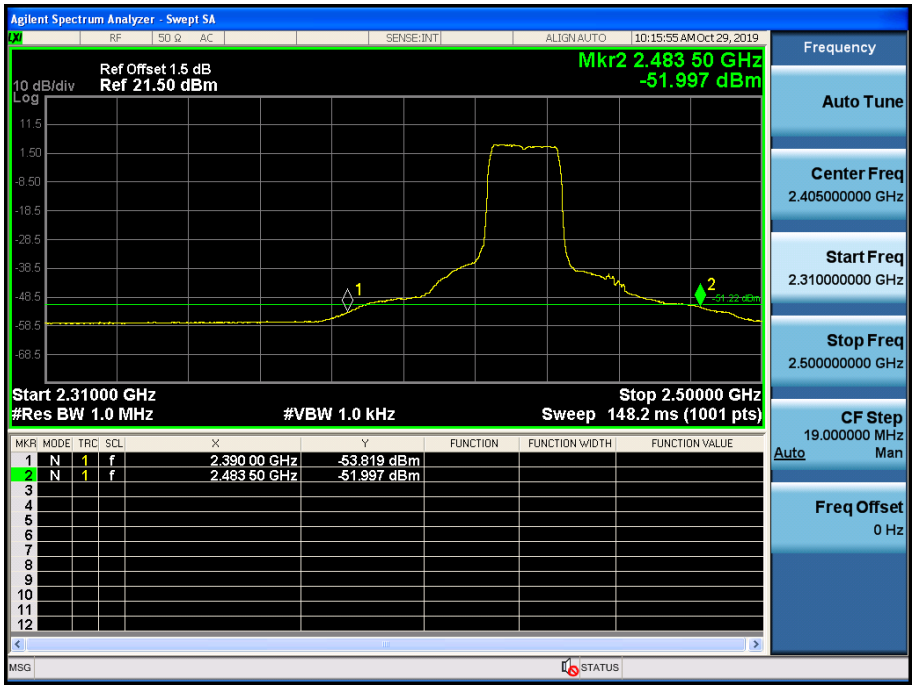
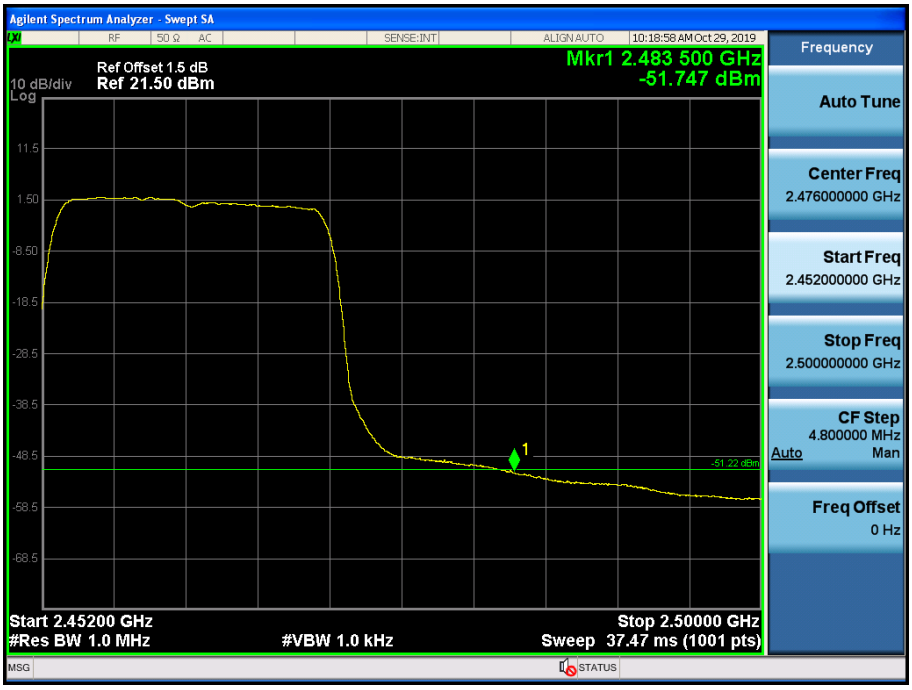
2437MHz by 802.11n(20MHz):

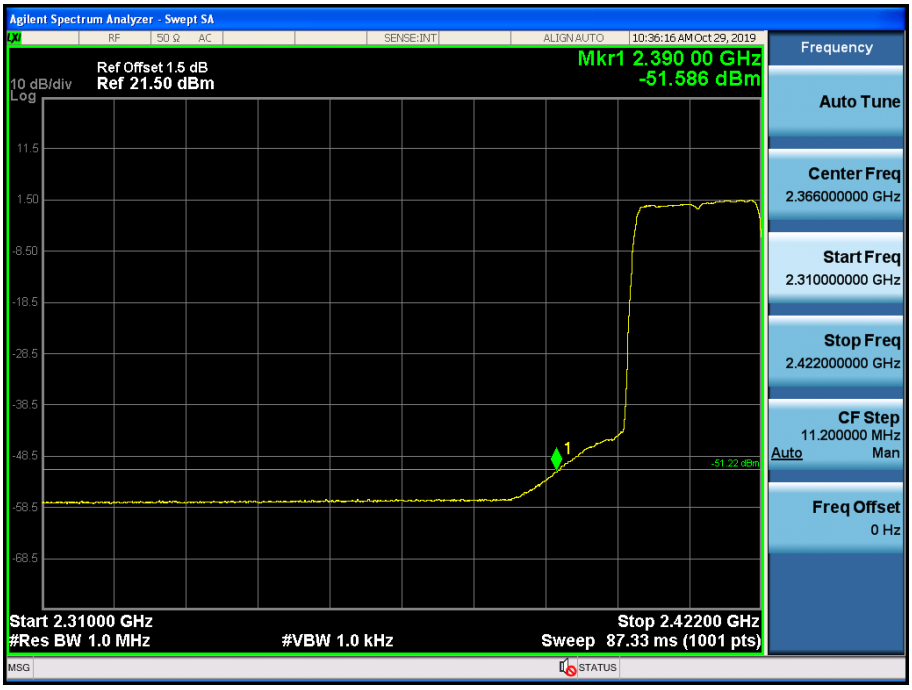


2457MHz by 802.11n(20MHz):

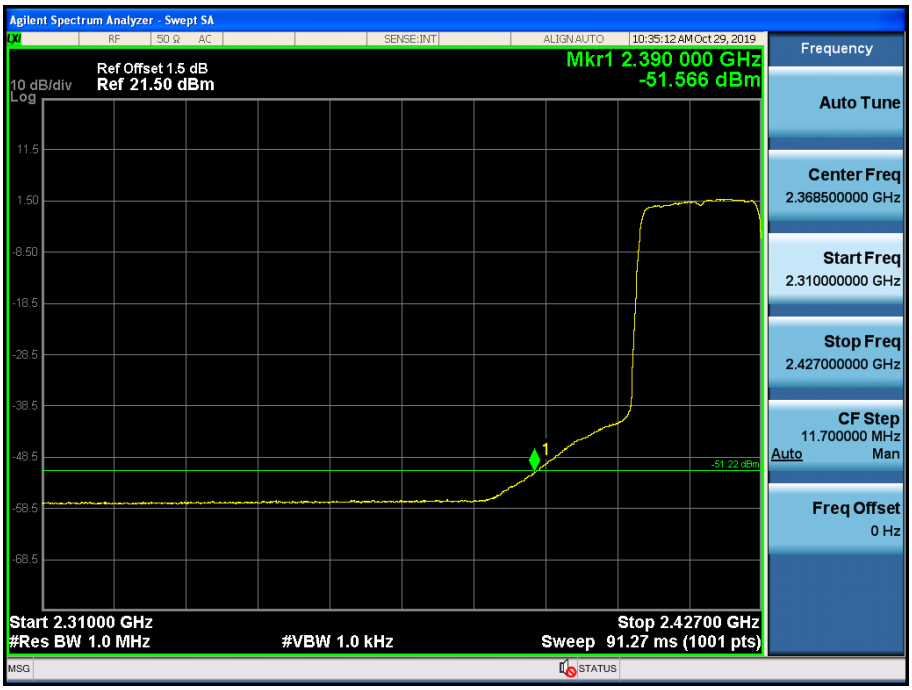
2462MHz by 802.11n(20MHz):



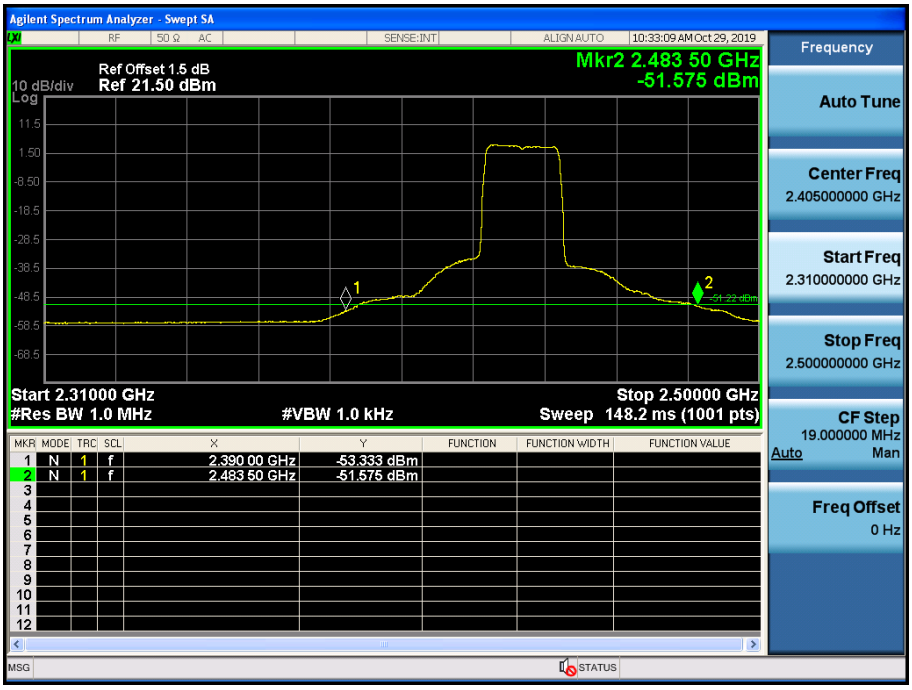
2412MHz by 802.11ax(20MHz):



2417MHz by 802.11ax(20MHz):

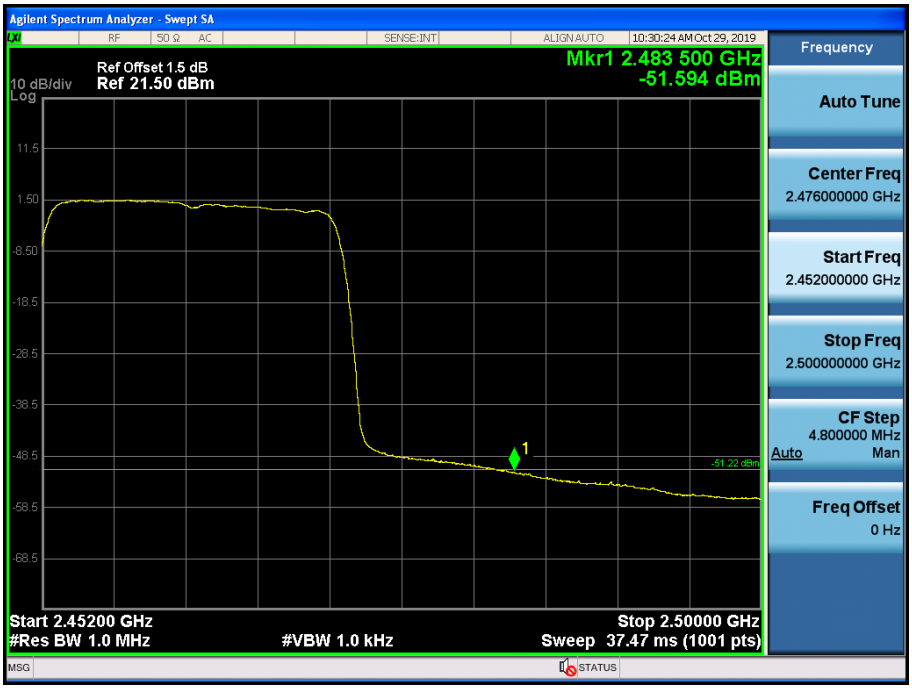


2437MHz by 802.11ax(20MHz):



