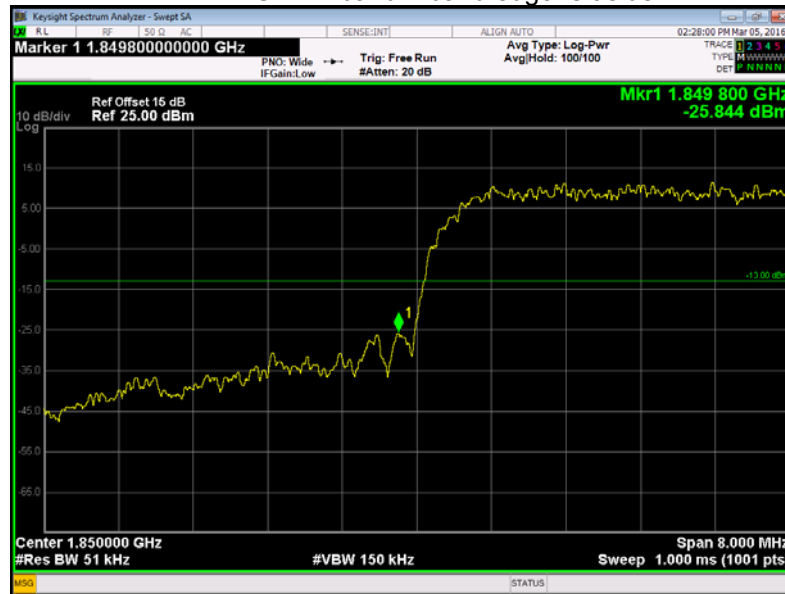
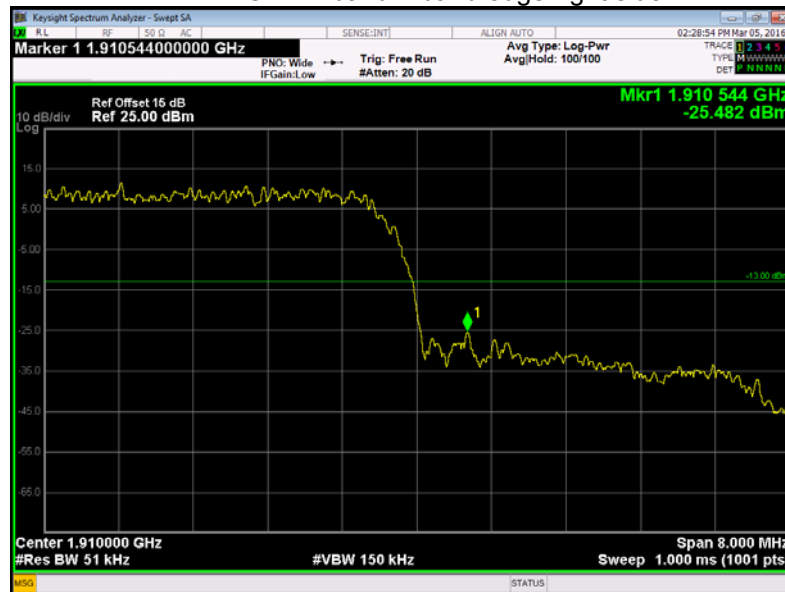


