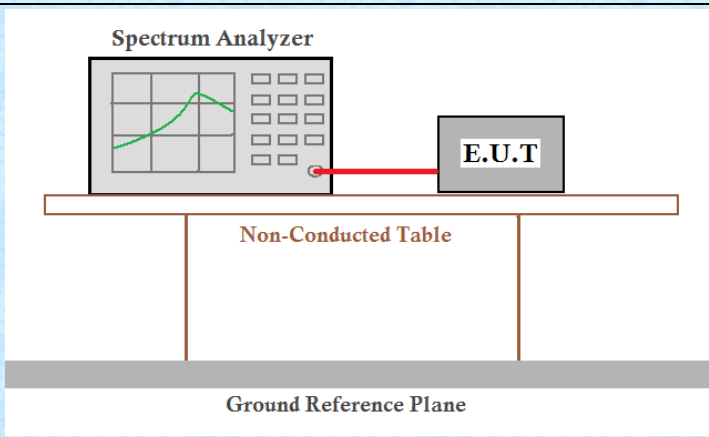


7.6 Spurious Emission in Non-restricted & restricted Bands

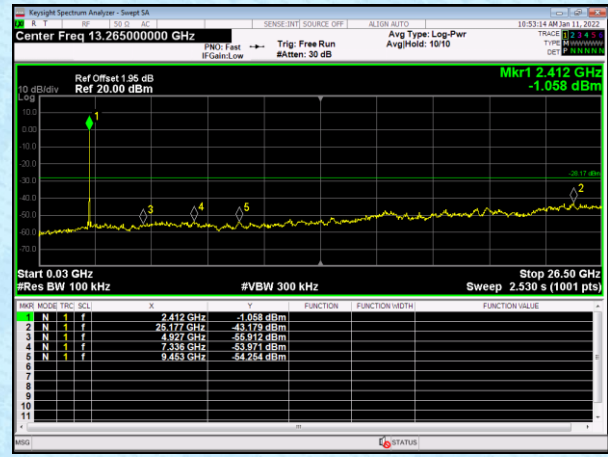
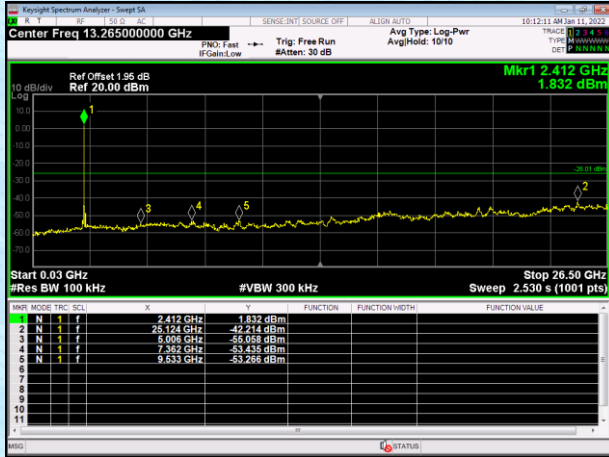
7.6.1 Conducted Emission Method

Test Requirement:	FCC Part15 C Section 15.247 (d) RSS-247 Section 5.5
Test Method:	ANSI C63.10:2013 and KDB558074 D01 15.247 Meas Guidance v05r02 & RSS-Gen
Limit:	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 setup:	 The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T. are placed on a Non-Conducted Table. The table is supported by a Ground Reference Plane.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Test plot as follows (ANT A):

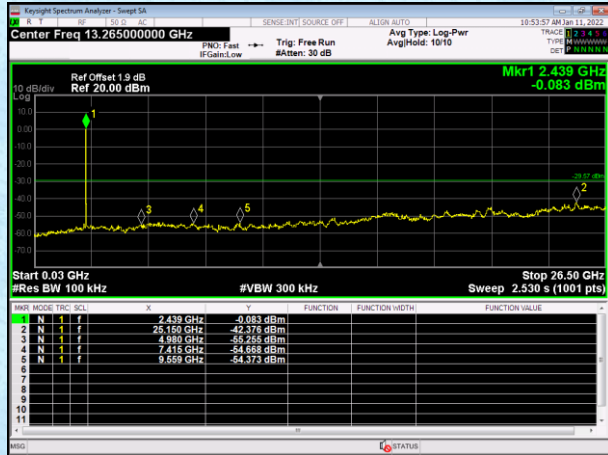
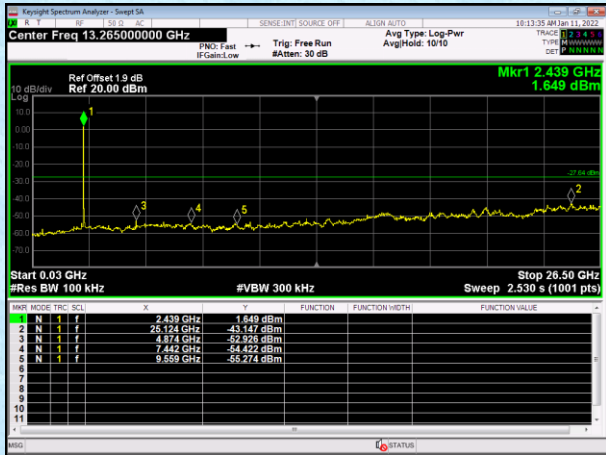
Test mode:	802.11b	Test mode:	802.11g
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Lowest channel



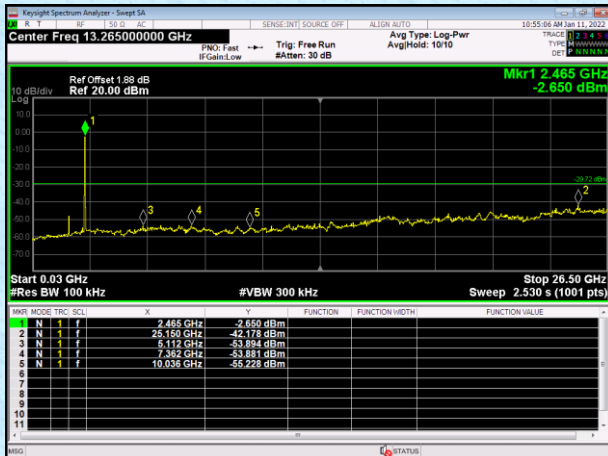
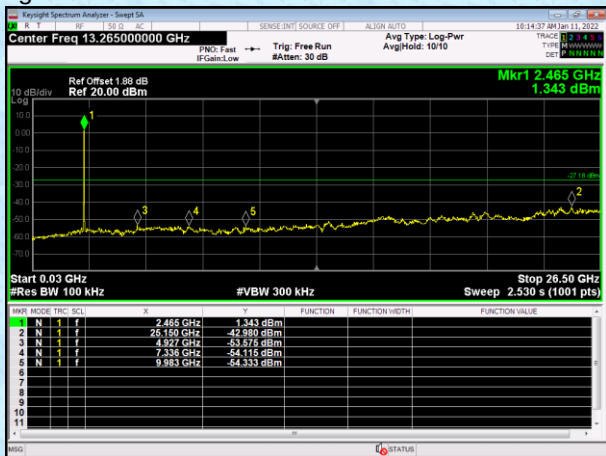
30MHz~26.5GHz

Middle channel



30MHz~26.5GHz

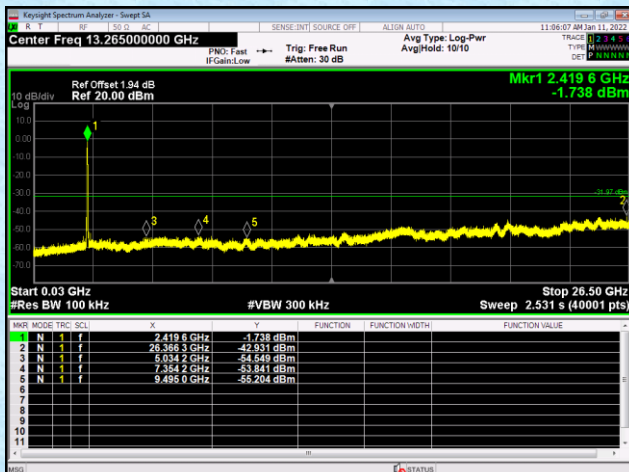
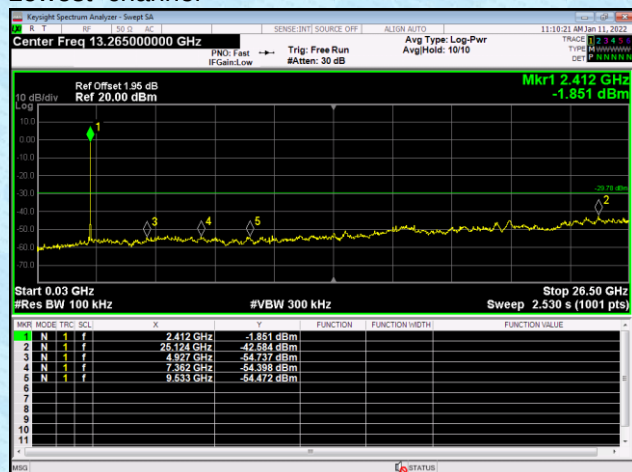
Highest channel



