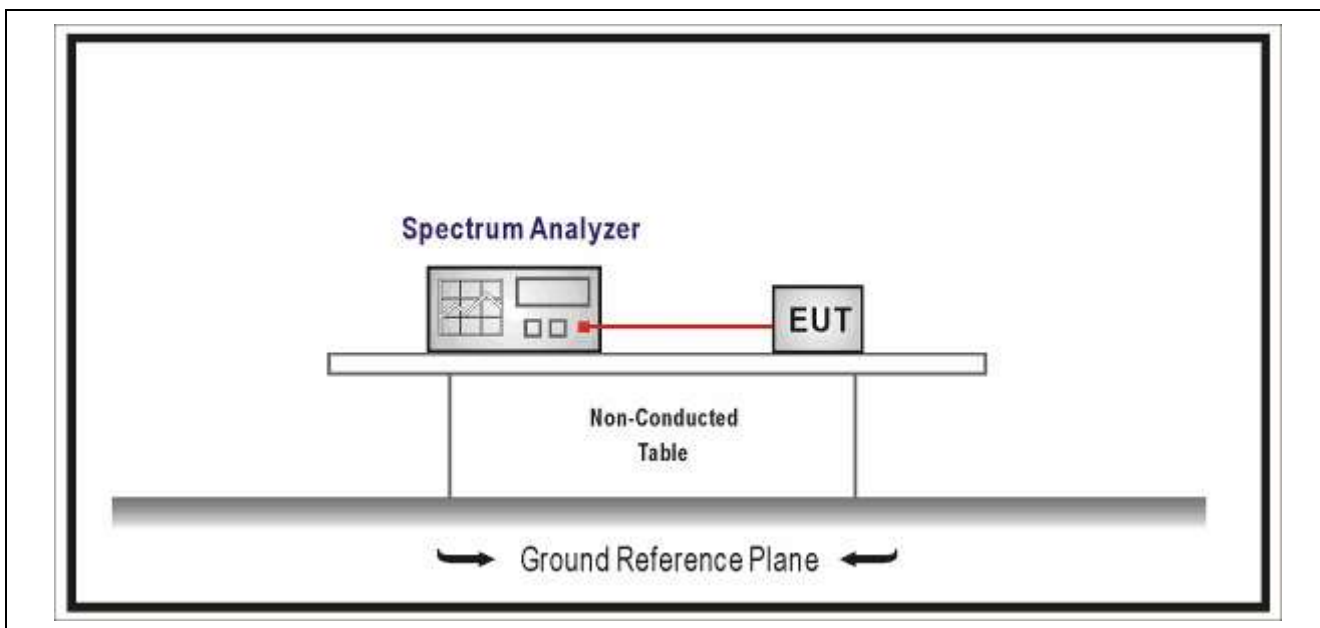


6.2. Test Setup



6.3. Limit

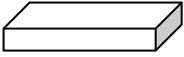
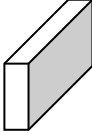
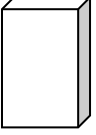
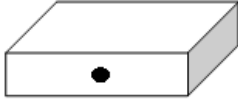
Band edge Limit				
Frequency bands (MHz)	Detector	Limit (dB μ V/m)	RBW (MHz)	Distance (m)
2310-2390	PK	74	1	3
2483.5-2500	AV	54	1	3

Note: The field strength of emissions appearing within these frequency bands shall not exceed the limits.

6.4. Test Procedure

Test Method					
	References Rule		Chapter	Description	
☒	ANSI C63.10		6.10	Band-edge testing	
	☒	ANSI C63.10	6.10.5	Restricted-band band-edge measurements	
	☐	ANSI C63.10	6.10.6	Marker-delta method	
☐	ANSI C63.10		11.12	Emissions in restricted frequency bands	
	☐	ANSI C63.10	11.12.1	Radiated emission measurements	
	☐	ANSI C63.10	11.12.2.7	Radiated spurious emission test	
☐	ANSI C63.10		6.4	Radiated emissions from unlicensed wireless devices below 30 MHz	
☐	ANSI C63.10		6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz	
☐	ANSI C63.10		6.6	Radiated emissions from unlicensed wireless devices above 1 GHz	
	☒	ANSI C63.10		11.12.2	Antenna-port conducted measurements
		☐	ANSI C63.10	11.12.2.3	Quasi-peak measurement procedure
		☒	ANSI C63.10	11.12.2.4	Peak power measurement procedure
		☒	ANSI C63.10	11.12.2.5	Average power measurement procedures
		☐	ANSI C63.10	11.12.2.5.1	Trace averaging with continuous EUT transmission at full power
		☐	ANSI C63.10	11.12.2.5.2	Trace averaging across ON and OFF times of the EUT transmissions followed by duty cycle correction
		☒	ANSI C63.10	11.12.2.5.3	Reduced VBW averaging across ON and OFF times of the EUT transmissions with max hold

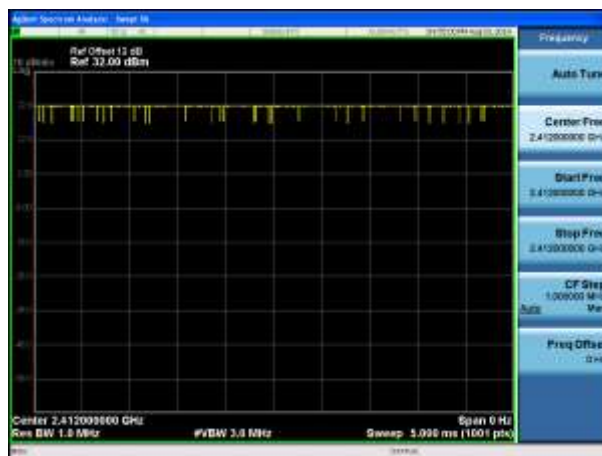
6.5. EUT test definition

Item	Radiated Emission Band Edge			
Device Category	☐	Fixed point-to-point		
	☐	Emit multiple directional beams, simultaneously or sequentially		
	☒	Other cases		
Test mode	Mode 1~5			
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
				

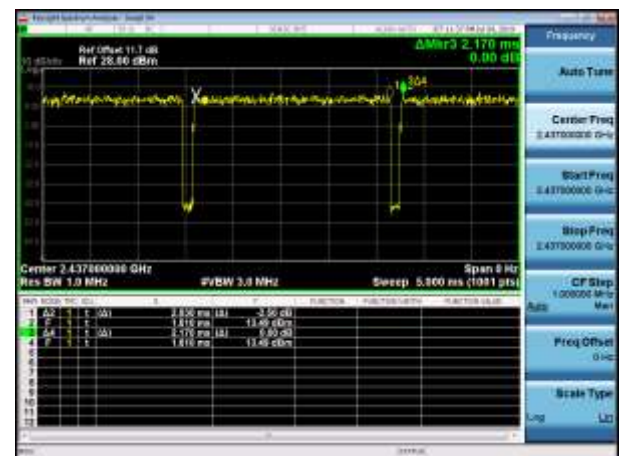
6.6. Duty Cycle

Test Mode	Tx On (ms)	Tx Off (ms)	VBW	Tx On + Tx Off (ms)	Duty Cycle (%)
802.11b	N/A	N/A	10Hz	N/A	100.00
802.11g	2.030	0.140	500Hz	2.170	93.55
802.11n(20MHz)	1.900	0.125	1kHz	2.025	93.83
802.11ac(20MHz)	1.905	0.051	1kHz	1.956	97.39
802.11ax(20MHz)	1.464	0.072	1kHz	1.536	95.31
802.11n(20MHz) with Beamforming	1.904	0.119	1kHz	2.023	94.12
802.11ac(20MHz) with Beamforming	1.905	0.053	1kHz	1.958	97.29
802.11ax(20MHz) with Beamforming	1.470	0.048	1kHz	1.518	96.84

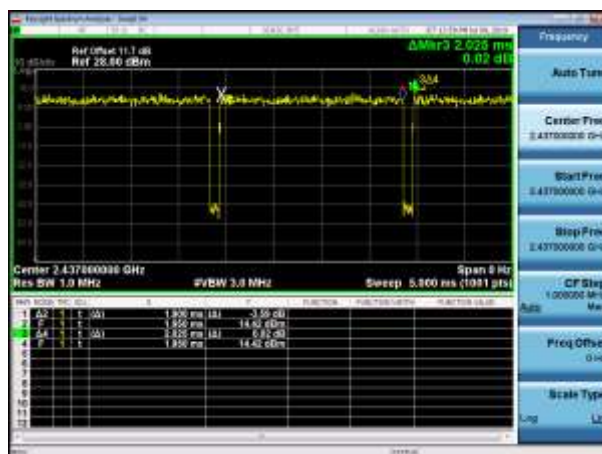
802.11b



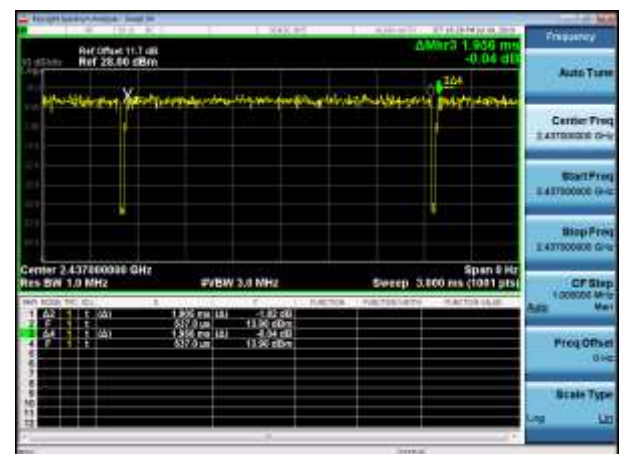
802.11g



802.11n(20MHz)



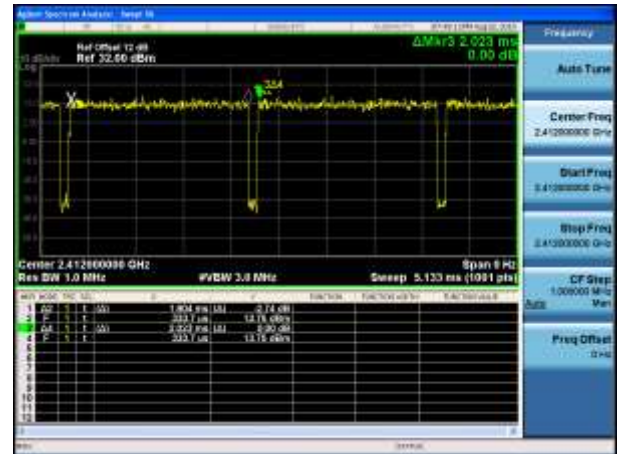
802.11ac(20MHz)



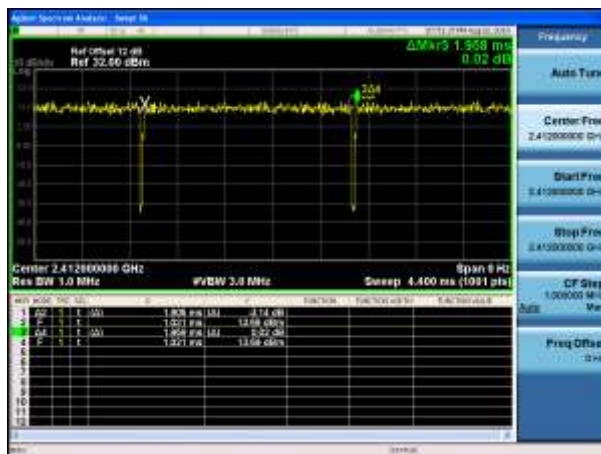
802.11ax(20MHz)



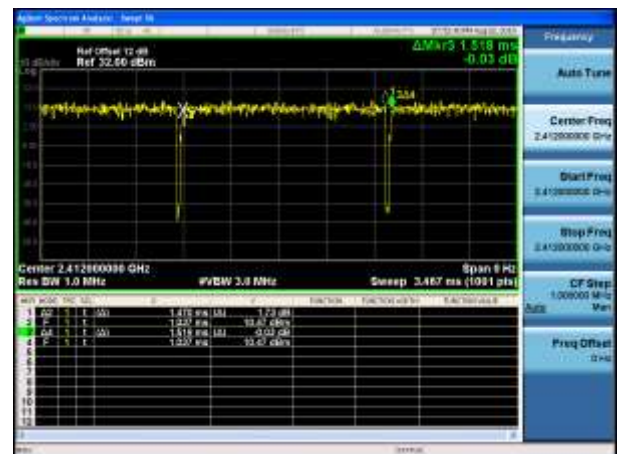
802.11n(20MHz) with Beamforming



802.11ac(20MHz) with Beamforming



802.11ax(20MHz) with Beamforming



6.7. Test Result

SISO PK Limit=74dBuV/m-95.2-2.67(Antenna Gain)=-23.87dBm

SISO AV Limit=54dBuV/m-95.2-2.67(Antenna Gain)=-43.87dBm

CDD PK Limit=74dBuV/m-95.2-10lg2(2Tx)-5.67(Directional Gain)=-29.87dBm

CDD AV Limit=54dBuV/m-95.2-10lg2(2Tx)-5.67(Directional Gain)=-49.87dBm

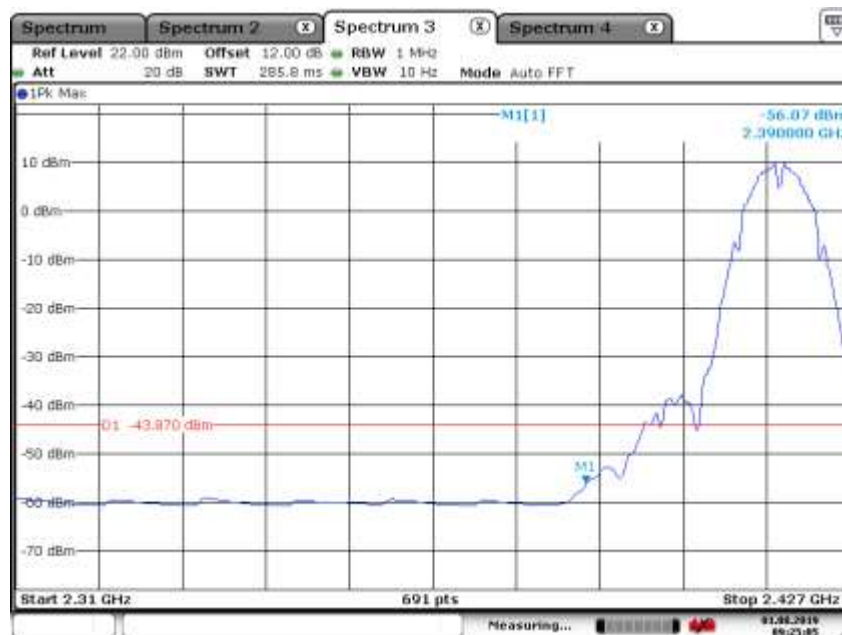
Beamforming PK Limit=74dBuV/m-95.2-10lg2(2Tx)-5.67(Directional Gain)=-29.87dBm

Beamforming AV Limit=54dBuV/m-95.2-10lg2(2Tx)-5.67(Directional Gain)=-49.87dBm

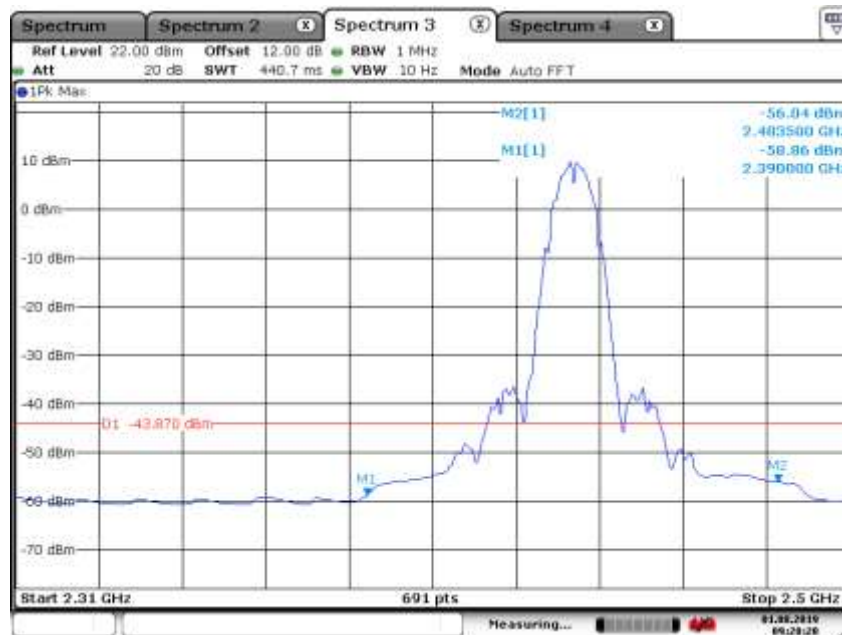
Note: Above limit is the worst case of AP305C and AP305CX.