WCDMA band II band edge-left side

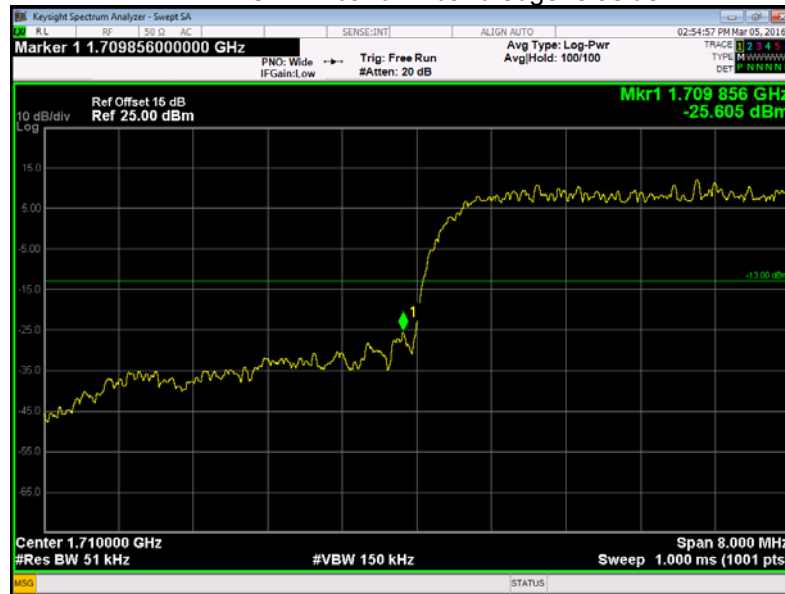


WCDMA band II band edge-right side



Part 27

WCDMA band IV band edge-left side

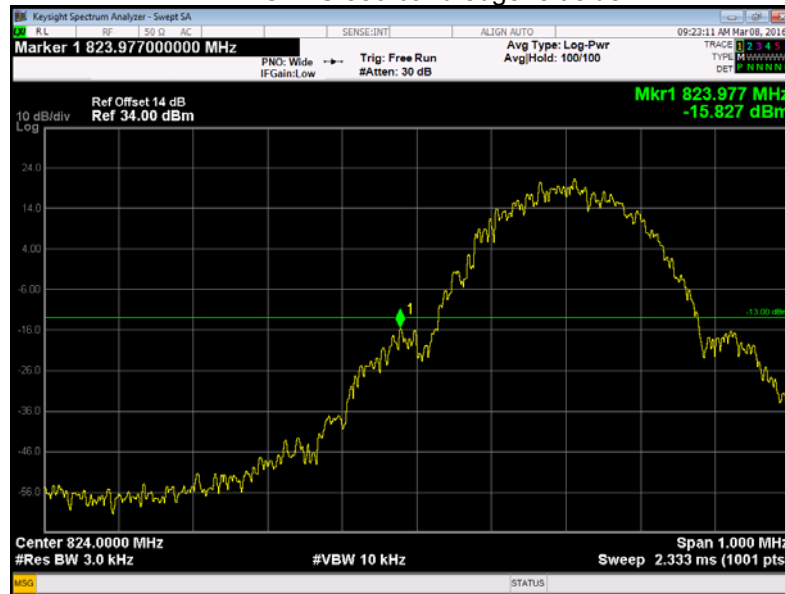


WCDMA band IV band edge-right side

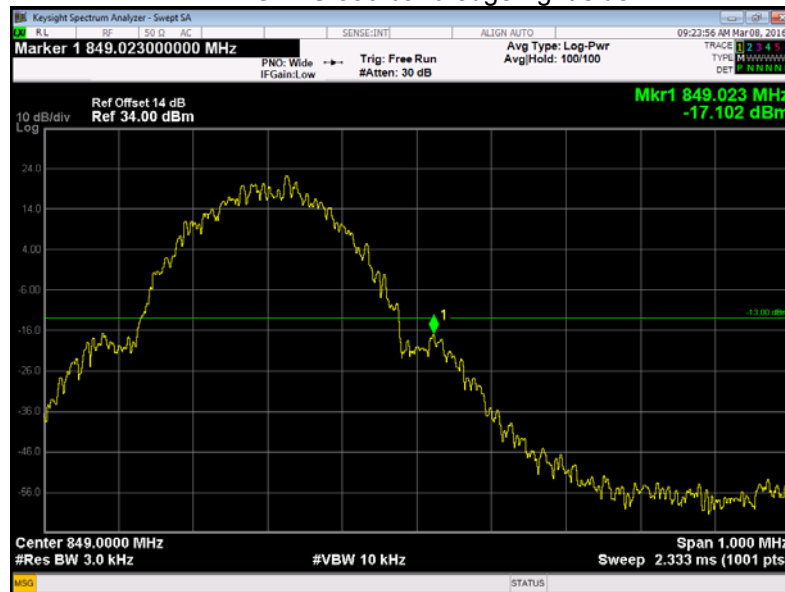


Modem 2

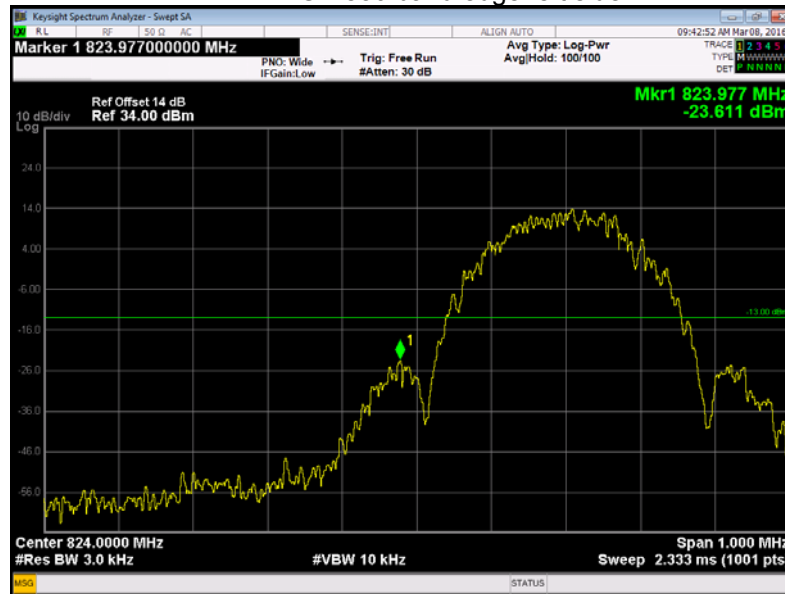
