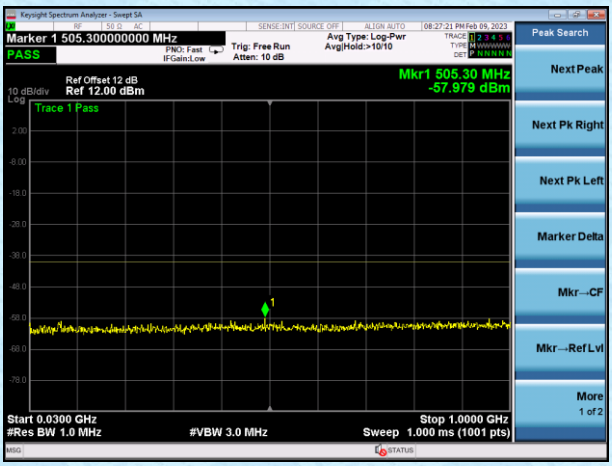
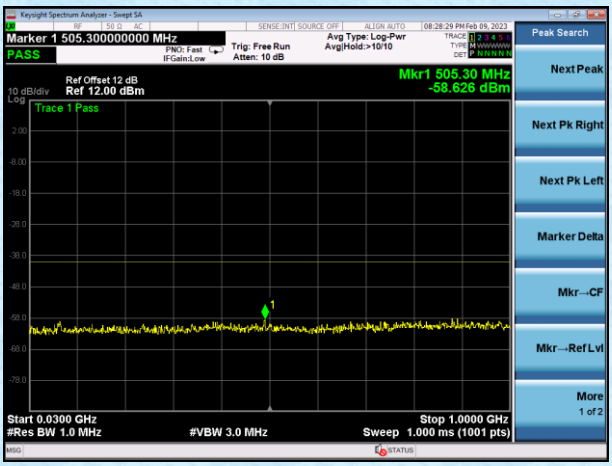
10M Bandwidth QPSK