AV Limit-SISO:**2412MHz by 802.11b:**

Date: 1.AUG.2019 09:21:39

2417MHz by 802.11b:

Date: 1.AUG.2019 09:25:05

2437MHz by 802.11b:

Date: 1.AUG.2019 09:28:20

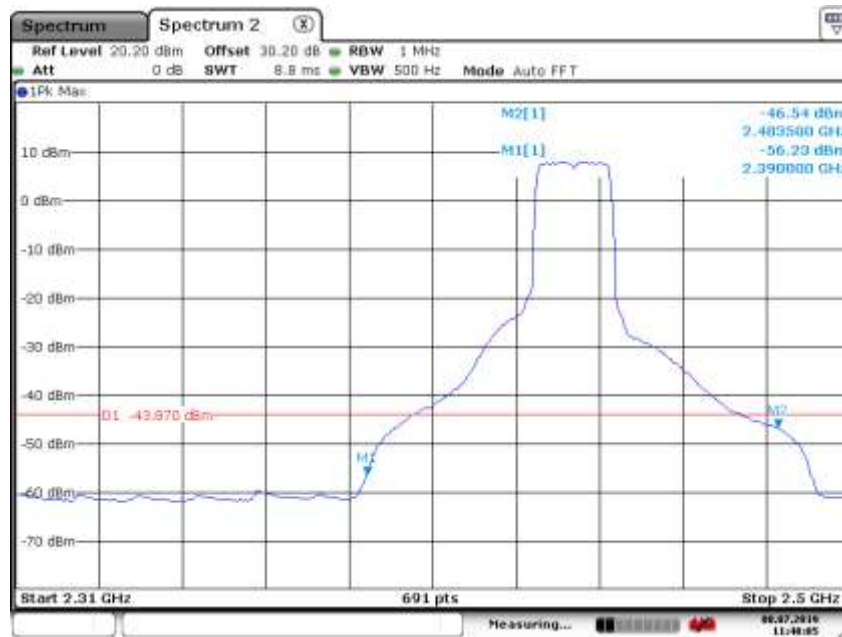
2457MHz by 802.11b:

Date: 1.AUG.2019 09:31:10

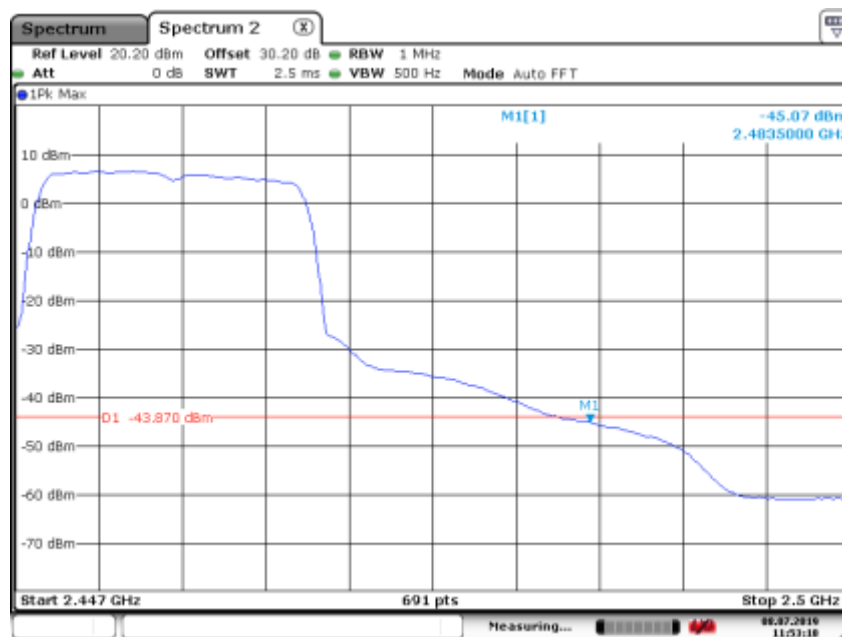
2462MHz by 802.11b:

Date: 1.AUG.2019 09:46:53

2412MHz by 802.11g:**2417MHz by 802.11g:**

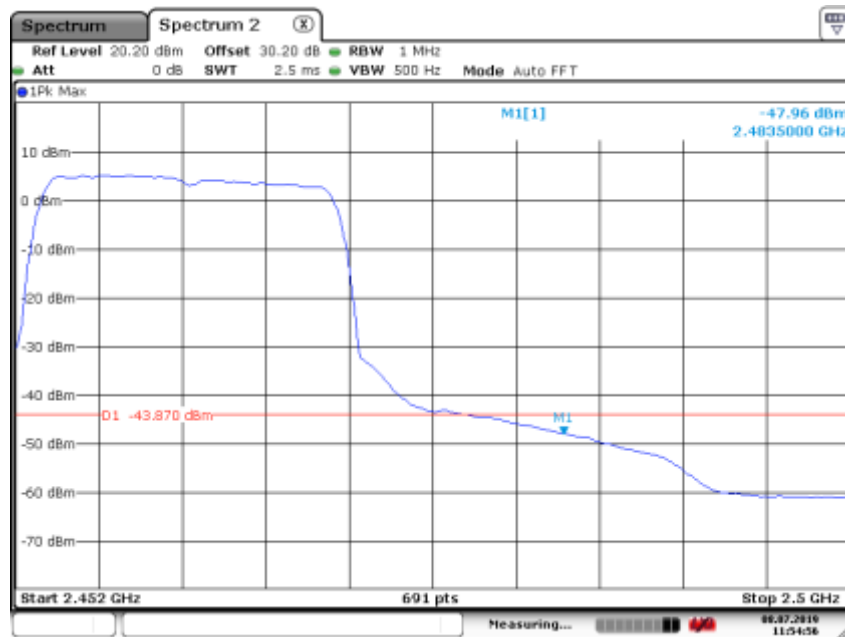
2437MHz by 802.11g:

Date: 8.JUL.2019 11:48:05

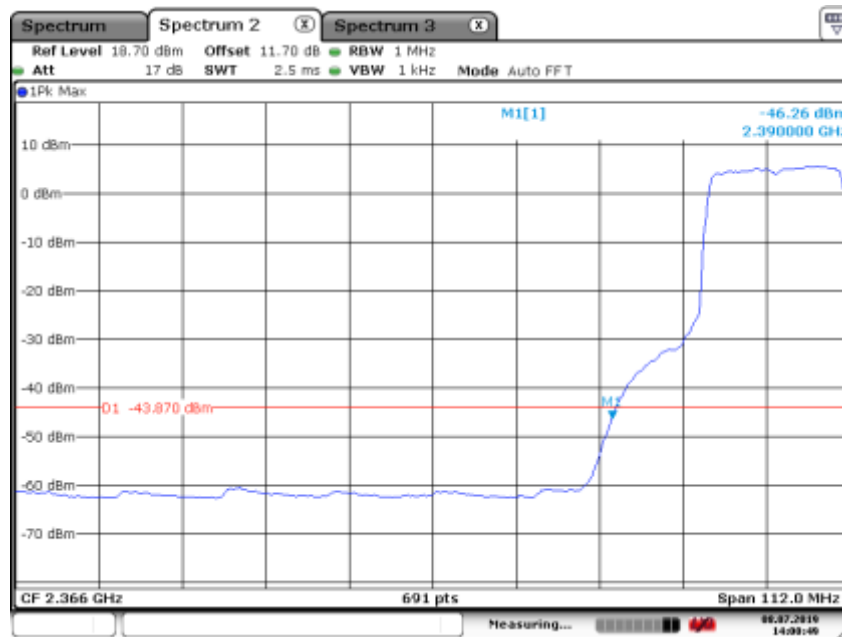
2457MHz by 802.11g:

Date: 8.JUL.2019 11:53:18

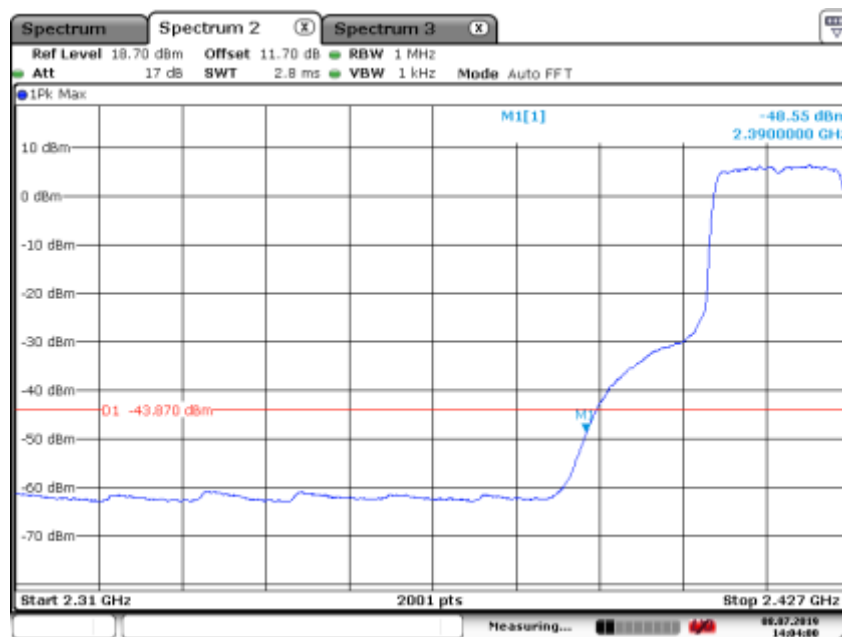
2462MHz by 802.11g:



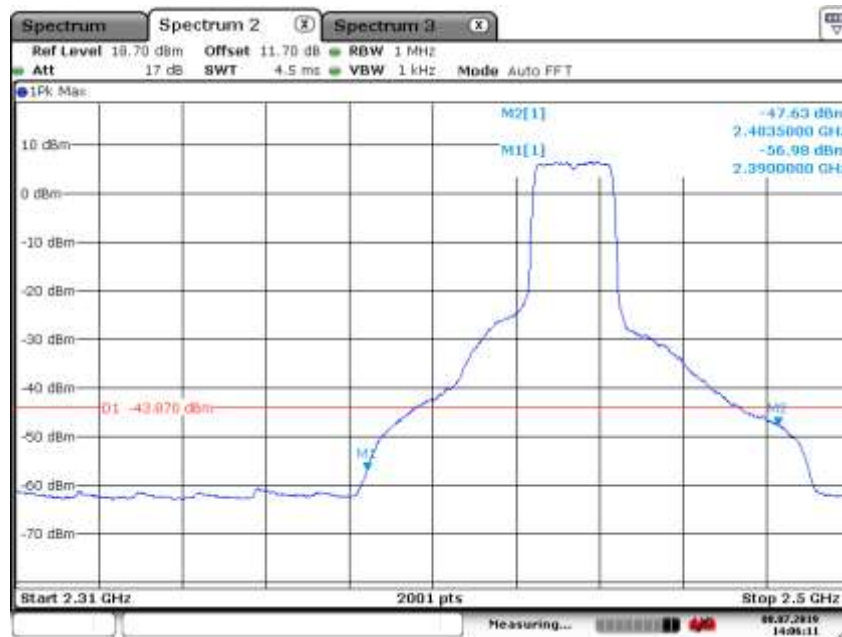
Date: 8.JUL.2019 11:54:56

2412MHz by 802.11n(20MHz):

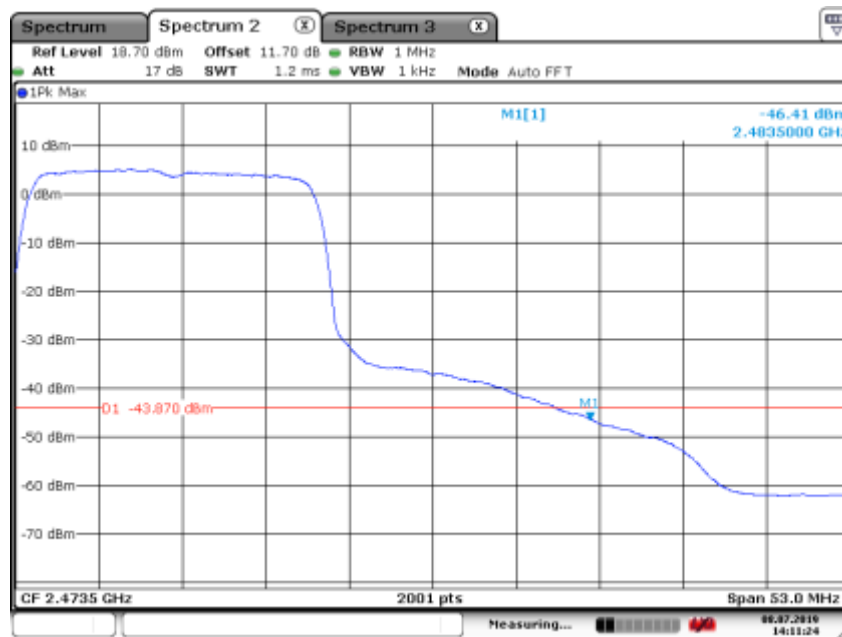
Date: 8.JUL.2019 14:00:49

2417MHz by 802.11n(20MHz):

Date: 8.JUL.2019 14:04:00

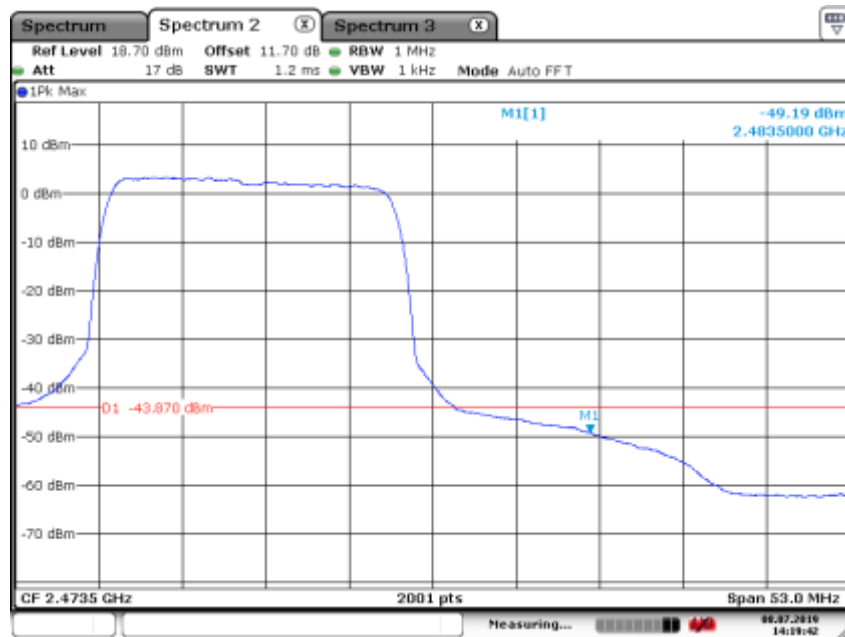
2437MHz by 802.11n(20MHz):

Date: 8.JUL.2019 14:06:11

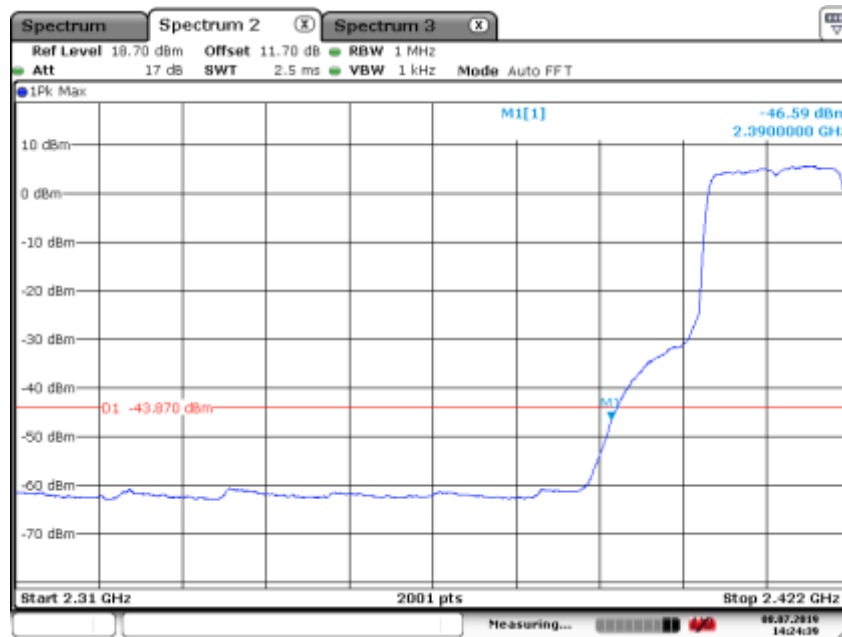
2457MHz by 802.11n(20MHz):

Date: 8.JUL.2019 14:11:24

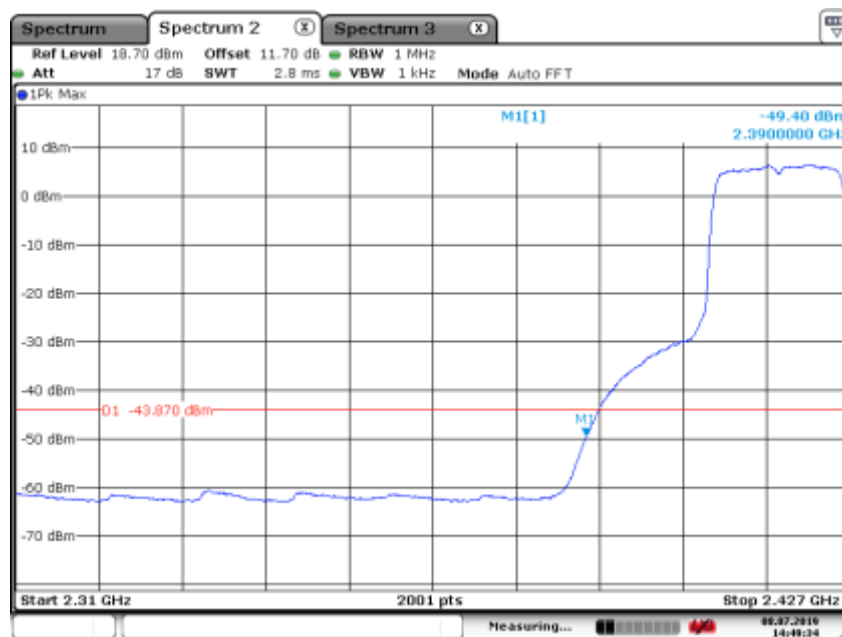
2462MHz by 802.11n(20MHz):



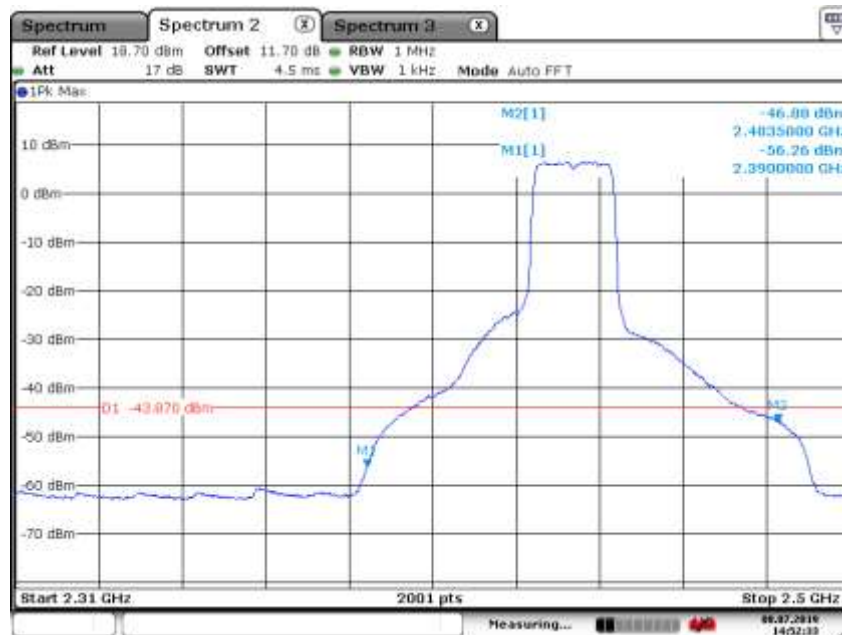
Date: 8.JUL.2019 14:19:43

2412MHz by 802.11ac(20MHz):

Date: 8.JUL.2019 14:24:40

2417MHz by 802.11ac(20MHz):