30MHz~26.5GHz

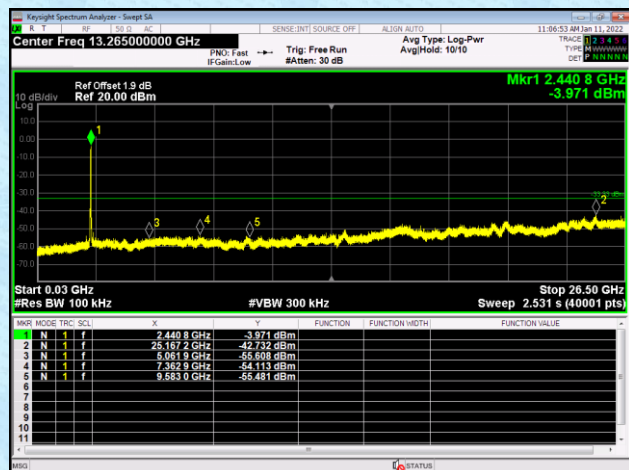
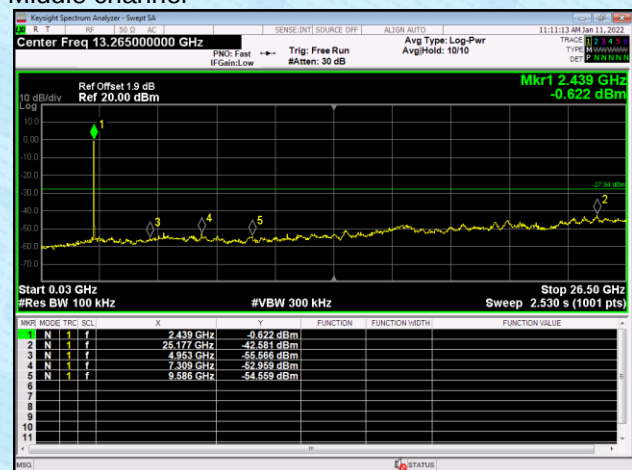
Test mode:	802.11n(HT20)	Test mode:	802.11n(HT40)
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Lowest channel



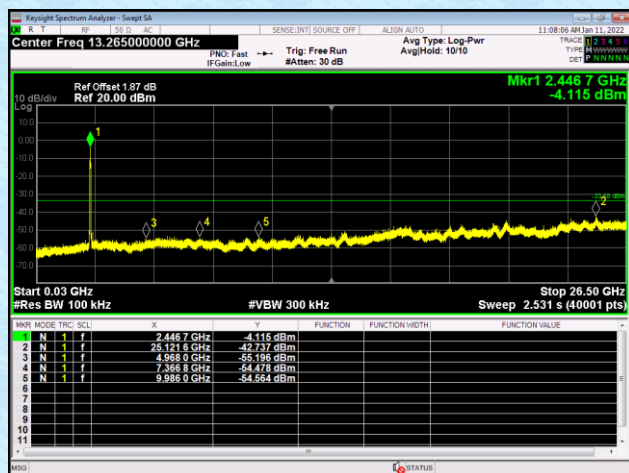
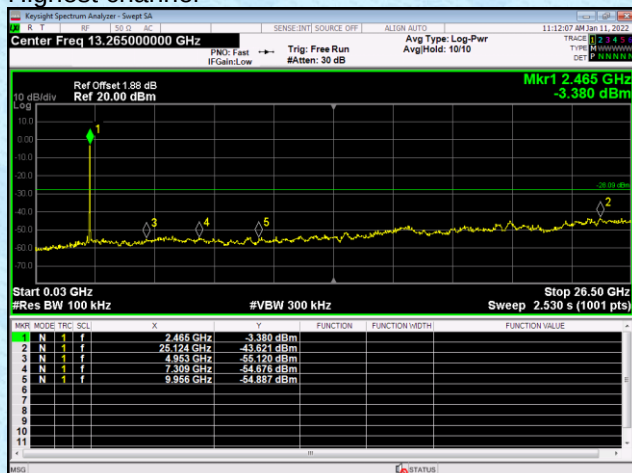
30MHz~26.5GHz

Middle channel



30MHz~26.5GHz

Highest channel

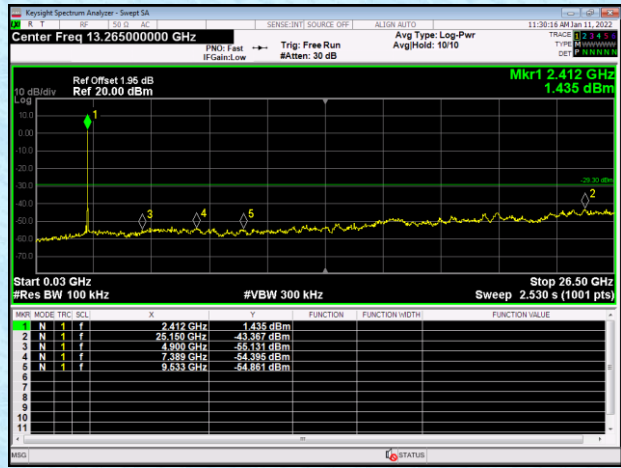
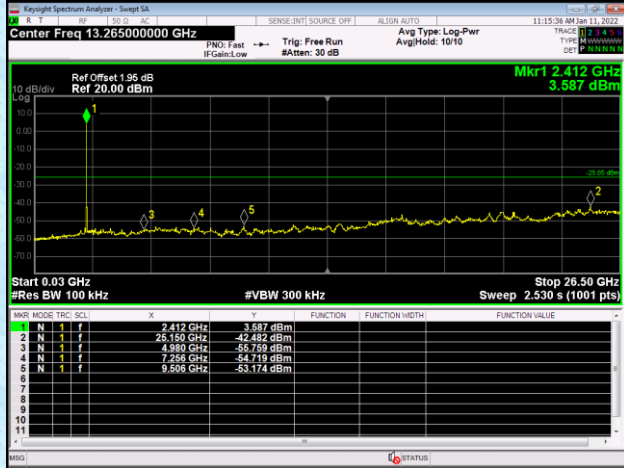


30MHz~26.5GHz

Test plot as follows (ANT B):

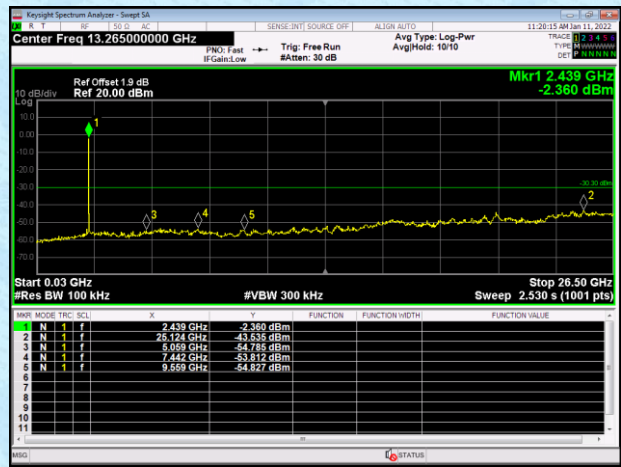
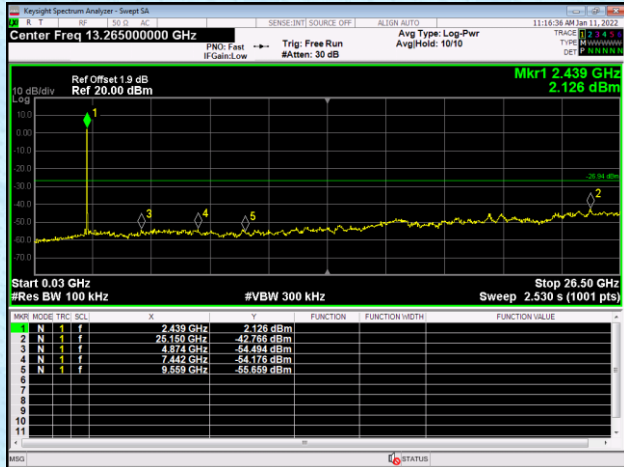
Test mode:	802.11b	Test mode:	802.11g
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Lowest channel