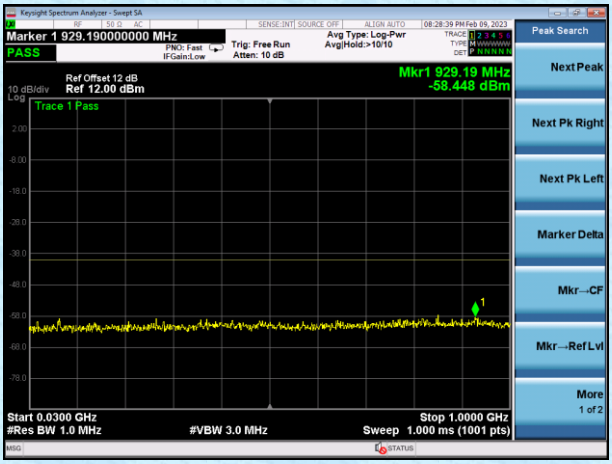
Low Channel

LTE Band 40 Upper

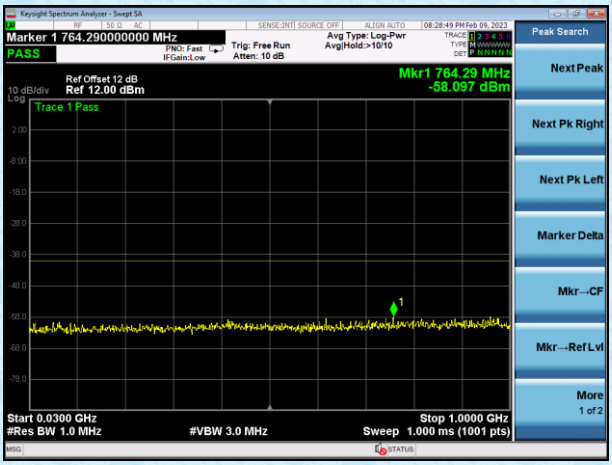
5M Bandwidth QPSK



Low Channel



Middle Channel

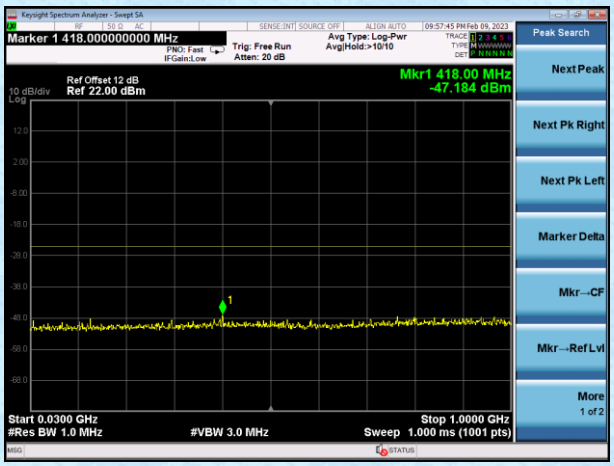
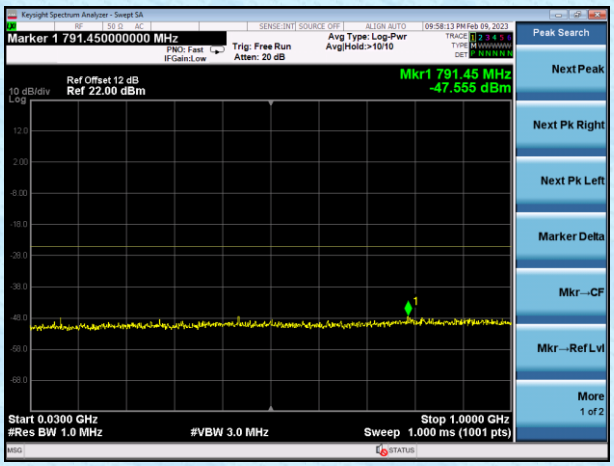
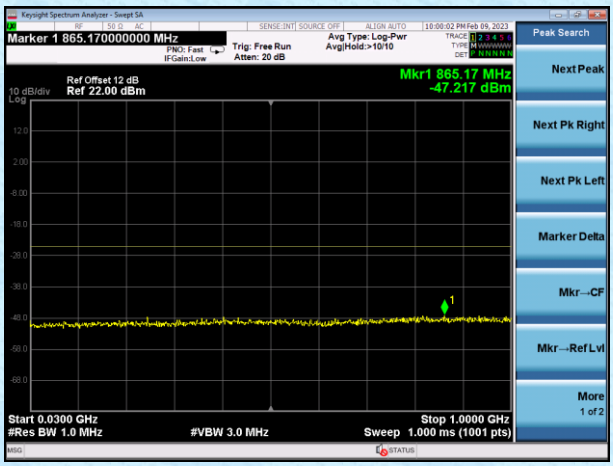
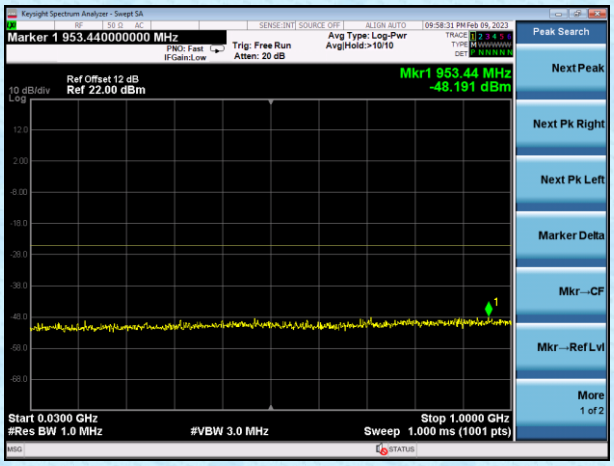
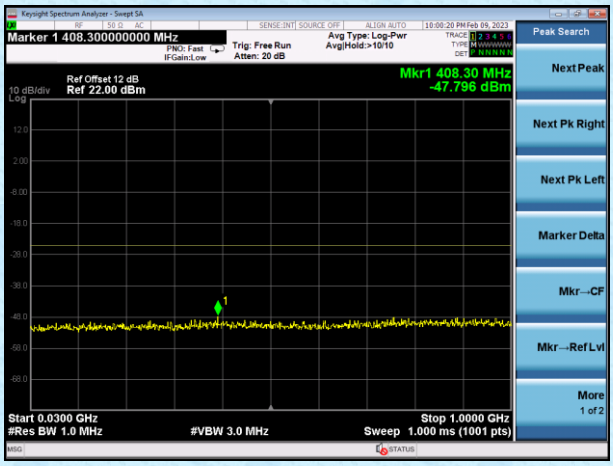