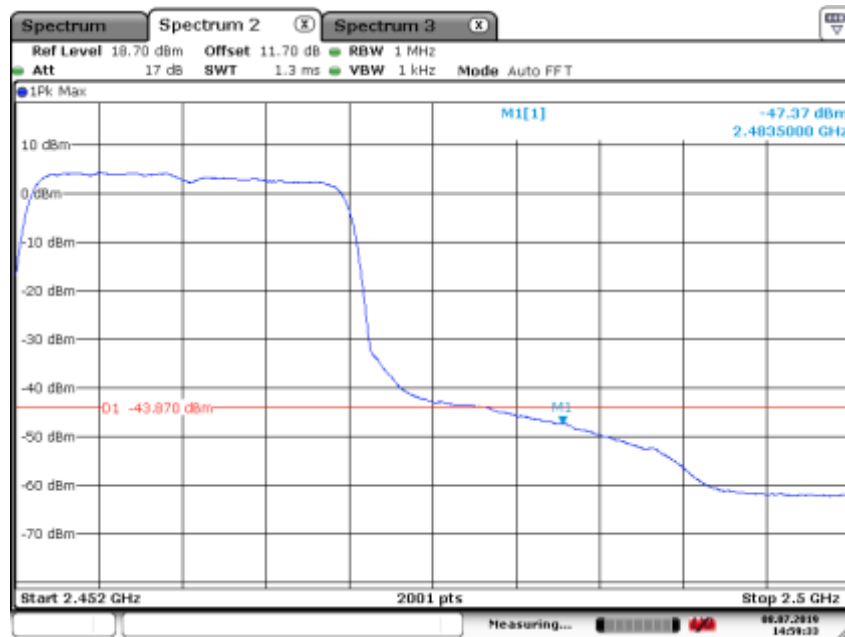
Date: 8.JUL.2019 14:49:35

2437MHz by 802.11ac(20MHz):

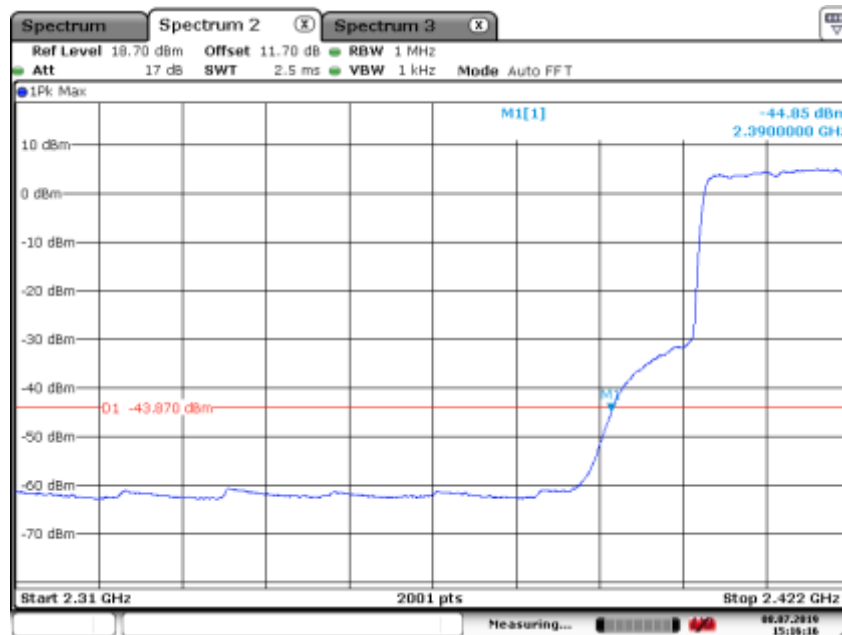
Date: 8.JUL.2019 14:52:34

2457MHz by 802.11ac(20MHz):

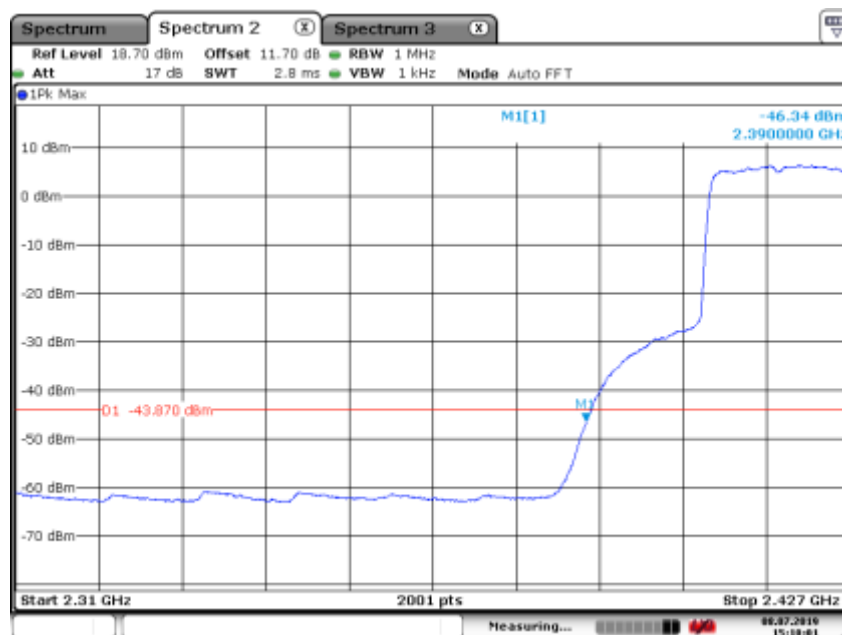
Date: 8.JUL.2019 14:56:04

2462MHz by 802.11ac(20MHz):

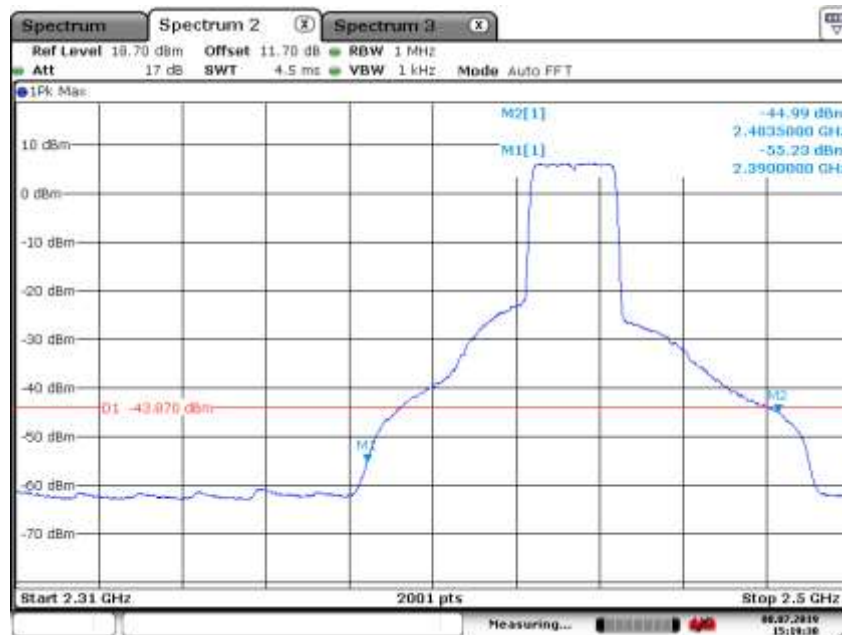
Date: 8.JUL.2019 14:59:33

2412MHz by 802.11ax(20MHz):

Date: 8.JUL.2019 15:16:17

2417MHz by 802.11ax(20MHz):

Date: 8.JUL.2019 15:18:01

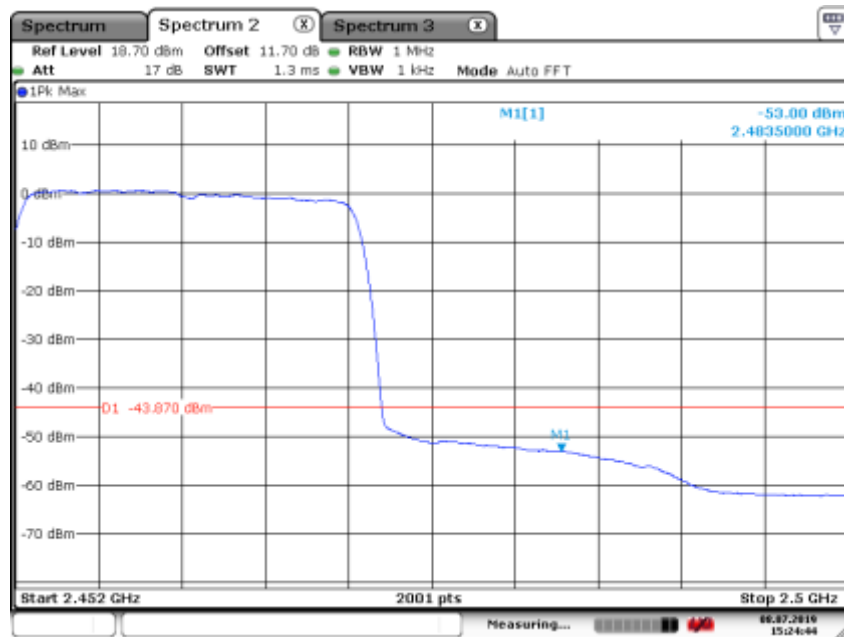
2437MHz by 802.11ax(20MHz):

Date: 8.JUL.2019 15:19:31

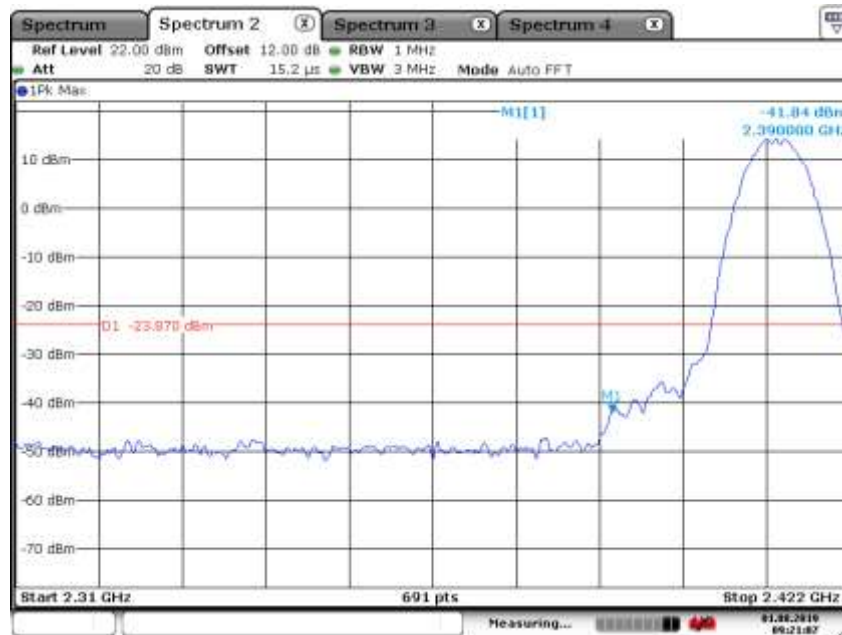
2457MHz by 802.11ax(20MHz):

Date: 8.JUL.2019 15:22:38

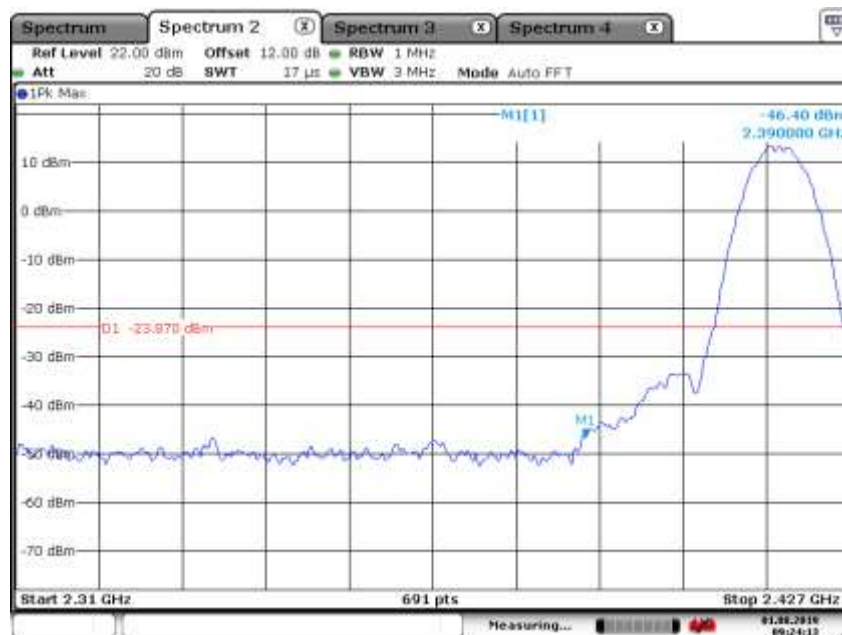
2462MHz by 802.11ax(20MHz):



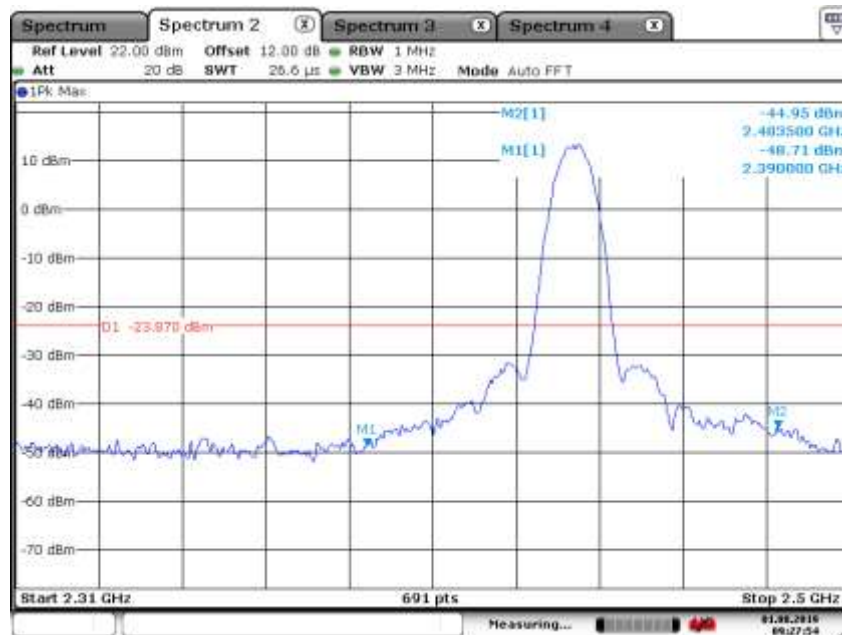
Date: 8.JUL.2019 15:24:45

PK Limit-SISO:**2412MHz by 802.11b:**

Date: 1.AUG.2019 09:21:07

2417MHz by 802.11b:

Date: 1.AUG.2019 09:24:13

2437MHz by 802.11b:

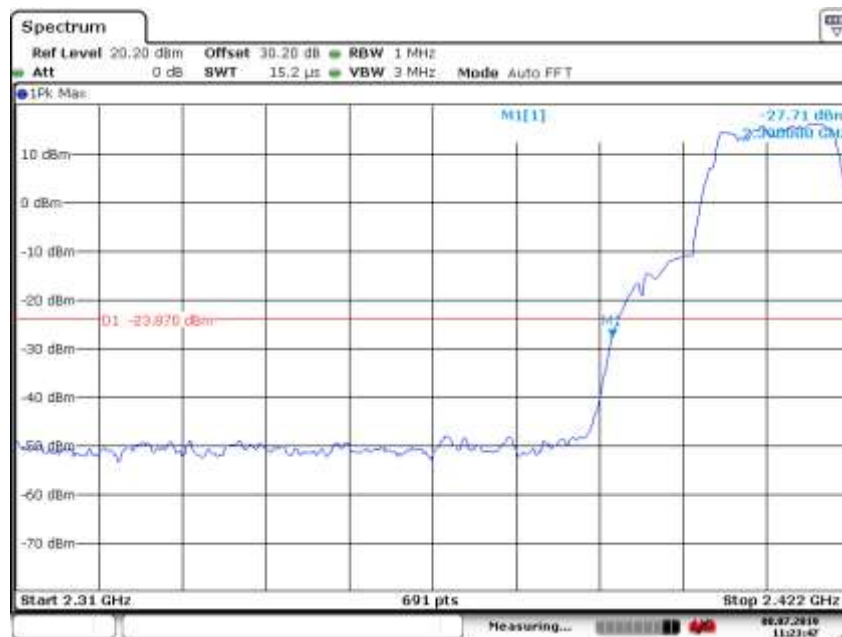
Date: 1.AUG.2019 09:27:54

2457MHz by 802.11b:

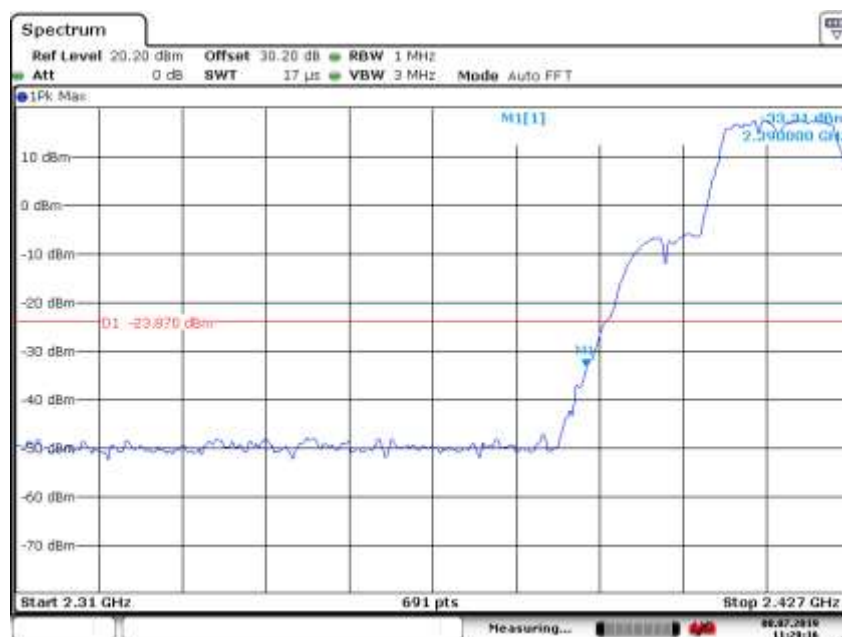
Date: 1.AUG.2019 09:30:52

2462MHz by 802.11b:

Date: 1.AUG.2019 09:46:38

2412MHz by 802.11g:

Date: 8.JUL.2019 11:23:47

2417MHz by 802.11g:

Date: 8.JUL.2019 11:29:15

2437MHz by 802.11g:

Date: 8.JUL.2019 11:38:44

2457MHz by 802.11g:

Date: 8.JUL.2019 11:51:36

2462MHz by 802.11g:



Date: 8.JUL.2019 11:54:24

2412MHz by 802.11n(20MHz):

Date: 8.JUL.2019 13:57:02

2417MHz by 802.11n(20MHz):

Date: 8.JUL.2019 14:03:24

2437MHz by 802.11n(20MHz):

Date: 8.JUL.2019 14:05:36

2457MHz by 802.11n(20MHz):

Date: 8.JUL.2019 14:10:09

2462MHz by 802.11n(20MHz):

Date: 8.JUL.2019 14:19:17

2412MHz by 802.11ac(20MHz):

Date: 8.JUL.2019 14:23:11

2417MHz by 802.11ac(20MHz):