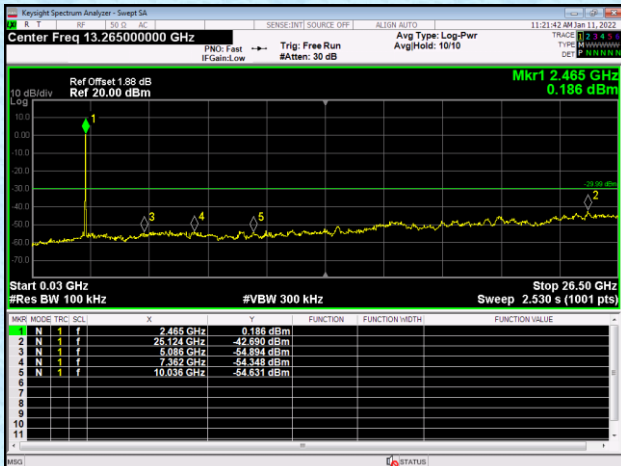
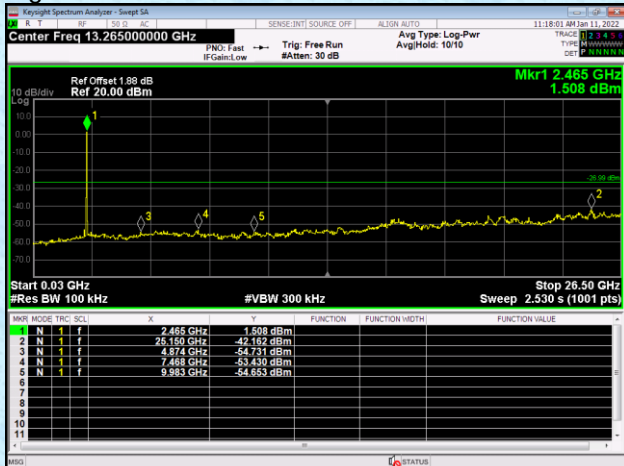
30MHz~26.5GHz

Middle channel



30MHz~26.5GHz

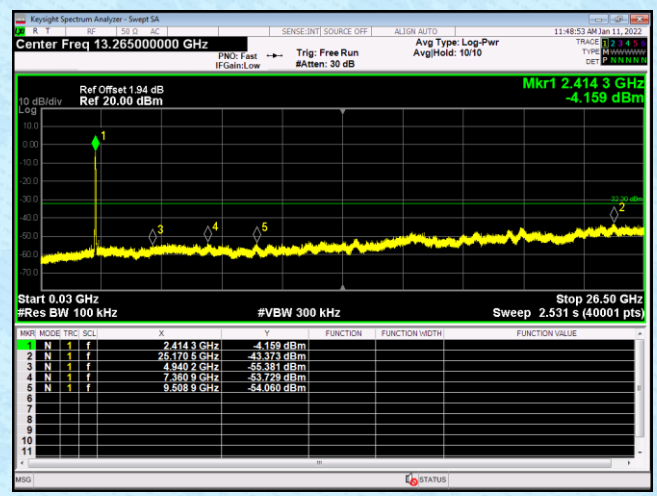
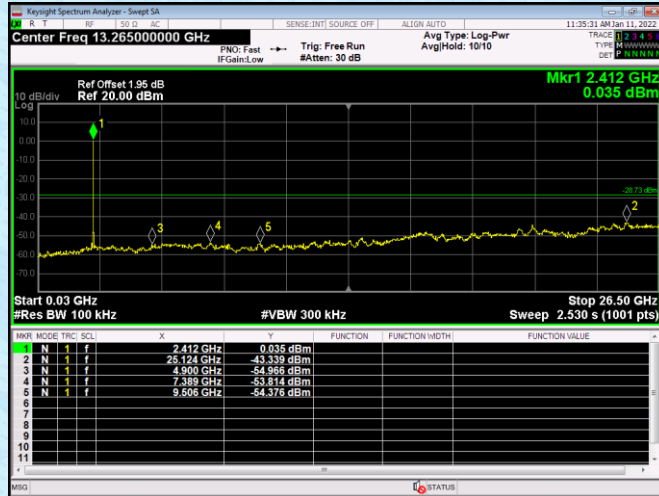
Highest channel



30MHz~26.5GHz

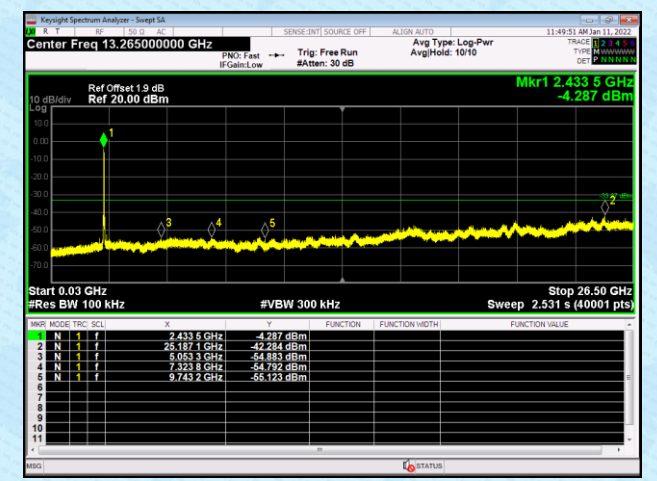
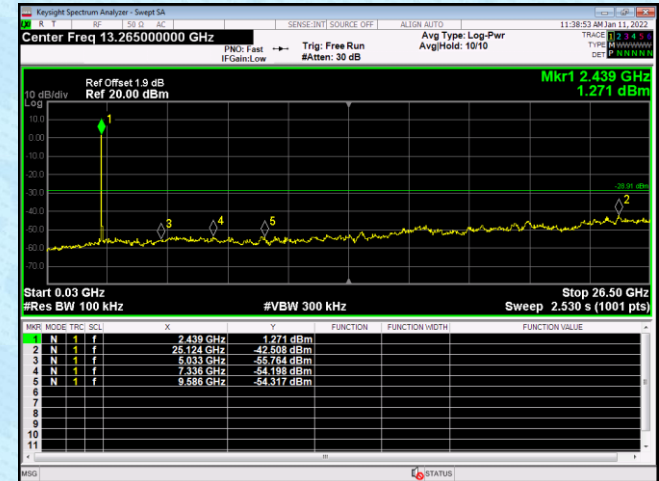
Test mode:	802.11n(HT20)	Test mode:	802.11n(HT40)
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Lowest channel



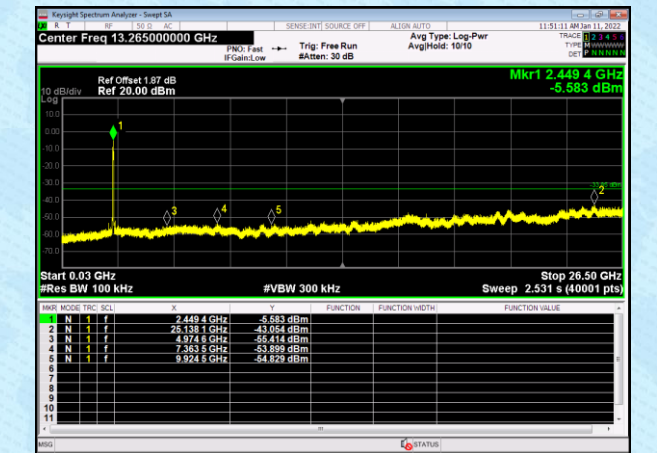
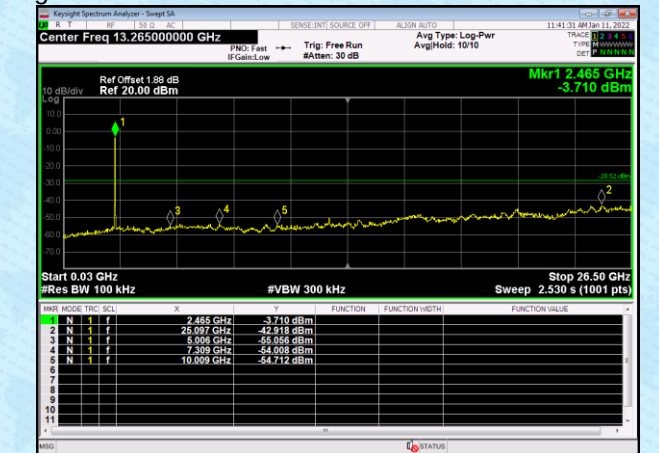
30MHz~26.5GHz

Middle channel



30MHz~26.5GHz

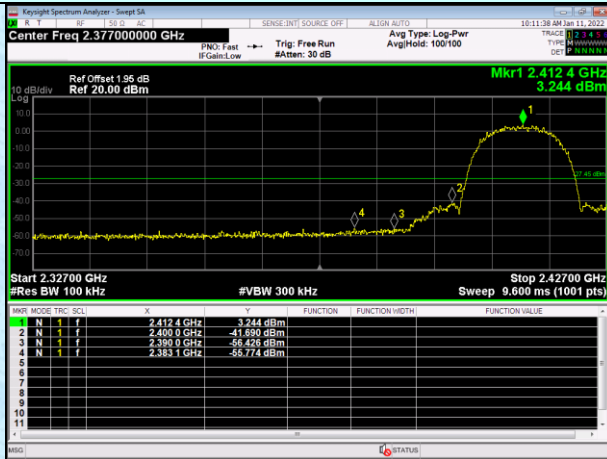
Highest channel



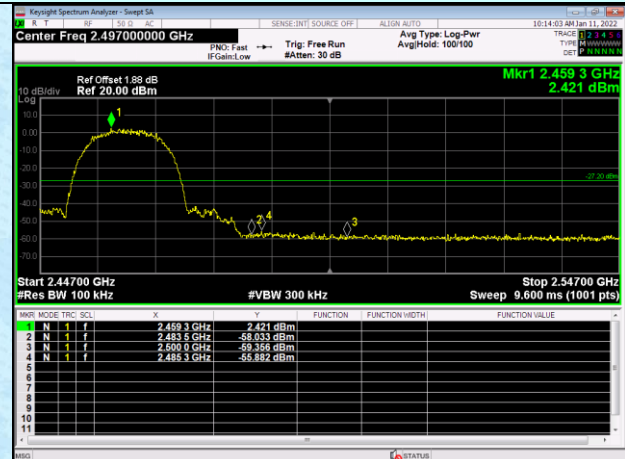
30MHz~26.5GHz

Test plot as follows (ANT A):

