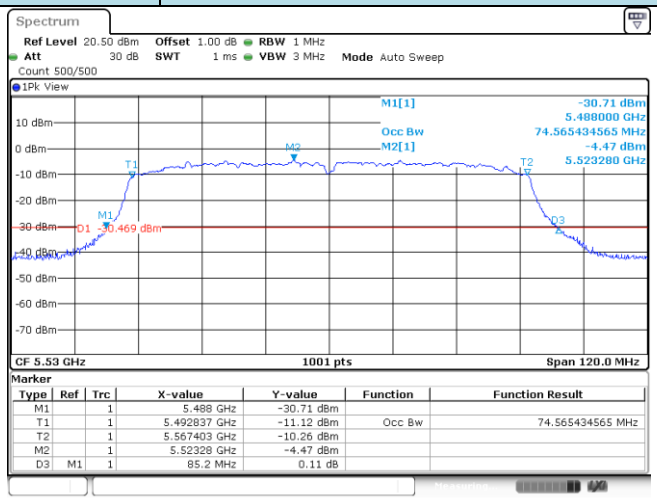
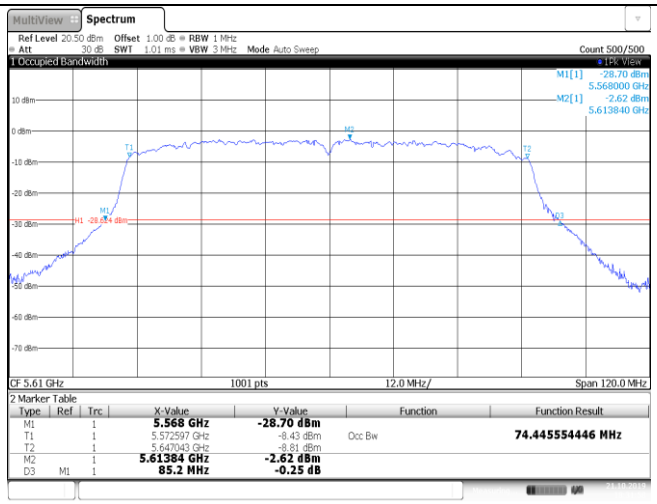
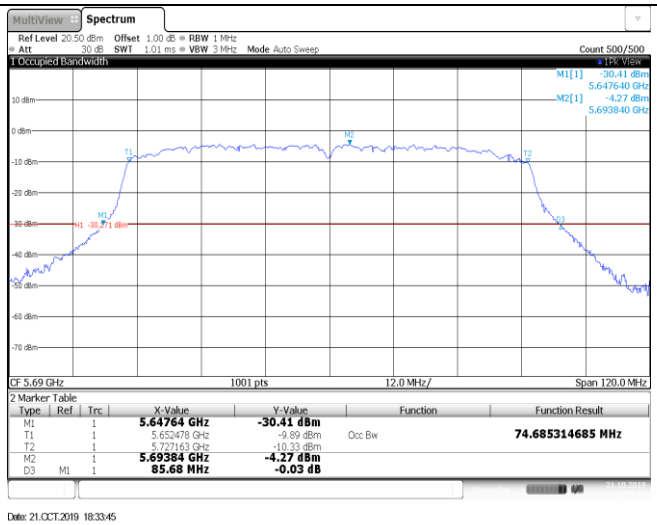
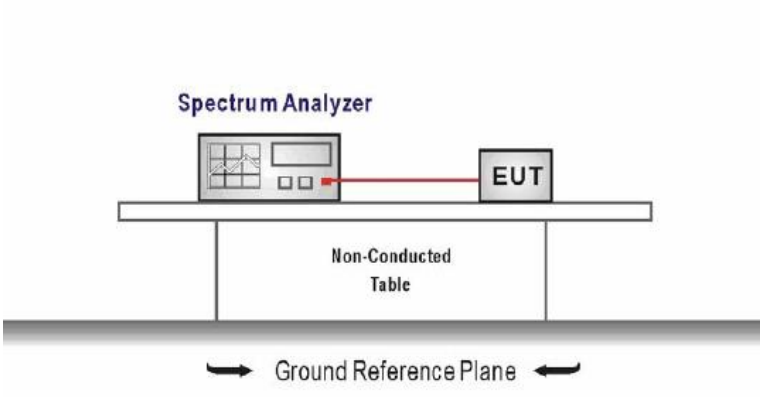
Band III	802.11ac (HT80)
CH_L	
CH_M	
CH_H	

5.6. 6dB Bandwidth

LIMIT

FCC CFR Title 47 Part 15 Subpart E Section 15.407(e)
Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz

TEST CONFIGURATION



TEST PROCEDURE

1. Connect the antenna port(s) to the spectrum analyzer input.
2. Configure the spectrum analyzer as shown below (enter all losses between the transmitter output and the spectrum analyzer).
   Center Frequency =test channel center frequency
   Span=2 x emission bandwidth
   RBW = 100 kHz, VBW ≥ 3 × RBW
   Sweep time= auto couple
   Detector = Peak
   Trace mode = max hold
3. Place the radio in continuous transmit mode, allow the trace to stabilize, view the transmitter wave form on the spectrum analyzer.
4. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission, and record the pertinent measurements.

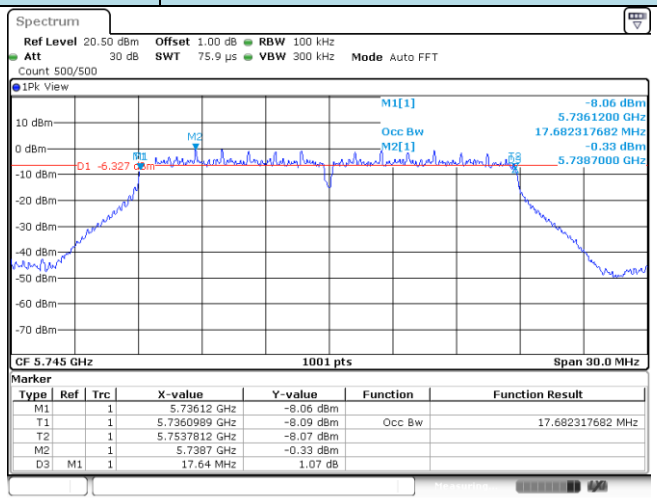
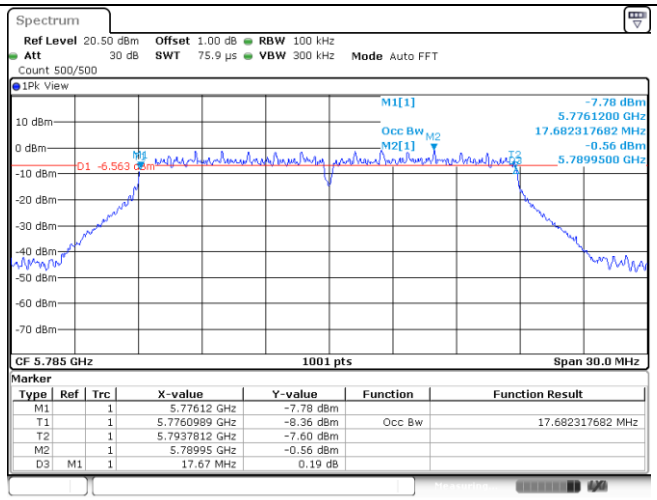
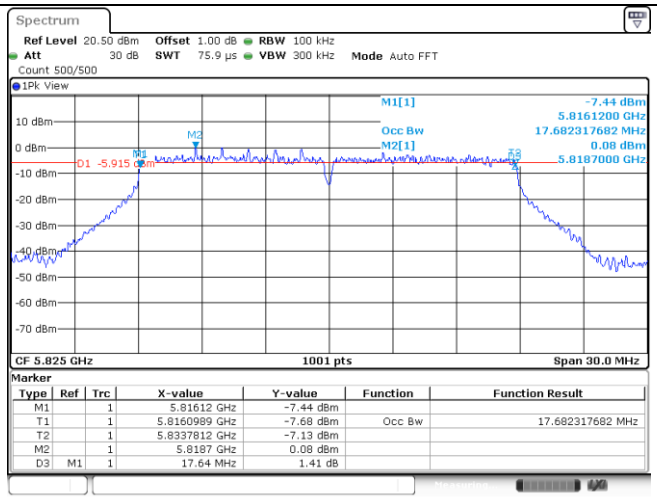
TEST MODE:

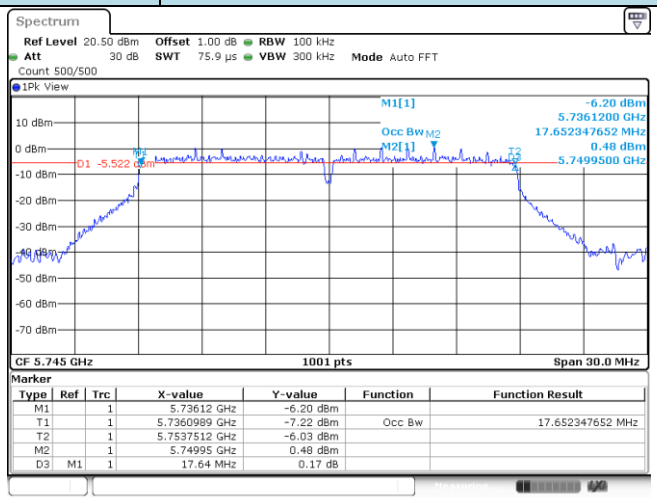
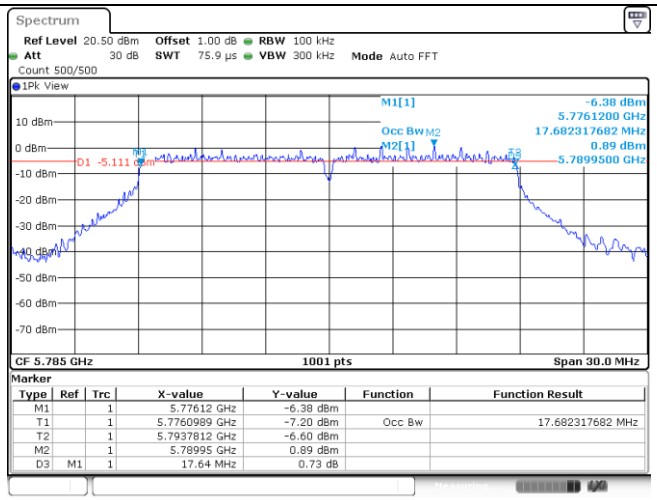
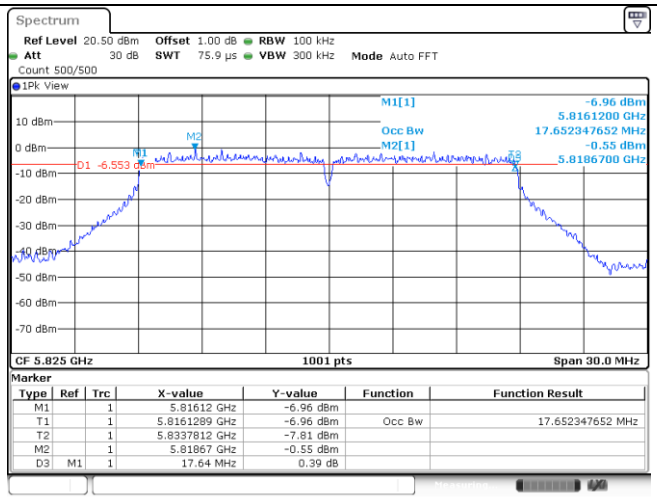
Please refer to the clause 3.3

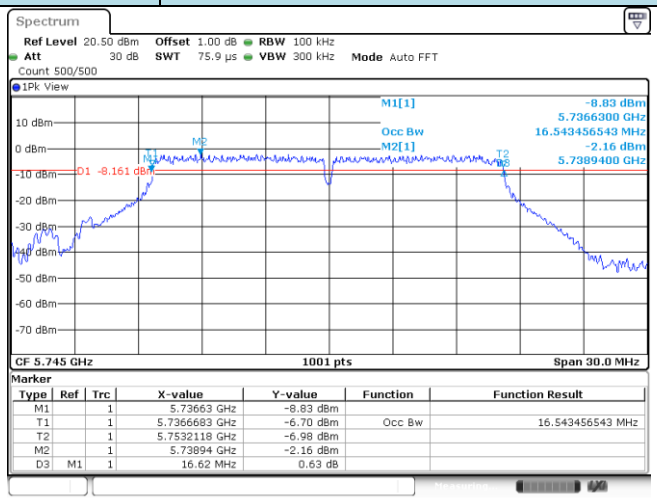
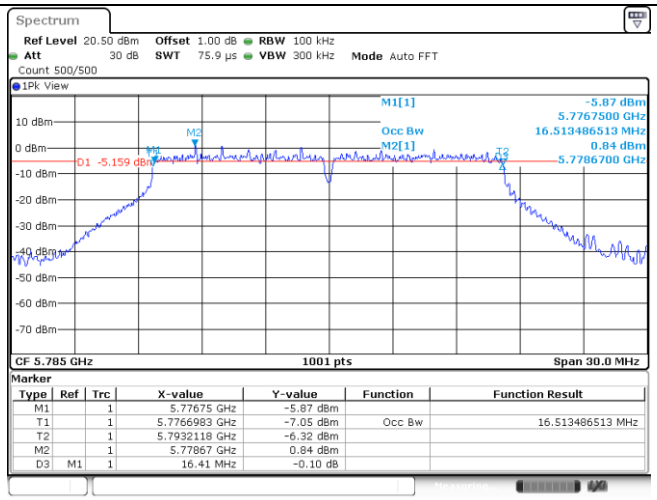
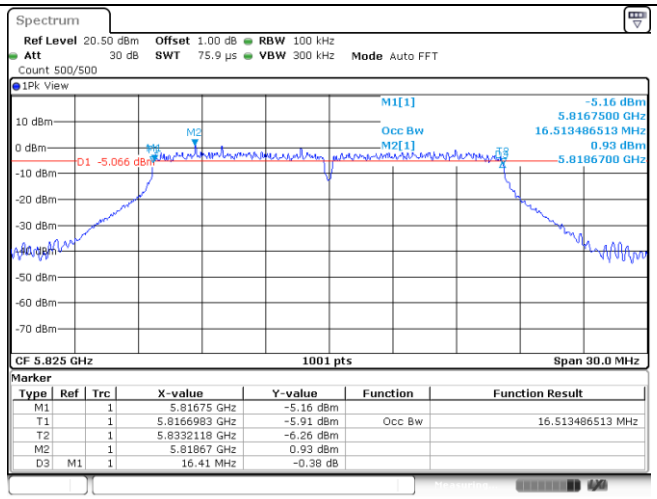
TEST RESULTS