Date: 8.JUL.2019 14:49:02

2437MHz by 802.11ac(20MHz):

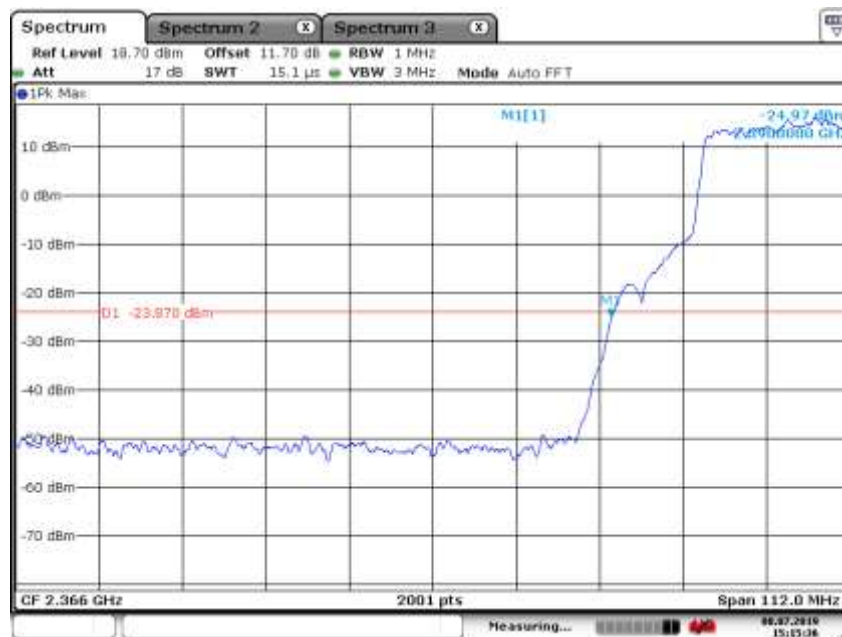
Date: 8.JUL.2019 14:52:03

2457MHz by 802.11ac(20MHz):

Date: 8.JUL.2019 14:54:52

2462MHz by 802.11ac(20MHz):

Date: 8.JUL.2019 14:58:33

2412MHz by 802.11ax(20MHz):

Date: 8.JUL.2019 15:15:37

2417MHz by 802.11ax(20MHz):

Date: 8.JUL.2019 15:17:36

2437MHz by 802.11ax(20MHz):

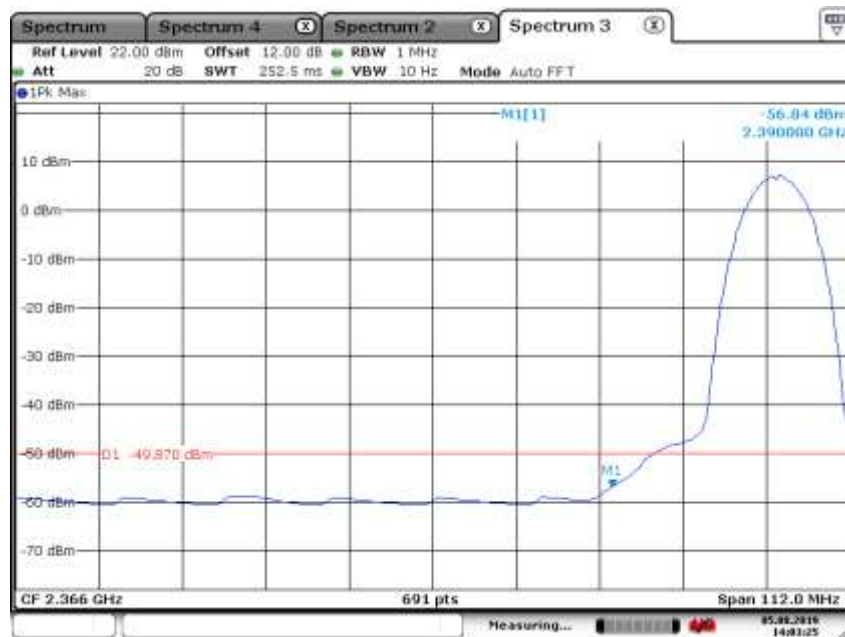
Date: 8.JUL.2019 15:19:02

2457MHz by 802.11ax(20MHz):

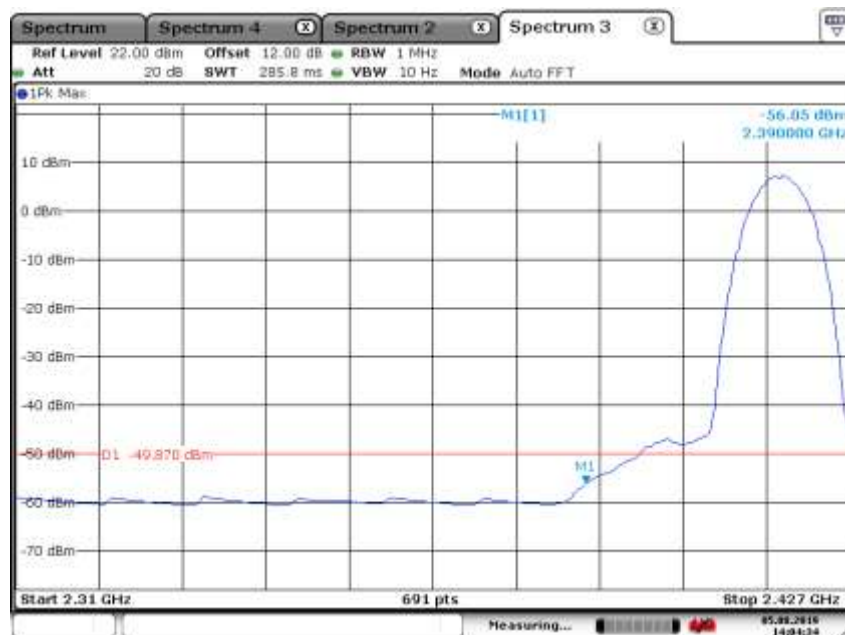
Date: 8.JUL.2019 15:21:58

2462MHz by 802.11ax(20MHz):

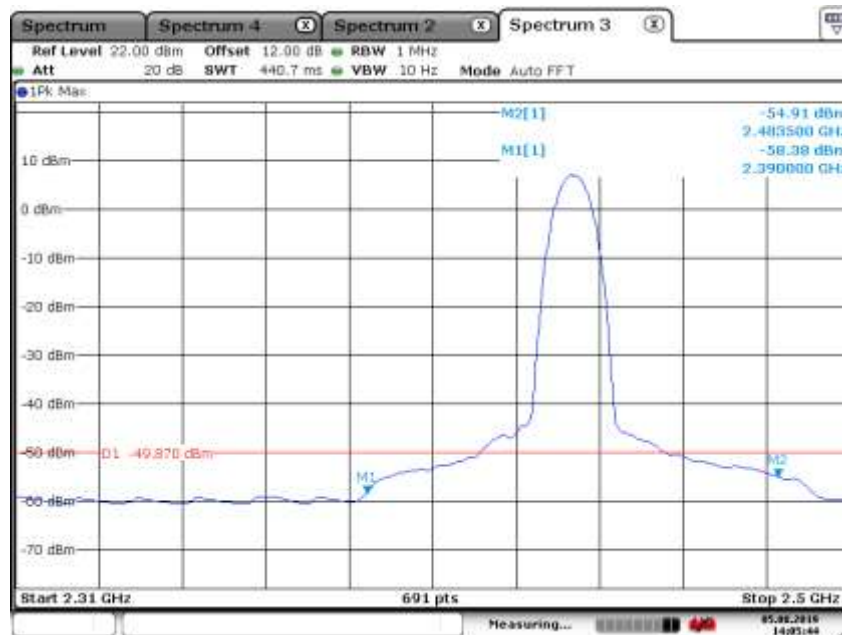
Date: 8.JUL.2019 15:23:56

AV Limit-CDD:**2412MHz by 802.11b:**

Date: 5.AUG.2019 14:03:25

2417MHz by 802.11b:

Date: 5.AUG.2019 14:04:34

2437MHz by 802.11b:

Date: 5.AUG.2019 14:05:44

2457MHz by 802.11b:

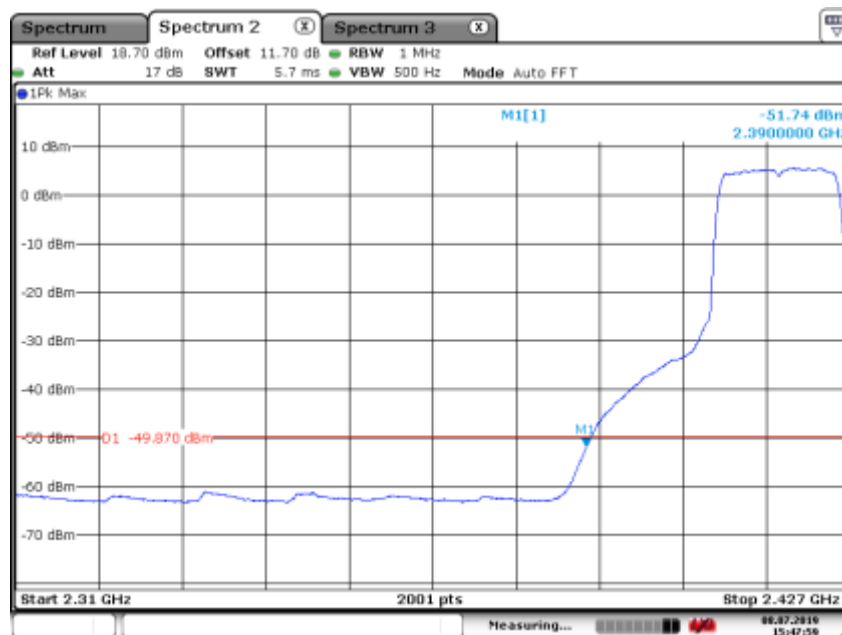
Date: 5.AUG.2019 14:07:03

2462MHz by 802.11b:

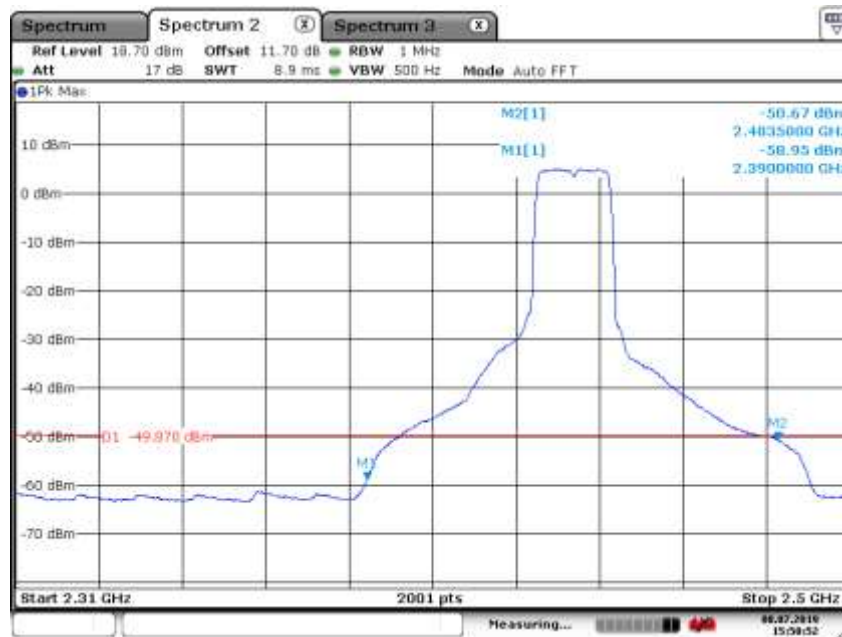
Date: 5.AUG.2019 14:08:07

2412MHz by 802.11g:

Date: 8.JUL.2019 15:45:24

2417MHz by 802.11g:

Date: 8.JUL.2019 15:48:00

2437MHz by 802.11g:

Date: 8.JUL.2019 15:50:53

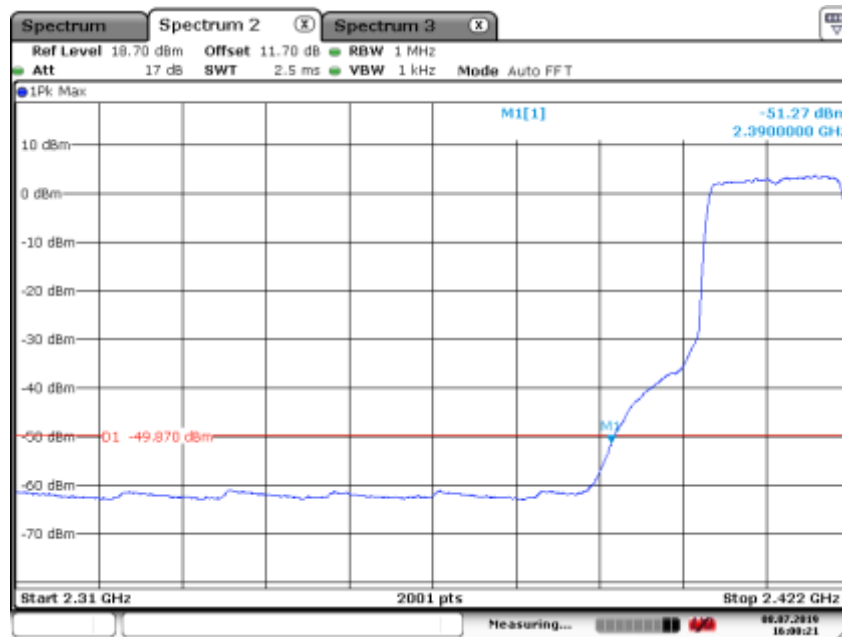
2457MHz by 802.11g:

Date: 8.JUL.2019 15:53:58

2462MHz by 802.11g:



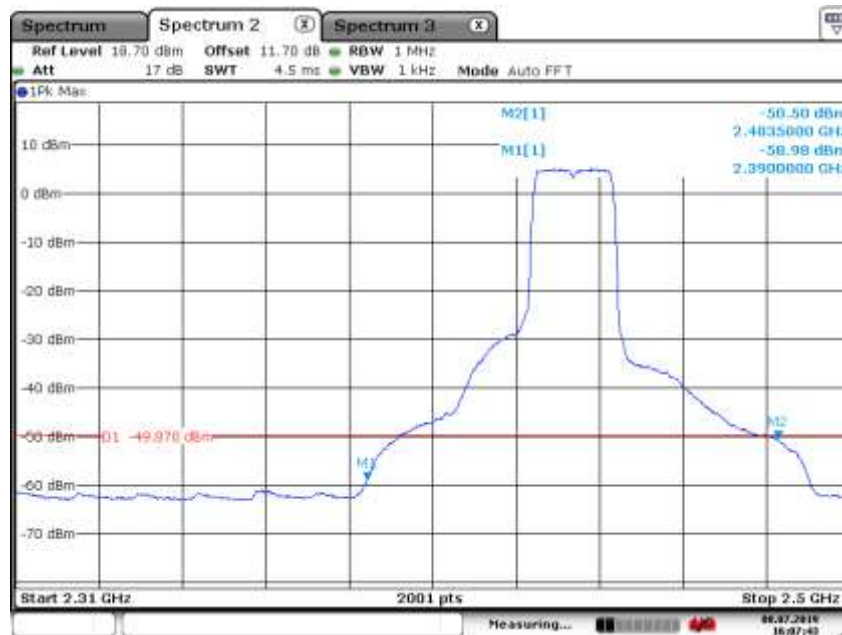
Date: 8.JUL.2019 15:58:24

2412MHz by 802.11n(20MHz):

Date: 8.JUL.2019 16:00:22

2417MHz by 802.11n(20MHz):

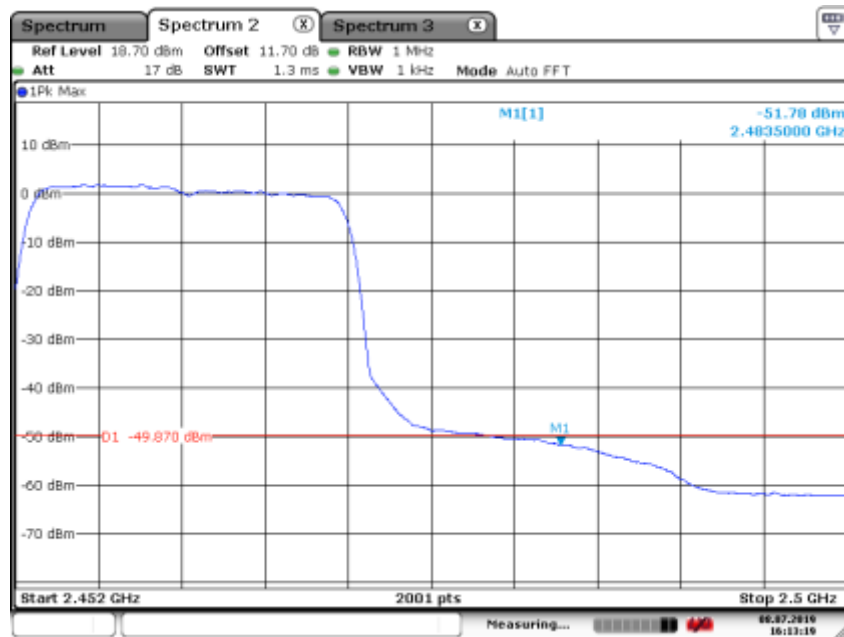
Date: 8.JUL.2019 16:05:24

2437MHz by 802.11n(20MHz):

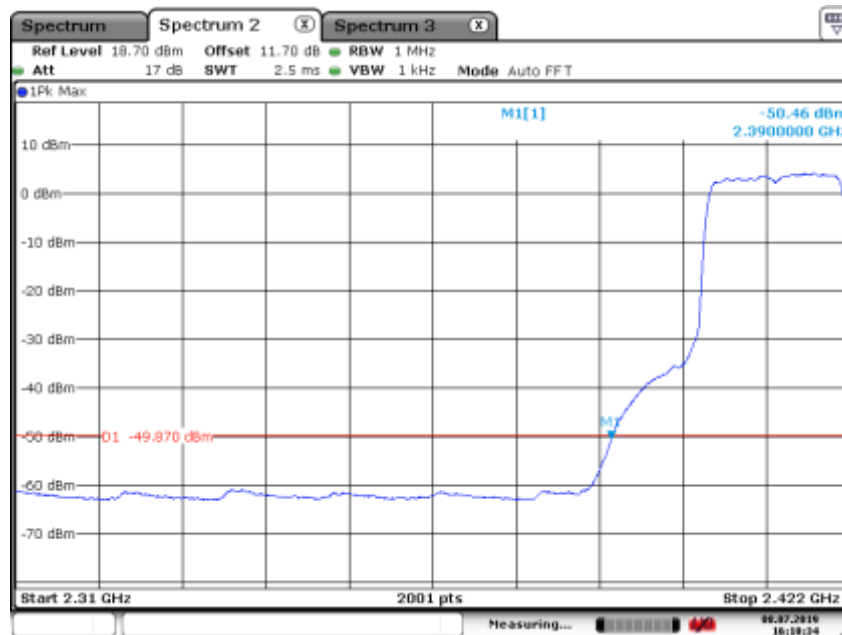
Date: 8.JUL.2019 16:07:43

2457MHz by 802.11n(20MHz):