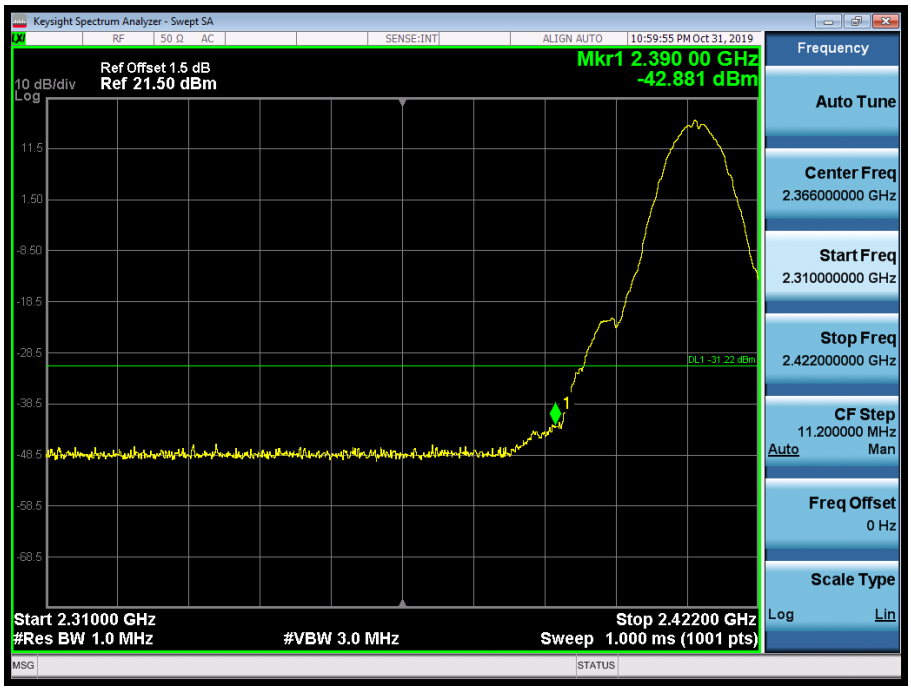
2457MHz by 802.11ax(20MHz):

2462MHz by 802.11ax(20MHz):

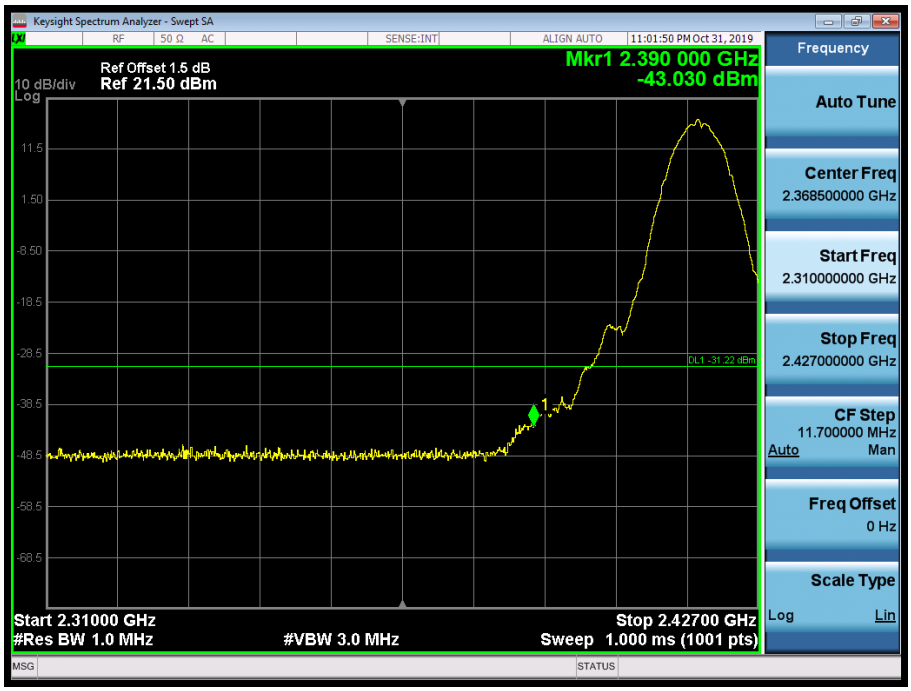


PK Limit-CDD:

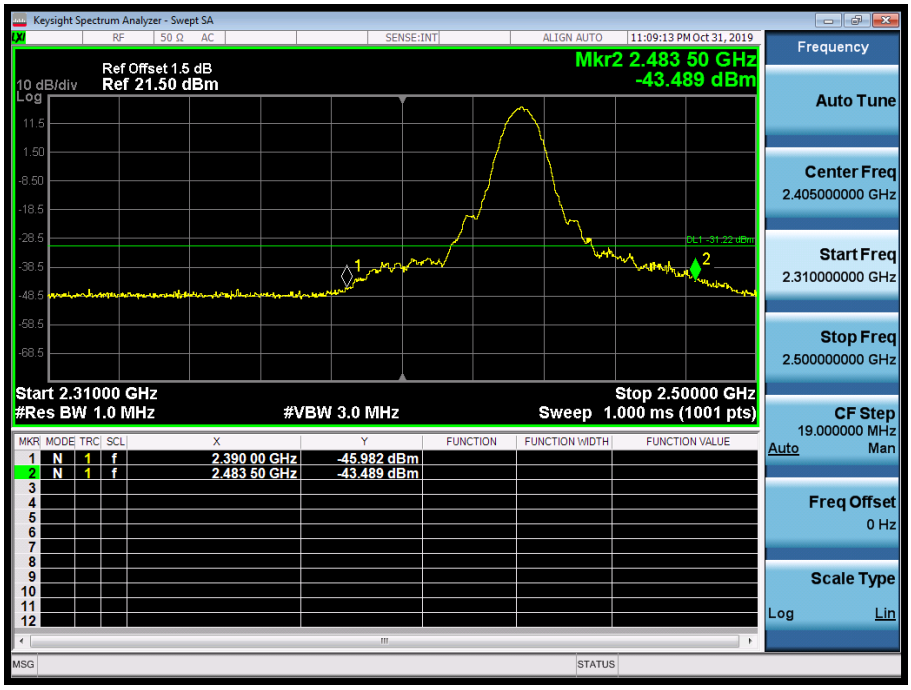
2412MHz by 802.11b:



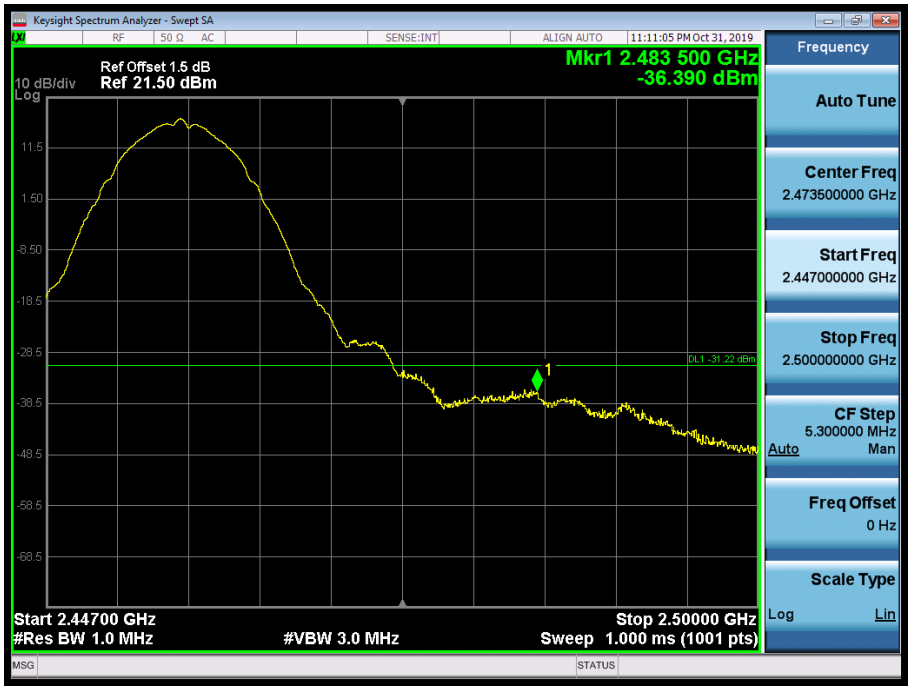
2417MHz by 802.11b:



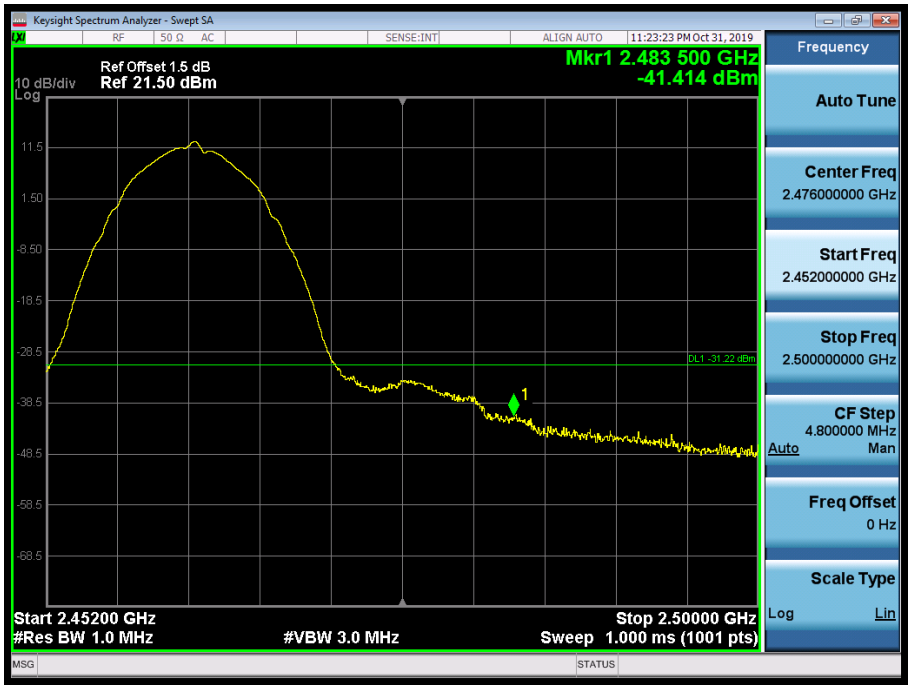
2437MHz by 802.11b:



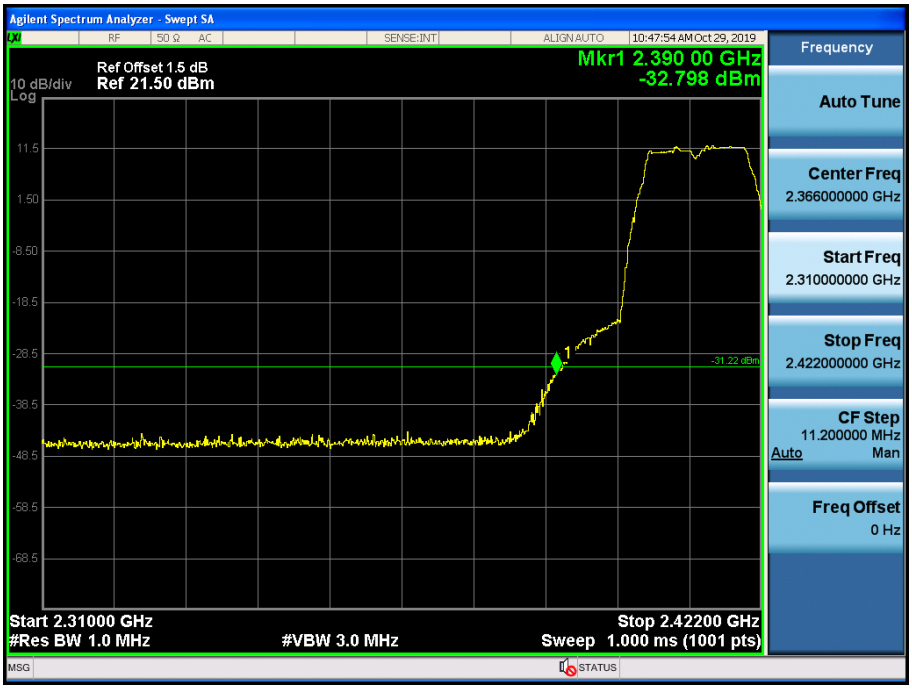
2457MHz by 802.11b:



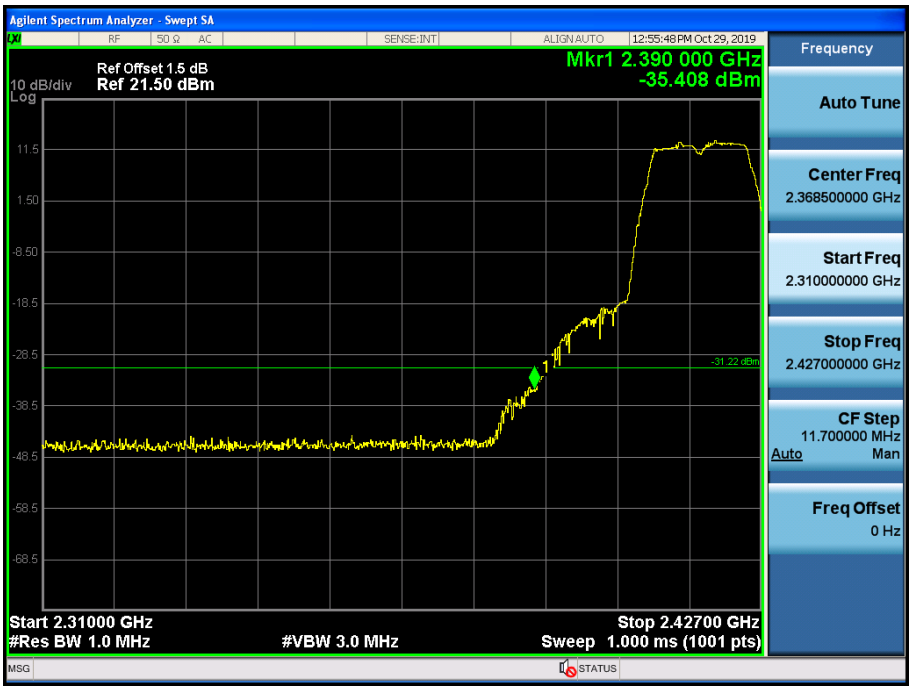
2462MHz by 802.11b:



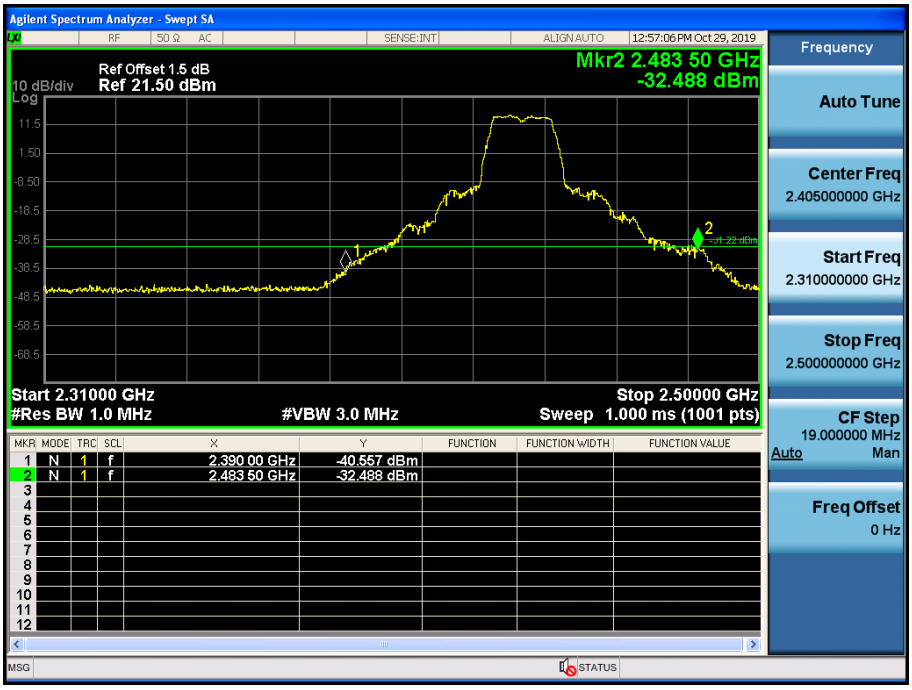
2412MHz by 802.11g:



2417MHz by 802.11g:



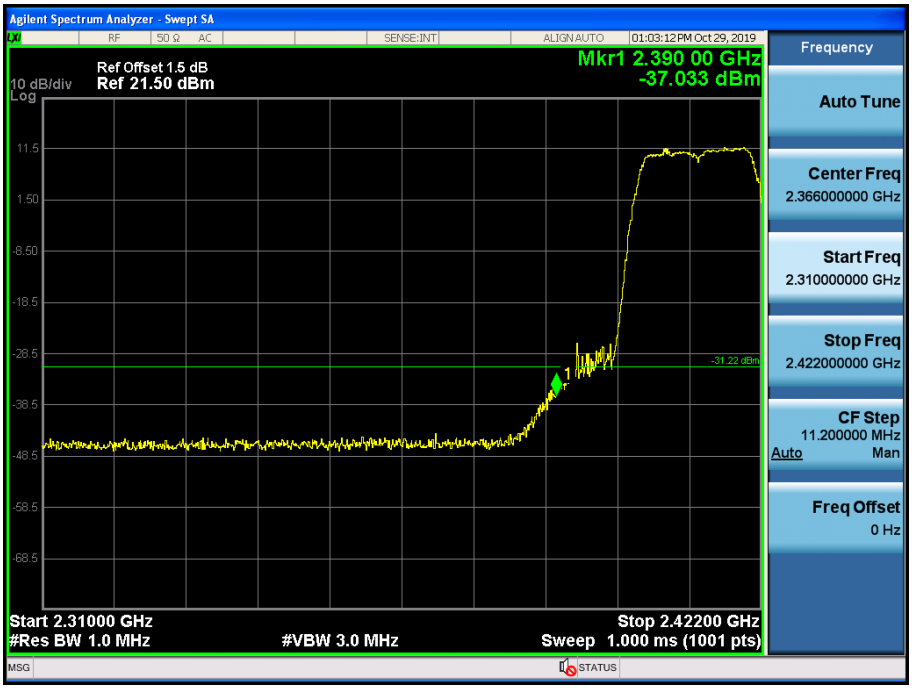
2437MHz by 802.11g:



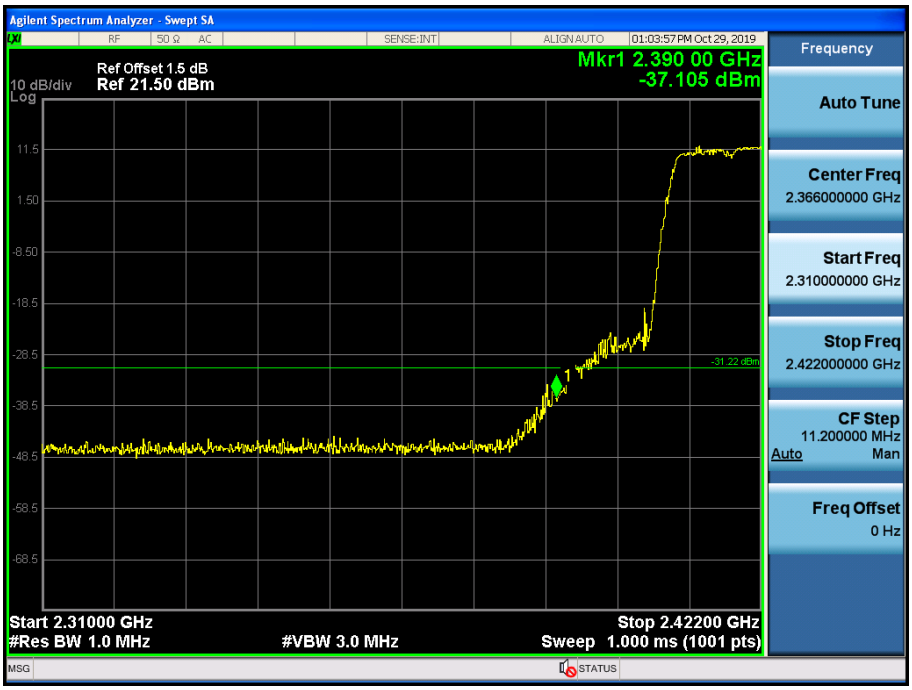
2457MHz by 802.11g:

2462MHz by 802.11g:

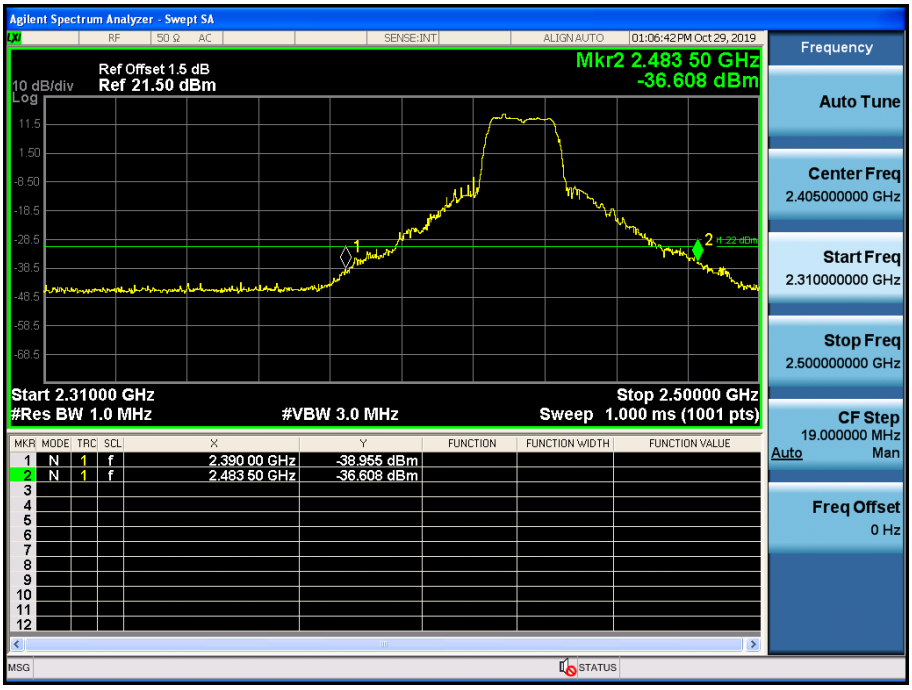
2412MHz by 802.11n(20MHz):



2417MHz by 802.11n(20MHz):



2437MHz by 802.11n(20MHz):

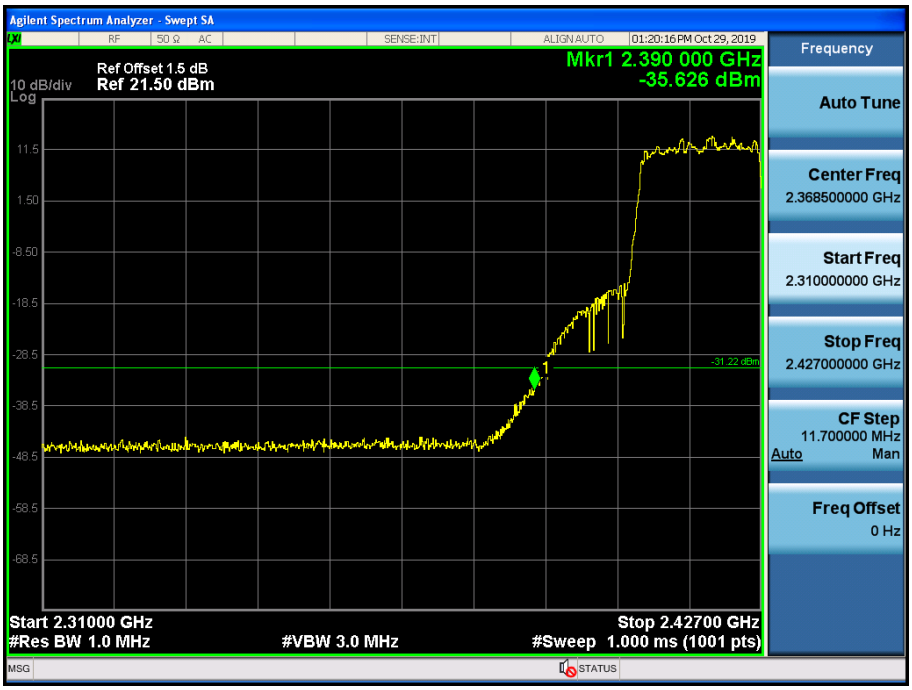


2457MHz by 802.11n(20MHz):