High Channel

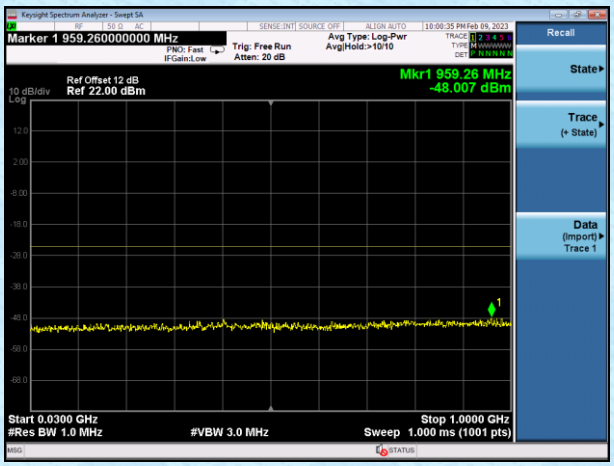
10M Bandwidth QPSK

Low Channel

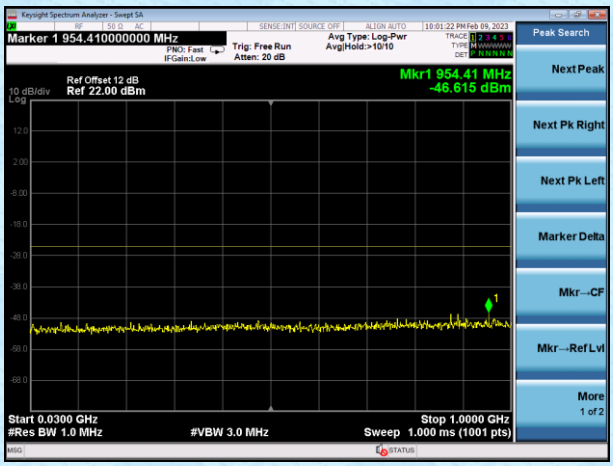
LTE Band 41

5M Bandwidth QPSK	10M Bandwidth QPSK
	
Low Channel	Low Channel
	
Middle Channel	Middle Channel
	
High Channel	High Channel

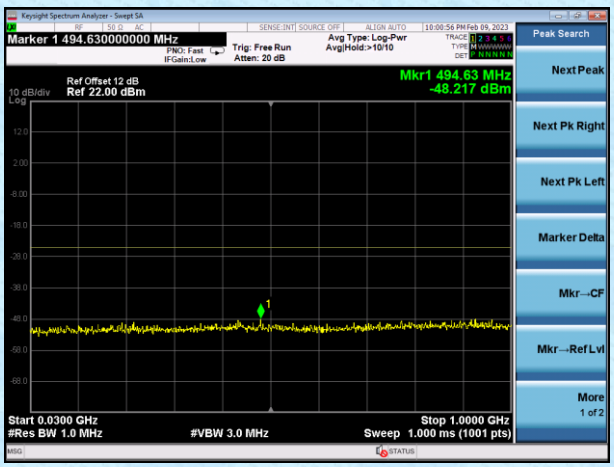
15M Bandwidth QPSK	20M Bandwidth QPSK



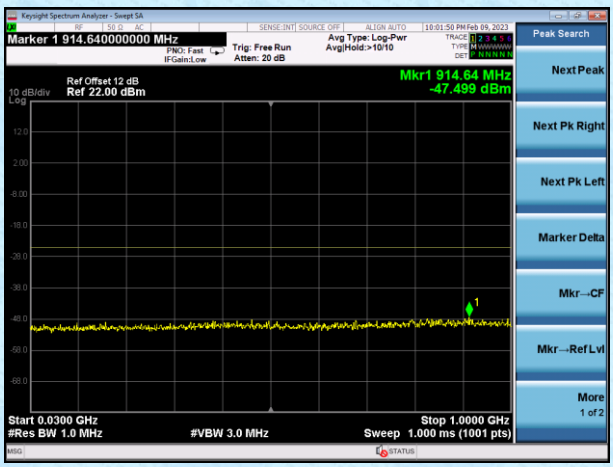
Low Channel



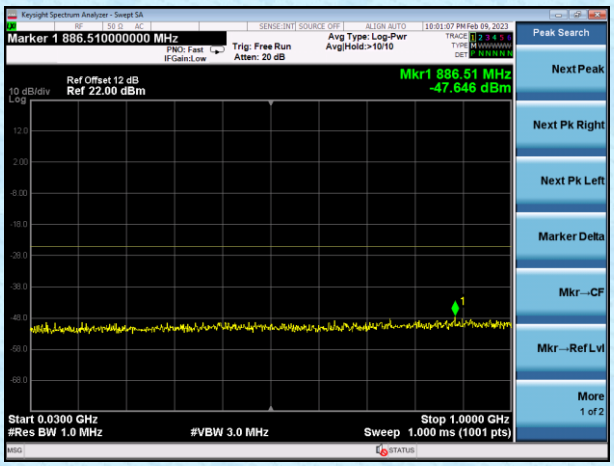
Low Channel