Test mode: 802.11b

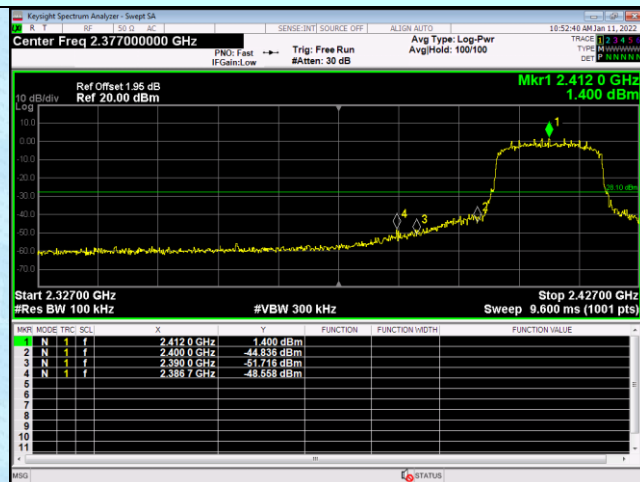


Lowest channel

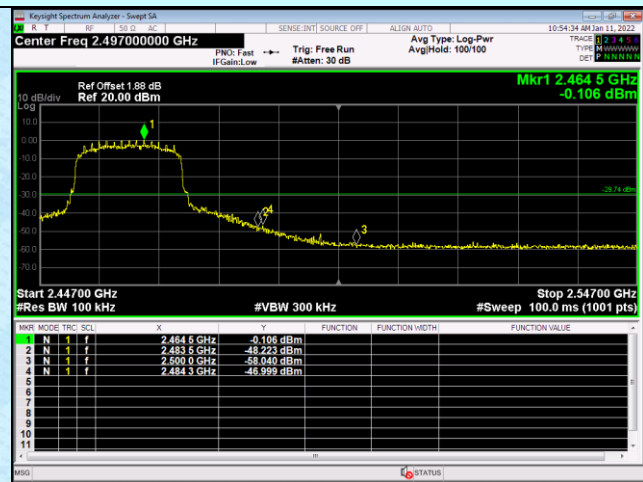


Highest channel

Test mode: 802.11g



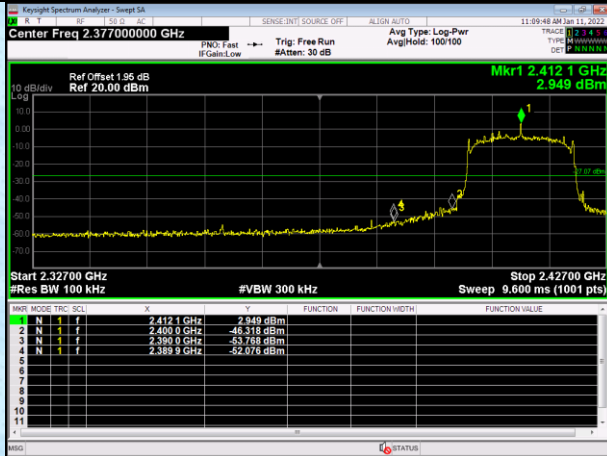
Lowest channel



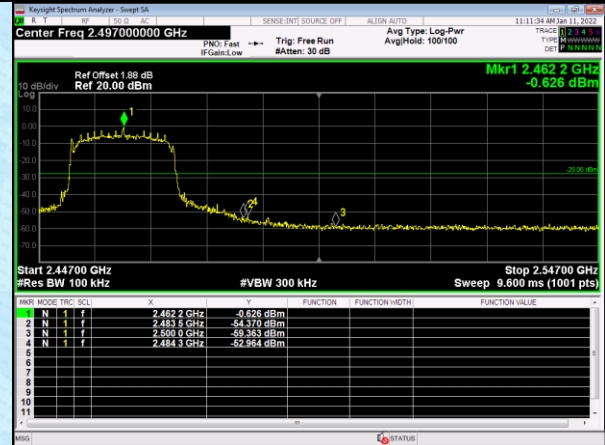
Highest channel

Test mode:

802.11n(HT20)



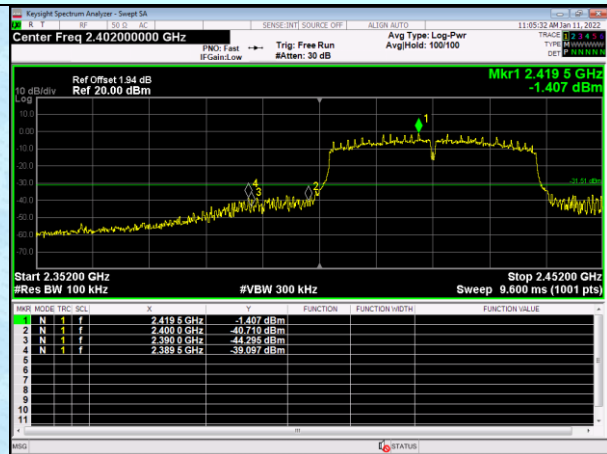
Lowest channel



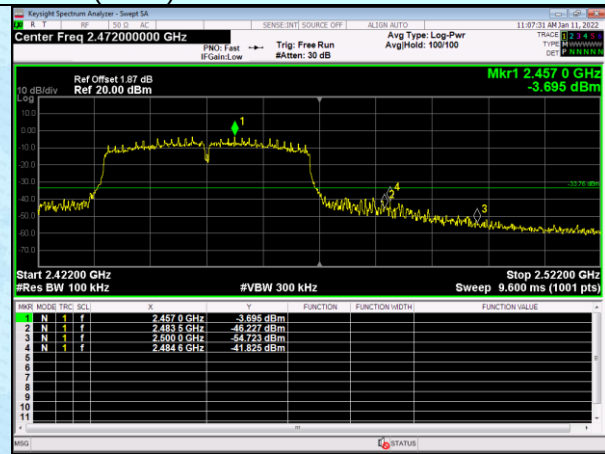
Highest channel

Test mode:

802.11n(HT40)



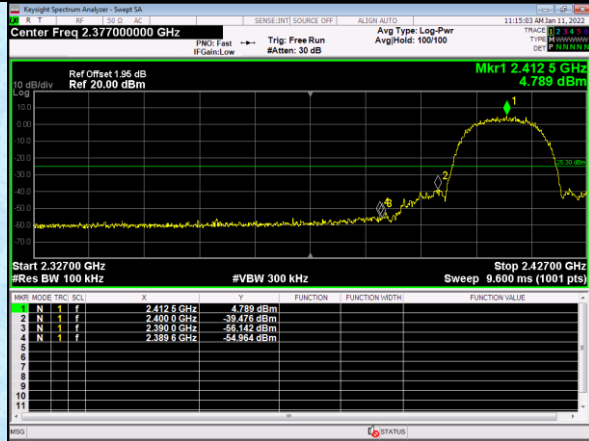
Lowest channel



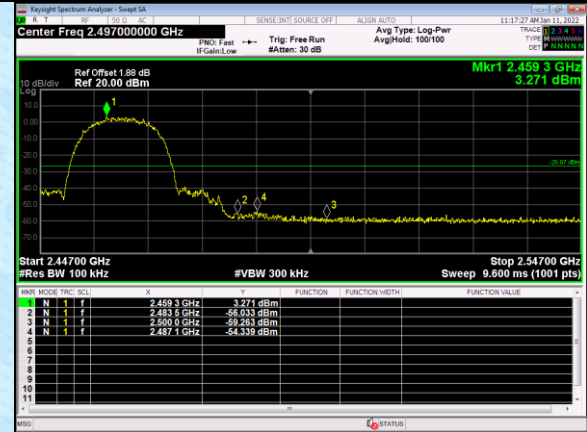
Highest channel

Test plot as follows (ANT B):

