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

FOR

850/900/1800/1900/MHZ QUADBAND MODULE

MODEL NUMBER: MC8765

FCC ID: N7NMC8765

REPORT NUMBER: 06U10129-1, REVISION B

ISSUE DATE: MARCH 31, 2006

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

Prepared by
COMPLIANCE CERTIFICATION SERVICES
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Revision History

Rev.	Issue Date	Revisions	Revised By
A	03/16/06	Initial Issue	Thu
B	03/31/06	Updated section 5.1	Thu

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SIERRA WIRELESS
3811 WIRELESS WAY
RICHMOND, BC V6V 3A4, CANADA

EUT DESCRIPTION: 850/900/1800/1900/MHZ QUADBAND MODULE

MODEL: MC8765

SERIAL NUMBER: 1100503

DATE TESTED: MARCH 6 - 10, 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:

THU CHAN
EMC SUPERVISOR
COMPLIANCE CERTIFICATION SERVICES

Tested By:

WILLIAM ZHUANG
EMC ENGINEER
COMPLIANCE CERTIFICATION SERVICES

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 Quad-Band Module and manufactured by Sierra Wireless, Inc.

Only the 800/1900 MHz frequency bands were investigated under this project, and the test result documented in this report only applies to EUT operating in the 800/1900 MHz frequency bands. This device contains 900 MHz / 1800 MHz functions but these frequency bands are not operational in the U.S. territories.

5.2. CLASS II PERMISSIVE CHANGE DESCRIPTION

Add 14 and 15" Laptops of ThinkPad T60 series.

5.3. MAXIMUM OUTPUT POWER

Please refer to the same RF conducted output power of project 05U3778.

5.4. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an Inverted F antenna, with a maximum gain of 0.31 dBi for Cellular band and 2.15 dBi for PCS band.

5.5. SOFTWARE AND FIRMWARE

The test utility software used during testing was ProcommPlus for GSM and EDGE modulations, and the communication test set is used for WCDMA modulation.

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 05U3778 of MC8765 FCC Conducted test report. Also the 15" laptop has a higher antenna gain than 14" laptop, so all the fundamental and harmonic spurious radiated emissions measurement is based on 15" laptop.

5.7. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	IBM	ThinkPad	570001030B	NA
15 inch Laptop	IBM	0800TSA	ZZ-89588	MCLJ07H081
14 inch Laptop	IBM	0800TSA	ZZ-89282	MCLJ07H081

