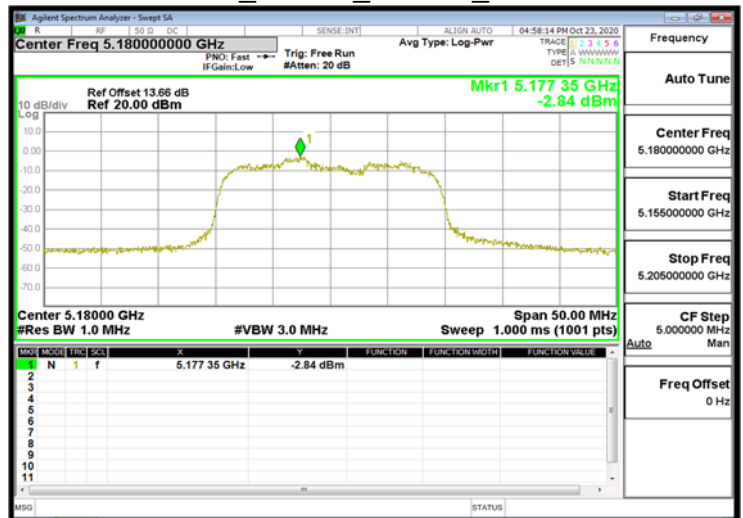
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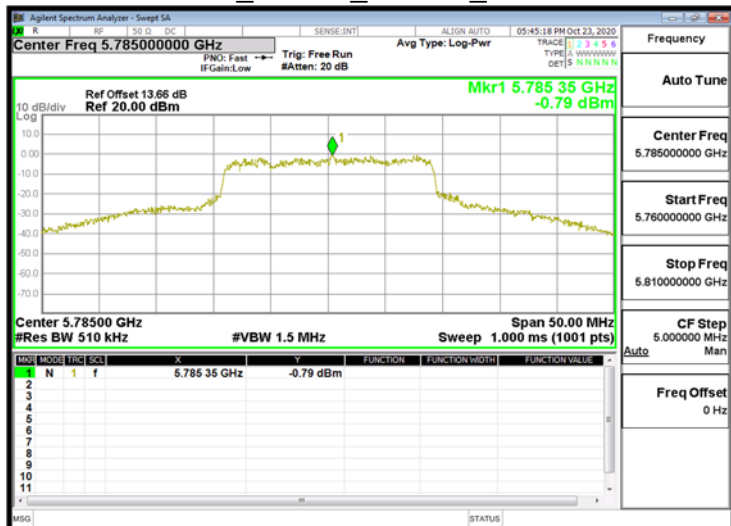
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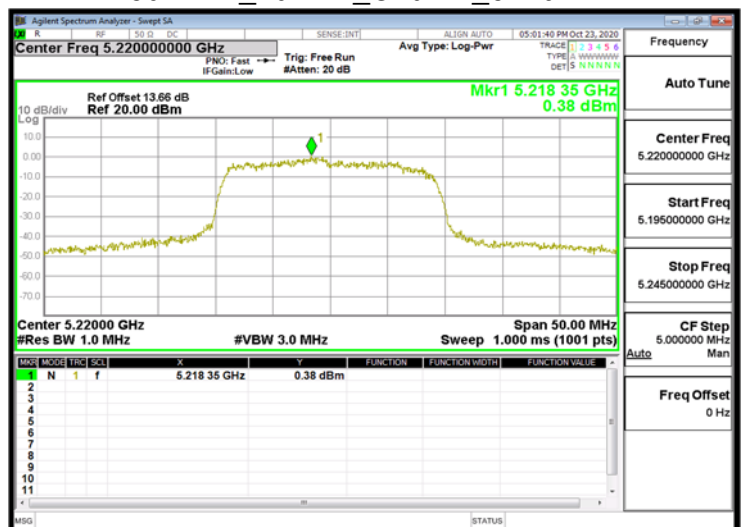
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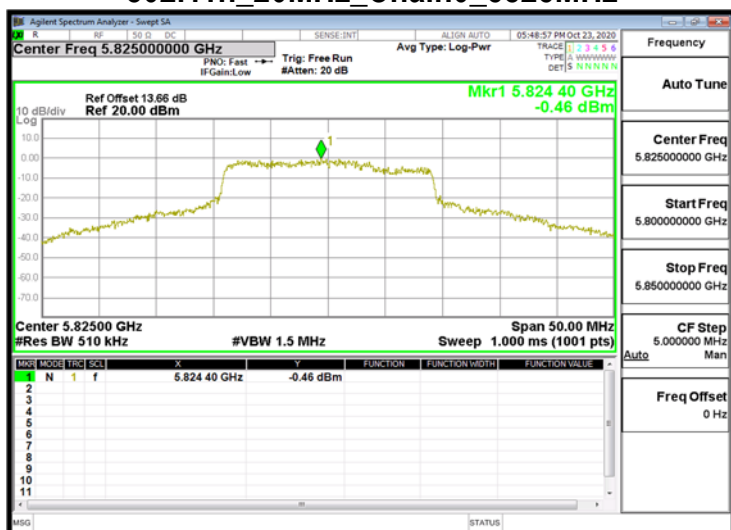
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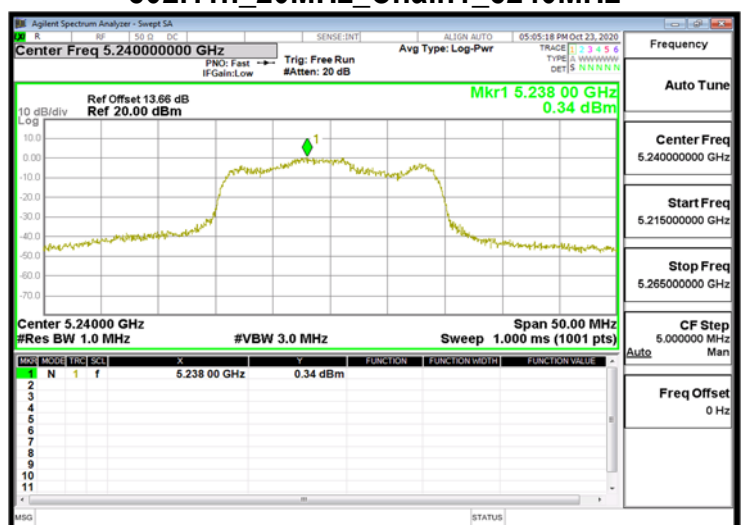
802.11n\_20MHz\_Chain1\_5220MHz



802.11n\_20MHz\_Chain0\_5825MHz



802.11n\_20MHz\_Chain1\_5240MHz



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