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The test results



## Test Graphs of Band Edge Emissions in Non-Restricted Frequency Bands



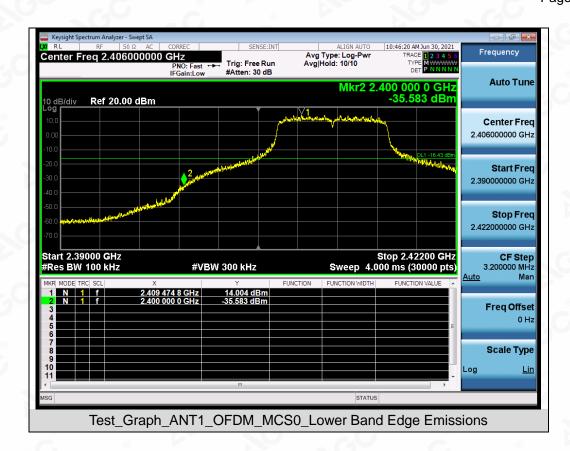
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Test\_Graph\_ANT1\_OFDM\_6Mbps\_Lower Band Edge Emissions

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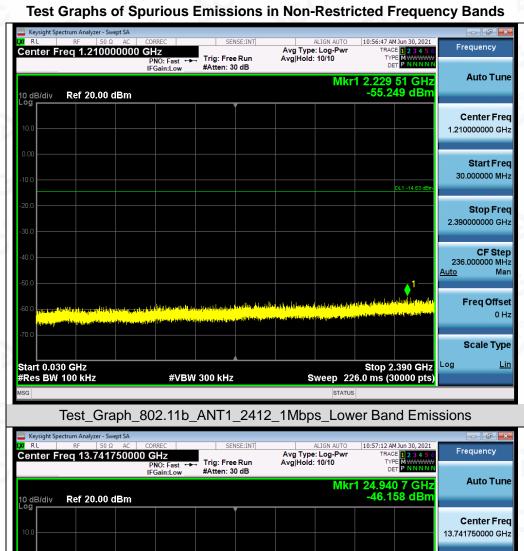
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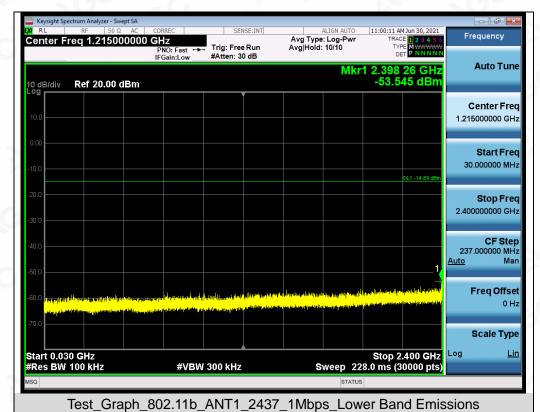


# Bandwidth 20 MHz Test Graphs of Spurious Emissions in Non-Restricted Frequency Bands



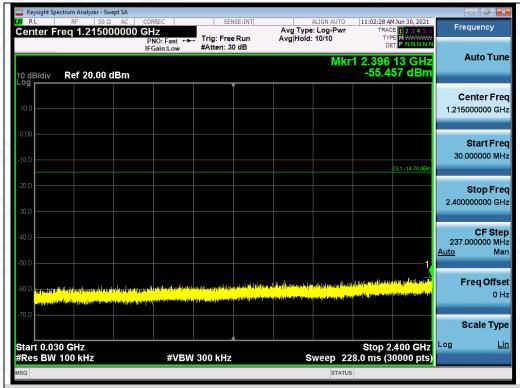
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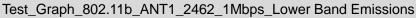