2462MHz by 802.11n(20MHz):

2412MHz by 802.11ax(20MHz):

2417MHz by 802.11ax(20MHz):



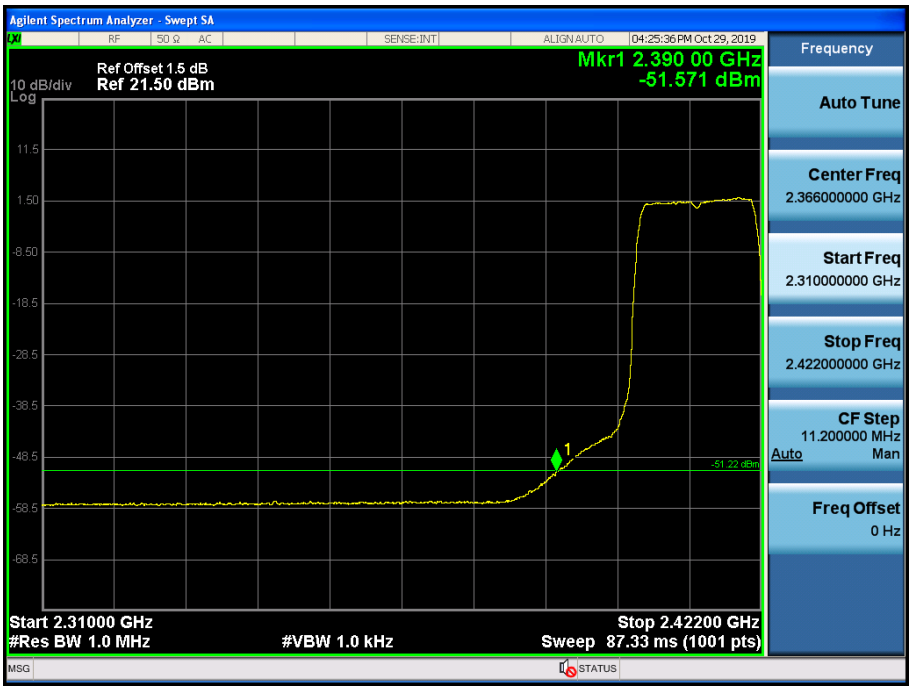
2437MHz by 802.11ax(20MHz):

2457MHz by 802.11ax(20MHz):

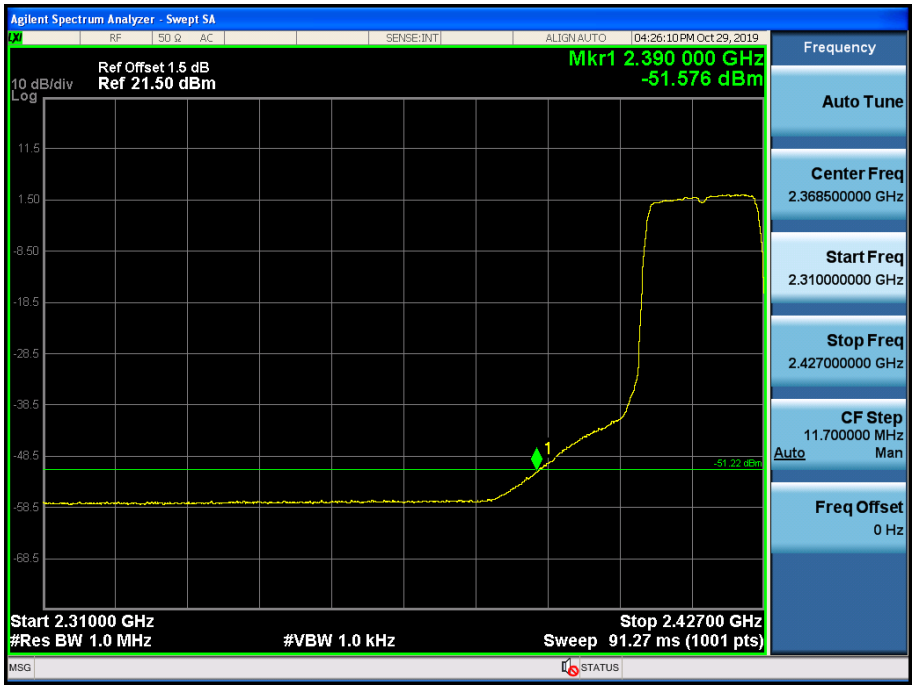
2462MHz by 802.11ax(20MHz):

AV Limit-Beamforming:

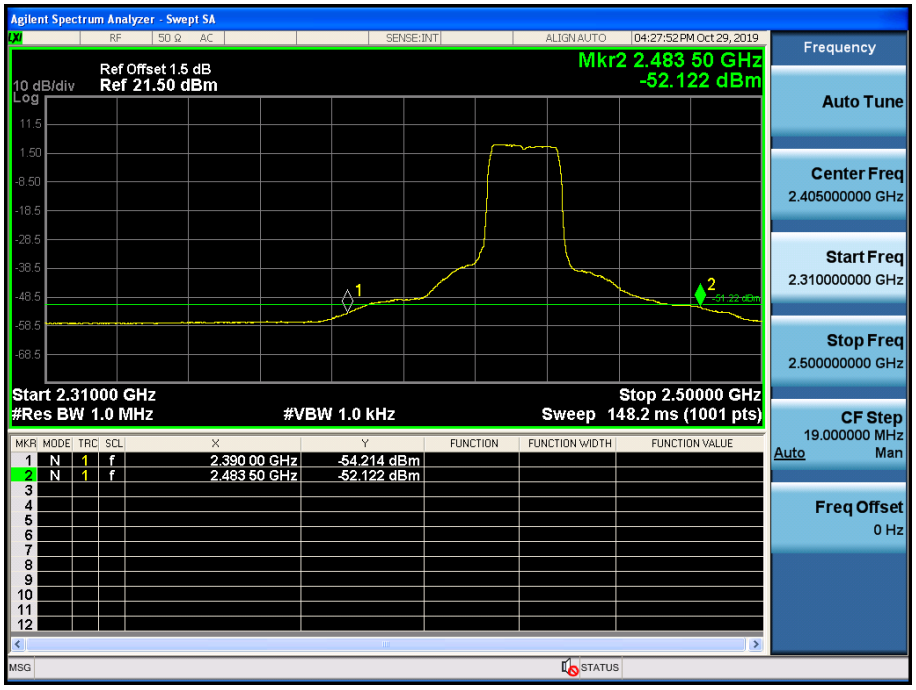
2412MHz by 802.11n(20MHz):



2417MHz by 802.11n(20MHz):



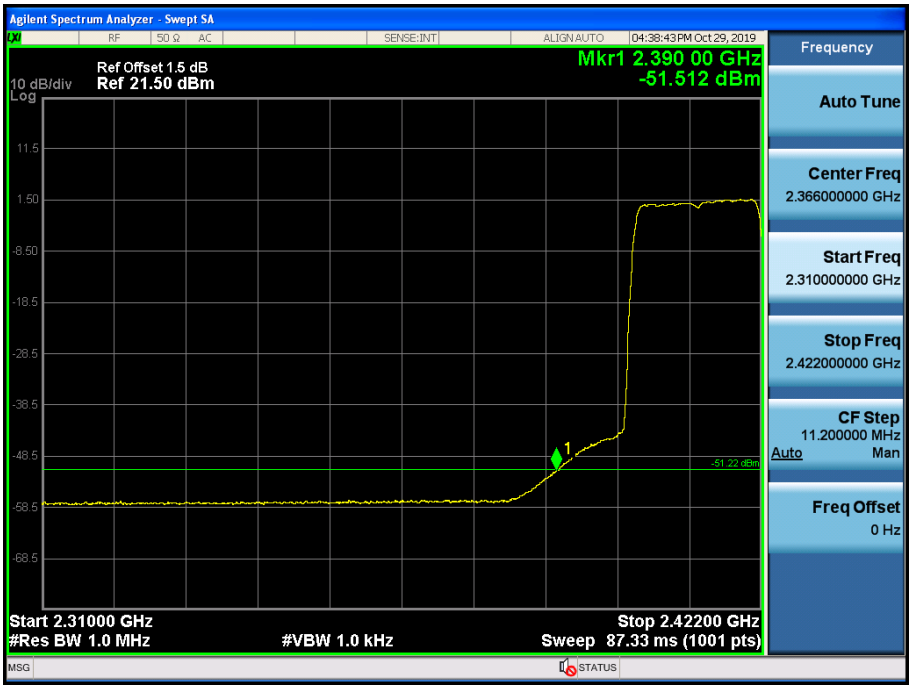
2437MHz by 802.11n(20MHz):



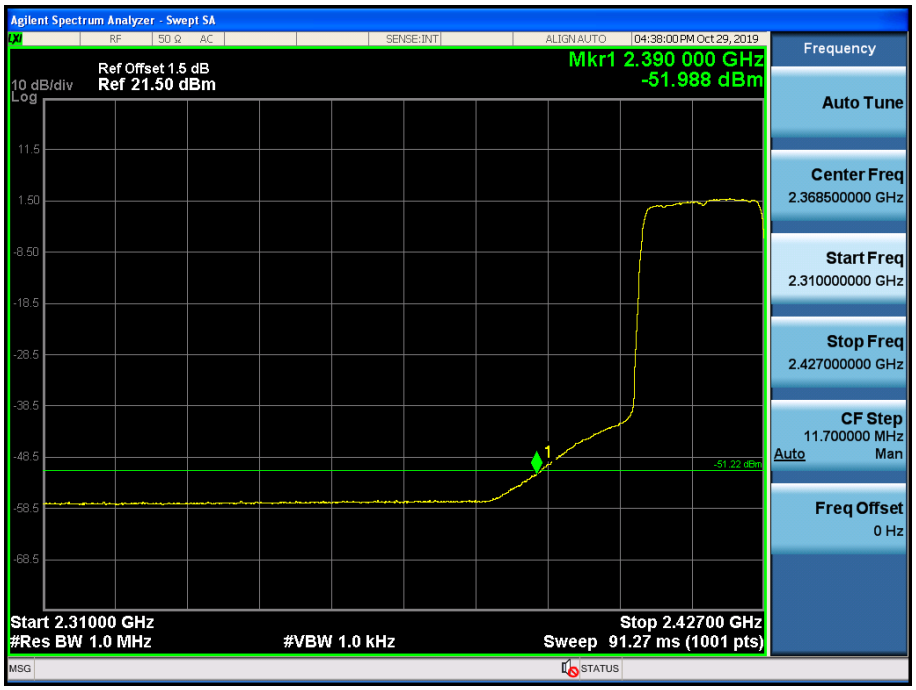
2457MHz by 802.11n(20MHz):

2462MHz by 802.11n(20MHz):

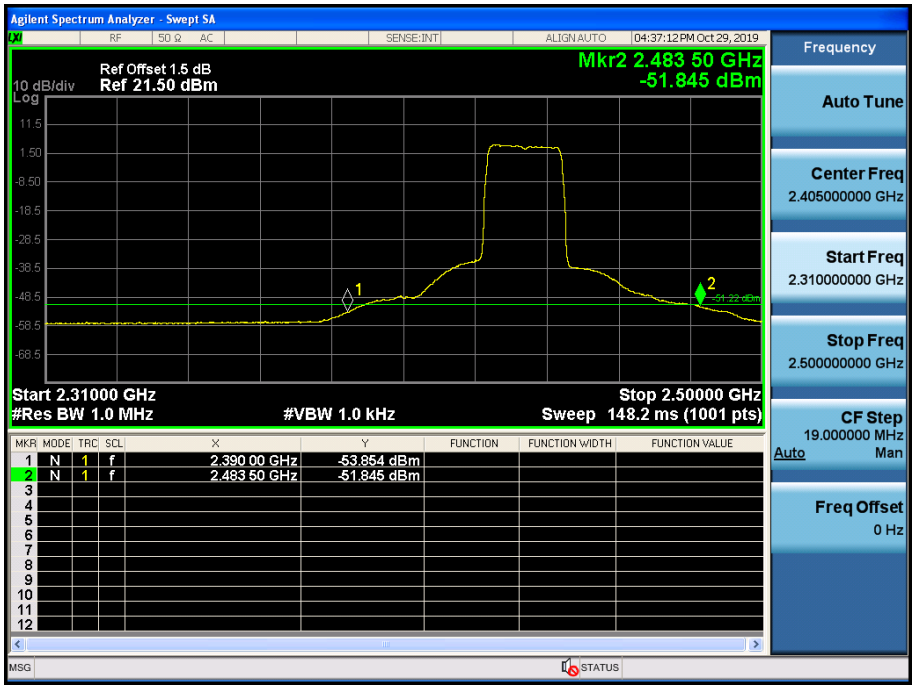
2412MHz by 802.11ax(20MHz):