Date: 8.JUL.2019 16:10:28

2462MHz by 802.11n(20MHz):

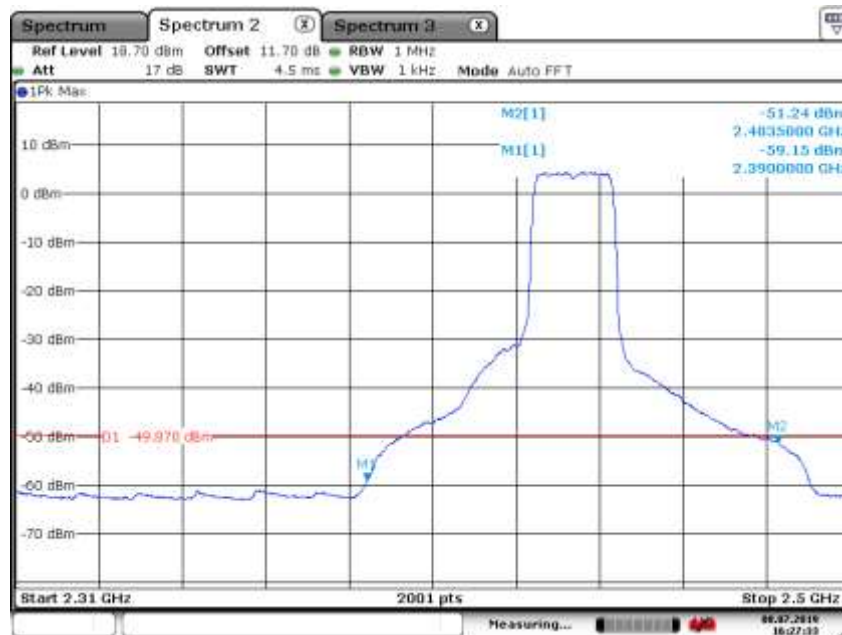
Date: 8.JUL.2019 16:13:19

2412MHz by 802.11ac(20MHz):

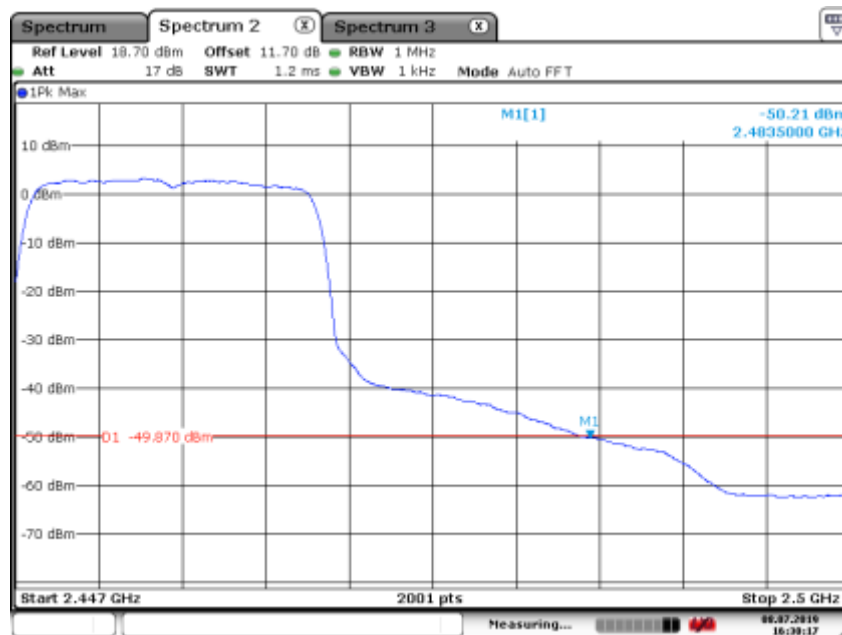
Date: 8.JUL.2019 16:18:34

2417MHz by 802.11ac(20MHz):

Date: 8.JUL.2019 16:21:43

2437MHz by 802.11ac(20MHz):

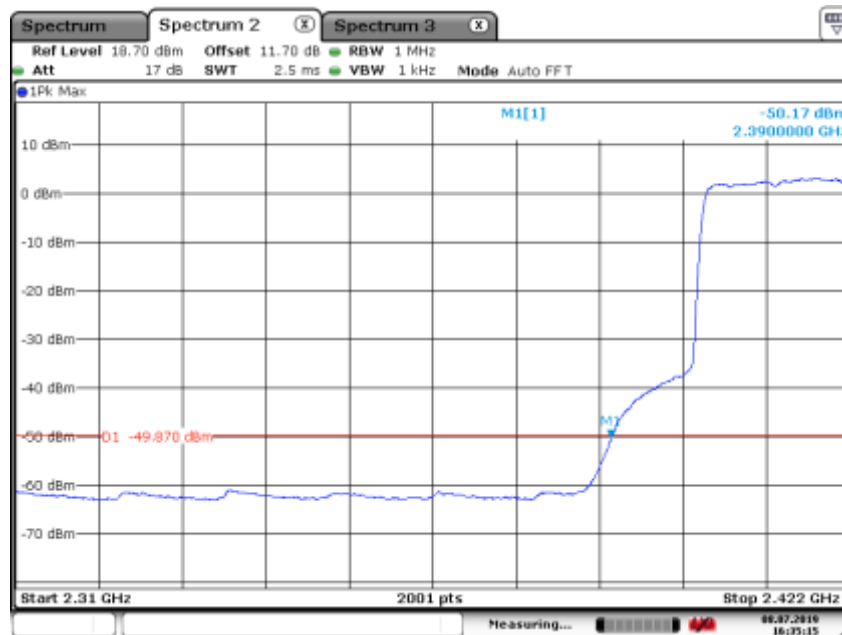
Date: 8.JUL.2019 16:27:33

2457MHz by 802.11ac(20MHz):

Date: 8.JUL.2019 16:30:17

2462MHz by 802.11ac(20MHz):

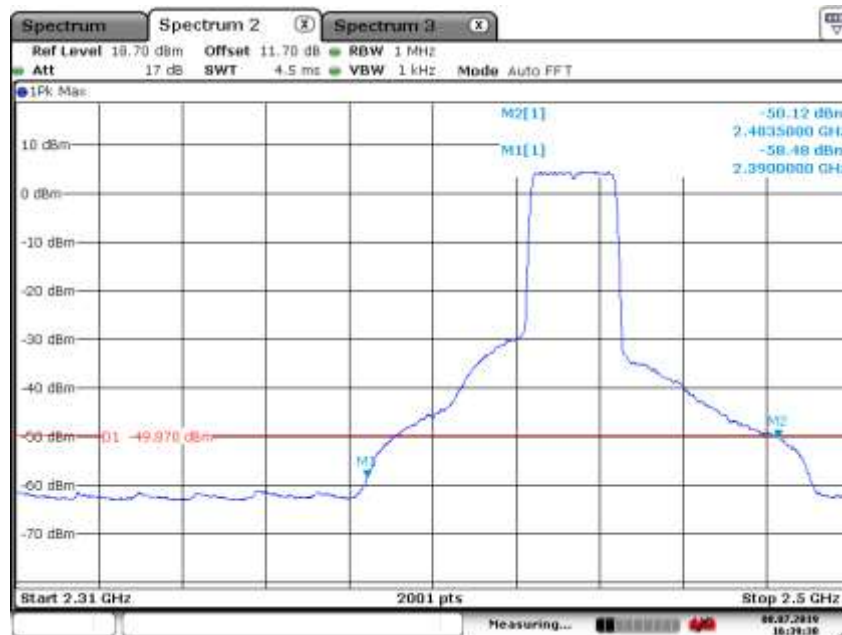
Date: 8.JUL.2019 16:32:07

2412MHz by 802.11ax(20MHz):

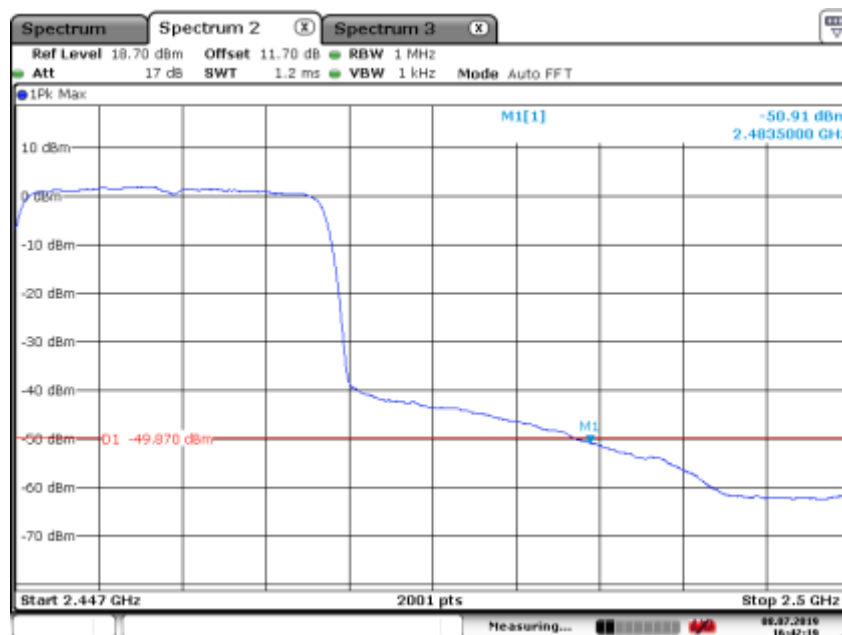
Date: 8.JUL.2019 16:35:15

2417MHz by 802.11ax(20MHz):

Date: 8.JUL.2019 16:37:34

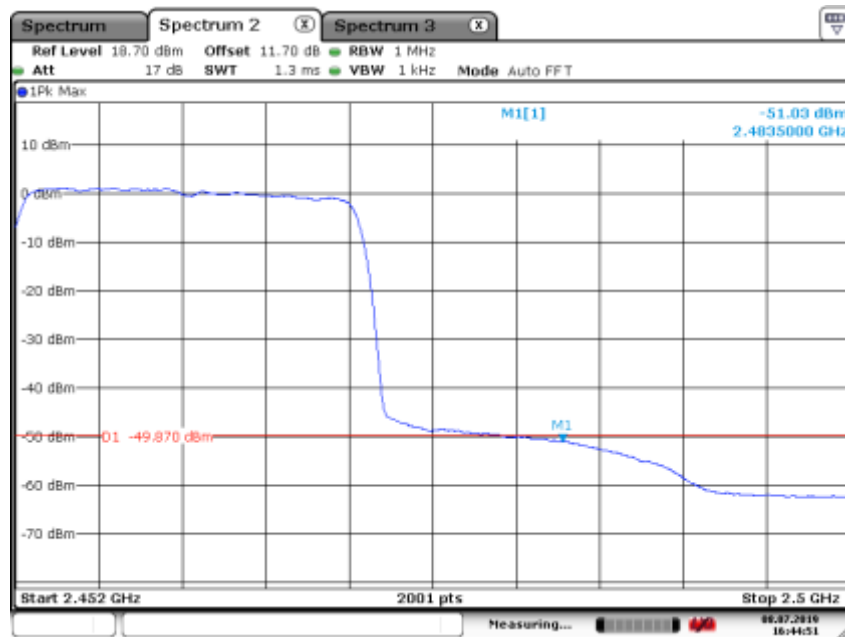
2437MHz by 802.11ax(20MHz):

Date: 8.JUL.2019 16:39:30

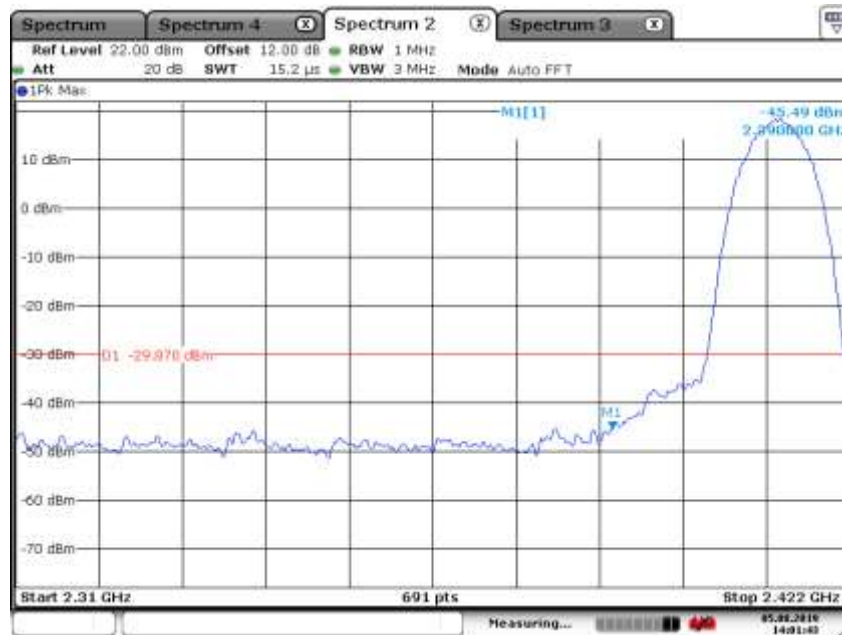
2457MHz by 802.11ax(20MHz):

Date: 8.JUL.2019 16:42:19

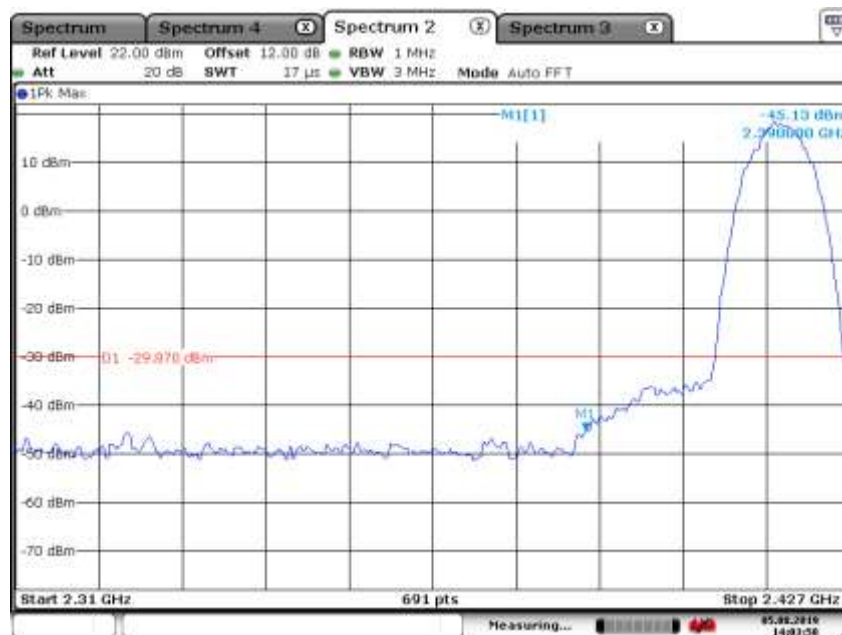
2462MHz by 802.11ax(20MHz):



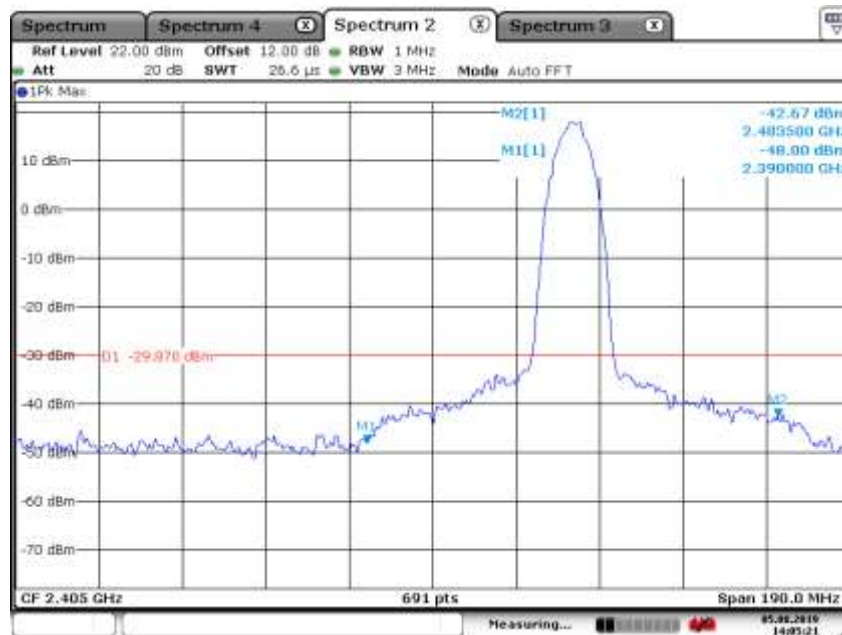
Date: 8.JUL.2019 16:44:51

PK Limit-CDD:**2412MHz by 802.11b:**

Date: 5.AUG.2019 14:01:43

2417MHz by 802.11b:

Date: 5.AUG.2019 14:03:58

2437MHz by 802.11b:

Date: 5.AUG.2019 14:05:21

2457MHz by 802.11b:

Date: 5.AUG.2019 14:06:50

2462MHz by 802.11b:

Date: 5.AUG.2019 14:07:44

2412MHz by 802.11g:

Date: 8.JUL.2019 15:44:15

2417MHz by 802.11g:

Date: 8.JUL.2019 15:46:47

2437MHz by 802.11g:

Date: 8.JUL.2019 15:51:40

2457MHz by 802.11g:

Date: 8.JUL.2019 15:56:09

2462MHz by 802.11g:



Date: 8.JUL.2019 15:58:08

2412MHz by 802.11n(20MHz):

Date: 8.JUL.2019 16:00:46

2417MHz by 802.11n(20MHz):

Date: 8.JUL.2019 16:05:41

2437MHz by 802.11n(20MHz):

Date: 8.JUL.2019 16:08:44

2457MHz by 802.11n(20MHz):

Date: 8.JUL.2019 16:12:05

2462MHz by 802.11n(20MHz):

