

5.6 FREQUENCY STABILITY

5.6.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

The frequency tolerance of the carrier signal shall be maintained within $\pm 0.02\%$ of the operating frequency over a temperature variation of -30 degrees to 50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.

5.6.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
ANRITSU SPECTRUM ANALYZER	MS2667C	M10281	Mar. 15, 2003
WIT STANDARD TEMPERATURE AND HUMIDITY CHAMBER	TH-4S-C	W901030	Jun. 24, 2003

NOTE:

The measurement uncertainty is less than $\pm 2.6\text{dB}$, which is calculated as per the NAMAS document NIS81.

The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

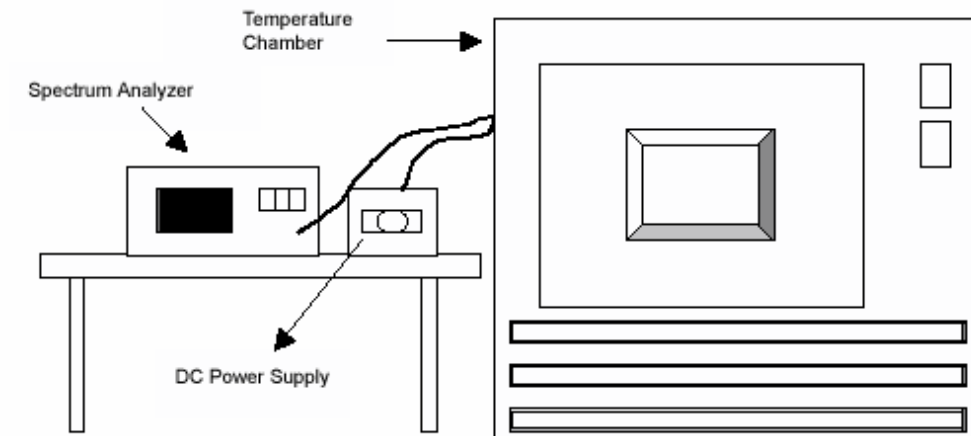
5.6.3 TEST PROCEDURE

1. The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.
2. Turn the EUT on and couple its output to a spectrum analyzer.
3. Turn the EUT off and set the chamber to the highest temperature specified.
4. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
5. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
6. The test chamber was allowed to stabilize at $+20$ degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

5.6.4 DEVIATION FROM TEST STANDARD

No deviation

5.6.5 TEST SETUP



5.6.6 EUT OPERATING CONDITION

Same as Item 5.1.6

5.6.7 TEST RESULTS

Operating frequency: 5180MHz				Limit : $\pm 0.02\%$			
Temp. (°C)	Power supply (VDC)	2 minute		5 minute		10 minute	
		(MHz)	(%)	(MHz)	(%)	(MHz)	(%)
50	126.5	5179.9758	-0.0004672	5179.9762	-0.0004595	5179.9760	-0.0004633
	110.0	5179.9756	-0.0004710	5179.9766	-0.0004517	5179.9758	-0.0004672
	93.5	5179.9758	-0.0004672	5179.9762	-0.0004595	5179.9760	-0.0004633
40	126.5	5179.9672	-0.0006332	5179.9682	-0.0006139	5179.9680	-0.0006178
	110.0	5179.9680	-0.0006178	5179.9676	-0.0006255	5179.9682	-0.0006139
	93.5	5179.9678	-0.0006216	5179.9680	-0.0006178	5179.9674	-0.0006293
30	126.5	5179.9654	-0.0006680	5179.9658	-0.0006602	5179.9658	-0.0006602
	110.0	5179.9660	-0.0006564	5179.9660	-0.0006564	5179.9660	-0.0006564
	93.5	5179.9654	-0.0006680	5179.9656	-0.0006641	5179.9658	-0.0006602
20	126.5	5179.9848	-0.0002934	5179.9852	-0.0002857	5179.9850	-0.0002896
	110.0	5179.9842	-0.0003050	5179.9850	-0.0002896	5179.9844	-0.0003012
	93.5	5179.9846	-0.0002973	5179.9852	-0.0002857	5179.9844	-0.0003012
10	126.5	5179.9964	-0.0000695	5179.9968	-0.0000618	5179.9962	-0.0000734
	110.0	5179.9956	-0.0000849	5179.9962	-0.0000734	5179.9960	-0.0000772
	93.5	5179.9964	-0.0000695	5179.9972	-0.0000541	5179.9962	-0.0000734
0	126.5	5180.0094	0.0001815	5180.0098	0.0001892	5180.0104	0.0002008
	110.0	5180.0090	0.0001737	5180.0096	0.0001853	5180.0104	0.0002008
	93.5	5180.0096	0.0001853	5180.0096	0.0001853	5180.0104	0.0002008
-10	126.5	5180.0260	0.0005019	5180.0300	0.0005792	5180.0302	0.0005830
	110.0	5180.0260	0.0005019	5180.0268	0.0005174	5180.0302	0.0005830
	93.5	5180.0264	0.0005097	5180.0264	0.0005097	5180.0308	0.0005946
-20	126.5	5180.0354	0.0006834	5180.0352	0.0006795	5180.0358	0.0006911
	110.0	5180.0350	0.0006757	5180.0350	0.0006757	5180.0354	0.0006834
	93.5	5180.0350	0.0006757	5180.0352	0.0006795	5180.0354	0.0006834
-30	126.5	5180.0358	0.0006911	5180.0358	0.0006911	5180.0358	0.0006911
	110.0	5180.0362	0.0006988	5180.0362	0.0006988	5180.0362	0.0006988
	93.5	5180.0060	0.0001158	5180.0364	0.0007027	5180.0364	0.0007027