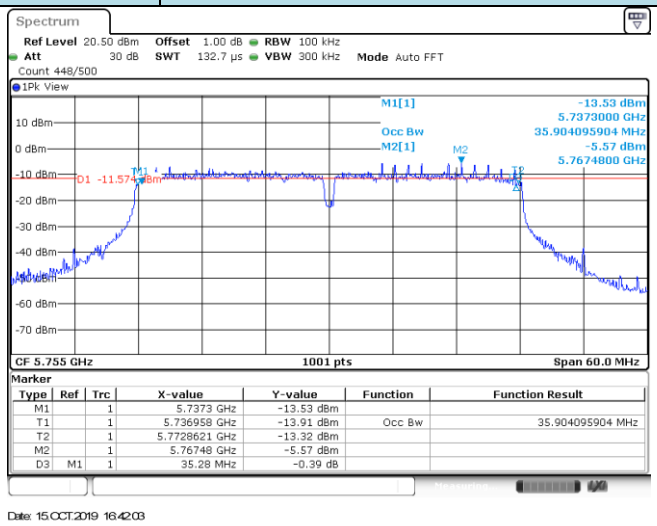
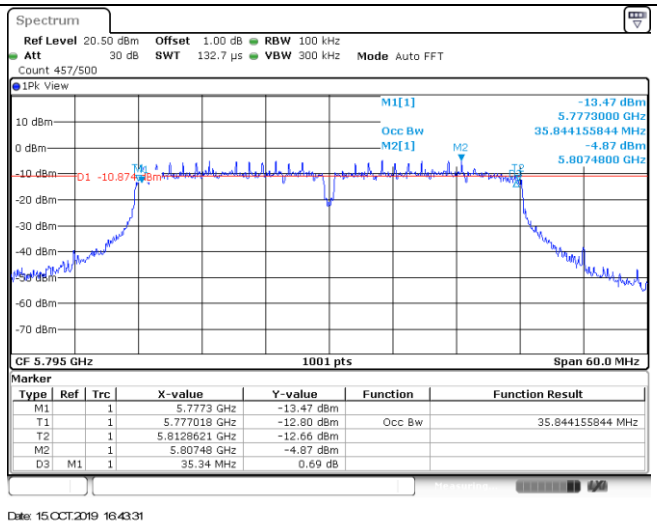
☒ **Passed** ☐ **Not Applicable**

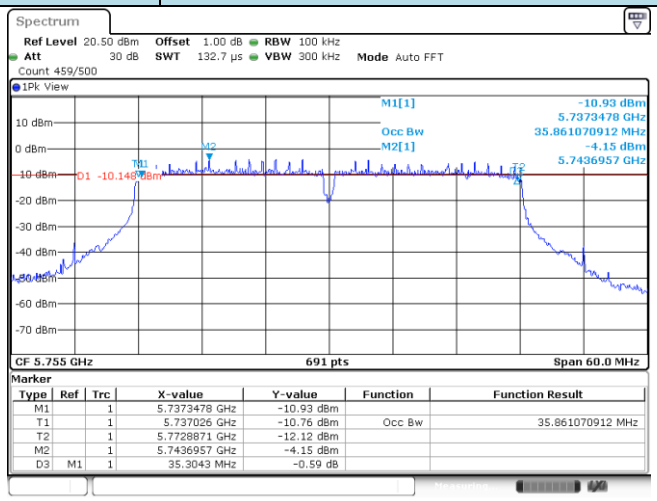
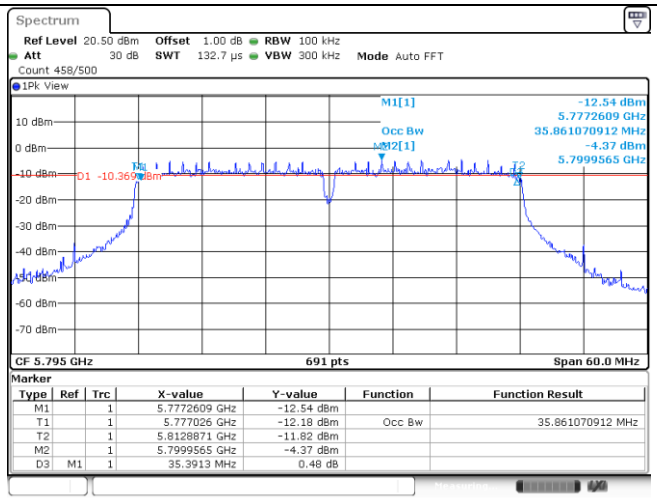
Band	Bandwidth (MHz)	Type	Channel	6dB bandwith (MHz)	99% Occupy bandwith (MHz)	Result
IV	20	802.11ac	CH_L	17.64	17.68	Pass
			CH_M	17.67	17.68	
			CH_H	17.64	17.68	
		802.11n	CH_L	17.64	17.65	Pass
			CH_M	17.64	17.68	
			CH_H	17.64	17.65	
		802.11a	CH_L	16.62	16.54	Pass
			CH_M	16.41	16.51	
			CH_H	16.41	16.51	
	40	802.11ac	CH_L	35.28	35.90	Pass
			CH_H	35.34	35.84	
		802.11n	CH_L	35.30	35.86	Pass
			CH_H	35.39	35.86	
	80	802.11ac	CH_M	71.64	74.69	Pass

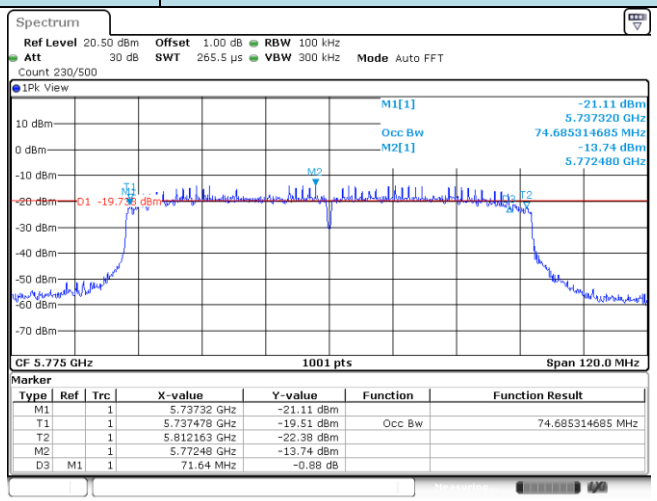
Band IV	802.11ac (HT20)
CH_L	
CH_M	
CH_H	

