

KEYSIGHT Input: RF Coupling: DC	Input Z: 50 Ω Atte Corr CCorr μW	n: 40 dB Trig: Free Run Path: Standard Gate: Off	Center Freq: 5 Avg Hold: 300	5.824800000 GHz //300	Center Fre	equency	Settings
Align: Auto	Freq Ref: Int (S) #PN	IO: Fast #IF Gain: Low	Radio Std: No	ne	5.824800	0000 GHz	
1 Graph v Scale/Div 10.0 dB	Ref Ly Ref Va	vl Offset 14.33 dB alue 30.00 dBm			40.000 M	IHz	
20.0					4.000000	) MHz	
10.0					Auto Man		
-10.0					Freq Offse	et	
-20.0					Unz		
-40.0					-		
-50.0							
Center 5.82480 GHz	#Video	5 BW 3.0000 MHz*		Span 40 MH	z		
#Res BW 1.0000 MHz			Swee	ep 1.00 ms (1001 pts	0		
Total Channel Power	3.97 dBm / 21.0 MHz sity -69.26 dBm/Hz						Local
	Apr 12, 2024	A			1		
	1:52:27 PM						
	1:52:27 PM 💭 / 11.	AC20SISO-Ant	1-5825-F	PASS			
Spectrum Analyzer 1	<ul> <li>1:52:27 PM </li> <li>11.</li> </ul>	AC20SISO-Ant	1-5825-F	PASS	\$	Frequency	۲ ۲
Spectrum Analyzer 1 Channel Power KEYSIGHT Input: RF Coupling: DC	1:52:27 PM 22/2     11.     11.     Input Z: 50 Ω Atte Corr CCorr μW	AC20SISO-Ant n: 40 dB Trig: Free Run Path: Standard Gate: Off	Center Freq: 5 Avg Hold: 300	5.755040000 GHz //300	Center Fre	Frequency	Settings
Spectrum Analyzer 1 Channel Power KEYSIGHT Input: RF RL +	1:52:27 PM     11     1	AC20SISO-Ant n: 40 dB Trig: Free Run Path: Slandard Gate: Off IA: #F Gain: Low	Center Freq: 5 Avg Hold: 300 Radio Std: No	5.755040000 GHz N300 ne	Center Fre 5.755040	Frequency equency 0000 GHz	Y 👯 Settings
Spectrum Analyzer 1 Channel Power KEYSIGHT Input RF RL + Align: Auto DV 1 Graph Scale/Div 10.0 dB	1:52:27 PM     11.     1	AC20SISO-Ant n: 40 dB Trig: Free Run Path: Standard Gate: Off IO: Fast #IF Gam: Low VI Offset 14.68 dB alue 30.00 dBm	Center Freq 5 AvglHold 300 Radio Std: No	ASS 5.755040000 GHz //300 ne	Center Fri 5.755040 Span 80.000 M	Frequency equency 1000 GHz IHz	Y 🔀 Settings
Spectrum Analyzer 1 Channel Power KEYSIGHT Input: RF Coupling: DC Align: Auto UV 1 Graph ▼ Scale/Div 10.0 dB Log 20 0	i.52:27 PM III Input Z. 50 Ω Atte Corr CCorr Freq Ref. Int (S) Ref Li Ref Vi	AC20SISO-Ant n: 40 dB Trig: Free Run Path: Standard Gate: Off 10 Fast #IF Gain: Low VI Offset 14.68 dB alue: 30.00 dBm	Center Freq 5 AvgHold 300 Radio Std: No	5.755040000 GHz 70000 GHz	Center Fri 5.755040 Span 80.000 M CF Step 8.000000	Frequency equency 1000 GHz IHz	Settings
Spectrum Analyzer 1 Channel Power KEYSIGHT RL	1:52:27 PM     11     1	AC20SISO-Ant n: 40 dB Path: Slandard Gate: Off IOF Fast #IF Gain: Low vI Offset 14.68 dB alue: 30.00 dBm	Center Freq 5 Avg Hold: 300 Radio Std: No	2ASS 5.755040000 GHz 1/300 ne	Center Frr 5.755040 Span 80.000 M CF Step 8.000000 Auto Man	Frequency equency 2000 GHz IHz MHz	Settings
