



**FCC CFR47 PART 22 SUBPART H
AND PART 24 SUBPART E
CLASS II PERMISSIVE CHANGE
CERTIFICATION TEST REPORT
FOR**

850/900/1800/1900/2100 MHZ 5-BAND MiniCard MODULE

MODEL NUMBER: MC8755

FCC ID: N7NMC8755

REPORT NUMBER: 06U10050-1

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

Prepared by
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TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS.....	4
2. TEST METHODOLOGY	5
3. FACILITIES AND ACCREDITATION	5
4. CALIBRATION AND UNCERTAINTY.....	5
4.1. MEASURING INSTRUMENT CALIBRATION.....	5
4.2. MEASUREMENT UNCERTAINTY.....	5
5. EQUIPMENT UNDER TEST.....	6
5.1. DESCRIPTION OF EUT	6
5.2. CLASS II PERMISSIVE CHANGE DESCRIPTION	6
5.3. MAXIMUM OUTPUT POWER	6
5.4. DESCRIPTION OF AVAILABLE ANTENNAS.....	7
5.5. SOFTWARE AND FIRMWARE	7
5.6. WORST-CASE CONFIGURATION AND MODE.....	7
5.7. DESCRIPTION OF TEST SETUP	7
6. TEST AND MEASUREMENT EQUIPMENT	9
7. LIMITS AND RESULTS	10
7.1. RADIATED RF POWER OUTPUT.....	10
7.2. FIELD STRENGTH OF SPURIOUS EMISSION	16
8. SETUP PHOTOS	21

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SIERRA WIRELESS INC.
13811 WIRELESS WAY
RICHMOND, BC V6V 3A4, CANADA

EUT DESCRIPTION: 850/900/1800/1900/2100 MHz 5-BAND MiniCard MODULE

MODEL: MC8755

SERIAL NUMBER: AA-GH2YR

DATE TESTED: JANUARY 23-24, 2006

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 22 SUBPART H	NO NON-COMPLIANCE NOTED
FCC PART 24 SUBPART E	NO NON-COMPLIANCE NOTED

Compliance Certification Services, Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by Compliance Certification Services and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by Compliance Certification Services will constitute fraud and shall nullify the document. No part of this report may be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any government agency.

Approved & Released For CCS By:

Tested By:



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EMC SUPERVISOR
COMPLIANCE CERTIFICATION SERVICES

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EMC ENGINEER
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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with TIA/EIA 603C (2004), ANSI C63.4-2003, FCC CFR 47 Part 2, FCC CFR 47 Part 15 and FCC CFR 47 Part 22H and 24E.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 561F Monterey Road, Morgan Hill, California, USA. The sites are constructed in conformance with the requirements of ANSI C63.4, ANSI C63.7 and CISPR Publication 22. All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

CCS is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <http://www.ccsemc.com>.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Radiated Emission, 30 to 200 MHz	+/- 3.3 dB
Radiated Emission, 200 to 1000 MHz	+4.5 / -2.9 dB
Radiated Emission, 1000 to 2000 MHz	+4.5 / -2.9 dB
Power Line Conducted Emission	+/- 2.9 dB

Uncertainty figures are valid to a confidence level of 95%.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is an 850/900/1800/1900/2100MHz 5-band MiniCard module and manufactured by Sierra Wireless, Inc.

5.2. CLASS II PERMISSIVE CHANGE DESCRIPTION

Add one Laptop of ThinkPad X60 series.

5.3. MAXIMUM OUTPUT POWER

The transmitter has maximum ERP and EIRP output powers as follows:

Part 22 (824 - 849MHz) & Part 24 (1850 - 1910MHz) Authorized Band:

Frequency Range (MHz)	Modulation	ERP Peak Power (dBm)	ERP Peak Power (mW)
824.2 - 848.75	EDGE	22.40	173.78
824.2 - 848.75	GSM	23.60	229.09

Frequency Range (MHz)	Modulation	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
1850.25 - 1909.8	EDGE	25.90	389.05
1850.25 - 1909.8	GSM	25.90	389.05

NOTE: RBW=VBW=3MHz

5.4. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a PIFA antenna, with a maximum gain of -0.59 dBi for Cellular band and 1.92 dBi for PCS band.

5.5. SOFTWARE AND FIRMWARE

The test utility software used during testing was ProcommPlus for GSM and EDGE modulations.

