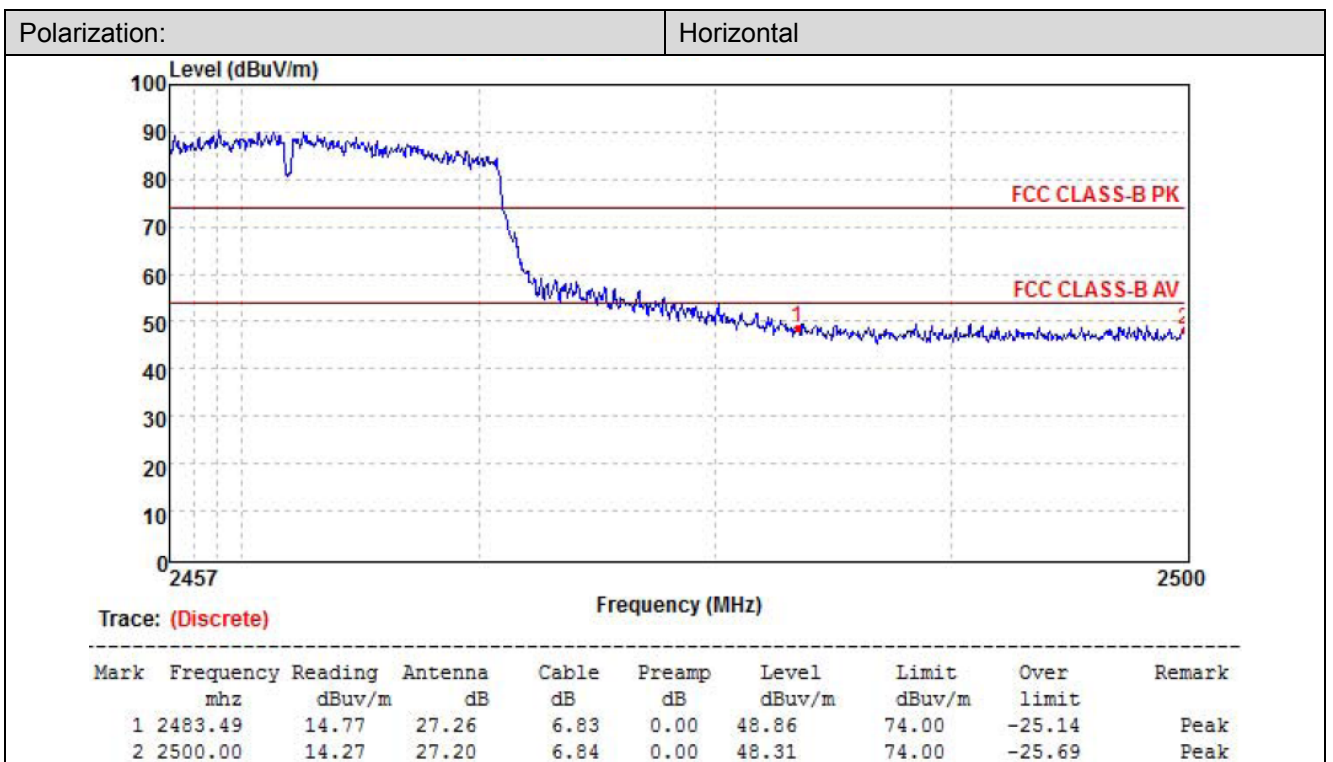
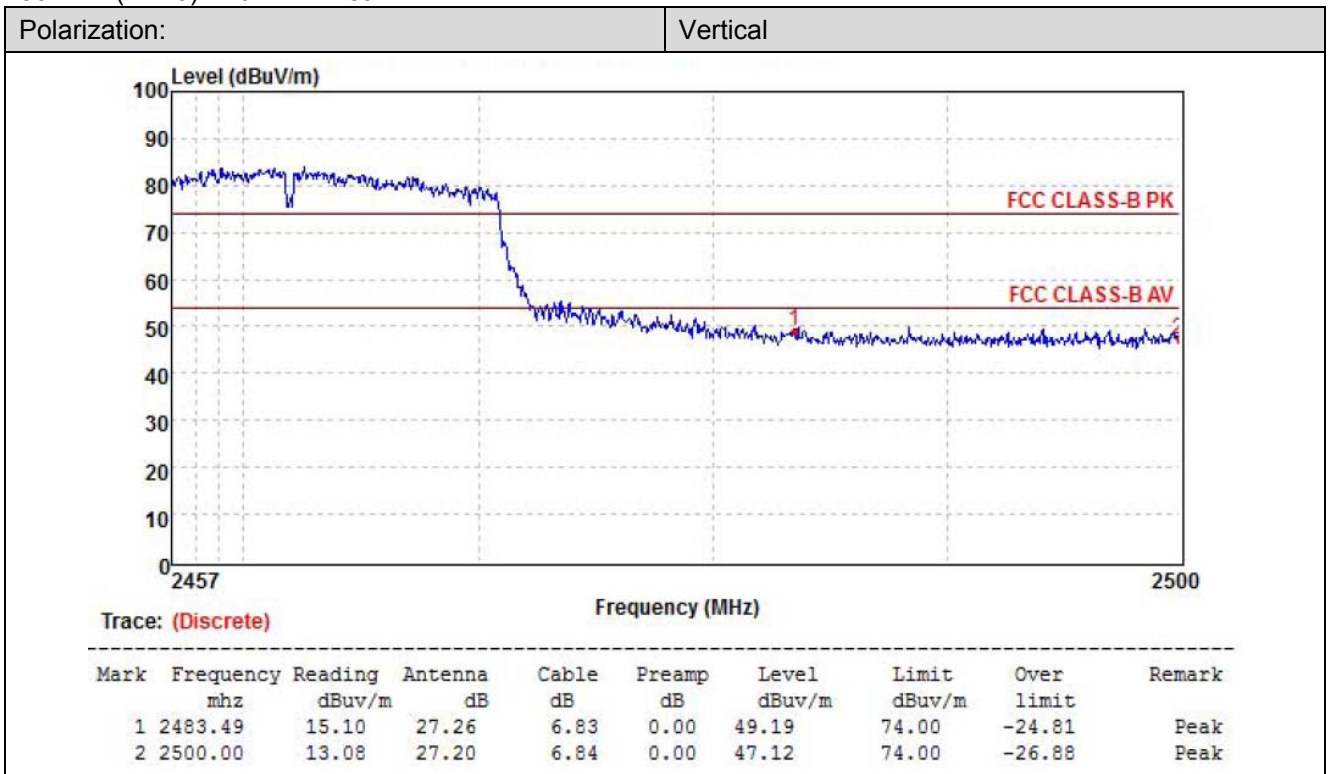
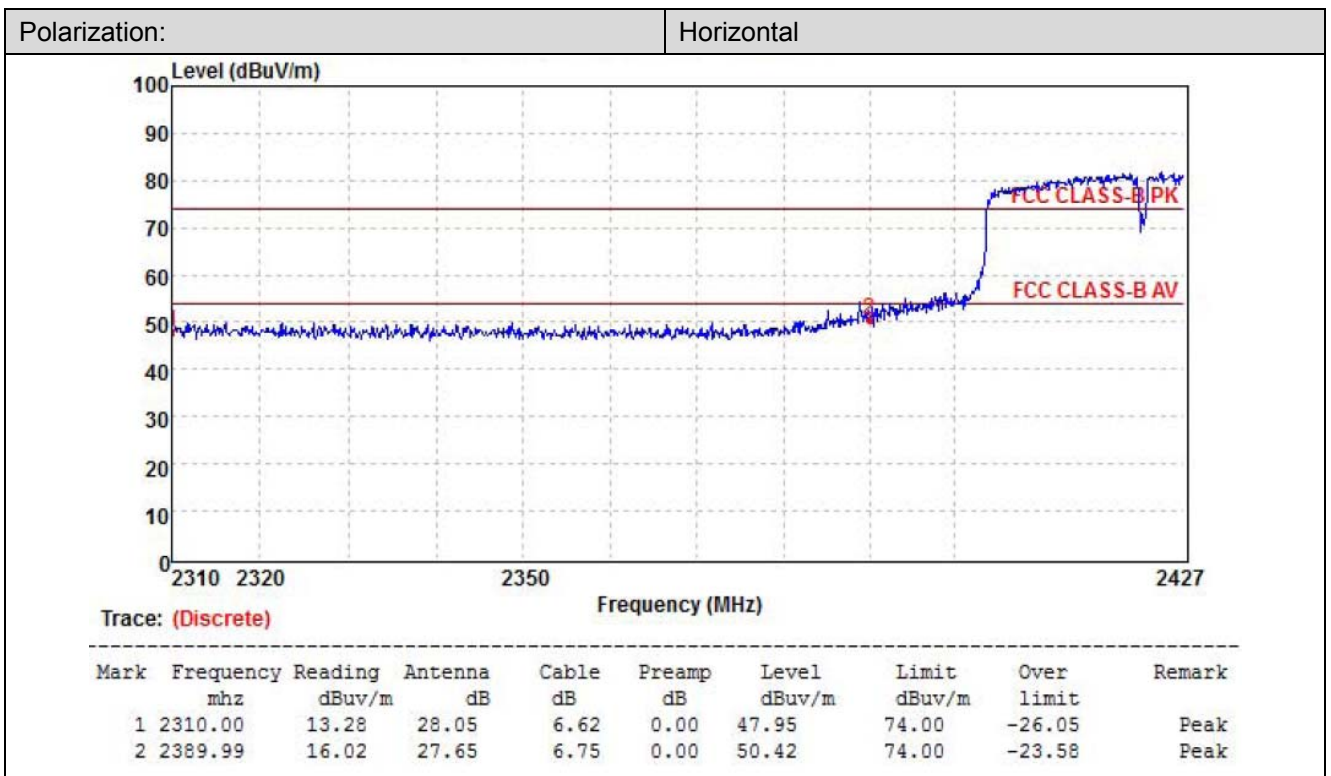
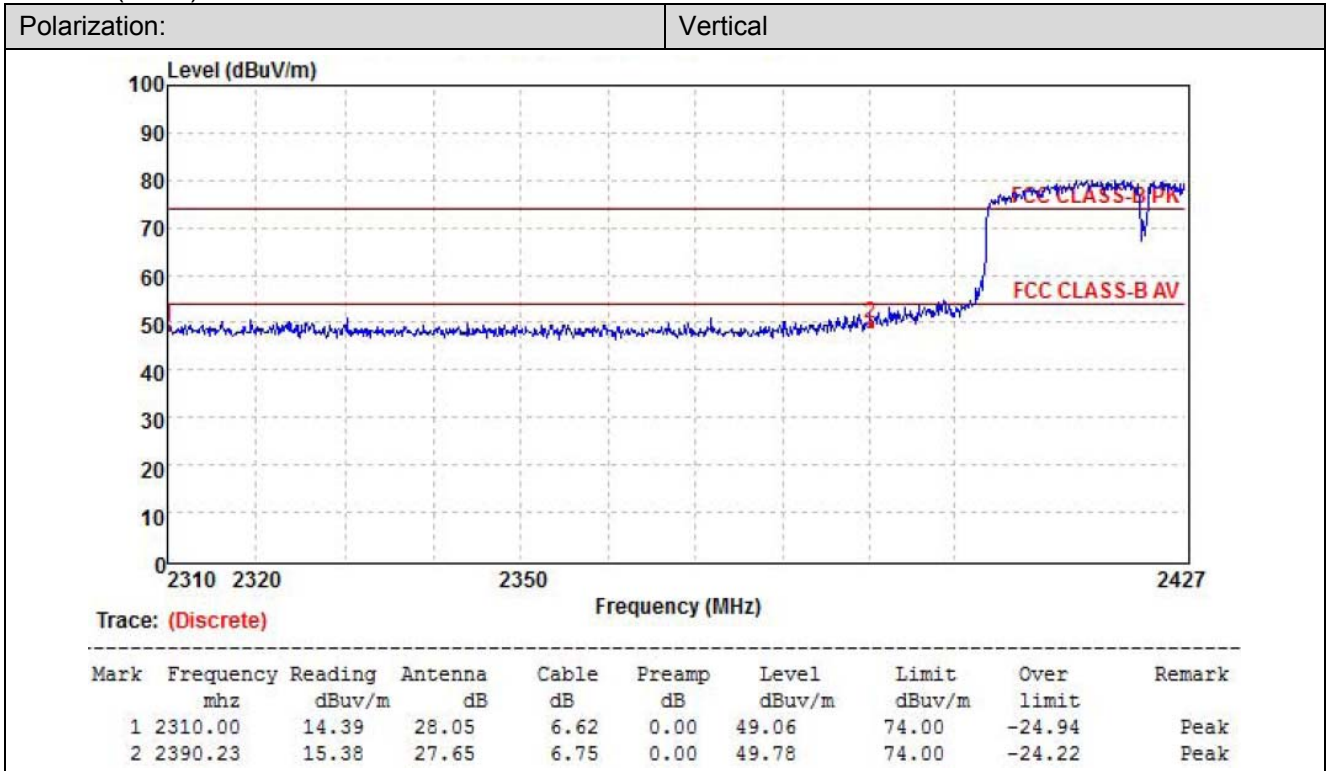