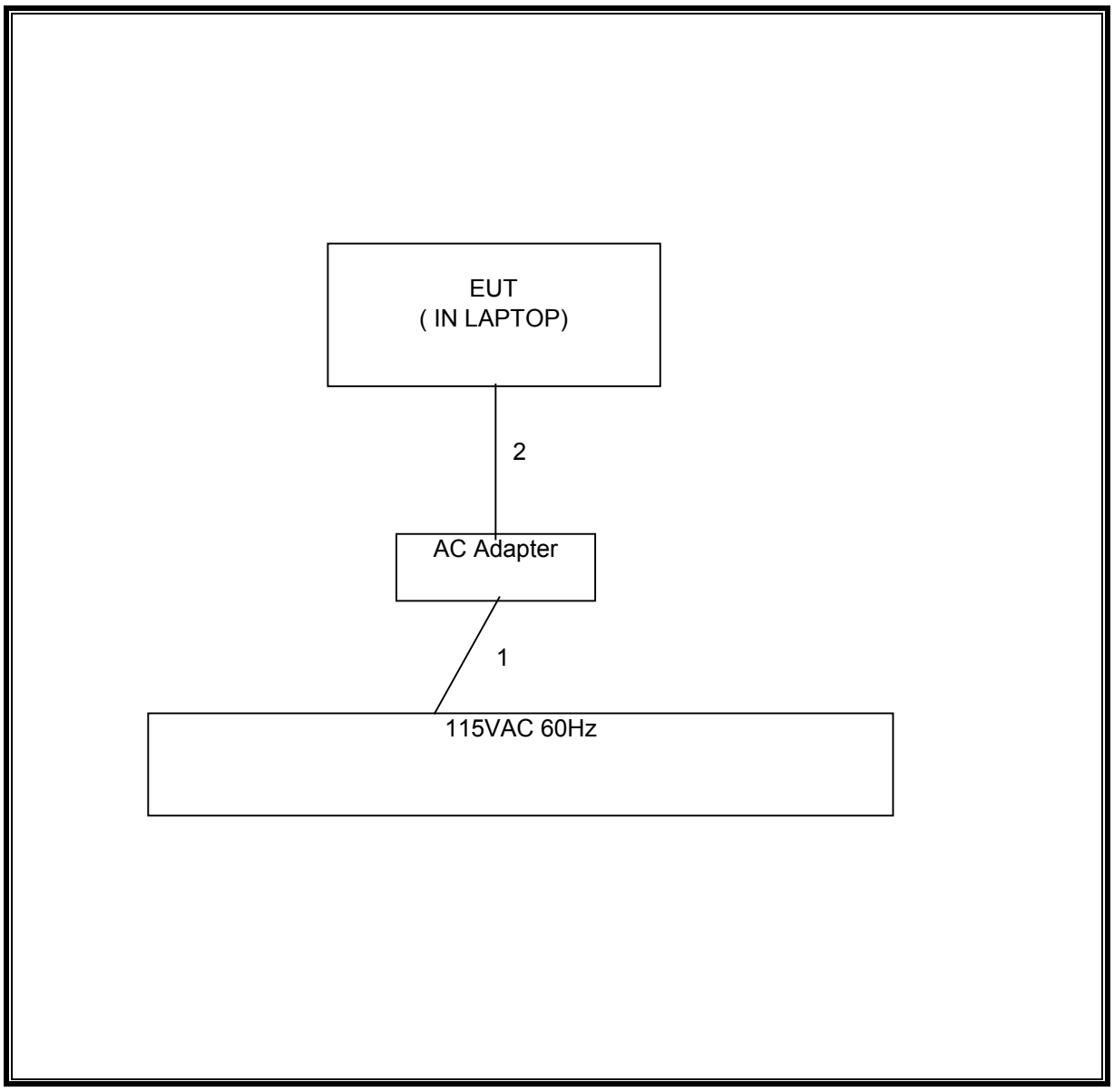
I/O CABLES

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 ProcommPlus or 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**
Spectrum Analyzer 3 Hz ~ 44 GHz	Agilent / HP	E4446A	US42070220	7/29/06
Antenna, Horn 1 ~ 18 GHz	EMCO	3115	2238	4/22/06
Preamplifier, 1 ~ 26 GHz	Miteq	NSP2600-SP	924342	9/2/06
Antenna, Horn 1 ~ 18 GHz	ETS	3117	29301	4/22/06
Preamplifier, 1 ~ 26 GHz	Agilent / HP	8449B	3008A00931	6/24/06
EMI Receiver, 9 kHz ~ 2.9 GHz	Agilent / HP	8542E	3942A00286	2/4/07
RF Filter Section	Agilent / HP	85420E	3705A00256	2/4/07
Antenna, Bilog 30 MHz ~ 2 Ghz	Sunol Sciences	JB1	A121003	9/3/06
EMI Test Receiver	R & S	ESHS 20	827129/006	06/03/06
LISN, 10 kHz ~ 30 MHz	FCC	LISN-50/250-25-2	2023	08/30/06
Wireless Communication Test Set	Agilent	E5515C	N101149	08/31/06

7. LIMITS AND RESULTS

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
The transmitter output is connected to the spectrum analyzer.

RESULTS

No non-compliance noted.

850 MHz GSM Modulation

Channel	Frequency (MHz)	ERP Peak Power (dBm)	ERP Peak Power (mW)
Low	824.2	21.60	144.54
Middle	836.5	21.40	138.04
High	848.8	23.80	239.88

1900 MHz GSM Modulation

Channel	Frequency (MHz)	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
Low	1850.2	25.00	316.23
Middle	1880.00	22.70	186.21
High	1909.8	21.70	147.91

NOTE: RBW=VBW=1MHz.

850 MHz EDGE Modulation

Channel	Frequency (MHz)	ERP Peak Power (dBm)	ERP Peak Power (mW)
Low	824.2	20.90	123.03
Middle	836.5	21.40	138.04
High	848.8	22.10	162.18

1900 MHz EDGE Modulation

Channel	Frequency (MHz)	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
Low	1850.2	24.80	302.00
Middle	1880.00	22.40	173.78
High	1909.8	21.40	138.04

NOTE: RBW=VBW=1MHz

850 MHz WCDMA Modulation

Channel	Frequency (MHz)	ERP Peak Power (dBm)	ERP Peak Power (mW)
Low	826.5	19.60	91.20
Middle	836.5	23.50	223.87
High	846.6	21.70	147.91

1900 MHz WCDMA Modulation

Channel	Frequency (MHz)	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
Low	1852.4	20.00	100.00
Middle	1880.00	20.60	114.82
High	1907.6	20.40	109.65

NOTE: RBW=VBW=8MHz

GSM Output Power (ERP)

03/06/06 **High Frequency Substitution Measurement**
Compliance Certification Services, Morgan Hill 5m Chamber Site

Test Engr: William Zhuang
Project #:06U10129
Company: Sierra Wireless
EUT Descrip.:850/900/1800/1900MHz Quadband Module
EUT M/N:MC8765-GSM/EDGE/WCDMA Modul,C2PC,Portable Config,Add T60 143 & 15 inch Notbooks,2 WLANs Module & BT
Test Target:FCC Part 22
Mode Oper: TX, GSM 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
824.20	99.1	V	22.1	0.5	0.0	21.6	38.5	-16.8	
824.20	100.1	H	21.8	0.5	0.0	21.3	38.5	-17.2	
836.50	98.0	V	22.0	0.6	0.0	21.4	38.5	-17.1	
836.50	98.1	H	19.9	0.6	0.0	19.3	38.5	-19.1	
848.80	99.9	V	24.5	0.7	0.0	23.8	38.5	-14.6	
848.80	99.2	H	21.1	0.7	0.0	20.4	38.5	-18.0	

