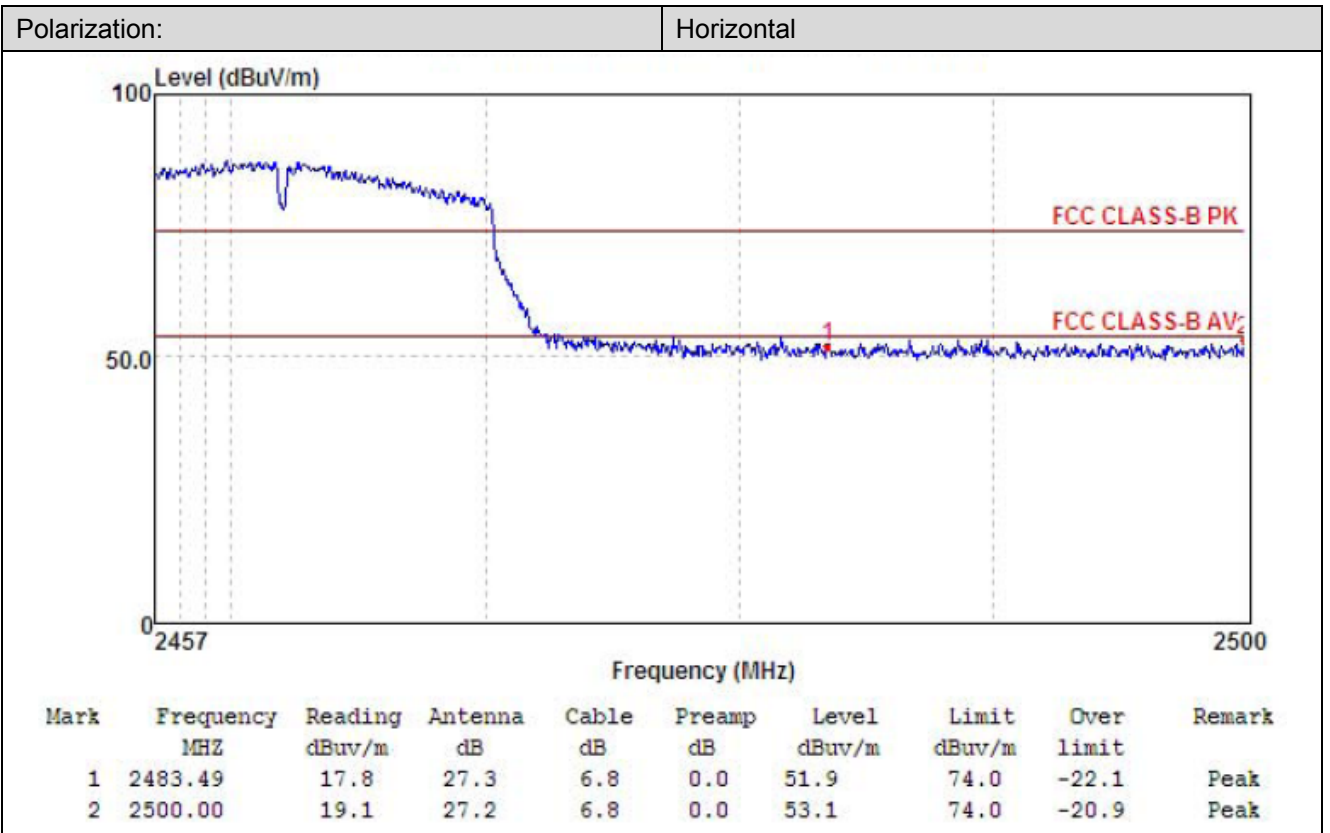
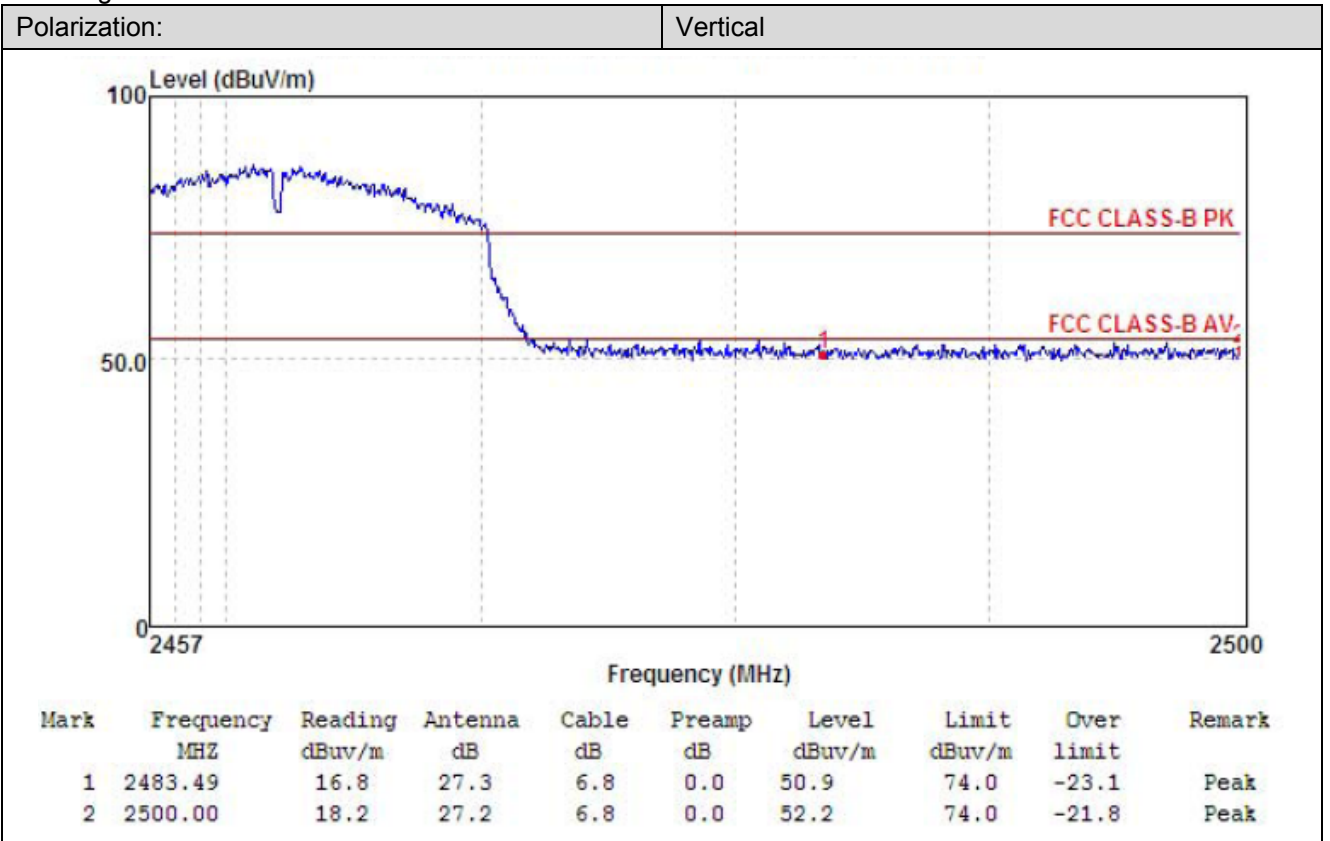
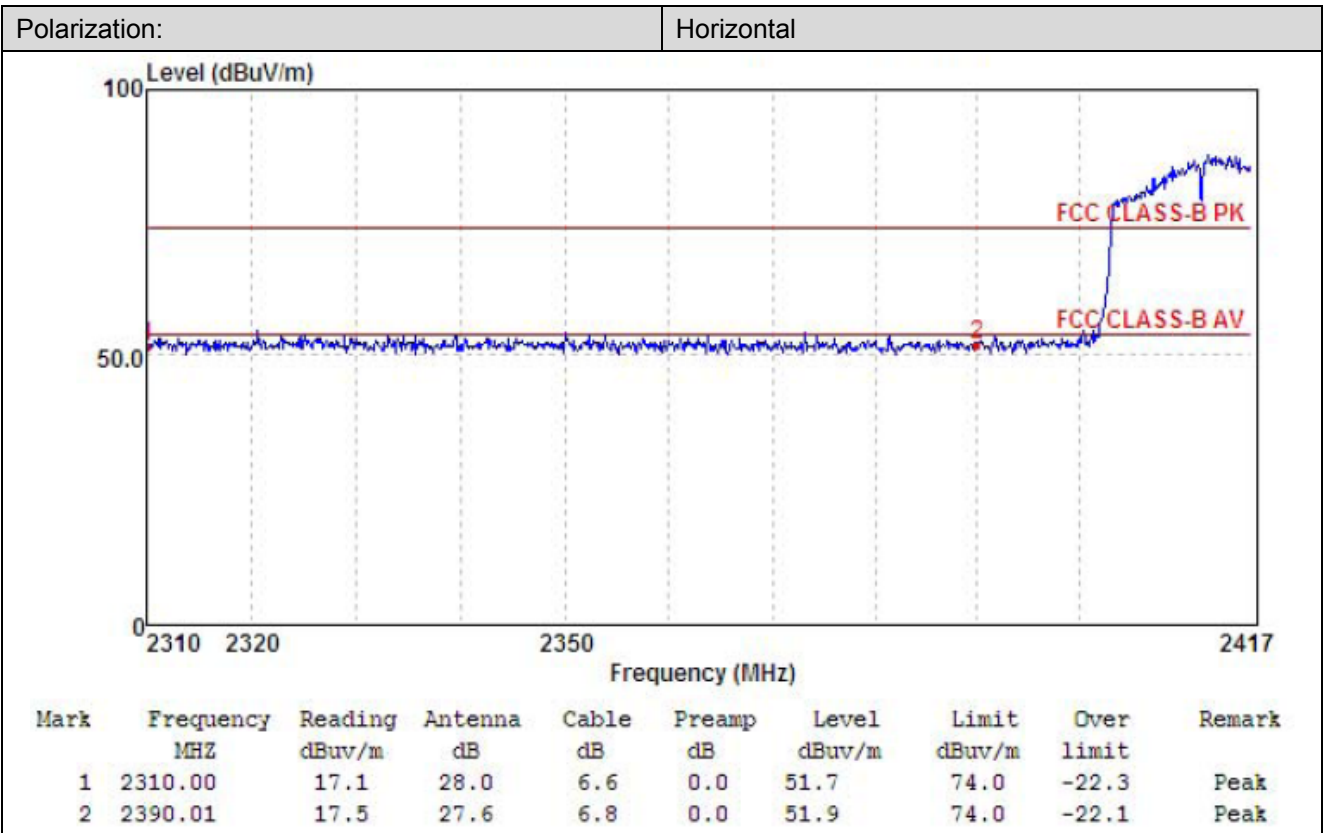
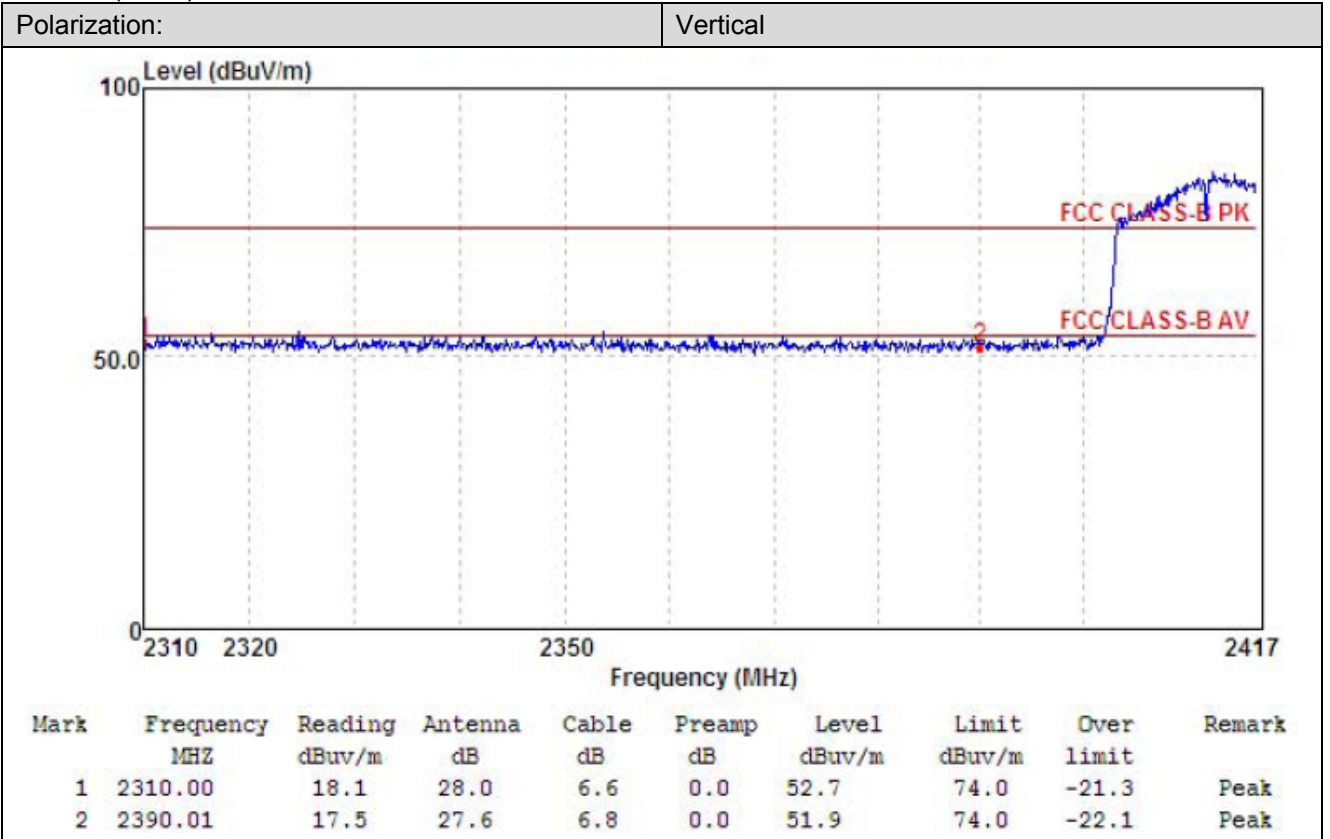


