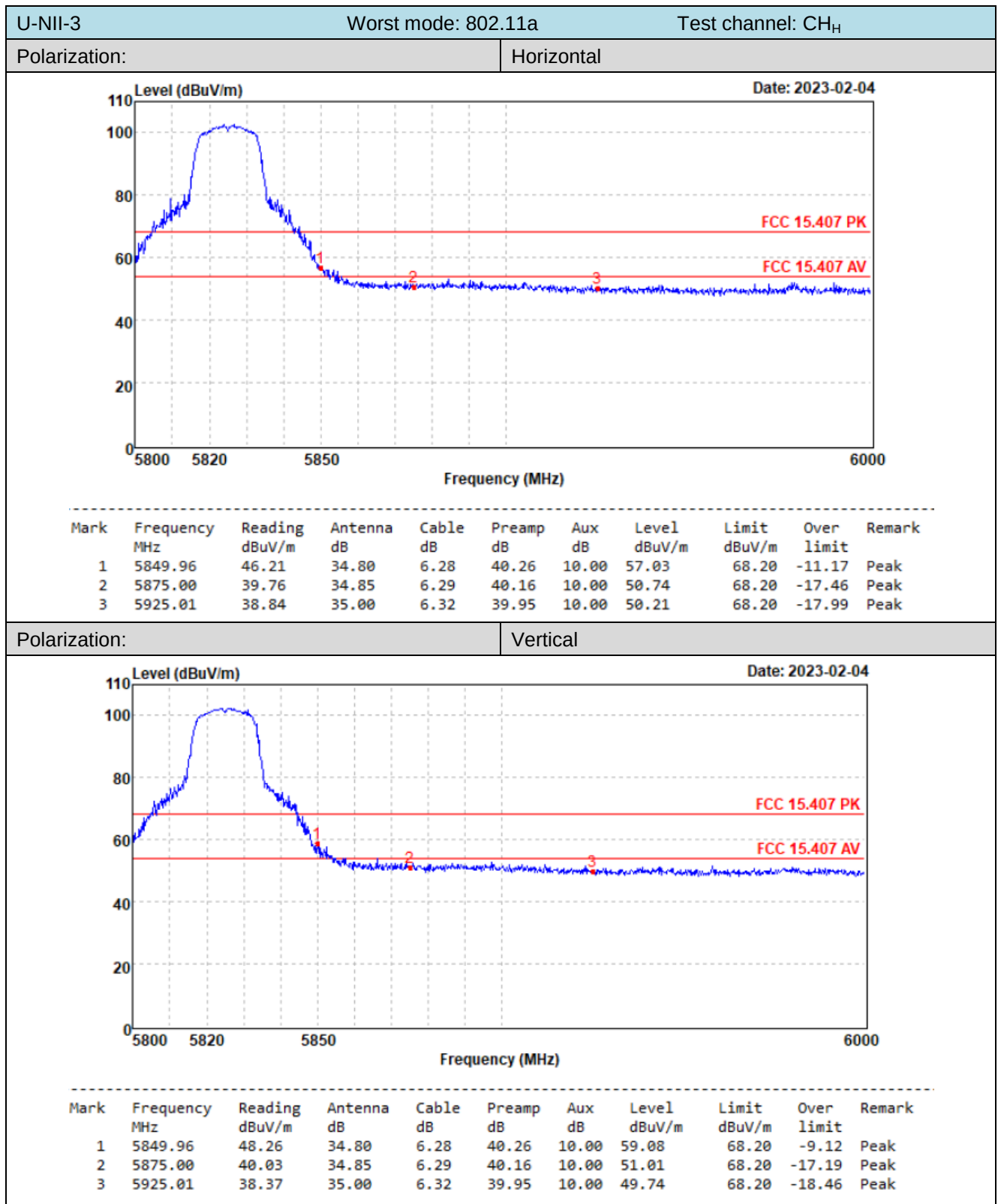
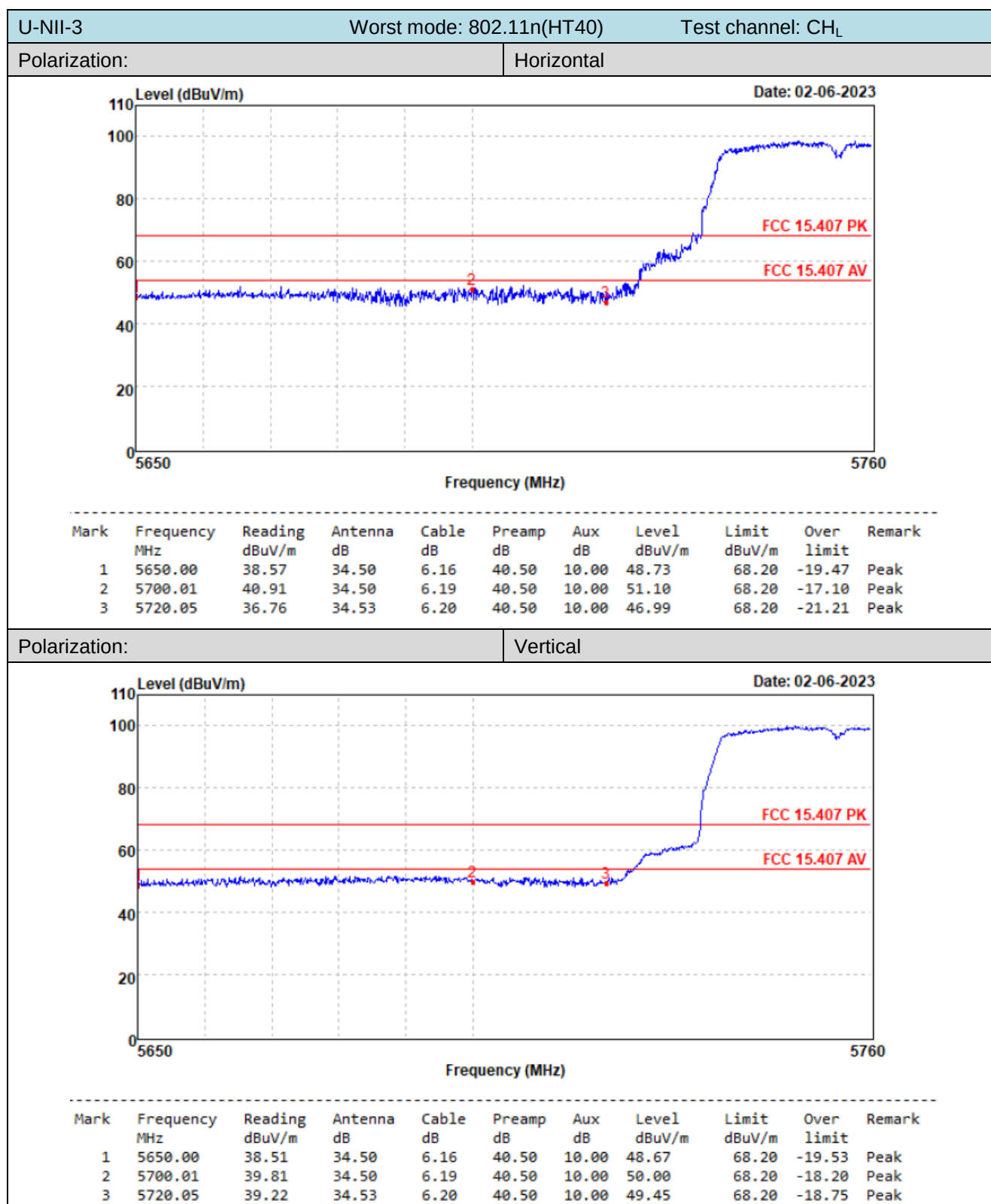