GPRS 850 band edge-left side



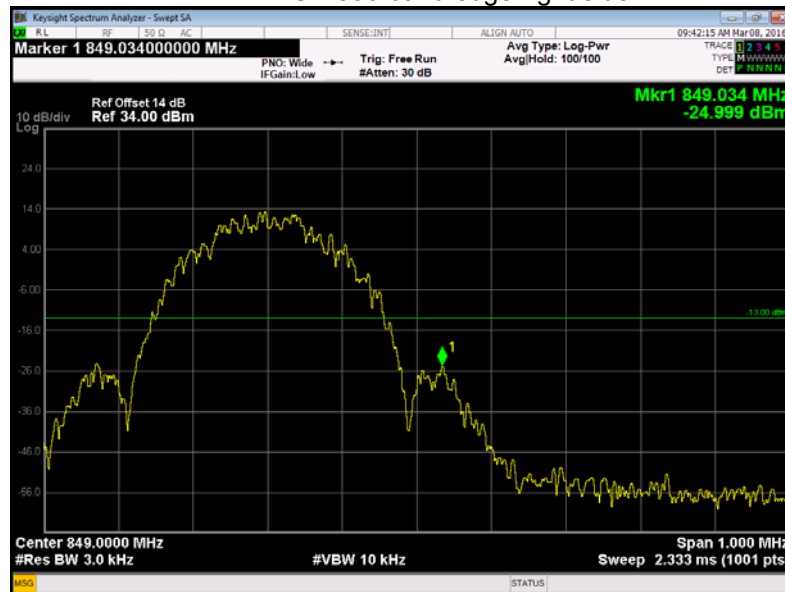
GPRS 850 band edge-right side



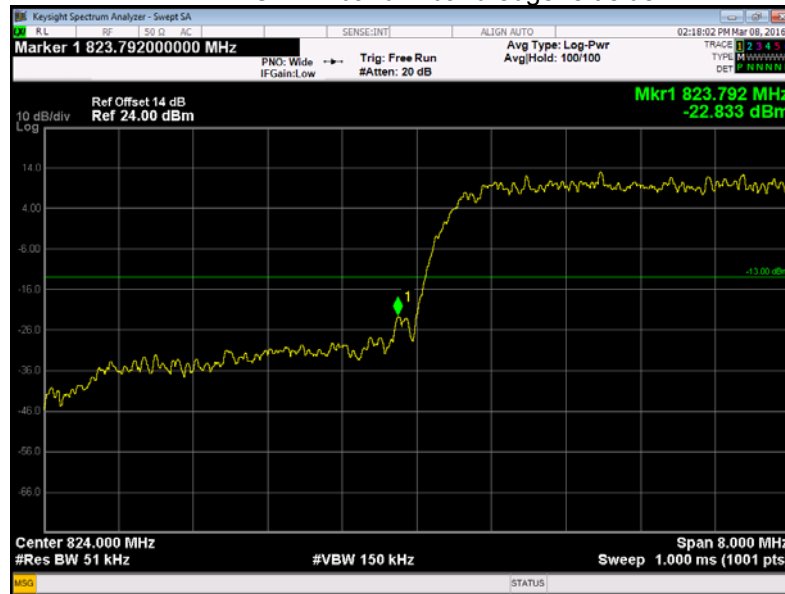
EDGE 850 band edge-left side



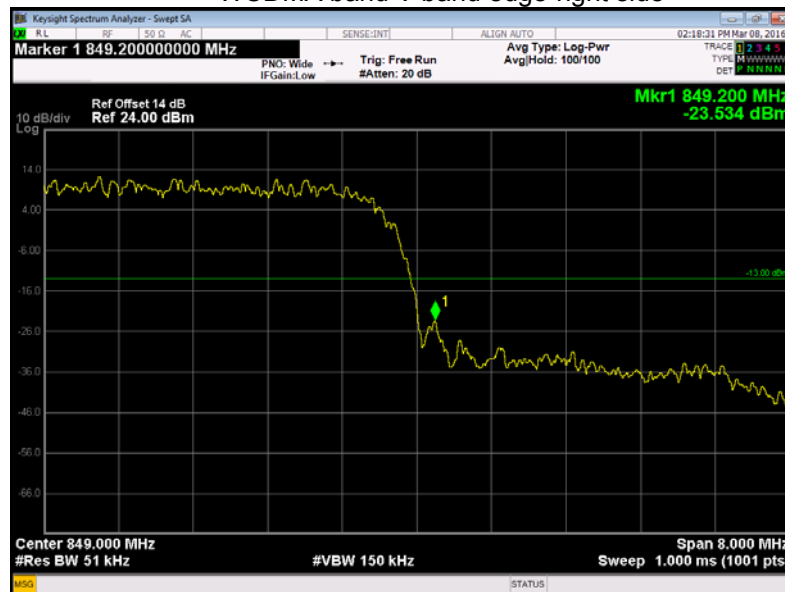
EDGE 850 band edge-right side



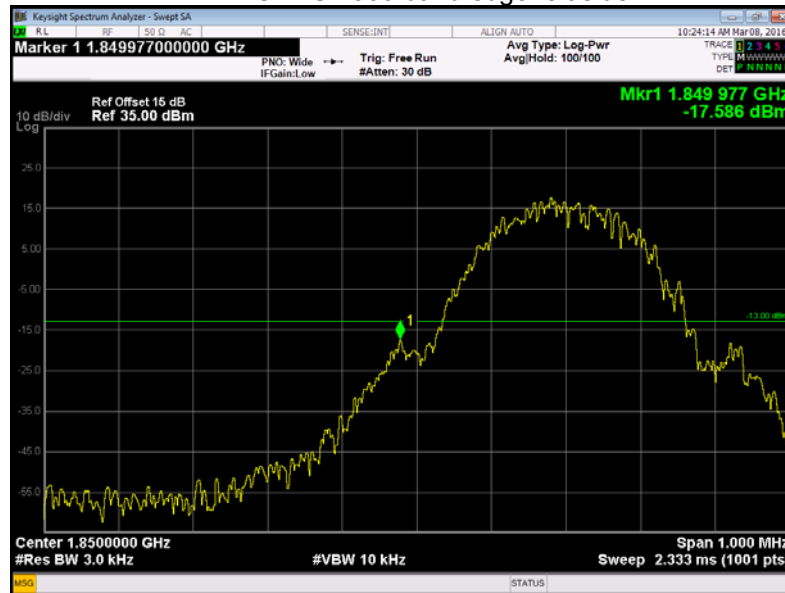
WCDMA band V band edge-left side



