AirCard 850 Test Report

For

FCC Certification

FCC ID: N7NAC850

Prepared by
SIERRA WIRELESS INC.
13811 WIRELESS WAY
RICHMOND, BC V6V 3A4
CANADA

Test Date(s): September 12, 2005, October 3, 2005

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1 Introduction and Purpose

This document provides the FCC test data for the AC850 wireless network card. The tests included in this report are limited to all conducted tests required. The radiated tests were performed at an external test facility.

2 Test Summary

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2.1053	Field Strength of Spurious Radiation	Complies	See CCS Report
2.1055	Frequency Stability versus Temperature	Complies	45
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The tests described in this report were performed by Mr. Philip Wright at:

Sierra Wireless, Inc.
13811 Wireless Way
Richmond, B.C. V6V 3A4
Canada

3 Description of Equipment Under Test

The Sierra Wireless Inc. model AirCard AC850 is a 5-band PCMCIA card wireless network card operating on the GSM/GPRS/EDGE/UMTS network. In the US and Canada, only cellular and PCS bands are used for GSM/GPRS/EDGE operation, so this test report only contains data for these two bands (850MHz and 1900MHz). The EUT was tested in both modes of operation: GMSK modulation and 8-PSK modulation. The EUT is a production sample and the serial number is: X1620350059E2

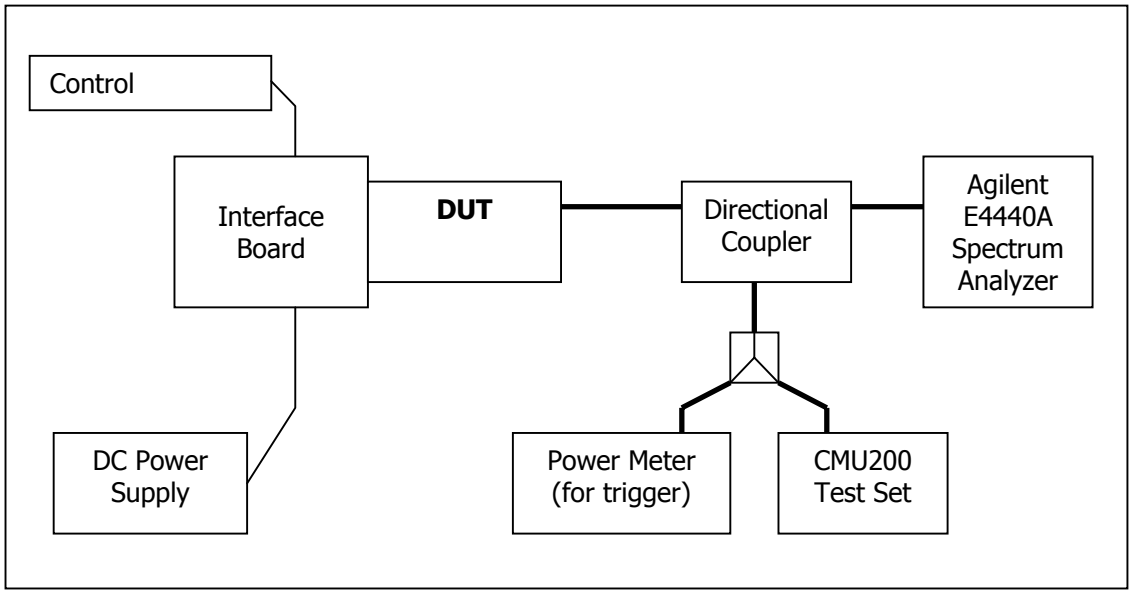
4 RF Power Output

FCC 2.1046

4.1 Test Procedure

The transmitter output was connected to a Rohde & Schwarz CMU200 Test Set and configured to operate at maximum power in a call. The power was measured using the spectrum analyzer at three equally spaced operating frequencies for each band. The RBW was set to 300 KHz for the GSM and EDGE measurements. The spectrum analyzer was set to measure the RF output power with the cable and coupler losses accounted for.

Test Setup



4.2 Test Equipment

Instrument List

EQUIPMENT	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL. DATE
Control Computer	TC	Generic PC	100488	N/A
Wireless Test Set	Rohde & Schwarz	CMU200	836766/030	N/A
Spectrum Analyzer	Agilent	PSA E4440A	US41421268	Sept. 29, 2004
DC Power Supply	HP	6632A	3530A	N/A
Interface Board	Shop built	Minnow	N/A	N/A
Directional Coupler	Mini-Circuits	ZA3PD-2	N/A	N/A

4.3 Test Results

Frequency (MHz)	Channel	Power (dBm)	
		GMSK Mode	8-PSK Mode
824.2	128	31.56	26.51
837.0	192	31.71	26.66
848.8	251	31.19	26.35
1850.2	512	28.37	25.58
1880.0	661	28.36	25.61
1909.8	810	28.89	25.42

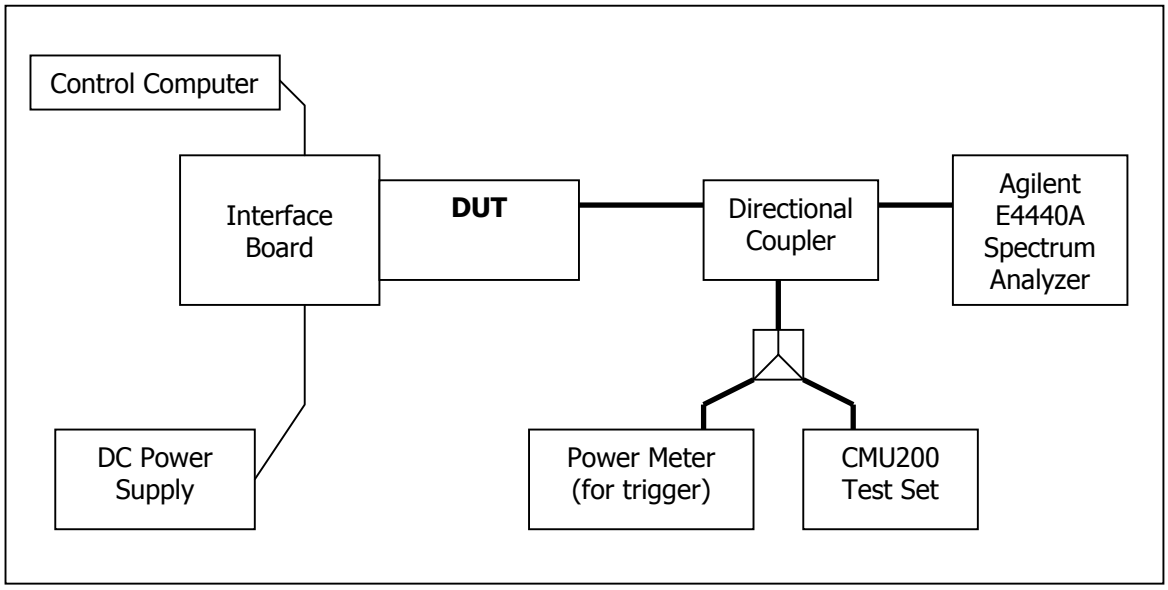
5 Occupied Bandwidth

FCC 2.1049

5.1 Test Procedure

The transmitter output was connected to a calibrated coaxial cable, the other end of which was connected to a spectrum analyzer. The occupied bandwidth (defined as the 99% Power Bandwidth) was measured with the Spectrum Analyzer at the center frequency of each band. The –26dB bandwidth was also measured and recorded.

Test Setup



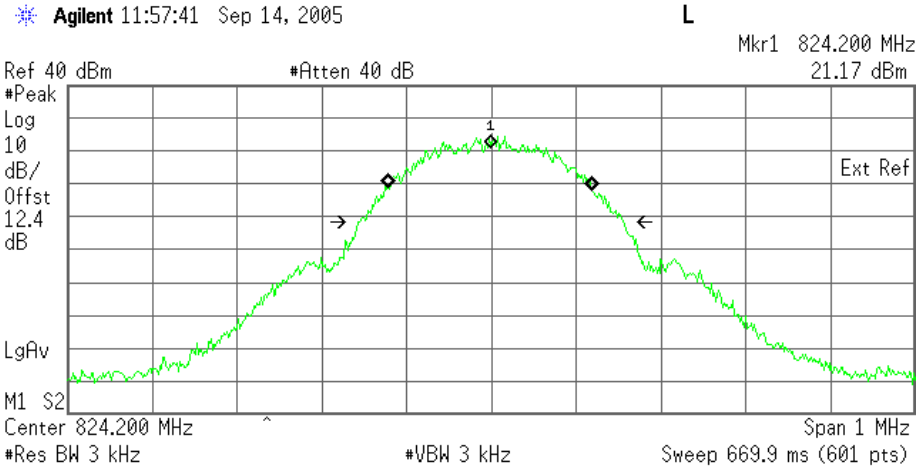
5.2 Test Results

The performance of 800 MHz cellular band is shown in plots 5.3.1 to 5.3.12.
Performance of 1900 MHz PCS band is shown in plots 5.3.13 to 5.3.24.

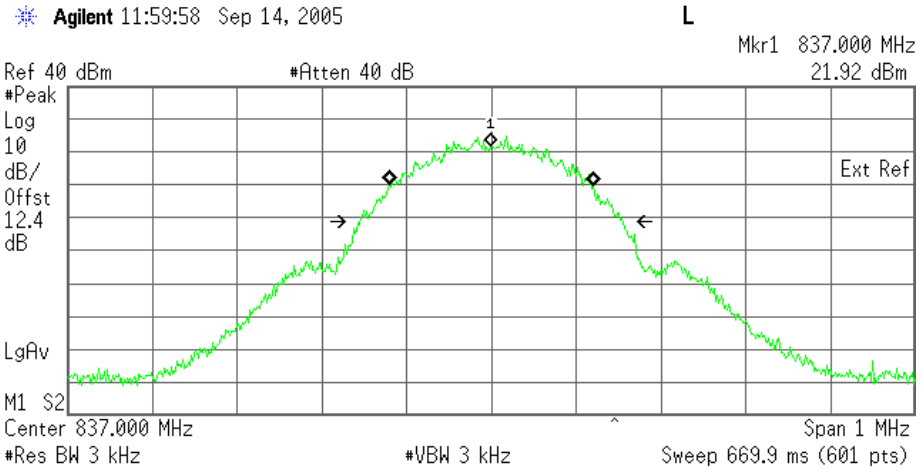
Frequency (MHz)	Channel	99% Occupied Bandwidth (kHz)		-26dBc Occupied Bandwidth (kHz)	
		GMSK Mode	8-PSK Mode	GMSK Mode	8-PSK Mode
824.2	128	242	243	313	296
837.0	192	242	242	312	304
848.8	251	243	243	314	308
1850.2	512	241	242	314	311
1880.0	661	242	244	315	308
1909.8	810	243	242	314	305

5.3 Test Plots

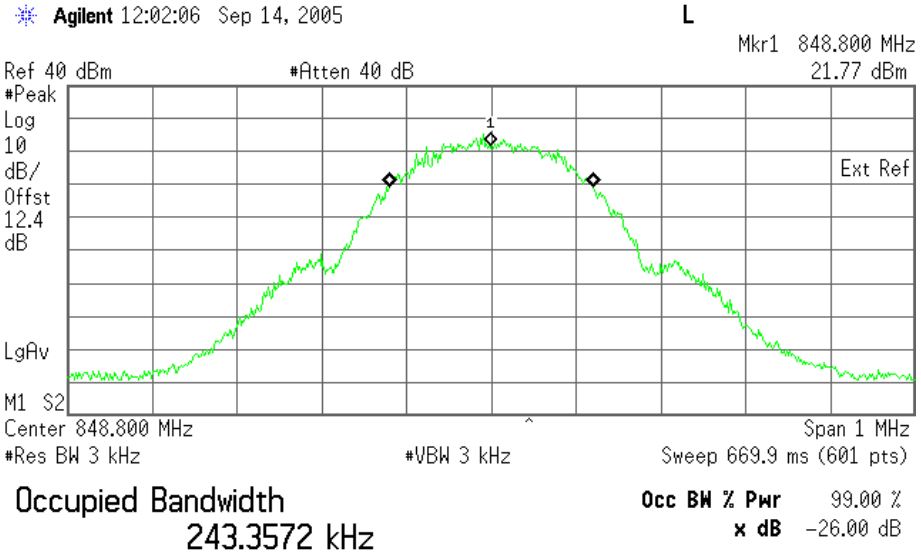
5.3.1) GMSK Occupied Bandwidth, Cellular Low channel, 824.2 MHz, 99% bandwidth



5.3.3) GMSK Occupied Bandwidth, Middle channel, 837 MHz, 99% bandwidth

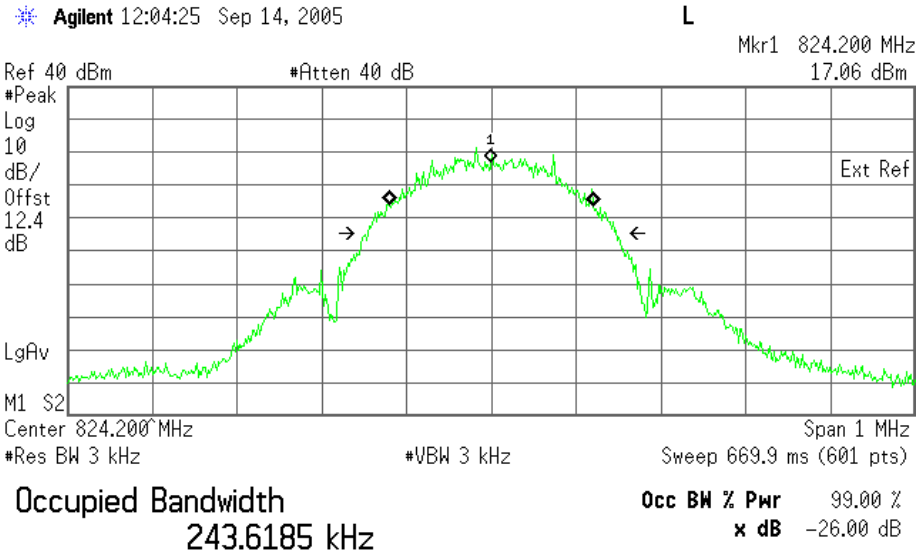


5.3.5) GMSK Occupied Bandwidth, High channel, 848.8 MHz, 99% bandwidth



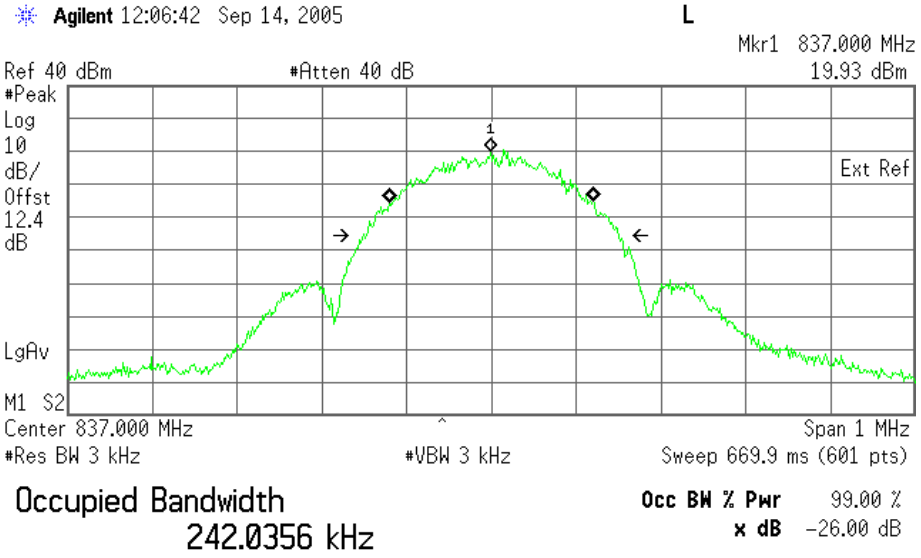
Transmit Freq Error	-187.038 Hz
x dB Bandwidth	314.727 kHz

5.3.7) 8-PSK Occupied Bandwidth, Cellular Low channel, 824.2 MHz, 99% bandwidth



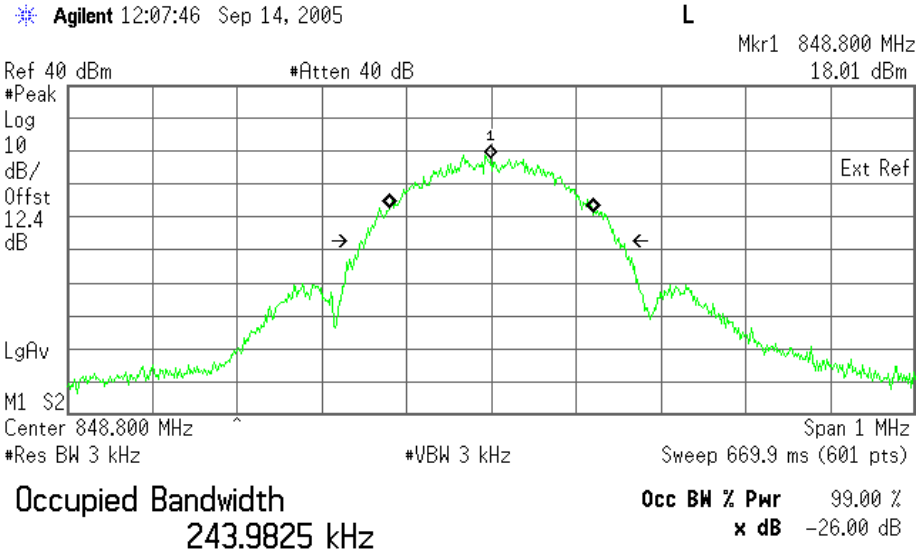
Transmit Freq Error	-385.125 Hz
Occupied Bandwidth	296.421 kHz