NOTE: RBW=VBW=1MHz

EDGE Output Power (ERP)

03/06/06 **High Frequency Substitution Measurement**
Compliance Certification Services, Morgan Hill 5m Chamber Site

Test Engr: William Zhuang
Project #:06U10129
Company:Sierra Wireless
EUT Descrip.:850/900/1800/1900MHz Quadband Module
EUT M/N:MC8765-GSM/EDGE/WCDMA Modul,C2PC,Portable Config,Add T60 143 & 15 inch Notbooks,2 WLANs Module & BT
Test Target:FCC Part 22
Mode Oper: TX, EDGE 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
824.20	98.2	V	21.2	0.5	0.0	20.7	38.5	-17.7	
824.20	99.8	H	21.4	0.5	0.0	20.9	38.5	-17.5	
836.50	98.0	V	22.0	0.6	0.0	21.4	38.5	-17.0	
836.50	99.2	H	21.0	0.6	0.0	20.4	38.5	-18.1	
848.80	98.2	V	22.8	0.7	0.0	22.1	38.5	-16.4	
848.80	97.3	H	19.2	0.7	0.0	18.5	38.5	-20.0	

NOTE: RBW=VBW=1MHz

WCDMA Output Power (ERP)

03/09/06 **High Frequency Substitution Measurement**
Compliance Certification Services, Morgan Hill 5m Chamber Site

Test Engr: William Zhuang
Project #:06U10129
Company: Sierra Wireless
EUT Descrip.:850/900/1800/1900MHz Quadband Module
EUT M/N:MC8765-GSM/EDGE/WCDMA Modul,C2PC,Portable Config,Add T60 143 & 15 inch Notbooks,2 WLANs Module & BT
Test Target:FCC Part 22
Mode Oper: TX, WCDMA 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
826.45	96.5	V	19.6	0.5	0.0	19.1	38.5	-19.4	
826.45	98.5	H	20.1	0.5	0.0	19.6	38.5	-18.8	
836.50	97.9	V	21.9	0.6	0.0	21.3	38.5	-17.2	
836.50	102.3	H	24.1	0.6	0.0	23.5	38.5	-15.0	
846.60	97.8	V	22.4	0.7	0.0	21.7	38.5	-16.8	
846.60	99.7	H	21.6	0.7	0.0	20.9	38.5	-17.5	

NOTE: RBW=VBW=8MHz

GSM Output Power (EIRP)

03/07/06 **High Frequency Fundamental Measurement**
Compliance Certification Services, Morgan Hill 5m Chamber Site

Test Engr: William Zhuang
Project #: 06U10129
Company: Sierra Wireless
EUT Descrip.:850/900/1800/1900MHz Quadband Module
EUT M/N:MC8765-GSM/EDGE/WCDMA Modul,C2PC,Portable Config,Add T60 143 & 15 inch Notbooks,2 WLANs Module & BT
Test Target:FCC Part 24
Mode Oper:Tx, GSM 1900MHz Band

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
1.850	94.6	H	17.4	0.9	8.3	24.8	33.0	-8.2	
1.850	95.0	V	17.6	0.9	8.3	25.0	33.0	-8.0	
1.880	92.2	H	15.3	0.9	8.3	22.7	33.0	-10.3	
1.880	91.8	V	14.1	0.9	8.3	21.5	33.0	-11.5	
1.910	90.8	H	14.2	0.9	8.4	21.7	33.0	-11.3	
1.910	89.2	V	12.2	0.9	8.4	19.7	33.0	-13.3	

NOTE: RBW=VBW=1MHz

EDGE Output Power (EIRP)

03/07/06 **High Frequency Fundamental Measurement**
Compliance Certification Services, Morgan Hill 5m Chamber Site

Test Engr: William Zhuang
Project #: 06U10129
Company: Sierra Wireless
EUT Descrip.:850/900/1800/1900MHz Quadband Module
EUT M/N:MC8765-GSM/EDGE/WCDMA Modul,C2PC,Portable Config,Add T60 143 & 15 inch Notbooks,2 WLANs Module & BT
Test Target:FCC Part 24
Mode Oper:Tx, EDGE 1900MHz Band

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
1.850	94.6	H	17.4	0.9	8.3	24.8	33.0	-8.2	
1.850	94.7	V	17.3	0.9	8.3	24.7	33.0	-8.3	
1.880	91.8	H	14.9	0.9	8.3	22.4	33.0	-10.7	
1.880	91.4	V	13.7	0.9	8.3	21.2	33.0	-11.8	
1.910	90.5	H	13.9	0.9	8.4	21.4	33.0	-11.6	
1.910	88.7	V	11.7	0.9	8.4	19.2	33.0	-13.8	