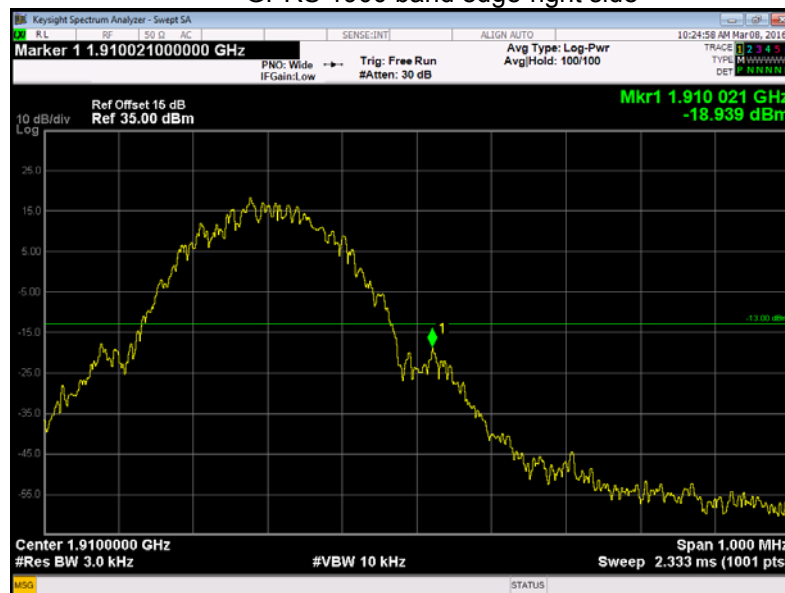
WCDMA band V band edge-right side



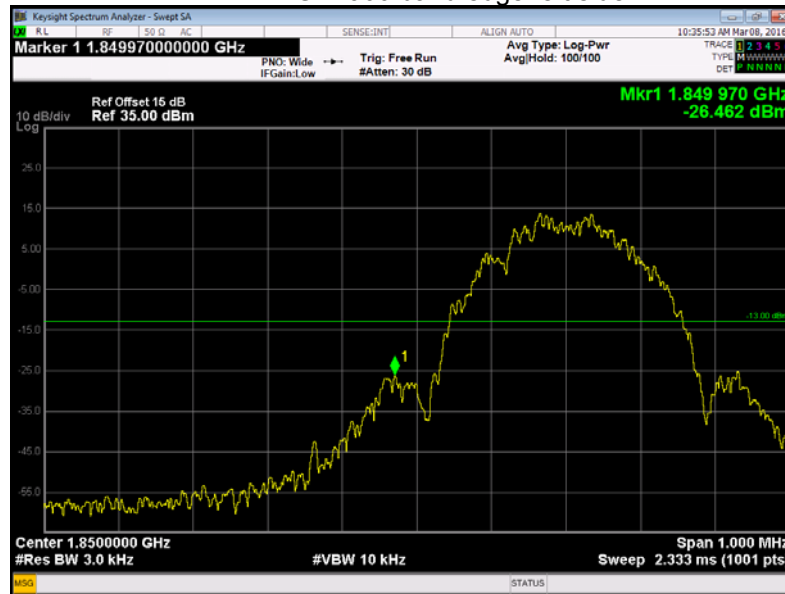
Cellular Band (Part 24E)
GPRS 1900 band edge-left side



GPRS 1900 band edge-right side



EDGE1900 band edge-left side



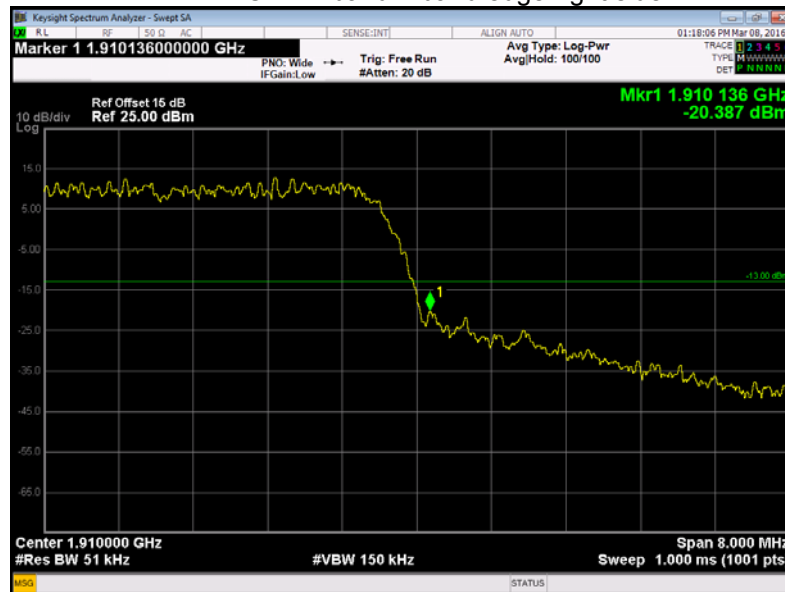
EDGE 1900 band edge-right side



WCDMA band II band edge-left side



WCDMA band II band edge-right side



Part 27

WCDMA band IV band edge-left side



WCDMA band IV band edge-right side



12 FREQUENCY STABILITY

Test Requirement:	FCC Part 2.1055,22.355,24.235,27.5(h),27.54
Test Method:	TIA/EIA-603-D:2010 KDB971168 D01 v02r02
Test Mode:	Transmitting