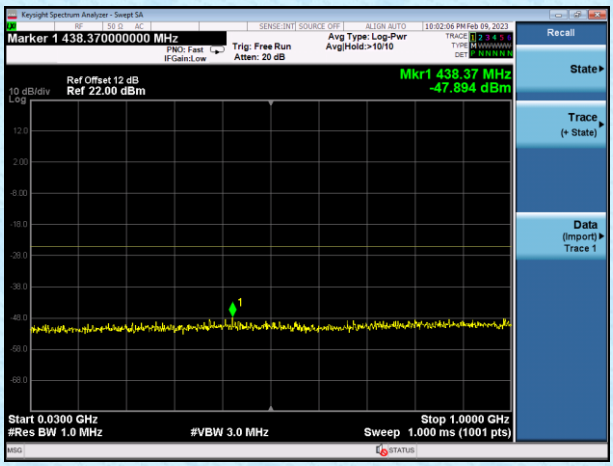
Middle Channel



Middle Channel

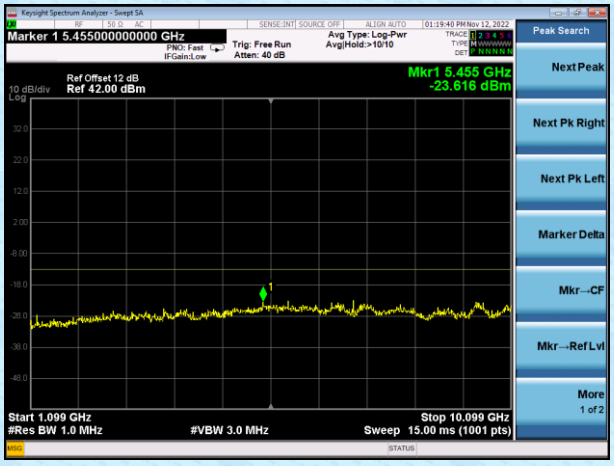


High Channel



High Channel

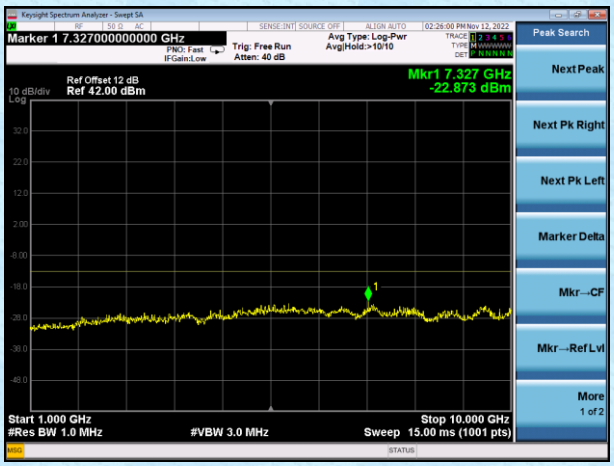
Measurement Data Above 1GHz:
LTE Band 5

1.4M Bandwidth QPSK	3M Bandwidth QPSK
	
Low Channel	Low Channel
	
Middle Channel	Middle Channel
	
High Channel	High Channel

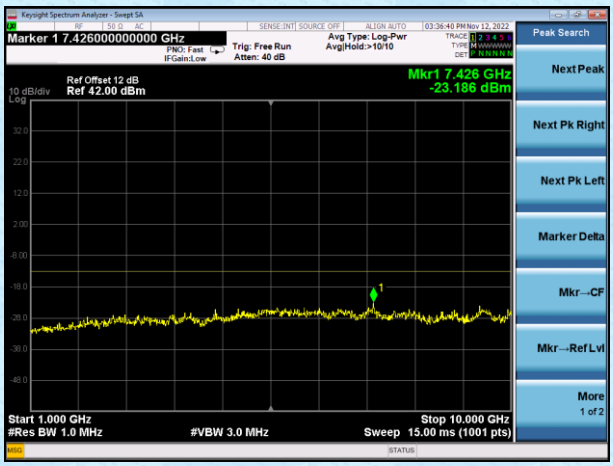
5M Bandwidth QPSK	10M Bandwidth QPSK

Low Channel

Low Channel