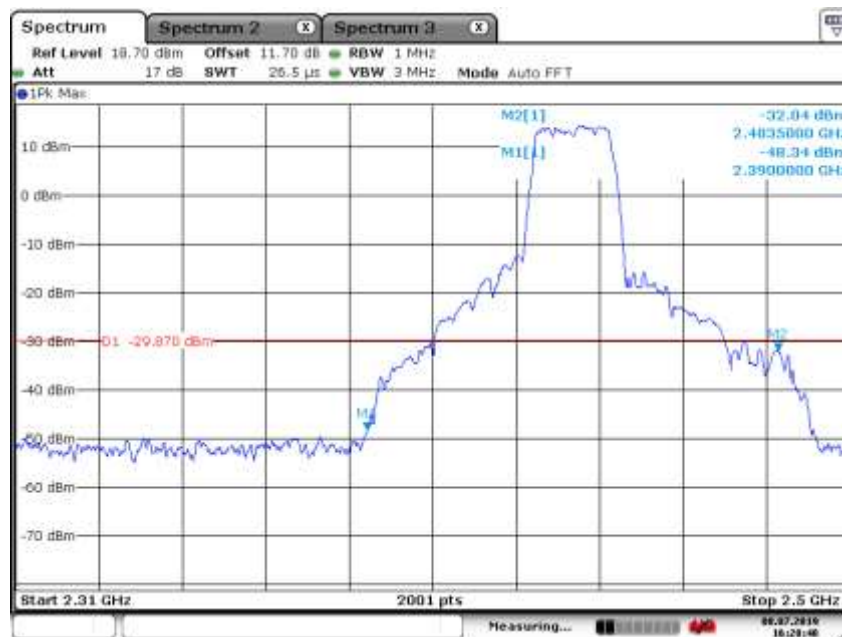
Date: 8.JUL.2019 16:14:46

2412MHz by 802.11ac(20MHz):

Date: 8.JUL.2019 16:18:55

2417MHz by 802.11ac(20MHz):

Date: 8.JUL.2019 16:22:13

2437MHz by 802.11ac(20MHz):

Date: 8.JUL.2019 16:28:48

2457MHz by 802.11ac(20MHz):

Date: 8.JUL.2019 16:30:57

2462MHz by 802.11ac(20MHz):



2412MHz by 802.11ax(20MHz):

Date: 8.JUL.2019 16:35:45

2417MHz by 802.11ax(20MHz):

Date: 8.JUL.2019 16:38:09

2437MHz by 802.11ax(20MHz):

Date: 8.JUL.2019 16:40:36

2457MHz by 802.11ax(20MHz):

Date: 8.JUL.2019 16:42:56

2462MHz by 802.11ax(20MHz):

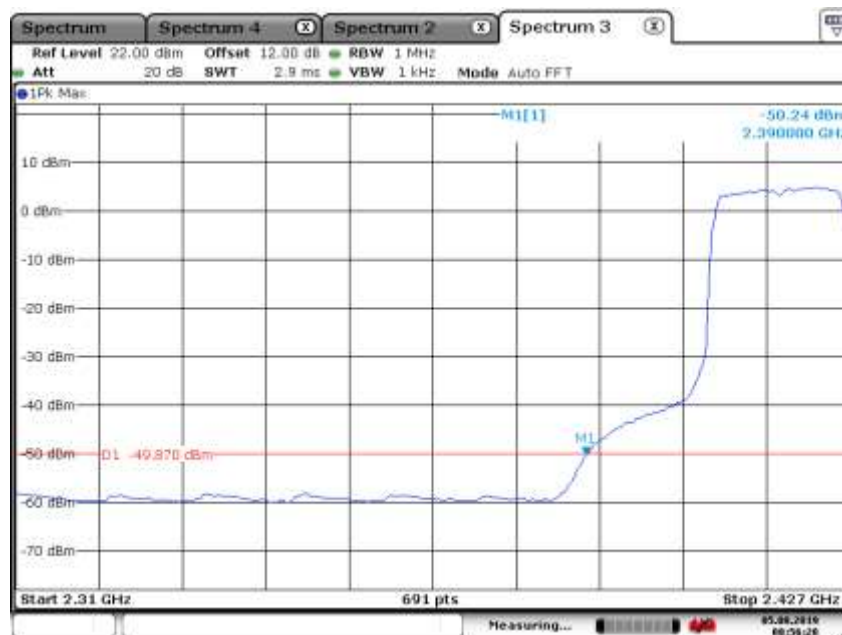
Date: 8.JUL.2019 16:45:30

AV Limit-Beamforming:
2412MHz by 802.11n(20MHz):



Date: 5.AUG.2019 08:43:39

2417MHz by 802.11n(20MHz):



Date: 5.AUG.2019 08:56:28

2437MHz by 802.11n(20MHz):

Date: 5.AUG.2019 09:02:09

2457MHz by 802.11n(20MHz):

Date: 5.AUG.2019 09:10:23

2462MHz by 802.11n(20MHz):

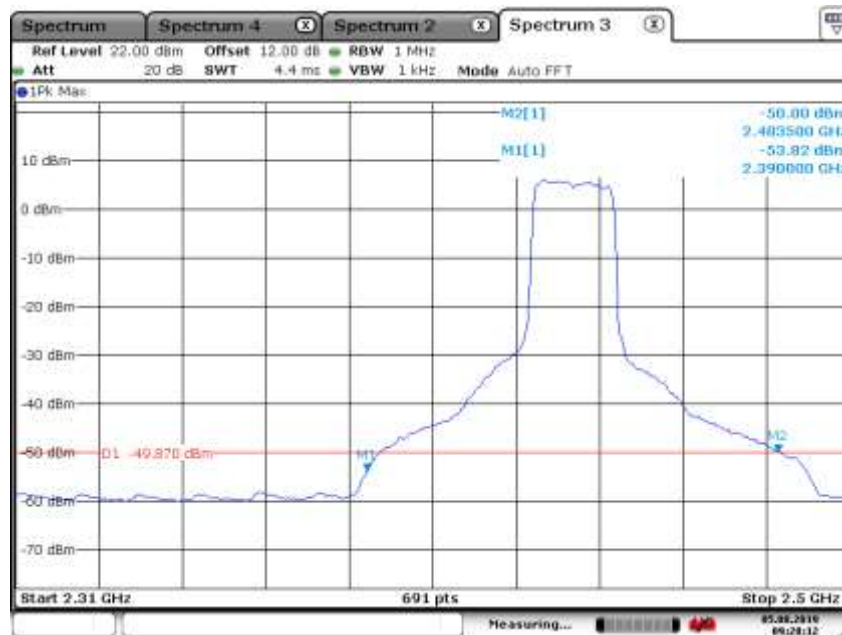
Date: 5.AUG.2019 09:12:25

2412MHz by 802.11ac(20MHz):

Date: 5.AUG.2019 09:20:03

2417MHz by 802.11ac(20MHz):

Date: 5.AUG.2019 09:24:41

2437MHz by 802.11ac(20MHz):

Date: 5.AUG.2019 09:28:12

2457MHz by 802.11ac(20MHz):

Date: 5.AUG.2019 09:31:36

2462MHz by 802.11ac(20MHz):

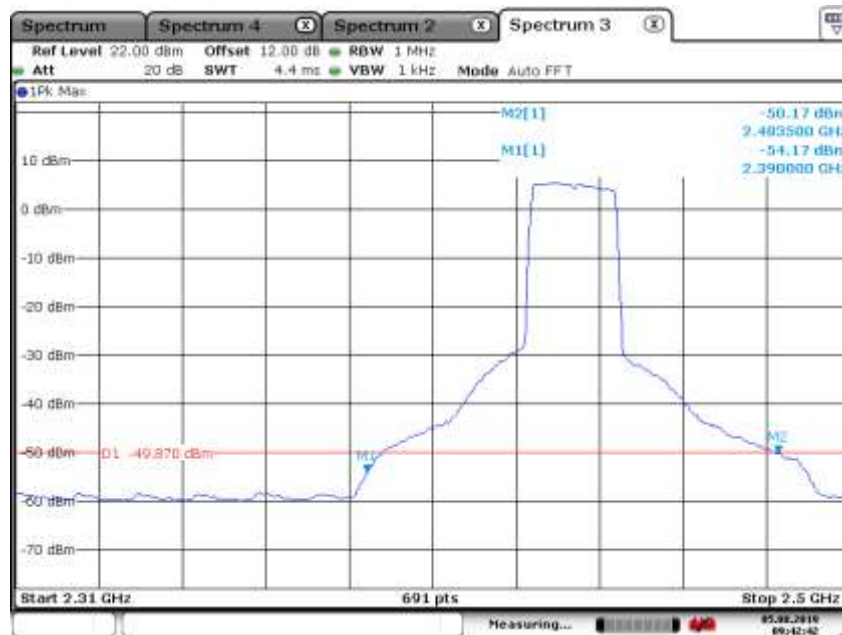
Date: 5.AUG.2019 09:32:46

2412MHz by 802.11ax(20MHz):

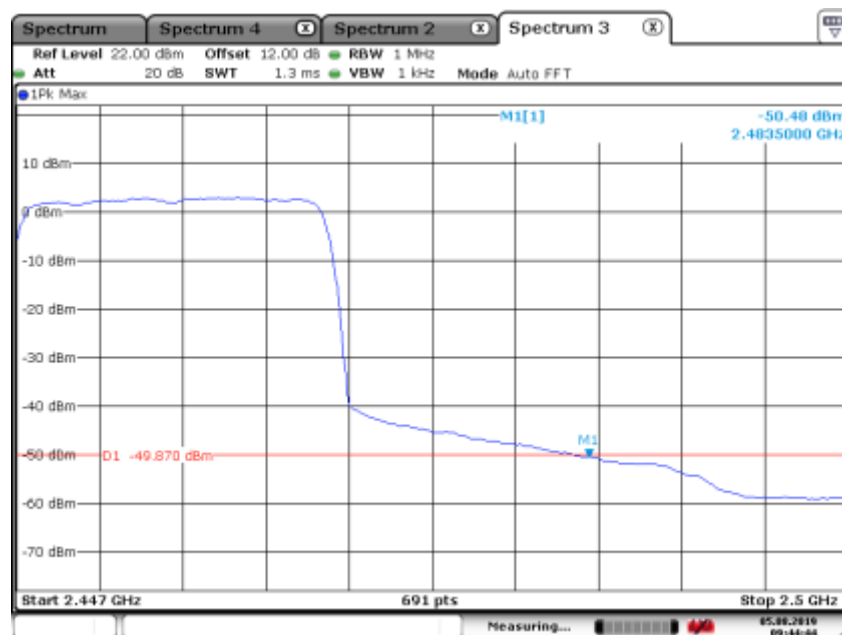
Date: 5.AUG.2019 09:38:42

2417MHz by 802.11ax(20MHz):

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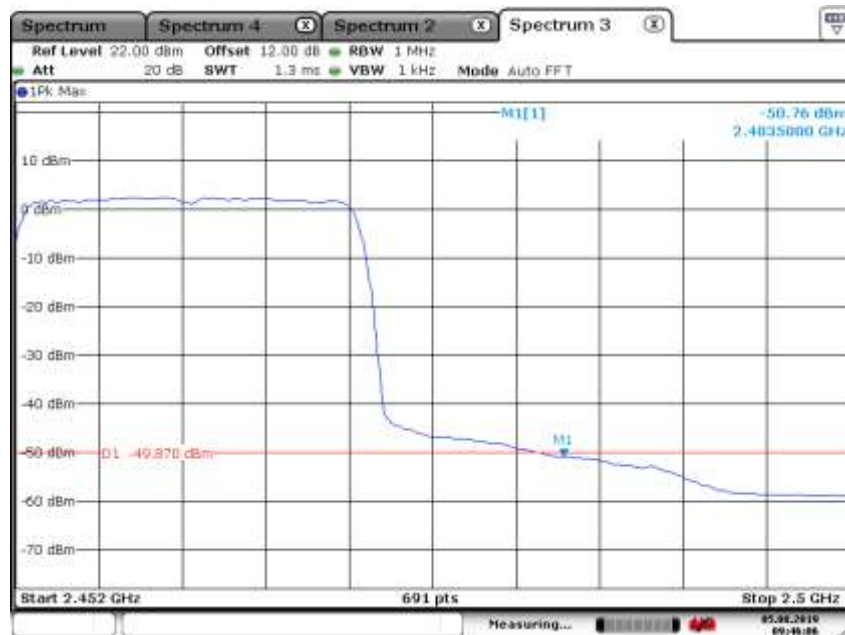
2437MHz by 802.11ax(20MHz):

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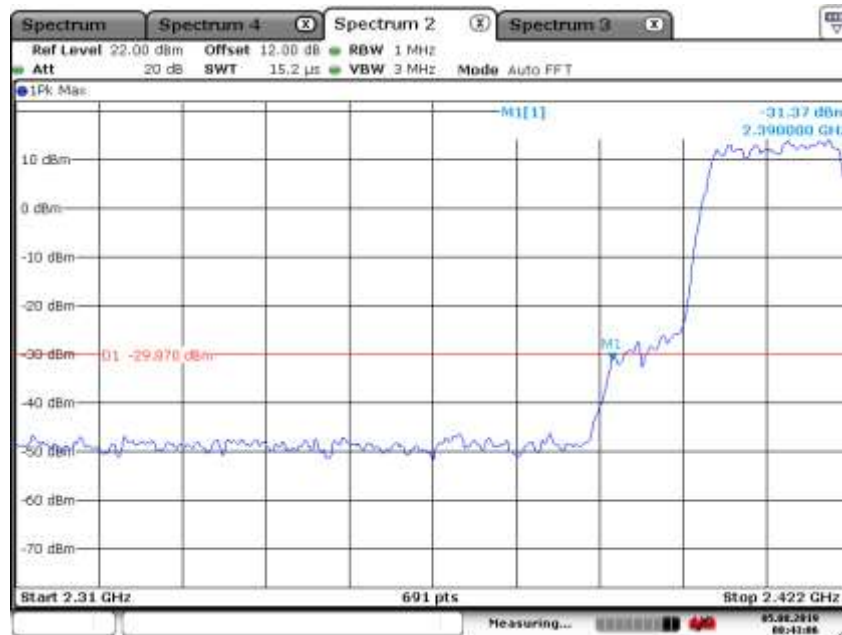
2457MHz by 802.11ax(20MHz):

Date: 5.AUG.2019 09:44:44

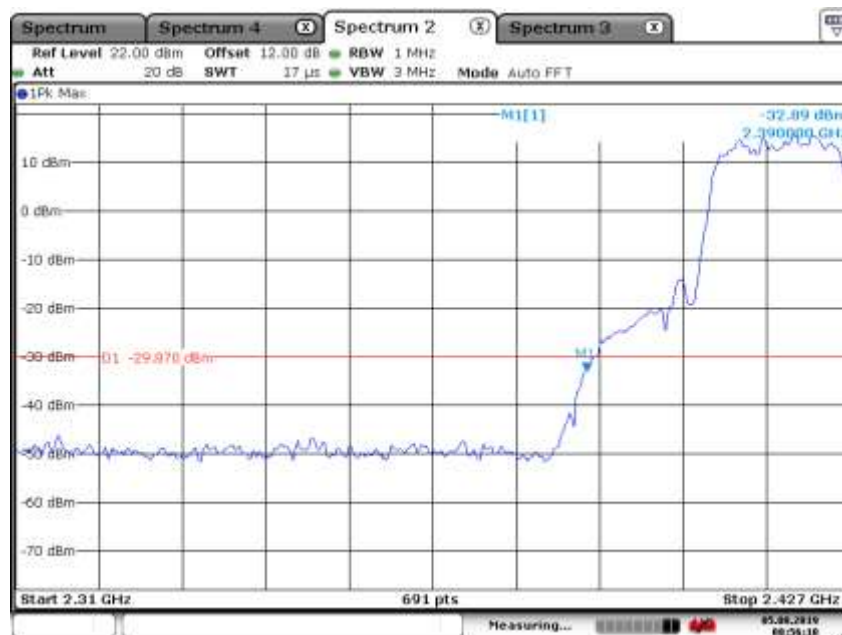
2462MHz by 802.11ax(20MHz):



Date: 5.AUG.2019 09:46:06

PK Limit-Beamforming**2412MHz by 802.11n(20MHz):**

Date: 5.AUG.2019 08:43:06

2417MHz by 802.11n(20MHz):

Date: 5.AUG.2019 08:56:10

2437MHz by 802.11n(20MHz):

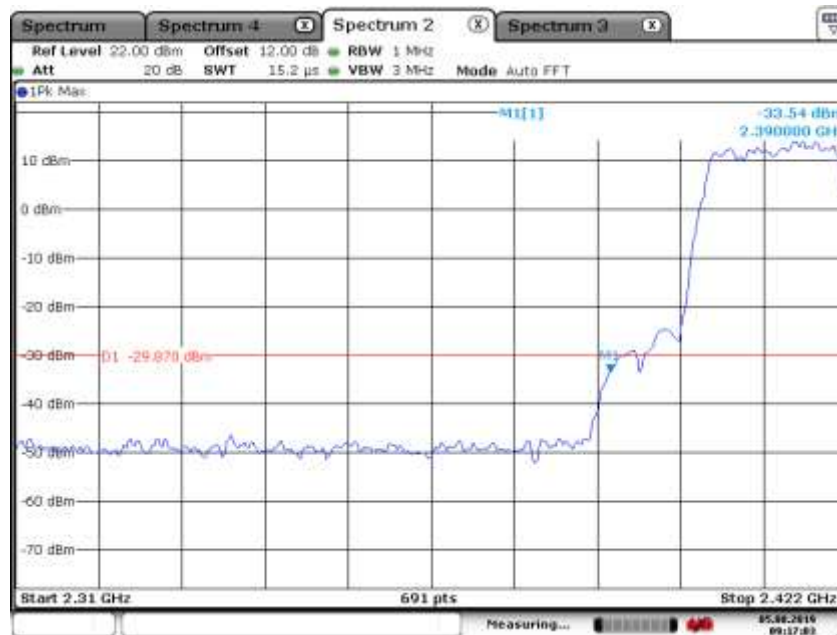
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2457MHz by 802.11n(20MHz):

Date: 5.AUG.2019 09:10:01

2462MHz by 802.11n(20MHz):

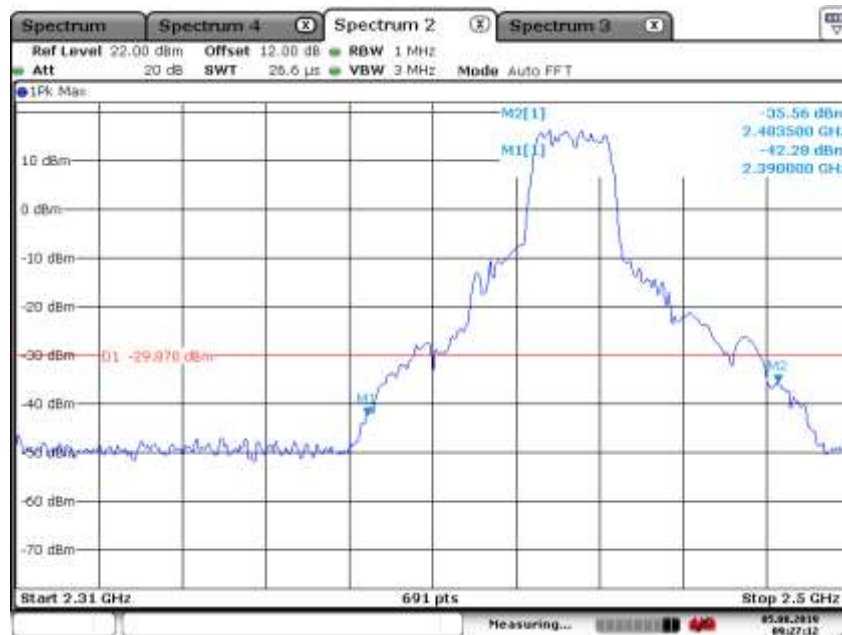
Date: 5.AUG.2019 09:12:05

2412MHz by 802.11ac(20MHz):