NOTE: RBW=VBW=1MHz

WCDMA Output Power (EIRP)

03/09/06 **High Frequency Fundamental Measurement**
Compliance Certification Services, Morgan Hill 5m Chamber Site

Test Engr: William Zhuang
Project #: 06U10129
Company: Sierra Wireless
EUT Descrip.:850/900/1800/1900MHz Quadband Module
EUT M/N:MC8765-GSM/EDGE/WCDMA Modul,C2PC,Portable Config,Add T60 143 & 15 inch Notbooks,2 WLANs Module & BT
Test Target:FCC Part 24
Mode Oper:Tx, WCDMA 1900MHz Band

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
1.853	87.4	H	10.2	0.9	8.3	17.6	33.0	-15.4	
1.853	90.0	V	12.6	0.9	8.3	20.0	33.0	-13.0	
1.880	88.6	H	11.8	0.9	8.3	19.2	33.0	-13.8	
1.880	90.8	V	13.1	0.9	8.3	20.6	33.0	-12.4	
1.908	85.8	H	9.2	0.9	8.4	16.7	33.0	-16.3	
1.908	89.9	V	12.9	0.9	8.4	20.4	33.0	-12.6	

NOTE: RBW=VBW=8MHz

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 603 Clause 3.2.12, 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.

800MHz Band EDGE Spurious & Harmonic (ERP)

03/06/06 High Frequency Substitution Measurement
Compliance Certification Services, Morgan Hill 5m Chamber Site

Test Engr: William Zhuang
Project #: 06U10129
Company: Sierra Wireless
EUT Descrip.: 850/900/1800/1900MHz Quadband Module
EUT M/N: MC8765-GSM/EDGE/WCDMA Modul,C2PC,Portable Config,Add T60 143 & 15 inch Notbooks,2 WLANs Module & BT
Test Target: FCC Part 22
Mode Oper: Tx, EDGE 850MHz Band

Test Equipment:

EMCO Horn 1-18 GHz: T60; S/N: 2238 @3m
Horn > 18GHz:
Limit: FCC 22
High Pass Filter
Hi Frequency Cables: (2 ft) (2 ~ 3 ft) (4 ~ 6 ft) (12 ft)
Pre-amplifer 1-26GHz: T87 Miteq 924342
Pre-amplifer 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
EDGE 850MHz Low Ch. 128										
1.648	56.9	V	-62.0	1.6	7.5	5.4	-58.2	-13.0	-45.2	
2.473	66.3	V	-51.7	1.9	9.5	7.4	-46.2	-13.0	-33.2	
3.297	56.1	V	-58.5	2.3	9.6	7.5	-53.3	-13.0	-40.3	
4.121	50.3	V	-62.2	2.7	9.7	7.5	-57.3	-13.0	-44.3	
1.648	52.4	H	-65.7	1.6	7.5	5.4	-61.9	-13.0	-48.9	
2.473	61.0	H	-56.7	1.9	9.5	7.4	-51.3	-13.0	-38.3	
3.297	52.2	H	-62.3	2.3	9.6	7.5	-57.1	-13.0	-44.1	
4.121	49.2	H	-62.9	2.7	9.7	7.5	-58.0	-13.0	-45.0	
EDGE 850MHz Mid Ch. 192										
1.674	58.7	V	-60.1	1.6	7.6	5.4	-56.3	-13.0	-43.3	
2.511	66.3	V	-51.4	1.9	9.5	7.4	-46.0	-13.0	-33.0	
3.348	57.5	V	-57.0	2.3	9.6	7.5	-51.8	-13.0	-38.8	
4.185	49.2	V	-63.2	2.7	9.7	7.6	-58.3	-13.0	-45.3	
1.674	53.4	H	-64.7	1.6	7.6	5.4	-60.8	-13.0	-47.8	
2.511	58.9	H	-58.7	1.9	9.5	7.4	-53.2	-13.0	-40.2	
3.348	55.4	H	-58.9	2.3	9.6	7.5	-53.8	-13.0	-40.8	
4.185	49.3	H	-62.8	2.7	9.7	7.6	-57.9	-13.0	-44.9	
EDGE 850MHz High Ch. 251										
1.698	59.6	V	-59.1	1.6	7.6	5.5	-55.3	-13.0	-42.3	
2.546	64.3	V	-53.3	2.0	9.5	7.4	-47.8	-13.0	-34.8	
3.395	56.9	V	-57.4	2.3	9.6	7.5	-52.3	-13.0	-39.3	
4.244	52.0	V	-60.4	2.7	9.8	7.6	-55.5	-13.0	-42.5	
1.698	54.8	H	-63.2	1.6	7.6	5.5	-59.3	-13.0	-46.3	
2.546	59.4	H	-58.0	2.0	9.5	7.4	-52.6	-13.0	-39.6	
3.395	53.3	H	-60.9	2.3	9.6	7.5	-55.8	-13.0	-42.8	
4.244	50.0	H	-62.0	2.7	9.8	7.6	-57.1	-13.0	-44.1	