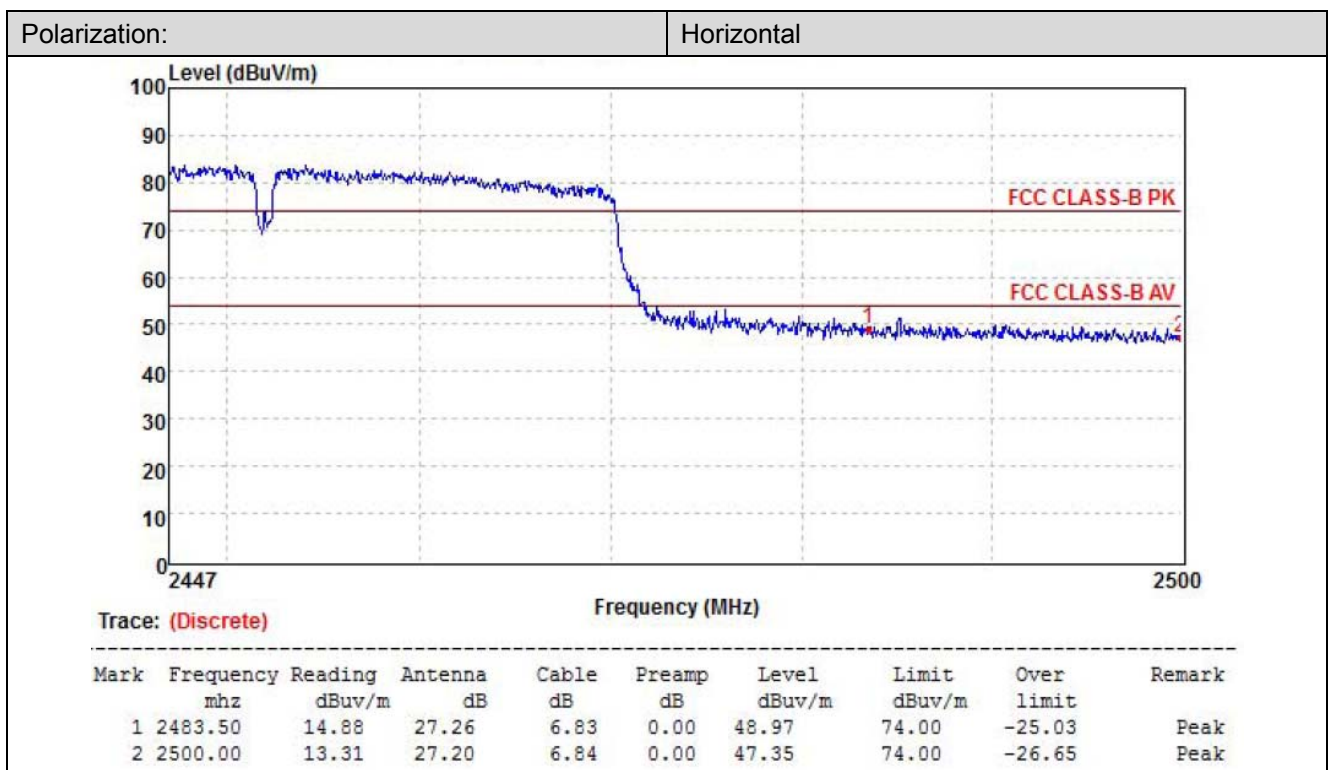
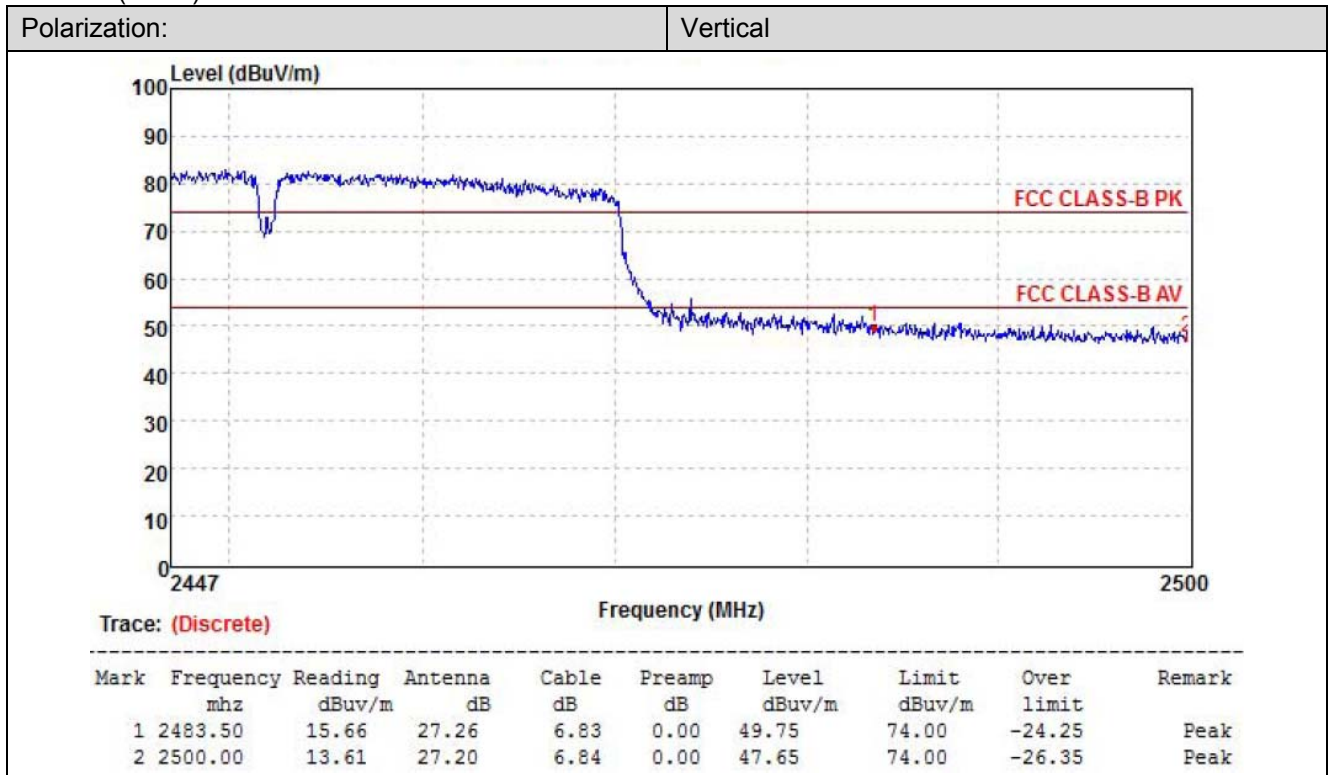
802.11n(HT20)-2462MHz Peak:



802.11n(HT40)-2422MHz Peak:



802.11n(HT40)-2452MHz Peak:

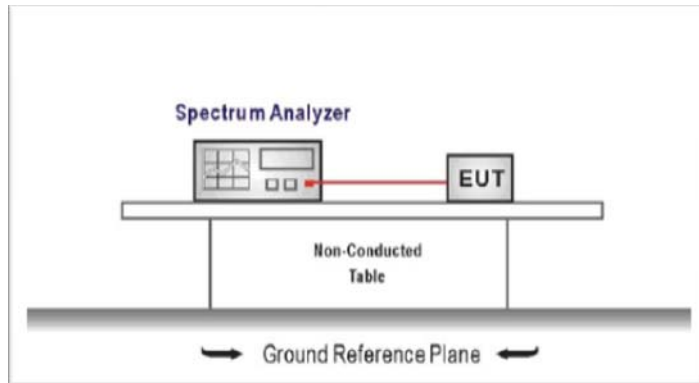


5.7. Band edge and Spurious Emissions (conducted)

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

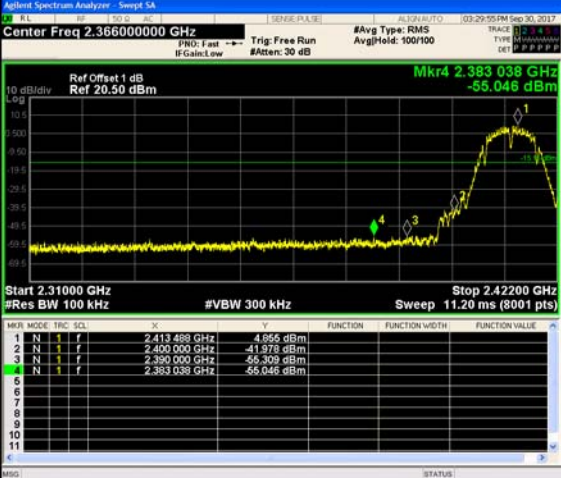

Note: the channel found to contain the maximum PSD level can be used to establish the reference level.
3. Emission level measurement
Set the center frequency and span to encompass frequency range to be measured
RBW = 100 kHz, VBW $\geq 3 \times$ RBW
Detector = peak, Sweep time = auto couple, Trace mode = 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.

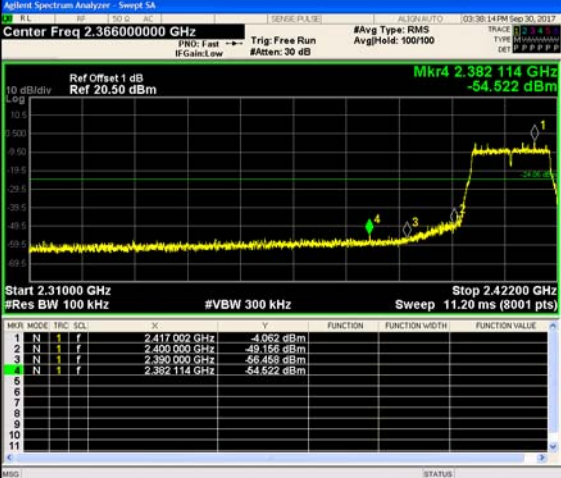
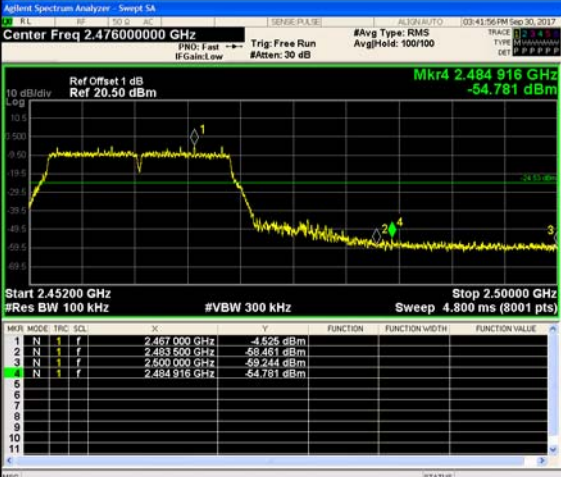
TEST MODE:

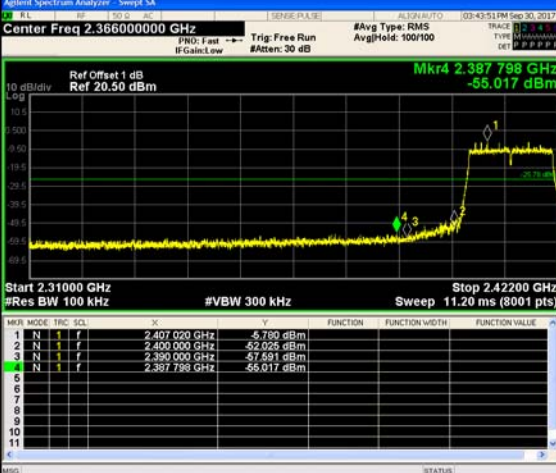
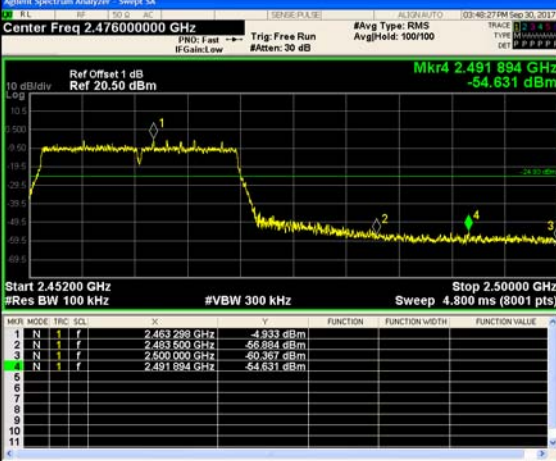
Please refer to the clause 3.3

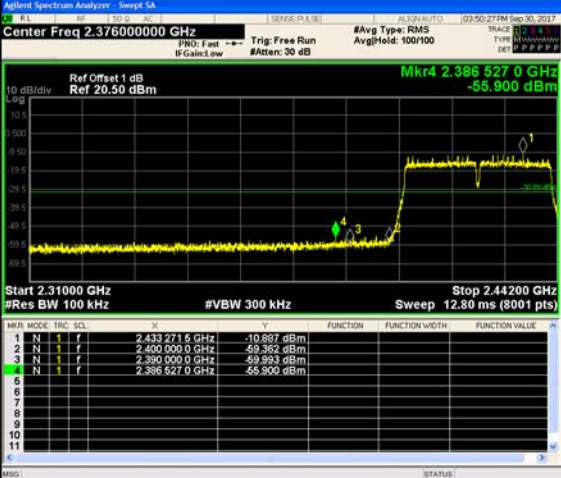
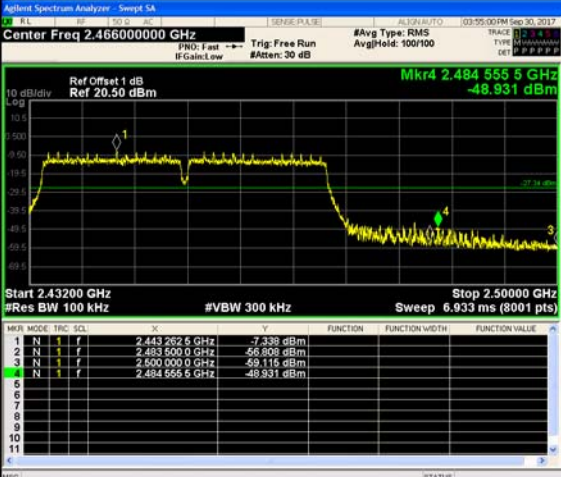
TEST RESULTS