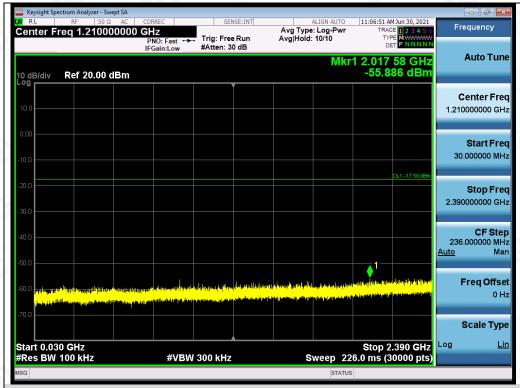


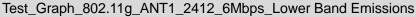


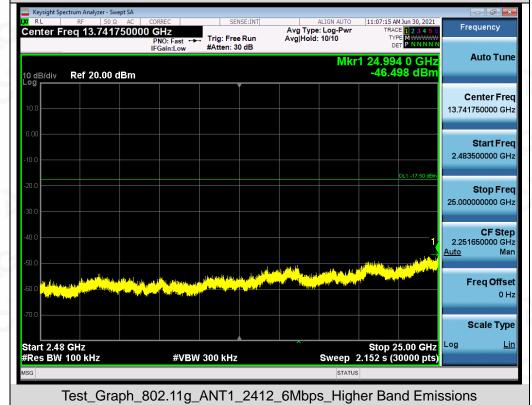




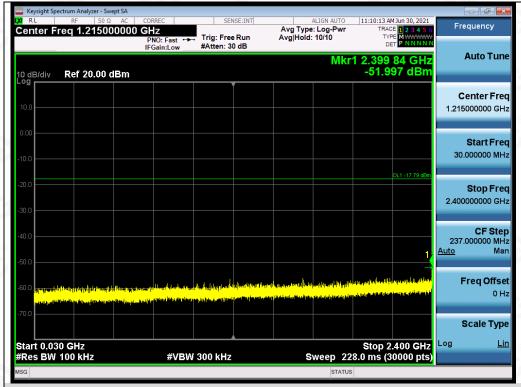


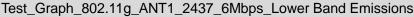






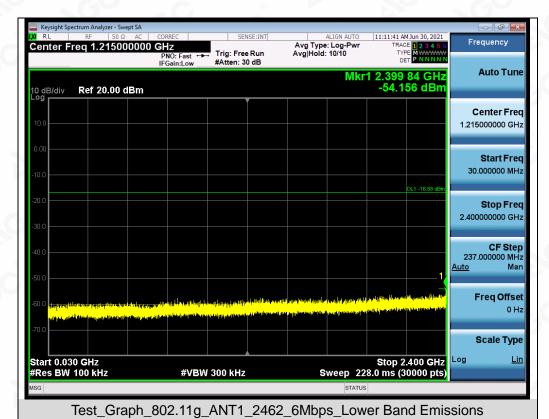








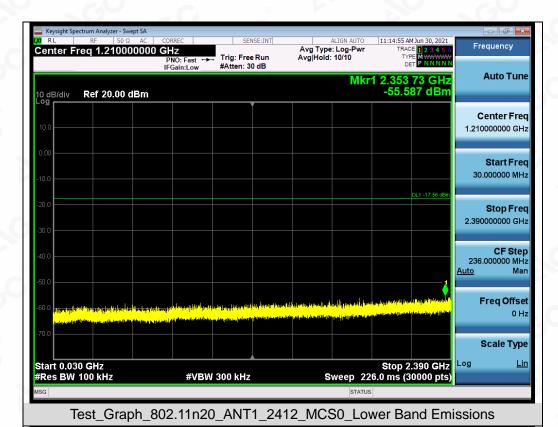






Test\_Graph\_802.11g\_ANT1\_2462\_6Mbps\_Higher Band Emissions

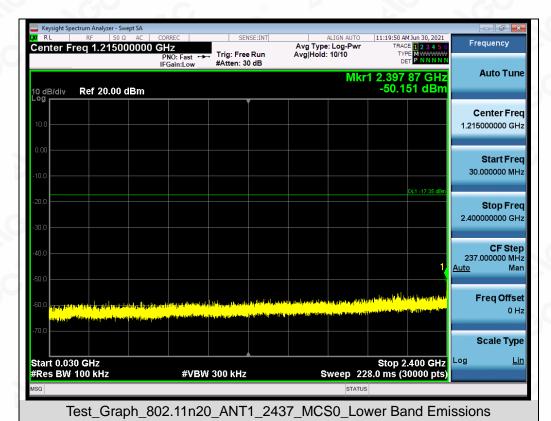


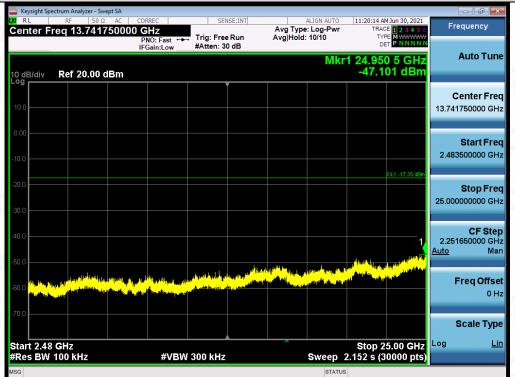




Test\_Graph\_802.11n20\_ANT1\_2412\_MCS0\_Higher Band Emissions

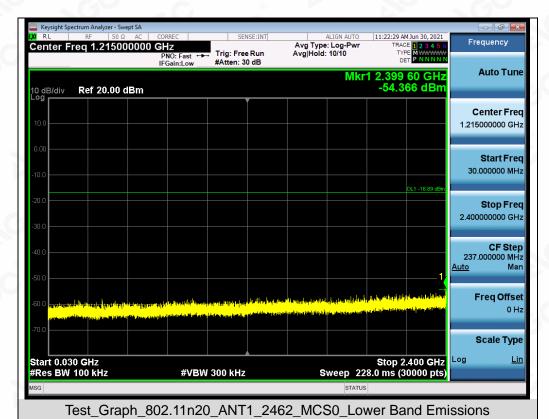






Test\_Graph\_802.11n20\_ANT1\_2437\_MCS0\_Higher Band Emissions







g/Inspection

The test results



#### Test Graphs of Band Edge Emissions in Non-Restricted Frequency Bands



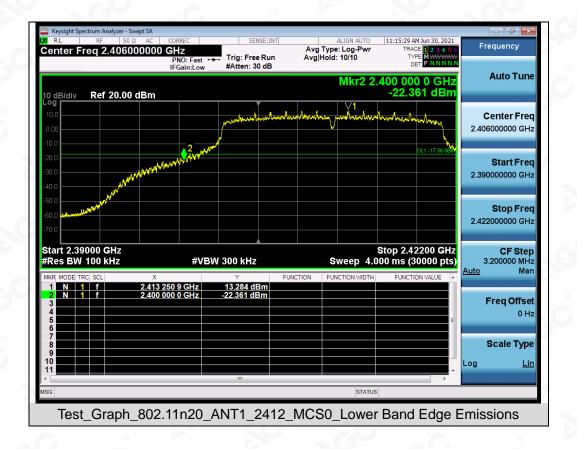
Test\_Graph\_802.11b\_ANT1\_2412\_1Mbps\_Lower Band Edge Emissions



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Note: 1. Emissions from 2483.5-2500MHz which fall in the restricted bands had been considered with the radiated emission limits specified.

2. All the 10MHz/20MHz bandwidth modulation had been tested. All the antennas have been pre-tested, and all modes of each antenna are tested. The In 802.11b, 802.11g mode antenna 1 is the worst case and recorded in the report; For 802.11n mode, the worst case Antenna 1 has more than 3dB margins, so the MIMO mode also compliance the limit.



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#### 10. MAXIMUM CONDUCTED OUTPUT POWER SPECTRAL DENSITY

#### **10.1 MEASUREMENT PROCEDURE**

- (1). Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- (2). Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- (3). Set SPA Trace 1 Max hold, then View.

