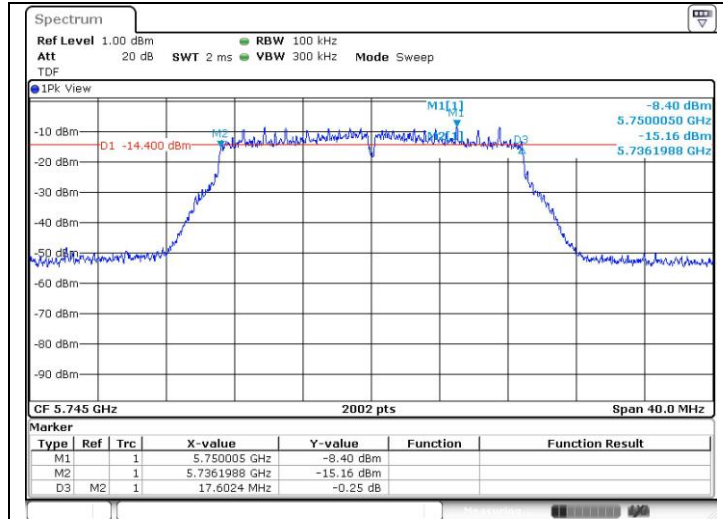


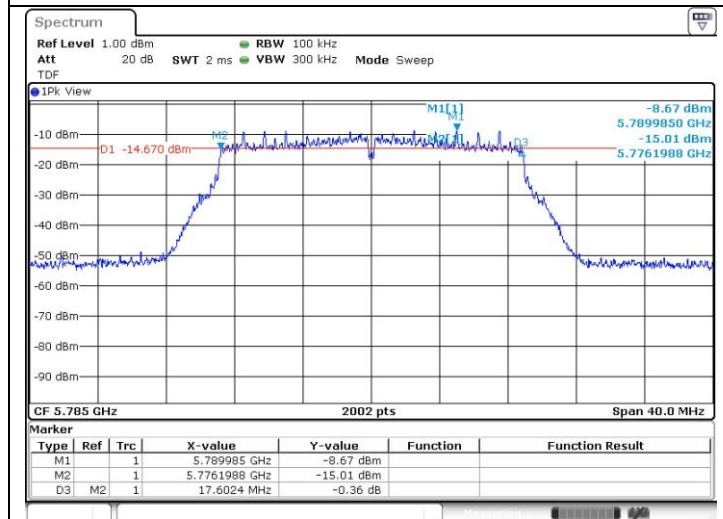
- MIMO_Ant.2

802.11ac_VHT20 (Band 3)

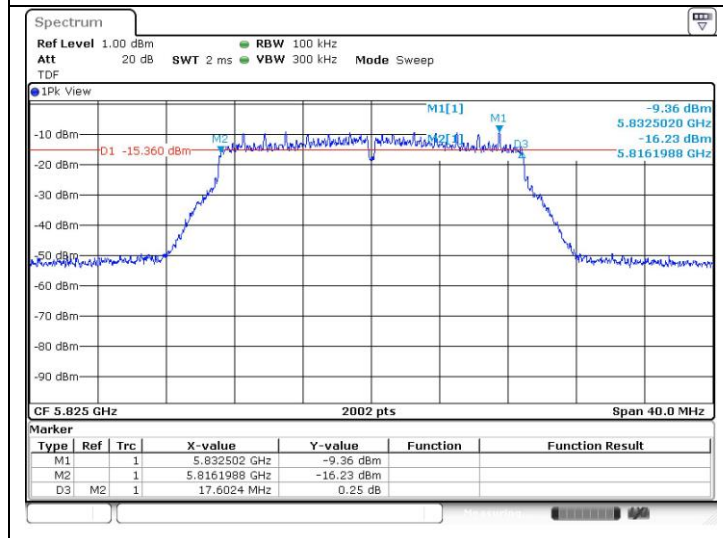
Low Channel
(5 745 MHz)



Middle Channel
(5 785 MHz)

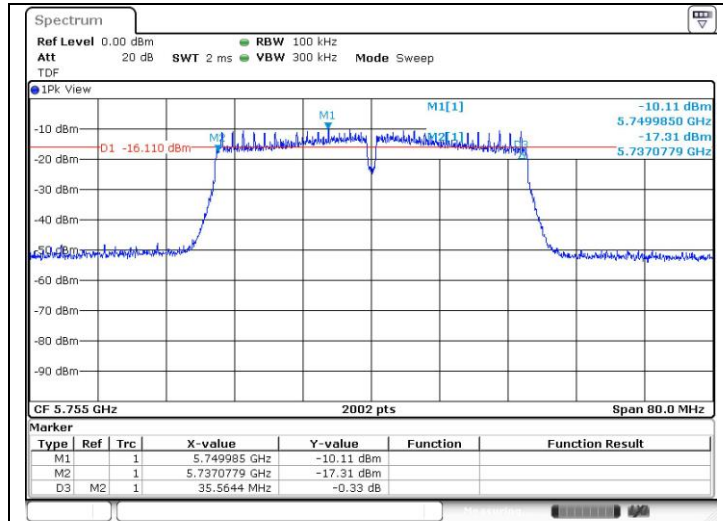


High Channel
(5 825 MHz)

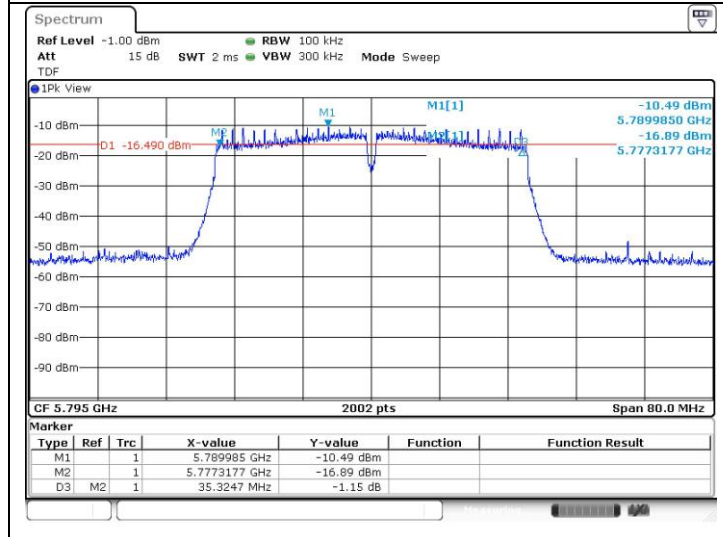


802.11ac_VHT40 (Band 3)

Low Channel
(5 755 MHz)

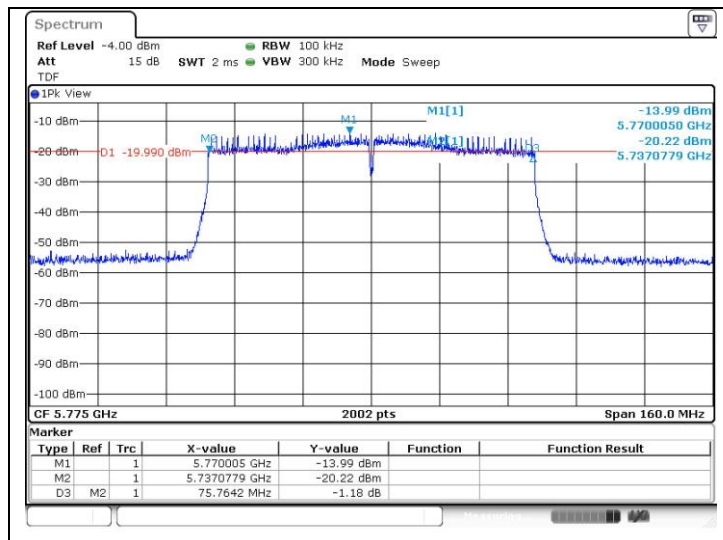


High Channel
(5 795 MHz)



802.11ac_VHT80 (Band 3)

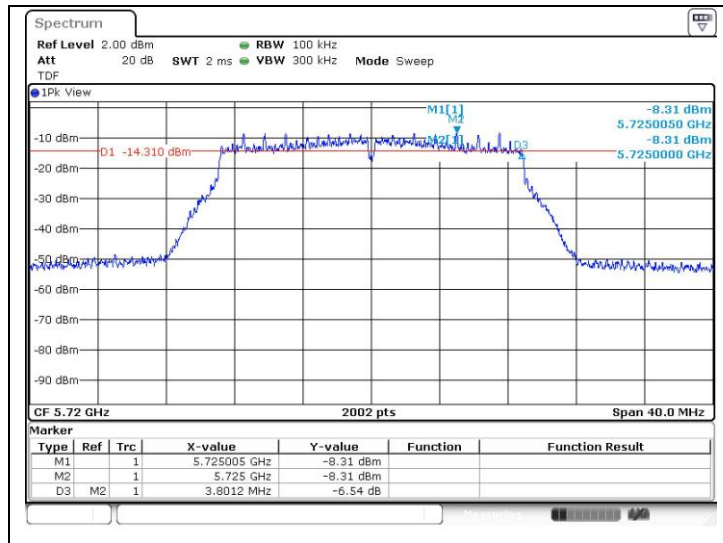
Middle Channel
(5 775 MHz)



Band-crossing channels

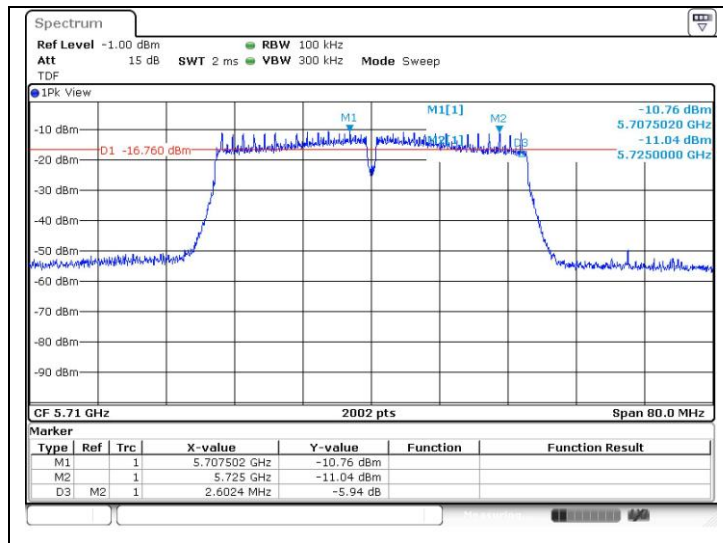
802.11ac_VHT20 (Band 3)

High Channel
(5 720 MHz)