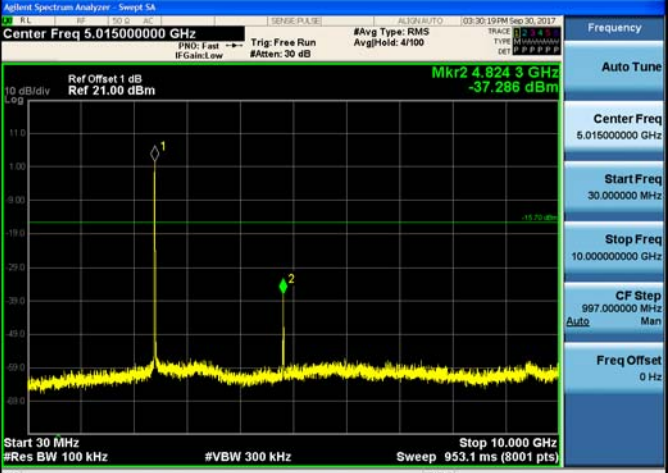

Passed Not Applicable


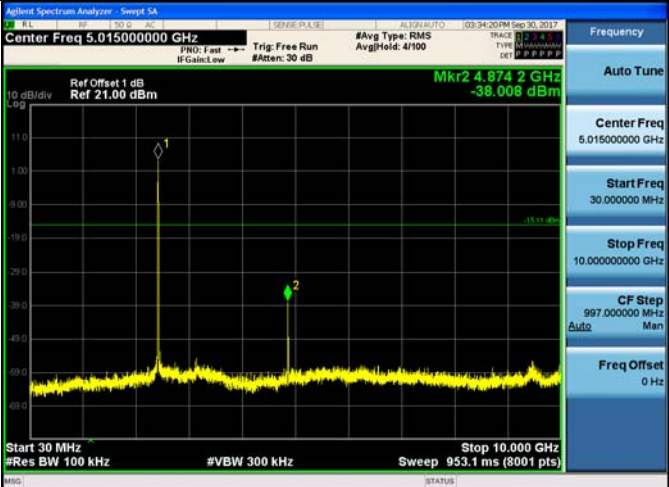

Test Item:	Bandedge	Type:	802.11 b																																								
CH01	 <table border="1" data-bbox="678 548 1241 707"> <thead> <tr> <th>MKR MODE</th> <th>TRC</th> <th>SCL</th> <th>X</th> <th>Y</th> <th>FUNCTION</th> <th>FUNCTION WIDTH</th> <th>FUNCTION VALUE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>N</td> <td>f</td> <td>2.413 488 GHz</td> <td>4.856 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>N</td> <td>f</td> <td>2.400 000 GHz</td> <td>-41.978 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>N</td> <td>f</td> <td>2.393 000 GHz</td> <td>-65.309 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td>N</td> <td>f</td> <td>2.383 038 GHz</td> <td>-55.046 dBm</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	MKR MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	f	2.413 488 GHz	4.856 dBm				2	N	f	2.400 000 GHz	-41.978 dBm				3	N	f	2.393 000 GHz	-65.309 dBm				4	N	f	2.383 038 GHz	-55.046 dBm				<p>Center Freq 2.36600000 GHz</p> <p>Start Freq 2.31000000 GHz</p> <p>Stop Freq 2.42200000 GHz</p> <p>CF Step 11.200000 MHz</p> <p>Freq Offset 0 Hz</p>	<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 2.36600000 GHz</p> <p>Start Freq 2.31000000 GHz</p> <p>Stop Freq 2.42200000 GHz</p> <p>CF Step 11.200000 MHz</p> <p>Freq Offset 0 Hz</p>
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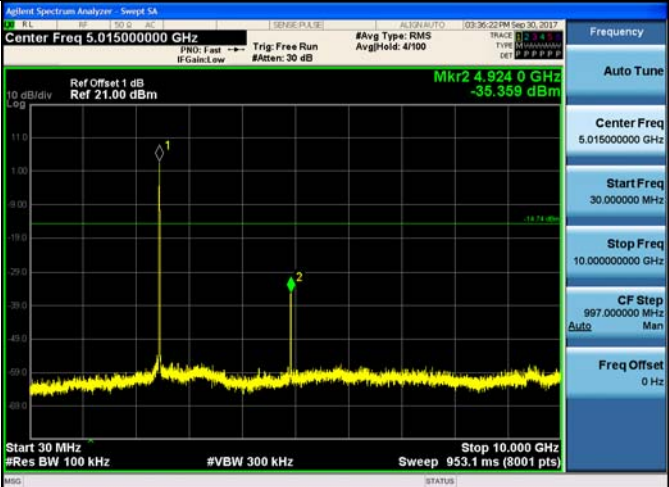

Test Item:	Bandedge	Type:	802.11 g
CH01			<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 2.36600000 GHz</p> <p>Start Freq 2.31000000 GHz</p> <p>Stop Freq 2.42200000 GHz</p> <p>CF Step 11.200000 MHz</p> <p>Freq Offset 0 Hz</p>
CH11			<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 2.47600000 GHz</p> <p>Start Freq 2.45200000 GHz</p> <p>Stop Freq 2.50000000 GHz</p> <p>CF Step 4.800000 MHz</p> <p>Freq Offset 0 Hz</p>


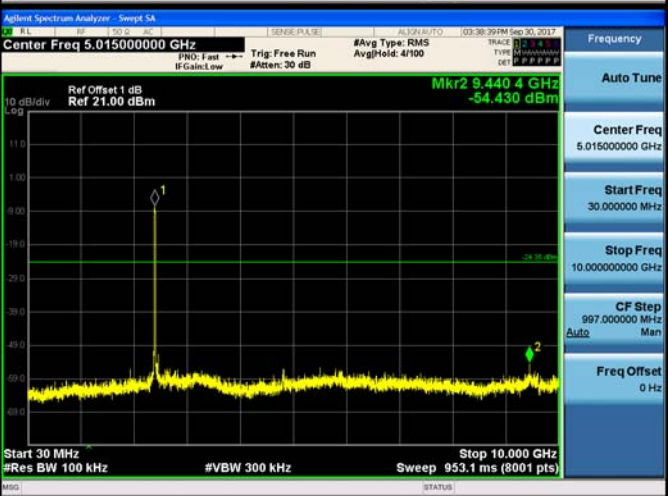

Test Item:	Bandedge	Type:	802.11 n(HT20)																																								
CH01	 <p>Agilent Spectrum Analyzer - Sweep SA</p> <p>Center Freq 2.366000000 GHz</p> <p>Ref Offset 1 dB Ref 20.50 dBm</p> <p>Mkr4 2.387 798 GHz -55.017 dBm</p> <p>Start 2.31000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 11.20 ms (8001 pts)</p> <table border="1"> <thead> <tr> <th>MKR MODE</th> <th>TRC</th> <th>SCL</th> <th>X</th> <th>Y</th> <th>FUNCTION</th> <th>FUNCTION WIDTH</th> <th>FUNCTION VALUE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>N</td> <td>f</td> <td>2.407 020 GHz</td> <td>-5.780 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>N</td> <td>f</td> <td>2.400 000 GHz</td> <td>-52.025 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>N</td> <td>f</td> <td>2.390 000 GHz</td> <td>-47.591 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td>N</td> <td>f</td> <td>2.387 798 GHz</td> <td>-55.017 dBm</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			MKR MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	f	2.407 020 GHz	-5.780 dBm				2	N	f	2.400 000 GHz	-52.025 dBm				3	N	f	2.390 000 GHz	-47.591 dBm				4	N	f	2.387 798 GHz	-55.017 dBm			
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CH11	 <p>Agilent Spectrum Analyzer - Sweep SA</p> <p>Center Freq 2.476000000 GHz</p> <p>Ref Offset 1 dB Ref 20.50 dBm</p> <p>Mkr4 2.491 894 GHz -54.631 dBm</p> <p>Start 2.45200 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 4.800 ms (8001 pts)</p> <table border="1"> <thead> <tr> <th>MKR MODE</th> <th>TRC</th> <th>SCL</th> <th>X</th> <th>Y</th> <th>FUNCTION</th> <th>FUNCTION WIDTH</th> <th>FUNCTION VALUE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>N</td> <td>f</td> <td>2.463 298 GHz</td> <td>-4.933 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>N</td> <td>f</td> <td>2.483 500 GHz</td> <td>-56.894 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>N</td> <td>f</td> <td>2.500 000 GHz</td> <td>-60.367 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td>N</td> <td>f</td> <td>2.491 894 GHz</td> <td>-54.631 dBm</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			MKR MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	f	2.463 298 GHz	-4.933 dBm				2	N	f	2.483 500 GHz	-56.894 dBm				3	N	f	2.500 000 GHz	-60.367 dBm				4	N	f	2.491 894 GHz	-54.631 dBm			
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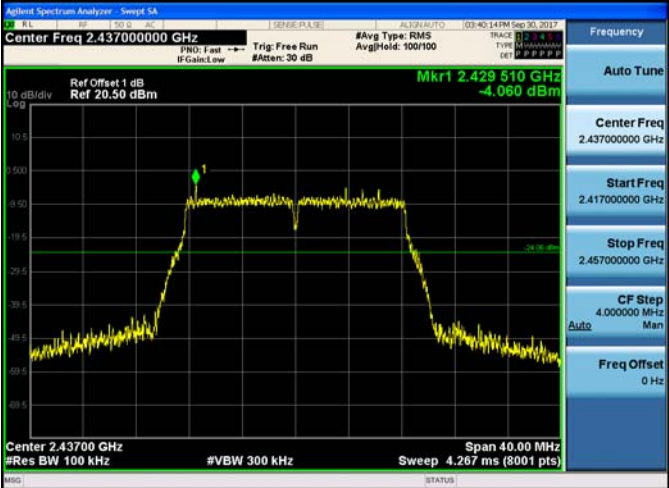
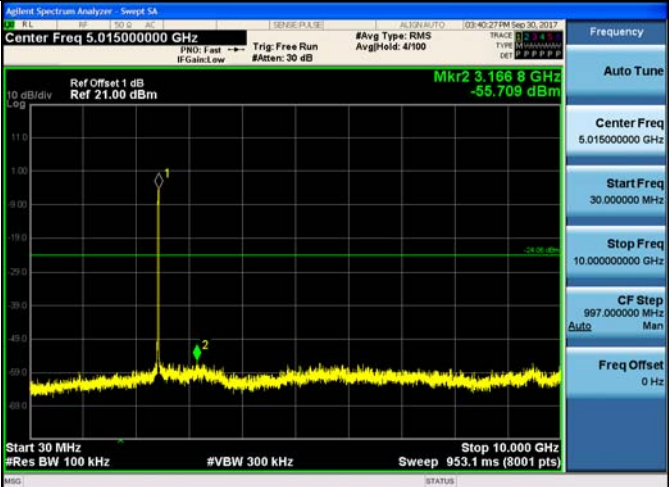