12.1 EUT Operation

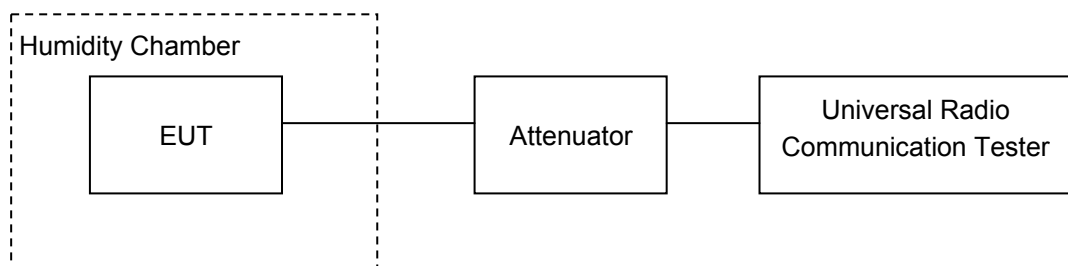
Operating Environment :	
Temperature:	22.9 °C
Humidity:	52.0 % RH
Atmospheric Pressure:	101.3kPa

12.2 Test Procedure

Frequency Stability vs. Temperature: The equipment under test was connected to an external DC power supply and the RF output was connected to communication test set via feed-through attenuators. The EUT was placed inside the temperature chamber. The DC leads and RF output cable exited the chamber through an opening made for the purpose.

After the temperature stabilized for approximately 20 minutes, the frequency output was recorded from the communication test set.

Frequency Stability vs. Voltage: For hand carried, battery powered equipment; reduce primary supply voltage to the battery operating end point which shall be specified by the manufacturer.



12.3 Test Result

Cellular Band (Part 22H)

Modem 1

GPRS 850 Test Frequency:836.6MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	3.7	23	0.0275	2.5
40		12	0.0143	2.5
30		15	0.0179	2.5
20		18	0.0215	2.5
10		22	0.0263	2.5
0		25	0.0299	2.5
-10		18	0.0215	2.5
-20		16	0.0191	2.5
-30		12	0.0143	2.5
20		3.3	27	0.0323
20	4.2	20	0.0239	2.5

EGPRS 850 Test Frequency:836.6MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	3.7	14	0.0167	2.5
40		11	0.0131	2.5
30		11	0.0131	2.5
20		17	0.0203	2.5
10		24	0.0287	2.5
0		9	0.0108	2.5
-10		21	0.0251	2.5
-20		24	0.0287	2.5
-30		26	0.0311	2.5
20		3.3	26	0.0311
20	4.2	25	0.0299	2.5

WCDMA Band V Test Frequency:836.6MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	3.7	-9	-0.0108	2.5
40		-7	-0.0084	2.5
30		1	0.0012	2.5
20		-1	-0.0012	2.5
10		-7	-0.0084	2.5
0		7	0.0084	2.5
-10		-9	-0.0108	2.5
-20		1	0.0012	2.5
-30		0	0.0000	2.5
20		3.3	6	0.0072
20	4.2	1	0.0012	2.5

PCS Band (Part 24E)				
GPRS 1900 Test Frequency:1880.0MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	3.7	16	0.0085	2.5
40		19	0.0101	2.5
30		15	0.0080	2.5
20		20	0.0106	2.5
10		20	0.0106	2.5
0		20	0.0106	2.5
-10		15	0.0080	2.5
-20		14	0.0074	2.5
-30		19	0.0101	2.5
20		3.3	18	0.0096
20	4.2	22	0.0117	2.5

EGPRS 1900 Test Frequency:1880.0MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	3.7	6	0.0032	2.5
40		15	0.0080	2.5
30		23	0.0122	2.5
20		14	0.0074	2.5
10		14	0.0074	2.5
0		14	0.0074	2.5
-10		21	0.0112	2.5
-20		19	0.0101	2.5
-30		6	0.0032	2.5
20		3.3	9	0.0048
20	4.2	7	0.0037	2.5