5.8. Radiated Spurious Emissions

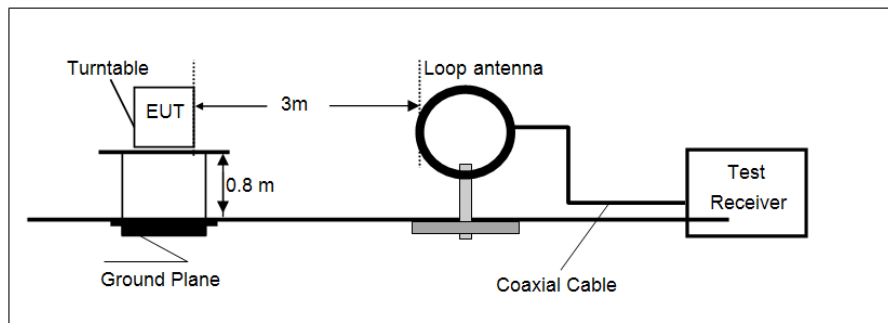
LIMIT

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

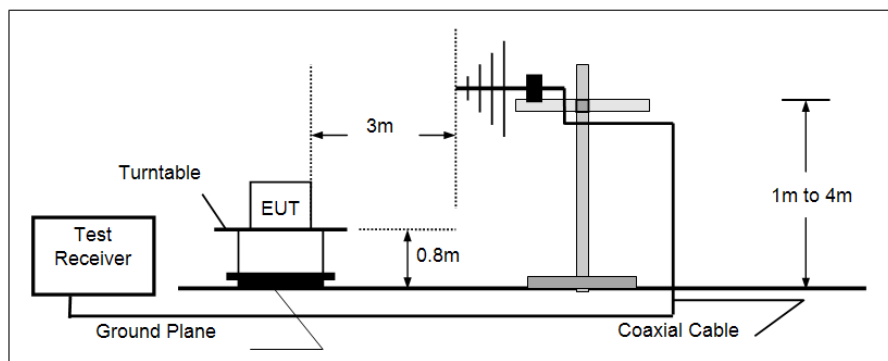
Unwanted emissions below 1GHz and Restricted band emissions above 1GHz		
Frequency	Limit (dBuV/m @3m)	Value
30MHz-88MHz	40.00	Quasi-peak
88MHz-216MHz	43.50	Quasi-peak
216MHz-960MHz	46.00	Quasi-peak
960MHz-1GHz	54.00	Quasi-peak
Above 1GHz	54.00	Average
	74.00	Peak

