

6a.5 Land Mobile Frequency Stability -- Pursuant to 47 CFR 2.1055(a)(1), §2.1055(d)(2), and §24.135

Frequency stability measurements were made as described in paragraph 7.4. Because of the transmitter's dependence on the stability of the base station oscillator, it is not possible to provide stability data for this transmitter as is commonly supplied for certification per 47 CFR 2.1055 for a radio with a locally stabilized oscillator. The following data was collected in a setup comprising of a base station simulator and it represents the absolute frequency error of the transceiver under test versus the base station frequency reference.

Frequency Stability (in ppm) at 813.5125 MHz, Voltage = 4V_{DC}		
TEMP (°C)	Frequency Error (Hz)	Error (ppm)
-30	3.62	0.004
-20	1.37	0.002
-10	1.58	0.002
0	5.27	0.006
10	2.17	0.003
20	3.92	0.005
30	13.56	0.017
40	16.02	0.020
50	28.97	0.036
60	26.19	0.032

Table 6a-5.1. Transmitter Frequency Stability vs. Temperature in 800 MHz SMR Band.

Frequency Stability in PPM at 899.98125 MHz, Voltage = 4V_{DC}		
TEMP (°C)	Frequency Error (Hz)	Error (ppm)
-30	2.87	0.003
-20	5.93	0.007
-10	18.84	0.021
0	30.36	0.034
10	2.97	0.003
20	27.96	0.031
30	17.64	0.020
40	42.38	0.047
50	1.35	0.001
60	34.03	0.038

Table 6a-5.2. Transmitter Frequency Stability vs. Temperature in 900 MHz SMR Band.

Frequency Stability in PPM at 900.98125 MHz, Voltage = 4V_{DC}		
TEMP (°C)	Frequency Error (Hz)	Error (ppm)
-30	2.87	0.003
-20	5.93	0.007
-10	18.84	0.021
0	30.36	0.034
10	2.97	0.003
20	27.96	0.031
30	17.64	0.020
40	42.38	0.047
50	1.35	0.001
60	34.03	0.038

Table 6a-5.3. Transmitter Frequency Stability vs. Temperature in 900 MHz NBPCS Band.

Frequency Stability in PPM at 813.5125 MHz, Temperature = 25°C		
Power Supply Output Voltage	Frequency Error in Hz	PPM
3.55	24.50	0.030
3.60	34.78	0.043
3.70	24.28	0.030
3.80	42.88	0.053
3.90	25.18	0.031
4.00	33.09	0.041
4.10	33.98	0.042
4.20	33.41	0.041

Table 6a-5.4. Transmitter Frequency Stability vs. Voltage in 800 MHz SMR Band.

Frequency Stability in PPM at 900.98125 MHz, Temperature = 25°C		
Power Supply Output Voltage	Frequency Error in Hz	PPM
3.55	8.40	0.009
3.60	5.28	0.006
3.70	9.44	0.010
3.80	18.70	0.021
3.90	2.19	0.002
4.00	0.34	0.000
4.10	11.64	0.013
4.20	6.63	0.007

Table 6a-5.5. Transmitter Frequency Stability vs. Voltage in 900 MHz SMR Band.

Frequency Stability in PPM at 900.98125 MHz, Temperature = 25°C		
Power Supply Output Voltage	Frequency Error in Hz	PPM
3.55	8.40	0.009
3.60	5.28	0.006
3.70	9.44	0.010
3.80	18.70	0.021
3.90	2.19	0.002
4.00	0.34	0.000
4.10	11.64	0.013
4.20	6.63	0.007

Table 6a-5.6. Transmitter Frequency Stability vs. Voltage in 900 MHz NBPCS Band.