2417MHz by 802.11ax(20MHz):

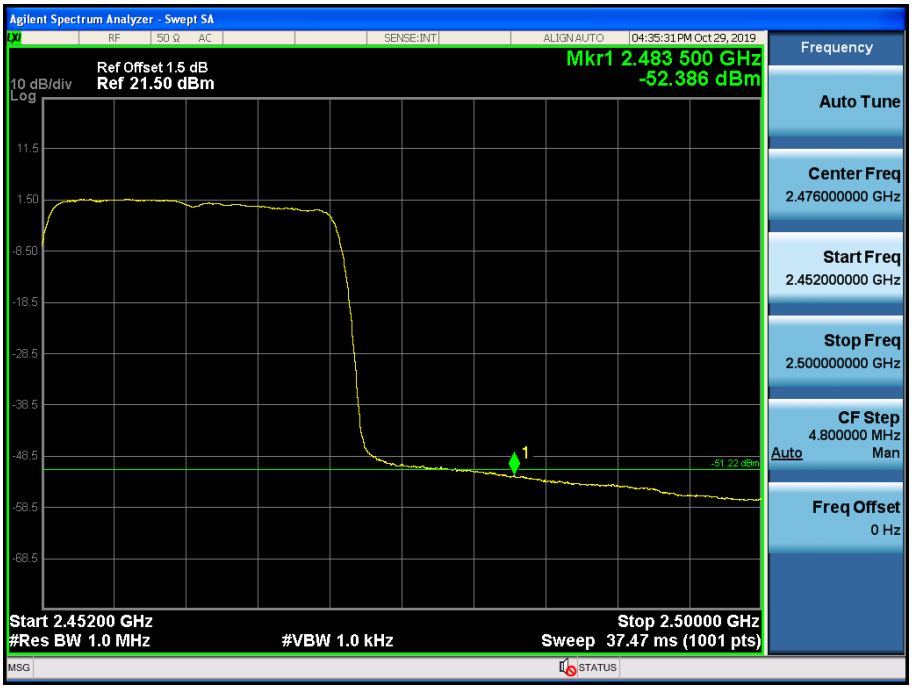


2437MHz by 802.11ax(20MHz):



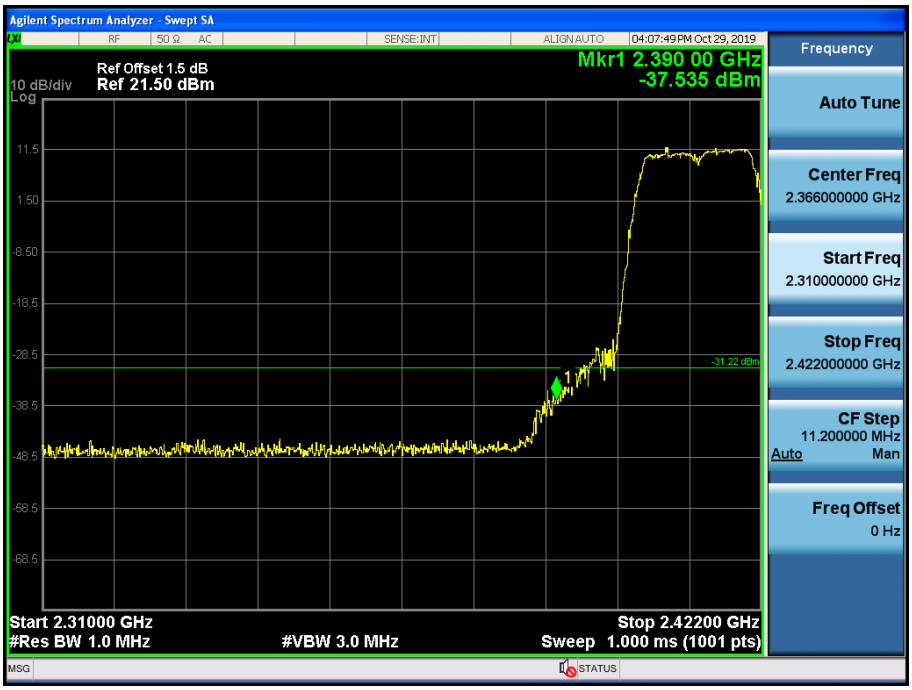
2457MHz by 802.11ax(20MHz):

2462MHz by 802.11ax(20MHz):

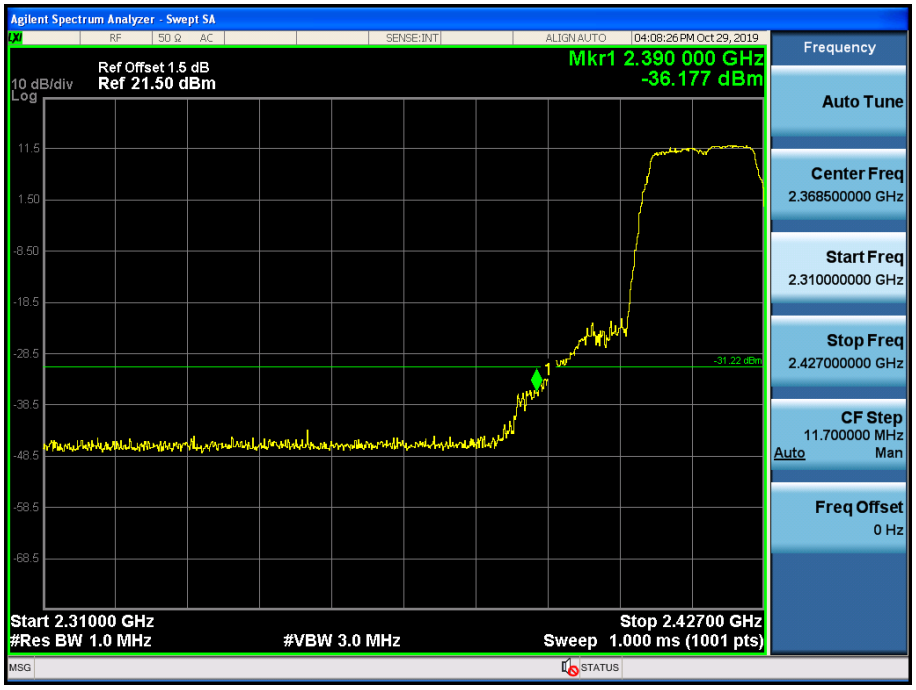


PK Limit-Beamforming

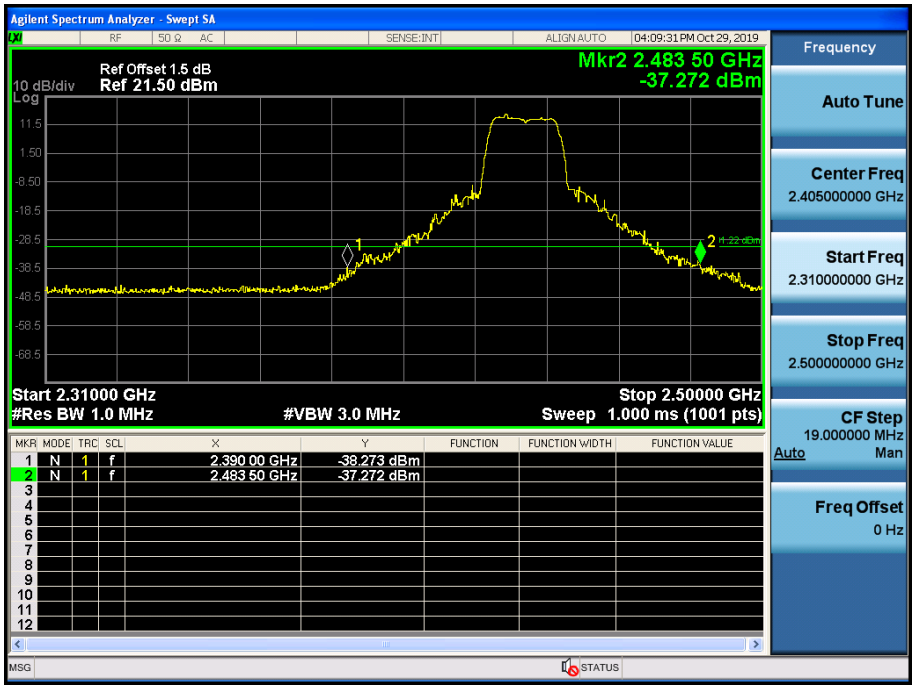
2412MHz by 802.11n(20MHz):



2417MHz by 802.11n(20MHz):



2437MHz by 802.11n(20MHz):

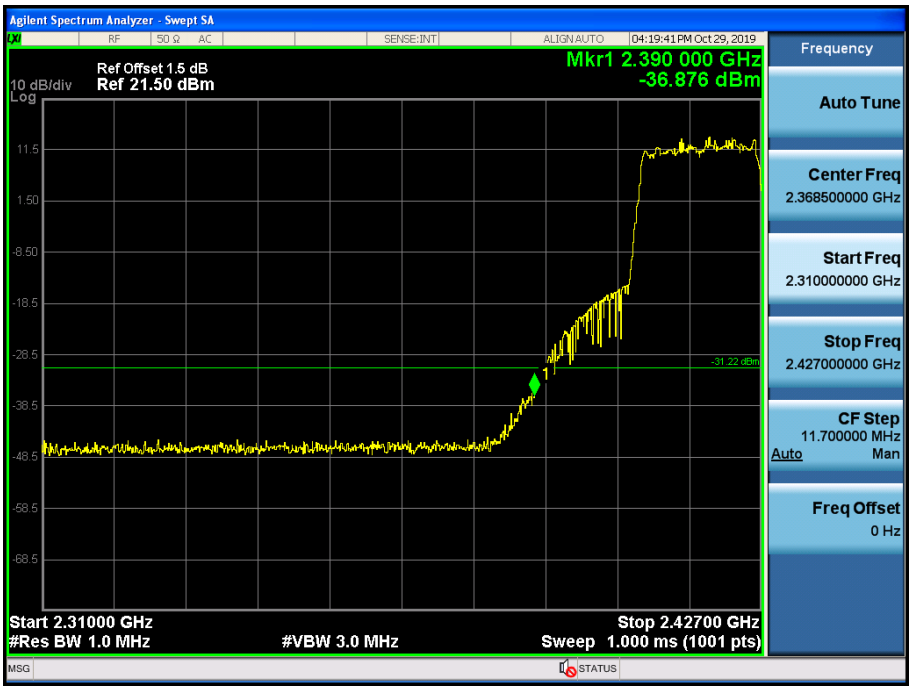


2457MHz by 802.11n(20MHz):

2462MHz by 802.11n(20MHz):

2412MHz by 802.11ax(20MHz):

2417MHz by 802.11ax(20MHz):



2437MHz by 802.11ax(20MHz):

2457MHz by 802.11ax(20MHz):

2462MHz by 802.11ax(20MHz):