Test Item:	Bandedge	Type:	802.11 n(HT40)
CH03		<p>Center Freq 2.376000000 GHz</p> <p>Start Freq 2.310000000 GHz</p> <p>Stop Freq 2.442000000 GHz</p> <p>CF Step 13.200000 MHz</p> <p>Freq Offset 0 Hz</p>	<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 2.376000000 GHz</p> <p>Start Freq 2.310000000 GHz</p> <p>Stop Freq 2.442000000 GHz</p> <p>CF Step 13.200000 MHz</p> <p>Freq Offset 0 Hz</p>
CH09		<p>Center Freq 2.466000000 GHz</p> <p>Start Freq 2.432000000 GHz</p> <p>Stop Freq 2.500000000 GHz</p> <p>CF Step 6.800000 MHz</p> <p>Freq Offset 0 Hz</p>	<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 2.466000000 GHz</p> <p>Start Freq 2.432000000 GHz</p> <p>Stop Freq 2.500000000 GHz</p> <p>CF Step 6.800000 MHz</p> <p>Freq Offset 0 Hz</p>

Test Item:	SE	Type:	802.11 b
<p>CH01 Reference Level</p>			<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 2.412000000 GHz</p> <p>Start Freq 2.392000000 GHz</p> <p>Stop Freq 2.432000000 GHz</p> <p>CF Step 4.000000 MHz Auto Man</p> <p>Freq Offset 0 Hz</p>
<p>CH01 30MHz~10GHz</p>			<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 5.015000000 GHz</p> <p>Start Freq 30.000000 MHz</p> <p>Stop Freq 10.000000000 GHz</p> <p>CF Step 997.000000 MHz Auto Man</p> <p>Freq Offset 0 Hz</p>
<p>CH01 10GHz~26GHz</p>			<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 18.000000000 GHz</p> <p>Start Freq 10.000000000 GHz</p> <p>Stop Freq 26.000000000 GHz</p> <p>CF Step 1.600000000 GHz Auto Man</p> <p>Freq Offset 0 Hz</p>


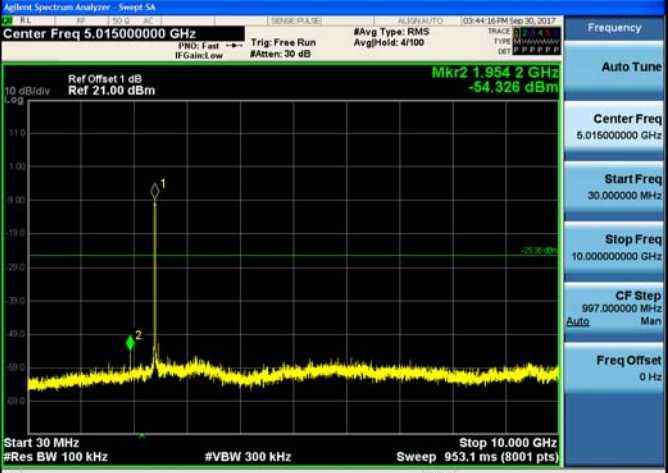

<p>CH06 Reference Level</p>	 <p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.43700000 GHz Ref Offset 1 dB Ref 20.50 dBm Mkr1 2.438 005 GHz 4.890 dBm Span 40.00 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 4.267 ms (8001 pts)</p>
<p>CH06 30MHz~10GHz</p>	 <p>Agilent Spectrum Analyzer - Swept SA Center Freq 5.01500000 GHz Ref Offset 1 dB Ref 21.00 dBm Mkr2 4.874 2 GHz -38.008 dBm Start 30 MHz Stop 10.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 953.1 ms (8001 pts)</p>
<p>CH06 10GHz~26GHz</p>	 <p>Agilent Spectrum Analyzer - Swept SA Center Freq 18.00000000 GHz Ref Offset 1 dB Ref 21.00 dBm Mkr1 25.540 GHz -45.749 dBm Start 10.000 GHz Stop 26.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 1.530 s (8001 pts)</p>

<p>CH11 Reference Level</p>	 <p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.46200000 GHz Mkr1 2.463495 GHz -5.257 dBm Span 40.00 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 4.267 ms (8001 pts)</p>
<p>CH11 30MHz~10GHz</p>	 <p>Agilent Spectrum Analyzer - Swept SA Center Freq 5.01500000 GHz Mkr2 4.9240 GHz -35.359 dBm Start 30 MHz Stop 10.00 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 953.1 ms (8001 pts)</p>
<p>CH11 10GHz~26GHz</p>	 <p>Agilent Spectrum Analyzer - Swept SA Center Freq 18.00000000 GHz Mkr1 25.550 GHz -44.466 dBm Start 10.00 GHz Stop 26.00 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 1.530 s (8001 pts)</p>

Test Item:	SE	Type:	802.11 g
<p>CH01 Reference Level</p>			
<p>CH01 30MHz~10GHz</p>			
<p>CH01 10GHz~26GHz</p>			

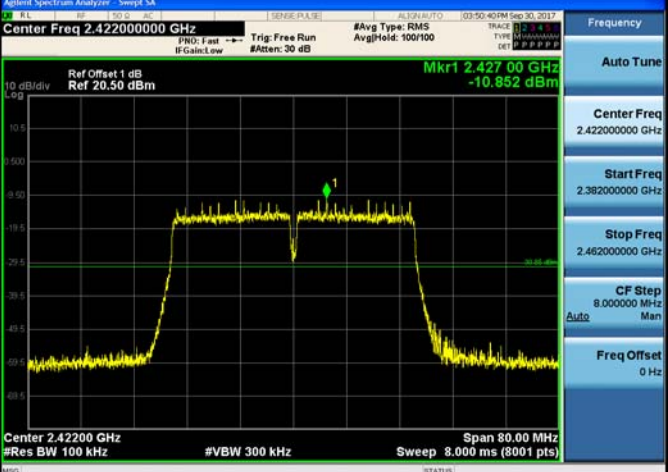
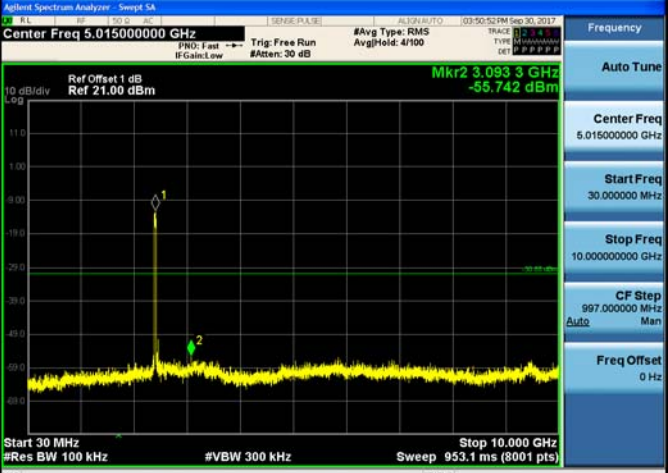

<p>CH06 Reference Level</p>	 <p>Agilent Spectrum Analyzer - Sweep 5A Center Freq 2.437000000 GHz Ref Offset 1 dB Ref 20.50 dBm Mkr1 2.429 510 GHz -4.080 dBm Center Freq 2.437000000 GHz Start Freq 2.417000000 GHz Stop Freq 2.457000000 GHz CF Step 4.000000 MHz Freq Offset 0 Hz Span 40.00 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 4.267 ms (8001 pts)</p>
<p>CH06 30MHz~10GHz</p>	 <p>Agilent Spectrum Analyzer - Sweep 5A Center Freq 5.015000000 GHz Ref Offset 1 dB Ref 21.00 dBm Mkr2 3.166 8 GHz -55.709 dBm Start 30 MHz Stop 10.000 GHz Center Freq 5.015000000 GHz Start Freq 30.000000 MHz Stop Freq 10.000000000 GHz CF Step 997.000000 MHz Freq Offset 0 Hz #Res BW 100 kHz #VBW 300 kHz Sweep 953.1 ms (8001 pts)</p>
<p>CH06 10GHz~26GHz</p>	 <p>Agilent Spectrum Analyzer - Sweep 5A Center Freq 18.000000000 GHz Ref Offset 1 dB Ref 21.00 dBm Mkr1 25.548 GHz -45.018 dBm Start 10.000 GHz Stop 26.000 GHz Center Freq 18.000000000 GHz Start Freq 10.000000000 GHz Stop Freq 26.000000000 GHz CF Step 1.600000000 GHz Freq Offset 0 Hz #Res BW 100 kHz #VBW 300 kHz Sweep 1.530 s (8001 pts)</p>

