

Nemko Test Report: 4L0008RUS2

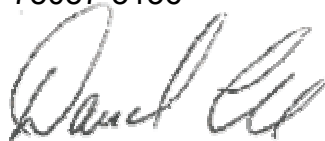
Applicant: Enfora Inc.

Equipment Under Test: Small Portfolio Quad Band Radio with GSM0108
(E.U.T.) Radio Module

In Accordance With: **FCC Part 24, Subpart E**
Broadband PCS Subscriber Station

Tested By: Nemko USA Inc.
802 N. Kealy
Lewisville, TX
75057-3136

Authorized By:



David Light, Production Manager

Date: 1/23/04

Table of Contents

Section 1.	Summary of Test Results	3
Section 2.	General Equipment Specification	5
Section 3.	Field Strength of Spurious	7
Section 4.	Test Equipment List.....	12
ANNEX A - TEST METHODOLOGIES.....		13
ANNEX B - TEST DIAGRAMS.....		15

Section 1. Summary of Test Results

Manufacturer: Enfora Inc

Model No.: GSM3208

Serial No.: None

General: **All measurements are traceable to national standards.**

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with FCC Part 24, Subpart E.



New Submission



Production Unit



Class II Permissive Change



Pre-Production Unit

THIS TEST REPORT RELATES ONLY TO THE ITEM(S) TESTED.

THE FOLLOWING DEVIATIONS FROM, ADDITIONS TO, OR EXCLUSIONS FROM THE TEST SPECIFICATIONS HAVE BEEN MADE.

See "Summary of Test Data". None

Nemko USA Inc. authorizes the above named company to reproduce this report provided it is reproduced in its entirety and for use by the company's employees only.

Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Nemko USA Inc. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

This report applies only to the items tested.

Summary Of Test Data

NAME OF TEST	PARA. NO.	RESULT
RF Power Output	24.232	N/A
Occupied Bandwidth (CDMA)	24.238	N/A
Occupied Bandwidth (GSM)	24.238	N/A
Occupied Bandwidth (NADC)	24.238	N/A
Spurious Emissions at Antenna Terminals	24.238(a)	N/A
Field Strength of Spurious Emissions	24.238(a)	Complies
Frequency Stability	24.235	N/A

Footnotes:

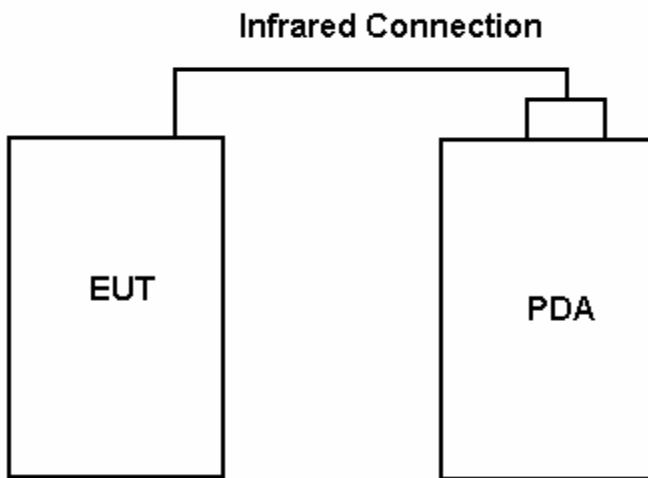
Section 2. General Equipment Specification

Supply Voltage Input:			
Frequency Bands:	1850 to 1910 MHz		
Type of Modulation and Designator:	CDMA (G7W) ☐	GSM (GXW) ☒	NADC (DXW) ☐
Necessary Bandwidth:	270 kHz		
Emission Designator:	270K0GXW		
Output Impedance:	50 ohms		

System Description

This is a wireless modem for a PDA that communicates via infrared connection.

System Diagram



Section 3. Field Strength of Spurious

NAME OF TEST: Field Strength of Spurious	PARA. NO.: 2.1053
TESTED BY: Art Ruvalcaba	DATE: 1/19/04

Test Results: Complies.

Test Data: See attached table.

EQUIPMENT: GSM3208

Test Data - Radiated Emissions



Nemko Dallas, Inc.