WCDMA Band II Test Frequency:1880.0MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	3.7	-1	-0.0005	2.5
40		7	0.0037	2.5
30		8	0.0043	2.5
20		0	0.0000	2.5
10		5	0.0027	2.5
0		0	0.0000	2.5
-10		8	0.0043	2.5
-20		6	0.0032	2.5
-30		3	0.0016	2.5
20		3.3	-7	-0.0037
20	4.2	7	0.0037	2.5

WCDMA Band IV Test Frequency:1732.6MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	3.7	-1	-0.0006	2.5
40		2	0.0012	2.5
30		9	0.0052	2.5
20		0	0.0000	2.5
10		1	0.0006	2.5
0		3	0.0017	2.5
-10		-1	-0.0006	2.5
-20		9	0.0052	2.5
-30		7	0.0040	2.5
20		3.3	-3	-0.0017
20	4.2	-2	-0.0012	2.5

Modem 2

GPRS 850 Test Frequency:836.6MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	3.7	21	0.0251	2.5
40		25	0.0299	2.5
30		22	0.0263	2.5
20		25	0.0299	2.5
10		22	0.0263	2.5
0		29	0.0347	2.5
-10		23	0.0275	2.5
-20		27	0.0323	2.5
-30		29	0.0347	2.5
20		3.3	23	0.0275
20	4.2	21	0.0251	2.5

EGPRS 850 Test Frequency:836.6MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	3.7	18	0.0215	2.5
40		17	0.0203	2.5
30		16	0.0191	2.5
20		14	0.0167	2.5
10		10	0.0120	2.5
0		18	0.0215	2.5
-10		19	0.0227	2.5
-20		16	0.0191	2.5
-30		6	0.0072	2.5
20		3.3	9	0.0108
20	4.2	23	0.0275	2.5

WCDMA Band V Test Frequency:836.6MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	3.7	8	0.0096	2.5
40		-2	-0.0024	2.5
30		6	0.0072	2.5
20		0	0.0000	2.5
10		-6	-0.0072	2.5
0		1	0.0012	2.5
-10		-5	-0.0060	2.5
-20		-3	-0.0036	2.5
-30		9	0.0108	2.5
20		3.3	2	0.0024
20	4.2	7	0.0084	2.5

PCS Band (Part 24E)

GPRS 1900 Test Frequency:1880.0MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	3.7	18	0.0096	2.5
40		21	0.0112	2.5
30		25	0.0133	2.5
20		19	0.0101	2.5
10		13	0.0069	2.5
0		18	0.0096	2.5
-10		28	0.0149	2.5
-20		20	0.0106	2.5
-30		24	0.0128	2.5
20		3.3	21	0.0112
20	4.2	25	0.0133	2.5

EGPRS 1900 Test Frequency:1880.0MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	3.7	25	0.0133	2.5
40		11	0.0059	2.5
30		14	0.0074	2.5
20		18	0.0096	2.5
10		26	0.0138	2.5
0		15	0.0080	2.5
-10		10	0.0053	2.5
-20		18	0.0096	2.5
-30		25	0.0133	2.5
20		3.3	22	0.0117
20	4.2	15	0.0080	2.5

WCDMA Band II Test Frequency:1880.0MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	3.7	-8	-0.0043	2.5
40		3	0.0016	2.5
30		6	0.0032	2.5
20		0	0.0000	2.5
10		-4	-0.0021	2.5
0		-8	-0.0043	2.5
-10		-6	-0.0032	2.5
-20		-4	-0.0021	2.5
-30		3	0.0016	2.5
20		3.3	2	0.0011
20	4.2	-2	-0.0011	2.5

WCDMA Band IV Test Frequency:1732.6MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	3.7	7	0.0040	2.5
40		5	0.0029	2.5
30		-2	-0.0012	2.5
20		0	0.0000	2.5
10		-7	-0.0040	2.5
0		2	0.0012	2.5
-10		-9	-0.0052	2.5
-20		4	0.0023	2.5
-30		-5	-0.0029	2.5
20		3.3	7	0.0040
20	4.2	0	0.0000	2.5