Band IV	802.11n (HT20)
CH_L	
CH_M	
CH_H	

Band IV	802.11a
CH_L	
CH_M	
CH_H	

Band IV	802.11ac (HT40)
CH_L	
CH_H	

Band IV	802.11n (HT40)
CH_L	
CH_H	

Band IV	802.11ac (HT80)
CH_M	

5.7. Band edge

LIMIT

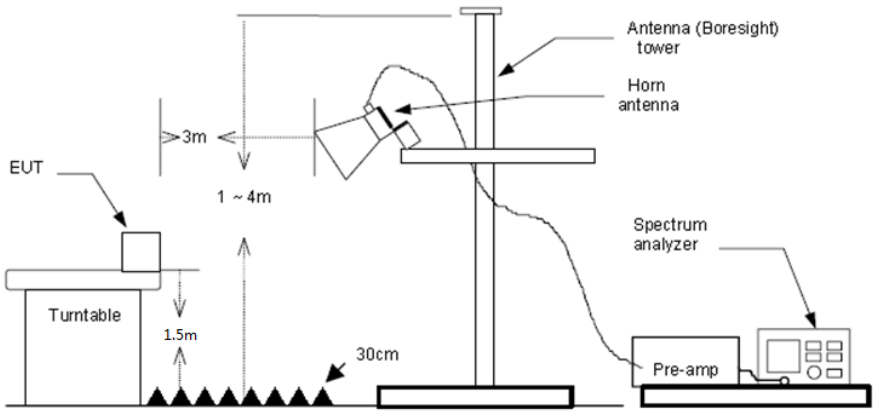
FCC CFR Title 47 Part 15 Subpart E Section 15.407(b)

Un-restricted band emissions above 1GHz			
Operating Band	Frequency	EIRP Limit	Value
5150-5250MHz	Above 1GHz	-27dBm/MHz (68.2dBuV/m@3m)	Peak
5250-5350MHz	Above 1GHz	-27dBm/MHz (68.2dBuV/m@3m)	Peak
5470-5725MHz	Above 1GHz	-27dBm/MHz (68.2dBuV/m@3m)	Peak
5725-5850 MHz	1GHz-5.65GHz	-27dBm/MHz (68.2dBuV/m@3m)	Peak
	5.65GHz-5.7GHz	-27*dBm/MHz to 10dBm/MHz (68.2* dBuV/m to 105.6dBuV/m@3m)	Peak
	5.7GHz-5.72GHz	10*dBm/MHz to 15.6dBm/MHz (105.6*dBuV/m to 110.8dBuV/m@3m)	Peak
	5.72GHz-5.725GHz	15.6*dBm/MHz to 27dBm/MHz (110.8dBuV/m to* 122.2dBuV/m@3m)	Peak
	5.85GHz-5.855GHz	27dBm/MHz to 15.6*dBm/MHz (122.2dBuV/m to110.8* dBuV/m@3m)	Peak
	5.855GHz-5.875GHz	15.6dBm/MHz to 10*dBm/MHz (110.8dBuV/m to 105.6* dBuV/m@3m)	Peak
	5.875GHz-5.925GHz	10dBm/MHz to -27*dBm/MHz (105.6dBuV/m to 68.2* dBuV/m@3m)	Peak
	Above 5.925GHz	-27dBm/MHz (68.2dBuV/m@3m)	Peak

* Increase/Decreases with the linearly of the frequency.

For emission above 1GHz and in restricted band, according to FCC KDB 789033 D02 General UNII Test Procedure, all emission that complies with both the average and peak limits of Section 15.209 is not required to satisfy the -27 dBm/MHz peak emission limit. E[dBμV/m] = EIRP[dBm] + 95.2, for d = 3 meters.

TEST CONFIGURATION



TEST PROCEDURE

1. The EUT was setup and tested according to ANSI C63.10:2013 requirements.
2. The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
3. The EUT waspositioned 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. Thisis repeated for both horizontal and vertical polarization of the antenna. In order to find themaximum emission, all of the interface cables were manipulated according to ANSI C63.10:2013 on radiated measurement.
5. The receiver set as follow:
   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**

Band: I&II		Worst mode: 802.11a			Test channel: CH_L		
Frequency (MHz)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Factor (dB)	Test value	Polarization
5150.00	17.89	26.78	54.00	27.22	8.89	Vertical	Average
5150.00	24.84	33.73	68.20	34.47	8.89	Vertical	Peak
5150.00	18.70	27.59	54.00	26.41	8.89	Horizontal	Average
5150.00	25.31	34.20	68.20	34.00	8.89	Horizontal	Peak

Band: I&II		Worst mode: 802.11a			Test channel: CH_H		
Frequency (MHz)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Factor (dB)	Test value	Polarization
5350.00	17.92	26.46	54.00	27.54	8.54	Vertical	Average
5350.00	25.13	33.67	68.20	34.53	8.54	Vertical	Peak
5350.00	17.66	26.20	54.00	27.80	8.54	Horizontal	Average
5350.00	23.82	32.36	68.20	35.84	8.54	Horizontal	Peak

Band: III		Worst mode: 802.11a			Test channel: CH_L		
Frequency (MHz)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Factor (dB)	Test value	Polarization
5470.00	17.37	26.36	54.00	27.64	8.99	Vertical	Average
5470.00	23.87	32.86	68.20	35.34	8.99	Vertical	Peak
5470.00	19.03	28.02	54.00	25.98	8.99	Horizontal	Average
5470.00	24.82	33.81	68.20	34.39	8.99	Horizontal	Peak

Band: III		Worst mode: 802.11a			Test channel: CH_H		
Frequency (MHz)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Factor (dB)	Test value	Polarization
5725.00	17.58	26.58	54.00	27.42	9.00	Vertical	Average
5725.00	23.55	32.55	68.20	35.65	9.00	Vertical	Peak
5725.00	18.78	27.78	54.00	26.22	9.00	Horizontal	Average
5725.00	25.02	34.02	68.20	34.18	9.00	Horizontal	Peak

Band: IV		Worst mode: 802.11a			Test channel: CH_L		
Frequency (MHz)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Factor (dB)	Test value	Polarization
5725.00	18.90	27.90	54.00	26.10	9.00	Vertical	Average
5725.00	25.02	34.02	68.20	34.18	9.00	Vertical	Peak
5725.00	19.05	28.05	54.00	25.95	9.00	Horizontal	Average
5725.00	26.25	35.25	68.20	32.95	9.00	Horizontal	Peak

Band: IV		Worst mode: 802.11a			Test channel: CH_H		
Frequency (MHz)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Factor (dB)	Test value	Polarization
5850.00	18.47	28.24	54.00	25.76	9.77	Vertical	Average
5850.00	25.54	35.31	68.20	32.89	9.77	Vertical	Peak
5850.00	17.39	27.16	54.00	26.84	9.77	Horizontal	Average
5850.00	24.38	34.15	68.20	34.05	9.77	Horizontal	Peak

Remark:

1. *Final Level =Receiver Read level + Factor*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*
3. *Test 802.11a, 802.11n, 802.11ac mode,all modulations have been tested,only worst case is reported*