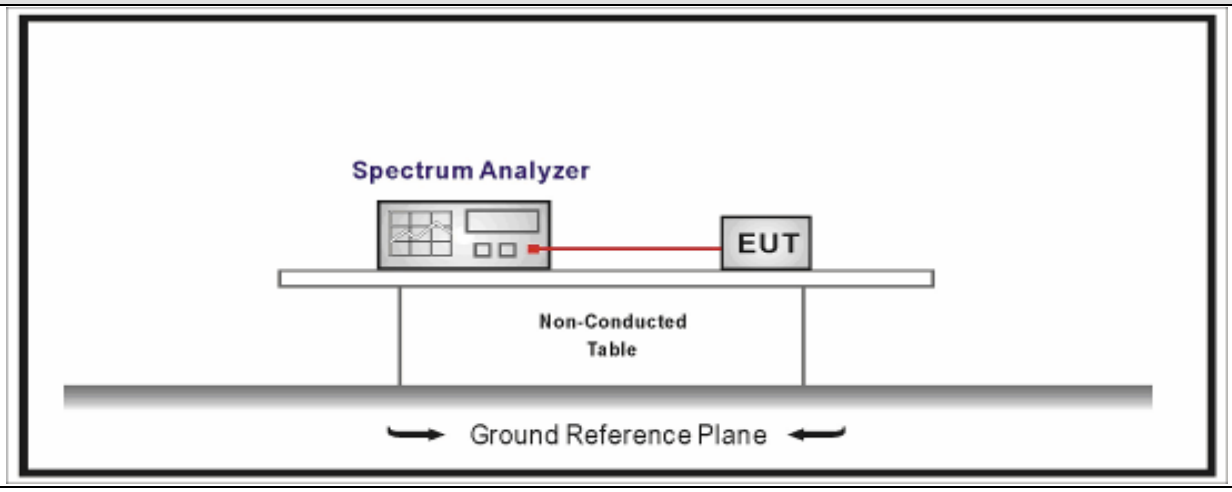
7. Occupied Bandwidth

7.1. Test Equipment

Occupied Bandwidth / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2021.07.11	2022.07.10
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2021.08.12	2022.08.11
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2021.07.11	2022.07.10
Signal analyzer	R&S	FSV30	26/Apr/85	2021.11.18	2022.11.17
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2021.08.04	2022.08.03
Note: All equipment are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

7.2. Test Setup

Occupied Bandwidth test setup:



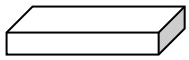
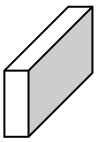
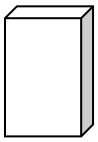
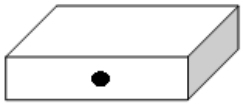
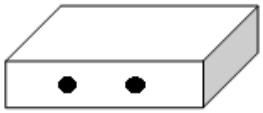
7.3. Limit

Occupied Bandwidth
Systems using digital modulation techniques operate in the2400-2483.5 MHz .The minimum 6 dB bandwidth shall be at least 500 kHz

7.4. Test Procedure

Test Method				
	Reference Rule		Chapter	Description
☒	ANSI C63.10		11.8	DTS bandwidth
	☐	ANSI C63.10	11.8.1	Option 1
	☒	ANSI C63.10	11.8.2	Option 2

7.5. EUT test definition

<table>
<tr><th>Item</th><th colspan="4">Occupied Bandwidth</th></tr>
<tr><td rowspan="3">Device Category</td><td>☐</td><td colspan="3">Fixed point-to-point</td></tr>
<tr><td>☐</td><td colspan="3">Emit multiple directional beams, simultaneously or sequentially</td></tr>
<tr><td>☒</td><td colspan="3">Other cases</td></tr>
<tr><td>Test mode</td><td colspan="4">Mode 1~4</td></tr>
<tr><td rowspan="13">Test method</td><td>☐</td><td colspan="3">Radiated</td></tr>
<tr><td rowspan="3"></td><td>X Axis</td><td>Y Axis</td><td>Z Axis</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Worst Axis ☐</td><td>Worst Axis ☐</td><td>Worst Axis ☐</td></tr>
<tr><td>☒</td><td colspan="3">Conducted</td></tr>
<tr><td>☒</td><td colspan="3">Chain 1</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☒</td><td>Chain 1</td><td colspan="2">Chain 2</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td>Chain 2</td><td>Chain 3</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
</table>

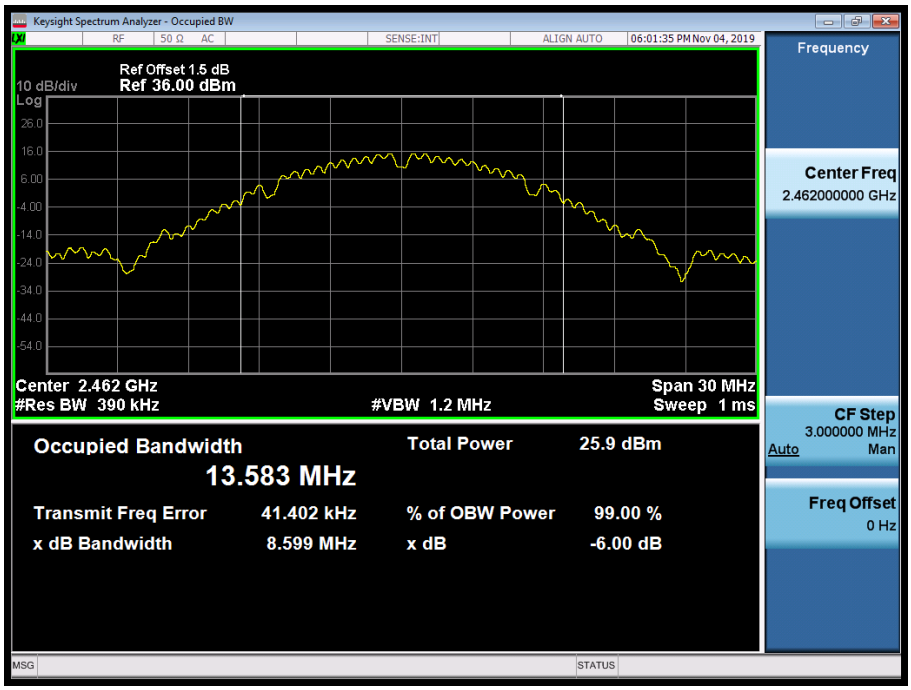
7.6. Test Result

Product Name	:	Wireless Access Point	Power	:	AC 120V/60Hz
Test Mode	:	Mode 1~4	Test Site	:	TR8
Test Date	:	2019.11.19	Test Engineer	:	Eric

Mode	CH.	Test Freq. (MHz)	99% Occupied Bandwidth (MHz)	6dB Occupied Bandwidth (MHz)	Limit (kHz)	Result
1	01	2412	13.265	7.583	>500	Pass
1	06	2437	13.569	7.555	>500	Pass
1	11	2462	13.583	7.087	>500	Pass
2	01	2412	17.551	16.35	>500	Pass
2	06	2437	17.439	16.39	>500	Pass
2	11	2462	17.393	16.39	>500	Pass
3	01	2412	18.517	17.57	>500	Pass
3	06	2437	18.539	17.64	>500	Pass
3	11	2462	18.446	17.59	>500	Pass
4	01	2412	19.193	18.83	>500	Pass
4	06	2437	19.194	19.02	>500	Pass
4	11	2462	19.171	18.97	>500	Pass

Note : The worst case of Occupied Bandwidth as below in next page:

Mode 1 CH11 (2462MHz)



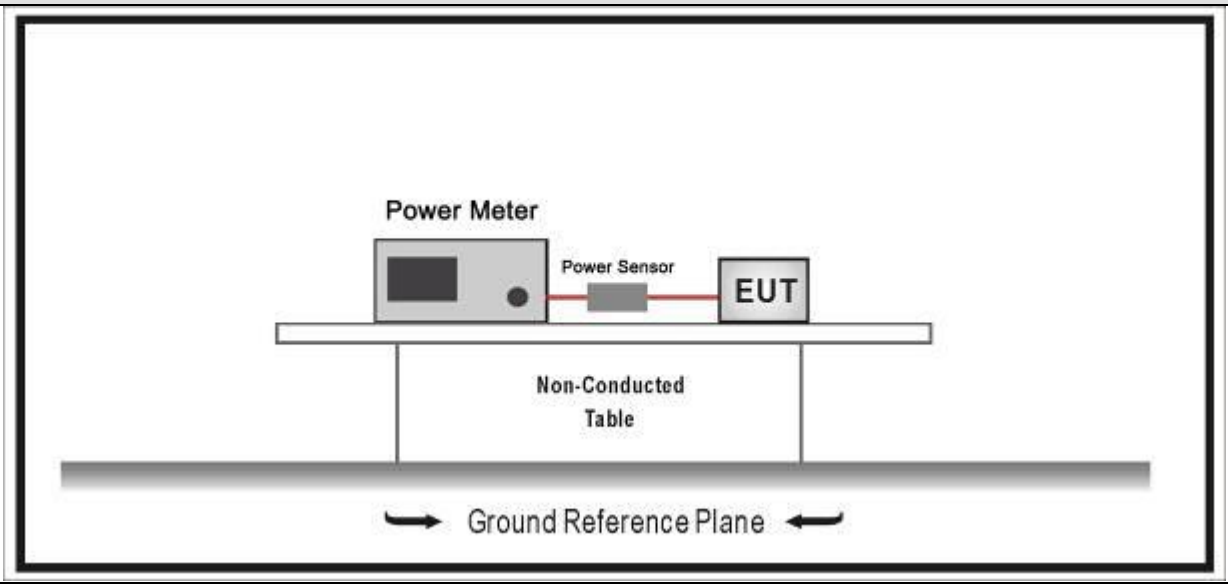
8. Fundamental emission output power

8.1. Test Equipment

Fundamental emission output power/ TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2021.07.11	2022.07.10
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2021.08.12	2022.08.11
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2021.07.11	2022.07.10
Signal analyzer	R&S	FSV30	26/Apr/85	2021.11.18	2022.11.17
4 Ch.Simultaneous Sampling 14 Bits 2 MS/s	Agilent	U2531A	TW54063507	N/A	N/A
4 Ch.Simultaneous Sampling 14 Bits 2 MS/s	Agilent	U2531A	TW54063513	N/A	N/A
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2021.08.04	2022.08.03
Note: All equipment are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

8.2. Test Setup

Fundamental emission output power test setup



8.3. Limit

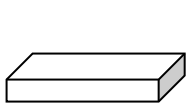
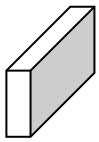
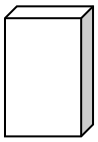
Fundamental emission output power Limit			
☒	G_{TX} ＜6dBi		P_{out}≤30dBm
☒	G_{TX} ＞6dBi		
	☒	Non-Fix point-point	P_{out}≤30-(G_{TX} -6)
	☐	Fix point-point	P_{out}≤30-[(G_{TX}-6)]/3
	☐	Point-to-multipoint	Pout≤30-(GTX-6)
	☐	Overlap Beams	P_{out}≤30-[(G_{TX}-6)]/3
	☐	Aggregate power transmitted simultaneously on all beams	P_{out}≤30-[(G_{TX}-6)]/3
	☐	single directional beam	P_{out}≤30-[(G_{TX}-6)]/3+8dB
Note 1 : G_{TX} directional gain of transmitting antennas. Note 2 : P_{out} is maximum peak conducted output power .			