5.3.9) 8-PSK Occupied Bandwidth, Middle channel, 837 MHz, 99% bandwidth



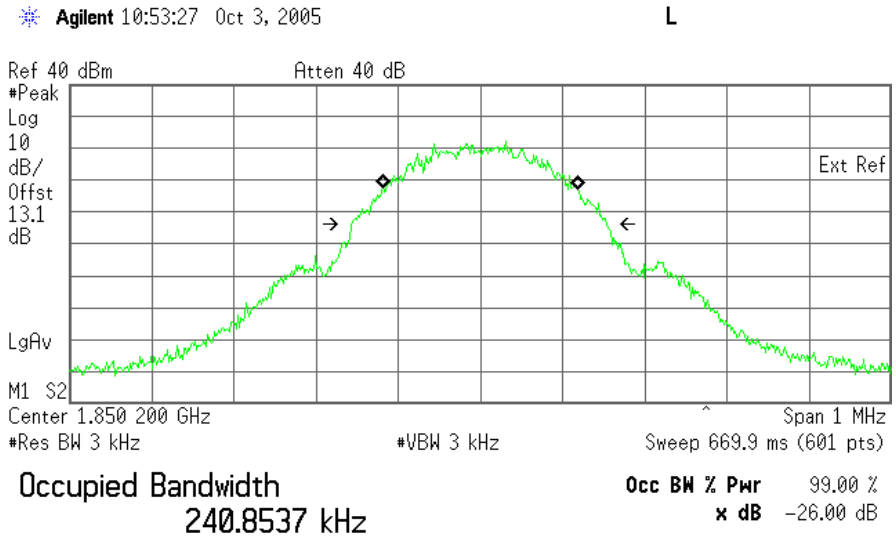
Transmit Freq Error	-317.554 Hz
Occupied Bandwidth	304.069 kHz

5.3.11) 8-PSK Occupied Bandwidth, High channel, 848.8 MHz, 99% bandwidth

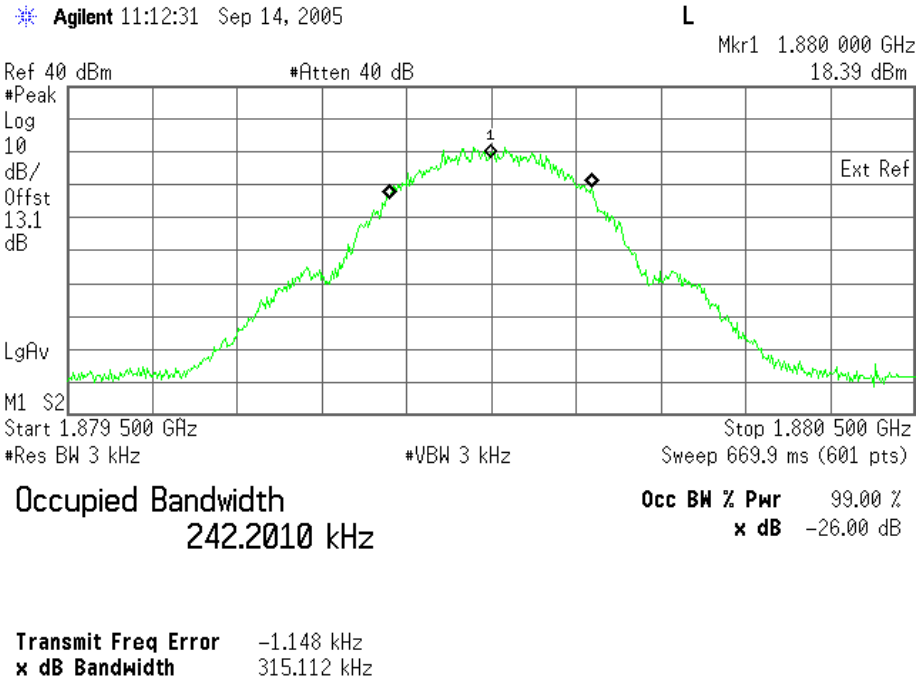


Transmit Freq Error	235.710 Hz
Occupied Bandwidth	308.568 kHz

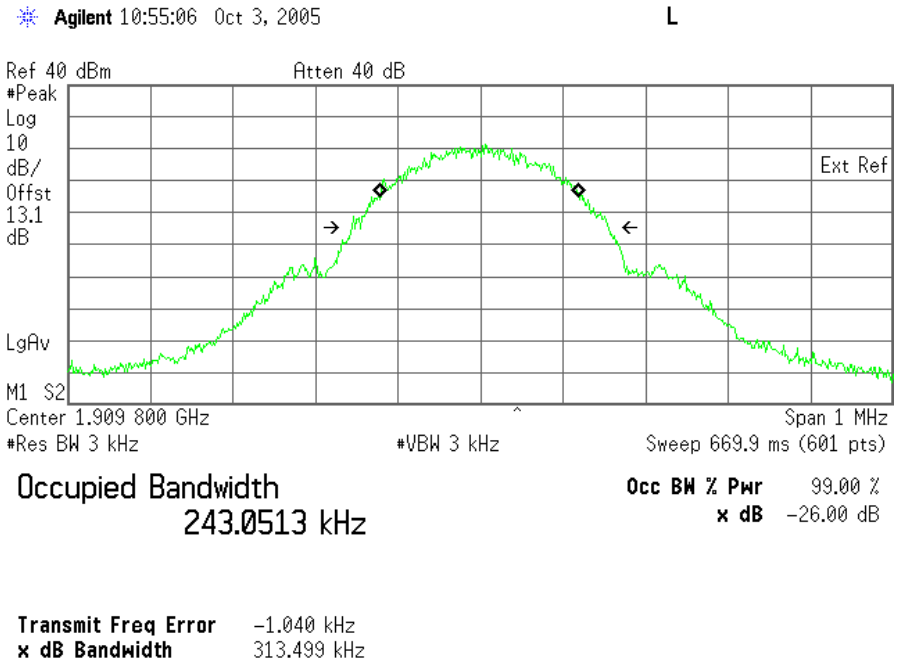
5.3.13) GMSK Occupied Bandwidth, PCS Low channel, 1850.2 MHz, 99% bandwidth



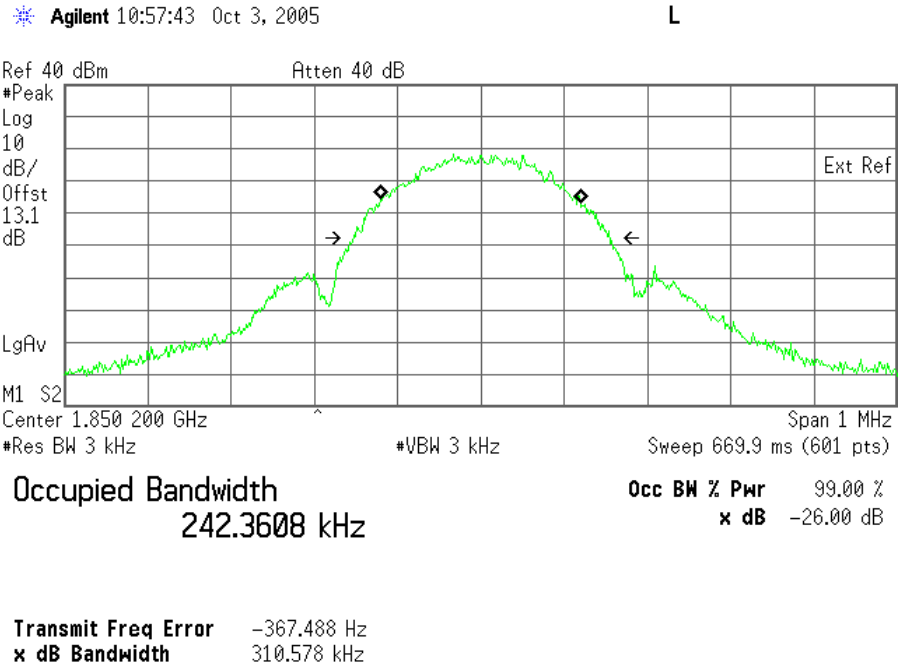
5.3.15) GMSK Occupied Bandwidth, PCS Middle channel, 1880.0 MHz, 99% bandwidth



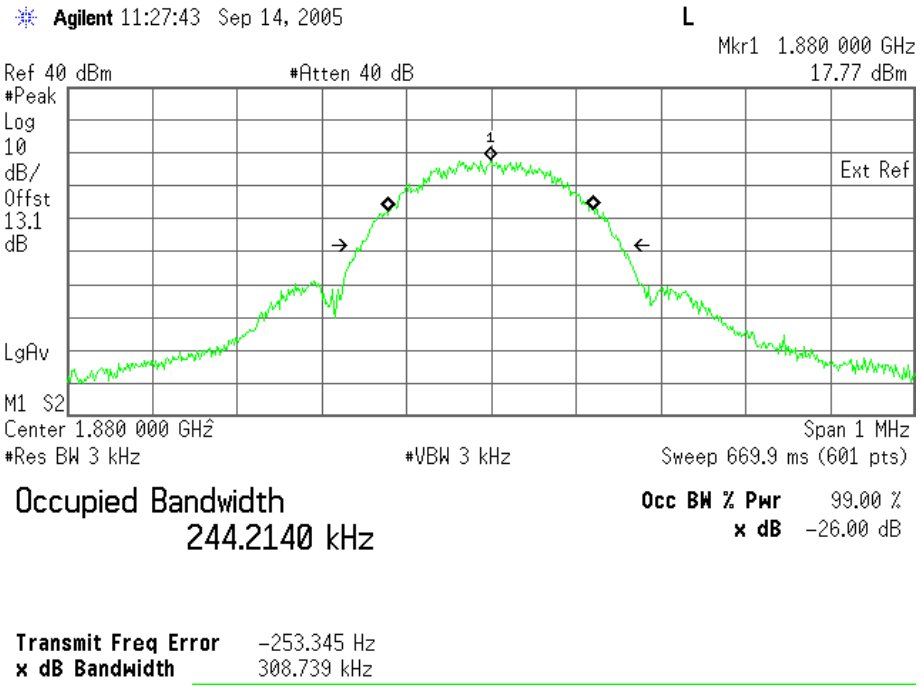
5.3.17) GMSK Occupied Bandwidth, PCS High channel, 1909.8 MHz, 99% bandwidth



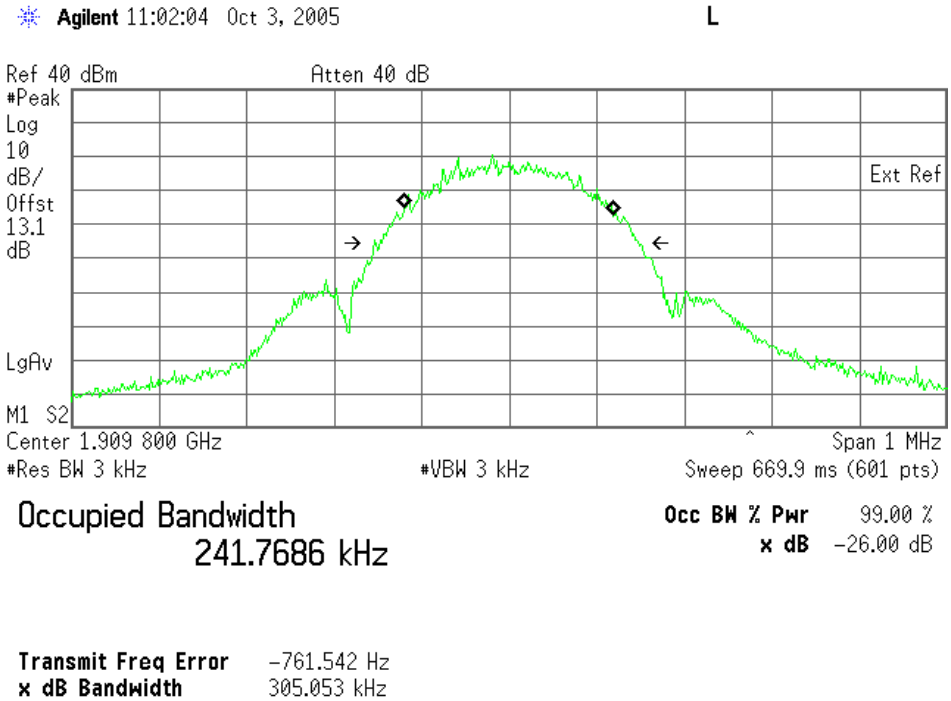
5.3.19) 8-PSK Occupied Bandwidth, PCS Low channel, 1850.2 MHz, 99% bandwidth



5.3.21) 8-PSK Occupied Bandwidth, PCS Middle channel, 1880.0 MHz, 99% bandwidth



5.3.23) 8-PSK Occupied Bandwidth, PCS High channel, 1909.8 MHz, 99% bandwidth



6 Out of Band Emissions at Antenna Terminals

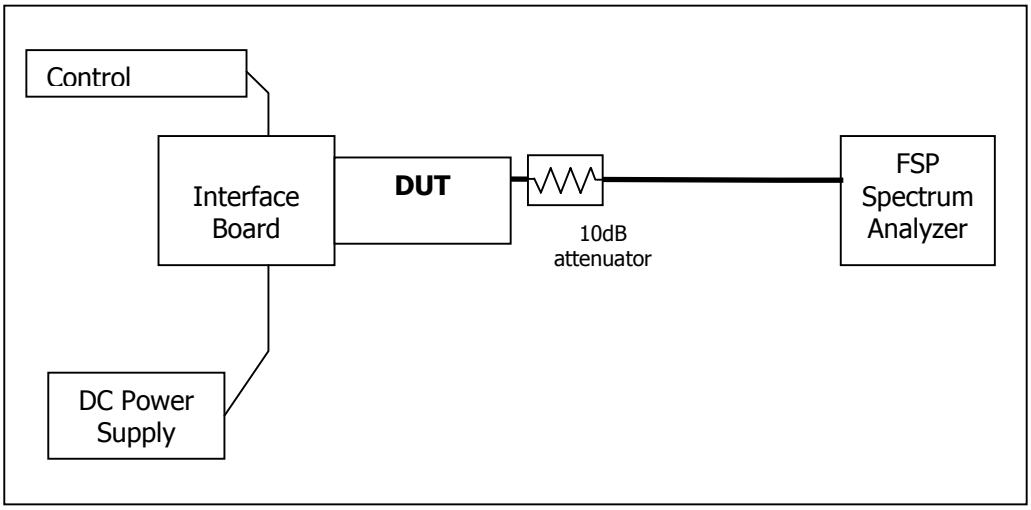
FCC 22.901(d), 22.917, 24.238(a)

Out of Band Emissions:
The mean power of emissions must be attenuated below the mean power of the unmodulated carrier (P) on any frequency outside the frequency band by at least (43 + 10 log P) dB, in this case, -13dBm.

6.1 Test Procedure

The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-band Emissions, if any, up to 10th harmonic. The EUT was scanned for spurious emissions from 1MHz to 20GHz with sufficient bandwidth and video resolution. Data plots are included. The measurement cable path loss at 20GHz (including an attenuator) was 13dB (11dB at lower frequencies). The larger path loss of 13dB was used for all measurements to be conservative. Multiple sweeps were recorded in maximum hold mode using a peak detector to ensure that the worst-case emissions were caught.

Test Setup



6.2 Test Equipment

EQUIPMENT	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL. DATE
Control Computer	TC	Generic PC	100488	N/A
Wireless Test Set	Rohde & Schwarz	CMU200	836766/030	N/A
Spectrum Analyzer	Agilent	PSA E4440A	US41421268	Sept. 29, 2004
DC Power Supply	HP	6632A	3530A	N/A
Interface Board	Shop built	Minnow	N/A	N/A
Directional Coupler	Mini-Circuits	ZA3PD-2	N/A	N/A

6.3 Test Results

Refer to the following plots.

- **Cellular Band**

Plot Number	Description
6.4.1 – 6.4.3	GMSK Mode, Low channel, 824.20 MHz
6.4.4 – 6.4.6	GMSK Mode, Middle Channel, 837 MHz
6.4.7 – 6.4.9	GMSK Mode, High Channel, 848.8 MHz
6.4.10 – 6.4.12	8-PSK Mode, Low channel, 824.20 MHz
6.4.13 – 6.4.15	8-PSK Mode, Middle Channel, 837 MHz
6.4.16 – 6.4.18	8-PSK Mode, High Channel, 848.8 MHz

- **PCS Band**

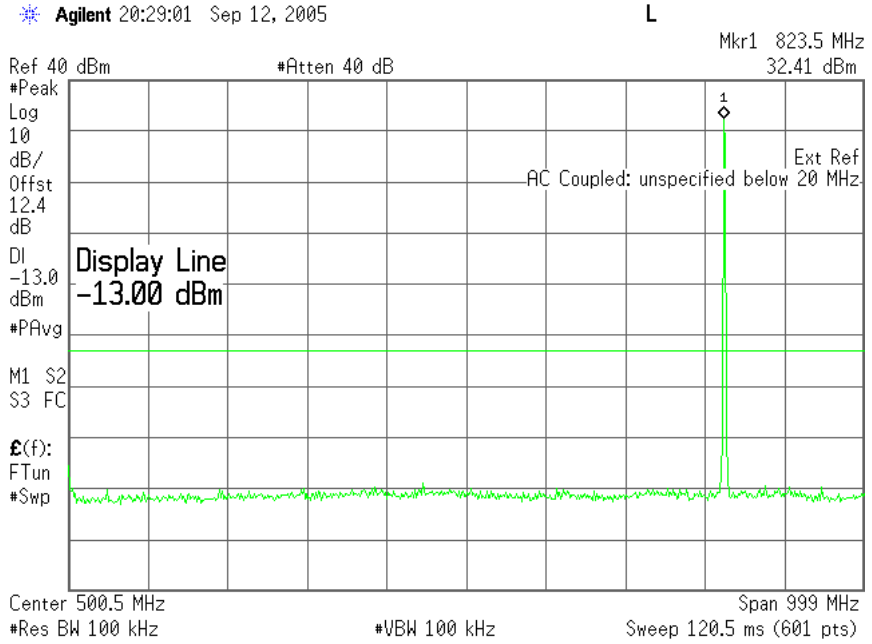
Plot Number	Description
6.4.19 – 6.4.21	GMSK Mode, Low Channel, 1850.2 MHz
6.4.22 – 6.4.24	GMSK Mode, Middle Channel, 1880.0 MHz
6.4.25 – 6.4.27	GMSK Mode, High Channel, 1909.8 MHz
6.4.28 – 6.4.30	8-PSK, Mode, Low Channel, 1850.2 MHz
6.4.31 – 6.4.33	8-PSK Mode, Middle Channel, 1880.0 MHz
6.4.34 – 6.4.36	8-PSK Mode, High Channel, 1909.8 MHz

These plots show that the conducted emission limits requirements are met.