Middle Channel



Middle Channel

High Channel

High Channel

LTE Band 40 Lower

5M Bandwidth QPSK

Low Channel

Middle Channel

High Channel

10M Bandwidth QPSK

Low Channel

LTE Band 40 Upper

5M Bandwidth QPSK

Low Channel

Middle Channel

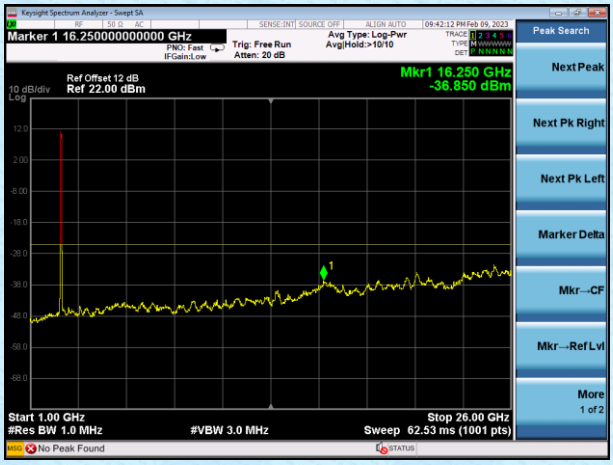
High Channel

10M Bandwidth QPSK

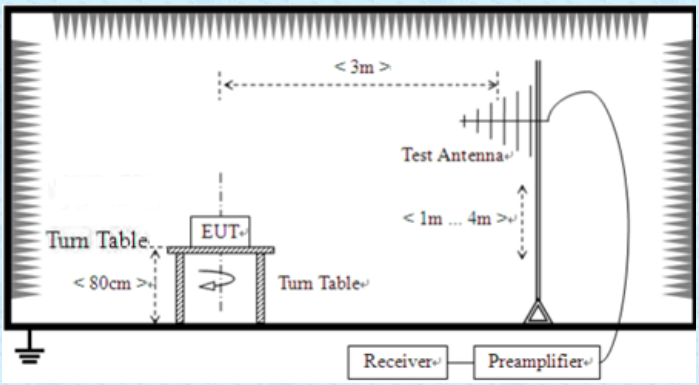
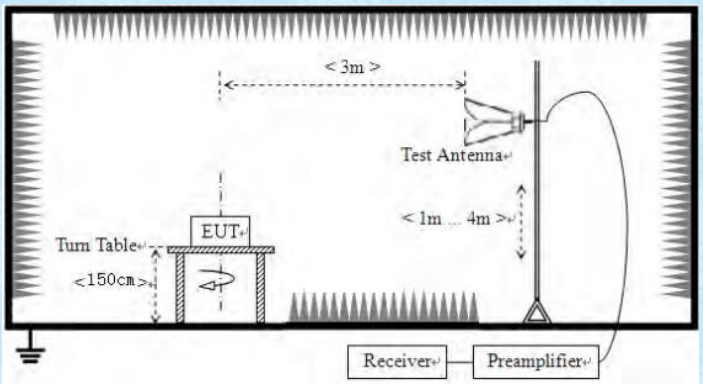
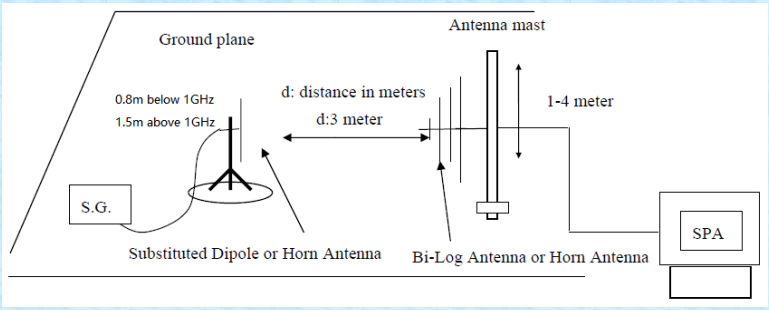
Low Channel