800MHz Band GSM Spurious & Harmonic (ERP)

03/06/06 High Frequency Substitution Measurement
Compliance Certification Services, Morgan Hill 5m Chamber Site

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Project #: 06U10129
Company: Sierra Wireless
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Test Target: FCC Part 22
Mode Oper: Tx, GSM 850MHz Band

Test Equipment:

EMCO Horn 1-18 GHz: T60; S/N: 2238 @3m
Horn > 18GHz:
Limit: FCC 22
High Pass Filter
Hi Frequency Cables: (2 ft) (2 ~ 3 ft) (4 ~ 6 ft) (12 ft)
Pre-amplifer 1-26GHz: T87 Miteq 924342
Pre-amplifer 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
GSM 850MHz Low Ch. 128										
1.648	60.4	V	-58.4	1.6	7.5	5.4	-54.6	-13.0	-41.6	
2.473	66.9	V	-51.0	1.9	9.5	7.4	-45.6	-13.0	-32.6	
3.297	57.7	V	-56.9	2.3	9.6	7.5	-51.7	-13.0	-38.7	
4.121	51.6	V	-60.8	2.7	9.7	7.5	-56.0	-13.0	-43.0	
1.648	56.5	H	-61.6	1.6	7.5	5.4	-57.8	-13.0	-44.8	
2.473	68.7	H	-49.0	1.9	9.5	7.4	-43.6	-13.0	-30.6	
3.297	55.0	H	-59.5	2.3	9.6	7.5	-54.3	-13.0	-41.3	
4.121	50.8	H	-61.3	2.7	9.7	7.5	-56.4	-13.0	-43.4	
GSM 850MHz Mid Ch. 192										
1.674	61.4	V	-57.4	1.6	7.6	5.4	-53.6	-13.0	-40.6	
2.511	66.1	V	-51.6	1.9	9.5	7.4	-46.2	-13.0	-33.2	
3.348	59.5	V	-55.0	2.3	9.6	7.5	-49.8	-13.0	-36.8	
4.185	49.8	V	-62.6	2.7	9.7	7.6	-57.8	-13.0	-44.8	
1.674	57.2	H	-60.8	1.6	7.6	5.4	-57.0	-13.0	-44.0	
2.511	67.3	H	-50.2	1.9	9.5	7.4	-44.8	-13.0	-31.8	
3.348	57.7	H	-56.7	2.3	9.6	7.5	-51.6	-13.0	-38.6	
4.185	49.1	H	-62.9	2.7	9.7	7.6	-58.1	-13.0	-45.1	
GSM 850MHz High Ch. 251										
1.698	61.8	V	-56.9	1.6	7.6	5.5	-53.0	-13.0	-40.0	
2.546	59.8	V	-57.8	2.0	9.5	7.4	-52.4	-13.0	-39.4	
3.395	58.6	V	-55.8	2.3	9.6	7.5	-50.6	-13.0	-37.6	
4.244	52.3	V	-60.0	2.7	9.8	7.6	-55.1	-13.0	-42.1	
1.698	58.7	H	-59.3	1.6	7.6	5.5	-55.4	-13.0	-42.4	
2.546	64.2	H	-53.2	2.0	9.5	7.4	-47.7	-13.0	-34.7	
3.395	54.6	H	-59.7	2.3	9.6	7.5	-54.6	-13.0	-41.6	
4.244	49.4	H	-62.7	2.7	9.8	7.6	-57.8	-13.0	-44.8	

800MHz Band WCDMA Spurious & Harmonic (ERP)

03/07/06 High Frequency Substitution Measurement
Compliance Certification Services, Morgan Hill 5m Chamber Site

Test Engr: William Zhuang
Project #: 06U10129
Company: Sierra Wireless
EUT Descrip.: 850/900/1800/1900MHz Quadband Module
EUT M/N: MC8765-GSM/EDGE/WCDMA Modul,C2PC,Portable Config,Add T60 143 & 15 inch Notbooks,2 WLANs Module & BT
Test Target: FCC Part 22
Mode Oper: Tx, WCDMA 850MHz Band

Test Equipment:

EMCO Horn 1-18 GHz: 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-amplifer 1-26GHz: T144 Miteq 3008A00
Pre-amplifer 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
WCDMA 850MHz Low Ch. 4132										
1.653	57.4	V	-48.1	1.6	4.1	1.9	-47.8	-13.0	-34.8	
2.478	62.1	V	-41.8	1.9	6.1	4.0	-39.7	-13.0	-26.7	
3.306	56.0	V	-47.2	2.3	7.5	5.4	-44.1	-13.0	-31.1	
1.653	58.3	H	-46.6	1.6	4.1	1.9	-46.3	-13.0	-33.3	
2.478	60.7	H	-43.0	1.9	6.1	4.0	-40.9	-13.0	-27.9	
3.306	54.8	H	-48.2	2.3	7.5	5.4	-45.2	-13.0	-32.2	
WCDMA 850MHz Mid Ch. 4182										
1.673	60.5	V	-45.0	1.6	4.1	1.9	-44.6	-13.0	-31.6	
2.510	60.6	V	-43.3	1.9	6.2	4.0	-41.2	-13.0	-28.2	
3.346	53.7	V	-49.4	2.3	7.6	5.4	-46.3	-13.0	-33.3	
1.673	59.8	H	-44.9	1.6	4.1	1.9	-44.6	-13.0	-31.6	
2.510	62.1	H	-41.5	1.9	6.2	4.0	-39.4	-13.0	-26.4	
3.346	53.4	H	-49.6	2.3	7.6	5.4	-46.5	-13.0	-33.5	
WCDMA 850MHz High Ch. 4223										
1.698	59.7	V	-45.6	1.6	4.1	2.0	-45.2	-13.0	-32.2	
2.546	61.2	V	-42.5	2.0	6.2	4.1	-40.4	-13.0	-27.4	
3.395	54.0	V	-49.1	2.3	7.7	5.5	-45.9	-13.0	-32.9	
1.698	59.7	H	-45.0	1.6	4.1	2.0	-44.6	-13.0	-31.6	
2.546	60.8	H	-42.8	2.0	6.2	4.1	-40.7	-13.0	-27.7	
3.395	53.6	H	-49.4	2.3	7.7	5.5	-46.2	-13.0	-33.2	

1900MHz Band EDGE Spurious & Harmonic (EIRP)

03/06/06 High Frequency Substitution Measurement
Compliance Certification Services, Morgan Hill 5m Chamber Site

Test Engr: William Zhuang
Project #: 06U10129
Company: Sierra Wireless
EUT Descrip.: 850/900/1800/1900MHz Quadband Module
EUT M/N: MC8765-GSM/EDGE/WCDMA Modul,C2PC,Portable Config,Add T60 143 & 15 inch Notbooks,2 WLANs Module & BT
Test Target: FCC Part 24
Mode Oper: Tx, EDGE 1900MHz Band

Test Equipment:

EMCO Horn 1-18 GHz: T60; S/N: 2238 @3m
Horn > 18GHz:
Limit: FCC 24
High Pass Filter
Hi Frequency Cables: (2 ft) (2 ~ 3 ft) (4 ~ 6 ft) (12 ft)
Pre-amplifer 1-26GHz: T87 Miteq 924342
Pre-amplifer 26-40GHz:

f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
EDGE 1900MHz Low Ch. 512										
3.700	67.1	V	-46.4	2.5	9.6	7.4	-39.3	-13.0	-26.3	
5.550	59.3	V	-51.1	3.3	10.8	8.6	-43.6	-13.0	-30.6	
7.400	50.2	V	-55.3	3.7	11.3	9.2	-47.7	-13.0	-34.7	
3.700	63.4	H	-50.0	2.5	9.6	7.4	-42.9	-13.0	-29.9	
5.550	55.0	H	-54.3	3.3	10.8	8.6	-46.8	-13.0	-33.8	
7.400	49.2	H	-55.4	3.7	11.3	9.2	-47.8	-13.0	-34.8	
EDGE 1900MHz Mid Ch. 661										
3.760	66.7	V	-46.7	2.5	9.6	7.4	-39.6	-13.0	-26.6	
5.640	55.5	V	-54.7	3.3	10.9	8.7	-47.2	-13.0	-34.2	
7.520	50.0	V	-55.2	3.7	11.4	9.2	-47.5	-13.0	-34.5	
3.760	63.6	H	-49.6	2.5	9.6	7.4	-42.6	-13.0	-29.6	
5.640	55.7	H	-53.6	3.3	10.9	8.7	-46.0	-13.0	-33.0	
7.520	50.0	H	-54.4	3.7	11.4	9.2	-46.7	-13.0	-33.7	
EDGE 1900MHz High Ch. 810										
3.820	61.1	V	-52.1	2.5	9.6	7.4	-45.0	-13.0	-32.0	
5.730	53.8	V	-56.4	3.4	11.0	8.8	-48.8	-13.0	-35.8	
7.640	50.7	V	-54.1	3.7	11.4	9.3	-46.5	-13.0	-33.5	
3.820	59.6	H	-53.5	2.5	9.6	7.4	-46.4	-13.0	-33.4	
5.730	54.5	H	-54.7	3.4	11.0	8.8	-47.1	-13.0	-34.1	
7.640	52.2	H	-51.9	3.7	11.4	9.3	-44.2	-13.0	-31.2	

1900MHz Band GSM Spurious & Harmonic (EIRP)

03/06/06 High Frequency Substitution Measurement
Compliance Certification Services, Morgan Hill 5m Chamber Site

Test Engr: William Zhuang
Project #: 06U10129
Company: Sierra Wireless
EUT Descrip.: 850/900/1800/1900MHz Quadband Module
EUT M/N: MC8765-GSM/EDGE/WCDMA Modul,C2PC,Portable Config,Add T60 143 & 15 inch Notbooks,2 WLANs Module & BT
Test Target: FCC Part 24
Mode Oper: Tx, GSM 1900MHz Band