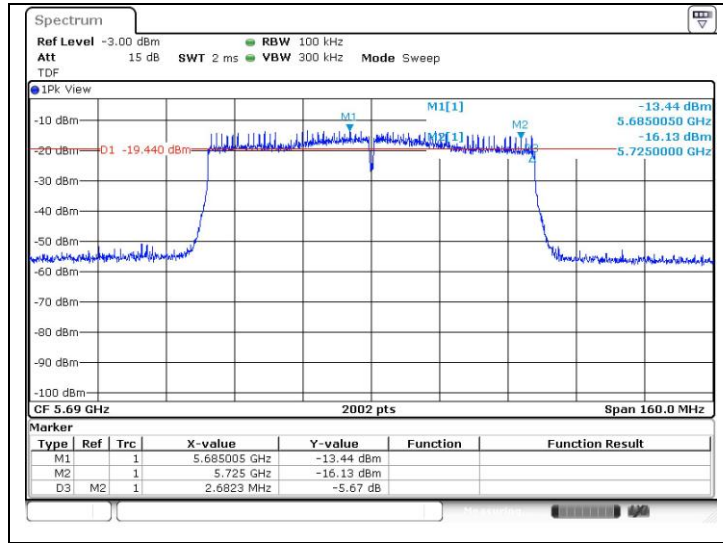


802.11ac_VHT40 (Band 3)

High Channel
(5 710 MHz)



802.11ac_VHT80 (Band 3)
 High Channel
 (5 690 MHz)



5. Maximum Conducted Output Power

5.1. Test Setup



5.2. Limit

5.2.1. FCC

According to 15.407(a)(1)(iv)

For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

According to 15.407(a)(2)

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

According to 15.407(a)(3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

5.2.2. IC

According to RSS-247 Issue 2,

6.2.1.1 Frequency band 5 150-5 250 MHz

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

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

6.2.2.1 Frequency band 5 250-5 350 MHz

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

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

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

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

6.2.3.1 Frequency band 5 470-5 600 MHz and 5 650-5 725 MHz

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

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

6.2.4.1 Frequency band 5 725-5 850 MHz

For equipment operating in the band 5 725-5 850 MHz, the minimum 6 dB bandwidth shall be at least 500 kHz. The maximum conducted output power shall not exceed 1 W. The output power spectral density shall not exceed 30 dB m in any 500 kHz band. If transmitting antennas of directional gain greater than 6 dB i are used, both the maximum conducted output power and the output power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dB i. However, fixed point-to-point devices operating in this band may employ transmitting antennas with directional gain greater than 6 dB i without any corresponding reduction in transmitter conducted power. Fixed point-to-point operations exclude the use of point-to-multipoint³ systems, omnidirectional applications and multiple collocated transmitters transmitting the same information.

5.3. Test Procedure

1. This measurement settings are specified in section II.E.3.b of KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
2. Measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.
3. In case of band crossing channels 138, 142 and 144, the measurement is complied with section III.A of KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

5.4. Test Result

Ambient temperature : (23 ± 1) °C
 Relative humidity : 47 % R.H.

- SISO_Ant.1

Test mode: 11a

Band	Frequency (MHz)	Data Rate (Mbps)	Average Power (dB m)	Antenna Gain (dB i)	E.I.R.P. (dB m)
U-NII 1	5 180	6	8.61	2.15	10.76
	5 220		8.80		10.95
	5 240		8.88		11.03
U-NII 2A	5 260		8.37	2.15	10.52
	5 300		8.58		10.73
	5 320		8.66		10.81
U-NII 2C	5 500		6.27	2.39	/
	5 580		6.65		
	5 700		6.35		
U-NII 3	5 745		6.54	2.76	
	5 785		6.69		
	5 825		6.72		

Band	Frequency (MHz)	FCC Limit				Limit (dB m)		
		Fixed Limit (dB m)	26 dB BW (MHz)	11+10LogB (dB m)	Antenna Gain (dB i)			
U-NII 1	5 180	23.98	/		2.15	23.98		
	5 220							
	5 240							
U-NII 2A	5 260		21.071	24.24	2.15			
	5 300		20.897	24.20				
	5 320		21.071	24.24				
U-NII 2C	5 500		21.071	24.24	2.39			
	5 580		21.071	24.24				
	5 700		21.129	24.25				
U-NII 3	5 745		30	/			2.76	30
	5 785							
	5 825							

Band	IC Limit						
	Frequency (MHz)	Fixed Limit (dB m)	99 % BW (MHz)	1.76+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)	
U-NII 1	5 180	14.77	17.019	14.07	2.15	14.07	
	5 220		17.077	14.08		14.08	
	5 240		17.077	14.08		14.08	
U-NII 2A	5 260		14.77	17.019	14.07	2.15	14.07
	5 300			17.019	14.07		14.07
	5 320			17.019	14.07		14.07

Band	IC Limit					
	Frequency (MHz)	Fixed Limit (dB m)	99 % BW (MHz)	11+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)
U-NII 2C	5 500	23.98	17.077	23.32	2.39	23.32
	5 580		17.019	23.31		23.31
	5 700		17.019	23.31		23.31
U-NII 3	5 745	30	/		2.76	30
	5 785		/			
	5 825		/			

Remark;

1. Attenuator and cable offset was compensated in test program before measuring.
2. E.I.R.P. (dB m) = Average Power (dB m) + Antenna Gain (dB i)

Test mode: 11ac_VHT20

Band	Frequency (MHz)	Data Rate (Mbps)	Average Power (dB m)	Antenna Gain (dB i)	E.I.R.P. (dB m)
U-NII 1	5 180	MCS0	8.07	2.15	10.22
	5 220		8.12		10.27
	5 240		8.53		10.68
U-NII 2A	5 260		8.13	2.15	10.28
	5 300		8.35		10.50
	5 320		7.67		9.82
U-NII 2C	5 500		6.43	2.39	/
	5 580		6.61		
	5 700		6.45		
U-NII 3	5 745		6.37	2.76	
	5 785		6.63		
	5 825		6.73		

Band	FCC Limit							
	Frequency (MHz)	Fixed Limit (dB m)	26 dB BW (MHz)	11+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)		
U-NII 1	5 180	23.98	/		2.15	23.98		
	5 220							
	5 240							
U-NII 2A	5 260		21.650	24.35	2.15			
	5 300		21.418	24.31				
	5 320		21.303	24.28				
U-NII 2C	5 500		21.360	24.30	2.39			
	5 580		21.534	24.33				
	5 700		21.476	24.32				
U-NII 3	5 745		30	/			2.76	30
	5 785							
	5 825							

Band	IC Limit						
	Frequency (MHz)	Fixed Limit (dB m)	99 % BW (MHz)	1.76+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)	
U-NII 1	5 180	14.77	18.061	14.33	2.15	14.33	
	5 220		18.119	14.34		14.34	
	5 240		18.119	14.34		14.34	
U-NII 2A	5 260		18.119	18.119	14.34	2.15	14.34
	5 300			18.119	14.34		14.34
	5 320			18.119	14.34		14.34

Band	IC Limit					
	Frequency (MHz)	Fixed Limit (dB m)	99 % BW (MHz)	11+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)
U-NII 2C	5 500	23.98	18.119	23.58	2.39	23.58
	5 580		18.061	23.57		23.57
	5 700		18.119	23.58		23.58
U-NII 3	5 745	30			2.76	30
	5 785					
	5 825					

Remark;

1. Attenuator and cable offset was compensated in test program before measuring.
2. E.I.R.P. (dB m) = Average Power (dB m) + Antenna Gain (dB i)

Test mode: 11ac_VHT40

Band	Frequency (MHz)	Data Rate (Mbps)	Average Power (dB m)	Antenna Gain (dB i)	E.I.R.P. (dB m)	
U-NII 1	5 190	MCS0	7.68	2.15	9.83	
	5 230		7.72		9.87	
U-NII 2A	5 270		8.17	2.15	10.32	
	5 310		8.06		10.21	
U-NII 2C	5 510		6.10	2.39	/	
	5 550		6.50			
	5 670		6.45			
U-NII 3	5 755		6.48	2.76		/
	5 795		7.08			

Band	FCC Limit							
	Frequency (MHz)	Fixed Limit (dB m)	26 dB BW (MHz)	11+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)		
U-NII 1	5 190	23.98	/		2.15	23.98		
	5 230		/					
U-NII 2A	5 270		40.040	27.02	2.15			
	5 310		39.960	27.02				
U-NII 2C	5 510		40.040	27.02	2.39			
	5 550		40.120	27.03				
	5 670		40.280	27.05				
U-NII 3	5 755		30	/			2.76	30
	5 795			/				

Band	IC Limit					
	Frequency (MHz)	Fixed Limit (dB m)	99 % BW (MHz)	1.76+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)
U-NII 1	5 190	14.77	36.237	17.35	2.15	14.77
	5 230		36.237	17.35		
U-NII 2A	5 270		36.237	17.35	2.15	
	5 310		36.237	17.35		

Band	IC Limit					
	Frequency (MHz)	Fixed Limit (dB m)	99 % BW (MHz)	11+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)
U-NII 2C	5 510	23.98	36.237	26.59	2.39	23.98
	5 550		36.237	26.59		
	5 670		36.237	26.59		
U-NII 3	5 755	30	/		2.76	30
	5 795		/			

Remark;

- Attenuator and cable offset was compensated in test program before measuring.
- E.I.R.P. (dB m) = Average Power (dB m) + Antenna Gain (dB i)

Test mode: 11ac_VHT80

Band	Frequency (MHz)	Data Rate (Mbps)	Average Power (dB m)	Antenna Gain (dB i)	E.I.R.P. (dB m)
U-NII 1	5 210	MCS0	8.00	2.15	10.15
U-NII 2A	5 290		8.02	2.15	10.17
U-NII 2C	5 530		6.36	2.39	/
U-NII 3	5 775		6.97	2.76	

Band	FCC Limit					
	Frequency (MHz)	Fixed Limit (dB m)	26 dB BW (MHz)	11+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)
U-NII 1	5 210	23.98	/		2.15	23.98
U-NII 2A	5 290		81.598	30.12	2.15	
U-NII 2C	5 530		82.158	30.15	2.39	
U-NII 3	5 775	30	/		2.76	30

Band	IC Limit					
	Frequency (MHz)	Fixed Limit (dB m)	99 % BW (MHz)	1.76+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)
U-NII 1	5 210	14.77	75.716	20.55	2.15	14.77
U-NII 2A	5 290		75.716	20.55	2.15	

Band	IC Limit					
	Frequency (MHz)	Fixed Limit (dB m)	99 % BW (MHz)	11+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)
U-NII 2C	5 530	23.98	75.716	29.79	2.39	23.98
U-NII 3	5 775	30	/		2.76	30

Remark;

1. Attenuator and cable offset was compensated in test program before measuring.
- 2 $E.I.R.P. (dB m) = Average Power (dB m) + Antenna Gain (dB i)$

- Band-crossing channels

Mode	Band	Frequency (MHz)	Data Rate (Mbps)	Average Power (dB m)	Duty Cycle Correction Factor (dB)	Average Power Result (dB m)
11a	U-NII 2C	5 720	6	4.78	0.29	5.07
	U-NII 3			-2.52		-2.23
11ac_VHT20	U-NII 2C	5 720	MCS0	4.64	0.31	4.95
	U-NII 3			-2.22		-1.91
11ac_VHT40	U-NII 2C	5 710	MCS0	4.71	0.62	5.33
	U-NII 3			-6.99		-6.37
11ac_VHT80	U-NII 2C	5 690	MCS0	4.73	1.16	5.89
	U-NII 3			-9.98		-8.82