6.4 Test Plots

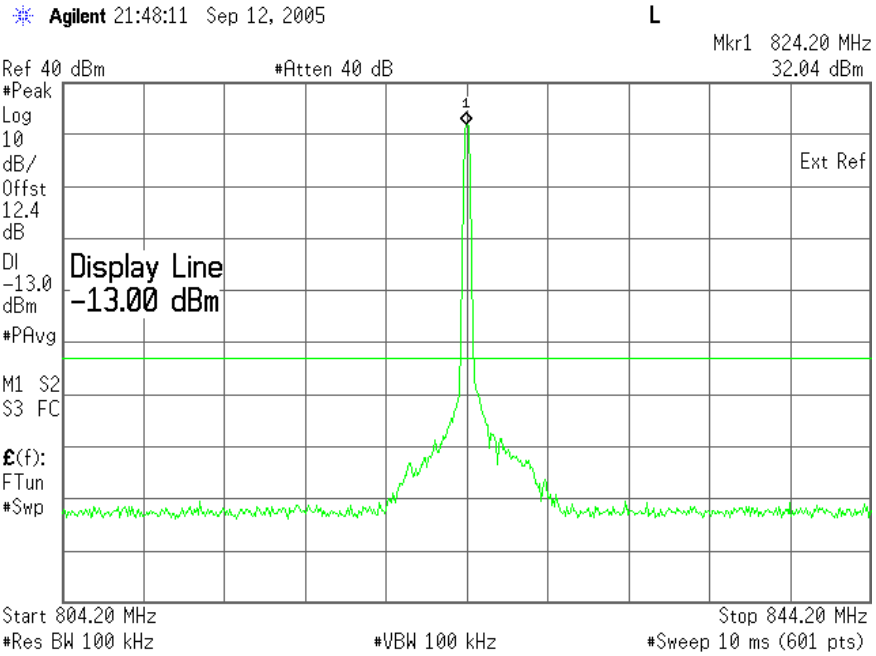
Plot 6.4.1) Out of Band Emissions at Antenna Terminals

GMSK, Low channel, 824.2 MHz, 1 MHz to 1 GHz



Plot 6.4.2) Out of Band Emissions at Antenna Terminals

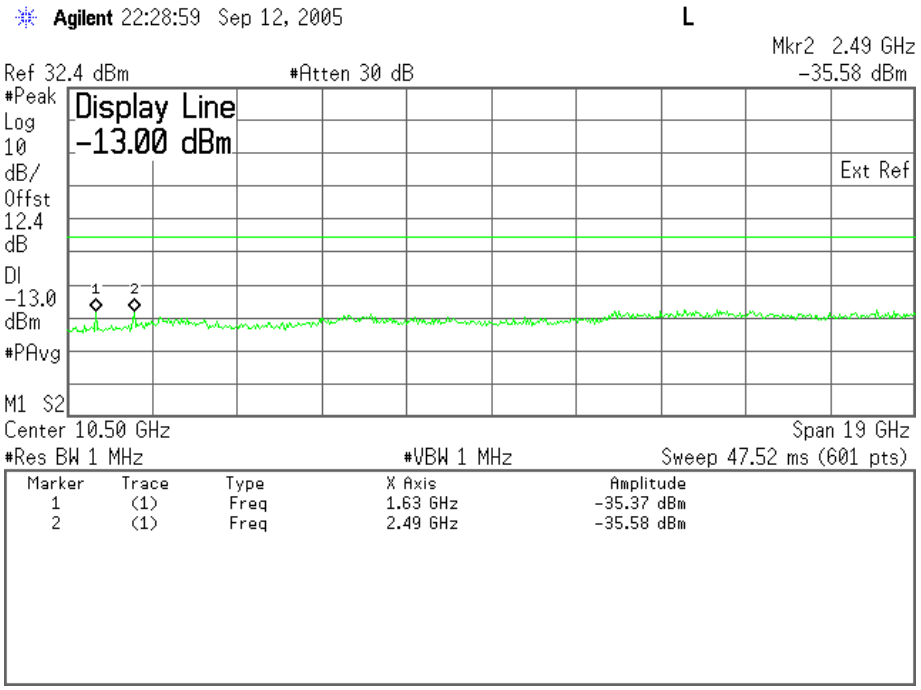
GMSK, Low channel, 824.2 MHz, TX signal +/- 20 MHz



Strong emission shown in each case is the carrier signal.

Plot 6.4.3) Out of Band Emissions at Antenna Terminals

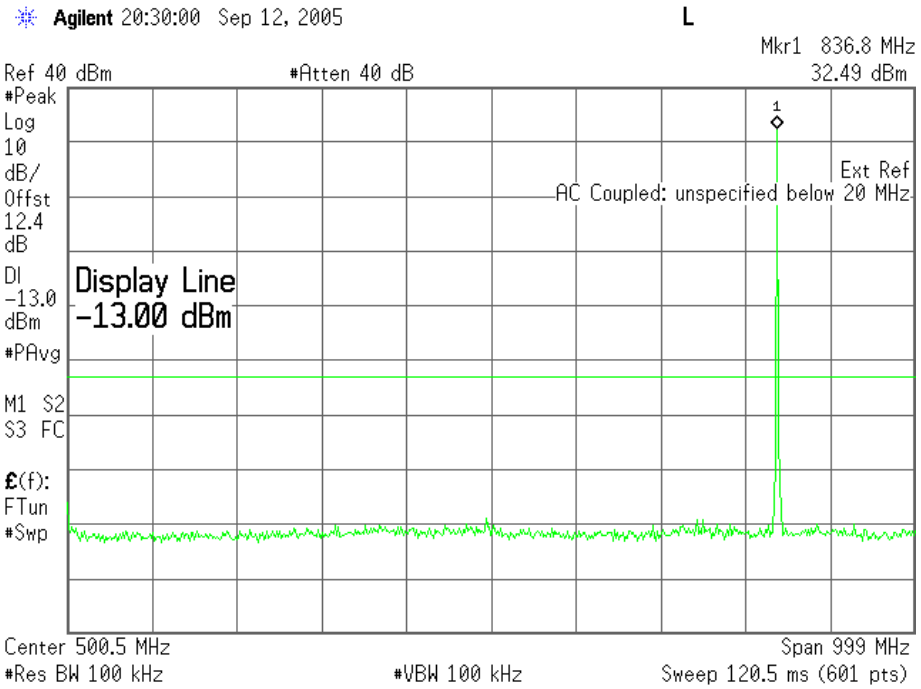
GMSK, Low channel, 824.2 MHz, 1 GHz to 20 GHz



Cellular Harmonics for Ch. 128 (824.2 MHz)	Level (dBm)
Second	**-35 dBm**
Third	**-35 dBm**
All others	**< -30dBm up to 20GHz**

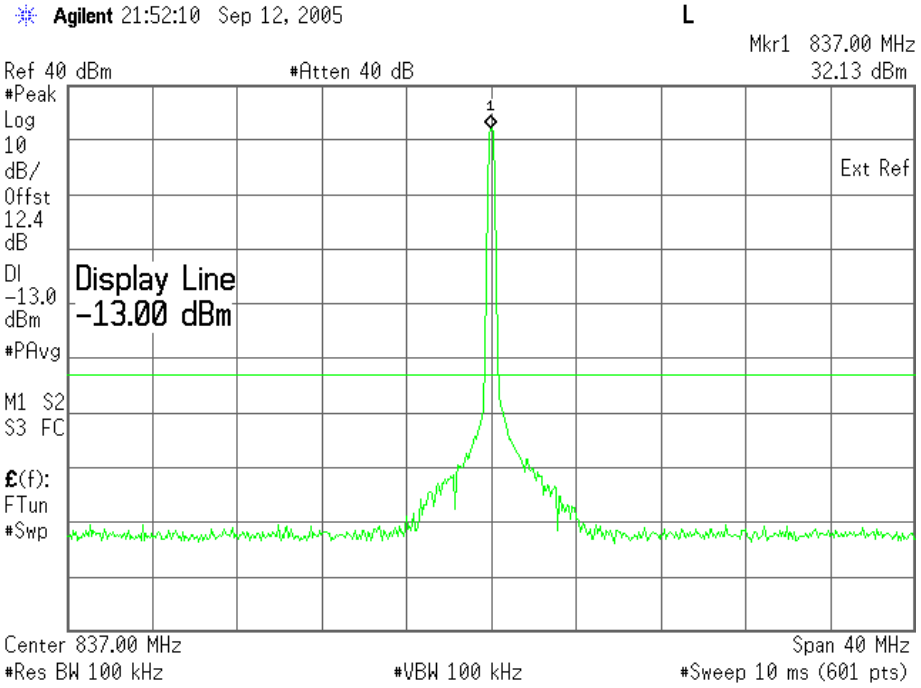
Plot 6.4.4) Out of Band Emissions at Antenna Terminals

GMSK, Mid Channel, 837 MHz, 1 MHz to 1 GHz



Plot 6.4.5) Out of Band Emissions at Antenna Terminals

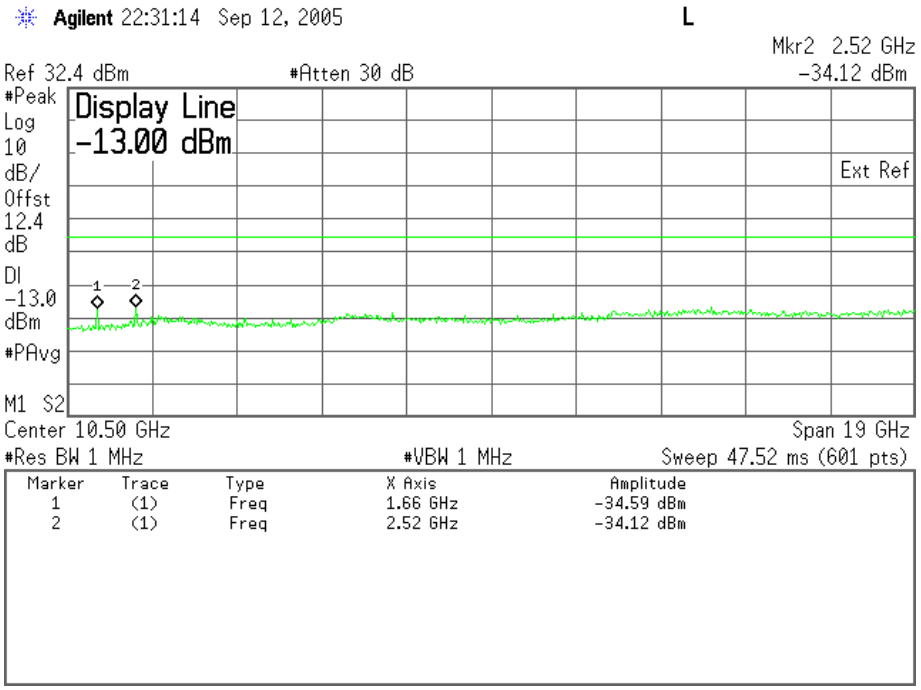
GMSK, Mid Channel, 837 MHz, TX signal +/- 20 MHz



Strong emission shown in each case is the carrier signal.

Plot 6.4.6) Out of Band Emissions at Antenna Terminals

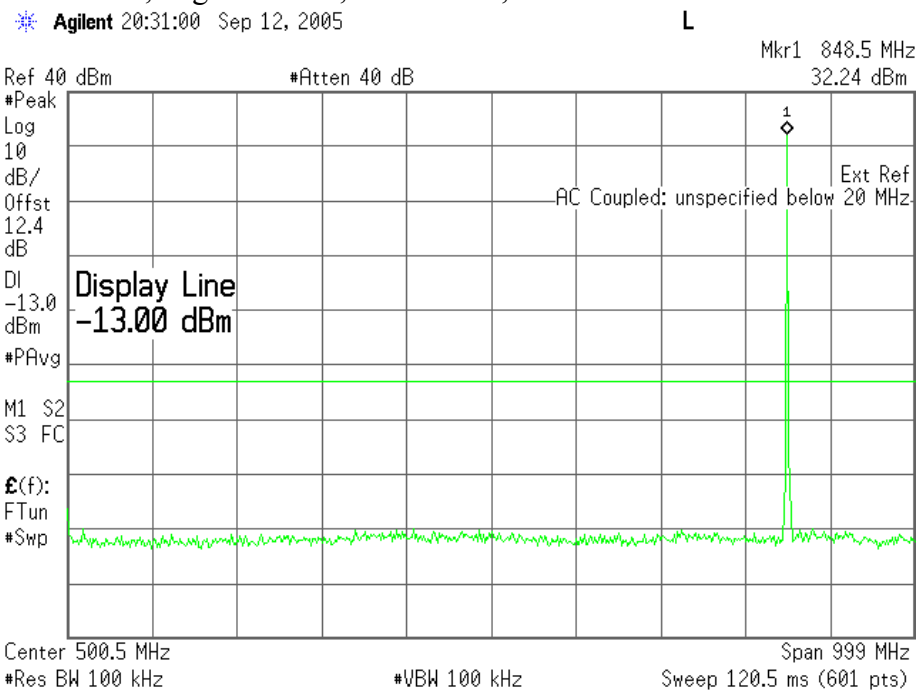
GMSK, Mid Channel, 837 MHz, 1 GHz to 20 GHz



Cellular Harmonics for Ch. 190 (836.6 MHz)	Level (dBm)
Second	**-34 dBm**
Third	**-34 dBm**
All others	**< -30dBm up to 20GHz**

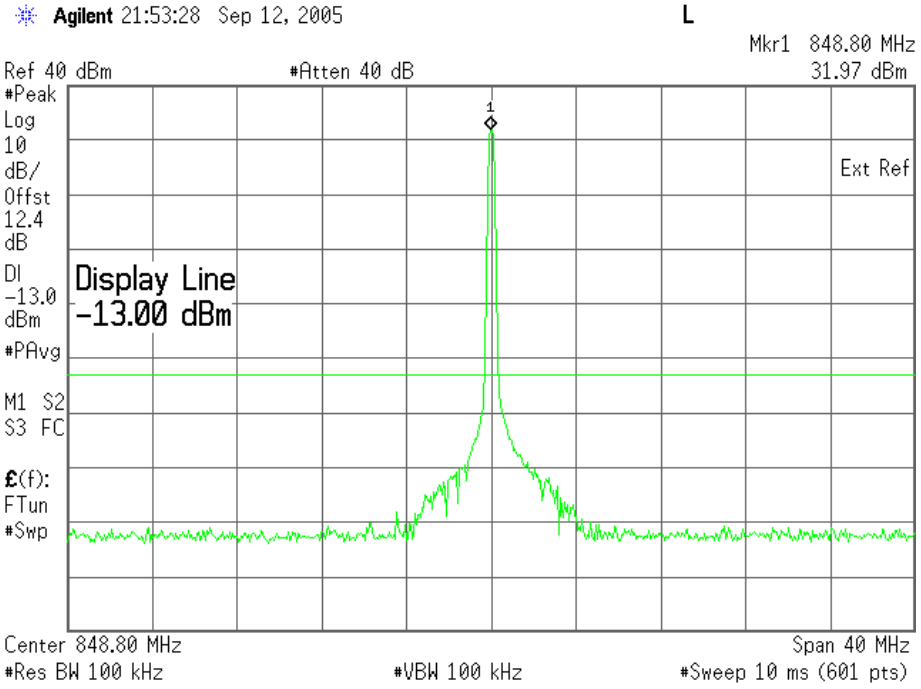
Plot 6.4.7) Out of Band Emissions at Antenna Terminals

GMSK, High Channel, 848.8 MHz, 1 MHz to 1 GHz



Plot 6.4.8) Out of Band Emissions at Antenna Terminals

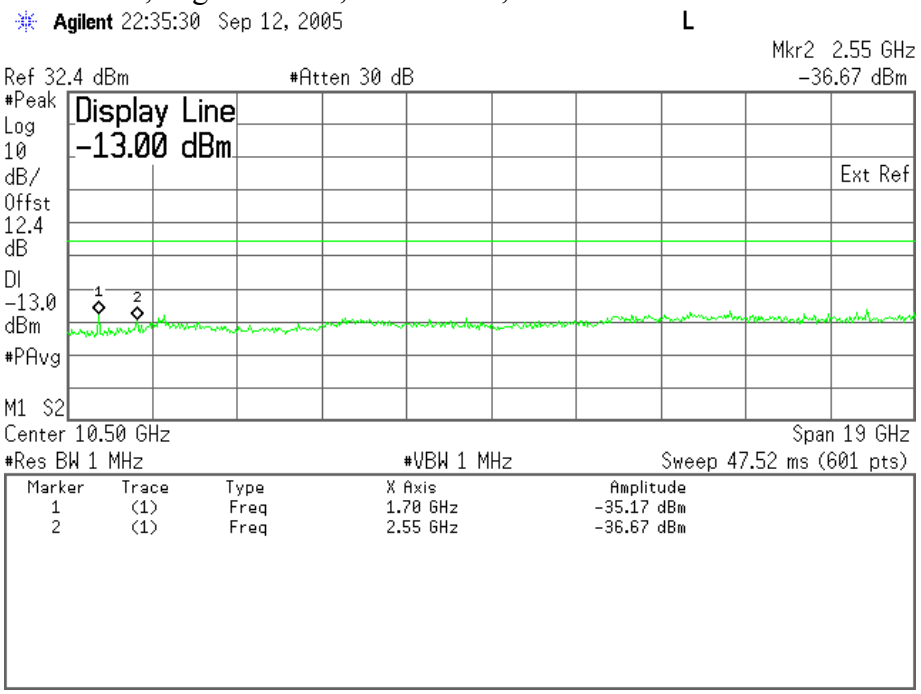
GMSK, High Channel, 848.8 MHz, TX signal +/- 20 MHz



Strong emission shown in each case is the carrier signal.