LTE Band 41

5M Bandwidth QPSK	10M Bandwidth QPSK
	
Low Channel	Low Channel
	
Middle Channel	Middle Channel
	
High Channel	High Channel

15M Bandwidth QPSK	20M Bandwidth QPSK
	
Low Channel	Low Channel
	
Middle Channel	Middle Channel
	
High Channel	High Channel

7.8 Field strength of spurious radiation measurement

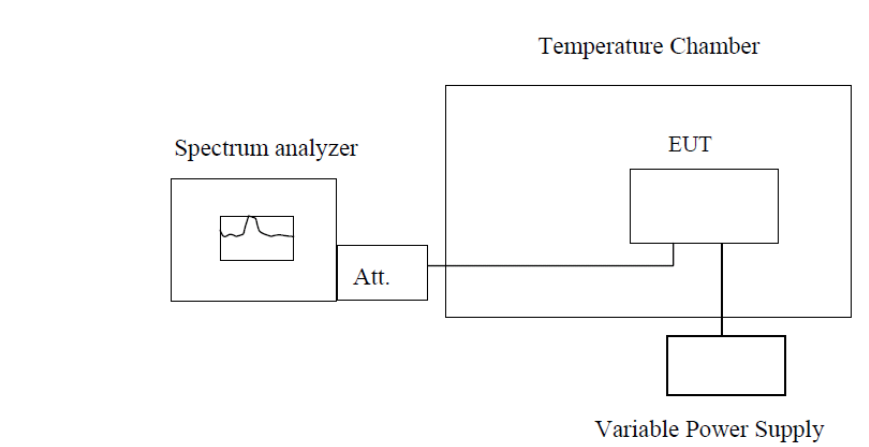
Test Requirement:	FCC Part 27.53, Part 22.917 (a)
Test Method:	FCC part 2.1053 and ANSI C63.26:2015
Test setup:	Below 1GHz  Above 1GHz  Substituted method: 
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 6.1 for details
Test results:	Pass

Measurement Data:

Frequency (MHz)	Read Level (dBm)	polarization	Factor (dB)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Detector
4G BAND5, Low Channel							
150.0108	-88.29	H	23.1	-65.19	-13	52.19	peak
30.4238	-91.6	V	29.55	-62.05	-13	49.05	peak
1649.4	-54.82	H	-2.4	-57.22	-13	44.22	peak
1649.4	-52.05	V	-2.4	-54.45	-13	41.45	peak
4G BAND5, Middle Channel							
150.0108	-88.53	H	23.1	-65.43	-13	52.43	peak
30.4238	-91.38	V	29.55	-61.83	-13	48.83	peak
1673	-54.96	H	-1.64	-56.6	-13	43.6	peak
1673	-52.86	V	-1.64	-54.5	-13	41.5	peak
4G BAND5, High Channel							
150.0108	-88.79	H	23.1	-65.69	-13	52.69	peak
30.4238	-91.13	V	29.55	-61.58	-13	48.58	peak
1696.6	-56.64	H	-0.88	-57.52	-13	44.52	peak
1696.6	-53.56	V	-0.88	-54.44	-13	41.44	peak
4G BAND40 2305-2315MHz Low Channel							
150.0108	-79.7	H	23.1	-56.6	-40	16.6	peak
30.4238	-86.26	V	29.55	-56.71	-40	16.71	peak
4615	-49.12	H	5.97	-43.15	-40	3.15	peak
4615	-52.65	V	5.97	-46.68	-40	6.68	peak
4G BAND40 2305-2315MHz Middle Channel							
150.0108	-78.94	H	23.1	-55.84	-40	15.84	peak
30.4238	-85.33	V	29.55	-55.78	-40	15.78	peak
4620	-49.2	H	5.99	-43.21	-40	3.21	peak
4620	-52.27	V	5.99	-46.28	-40	6.28	peak
4G BAND40 2305-2315MHz High Channel							
150.0108	-78.93	H	23.1	-55.83	-40	15.83	peak
30.4238	-85.89	V	29.55	-56.34	-40	16.34	peak
4625	-49.96	H	6	-43.96	-40	3.96	peak
4625	-51.69	V	6	-45.69	-40	5.69	peak
4G BAND40 2350-2360MHz Low Channel							
150.0108	-78.15	H	23.1	-55.05	-40	15.05	peak
30.4238	-85.6	V	29.55	-56.05	-40	16.05	peak
4705	-50.17	H	6.46	-43.71	-40	3.71	peak
4705	-51.51	V	6.46	-45.05	-40	5.05	peak
4G BAND40 2350-2360MHz Middle Channel							
150.0108	-77.56	H	23.1	-54.46	-40	14.46	peak
30.4238	-85.22	V	29.55	-55.67	-40	15.67	peak
4710	-49.19	H	6.17	-43.02	-40	3.02	peak
4710	-51.19	V	6.17	-45.02	-40	5.02	peak