Date: 5.AUG.2019 09:17:03

2417MHz by 802.11ac(20MHz):

Date: 5.AUG.2019 09:24:25

2437MHz by 802.11ac(20MHz):

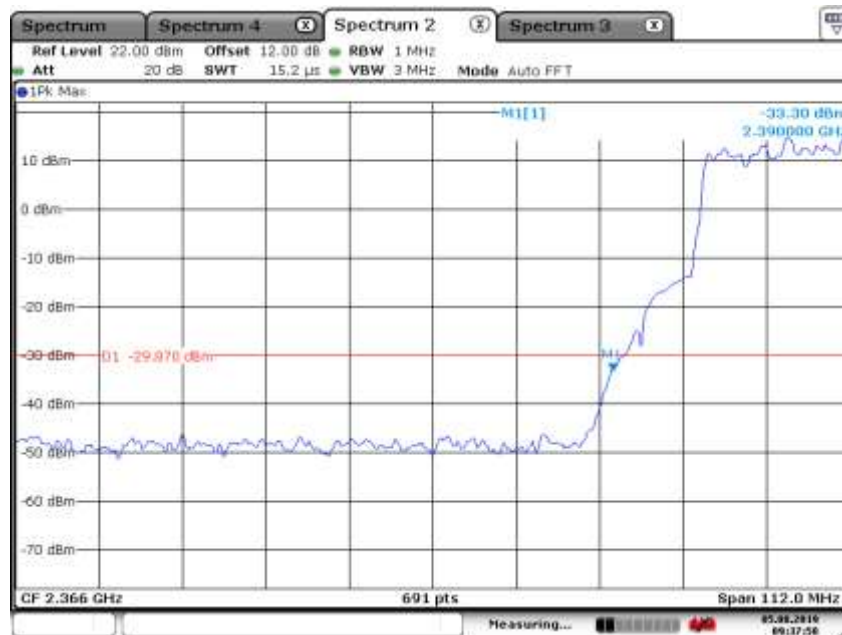
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2457MHz by 802.11ac(20MHz):

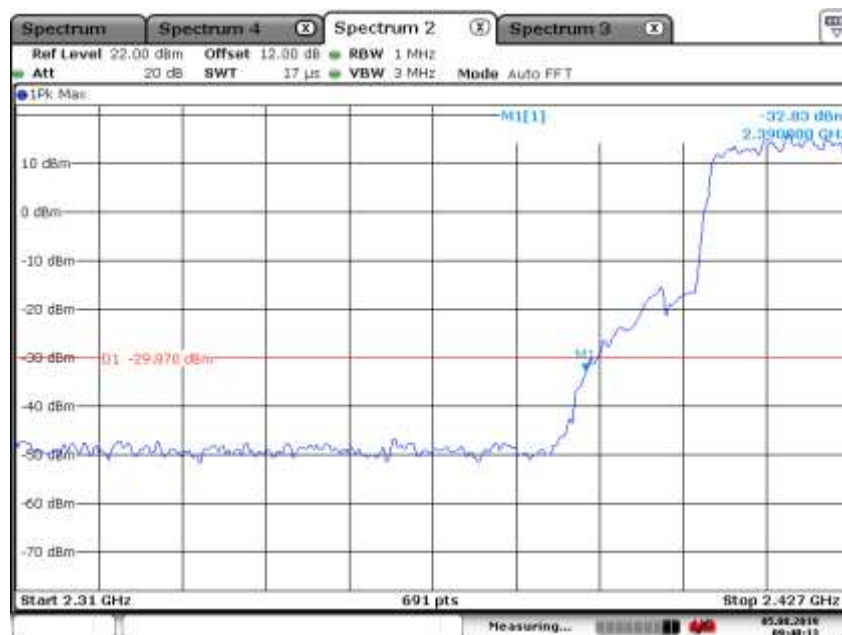
Date: 5.AUG.2019 09:31:16

2462MHz by 802.11ac(20MHz):

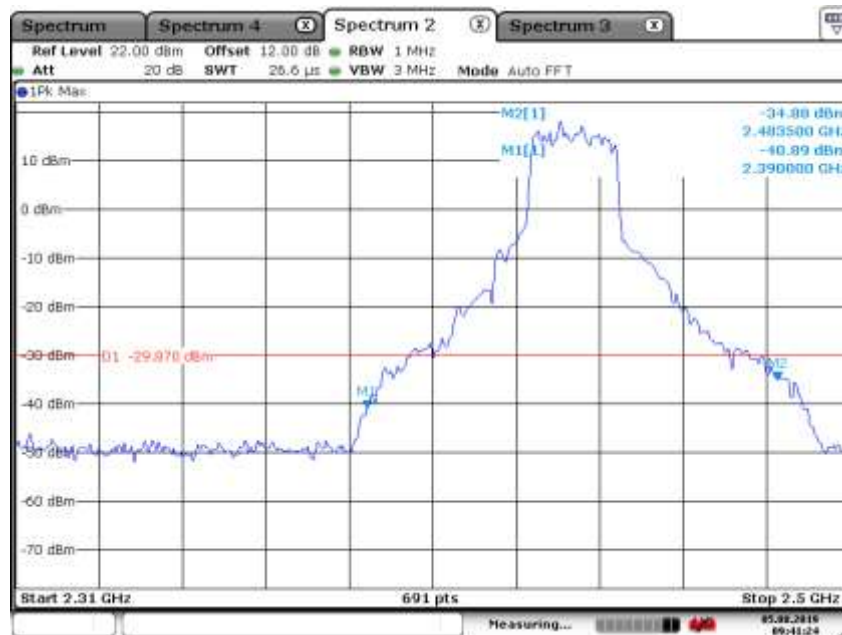
Date: 5.AUG.2019 09:32:33

2412MHz by 802.11ax(20MHz):

Date: 5.AUG.2019 09:37:58

2417MHz by 802.11ax(20MHz):

Date: 5.AUG.2019 09:40:13

2437MHz by 802.11ax(20MHz):

Date: 5.AUG.2019 09:41:24

2457MHz by 802.11ax(20MHz):

Date: 5.AUG.2019 09:44:24

2462MHz by 802.11ax(20MHz):



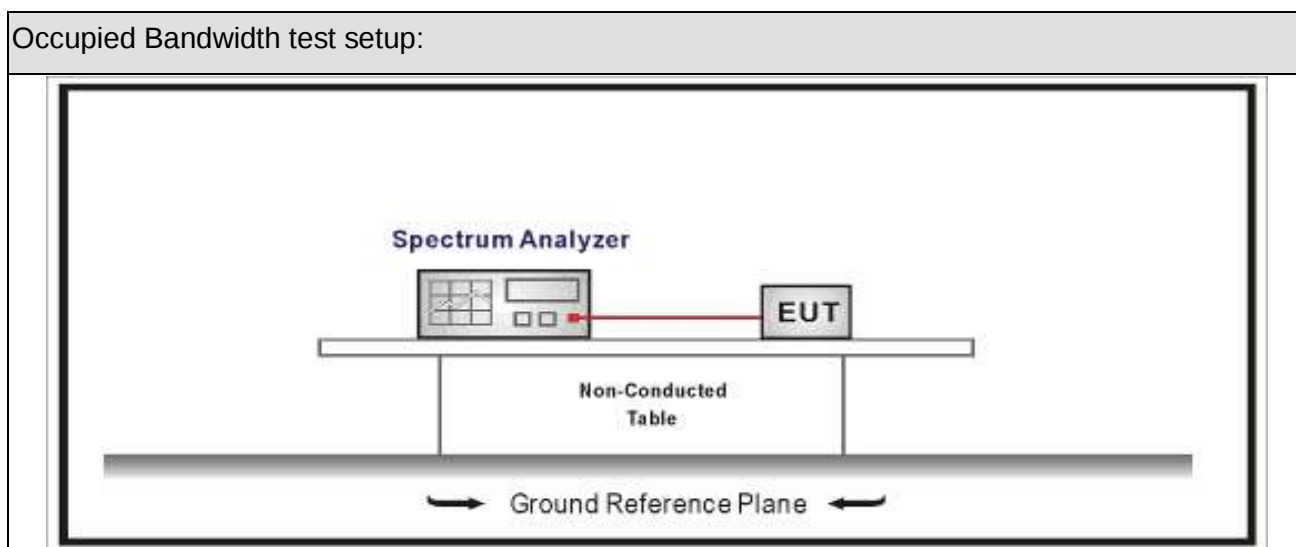
Date: 5.AUG.2019 09:45:56

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	2019.02.04	2020.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2019.04.09	2020.04.08
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2019.04.09	2020.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2019.04.10	2020.04.09
Note: All equipment are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

7.2. Test Setup



7.3. Limit

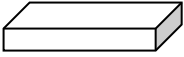
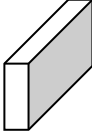
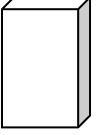
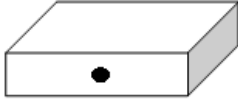
Occupied Bandwidth

Systems using digital modulation techniques operate in the 2400-2483.5 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 1~5			
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
				

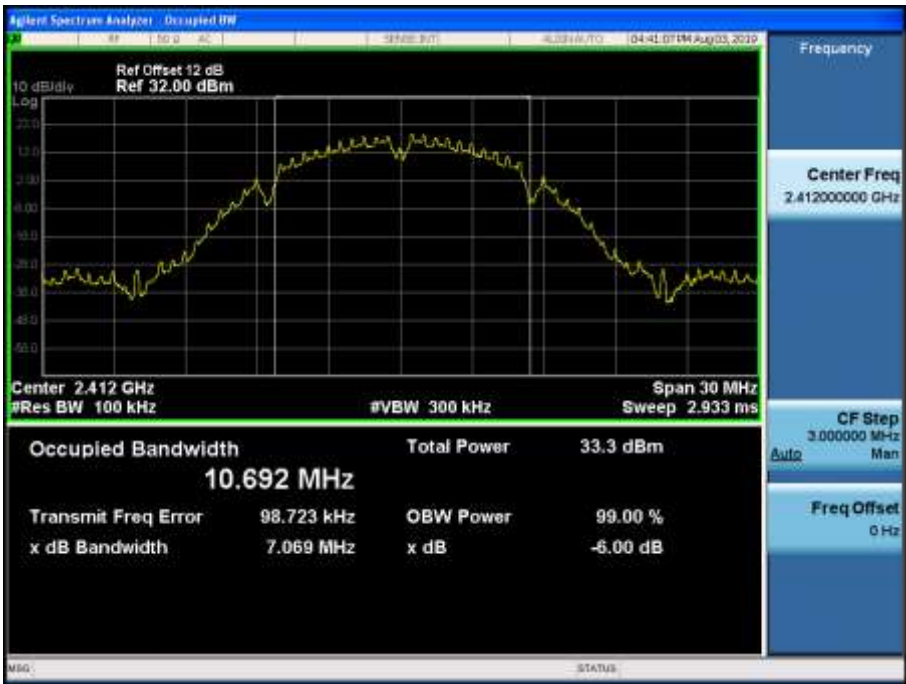
7.6. Test Result

Product Name	:	Wireless Access Point	Power	:	AC 120V/60Hz
Test Mode	:	Mode1~5	Test Site	:	TR8
Test Date	:	2019.07.09	Test Engineer	:	Eric

Mode	CH.	Test Freq. (MHz)	99% Occupied Bandwidth (MHz)	6dB Occupied Bandwidth (MHz)	Limit (kHz)	Result
1	01	2412	10.692	7.069	>500	Pass
1	06	2437	10.952	7.089	>500	Pass
1	11	2462	10.574	7.094	>500	Pass
2	01	2412	16.530	16.37	>500	Pass
2	06	2437	16.639	16.41	>500	Pass
2	11	2462	16.491	15.99	>500	Pass
3	01	2412	17.743	17.58	>500	Pass
3	06	2437	17.817	17.64	>500	Pass
3	11	2462	17.710	17.22	>500	Pass
4	01	2412	17.719	17.59	>500	Pass
4	06	2437	17.797	17.63	>500	Pass
4	11	2462	17.680	17.23	>500	Pass
5	01	2412	18.979	18.93	>500	Pass
5	06	2437	19.033	18.95	>500	Pass
5	11	2462	18.918	18.81	>500	Pass

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

Mode 1 CH01 (2412MHz)



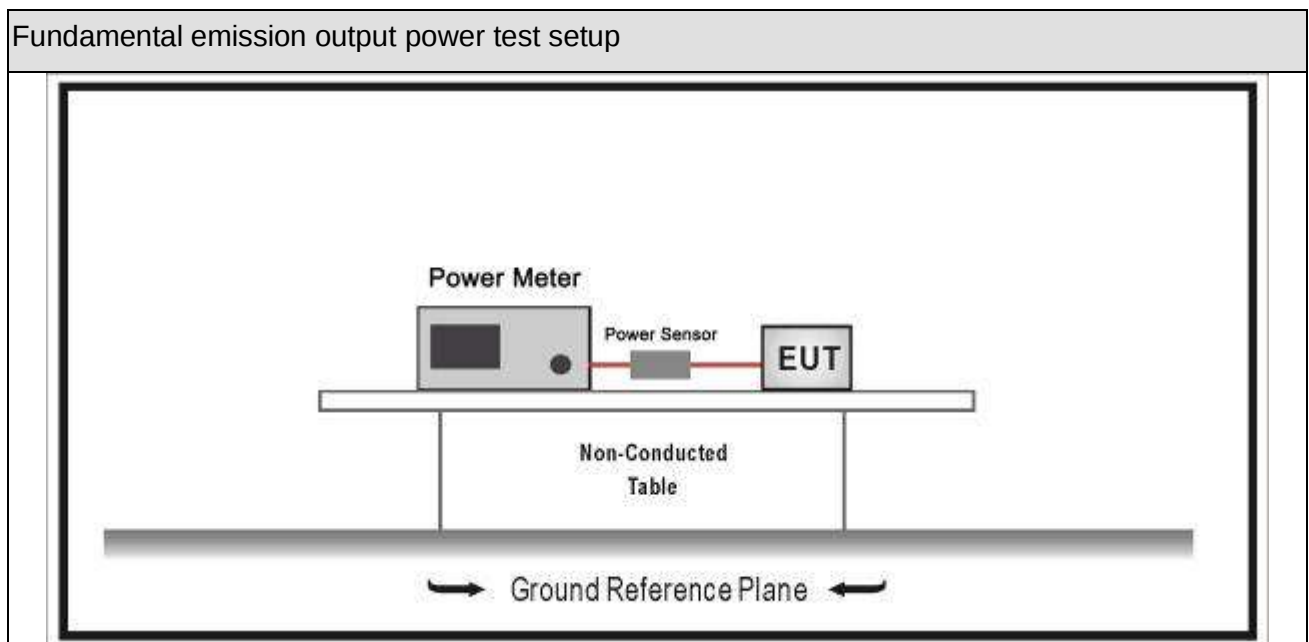
8. Fundamental emission output power

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	2019.01.04	2020.01.03
Spectrum Analyzer	Agilent	N9010A	MY48030494	2019.02.04	2020.02.03
Wideband Peak Power Meter	Anritsu	ML2495A	0905006	2018.10.14	2019.10.13
Power Sensor	Anritsu	MA2411B	0846014	2018.10.14	2019.10.13
Temperature/Humidity Meter	zhicheng	ZC1-2	TR8-TH	2019.04.10	2020.04.09

Note: All equipment are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

8.2. Test Setup



8.3. Limit

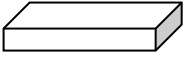
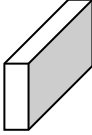
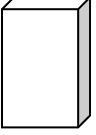
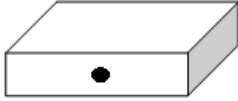
Fundamental emission output power Limit		
☒	$G_{TX} < 6\text{dBi}$	$P_{out} \leq 30\text{dBm}$
☐	$G_{TX} > 6\text{dBi}$	
☐	Non-Fix point-point	$P_{out} \leq 30 - (G_{TX} - 6)$
☐	Fix point-point	$P_{out} \leq 30 - [(G_{TX} - 6)]/3$
☐	Point-to-multipoint	$P_{out} \leq 30 - (G_{TX} - 6)$
☐	Overlap Beams	$P_{out} \leq 30 - [(G_{TX} - 6)]/3$
☐	Aggregate power transmitted simultaneously on all beams	$P_{out} \leq 30 - [(G_{TX} - 6)]/3$
☐	single directional beam	$P_{out} \leq 30 - [(G_{TX} - 6)]/3 + 8\text{dB}$
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

Item	Fundamental emission output power			
Device Category	☐	Fixed point-to-point		
	☐	Emit multiple directional beams, simultaneously or sequentially		
	☒	Other cases		
Test mode	Mode 1~5			
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
				

8.6. Test Result

Product Name	:	Wireless Access Point	Power	:	AC 120V/60Hz
Test Mode	:	Mode1~3	Test Site	:	TR8
Test Date	:	2019.08.01	Test Engineer	:	Eric

SISO:

Mode	Channel	Test Frequency (MHz)	Conducted Power Output (dBm)		Limit (dBm)	Result
			Ant 1	Ant 2		
1	01	2412	18.58	18.85	30	Pass
1	02	2417	18.84	18.79	30	Pass
1	06	2437	19.19	18.66	30	Pass
1	10	2457	18.84	18.95	30	Pass
1	11	2462	18.96	18.85	30	Pass
2	01	2412	17.38	17.87	30	Pass
2	02	2417	18.21	19.62	30	Pass
2	06	2437	18.96	19.51	30	Pass
2	10	2457	18.77	19.92	30	Pass
2	11	2462	16.22	16.03	30	Pass
3	01	2412	17.43	18.52	30	Pass
3	02	2417	18.29	19.85	30	Pass
3	06	2437	18.83	19.71	30	Pass
3	10	2457	18.32	19.12	30	Pass
3	11	2462	16.64	15.65	30	Pass

4	01	2412	17.12	18.21	30	Pass
4	02	2417	18.47	19.78	30	Pass
4	06	2437	19.01	19.73	30	Pass
4	10	2457	18.74	18.62	30	Pass
4	11	2462	16.32	15.83	30	Pass
5	01	2412	17.61	18.07	30	Pass
5	02	2417	18.66	20.15	30	Pass
5	06	2437	19.18	19.94	30	Pass
5	10	2457	17.93	18.07	30	Pass
5	11	2462	16.69	16.18	30	Pass

Mode	Channel	Test Frequency (MHz)	E.I.R.P (dBm)		Limit (dBm)	Result
			Ant 1	Ant 2		
1	01	2412	21.25	21.22	36	Pass
1	02	2417	21.51	21.16	36	Pass
1	06	2437	21.86	21.03	36	Pass
1	10	2457	21.51	21.32	36	Pass
1	11	2462	21.63	21.22	36	Pass
2	01	2412	20.05	20.24	36	Pass
2	02	2417	20.88	21.99	36	Pass
2	06	2437	21.63	21.88	36	Pass
2	10	2457	21.44	22.29	36	Pass
2	11	2462	18.89	18.40	36	Pass
3	01	2412	20.10	20.89	36	Pass
3	02	2417	20.96	22.22	36	Pass
3	06	2437	21.50	22.08	36	Pass
3	10	2457	20.99	21.49	36	Pass
3	11	2462	19.31	18.02	36	Pass
4	01	2412	19.79	20.58	36	Pass
4	02	2417	21.14	22.15	36	Pass
4	06	2437	21.68	22.10	36	Pass
4	10	2457	21.41	20.99	36	Pass

4	11	2462	18.99	18.20	36	Pass
5	01	2412	20.28	20.44	36	Pass
5	02	2417	21.33	22.52	36	Pass
5	06	2437	21.85	22.31	36	Pass
5	10	2457	20.60	20.44	36	Pass
5	11	2462	19.36	18.55	36	Pass

Note: E.I.R.P for AP305C.