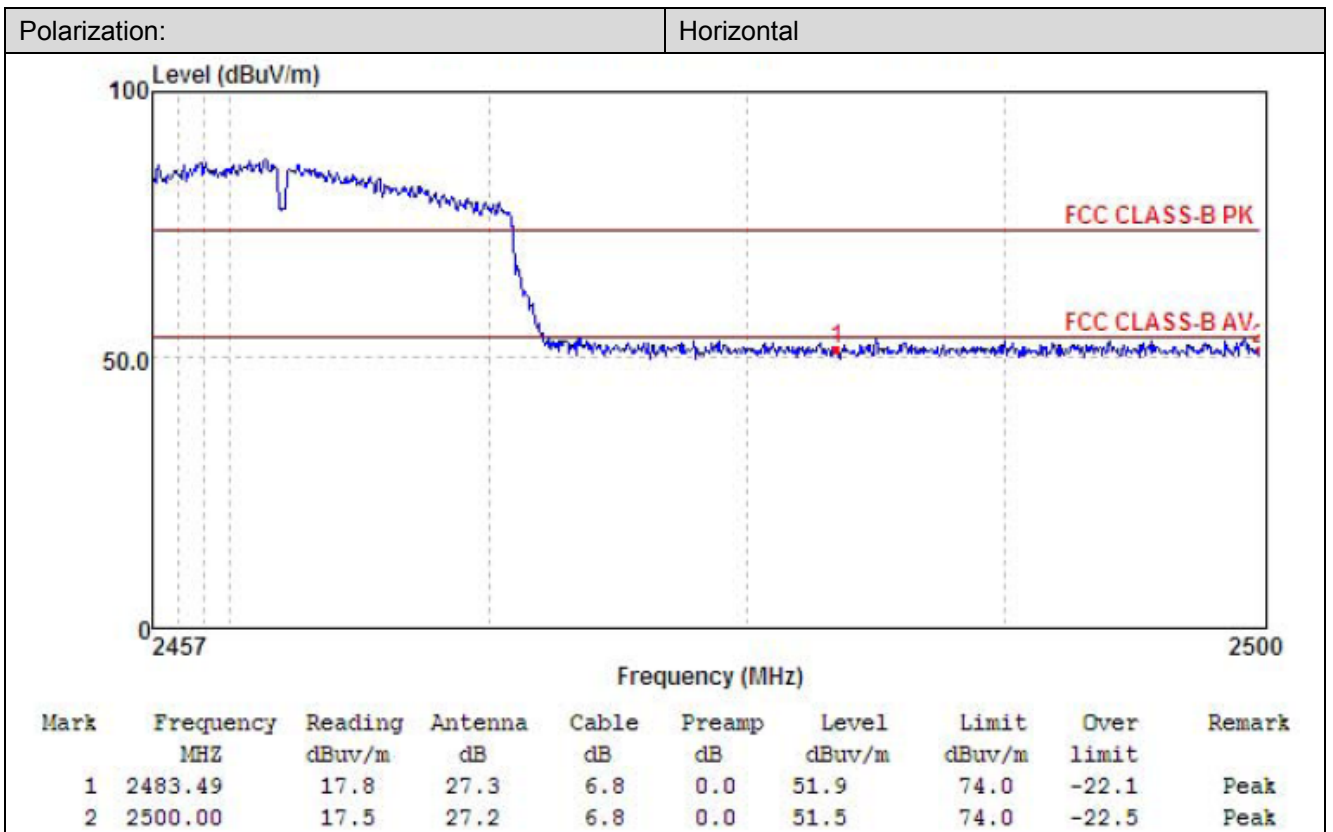
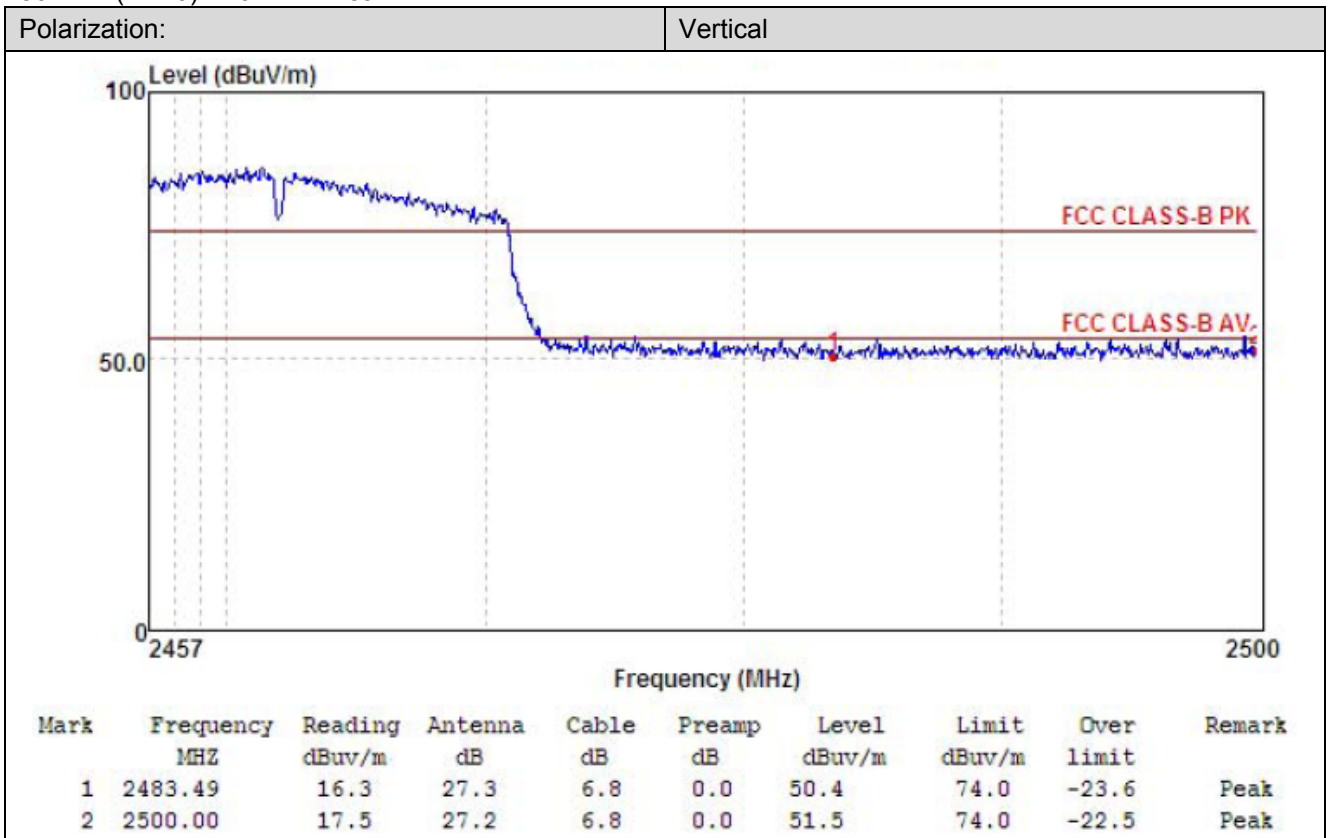
802.11g-2462MHz Peak:



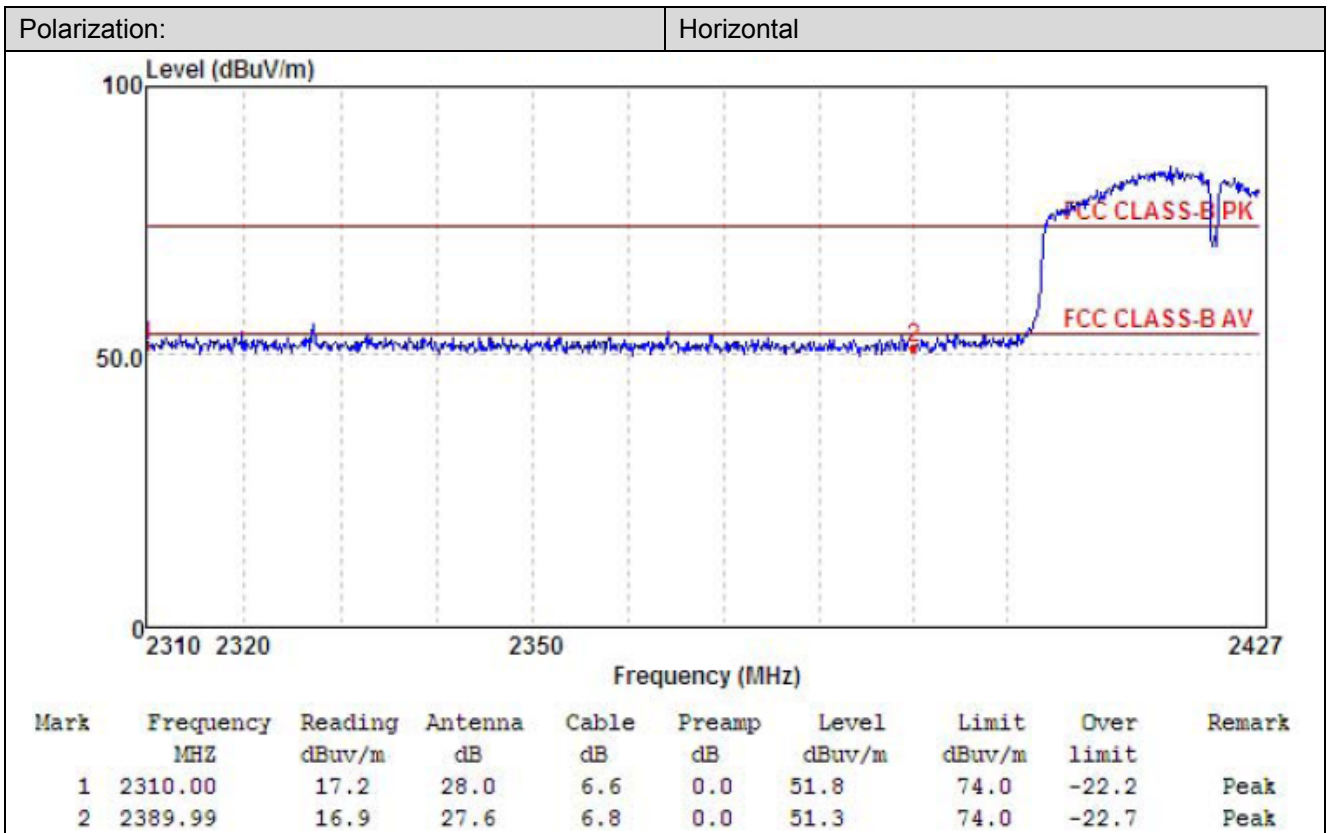
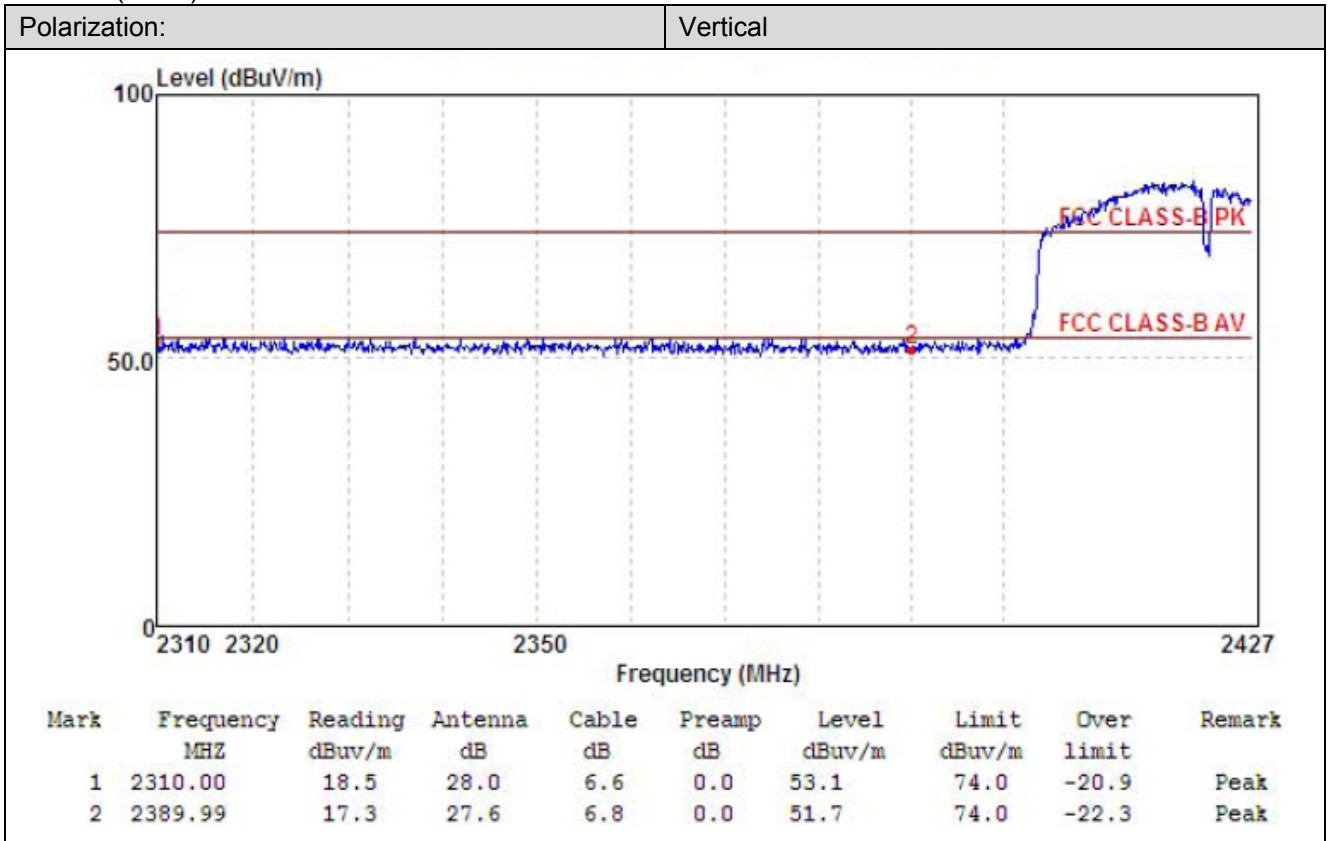
802.11n(HT20)-2412MHz Peak:



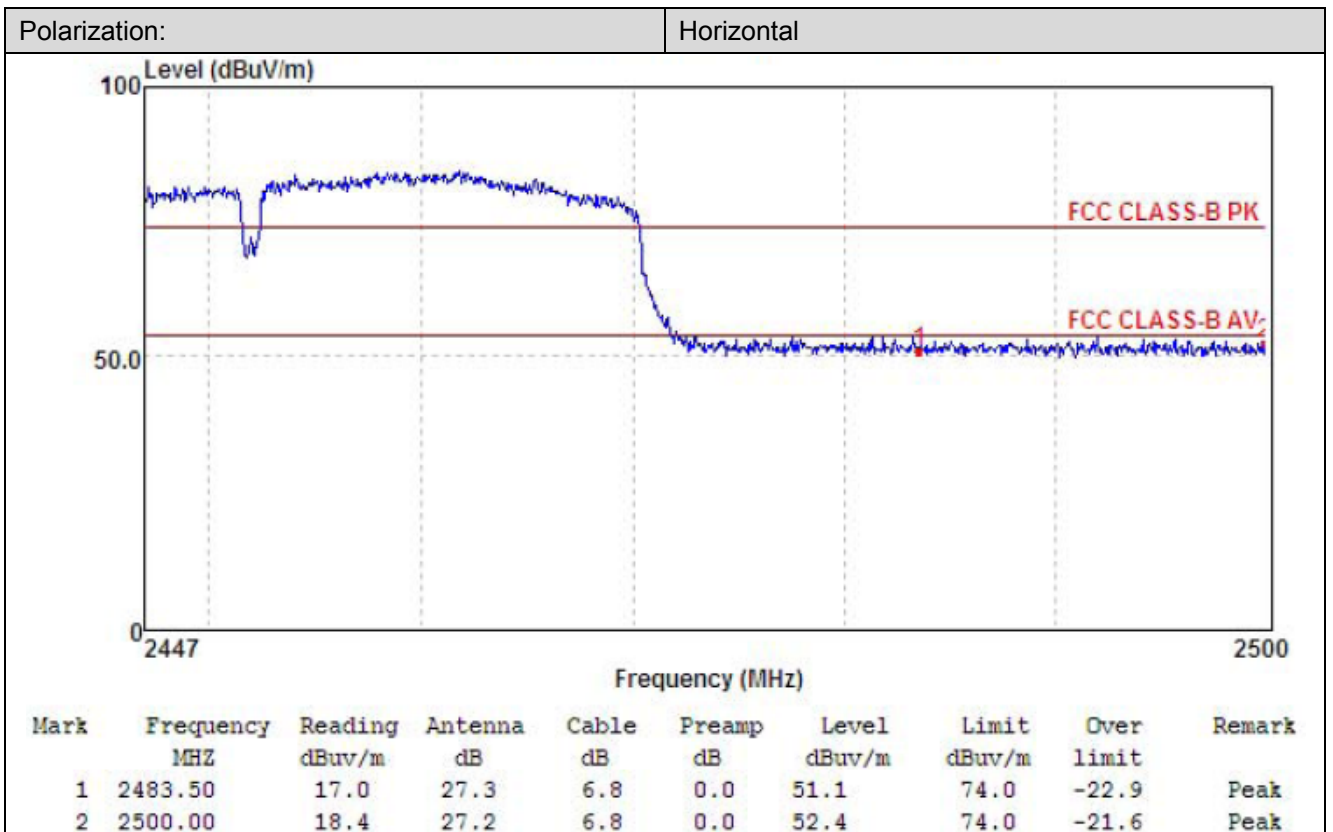
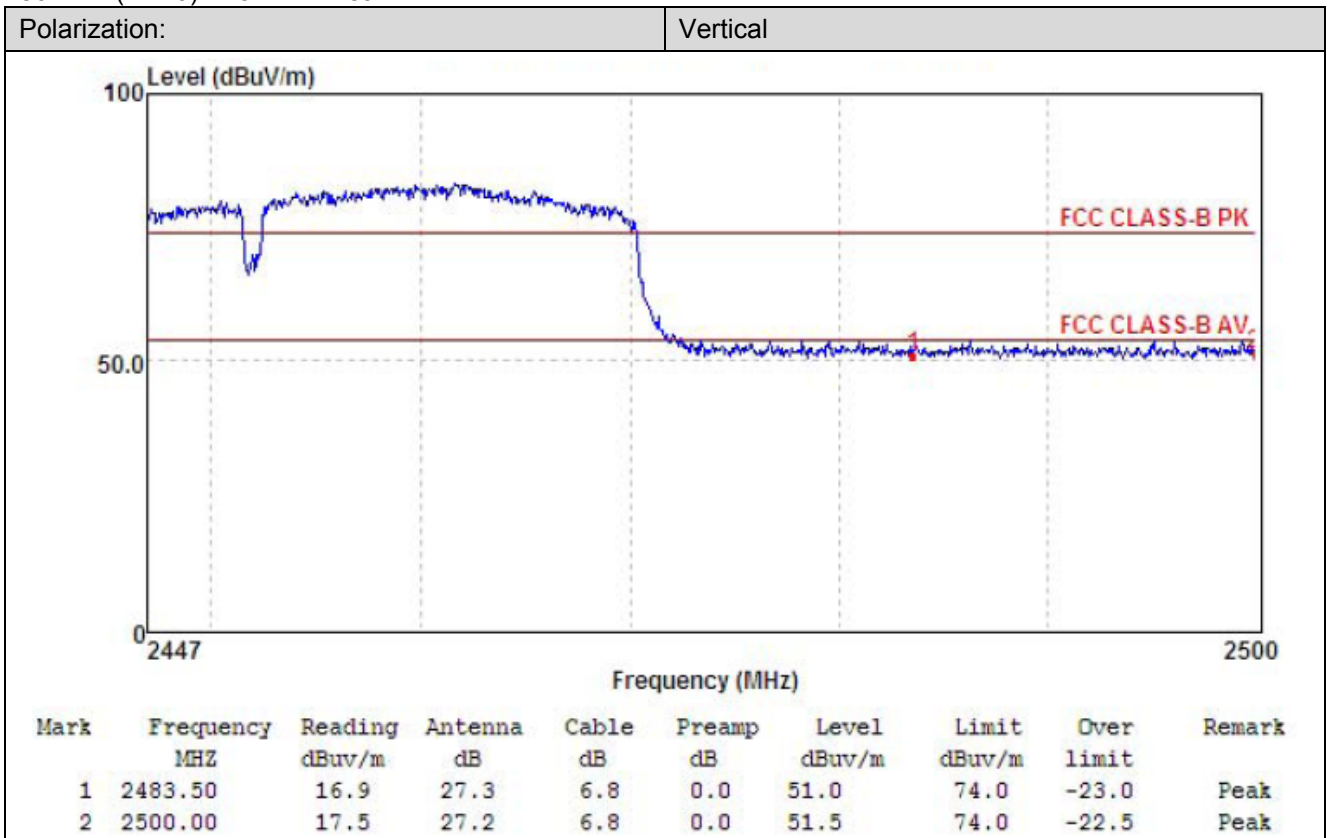
802.11n(HT20)-2462MHz Peak:



802.11n(HT40)-2422MHz Peak:



802.11n(HT40)-2452MHz Peak:



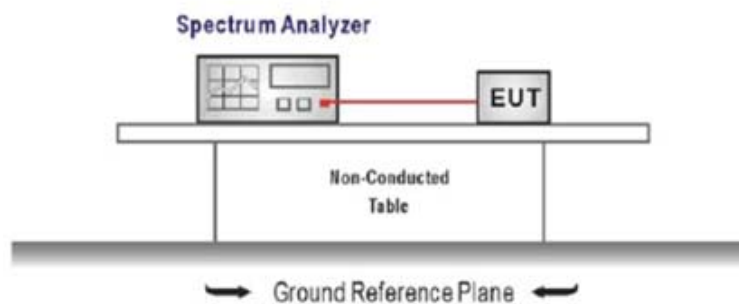
5.7. Band edge and Spurious Emissions (conducted)

LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (d):

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

TEST CONFIGURATION



TEST PROCEDURE

1. Connect the antenna port(s) to the spectrum analyzer input.
2. Establish a reference level by using the following procedure
Center frequency=DTS channel center frequency
The span = 1.5 times the DTS bandwidth.
RBW = 100 kHz, VBW $\geq 3 \times$ RBW
Detector = peak, Sweep time = auto couple, Trace mode = max hold
Allow trace to fully stabilize
Use the peak marker function to determine the maximum PSD level

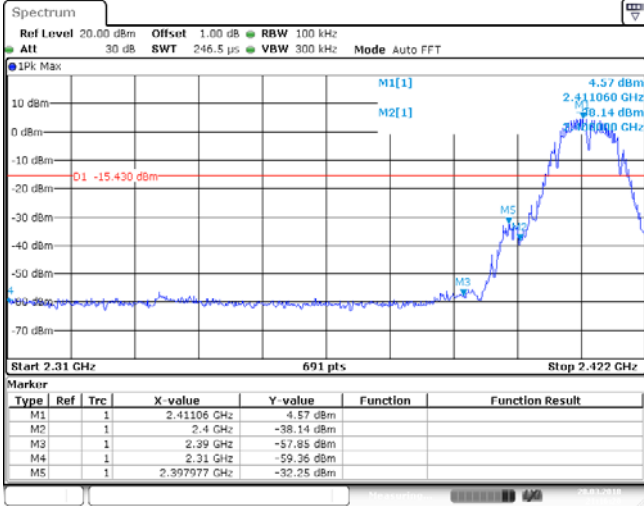
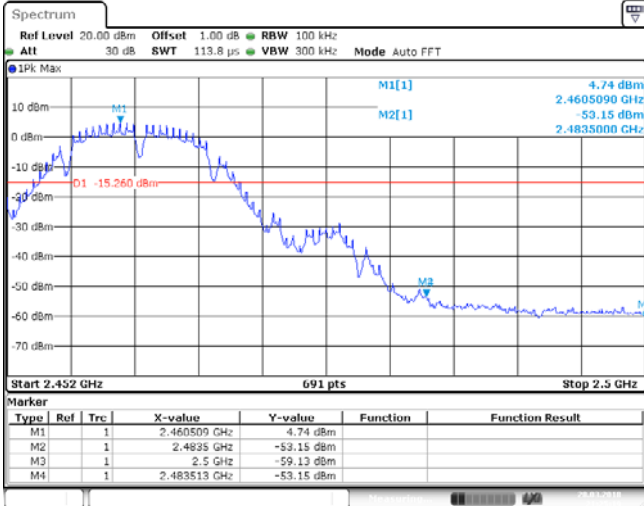
Note: the channel found to contain the maximum PSD level can be used to establish the reference level.
3. Emission level measurement
Set the center frequency and span to encompass frequency range to be measured
RBW = 100 kHz, VBW $\geq 3 \times$ RBW
Detector = peak, Sweep time = auto couple, Trace mode = max hold
Allow trace to fully stabilize
Use the peak marker function to determine the maximum amplitude level.
4. Place the radio in continuous transmit mode, allow the trace to stabilize, view the transmitter waveform on the spectrum analyzer.
5. Ensure that the amplitude of all unwanted emission outside of the authorized frequency band excluding restricted frequency bands) are attenuated by at least the minimum requirements specified (at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz). Report the three highest emission relative to the limit.

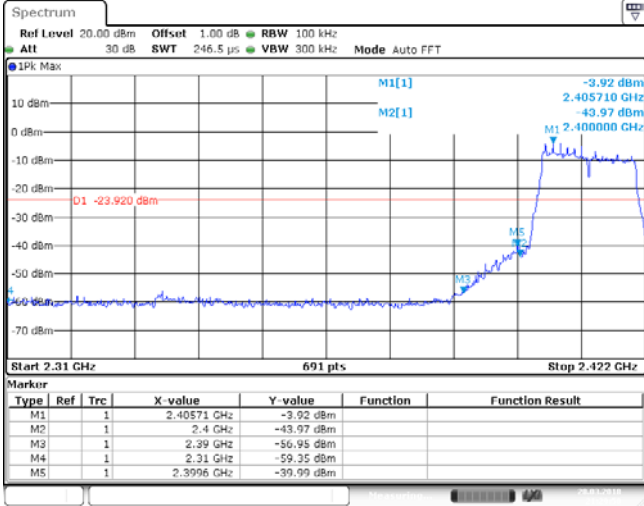
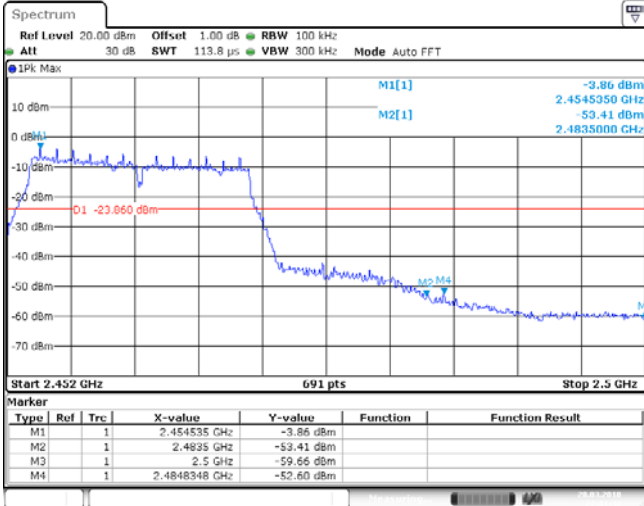
TEST MODE:

Please refer to the clause 3.3

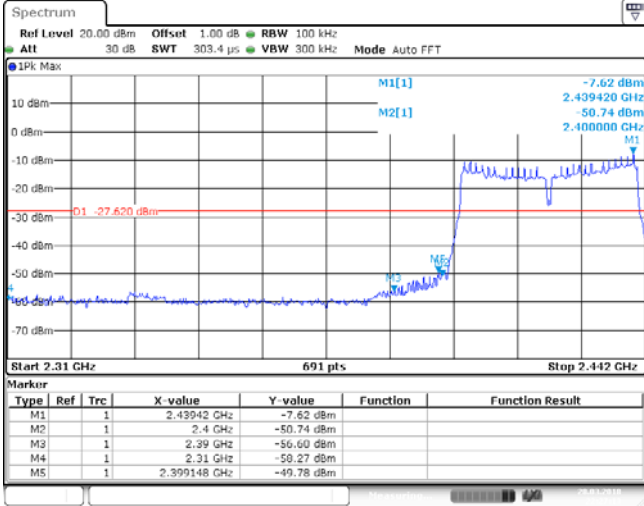
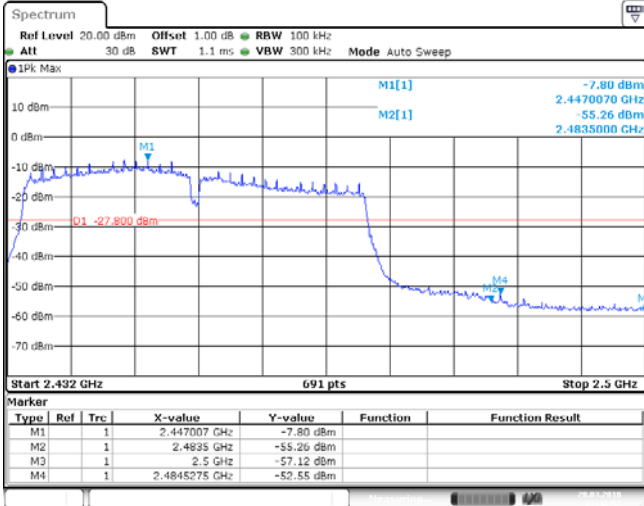
TEST RESULTS