Spectrum Analyzer 1 Channel Power KEYSIGHT Input: RF RL + Align: Auto LV 1 Graph Scale/Div 10.0 dB Log 200 100 0.00 -100	i.52:27 PM II I Input Z: 50 Ω Corr CCorr Freq Ref. Int (S) Ref Va Ref Va	AC20SISO-Ant n: 40 dB Trig: Free Run Path: Standard Gate: Off IO Fast #IF Gain: Low v/ Offset 14.68 dB alue: 30.00 dBm	Center Freq 5 AvglHold 300 Radio Std: No	5.755040000 GHz 3.705040000 GHz ne	Center Frr 5.75504C Span 8.0000 M CF Step 8.000000 Auto Man Freq Offss	Frequency equency 1000 GHz 1Hz 2) MHz	Settings
Spectrum Analyzer 1 Channel Power KEYSIGHT RL + Auto ZV 1 Graph Scale/Div 10.0 dB Log 200 100 000 -100 -200	1.52:27 PM     11     11     1	AC20SISO-Ant n: 40 dB Trig. Free Run Path: Slandard Gate: Off IOF Fast #IF Gam. Low // Offset 14.68 dB alue: 30.00 dBm	Center Freq 5 Avg Hold 300 Radio Std No	2ASS 5755040000 GHz 1/300 ne	Center Frr 5.755040 Span 80.000 M CF Step 8.00000 Auto Man Freq Offsat 0 Hz	Frequency equency 000 GHz IHz MHz t	Settings
Spectrum Analyzer 1 Channel Power KEYSIGHT Input: RF RL + Align: Auto UV 1 Graph Scale/Div 10.0 dB Log 200 100 000 -100 -200 -300 -400	i.52:27 PM II I Input Z: 50 Ω Corr Corr Freq Ref. Int (S) Ref Ly Ref Va	AC20SISO-Ant n: 40 dB Trig: Free Run Path: Standard Gate: Off IO Fast #IF Gam: Low VI Offset 14.68 dB alue 30.00 dBm	Center Freq: 6 AvglHold 300 Radio Std. No	5.755040000 GHz 3000 ne	Center Frr 5.75504C Span 80.000 M CF Step 8.000000 Auto Man Freq Offse 0 Hz	Frequency equency 000 GHz IHz ) MHz et	Settings
Spectrum Analyzer 1 Channel Power         Imput RF RL           KEYSIGHT         Input RF Align: Auto           1 Graph         •           Scale/Div 10.0 dB         •           200         •           100         •           200         •           000         •           000         •           000         •           000         •           000         •           000         •           000         •           000         •           000         •           000         •           000         •           000         •           000         •	i.52:27 PM II Input Z: 50 Ω Atte Corr Corr W Freq Ref. Int (S) Ref U Ref V	AC20SISO-Ant n: 40 dB Trig: Free Run Path: Slandard Gate: Off IOFsat #IF Gam. Low // Offset 14.68 dB alue: 30.00 dBm	Center Freq 5 Avg Hold 300 Radio Std No	2ASS 5.755040000 GHz 1/300 ne	Center Frr 5.755040 Span 80.000 M CF Step 8.000000 Auto Man Freq Offse 0 Hz	Frequency equency 000 GHz IHz MHz et	Settings
Spectrum Analyzer 1         •           Channel Power         •           KEYSIGHT         Input RF           RL         •           I Graph         •           Scale/Div 10.0 dB         •           200         •           100         •           000         •           200         •           300         •           -00	i.52:27 PM II I Input Z: 50 Ω Corr Corr Freq Ref. Int (S) Ref Ly Ref Va Freq	AC20SISO-Ant n: 40 dB Trig: Free Run Path: Standard Gate: Off Path: Standard Gate: Off Alf Gam: Low VI Offset 14.68 dB alue 30.00 dBm	Center Freq: 6 Avg Hold: 300 Radio Std: No	5755040000 GHz 5755040000 GHz 1/300 ne Span 80 MH	Center Frr 5.75504C Span 80.000 M CF Step 8.000000 Auto Man Freq Offsa 0 Hz	Frequency equency 000 GHz IHz IHz IHz	Settings