Mode	Channel	Test Frequency (MHz)	E.I.R.P (dBm)		Limit (dBm)	Result
			Ant 1	Ant 2		
1	01	2412	21.21	20.87	36	Pass
1	02	2417	21.47	20.81	36	Pass
1	06	2437	21.82	20.68	36	Pass
1	10	2457	21.47	20.97	36	Pass
1	11	2462	21.59	20.87	36	Pass
2	01	2412	20.01	19.89	36	Pass
2	02	2417	20.84	21.64	36	Pass
2	06	2437	21.59	21.53	36	Pass
2	10	2457	21.40	21.94	36	Pass
2	11	2462	18.85	18.05	36	Pass
3	01	2412	20.06	20.54	36	Pass
3	02	2417	20.92	21.87	36	Pass
3	06	2437	21.46	21.73	36	Pass
3	10	2457	20.95	21.14	36	Pass
3	11	2462	19.27	17.67	36	Pass
4	01	2412	19.75	20.23	36	Pass
4	02	2417	21.10	21.80	36	Pass
4	06	2437	21.64	21.75	36	Pass
4	10	2457	21.37	20.64	36	Pass

4	11	2462	18.95	17.85	36	Pass
5	01	2412	20.24	20.09	36	Pass
5	02	2417	21.29	22.17	36	Pass
5	06	2437	21.81	21.96	36	Pass
5	10	2457	20.56	20.09	36	Pass
5	11	2462	19.32	18.20	36	Pass

Note: E.I.R.P for AP305CX.

CDD:

Mode	Channel	Test Frequency (MHz)	Conducted Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result
			Ant 1	Ant 2			
1	01	2412	18.71	18.88	21.81	30	Pass
1	02	2417	18.68	18.89	21.80	30	Pass
1	06	2437	19.15	18.68	21.93	30	Pass
1	10	2457	18.79	19.02	21.92	30	Pass
1	11	2462	18.73	18.65	21.70	30	Pass
2	01	2412	15.71	16.89	19.35	30	Pass
2	02	2417	18.17	19.68	22.00	30	Pass
2	06	2437	18.91	19.45	22.20	30	Pass
2	10	2457	16.12	17.36	19.79	30	Pass
2	11	2462	14.41	15.31	17.89	30	Pass
3	01	2412	16.03	17.38	19.77	30	Pass
3	02	2417	18.12	19.56	21.91	30	Pass
3	06	2437	18.87	19.65	22.29	30	Pass
3	10	2457	16.15	17.38	19.82	30	Pass
3	11	2462	14.19	15.17	17.72	30	Pass
4	01	2412	16.51	17.87	20.25	30	Pass
4	02	2417	18.37	19.83	22.17	30	Pass
4	06	2437	18.98	19.73	22.38	30	Pass

4	10	2457	16.15	17.54	19.91	30	Pass
4	11	2462	14.44	15.43	17.97	30	Pass
5	01	2412	16.33	17.62	20.03	30	Pass
5	02	2417	18.68	20.02	22.41	30	Pass
5	06	2437	19.27	19.93	22.62	30	Pass
5	10	2457	16.46	17.72	20.15	30	Pass
5	11	2462	14.71	15.75	18.27	30	Pass

Mode	Channel	Test Frequency (MHz)	E.I.R.P (dBm)	Limit (dBm)	Result
1	01	2412	21.25	36	Pass
1	02	2417	21.26	36	Pass
1	06	2437	21.05	36	Pass
1	10	2457	21.39	36	Pass
1	11	2462	21.02	36	Pass
2	01	2412	19.26	36	Pass
2	02	2417	22.05	36	Pass
2	06	2437	21.82	36	Pass
2	10	2457	19.73	36	Pass
2	11	2462	17.68	36	Pass
3	01	2412	19.75	36	Pass
3	02	2417	21.93	36	Pass
3	06	2437	22.02	36	Pass
3	10	2457	19.75	36	Pass
3	11	2462	17.54	36	Pass
4	01	2412	20.24	36	Pass
4	02	2417	22.20	36	Pass
4	06	2437	22.10	36	Pass
4	10	2457	19.91	36	Pass

4	11	2462	17.80	36	Pass
5	01	2412	19.99	36	Pass
5	02	2417	22.39	36	Pass
5	06	2437	22.30	36	Pass
5	10	2457	20.09	36	Pass
5	11	2462	18.12	36	Pass

Note: E.I.R.P for AP305C.

Mode	Channel	Test Frequency (MHz)	E.I.R.P (dBm)	Limit (dBm)	Result
1	01	2412	24.14	36	Pass
1	02	2417	24.12	36	Pass
1	06	2437	24.28	36	Pass
1	10	2457	24.24	36	Pass
1	11	2462	24.04	36	Pass
2	01	2412	21.64	36	Pass
2	02	2417	24.28	36	Pass
2	06	2437	24.52	36	Pass
2	10	2457	22.09	36	Pass
2	11	2462	20.20	36	Pass
3	01	2412	22.06	36	Pass
3	02	2417	24.20	36	Pass
3	06	2437	24.60	36	Pass
3	10	2457	22.11	36	Pass
3	11	2462	20.02	36	Pass
4	01	2412	22.54	36	Pass
4	02	2417	24.46	36	Pass
4	06	2437	24.69	36	Pass
4	10	2457	22.20	36	Pass

4	11	2462	20.27	36	Pass
5	01	2412	22.32	36	Pass
5	02	2417	24.70	36	Pass
5	06	2437	24.94	36	Pass
5	10	2457	22.44	36	Pass
5	11	2462	20.57	36	Pass

Note: E.I.R.P for AP305CX.

Beamforming:

Mode	Channel	Test Frequency (MHz)	Peak Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result
			Ant 1	Ant 2			
3	01	2412	16.19	17.22	19.75	30	Pass
3	02	2417	18.01	19.37	21.75	30	Pass
3	06	2437	18.67	19.42	22.07	30	Pass
3	10	2457	16.31	17.28	19.83	30	Pass
3	11	2462	14.39	15.72	18.12	30	Pass
4	01	2412	16.23	17.71	20.04	30	Pass
4	02	2417	18.09	19.77	22.02	30	Pass
4	06	2437	18.82	19.66	22.27	30	Pass
4	10	2457	16.23	17.17	19.74	30	Pass
4	11	2462	14.39	15.62	18.06	30	Pass
5	01	2412	16.22	17.48	19.91	30	Pass
5	02	2417	18.52	19.92	22.29	30	Pass
5	06	2437	19.33	19.76	22.56	30	Pass
5	10	2457	16.54	17.61	20.12	30	Pass
5	11	2462	14.58	15.68	18.18	30	Pass

Mode	Channel	Test Frequency (MHz)	E.I.R.P (dBm)	Limit (dBm)	Result
3	01	2412	22.25	36	Pass
3	02	2417	24.25	36	Pass
3	06	2437	24.58	36	Pass
3	10	2457	22.34	36	Pass
3	11	2462	20.62	36	Pass
4	01	2412	22.54	36	Pass
4	02	2417	24.51	36	Pass
4	06	2437	24.78	36	Pass
4	10	2457	22.24	36	Pass
4	11	2462	20.56	36	Pass
5	01	2412	22.41	36	Pass
5	02	2417	24.79	36	Pass
5	06	2437	25.08	36	Pass
5	10	2457	22.62	36	Pass
5	11	2462	20.68	36	Pass

Note: E.I.R.P for AP305C.

Mode	Channel	Test Frequency (MHz)	E.I.R.P (dBm)	Limit (dBm)	Result
3	01	2412	22.05	36	Pass
3	02	2417	24.04	36	Pass
3	06	2437	24.38	36	Pass
3	10	2457	22.13	36	Pass
3	11	2462	20.41	36	Pass
4	01	2412	22.33	36	Pass
4	02	2417	24.30	36	Pass
4	06	2437	24.58	36	Pass
4	10	2457	22.04	36	Pass
4	11	2462	20.35	36	Pass
5	01	2412	22.20	36	Pass
5	02	2417	24.57	36	Pass
5	06	2437	24.88	36	Pass
5	10	2457	22.42	36	Pass
5	11	2462	20.47	36	Pass

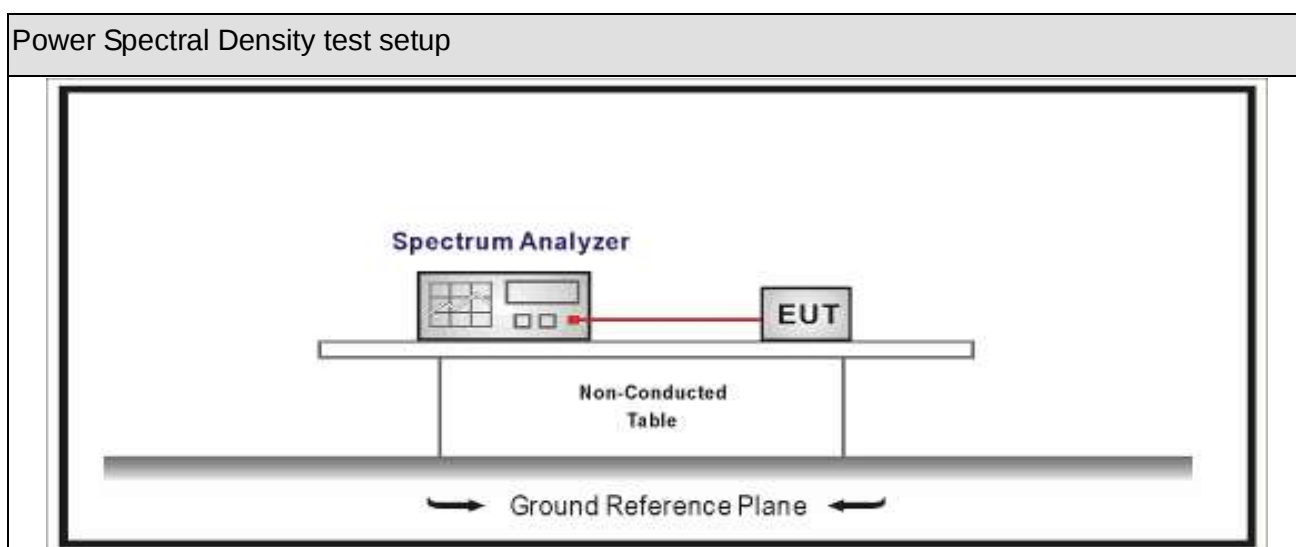
Note: E.I.R.P for AP305CX.

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	2019.02.04	2020.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2019.04.09	2020.04.08
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2019.04.09	2020.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2019.04.10	2020.04.09
Note: All equipment are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

9.2. Test Setup



9.3. Limit

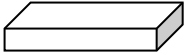
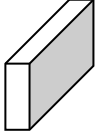
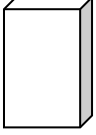
Power Spectral Density Limit
Power Spectral Density $\leq 8\text{dBm}/3\text{kHz}$

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 $\geq$ 98%)
	☐	ANSI C63.10	11.10.4	Method AVGPSD-1A(Duty cycle $\geq$ 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

Item	Power Spectral Density Test Method			
Device Category	☐	Fixed point-to-point		
	☐	Emit multiple directional beams, simultaneously or sequentially		
	☒	Other cases		
Test mode	Mode 1~5			
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
				

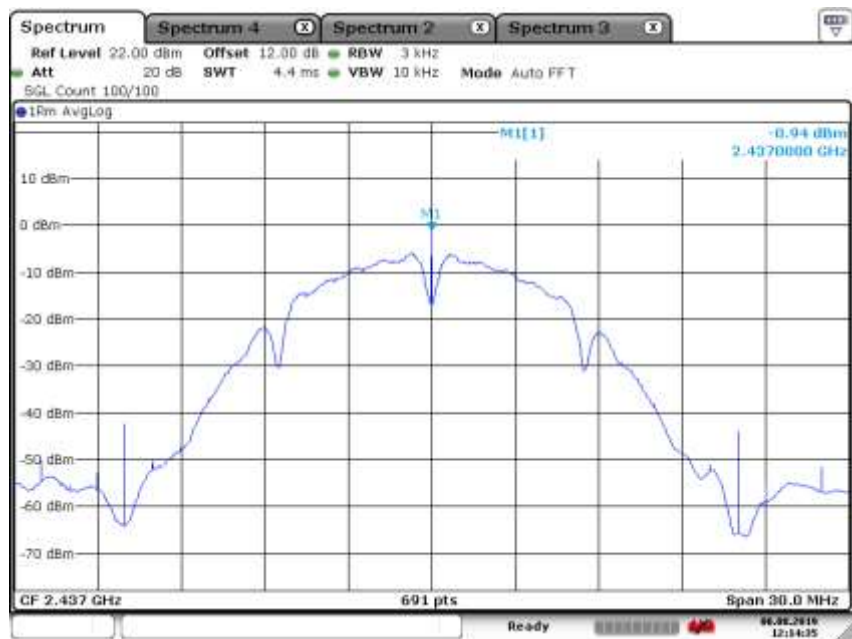
9.6. Test Result

Product Name	:	Wireless Access Point	Power	:	AC 120V/60Hz
Test Mode	:	Mode1~5	Test Site	:	TR8
Test Date	:	2019.08.06	Test Engineer	:	Eric

SISO

Mode	Channel	Test Frequency (MHz)	Measurement PSD (dBm/3kHz)		Duty factor	Limit (dBm/3kHz)	Result
			Ant 1	Ant 2			
1	01	2412	-5.88	-1.09	0	8.0	Pass
1	06	2437	-5.06	-0.94	0	8.0	Pass
1	11	2462	-5.05	-1.02	0	8.0	Pass
2	01	2412	-15.27	-15.87	0.29	8.0	Pass
2	06	2437	-13.73	-13.58	0.29	8.0	Pass
2	11	2462	-16.18	-17.40	0.29	8.0	Pass
3	01	2412	-14.92	-15.37	0.28	8.0	Pass
3	06	2437	-13.99	-14.62	0.28	8.0	Pass
3	11	2462	-16.98	-18.01	0.28	8.0	Pass
4	01	2412	-15.78	-15.49	0.11	8.0	Pass
4	06	2437	-13.67	-14.37	0.11	8.0	Pass
4	11	2462	-17.43	-18.55	0.11	8.0	Pass
5	01	2412	-16.01	-16.24	0.21	8.0	Pass
5	06	2437	-14.52	-14.80	0.21	8.0	Pass
5	11	2462	-17.98	-18.57	0.21	8.0	Pass

Mode 1 CH06(2437MHz) Ant 2



Date: 6.AUG.2019 12:14:35

CDD

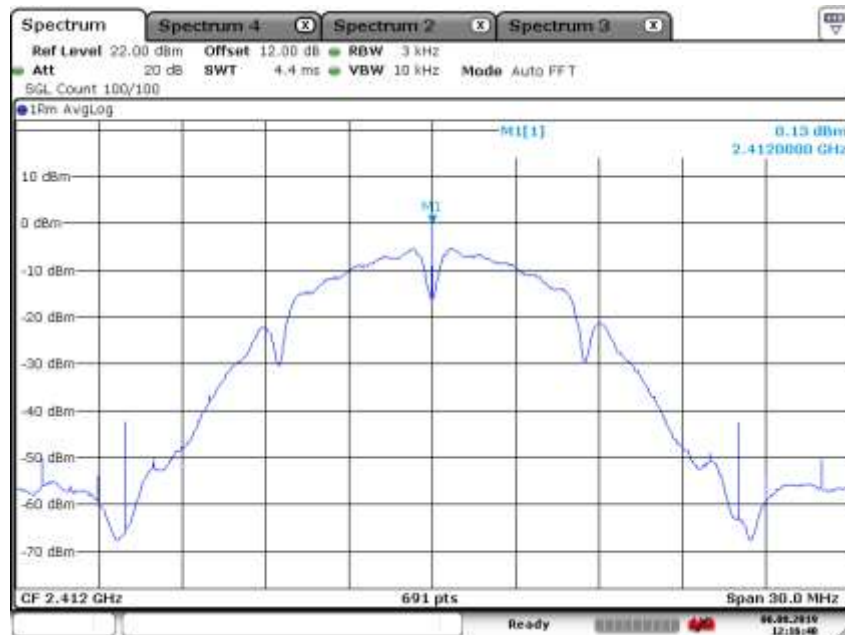
Mode	Channel	Test Frequency (MHz)	Measurement PSD (dBm/3kHz)		Duty Factor	Total Measurement PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
			Ant 1	Ant 2				
1	01	2412	-4.93	0.13	0	1.31	8.0	Pass
1	06	2437	-4.23	-0.50	0	1.03	8.0	Pass
1	11	2462	-4.47	-0.84	0	0.72	8.0	Pass
2	01	2412	-17.88	-17.33	0.29	-14.30	8.0	Pass
2	06	2437	-14.36	-13.55	0.29	-10.64	8.0	Pass
2	11	2462	-18.75	-18.35	0.29	-15.25	8.0	Pass
3	01	2412	-17.54	-16.84	0.28	-13.89	8.0	Pass
3	06	2437	-14.51	-14.65	0.28	-11.29	8.0	Pass
3	11	2462	-19.23	-19.01	0.28	-15.83	8.0	Pass
4	01	2412	-17.00	-16.67	0.11	-13.71	8.0	Pass
4	06	2437	-13.73	-14.24	0.11	-10.86	8.0	Pass
4	11	2462	-18.86	-18.58	0.11	-15.60	8.0	Pass
5	01	2412	-17.69	-17.49	0.21	-14.37	8.0	Pass
5	06	2437	-14.79	-14.38	0.21	-11.36	8.0	Pass
5	11	2462	-18.91	-18.61	0.21	-15.54	8.0	Pass

Mode 1 CH01(2412MHz) Ant 1



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Mode 1 CH01(2412MHz) Ant 2



Date: 6.AUG.2019 12:16:40

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 _____