TEST CONFIGURATION

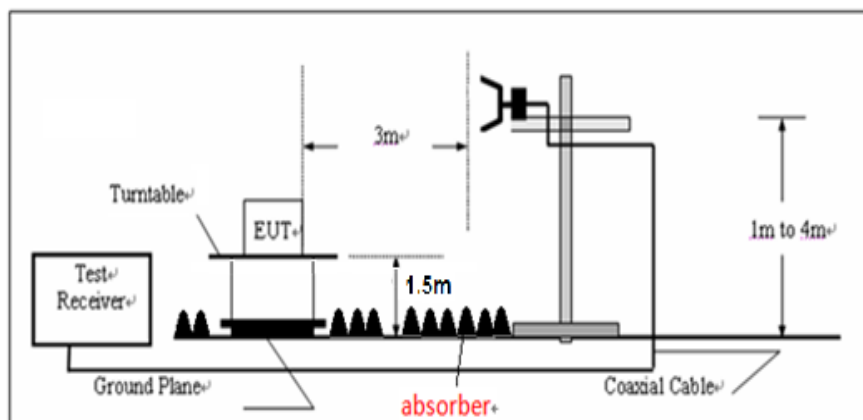
- 9KHz ~30MHz



- 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 10th harmonic:
RBW=1MHz, VBW=3MHz Peak detector for Peak value.
RBW=1MHz, VBW=3MHz RMS detector for Average value.

TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

☒ Passed ☐ Not Applicable

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.

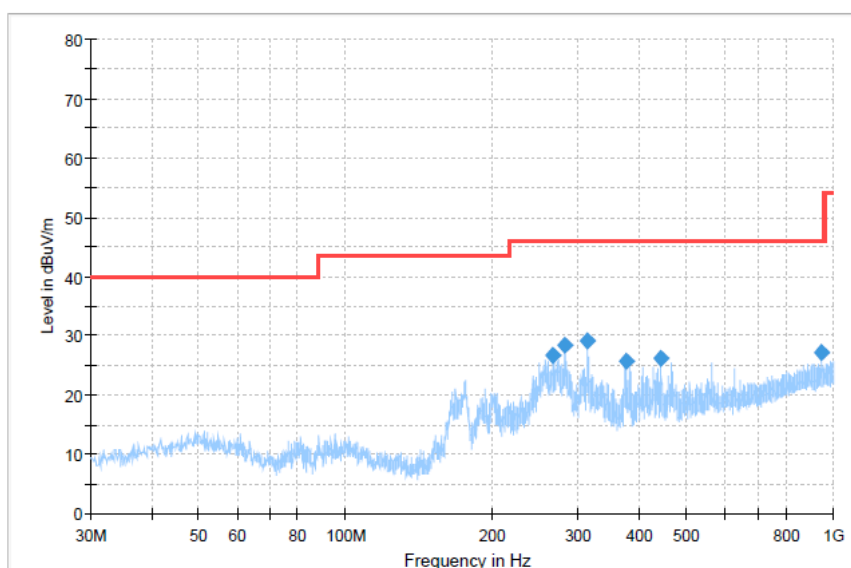
■ 30MHz ~ 1GHz

Remark:

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

Polarization:

Horizontal

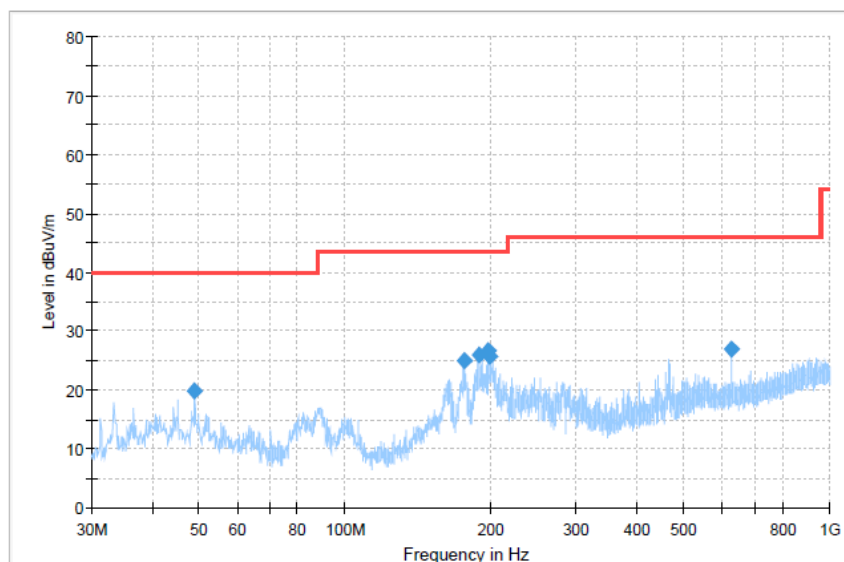


Final Result

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
265.346250	26.56	46.00	19.44	100.0	H	0.0	-7.6
282.200000	28.34	46.00	17.66	100.0	H	140.0	-7.3
312.997500	29.09	46.00	16.91	100.0	H	176.0	-5.9
375.441250	25.66	46.00	20.34	100.0	H	274.0	-3.9
443.826250	26.18	46.00	19.82	100.0	H	260.0	-2.3
945.195000	27.11	46.00	18.89	300.0	H	165.0	4.5

Polarization:

Vertical



Final Result

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
49.036250	19.88	40.00	20.12	100.0	V	298.0	-8.1
175.863750	25.01	43.50	18.49	100.0	V	11.0	-11.6
188.595000	25.90	43.50	17.60	100.0	V	0.0	-10.7
196.961250	26.57	43.50	16.93	100.0	V	0.0	-9.5
198.416250	25.70	43.50	17.80	100.0	V	0.0	-9.3
625.095000	26.80	46.00	19.20	100.0	V	52.0	1.0

FOR Above 1GHz

U-NII-1		Worst mode: 802.11a					Test channel: CH _L			
Polarization:						Horizontal				
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark	
1	1162.05	43.21	27.85	2.77	42.51	31.32	68.20	-36.88	Peak	
2	2235.33	39.77	31.30	3.82	42.28	32.61	68.20	-35.59	Peak	
3	3350.56	39.87	32.90	4.69	41.84	35.62	68.20	-32.58	Peak	
4	9275.16	36.37	36.45	7.95	39.44	41.33	68.20	-26.87	Peak	
Polarization:						Vertical				
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark	
1	1207.28	43.78	27.79	2.82	42.59	31.80	68.20	-36.40	Peak	
2	2437.41	39.94	32.40	4.01	42.17	34.18	68.20	-34.02	Peak	
3	3192.37	40.88	34.19	4.58	41.88	37.77	68.20	-30.43	Peak	
4	10062.31	37.60	37.24	8.36	39.91	43.29	68.20	-24.91	Peak	

U-NII-1		Worst mode: 802.11a					Test channel: CH _M			
Polarization:						Horizontal				
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark	
1	1156.15	42.20	27.87	2.76	42.50	30.33	68.20	-37.87	Peak	
2	3064.96	39.86	32.83	4.49	41.90	35.28	68.20	-32.92	Peak	
3	4181.16	37.37	33.56	5.24	41.47	34.70	68.20	-33.50	Peak	
4	10400.86	35.26	37.44	8.51	39.50	41.71	68.20	-26.49	Peak	
Polarization:						Vertical				
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark	
1	1147.35	42.54	27.89	2.75	42.48	30.70	68.20	-37.50	Peak	
2	2883.32	41.13	32.47	4.39	42.01	35.98	68.20	-32.22	Peak	
3	4034.78	37.99	33.47	5.16	41.54	35.08	68.20	-33.12	Peak	
4	10348.05	35.87	37.41	8.50	39.56	42.22	68.20	-25.98	Peak	

U-NII-1		Worst mode: 802.11a					Test channel: CH _H			
Polarization:					Horizontal					
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark	
1	1276.82	42.38	28.41	2.91	42.70	31.00	68.20	-37.20	Peak	
2	2782.37	39.99	32.44	4.33	42.04	34.72	68.20	-33.48	Peak	
3	4234.72	37.86	33.74	5.28	41.44	35.44	68.20	-32.76	Peak	
4	11428.08	35.35	38.14	8.94	40.18	42.25	68.20	-25.95	Peak	
Polarization:					Vertical					
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark	
1	1005.10	41.74	29.30	2.61	42.68	30.97	68.20	-37.23	Peak	
2	2637.54	40.40	32.82	4.18	42.07	35.33	68.20	-32.87	Peak	
3	3200.50	38.35	34.39	4.59	41.87	35.46	68.20	-32.74	Peak	
4	10139.45	35.77	37.29	8.40	39.82	41.64	68.20	-26.56	Peak	

U-NII-1		Worst mode: 802.11n(40)					Test channel: CH _L			
Polarization:					Horizontal					
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark	
1	1228.98	43.21	28.05	2.85	42.62	31.49	68.20	-36.71	Peak	
2	2754.19	41.52	32.49	4.31	42.04	36.28	68.20	-31.92	Peak	
3	3176.16	41.40	33.74	4.57	41.88	37.83	68.20	-30.37	Peak	
4	11370.05	36.64	38.10	8.92	40.30	43.36	68.20	-24.84	Peak	
Polarization:					Vertical					
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark	
1	1267.10	43.53	28.37	2.90	42.69	32.11	68.20	-36.09	Peak	
2	2733.23	41.26	32.53	4.30	42.05	36.04	68.20	-32.16	Peak	
3	4024.52	39.52	33.45	5.15	41.55	36.57	68.20	-31.63	Peak	
4	11226.25	37.88	37.98	8.84	40.59	44.11	68.20	-24.09	Peak	

U-NII-1		Worst mode: 802.11n(40)					Test channel: CH _H			
Polarization:					Horizontal					
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark	
1	1296.47	41.92	28.49	2.94	42.70	30.65	68.20	-37.55	Peak	
2	3033.91	41.21	32.70	4.48	41.93	36.46	68.20	-31.74	Peak	
3	4536.00	37.97	34.16	5.46	41.20	36.39	68.20	-31.81	Peak	
4	10427.37	35.01	37.46	8.52	39.59	41.40	68.20	-26.80	Peak	
Polarization:					Vertical					
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark	
1	1132.84	42.20	27.83	2.74	42.46	30.31	68.20	-37.89	Peak	
2	2151.59	38.53	31.30	3.75	42.32	31.26	68.20	-36.94	Peak	
3	4128.28	37.81	33.50	5.20	41.49	35.02	68.20	-33.18	Peak	
4	9809.40	36.70	37.01	8.24	39.94	42.01	68.20	-26.19	Peak	