Spectrum Analyzer 1 Channel Power KEYSIGHT Input RF RL + Auto Scale/Div 10.0 dB Log 200 100 000 -100 -200 -300 -400 -500 -500 -600 -75550 -642 -75550 -642 -7550 -642 -7550 -642 -7550 -642 -7550 -642 -7550 -642 -7550 -642 -7550 -642 -7550 -642 -7550 -642 -7550 -642 -7550 -642 -7550 -642 -7550 -642 -75500 -7550 -75500 -75500 -75500 -75500 -7550	i.52:27 PM II Input Z: 50 Ω Atte Corr CCorr Freq Ref. Int (S) Ref U Ref Vi	AC20SISO-Ant n: 40 dB Trig: Free Run Path: Slandard Gate: Off NO Fast #IF Gam: Low // Offset 14.68 dB alue 30.00 dBm	Center Freq 5 Avg Hold 300 Radio Std: No	Span 80 MH ep 1.00 ms (1001 pts)	Center Frr 5.75504C Span 80.000 M CF Step 8.000000 Auto Man Freq Offse 0 Hz	Frequency equency 0000 GHz IHz MHz et	Settings
Spectrum Analyzer 1 Channel Power KEYSIGHT Input RF RL Scale/Div 10.0 dB Log 200 100 000 -100 -200 -300 -300 -400 -500 -500 -600 Center 5.75504 GHz #Res BW 1.0000 MHz 2 Metrics	i.52:27 PM II I Input Z: 50 Ω Corr Corr Freq Ref. Int (S) Freq Ref. Int (S) Freq Video	AC20SISO-Ant n: 40 dB Trig: Free Run Path: Standard Gate: Off WO Fast #IF Gam: Low VI Offset 14.68 dB alue 30.00 dBm	Center Freq: 6 Avg Hold 300 Radio Std. No	5755040000 GHz 3755040000 GHz 3700 ne Span 80 MH ep 1.00 ms (1001 pts	Center Frr 5.75504C Span 80.000 M CF Step 8.000000 Auto Man Freq Offsa 0 Hz	Frequency equency 000 GHz HHz ) MHz et	Settings
Spectrum Analyzer 1 Channel Power KEYSIGHT Input RF RL Scale/Div 10.0 dB Log 200 100 000 -100 -200 -300 -400 -500 -600 -600 -600 -600 -755504 GHz #Res BW 1.0000 MHz 2 Metrics Total Channel Power Total Channel Power		AC20SISO-Ant n: 40 dB Trig: Free Run Path: Slandard Gate: Off IO Fast #IF Gam: Low // Offset 14.68 dB alue 30.00 dBm	Center Freq 5 Avg Hold 300 Radio Std: No	2ASS 5755040000 GHz 1/300 ne Span 80 MH ep 1.00 ms (1001 pts	Center Frit 5.75504C Span 80.000 M CF Step 8.000000 Auto Man Freq Offss 0 Hz	Frequency equency 1000 GHz 1Hz 2 1Htz 2t	Settings
Spectrum Analyzer 1 Channel Power KEYSIGHT Input: RF RL Auto UV 1 Graph Scale/Div 10.0 dB Log 20 0 10 0 10 0 20 0	i.52:27 PM II I Input Z: 50 Ω Atte UV Freq Ref. Int (S) Ref Lv Ref Va Kef Va	AC20SISO-Ant n: 40 dB Trig: Free Run Path: Standard Gete: Off WO Fast #IF Gam: Low VI Offset 14.68 dB alue 30.00 dBm	Center Freq: 6 Avg Hold 300 Radio Std: No	2ASS 5755040000 GHz (300 ne Span 80 MH ep 1.00 ms (1001 pts	Center Frr 5.75504C Span 80.000 M CF Step 8.000000 Auto Man Freq Offset 0 Hz	Frequency equency 000 GHz HHz ) MHz et	Settings