Plot 6.4.9) Out of Band Emissions at Antenna Terminals

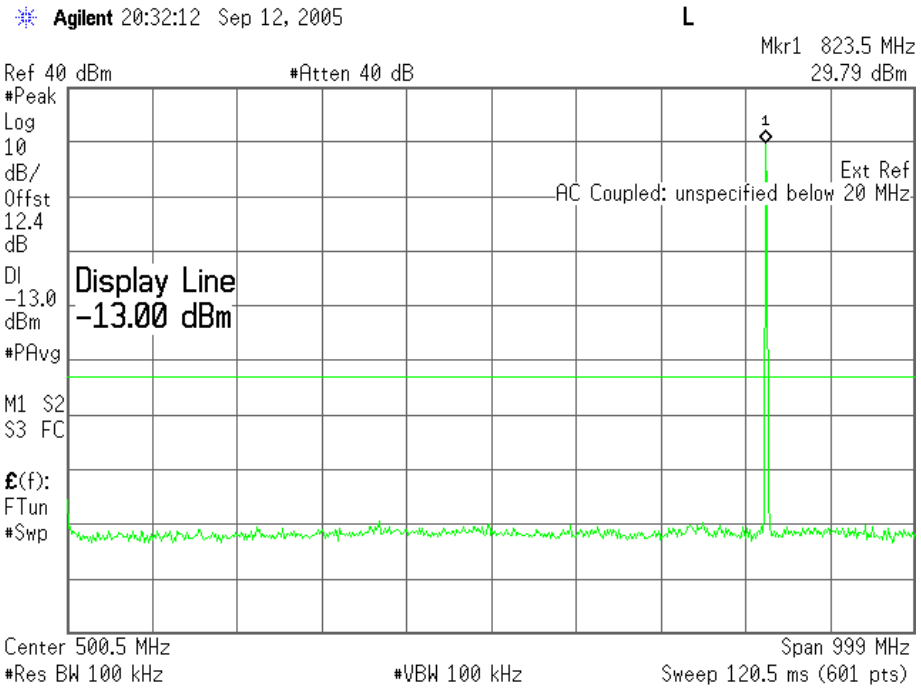
GMSK, High Channel, 848.8 MHz, 1 GHz to 20 GHz



Cellular Harmonics for Ch. 251 (848.8 MHz)	Level (dBm)
Second	-35 dBm
Third	-36 dBm
All others	< -30dBm up to 20GHz

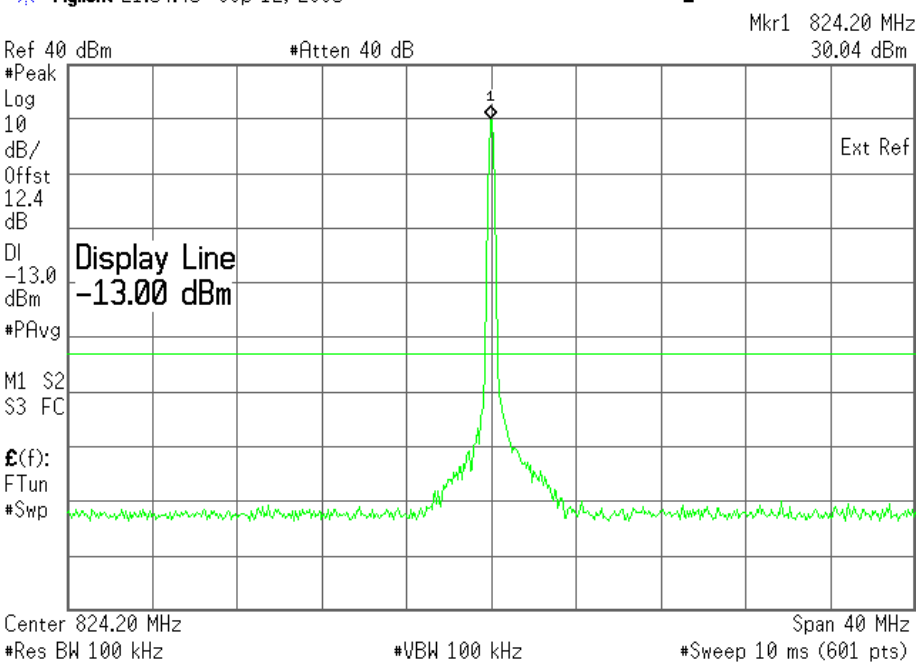
Plot 6.4.10) Out of Band Emissions at Antenna Terminals

8-PSK, Low channel, 824.2 MHz, 1 MHz to 1 GHz



Plot 6.4.11) Out of Band Emissions at Antenna Terminals

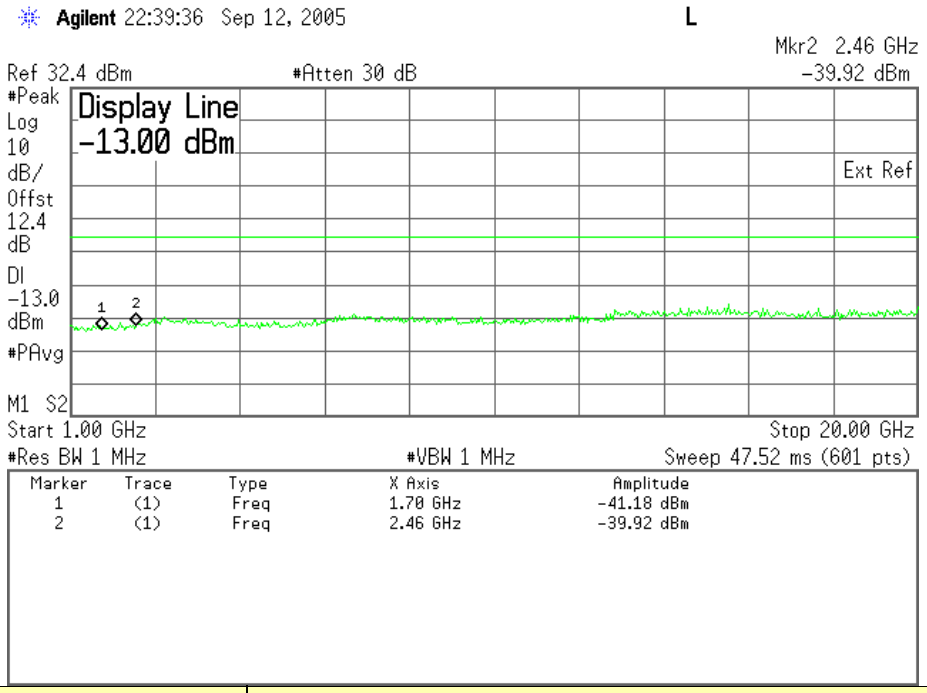
8-PSK, Low channel, 824.2 MHz, TX signal +/- 20 MHz



Strong emission shown in each case is the carrier signal.

Plot 6.4.12) Out of Band Emissions at Antenna Terminals

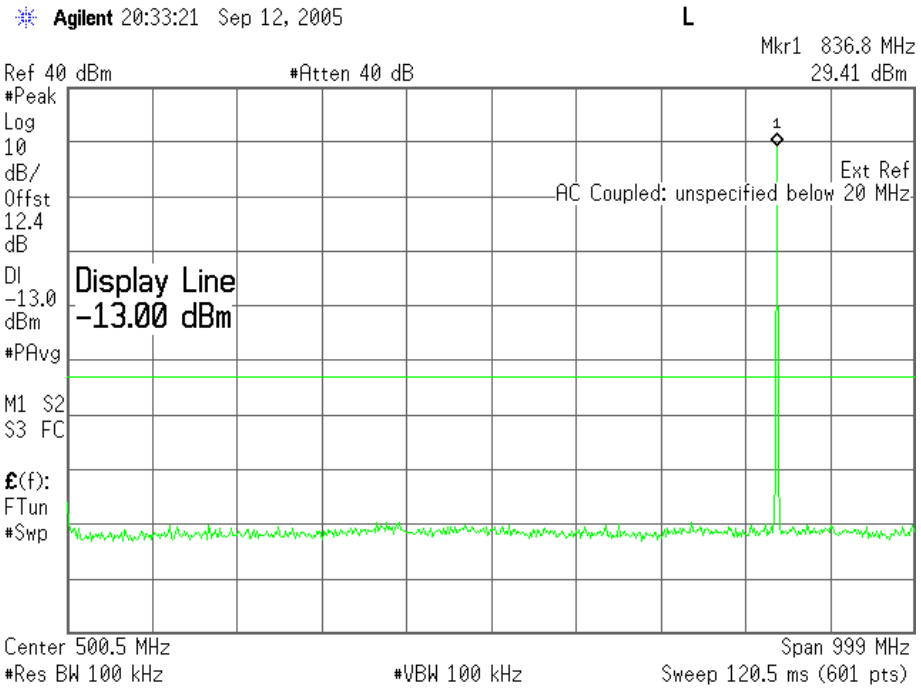
8-PSK, Low channel, 824.2 MHz, 1 GHz to 20 GHz



Cellular Harmonics for Ch. 128 (824.2 MHz)	Level (dBm)
Second	**--**
Third	**--**
All others	**< -30dBm up to 20GHz**

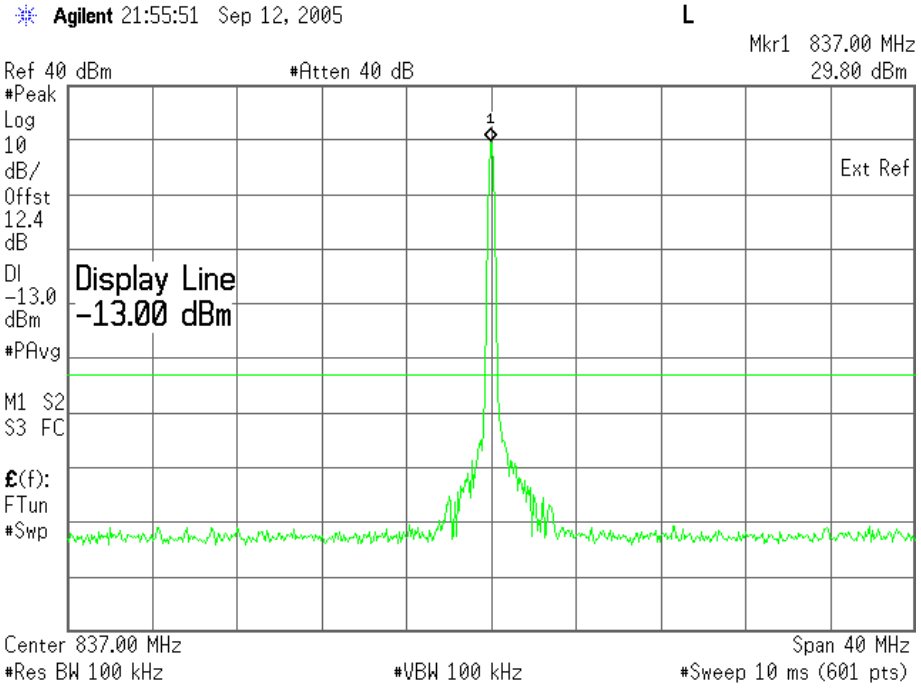
Plot 6.4.13) Out of Band Emissions at Antenna Terminals

8-PSK, Mid Channel, 837 MHz, 1 MHz to 1 GHz



Plot 6.4.14) Out of Band Emissions at Antenna Terminals

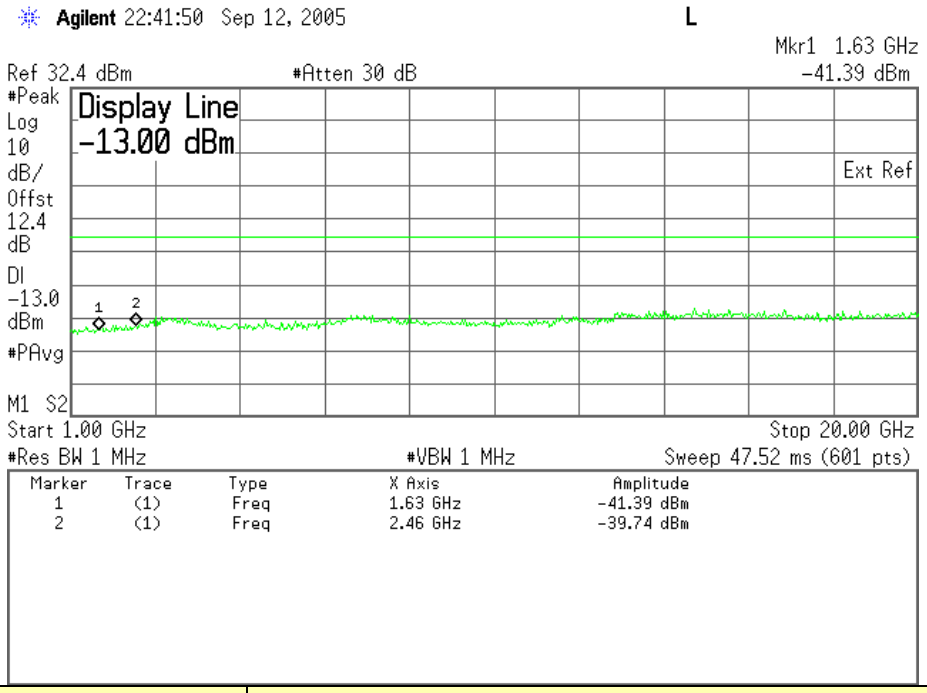
8-PSK, Mid Channel, 837 MHz, TX signal +/- 20 MHz



Strong emission shown in each case is the carrier signal.

Plot 6.4.15) Out of Band Emissions at Antenna Terminals

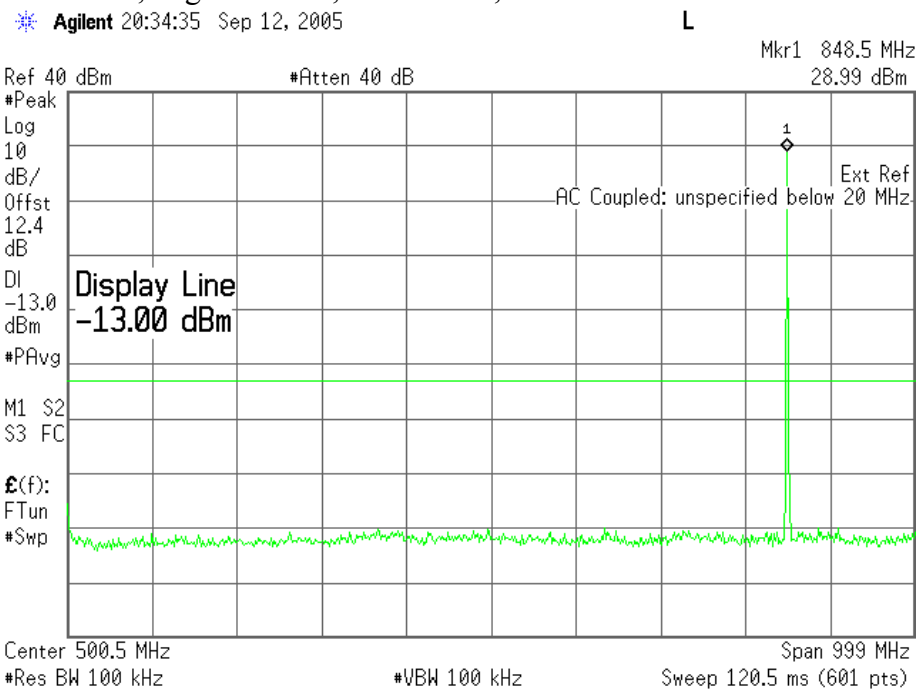
8-PSK, Mid Channel, 837 MHz, 1 GHz to 20 GHz



Cellular Harmonics for Ch. 190 (836.6 MHz)	Level (dBm)
Second	**--**
Third	**--**
All others	**< -30dBm up to 20GHz**

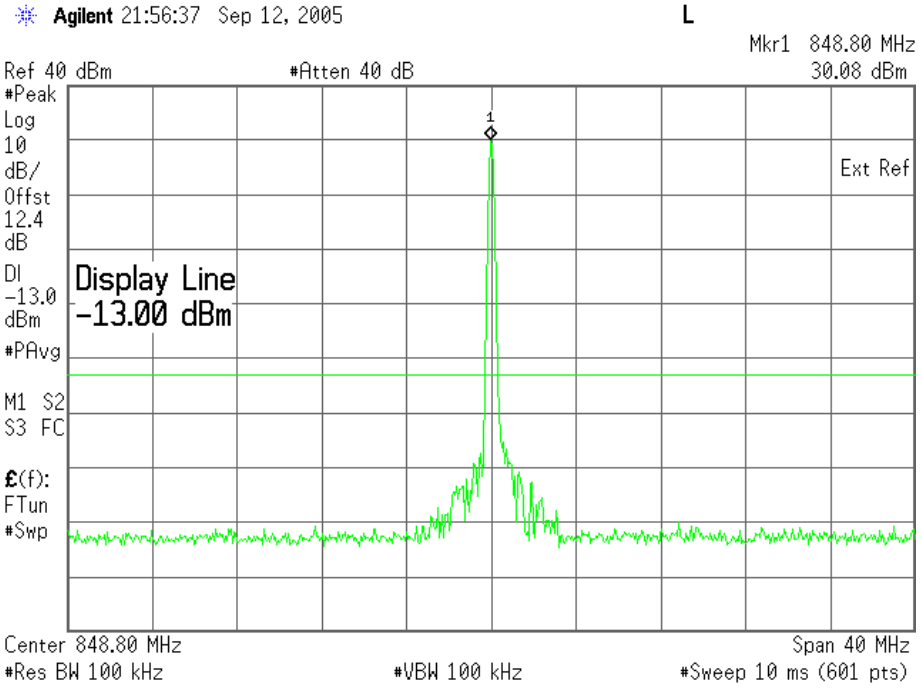
Plot 6.4.16) Out of Band Emissions at Antenna Terminals

8-PSK, High Channel, 848.8 MHz, 1 MHz to 1 GHz



Plot 6.4.17) Out of Band Emissions at Antenna Terminals

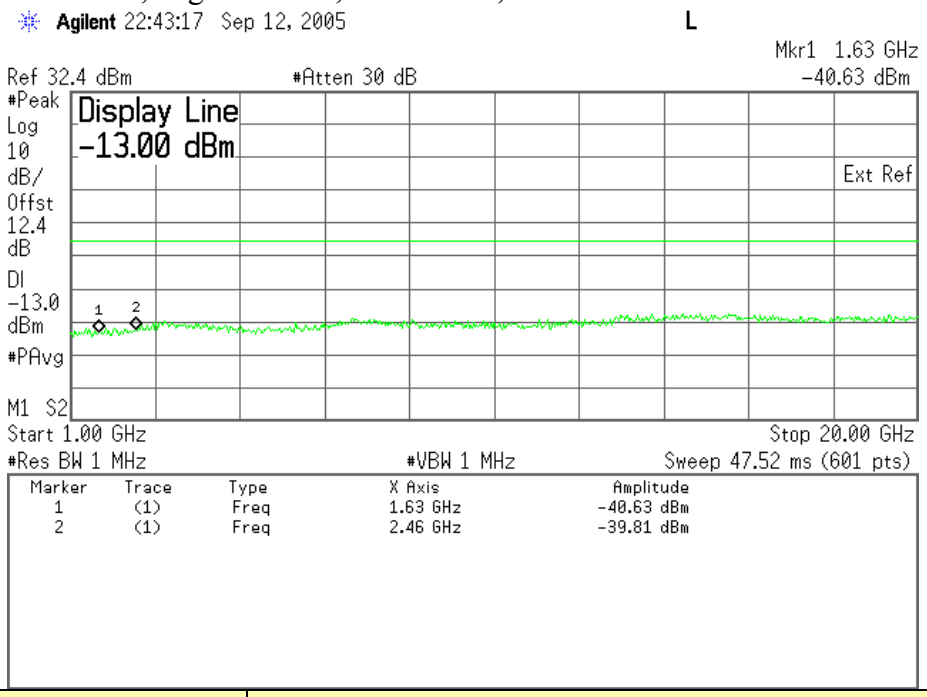
8-PSK, High Channel, 848.8 MHz, TX signal +/- 20 MHz



Strong emission shown in each case is the carrier signal.