Test mode: 802.11b

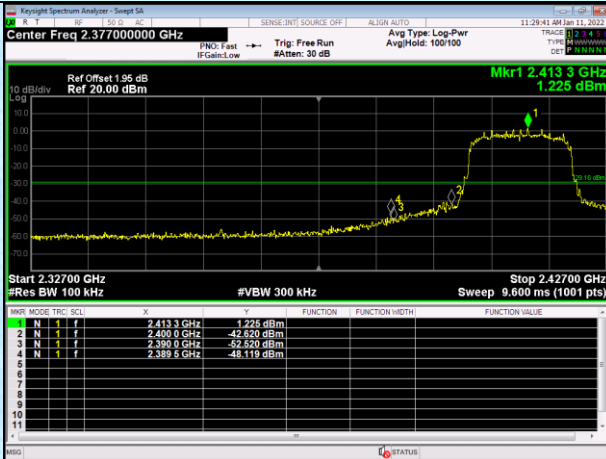


Lowest channel

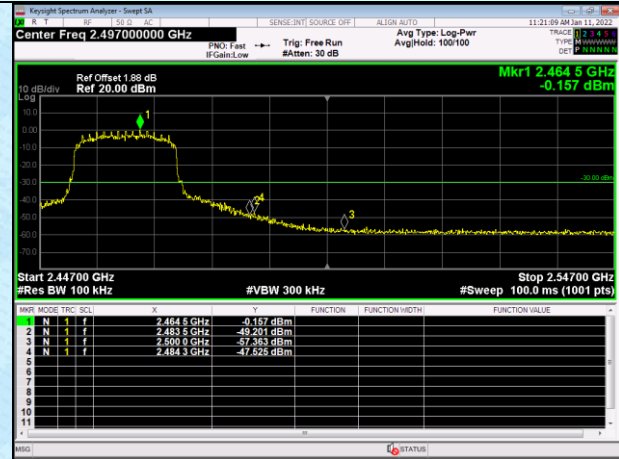


Highest channel

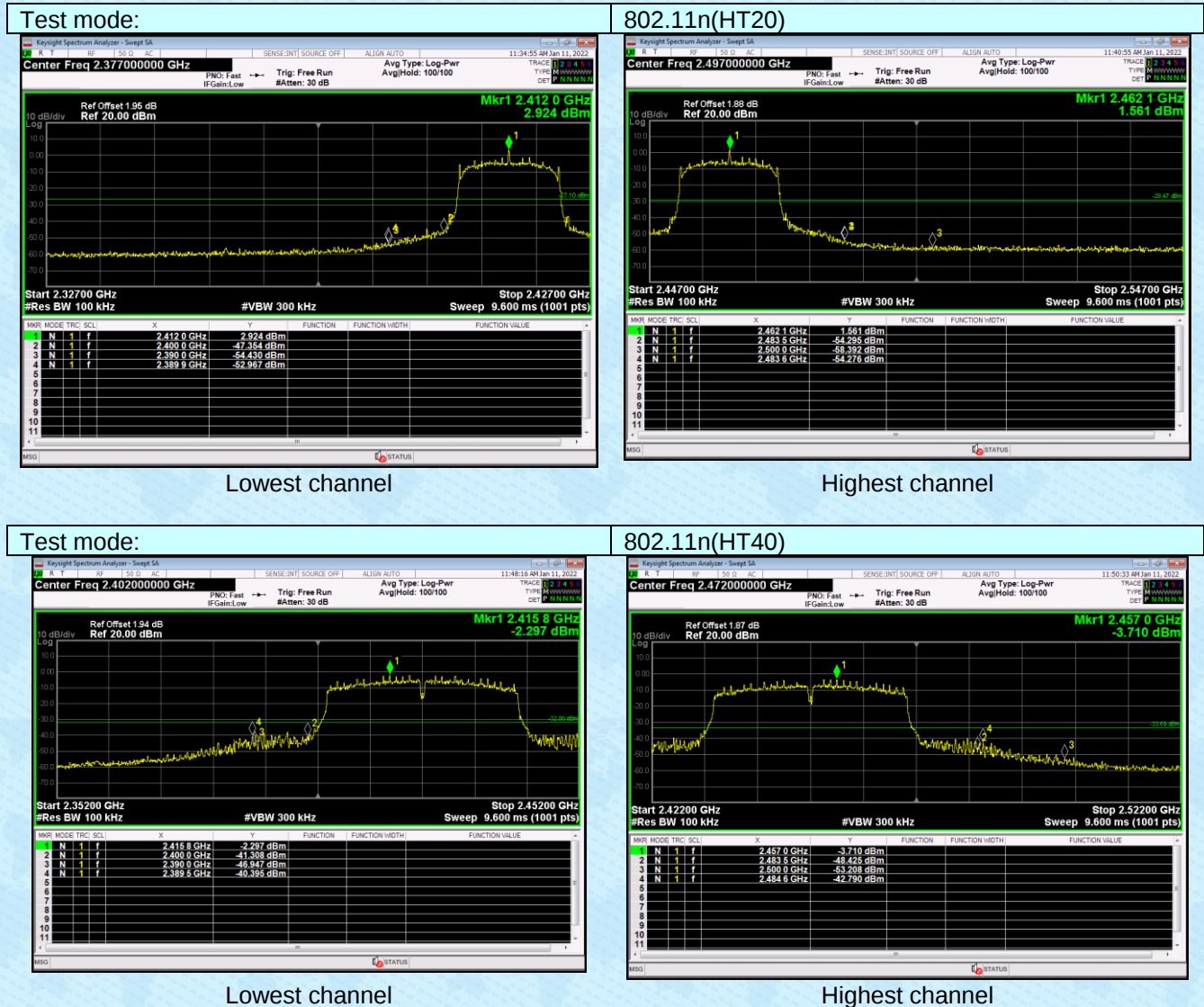
Test mode: 802.11g



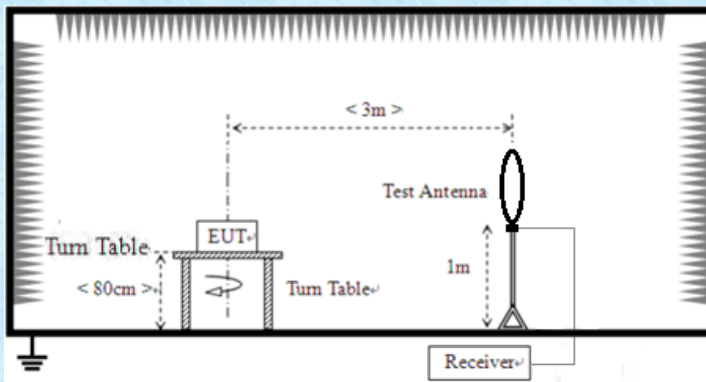
Lowest channel

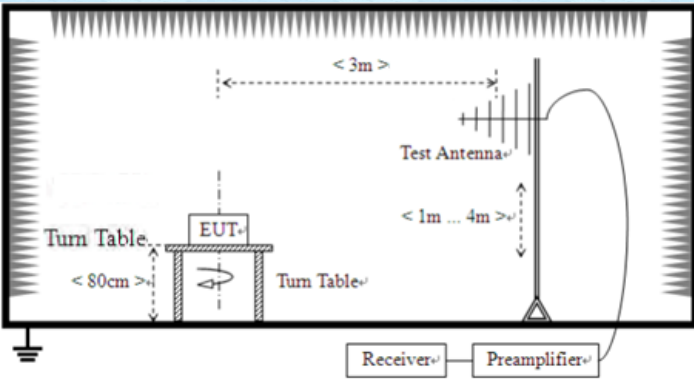
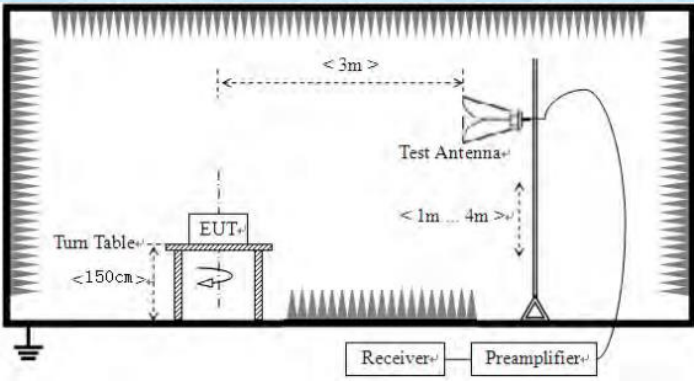


Highest channel



7.6.2 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209 and 15.205 RSS-247 Section 3.3 & RSS-Gen Section 8.9				
Test Method:	ANSI C63.10:2013 & RSS-Gen				
Test Frequency Range:	9kHz to 26.5GHz				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Value
	9KHz-150KHz	Quasi-peak	200Hz	600Hz	Quasi-peak
	150KHz-30MHz	Quasi-peak	9KHz	30KHz	Quasi-peak
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak
	Above 1GHz	Peak	1MHz	3MHz	Peak
		Peak	1MHz	10Hz	Average
Limit:	Frequency	Limit (uV/m)		Value	Measurement Distance
	0.009MHz-0.490MHz	2400/F(KHz)		QP	300m
	0.490MHz-1.705MHz	24000/F(KHz)		QP	30m
	1.705MHz-30MHz	30		QP	30m
	30MHz-88MHz	100		QP	3m
	88MHz-216MHz	150		QP	
	216MHz-960MHz	200		QP	
	960MHz-1GHz	500		QP	
	Above 1GHz	500		Average	
		5000		Peak	
Test setup:	For radiated emissions from 9kHz to 30MHz				
					

	For radiated emissions from 30MHz to 1GHz  For radiated emissions above 1GHz 
Test Procedure:	1. The EUT was placed on the top of a rotating table (0.8m for below 1G and 1.5m for above 1G) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. 4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
Test Instruments:	Refer to section 6.0 for details

Test mode:	Refer to section 5.2 for details					
Test environment:	Temp.:	26 °C	Humid.:	53%	Press.:	1010mbar
Test voltage:	AC 120V, 60Hz;AC 240V,50Hz					
Test results:	Pass					

Remarks:

1. Only the worst case Main Antenna test data.
2. Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis which it is worse case.
3. Both high and low voltages have been tested to show only the worst low voltage test data.