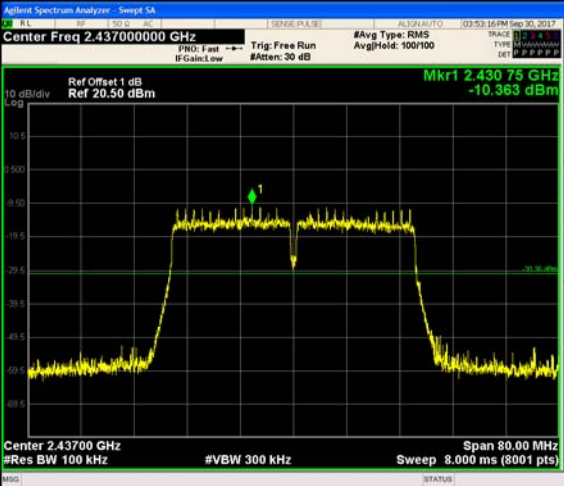
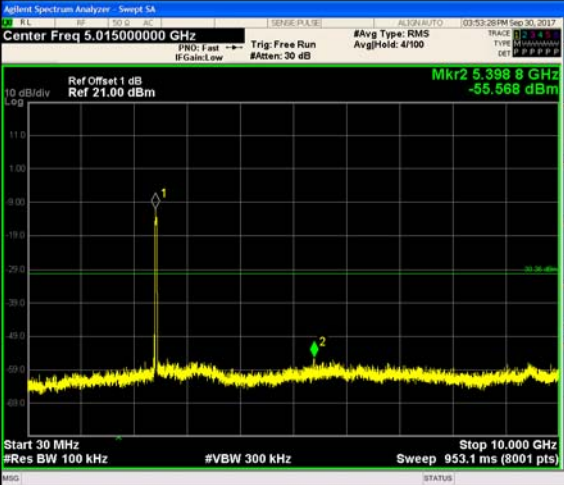

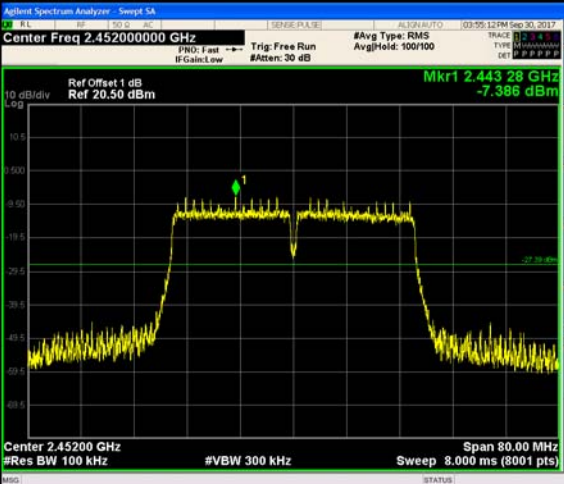
<p>CH11 Reference Level</p>	<p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.46200000 GHz Mkr1 2.457 000 GHz -4.190 dBm Ref Offset 1 dB Ref 20.50 dBm Span 40.00 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 4.267 ms (8001 pts)</p>
<p>CH11 30MHz~10GHz</p>	<p>Agilent Spectrum Analyzer - Swept SA Center Freq 5.015000000 GHz Mkr2 3.001 1 GHz -55.480 dBm Ref Offset 1 dB Ref 21.00 dBm Start 30 MHz Stop 10.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 953.1 ms (8001 pts)</p>
<p>CH11 10GHz~26GHz</p>	<p>Agilent Spectrum Analyzer - Swept SA Center Freq 18.000000000 GHz Mkr1 25.994 GHz -45.398 dBm Ref Offset 1 dB Ref 21.00 dBm Start 10.000 GHz Stop 26.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 1.530 s (8001 pts)</p>

Test Item:	SE	Type:	802.11 n(HT20)
<p>CH01 Reference Level</p>			
<p>CH01 30MHz~10GHz</p>			
<p>CH01 10GHz~26GHz</p>			

<p>CH06 Reference Level</p>	<p>Agilent Spectrum Analyzer - Sweep 5A</p> <p>Center Freq 2.437000000 GHz</p> <p>Ref Offset 1 dB Ref 20.50 dBm</p> <p>Mkr1 2.438 270 GHz -4.463 dBm</p> <p>Center 2.43700 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 4.267 ms (8001 pts)</p> <p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 2.437000000 GHz</p> <p>Start Freq 2.417000000 GHz</p> <p>Stop Freq 2.457000000 GHz</p> <p>CF Step 4.000000 MHz</p> <p>Freq Offset 0 Hz</p>
<p>CH06 30MHz~10GHz</p>	<p>Agilent Spectrum Analyzer - Sweep 5A</p> <p>Center Freq 5.015000000 GHz</p> <p>Ref Offset 1 dB Ref 21.00 dBm</p> <p>Mkr2 3.281 5 GHz -56.559 dBm</p> <p>Start 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 953.1 ms (8001 pts)</p> <p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 5.015000000 GHz</p> <p>Start Freq 30.000000 MHz</p> <p>Stop Freq 10.000000000 GHz</p> <p>CF Step 997.000000 MHz</p> <p>Freq Offset 0 Hz</p>
<p>CH06 10GHz~26GHz</p>	<p>Agilent Spectrum Analyzer - Sweep 5A</p> <p>Center Freq 18.000000000 GHz</p> <p>Ref Offset 1 dB Ref 21.00 dBm</p> <p>Mkr1 25.512 GHz -45.091 dBm</p> <p>Start 10.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 1.530 s (8001 pts)</p> <p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 18.000000000 GHz</p> <p>Start Freq 10.000000000 GHz</p> <p>Stop Freq 26.000000000 GHz</p> <p>CF Step 1.600000000 GHz</p> <p>Freq Offset 0 Hz</p>

<p>CH11 Reference Level</p>	
<p>CH11 30MHz~10GHz</p>	
<p>CH11 10GHz~26GHz</p>	

Test Item:	SE	Type:	802.11 n(HT40)
<p>CH03 Reference Level</p>			
<p>CH03 30MHz~10GHz</p>			
<p>CH01 10GHz~26GHz</p>			

<p>CH06 Reference Level</p>	 <p>Agilent Spectrum Analyzer - Sweep SA Center Freq 2.43700000 GHz Ref Offset 1 dB Ref 20.50 dBm Mkr1 2.430 75 GHz -10.363 dBm Center 2.43700 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 8.000 ms (8001 pts) Span 80.00 MHz</p>	<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 2.43700000 GHz</p> <p>Start Freq 2.39700000 GHz</p> <p>Stop Freq 2.47700000 GHz</p> <p>CF Step 8.000000 MHz Auto Man</p> <p>Freq Offset 0 Hz</p>
<p>CH06 30MHz~10GHz</p>	 <p>Agilent Spectrum Analyzer - Sweep SA Center Freq 5.01500000 GHz Ref Offset 1 dB Ref 21.00 dBm Mkr2 5.398 8 GHz -55.588 dBm Start 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 953.1 ms (8001 pts) Stop 10.000 GHz</p>	<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 5.01500000 GHz</p> <p>Start Freq 30.000000 MHz</p> <p>Stop Freq 10.00000000 GHz</p> <p>CF Step 997.000000 MHz Auto Man</p> <p>Freq Offset 0 Hz</p>
<p>CH06 10GHz~26GHz</p>	 <p>Agilent Spectrum Analyzer - Sweep SA Center Freq 18.00000000 GHz Ref Offset 1 dB Ref 21.00 dBm Mkr1 25.548 GHz -45.461 dBm Start 10.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 1.530 s (8001 pts) Stop 26.000 GHz</p>	<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 18.00000000 GHz</p> <p>Start Freq 10.00000000 GHz</p> <p>Stop Freq 26.00000000 GHz</p> <p>CF Step 1.60000000 GHz Auto Man</p> <p>Freq Offset 0 Hz</p>
<p>CH09 Reference Level</p>	 <p>Agilent Spectrum Analyzer - Sweep SA Center Freq 2.45200000 GHz Ref Offset 1 dB Ref 20.50 dBm Mkr1 2.443 28 GHz -7.386 dBm Center 2.45200 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 8.000 ms (8001 pts) Span 80.00 MHz</p>	<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 2.45200000 GHz</p> <p>Start Freq 2.41200000 GHz</p> <p>Stop Freq 2.49200000 GHz</p> <p>CF Step 8.000000 MHz Auto Man</p> <p>Freq Offset 0 Hz</p>



5.8. Spurious Emissions (radiated)

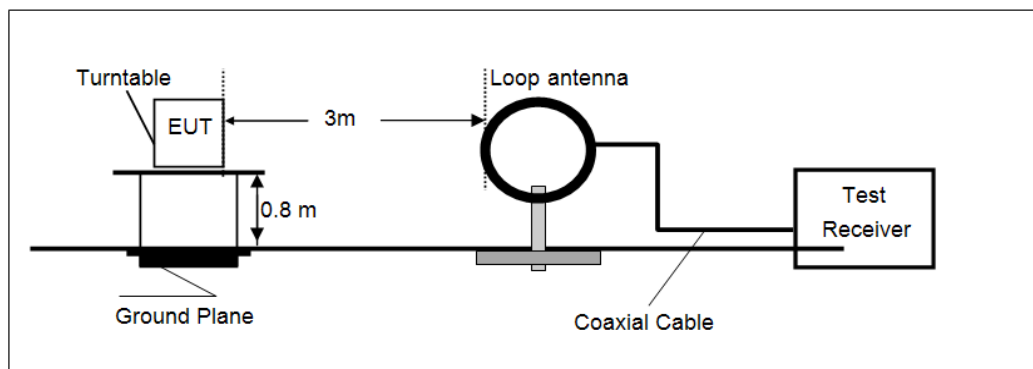
LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.209