Mode	Band	Limit					
		Frequency (MHz)	Fixed Limit (dB m)	26 dB BW (MHz)	11+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)
11a	U-NII 2C	5 720	23.98	15.478	22.90	2.39	22.90
	U-NII 3		30				30
11ac_VHT20	U-NII 2C	5 720	23.98	15.651	22.95	2.39	22.95
	U-NII 3		30				30
11ac_VHT40	U-NII 2C	5 710	23.98	35.029	26.44	2.39	23.98
	U-NII 3		30				30
11ac_VHT80	U-NII 2C	5 690	23.98	75.919	29.80	2.39	23.98
	U-NII 3		30				30

Remark;

1. Average Power Result (dB m) = Average Power (dB m) + Duty Cycle Correction Factor (dB)

- SISO_Ant.2

Test mode: 11a

Band	Frequency (MHz)	Data Rate (Mbps)	Average Power (dB m)	Antenna Gain (dB i)	E.I.R.P. (dB m)
U-NII 1	5 180	6	4.38	0.77	5.15
	5 220		4.07		4.84
	5 240		4.40		5.17
U-NII 2A	5 260		5.28	1.89	7.17
	5 300		5.34		7.23
	5 320		5.35		7.24
U-NII 2C	5 500		7.33	2.41	/
	5 580		7.33		
	5 700		7.32		
U-NII 3	5 745		7.21	2.39	
	5 785		7.11		
	5 825		6.73		

Band	FCC Limit							
	Frequency (MHz)	Fixed Limit (dB m)	26 dB BW (MHz)	11+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)		
U-NII 1	5 180	23.98	/		0.77	23.98		
	5 220							
	5 240							
U-NII 2A	5 260		21.059	24.23	1.89			
	5 300		20.919	24.21				
	5 320		20.959	24.21				
U-NII 2C	5 500		21.019	24.23	2.41			
	5 580		20.979	24.22				
	5 700		21.119	24.25				
U-NII 3	5 745		30	/			2.39	30
	5 785							
	5 825							

Band	IC Limit						
	Frequency (MHz)	Fixed Limit (dB m)	99 % BW (MHz)	1.76+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)	
U-NII 1	5 180	14.77	17.019	14.07	0.77	14.07	
	5 220		16.961	14.05		14.05	
	5 240		17.019	14.07		14.07	
U-NII 2A	5 260		14.77	17.019	14.07	1.89	14.07
	5 300			17.019	14.07		14.07
	5 320			17.019	14.07		14.07

Band	IC Limit					
	Frequency (MHz)	Fixed Limit (dB m)	99 % BW (MHz)	11+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)
U-NII 2C	5 500	23.98	17.019	23.31	2.41	23.31
	5 580		17.077	23.32		23.32
	5 700		17.077	23.32		23.32
U-NII 3	5 745	30	/		2.39	30
	5 785		/			
	5 825		/			

Remark;

1. Attenuator and cable offset was compensated in test program before measuring.
2. E.I.R.P. (dB m) = Average Power (dB m) + Antenna Gain (dB i)

Test mode: 11ac_VHT20

Band	Frequency (MHz)	Data Rate (Mbps)	Average Power (dB m)	Antenna Gain (dB i)	E.I.R.P. (dB m)
U-NII 1	5 180	MCS0	4.31	0.77	5.08
	5 220		4.02		4.79
	5 240		4.31		5.08
U-NII 2A	5 260		4.77	1.89	6.66
	5 300		5.12		7.01
	5 320		5.24		7.13
U-NII 2C	5 500		7.11	2.41	/
	5 580		7.46		
	5 700		7.01		
U-NII 3	5 745		7.15	2.39	
	5 785		6.76		
	5 825		6.64		

Band	FCC Limit							
	Frequency (MHz)	Fixed Limit (dB m)	26 dB BW (MHz)	11+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)		
U-NII 1	5 180	23.98	/		0.77	23.98		
	5 220							
	5 240							
U-NII 2A	5 260		21.419	24.31	1.89			
	5 300		21.439	24.31				
	5 320		21.279	24.28				
U-NII 2C	5 500		21.359	24.30	2.41			
	5 580		21.499	24.32				
	5 700		21.419	24.31				
U-NII 3	5 745		30	/			2.39	30
	5 785							
	5 825							

Band	IC Limit						
	Frequency (MHz)	Fixed Limit (dB m)	99 % BW (MHz)	1.76+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)	
U-NII 1	5 180	14.77	18.119	14.34	0.77	14.34	
	5 220		18.061	14.33		14.33	
	5 240		18.119	14.34		14.34	
U-NII 2A	5 260		14.77	18.119	14.34	1.89	14.34
	5 300			18.119	14.34		14.34
	5 320			18.119	14.34		14.34

Band	IC Limit					
	Frequency (MHz)	Fixed Limit (dB m)	99 % BW (MHz)	11+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)
U-NII 2C	5 500	23.98	18.119	23.58	2.41	23.58
	5 580		18.119	23.58		23.58
	5 700		18.061	23.57		23.57
U-NII 3	5 745	30			2.39	30
	5 785					
	5 825					

Remark;

1. Attenuator and cable offset was compensated in test program before measuring.
2. E.I.R.P. (dB m) = Average Power (dB m) + Antenna Gain (dB i)

Test mode: 11ac_VHT40

Band	Frequency (MHz)	Data Rate (Mbps)	Average Power (dB m)	Antenna Gain (dB i)	E.I.R.P. (dB m)
U-NII 1	5 190	MCS0	4.25	0.77	5.02
	5 230		4.58		5.35
U-NII 2A	5 270		4.38	1.89	6.27
	5 310		4.28		6.17
U-NII 2C	5 510		6.97	2.41	/
	5 550		7.25		
	5 670		6.85		
U-NII 3	5 755		7.25	2.39	
	5 795		6.92		

Band	FCC Limit							
	Frequency (MHz)	Fixed Limit (dB m)	26 dB BW (MHz)	11+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)		
U-NII 1	5 190	23.98	/		0.77	23.98		
	5 230		/					
U-NII 2A	5 270		40.040	27.02	1.89			
	5 310		39.920	27.01				
U-NII 2C	5 510		40.040	27.02	2.41			
	5 550		40.000	27.02				
	5 670		40.360	27.06				
U-NII 3	5 755		30	/			2.39	30
	5 795			/				

Band	IC Limit					
	Frequency (MHz)	Fixed Limit (dB m)	99 % BW (MHz)	1.76+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)
U-NII 1	5 190	14.77	36.237	17.35	0.77	14.77
	5 230		36.237	17.35		
U-NII 2A	5 270		36.237	17.35	1.89	
	5 310		36.237	17.35		

Band	IC Limit					
	Frequency (MHz)	Fixed Limit (dB m)	99 % BW (MHz)	11+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)
U-NII 2C	5 510	23.98	36.122	26.58	2.41	23.98
	5 550		36.237	26.59		
	5 670		36.237	26.59		
U-NII 3	5 755	30	/		2.39	30
	5 795		/			

Remark;

- Attenuator and cable offset was compensated in test program before measuring.
- E.I.R.P. (dB m) = Average Power (dB m) + Antenna Gain (dB i)

Test mode: 11ac_VHT80

Band	Frequency (MHz)	Data Rate (Mbps)	Average Power (dB m)	Antenna Gain (dB i)	E.I.R.P. (dB m)
U-NII 1	5 210	MCS0	4.60	0.77	5.37
U-NII 2A	5 290		4.05	1.89	5.94
U-NII 2C	5 530		6.59	2.41	/
U-NII 3	5 775		6.60	2.39	

Band	FCC Limit					
	Frequency (MHz)	Fixed Limit (dB m)	26 dB BW (MHz)	11+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)
U-NII 1	5 210	23.98	/		0.77	23.98
U-NII 2A	5 290		81.678	30.12	1.89	
U-NII 2C	5 530		81.519	30.11	2.41	
U-NII 3	5 775	30	/		2.39	30

Band	IC Limit					
	Frequency (MHz)	Fixed Limit (dB m)	99 % BW (MHz)	1.76+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)
U-NII 1	5 210	14.77	75.485	20.54	0.77	14.77
U-NII 2A	5 290		75.716	20.55	1.89	

Band	IC Limit					
	Frequency (MHz)	Fixed Limit (dB m)	99 % BW (MHz)	11+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)
U-NII 2C	5 530	23.98	75.716	29.79	2.41	23.98
U-NII 3	5 775	30	/		2.39	30

Remark;

1. Attenuator and cable offset was compensated in test program before measuring.
2. E.I.R.P. (dB m) = Average Power (dB m) + Antenna Gain (dB i)

- Band-crossing channels

Mode	Band	Frequency (MHz)	Data Rate (Mbps)	Average Power (dB m)	Duty Cycle Correction Factor (dB)	Average Power Result (dB m)
11a	U-NII 2C	5 720	6	5.16	0.29	5.45
	U-NII 3			-2.22		-1.93
11ac_VHT20	U-NII 2C	5 720	MCS0	4.78	0.31	5.09
	U-NII 3			-1.94		-1.63
11ac_VHT40	U-NII 2C	5 710	MCS0	5.01	0.62	5.63
	U-NII 3			-7.02		-6.40
11ac_VHT80	U-NII 2C	5 690	MCS0	4.62	1.16	5.78
	U-NII 3			-11.01		-9.85

Mode	Band	Limit					
		Frequency (MHz)	Fixed Limit (dB m)	26 dB BW (MHz)	11+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)
11a	U-NII 2C	5 720	23.98	15.629	22.94	2.41	22.94
	U-NII 3		30				30
11ac_VHT20	U-NII 2C	5 720	23.98	15.709	22.96	2.41	22.96
	U-NII 3		30				30
11ac_VHT40	U-NII 2C	5 710	23.98	34.980	26.44	2.41	23.98
	U-NII 3		30				30
11ac_VHT80	U-NII 2C	5 690	23.98	75.919	29.80	2.41	23.98
	U-NII 3		30				30

Remark;

1. Average Power Result (dB m) = Average Power (dB m) + Duty Cycle Correction Factor (dB)

- MIMO

Test mode: 11ac_VHT20

Band	Frequency (MHz)	Data Rate (Mbps)	Ant. 1 Average Power (dB m)	Ant. 2 Average Power (dB m)	Ant. 1+Ant. 2 Average Power (dB m)
U-NII 1	5 180	MCS0	5.56	0.93	6.85
	5 220		5.47	1.23	6.86
	5 240		5.38	1.02	6.74
U-NII 2A	5 260		5.34	1.90	6.96
	5 300		5.52	2.26	7.20
	5 320		4.97	2.31	6.85
U-NII 2C	5 500		2.30	3.80	6.12
	5 580		2.18	4.15	6.29
	5 700		2.28	3.59	5.99
U-NII 3	5 745		0.62	3.12	5.06
	5 785		0.91	2.89	5.02
	5 825		0.69	2.30	4.58