Note: The method of PKPSD in the ANSI C63.10 (2013) item 11.10 was used in this testing.

## 10.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

Refer to Section 8.2.

#### **10.3 MEASUREMENT EQUIPMENT USED**

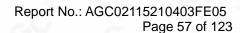
Refer to Section 6.

#### **10.4 LIMITS AND MEASUREMENT RESULT**

#### **Bandwidth 10 MHz**

TEST ITEM	POWER SPECTRAL DENSITY	0		10
TEST MODE	CCK with data rate 1	- GC	8	®

Channel No.	Power density Ant 1 (dBm/20kHz)	Power density Ant 2 (dBm/20kHz)	Power density Ant 3 (dBm/20kHz)	Power density Ant 4 (dBm/20kHz)	All	Limit (dBm/3kHz)	Result
Low Channel	3.735	3.387	3.597	3.382	N/A	8	Pass
Middle Channel	3.689	3.268	3.066	3.626	N/A	8	Pass
High Channel	3.723	3.295	3.301	3.680	N/A	8	Pass
Channel No.	Power density Ant 1 (dBm/3kHz)	Power density Ant 2 (dBm/3kHz)	Power density Ant 3 (dBm/3kHz)	Power density Ant 4 (dBm/3kHz)	All	Limit (dBm/3kHz)	Result
Low Channel	-4.504	-4.852	-4.642	-4.857	N/A	8	Pass
Middle Channel	-4.55	-4.971	-5.173	-4.613	N/A	8	Pass
High Channel	-4.516	-4.944	-4.938	-4.559	N/A	8	Pass

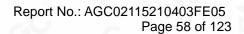




TEST ITEM	POWER SPECTRAL DENSITY
TEST MODE	OFDM with data rate 6

Power density Ant 1 (dBm/20kHz)	Power density Ant 2 (dBm/20kHz)	Power density Ant 3 (dBm/20kHz)	Power density Ant 4 (dBm/20kHz)	All	Limit (dBm/3kHz)	Result
0.196	-0.350	-0.526	-0.378	N/A	8	Pass
0.379	-0.143	-0.118	-0.150	N/A	8	Pass
0.361	-0.155	-0.331	-0.197	N/A	8	Pass
Power density Ant 1 (dBm/3kHz)	Power density Ant 2 (dBm/3kHz)	Power density Ant 3 (dBm/3kHz)	Power density Ant 4 (dBm/3kHz)	All	Limit (dBm/3kHz)	Result
-8.043	-8.589	-8.765	-8.617	N/A	8	Pass
-7.86	-8.382	-8.357	-8.389	N/A	8	Pass
-7.878	-8.394	-8.57	-8.436	N/A	8	Pass
	Ant 1 (dBm/20kHz) 0.196 0.379 0.361 Power density Ant 1 (dBm/3kHz) -8.043 -7.86	Ant 1 (dBm/20kHz)  0.196  -0.350  0.379  -0.143  0.361  -0.155  Power density Ant 1 (dBm/3kHz)  (dBm/3kHz)  -8.043  -8.589  -7.86  Ant 2 (dBm/3kHz)	Ant 1 (dBm/20kHz) Ant 2 (dBm/20kHz) (dBm/20kHz)  0.196 -0.350 -0.526  0.379 -0.143 -0.118  0.361 -0.155 -0.331  Power density Power density Ant 1 Ant 2 Ant 3 (dBm/3kHz)  (dBm/3kHz) (dBm/3kHz) (dBm/3kHz)  -8.043 -8.589 -8.765  -7.86 -8.382 -8.357	Ant 1 (dBm/20kHz) Ant 2 (dBm/20kHz) (dBm/20kHz) (dBm/20kHz) (dBm/20kHz)  0.196 -0.350 -0.526 -0.378  0.379 -0.143 -0.118 -0.150  0.361 -0.155 -0.331 -0.197  Power density Power density Power density Ant 1 Ant 2 Ant 3 Ant 4 (dBm/3kHz) (dBm/3kHz) (dBm/3kHz)  -8.043 -8.589 -8.765 -8.617  -7.86 -8.382 -8.357 -8.389	Ant 1 (dBm/20kHz)         Ant 2 (dBm/20kHz)         Ant 3 (dBm/20kHz)         Ant 4 (dBm/20kHz)         All (dBm/20kHz)           0.196         -0.350         -0.526         -0.378         N/A           0.379         -0.143         -0.118         -0.150         N/A           0.361         -0.155         -0.331         -0.197         N/A           Power density         Power density         Power density         Power density         Ant 3         Ant 4         All           (dBm/3kHz)         (dBm/3kHz)         (dBm/3kHz)         (dBm/3kHz)         N/A           -8.043         -8.589         -8.765         -8.617         N/A           -7.86         -8.382         -8.357         -8.389         N/A	Ant 1 (dBm/20kHz)