RI Coupling: DC	Corr CCorr µW Path: St	tandard Gate: Off	Avg Hold: 3	1.00/300	Center Fr	equency	Settings
Align: Auto	Freq Ref: Int (S) #PNO: Fast	#IF Gain: Low	Radio Std:	None	5.794960 Span	0000 GHz	
1 Graph v Scale/Div 10.0 dB	Ref LvI Offse Ref Value 30.	et 14.52 dB .00 dBm			80.000 M	IHz	
20.0					CF Step 8.000000	) MHz	
10.0					Auto Man		
-10.0					Freq Offse	et	
-20.0							
-40.0							
-60.0							
Center 5.79496 GHz #Res BW 1.0000 MHz	#Video BW 3.	.0000 MHz*	Si	Span 80 N weep 1.00 ms (1001 p	Hz ts)		
2 Metrics V							
Total Channel Power	3.17 dBm / 41.0 MHz						
Total Power Spectral Densit	y -72.96 dBm/Hz						Local
	Anr 12 2024				2		
	- API 12, 2024 ( )				*		
	2:25:44 PM 5	IOSISO-Ant1	-5795				
Spectrum Analyzer 1	2:25:44 PM 9	10SISO-Ant1	-5795-	PASS	( <b>0</b>	Frequency	, 💥
Spectrum Analyzer 1 Channel Power KEYSIGHT Input RF Cauping DC	2:25/4 PM     11AC4     11AC4     1     10     1	10SISO-Ant1 3 Trig: Free Run landard Gate: Off	-5795-	PASS	Center Fro	Frequency	Settings
Spectrum Analyzer 1 Channel Power KEYSIGHT RL + Coupling: DC Align: Auto	Logardian State (Second State)     Logardian State     Logar	LOSISO-Ant1 Trig: Free Run landard Gate: Off #IF Gain: Low	-5795- Center Free Avg]Hold. 3 Radio Std.	+ <b>PASS</b> •775000000 GHz •00/300 None	Center Fri 5.775000	Frequency equency 1000 GHz	Settings
Spectrum Analyzer 1 Channel Power KEYSIGHT RL $\rightarrow$ Coupling: DC Align: Auto VV 1 Graph	2:25/44 PM     2:25/44 PM     11AC4     11AC4     10000     1000	IOSISO-Ant1 andard Gate: Off #F Gain: Low at 15.05 dB	Center Free Avg Hold: 3 Radio Std:	Comparison of the second	Center Fro 5.775000 Span 160.00 M	Frequency equency 0000 GHz IHz	Settings
Spectrum Analyzer 1 Channel Power KEYSIGHT RL J Graph Scale/Div 10.0 dB Log 200	Laboration (Section 1997) Laboration (Section 1	10SISO-Ant1 andard Gate: Off #IF Gain: Low et 15.05 dB .00 dBm	Center Free AvglHold 3 Radio Std	Comparison of the second	Center Fre 5.775000 Span 160.00 M CF Step 16.00000	Frequency equency 1000 GHz IHz 10 MHz	Y E
Spectrum Analyzer 1 Channel Power KEYSIGHT RL + Coupling: DC Align: Auto Scale/Div 10.0 dB 200 100	2:25:44 PM     2:25:44 PM     11AC4     11AC4     10000     1000	Trig: Free Run landard Gate: Off #IF Gain: Low	Center Free Avg[Hold 3 Radio Std	••••••••••••••••••••••••••••••••••••	Center Fri 5.775000 Span 160.00 M CF Step 16.00000 Man	Frequency equency 000 GHz IHz 10 MHz	Settings
Spectrum Analyzer 1 Channel Power KEYSIGHT Input: RF Cuping: DC Ivi Scale/Div 10.0 dB Cog 200 100 -100	2:25:44 PM     2:25:44 PM     11AC4     11AC4     10000     1000	IOSISO-Ant1 andard Gate: Off #IF Gain. Low at 15.05 dB .00 dBm	Center Free Avg Hold 3 Radio Std	Comparison     C	Center Fri 5.775000 Span 160.00 M CF Step 16.00000 Man Freq Offse	Frequency equency 1000 GHz 1Hz 10 MHz et	Settings
Spectrum Analyzer 1 Channel Power KEYSIGHT RL  KEYSIGHT I Graph Scale/Div 10.0 dB Log 200 100 000 000 000 000 000 000	225:44 PM     225:44 PM     11AC4     11AC4     1000     100	IOSISO-Ant1	Center Free Avg Hold 3 Radio Std	Comparison of the second	Center Fin 5.775000 Span 160.00 M CF Step 16.00000 Man Freq Offse 0 Hz	Frequency equency 0000 GHz IHz 00 MHz et	Settings