Passed Not Applicable

Test Item:	Bandedge	Type:	802.11b																																										
CH01	 <p>Spectrum</p> <p>Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 246.5 μs VBW 300 kHz Mode Auto FFT</p> <p>IPK Max</p> <p>M1[1] 4.57 dBm 2.411060 GHz M2[1] -38.14 dBm 2.4 GHz M3 -57.85 dBm 2.39 GHz M4 -59.36 dBm 2.31 GHz M5 -32.25 dBm 2.397977 GHz</p> <p>D1 -15.430 dBm</p> <p>Start 2.31 GHz 691 pts Stop 2.422 GHz</p> <p>Marker</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-value</th> <th>Y-value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>2.41106 GHz</td> <td>4.57 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>2.4 GHz</td> <td>-38.14 dBm</td> <td></td> <td></td> </tr> <tr> <td>M3</td> <td>1</td> <td></td> <td>2.39 GHz</td> <td>-57.85 dBm</td> <td></td> <td></td> </tr> <tr> <td>M4</td> <td>1</td> <td></td> <td>2.31 GHz</td> <td>-59.36 dBm</td> <td></td> <td></td> </tr> <tr> <td>M5</td> <td>1</td> <td></td> <td>2.397977 GHz</td> <td>-32.25 dBm</td> <td></td> <td></td> </tr> </tbody> </table>			Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.41106 GHz	4.57 dBm			M2	1		2.4 GHz	-38.14 dBm			M3	1		2.39 GHz	-57.85 dBm			M4	1		2.31 GHz	-59.36 dBm			M5	1		2.397977 GHz	-32.25 dBm		
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M4	1		2.31 GHz	-59.36 dBm																																									
M5	1		2.397977 GHz	-32.25 dBm																																									
CH11	 <p>Spectrum</p> <p>Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 113.8 μs VBW 300 kHz Mode Auto FFT</p> <p>IPK Max</p> <p>M1 4.74 dBm 2.460509 GHz M2[1] -53.15 dBm 2.483500 GHz M3 -59.13 dBm 2.5 GHz M4 -53.15 dBm 2.483513 GHz</p> <p>D1 -15.260 dBm</p> <p>Start 2.452 GHz 691 pts Stop 2.5 GHz</p> <p>Marker</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-value</th> <th>Y-value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>2.460509 GHz</td> <td>4.74 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>2.4835 GHz</td> <td>-53.15 dBm</td> <td></td> <td></td> </tr> <tr> <td>M3</td> <td>1</td> <td></td> <td>2.5 GHz</td> <td>-59.13 dBm</td> <td></td> <td></td> </tr> <tr> <td>M4</td> <td>1</td> <td></td> <td>2.483513 GHz</td> <td>-53.15 dBm</td> <td></td> <td></td> </tr> </tbody> </table>			Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.460509 GHz	4.74 dBm			M2	1		2.4835 GHz	-53.15 dBm			M3	1		2.5 GHz	-59.13 dBm			M4	1		2.483513 GHz	-53.15 dBm									
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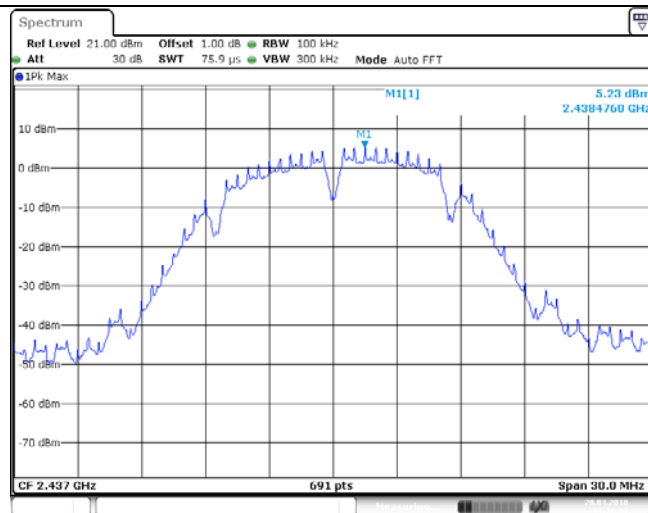
Test Item:	Bandedge	Type:	802.11g																																										
CH01	 <p>Spectrum Ref Level 20.00 dBm Offsrt 1.00 dB RBW 100 kHz Att 30 dB SWT 246.5 μs VBW 300 kHz Mode Auto FFT</p> <p>IPK Max</p> <p>M1[1] -3.92 dBm 2.405710 GHz M2[1] -43.97 dBm 2.400000 GHz M3 M4 M5</p> <p>D1 -23.920 dBm</p> <p>Start 2.31 GHz 691 pts Stop 2.422 GHz</p> <p>Marker</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-value</th> <th>Y-value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>2.40571 GHz</td> <td>-3.92 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>2.4 GHz</td> <td>-43.97 dBm</td> <td></td> <td></td> </tr> <tr> <td>M3</td> <td>1</td> <td></td> <td>2.39 GHz</td> <td>-56.95 dBm</td> <td></td> <td></td> </tr> <tr> <td>M4</td> <td>1</td> <td></td> <td>2.31 GHz</td> <td>-59.35 dBm</td> <td></td> <td></td> </tr> <tr> <td>M5</td> <td>1</td> <td></td> <td>2.3996 GHz</td> <td>-39.99 dBm</td> <td></td> <td></td> </tr> </tbody> </table>			Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.40571 GHz	-3.92 dBm			M2	1		2.4 GHz	-43.97 dBm			M3	1		2.39 GHz	-56.95 dBm			M4	1		2.31 GHz	-59.35 dBm			M5	1		2.3996 GHz	-39.99 dBm		
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CH11	 <p>Spectrum Ref Level 20.00 dBm Offsrt 1.00 dB RBW 100 kHz Att 30 dB SWT 113.8 μs VBW 300 kHz Mode Auto FFT</p> <p>IPK Max</p> <p>M1[1] -3.86 dBm 2.454535 GHz M2[1] -53.41 dBm 2.483500 GHz M3 M4</p> <p>D1 -23.860 dBm</p> <p>Start 2.452 GHz 691 pts Stop 2.5 GHz</p> <p>Marker</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-value</th> <th>Y-value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>2.454535 GHz</td> <td>-3.86 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>2.4835 GHz</td> <td>-53.41 dBm</td> <td></td> <td></td> </tr> <tr> <td>M3</td> <td>1</td> <td></td> <td>2.5 GHz</td> <td>-59.66 dBm</td> <td></td> <td></td> </tr> <tr> <td>M4</td> <td>1</td> <td></td> <td>2.4848348 GHz</td> <td>-52.60 dBm</td> <td></td> <td></td> </tr> </tbody> </table>			Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.454535 GHz	-3.86 dBm			M2	1		2.4835 GHz	-53.41 dBm			M3	1		2.5 GHz	-59.66 dBm			M4	1		2.4848348 GHz	-52.60 dBm									
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M2	1		2.4835 GHz	-53.41 dBm																																									
M3	1		2.5 GHz	-59.66 dBm																																									
M4	1		2.4848348 GHz	-52.60 dBm																																									

Test Item:	Bandedge	Type:	802.11n(HT20)																																										
CH01	<p>Spectrum</p> <p>Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 246.5 μs VBW 300 kHz Mode Auto FFT</p> <p>IPK Max</p> <p>M1[1] -4.91 dBm 2.405710 GHz M2[1] -42.56 dBm 2.400000 GHz</p> <p>D1 -24.910 dBm</p> <p>Start 2.31 GHz 691 pts Stop 2.422 GHz</p> <p>Marker</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-value</th> <th>Y-value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>2.40571 GHz</td> <td>-4.91 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>2.4 GHz</td> <td>-42.56 dBm</td> <td></td> <td></td> </tr> <tr> <td>M3</td> <td>1</td> <td></td> <td>2.39 GHz</td> <td>-55.12 dBm</td> <td></td> <td></td> </tr> <tr> <td>M4</td> <td>1</td> <td></td> <td>2.31 GHz</td> <td>-59.39 dBm</td> <td></td> <td></td> </tr> <tr> <td>M5</td> <td>1</td> <td></td> <td>2.399925 GHz</td> <td>-41.96 dBm</td> <td></td> <td></td> </tr> </tbody> </table>			Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.40571 GHz	-4.91 dBm			M2	1		2.4 GHz	-42.56 dBm			M3	1		2.39 GHz	-55.12 dBm			M4	1		2.31 GHz	-59.39 dBm			M5	1		2.399925 GHz	-41.96 dBm		
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M4	1		2.31 GHz	-59.39 dBm																																									
M5	1		2.399925 GHz	-41.96 dBm																																									
CH11	<p>Spectrum</p> <p>Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 113.8 μs VBW 300 kHz Mode Auto FFT</p> <p>IPK Max</p> <p>M1[1] -4.98 dBm 2.454535 GHz M2[1] -51.74 dBm 2.483500 GHz</p> <p>D1 -24.900 dBm</p> <p>Start 2.452 GHz 691 pts Stop 2.5 GHz</p> <p>Marker</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-value</th> <th>Y-value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>2.454535 GHz</td> <td>-4.98 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>2.4835 GHz</td> <td>-51.74 dBm</td> <td></td> <td></td> </tr> <tr> <td>M3</td> <td>1</td> <td></td> <td>2.5 GHz</td> <td>-60.10 dBm</td> <td></td> <td></td> </tr> <tr> <td>M4</td> <td>1</td> <td></td> <td>2.483513 GHz</td> <td>-51.74 dBm</td> <td></td> <td></td> </tr> </tbody> </table>			Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.454535 GHz	-4.98 dBm			M2	1		2.4835 GHz	-51.74 dBm			M3	1		2.5 GHz	-60.10 dBm			M4	1		2.483513 GHz	-51.74 dBm									
Type	Ref	Trc	X-value	Y-value	Function	Function Result																																							
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M4	1		2.483513 GHz	-51.74 dBm																																									

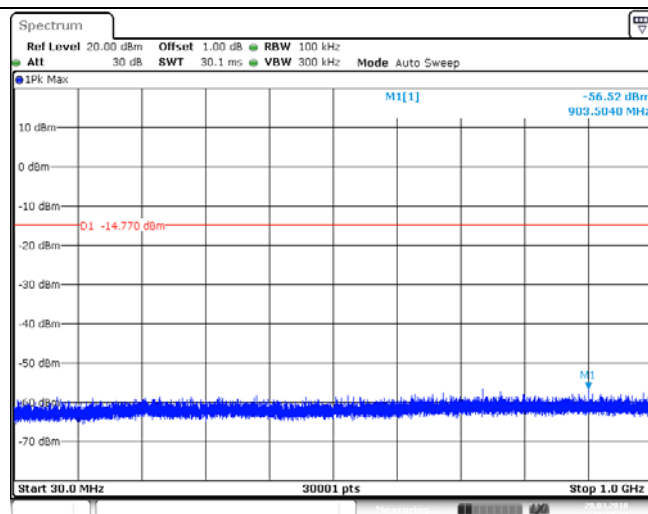
Test Item:	Bandedge	Type:	802.11n(HT40)																																										
CH03	 <p>Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 303.4 μs VBW 300 kHz Mode Auto FFT</p> <p>1PK Max</p> <p>M1[1] -7.62 dBm 2.439420 GHz M2[1] -50.74 dBm 2.400000 GHz M1</p> <p>D1 -27.620 dBm</p> <p>Start 2.31 GHz 691 pts Stop 2.442 GHz</p> <p>Marker</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-value</th> <th>Y-value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>2.43942 GHz</td> <td>-7.62 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>2.4 GHz</td> <td>-50.74 dBm</td> <td></td> <td></td> </tr> <tr> <td>M3</td> <td>1</td> <td></td> <td>2.39 GHz</td> <td>-56.60 dBm</td> <td></td> <td></td> </tr> <tr> <td>M4</td> <td>1</td> <td></td> <td>2.31 GHz</td> <td>-50.27 dBm</td> <td></td> <td></td> </tr> <tr> <td>M5</td> <td>1</td> <td></td> <td>2.399148 GHz</td> <td>-49.78 dBm</td> <td></td> <td></td> </tr> </tbody> </table>			Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.43942 GHz	-7.62 dBm			M2	1		2.4 GHz	-50.74 dBm			M3	1		2.39 GHz	-56.60 dBm			M4	1		2.31 GHz	-50.27 dBm			M5	1		2.399148 GHz	-49.78 dBm		
Type	Ref	Trc	X-value	Y-value	Function	Function Result																																							
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M3	1		2.39 GHz	-56.60 dBm																																									
M4	1		2.31 GHz	-50.27 dBm																																									
M5	1		2.399148 GHz	-49.78 dBm																																									
CH09	 <p>Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 1.1 ms VBW 300 kHz Mode Auto Sweep</p> <p>1PK Max</p> <p>M1[1] -7.80 dBm 2.447007 GHz M2[1] -55.26 dBm 2.483500 GHz M1</p> <p>D1 -27.800 dBm</p> <p>Start 2.432 GHz 691 pts Stop 2.5 GHz</p> <p>Marker</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-value</th> <th>Y-value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>2.447007 GHz</td> <td>-7.80 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>2.4835 GHz</td> <td>-55.26 dBm</td> <td></td> <td></td> </tr> <tr> <td>M3</td> <td>1</td> <td></td> <td>2.5 GHz</td> <td>-57.12 dBm</td> <td></td> <td></td> </tr> <tr> <td>M4</td> <td>1</td> <td></td> <td>2.4845275 GHz</td> <td>-52.55 dBm</td> <td></td> <td></td> </tr> </tbody> </table>			Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.447007 GHz	-7.80 dBm			M2	1		2.4835 GHz	-55.26 dBm			M3	1		2.5 GHz	-57.12 dBm			M4	1		2.4845275 GHz	-52.55 dBm									
Type	Ref	Trc	X-value	Y-value	Function	Function Result																																							
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M3	1		2.5 GHz	-57.12 dBm																																									
M4	1		2.4845275 GHz	-52.55 dBm																																									

Test Item:	SE	Type:	802.11b
<p>CH01 Reference level</p>			
<p>CH01 30MHz~1000MHz</p>			
<p>CH01 1GHz~26GHz</p>			