5.6. WORST-CASE CONFIGURATION AND MODE

The worst-case channel is determined as the channel with the highest output power. Please refer to the project 05U37791 of MC8755 FCC Conducted test report REV.B.

5.7. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	IBM	ThinkPad	9IW0529000129	NA
Laptop	IBM	Thinkpad X60	AAGH2YR	DoC

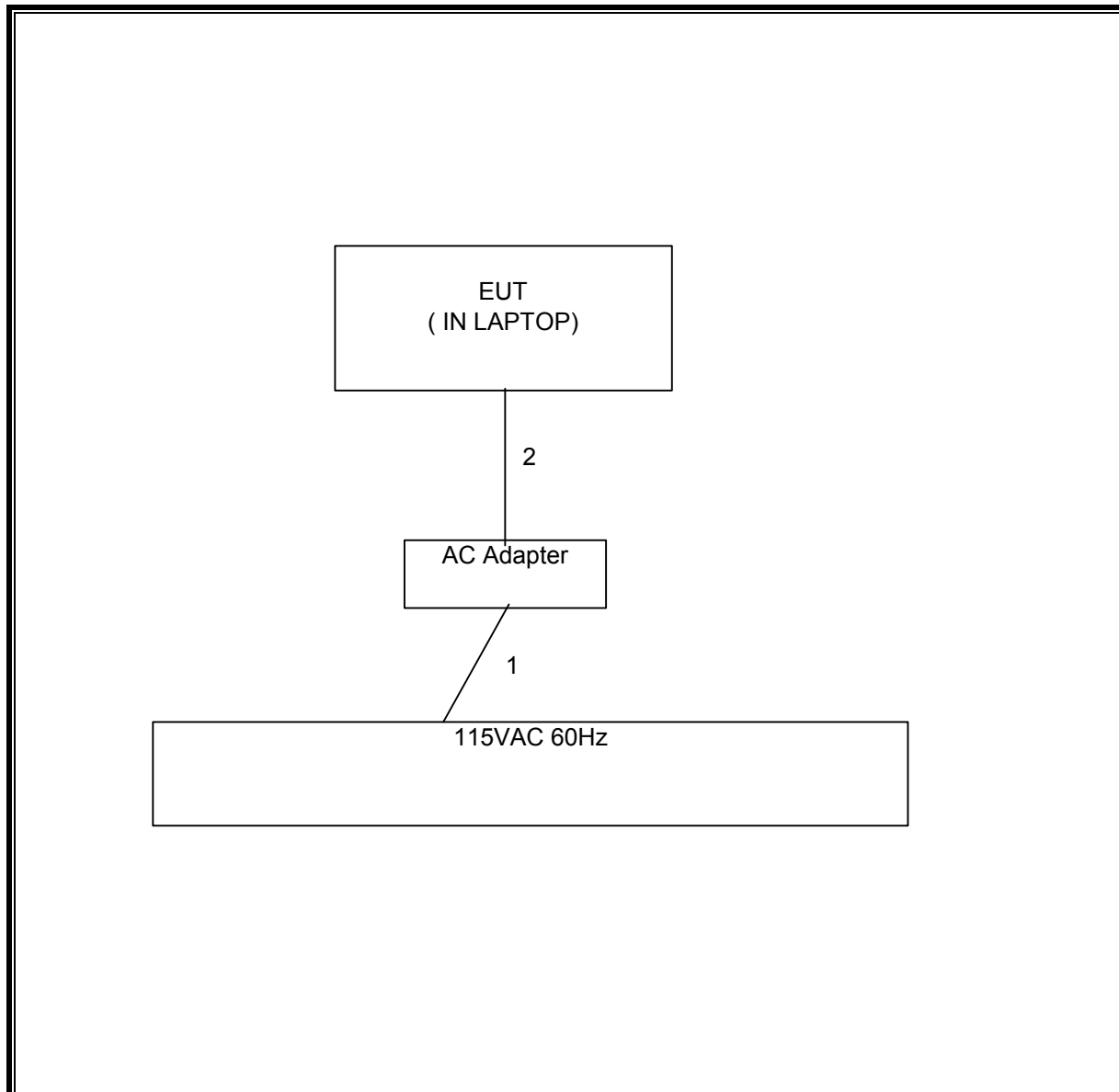
I/O CABLES

I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	AC	1	US 115V	Un-shielded	2m	NA
2	DC	1	DC	Un-shielded	0.5m	NA

TEST SETUP

The EUT is installed inside the ThinkPad X60 during the tests. The Wireless Communication test set exercised the EUT.

