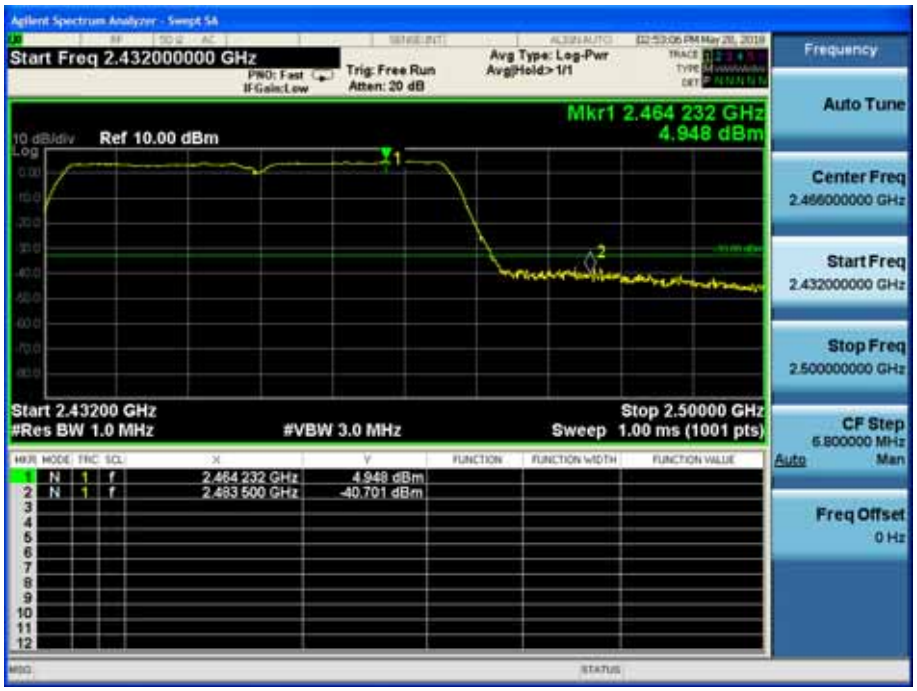
2412MHz by 802.11ac20:

2462MHz by 802.11ac20:

2422MHz by 802.11ac40:

2452MHz by 802.11ac40:

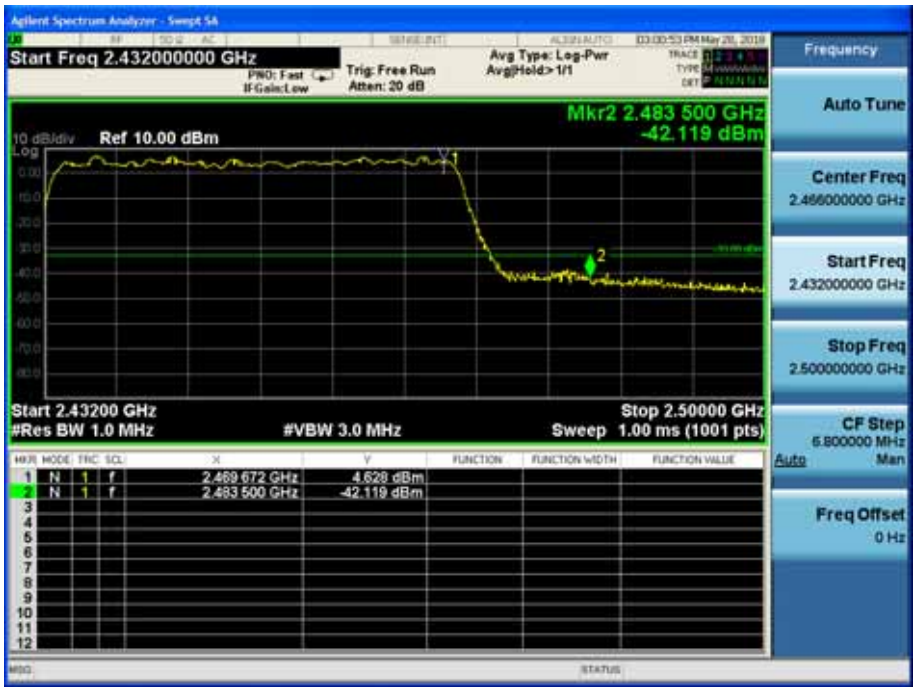


2412MHz by 802.11ax20:

2462MHz by 802.11ax20:

2422MHz by 802.11ax40:

2452MHz by 802.11ax40:



AV-Ant 0+1 with Beam-forming:

Band I AV Limit=54 dBuV/m-95.2-10lg2（2tx）-6.9（Directional Gain）-1.2（cable loss）=-53dbm

2412MHz by 802.11b:

2462MHz by 802.11b:

2412MHz by 802.11g:

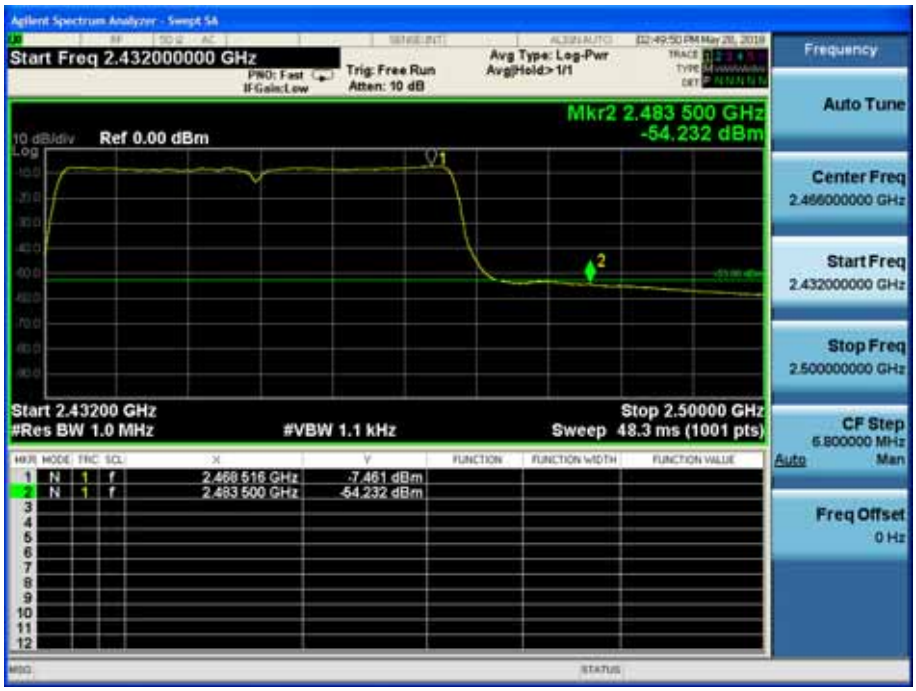
2462MHz by 802.11g:

2412MHz by 802.11n20:

2462MHz by 802.11n20:

2422MHz by 802.11n40:

2452MHz by 802.11n40:

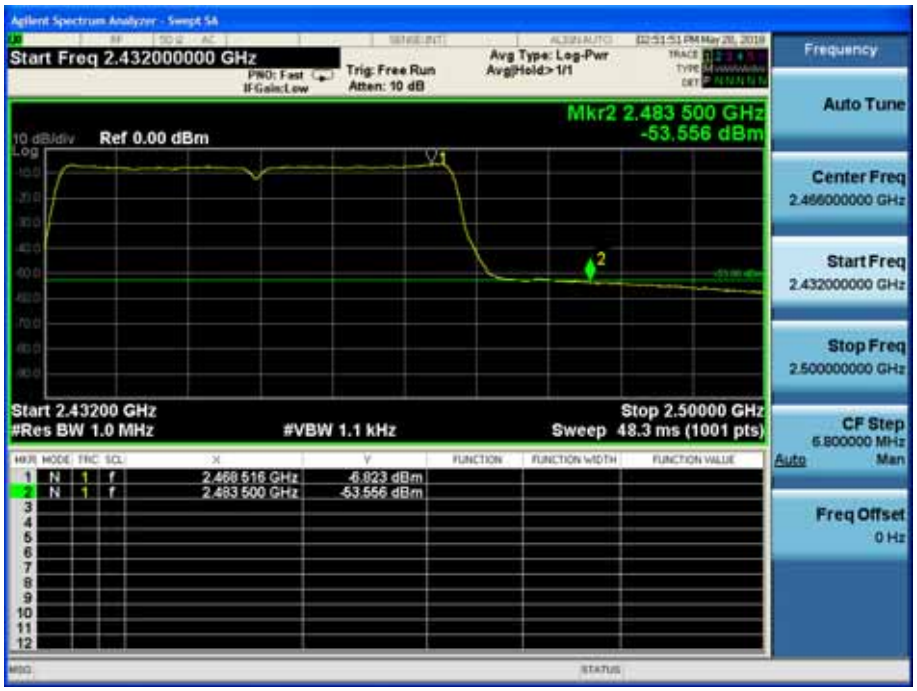


2412MHz by 802.11ac20:

2462MHz by 802.11ac20:

2422MHz by 802.11ac40:

2452MHz by 802.11ac40:

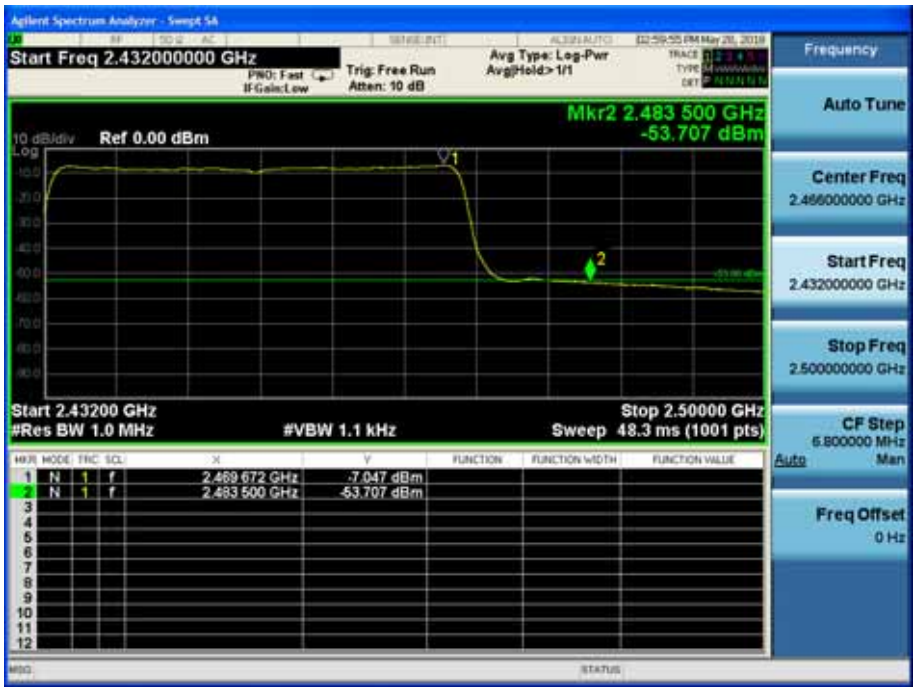


2412MHz by 802.11ax20:

2462MHz by 802.11ax20:

2422MHz by 802.11ax40:

2452MHz by 802.11ax40:



PK-Ant 0+1 with Beam-forming:

Band I PK Limit=74 dBuV/m-95.2-10lg2（2tx）-6.9（Directional Gain）-1.2（cable loss）=-33dbm

2412MHz by 802.11b:

2462MHz by 802.11b:

2412MHz by 802.11g:

2462MHz by 802.11g:

2412MHz by 802.11n20:

2462MHz by 802.11n20:

2422MHz by 802.11n40:

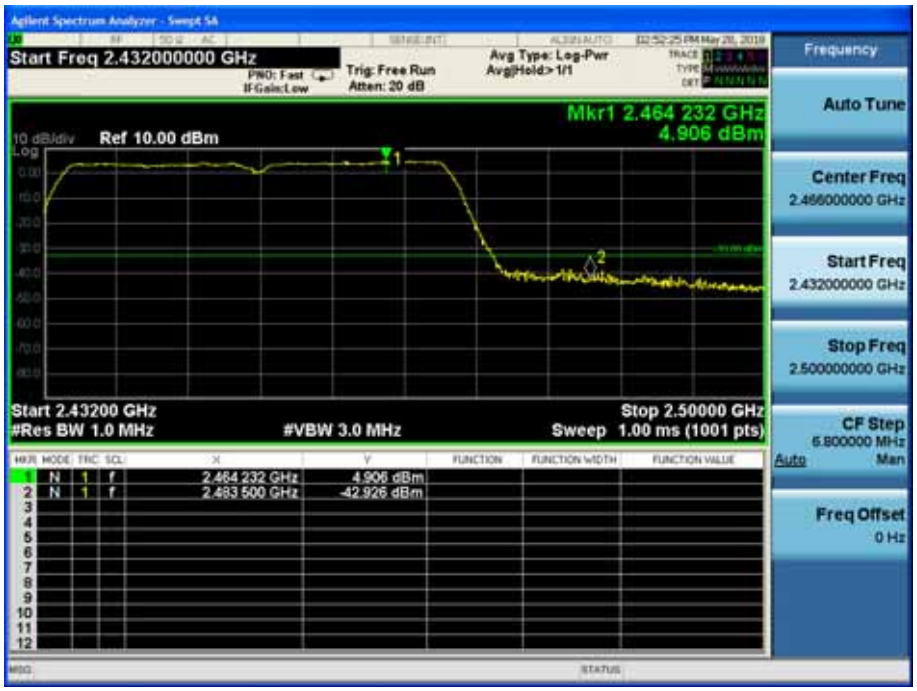
2452MHz by 802.11n40:

2412MHz by 802.11ac20:

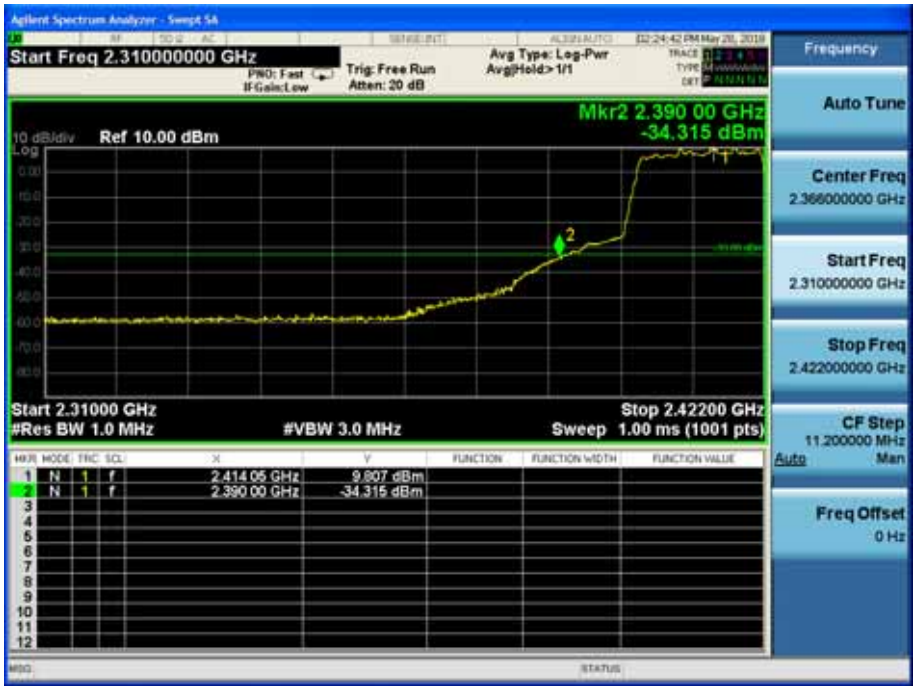
2462MHz by 802.11ac20:

2422MHz by 802.11ac40:

2452MHz by 802.11ac40:



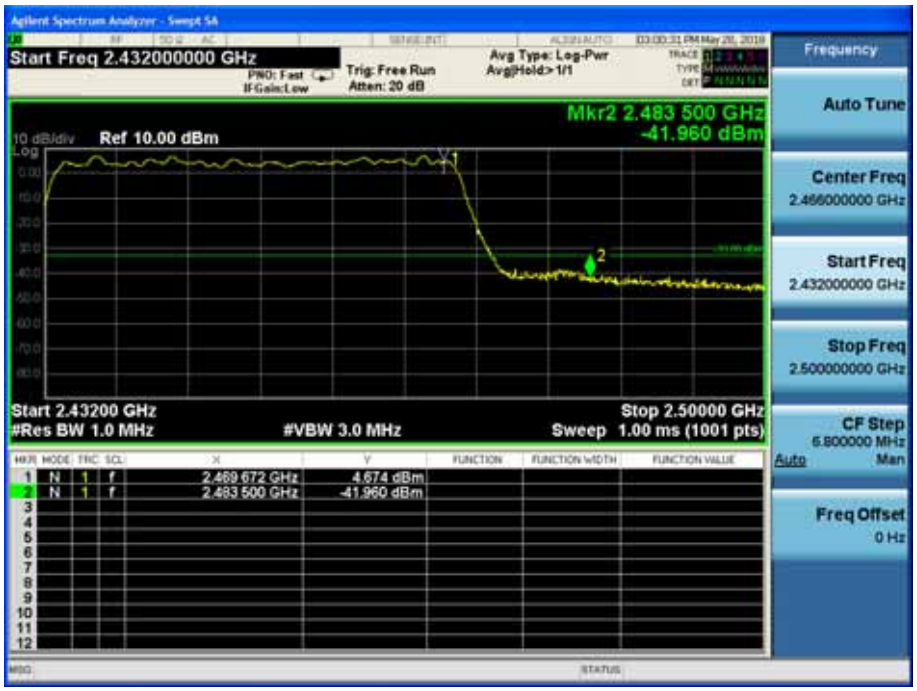
2412MHz by 802.11ax20:



2462MHz by 802.11ax20:

2422MHz by 802.11ax40:

2452MHz by 802.11ax40:



AV-Ant 0+1+2+3 with CDD:

Band I AV Limit=54 dBuV/m-95.2-10lg4（4tx）-10.18（Directional Gain）-2（cable loss）=-59.4dbm

2412MHz by 802.11b:

2462MHz by 802.11b:

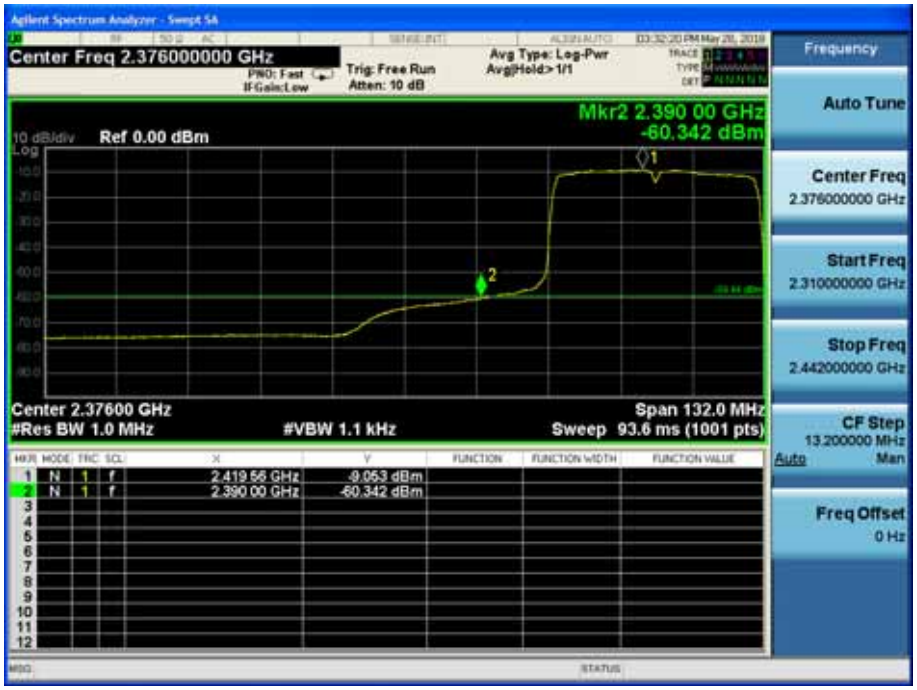
2412MHz by 802.11g:

2462MHz by 802.11g:

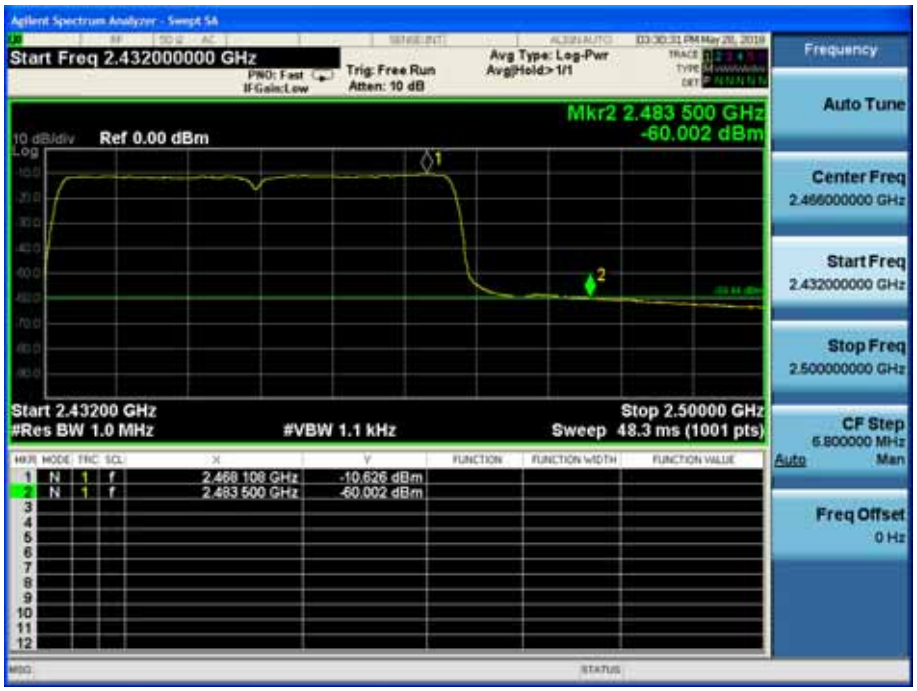
2412MHz by 802.11n20:

2462MHz by 802.11n20:

2422MHz by 802.11n40:



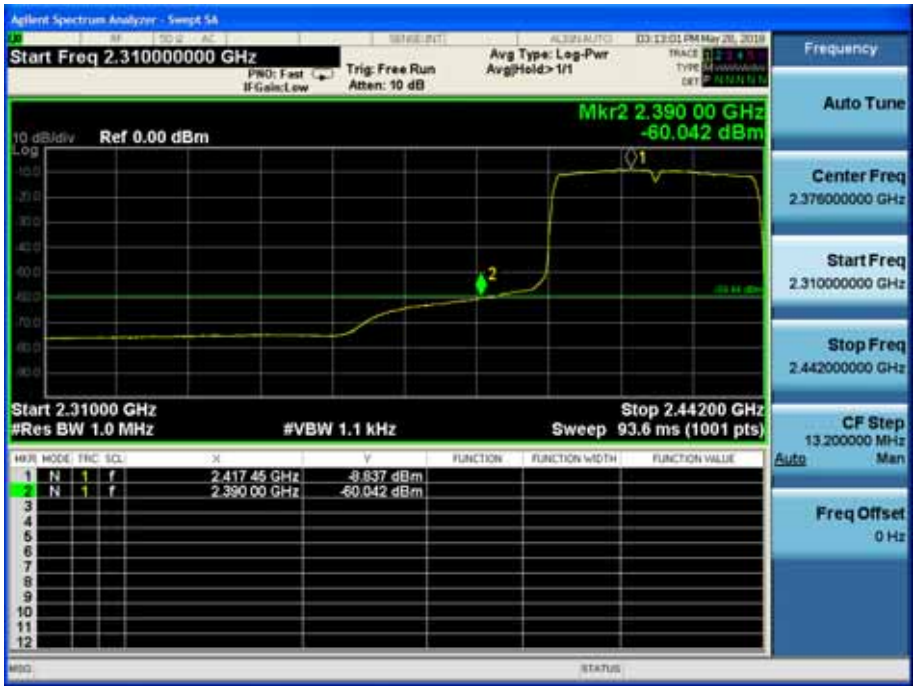
2452MHz by 802.11n40:



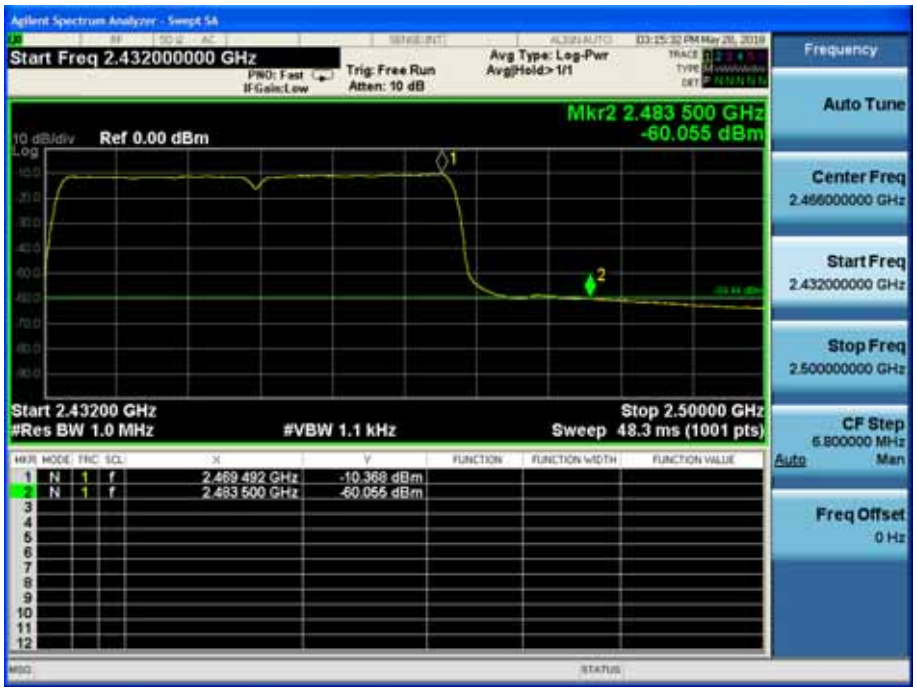
2412MHz by 802.11ac20:

2462MHz by 802.11ac20:

2422MHz by 802.11ac40:



2452MHz by 802.11ac40:

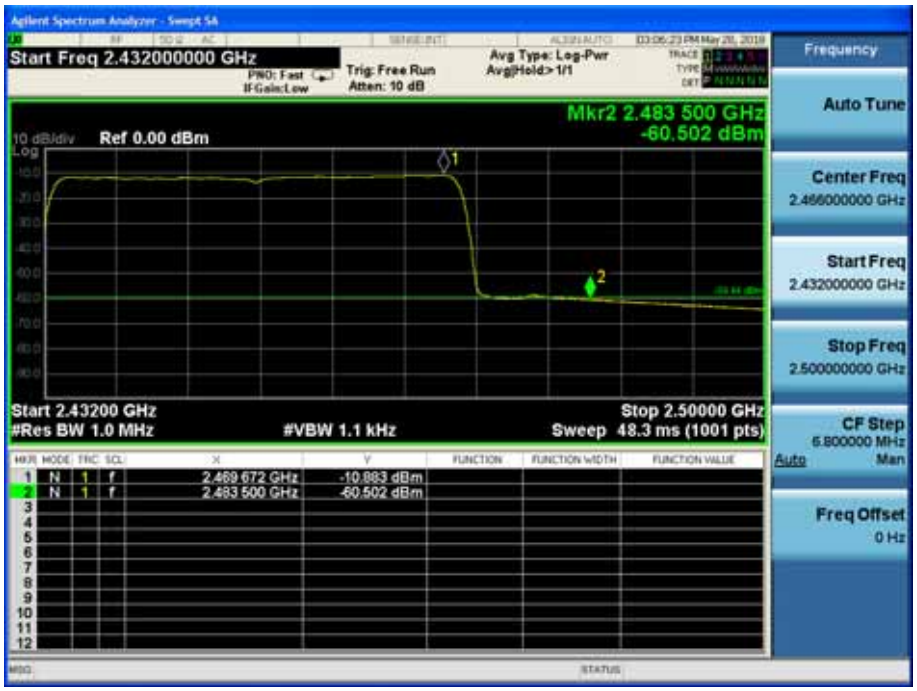


2412MHz by 802.11ax20:

2462MHz by 802.11ax20:

2422MHz by 802.11ax40:

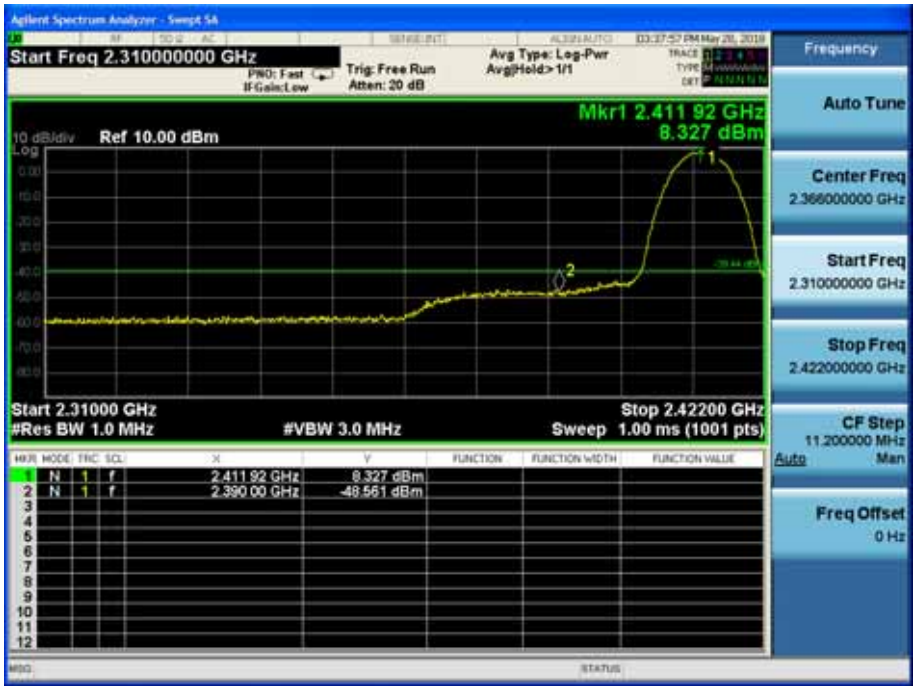
2452MHz by 802.11ax40:



PK-Ant 0+1+2+3 with CDD:

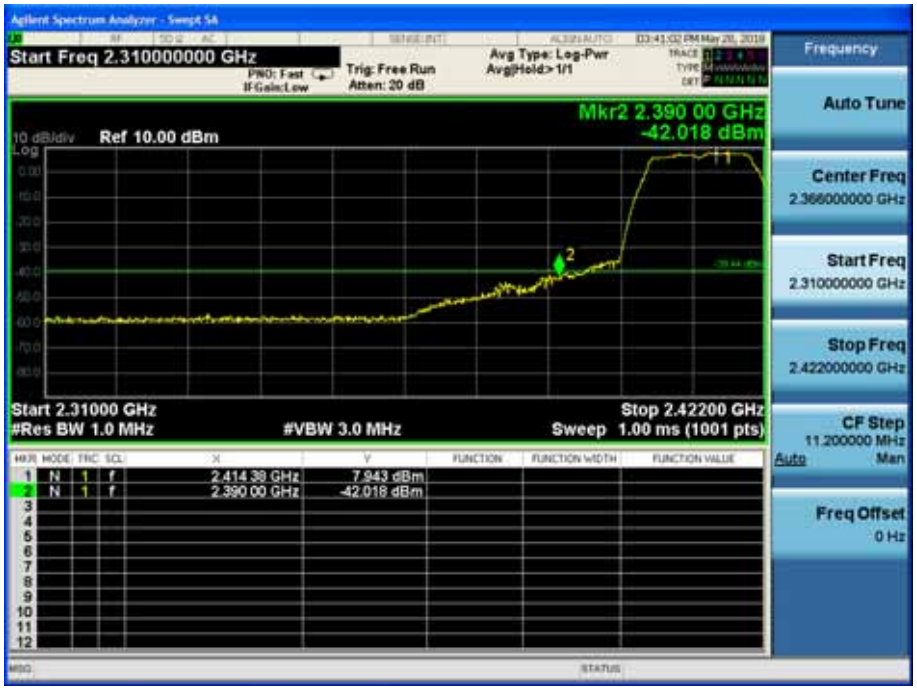
Band I PK Limit=54 dBuV/m-95.2-10lg4（4tx）-10.18（Directional Gain）-2（cable loss）=-39.4dbm

2412MHz by 802.11b:



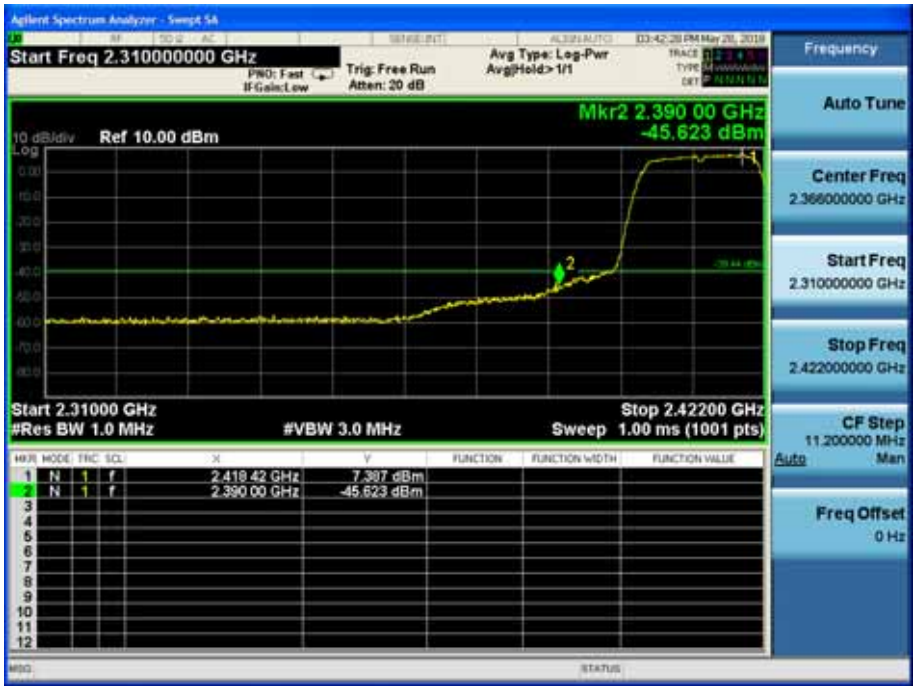
2462MHz by 802.11b:

2412MHz by 802.11g:



2462MHz by 802.11g:

2412MHz by 802.11n20:



2462MHz by 802.11n20:

2422MHz by 802.11n40:

2452MHz by 802.11n40:

2412MHz by 802.11ac20:

2462MHz by 802.11ac20:

2422MHz by 802.11ac40:

2452MHz by 802.11ac40:

2412MHz by 802.11ax20:

2462MHz by 802.11ax20:

2422MHz by 802.11ax40:

2452MHz by 802.11ax40:

AV-Ant 0+1+2+3 with Beam-forming:

Band I AV Limit=54 dBuV/m-95.2-10lg4（4tx）-10.18（Directional Gain）-2（cable loss）=-59.4dbm

2412MHz by 802.11b:

2462MHz by 802.11b:

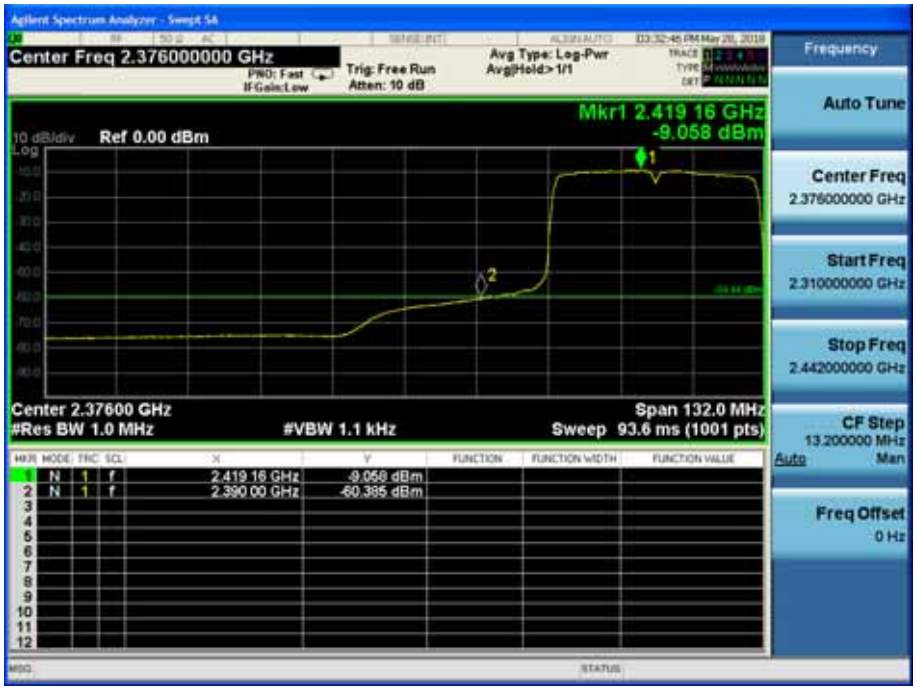
2412MHz by 802.11g:

2462MHz by 802.11g:

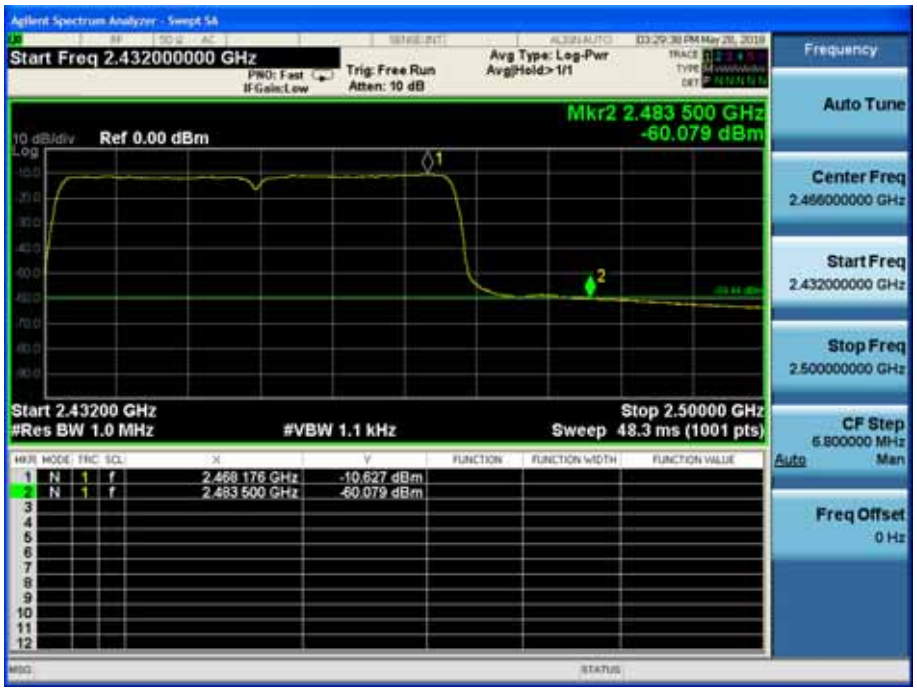
2412MHz by 802.11n20:

2462MHz by 802.11n20:

2422MHz by 802.11n40:



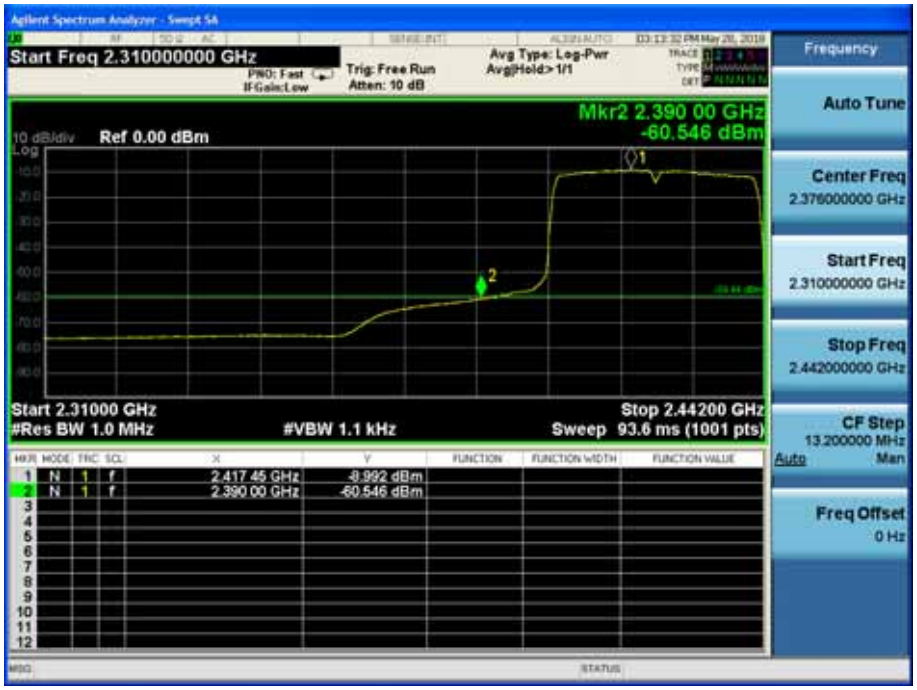
2452MHz by 802.11n40:



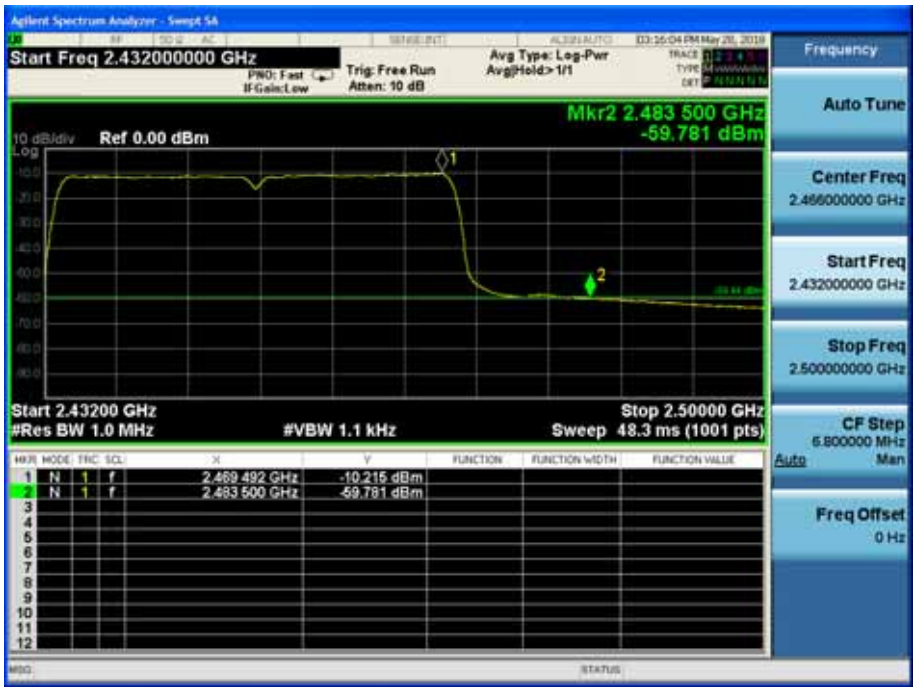
2412MHz by 802.11ac20:

2462MHz by 802.11ac20:

2422MHz by 802.11ac40:



2452MHz by 802.11ac40:



2412MHz by 802.11ax20:

2462MHz by 802.11ax20:

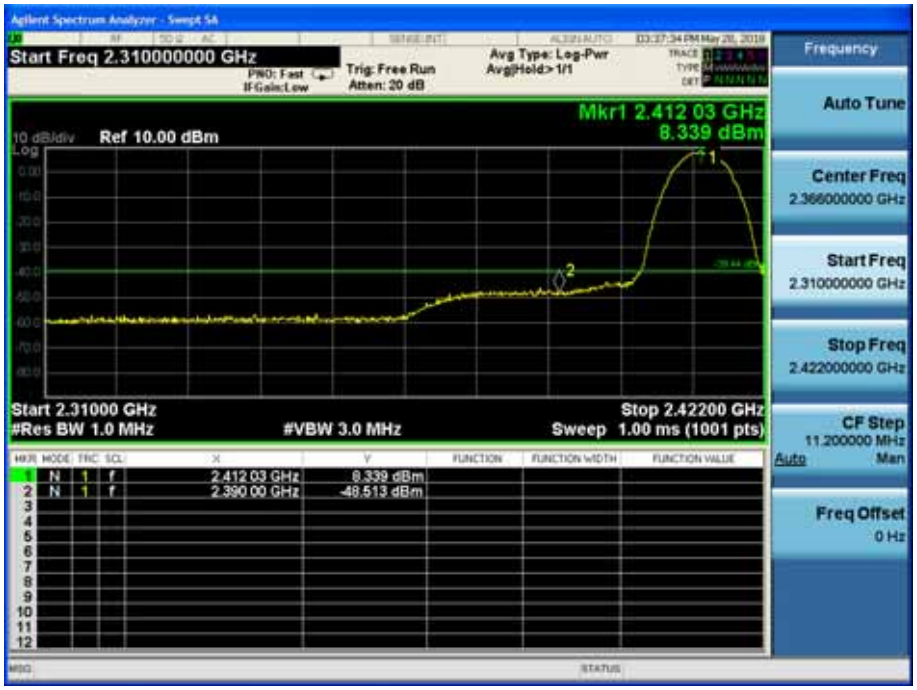
2422MHz by 802.11ax40:

2452MHz by 802.11ax40:

PK-Ant 0+1+2+3 with Beam-forming:

Band I PK Limit=74 dBuV/m-95.2-10lg4（4tx）-10.18（Directional Gain）-2（cable loss）=-39.4dbm

2412MHz by 802.11b:

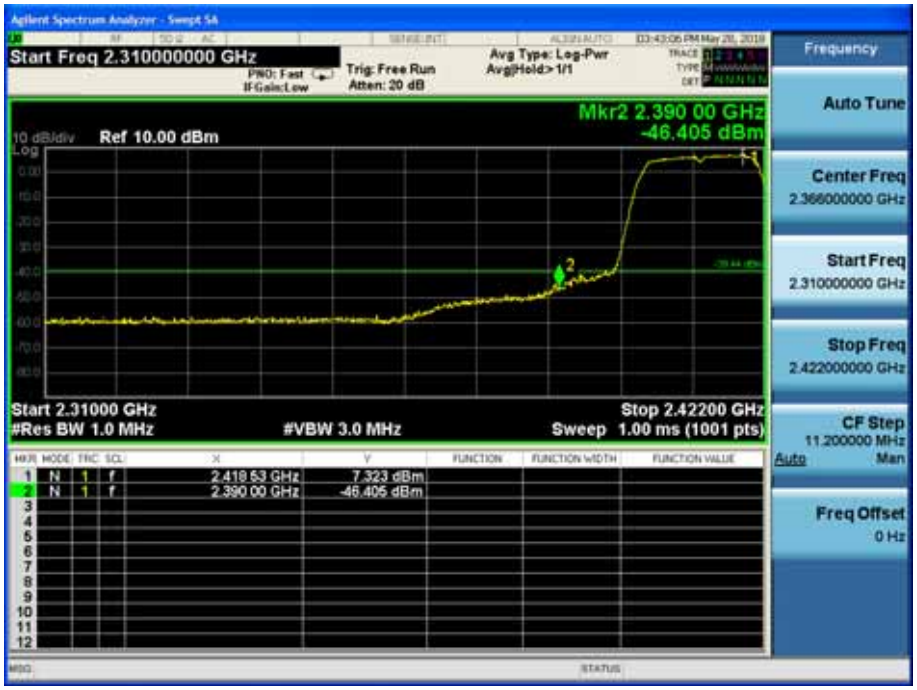


2462MHz by 802.11b:

2412MHz by 802.11g:

2462MHz by 802.11g:

2412MHz by 802.11n20:



2462MHz by 802.11n20:

2422MHz by 802.11n40:

2452MHz by 802.11n40:

2412MHz by 802.11ac20:

2462MHz by 802.11ac20:

2422MHz by 802.11ac40:

2452MHz by 802.11ac40:

2412MHz by 802.11ax20:

2462MHz by 802.11ax20:

2422MHz by 802.11ax40:

2452MHz by 802.11ax40:

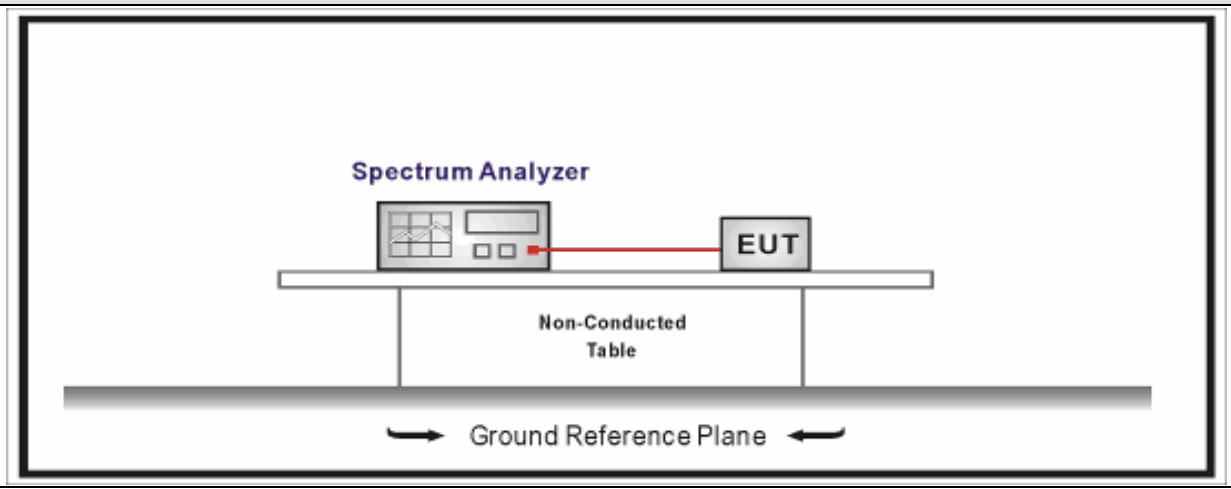
7. Occupied Bandwidth

7.1. Test Equipment

Occupied Bandwidth / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2018.02.04	2019.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2018.04.09	2019.04.08
MXA Signal Anlyzer	Keysight	N9020A	MY56060147	2018.04.09	2019.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2018.04.10	2019.04.09
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:



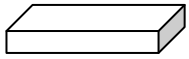
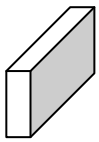
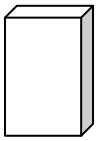
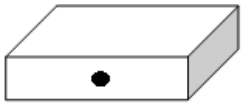
7.3. Limit

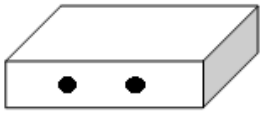
Occupied Bandwidth
Systems using digital modulation techniques operate in the2400-2483.5 MHz .The minimum 6 dB bandwidth shall be at least 500 kHz

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

Item	Occupied Bandwidth			
Device Category	☐	Fixed point-to-point		
	☐	Emit multiple directional beams, simultaneously or sequentially		
	☒	Other cases		
Test mode	Mode 1~4			
Test method	☐	Radiated		
		X Axis	Y Axis	Z Axis
				
		Worst Axis ☐	Worst Axis ☐	Worst Axis ☐
	☒	Conducted		
	☐	Chain 1		
				
	☒	Chain 1	Chain 2	

				
	☐	Chain 1	Chain 2	Chain 3
				

7.6. Test Result

Product Name	:	Wireless Access Point	Power	:	PoE 48V
Test Mode	:	Mode1~16	Test Site	:	TR8
Test Date	:	2018.04.22	Test Engineer	:	Cloud

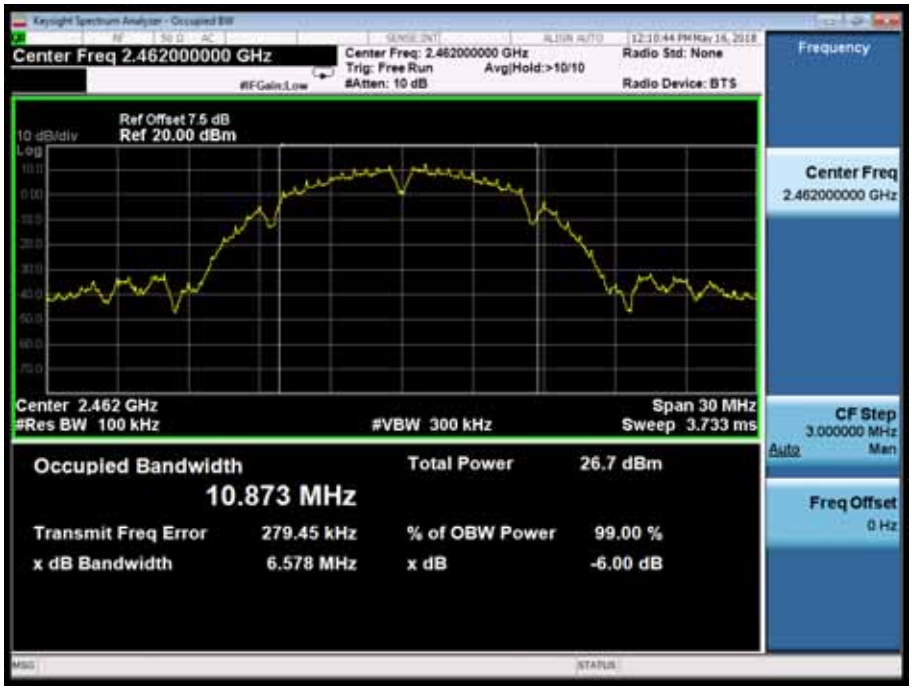
2*TX+2*RX:

Mode	CH.	Test Freq. (MHz)	99% Occupied Bandwidth (MHz)		6dB Occupied Bandwidth (MHz)		Limit (kHz)	Result
			Ant 0	Ant 1	Ant 0	Ant 1		
1	01	2412	10.793	10.739	10.72	7.59	>500	Pass
1	06	2437	10.871	10.953	7.54	7.55	>500	Pass
1	11	2462	10.873	10.874	6.58	6.59	>500	Pass
2	01	2412	16.465	16.468	16.35	15.97	>500	Pass
2	06	2437	16.499	16.500	16.34	16.34	>500	Pass
2	11	2462	16.498	16.502	16.39	16.42	>500	Pass
3	01	2412	17.654	17.663	16.71	16.55	>500	Pass
3	06	2437	17.707	17.699	17.59	17.58	>500	Pass
3	11	2462	17.691	17.682	17.58	17.60	>500	Pass
4	03	2422	35.966	35.969	35.12	35.17	>500	Pass
4	06	2437	36.171	36.167	36.34	35.76	>500	Pass
4	09	2452	36.236	36.230	36.42	36.42	>500	Pass
5	01	2412	17.652	17.654	17.18	16.94	>500	Pass
5	06	2437	17.712	17.694	17.61	17.59	>500	Pass
5	11	2462	17.686	17.692	17.57	17.24	>500	Pass
6	01	2422	36.014	35.993	35.45	35.41	>500	Pass
6	06	2437	36.183	36.193	36.37	35.76	>500	Pass
6	11	2452	36.256	36.238	36.45	36.39	>500	Pass
7	01	2412	18.906	18.913	18.23	18.21	>500	Pass
7	06	2437	18.944	18.949	18.82	18.81	>500	Pass
7	11	2462	18.932	18.935	18.70	18.69	>500	Pass
8	03	2422	37.187	37.171	35.09	35.85	>500	Pass
8	06	2437	37.509	37.452	37.33	36.60	>500	Pass
8	09	2452	37.557	37.582	37.69	37.68	>500	Pass
9	01	2412	11.959	11.898	9.58	9.57	>500	Pass
9	06	2437	11.921	11.952	9.60	9.62	>500	Pass
9	11	2462	12.125	12.085	9.61	9.23	>500	Pass
10	01	2412	16.474	16.477	16.42	16.38	>500	Pass

10	06	2437	16.474	16.468	16.37	16.39	>500	Pass
10	11	2462	16.470	16.468	16.41	16.38	>500	Pass
11	01	2412	17.670	17.661	17.63	17.60	>500	Pass
11	06	2437	17.652	17.667	17.60	17.60	>500	Pass
11	11	2462	17.657	17.670	17.61	17.61	>500	Pass
12	03	2422	36.168	36.186	36.39	36.41	>500	Pass
12	06	2437	36.129	36.127	36.09	36.31	>500	Pass
12	09	2452	36.116	36.140	36.33	36.37	>500	Pass
13	01	2412	17.671	17.674	17.62	17.64	>500	Pass
13	06	2437	17.662	17.665	17.60	17.60	>500	Pass
13	11	2462	17.662	17.655	17.62	17.64	>500	Pass
14	01	2422	36.187	36.169	36.44	36.40	>500	Pass
14	06	2437	36.128	36.096	36.37	36.29	>500	Pass
14	11	2452	36.120	36.119	36.31	36.33	>500	Pass
15	01	2412	18.982	18.978	18.96	18.97	>500	Pass
15	06	2437	18.978	18.957	18.73	18.72	>500	Pass
15	11	2462	18.976	18.965	18.95	18.89	>500	Pass
16	03	2422	37.498	36.85	37.46	36.99	>500	Pass
16	06	2437	37.406	37.397	36.03	36.36	>500	Pass
16	09	2452	37.401	37.374	35.77	36.66	>500	Pass

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

Mode 1 CH11 (2462MHz) Ant 0



Mode 1 CH11 (2462MHz) Ant 1

4*TX+4*RX:

Mode	CH.	Test Freq. (MHz)	99% Occupied Bandwidth (MHz)				6dB Occupied Bandwidth (MHz)				Limit (kHz)	Result
			Ant 0	Ant 1	Ant 2	Ant 3	Ant 0	Ant 1	Ant 2	Ant 3		
1	01	2412	10.164	10.153	10.182	10.152	6.08	6.55	7.06	6.59	>500	Pass
1	06	2437	10.207	10.228	10.231	10.216	6.55	7.09	7.09	7.55	>500	Pass
1	11	2462	10.215	10.208	10.218	10.199	7.07	6.56	6.59	6.57	>500	Pass
2	01	2412	16.449	16.450	16.459	16.451	16.34	16.08	16.32	16.32	>500	Pass
2	06	2437	16.489	16.496	16.491	16.492	16.41	16.36	16.32	16.39	>500	Pass
2	11	2462	16.526	16.525	16.482	16.493	16.36	16.36	16.37	16.35	>500	Pass
3	01	2412	17.655	17.665	17.665	17.654	16.94	16.67	17.59	16.73	>500	Pass
3	06	2437	17.705	17.707	17.706	17.717	17.62	17.63	17.61	17.60	>500	Pass
3	11	2462	17.700	17.703	17.698	17.696	17.59	17.30	17.58	17.60	>500	Pass
4	03	2422	35.937	35.966	35.959	35.983	35.44	35.13	35.12	35.08	>500	Pass
4	06	2437	36.175	36.194	36.176	36.198	36.34	36.37	36.33	36.38	>500	Pass
4	09	2452	36.230	36.221	36.238	36.214	36.21	36.42	36.44	36.42	>500	Pass
5	01	2412	17.653	17.659	17.641	17.652	17.20	17.30	16.34	17.56	>500	Pass
5	06	2437	17.697	17.692	17.681	17.681	17.59	17.60	17.60	17.60	>500	Pass
5	11	2462	17.700	17.690	17.706	17.684	17.60	17.59	17.60	17.59	>500	Pass
6	01	2422	35.969	36.001	35.986	36.019	35.46	35.12	35.46	35.09	>500	Pass
6	06	2437	36.207	36.178	36.183	36.200	36.37	36.37	35.80	36.38	>500	Pass
6	11	2452	36.224	36.242	36.234	36.234	36.42	36.43	36.42	36.42	>500	Pass
7	01	2412	18.954	18.897	18.885	18.912	18.98	18.21	18.59	18.24	>500	Pass
7	06	2437	18.949	18.957	18.958	18.960	18.70	18.81	18.78	18.89	>500	Pass
7	11	2462	18.962	18.945	18.966	18.936	18.70	18.70	18.16	18.66	>500	Pass
8	03	2422	37.218	37.217	37.200	37.211	35.84	36.35	35.86	35.63	>500	Pass
8	06	2437	37.485	37.484	37.474	37.469	37.30	37.31	36.67	37.28	>500	Pass
8	09	2452	37.561	37.579	37.561	37.550	37.66	37.65	37.68	36.99	>500	Pass
9	01	2412	10.193	10.194	10.184	10.196	7.05	6.55	7.53	7.08	>500	Pass
9	06	2437	10.254	10.224	10.263	10.246	6.54	7.08	7.53	6.56	>500	Pass
9	11	2462	10.234	10.238	10.277	10.232	7.09	7.07	7.05	7.06	>500	Pass
10	01	2412	16.509	16.507	16.505	16.507	16.39	16.38	16.39	16.38	>500	Pass
10	06	2437	16.508	16.502	16.502	16.495	16.38	16.35	16.38	16.41	>500	Pass
10	11	2462	16.496	16.505	16.501	16.509	16.36	16.37	16.51	16.40	>500	Pass
11	01	2412	17.669	17.669	17.667	17.670	17.63	17.61	17.60	17.61	>500	Pass
11	06	2437	17.664	17.662	17.654	17.656	17.62	17.60	17.61	17.62	>500	Pass
11	11	2462	17.665	17.661	17.653	17.666	17.62	17.61	17.61	17.59	>500	Pass