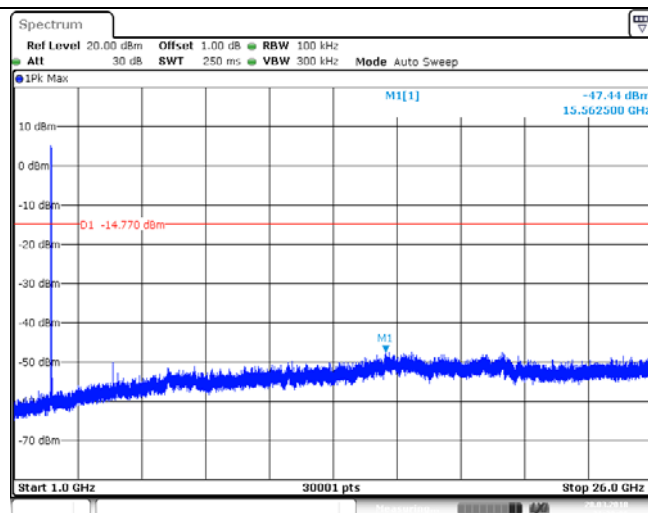
CH06
Reference level

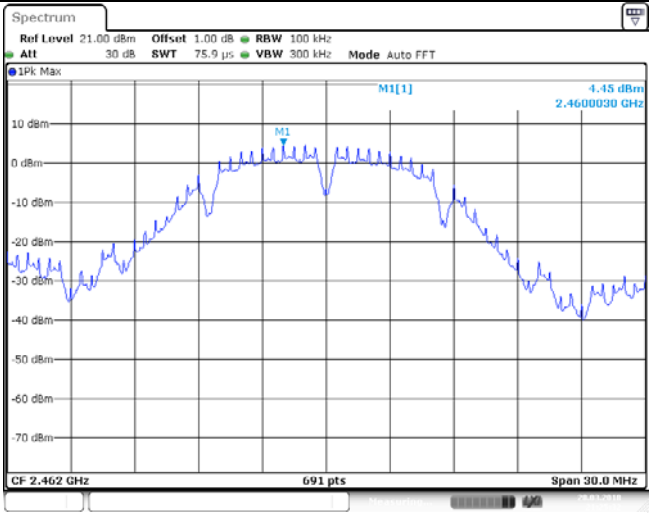
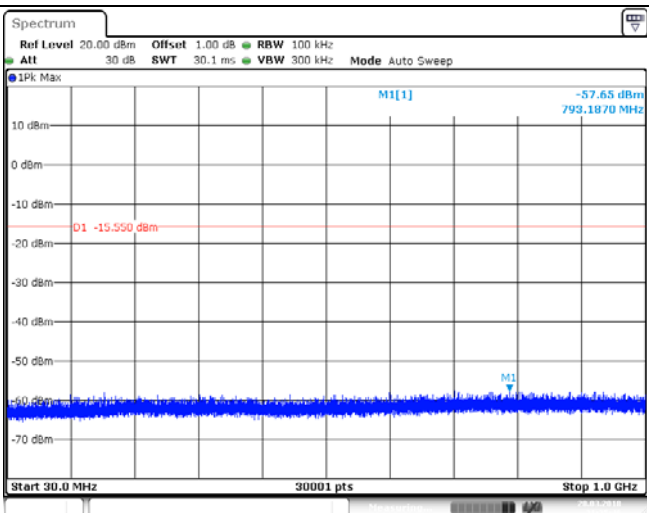
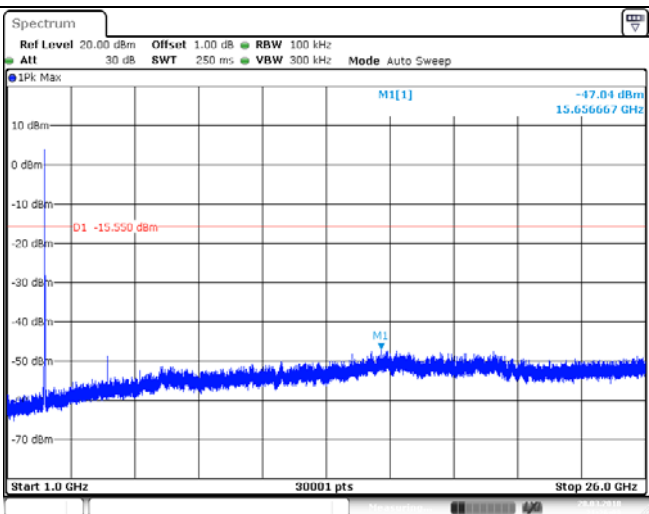


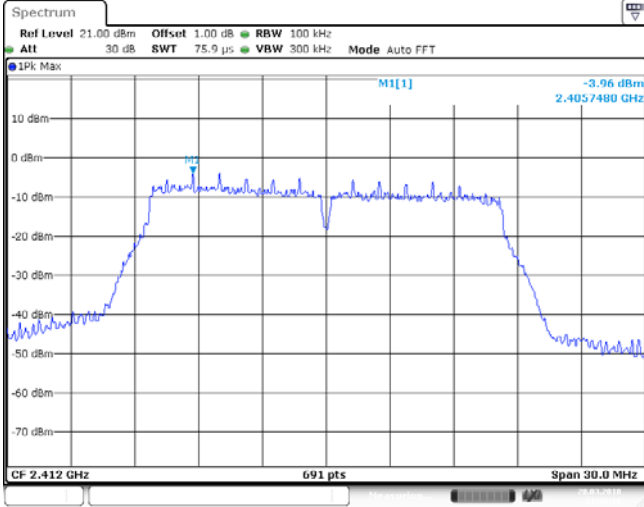
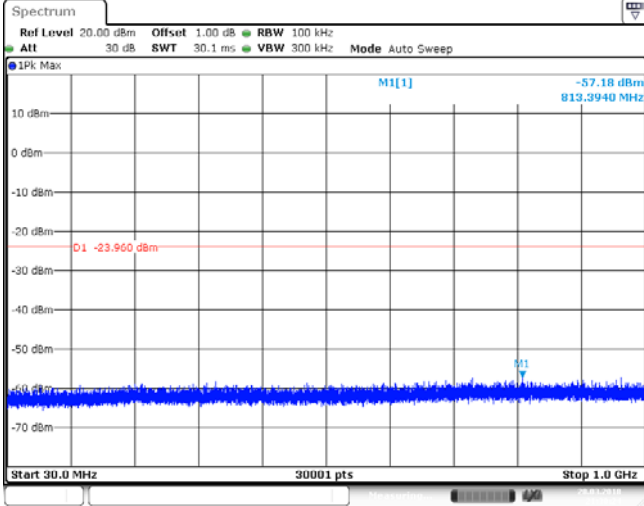
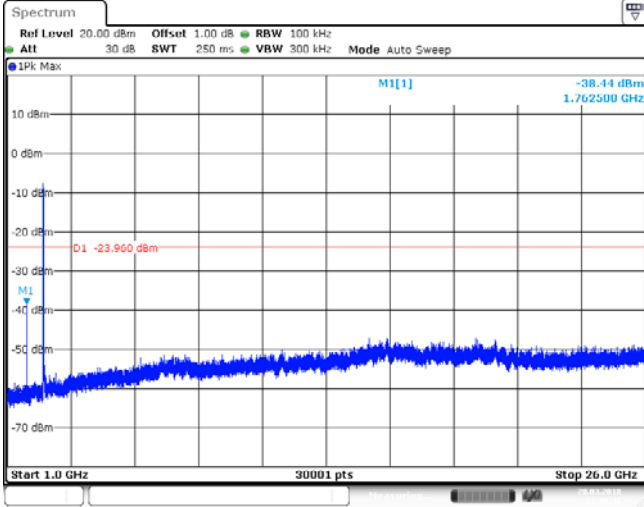
CH06
30MHz~1000MHz



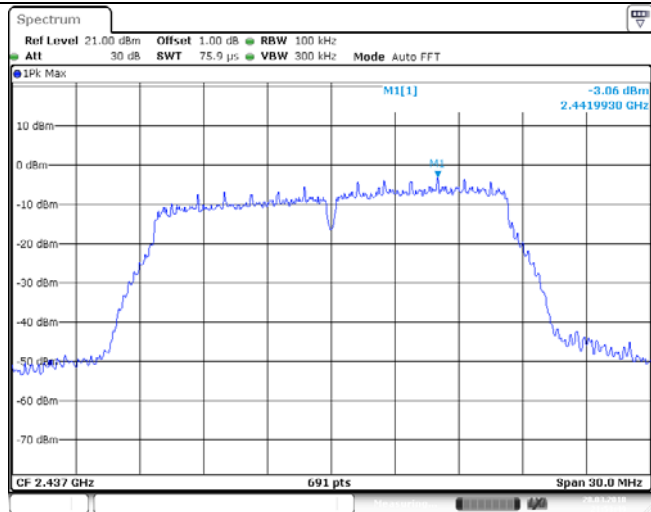
CH06
1GHz~26GHz



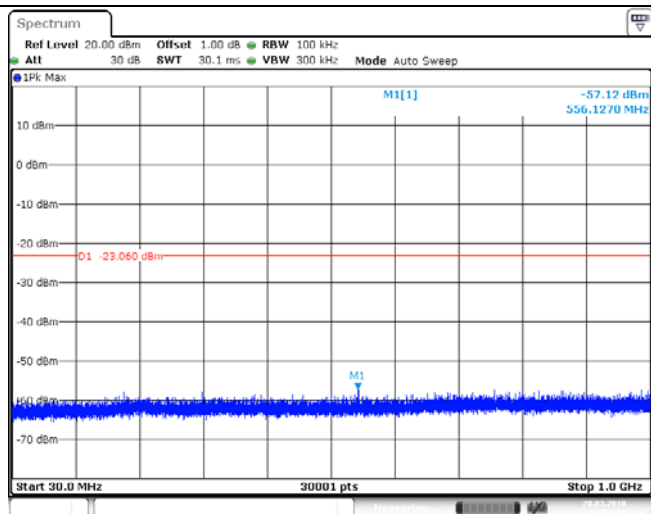
<p>CH11 Reference level</p>	 <p>Spectrum Ref Level 21.00 dBm Offset 1.00 dB RBW 100 kHz Alt 30 dB SWT 75.9 μs VBW 300 kHz Mode Auto FFT IPk Max M1[1] 4.45 dBm 2.4600030 GHz CF 2.462 GHz 691 pts Span 30.0 MHz</p>
<p>CH11 30MHz~1000MHz</p>	 <p>Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Alt 30 dB SWT 30.1 ms VBW 300 kHz Mode Auto Sweep IPk Max M1[1] -57.65 dBm 793.1870 MHz D1 -15.550 dBm Start 30.0 MHz 30001 pts Stop 1.0 GHz</p>
<p>CH11 1GHz~26GHz</p>	 <p>Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Alt 30 dB SWT 250 ms VBW 300 kHz Mode Auto Sweep IPk Max M1[1] -47.04 dBm 15.656667 GHz D1 -15.550 dBm Start 1.0 GHz 30001 pts Stop 26.0 GHz</p>

Test Item:	SE	Type:	802.11g
<p>CH01 Reference level</p>			
<p>CH01 30MHz~1000MHz</p>			
<p>CH01 1GHz~26GHz</p>			