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TEST ITEM	POWER SPECTRAL DENSITY
TEST MODE	OFDM with data rate 6.5

Channel No.	Power density Ant 1 (dBm/20kHz)	Power density Ant 2 (dBm/20kHz)	Power density Ant 3 (dBm/20kHz)	Power density Ant 4 (dBm/20kHz)	Limit (dBm/3kHz)	Result
Low Channel	-0.306	-0.592	-0.660	-0.278	8	Pass
Middle Channel	0.018	-0.027	-0.367	-0.249	8	Pass
High Channel	-0.126	-0.169	-0.318	-0.540	8	Pass
Channel No.	Power density Ant 1+2 (dBm/20kHz)	Power density Ant 3+4 (dBm/20kHz)	Power density Ant 1+3 (dBm/20kHz)	Power density Ant 2+4 (dBm/20kHz)	Limit (dBm/3kHz)	Result
Low Channel	2.56	2.55	2.53	2.58	7.89	Pass
Middle Channel	3.01	2.70	2.84	2.87	7.89	Pass
High Channel	2.86	2.58	2.79	2.66	7.89	Pass

Power density Ant 1 (dBm/3kHz) -8.545	Power density Ant 2 (dBm/3kHz) -8.831 -8.266	Power density Ant 3 (dBm/3kHz) -8.899 -8.606	Power density Ant 4 (dBm/3kHz) -8.517	Limit (dBm/3kHz)	Result
.0			-8.517	8	Dace
-8.221	-8.266	-8.606			F a 5 5
		5.300	-8.488	8	Pass
-8.365	-8.408	-8.557	-8.779	8	Pass
Power density Ant 1+2 (dBm/3kHz)	Power density Ant 3+4 (dBm/3kHz)	Power density Ant 1+3 (dBm/3kHz)	Power density Ant 2+4 (dBm/3kHz)	Limit (dBm/3kHz)	Result
-5.68	-5.69	-5.71	-5.66	7.89	Pass
	5.54	-5.40	-5.37	7.89	Pass
-5.23	-5.54	4.100			
	5.22	-5.23 -5.54	-5.23 -5.54 -5.40	-5.23 -5.54 -5.40 -5.37	-5.23 -5.54 -5.40 -5.37 7.89

Note: Power density(dBm/3kHz) = Power density(dBm/20kHz) - 10\*log(20/3).