RADIATED TEST SETUP DIAGRAM



6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

TEST EQUIPMENT LIST				
Description	Manufacturer	Model	Serial Number	Cal Due
Antenna, Bilog 30 MHz ~ 2 GHz	Sunol Sciences	JB1	A121003	3/3/06
Preamplifier, 1300 MHz	HP	8447D	1937A02062	1/7/07
Spectrum Analyzer, 26.5 GHz	HP	8593EM	3710A00205	7/26/06
EMI Test Receiver	R & S	ESHS 20	827129/006	6/3/06
LISN, 10 kHz ~ 30 MHz	FCC	LISN-50/250-25-2	2023	8/30/06
Preamplifier, 1 ~ 26.5 GHz	HP	8449B	3008A00369	8/17/06
Spectrum Analyzer, 26.5 GHz	HP	8593EM	3710A00205	7/6/06
Dipole	EMCO	3121C-DB2	22435	3/25/06
Signal Generator, 1024 MHz	R & S	SMY01	DE 12311	04/11/06
Spectrum Analyzer 3 Hz ~ 44 GHz	Agilent	E4446A	US42510266	10/19/06
Antenna, Horn 1 ~ 18 GHz	EMCO	3115	6717	04/22/06
Antenna, Horn 1 ~ 18 GHz	EMCO	3115	2238	04/22/06

7. LIMITS AND RESULTS

7.1. RADIATED RF POWER OUTPUT

LIMIT

22.913(a) The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.
24.232(b) Mobile/portable stations are limited to 2 watts e.i.r.p. peak power and the equipment must employ means to limit the power to the minimum necessary for successful communications.

TEST PROCEDURE

ANSI / TIA / EIA 603 Clause 2.2.17

RESULTS

No non-compliance noted.

850 MHz EDGE Modulation

Channel	Frequency (MHz)	ERP Peak Power (dBm)	ERP Peak Power (mW)
Low	824.2	22.40	173.78
Middle	836.5	21.80	151.36
High	848.75	21.00	125.89

850 MHz GSM Modulation

Channel	Frequency (MHz)	ERP Peak Power (dBm)	ERP Peak Power (mW)
Low	824.2	23.50	223.87
Middle	836.5	23.60	229.09
High	848.75	22.20	165.96

NOTE: RBW=VBW=3MHz.

1900 MHz EDGE Modulation

Channel	Frequency (MHz)	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
Low	1850.25	24.00	251.19
Middle	1880	23.60	229.09
High	1909.8	25.90	389.05

1900 MHz GSM Modulation

Channel	Frequency (MHz)	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
Low	1850.25	23.40	218.78
Middle	1880	23.70	234.42
High	1909.8	25.90	389.05

EDGE 850MHz Output Power (ERP)

01/25/06 High Frequency Substitution Measurement Compliance Certification Services, Morgan Hill 5m Chamber Site									
Test Engr: Thanh Nguyen Project #: 06U10050 Company: Sierra Wireless EUT Descrip.: 5 Band Mini Card Module EUT M/N: MC8755-WCDMA/GSM Module Test Target: FCC Part 22/24 Mode Oper: TX ON, EDGE_ 850 MHz_Fundamental									
Test Equipment: Receiving: Sunol T122, and 5m Chamber N-type Cable (Setup this one for testing EUT) Substitution: Dipole S/N: 00022117, and 4ft SMA Cable Warehouse S/N: 177081002									
f MHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Channel									
824.20	97.8	V	20.9	0.5	0.0	20.4	38.5	-18.1	
824.20	101.0	H	22.7	0.5	0.0	22.2	38.5	-16.3	
837.18	98.1	V	22.1	0.6	0.0	21.5	38.5	-16.9	
837.18	100.6	H	22.4	0.6	0.0	21.8	38.5	-16.6	
849.38	97.1	V	21.7	0.7	0.0	21.0	38.5	-17.4	
849.38	99.0	H	20.9	0.7	0.0	20.2	38.5	-18.2	

NOTE: RBW=VBW=3MHz

GSM 850MHz Output Power (ERP)