Plot 6.4.18) Out of Band Emissions at Antenna Terminals

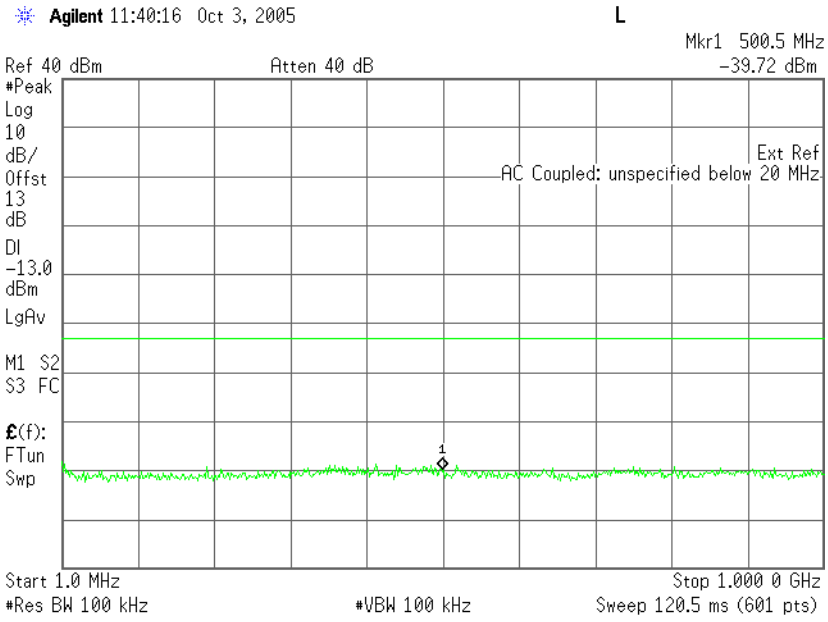
8-PSK, High Channel, 848.8 MHz, 1 GHz to 20 GHz



Cellular Harmonics for Ch. 251 (848.8 MHz)	Level (dBm)
Second	**--**
Third	**--**
All others	**< -30dBm up to 20GHz**

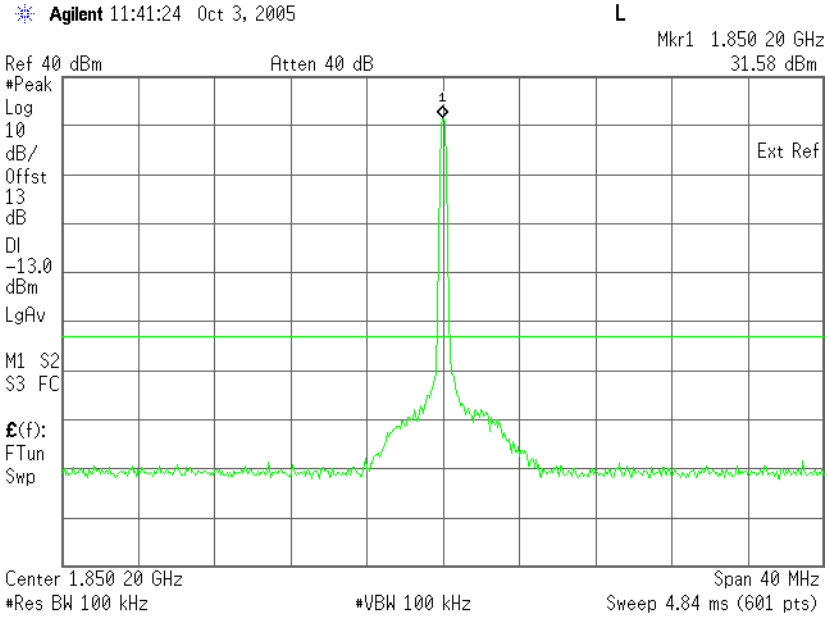
Plot 6.4.19) Out of Band Emissions at Antenna Terminals

GMSK, Low channel, 1850.2 MHz, 1 MHz to 1 GHz



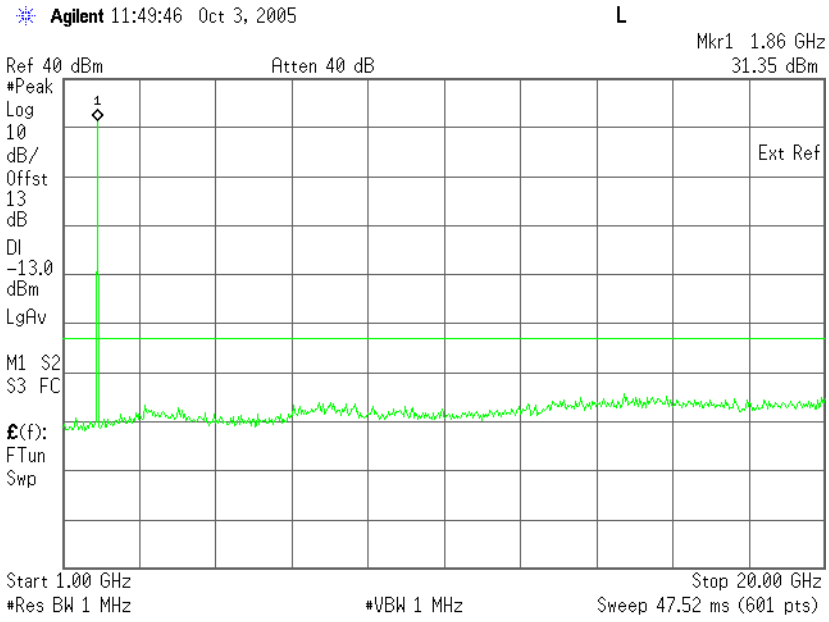
Plot 6.4.20) Out of Band Emissions at Antenna Terminals

GMSK, Low channel, 1850.2 MHz, TX signal +/- 20 MHz



Plot 6.4.21) Out of Band Emissions at Antenna Terminals

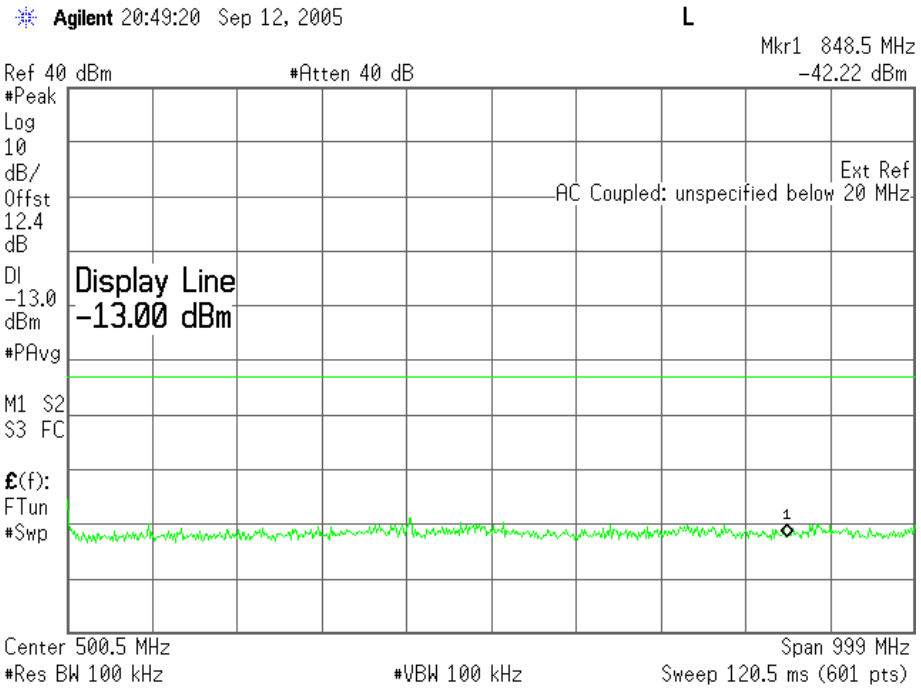
GMSK, Low channel, 1850.2 MHz, 1 GHz to 20 GHz



Strong emission shown is the carrier signal.

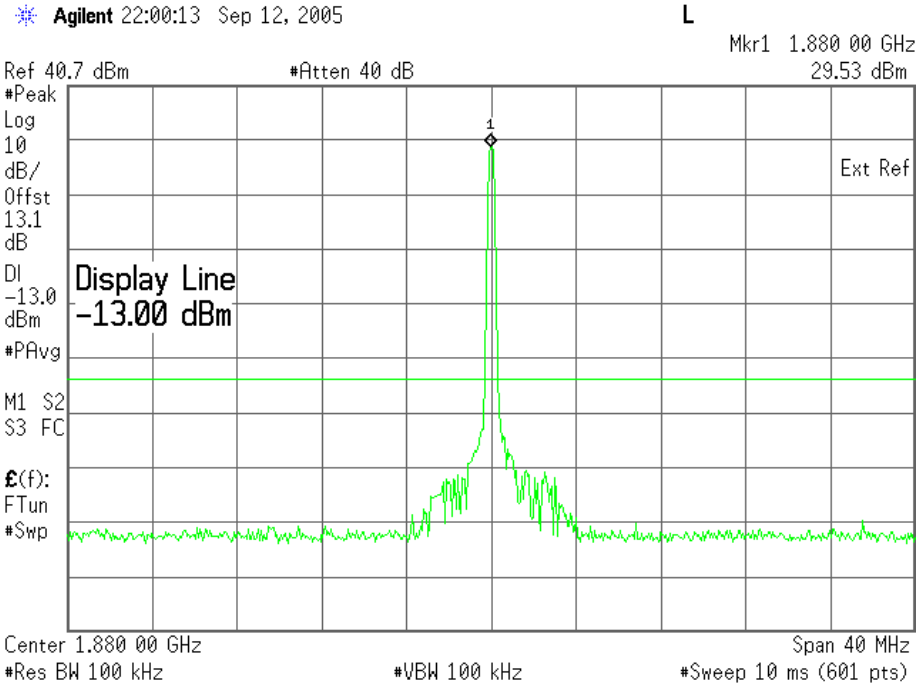
Plot 6.4.22) Out of Band Emissions at Antenna Terminals

GMSK, Middle channel, 1880.0 MHz, 1 MHz to 1 GHz



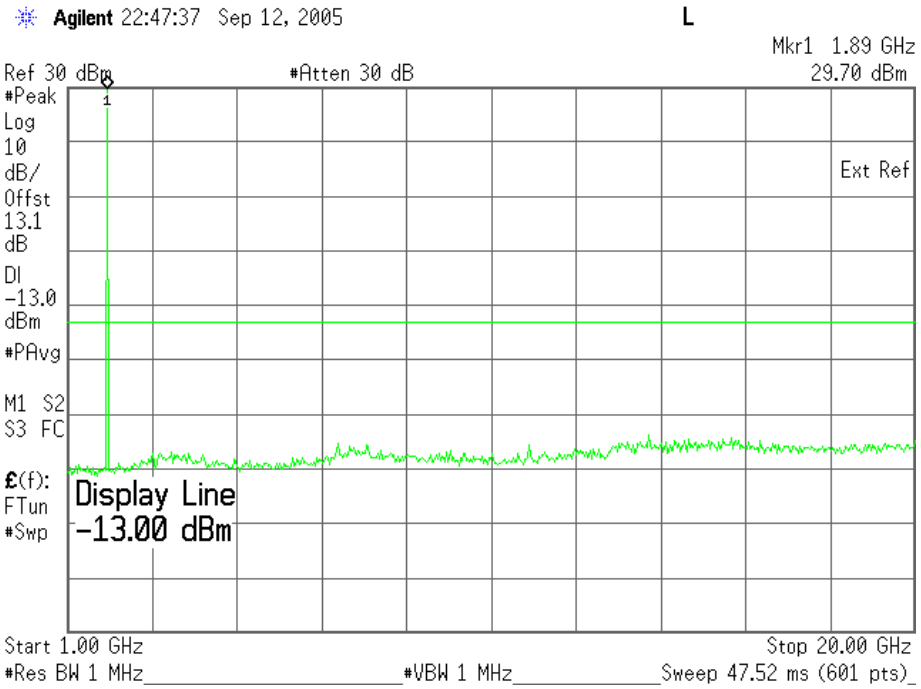
Plot 6.4.23) Out of Band Emissions at Antenna Terminals

GMSK, Middle channel, 1880.0 MHz, TX signal +/- 20 MHz



Plot 6.4.24) Out of Band Emissions at Antenna Terminals

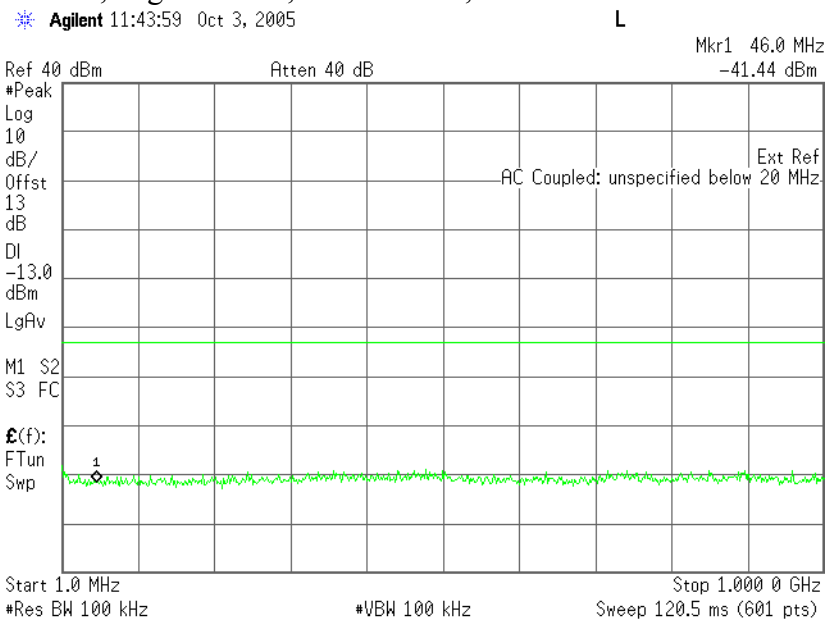
GMSK, Middle channel, 1880.0 MHz, 1 GHz to 20 GHz



Strong emission shown is the carrier signal.

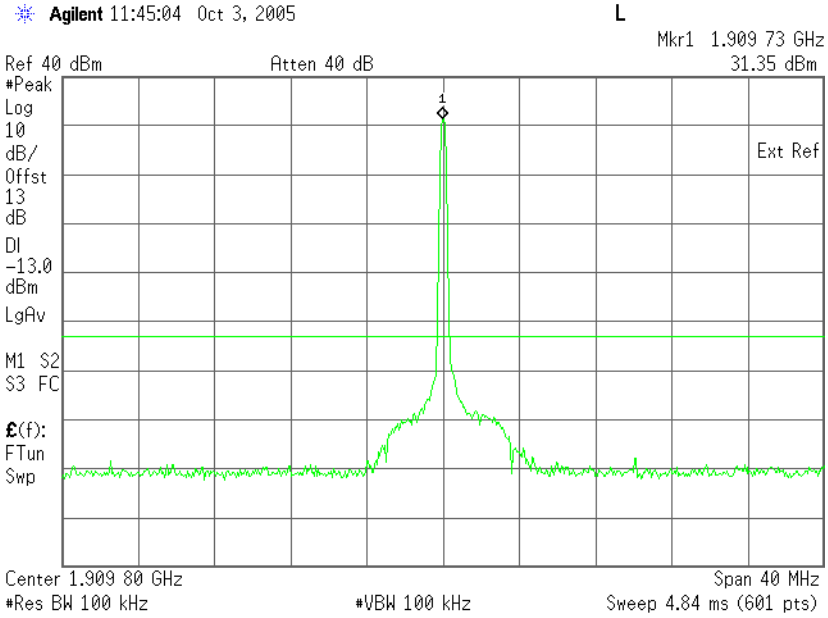
Plot 6.4.25) Out of Band Emissions at Antenna Terminals

GMSK, High channel, 1909.8 MHz, 1 MHz to 1 GHz



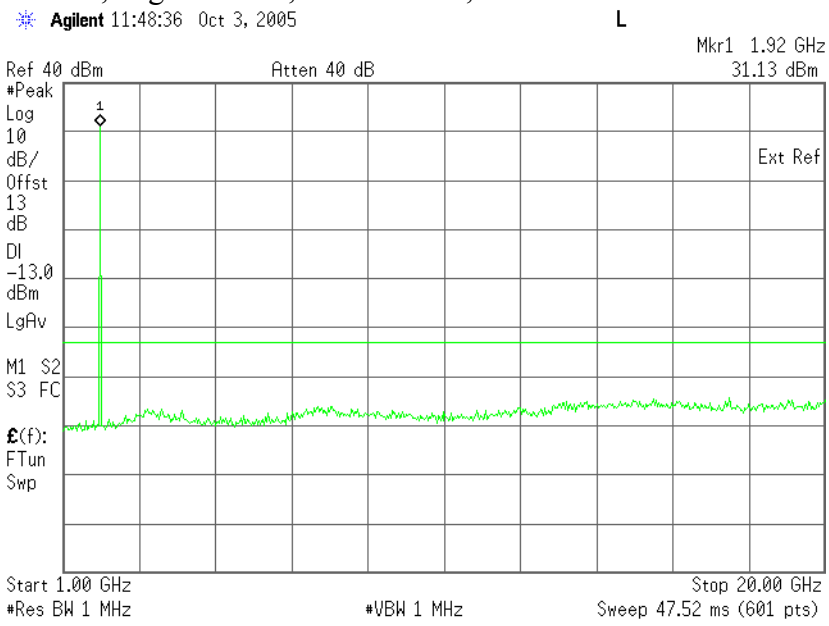
Plot 6.4.26) Out of Band Emissions at Antenna Terminals

GMSK, High channel, 1909.8 MHz, TX signal +/- 20 MHz



Plot 6.4.27) Out of Band Emissions at Antenna Terminals

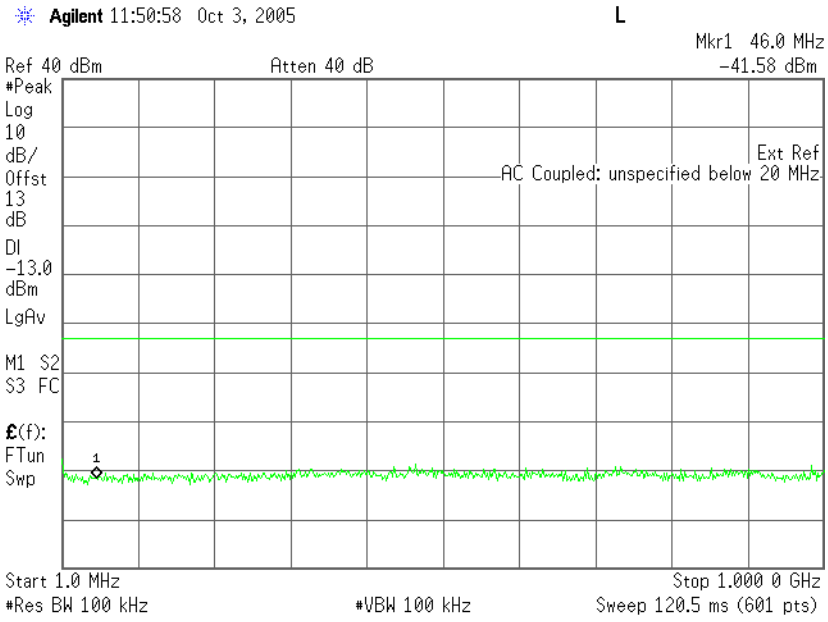
GMSK, High channel, 1909.8 MHz, 1 GHz to 20 GHz



Strong emission shown is the carrier signal.