Test Equipment:

EMCO Horn 1-18 GHz: T60; S/N: 2238 @3m
Horn > 18GHz:
Limit: FCC 24
High Pass Filter: ☑
Hi Frequency Cables: ☑ (2 ft) ☐ (2 ~ 3 ft) ☐ (4 ~ 6 ft) ☑ (12 ft)
Pre-amplifer 1-26GHz: T87 Miteq 924342
Pre-amplifer 26-40GHz:

f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
GSM 1900MHz Low Ch. 512										
3.700	68.0	V	-45.5	2.5	9.6	7.4	-38.4	-13.0	-25.4	
5.550	56.9	V	-53.5	3.3	10.8	8.6	-46.0	-13.0	-33.0	
7.400	50.4	V	-55.1	3.7	11.3	9.2	-47.4	-13.0	-34.4	
3.700	64.6	H	-48.8	2.5	9.6	7.4	-41.7	-13.0	-28.7	
5.550	56.4	H	-52.9	3.3	10.8	8.6	-45.4	-13.0	-32.4	
7.400	49.6	H	-55.1	3.7	11.3	9.2	-47.4	-13.0	-34.4	
GSM 1900MHz Mid Ch. 661										
3.760	67.6	V	-45.7	2.5	9.6	7.4	-38.6	-13.0	-25.6	
5.640	53.3	V	-57.0	3.3	10.9	8.7	-49.4	-13.0	-36.4	
7.520	51.0	V	-54.1	3.7	11.4	9.2	-46.5	-13.0	-33.5	
3.760	63.6	H	-49.6	2.5	9.6	7.4	-42.5	-13.0	-29.5	
5.640	53.3	H	-56.0	3.3	10.9	8.7	-48.4	-13.0	-35.4	
7.520	51.6	H	-52.8	3.7	11.4	9.2	-45.1	-13.0	-32.1	
GSM 1900MHz High Ch. 810										
3.820	65.5	V	-47.7	2.5	9.6	7.4	-40.6	-13.0	-27.6	
5.730	55.1	V	-55.1	3.4	11.0	8.8	-47.5	-13.0	-34.5	
7.640	50.9	V	-53.9	3.7	11.4	9.3	-46.3	-13.0	-33.3	
3.820	59.7	H	-53.4	2.5	9.6	7.4	-46.4	-13.0	-33.4	
5.730	55.6	H	-53.6	3.4	11.0	8.8	-46.0	-13.0	-33.0	
7.640	52.1	H	-51.9	3.7	11.4	9.3	-44.3	-13.0	-31.3	

1900MHz Band WCDMA Spurious & Harmonic (EIRP)

03/06/06 High Frequency Substitution Measurement
Compliance Certification Services, Morgan Hill 5m Chamber Site

Test Engr: William Zhuang
Project #: 06U10129
Company: Sierra Wireless
EUT Descrip.: 850/900/1800/1900MHz Quadband Module
EUT M/N: MC8765-GSM/EDGE/WCDMA Modul,C2PC,Portable Config,Add T60 143 & 15 inch Notbooks,2 WLANs Module & BT
Test Target: FCC Part 24
Mode Oper: Tx, WCDMA 1900MHz Band

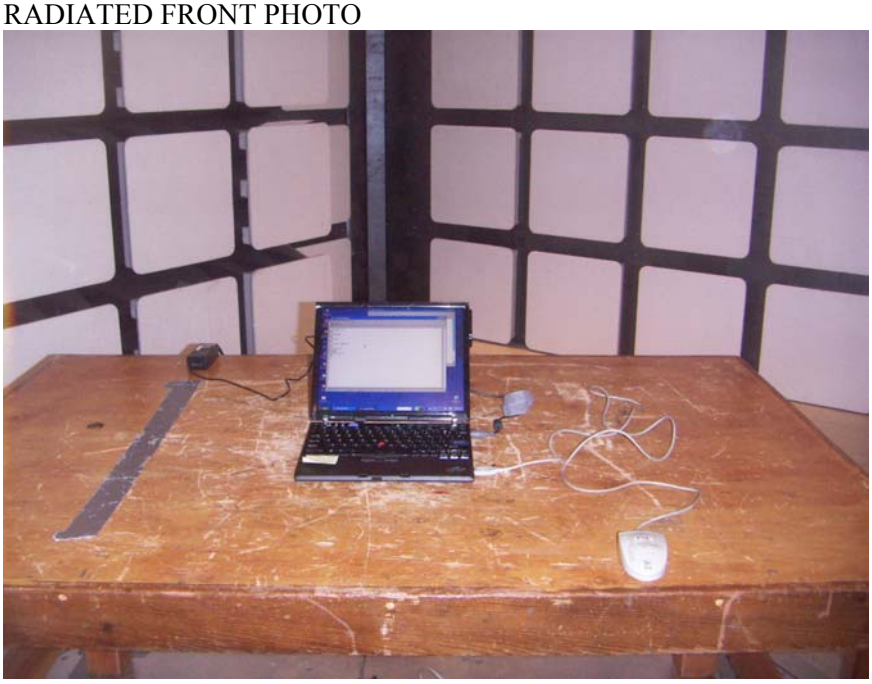
Test Equipment:

EMCO Horn 1-18 GHz: T119; S/N: 29301 @3m
Horn > 18GHz:
Limit: FCC 24
High Pass Filter
Hi Frequency Cables: (2 ft) (2 ~ 3 ft) (4 ~ 6 ft) (12 ft)
Pre-amplifer 1-26GHz: T144 Miteq 3008A00
Pre-amplifer 26-40GHz:

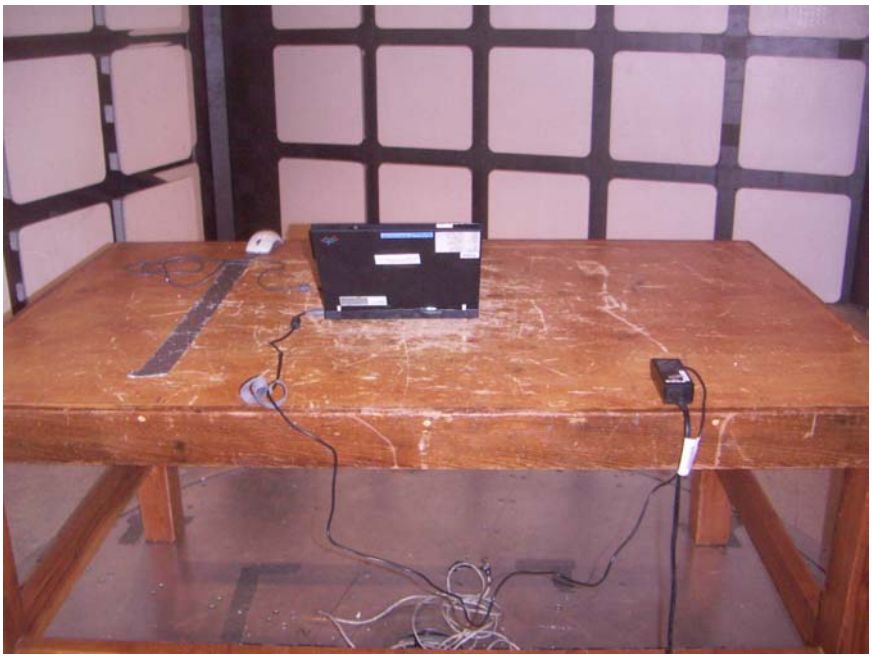
f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
WCDMA 1900MHz Low Ch. 9262										
3.700	60.2	V	-42.9	2.5	8.3	6.1	-37.1	-13.0	-24.1	
5.550	53.9	V	-47.0	3.3	10.7	8.5	-39.6	-13.0	-26.6	
7.400	52.5	V	-47.3	3.7	11.9	9.8	-39.1	-13.0	-26.1	
3.700	57.1	H	-45.8	2.5	8.3	6.1	-40.0	-13.0	-27.0	
5.550	56.3	H	-43.6	3.3	10.7	8.5	-36.2	-13.0	-23.2	
7.400	52.0	H	-46.9	3.7	11.9	9.8	-38.7	-13.0	-25.7	
WCDMA 1900MHz Mid Ch. 9400										
3.760	59.0	V	-44.0	2.5	8.4	6.2	-38.1	-13.0	-25.1	
5.640	54.1	V	-46.6	3.3	10.7	8.5	-39.2	-13.0	-26.2	
7.520	53.2	V	-46.6	3.7	12.0	9.9	-38.3	-13.0	-25.3	
3.760	56.6	H	-46.3	2.5	8.4	6.2	-40.4	-13.0	-27.4	
5.640	54.2	H	-45.5	3.3	10.7	8.5	-38.2	-13.0	-25.2	
7.520	53.1	H	-45.9	3.7	12.0	9.9	-37.5	-13.0	-24.5	
WCDMA 1900MHz High Ch. 9538										
3.820	68.0	V	-35.0	2.5	8.5	6.3	-29.0	-13.0	-16.0	
5.730	53.7	V	-46.9	3.4	10.7	8.5	-39.6	-13.0	-26.6	
7.640	52.6	V	-47.2	3.7	12.1	10.0	-38.8	-13.0	-25.8	
3.820	64.1	H	-38.8	2.5	8.5	6.3	-32.8	-13.0	-19.8	
5.730	54.6	H	-45.0	3.4	10.7	8.5	-37.7	-13.0	-24.7	
7.640	53.1	H	-45.9	3.7	12.1	10.0	-37.5	-13.0	-24.5	

8. SETUP PHOTOS

RADIATED FRONT PHOTO



RADIATED BACK PHOTO



END OF REPORT