Band	Frequency (MHz)	Data Rate (Mbps)	Ant. 1+Ant. 2 Average Power (dB m)	Antenna Gain (dB i)	Ant. 1 + Ant. 2 E.I.R.P. (dB m)
U-NII 1	5 180	MCS0	6.85	4.50	11.35
	5 220		6.86		11.36
	5 240		6.74		11.24
U-NII 2A	5 260		6.96	5.03	11.99
	5 300		7.20		12.23
	5 320		6.85		11.88
U-NII 2C	5 500		6.12	5.41	/
	5 580		6.29		
	5 700		5.99		
U-NII 3	5 745		5.06	5.59	
	5 785		5.02		
	5 825		4.58		

Band	FCC Limit					
	Frequency (MHz)	Fixed Limit (dB m)	26 dB BW (MHz)	11+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)
U-NII 1	5 180	23.98	/		4.50	23.98
	5 220					
	5 240					
U-NII 2A	5 260		21.379	24.30	5.03	
	5 300		21.299	24.28		
	5 320		21.359	24.30		
U-NII 2C	5 500		21.239	24.27	5.41	
	5 580		21.239	24.27		
	5 700		21.259	24.28		
U-NII 3	5 745	30	/		5.59	30
	5 785					
	5 825					

Band	IC Limit					
	Frequency (MHz)	Fixed Limit (dB m)	99 % BW (MHz)	1.76+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)
U-NII 1	5 180	14.77	17.829	14.27	4.50	14.27
	5 220		17.771	14.26		14.26
	5 240		17.771	14.26		14.26
U-NII 2A	5 260		17.887	14.29	5.03	14.29
	5 300		17.887	14.29		14.29
	5 320		17.887	14.29		14.29

Band	IC Limit					
	Frequency (MHz)	Fixed Limit (dB m)	99 % BW (MHz)	11+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)
U-NII 2C	5 500	23.98	17.829	23.51	5.41	23.51
	5 580		17.829	23.51		23.51
	5 700		17.829	23.51		23.51
U-NII 3	5 745	30	/		5.59	30
	5 785					
	5 825					

Remark;

- Attenuator and cable offset was compensated in test program before measuring.
- According to KDB 662911 D01 v02r01, average power of each port (Ant. 1+Ant. 2) and antenna gain was combined by using below calculation.
- Average power: $10 \log \{10^{(\text{Ant. 1 power} / 10)} + 10^{(\text{Ant. 2 power} / 10)}\}$
 Antenna gain: $10 \log \{ [10^{(\text{Ant. 1 gain} / 20)} + 10^{(\text{Ant. 2 gain} / 20)}]^2 / 2 \}$
- E.I.R.P. (dB m) = Average Power (dB m) + Antenna Gain (dB i)

Test mode: 11ac_VHT40

Band	Frequency (MHz)	Data Rate (Mbps)	Ant. 1 Average Power (dB m)	Ant. 2 Average Power (dB m)	Ant. 1+Ant. 2 Average Power (dB m)
U-NII 1	5 190	MCS0	4.69	0.59	6.12
	5 230		4.74	0.95	6.26
U-NII 2A	5 270		4.93	0.87	6.37
	5 310		4.82	1.00	6.33
U-NII 2C	5 510		2.90	3.47	6.20
	5 550		2.85	3.84	6.38
	5 670		2.64	3.57	6.14
U-NII 3	5 755		2.43	3.26	5.88
	5 795		2.85	3.60	6.25

Band	Frequency (MHz)	Data Rate (Mbps)	Ant. 1+Ant. 2 Average Power (dB m)	Antenna Gain (dB i)	Ant. 1 + Ant. 2 E.I.R.P. (dB m)
U-NII 1	5 190	MCS0	6.12	4.50	10.62
	5 230		6.26		10.76
U-NII 2A	5 270		6.37	5.03	11.40
	5 310		6.33		11.36
U-NII 2C	5 510		6.20	5.41	/
	5 550		6.38		
	5 670		6.14		
U-NII 3	5 755		5.88	5.59	
	5 795		6.25		

Band	FCC Limit					
	Frequency (MHz)	Fixed Limit (dB m)	26 dB BW (MHz)	11+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)
U-NII 1	5 190	23.98			4.50	23.98
	5 230					
U-NII 2A	5 270		39.401	26.96	5.03	
	5 310		39.241	26.94		
U-NII 2C	5 510		39.481	26.96	5.41	
	5 550		39.481	26.96		
	5 670	39.521	26.97			
U-NII 3	5 755	30			5.59	30
	5 795					

Band	IC Limit					
	Frequency (MHz)	Fixed Limit (dB m)	99 % BW (MHz)	1.76+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)
U-NII 1	5 190	14.77	36.122	17.34	4.50	14.77
	5 230		36.122	17.34		
U-NII 2A	5 270		36.122	17.34	5.03	
	5 310		36.006	17.32		

Band	IC Limit					
	Frequency (MHz)	Fixed Limit (dB m)	99 % BW (MHz)	11+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)
U-NII 2C	5 510	23.98	36.122	26.58	5.41	23.98
	5 550		36.122	26.58		
	5 670		36.122	26.58		
U-NII 3	5 755	30			5.59	30
	5 795					

Remark;

1. Attenuator and cable offset was compensated in test program before measuring.
2. According to KDB 662911 D01 v02r01, average power of each port (Ant. 1+Ant. 2) and antenna gain was combined by using below calculation.
3. Average power: $10 \log \{10^{(Ant. 1 \text{ power} / 10)} + 10^{(Ant. 2 \text{ power} / 10)}\}$
 Antenna gain: $10 \log \{[10^{(Ant. 1 \text{ gain} / 20)} + 10^{(Ant. 2 \text{ gain} / 20)}]^{2 / 2}\}$
4. E.I.R.P. (dB m) = Average Power (dB m) + Antenna Gain (dB i)

Test mode: 11ac_VHT80

Band	Frequency (MHz)	Data Rate (Mbps)	Ant. 1 Average Power (dB m)	Ant. 2 Average Power (dB m)	Ant. 1+Ant. 2 Average Power (dB m)
U-NII 1	5 210	MCS0	4.49	0.74	6.02
U-NII 2A	5 290		4.70	0.80	6.18
U-NII 2C	5 530		2.55	3.42	6.02
U-NII 3	5 775		2.53	3.47	6.04

Band	Frequency (MHz)	Data Rate (Mbps)	Ant. 1+Ant. 2 Average Power (dB m)	Antenna Gain (dB i)	Ant. 1 + Ant. 2 E.I.R.P. (dB m)
U-NII 1	5 210	MCS0	6.02	4.50	10.52
U-NII 2A	5 290		6.18	5.03	11.21
U-NII 2C	5 530		6.02	5.41	
U-NII 3	5 775		6.04	5.59	

Band	FCC Limit					
	Frequency (MHz)	Fixed Limit (dB m)	26 dB BW (MHz)	11+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)
U-NII 1	5 210	23.98			4.50	23.98
U-NII 2A	5 290		81.119	30.09	5.03	
U-NII 2C	5 530		81.359	30.10	5.41	
U-NII 3	5 775	30			5.59	30

Band	IC Limit					
	Frequency (MHz)	Fixed Limit (dB m)	99 % BW (MHz)	1.76+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)
U-NII 1	5 210	14.77	75.485	20.54	4.50	14.77
U-NII 2A	5 290		75.485	20.54	5.03	

Band	IC Limit					
	Frequency (MHz)	Fixed Limit (dB m)	99 % BW (MHz)	11+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)
U-NII 2C	5 530	23.98	75.485	29.78	5.41	23.98
U-NII 3	5 775	30			5.59	30

Remark;

1. Attenuator and cable offset was compensated in test program before measuring.
2. According to KDB 662911 D01 v02r01, average power of each port (Ant. 1+Ant. 2) and antenna gain was combined by using below calculation.
3. Average power: $10 \log \{10^{(Ant. 1 \text{ power} / 10)} + 10^{(Ant. 2 \text{ power} / 10)}\}$
 Antenna gain: $10 \log \{[10^{(Ant. 1 \text{ gain} / 20)} + 10^{(Ant. 2 \text{ gain} / 20)}]^{2 / 2}\}$
4. E.I.R.P. (dB m) = Average Power (dB m) + Antenna Gain (dB i)

- Band-crossing channels

Mode	Band	Frequency (MHz)	Data Rate (Mbps)	Ant. 1 Average Power (dB m)	Ant. 2 Average Power (dB m)	Ant.1 + Ant.2 Average Power (dB m)	Duty Cycle Correction Factor (dB)	Ant.1 + Ant.2 Average Power Result (dB m)
11ac_VHT20	U-NII 2C	5 720	MCS0	0.96	1.49	4.24	0.30	4.54
	U-NII 3			-5.76	-5.32	-2.52		-2.22
11ac_VHT40	U-NII 2C	5 710	MCS0	1.70	1.83	4.78	0.56	5.34
	U-NII 3			-9.98	-10.15	-7.05		-6.49
11ac_VHT80	U-NII 2C	5 690	MCS0	1.18	1.75	4.48	1.04	5.52
	U-NII 3			-13.77	-13.55	-10.65		-9.61

Mode	Band	Limit					
		Frequency (MHz)	Fixed Limit (dB m)	26 dB BW (MHz)	11+10LogB (dB m)	Antenna Gain (dB i)	Limit (dB m)
11ac_VHT20	U-NII 2C	5 720	23.98	15.629	22.94	5.41	22.94
	U-NII 3		30			5.59	30
11ac_VHT40	U-NII 2C	5 710	23.98	34.740	26.41	5.41	23.98
	U-NII 3		30			5.59	30
11ac_VHT80	U-NII 2C	5 690	23.98	75.919	29.80	5.41	23.98
	U-NII 3		30			5.59	30

Remark;

1. According to KDB 662911, average power of each port and antenna gain was combined by using below calculation.

- Average power: $10 \log \{10^{(Ant.1 \text{ power} / 10)} + 10^{(Ant.2 \text{ power} / 10)}\}$

- Unequal antenna gains, with equal transmit powers. For antenna gains given by G_1, G_2, \dots, G_N dB i

(i) If transmit signals are correlated, then

Directional gain = $10 \log \left[\frac{10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20}}{N_{ANT}} \right]^2$ dB i [Note the “20”s in the denominator of each exponent and the square of the sum of terms; the object is to combine the signal levels coherently.]