8.4. Test Procedure

Fundamental emission output power Test Method						
	References Rule				Chapter	Description
☒	ANSI C63.10				11.9	Fundamental emission output power
	☐	ANSI C63.10			11.9.1	Maximum peak conducted output power
		☐	ANSI C63.10		11.9.1.1	RBW ≥ DTS bandwidth
		☐	ANSI C63.10		11.9.1.2	Integrated band power method
		☐	ANSI C63.10		11.9.1.3	PKPM1 Peak power meter method
	☒	ANSI C63.10			11.9.2	Maximum conducted (average) output power
		☐	ANSI C63.10		11.9.2.2	Measurement using a spectrum analyzer (SA)
			☐	ANSI C63.10	11.9.2.2.2	Method AVGSA-1(Duty cycle≥98%)
			☐	ANSI C63.10	11.9.2.2.3	Method AVGSA-1A(Duty cycle≥98%)
			☐	ANSI C63.10	11.9.2.2.4	Method AVGSA-2(Duty cycle≤98%)
			☐	ANSI C63.10	11.9.2.2.5	Method AVGSA-2A(Duty cycle≤98%)
			☐	ANSI C63.10	11.9.2.2.4	Method AVGSA-3
			☐	ANSI C63.10	11.9.2.2.5	Method AVGSA-3A
		☒	ANSI C63.10		11.9.2.3	Measurement using a power meter (PM)
			☒	ANSI C63.10	11.9.2.3.1	Method AVGPM
			☐	ANSI C63.10	11.9.2.3.2	Method AVGPM-G

Directional Gain Calculations for In-Band test method				
	References Rule		Chapter	Description
☐	KDB 662911		F2)a)	Basic methodology
	☐	KDB 662911	F2)a) (i)	transmit signals are correlated
	☐	KDB 662911	F2)a) (ii)	transmit signals are uncorrelated
☐	KDB 662911		F2)b)	Sectorized antenna systems.
☐	KDB 662911		F2)c)	Cross-polarized antennas
	☐	ANSI C63.10	F2)c) (i)	Cross-polarized antennas
	☐	ANSI C63.10	F2)c) (ii)	Multiple antennas
☒	KDB 662911		F2)e)	Spatial Multiplexing
	☐	KDB 662911	F2)e) (i)	Antennas have the same gain
	☐	KDB 662911	F2)e) (ii)	Antenna have the different gain with one spatial stream
	☒	KDB 662911	F2)e) (iii)	Antenna have the different gain with more than one spatial stream
☒	KDB 662911		F2)f)	Cyclic Delay Diversity (CDD)
	☐	KDB 662911	F2)f) (i)	Antennas have the same gain
	☐	KDB 662911	F2)f) (ii)	Antenna have the different gain with one spatial stream
	☒	KDB 662911	F2)f) (iii)	Antenna have the different gain with more than one spatial stream

8.5. EUT test definition

<table>
<tr><th>Item</th><th colspan="4">Fundamental emission output power</th></tr>
<tr><td rowspan="3">Device Category</td><td>☐</td><td colspan="3">Fixed point-to-point</td></tr>
<tr><td>☐</td><td colspan="3">Emit multiple directional beams, simultaneously or sequentially</td></tr>
<tr><td>☒</td><td colspan="3">Other cases</td></tr>
<tr><td>Test mode</td><td colspan="4">Mode 1~4</td></tr>
<tr><td rowspan="12">Test method</td><td>☐</td><td colspan="3">Radiated</td></tr>
<tr><td rowspan="3"></td><td>X Axis</td><td>Y Axis</td><td>Z Axis</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Worst Axis ☐</td><td>Worst Axis ☐</td><td>Worst Axis ☐</td></tr>
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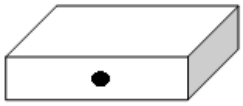
<tr><td></td><td colspan="3">  </td></tr>
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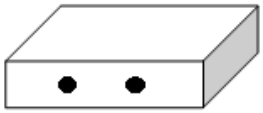
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td>Chain 2</td><td>Chain 3</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
</table>

8.6. Test Result

Radio 1：

Mode	Test Conditions	Frequency（MHz）	Conducted power（dBm）	EIRP Power (dbm)	Conducted Limit（dBm）	EIRP Limit（dBm）	Ttst result
11b	NTNV	2412	22.35	26.35	30	36	Pass
	NTNV	2417	22.63	26.63	30	36	Pass
	NTNV	2437	22.71	26.71	30	36	Pass
	NTNV	2457	22.93	26.93	30	36	Pass
	NTNV	2462	22.26	26.26	30	36	Pass
	NTNV	2412	22.35	26.35	30	36	Pass

Mode	Test Conditions	Frequency（MHz）	Conducted power（dBm）	EIRP Power (dbm)	Conducted Limit（dBm）	EIRP Limit（dBm）	Ttst result
11g	NTNV	2412	20.52	24.52	30	36	Pass
	NTNV	2417	21.03	25.03	30	36	Pass
	NTNV	2437	20.79	24.79	30	36	Pass
	NTNV	2457	20.71	24.71	30	36	Pass
	NTNV	2462	19.87	23.87	30	36	Pass
	NTNV	2412	20.52	24.52	30	36	Pass

Mode	Test Conditions	Frequency（MHz）	Conducted power（dBm）	EIRP Power (dbm)	Conducted Limit（dBm）	EIRP Limit（dBm）	Ttst result
11n20	NTNV	2412	20.49	24.49	30	36	Pass
	NTNV	2417	20.92	24.92	30	36	Pass
	NTNV	2437	20.73	24.73	30	36	Pass
	NTNV	2457	20.98	24.98	30	36	Pass
	NTNV	2462	19.62	23.62	30	36	Pass
	NTNV	2412	20.49	24.49	30	36	Pass

Mode	Test Conditions	Frequency（MHz）	Conducted power（dBm）	EIRP Power (dbm)	Conducted Limit（dBm）	EIRP Limit（dBm）	Ttst result
11ax20	NTNV	2412	20.15	24.15	30	36	Pass
	NTNV	2417	21.31	25.31	30	36	Pass
	NTNV	2437	21.46	25.46	30	36	Pass
	NTNV	2457	21.29	25.29	30	36	Pass
	NTNV	2462	19.96	23.96	30	36	Pass
	NTNV	2412	20.15	24.15	30	36	Pass

Radio 2：SISO

Mode	Test Conditions	Frequency（MHz）	Ant1	Ant2	Ant1	Ant2	Conduced Limit（dBm）	EIRP Limit（dBm）	Ttst result
			Conduced power（dBm）	Conducted power（dBm）	EIRP power（dBm）	EIRP power（dBm）			
11b	NTNV	2412	21.73	21.33	25.53	25.23	30	36	Pass
	NTNV	2417	21.86	21.46	25.66	25.36	30	36	Pass
	NTNV	2437	21.82	21.49	25.62	25.39	30	36	Pass
	NTNV	2457	22.16	21.73	25.96	25.63	30	36	Pass
	NTNV	2462	21.67	21.26	25.47	25.16	30	36	Pass
	NTNV	2412	21.73	21.33	25.53	25.23	30	36	Pass

Mode	Test Conditions	Frequency（MHz）	Ant1	Ant2	Ant1	Ant2	Conduced Limit（dBm）	EIRP Limit（dBm）	Ttst result
			Conduced power（dBm）	Conducted power（dBm）	EIRP power（dBm）	EIRP power（dBm）			
11g	NTNV	2412	19.79	19.29	23.59	23.19	30	36	Pass
	NTNV	2417	20.35	19.76	24.15	23.66	30	36	Pass
	NTNV	2437	20.51	19.92	24.31	23.82	30	36	Pass
	NTNV	2457	20.27	19.65	24.07	23.55	30	36	Pass
	NTNV	2462	19.11	18.69	22.91	22.59	30	36	Pass
	NTNV	2412	19.79	19.29	23.59	23.19	30	36	Pass

Mode	Test Conditions	Frequency（MHz）	Ant1	Ant2	Ant1	Ant2	Conduced Limit（dBm）	EIRP Limit（dBm）	Ttst result
			Conduced power（dBm）	Conducted power（dBm）	EIRP power（dBm）	EIRP power（dBm）			
11n20	NTNV	2412	19.81	19.32	23.61	23.22	30	36	Pass
	NTNV	2417	20.31	19.73	24.11	23.63	30	36	Pass
	NTNV	2437	20.55	19.96	24.35	23.86	30	36	Pass
	NTNV	2457	20.33	19.69	24.13	23.59	30	36	Pass
	NTNV	2462	19.06	18.51	22.86	22.41	30	36	Pass
	NTNV	2412	19.81	19.32	23.61	23.22	30	36	Pass

Mode	Test Conditions	Frequency（MHz）	Ant1	Ant2	Ant1	Ant2	Conduced Limit（dBm）	EIRP Limit（dBm）	Ttst result
			Conduced power（dBm）	Conducted power（dBm）	EIRP power（dBm）	EIRP power（dBm）			
11ax20	NTNV	2412	19.26	18.71	23.06	22.61	30	36	Pass
	NTNV	2417	20.51	19.96	24.31	23.86	30	36	Pass
	NTNV	2437	20.98	20.53	24.78	24.43	30	36	Pass
	NTNV	2457	21.07	20.59	24.87	24.49	30	36	Pass
	NTNV	2462	19.16	18.65	22.96	22.55	30	36	Pass
	NTNV	2412	19.26	18.71	23.06	22.61	30	36	Pass

Radio 2：CDD

Mode	Test Conditions	Frequency（MHz）	Ant1	Ant2	Ant1+2	Ant1+2	Conduced Limit（dBm）	EIRP Limit（dBm）	Ttst result
			Conduced power（dBm）	Conducted power（dBm）	Conduced power（dBm）	EIRP power（dBm）			
11b	NTNV	2412	21.75	21.36	24.57	28.47	30	36	Pass
	NTNV	2417	21.89	21.51	24.71	28.61	30	36	Pass
	NTNV	2437	21.76	21.43	24.61	28.51	30	36	Pass
	NTNV	2457	22.12	21.62	24.89	28.79	30	36	Pass
	NTNV	2462	21.93	21.68	24.82	28.72	30	36	Pass
	NTNV	2412	21.75	21.36	24.57	28.47	30	36	Pass

Mode	Test Conditions	Frequency（MHz）	Ant1	Ant2	Ant1+2	Ant1+2	Conduced Limit（dBm）	EIRP Limit（dBm）	Ttst result
			Conduced power（dBm）	Conducted power（dBm）	Conduced power（dBm）	EIRP power（dBm）			
11g	NTNV	2412	19.72	19.31	22.53	26.43	30	36	Pass
	NTNV	2417	20.31	19.82	23.08	26.98	30	36	Pass
	NTNV	2437	20.46	19.98	23.24	27.14	30	36	Pass
	NTNV	2457	19.41	18.97	22.21	26.11	30	36	Pass
	NTNV	2462	18.39	17.98	21.20	25.10	30	36	Pass
	NTNV	2412	19.72	19.31	22.53	26.43	30	36	Pass

Mode	Test Conditions	Frequency（MHz）	Ant1	Ant2	Ant1+2	Ant1+2	Conduced Limit（dBm）	EIRP Limit（dBm）	Ttst result
			Conduced power（dBm）	Conducted power（dBm）	Conduced power（dBm）	EIRP power（dBm）			
11n20	NTNV	2412	18.29	17.92	21.12	25.02	30	36	Pass
	NTNV	2417	20.29	19.68	23.01	26.91	30	36	Pass
	NTNV	2437	20.51	19.98	23.26	27.16	30	36	Pass
	NTNV	2457	19.45	18.91	22.20	26.10	30	36	Pass
	NTNV	2462	18.16	17.82	21.00	24.90	30	36	Pass
	NTNV	2412	18.29	17.92	21.12	25.02	30	36	Pass

Mode	Test Conditions	Frequency（MHz）	Ant1	Ant2	Ant1+2	Ant1+2	Conduced Limit（dBm）	EIRP Limit（dBm）	Ttst result
			Conduced power（dBm）	Conducted power（dBm）	Conduced power（dBm）	EIRP power（dBm）			
11ax20	NTNV	2412	18.66	18.25	21.47	25.37	30	36	Pass
	NTNV	2417	20.36	20.03	23.21	27.11	30	36	Pass
	NTNV	2437	21.03	20.68	23.87	27.77	30	36	Pass
	NTNV	2457	19.31	18.95	22.14	26.04	30	36	Pass
	NTNV	2462	18.52	18.11	21.33	25.23	30	36	Pass
	NTNV	2412	18.66	18.25	21.47	25.37	30	36	Pass

Radio 2：Beamforming

Mode	Test Conditions	Frequency（MHz）	Ant1	Ant2	Ant1+2	Ant1+2	Conduced Limit（dBm）	EIRP Limit（dBm）	Ttst result
			Conduced power（dBm）	Conducted power（dBm）	Conduced power（dBm）	EIRP power（dBm）			
11n20	NTNV	2412	18.39	17.82	21.12	28.03	29.09	36	Pass
	NTNV	2417	20.33	19.77	23.07	29.98	29.09	36	Pass
	NTNV	2437	20.59	20.03	23.33	30.24	29.09	36	Pass
	NTNV	2457	19.58	19.06	22.34	29.25	29.09	36	Pass
	NTNV	2462	18.22	17.83	21.04	27.95	29.09	36	Pass
	NTNV	2412	18.39	17.82	21.12	28.03	29.09	36	Pass

Mode	Test Conditions	Frequency（MHz）	Ant1	Ant2	Ant1+2	Ant1+2	Conduced Limit（dBm）	EIRP Limit（dBm）	Ttst result
			Conduced power（dBm）	Conducted power（dBm）	Conduced power（dBm）	EIRP power（dBm）			
11ax20	NTNV	2412	18.63	18.19	21.43	28.34	29.09	36	Pass
	NTNV	2417	20.32	19.89	23.12	30.03	29.09	36	Pass
	NTNV	2437	21.01	20.65	23.84	30.75	29.09	36	Pass
	NTNV	2457	19.35	18.91	22.15	29.06	29.09	36	Pass
	NTNV	2462	18.55	18.03	21.31	28.22	29.09	36	Pass
	NTNV	2412	18.63	18.19	21.43	28.34	29.09	36	Pass