U-NII-2		Worst mode: 802.11a					Test channel: CH _L			
Polarization:					Horizontal					
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark	
1	1012.81	41.92	29.14	2.61	42.65	31.02	68.20	-37.18	Peak	
2	2571.25	39.39	32.96	4.10	42.09	34.36	68.20	-33.84	Peak	
3	4086.46	38.11	33.50	5.18	41.52	35.27	68.20	-32.93	Peak	
4	10036.73	35.48	37.22	8.35	39.94	41.11	68.20	-27.09	Peak	
Polarization:					Vertical					
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark	
1	1057.60	42.41	28.29	2.66	42.49	30.87	68.20	-37.33	Peak	
2	2246.74	38.78	31.30	3.84	42.27	31.65	68.20	-36.55	Peak	
3	3176.16	39.28	33.74	4.57	41.88	35.71	68.20	-32.49	Peak	
4	9884.60	36.54	37.08	8.27	40.06	41.83	68.20	-26.37	Peak	

U-NII-2		Worst mode: 802.11a					Test channel: CH _M			
Polarization:		Horizontal								
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark	
1	1222.74	42.61	27.98	2.84	42.61	30.82	68.20	-37.38	Peak	
2	2644.26	40.23	32.81	4.19	42.07	35.16	68.20	-33.04	Peak	
3	4760.78	37.10	34.06	5.58	41.00	35.74	68.20	-32.46	Peak	
4	10453.95	35.88	37.47	8.52	39.67	42.20	68.20	-26.00	Peak	
Polarization:		Vertical								
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark	
1	1270.33	41.78	28.38	2.90	42.69	30.37	68.20	-37.83	Peak	
2	3208.66	39.05	34.16	4.59	41.87	35.93	68.20	-32.27	Peak	
3	4570.77	37.91	34.10	5.47	41.17	36.31	68.20	-31.89	Peak	
4	11545.04	34.79	38.25	8.98	40.15	41.87	68.20	-26.33	Peak	

U-NII-2		Worst mode: 802.11a					Test channel: CH _H			
Polarization:						Horizontal				
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark	
1	1046.89	41.80	28.46	2.65	42.51	30.40	68.20	-37.80	Peak	
2	2905.42	40.72	32.50	4.40	42.00	35.62	68.20	-32.58	Peak	
3	4983.99	37.05	34.07	5.73	40.91	35.94	68.20	-32.26	Peak	
4	11428.08	35.05	38.14	8.94	40.18	41.95	68.20	-26.25	Peak	
Polarization:						Vertical				
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark	
1	1219.64	41.92	27.94	2.84	42.61	30.09	68.20	-38.11	Peak	
2	2796.57	40.77	32.41	4.34	42.03	35.49	68.20	-32.71	Peak	
3	4354.97	37.53	34.12	5.38	41.37	35.66	68.20	-32.54	Peak	
4	10348.05	35.28	37.41	8.50	39.56	41.63	68.20	-26.57	Peak	

U-NII-2		Worst mode: 802.11n(40)					Test channel: CH _L		
Polarization:					Horizontal				
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	1316.42	42.02	28.37	2.96	42.70	30.65	68.20	-37.55	Peak
2	3208.66	38.95	34.16	4.59	41.87	35.83	68.20	-32.37	Peak
3	7721.91	38.27	35.80	7.41	40.91	40.57	68.20	-27.63	Peak
4	12653.00	34.02	38.86	9.39	39.42	42.85	68.20	-25.35	Peak
Polarization:					Vertical				
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	1381.66	40.97	28.61	3.05	42.64	29.99	68.20	-38.21	Peak
2	3184.25	38.80	33.96	4.58	41.88	35.46	68.20	-32.74	Peak
3	7527.83	37.32	35.94	7.30	40.96	39.60	68.20	-28.60	Peak
4	10400.86	34.73	37.44	8.51	39.50	41.18	68.20	-27.02	Peak

U-NII-2A		Worst mode: 802.11n(40)					Test channel: CH _H		
Polarization:						Horizontal			
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	1296.47	41.79	28.49	2.94	42.70	30.52	68.20	-37.68	Peak
2	2070.98	38.63	31.39	3.68	42.36	31.34	68.20	-36.86	Peak
3	3367.66	39.43	32.86	4.61	41.84	35.06	68.20	-33.14	Peak
4	10348.05	34.66	37.41	8.50	39.56	41.01	68.20	-27.19	Peak
Polarization:						Vertical			
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	1381.66	41.52	28.61	3.05	42.64	30.54	68.20	-37.66	Peak
2	3168.08	39.53	33.51	4.57	41.88	35.73	68.20	-32.47	Peak
3	7961.43	37.88	35.80	7.52	40.33	40.87	68.20	-27.33	Peak
4	10507.31	35.95	37.50	8.53	39.85	42.13	68.20	-26.07	Peak