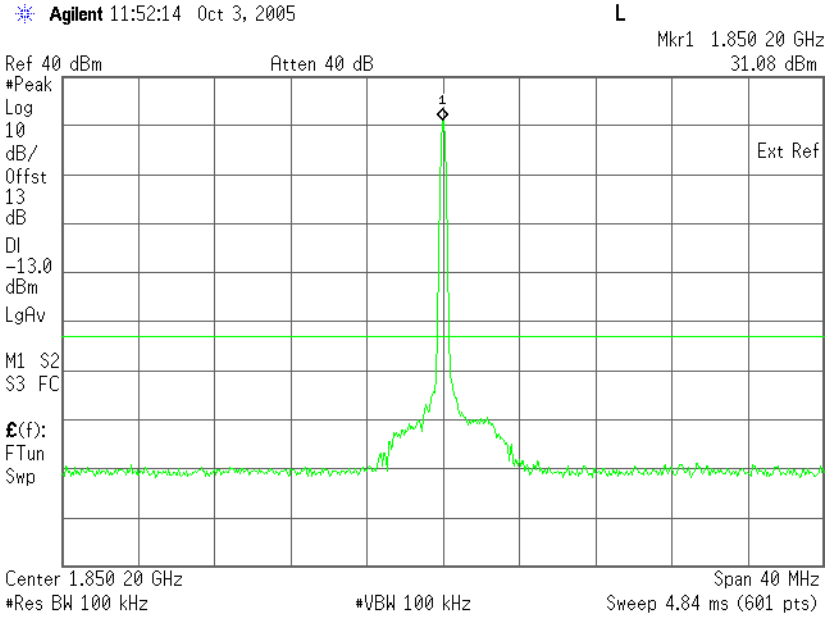
Plot 6.4.28) Out of Band Emissions at Antenna Terminals

8-PSK, Low channel, 1850.2 MHz, 1 MHz to 1 GHz



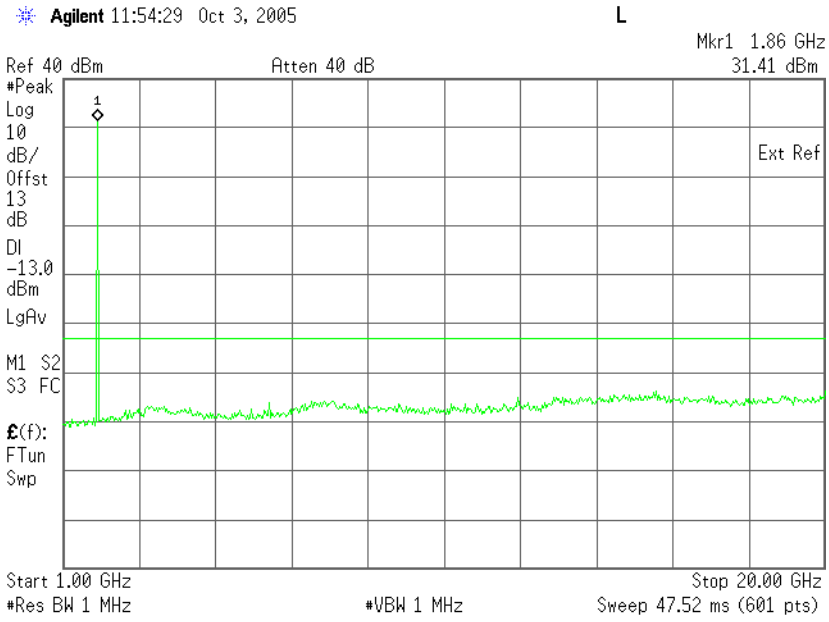
Plot 6.4.29) Out of Band Emissions at Antenna Terminals

8-PSK, Low channel, 1850.2 MHz, TX signal +/- 20 MHz



Plot 6.4.30) Out of Band Emissions at Antenna Terminals

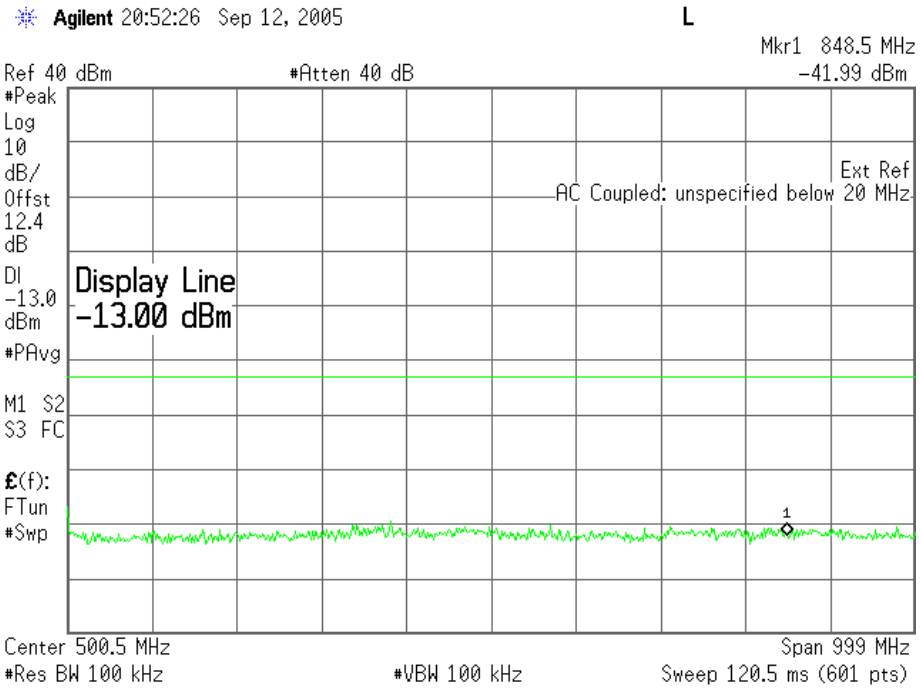
8-PSK, Low channel, 1850.2 MHz, 1 GHz to 20 GHz



Strong emission shown is the carrier signal.

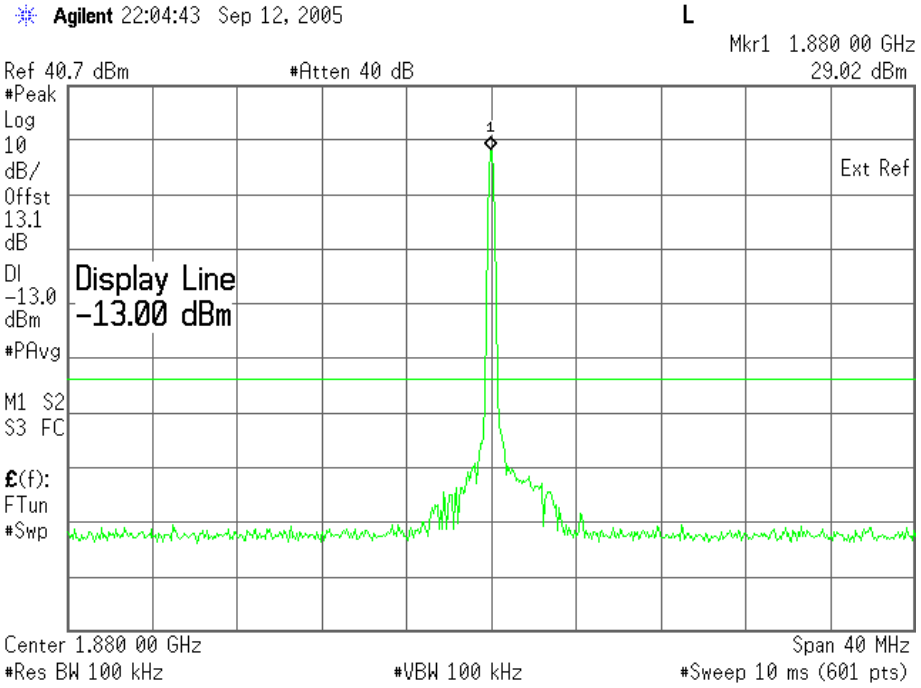
Plot 6.4.31) Out of Band Emissions at Antenna Terminals

8-PSK, Middle channel, 1880.0 MHz, 1 MHz to 1 GHz



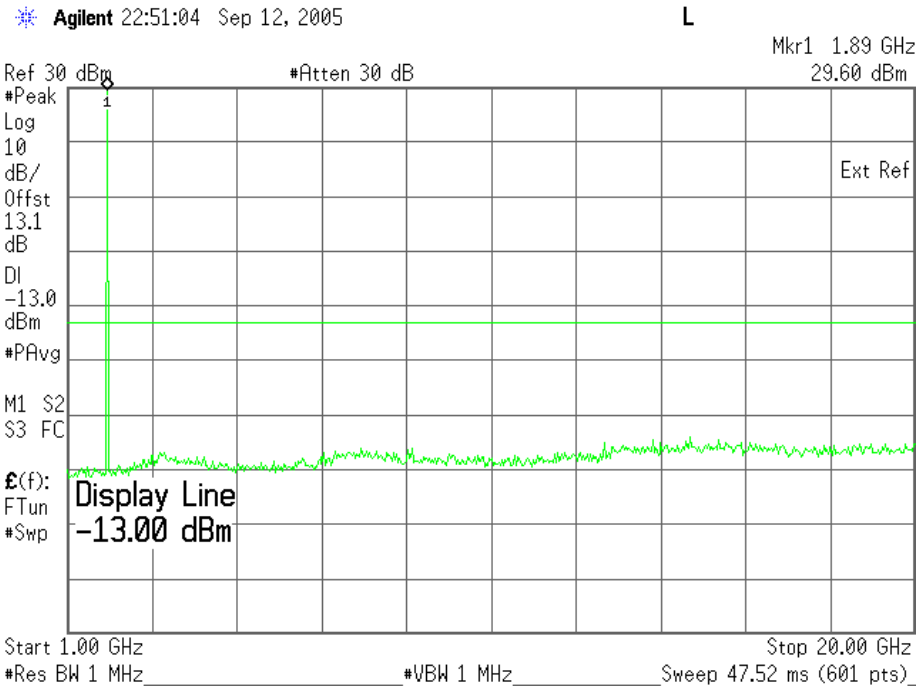
Plot 6.4.32) Out of Band Emissions at Antenna Terminals

8-PSK, Middle channel, 1880.0 MHz, TX signal +/- 20 MHz



Plot 6.4.33) Out of Band Emissions at Antenna Terminals

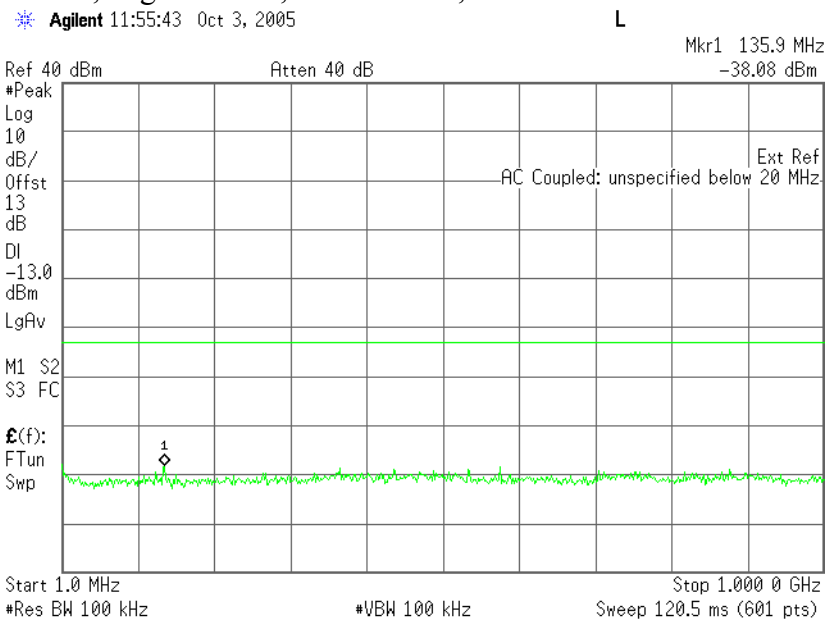
8-PSK, Middle channel, 1880.0 MHz, 1 GHz to 20 GHz



Strong emission shown is the carrier signal.

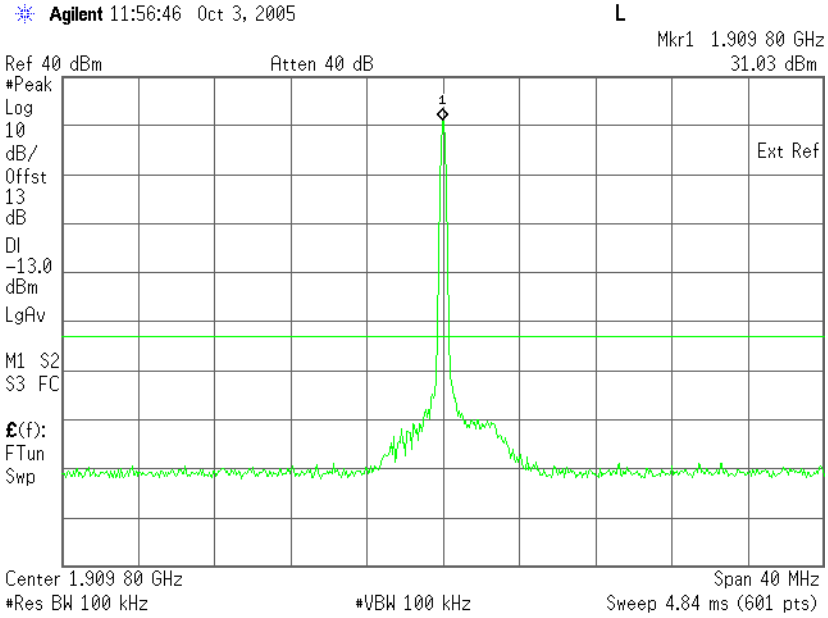
Plot 6.4.34) Out of Band Emissions at Antenna Terminals

8-PSK, High channel, 1909.8 MHz, 1 MHz to 1 GHz



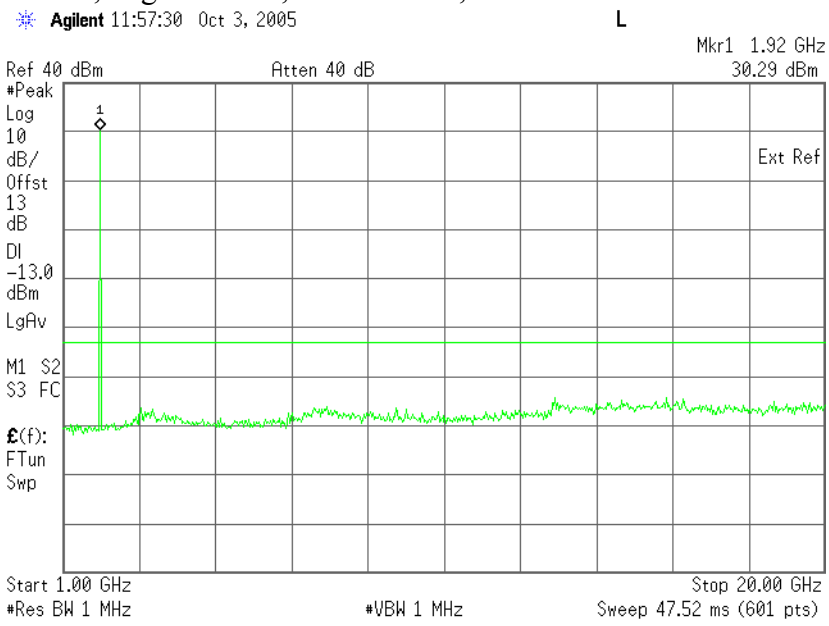
Plot 6.4.35) Out of Band Emissions at Antenna Terminals

8-PSK, High channel, 1909.8 MHz, TX signal +/- 20 MHz



Plot 6.4.36) Out of Band Emissions at Antenna Terminals

8-PSK, High channel, 1909.8 MHz, 1 GHz to 20 GHz



Strong emission shown is the carrier signal.

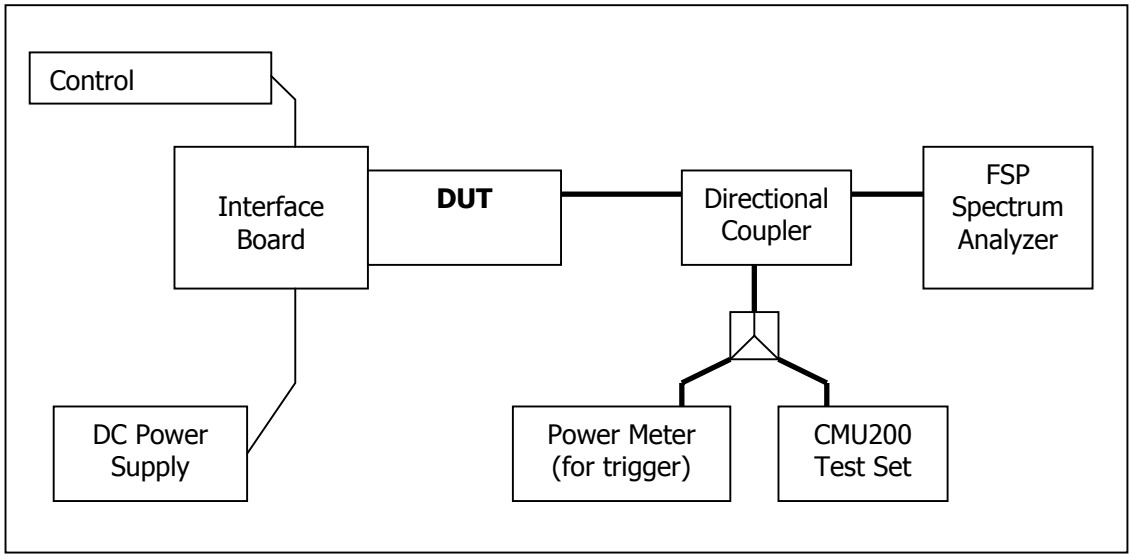
7 Block Edge Compliance

FCC part 22H/24E

7.1 Test Procedure

The transmitter output was connected to a Rohde & Schwarz CMU200 Test Set and configured to operate at maximum power. The block edge emissions were measured at the required operating frequencies in each band on the Spectrum Analyzer.