Frequency (MHz)	Read Level (dBm)	polarization	Factor (dB)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Detector
4G BAND40 2350-2360MHz High Channel							
150.0108	-77.46	H	23.1	-54.36	-40	14.36	peak
30.4238	-84.93	V	29.55	-55.38	-40	15.38	peak
4715	-49.76	H	6.18	-43.58	-40	3.58	peak
4715	-50.48	V	6.18	-44.3	-40	4.3	peak
4G BAND41 Low Channel							
150.0108	-85.02	H	23.1	-61.92	-25	36.92	peak
30.4238	-89.2	V	29.55	-59.65	-25	34.65	peak
3701.4	-50.53	H	5.86	-44.67	-25	19.67	peak
3701.4	-51.46	V	5.86	-45.6	-25	20.6	peak
4G BAND41 Middle Channel							
150.0108	-84.89	H	23.1	-61.79	-25	36.79	peak
30.4238	-88.47	V	29.55	-58.92	-25	33.92	peak
3765	-50.64	H	6.24	-44.4	-25	19.4	peak
3765	-50.84	V	6.24	-44.6	-25	19.6	peak
4G BAND41 High Channel							
150.0108	-84.85	H	23.1	-61.75	-25	36.75	peak
30.4238	-87.77	V	29.55	-58.22	-25	33.22	peak
3828.6	-50.9	H	6.5	-44.4	-25	19.4	peak
3828.6	-50.36	V	6.5	-43.86	-25	18.86	peak

7.9 Frequency stability V.S. Temperature measurement

Test Requirement:	FCC Part2.1055(a)(1)(b)
Test Method:	FCC Part2.1055(a)(1)(b)
Limit:	2.5ppm
Test setup:	 **Note :** Measurement setup for testing on Antenna connector
Test procedure:	1. The equipment under test was connected to an external DC power supply and input rated voltage. 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 Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 6.1 for details
Test results:	Pass

Measurement Data:

Worst case record in the report

Band 5 10MHz Middle Channel 836.5MHz				
Temperature (℃)	Voltage Supplied (V_{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-30	9	6	0.0072	2.5
-20		2	0.0024	2.5
-10		7	0.0084	2.5
0		5	0.0060	2.5
10		3	0.0036	2.5
20		5	0.0060	2.5
30		8	0.0096	2.5
40		2	0.0024	2.5
50		5	0.0060	2.5

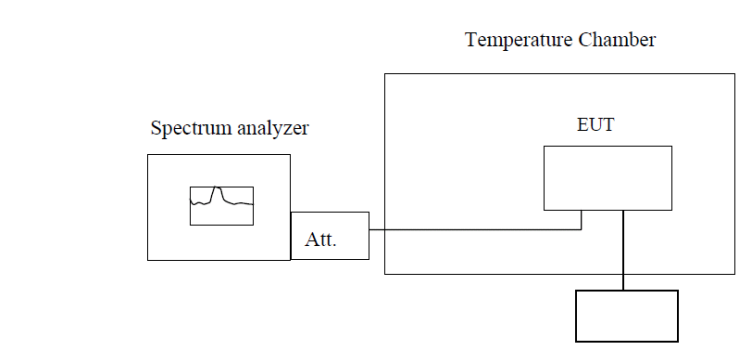
Band 40 Lower 10MHz Bandwidth							
Temperature (℃)	Voltage Supplied (V_{DC})	F_L (MHz)	F_H (MHz)	F_L Limit (MHz)	F_H Limit (MHz)	F_L Error (ppm)	F_H Error (ppm)
-30	9	2305.00473	2314.99431	2305	2315	2.05206	2.45788
-20		2305.00487	2314.99483	2305	2315	2.1128	2.23326
-10		2305.00527	2314.99425	2305	2315	2.28633	2.4838
0		2305.00485	2314.99437	2305	2315	2.10412	2.43197
10		2305.00492	2314.99458	2305	2315	2.13449	2.34125
20		2305.00487	2314.99436	2305	2315	2.1128	2.43629
30		2305.00489	2314.99478	2305	2315	2.12148	2.25486
40		2305.00505	2314.99466	2305	2315	2.19089	2.3067
50		2305.00487	2314.99429	2305	2315	2.1128	2.46652

Band 40 Lower 10MHz Bandwidth							
Temperature (℃)	Voltage Supplied (V_{DC})	F_L (MHz)	F_H (MHz)	F_L Limit (MHz)	F_H Limit (MHz)	F_L Error (ppm)	F_H Error (ppm)
-30	9	2305.00473	2314.99431	2305	2315	2.05206	2.45788
-20		2305.00487	2314.99483	2305	2315	2.1128	2.23326
-10		2305.00527	2314.99425	2305	2315	2.28633	2.4838
0		2305.00485	2314.99437	2305	2315	2.10412	2.43197
10		2305.00492	2314.99458	2305	2315	2.13449	2.34125
20		2305.00487	2314.99436	2305	2315	2.1128	2.43629
30		2305.00489	2314.99478	2305	2315	2.12148	2.25486
40		2305.00505	2314.99466	2305	2315	2.19089	2.3067
50		2305.00487	2314.99429	2305	2315	2.1128	2.46652

