



7.6 FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT

LIMIT

According to FCC §2.1055, FCC §24.235.

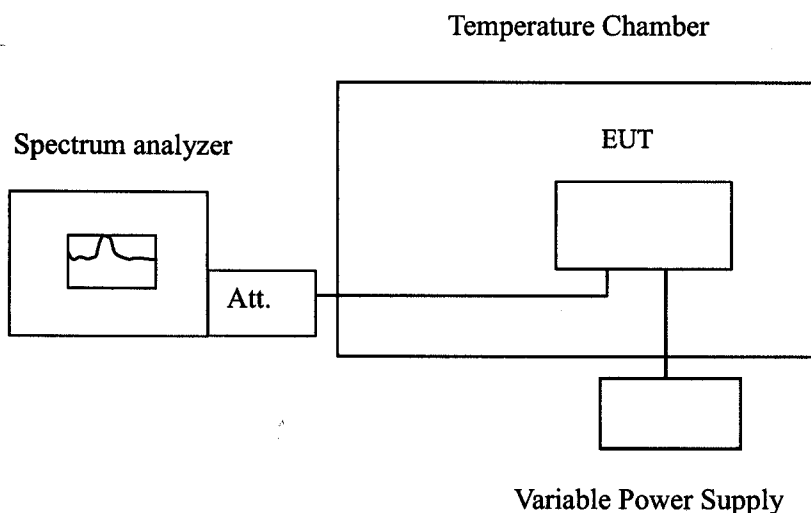
Frequency Tolerance: 2.5 ppm

MEASUREMENT EQUIPMENT USED

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
DC Power Source	Agilent	E3640A	MY40001774	01/12/2006
Temperature Chamber	K.son	THS-M1	242	03/20/2006
Spectrum Analyzer	Agilent	E4446A	MY43360131	01/10/2006

Remark: Each piece of equipment is scheduled for calibration once a year.

Test Configuration



Remark: Measurement setup for testing on Antenna connector



TEST PROCEDURE

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

TEST RESULTS

No non-compliance noted.

Reference Frequency: Mid Channel 836 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2090 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.6	50	835999997.7	-34	2090
	40	835999996.4	-36	
	30	835999996.2	-36	
	20	836000032.0	0	
	10	835999995.7	-36	
	0	835999994.9	-37	
	-10	835999996.1	-36	
	-20	835999994.4	-38	
	-30	835999995.5	-37	

Reference Frequency: Mid Channel 1880 MHz @ 20°C				
Limit: +/- 2.5 ppm = 4700 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.6	50	1879999993	-41	4700
	40	1879999993	-40	
	30	1879999994	-39	
	20	1880000033	0	
	10	1879999991	-42	
	0	1879999991	-42	
	-10	1879999992	-42	
	-20	1879999990	-43	
	-30	1879999988	-45	

7.7 FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT

LIMIT

According to FCC §2.1055, FCC §24.235,

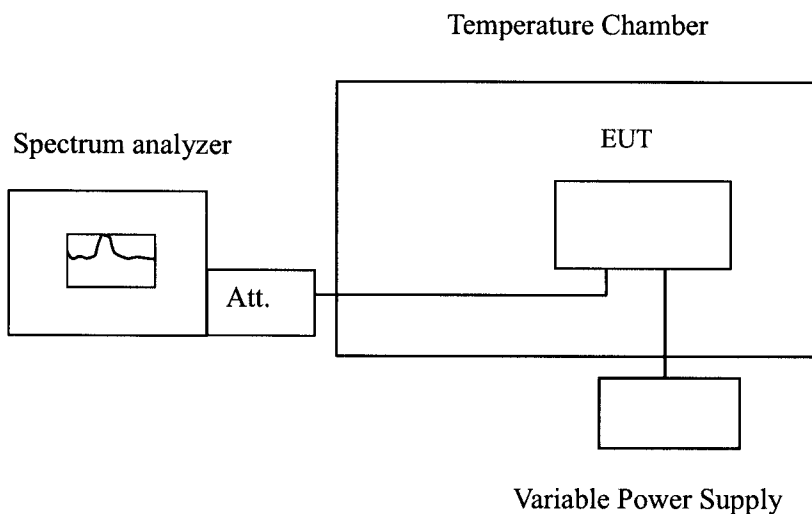
Frequency Tolerance: 2.5 ppm.

MEASUREMENT EQUIPMENT USED

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
DC Power Source	Agilent	E3640A	MY40001774	01/12/2006
Temperature Chamber	K.son	THS-M1	242	05/26/2006
Spectrum Analyzer	Agilent	E4446A	MY43360131	01/10/2006

Remark: Each piece of equipment is scheduled for calibration once a year.

Test Configuration



Remark: Measurement setup for testing on Antenna connector.



TEST PROCEDURE

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation ($\pm 15\%$) and endpoint, record the maximum frequency change.

TEST RESULTS

No non-compliance noted.

Reference Frequency: Mid Channel 836 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2090 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.2	20	836000025	-7	2090
3.6		836000032	0	
3.3(END POINT)		836000044	12	

Reference Frequency: CDMA2000 Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.2	20	1880000023	-10	4700
3.6		1880000033	0	
3.3(END POINT)		1880000045	12	