01/25/06 High Frequency Substitution Measurement

Compliance Certification Services, Morgan Hill 5m Chamber Site

Test Engr:

Thanh Nguyen

Project #:

06U10050

Company:

Sierra Wireless

EUT Descrip.:

5 Band Mini Card Module

EUT M/N:

MC8755-WCDMA/GSM Module

Test Target:

FCC Part 22/24

Mode Oper:

TX ON, GSM 850 MHz_Fundamental

Test Equipment:

Receiving: Sunol T122, and 5m Chamber N-type Cable (Setup this one for testing EUT)

Substitution: Dipole S/N: 00022117, and 4ft SMA Cable Warehouse S/N: 177081002

f MHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Channel									
824.20	100.9	V	24.0	0.5	0.0	23.5	38.5	-15.0	
824.20	97.2	H	18.8	0.5	0.0	18.3	38.5	-20.1	
837.18	100.2	V	24.2	0.6	0.0	23.6	38.5	-14.9	
837.18	95.4	H	17.2	0.6	0.0	16.6	38.5	-21.9	
849.38	98.3	V	22.9	0.7	0.0	22.2	38.5	-16.3	
849.38	92.4	H	14.3	0.7	0.0	13.6	38.5	-24.9	

NOTE: RBW=VBW=3MHz

EDGE 1900MHz Output Power (EIRP)

01/25/06 High Frequency Substitution Measurement Compliance Certification Services, Morgan Hill 5m Chamber Site									
Test Engr: Thanh Nguyen Project #: 06U10050 Company: Sierra Wireless EUT Descrip.: 5 Band Mini Card Module EUT M/N: MC8755-WCDMA/GSM Module Test Target: FCC Part 22/24 Mode Oper: TX ON, EDGE 1900 MHz, FUNDEMENTAL									
Test Equipment: Receiving: Horn T73, and 12ft S/N: 197209005 (Setup this one for testing EUT) Substitution: Horn T60 Substitution, 4ft SMA Cable Warehouse S/N: 177081002									
f GHz	SA reading (dBuV/m)	Ant. Pol (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Channel									
1.850	91.1	V	13.9	0.9	8.3	21.3	33.0	-11.7	
1.850	93.9	H	16.6	0.9	8.3	24.0	33.0	-9.0	
Mid Channel									
1.880	92.6	V	15.7	0.9	8.3	23.2	33.0	-9.9	
1.880	93.8	H	16.1	0.9	8.3	23.6	33.0	-9.4	
High Channel									
1.910	93.3	V	16.7	0.9	8.4	24.2	33.0	-8.8	
1.910	95.5	H	18.5	0.9	8.4	25.9	33.0	-7.1	

NOTE: RBW=VBW=3MHz

GSM 1900MHz Output Power (EIRP)

01/25/06 **High Frequency Substitution Measurement**
Compliance Certification Services, Morgan Hill 5m Chamber Site

Test Engr:	Thanh Nguyen
Project #:	06U10050
Company:	Sierra Wireless
EUT Descrip.:	5 Band Mini Card Module
EUT M/N:	MC8755-WCDMA/GSM Module
Test Target:	FCC Part 22/24
Mode Oper:	TX ON, GSM 1900 MHz, FUNDEMENTAL

Test Equipment:

Receiving: Horn T73, and 12ft S/N: 197209005 (Setup this one for testing EUT)

Substitution: Horn T60 Substitution, 4ft SMA Cable Warehouse S/N: 177081002

f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Channel									
1.850	90.0	V	12.8	0.9	8.3	20.2	33.0	-12.8	
1.850	93.4	H	16.0	0.9	8.3	23.4	33.0	-9.6	
Mid Channel									
1.880	91.2	V	14.4	0.9	8.3	21.8	33.0	-11.2	
1.880	93.9	H	16.3	0.9	8.3	23.7	33.0	-9.3	
High Channel									
1.910	91.8	V	15.2	0.9	8.4	22.7	33.0	-10.3	
1.910	95.4	H	18.4	0.9	8.4	25.9	33.0	-7.1	

NOTE: RBW=VBW=3MHz

7.2. FIELD STRENGTH OF SPURIOUS EMISSION

LIMIT

§22.917 (e) and §24.238 (a) Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

TEST PROCEDURE

ANSI / TIA / EIA 603C Clause 2.2.12, FCC 22.917 (h), & FCC 24.238 (b)

RESULTS

No non-compliance noted.