Spectrum Analyzer 1 Channel Power KEYSIGHT RL  KEYSIGHT Input RF RL  Scale/Div 10.0 dB Coupling: DC Align: Auto Coupling: DC Align: Auto Align: Auto Ali	2:25:44 PM 2:25:44 PM 11AC4 11AC4  Input Z: 50 Ω Corr CCorr μW Path: St Freq Ref. Int (S) Ref LvI Offse Ref Value 30	IOSISO-Ant1 andard Gate Off #IF Gain: Low	Center Free Avg Hold 3 Radio Std	Comparison of the second	Center Fri 5.775000 Span 160.00 M CF Step 16.0000 Man Freq Offss 0 Hz	Frequency equency 0000 GHz IHz 10 MHz et	Settings
Spectrum Analyzer 1           Channel Power           KEYSIGHT           Input: RF           Cupling: DC           Igraph           Scale/Div 10.0 dB           Log           20.0           1000           0.00	L225:44 PM	Trig: Free Run andard Gate: Off #IF Gain: Low et 15.05 dB .00 dBm	Center Free AvglHold 3 Radio Std	Comparison     C	Center Fr 5.775000 Span 160.00 M CF Step 16.00000 Auto Man Freq Offse 0 Hz	Frequency equency 1000 GHz 1Hz 10 MHz et	Settings
Spectrum Analyzer 1         Image: Channel Power           KEYSIGHT         Input RF           RL         Image: Coupling: DC           Scale/Div 10.0 dB         Image: Coupling: DC           200         Image: Coupling: DC           200         Image: Coupling: DC           Scale/Div 10.0 dB         Image: Coupling: DC           200         Image: Coupling: C	L225:44 PM 2:25:44 PM 11AC4 11AC4 L2:50 Ω Corr Corr μW Path. St Freq Ref. Int (S) #PNO. Fast Ref Value 30 4 4 4 4 4 4 4 4 4 4 4 4 4	IOSISO-Ant1 Trig: Free Run Gate: Off #IF Gain: Low to 15.05 dB Go dBm	Center Free AvglHold 3 Radio Std	PASS     PASS	Center Fri 5.775000 Span 160.00 M CF Step 16.00000 Man Freq Offse 0 Hz	Frequency 0000 GHz IHz 00 MHz et	settings
Spectrum Analyzer 1 Channel Power KEYSIGHT Input: RF Cug: Auto I Graph Scale/Div 10.0 dB Og 200 100 000 -100 -200 -300 -00 -00 -00 -00 -00 -00	2:25:44 PM     2:25:44 PM     11AC4     11AC4     10 dB     10 dC Corr Corr     10 μW Path St     Freq Ref. Int (S)     #PNO. Fast     Ref Lv1 Offse     Ref Value 30     1	IOSISO-Ant1 Trig: Free Run andard Gate: Off #IF Gain: Low et 15.05 dB .00 dBm	Center Free Avg Hold 3 Radio Std	Comparison of the second	Center Fri 5.775000 Span 160.00 M CF Step 16.0000 Auto 0 Hz 0 Hz	Frequency 2000 GHz IHz 20 MHz et	Settings
Spectrum Analyzer 1 Channel Power KEYSIGHT Input RF RL Scale/Div 10.0 dB Log 20.0 1 Graph Scale/Div 10.0 dB Log 20.0 1 Graph Complement Scale/Div 10.0 dB Complement Scale/Div 10.0 dB Complement Scale	Line of the second secon	LOSISO-Ant1	Center Free AvglHold 3 Radio Std	PASS     PASS	Center Fin 5.775000 Span 160.00 M 160.00 M 160.000 M Fice Offset 0 Hz Hz S	Frequency 000 GHz HIZ 00 MHZ et	Settings
Spectrum Analyzer 1 Channel Power KEYSIGHT Rut Power Compile Compile Compi	2:25:44 PM 2:25:44 PM 11AC4 11AC4  12:25:44 PM 2:25:44 PM 11AC4	LOSISO-Ant1	Center Free AvglHold 3 Radio Std	PASS     PASS	Center Frn 5.775000 Span 160.00 M CF Step 10.0000 Man Freq Offsk 0 Hz	Frequency 2000 GHz Hz 20 MHz et	Settings