5.8. Radiated Spurious Emissions

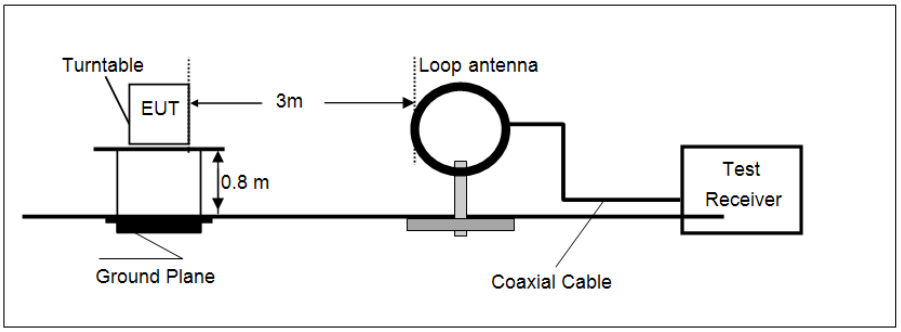
LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.209 and Part 15 Subpart E Section 15.407

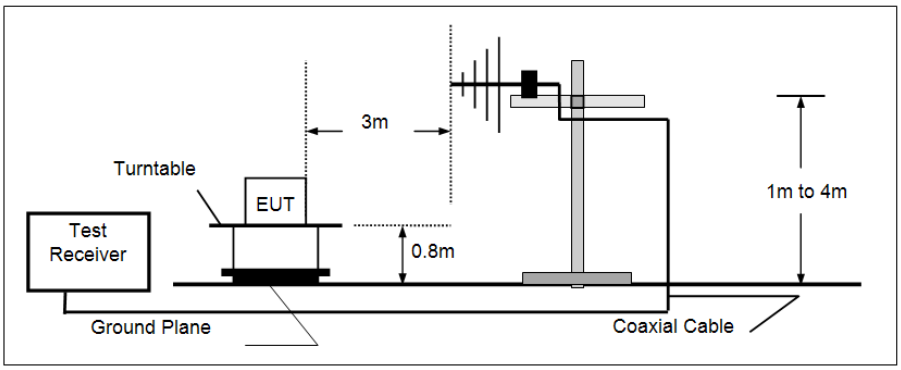
Unwanted emissions below 1GHz and Restricted band emissions above 1GHz		
Frequency	Limit (dBuV/m @3m)	Value
30MHz-88MHz	40.00	Quasi-peak
88MHz-216MHz	43.50	Quasi-peak
216MHz-960MHz	46.00	Quasi-peak
960MHz-1GHz	54.00	Quasi-peak
Above 1GHz	54.00	Average
	74.00	Peak

TEST CONFIGURATION

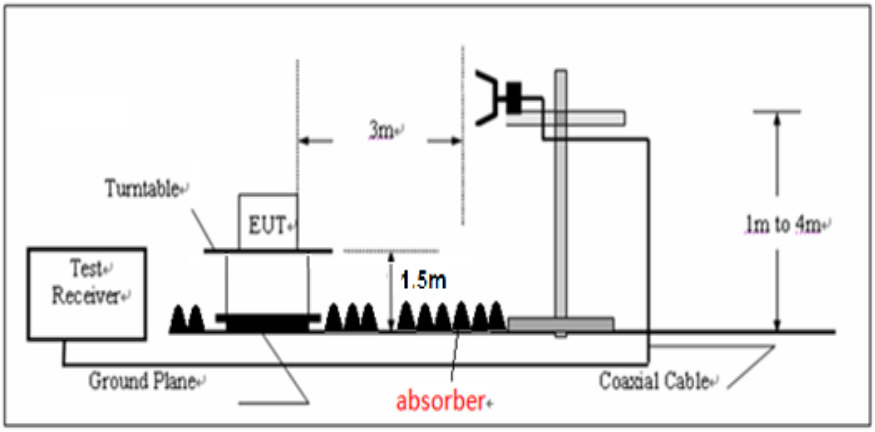
- 9KHz ~30MHz



- 30MHz ~ 1GHz



- Above 1GHz



TEST PROCEDURE

1. The EUT was setup and tested according to ANSI C63.10:2013
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 10^{th} 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

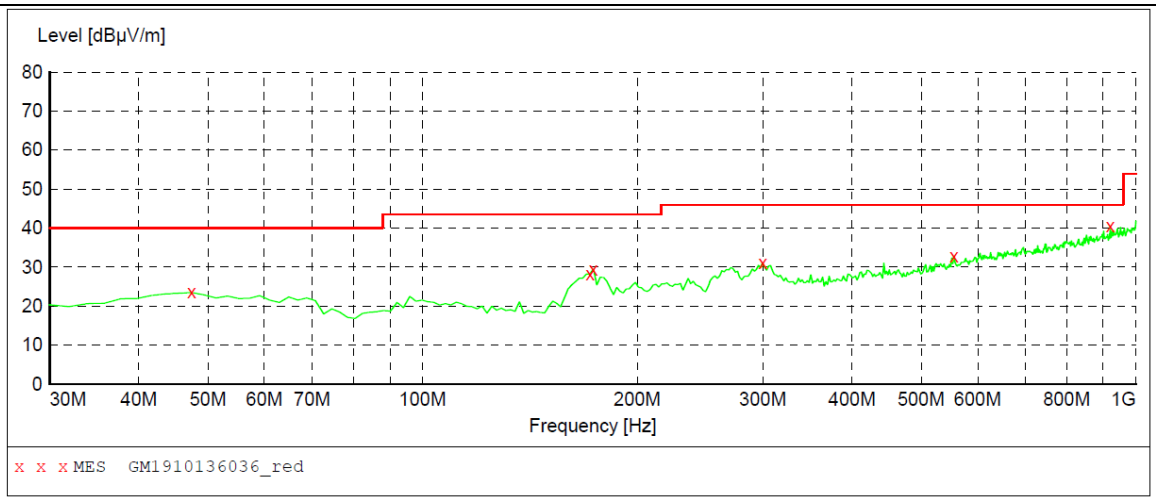
☒ **Passed** ☐ **Not Applicable**

Measurement data:

■ **9kHz ~ 30MHz**

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

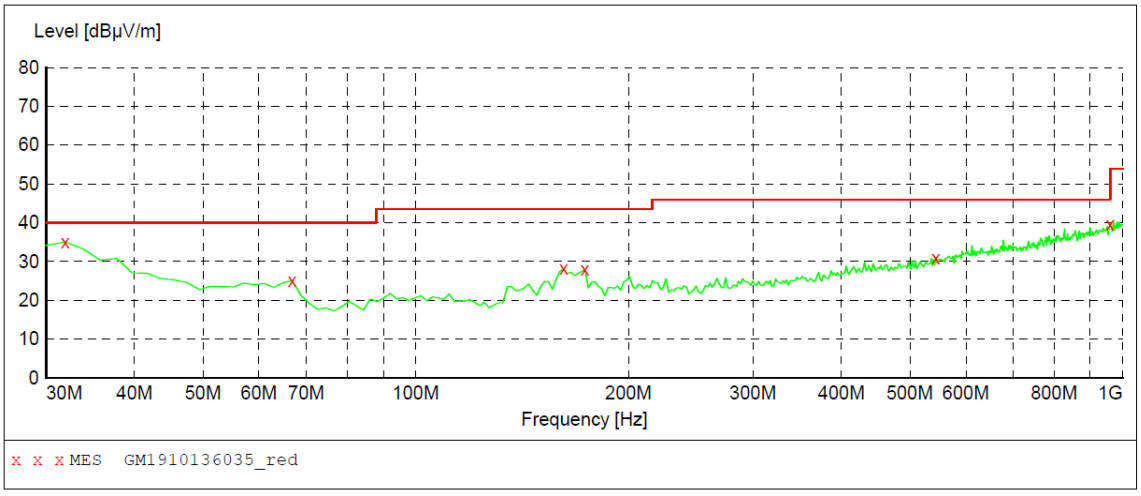
■ **30MHz ~ 1GHz**



MEASUREMENT RESULT: "GM1910136036_red"

10/13/2019 4:37PM

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
47.460000	23.50	-4.6	40.0	16.5	QP	300.0	14.00	HORIZONTAL
171.620000	28.20	-8.5	43.5	15.3	QP	100.0	85.00	HORIZONTAL
173.560000	29.50	-8.4	43.5	14.0	QP	100.0	96.00	HORIZONTAL
299.660000	31.10	-2.4	46.0	14.9	QP	100.0	285.00	HORIZONTAL
555.740000	32.90	4.3	46.0	13.1	QP	100.0	96.00	HORIZONTAL
920.460000	40.50	11.6	46.0	5.5	QP	300.0	239.00	HORIZONTAL



MEASUREMENT RESULT: "GM1910136035_red"

10/13/2019 4:33PM

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
31.940000	35.00	-8.7	40.0	5.0	QP	100.0	250.00	VERTICAL
66.860000	25.10	-7.7	40.0	14.9	QP	100.0	0.00	VERTICAL
161.920000	28.20	-8.6	43.5	15.3	QP	100.0	285.00	VERTICAL
173.560000	28.00	-8.4	43.5	15.5	QP	100.0	285.00	VERTICAL
544.100000	31.00	4.0	46.0	15.0	QP	100.0	285.00	VERTICAL
959.260000	39.60	12.4	46.0	6.4	QP	100.0	131.00	VERTICAL

Remark:
Transd=Cable lose+ Antenna factor- Pre-amplifier; Margin=Limit -Level

■ **Above 1GHz**

Band: I		Worst mode: 802.11a			Test channel: CH_L		
Frequency (MHz)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Factor (dB)	Test value	Polarization
1378.94	23.12	17.54	74.00	56.46	-5.58	Vertical	Peak
3607.03	29.28	30.74	74.00	43.26	1.46	Vertical	Peak
5506.13	28.54	37.67	74.00	36.33	9.13	Vertical	Peak
7124.69	28.16	42.73	74.00	31.27	14.57	Vertical	Peak
1465.59	22.91	17.30	74.00	56.70	-5.61	Horizontal	Peak
3166.41	29.39	30.06	74.00	43.94	0.67	Horizontal	Peak
5623.63	27.90	36.74	74.00	37.26	8.84	Horizontal	Peak
6664.97	27.86	41.22	74.00	32.78	13.36	Horizontal	Peak

Band: I		Worst mode: 802.11a			Test channel: CH_M		
Frequency (MHz)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Factor (dB)	Test value	Polarization
2113.31	22.60	18.73	74.00	55.27	-3.87	Vertical	Peak
4201.88	28.42	32.24	74.00	41.76	3.82	Vertical	Peak
6684.06	29.02	42.44	74.00	31.56	13.42	Vertical	Peak
9602.47	30.56	47.66	74.00	26.34	17.10	Vertical	Peak
1467.06	21.43	15.82	74.00	58.18	-5.61	Horizontal	Peak
3975.69	28.02	30.95	74.00	43.05	2.93	Horizontal	Peak
5857.16	27.41	37.21	74.00	36.79	9.80	Horizontal	Peak
6099.50	26.56	37.28	74.00	36.72	10.72	Horizontal	Peak

Band: I		Worst mode: 802.11a			Test channel: CH_H		
Frequency (MHz)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Factor (dB)	Test value	Polarization
2000.22	21.83	17.13	74.00	56.87	-4.70	Vertical	Peak
6440.25	27.31	39.09	74.00	34.91	11.78	Vertical	Peak
9589.25	29.62	46.82	74.00	27.18	17.20	Vertical	Peak
10991.91	28.54	46.35	74.00	27.65	17.81	Vertical	Peak
2258.72	22.27	19.68	74.00	54.32	-2.59	Horizontal	Peak
6440.25	28.46	40.24	74.00	33.76	11.78	Horizontal	Peak
8722.69	29.89	46.02	74.00	27.98	16.13	Horizontal	Peak
12397.50	28.72	45.72	74.00	28.28	17.00	Horizontal	Peak

Band: II		Worst mode: 802.11a			Test channel: CH_L		
Frequency (MHz)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Factor (dB)	Test value	Polarization
1771.09	23.31	17.42	74.00	56.58	-5.89	Vertical	Peak
2681.72	23.12	23.36	74.00	50.64	0.24	Vertical	Peak
5769.03	27.19	36.51	74.00	37.49	9.32	Vertical	Peak
8042.66	28.29	44.54	74.00	29.46	16.25	Vertical	Peak
1568.41	21.94	15.87	74.00	58.13	-6.07	Horizontal	Peak
2254.31	23.05	20.43	74.00	53.57	-2.62	Horizontal	Peak
5695.59	28.41	37.23	74.00	36.77	8.82	Horizontal	Peak
8621.34	28.81	44.68	74.00	29.32	15.87	Horizontal	Peak

Band: II		Worst mode: 802.11a			Test channel: CH_M		
Frequency (MHz)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Factor (dB)	Test value	Polarization
1514.06	21.54	15.82	74.00	58.18	-5.72	Vertical	Peak
2248.44	22.25	19.59	74.00	54.41	-2.66	Vertical	Peak
4711.53	28.12	34.58	74.00	39.42	6.46	Vertical	Peak
11486.88	28.44	45.87	74.00	28.13	17.43	Vertical	Peak
1349.56	22.08	16.51	74.00	57.49	-5.57	Horizontal	Peak
2269.00	22.57	20.04	74.00	53.96	-2.53	Horizontal	Peak
6734.00	28.96	42.34	74.00	31.66	13.38	Horizontal	Peak
8668.34	29.16	45.23	74.00	28.77	16.07	Horizontal	Peak