Report No.: AGC02115210403FE05

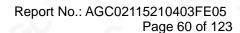
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#### **Bandwidth 20 MHz**

TEST ITEM	POWER SPECTRAL DENSITY
TEST MODE	802.11b with data rate 1

Channel No.	Power density Ant 1 (dBm/20kHz)	Power density Ant 2 (dBm/20kHz)	Power density Ant 3 (dBm/20kHz)	Power density Ant 4 (dBm/20kHz)	All	Limit (dBm/3kHz)	Result
Low Channel	0.534	0.690	0.649	0.654	N/A	8	Pass
Middle Channel	0.586	0.726	0.486	0.366	N/A	8	Pass
High Channel	0.481	0.689	0.415	0.468	N/A	8	Pass
Channel No.	Power density Ant 1 (dBm/3kHz)	Power density Ant 2 (dBm3kHz)	Power density Ant 3 (dBm/3kHz)	Power density Ant 4 (dBm/3kHz)	All	Limit (dBm/3kHz)	Result
Low Channel	-7.705	-7.549	-7.59	-7.585	N/A	8	Pass
Middle Channel	-7.653	-7.513	-7.753	-7.873	N/A	8	Pass
High Channel	-7.758	-7.55	-7.824	-7.771	N/A	8	Pass

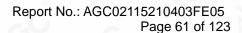
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TEST ITEM	POWER SPECTRAL DENSITY
TEST MODE	802.11g with data rate 6

Channel No.	Power density Ant 1 (dBm/20kHz)	Power density Ant 2 (dBm/20kHz)	Power density Ant 3 (dBm/20kHz)	Power density Ant 4 (dBm/20kHz)	All	Limit (dBm/3kHz)	Result
Low Channel	-2.895	-2.656	-2.721	-2.807	N/A	8	Pass
Middle Channel	-3.075	-2.883	-2.750	-2.583	N/A	8	Pass
High Channel	-2.741	-2.333	-1.898	-2.633	N/A	8	Pass
Channel No.	Power density Ant 1 (dBm/3kHz)	Power density Ant 2 (dBm3kHz)	Power density Ant 3 (dBm/3kHz)	Power density Ant 4 (dBm/3kHz)	All	Limit (dBm/3kHz)	Result
Low Channel	-11.134	-10.895	-10.96	-11.046	N/A	8	Pass
Middle Channel	-11.314	-11.122	-10.989	-10.822	N/A	8	Pass
High Channel	-10.98	-10.572	-10.137	-10.872	N/A	8	Pass





TEST ITEM	POWER SPECTRAL DENSITY
TEST MODE	802.11n 20 with data rate 6.5

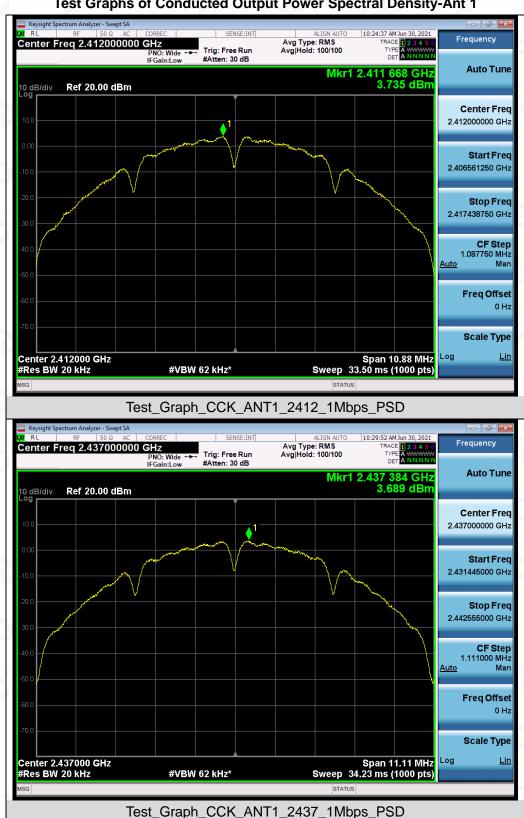
Channel No.	Power density Ant 1 (dBm/20kHz)	Power density Ant 2 (dBm/20kHz)	Power density Ant 3 (dBm/20kHz)	Power density Ant 4 (dBm/20kHz)	Limit (dBm/ 3kHz)	Result
Low Channel	-3.186	-3.105	-3.187	-3.102	8	Pass
Middle Channel	-3.189	-3.096	-2.964	-2.569	8	Pass
High Channel	-2.945	-2.902	-2.768	-2.736	8	Pass
Channel No.	Power density Ant 1 (dBm/3kHz)	Power density Ant 2 (dBm/3kHz)	Power density Ant 3 (dBm/3kHz)	Power density Ant 4 (dBm/3kHz)	Limit (dBm/ 3kHz)	Result
Low Channel	-11.425	-11.344	-11.426	-11.341	8	Pass
Middle Channel	-11.428	-11.335	-11.203	-10.808	8	Pass
High Channel	-11.184	-11.141	-11.007	-10.975	8	Pass