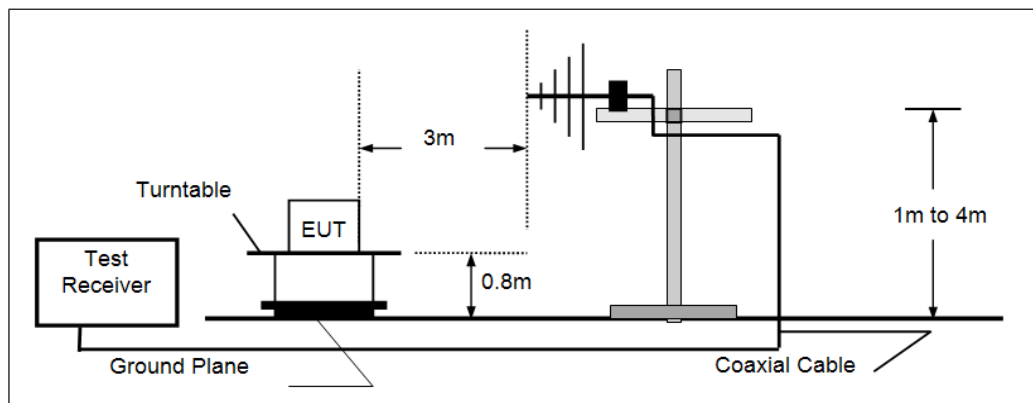
Frequency	Limit (dBuV/m @3m)	Value
30MHz-88MHz	40.00	Quasi-peak
88MHz-216MHz	43.50	Quasi-peak
216MHz-960MHz	46.00	Quasi-peak
960MHz-1GHz	54.00	Quasi-peak
Above 1GHz	54.00	Average
	74.00	Peak

TEST CONFIGURATION

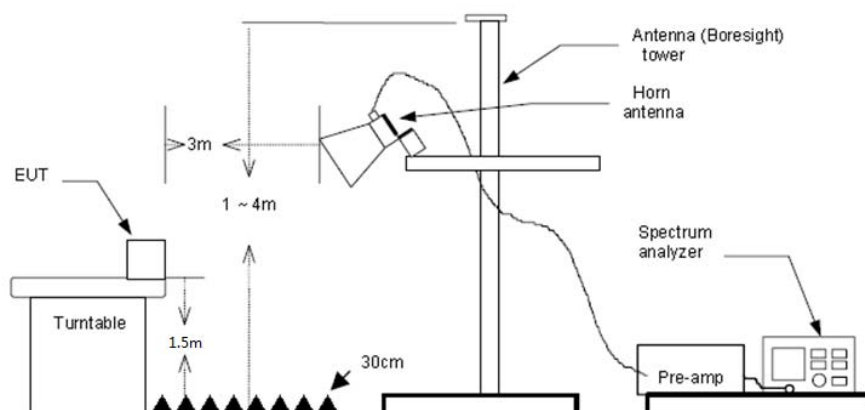
➤ 9kHz ~30MHz



➤ 30MHz ~ 1GHz



➤ Above 1GHz



TEST PROCEDURE

1. The EUT was 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. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
3. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
4. The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna.
5. Use the following spectrum analyzer settings
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Below 1GHz, RBW=120kHz, VBW=300kHz, 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) Above 1GHz, 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**

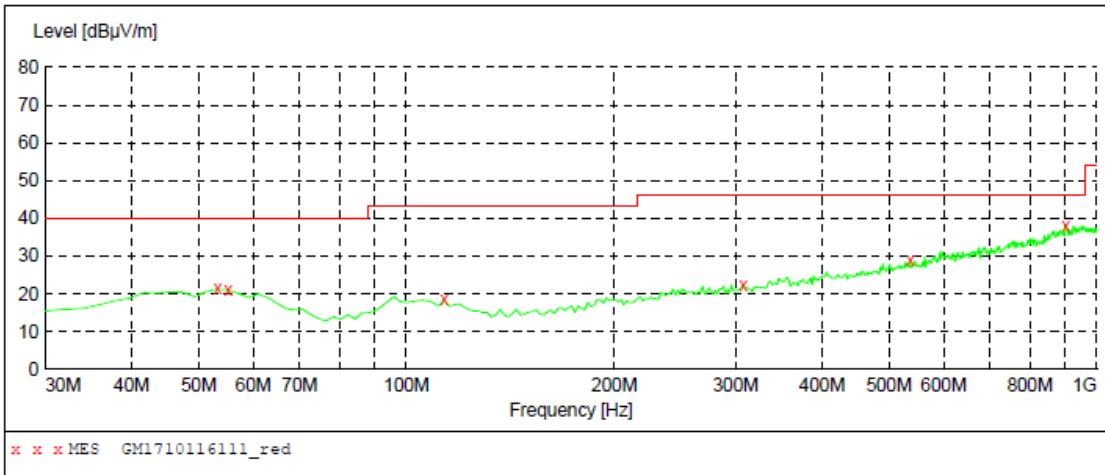
The EUT was pre-scanned the frequency band (9kHz~30MHz), found the radiated level lower than the limit, so don't show on the report.

➤ **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

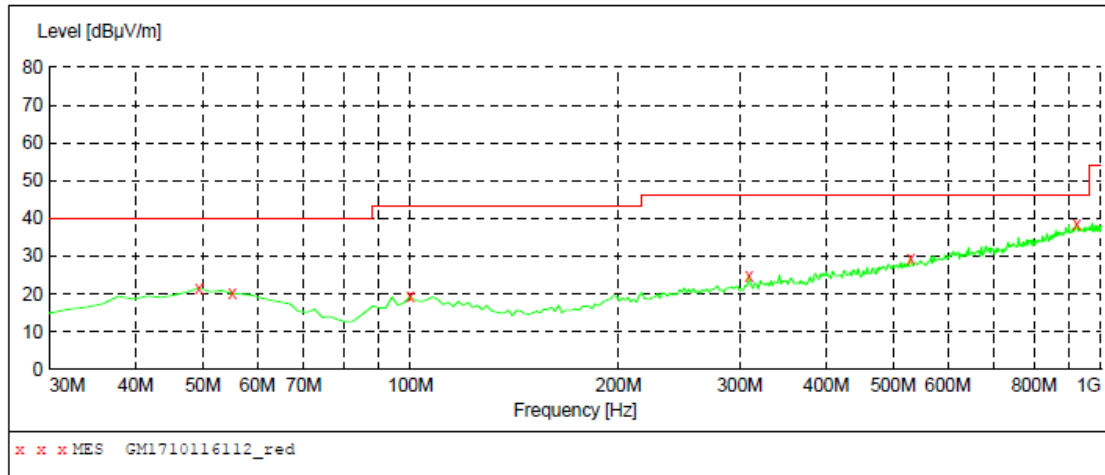


MEASUREMENT RESULT: "GM1710116111_red"

10/11/2017 11:14PM

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
53.280000	21.30	-9.0	40.0	18.7	QP	100.0	200.00	VERTICAL
55.220000	21.00	-9.2	40.0	19.0	QP	100.0	288.00	VERTICAL
113.420000	18.50	-11.3	43.5	25.0	QP	100.0	223.00	VERTICAL
307.420000	22.40	-7.1	46.0	23.6	QP	100.0	0.00	VERTICAL
536.340000	29.00	-1.0	46.0	17.0	QP	100.0	7.00	VERTICAL
901.060000	38.20	6.7	46.0	7.8	QP	100.0	360.00	VERTICAL

Polarization: Horizontal



MEASUREMENT RESULT: "GM1710116112_red"

10/11/2017 11:18PM

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	72.00	HORIZONTAL
55.220000	20.20	-9.2	40.0	19.8	QP	300.0	86.00	HORIZONTAL
99.840000	19.30	-10.6	43.5	24.2	QP	100.0	0.00	HORIZONTAL
309.360000	24.90	-7.1	46.0	21.1	QP	300.0	247.00	HORIZONTAL
530.520000	29.30	-1.1	46.0	16.7	QP	300.0	183.00	HORIZONTAL
922.400000	38.50	7.0	46.0	7.5	QP	300.0	303.00	HORIZONTAL