Measurement data:

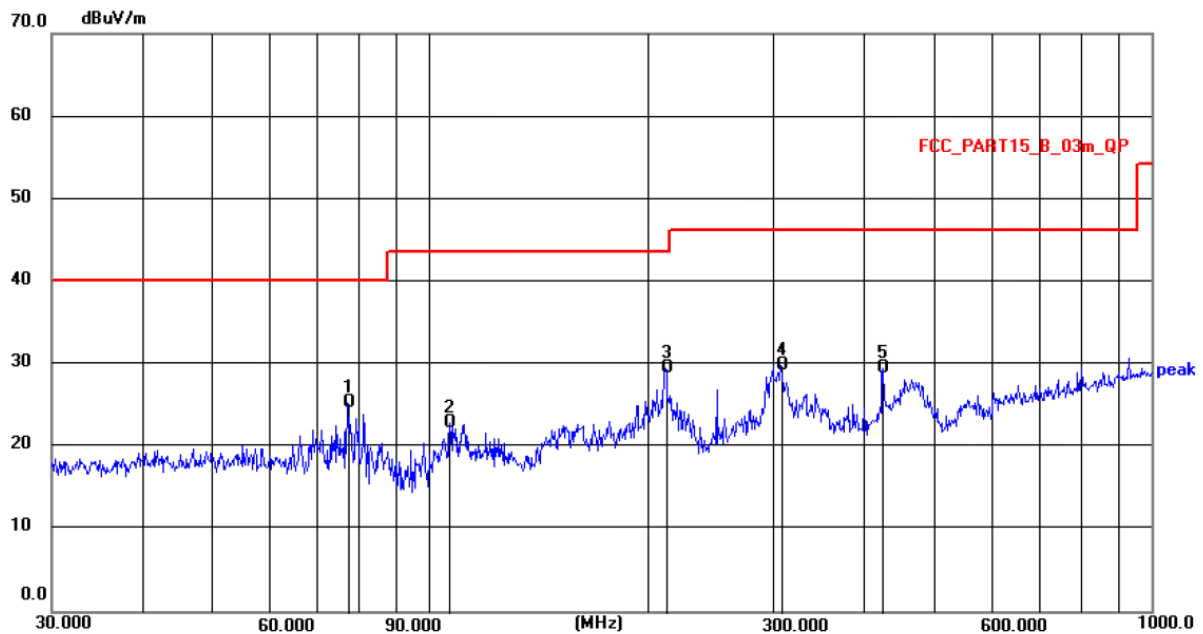
- 9kHz~30MHz

The emission from 9 kHz-30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o) & RSS-Gen 6.13, the test result no need to reported.

Below 1GHz

Pre-scan all test modes, found worst case at 802.11b 2412MHz of ANT A, and so only show the test result of 802.11b 2412MHz of ANT A.

Horizontal:



.Freq	Reading		Limit	Over	Remark
MHz	level	factor	level	limit	
	dBuV/m	dB	dBuV/m	dB	
77.0505	13.99	11.34	25.33	40.00	-14.67 QP
106.7587	10.22	12.62	22.84	43.50	-20.66 QP
212.2695	17.27	12.24	29.51	43.50	-13.99 QP
306.7537	15.02	14.93	29.95	46.00	-16.05 QP
425.0280	12.09	17.43	29.52	46.00	-16.48 QP

Vertical:



Remark:

1. *Level=Reading Level+Factor*
- 1 *Factor = 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.*

Unwanted Emissions in non-restricted Frequency Bands

■ Above 1GHz

Test mode:	802.11b(worst case ANT A)	Test channel:	Lowest
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Peak value:

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
4824.00	42.34	31.79	8.62	32.10	50.65	74.00	-23.35	Vertical
7236.00	28.55	36.19	11.68	31.97	44.45	74.00	-29.55	Vertical
4824.00	43.25	31.79	8.62	32.10	51.56	74.00	-22.44	Horizontal
7236.00	30.12	36.19	11.68	31.97	46.02	74.00	-27.98	Horizontal

Average value:

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
4824.00	37.67	31.79	8.62	32.10	45.98	54.00	-8.02	Vertical
7236.00	22.65	36.19	11.68	31.97	38.55	54.00	-15.45	Vertical
4824.00	38.47	31.79	8.62	32.10	46.78	54.00	-7.22	Horizontal
7236.00	24.53	36.19	11.68	31.97	40.43	54.00	-13.57	Horizontal

Test mode:	802.11b (worst case ANT A)	Test channel:	Middle
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Peak value:

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
4874.00	41.53	31.85	8.66	32.12	49.92	74.00	-24.08	Vertical
7311.00	29.24	36.37	11.71	31.91	45.41	74.00	-28.59	Vertical
4874.00	42.84	31.85	8.66	32.12	51.23	74.00	-22.77	Horizontal
7311.00	28.19	36.37	11.71	31.91	44.36	74.00	-29.64	Horizontal

Average value:

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
4874.00	33.86	31.85	8.66	32.12	44.25	54.00	-9.75	Vertical
7311.00	23.57	36.37	11.71	31.91	39.74	54.00	-14.26	Vertical
4874.00	36.76	31.85	8.66	32.12	45.15	54.00	-8.85	Horizontal
7311.00	21.53	36.37	11.71	31.91	37.70	54.00	-16.30	Horizontal

Test mode:	802.11b (worst case ANT A)	Test channel:	Highest
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Peak value:

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
4924.00	42.89	31.90	8.70	32.15	51.34	74.00	-22.66	Vertical
7386.00	30.29	36.49	11.76	31.83	46.71	74.00	-27.29	Vertical
4924.00	44.18	31.90	8.70	32.15	52.63	74.00	-21.37	Horizontal
7386.00	30.33	36.49	11.76	31.83	46.75	74.00	-27.25	Horizontal

Average value:

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
4924.00	35.78	31.90	8.70	32.15	44.23	54.00	-9.77	Vertical
7386.00	23.17	36.49	11.76	31.83	39.59	54.00	-14.41	Vertical
4924.00	37.92	31.90	8.70	32.15	46.37	54.00	-7.63	Horizontal
7386.00	24.09	36.49	11.76	31.83	40.51	54.00	-13.49	Horizontal

Test mode:	802.11g (worst case ANT A)	Test channel:	lowest
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Peak value:

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
4824.00	41.14	31.79	8.62	32.10	49.45	74.00	-24.55	Vertical
7236.00	29.28	36.19	11.68	31.97	45.18	74.00	-28.82	Vertical
4824.00	43.52	31.79	8.62	32.10	51.83	74.00	-22.17	Horizontal
7236.00	30.51	36.19	11.68	31.97	46.41	74.00	-27.59	Horizontal

Average value:

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
4824.00	35.12	31.79	8.62	32.10	43.43	54.00	-10.57	Vertical
7236.00	22.71	36.19	11.68	31.97	38.61	54.00	-15.39	Vertical
4824.00	36.52	31.79	8.62	32.10	44.83	54.00	-9.17	Horizontal
7236.00	23.25	36.19	11.68	31.97	39.15	54.00	-14.85	Horizontal

Test mode:	802.11g (worst case ANT A)	Test channel:	Middle
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Peak value:

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
4874.00	40.16	31.85	8.66	32.12	48.55	74.00	-25.45	Vertical
7311.00	28.29	36.37	11.71	31.91	44.46	74.00	-29.54	Vertical
4874.00	42.20	31.85	8.66	32.12	50.59	74.00	-23.41	Horizontal
7311.00	29.42	36.37	11.71	31.91	45.59	74.00	-28.41	Horizontal

Average value:

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
4874.00	33.61	31.85	8.66	32.12	42.00	54.00	-12.00	Vertical
7311.00	21.59	36.37	11.71	31.91	37.76	54.00	-16.24	Vertical
4874.00	32.71	31.85	8.66	32.12	41.10	54.00	-12.90	Horizontal
7311.00	23.52	36.37	11.71	31.91	39.69	54.00	-14.31	Horizontal

Test mode:	802.11g (worst case ANT A)	Test channel:	Highest
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Peak value:

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
4924.00	41.67	31.90	8.70	32.15	50.12	74.00	-23.88	Vertical
7386.00	28.91	36.49	11.76	31.83	45.33	74.00	-14.67	Vertical
4924.00	44.20	31.90	8.70	32.15	52.65	74.00	-21.35	Horizontal
7386.00	30.36	36.49	11.76	31.83	46.78	74.00	-27.22	Horizontal

Average value:

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
4924.00	35.91	31.90	8.70	32.15	44.36	54.00	-9.64	Vertical
7386.00	22.82	36.49	11.76	31.83	39.24	54.00	-14.76	Vertical
4924.00	35.79	31.90	8.70	32.15	44.24	54.00	-9.76	Horizontal
7386.00	25.31	36.49	11.76	31.83	41.73	54.00	-12.27	Horizontal

Test mode:	802.11n(HT20)	Test channel:	Lowest
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Peak value:

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
4824.00	40.13	31.79	8.62	32.10	48.44	74.00	-25.56	Vertical
7236.00	27.54	36.19	11.68	31.97	43.44	74.00	-30.56	Vertical
4824.00	41.91	31.79	8.62	32.10	50.22	74.00	-23.78	Horizontal
7236.00	29.42	36.19	11.68	31.97	45.32	74.00	-28.68	Horizontal

Average value:

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
4824.00	34.51	31.79	8.62	32.10	42.82	54.00	-11.18	Vertical
7236.00	23.43	36.19	11.68	31.97	39.33	54.00	-14.67	Vertical
4824.00	35.13	31.79	8.62	32.10	43.44	54.00	-10.56	Horizontal
7236.00	23.28	36.19	11.68	31.97	39.18	54.00	-14.82	Horizontal

Test mode:	802.11n(HT20)	Test channel:	Middle
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Peak value:

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
4874.00	39.60	31.85	8.66	32.12	47.99	74.00	-26.01	Vertical
7311.00	27.72	36.37	11.71	31.91	43.89	74.00	-30.11	Vertical
4874.00	40.18	31.85	8.66	32.12	48.57	74.00	-25.43	Horizontal
7311.00	28.54	36.37	11.71	31.91	44.71	74.00	-29.29	Horizontal

Average value:

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
4874.00	32.97	31.85	8.66	32.12	41.36	54.00	-12.64	Vertical
7311.00	22.53	36.37	11.71	31.91	38.70	54.00	-15.30	Vertical
4874.00	34.17	31.85	8.66	32.12	42.56	54.00	-11.44	Horizontal
7311.00	23.64	36.37	11.71	31.91	39.81	54.00	-14.19	Horizontal

Test mode:	802.11n(HT20)	Test channel:	Highest
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Peak value:

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
4924.00	40.76	31.90	8.70	32.15	49.21	74.00	-24.79	Vertical
7386.00	29.88	36.49	11.76	31.83	46.30	74.00	-27.70	Vertical
4924.00	42.51	31.90	8.70	32.15	50.96	74.00	-23.04	Horizontal
7386.00	30.29	36.49	11.76	31.83	46.71	74.00	-27.29	Horizontal

Average value:

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
4924.00	33.85	31.90	8.70	32.15	42.30	54.00	-11.70	Vertical
7386.00	24.07	36.49	11.76	31.83	40.49	54.00	-13.51	Vertical
4924.00	35.52	31.90	8.70	32.15	43.97	54.00	-10.03	Horizontal
7386.00	23.74	36.49	11.76	31.83	40.16	54.00	-13.84	Horizontal

Test mode:	802.11n(HT40)	Test channel:	Lowest
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Peak value:

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
4844.00	38.42	31.81	8.63	32.11	46.75	74.00	-27.25	Vertical
7266.00	27.73	36.28	11.69	31.94	43.76	74.00	-30.24	Vertical
4844.00	40.75	31.81	8.63	32.11	49.08	74.00	-24.92	Horizontal
7266.00	28.28	36.28	11.69	31.94	44.31	74.00	-29.69	Horizontal

Average value:

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
4844.00	32.85	31.81	8.63	32.11	41.18	54.00	-12.82	Vertical
7266.00	22.33	36.28	11.69	31.94	38.36	54.00	-15.64	Vertical
4844.00	34.09	31.81	8.63	32.11	42.42	54.00	-11.58	Horizontal
7266.00	22.32	36.28	11.69	31.94	38.35	54.00	-15.65	Horizontal

Test mode:	802.11n(HT40)	Test channel:	Middle
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Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	38.18	31.85	8.66	32.12	46.57	74.00	-27.43	Vertical
7311.00	26.33	36.37	11.71	31.91	42.50	74.00	-31.50	Vertical
4874.00	40.86	31.85	8.66	32.12	49.25	74.00	-24.75	Horizontal
7311.00	27.24	36.37	11.71	31.91	43.41	74.00	-30.59	Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	31.64	31.85	8.66	32.12	40.03	54.00	-13.97	Vertical
7311.00	20.41	36.37	11.71	31.91	36.58	54.00	-17.42	Vertical
4874.00	33.35	31.85	8.66	32.12	41.74	54.00	-12.26	Horizontal
7311.00	21.72	36.37	11.71	31.91	37.89	54.00	-16.11	Horizontal

Test mode:	802.11n(HT40)	Test channel:	Highest
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Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4904.00	39.78	31.88	8.68	32.13	48.21	74.00	-25.79	Vertical
7356.00	27.13	36.45	11.75	31.86	43.47	74.00	-30.53	Vertical
4904.00	41.31	31.88	8.68	32.13	49.74	74.00	-24.26	Horizontal
7356.00	29.42	36.45	11.75	31.86	45.76	74.00	-28.24	Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4904.00	33.84	31.88	8.68	32.13	42.27	54.00	-11.73	Vertical
7356.00	21.90	36.45	11.75	31.86	38.24	54.00	-15.76	Vertical
4904.00	35.25	31.88	8.68	32.13	43.68	54.00	-10.32	Horizontal
7356.00	24.67	36.45	11.75	31.86	41.01	54.00	-12.99	Horizontal

Test mode:	802.11b (worst case ANT A)	Test channel:	Lowest
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Peak value:

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
2310.00	42.73	27.14	6.19	42.04	34.02	74.00	-39.98	Horizontal
2390.00	59.14	27.37	6.31	42.11	50.71	74.00	-23.29	Horizontal
2310.00	40.23	27.14	6.19	42.04	31.52	74.00	-42.48	Vertical
2390.00	57.97	27.37	6.31	42.11	49.54	74.00	-24.46	Vertical

Average value:

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
2310.00	31.25	27.14	6.19	42.04	22.54	54.00	-31.46	Horizontal
2390.00	50.28	27.37	6.31	42.11	41.85	54.00	-12.15	Horizontal
2310.00	30.64	27.14	6.19	42.04	21.93	54.00	-32.07	Vertical
2390.00	49.03	27.37	6.31	42.11	40.60	54.00	-13.40	Vertical

Test mode:	802.11b (worst case ANT A)	Test channel:	Highest
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Peak value:

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
2483.50	62.32	27.66	6.45	42.01	54.42	74.00	-19.58	Horizontal
2500.00	42.75	27.70	6.47	42.00	34.92	74.00	-39.08	Horizontal
2483.50	60.72	27.66	6.45	42.01	52.82	74.00	-21.18	Vertical
2500.00	44.12	27.70	6.47	42.00	36.29	74.00	-37.71	Vertical

Average value:

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
2483.50	54.03	27.66	6.45	42.01	46.13	54.00	-7.87	Horizontal
2500.00	35.24	27.70	6.47	42.00	27.41	54.00	-26.59	Horizontal
2483.50	52.04	27.66	6.45	42.01	44.14	54.00	-9.86	Vertical
2500.00	33.56	27.70	6.47	42.00	25.73	54.00	-28.27	Vertical

Test mode:	802.11g (worst case ANT A)	Test channel:	Lowest
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Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2310.00	42.31	27.14	6.19	42.04	33.60	74.00	-40.40	Horizontal
2390.00	59.25	27.37	6.31	42.11	50.82	74.00	-23.18	Horizontal
2310.00	41.34	27.14	6.19	42.04	32.63	74.00	-41.37	Vertical
2390.00	57.72	27.37	6.31	42.11	49.29	74.00	-24.71	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2310.00	33.66	27.14	6.19	42.04	24.95	54.00	-29.05	Horizontal
2390.00	51.82	27.37	6.31	42.11	43.39	54.00	-10.61	Horizontal
2310.00	33.84	27.14	6.19	42.04	25.13	54.00	-28.87	Vertical
2390.00	49.28	27.37	6.31	42.11	40.85	54.00	-13.15	Vertical

Test mode:	802.11g (worst case ANT A)	Test channel:	Highest
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Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2483.50	61.52	27.66	6.45	42.01	53.62	74.00	-20.38	Horizontal
2500.00	42.90	27.70	6.47	42.00	35.07	74.00	-38.93	Horizontal
2483.50	59.18	27.66	6.45	42.01	51.28	74.00	-22.72	Vertical
2500.00	43.29	27.70	6.47	42.00	35.46	74.00	-38.54	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2483.50	53.87	27.66	6.45	42.01	45.97	54.00	-8.03	Horizontal
2500.00	34.91	27.70	6.47	42.00	27.08	54.00	-26.92	Horizontal
2483.50	51.01	27.66	6.45	42.01	43.11	54.00	-10.89	Vertical
2500.00	33.76	27.70	6.47	42.00	25.93	54.00	-28.07	Vertical