2. Average Power Result (dB m) = Average Power (dB m) + Duty Cycle Correction Factor (dB)

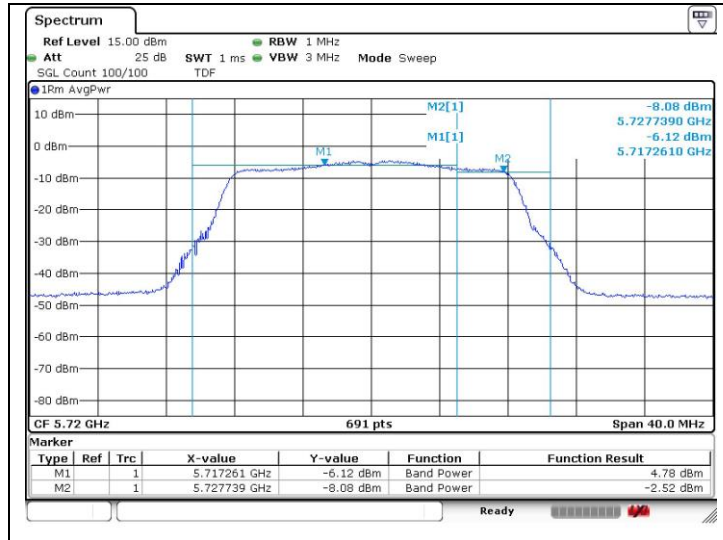
- Test plots

- SISO_Ant. 1

Band-crossing channels

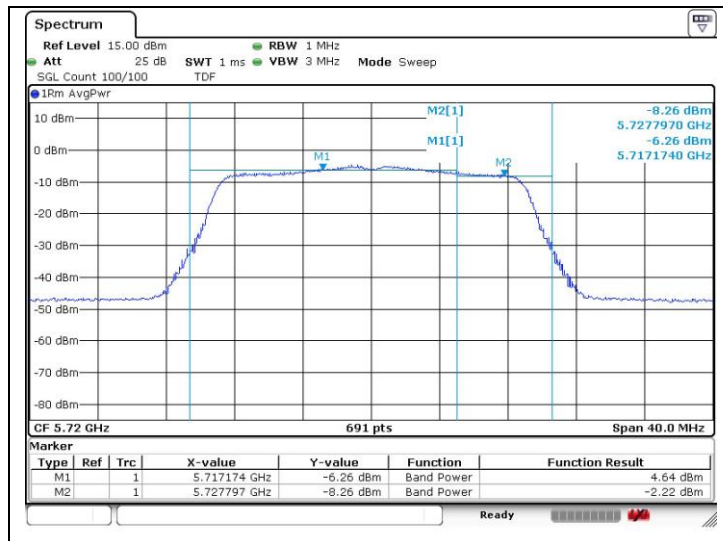
802.11a (Band 2C&3)

High Channel
(5 720 MHz)



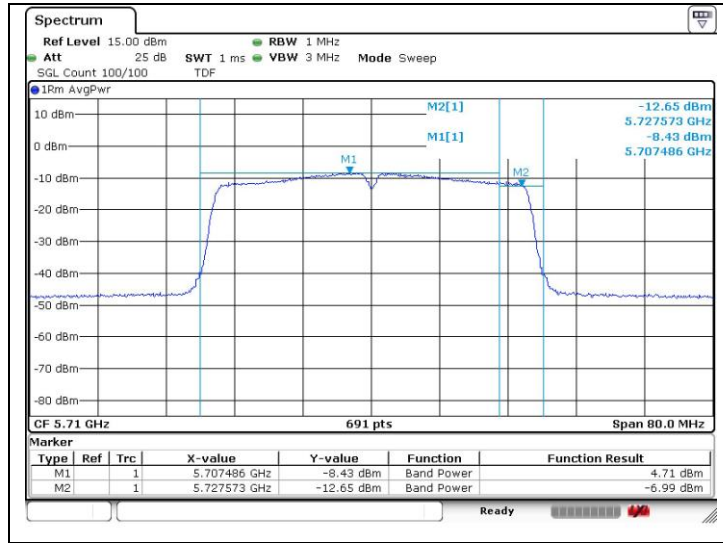
802.11ac_VHT20 (Band 2C&3)

High Channel
(5 720 MHz)



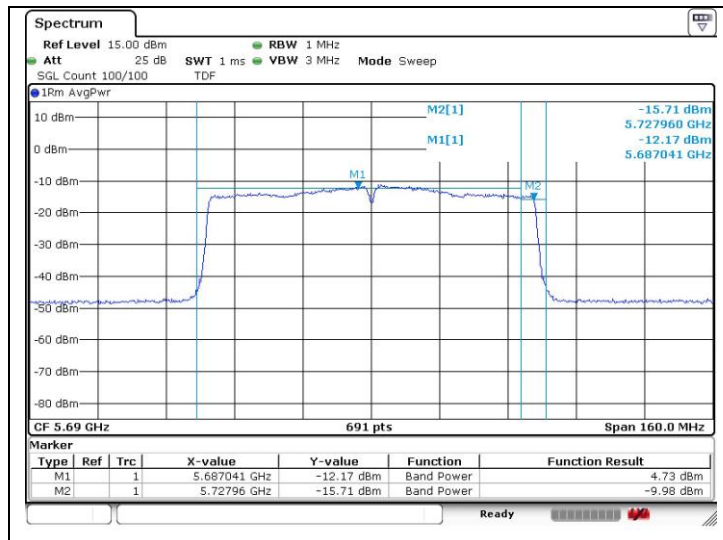
802.11ac_VHT40 (Band 2C&3)

High Channel
(5 710 MHz)



802.11ac_VHT80 (Band 2C&3)

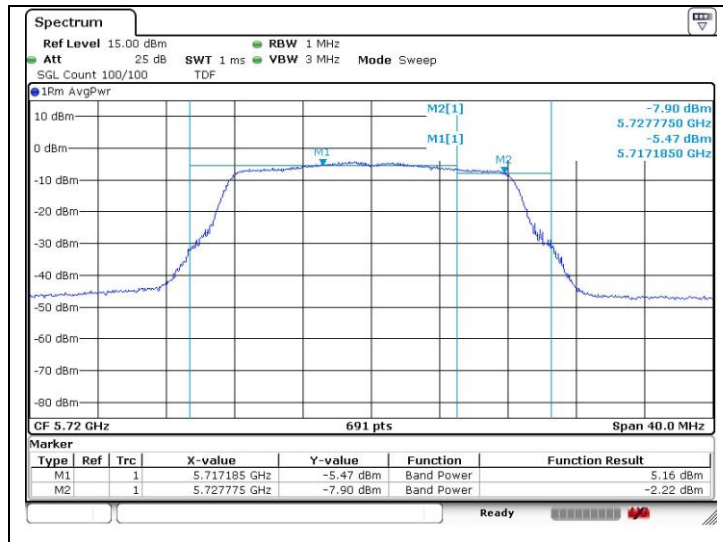
Middle Channel
(5 690 MHz)



- SISO_Ant. 2

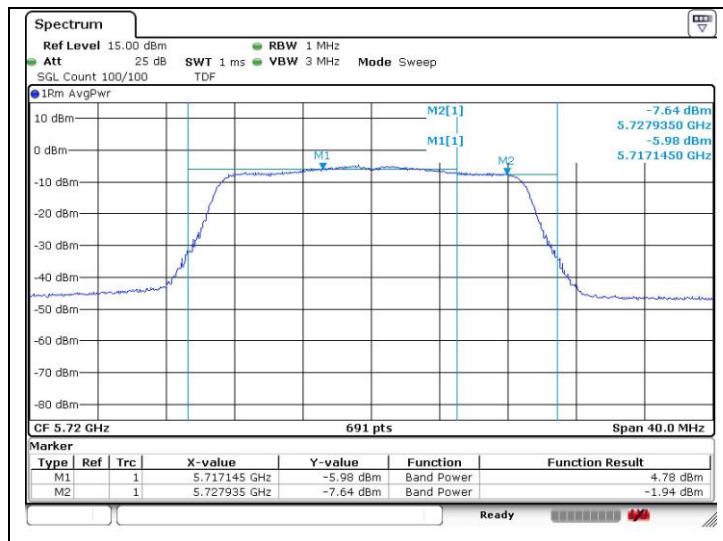
**Band-crossing channels
 802.11a (Band 2C&3)**

High Channel
 (5 720 MHz)



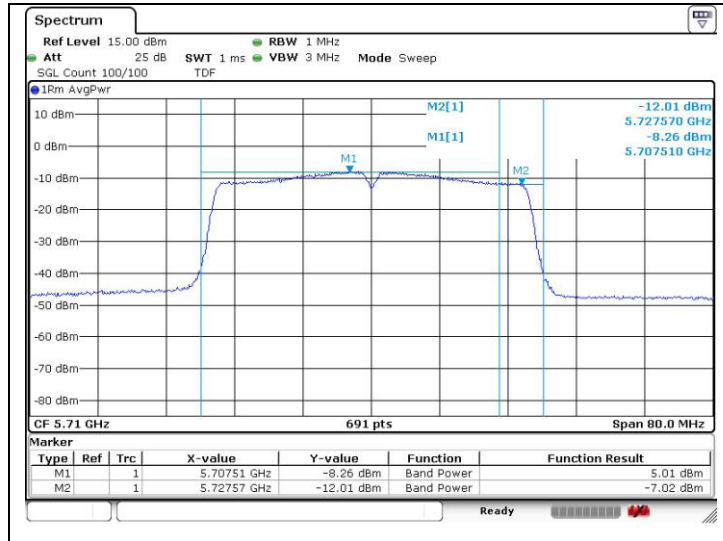
802.11ac_VHT20 (Band 2C&3)

High Channel
 (5 720 MHz)



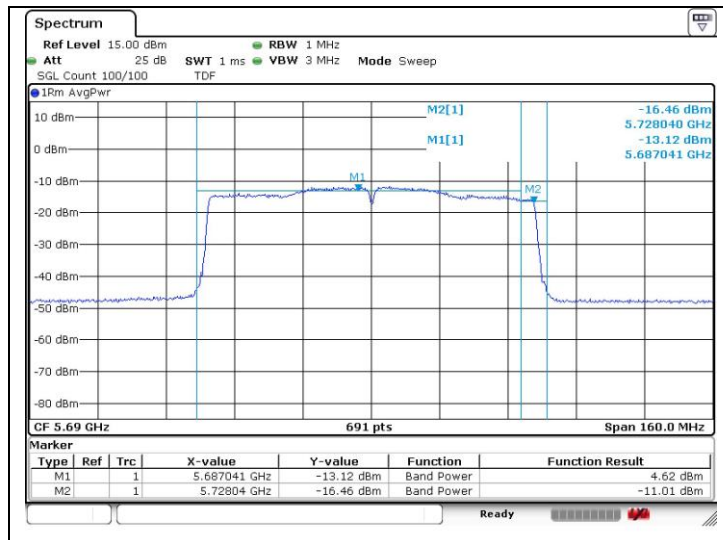
802.11ac_VHT40 (Band 2C&3)

High Channel
(5 710 MHz)



802.11ac_VHT80 (Band 2C&3)

Middle Channel
(5 690 MHz)