Dallas Headquarters:

802 N. Kealy
Lewisville, TX 75057
Tel: (972) 436-9600
Fax: (972) 436-2667

EIRP Substitution Method

Page 1 of 1

Job No.: 4L0008 Date: 1/19/04 Complete X
 Specification: Pt 24 Temperature(°C): 23 Preliminary _____
 Tested By: Art Ruvalcaba Relative Humidity(%) 41
 E.U.T.: GSM3208
 Configuration: Upright (Worst case)
 Sample No: 1
 Location: AC 3 RBW: 1 MHz Measurement
 Detector Type: Peak VBW: 1 MHz Distance: 3 m

Test Equipment Used

Antenna: 1306 Directional Coupler: _____
 Pre-Amp: Cable #1: 1484
 Filter: Cable #2: 1485
 Receiver: 1464 Cable #3: _____
 Attenuator #1: Cable #4: _____
 Attenuator #2: Mixer: _____
 Additional equipment used: _____
 Measurement Uncertainty: +/-3.6 dB

Frequency (MHz)	Meter Reading (dBm)	Correction Factor (dB)		Pre-Amp Gain (dB)	Substitution Antenna Gain (dBi)		EIRP (dBm)	EIRP (mW)	Polarity	Comments
3760.44	-70.8	35.5		0	10.7	-13	-24.6	0.0035	H	
5640.66	-45.2	37.8		33	11.4	-13	-28.9	0.0013	H	
7520.87	-48.7	41.5		32.5	11.3	-13	-28.4	0.0015	H	NF
9400.82	-46.2	42.3		34.6	11.7	-13	-26.7	0.0021	H	NF
11280.97	-45.8	47.0		34.6	12.5	-13	-20.9	0.0082	H	NF
13161.22	-54.5	47.8		35.3	11.9	-13	-30.1	0.0010	H	NF
15041.47	-60.8	47.7		32.8	12.8	-13	-33.2	0.0005	H	NF
16921.72	-61.5	49.3		33.3	14.5	-13	-31.0	0.0008	H	NF
3760.44	-68.7	43.3		0	10.7	-13	-14.6	0.0344	V	
5640.66	-44.2	39.8		33	11.4	-13	-25.9	0.0025	V	
7520.87	-50.7	41.8		32.5	11.3	-13	-30.0	0.0010	V	NF
9400.82	-49.8	41.3		34.6	11.7	-13	-31.4	0.0007	V	NF
11280.97	-45.2	43.7		34.6	12.5	-13	-23.6	0.0044	V	NF
13161.22	-53.7	45.8		35.3	11.9	-13	-31.2	0.0008	V	NF
15041.47	-62.3	45.2		32.8	12.8	-13	-37.2	0.0002	V	NF
16921.72	-58.8	46.0		33.3	14.5	-13	-31.6	0.0007	V	NF

Notes: Nothing was detected within 20 dB of the Spec limit following the 3rd harmonic.

EQUIPMENT: GSM3208

Photographs of Test Setup

On End Position (AS TESTED WORST CASE)



EQUIPMENT: GSM3208

On Edge Position



EQUIPMENT: GSM3208

Flat Position



Section 4. Test Equipment List

Asset #	Manufacturer	Model #	S/N	Cal Date	Cal Due
1464	Hewlett Packard Spectrum Analyzer	8563E	3551A04428	2/11/03	2/11/04
1016	Hewlett Packard Pre Amp	8449A	2749A00159	8/23/03	8/23/04
1033	EMCO Horn Antenna	3115	8812-3035	9/22/03	9/22/04
1482	K&L Filter	N/A	2	N/A	N/A
1481	K&L Filter	N/A	4	N/A	N/A

ANNEX A - TEST METHODOLOGIES

NAME OF TEST: Field Strength of Spurious Radiation	PARA. NO.: 2.1053
---	--------------------------

Minimum Standard: Para. No.24.238(a). On any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power by at least $43 + 10 \log (P)$ dB.

Test Method: TIA/EIA-603-1992, Section 2.2.12

The antenna substitution method was used to determine the equivalent radiated power at spurious frequencies. The spurious emissions were measured at a distance of 3 meters. The EUT was then replaced with a reference substitution antenna with a known gain referenced to a dipole. This antenna was fed with a signal at the spurious frequency. The level of the signal was adjusted to repeat the previously measured level. The resulting erp is the signal level fed to the reference antenna corrected for gain referenced to a dipole.

ANNEX B - TEST DIAGRAMS

EQUIPMENT: GSM3208

Para. No. 2.993 - Field Strength of Spurious Radiation