Test mode:	802.11n(HT20)	Test channel:	Lowest
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Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2310.00	41.30	27.14	6.19	42.04	32.59	74.00	-41.41	Horizontal
2390.00	58.81	27.37	6.31	42.11	50.38	74.00	-23.62	Horizontal
2310.00	39.23	27.14	6.19	42.04	30.52	74.00	-43.48	Vertical
2390.00	56.39	27.37	6.31	42.11	47.96	74.00	-26.04	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2310.00	31.29	27.14	6.19	42.04	22.58	54.00	-31.42	Horizontal
2390.00	50.56	27.37	6.31	42.11	42.13	54.00	-11.87	Horizontal
2310.00	30.03	27.14	6.19	42.04	21.32	54.00	-32.68	Vertical
2390.00	48.65	27.37	6.31	42.11	40.22	54.00	-13.78	Vertical

Test mode:	802.11n(HT20)	Test channel:	Highest
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Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2483.50	60.19	27.66	6.45	52.01	52.29	74.00	-21.71	Horizontal
2500.00	42.72	27.70	6.47	42.00	34.89	74.00	-39.11	Horizontal
2483.50	59.68	27.66	6.45	42.01	51.78	74.00	-22.22	Vertical
2500.00	43.92	27.70	6.47	42.00	36.09	74.00	-37.91	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2483.50	52.83	27.66	6.45	42.01	44.93	54.00	-9.07	Horizontal
2500.00	34.07	27.70	6.47	42.00	26.24	54.00	-27.76	Horizontal
2483.50	51.60	27.66	6.45	42.01	43.70	54.00	-10.30	Vertical
2500.00	33.81	27.70	6.47	42.00	25.98	54.00	-28.02	Vertical

Test mode:	802.11n(H40)	Test channel:	Lowest
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Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2310.00	40.28	27.14	6.19	42.04	31.57	74.00	-42.43	Horizontal
2390.00	56.77	27.37	6.31	42.11	48.34	74.00	-24.66	Horizontal
2310.00	39.30	27.14	6.19	42.04	30.59	74.00	-43.41	Vertical
2390.00	55.62	27.37	6.31	42.11	47.19	74.00	-26.81	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2310.00	31.24	27.14	6.19	42.04	22.53	54.00	-31.47	Horizontal
2390.00	49.20	27.37	6.31	42.11	40.77	54.00	-13.23	Horizontal
2310.00	29.61	27.14	6.19	42.04	20.90	54.00	-33.10	Vertical
2390.00	48.52	27.37	6.31	42.11	40.09	54.00	-13.91	Vertical

Test mode:	802.11n(HT40)	Test channel:	Highest
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Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2483.50	59.38	27.66	6.45	42.01	51.48	74.00	-22.52	Horizontal
2500.00	40.61	27.70	6.47	42.00	32.78	74.00	-41.22	Horizontal
2483.50	58.55	27.66	6.45	42.01	50.65	74.00	-23.35	Vertical
2500.00	43.38	27.70	6.47	42.00	35.55	74.00	-38.45	Vertical

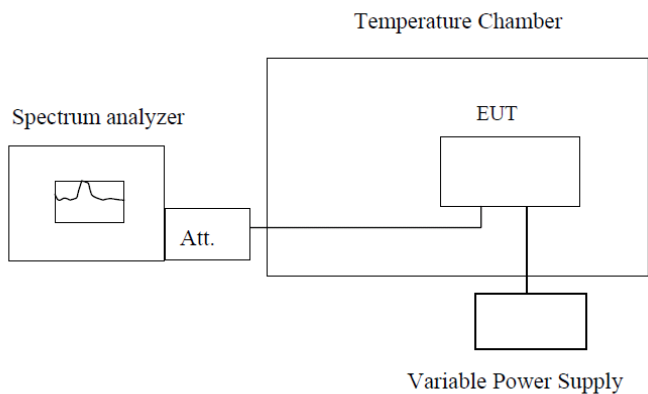
Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2483.50	51.43	27.66	6.45	42.01	43.53	54.00	-10.47	Horizontal
2500.00	34.81	27.70	6.47	42.00	26.98	54.00	-27.02	Horizontal
2483.50	50.62	27.66	6.45	42.01	42.72	54.00	-11.28	Vertical
2500.00	33.53	27.70	6.47	42.00	25.70	54.00	-28.30	Vertical

Remark.

1. Level = Reading Level + Antenna factor + Cable Loss – Amplifier factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

7.7 Frequency stability

Test Requirement:	RSS-Gen Section 6.11& Section 8.11
Test Method:	ANSI C63.10: 2013 & RSS-Gen
Limit:	Manufactures of devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified
Test Procedure:	The EUT was setup to ANSI C63.10, 2013; tested to 2.1055 for compliance to RSS-Gen requirements.
Test setup:	 Note : Measurement setup for testing on Antenna connector
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Remark: Set the EUT transmits at un-modulation mode to test frequency stability.

Measurement data:

Frequency stability versus Temp.						
Power Supply: AC 120V/60Hz						
Temp. (°C)	Operating Frequency (MHz)	0 minute Measured Frequency (MHz)	2 minute Measured Frequency (MHz)	5 minute Measured Frequency (MHz)	10 minute Measured Frequency (MHz)	Pass /Fail
-30	2412	2411.997	2412.002	2412.001	2412.003	Pass
	2422	2422.001	2422.001	2422.03	2422.002	Pass
	2437	2436.999	2436.998	2436.999	2436.998	Pass
	2452	2452.003	2452.002	2452.002	2451.997	Pass
	2462	2462.002	2462.001	2462.004	2462.001	Pass
-20	2412	2411.998	2412.001	2412.001	2412.004	Pass
	2422	2422.000	2422.002	2422.003	2421.996	Pass
	2437	2436.998	2436.997	2436.998	2436.997	Pass
	2452	2452.002	2452.002	2451.998	2452.002	Pass
	2462	2462.001	2462.001	2462.001	2462.001	Pass
-10	2412	2412.003	2411.997	2412.003	2411.998	Pass
	2422	2422.001	2422.003	2422.004	2422.003	Pass
	2437	2436.999	2436.998	2436.996	2437.003	Pass
	2452	2452.001	2452.002	2452.003	2452.002	Pass
	2462	2462.002	2462.001	2462.002	2462.003	Pass
0	2412	2412.003	2411.999	2412.002	2412.004	Pass
	2400	2422.002	2422.001	2421.999	2422.001	Pass
	2437	2436.998	2436.998	2436.998	2436.999	Pass
	2452	2452.001	2452.002	2452.002	2452.003	Pass
	2462	2462.001	2462.001	2462.001	2462.002	Pass
10	2412	2412.003	2411.998	2412.004	2412.001	Pass
	2422	2422.001	2422.001	2422.002	2422.003	Pass
	2437	2436.999	2436.997	2436.998	2437.001	Pass
	2452	2452.002	2452.001	2452.001	2452.002	Pass
	2462	2462.002	2462.002	2462.001	2462.002	Pass
20	2412	2411.997	2412.001	2412.004	2412.003	Pass
	2400	2422.003	2422.003	2422.002	2422.001	Pass
	2437	2436.998	2436.998	2436.999	2436.998	Pass
	2452	2452.004	2452.002	2451.998	2452.002	Pass
	2462	2462.001	2462.001	2462.001	2462.002	Pass
30	2412	2412.002	2411.999	2412.002	2412.001	Pass
	2422	2422.003	2422.001	2421.996	2422.003	Pass
	2437	2436.999	2436.997	2436.998	2437.001	Pass
	2452	2452.002	2452.001	2452.002	2452.001	Pass
	2462	2462.001	2462.002	2462.003	2462.004	Pass
40	2412	2411.999	2412.001	2412.001	2412.002	Pass
	2422	2422.003	2422.002	2422.002	2422.001	Pass
	2437	2436.997	2436.999	2436.999	2436.999	Pass
	2452	2452.002	2452.001	2452.002	2452.001	Pass
	2462	2462.002	2462.002	2461.998	2462.002	Pass
50	2412	2411.997	2412.002	2412.001	2412.002	Pass
	2422	2422.003	2422.003	2422.002	2422.001	Pass
	2437	2436.997	2436.998	2436.997	2436.999	Pass
	2452	2452.002	2451.997	2452.001	2452.001	Pass
	2462	2462.001	2462.003	2462.002	2462.003	Pass

Frequency stability versus Voltage						
Temperature: 25°C						
Power Supply	Operating Frequency (MHz)	0 minute Measured Frequency (MHz)	2 minute Measured Frequency (MHz)	5 minute Measured Frequency (MHz)	10 minute Measured Frequency (MHz)	Pass /Fail
AC 120V/60Hz	2412	2412.003	2411.996	2412.002	2412.002	Pass
	2422	2422.002	2422.002	2421.996	2422.001	Pass
	2437	2437.003	2436.999	2436.998	2436.998	Pass
	2452	2452.001	2452.002	2452.002	2452.002	Pass
	2462	2461.998	2461.999	2462.003	2462.001	Pass

8 Test Setup Photo

Reference to the **appendix I** for details.

9 EUT Constructional Details

Reference to the **appendix II** for details.

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