12	03	2422	36.174	36.191	36.180	36.195	36.41	36.39	36.40	36.39	>500	Pass
12	06	2437	36.142	36.125	36.125	36.141	36.36	36.37	36.37	36.36	>500	Pass
12	09	2452	36.096	36.110	36.144	36.089	36.36	36.35	36.37	36.31	>500	Pass
13	01	2412	17.675	17.672	17.690	17.677	17.65	17.63	17.64	17.63	>500	Pass
13	06	2437	17.663	17.663	17.664	17.672	17.62	17.65	17.64	17.60	>500	Pass
13	11	2462	17.664	17.662	17.667	17.652	17.64	17.62	17.63	17.62	>500	Pass
14	01	2422	36.186	36.206	36.189	36.225	36.44	36.45	36.39	36.45	>500	Pass
14	06	2437	36.153	36.172	36.155	36.155	36.36	36.39	36.37	36.39	>500	Pass
14	11	2452	36.137	36.151	36.126	36.123	36.35	36.36	36.35	36.34	>500	Pass
15	01	2412	18.978	18.969	18.975	18.990	18.92	18.95	18.99	18.91	>500	Pass
15	06	2437	18.963	18.952	18.974	18.948	18.28	18.93	18.74	18.76	>500	Pass
15	11	2462	18.955	18.980	18.952	18.967	18.88	18.98	18.93	18.98	>500	Pass
16	03	2422	37.489	37.485	37.529	37.464	37.17	36.86	37.23	37.18	>500	Pass
16	06	2437	37.395	37.454	37.406	37.441	36.12	36.16	36.46	36.40	>500	Pass
16	09	2452	37.395	37.388	37.428	37.408	36.89	35.53	36.89	36.57	>500	Pass

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

Mode 1 CH01 (2412MHz) Ant 0

Mode 1 CH01 (2412MHz) Ant 1

Mode 1 CH01 (2412MHz) Ant 2

Mode 1 CH01 (2412MHz) Ant 3

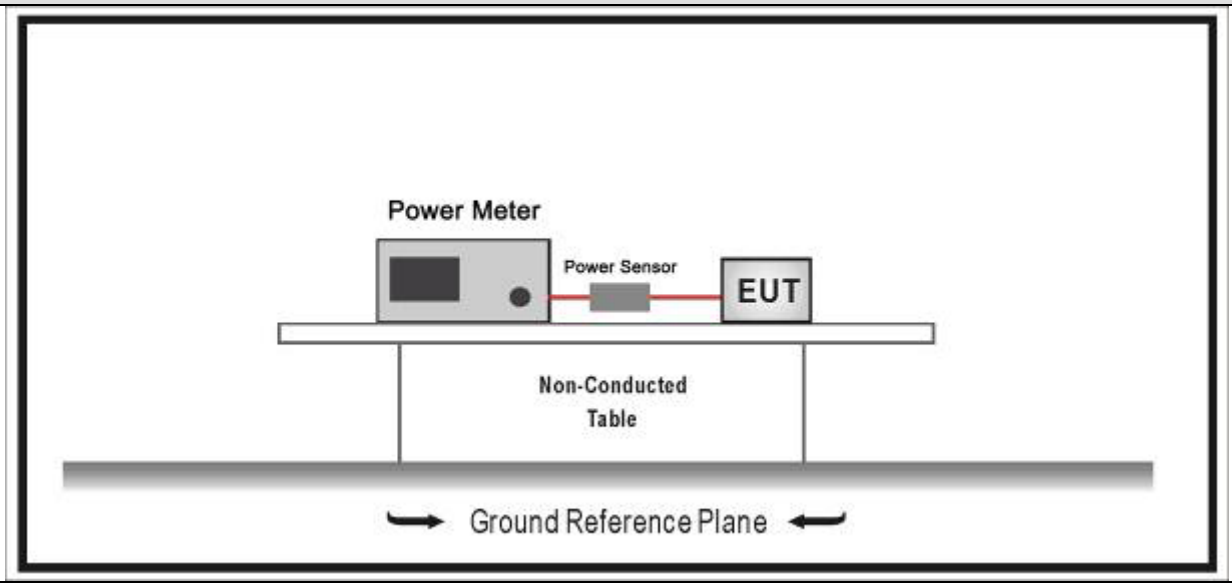
8. Fundamental emission output power

8.1. Test Equipment

Fundamental emission output power/ TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2018.01.04	2019.01.03
Spectrum Analyzer	Agilent	N9010A	MY48030494	2018.02.04	2019.02.03
Wideband Peak Power Meter	Anritsu	ML2495A	0905006	2017.10.14	2018.10.13
Power Sensor	Anritsu	MA2411B	0846014	2017.10.14	2018.10.13
Temperature/Humidity Meter	zhicheng	ZC1-2	TR8-TH	2018.04.10	2019.04.09
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

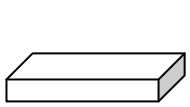
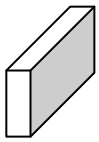
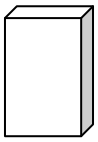
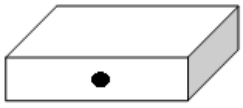
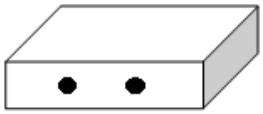
Fundamental emission output power Limit			
☒	G_{TX} ＜6dBi		P_{out}≤30dBm
☐	G_{TX} ＞6dBi		
	☐	Non-Fix point-point	P_{out}≤30-(G_{TX} -6)
	☐	Fix point-point	P_{out}≤30-[(G_{TX}-6)]/3
	☐	Point-to-multipoint	Pout≤30-(GTX-6)
	☐	Overlap Beams	P_{out}≤30-[(G_{TX}-6)]/3
	☐	Aggregate power transmitted simultaneously 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 stream
	☐	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 1~16</td></tr>
<tr><td rowspan="14">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>

8.6. Test Result

Product Name	:	Wireless Access Point	Power	:	PoE 48V
Test Mode	:	Mode1~16	Test Site	:	TR8
Test Date	:	2018.04.20	Test Engineer	:	Cloud

2*TX+2*RX:

Mode	Channel	Test Frequency (MHz)	Peak Power Output (dBm)		Total Power (dBm)	Directional Gain (dBi)	Limit (dBm)	Result
			Ant 0	Ant 1				
1	01	2412	21.19	21.43	24.32	3.89	30	Pass
1	06	2437	21.25	21.48	24.38	3.89	30	Pass
1	11	2462	21.27	21.53	24.41	3.89	30	Pass
2	01	2412	15.26	15.54	18.41	3.89	30	Pass
2	06	2437	15.16	15.57	18.38	3.89	30	Pass
2	11	2462	14.13	14.57	17.37	3.89	30	Pass
3	01	2412	14.87	15.07	17.98	3.89	30	Pass
3	06	2437	14.76	15.09	17.94	3.89	30	Pass
3	11	2462	13.92	14.38	17.17	3.89	30	Pass
4	03	2422	12.81	12.86	15.85	3.89	30	Pass
4	06	2437	12.85	12.93	15.90	3.89	30	Pass
4	09	2452	11.37	11.28	14.34	3.89	30	Pass
5	01	2412	15.09	15.17	18.14	3.89	30	Pass
5	06	2437	15.15	15.46	18.32	3.89	30	Pass
5	11	2462	14.18	14.54	17.37	3.89	30	Pass

6	03	2422	13.23	13.27	16.26	3.89	30	Pass
6	06	2437	13.15	13.22	16.20	3.89	30	Pass
6	09	2452	11.86	11.89	14.89	3.89	30	Pass
7	01	2412	14.25	14.33	17.30	3.89	30	Pass
7	06	2437	14.38	14.36	17.38	3.89	30	Pass
7	11	2462	13.52	13.47	16.51	3.89	30	Pass
8	03	2422	13.27	13.37	16.33	3.89	30	Pass
8	06	2437	13.32	13.39	16.37	3.89	30	Pass
8	09	2452	11.84	11.87	14.87	3.89	30	Pass
9	01	2412	20.47	20.61	23.55	6.89	28.11	Pass
9	06	2437	20.48	20.53	23.52	6.89	28.11	Pass
9	11	2462	20.56	20.54	23.56	6.89	28.11	Pass
10	01	2412	14.33	14.81	17.59	6.89	28.11	Pass
10	06	2437	14.49	14.92	17.72	6.89	28.11	Pass
10	11	2462	13.50	13.85	16.69	6.89	28.11	Pass
11	01	2412	14.16	14.46	17.32	6.89	28.11	Pass
11	06	2437	14.10	14.27	17.20	6.89	28.11	Pass
11	11	2462	13.17	13.57	16.38	6.89	28.11	Pass
12	03	2422	12.11	12.05	15.09	6.89	28.11	Pass
12	06	2437	12.17	12.13	15.16	6.89	28.11	Pass
12	09	2452	10.70	10.59	13.66	6.89	28.11	Pass
13	01	2412	14.38	14.50	17.45	6.89	28.11	Pass
13	06	2437	14.46	14.77	17.63	6.89	28.11	Pass

13	11	2462	13.37	13.88	16.64	6.89	28.11	Pass
14	03	2422	12.46	12.61	15.55	6.89	28.11	Pass
14	06	2437	12.38	12.42	15.41	6.89	28.11	Pass
14	09	2452	11.07	11.17	14.13	6.89	28.11	Pass
15	01	2412	14.47	14.28	17.39	6.89	28.11	Pass
15	06	2437	14.48	14.68	17.59	6.89	28.11	Pass
15	11	2462	13.70	13.79	16.76	6.89	28.11	Pass
16	03	2422	12.58	12.62	15.61	6.89	28.11	Pass
16	06	2437	12.57	12.66	15.63	6.89	28.11	Pass
16	09	2452	11.10	11.19	14.16	6.89	28.11	Pass

2*TX+2*RX EIRP:

Mode	Channel	Test Frequency (MHz)	Peak Power Output (dBm)		Total Power (dBm)	Directional Gain (dBi)	EIRP (dBm)	Limit (dBm)	Result
			Ant 0	Ant 1					
1	01	2412	21.19	21.43	24.32	3.89	28.21	36	Pass
1	06	2437	21.25	21.48	24.38	3.89	28.27	36	Pass
1	11	2462	21.27	21.53	24.41	3.89	28.30	36	Pass
2	01	2412	15.26	15.54	18.41	3.89	22.30	36	Pass
2	06	2437	15.16	15.57	18.38	3.89	22.27	36	Pass
2	11	2462	14.13	14.57	17.37	3.89	21.26	36	Pass
3	01	2412	14.87	15.07	17.98	3.89	21.87	36	Pass
3	06	2437	14.76	15.09	17.94	3.89	21.83	36	Pass
3	11	2462	13.92	14.38	17.17	3.89	21.06	36	Pass
4	03	2422	12.81	12.86	15.85	3.89	19.74	36	Pass
4	06	2437	12.85	12.93	15.90	3.89	19.79	36	Pass
4	09	2452	11.37	11.28	14.34	3.89	18.23	36	Pass
5	01	2412	15.09	15.17	18.14	3.89	22.03	36	Pass
5	06	2437	15.15	15.46	18.32	3.89	22.21	36	Pass
5	11	2462	14.18	14.54	17.37	3.89	21.26	36	Pass
6	03	2422	13.23	13.27	16.26	3.89	20.15	36	Pass
6	06	2437	13.15	13.22	16.20	3.89	20.09	36	Pass
6	09	2452	11.86	11.89	14.89	3.89	18.78	36	Pass
7	01	2412	14.25	14.33	17.30	3.89	21.19	36	Pass