Band 40 Upper 10MHz Bandwidth							
Temperature (℃)	Voltage Supplied (V_{DC})	F_L (MHz)	F_H (MHz)	F_L Limit (MHz)	F_H Limit (MHz)	F_L Error (ppm)	F_H Error (ppm)
-30	9	2350.00484	2359.99444	2350	2360	2.05957	2.35593
-20		2350.00497	2359.99414	2350	2360	2.11489	2.48305
-10		2350.00483	2359.9948	2350	2360	2.05532	2.20339
0		2350.00533	2359.99476	2350	2360	2.26809	2.22034
10		2350.00536	2359.994719	2350	2360	2.28085	2.23771
20		2350.00475	2359.994759	2350	2360	2.02128	2.22076
30		2350.00494	2359.994812	2350	2360	2.10213	2.19831
40		2350.005	2359.994797	2350	2360	2.12766	2.20466
50		2350.00514	2359.994819	2350	2360	2.18723	2.19534

Band 41 20 MHz Bandwidth							
Temperature (℃)	Voltage Supplied (V_{DC})	F_L (MHz)	F_H (MHz)	F_L Limit (MHz)	F_H Limit (MHz)	F_L Error (ppm)	F_H Error (ppm)
-30	9	2555.00516	2654.994918	2555	2655	2.01957	1.91412
-20		2555.00569	2654.99483	2555	2655	2.22701	1.94727
-10		2555.00549	2654.99488	2555	2655	2.14873	1.92844
0		2555.00585	2654.994897	2555	2655	2.28963	1.92203
10		2555.00545	2654.994935	2555	2655	2.13307	1.90772
20		2555.00573	2654.99489	2555	2655	2.24266	1.92467
30		2555.00584	2654.994898	2555	2655	2.28571	1.92166
40		2555.00576	2654.99468	2555	2655	2.2544	2.00377
50		2555.00586	2654.994839	2555	2655	2.29354	1.94388

7.10 Frequency stability V.S. Voltage measurement

Test Requirement:	FCC Part2.1055(d)(1)(2)
Test Method:	FCC Part2.1055(d)(1)(2)
Limit:	2.5ppm
Test setup:	 **Note :** Measurement setup for testing on Antenna connector
Test procedure:	1. Set chamber temperature to 25°C. Use a variable DC power source to power the EUT and set the voltage to rated voltage. 2. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency. 3. Reduce the input voltage to specified extreme voltage variation (+/- 15%) and endpoint, record the maximum frequency change.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 6.1 for details
Test results:	Pass

Measurement Data:

Band 5 10MHz Middle Channel 836.5MHz				
Temperature (℃)	Voltage Supplied (V_{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
20	V min.= 7.65	1	0.0012	2.5
	V max.= 10.35	7	0.0084	2.5

Band 40 Lower 10MHz Bandwidth							
Temperature (℃)	Voltage Supplied (V_{DC})	F_L (MHz)	F_H (MHz)	F_L Limit (MHz)	F_H Limit (MHz)	F_L Error (ppm)	F_H Error (ppm)
20	V min.= 7.65	2305.0049	2314.99477	2305	2315	2.12581	2.25918
	V max.= 10.35	2305.00515	2314.99474	2305	2315	2.23427	2.27214

Band 40 Upper 10MHz Bandwidth							
Temperature (℃)	Voltage Supplied (V_{DC})	F_L (MHz)	F_H (MHz)	F_L Limit (MHz)	F_H Limit (MHz)	F_L Error (ppm)	F_H Error (ppm)
20	V min.= 7.65	2350.005	2359.994756	2350	2360	2.12766	2.22203
	V max.= 10.35	2350.00491	2359.994836	2350	2360	2.08936	2.18814

Band 41 20 MHz Bandwidth							
Temperature (℃)	Voltage Supplied (V_{DC})	F_L (MHz)	F_H (MHz)	F_L Limit (MHz)	F_H Limit (MHz)	F_L Error (ppm)	F_H Error (ppm)
20	V min.= 7.65	2555.00542	2654.994799	2555	2655	2.12133	1.95895
	V max.= 10.35	2555.00571	2654.994826	2555	2655	2.23483	1.94878

8 Test Setup Photo

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

9 EUT Constructional Details

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

------End------