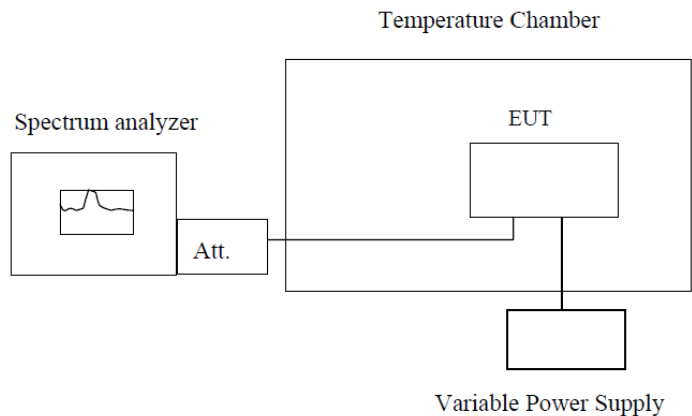


4.10 Frequency stability V.S. Temperature measurement

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 5.0 for details
Test mode:	Refer to section 6.1 for details
Test results:	Pass

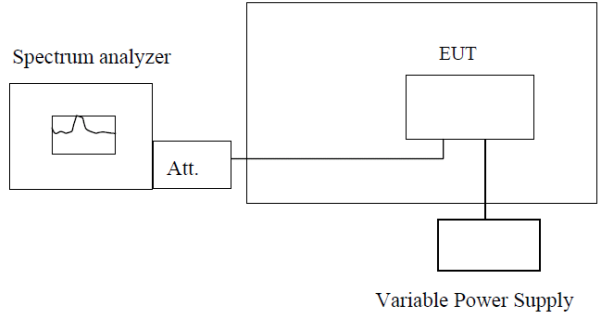
Measurement Data

Reference Frequency: GSM850 (GSM link) Middle channel=190 channel=836.6MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.8	-20°C	3	0.0040	2.5	Pass
	-10°C	7	0.0082		
	-5°C	6	0.0066		
	0°C	6	0.0067		
	+10°C	8	0.0090		
	+20°C	5	0.0055		
	+30°C	7	0.0078		
	+40°C	5	0.0058		
	+50°C	5	0.0058		
Reference Frequency: GSM850 (GPRS 1 link) Middle channel=190 channel=836.6MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.8	-20°C	7	0.0089	2.5	Pass
	-10°C	4	0.0043		
	-5°C	7	0.0089		
	0°C	3	0.0034		
	+10°C	3	0.0038		
	+20°C	5	0.0060		
	+30°C	4	0.0047		
	+40°C	6	0.0072		
	+50°C	6	0.0068		
Reference Frequency: GSM850 (EGPRS 1 link) Middle channel=190 channel=836.6MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.8	-20°C	8	0.0093	2.5	Pass
	-10°C	4	0.0052		
	-5°C	6	0.0077		
	0°C	7	0.0090		
	+10°C	7	0.0088		
	+20°C	2	0.0025		
	+30°C	7	0.0089		
	+40°C	5	0.0061		
	+50°C	8	0.0093		

Reference Frequency: PCS1900 (GSM link) Middle channel=661 channel=1880MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error			Result
		Hz	ppm		
3.8	-20°C	7	0.0038	2.5	Pass
	-10°C	6	0.0031		
	-5°C	6	0.0032		
	0°C	7	0.0039		
	+10°C	3	0.0017		
	+20°C	5	0.0025		
	+30°C	5	0.0028		
	+40°C	2	0.0011		
	+50°C	7	0.0038		
Reference Frequency: PCS1900 (GPRS 1 link) Middle channel=661 channel=1880MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error			Result
		Hz	ppm		
3.8	-20°C	3	0.0016	2.5	Pass
	-10°C	8	0.0040		
	-5°C	8	0.0043		
	0°C	3	0.0018		
	+10°C	6	0.0033		
	+20°C	6	0.0032		
	+30°C	7	0.0036		
	+40°C	3	0.0017		
	+50°C	7	0.0037		
Reference Frequency: PCS1900 (EGPRS 1 link) Middle channel=661 channel=1880MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error			Result
		Hz	ppm		
3.8	-20°C	3	0.0013	2.5	Pass
	-10°C	4	0.0024		
	-5°C	3	0.0014		
	0°C	2	0.0013		
	+10°C	4	0.0023		
	+20°C	7	0.0037		
	+30°C	5	0.0027		
	+40°C	6	0.0032		
	+50°C	6	0.0034		

Reference Frequency: WCDMA Band V Middle channel=4183 channel=836.6MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.8	-20°C	6	0.0068	2.5	Pass
	-10°C	6	0.0071		
	-5°C	4	0.0053		
	0°C	5	0.0064		
	+10°C	7	0.0083		
	+20°C	8	0.0090		
	+30°C	5	0.0057		
	+40°C	7	0.0083		
	+50°C	8	0.0094		
Reference Frequency: WCDMA Band II Middle channel=9400 channel=1880.0MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.8	-20°C	3	0.0015	2.5	Pass
	-10°C	4	0.0020		
	-5°C	2	0.0013		
	0°C	2	0.0011		
	+10°C	6	0.0031		
	+20°C	5	0.0028		
	+30°C	5	0.0029		
	+40°C	4	0.0020		
	+50°C	7	0.0039		
Reference Frequency: WCDMA Band IV Middle channel=1450 channel=1740.0MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.8	-20°C	3	0.0017	2.5	Pass
	-10°C	6	0.0035		
	-5°C	5	0.0028		
	0°C	2	0.0012		
	+10°C	8	0.0044		
	+20°C	4	0.0023		
	+30°C	6	0.0037		
	+40°C	7	0.0041		
	+50°C	4	0.0022		