Note: No emissions were found within 30-1000MHz of 20dB below the system noise.

850MHz EDGE Spurious & Harmonic (ERP)

01/24/06 High Frequency Substitution Measurement
Compliance Certification Services, Morgan Hill 5m Chamber Site

Test Engr: Thanh Nguyen
Project #: 06U10050
Company: Sierra Wireless
EUT Descrip.: 5 Band Mini Card Module
EUT M/N: MC8755-WCDMA/GSM Module
Test Target: FCC Part 22/24
Mode Oper: TX ON, EDGE 850 MHz

Test Equipment:

EMCO Horn 1-18GHz T120; S/N: 29310 @3m	Horn > 18GHz	Limit FCC 22	☒ High Pass Filter
Hi Frequency Cables ☐ (2 ft) ☒ (2 ~ 3 ft) ☐ (4 ~ 6 ft) ☒ (12 ft)		Pre-amplifier 1-26GHz T87 Miteq 924342	Pre-amplifier 26-40GHz

f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Channel										
1.663	50.4	V	-61.0	1.6	3.9	1.8	-60.9	-13.0	-47.9	
2.525	62.2	V	-49.1	1.9	6.4	4.2	-46.9	-13.0	-33.9	
2.537	60.7	V	-50.6	1.9	6.4	4.2	-48.3	-13.0	-35.3	
5.911	54.9	V	-54.0	3.3	10.5	8.4	-49.0	-13.0	-36.0	
1.718	47.6	H	-63.0	1.6	4.0	1.9	-62.8	-13.0	-49.8	
2.525	50.6	H	-60.5	1.9	6.4	4.2	-58.2	-13.0	-45.2	
Mid Channel										
1.683	56.1	V	-55.3	1.6	3.9	1.8	-55.1	-13.0	-42.1	
2.525	59.8	V	-51.5	1.9	6.4	4.2	-49.2	-13.0	-36.2	
2.537	55.9	V	-55.4	1.9	6.4	4.2	-53.2	-13.0	-40.2	
5.911	64.0	V	-45.0	3.3	10.5	8.4	-39.9	-13.0	-26.9	
1.718	47.5	H	-63.1	1.6	4.0	1.9	-62.8	-13.0	-49.8	
2.525	49.6	H	-61.6	1.9	6.4	4.2	-59.3	-13.0	-46.3	
High Channel										
1.697	53.4	V	-57.9	1.6	4.0	1.8	-57.7	-13.0	-44.7	
2.525	58.5	V	-52.9	1.9	6.4	4.2	-50.6	-13.0	-37.6	
2.546	55.8	V	-55.5	2.0	6.4	4.3	-53.2	-13.0	-40.2	
1.762	57.7	H	-52.8	1.6	4.1	2.0	-52.5	-13.0	-39.5	
2.546	55.4	H	-55.7	2.0	6.4	4.3	-53.4	-13.0	-40.4	

850MHz GSM Spurious & Harmonic (ERP)

01/25/06 High Frequency Substitution Measurement
Compliance Certification Services, Morgan Hill 5m Chamber Site

Test Engr: Thanh Nguyen
Project #: 06U10050
Company: Sierra Wireless
EUT Descr.: 5 Band Mini Card Module
EUT M/N: MC8755-WCDMA/GSM Module
Test Target: FCC Part 22/24
Mode Oper: TX ON, GSM 850 MHz

Test Equipment:

EMCO Horn 1-18GHz T119; S/N: 29301 @3m	Horn > 18GHz	Limit FCC 22	☒ High Pass Filter
Hi Frequency Cables ☐ (2 ft) ☒ (2 ~ 3 ft) ☐ (4 ~ 6 ft) ☒ (12 ft)		Pre-amplifier 1-26GHz T87 Miteq 924342	Pre-amplifier 26-40GHz