U-NII-2C		Worst mode: 802.11a					Test channel: CH _L			
Polarization:					Horizontal					
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark	
1	1299.77	41.45	28.50	2.94	42.70	30.19	68.20	-38.01	Peak	
2	3064.96	40.73	32.83	4.49	41.90	36.15	68.20	-32.05	Peak	
3	5022.19	38.74	34.14	5.76	40.88	37.76	68.20	-30.44	Peak	
4	10011.21	36.36	37.21	8.34	39.97	41.94	68.20	-26.26	Peak	
Polarization:					Vertical					
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark	
1	1402.92	42.53	28.83	3.07	42.61	31.82	68.20	-36.38	Peak	
2	2733.23	41.22	32.53	4.30	42.05	36.00	68.20	-32.20	Peak	
3	5099.49	38.84	34.20	5.81	40.82	38.03	68.20	-30.17	Peak	
4	10400.86	36.24	37.44	8.51	39.50	42.69	68.20	-25.51	Peak	

U-NII-2C		Worst mode: 802.11a					Test channel: CH _M			
Polarization:					Horizontal					
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark	
1	1364.18	41.03	28.33	3.02	42.66	29.72	68.20	-38.48	Peak	
2	2532.28	40.08	32.93	4.07	42.10	34.98	68.20	-33.22	Peak	
3	4444.56	36.29	34.39	5.42	41.29	34.81	68.20	-33.39	Peak	
4	9611.66	35.57	36.80	8.13	39.60	40.90	68.20	-27.30	Peak	
Polarization:					Vertical					
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark	
1	1289.89	41.99	28.46	2.93	42.70	30.68	68.20	-37.52	Peak	
2	2630.84	40.38	32.84	4.17	42.07	35.32	68.20	-32.88	Peak	
3	4664.81	36.37	34.10	5.51	41.09	34.89	68.20	-33.31	Peak	
4	9809.40	35.59	37.01	8.24	39.94	40.90	68.20	-27.30	Peak	

U-NII-2C		Worst mode: 802.11a					Test channel: CH _H			
Polarization:						Horizontal				
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark	
1	1286.61	42.89	28.45	2.93	42.70	31.57	68.20	-36.63	Peak	
2	3176.16	39.39	33.74	4.57	41.88	35.82	68.20	-32.38	Peak	
3	4045.06	39.41	33.49	5.16	41.54	36.52	68.20	-31.68	Peak	
4	9960.38	36.31	37.16	8.31	40.03	41.75	68.20	-26.45	Peak	
Polarization:						Vertical				
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark	
1	1257.47	41.80	28.33	2.89	42.67	30.35	68.20	-37.85	Peak	
2	2604.19	41.38	32.89	4.14	42.08	36.33	68.20	-31.87	Peak	
3	5164.81	37.75	34.23	5.85	40.77	37.06	68.20	-31.14	Peak	
4	9834.41	35.69	37.03	8.25	39.98	40.99	68.20	-27.21	Peak	

U-NII-2C		Worst mode: 802.11n(40)					Test channel: CH _L			
Polarization:					Horizontal					
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark	
1	1385.18	41.76	28.67	3.05	42.63	30.85	68.20	-37.35	Peak	
2	2747.18	39.90	32.51	4.31	42.04	34.68	68.20	-33.52	Peak	
3	4809.50	36.37	33.90	5.61	40.98	34.90	68.20	-33.30	Peak	
4	10243.22	35.23	37.35	8.46	39.69	41.35	68.20	-26.85	Peak	
Polarization:					Vertical					
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark	
1	1127.09	41.70	27.81	2.73	42.44	29.80	68.20	-38.40	Peak	
2	2400.47	38.00	32.10	3.98	42.20	31.88	68.20	-36.32	Peak	
3	3854.08	38.22	33.19	5.08	41.64	34.85	68.20	-33.35	Peak	
4	10374.42	35.89	37.43	8.51	39.53	42.30	68.20	-25.90	Peak	

U-NII-2C		Worst mode: 802.11n(40)					Test channel: CH _M		
Polarization:					Horizontal				
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	1225.86	43.42	28.01	2.84	42.62	31.65	68.20	-36.55	Peak
2	2768.24	41.51	32.46	4.32	42.04	36.25	68.20	-31.95	Peak
3	4170.53	39.72	33.54	5.23	41.47	37.02	68.20	-31.18	Peak
4	10191.20	36.92	37.32	8.43	39.75	42.92	68.20	-25.28	Peak
Polarization:					Vertical				
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	1340.09	43.60	28.18	3.00	42.70	32.08	68.20	-36.12	Peak
2	2190.27	40.20	31.30	3.78	42.30	32.98	68.20	-35.22	Peak
3	3233.26	40.09	33.47	4.61	41.87	36.30	68.20	-31.90	Peak
4	9636.16	37.26	36.80	8.15	39.64	42.57	68.20	-25.63	Peak

U-NII-2C		Worst mode: 802.11n(40)					Test channel: CH _H		
Polarization:					Horizontal				
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	1406.50	41.08	28.74	3.08	42.60	30.30	68.20	-37.90	Peak
2	3160.03	42.56	33.28	4.56	41.88	38.52	68.20	-29.68	Peak
3	4724.56	37.81	34.10	5.55	41.04	36.42	68.20	-31.78	Peak
4	10400.86	35.82	37.44	8.51	39.50	42.27	68.20	-25.93	Peak
Polarization:					Vertical				
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	1395.80	40.95	28.83	3.06	42.62	30.22	68.20	-37.98	Peak
2	3200.50	39.28	34.39	4.59	41.87	36.39	68.20	-31.81	Peak
3	4421.99	36.93	34.34	5.41	41.31	35.37	68.20	-32.83	Peak
4	11574.46	34.85	38.28	8.98	40.17	41.94	68.20	-26.26	Peak

