REGULATORY TEST REPORT

TITLE: FC200 960MHz Data
AUTHOR: Drew Rosenberg

REV	CCO	*DESCRIPTION OF CHANGE*	DATE	*APPROVALS*	
		INITIAL RELEASE		Engineering	
				Engineering	

REVISION HISTORY

				Engineering	
				Engineering	
				Engineering	

Summary

Test Data Summary

FCC Part 101 / RSS-119 Transceiver
952-960 MHz
FCC ID: EO9-FC200A

Device Model:

Model Numbers:
FC200

Serial Numbers:
6099

Rule	Description	Max. Reading	Pass/Fail
FCC 101.113	EIRP of Fundamental Emissions	22.29 dBm	Pass
FCC 101.111a(5)	Transmit Mask - FCC	N/A	Pass
FCC 101.109	Occupied Bandwidth	3.38kHz	Pass

Cognizant Personnel	
Drew Rosenberg Name	Regulatory Engineer Title
Mark Kvamme Name	Senior Technician Title

Test 1: FCC Part 101.113

EIRP of Fundamental Emissions

Canada:

1. Output power must be +/-1dB of rated power.
2. Output power must be less than 4W (6dBW)

FCC:

Measure the EIRP of the transmitter fundamental using the antenna substitution procedure (appendix A). The EIRP of the transmitter may not exceed:

Frequency (MHz)	Fixed (dBW)	Mobile (dBW)
952-860	40	14

Equipment Used	Serial Number	Cal Date	Cal Due
Substitution Antenna (Roberts Dipole)	4106	09/13/04	09/13/06
Receive Antenna (Roberts Dipole)	AN 19570	Reference Only	
Frequency Generator HP8673D	3123A01161	11/8/2004	11/8/2006
Spectrum Analyzer Agilent E4408B	US40240538	4/21/2005	4/21/2006
Power Meter HP437B	3125U11553	11/10/2004	11/10/2005
Power Sensor HP8481D	3318A08626	12/1/2004	11/30/2005

Date	Temp/Humidity ºF / %	Tested by
6/24/05	74	74

Fill in the white spaces in the table below for each frequency measured:

Frequency (MHz)	Polarity	Analyzer Reading of Device Emissions (dBm)	Analyzer Reading of Generator Emissions (dBm)	Difference (add to ERP reading)	Substitution Antenna Gain (dBi)	Generator Output (dBm)	EIRP (dBm)
960	V	-15.805	-37.34	21.535	0.8	-0.044	22.291

Test 2: FCC 101.109

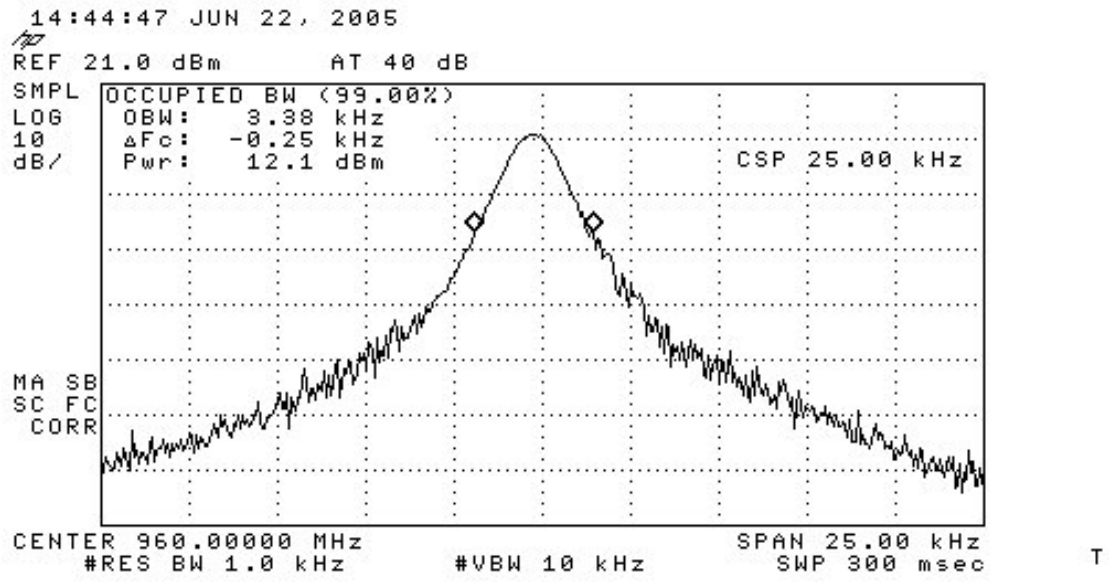
Occupied Bandwidth

Measure the occupied bandwidth (99% bandwidth). The Occupied bandwidth may not exceed 12.5kHz (US) or 11.25kHz (Canada).

Equipment Used	Serial Number	Cal Date	Cal Due
HP8593E	3543A02032	6/22/2005	9/15/2006

Date	Tested by
6/22/05	Mark Kvamme

Place a screen capture of the measurement below:



Test 3: FCC Part 101.111a(5)