f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Channel										
1.648	61.6	V	-50.2	1.6	4.0	1.9	-49.9	-13.0	-36.9	
2.473	65.4	V	-45.8	1.9	6.1	4.0	-43.7	-13.0	-30.7	
3.297	52.6	V	-57.8	2.3	7.5	5.3	-54.8	-13.0	-41.8	
6.594	49.4	V	-58.4	3.5	11.2	9.1	-52.8	-13.0	-39.8	
1.648	58.9	H	-52.2	1.6	4.0	1.9	-51.9	-13.0	-38.9	
2.473	68.0	H	-42.9	1.9	6.1	4.0	-40.9	-13.0	-27.9	
3.297	47.2	H	-63.2	2.3	7.5	5.3	-60.1	-13.0	-47.1	
6.594	55.1	H	-52.0	3.5	11.2	9.1	-46.4	-13.0	-33.4	
7.418	58.0	H	-47.7	3.7	11.9	9.8	-41.6	-13.0	-28.6	
Mid Channel										
1.674	58.5	V	-53.2	1.6	4.1	1.9	-52.9	-13.0	-39.9	
2.525	61.3	V	-49.7	1.9	6.2	4.1	-47.6	-13.0	-34.6	
1.674	55.7	H	-55.3	1.6	4.1	1.9	-55.0	-13.0	-42.0	
2.525	58.3	H	-52.5	1.9	6.2	4.1	-50.4	-13.0	-37.4	
12.951	48.8	H	-51.5	5.2	13.7	11.6	-45.1	-13.0	-32.1	
High Channel										
1.698	56.1	V	-55.6	1.6	4.1	2.0	-55.2	-13.0	-42.2	
2.546	47.9	V	-63.1	2.0	6.2	4.1	-60.9	-13.0	-47.9	
1.698	51.4	H	-59.6	1.6	4.1	2.0	-59.2	-13.0	-46.2	
2.546	46.8	H	-64.0	2.0	6.2	4.1	-61.9	-13.0	-48.9	

1900MHz EDGE Spurious & Harmonic (EIRP)

01/24/06 High Frequency Substitution Measurement
Compliance Certification Services, Morgan Hill 5m Chamber Site

Test Engr: Thanh Nguyen
Project #: 06U10050
Company: Sierra Wireless
EUT Descr.: 5 Band Mini Card Module
EUT M/N: MC8755-WCDMA/GSM Module
Test Target: FCC Part 22/24
Mode Oper: TX ON, EDGE 1900 MHz

Test Equipment:

EMCO Horn 1-18GHz T120; S/N: 29310 @3m	Horn > 18GHz	Limit FCC 22	☒ High Pass Filter
Hi Frequency Cables ☐ (2 ft) ☒ (2 ~ 3 ft) ☐ (4 ~ 6 ft) ☒ (12 ft)		Pre-amplifier 1-26GHz T87 Miteq 924342	Pre-amplifier 26-40GHz

f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Channel										
3.735	52.3	V	-59.0	2.5	8.5	6.3	-55.1	-13.0	-42.1	
5.550	53.9	V	-56.2	3.2	10.6	8.4	-51.0	-13.0	-38.0	
7.400	42.3	V	-63.7	3.7	11.7	9.5	-57.9	-13.0	-44.9	
9.251	44.6	V	-58.8	4.2	12.4	10.3	-52.6	-13.0	-39.6	
11.101	46.5	V	-53.0	4.7	12.7	10.6	-47.1	-13.0	-34.1	
12.951	48.2	V	-51.0	5.2	13.7	11.5	-44.6	-13.0	-31.6	
3.730	52.2	H	-58.9	2.5	8.5	6.3	-55.1	-13.0	-42.1	
5.550	47.6	H	-61.4	3.2	10.6	8.4	-56.2	-13.0	-43.2	
9.251	44.6	H	-58.7	4.2	12.4	10.3	-52.6	-13.0	-39.6	
Mid Channel										
3.760	57.6	V	-53.7	2.5	8.5	6.4	-49.8	-13.0	-36.8	
5.640	47.5	V	-62.3	3.3	10.6	8.4	-57.1	-13.0	-44.1	
7.519	46.1	V	-59.7	3.7	11.8	9.6	-53.8	-13.0	-40.8	
9.400	50.9	V	-51.7	4.2	12.4	10.2	-45.7	-13.0	-32.7	
11.280	48.2	V	-51.3	4.8	12.8	10.7	-45.4	-13.0	-32.4	
13.160	44.8	V	-54.2	5.2	13.7	11.6	-47.8	-13.0	-34.8	
3.760	52.8	H	-58.4	2.5	8.5	6.4	-54.5	-13.0	-41.5	
5.640	45.0	H	-63.8	3.3	10.6	8.4	-58.6	-13.0	-45.6	
7.520	48.3	H	-56.8	3.7	11.8	9.6	-50.9	-13.0	-37.9	
9.400	47.1	H	-55.6	4.2	12.4	10.2	-49.6	-13.0	-36.6	
11.280	48.2	H	-50.7	4.8	12.8	10.7	-44.8	-13.0	-31.8	
13.160	46.0	H	-52.2	5.2	13.7	11.6	-45.8	-13.0	-32.8	
High Channel										
3.819	69.5	V	-41.8	2.5	8.6	6.5	-37.8	-13.0	-24.8	
5.729	47.7	V	-61.8	3.3	10.6	8.4	-56.7	-13.0	-43.7	
7.639	44.9	V	-60.8	3.8	11.9	9.7	-54.8	-13.0	-41.8	
9.549	45.0	V	-57.0	4.3	12.3	10.2	-51.1	-13.0	-38.1	
11.458	57.4	V	-42.1	4.8	12.9	10.8	-36.2	-13.0	-23.2	
13.368	47.4	V	-51.4	5.2	13.7	11.6	-45.1	-13.0	-32.1	
3.819	65.1	H	-46.1	2.5	8.6	6.5	-42.1	-13.0	-29.1	
5.729	48.5	H	-60.0	3.3	10.6	8.4	-54.9	-13.0	-41.9	
7.639	47.2	H	-57.7	3.8	11.9	9.7	-51.7	-13.0	-38.7	
9.549	42.5	H	-59.5	4.3	12.3	10.2	-53.6	-13.0	-40.6	
11.458	54.7	H	-44.2	4.8	12.9	10.8	-38.3	-13.0	-25.3	
13.368	46.2	H	-51.9	5.2	13.7	11.6	-45.5	-13.0	-32.5	