Power Index:

Radio 1:

Mode	Frequency (MHz)	Power Index	Mode	Frequency (MHz)	Power Index	Mode	Frequency (MHz)	Power Index
11b	2412	0	11g	2412	79	11n20	2412	79
	2417	0		2417	80		2417	80
	2437	0		2437	80		2437	80
	2457	0		2457	79		2457	80
	2462	1		2462	75		2462	74
	2412	0		2412	79		2412	79

Mode	Frequency (MHz)	Power Index	Mode	Frequency (MHz)	Power Index	Mode	Frequency (MHz)	Power Index
11ax20	2412	75		N/A	N/A		N/A	N/A
	2417	80		N/A	N/A		N/A	N/A
	2437	80		N/A	N/A		N/A	N/A
	2457	80		N/A	N/A		N/A	N/A
	2462	74		N/A	N/A		N/A	N/A
	2412	75		N/A	N/A		N/A	N/A

Radio 2:SISO

Mode	Frequency (MHz)	Power Index	Mode	Frequency (MHz)	Power Index	Mode	Frequency (MHz)	Power Index
11b	2412	0	11g	2412	79	11n20	2412	79
	2417	0		2417	80		2417	80
	2437	0		2437	80		2437	80
	2457	0		2457	79		2457	80
	2462	1		2462	75		2462	74
	2412	0		2412	79		2412	79

Mode	Frequency (MHz)	Power Index	Mode	Frequency (MHz)	Power Index	Mode	Frequency (MHz)	Power Index
11ax20	2412	75		N/A	N/A		N/A	N/A
	2417	80		N/A	N/A		N/A	N/A
	2437	80		N/A	N/A		N/A	N/A
	2457	80		N/A	N/A		N/A	N/A
	2462	74		N/A	N/A		N/A	N/A
	2412	75		N/A	N/A		N/A	N/A

Radio 2:CDD

Mode	Frequency (MHz)	Power Index	Mode	Frequency (MHz)	Power Index	Mode	Frequency (MHz)	Power Index
11b	2412	0	11g	2412	79	11n20	2412	72
	2417	0		2417	80		2417	80
	2437	0		2437	76		2437	80
	2457	0		2457	72		2457	76
	2462	0		2462	79		2462	71
	2412	0		2412	80		2412	72

Mode	Frequency (MHz)	Power Index	Mode	Frequency (MHz)	Power Index	Mode	Frequency (MHz)	Power Index
11ax20	2412	71		N/A	N/A		N/A	N/A
	2417	77		N/A	N/A		N/A	N/A
	2437	80		N/A	N/A		N/A	N/A
	2457	73		N/A	N/A		N/A	N/A
	2462	69		N/A	N/A		N/A	N/A
	2412	71		N/A	N/A		N/A	N/A

Radio 2: Beamforming

Mode	Frequency (MHz)	Power Index	Mode	Frequency (MHz)	Power Index	Mode	Frequency (MHz)	Power Index
11b	2412	72	11g	2412	71	11n20	N/A	N/A
	2417	80		2417	77		N/A	N/A
	2437	80		2437	80		N/A	N/A
	2457	76		2457	73		N/A	N/A
	2462	71		2462	69		N/A	N/A
	2412	72		2412	71		N/A	N/A

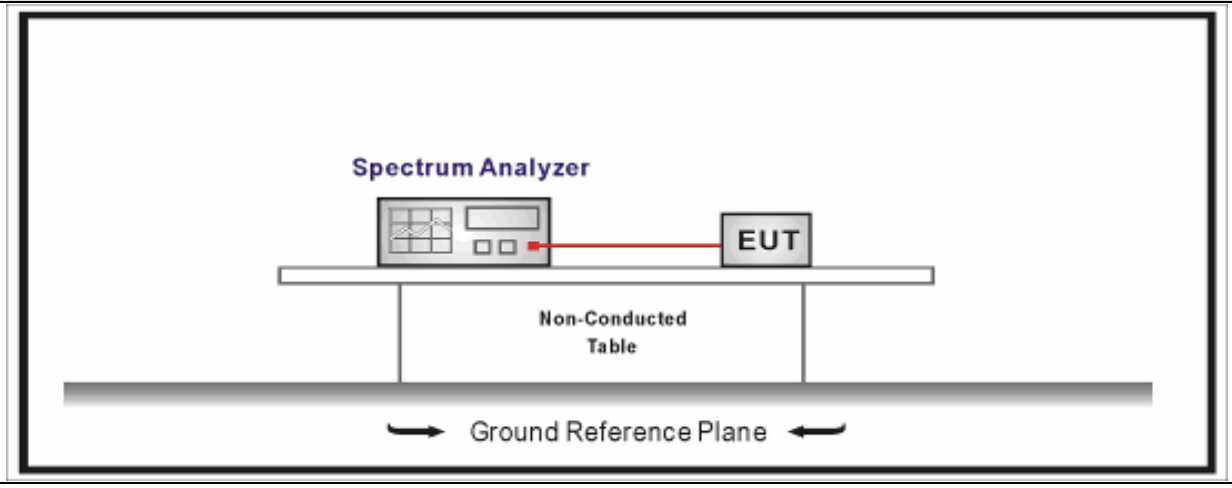
9. Power Spectral Density

9.1. Test Equipment

Power Spectral Density / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2021.07.11	2022.07.10
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2021.08.12	2022.08.11
MXA Signal Anlyzer	Keysight	N9020A	MY56060147	2021.07.11	2022.07.10
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2021.08.04	2022.08.03
Note: All equipment are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

9.2. Test Setup

Power Spectral Density test setup



9.3. Limit

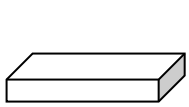
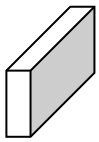
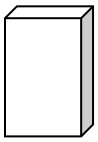
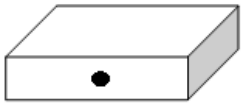
Power Spectral Density Limit
Power Spectral Density≤8dBm/3kHz

9.4. Test Procedure

Power Spectral Density Test Method				
	References Rule		Chapter	Description
☒	ANSI C63.10		11.10	Maximum power spectral density level in the fundamental emission
	☒	ANSI C63.10	11.10.2	Method PKPSD (peak PSD)
	☐	ANSI C63.10	11.10.3	Method AVGPSD-1(Duty cycle≥98%)
	☐	ANSI C63.10	11.10.4	Method AVGPSD-1A(Duty cycle≥98%)
	☐	ANSI C63.10	11.10.5	Method AVGPSD-2(Duty cycle＜98%)
	☐	ANSI C63.10	11.10.6	Method AVGPSD-2A(Duty cycle＜98%)
	☐	ANSI C63.10	11.10.7	Method AVGPSD-3
	☐	ANSI C63.10	11.10.8	Method AVGPSD-3A

Directional Gain Calculations for In-Band test method				
	Referred Rule		Chapter	Description
☐	KDB 662911		F2)a)	Basic methodology
	☐	KDB 662911	F2)a) (i)	transmit signals are correlated
	☐	KDB 662911	F2)a) (ii)	transmit signals are uncorrelated
☐	KDB 662911		F2)b)	Sectorized antenna systems.
☐	KDB 662911		F2)c)	Cross-polarized antennas
	☐	ANSI C63.10	F2)c) (i)	Cross-polarized antennas
	☐	ANSI C63.10	F2)c) (ii)	Multiple antennas
☒	KDB 662911		F2)e)	Spatial Multiplexing
	☐	KDB 662911	F2)e) (i)	Antennas have the same gain
	☐	KDB 662911	F2)e) (ii)	Antenna have the different gain with one spatial stream
	☒	KDB 662911	F2)e) (iii)	Antenna have the different gain with more than one spatial stream
☒	KDB 662911		F2)f)	Cyclic Delay Diversity (CDD)
	☐	KDB 662911	F2)f) (i)	Antennas have the same gain
	☐	KDB 662911	F2)f) (ii)	Antenna have the different gain with one spatial stream
	☒	KDB 662911	F2)f) (iii)	Antenna have the different gain with more than one spatial stream

9.5. EUT test definition

<table>
<tr><th>Item</th><th colspan="4">Power Spectral Density Test Method</th></tr>
<tr><td rowspan="3">Device Category</td><td>☐</td><td colspan="3">Fixed point-to-point</td></tr>
<tr><td>☐</td><td colspan="3">Emit multiple directional beams, simultaneously or sequentially</td></tr>
<tr><td>☒</td><td colspan="3">Other cases</td></tr>
<tr><td>Test mode</td><td colspan="4">Mode 1~4</td></tr>
<tr><td rowspan="13">Test method</td><td>☐</td><td colspan="3">Radiated</td></tr>
<tr><td rowspan="3"></td><td>X Axis</td><td>Y Axis</td><td>Z Axis</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Worst Axis ☐</td><td>Worst Axis ☐</td><td>Worst Axis ☐</td></tr>
<tr><td>☒</td><td colspan="3">Conducted</td></tr>
<tr><td>☒</td><td colspan="3">Chain 1</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
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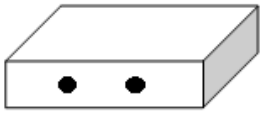
<tr><td></td><td colspan="3">  </td></tr>
<tr><td>☐</td><td>Chain 1</td><td>Chain 2</td><td>Chain 3</td></tr>
<tr><td></td><td colspan="3">  </td></tr>
</table>

9.6. Test Result

Product Name	:	Wireless Access Point	Power	:	AC 120V/60Hz
Test Mode	:	Mode 1~4	Test Site	:	TR8
Test Date	:	2019.11.06	Test Engineer	:	Eric

Radio 1:

Mode	Channel	Test Frequency (MHz)	Measurement PSD (dBm/3kHz) Worst Chain	Limit (dBm/3kHz)	Result
1	01	2412	-9.457	8.0	Pass
1	06	2437	-8.643	8.0	Pass
1	11	2462	-8.770	8.0	Pass
2	01	2412	-13.652	8.0	Pass
2	06	2437	-12.821	8.0	Pass
2	11	2462	-12.960	8.0	Pass
3	01	2412	-15.180	8.0	Pass
3	06	2437	-13.773	8.0	Pass
3	11	2462	-15.018	8.0	Pass
4	01	2412	-14.793	8.0	Pass
4	06	2437	-13.681	8.0	Pass
4	11	2462	-15.164	8.0	Pass

Note1: Both of two chains are tested and only the worst chain of the PSD was showed.

Radio 2(CDD):

Mode	Channel	Test Frequency (MHz)	Measurement PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
			Worst Chain		
1	01	2412	-9.485	4.08	Pass
1	06	2437	-9.618	4.08	Pass
1	11	2462	-9.027	4.08	Pass
2	01	2412	-14.026	4.08	Pass
2	06	2437	-15.437	4.08	Pass
2	11	2462	-13.043	4.08	Pass
3	01	2412	-14.484	4.08	Pass
3	06	2437	-14.272	4.08	Pass
3	11	2462	-13.964	4.08	Pass
4	01	2412	-15.027	4.08	Pass
4	06	2437	-14.161	4.08	Pass
4	11	2462	-15.307	4.08	Pass

Note1: Both of two chains are tested and only the worst chain of the PSD was showed.

2: PSD limit = 8dBm/3kHz – 10Log(2) – (3.9 + 10Log(2) - 6)

Radio 2(Beamforming):

Mode	Channel	Test Frequency (MHz)	Measurement PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
			Worst Chain		
5	01	2412	-13.280	4.08	Pass
5	06	2437	-13.437	4.08	Pass
5	11	2462	-14.871	4.08	Pass
6	01	2412	-14.685	4.08	Pass
6	06	2437	-14.453	4.08	Pass
6	11	2462	-14.788	4.08	Pass

Note1: Both of two chains are tested and only the worst chain of the PSD was showed.

2: PSD limit = 8dBm/3kHz – 10Log(2) – (3.9 + 10Log(2) - 6)

10. Antenna Requirement

10.1. Limit

Antenna Requirement Limit
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 shall be considered sufficient to comply with the provisions of this section. 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. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

10.2. Antenna Connector Construction

Antenna Connector Construction	
☐	The use of a permanently attached antenna
☐	The antenna use of a unique coupling to the intentional radiator
☒	The use of a nonstandard antenna jack or electrical connector
Please refer to the attached document “Internal Photograph” to show the antenna connector.	

The End