U-NII-3		Worst mode: 802.11a					Test channel: CH _L		
Polarization:					Horizontal				
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	1364.18	42.52	28.33	3.02	42.66	31.21	68.20	-36.99	Peak
2	2610.82	40.70	32.88	4.15	42.08	35.65	68.20	-32.55	Peak
3	4107.32	39.49	33.50	5.19	41.50	36.68	68.20	-31.52	Peak
4	10480.59	36.55	37.49	8.52	39.76	42.80	68.20	-25.40	Peak
Polarization:					Vertical				
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	1257.47	41.87	28.33	2.89	42.67	30.42	68.20	-37.78	Peak
2	2597.56	39.67	32.90	4.13	42.08	34.62	68.20	-33.58	Peak
3	4107.32	37.50	33.50	5.19	41.50	34.69	68.20	-33.51	Peak
4	10036.73	35.87	37.22	8.35	39.94	41.50	68.20	-26.70	Peak

U-NII-3		Worst mode: 802.11a				Test channel: CH _M			
Polarization:					Horizontal				
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	1553.29	41.13	28.32	3.23	42.53	30.15	68.20	-38.05	Peak
2	2590.96	40.60	32.92	4.12	42.08	35.56	68.20	-32.64	Peak
3	3184.25	39.43	33.96	4.58	41.88	36.09	68.20	-32.11	Peak
4	10427.37	35.14	37.46	8.52	39.59	41.53	68.20	-26.67	Peak
Polarization:					Vertical				
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	1216.53	42.69	27.90	2.83	42.60	30.82	68.20	-37.38	Peak
2	2617.48	40.21	32.86	4.15	42.08	35.14	68.20	-33.06	Peak
3	3963.52	39.55	33.33	5.13	41.58	36.43	68.20	-31.77	Peak
4	9346.26	35.53	36.55	7.99	39.38	40.69	68.20	-27.51	Peak

U-NII-3		Worst mode: 802.11a					Test channel: CH _H			
Polarization:					Horizontal					
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark	
1	1865.74	39.40	30.63	3.54	42.38	31.19	68.20	-37.01	Peak	
2	3728.63	39.62	33.30	5.03	41.70	36.25	68.20	-31.95	Peak	
3	7624.25	37.74	35.80	7.36	40.94	39.96	68.20	-28.24	Peak	
4	10348.05	34.99	37.41	8.50	39.56	41.34	68.20	-26.86	Peak	
Polarization:					Vertical					
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark	
1	1306.41	41.23	28.45	2.95	42.70	29.93	68.20	-38.27	Peak	
2	3208.66	39.12	34.16	4.59	41.87	36.00	68.20	-32.20	Peak	
3	5151.68	38.13	34.20	5.85	40.78	37.40	68.20	-30.80	Peak	
4	11663.19	35.04	38.37	9.03	40.24	42.20	68.20	-26.00	Peak	

U-NII-3		Worst mode: 802.11n(40)					Test channel: CH _L		
Polarization:					Horizontal				
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	1385.18	41.63	28.67	3.05	42.63	30.72	68.20	-37.48	Peak
2	3128.01	40.02	32.96	4.54	41.89	35.63	68.20	-32.57	Peak
3	4724.56	36.77	34.10	5.55	41.04	35.38	68.20	-32.82	Peak
4	10321.74	34.79	37.39	8.50	39.60	41.08	68.20	-27.12	Peak
Polarization:					Vertical				
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	1399.35	41.90	28.89	3.07	42.61	31.25	68.20	-36.95	Peak
2	2493.90	39.88	32.76	4.05	42.13	34.56	68.20	-33.64	Peak
3	4512.97	37.87	34.25	5.45	41.22	36.35	68.20	-31.85	Peak
4	10427.37	36.33	37.46	8.52	39.59	42.72	68.20	-25.48	Peak

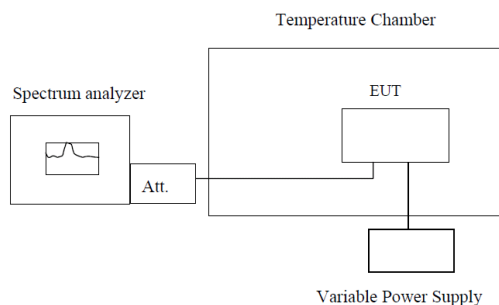
U-NII-3		Worst mode: 802.11n(40)					Test channel: CH _H		
Polarization:					Horizontal				
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	1299.77	41.94	28.50	2.94	42.70	30.68	68.20	-37.52	Peak
2	3208.66	38.75	34.16	4.59	41.87	35.63	68.20	-32.57	Peak
3	8063.40	36.88	35.86	7.56	40.04	40.26	68.20	-27.94	Peak
4	12055.60	34.56	38.71	9.31	40.47	42.11	68.20	-26.09	Peak
Polarization:					Vertical				
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	1188.98	42.48	27.74	2.79	42.55	30.46	68.20	-37.74	Peak
2	2905.42	41.57	32.50	4.40	42.00	36.47	68.20	-31.73	Peak
3	4594.10	36.82	34.10	5.48	41.15	35.25	68.20	-32.95	Peak
4	10427.37	35.87	37.46	8.52	39.59	42.26	68.20	-25.94	Peak