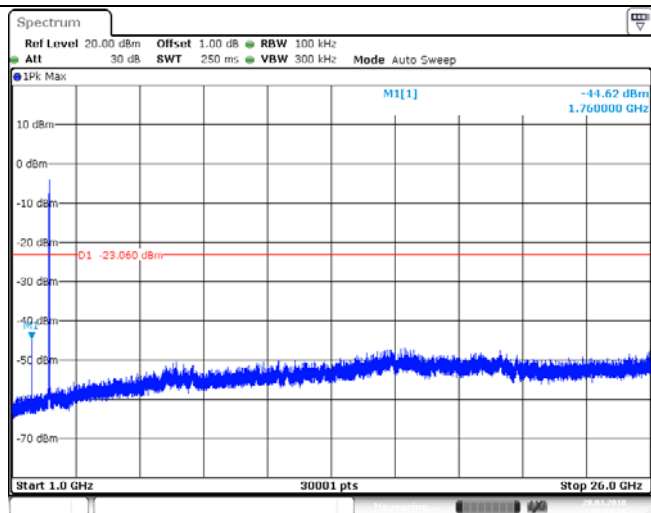
CH06
Reference level



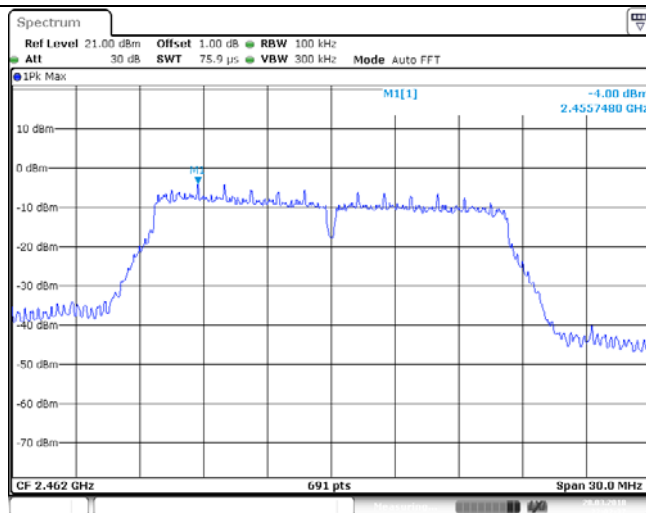
CH06
30MHz~1000MHz



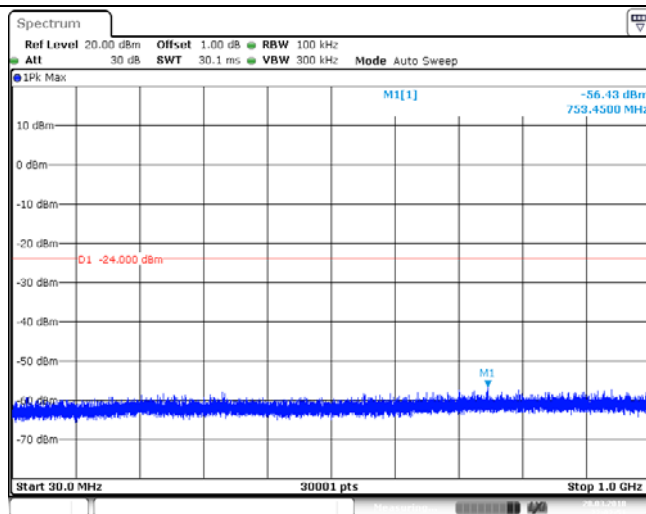
CH06
1GHz~26GHz



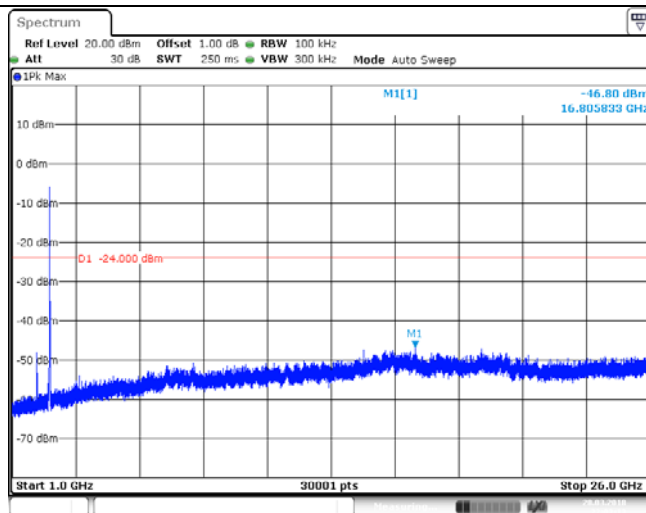
CH11
Reference level

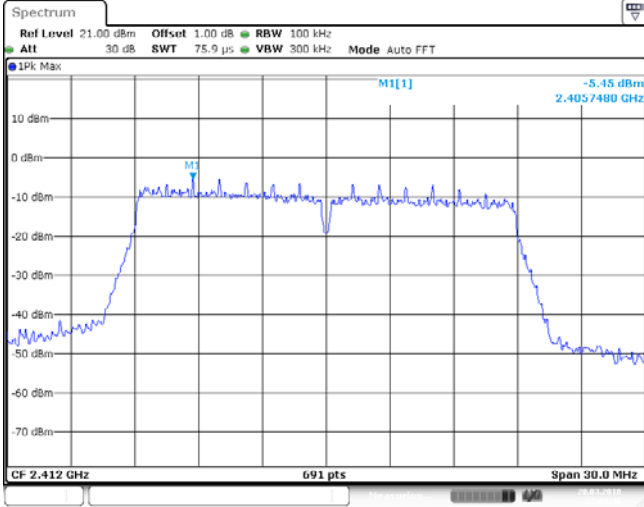
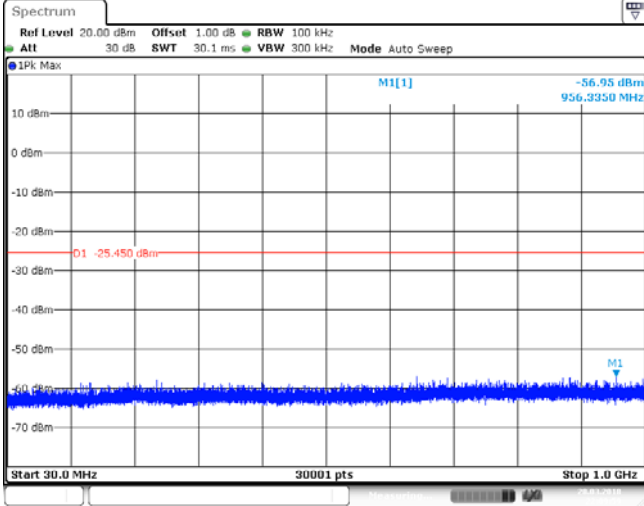
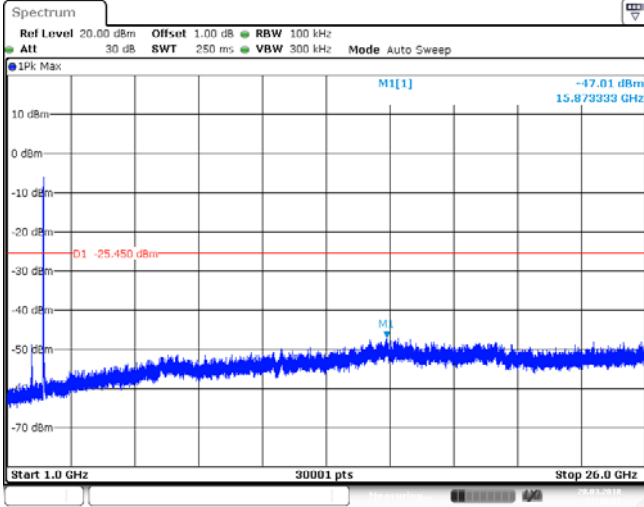


CH11
30MHz~1000MHz

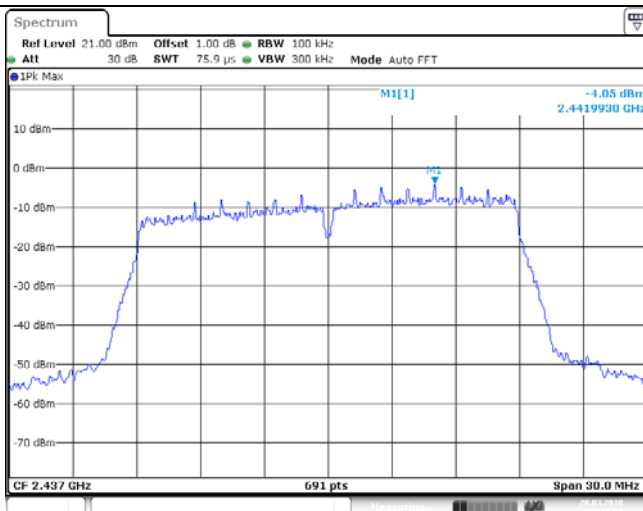


CH11
1GHz~26GHz

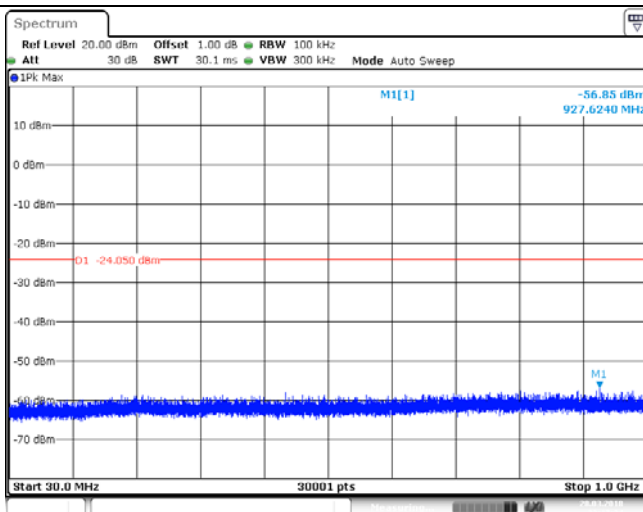


Test Item:	SE	Type:	802.11n(HT20)
CH01 Reference level			
CH01 30MHz~1000MHz			
CH01 1GHz~26GHz			

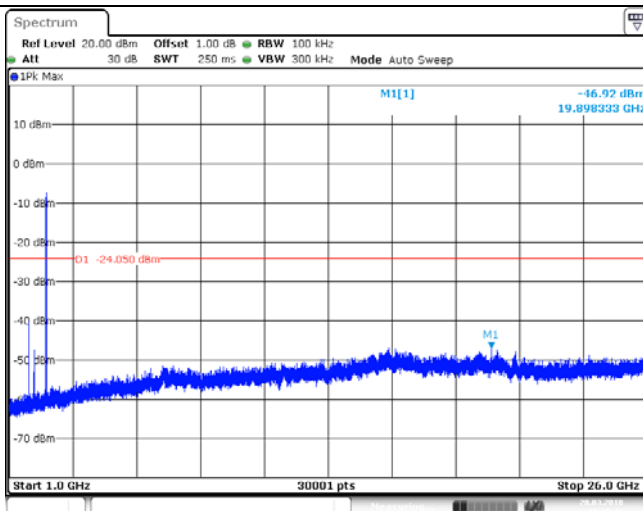
CH06
Reference level



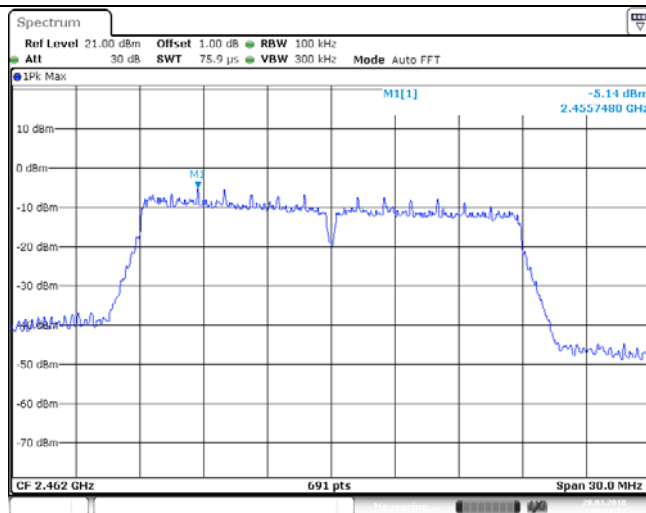
CH06
30MHz~1000MHz



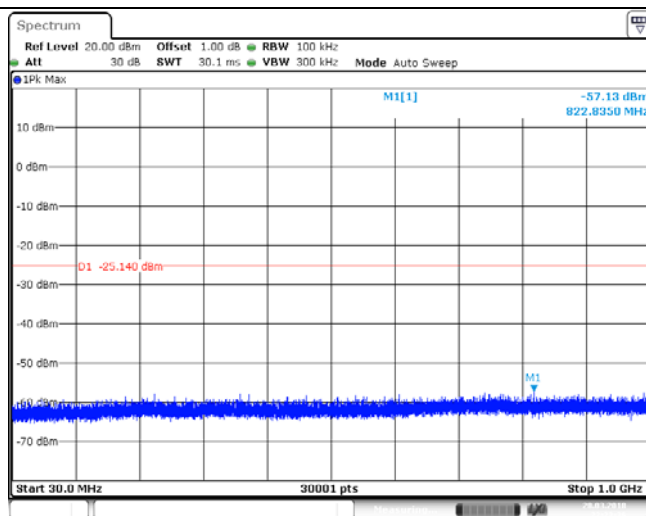
CH06
1GHz~26GHz



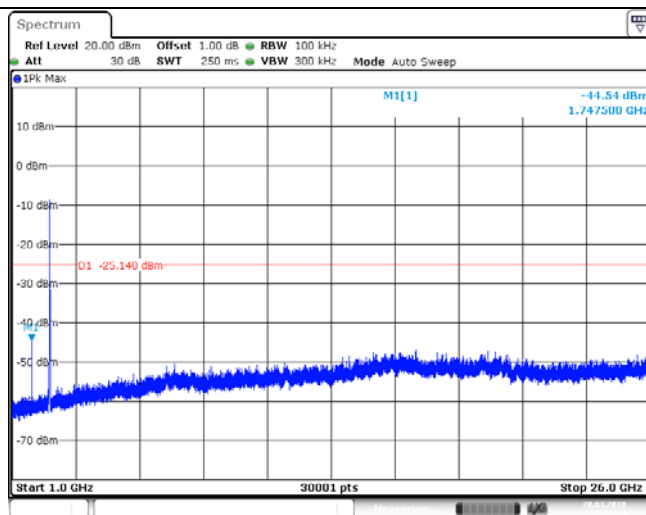
CH11
Reference level

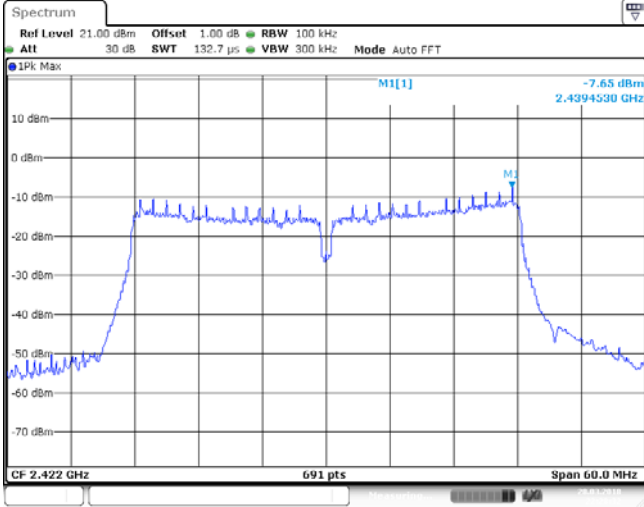
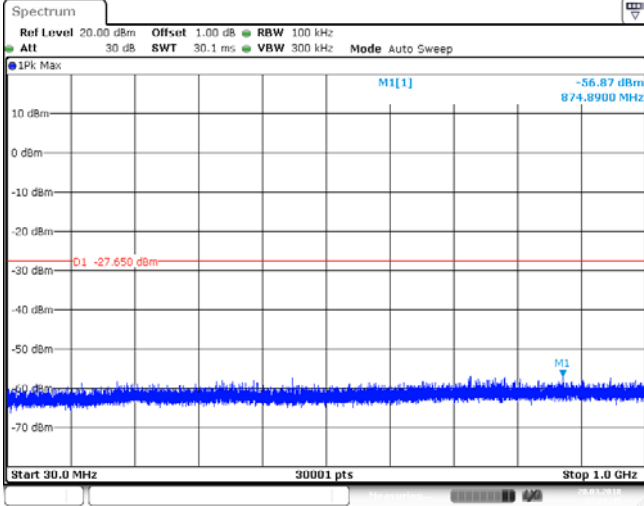
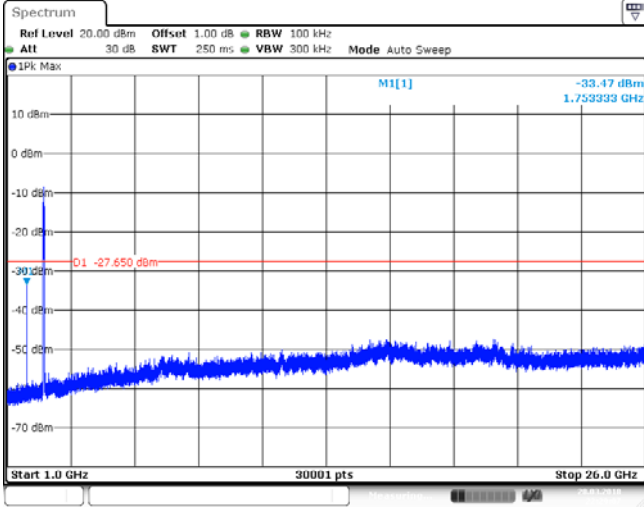