➤ Above 1 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
1741.81	35.70	25.29	5.85	37.02	29.82	74.00	-44.18	Vertical	Peak
3883.62	35.65	29.68	8.62	38.18	35.77	74.00	-38.23	Vertical	Peak
4821.76	34.84	31.56	9.55	36.90	39.05	74.00	-34.95	Vertical	Peak
6992.14	31.25	35.25	11.84	34.80	43.54	74.00	-30.46	Vertical	Peak
1755.16	35.09	25.31	5.87	37.05	29.22	74.00	-44.78	Horizontal	Peak
3160.03	34.87	28.80	7.67	38.21	33.13	74.00	-40.87	Horizontal	Peak
4821.76	34.85	31.56	9.55	36.90	39.06	74.00	-34.94	Horizontal	Peak
6816.39	31.03	34.12	11.62	34.97	41.80	74.00	-32.20	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
2223.98	34.66	27.65	6.48	37.41	31.38	74.00	-42.62	Vertical	Peak
3128.01	35.62	28.80	7.63	38.21	33.84	74.00	-40.16	Vertical	Peak
4871.10	36.18	31.46	9.59	36.76	40.47	74.00	-33.53	Vertical	Peak
6527.71	32.11	34.06	11.23	35.34	42.06	74.00	-31.94	Vertical	Peak
2287.13	34.05	28.02	6.58	37.58	31.07	74.00	-42.93	Horizontal	Peak
3973.62	34.35	29.70	8.74	38.13	34.66	74.00	-39.34	Horizontal	Peak
4871.10	38.01	31.46	9.59	36.76	42.30	74.00	-31.70	Horizontal	Peak
7357.33	31.98	36.30	12.03	34.88	45.43	74.00	-28.57	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
1764.12	33.93	25.33	5.89	37.06	28.09	74.00	-45.91	Vertical	Peak
3747.66	33.99	29.44	8.44	38.24	33.63	74.00	-40.37	Vertical	Peak
4920.96	36.20	31.42	9.62	36.62	40.62	74.00	-33.38	Vertical	Peak
6611.33	30.94	34.20	11.37	35.34	41.17	74.00	-32.83	Vertical	Peak
1663.80	34.79	25.09	5.69	36.85	28.72	74.00	-45.28	Horizontal	Peak
3080.60	35.44	28.76	7.58	38.22	33.56	74.00	-40.44	Horizontal	Peak
4920.96	36.03	31.42	9.62	36.62	40.45	74.00	-33.55	Horizontal	Peak
7489.60	31.12	36.12	12.36	34.89	44.71	74.00	-29.29	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 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
1156.15	36.32	25.96	4.56	36.59	30.25	74.00	-43.75	Vertical	Peak
2281.32	33.67	27.99	6.57	37.57	30.66	74.00	-43.34	Vertical	Peak
3192.37	35.67	28.80	7.71	38.20	33.98	74.00	-40.02	Vertical	Peak
4821.76	34.12	31.56	9.55	36.90	38.33	74.00	-35.67	Vertical	Peak
1192.01	36.43	26.24	4.64	36.57	30.74	74.00	-43.26	Horizontal	Peak
3041.64	34.31	28.68	7.53	38.22	32.30	74.00	-41.70	Horizontal	Peak
3561.64	34.94	29.19	8.21	38.32	34.02	74.00	-39.98	Horizontal	Peak
4821.76	34.85	31.56	9.55	36.90	39.06	74.00	-34.94	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
1719.78	35.19	25.24	5.80	36.97	29.26	74.00	-44.74	Vertical	Peak
3120.06	35.85	28.80	7.62	38.21	34.06	74.00	-39.94	Vertical	Peak
5060.69	33.28	31.74	9.72	36.34	38.40	74.00	-35.60	Vertical	Peak
6235.36	33.27	32.97	11.01	35.29	41.96	74.00	-32.04	Vertical	Peak
1343.51	36.42	26.07	4.90	36.49	30.90	74.00	-43.10	Horizontal	Peak
2861.38	33.99	28.35	7.40	38.32	31.42	74.00	-42.58	Horizontal	Peak
4299.89	34.66	30.20	9.03	37.61	36.28	74.00	-37.72	Horizontal	Peak
5776.92	32.36	31.99	10.55	35.38	39.52	74.00	-34.48	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
1711.05	36.97	25.22	5.79	36.95	31.03	74.00	-42.97	Vertical	Peak
3923.37	34.77	29.70	8.67	38.16	34.98	74.00	-39.02	Vertical	Peak
4920.96	35.48	31.42	9.62	36.62	39.90	74.00	-34.10	Vertical	Peak
7527.83	32.15	36.13	12.49	34.92	45.85	74.00	-28.15	Vertical	Peak
1634.42	35.79	25.01	5.64	36.79	29.65	74.00	-44.35	Horizontal	Peak
3041.64	36.32	28.68	7.53	38.22	34.31	74.00	-39.69	Horizontal	Peak
4920.96	35.25	31.42	9.62	36.62	39.67	74.00	-34.33	Horizontal	Peak
7566.25	32.44	36.17	12.61	34.95	46.27	74.00	-27.73	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 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
1336.68	35.97	26.09	4.89	36.49	30.46	74.00	-43.54	Vertical	Peak
3208.66	35.35	28.75	7.73	38.22	33.61	74.00	-40.39	Vertical	Peak
4321.84	33.79	30.27	9.06	37.60	35.52	74.00	-38.48	Vertical	Peak
6868.65	32.10	34.48	11.69	34.92	43.35	74.00	-30.65	Vertical	Peak
1724.17	35.97	25.25	5.81	36.98	30.05	74.00	-43.95	Horizontal	Peak
3498.74	35.49	28.99	8.11	38.41	34.18	74.00	-39.82	Horizontal	Peak
4664.81	33.50	31.10	9.49	37.14	36.95	74.00	-37.05	Horizontal	Peak
6816.39	32.50	34.12	11.62	34.97	43.27	74.00	-30.73	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
1746.25	40.77	25.29	5.86	37.03	34.89	74.00	-39.11	Vertical	Peak
3525.56	36.37	29.08	8.15	38.37	35.23	74.00	-38.77	Vertical	Peak
4834.05	33.75	31.53	9.56	36.86	37.98	74.00	-36.02	Vertical	Peak
6219.51	32.80	32.94	11.01	35.29	41.46	74.00	-32.54	Vertical	Peak
2201.45	34.12	27.51	6.44	37.34	30.73	74.00	-43.27	Horizontal	Peak
4234.72	33.76	30.07	8.97	37.63	35.17	74.00	-38.83	Horizontal	Peak
5732.97	33.18	31.77	10.48	35.50	39.93	74.00	-34.07	Horizontal	Peak
7682.70	31.43	36.12	12.94	35.02	45.47	74.00	-28.53	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
1668.04	34.92	25.11	5.70	36.86	28.87	74.00	-45.13	Vertical	Peak
3672.11	35.02	29.30	8.35	38.26	34.41	74.00	-39.59	Vertical	Peak
6611.33	30.76	34.20	11.37	35.34	40.99	74.00	-33.01	Vertical	Peak
8229.29	31.04	36.61	12.78	34.51	45.92	74.00	-28.08	Vertical	Peak
1768.62	35.98	25.34	5.90	37.07	30.15	74.00	-43.85	Horizontal	Peak
3644.18	35.32	29.30	8.32	38.26	34.68	74.00	-39.32	Horizontal	Peak
6577.75	31.22	34.16	11.32	35.35	41.35	74.00	-32.65	Horizontal	Peak
8615.13	33.26	37.39	12.91	34.50	49.06	74.00	-24.94	Horizontal	Peak

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Pre-amplifier Factor
- The peak level is lower than average limit (54 dBuV/m), this data is the too weak instrument of signal is unable to test.
- The emission levels of other frequencies 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
1336.68	35.97	26.09	4.89	36.49	30.46	74.00	-43.54	Vertical	Peak
3208.66	35.35	28.75	7.73	38.22	33.61	74.00	-40.39	Vertical	Peak
4996.69	32.50	31.50	9.67	36.41	37.26	74.00	-36.74	Vertical	Peak
6645.07	32.39	34.20	11.41	35.28	42.72	74.00	-31.28	Vertical	Peak
1764.12	35.86	25.33	5.89	37.06	30.02	74.00	-43.98	Horizontal	Peak
3072.77	35.92	28.75	7.57	38.22	34.02	74.00	-39.98	Horizontal	Peak
4821.76	34.47	31.56	9.55	36.90	38.68	74.00	-35.32	Horizontal	Peak
6527.71	31.05	34.06	11.23	35.34	41.00	74.00	-33.00	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
1655.35	36.35	25.07	5.68	36.84	30.26	74.00	-43.74	Vertical	Peak
3003.17	36.85	28.61	7.48	38.23	34.71	74.00	-39.29	Vertical	Peak
4055.37	34.72	29.81	8.82	37.98	35.37	74.00	-38.63	Vertical	Peak
5164.81	32.79	31.64	9.80	36.24	37.99	74.00	-36.01	Vertical	Peak
1495.10	34.72	25.80	5.27	36.58	29.21	74.00	-44.79	Horizontal	Peak
3080.60	35.70	28.76	7.58	38.22	33.82	74.00	-40.18	Horizontal	Peak
4605.81	33.39	30.92	9.46	37.22	36.55	74.00	-37.45	Horizontal	Peak
6696.01	32.29	34.20	11.48	35.18	42.79	74.00	-31.21	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	34.92	25.11	5.70	36.86	28.87	74.00	-45.13	Vertical	Peak
3672.11	35.02	29.30	8.35	38.26	34.41	74.00	-39.59	Vertical	Peak
6611.33	30.76	34.20	11.37	35.34	40.99	74.00	-33.01	Vertical	Peak
8229.29	31.04	36.61	12.78	34.51	45.92	74.00	-28.08	Vertical	Peak
1768.62	35.98	25.34	5.90	37.07	30.15	74.00	-43.85	Horizontal	Peak
3644.18	35.32	29.30	8.32	38.26	34.68	74.00	-39.32	Horizontal	Peak
6577.75	31.22	34.16	11.32	35.35	41.35	74.00	-32.65	Horizontal	Peak
8615.13	33.26	37.39	12.91	34.50	49.06	74.00	-24.94	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 are very lower than the limit and not show in test report.

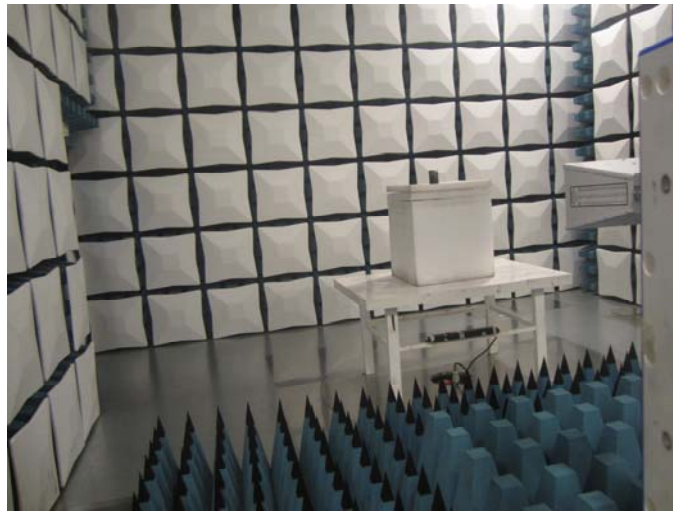
6. TEST SETUP PHOTOS

Conducted Emissions



Radiated Emissions





7. EXTERANAL AND INTERNAL PHOTOS

Reference to the test report No.: TRE1709023201.

.....**End of Report**.....