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°C operating frequency as reference frequency.
5. Turn EUT off and set the chamber temperature to -20°C. After the temperature stabilized for approximately 30 minutes recorded the frequency.
6. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

TEST MODE:

Transmitting with unmodulation

TEST RESULTS

☒ Passed ☐ Not Applicable

Voltage VS Frequency stability

Band: I			Test Frequency: 5180.00MHz	
Temperature (°C)	Voltage (V)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Result
25	3.60	-1000.00	-0.19305	PASS
25	3.70	-1000.00	-0.19305	PASS
25	4.20	-1000.00	-0.19305	PASS

Band: II			Test Frequency: 5260.00MHz	
Temperature (°C)	Voltage (V)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Result
25	3.60	-1000.00	-0.19011	PASS
25	3.70	-1000.00	-0.19011	PASS
25	4.20	-1000.00	-0.19011	PASS

Band: III			Test Frequency: 5500.00MHz	
Temperature (°C)	Voltage (V)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Result
25	3.60	-1000.00	-0.18182	PASS
25	3.70	-1000.00	-0.18182	PASS
25	4.20	-1000.00	-0.18182	PASS

Band: IV			Test Frequency: 5745.00MHz	
Temperature (°C)	Voltage (V)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Result
25	3.60	-1000.00	-0.17406	PASS
25	3.70	-1000.00	-0.17406	PASS
25	4.20	-1000.00	-0.17406	PASS

Temperature VS Frequency stability

Band: I			Test Frequency: 5180.00MHz	
Voltage (V)	Temperature (°C)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Result
3.70	-20	-1000.00	-0.19305	PASS
3.70	-10	-1000.00	-0.19305	PASS
3.70	0	-1000.00	-0.19305	PASS
3.70	10	-1000.00	-0.19305	PASS
3.70	20	-1000.00	-0.19305	PASS
3.70	30	-1000.00	-0.19305	PASS
3.70	40	-1000.00	-0.19305	PASS
3.70	50	-1000.00	-0.19305	PASS

Band: II			Test Frequency: 5260.00MHz	
Voltage (V)	Temperature (°C)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Result
3.70	-20	0.00	0.00000	PASS
3.70	-10	0.00	0.00000	PASS
3.70	0	0.00	0.00000	PASS
3.70	10	0.00	0.00000	PASS
3.70	20	-1000.00	-0.19011	PASS
3.70	30	0.00	0.00000	PASS
3.70	40	0.00	0.00000	PASS
3.70	50	-1000.00	-0.19011	PASS

Band: III			Test Frequency: 5500.00MHz	
Voltage (V)	Temperature (°C)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Result
3.70	-20	-1000.00	-0.18182	PASS
3.70	-10	-1000.00	-0.18182	PASS
3.70	0	-1000.00	-0.18182	PASS
3.70	10	-1000.00	-0.18182	PASS
3.70	20	-1000.00	-0.18182	PASS
3.70	30	-1000.00	-0.18182	PASS
3.70	40	-1000.00	-0.18182	PASS
3.70	50	0.00	0.00000	PASS

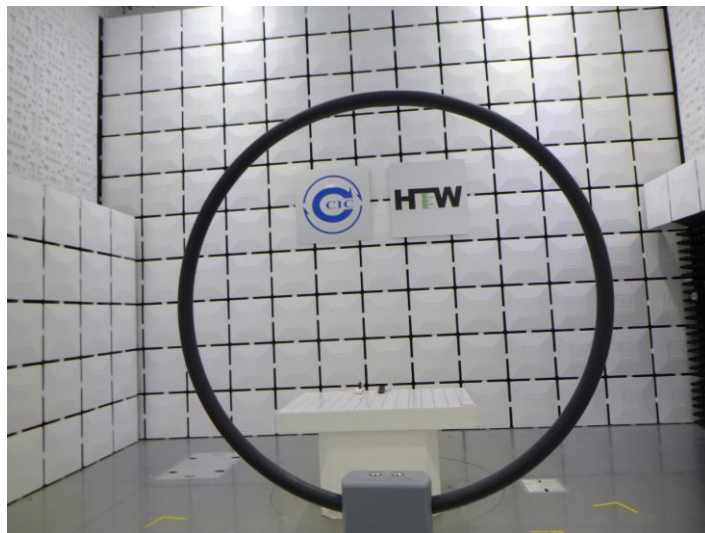
Band: IV			Test Frequency: 5745.00MHz	
Voltage (V)	Temperature (°C)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Result
3.70	-20	-1000.00	-0.17406	PASS
3.70	-10	-1000.00	-0.17406	PASS
3.70	0	-1000.00	-0.17406	PASS
3.70	10	-1000.00	-0.17406	PASS
3.70	20	-1000.00	-0.17406	PASS
3.70	30	-1000.00	-0.17406	PASS
3.70	40	-1000.00	-0.17406	PASS
3.70	50	-1000.00	-0.17406	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. CHTEW19110021R1

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