Test Setup



7.2 Test Equipment

7.3 Instrument List

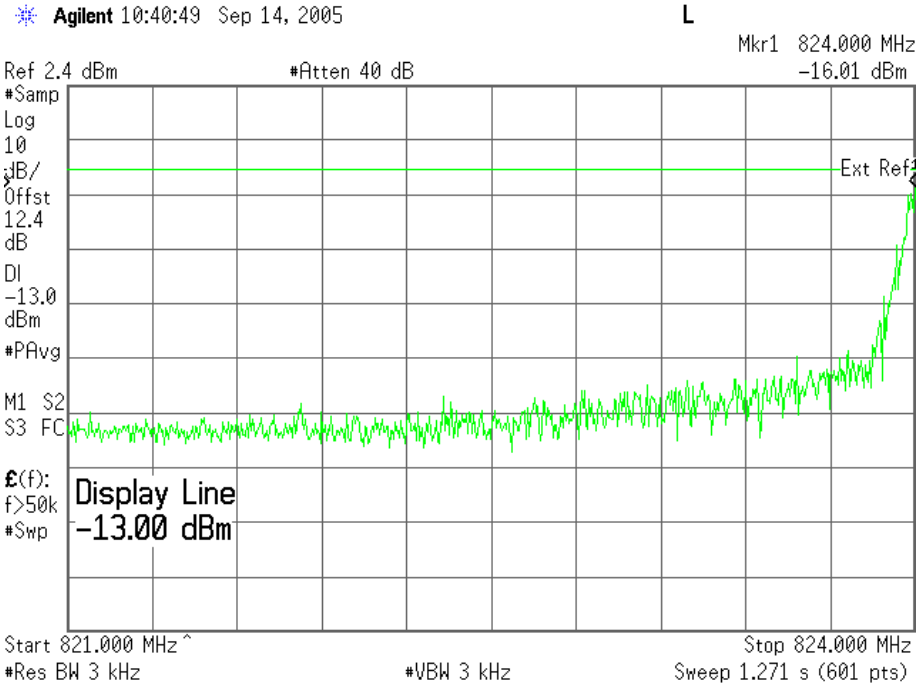
EQUIPMENT	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL. DATE
Control Computer	TC	Generic PC	100488	N/A
Wireless Test Set	Rohde & Schwarz	CMU200	836766/030	N/A
Spectrum Analyzer	Agilent	PSA E4440A	US41421268	Sept. 29, 2004
DC Power Supply	HP	6632A	3530A	N/A
Interface Board	Shop built	Minnow	N/A	N/A
Directional Coupler	Mini-Circuits	ZA3PD-2	N/A	N/A

7.4 Test Results

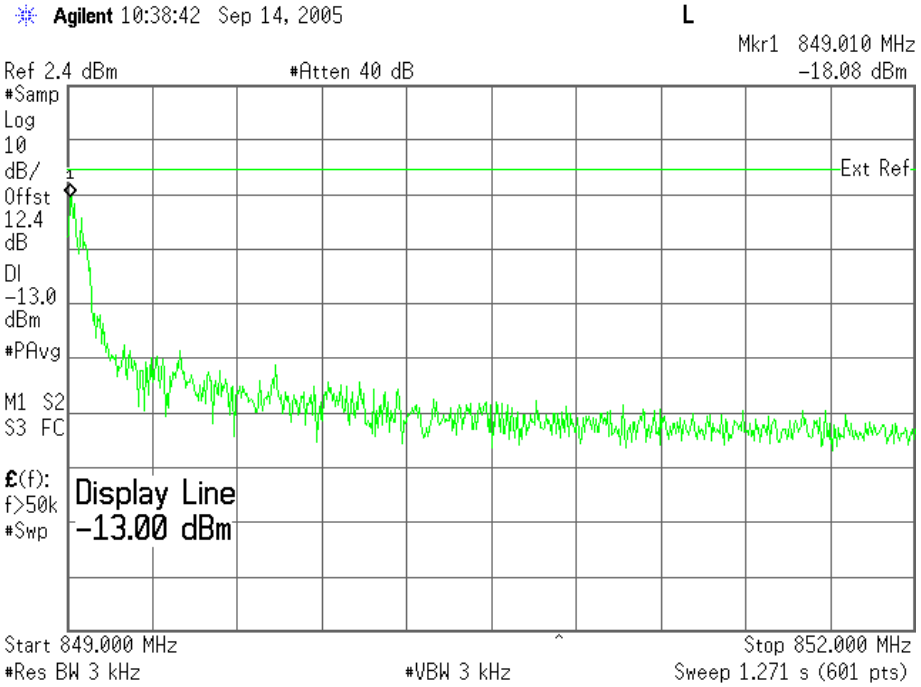
Block Test	Frequency Boundaries (MHz)	Channels Tested	Corresponding Plots	Result
1	GMSK: Below 824 MHz, above 849 MHz	128, 251	7.4.1, 7.4.2	Complies
2	8PSK: Below 824 MHz, above 849 MHz	128, 251	7.4.3, 7.4.4	Complies
3	GMSK: Below 1850.2MHz, above 1909.8MHz	512, 810	7.4.5, 7.4.6	Complies
4	8PSK: Below 1850.2MHz, above 1909.8MHz	512, 810	7.4.7, 7.4.8	Complies

7.5 Test Plots

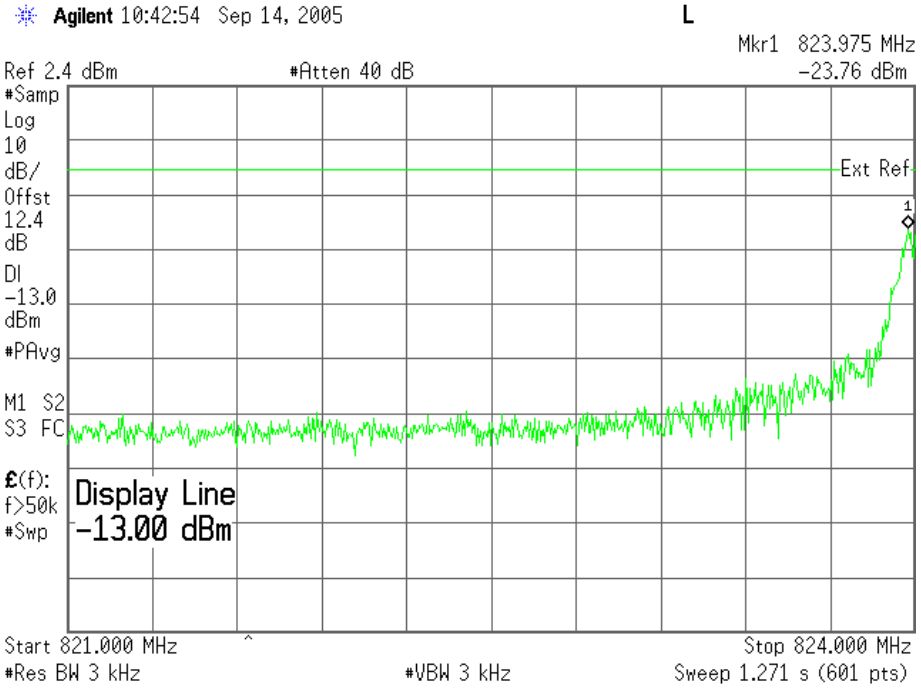
Plot 7.4.1) GSMK; Cellular low channel, below 824 MHz



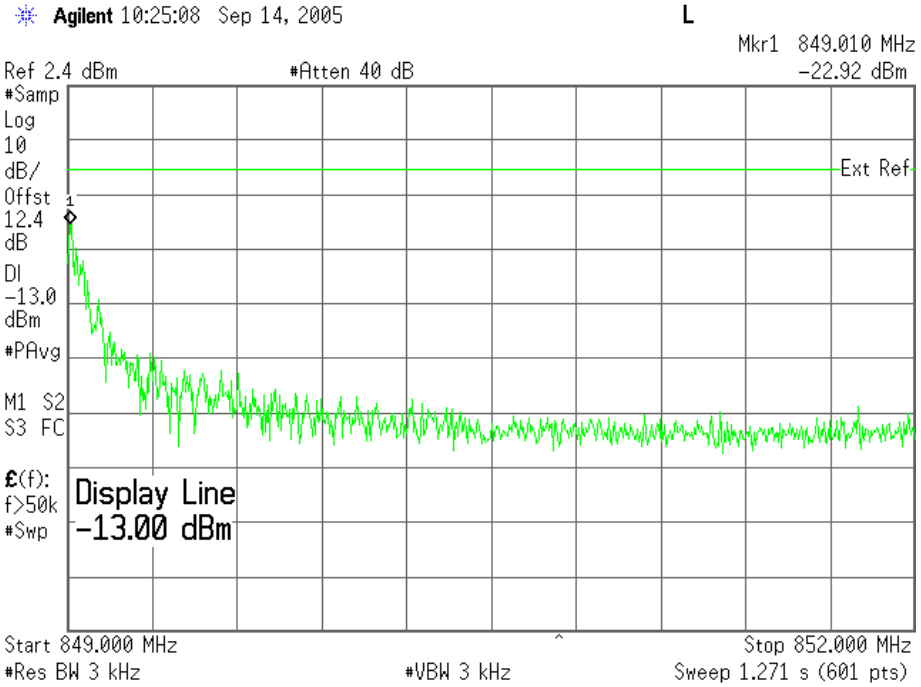
Plot 7.4.2) GMSK; Cellular high channel, above 849 MHz



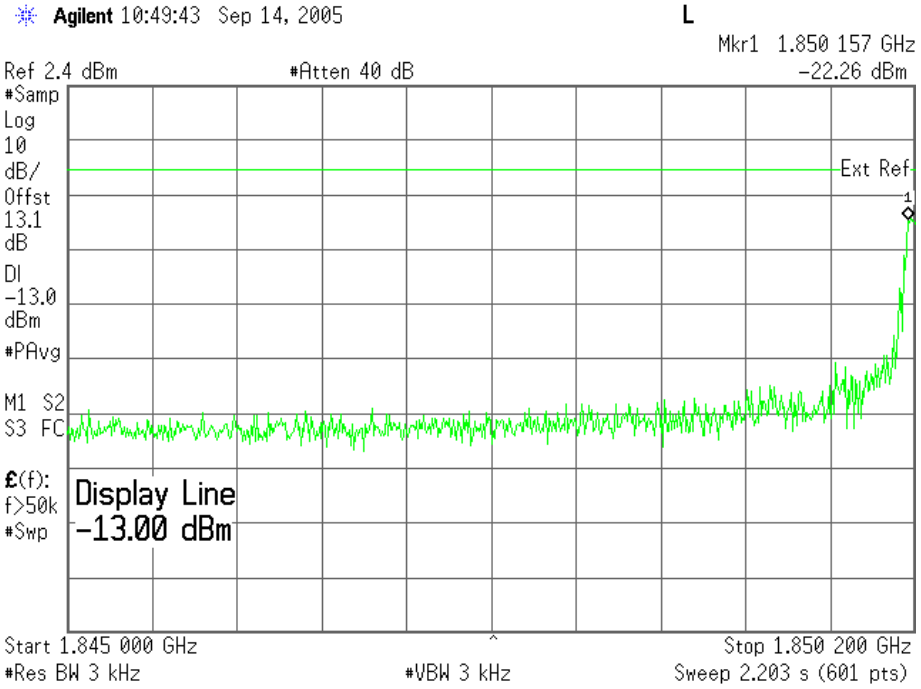
Plot 7.4.3) 8-PSK; Cellular low channel, below 824 MHz



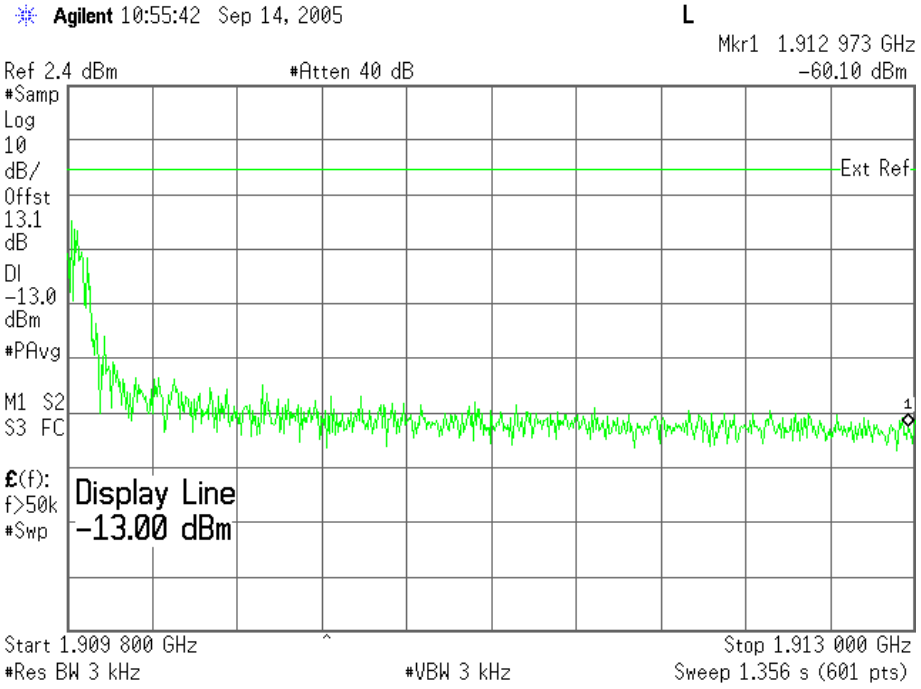
Plot 7.4.4) 8-PSK; Cellular high channel, above 849 MHz



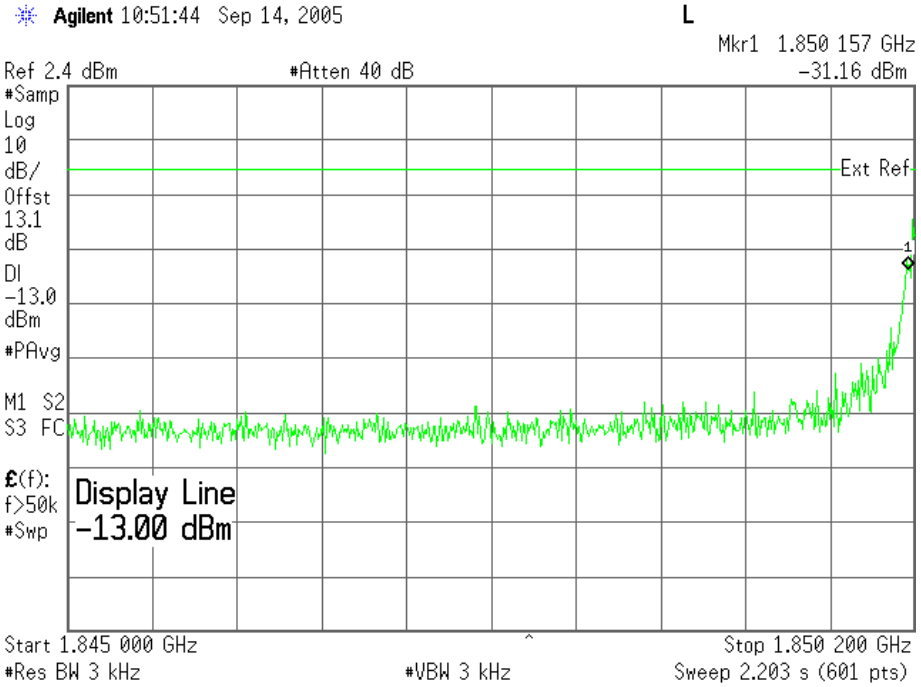
Plot 7.4.5) GMSK; PCS low channel, below 1850.2 MHz



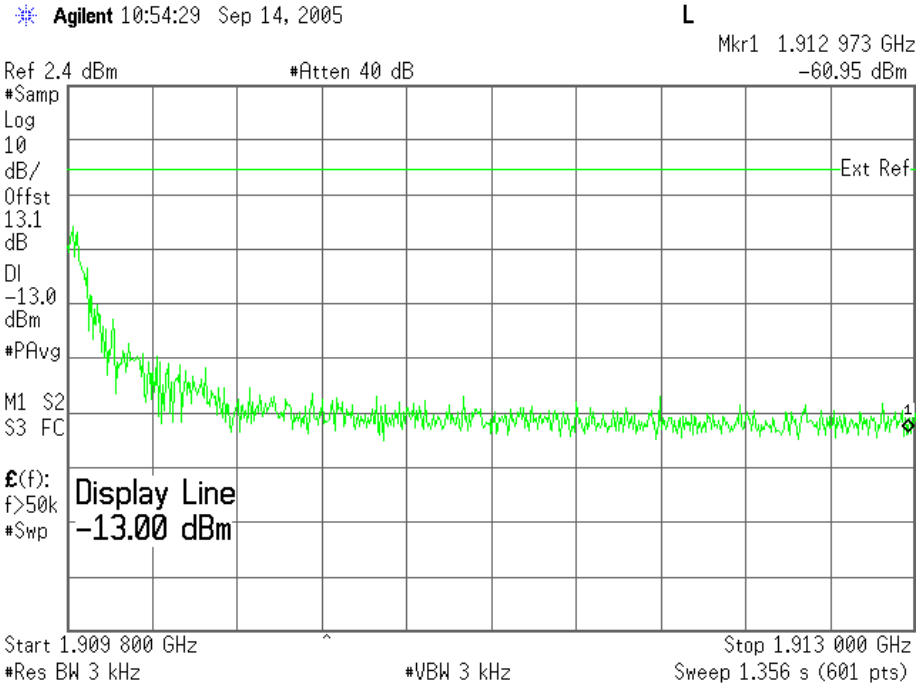
Plot 7.4.6) GMSK; PCS high channel, above 1909.8 MHz



Plot 7.4.7) 8-PSK; PCS low channel, below 1850.2 MHz



Plot 7.4.8) 8-PSK; PCS high channel, above 1909.8 MHz



8 Frequency Stability Versus Temperature

FCC 2.1055

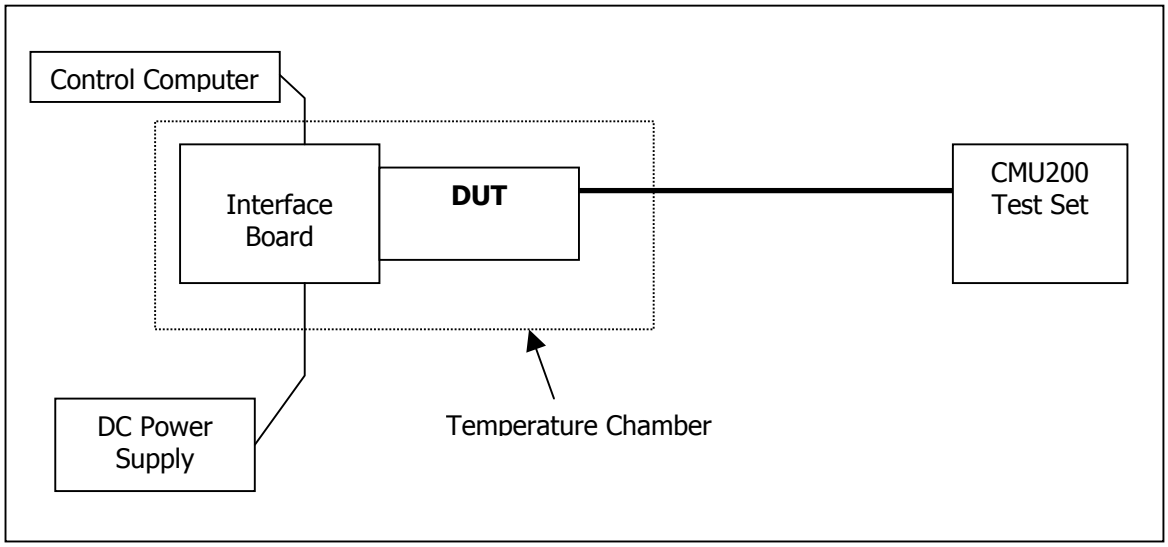
8.1 Summary of Results

The AC850 Frequency Stability versus temperature meets the requirement of being within ±0.1ppm of the received base station frequency.