4.11 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:	Temperature Chamber  Variable Power Supply 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 5.0 for details
Test mode:	Refer to section 6.1 for details
Test results:	Pass

Measurement Data

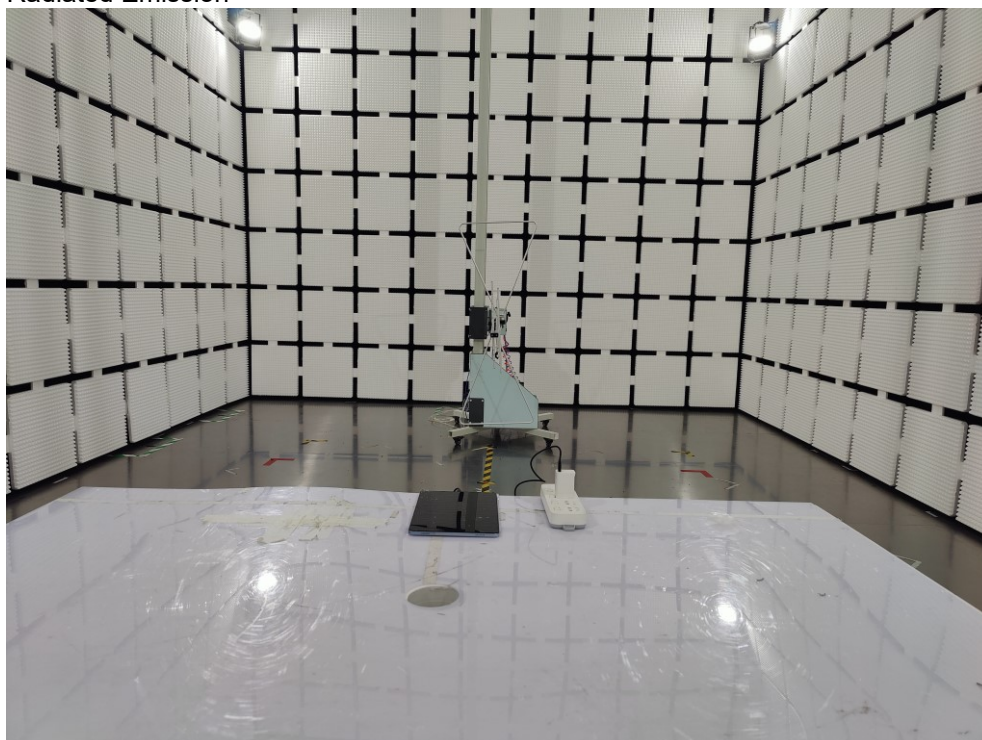
Reference Frequency: GSM850 (GSM link) Middle channel=190 channel=836.6MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.18	8	0.0093	2.5	Pass
	3.80	6	0.0071		
	3.61	7	0.0082		
Reference Frequency: GSM850 (GPRS 1 link) Middle channel=190 channel=836.6MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.18	4	0.0046	2.5	Pass
	3.80	3	0.0035		
	3.61	3	0.0041		
Reference Frequency: GSM850 (EGPRS 1 link) Middle channel=190 channel=836.6MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.18	6	0.0076	2.5	Pass
	3.80	4	0.0046		
	3.61	6	0.0067		

Reference Frequency: PCS1900 (GSM link) Middle channel=661 channel=1880MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.18	3	0.0018	2.5	Pass
	3.80	6	0.0030		
	3.61	5	0.0029		
Reference Frequency: PCS1900 (GPRS 1 link) Middle channel=661 channel=1880MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.18	5	0.0028	2.5	Pass
	3.80	3	0.0018		
	3.61	3	0.0018		
Reference Frequency: PCS1900 (EGPRS 1 link) Middle channel=661 channel=1880MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.18	4	0.0020	2.5	Pass
	3.80	6	0.0033		
	3.61	7	0.0040		

Reference Frequency: WCDMA Band V Middle channel=4183 channel=836.6MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.18	4	0.0051	2.5	Pass
	3.80	4	0.0045		
	3.61	4	0.0051		
Reference Frequency: WCDMA Band II Middle channel=940 channel=1880.0MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.18	5	0.0028	2.5	Pass
	3.80	3	0.0014		
	3.61	4	0.0023		
Reference Frequency: WCDMA Band IV Middle channel=1450 channel=1740.0MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.18	6	0.0032	2.5	Pass
	3.80	5	0.0029		
	3.61	8	0.0044		

5 Test Setup Photo

Radiated Emission



-----END OF REPORT-----