1900MHz GSM Spurious & Harmonic (EIRP)

01/25/06 High Frequency Substitution Measurement
Compliance Certification Services, Morgan Hill 5m Chamber Site

Test Engr: Thanh Nguyen
Project #: 06U10050
Company: Sierra Wireless
EUT Descr.: 5 Band Mini Card Module
EUT M/N: MC8755-WCDMA/GSM Module
Test Target: FCC Part 22/24
Mode Oper: TX ON, GSM 1900 MHz

Test Equipment:

EMCO Horn 1-18GHz T119; S/N: 29301 @3m	Horn > 18GHz	Limit FCC 22	☒ High Pass Filter
Hi Frequency Cables ☐ (2 ft) ☒ (2 ~ 3 ft) ☐ (4 ~ 6 ft) ☒ (12 ft)		Pre-amplifier 1-26GHz T87 Miteq 924342	Pre-amplifier 26-40GHz

f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Channel										
3.700	58.2	V	-52.7	2.4	8.3	6.1	-49.0	-13.0	-36.0	
5.550	49.6	V	-60.6	3.2	10.7	8.5	-55.3	-13.0	-42.3	
7.401	47.3	V	-59.2	3.7	11.9	9.8	-53.1	-13.0	-40.1	
9.251	48.5	V	-56.0	4.2	13.0	10.9	-49.3	-13.0	-36.3	
11.101	58.9	V	-42.1	4.7	13.5	11.3	-35.5	-13.0	-22.5	
12.951	52.5	V	-46.7	5.2	13.7	11.6	-40.3	-13.0	-27.3	
14.802	43.9	V	-54.5	5.4	13.9	11.8	-48.2	-13.0	-35.2	
3.700	55.1	H	-55.7	2.4	8.3	6.1	-52.0	-13.0	-39.0	
5.550	52.6	H	-56.6	3.2	10.7	8.5	-51.3	-13.0	-38.3	
7.401	49.5	H	-56.3	3.7	11.9	9.8	-50.2	-13.0	-37.2	
9.250	46.2	H	-58.3	4.2	13.0	10.9	-51.6	-13.0	-38.6	
11.100	52.2	H	-48.2	4.7	13.5	11.4	-41.6	-13.0	-28.6	