Channel No.	Power density Ant 1+2 (dBm/20kHz)	Power density Ant 3+4 (dBm/20kHz)	Power density Ant 1+3 (dBm/20kHz)	Power density Ant 2+4 (dBm/20kHz)	Limit (dBm/ 3kHz)	Result
Low Channel	-0.14	-0.13	-0.18	-0.09	7.89	Pass
Middle Channel	-0.13	0.25	-0.06	0.19	7.89	Pass
High Channel	0.09	0.26	0.15	0.19	7.89	Pass
Channel No.	Power density Ant 1+2 (dBm/3kHz)	Power density Ant 3+4 (dBm/3kHz)	Power density Ant 1+3 (dBm/3kHz)	Power density Ant 2+4 (dBm/3kHz)	Limit (dBm/ 3kHz)	Result
Low Channel	-8.37	-8.37	-8.42	-8.33	7.89	Pass
Middle Channel	-8.37	-7.99	-8.30	-8.05	7.89	Pass
High Channel	-8.15	-7.98	-8.08	-8.05	7.89	Pass

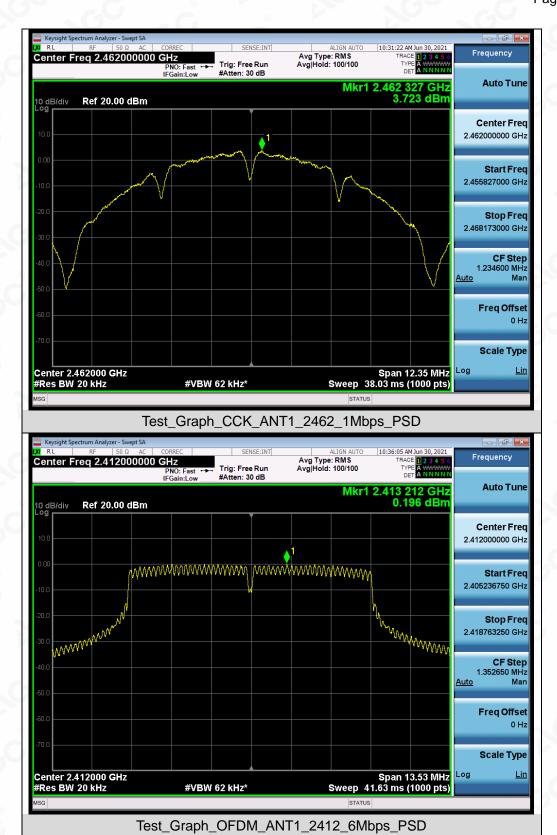
Note: The 802.11n20 mode can support MIMO.