8.2 Test Procedure

The AC850 was placed inside the temperature chamber. The transmitting frequency error is measured at 25 degrees C, then the temperature is set to +60 degrees C and allowed to stabilize. After sufficient soak time, the transmitting frequency error is measured. The temperature is decreased by 10 degrees, allowed to stabilize and soak, then the measurement is repeated. This is repeated until -20 degrees C is completed. The process is then repeated back up to +60 degrees C. Frequency metering included internal averaging of the CMU200 to stabilize the reading. Reference power supply voltage for these tests is 5.0 volts.

Test Setup

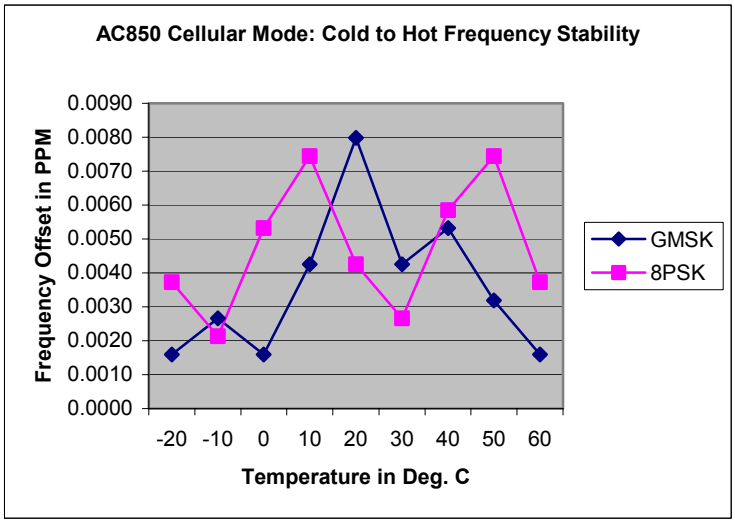


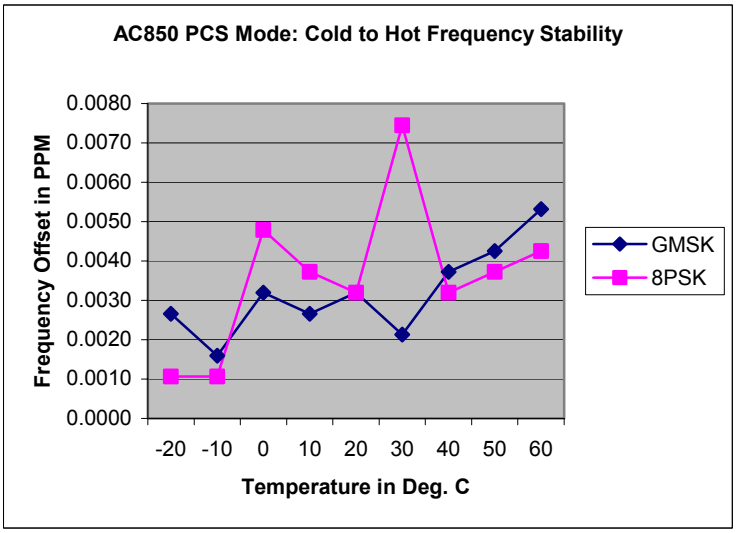
8.3 Test Equipment

EQUIPMENT	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL. DATE
Control Computer	TC	Generic PC	100488	N/A
Wireless Test Set	Rohde & Schwarz	CMU200	836766/030	N/A
Spectrum Analyzer	Agilent	PSA E4440A	US41421268	Sept. 29, 2004
DC Power Supply	HP	6632A	3530A	N/A
Interface Board	Shop built	Minnow	N/A	N/A
Directional Coupler	Mini-Circuits	ZA3PD-2	N/A	N/A

8.4 Test Results

Low to High Temperature Frequency Error

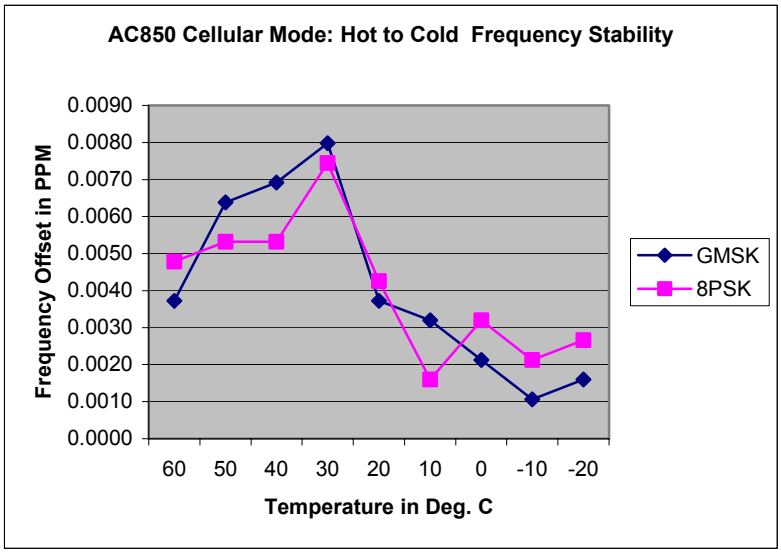


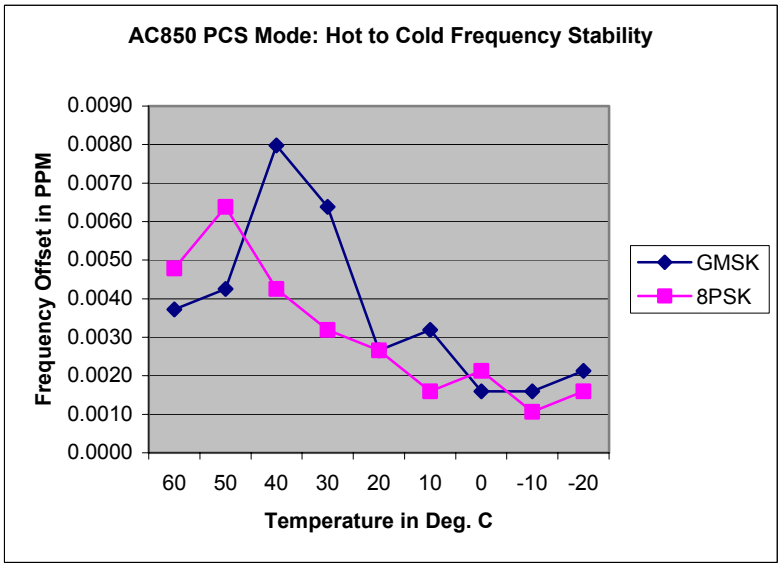


Low to High Temperature Tabular Readings

Temp.(C)	Cellular Mode: 824MHz to 848MHz				PCS Mode: 1850MHz to 1909MHz			
	GMSK Mode		8-PSK Mode		GMSK Mode		8-PSK Mode	
	Offset (Hz)	Offset (ppm)	Offset (Hz)	Offset (ppm)	Offset (Hz)	Offset (ppm)	Offset (Hz)	Offset (ppm)
-20	0.0016	-7	0.0037	-5	0.0027	-2	0.0011	0.014
-10	0.0027	-4	0.0021	-3	0.0016	-2	0.0011	0.017
0	0.0016	-10	0.0053	6	0.0032	9	0.0048	0.011
10	0.0043	-14	0.0074	-5	0.0027	-7	0.0037	0.011
20	0.0080	-8	0.0043	-6	0.0032	-6	0.0032	0.012
30	0.0043	-5	0.0027	-4	0.0021	-14	0.0074	0.014
40	0.0053	-11	0.0059	-7	0.0037	-6	0.0032	0.014
50	0.0032	-14	0.0074	8	0.0043	-7	0.0037	0.018
60	0.0016	-7	0.0037	-10	0.0053	8	0.0043	0.018

High to Low Temperature Frequency Error





High to Low Temperature Tabular Readings

Temp.(C)	Cellular Mode: 824MHz to 848MHz				PCS Mode: 1850MHz to 1909MHz			
	GMSK Mode		8-PSK Mode		GMSK Mode		8-PSK Mode	
	Offset (Hz)	Offset (ppm)	Offset (Hz)	Offset (ppm)	Offset (Hz)	Offset (ppm)	Offset (Hz)	Offset (ppm)
60	-7	0.0037	9	0.0048	-7	0.0037	-9	0.0048
50	12	0.0064	10	0.0053	8	0.0043	-12	0.0064
40	13	0.0069	-10	0.0053	-15	0.0080	-8	0.0043
30	15	0.0080	-14	0.0074	-12	0.0064	6	0.0032
20	7	0.0037	-8	0.0043	-5	0.0027	5	0.0027
10	-6	0.0032	-3	0.0016	-6	0.0032	-3	0.0016
0	-4	0.0021	-6	0.0032	3	0.0016	-4	0.0021
-10	-2	0.0011	-4	0.0021	-3	0.0016	-2	0.0011
-20	-3	0.0016	-5	0.0027	-4	0.0021	-3	0.0016

9 Frequency Stability Versus Voltage

FCC 2.1055

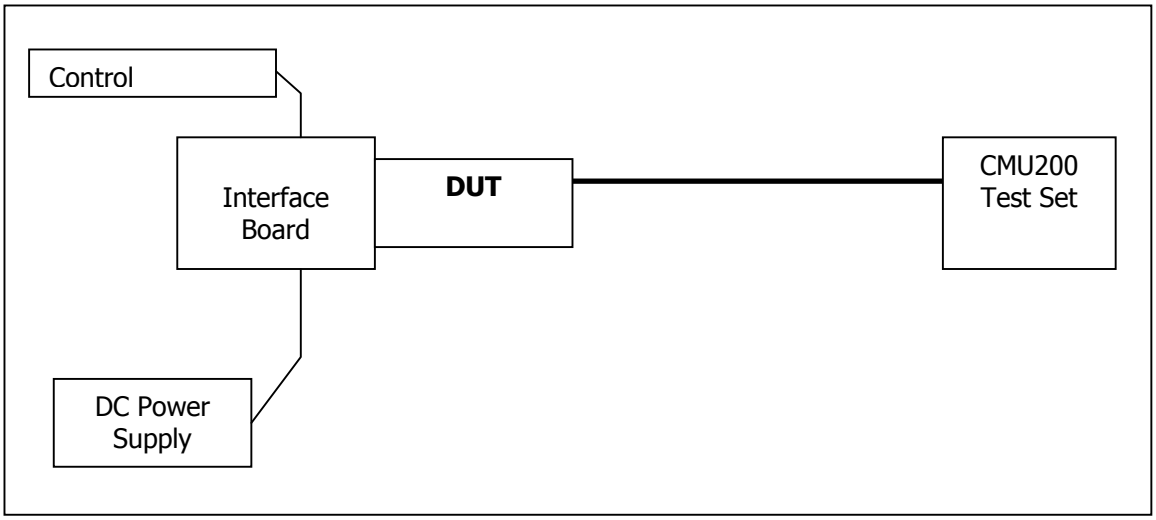
9.1 Summary of Results

The unit meets the limit of less than 0.1ppm of frequency offset from center for 85% and 115% of the supply voltage for 5.0 volts.

9.2 Test Procedure

The AC850 was connected to a DC Power Supply and a GSM test set (CMU 200) with frequency error measurement capability. The power supply output is adjusted to the test voltage as measured at the input terminals to the module while transmitting. A voltmeter was used to confirm the terminal voltage. The peak frequency error is recorded (worst case).
The test voltages are 4.25 volts to 5.75 volts.

Test Setup

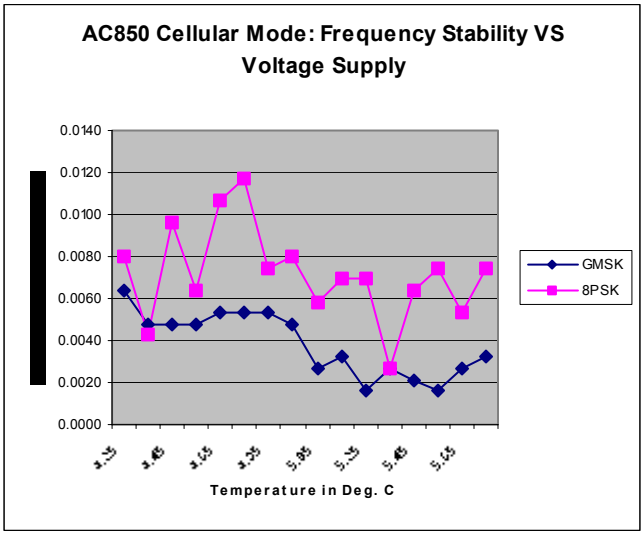


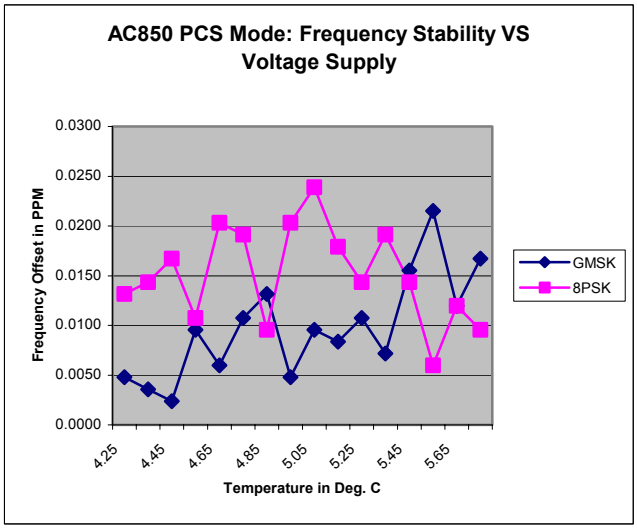
9.3 Test Equipment

EQUIPMENT	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL. DATE
Control Computer	TC	Generic PC	100488	N/A
Wireless Test Set	Rohde & Schwarz	CMU200	836766/030	N/A
Spectrum Analyzer	Agilent	PSA E4440A	US41421268	Sept. 29, 2004
DC Power Supply	HP	6632A	3530A	N/A
Interface Board	Shop built	Minnow	N/A	N/A
Directional Coupler	Mini-Circuits	ZA3PD-2	N/A	N/A

9.4 Test Results

85% to 115% of 5 Volts Frequency Error





85% to 115% of 5 Volts Frequency Error, Tabular Data

	Cellular Mode: 824MHz to 848MHz				PCS Mode: 1850MHz to 1909MHz			
	GMSK Mode		8-PSK Mode		GMSK Mode		8-PSK Mode	
Supply (V)	Offset (Hz)	Offset (ppm)	Offset (Hz)	Offset (ppm)	Offset (Hz)	Offset (ppm)	Offset (Hz)	Offset (ppm)
4.25	-12	0.0064	-15	0.0080	-4	0.0048	-11	0.0131
4.35	-9	0.0048	-8	0.0043	3	0.0036	-12	0.0143
4.45	-9	0.0048	-18	0.0096	-2	0.0024	-14	0.0167
4.55	-9	0.0048	-12	0.0064	8	0.0096	-9	0.0108
4.65	-10	0.0053	-20	0.0106	5	0.0060	-17	0.0203
4.75	-10	0.0053	-22	0.0117	9	0.0108	-16	0.0191
4.85	-10	0.0053	-14	0.0074	-11	0.0131	-8	0.0096
4.95	-9	0.0048	-15	0.0080	4	0.0048	-17	0.0203
5.05	-5	0.0027	-11	0.0059	8	0.0096	-20	0.0239
5.15	-6	0.0032	-13	0.0069	-7	0.0084	-15	0.0179
5.25	-3	0.0016	-13	0.0069	-9	0.0108	-12	0.0143
5.35	-5	0.0027	-5	0.0027	-6	0.0072	-16	0.0191
5.45	4	0.0021	-12	0.0064	-13	0.0155	-12	0.0143
5.55	3	0.0016	-14	0.0074	-18	0.0215	-5	0.0060
5.65	5	0.0027	-10	0.0053	-10	0.0119	-10	0.0119
5.75	6	0.0032	-14	0.0074	-14	0.0167	-8	0.0096