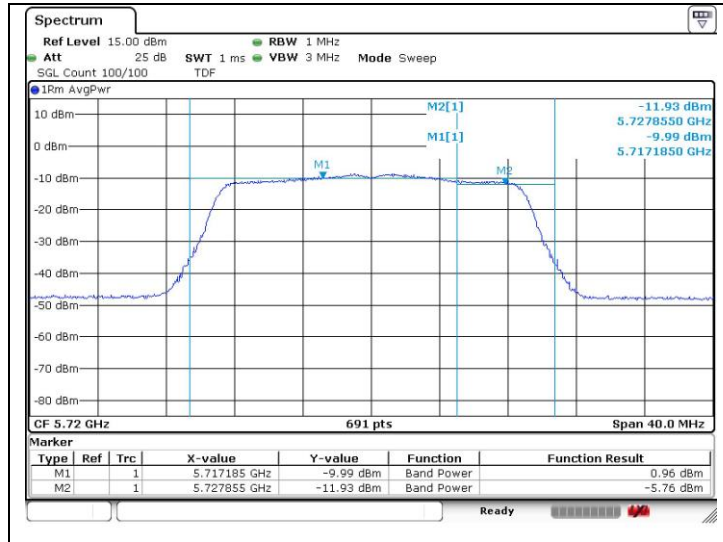


- MIMO_Ant. 1

Band-crossing channels

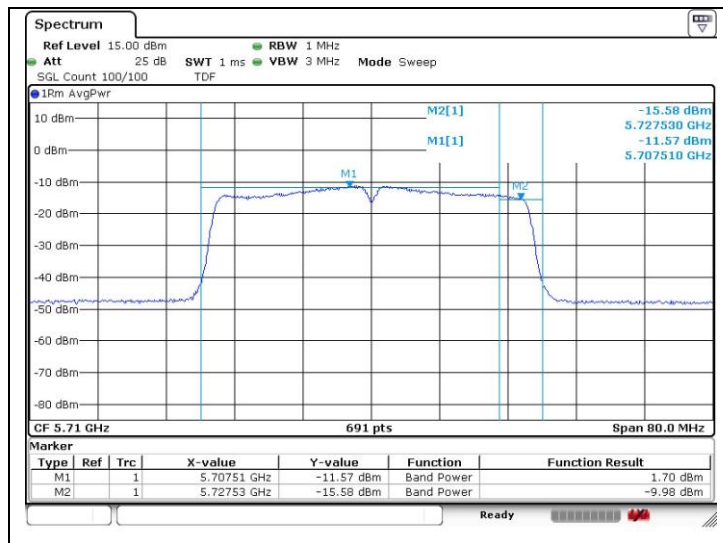
802.11ac_VHT20 (Band 2C&3)

High Channel
(5 720 MHz)



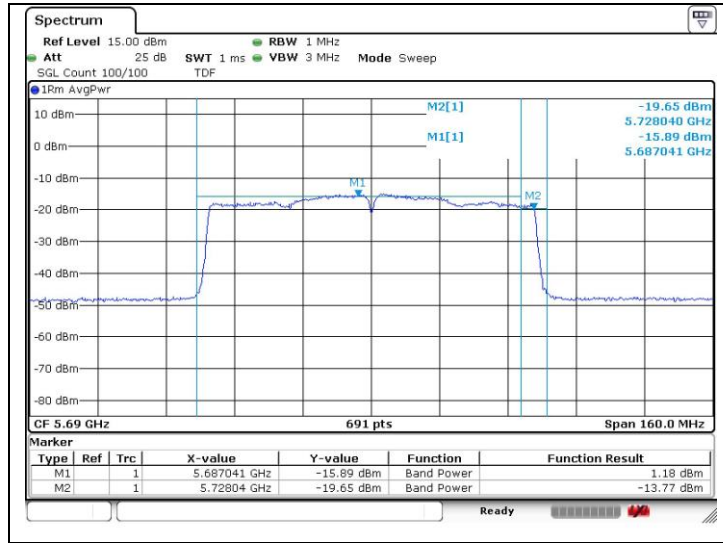
802.11ac_VHT40 (Band 2C&3)

High Channel
(5 710 MHz)



802.11ac_VHT80 (Band 2C&3)

High Channel
(5 690 MHz)

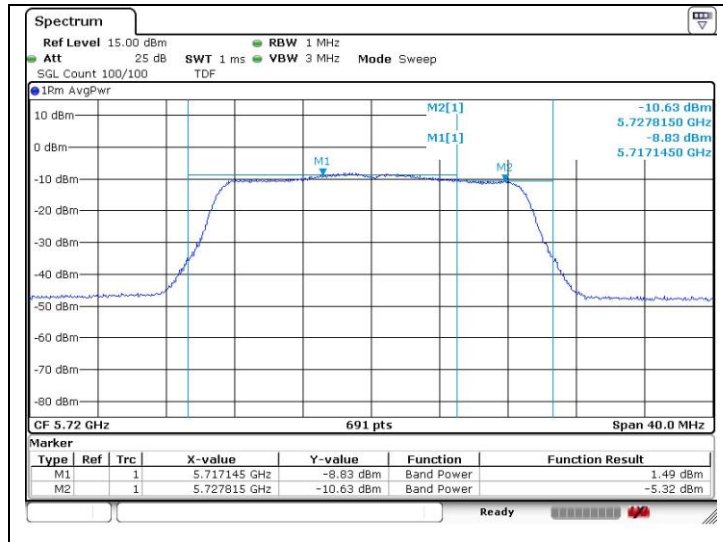


- MIMO_Ant. 2

Band-crossing channels

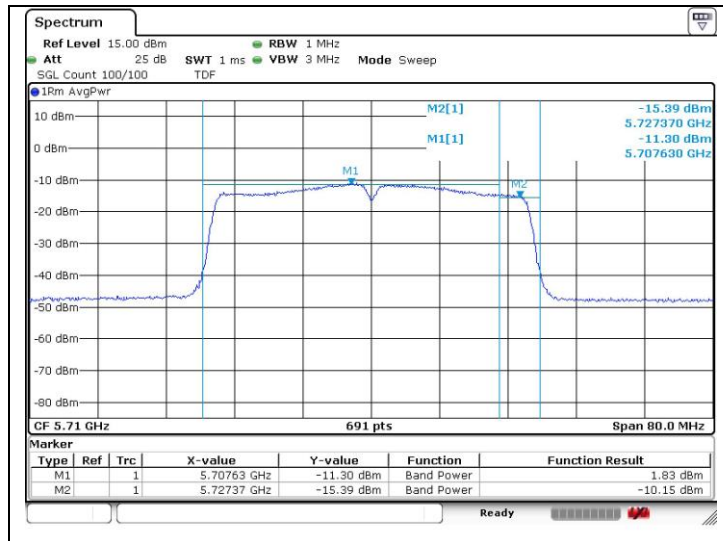
802.11ac_VHT20 (Band 2C&3)

High Channel
(5 720 MHz)



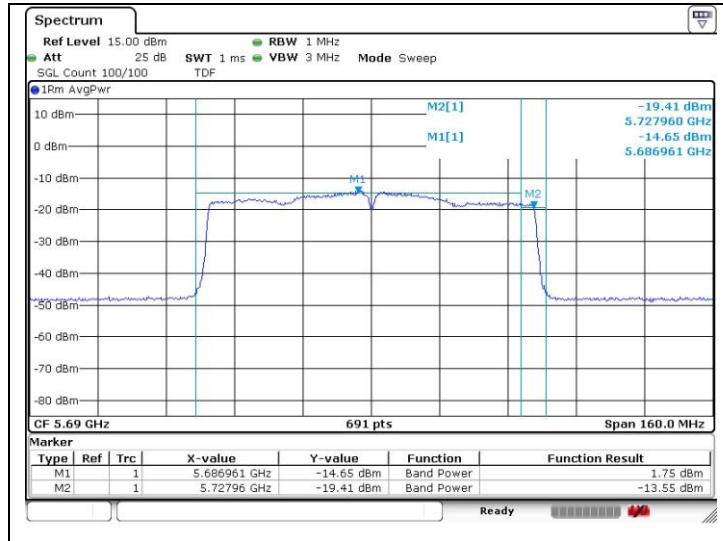
802.11ac_VHT40 (Band 2C&3)

High Channel
(5 710 MHz)



802.11ac_VHT80 (Band 2C&3)

High Channel
(5 690 MHz)



6. Peak Power Spectral Density

6.1. Test Setup



6.2. Limit

6.2.1. FCC

According to 15.407(a)(1)(iv)

For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

According to 15.407(a)(2)

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

According to 15.407(a)(3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

6.2.2. IC

According to RSS-247 Issue 2,

6.2.2.1 Frequency band 5 150-5 250 MHz

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

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

6.2.2.1 Frequency band 5 250-5 350 MHz

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

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

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

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

6.2.3.1 Frequency band 5 470-5 600 MHz and 5 650-5 725 MHz

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

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

6.2.4.1 Frequency band 5 725-5 850 MHz

For equipment operating in the band 5 725-5 850 MHz, the minimum 6 dB bandwidth shall be at least 500 kHz. The maximum conducted output power shall not exceed 1 W. The output power spectral density shall not exceed 30 dB m in any 500 kHz band. If transmitting antennas of directional gain greater than 6 dB i are used, both the maximum conducted output power and the output power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dB i. However, fixed point-to-point devices operating in this band may employ transmitting antennas with directional gain greater than 6 dB i without any corresponding reduction in transmitter conducted power. Fixed point-to-point operations exclude the use of point-to-multipoint³ systems, omnidirectional applications and multiple collocated transmitters transmitting the same information.

6.3. Test Procedure

1. This measurement settings are specified in section II.F of KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
2. Create an average power spectrum for the EUT operating mode being tested by following the instructions in section II.E.2. for measuring maximum conducted output power using a spectrum analyzer or EMI receiver: select the appropriate test method (SA-1, SA-2, SA-3, or alternatives to each) and apply it up to, but not including, the step labeled, "Compute power...". (This procedure is required even if the maximum conducted output power measurement was performed using a power meter, method PM.)
3. Use the peak search function on the instrument to find the peak of the spectrum and record its value.
4. Make the following adjustments to the peak value of the spectrum, if applicable:
 - a) **If Method SA-2 or SA-2 Alternative was used, add $10 \log(1/x)$, where x is the duty cycle, to the peak of the spectrum.**
 - b) If Method SA-3 Alternative was used and the linear mode was used in step II.E.2.g)(viii), add 1 dB to the final result to compensate for the difference between linear averaging and power averaging.
5. The result is the Maximum PSD over 1 MHz reference bandwidth.
6. For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of a RBWs less than 1 MHz, or 500 kHz, "provided that the measured power is integrated over the full reference bandwidth" to show the total power over the specified measurement bandwidth (*i.e.*, 1 MHz, or 500 kHz). If measurements are performed using a reduced resolution bandwidth (< 1 MHz, or < 500 kHz) and integrated over 1 MHz, or 500 kHz bandwidth, the following adjustments to the procedures apply:
 - a) Set $RBW \geq 1/T$, where T is defined in section II.B.1.a).
 - b) Set $VBW \geq 3$ RBW.
 - c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add $10 \log(500 \text{ kHz}/RBW)$ to the measured result, whereas $RBW (< 500 \text{ kHz})$ is the reduced resolution bandwidth of the spectrum analyzer set during measurement.
 - d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add $10 \log(1 \text{ MHz}/RBW)$ to the measured result, whereas $RBW (< 1 \text{ MHz})$ is the reduced resolution bandwidth of spectrum analyzer set during measurement.
 - e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.
7. In case of band crossing channels 138, 142 and 144, the measurement is complied with section III.A of KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

6.4. Test Result

Ambient temperature : (23 ± 1) °C
 Relative humidity : 47 % R.H.