7	06	2437	14.38	14.36	17.38	3.89	21.27	36	Pass
7	11	2462	13.52	13.47	16.51	3.89	20.40	36	Pass
8	03	2422	13.27	13.37	16.33	3.89	20.22	36	Pass
8	06	2437	13.32	13.39	16.37	3.89	20.26	36	Pass
8	09	2452	11.84	11.87	14.87	3.89	18.76	36	Pass
9	01	2412	20.47	20.61	23.55	6.89	30.44	36	Pass
9	06	2437	20.48	20.53	23.52	6.89	30.41	36	Pass
9	11	2462	20.56	20.54	23.56	6.89	30.45	36	Pass
10	01	2412	14.33	14.81	17.59	6.89	24.48	36	Pass
10	06	2437	14.49	14.92	17.72	6.89	24.61	36	Pass
10	11	2462	13.50	13.85	16.69	6.89	23.58	36	Pass
11	01	2412	14.16	14.46	17.32	6.89	24.21	36	Pass
11	06	2437	14.10	14.27	17.20	6.89	24.09	36	Pass
11	11	2462	13.17	13.57	16.38	6.89	23.27	36	Pass
12	03	2422	12.11	12.05	15.09	6.89	21.98	36	Pass
12	06	2437	12.17	12.13	15.16	6.89	22.05	36	Pass
12	09	2452	10.70	10.59	13.66	6.89	20.55	36	Pass
13	01	2412	14.38	14.50	17.45	6.89	24.34	36	Pass
13	06	2437	14.46	14.77	17.63	6.89	24.52	36	Pass
13	11	2462	13.37	13.88	16.64	6.89	23.53	36	Pass
14	03	2422	12.46	12.61	15.55	6.89	22.44	36	Pass
14	06	2437	12.38	12.42	15.41	6.89	22.30	36	Pass
14	09	2452	11.07	11.17	14.13	6.89	21.02	36	Pass

15	01	2412	14.47	14.28	17.39	6.89	24.28	36	Pass
15	06	2437	14.48	14.68	17.59	6.89	24.48	36	Pass
15	11	2462	13.70	13.79	16.76	6.89	23.65	36	Pass
16	03	2422	12.58	12.62	15.61	6.89	22.50	36	Pass
16	06	2437	12.57	12.66	15.63	6.89	22.52	36	Pass
16	09	2452	11.10	11.19	14.16	6.89	21.05	36	Pass

4*TX+4*RX:

Mode	Channel	Test Frequency (MHz)	Peak Power Output (dBm)				Total Power (dBm)	Directional Gain (dBi)	Limit (dBm)	Result
			Ant 0	Ant 1	Ant 2	Ant 3				
1	01	2412	20.52	20.98	21.11	20.87	25.89	4.23	30	Pass
1	06	2437	20.47	20.89	21.05	20.91	25.83	4.23	30	Pass
1	11	2462	20.53	20.96	21.08	20.93	25.88	4.23	30	Pass
2	01	2412	12.12	12.25	12.38	12.26	17.97	4.23	30	Pass
2	06	2437	12.16	12.31	12.43	12.25	18.01	4.23	30	Pass
2	11	2462	12.22	12.36	12.45	12.31	18.05	4.23	30	Pass
3	01	2412	12.59	12.74	12.95	12.79	18.42	4.23	30	Pass
3	06	2437	12.41	12.78	13.02	12.69	18.40	4.23	30	Pass
3	11	2462	12.39	12.71	13.07	12.77	18.39	4.23	30	Pass
4	03	2422	12.38	12.73	13.11	12.75	18.40	4.23	30	Pass
4	06	2437	12.43	12.68	13.12	12.64	18.40	4.23	30	Pass
4	09	2452	12.54	12.67	13.08	12.62	18.41	4.23	30	Pass
5	01	2412	12.55	12.63	12.92	12.61	18.36	4.23	30	Pass
5	06	2437	12.47	12.73	12.96	12.93	18.40	4.23	30	Pass
5	11	2462	12.36	12.75	12.97	12.82	18.37	4.23	30	Pass
6	03	2422	12.43	12.74	13.13	12.81	18.43	4.23	30	Pass
6	06	2437	12.45	12.64	13.14	12.76	18.41	4.23	30	Pass
6	09	2452	12.51	12.69	13.06	12.88	18.42	4.23	30	Pass
7	01	2412	12.36	12.48	12.51	12.49	18.14	4.23	30	Pass
7	06	2437	12.41	12.56	12.65	12.58	18.22	4.23	30	Pass

7	11	2462	12.65	12.61	12.78	10.41	18.20	4.23	30	Pass
8	03	2422	12.11	12.33	12.45	12.35	18.01	4.23	30	Pass
8	06	2437	12.08	12.34	12.47	12.39	18.02	4.23	30	Pass
8	09	2452	12.09	12.37	12.55	12.51	18.06	4.23	30	Pass
9	01	2412	20.29	20.74	20.96	20.64	25.69	10.24	25.76	Pass
9	06	2437	20.26	20.72	20.87	20.67	25.65	10.24	25.76	Pass
9	11	2462	20.38	20.82	20.85	20.76	25.71	10.24	25.76	Pass
10	01	2412	11.93	12.1	12.13	12.12	17.80	10.24	25.76	Pass
10	06	2437	11.93	12.13	12.17	12.1	17.82	10.24	25.76	Pass
10	11	2462	11.98	12.13	12.27	12.13	17.86	10.24	25.76	Pass
11	01	2412	12.42	12.49	12.72	12.56	18.23	10.24	25.76	Pass
11	06	2437	12.27	12.52	12.77	12.44	18.20	10.24	25.76	Pass
11	11	2462	12.24	12.44	12.81	12.51	18.19	10.24	25.76	Pass
12	03	2422	12.2	12.44	12.84	12.48	18.19	10.24	25.76	Pass
12	06	2437	12.2	12.37	12.83	12.46	18.16	10.24	25.76	Pass
12	09	2452	12.29	12.52	12.81	12.39	18.21	10.24	25.76	Pass
13	01	2412	12.29	12.45	12.63	12.36	18.14	10.24	25.76	Pass
13	06	2437	12.2	12.5	12.65	12.67	18.16	10.24	25.76	Pass
13	11	2462	12.07	12.5	12.82	12.55	18.17	10.24	25.76	Pass
14	03	2422	12.12	12.48	12.95	12.52	18.21	10.24	25.76	Pass
14	06	2437	12.26	12.46	12.91	12.45	18.22	10.24	25.76	Pass
14	09	2452	12.29	12.46	12.81	12.73	18.22	10.24	25.76	Pass
15	01	2412	12.38	12.41	12.48	12.44	18.12	10.24	25.76	Pass

15	06	2437	12.36	12.49	12.51	12.46	18.15	10.24	25.76	Pass
15	11	2462	12.41	12.56	12.76	12.61	18.26	10.24	25.76	Pass
16	03	2422	11.92	12.04	12.22	12.17	17.81	10.24	25.76	Pass
16	06	2437	11.82	12.03	12.22	12.16	17.78	10.24	25.76	Pass
16	09	2452	11.82	12.18	12.29	12.25	17.85	10.24	25.76	Pass

4*TX+4*RX EIRP:

Mode	Channel	Test Frequency (MHz)	Peak Power Output (dBm)				Total Power (dBm)	Directional Gain (dBi)	EIRP (dBm)	Limit (dBm)	Result
			Ant 0	Ant 1	Ant 2	Ant 3					
1	01	2412	20.52	20.98	21.11	20.87	25.89	4.23	30.12	36	Pass
1	06	2437	20.47	20.89	21.05	20.91	25.83	4.23	30.06	36	Pass
1	11	2462	20.53	20.96	21.08	20.93	25.88	4.23	30.11	36	Pass
2	01	2412	12.12	12.25	12.38	12.26	17.97	4.23	22.20	36	Pass
2	06	2437	12.16	12.31	12.43	12.25	18.01	4.23	22.24	36	Pass
2	11	2462	12.22	12.36	12.45	12.31	18.05	4.23	22.28	36	Pass
3	01	2412	12.59	12.74	12.95	12.79	18.42	4.23	22.65	36	Pass
3	06	2437	12.41	12.78	13.02	12.69	18.40	4.23	22.63	36	Pass
3	11	2462	12.39	12.71	13.07	12.77	18.39	4.23	22.62	36	Pass
4	03	2422	12.38	12.73	13.11	12.75	18.40	4.23	22.63	36	Pass
4	06	2437	12.43	12.68	13.12	12.64	18.40	4.23	22.63	36	Pass
4	09	2452	12.54	12.67	13.08	12.62	18.41	4.23	22.64	36	Pass
5	01	2412	12.55	12.63	12.92	12.61	18.36	4.23	22.59	36	Pass
5	06	2437	12.47	12.73	12.96	12.93	18.40	4.23	22.63	36	Pass
5	11	2462	12.36	12.75	12.97	12.82	18.37	4.23	22.60	36	Pass
6	03	2422	12.43	12.74	13.13	12.81	18.43	4.23	22.66	36	Pass
6	06	2437	12.45	12.64	13.14	12.76	18.41	4.23	22.64	36	Pass
6	09	2452	12.51	12.69	13.06	12.88	18.42	4.23	22.65	36	Pass
7	01	2412	12.36	12.48	12.51	12.49	18.14	4.23	22.37	36	Pass
7	06	2437	12.41	12.56	12.65	12.58	18.22	4.23	22.45	36	Pass

7	11	2462	12.65	12.61	12.78	10.41	18.20	4.23	22.43	36	Pass
8	03	2422	12.11	12.33	12.45	12.35	18.01	4.23	22.24	36	Pass
8	06	2437	12.08	12.34	12.47	12.39	18.02	4.23	22.25	36	Pass
8	09	2452	12.09	12.37	12.55	12.51	18.06	4.23	22.29	36	Pass
9	01	2412	20.29	20.74	20.96	20.64	25.69	10.24	35.93	36	Pass
9	06	2437	20.26	20.72	20.87	20.67	25.65	10.24	35.89	36	Pass
9	11	2462	20.38	20.82	20.85	20.76	25.71	10.24	35.95	36	Pass
10	01	2412	11.93	12.1	12.13	12.12	17.80	10.24	28.04	36	Pass
10	06	2437	11.93	12.13	12.17	12.1	17.82	10.24	28.06	36	Pass
10	11	2462	11.98	12.13	12.27	12.13	17.86	10.24	28.10	36	Pass
11	01	2412	12.42	12.49	12.72	12.56	18.23	10.24	28.47	36	Pass
11	06	2437	12.27	12.52	12.77	12.44	18.20	10.24	28.44	36	Pass
11	11	2462	12.24	12.44	12.81	12.51	18.19	10.24	28.43	36	Pass
12	03	2422	12.2	12.44	12.84	12.48	18.19	10.24	28.43	36	Pass
12	06	2437	12.2	12.37	12.83	12.46	18.16	10.24	28.40	36	Pass
12	09	2452	12.29	12.52	12.81	12.39	18.21	10.24	28.45	36	Pass
13	01	2412	12.29	12.45	12.63	12.36	18.14	10.24	28.38	36	Pass
13	06	2437	12.2	12.5	12.65	12.67	18.16	10.24	28.40	36	Pass
13	11	2462	12.07	12.5	12.82	12.55	18.17	10.24	28.41	36	Pass
14	03	2422	12.12	12.48	12.95	12.52	18.21	10.24	28.45	36	Pass
14	06	2437	12.26	12.46	12.91	12.45	18.22	10.24	28.46	36	Pass
14	09	2452	12.29	12.46	12.81	12.73	18.22	10.24	28.46	36	Pass
15	01	2412	12.38	12.41	12.48	12.44	18.12	10.24	28.36	36	Pass

15	06	2437	12.36	12.49	12.51	12.46	18.15	10.24	28.39	36	Pass
15	11	2462	12.41	12.56	12.76	12.61	18.26	10.24	28.50	36	Pass
16	03	2422	11.92	12.04	12.22	12.17	17.81	10.24	28.05	36	Pass
16	06	2437	11.82	12.03	12.22	12.16	17.78	10.24	28.02	36	Pass
16	09	2452	11.82	12.18	12.29	12.25	17.85	10.24	28.09	36	Pass