Band: II		Worst mode: 802.11a			Test channel: CH_H		
Frequency (MHz)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Factor (dB)	Test value	Polarization
1706.47	22.18	16.10	74.00	57.90	-6.08	Vertical	Peak
3233.97	30.07	30.51	74.00	43.49	0.44	Vertical	Peak
5638.31	27.60	36.43	74.00	37.57	8.83	Vertical	Peak
8069.09	29.26	45.55	74.00	28.45	16.29	Vertical	Peak
1568.41	23.03	16.96	74.00	57.04	-6.07	Horizontal	Peak
3495.41	28.26	29.25	74.00	44.75	0.99	Horizontal	Peak
6291.91	27.42	38.41	74.00	35.59	10.99	Horizontal	Peak
7951.59	29.22	45.47	74.00	28.53	16.25	Horizontal	Peak

Band: III		Worst mode: 802.11a			Test channel: CH_L		
Frequency (MHz)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Factor (dB)	Test value	Polarization
1283.47	22.95	17.34	74.00	56.66	-5.61	Vertical	Peak
3579.13	29.05	30.42	74.00	43.58	1.37	Vertical	Peak
7342.06	28.09	43.27	74.00	30.73	15.18	Vertical	Peak
11176.97	28.93	46.60	74.00	27.40	17.67	Vertical	Peak
1605.13	22.40	16.13	74.00	57.87	-6.27	Horizontal	Peak
3831.75	28.14	30.35	74.00	43.65	2.21	Horizontal	Peak
6847.09	28.48	42.10	74.00	31.90	13.62	Horizontal	Peak
8097.00	28.89	45.23	74.00	28.77	16.34	Horizontal	Peak

Band: III		Worst mode: 802.11a			Test channel: CH_M		
Frequency (MHz)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Factor (dB)	Test value	Polarization
1047.00	23.13	15.86	74.00	58.14	-7.27	Vertical	Peak
2590.66	22.15	20.75	74.00	53.25	-1.40	Vertical	Peak
5121.31	27.60	36.44	74.00	37.56	8.84	Vertical	Peak
7433.13	28.29	43.67	74.00	30.33	15.38	Vertical	Peak
1837.19	22.96	17.15	74.00	56.85	-5.81	Horizontal	Peak
3693.69	29.84	31.42	74.00	42.58	1.58	Horizontal	Peak
7491.88	27.84	43.25	74.00	30.75	15.41	Horizontal	Peak
9467.34	28.73	46.52	74.00	27.48	17.79	Horizontal	Peak

Band: III		Worst mode: 802.11a			Test channel: CH_H		
Frequency (MHz)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Factor (dB)	Test value	Polarization
1984.06	22.10	17.22	74.00	56.78	-4.88	Vertical	Peak
2753.69	24.36	25.76	74.00	48.24	1.40	Vertical	Peak
3978.63	27.43	30.38	74.00	43.62	2.95	Vertical	Peak
7180.50	27.80	42.68	74.00	31.32	14.88	Vertical	Peak
1555.19	21.58	15.59	74.00	58.41	-5.99	Horizontal	Peak
3703.97	28.80	30.41	74.00	43.59	1.61	Horizontal	Peak
5813.09	26.53	36.14	74.00	37.86	9.61	Horizontal	Peak
10784.81	28.78	46.48	74.00	27.52	17.70	Horizontal	Peak

Band: IV		Worst mode: 802.11a			Test channel: CH_L		
Frequency (MHz)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Factor (dB)	Test value	Polarization
1506.72	21.97	16.30	74.00	57.70	-5.67	Vertical	Peak
2327.75	22.34	19.99	74.00	54.01	-2.35	Vertical	Peak
3812.66	28.13	30.21	74.00	43.79	2.08	Vertical	Peak
5269.66	27.70	36.31	74.00	37.69	8.61	Vertical	Peak
1126.31	22.27	15.66	74.00	58.34	-6.61	Horizontal	Peak
1765.22	22.37	16.47	74.00	57.53	-5.90	Horizontal	Peak
3151.72	29.76	30.35	74.00	43.65	0.59	Horizontal	Peak
6073.06	26.90	37.55	74.00	36.45	10.65	Horizontal	Peak

Band: IV		Worst mode: 802.11a			Test channel: CH_M		
Frequency (MHz)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Factor (dB)	Test value	Polarization
1543.44	21.70	15.79	74.00	58.21	-5.91	Vertical	Peak
3151.72	29.89	30.48	74.00	43.52	0.59	Vertical	Peak
5153.63	27.33	36.23	74.00	37.77	8.90	Vertical	Peak
6056.91	27.84	38.45	74.00	35.55	10.61	Vertical	Peak
1492.03	21.58	15.95	74.00	58.05	-5.63	Horizontal	Peak
5075.78	27.22	35.79	74.00	38.21	8.57	Horizontal	Peak
7775.34	27.87	43.19	74.00	30.81	15.32	Horizontal	Peak
3824.41	28.52	30.68	74.00	43.32	2.16	Horizontal	Peak

Band: IV		Worst mode: 802.11a			Test channel: CH_H		
Frequency (MHz)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Factor (dB)	Test value	Polarization
1644.78	21.41	15.21	74.00	58.79	-6.20	Vertical	Peak
4502.97	27.17	32.53	74.00	41.47	5.36	Vertical	Peak
12077.31	28.44	45.46	74.00	28.54	17.02	Vertical	Peak
12669.22	28.33	45.31	74.00	28.69	16.98	Vertical	Peak
1461.19	22.16	16.55	74.00	57.45	-5.61	Horizontal	Peak
4219.50	28.67	32.48	74.00	41.52	3.81	Horizontal	Peak
5147.75	27.96	36.85	74.00	37.15	8.89	Horizontal	Peak
9204.44	28.82	45.56	74.00	28.44	16.74	Horizontal	Peak

Remark:

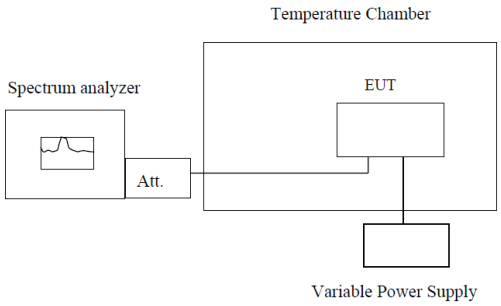
1. *Final Level =Receiver Read level + Factor*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*
3. *Measuring frequencies from 1 GHz to 40GHz.*
4. *Test 802.11a, 802.11n, 802.11ac mode,all modulations have been tested,only worst case is reported*

5.9. Frequency stability

LIMIT

Within Operation Band

TEST CONFIGURATION



Note : Measurement setup for testing on Antenna connector

TEST PROCEDURE

1. The equipment under test was connected to an external power supply.
2. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators.
3. The EUT was placed inside the temperature chamber.
4. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25℃ operating frequency as reference frequency.
5. Turn EUT off and set the chamber temperature to –20℃. After the temperature stabilized for approximately 30 minutes recorded the frequency.
6. Repeat step measure with 10℃ increased per stage until the highest temperature of +50℃ reached.