# Bandwidth 10 MHz Test Graphs of Conducted Output Power Spectral Density-Ant 1

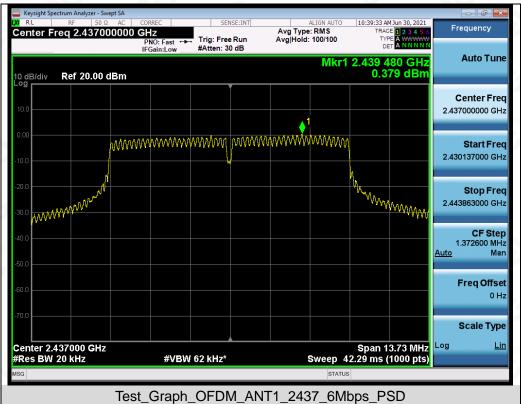


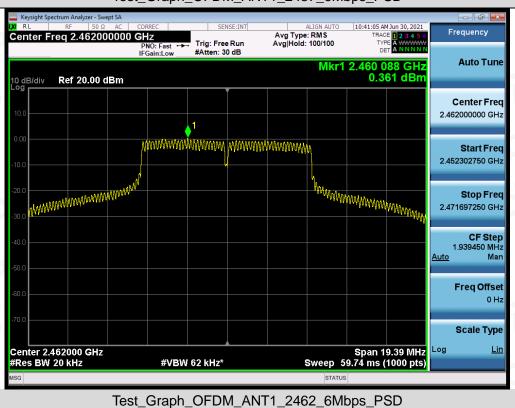




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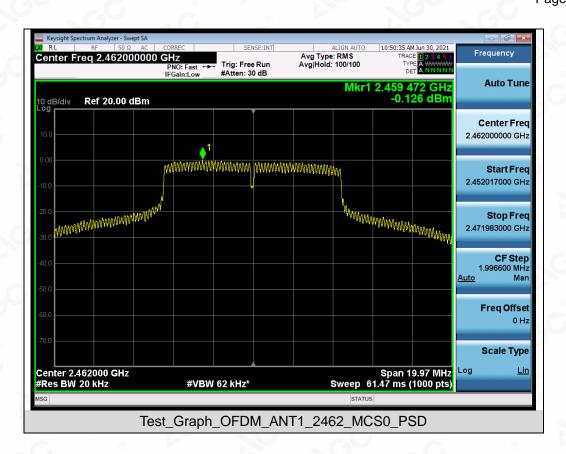






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### **Test Graphs of Conducted Output Power Spectral Density-Ant 2**



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Start Freq
2.455854000 GHz

Stop Freq
2.468146000 GHz

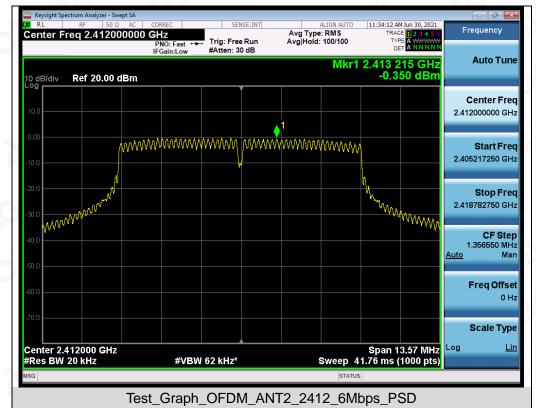
CF Step
1.229200 MHz
Auto Man

Freq Offset
0 Hz

Res BW 20 kHz #VBW 62 kHz\* Sweep 37.83 ms (1000 pts)

Test\_Graph\_CCK\_ANT2\_2462\_1Mbps\_PSD

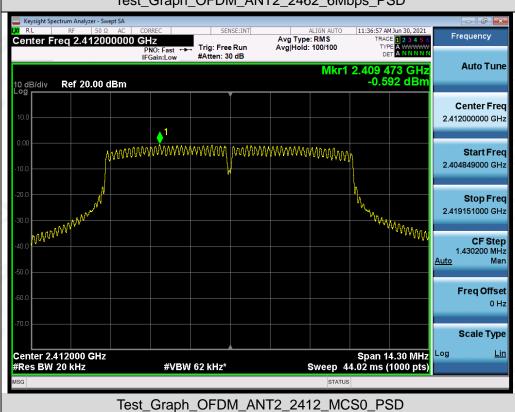




















## **Test Graphs of Conducted Output Power Spectral Density-Ant 3**



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Test\_Graph\_CCK\_ANT3\_2437\_1Mbps\_PSD