CH11
30MHz~1000MHz

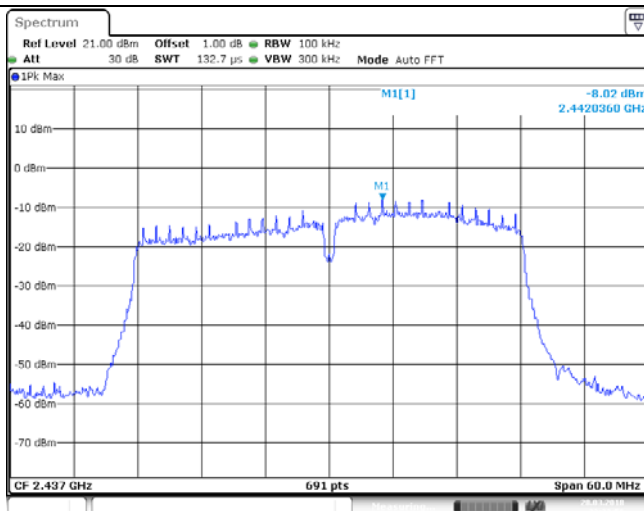


CH11
1GHz~26GHz

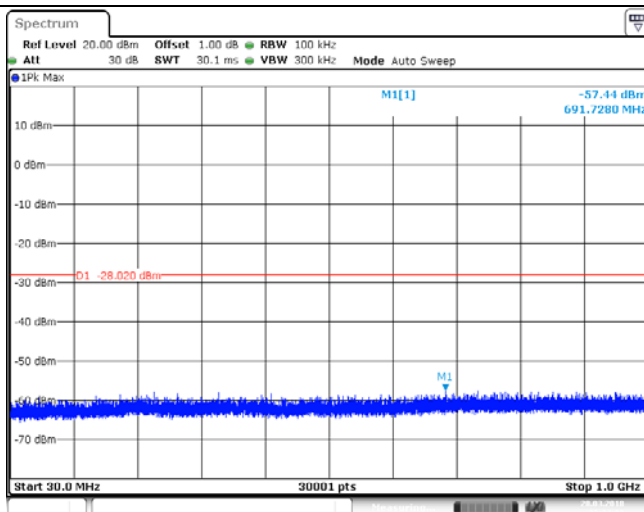


Test Item:	SE	Type:	802.11n(HT40)
<p>CH03 Reference level</p>			
<p>CH03 30MHz~1000MHz</p>			
<p>CH03 1GHz~26GHz</p>			

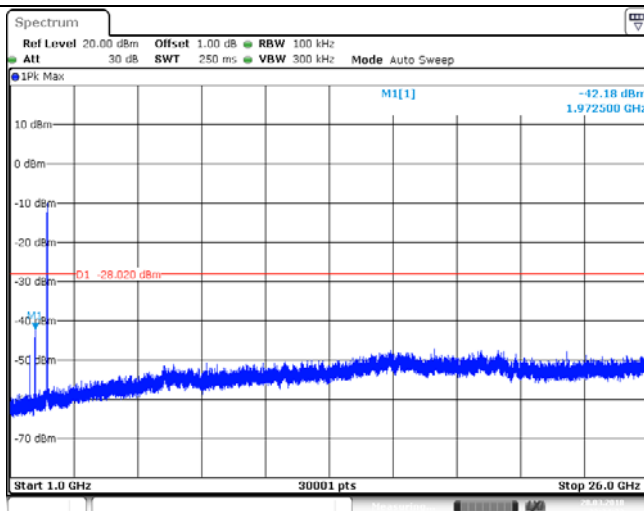
CH06
Reference level



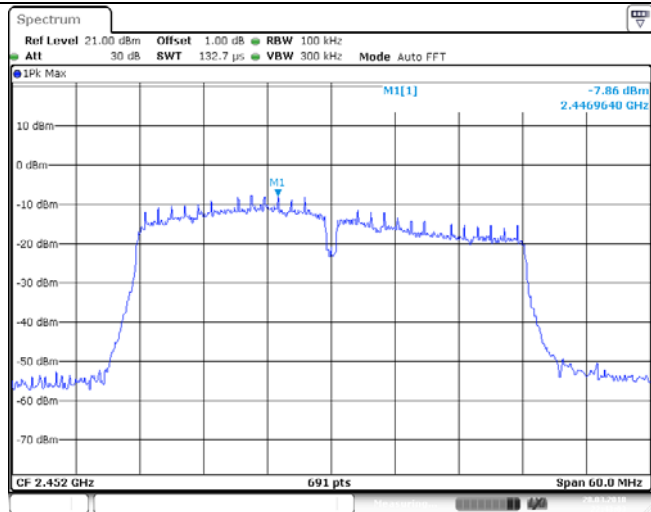
CH06
30MHz~1000MHz



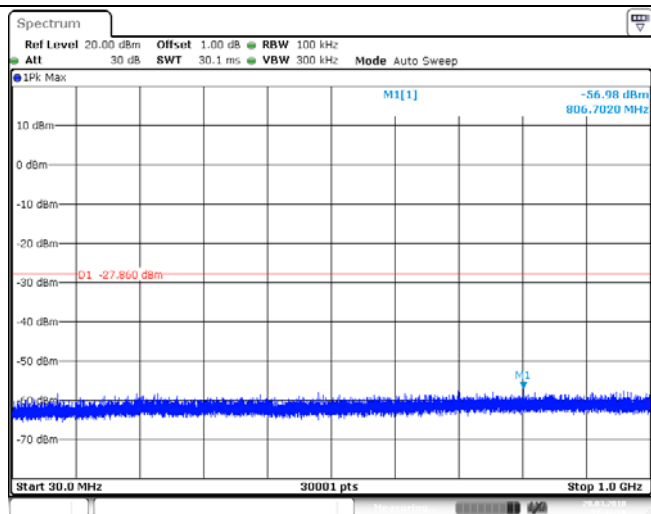
CH06
1GHz~26GHz



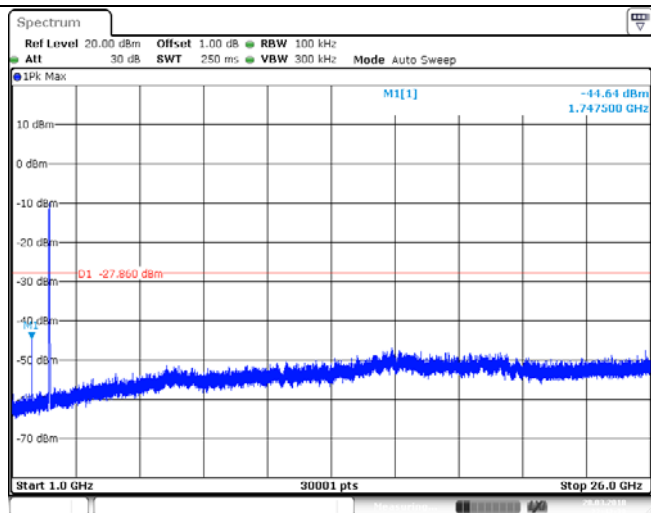
CH09
Reference level



CH09
30MHz~1000MHz



CH09
1GHz~26GHz



5.8. Spurious Emissions (radiated)

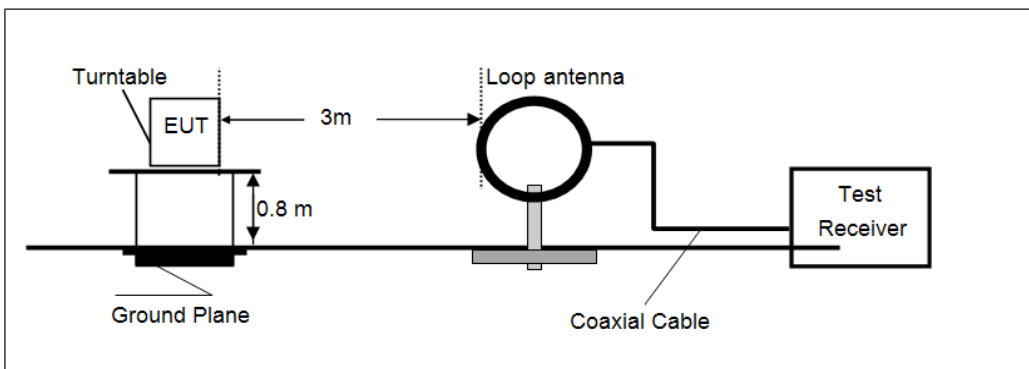
LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.209

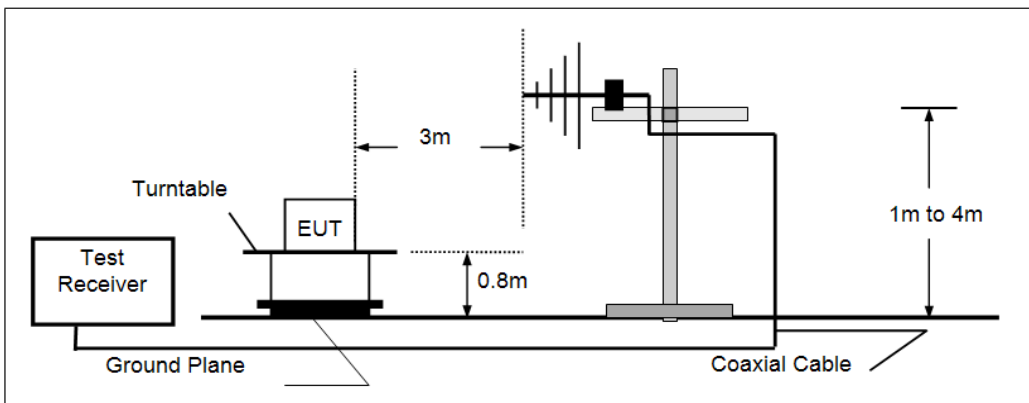
Frequency	Limit (dBuV/m @3m)	Value
30MHz-88MHz	40.00	Quasi-peak
88MHz-216MHz	43.50	Quasi-peak
216MHz-960MHz	46.00	Quasi-peak
960MHz-1GHz	54.00	Quasi-peak
Above 1GHz	54.00	Average
	74.00	Peak

TEST CONFIGURATION

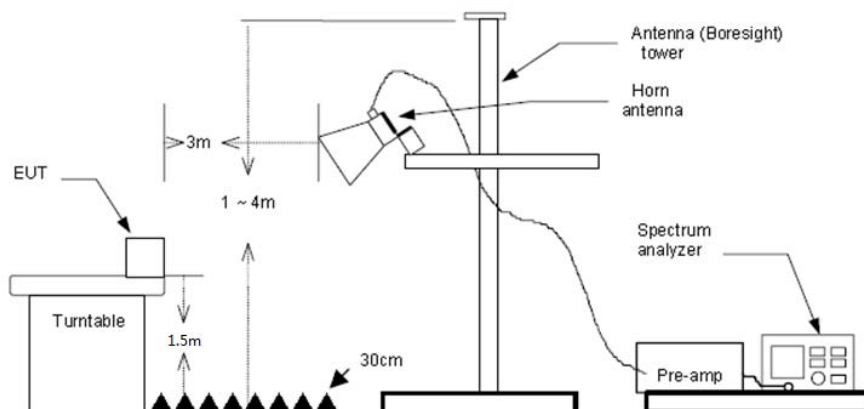
➤ 9kHz ~30MHz



➤ 30MHz ~ 1GHz



➤ Above 1GHz



TEST PROCEDURE

1. The EUT was setup and tested according to ANSI C63.10:2013 for compliance to FCC 47CFR 15.247 requirements.
2. The EUT is placed on a turn table which is 0.8 meter above ground for below 1 GHz, and 1.5 m for above 1 GHz. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
3. The EUT was set 3 meters from the receiving antenna, which was mounted on the top of a variable height antenna tower.
4. For each suspected emission, the EUT was arranged to its worst case and then tune the Antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level to comply with the guidelines.
5. Set to the maximum power setting and enable the EUT transmit continuously.
6. Use the following spectrum analyzer settings
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Below 1 GHz:
RBW=120 kHz, VBW=300 kHz, Sweep=auto, Detector function=peak, Trace=max hold;
If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
 - (3) From 1 GHz to 10th harmonic:
RBW=1MHz, VBW=3MHz Peak detector for Peak value.
RBW=1MHz, VBW=3MHz RMS detector for Average value.

TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

Passed **Not Applicable**

Note:

- 1) Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
- 2) The emission levels of other frequencies are very lower than the limit and not show in test report.

➤ **9kHz ~ 30MHz**

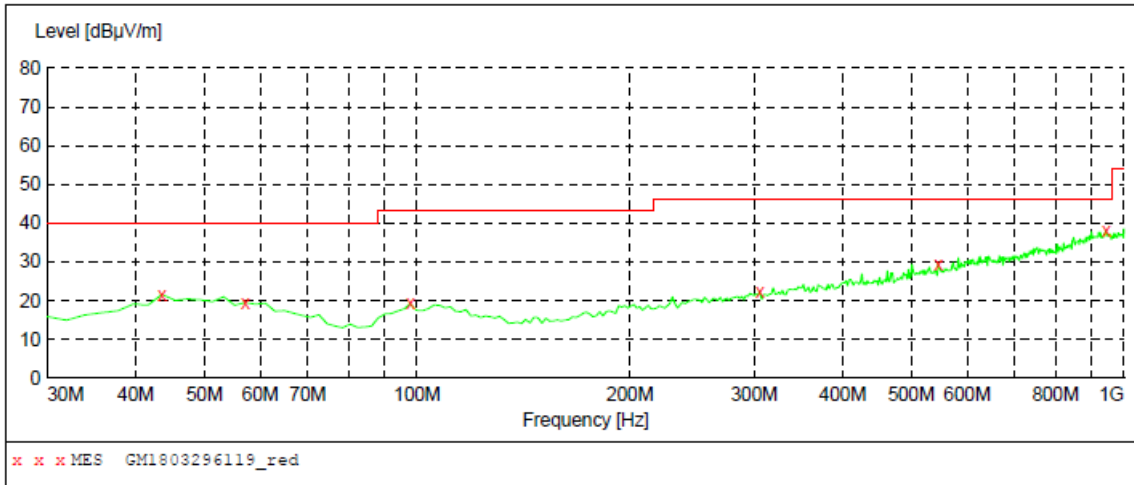
The EUT was pre-scanned the frequency band (9kHz~30MHz), found the radiated level lower than the limit, so don't show on the report.

➤ **30MHz ~1000MHz**

Have pre-scan all modulation mode, found the 802.11b mode CH01 which it was worst case, so only the worst case's data on the test report.