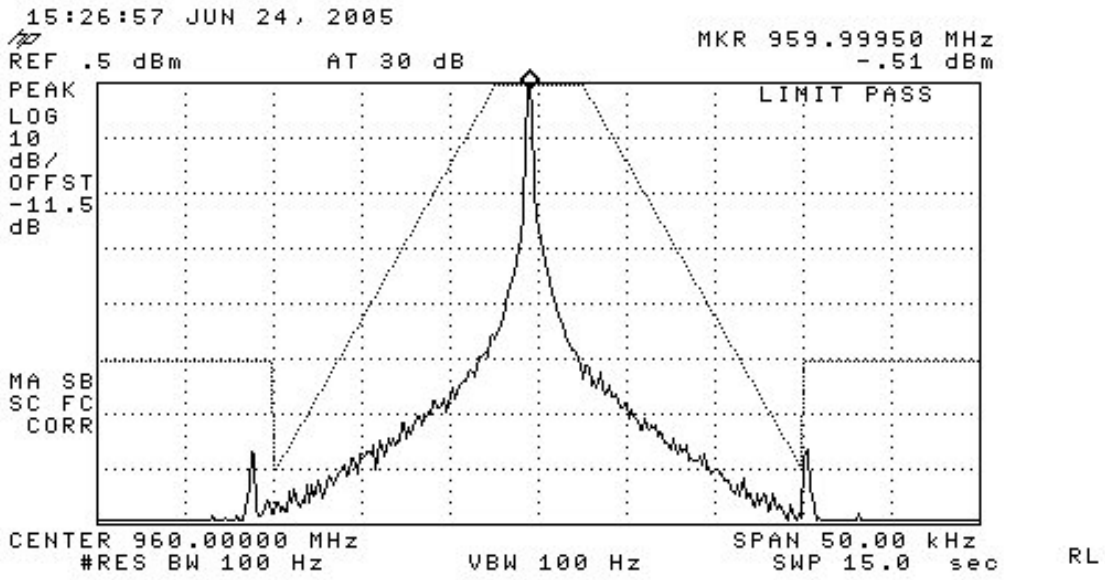
Transmitter Mask (US)

Equipment Used	Serial Number	Cal Date	Cal Due
HP8594	3710A04999	02/24/05	02/24/07

Date	Temp/Humidity ºF / %	Tested by
6/24/05	74 / 74	Mark Kvamme

Measure the transmitter mask, referenced to an unmodulated carrier, according to the following schedule:

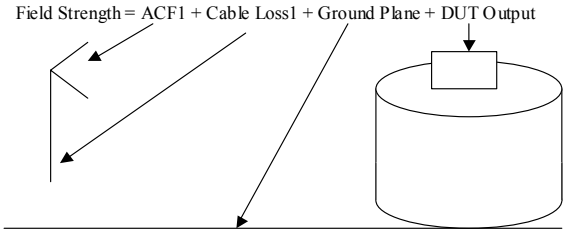
Minimum Displacement Frequency (kHz)	Maximum Displacement Frequency (kHz)	Attenuation below unmodulated carrier (dB)
2.5	6.25	53*log(fd/2.5)
6.25	9.5	103*log(fd/3.9)
9.5	15	157*log(fd/5.3)
15	>15	50+Log(P) or 70

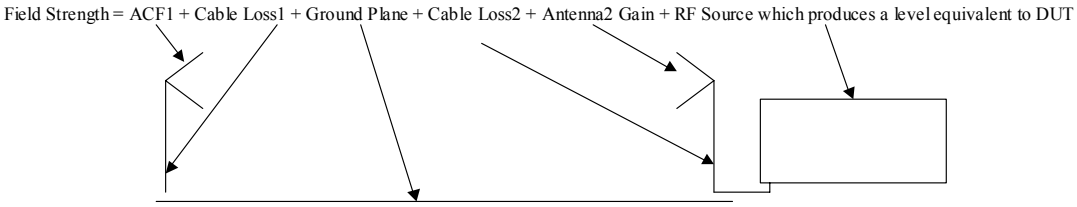


Appendix A

Antenna Substitution Method of EIRP Measurement

First, measure the field strength of the device in accordance with the procedure in Appendix B. Second, replace the device with an antenna and connect the antenna to the output of a signal generator. Set the signal generator to the same frequency as the device emission that is being measured. Adjust the height of receiving antenna to give the highest reading. Repeat with the substitution antenna in the vertical position. Bring the position back to the polarity and height that results in the highest field strength reading. Set the signal generator to a power that results in the same field strength reading as that of the device emission. The gain of the transmitting antenna, output power of the generator, and loss of the cable can then be used to determine the EIRP of the device.





Appendix B

Field Strength Measurement Procedure

This test measures the field strength of radiated emissions using a spectrum analyzer and a receiving antenna in accordance with ANSI C63.4-2003. During the test, the EUT is to be placed on a non-conducting support at 80 cm above the horizontal ground plane of the OATS. The horizontal distance between the antenna and the DUT is to be exactly 3 meters. Levels below 1 GHz are to be measured with the spectrum analyzer resolution bandwidth at 120 kHz and levels at or above 1 GHz are to be measured with the spectrum analyzer resolution bandwidth at 1 MHz.

1) Monitor the frequency range of interest at a fixed antenna height and EUT azimuth.
2) If appropriate, manipulate the system cables to produce the highest amplitude signal relative to the limit. Note the amplitude and frequency of the suspect signal.
3) Rotate the EUT 360° to maximize the suspected highest amplitude signal. If the signal or another at a different frequency is observed to exceed the previously noted highest amplitude signal by 1 dB or more, go back to the azimuth and repeat step b). Otherwise, orient the EUT azimuth to repeat the highest amplitude observation and proceed.
4) Move the antenna over its fully allowed range of travel to maximize the suspected highest amplitude signal. If the signal or another at a different frequency is observed to exceed the previously noted highest amplitude signal by 1 dB or more, return to step b) with the antenna fixed at this height. Otherwise, move the antenna to the height that repeats the highest amplitude observation and proceed.
5) Change the polarity of the antenna and repeat step b), step c), and step d). Compare the resulting suspected highest amplitude signal with that found for the other polarity. Select and note the higher of the two signals. This signal is termed the highest observed signal with respect to the limit for this EUT operational mode.