- SISO_Ant.1

Test mode: 11a

Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Measured PPSD (dB m)	Duty Cycle Correction Factor (dB)	Final PPSD (dB m)	Limit (dB m/1 MHz)
U-NII 1	5 180	36	6	-1.19	0.29	-0.90	11
	5 220	44		-1.42		-1.13	
	5 240	48		-1.06		-0.77	
U-NII 2A	5 260	52		-1.37		-1.08	
	5 300	60		-1.49		-1.20	
	5 320	64		-1.96		-1.67	
U-NII 2C	5 500	100		-3.12		-2.83	
	5 580	116		-3.75		-3.46	
	5 700	140		-4.08		-3.79	

Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Measured PPSD (dB m)	Duty Cycle Correction Factor (dB)	Final PPSD (dB m)	Limit (dB m/500 kHz)
U-NII 3	5 745	149	6	-6.99	0.29	-6.70	30
	5 785	157		-7.01		-6.72	
	5 825	165		-6.79		-6.50	

Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Final PPSD (dB m)	Antenna Gain (dB i)	E.I.R.P. PPSD (dB m)	IC Limit (dB m/1 MHz)
U-NII 1	5 180	36	6	-0.90	2.15	1.25	10
	5 220	44		-1.13		1.02	
	5 240	48		-0.77		1.38	

Remark;

1. Final PPSD (dB m) = Measured PPSD (dB m) + Duty Cycle Correction Factor (dB)
2. E.I.R.P. PPSD (dB m) = Final PPSD (dB m) + Antenna Gain (dB i)

Test mode: 11ac_VHT20

Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Measured PPSD (dB m)	Duty Cycle Correction Factor (dB)	Final PPSD (dB m)	Limit (dB m/1 MHz)
U-NII 1	5 180	36	MCS0	-1.54	0.31	-1.23	11
	5 220	44		-1.81		-1.50	
	5 240	48		-1.65		-1.34	
U-NII 2A	5 260	52		-1.71		-1.40	
	5 300	60		-2.38		-2.07	
	5 320	64		-2.29		-1.98	
U-NII 2C	5 500	100		-3.87		-3.56	
	5 580	116		-4.20		-3.89	
	5 700	140		-4.44		-4.13	
Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Measured PPSD (dB m)	Duty Cycle Correction Factor (dB)	Final PPSD (dB m)	Limit (dB m/500 kHz)
U-NII 3	5 745	149	MCS0	-7.04	0.31	-6.73	30
	5 785	157		-7.34		-7.03	
	5 825	165		-7.21		-6.90	

Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Final PPSD (dB m)	Antenna Gain (dB i)	E.I.R.P. PPSD (dB m)	IC Limit (dB m/1 MHz)
U-NII 1	5 180	36	MCS0	-1.23	2.15	0.92	10
	5 220	44		-1.50		0.65	
	5 240	48		-1.34		0.81	

Remark;

1. Final PPSD (dB m) = Measured PPSD (dB m) + Duty Cycle Correction Factor (dB)
2. E.I.R.P. PPSD (dB m) = Final PPSD (dB m) + Antenna Gain (dB i)

Test mode: 11ac_VHT40

Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Measured PPSD (dB m)	Duty Cycle Correction Factor (dB)	Final PPSD (dB m)	Limit (dB m/1 MHz)			
U-NII 1	5 190	38	MCS0	-5.09	0.62	-4.47	11			
	5 230	46		-5.16		-4.54				
U-NII 2A	5 270	54		-5.09		-4.47				
	5 310	62		-5.32		-4.70				
U-NII 2C	5 510	102		-7.04		-6.42				
	5 550	110		-7.18		-6.56				
	5 670	134		-7.71		-7.09				
Band	Frequency (MHz)	Ch.		Data Rate (Mbps)		Measured PPSD (dB m)		Duty Cycle Correction Factor (dB)	Final PPSD (dB m)	Limit (dB m/500 kHz)
U-NII 3	5 755	151		MCS0		-10.59		0.62	-9.97	30
	5 795	159	-10.51		-9.89					

Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Final PPSD (dB m)	Antenna Gain (dB i)	E.I.R.P. PPSD (dB m)	IC Limit (dB m/1 MHz)
U-NII 1	5 190	38	MCS0	-4.47	2.15	-2.32	10
	5 230	46		-4.54		-2.39	

Remark;

1. Final PPSD (dB m) = Measured PPSD (dB m) + Duty Cycle Correction Factor (dB)
2. E.I.R.P. PPSD (dB m) = Final PPSD (dB m) + Antenna Gain (dB i)

Test mode: 11ac_VHT80

Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Measured PPSD (dB m)	Duty Cycle Correction Factor (dB)	Final PPSD (dB m)	Limit (dB m/1 MHz)
U-NII 1	5 210	42	MCS0	-8.68	1.16	-7.52	11
U-NII 2A	5 290	58		-8.76		-7.60	
U-NII 2C	5 530	106		-10.33		-9.17	
Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Measured PPSD (dB m)	Duty Cycle Correction Factor (dB)	Final PPSD (dB m)	Limit (dB m/500 kHz)
U-NII 3	5 775	155	MCS0	-14.26	1.16	-13.10	30

Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Final PPSD (dB m)	Antenna Gain (dB i)	E.I.R.P. PPSD (dB m)	IC Limit (dB m/1 MHz)
U-NII 1	5 210	42	MCS0	-7.52	2.15	-5.37	10

Remark;

1. Final PPSD (dB m) = Measured PPSD (dB m) + Duty Cycle Correction Factor (dB)
2. E.I.R.P. PPSD (dB m) = Final PPSD (dB m) + Antenna Gain (dB i)

Band-crossing channels

Mode	Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Measured PPSD (dB m)	Duty Cycle Correction Factor (dB)	Final PPSD (dB m)	Limit (dB m/1 MHz or dB m/500 kHz)
11a	U-NII 2C	5 720	144	6	-3.93	0.29	-3.64	11
	U-NII 3				-9.25		-8.96	30
11ac_VHT20	U-NII 2C	5 720	144	MCS0	-4.22	0.31	-3.91	11
	U-NII 3				-9.72		-9.41	30
11ac_VHT40	U-NII 2C	5 710	142	MCS0	-7.65	0.62	-7.03	11
	U-NII 3				-13.43		-12.81	30
11ac_VHT80	U-NII 2C	5 690	138	MCS0	-11.16	1.16	-10.00	11
	U-NII 3				-16.53		-15.37	30

Remark;

1. Final PPSD (dB m) = Measured PPSD (dB m) + Duty Cycle Correction Factor (dB)

- SISO_Ant.2

Test mode: 11a

Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Measured PPSD (dB m)	Duty Cycle Correction Factor (dB)	Final PPSD (dB m)	Limit (dB m/1 MHz)
U-NII 1	5 180	36	6	-5.69	0.29	-5.40	11
	5 220	44		-5.70		-5.41	
	5 240	48		-5.54		-5.25	
U-NII 2A	5 260	52		-5.21		-4.92	
	5 300	60		-4.74		-4.45	
	5 320	64		-5.04		-4.75	
U-NII 2C	5 500	100		-3.30		-3.01	
	5 580	116		-3.26		-2.97	
	5 700	140		-3.83		-3.54	
Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Measured PPSD (dB m)	Duty Cycle Correction Factor (dB)	Final PPSD (dB m)	Limit (dB m/500 kHz)
U-NII 3	5 745	149	6	-5.85	0.29	-5.56	30
	5 785	157		-6.33		-6.04	
	5 825	165		-6.56		-6.27	

Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Final PPSD (dB m)	Antenna Gain (dB i)	E.I.R.P. PPSD (dB m)	IC Limit (dB m/1 MHz)
U-NII 1	5 180	36	6	-5.40	0.77	-4.63	10
	5 220	44		-5.41		-4.64	
	5 240	48		-5.25		-4.48	

Remark;

- Final PPSD (dB m) = Measured PPSD (dB m) + Duty Cycle Correction Factor (dB)
- E.I.R.P. PPSD (dB m) = Final PPSD (dB m) + Antenna Gain (dB i)

Test mode: 11ac_VHT20

Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Measured PPSD (dB m)	Duty Cycle Correction Factor (dB)	Final PPSD (dB m)	Limit (dB m/1 MHz)
U-NII 1	5 180	36	MCS0	-5.99	0.31	-5.68	11
	5 220	44		-6.03		-5.72	
	5 240	48		-5.57		-5.26	
U-NII 2A	5 260	52		-5.37		-5.06	
	5 300	60		-5.37		-5.06	
	5 320	64		-5.26		-4.95	
U-NII 2C	5 500	100		-3.48		-3.17	
	5 580	116		-3.54		-3.23	
	5 700	140		-3.92		-3.61	
Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Measured PPSD (dB m)	Duty Cycle Correction Factor (dB)	Final PPSD (dB m)	Limit (dB m/500 kHz)
U-NII 3	5 745	149	MCS0	-6.81	0.31	-6.50	30
	5 785	157		-6.97		-6.66	
	5 825	165		-7.14		-6.83	

Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Final PPSD (dB m)	Antenna Gain (dB i)	E.I.R.P. PPSD (dB m)	IC Limit (dB m/1 MHz)
U-NII 1	5 180	36	MCS0	-5.68	0.77	-4.91	10
	5 220	44		-5.72		-4.95	
	5 240	48		-5.26		-4.49	

Remark;

1. Final PPSD (dB m) = Measured PPSD (dB m) + Duty Cycle Correction Factor (dB)
2. E.I.R.P. PPSD (dB m) = Final PPSD (dB m) + Antenna Gain (dB i)

Test mode: 11ac_VHT40

Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Measured PPSD (dB m)	Duty Cycle Correction Factor (dB)	Final PPSD (dB m)	Limit (dB m/1 MHz)			
U-NII 1	5 190	38	MCS0	-8.88	0.62	-8.26	11			
	5 230	46		-8.92		-8.30				
U-NII 2A	5 270	54		-9.52		-8.90				
	5 310	62		-9.41		-8.79				
U-NII 2C	5 510	102		-7.07		-6.45				
	5 550	110		-6.91		-6.29				
	5 670	134		-7.22		-6.60				
Band	Frequency (MHz)	Ch.		Data Rate (Mbps)		Measured PPSD (dB m)		Duty Cycle Correction Factor (dB)	Final PPSD (dB m)	Limit (dB m/500 kHz)
U-NII 3	5 755	151		MCS0		-9.92		0.62	-9.30	30
	5 795	159	-9.86		-9.24					

Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Final PPSD (dB m)	Antenna Gain (dB i)	E.I.R.P. PPSD (dB m)	IC Limit (dB m/1 MHz)
U-NII 1	5 190	38	MCS0	-8.26	0.77	-7.49	10
	5 230	46		-8.30		-7.53	

Remark;

- Final PPSD (dB m) = Measured PPSD (dB m) + Duty Cycle Correction Factor (dB)
- E.I.R.P. PPSD (dB m) = Final PPSD (dB m) + Antenna Gain (dB i)

Test mode: 11ac_VHT80

Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Measured PPSD (dB m)	Duty Cycle Correction Factor (dB)	Final PPSD (dB m)	Limit (dB m/1 MHz)
U-NII 1	5 210	42	MCS0	-12.75	1.16	-11.59	11
U-NII 2A	5 290	58		-12.62		-11.46	
U-NII 2C	5 530	106		-10.80		-9.64	
Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Measured PPSD (dB m)	Duty Cycle Correction Factor (dB)	Final PPSD (dB m)	Limit (dB m/500 kHz)
U-NII 3	5 775	155	MCS0	-13.54	1.16	-12.38	30

Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Final PPSD (dB m)	Antenna Gain (dB i)	E.I.R.P. PPSD (dB m)	IC Limit (dB m/1 MHz)
U-NII 1	5 210	42	MCS0	-11.59	0.77	-10.82	10

Remark;

- Final PPSD (dB m) = Measured PPSD (dB m) + Duty Cycle Correction Factor (dB)
- E.I.R.P. PPSD (dB m) = Final PPSD (dB m) + Antenna Gain (dB i)

Band-crossing channels

Mode	Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Measured PPSD (dB m)	Duty Cycle Correction Factor (dB)	Final PPSD (dB m)	Limit (dB m/1 MHz or dB m/500 kHz)
11a	U-NII 2C	5 720	144	6	-3.46	0.29	-3.17	11
	U-NII 3				-8.63		-8.34	30
11ac_VHT20	U-NII 2C	5 720	144	MCS0	-3.82	0.31	-3.51	11
	U-NII 3				-9.57		-9.26	30
11ac_VHT40	U-NII 2C	5 710	142	MCS0	-7.22	0.62	-6.60	11
	U-NII 3				-13.46		-12.84	30
11ac_VHT80	U-NII 2C	5 690	138	MCS0	-11.03	1.16	-9.87	11
	U-NII 3				-17.08		-15.92	30

Remark;

1. Final PPSD (dB m) = Measured PPSD (dB m) + Duty Cycle Correction Factor (dB)

- MIMO

Test mode: 11ac_VHT20

Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Ant. 1 Measured PPSD (dB m)	Ant. 2 Measured PPSD (dB m)	Ant. 1+Ant. 2 PPSD (dB m)
U-NII 1	5 180	36	MCS0	-4.93	-9.01	-3.50
	5 220	44		-4.85	-8.83	-3.39
	5 240	48		-4.90	-8.64	-3.37
U-NII 2A	5 260	52		-5.19	-8.04	-3.37
	5 300	60		-5.56	-8.11	-3.64
	5 320	64		-5.44	-8.03	-3.53
U-NII 2C	5 500	100		-8.75	-7.06	-4.81
	5 580	116		-9.26	-6.85	-4.88
	5 700	140		-8.73	-7.33	-4.96
U-NII 3	5 745	149		-12.59	-11.05	-8.74
	5 785	157		-12.37	-11.03	-8.64
	5 825	165		-12.30	-11.71	-8.98

Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Ant. 1+Ant. 2 PPSD (dB m)	Duty Cycle Correction Factor (dB)	Ant. 1+Ant. 2 Final PPSD (dB m)	Limit (dB m/1 MHz)
U-NII 1	5 180	36	MCS0	-3.50	0.30	-3.20	11
	5 220	44		-3.39		-3.09	
	5 240	48		-3.37		-3.07	
U-NII 2A	5 260	52		-3.37		-3.07	
	5 300	60		-3.64		-3.34	
	5 320	64		-3.53		-3.23	
U-NII 2C	5 500	100		-4.81		-4.51	
	5 580	116		-4.88		-4.58	
	5 700	140		-4.96		-4.66	

Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Ant. 1+Ant. 2 PPSD (dB m)	Duty Cycle Correction Factor (dB)	Ant. 1+Ant. 2 Final PPSD (dB m)	Limit (dB m/500 kHz)
U-NII 3	5 745	149	MCS0	-8.74	0.30	-8.44	30
	5 785	157		-8.64		-8.34	
	5 825	165		-8.98		-8.68	

Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Ant. 1+Ant. 2 Final PPSD (dB m)	Antenna Gain (dB i)	Ant. 1+Ant. 2 E.I.R.P. PPSD (dB m)	IC Limit (dB m/1 MHz)
U-NII 1	5 180	36	MCS0	-3.20	4.50	1.30	10
	5 220	44		-3.09		1.41	
	5 240	48		-3.07		1.43	

Remark;

1. According to KDB 662911 D01 v02r01, power spectral density of each port (Ant. 1+Ant. 2) was combined by using below calculation.
2. PPSD: $10 \log \{10^{(\text{Ant. 1 PSD} / 10)} + 10^{(\text{Ant. 2 PSD} / 10)}\}$
3. Antenna Gain: $10 \log \left[\frac{10^{(\text{Ant. 1 gain} / 20)} + 10^{(\text{Ant. 2 gain} / 20)}}{2} \right]$
4. Final PPSD (dB m) = PPSD (dB m) + Duty Correction Correction Factor (dB)
5. E.I.R.P. PPSD (dB m) = Final PPSD (dB m) + Antenna Gain (dB i)

Test mode: 11ac_VHT40

Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Ant. 1 Measured PPSD (dB m)	Ant. 2 Measured PPSD (dB m)	Ant. 1+Ant. 2 PPSD (dB m)
U-NII 1	5 190	38	MCS0	-9.06	-12.54	-7.45
	5 230	46		-9.03	-12.28	-7.35
U-NII 2A	5 270	54		-8.59	-12.49	-7.11
	5 310	62		-8.75	-12.41	-7.20
U-NII 2C	5 510	102		-11.30	-10.19	-7.70
	5 550	110		-11.52	-10.44	-7.94
	5 670	134		-11.20	-10.50	-7.83
U-NII 3	5 755	151		-14.56	-13.29	-10.87
	5 795	159		-13.92	-13.53	-10.71

Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Ant. 1+Ant. 2 PPSD (dB m)	Duty Cycle Correction Factor (dB)	Ant. 1+Ant. 2 Final PPSD (dB m)	Limit (dB m/1 MHz)
U-NII 1	5 190	38	MCS0	-7.45	0.56	-6.89	11
	5 230	46		-7.35		-6.79	
U-NII 2A	5 270	54		-7.11		-6.55	
	5 310	62		-7.20		-6.64	
U-NII 2C	5 510	102		-7.70		-7.14	
	5 550	110		-7.94		-7.38	
	5 670	134		-7.83		-7.27	

Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Ant. 1+Ant. 2 PPSD (dB m)	Duty Cycle Correction Factor (dB)	Ant. 1+Ant. 2 Final PPSD (dB m)	Limit (dB m/500 kHz)
U-NII 3	5 755	151	MCS0	-10.87	0.56	-10.31	30
	5 795	159		-10.71		-10.15	

Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Ant. 1+Ant. 2 Final PPSD (dB m)	Antenna Gain (dB i)	Ant.1+Ant. 2 E.I.R.P. PPSD (dB m)	IC Limit (dB m/1 MHz)
U-NII 1	5 190	38	MCS0	-6.89	4.50	-2.39	10
	5 230	46		-6.79		-2.29	

Remark;

1. According to KDB 662911 D01 v02r01, power spectral density of each port (Ant. 1+Ant. 2) was combined by using below calculation.
2. PPSD: $10 \log \{10^{(Ant. 1 \text{ PSD} / 10)} + 10^{(Ant. 2 \text{ PSD} / 10)}\}$
3. Antenna Gain: $10 \log \{[10^{(Ant. 1 \text{ gain} / 20)} + 10^{(Ant. 2 \text{ gain} / 20)}]^{2 / 2}\}$
4. Final PPSD (dB m) = PPSD (dB m) + Duty Correction Correction Factor (dB)
5. E.I.R.P. PPSD (dB m) = Final PPSD (dB m) + Antenna Gain (dB i)

Test mode: 11ac_VHT80

Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Ant. 1 Measured PPSD (dB m)	Ant. 2 Measured PPSD (dB m)	Ant. 1+Ant. 2 PPSD (dB m)
U-NII 1	5 210	42	MCS0	-12.53	-15.78	-10.85
U-NII 2A	5 290	58		-12.28	-16.01	-10.75
U-NII 2C	5 530	106		-15.31	-13.69	-11.41
U-NII 3	5 775	155		-17.94	-16.99	-14.43

Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Ant. 1+Ant. 2 PPSD (dB m)	Duty Cycle Correction Factor (dB)	Ant. 1+Ant. 2 Final PPSD (dB m)	Limit (dB m/1 MHz)
U-NII 1	5 210	42	MCS0	-10.85	1.04	-9.81	11
U-NII 2A	5 290	58		-10.75		-9.71	
U-NII 2C	5 530	106		-11.41		-10.37	
Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Ant. 1+Ant. 2 PPSD (dB m)	Duty Cycle Correction Factor (dB)	Ant. 1+Ant. 2 Final PPSD (dB m)	Limit (dB m/500 kHz)
U-NII 3	5 775	155	MCS0	-14.43	1.04	-13.39	30

Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Ant. 1+Ant. 2 Final PPSD (dB m)	Antenna Gain (dB i)	Ant. 1+Ant. 2 E.I.R.P. PPSD (dB m)	IC Limit (dB m/1 MHz)
U-NII 1	5 210	42	MCS0	-9.81	4.50	-5.31	10

Remark;

1. According to KDB 662911 D01 v02r01, power spectral density of each port (Ant. 1+Ant. 2) was combined by using below calculation.
2. PPSD: $10 \log \{10^{(\text{Ant. 1 PSD} / 10)} + 10^{(\text{Ant. 2 PSD} / 10)}\}$
3. Antenna Gain: $10 \log \left[\frac{10^{(\text{Ant. 1 gain} / 20)} + 10^{(\text{Ant. 2 gain} / 20)}}{2} \right]$
4. Final PPSD (dB m) = PPSD (dB m) + Duty Correction Correction Factor (dB)
5. E.I.R.P. PPSD (dB m) = Final PPSD (dB m) + Antenna Gain (dB i)

Band-crossing channels

Mode	Band	Frequency (MHz)	Data Rate (Mbps)	Ant.1 Measured PPSD (dB m)	Ant.2 Measured PPSD (dB m)	Ant.1 + Ant.2 PPSD (dB m)	Duty Cycle Correction Factor (dB)	Ant. 1+Ant. 2 Final PPSD (dB m)	Limit (dB m/1 MHz or dB m/500 kHz)
11ac_VHT20	U-NII 2C	5 720	MCS0	-8.74	-7.54	-5.09	0.30	-4.79	11
	U-NII 3			-13.44	-12.68	-10.03		-9.73	30
11ac_VHT40	U-NII 2C	5 710	MCS0	-11.30	-10.64	-7.95	0.56	-7.39	11
	U-NII 3			-16.93	-16.36	-13.63		-13.07	30
11ac_VHT80	U-NII 2C	5 690	MCS0	-14.80	-14.10	-11.43	1.04	-10.39	11
	U-NII 3			-20.54	-20.00	-17.25		-16.21	30

Remark;

1. According to KDB 662911 D01 v02r01, power spectral density of each port (Ant. 1+Ant. 2) was combined by using below calculation.
2. PPSD: $10 \log \{10^{(Ant. 1 \text{ PSD} / 10)} + 10^{(Ant. 2 \text{ PSD} / 10)}\}$.
3. Final PPSD (dB m) = PPSD (dB m) + Duty Correction Correction Factor (dB)