➤ 30MHz ~ 1GHz

Polarization: Vertical

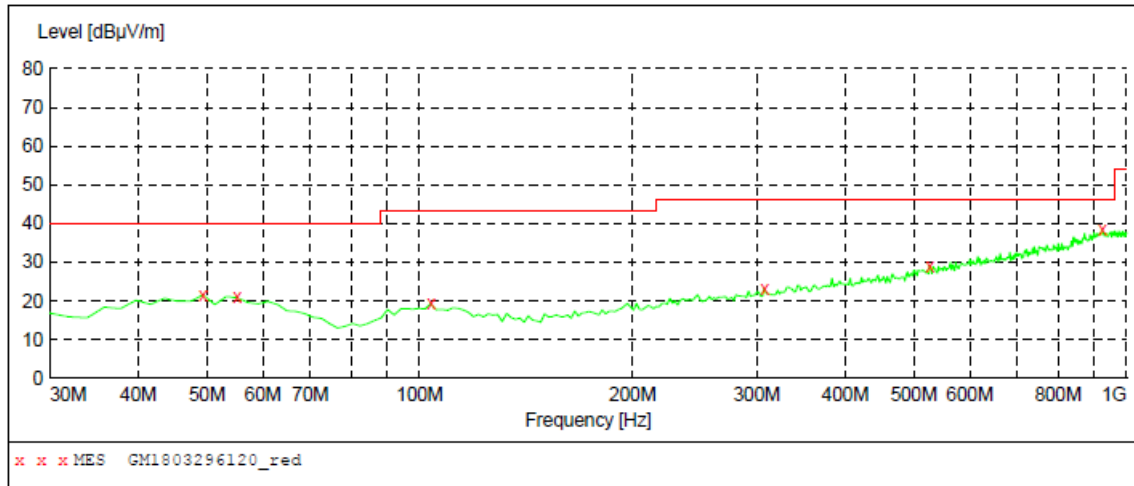


MEASUREMENT RESULT: "GM1803296119_red"

3/29/2018 8:58PM

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
43.580000	21.70	-9.1	40.0	18.3	QP	100.0	252.00	VERTICAL
57.160000	19.60	-9.4	40.0	20.4	QP	100.0	358.00	VERTICAL
97.900000	19.30	-10.8	43.5	24.2	QP	100.0	239.00	VERTICAL
305.480000	22.30	-7.2	46.0	23.7	QP	100.0	144.00	VERTICAL
546.040000	29.40	-0.8	46.0	16.6	QP	100.0	62.00	VERTICAL
943.740000	38.00	7.2	46.0	8.0	QP	100.0	34.00	VERTICAL

Polarization: Horizontal



MEASUREMENT RESULT: "GM1803296120_red"

3/29/2018 9:02PM

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
49.400000	21.60	-8.7	40.0	18.4	QP	100.0	359.00	HORIZONTAL
55.220000	20.90	-9.2	40.0	19.1	QP	100.0	73.00	HORIZONTAL
103.720000	19.30	-10.5	43.5	24.2	QP	100.0	247.00	HORIZONTAL
307.420000	23.20	-7.1	46.0	22.8	QP	300.0	23.00	HORIZONTAL
526.640000	29.10	-1.2	46.0	16.9	QP	100.0	45.00	HORIZONTAL
924.340000	38.30	7.0	46.0	7.7	QP	300.0	63.00	HORIZONTAL

➤ 1 GHz ~ 25 GHz

802.11b					CH01				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
1737.38	36.72	25.28	5.84	37.01	30.83	74.00	-43.17	Vertical	Peak
3903.44	35.65	29.70	8.64	38.17	35.82	74.00	-38.18	Vertical	Peak
4821.76	38.30	31.56	9.55	36.90	42.51	74.00	-31.49	Vertical	Peak
6628.18	31.75	34.20	11.39	35.31	42.03	74.00	-31.97	Vertical	Peak
1244.73	36.55	26.25	4.74	36.55	30.99	74.00	-43.01	Horizontal	Peak
3893.52	35.47	29.69	8.63	38.17	35.62	74.00	-38.38	Horizontal	Peak
4772.91	34.46	31.49	9.53	37.00	38.48	74.00	-35.52	Horizontal	Peak
6494.56	32.44	33.96	11.16	35.33	42.23	74.00	-31.77	Horizontal	Peak

802.11b					CH06				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
1715.41	36.67	25.23	5.80	36.96	30.74	74.00	-43.26	Vertical	Peak
3913.39	35.60	29.70	8.66	38.16	35.80	74.00	-38.20	Vertical	Peak
4871.10	38.78	31.46	9.59	36.76	43.07	74.00	-30.93	Vertical	Peak
6283.16	32.86	33.07	11.00	35.30	41.63	74.00	-32.37	Vertical	Peak
1741.81	35.79	25.29	5.85	37.02	29.91	74.00	-44.09	Horizontal	Peak
4321.84	35.38	30.27	9.06	37.60	37.11	74.00	-36.89	Horizontal	Peak
4871.10	36.20	31.46	9.59	36.76	40.49	74.00	-33.51	Horizontal	Peak
8042.90	32.04	37.06	12.40	34.53	46.97	74.00	-27.03	Horizontal	Peak

802.11b					CH11				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
1316.42	35.47	26.15	4.86	36.51	29.97	74.00	-44.03	Vertical	Peak
2577.80	45.19	27.67	6.89	37.85	41.90	74.00	-32.10	Vertical	Peak
3728.63	35.78	29.39	8.42	38.24	35.35	74.00	-38.65	Vertical	Peak
6577.75	31.78	34.16	11.32	35.35	41.91	74.00	-32.09	Vertical	Peak
1737.38	34.91	25.28	5.84	37.01	29.02	74.00	-44.98	Horizontal	Peak
3844.28	34.56	29.64	8.56	38.20	34.56	74.00	-39.44	Horizontal	Peak
4821.76	33.90	31.56	9.55	36.90	38.11	74.00	-35.89	Horizontal	Peak
7470.56	33.33	36.16	12.30	34.88	46.91	74.00	-27.09	Horizontal	Peak

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. The peak level is lower than average limit(54 dBuV/m), this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies(test frequency band is 1GHz to 25GHz) are very lower than the limit and not show in test report.

802.11g					CH01				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
1741.81	35.82	25.29	5.85	37.02	29.94	74.00	-44.06	Vertical	Peak
4149.35	35.51	29.95	8.90	37.77	36.59	74.00	-37.41	Vertical	Peak
5747.59	33.30	31.84	10.51	35.46	40.19	74.00	-33.81	Vertical	Peak
8022.46	32.46	37.08	12.35	34.53	47.36	74.00	-26.64	Vertical	Peak
1732.97	34.86	25.27	5.83	37.00	28.96	74.00	-45.04	Horizontal	Peak
3854.08	34.47	29.65	8.58	38.20	34.50	74.00	-39.50	Horizontal	Peak
5125.52	32.57	31.80	9.77	36.27	37.87	74.00	-36.13	Horizontal	Peak
7301.36	31.45	36.30	11.97	34.95	44.77	74.00	-29.23	Horizontal	Peak

802.11g					CH06				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
1251.08	35.87	26.25	4.75	36.54	30.33	74.00	-43.67	Vertical	Peak
1764.12	40.72	25.33	5.89	37.06	34.88	74.00	-39.12	Vertical	Peak
3644.18	36.30	29.30	8.32	38.26	35.66	74.00	-38.34	Vertical	Peak
6109.67	32.58	32.54	10.86	35.36	40.62	74.00	-33.38	Vertical	Peak
1755.16	35.02	25.31	5.87	37.05	29.15	74.00	-44.85	Horizontal	Peak
3507.65	35.55	29.02	8.13	38.40	34.30	74.00	-39.70	Horizontal	Peak
4321.84	34.66	30.27	9.06	37.60	36.39	74.00	-37.61	Horizontal	Peak
6544.35	33.18	34.09	11.26	35.35	43.18	74.00	-30.82	Horizontal	Peak

802.11g					CH11				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
1899.28	38.75	25.30	6.11	37.22	32.94	74.00	-41.06	Vertical	Peak
3653.46	35.50	29.30	8.33	38.26	34.87	74.00	-39.13	Vertical	Peak
5762.24	32.48	31.91	10.53	35.42	39.50	74.00	-34.50	Vertical	Peak
7027.82	32.73	35.38	11.85	34.83	45.13	74.00	-28.87	Vertical	Peak
1904.12	35.49	25.34	6.12	37.22	29.73	74.00	-44.27	Horizontal	Peak
3700.26	35.33	29.30	8.39	38.25	34.77	74.00	-39.23	Horizontal	Peak
5138.58	33.06	31.74	9.78	36.26	38.32	74.00	-35.68	Horizontal	Peak
7357.33	32.02	36.30	12.03	34.88	45.47	74.00	-28.53	Horizontal	Peak

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. The peak level is lower than average limit(54 dBuV/m), this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies(test frequency band is 1GHz to 25GHz) are very lower than the limit and not show in test report.

802.11n(HT20)					CH01				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
1638.59	36.50	25.02	5.65	36.80	30.37	74.00	-43.63	Vertical	Peak
3184.25	37.49	28.80	7.70	38.20	35.79	74.00	-38.21	Vertical	Peak
5151.68	34.15	31.69	9.79	36.25	39.38	74.00	-34.62	Vertical	Peak
7489.60	33.42	36.12	12.36	34.89	47.01	74.00	-26.99	Vertical	Peak
1894.45	34.49	25.31	6.11	37.22	28.69	74.00	-45.31	Horizontal	Peak
3225.04	35.48	28.65	7.75	38.24	33.64	74.00	-40.36	Horizontal	Peak
4748.67	32.72	31.40	9.52	37.03	36.61	74.00	-37.39	Horizontal	Peak
5747.59	33.43	31.84	10.51	35.46	40.32	74.00	-33.68	Horizontal	Peak

802.11n(HT20)					CH06				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
1715.41	35.25	25.23	5.80	36.96	29.32	74.00	-44.68	Vertical	Peak
3225.04	36.07	28.65	7.75	38.24	34.23	74.00	-39.77	Vertical	Peak
4883.52	35.48	31.43	9.59	36.73	39.77	74.00	-34.23	Vertical	Peak
7840.75	31.90	36.35	13.06	34.96	46.35	74.00	-27.65	Vertical	Peak
1899.28	44.97	25.30	6.11	37.22	39.16	74.00	-34.84	Horizontal	Peak
2590.96	37.42	27.75	6.90	37.84	34.23	74.00	-39.77	Horizontal	Peak
3662.78	35.24	29.30	8.34	38.26	34.62	74.00	-39.38	Horizontal	Peak
7045.74	31.93	35.44	11.85	34.86	44.36	74.00	-29.64	Horizontal	Peak

802.11n(HT20)					CH11				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
2179.15	34.63	27.34	6.42	37.34	31.05	74.00	-42.95	Vertical	Peak
2590.96	45.00	27.75	6.90	37.84	41.81	74.00	-32.19	Vertical	Peak
4547.56	33.59	30.80	9.37	37.32	36.44	74.00	-37.56	Vertical	Peak
7264.28	33.39	36.26	11.93	35.00	46.58	74.00	-27.42	Vertical	Peak
1251.08	35.25	26.25	4.75	36.54	29.71	74.00	-44.29	Horizontal	Peak
3507.65	34.18	29.02	8.13	38.40	32.93	74.00	-41.07	Horizontal	Peak
5560.50	32.17	31.84	10.24	36.05	38.20	74.00	-35.80	Horizontal	Peak
7470.56	32.66	36.16	12.30	34.88	46.24	74.00	-27.76	Horizontal	Peak

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. The peak level is lower than average limit(54 dBuV/m), this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies(test frequency band is 1GHz to 25GHz) are very lower than the limit and not show in test report.

802.11n(HT40)					CH03				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
1759.64	35.06	25.32	5.88	37.06	29.20	74.00	-44.80	Vertical	Peak
3570.71	35.34	29.21	8.22	38.31	34.46	74.00	-39.54	Vertical	Peak
5164.81	33.02	31.64	9.80	36.24	38.22	74.00	-35.78	Vertical	Peak
6851.19	33.00	34.36	11.66	34.94	44.08	74.00	-29.92	Vertical	Peak
1889.63	40.72	25.31	6.10	37.21	34.92	74.00	-39.08	Horizontal	Peak
3072.77	34.98	28.75	7.57	38.22	33.08	74.00	-40.92	Horizontal	Peak
5112.49	32.38	31.85	9.76	36.29	37.70	74.00	-36.30	Horizontal	Peak
7227.39	31.05	36.23	11.89	35.04	44.13	74.00	-29.87	Horizontal	Peak

802.11n(HT40)					CH06				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
1711.05	36.35	25.22	5.79	36.95	30.41	74.00	-43.59	Vertical	Peak
3489.84	37.12	28.92	8.10	38.42	35.72	74.00	-38.28	Vertical	Peak
5009.43	33.54	31.54	9.68	36.39	38.37	74.00	-35.63	Vertical	Peak
7357.33	32.32	36.30	12.03	34.88	45.77	74.00	-28.23	Vertical	Peak
1913.84	35.31	25.44	6.14	37.23	29.66	74.00	-44.34	Horizontal	Peak
2584.37	40.10	27.71	6.90	37.84	36.87	74.00	-37.13	Horizontal	Peak
4149.35	34.68	29.95	8.90	37.77	35.76	74.00	-38.24	Horizontal	Peak
6730.19	32.21	34.14	11.52	35.12	42.75	74.00	-31.25	Horizontal	Peak

802.11n(HT40)					CH09				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
1668.04	36.04	25.11	5.70	36.86	29.99	74.00	-44.01	Vertical	Peak
3135.99	35.79	28.80	7.64	38.21	34.02	74.00	-39.98	Vertical	Peak
5674.90	32.10	31.65	10.39	35.66	38.48	74.00	-35.52	Vertical	Peak
8002.06	32.75	37.10	12.30	34.53	47.62	74.00	-26.38	Vertical	Peak
1724.17	35.67	25.25	5.81	36.98	29.75	74.00	-44.25	Horizontal	Peak
3096.33	35.90	28.79	7.60	38.22	34.07	74.00	-39.93	Horizontal	Peak
4433.26	34.32	30.57	9.18	37.51	36.56	74.00	-37.44	Horizontal	Peak
7941.19	32.25	36.87	12.58	34.69	47.01	74.00	-26.99	Horizontal	Peak

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. The peak level is lower than average limit(54 dBuV/m), this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies(test frequency band is 1GHz to 25GHz) are very lower than the limit and not show in test report.

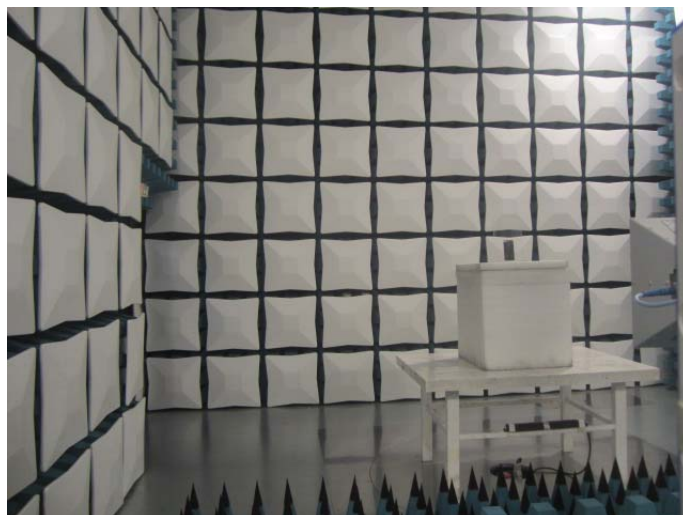
6. TEST SETUP PHOTOS

Conducted Emissions



Radiated Emissions





7. EXTERANAL AND INTERNAL PHOTOS

Reference to the test report No.: TRE1803022501.

-----End of Report-----