TEST MODE:

Transmitting with unmodulation

TEST RESULTS

☒ **Passed** ☐ **Not Applicable**

Voltage VS Frequency stability

Band: I			Test Frequency: 5180.00MHz	
Temperature (℃)	Voltage (V)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Result
25	3.60	-49000.00	-9.45946	PASS
25	3.80	-49000.00	-9.45946	PASS
25	4.35	-50900.00	-9.82626	PASS

Band: II			Test Frequency: 5260.00MHz	
Temperature (℃)	Voltage (V)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Result
25	3.60	-42000.00	-7.98479	PASS
25	3.80	-40000.00	-7.60456	PASS
25	4.35	-44000.00	-8.36502	PASS

Band: III			Test Frequency: 5500.00MHz	
Temperature (℃)	Voltage (V)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Result
25	3.60	-45000.00	-8.18182	PASS
25	3.80	-41000.00	-7.45455	PASS
25	4.35	-47000.00	-8.54546	PASS

Band: IV			Test Frequency: 5745.00MHz	
Temperature (℃)	Voltage (V)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Result
25	3.60	-48000.00	-8.35509	PASS
25	3.80	-44000.00	-7.65883	PASS
25	4.35	-49000.00	-8.52916	PASS

Temperature VS Frequency stability

Band: I			Test Frequency: 5180.00MHz	
Voltage (V)	Temperature (℃)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Result
3.80	-20	-51900.00	-10.01930	PASS
3.80	-10	-51900.00	-10.01930	PASS
3.80	0	-52900.00	-10.21236	PASS
3.80	10	-52900.00	-10.21236	PASS
3.80	20	-52900.00	-10.21236	PASS
3.80	30	-52900.00	-10.21236	PASS
3.80	40	-52900.00	-10.21236	PASS
3.80	50	-52900.00	-10.21236	PASS

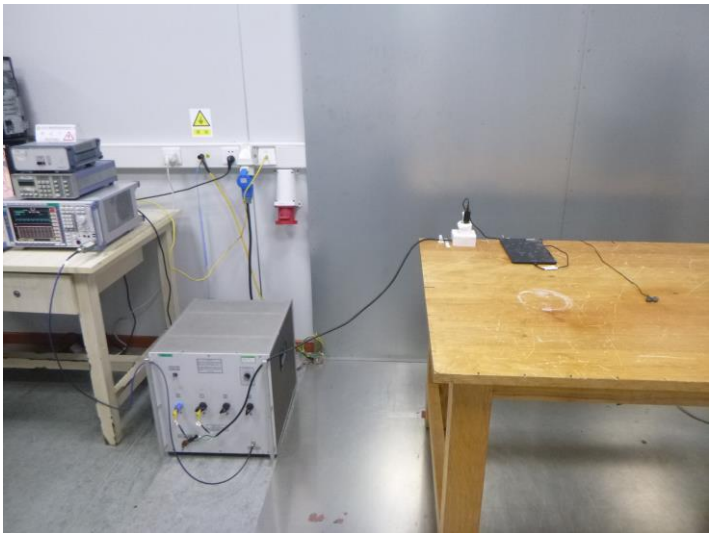
Band: II			Test Frequency: 5260.00MHz	
Voltage (V)	Temperature (℃)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Result
3.80	-20	-45000.00	-8.55513	PASS
3.80	-10	-45000.00	-8.55513	PASS
3.80	0	-46000.00	-8.74525	PASS
3.80	10	-46000.00	-8.74525	PASS
3.80	20	-46000.00	-8.74525	PASS
3.80	30	-47000.00	-8.93536	PASS
3.80	40	-46000.00	-8.74525	PASS
3.80	50	-47000.00	-8.93536	PASS

Band: III			Test Frequency: 5500.00MHz	
Voltage (V)	Temperature (℃)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Result
3.80	-20	-48000.00	-8.72727	PASS
3.80	-10	-48000.00	-8.72727	PASS
3.80	0	-48000.00	-8.72727	PASS
3.80	10	-48000.00	-8.72727	PASS
3.80	20	-48000.00	-8.72727	PASS
3.80	30	-49000.00	-8.90909	PASS
3.80	40	-49000.00	-8.90909	PASS
3.80	50	-49000.00	-8.90909	PASS

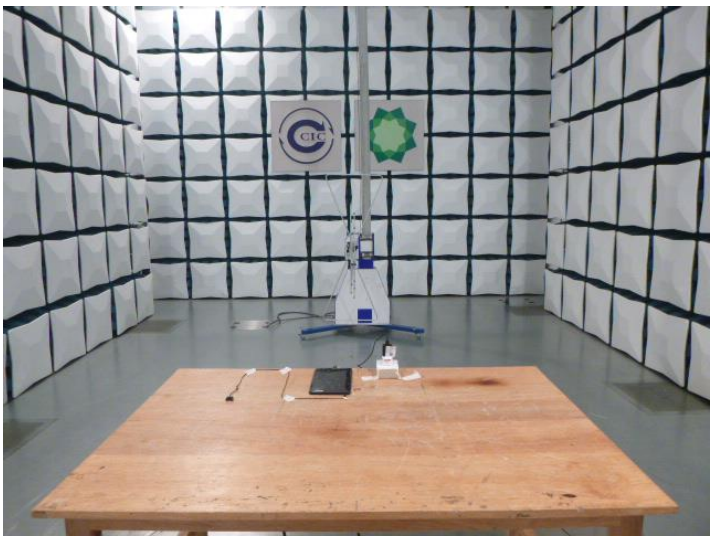
Band: IV			Test Frequency: 5745.00MHz	
Voltage (V)	Temperature (℃)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Result
3.80	-20	-50900.00	-8.85988	PASS
3.80	-10	-50900.00	-8.85988	PASS
3.80	0	-50900.00	-8.85988	PASS
3.80	10	-50900.00	-8.85988	PASS
3.80	20	-50900.00	-8.85988	PASS
3.80	30	-50900.00	-8.85988	PASS
3.80	40	-50900.00	-8.85988	PASS
3.80	50	-50900.00	-8.85988	PASS

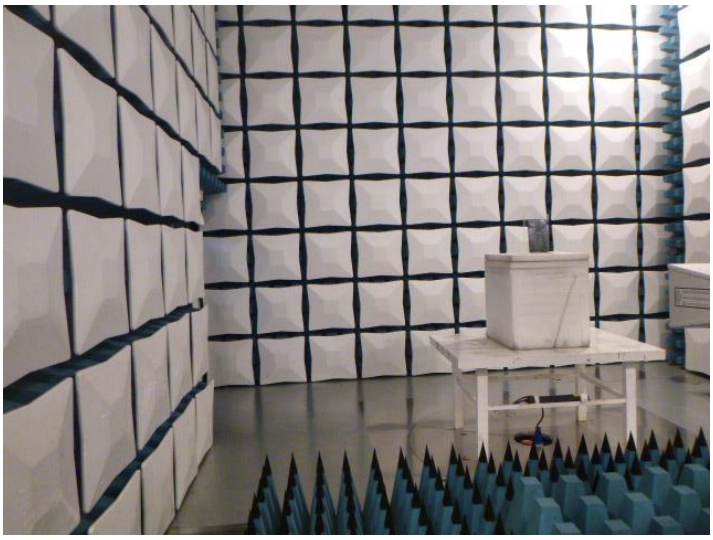
6. Test Setup Photos of the EUT

Conducted Emissions (AC Mains)



Radiated Emissions





7. External and Internal Photos of the EUT

Reference to the test report No. CHTEW19100128

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