12.951	48.8	H	-51.5	5.2	13.7	11.6	-45.1	-13.0	-32.1	
Mid Channel										
3.759	57.1	V	-53.8	2.5	8.4	6.2	-50.1	-13.0	-37.1	
5.640	47.7	V	-62.3	3.3	10.7	8.5	-57.0	-13.0	-44.0	
7.520	51.4	V	-55.0	3.7	12.0	9.9	-48.8	-13.0	-35.8	
9.400	47.8	V	-56.0	4.2	12.9	10.8	-49.4	-13.0	-36.4	
11.280	56.9	V	-43.9	4.8	13.5	11.3	-37.4	-13.0	-24.4	
13.160	48.1	V	-51.0	5.2	13.8	11.6	-44.6	-13.0	-31.6	
15.040	43.2	V	-54.9	5.5	13.9	11.7	-48.6	-13.0	-35.6	
3.759	54.9	H	-56.0	2.5	8.4	6.2	-52.2	-13.0	-39.2	
5.640	51.6	H	-57.4	3.3	10.7	8.5	-52.1	-13.0	-39.1	
7.520	48.3	H	-57.2	3.7	12.0	9.9	-51.1	-13.0	-38.1	
9.400	45.7	H	-58.0	4.2	12.9	10.8	-51.5	-13.0	-38.5	
11.280	51.4	H	-48.8	4.8	13.5	11.3	-42.3	-13.0	-29.3	
High Channel										
3.820	71.3	V	-39.7	2.5	8.5	6.3	-35.8	-13.0	-22.8	
5.730	54.1	V	-55.7	3.3	10.7	8.5	-50.5	-13.0	-37.5	
9.549	47.2	V	-55.8	4.3	12.8	10.7	-49.3	-13.0	-36.3	
11.459	61.8	V	-38.8	4.8	13.5	11.3	-32.3	-13.0	-19.3	
3.820	68.6	H	-42.3	2.5	8.5	6.3	-38.5	-13.0	-25.5	
5.730	52.4	H	-56.4	3.3	10.7	8.5	-51.1	-13.0	-38.1	
9.549	46.9	H	-56.1	4.3	12.8	10.7	-49.7	-13.0	-36.7	
11.459	55.9	H	-44.1	4.8	13.5	11.3	-37.6	-13.0	-24.6	

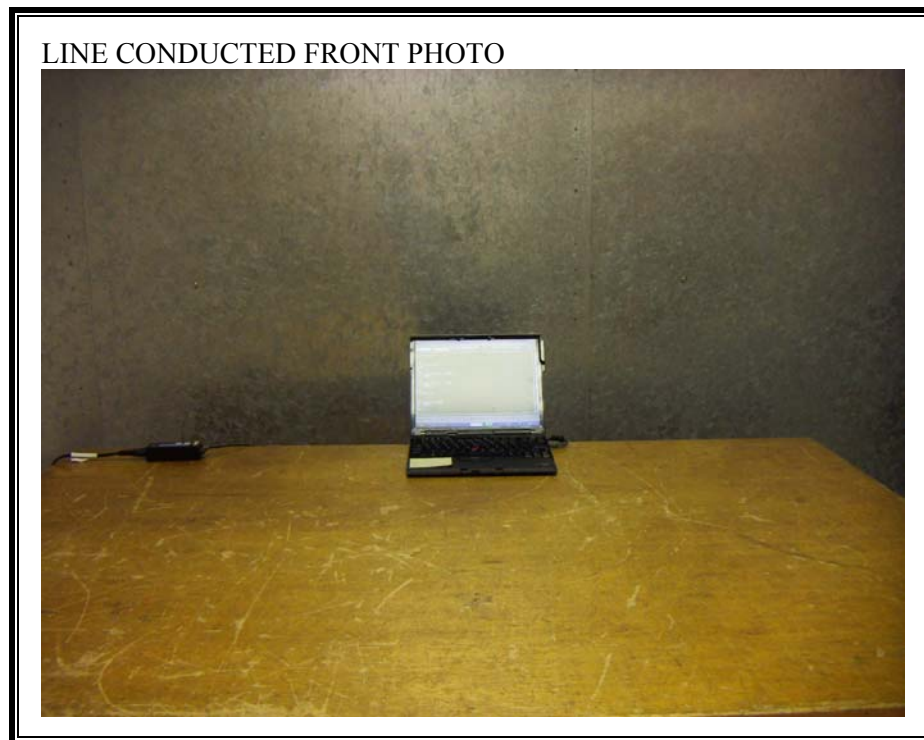
8. SETUP PHOTOS



RADIATED BACK PHOTO



POWERLINE CONDUCTED EMISSIONS MEASUREMENT SETUP



LINE CONDUCTED BACK PHOTO



END OF REPORT