## 8.3 MAXIMUM PEAK POWER DENSITY

8.3.1 Applicable Standard

According to FCC Part 15.407(a)(1) for UNII Band I According to FCC Part 15.407(a)(3) for UNII Band III According to 789033 D02 Section II(F) According to RSS 247 6.2

8.3.2 Conformance Limit

## FCC Limit:

■ For the band 5.15-5.25 GHz,

(a) (1) (i) For an outdoor access point, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(a) (1) (ii) For an indoor access point, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(a) (1) (iii) For fixed point-to-point access points, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. 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.

(a) (1) (iv) For client devices, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands

(b) (2) The maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

■ For the band 5.725-5.85 GHz

(a) (3)The maximum power spectral density shall not exceed 30 dBm in any 500-kHz band provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. 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

## IC Limit:

Frequency band 5150-5250 MHz



The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

Frequency band 5250-5350 MHz

The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

Frequency bands 5470-5600 MHz and 5650-5725 MHz

The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

Frequency band 5725-5850 MHz

The output 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, the output 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 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.

## 8.3.3 Test Configuration

Test according to clause 6.1 radio frequency test setup

## 8.3.4 Test Procedure

Methods refer to FCC KDB 789033

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.I.a).

b) Set VBW  $\geq$  3 RBW.

c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add 10log(500kHz/RBW) to the measured result, whereas RBW (< 500 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 10log(1MHz/RBW) to the measured result, whereas RBW (< 1 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.

Note: As a practical matter, it is recommended to use reduced RBW of 100 KHz for the sections

5.c) and 5.d) above, since RBW=100 KHZ is available on nearly all spectrum analyzers.



#### 8.3.5 Test Results

Temperature:	25 °C
Relative Humidity:	45%
ATM Pressure:	1011 mbar

## Note: N/A

TestMode	Antenna	Frequency[MHz]	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
11A	Ant1	5180	-5.02	≤11.00	PASS
11A	Ant1	5200	-2.46	≤11.00	PASS
11A	Ant1	5240	-1.76	≤11.00	PASS
11N20SISO	Ant1	5180	-3.95	≤11.00	PASS
11N20SISO	Ant1	5200	-3.13	≤11.00	PASS
11N20SISO	Ant1	5240	-3.04	≤11.00	PASS
11N40SISO	Ant1	5190	-6.57	≤11.00	PASS
11N40SISO	Ant1	5230	-6.11	≤11.00	PASS
11AC20SISO	Ant1	5180	-4.50	≤11.00	PASS
11AC20SISO	Ant1	5200	-4.35	≤11.00	PASS
11AC20SISO	Ant1	5240	-3.99	≤11.00	PASS
11AC40SISO	Ant1	5190	-7.45	≤11.00	PASS
11AC40SISO	Ant1	5230	-6.97	≤11.00	PASS
11AC80SISO	Ant1	5210	-8.54	≤11.00	PASS
11A	Ant1	5745	-11.18	≤30.00	PASS
11A	Ant1	5785	-10.74	≤30.00	PASS
11A	Ant1	5825	-9.76	≤30.00	PASS
11N20SISO	Ant1	5745	-11.46	≤30.00	PASS
11N20SISO	Ant1	5785	-10.90	≤30.00	PASS
11N20SISO	Ant1	5825	-10.75	≤30.00	PASS
11N40SISO	Ant1	5755	-14.57	≤30.00	PASS
11N40SISO	Ant1	5795	-13.29	≤30.00	PASS
11AC20SISO	Ant1	5745	-11.66	≤30.00	PASS
11AC20SISO	Ant1	5785	-9.75	≤30.00	PASS
11AC20SISO	Ant1	5825	-9.95	≤30.00	PASS
11AC40SISO	Ant1	5755	-14.81	≤30.00	PASS
11AC40SISO	Ant1	5795	-13.47	≤30.00	PASS
11AC80SISO	Ant1	5775	-14.30	≤30.00	PASS

Note: 1. The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz. 2. The Duty Cycle Factor and RBW Factor is compensated in the graph.





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EMTEK (Dongguan) Co., Ltd.

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![](_page_14_Picture_0.jpeg)

![](_page_14_Figure_1.jpeg)

![](_page_15_Picture_0.jpeg)

![](_page_15_Figure_1.jpeg)

![](_page_16_Picture_0.jpeg)

![](_page_16_Figure_1.jpeg)

![](_page_17_Picture_0.jpeg)

![](_page_17_Figure_1.jpeg)

![](_page_18_Picture_0.jpeg)

![](_page_18_Figure_1.jpeg)

![](_page_19_Picture_0.jpeg)

# 8.4 UNDESIRABLE RADIATED SPURIOUS EMISSION

## 8.4.1 Applicable Standard

According to FCC Part 15.407 (b), 15.209, 15.205 According to 789033 D02 Section II(G) According to RSS-GEN 8.9, 8.10 and 6.13

## 8.4.2 Conformance Limit

For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.

Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209 The emissions from an intentional radiator shall not exceed the field strength levels specified in the following table 15.209(a):

Restricted	Field Strength (µV/m)	Field Strength (dBµV/m)	Measurement
Frequency(MHz)			Distance
0.009-0.490	2400/F(KHz)	20 log (uV/m)	300
0.490-1.705	24000/F(KHz)	20 log (uV/m)	30
1.705-30	30	29.5	30
30-88	100	40	3
88-216	150	43.5	3
216-960	200	46	3
Above 960	500	54	3

The provisions of \$15.205 apply to intentional radiators operating under this section, 15.205 Restricted bands of operation

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
10.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(2)
13.36-13.41			