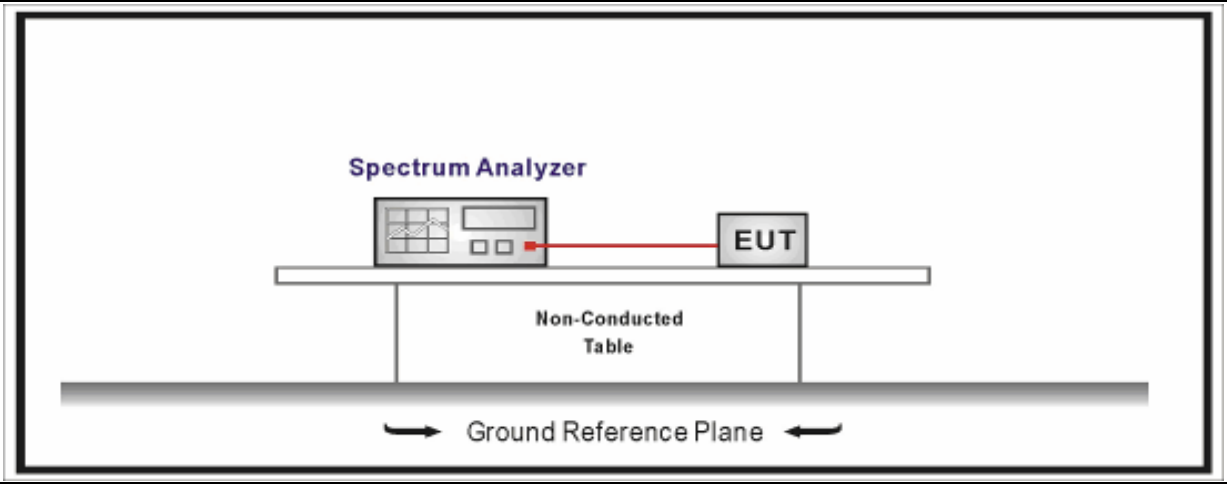
9. Power Spectral Density

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	2018.02.04	2019.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2018.04.09	2019.04.08
MXA Signal Anlyzer	Keysight	N9020A	MY56060147	2018.04.09	2019.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2018.04.10	2019.04.09
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

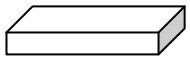
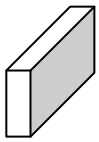
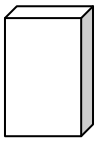
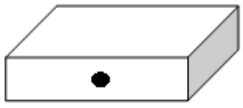
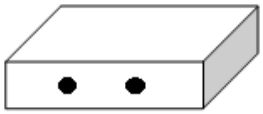
Power Spectral Density Limit
Power Spectral Density≤8dBm/3kHz

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 stream
	☐	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 1~16</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>
<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>

9.6. Test Result

Product Name	:	Wireless Access Point	Power	:	PoE 48V
Test Mode	:	Mode1~16	Test Site	:	TR8
Test Date	:	2018.04.13	Test Engineer	:	Cloud

2*TX+2*RX:

Mode	Channel	Test Frequency (MHz)	Measurement PSD (dBm/3kHz)		Total Measurement PSD (dBm/3kHz)	Directional Gain (dBi)	Limit (dBm/3kHz)	Result
			Ant 0	Ant 1				
1	01	2412	-2.310	-1.439	1.16	6.89	7.11	Pass
1	06	2437	-1.154	-1.871	1.51	6.89	7.11	Pass
1	11	2462	-0.737	-1.071	2.11	6.89	7.11	Pass
2	01	2412	-10.047	-10.083	-7.05	6.89	7.11	Pass
2	06	2437	-9.662	-9.948	-6.79	6.89	7.11	Pass
2	11	2462	-12.311	-11.773	-9.02	6.89	7.11	Pass
3	01	2412	-10.858	-11.325	-8.07	6.89	7.11	Pass
3	06	2437	-10.248	-10.850	-7.53	6.89	7.11	Pass
3	11	2462	-10.172	-10.185	-7.17	6.89	7.11	Pass
4	03	2422	-15.266	-15.812	-12.52	6.89	7.11	Pass
4	06	2437	-15.699	-16.153	-12.91	6.89	7.11	Pass
4	09	2452	-16.535	-16.318	-13.41	6.89	7.11	Pass
5	01	2412	-11.370	-12.160	-8.74	6.89	7.11	Pass
5	06	2437	-11.561	-11.786	-8.66	6.89	7.11	Pass
5	11	2462	-12.608	-13.366	-9.96	6.89	7.11	Pass
6	03	2422	-14.805	-15.181	-11.98	6.89	7.11	Pass

6	06	2437	-15.168	-14.541	-11.83	6.89	7.11	Pass
6	09	2452	-17.069	-18.302	-14.63	6.89	7.11	Pass
7	01	2412	-12.055	-11.010	-8.49	6.89	7.11	Pass
7	06	2437	-10.644	-11.487	-8.03	6.89	7.11	Pass
7	11	2462	-12.348	-12.702	-9.51	6.89	7.11	Pass
8	03	2422	-13.844	-14.502	-11.15	6.89	7.11	Pass
8	06	2437	-13.693	-13.249	-10.46	6.89	7.11	Pass
8	09	2452	-17.661	-17.322	-14.48	6.89	7.11	Pass
9	01	2412	-6.892	-6.994	-3.93	6.89	7.11	Pass
9	06	2437	-6.980	-5.811	-3.35	6.89	7.11	Pass
9	11	2462	-7.839	-8.396	-5.10	6.89	7.11	Pass
10	01	2412	-12.142	-12.001	-9.06	6.89	7.11	Pass
10	06	2437	-11.978	-12.403	-9.18	6.89	7.11	Pass
10	11	2462	-15.038	-15.377	-12.19	6.89	7.11	Pass
11	01	2412	-11.849	-13.668	-9.65	6.89	7.11	Pass
11	06	2437	-13.278	-13.390	-10.32	6.89	7.11	Pass
11	11	2462	-16.334	-15.469	-12.87	6.89	7.11	Pass
12	03	2422	-18.564	-18.568	-15.56	6.89	7.11	Pass
12	06	2437	-19.125	-19.207	-16.16	6.89	7.11	Pass
12	09	2452	-19.411	-19.347	-16.37	6.89	7.11	Pass
13	01	2412	-14.725	-14.864	-11.78	6.89	7.11	Pass
13	06	2437	-13.862	-12.520	-10.13	6.89	7.11	Pass
13	11	2462	-16.369	-16.427	-13.39	6.89	7.11	Pass

14	03	2422	-18.125	-17.864	-14.98	6.89	7.11	Pass
14	06	2437	-18.918	-18.095	-15.48	6.89	7.11	Pass
14	09	2452	-18.546	-19.764	-16.10	6.89	7.11	Pass
15	01	2412	-13.839	-13.423	-10.62	6.89	7.11	Pass
15	06	2437	-12.495	-12.671	-9.57	6.89	7.11	Pass
15	11	2462	-15.894	-15.979	-12.93	6.89	7.11	Pass
16	03	2422	-20.699	-20.224	-17.44	6.89	7.11	Pass
16	06	2437	-19.966	-19.326	-16.62	6.89	7.11	Pass
16	09	2452	-20.560	-21.157	-17.84	6.89	7.11	Pass

Mode 1 CH11(2462MHz) Ant 0

Mode 1 CH11(2462MHz) Ant 1

4*TX+4*RX:

Mode	Channel	Test Frequency (MHz)	Measurement PSD (dBm/3kHz)				Total Measurement PSD (dBm/3kHz)	Directional Gain (dBi)	Limit (dBm/3kHz)	Result
			Ant 0	Ant 1	Ant 2	Ant 3				
1	01	2412	-2.422	-2.244	-2.222	-2.233	3.741	10.24	3.76	Pass
1	06	2437	-2.563	-2.724	-2.156	-1.985	3.674	10.24	3.76	Pass
1	11	2462	-2.365	-2.356	-2.147	-2.264	3.738	10.24	3.76	Pass
2	01	2412	-13.707	-13.401	-13.708	-13.742	-7.617	10.24	3.76	Pass
2	06	2437	-13.610	-13.152	-13.757	-13.885	-7.571	10.24	3.76	Pass
2	11	2462	-13.656	-13.910	-13.896	-13.958	-7.833	10.24	3.76	Pass
3	01	2412	-11.708	-12.578	-12.138	-12.988	-6.306	10.24	3.76	Pass
3	06	2437	-13.191	-13.996	-13.382	-14.098	-7.629	10.24	3.76	Pass
3	11	2462	-12.449	-12.505	-12.197	-12.285	-6.337	10.24	3.76	Pass
4	03	2422	-15.786	-16.132	-15.933	-15.914	-9.919	10.24	3.76	Pass
4	06	2437	-16.390	-16.388	-16.777	-17.072	-10.627	10.24	3.76	Pass
4	09	2452	-15.882	-16.180	-15.945	-15.980	-9.975	10.24	3.76	Pass
5	01	2412	-12.901	-13.281	-13.257	-13.493	-7.207	10.24	3.76	Pass
5	06	2437	-12.827	-13.883	-12.082	-12.146	-6.656	10.24	3.76	Pass
5	11	2462	-12.514	-12.715	-13.335	-13.168	-6.900	10.24	3.76	Pass
6	03	2422	-13.985	-15.884	-14.816	-15.262	-8.911	10.24	3.76	Pass
6	06	2437	-14.718	-15.765	-15.543	-16.062	-9.472	10.24	3.76	Pass
6	09	2452	-16.435	-15.173	-15.164	-15.533	-9.526	10.24	3.76	Pass
7	01	2412	-16.073	-16.794	-17.574	-17.132	-10.838	10.24	3.76	Pass

7	06	2437	-13.961	-14.591	-16.749	-14.942	-8.924	10.24	3.76	Pass
7	11	2462	-15.807	-15.822	-15.986	-15.815	-9.836	10.24	3.76	Pass
8	03	2422	-16.816	-17.452	-16.168	-18.073	-11.049	10.24	3.76	Pass
8	06	2437	-16.382	-16.464	-16.378	-16.647	-10.446	10.24	3.76	Pass
8	09	2452	-17.943	-17.543	-17.551	-17.422	-11.590	10.24	3.76	Pass
9	01	2412	-2.265	-2.568	-2.429	-2.335	3.623	10.24	3.76	Pass
9	06	2437	-2.469	-2.564	-2.365	-2.541	3.537	10.24	3.76	Pass
9	11	2462	-2.652	-2.459	-2.571	-2.567	3.459	10.24	3.76	Pass
10	01	2412	-13.607	-13.371	-13.486	-13.919	-7.570	10.24	3.76	Pass
10	06	2437	-14.189	-13.221	-13.612	-13.296	-7.543	10.24	3.76	Pass
10	11	2462	-13.519	-13.736	-13.275	-13.732	-7.541	10.24	3.76	Pass
11	01	2412	-12.852	-12.274	-13.879	-13.349	-7.027	10.24	3.76	Pass
11	06	2437	-12.878	-13.235	-13.222	-13.554	-7.195	10.24	3.76	Pass
11	11	2462	-13.089	-13.214	-12.987	-11.570	-6.641	10.24	3.76	Pass
12	03	2422	-15.893	-15.852	-15.422	-15.512	-9.644	10.24	3.76	Pass
12	06	2437	-16.295	-16.828	-16.495	-16.679	-10.549	10.24	3.76	Pass
12	09	2452	-15.887	-16.081	-15.986	-16.571	-10.103	10.24	3.76	Pass
13	01	2412	-13.162	-13.425	-13.295	-13.139	-7.233	10.24	3.76	Pass
13	06	2437	-13.421	-13.937	-14.248	-14.364	-7.956	10.24	3.76	Pass
13	11	2462	-13.752	-13.331	-13.118	-12.597	-7.159	10.24	3.76	Pass
14	03	2422	-14.324	-15.264	-15.794	-15.427	-9.147	10.24	3.76	Pass
14	06	2437	-15.438	-15.787	-14.706	-14.283	-8.993	10.24	3.76	Pass
14	09	2452	-15.117	-15.688	-15.574	-16.478	-9.667	10.24	3.76	Pass

15	01	2412	-16.398	-17.133	-16.790	-15.559	-10.409	10.24	3.76	Pass
15	06	2437	-16.924	-14.715	-16.740	-16.666	-10.141	10.24	3.76	Pass
15	11	2462	-16.173	-15.694	-15.576	-15.572	-9.726	10.24	3.76	Pass
16	03	2422	-15.735	-17.118	-15.689	-17.218	-10.359	10.24	3.76	Pass
16	06	2437	-17.385	-16.427	-16.850	-16.273	-10.692	10.24	3.76	Pass
16	09	2452	-17.729	-17.730	-17.249	-17.157	-11.438	10.24	3.76	Pass

Mode 1 CH01(2412MHz) Ant 0

Mode 1 CH01(2412MHz) Ant 1

Mode 1 CH01(2412MHz) Ant 2

Mode 1 CH01(2412MHz) Ant 3

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