

Document #	Title	Page
021017-01	SAIC Bell South Fleet Manager – MPE Assessment	1 of 4

**Science Applications International
Corporation
Bell South Fleet Manager**

**Maximum Permissible Exposure
(MPE) Evaluation
Per IEEE/ANSI C95.1-1991**

**Date of Test
02 October 2002**

Conducted For: Science Applications International Corporation
10260 Campus Point Drive
San Diego, CA 92121

Conducted By: Aegis Labs, Inc.
22431-B160 Antonio Parkway #417
Rancho Santa Margarita, CA 92688

AEGIS LABS, INC.

22431-B160 Antonio Parkway, #417, Rancho Santa Margarita, CA 92688

Document #	Title	Page
021017-01	SAIC Bell South Fleet Manager – MPE Assessment	2 of 4

CERTIFICATION OF TEST DATA

Aegis Labs, Inc. operates as both a Nevada and California Corporation with no organizational or financial relationship with any company, institution, or private individual.

Testing and engineering functions provided by Aegis Labs are furnished through the use of part-time, full-time or consulting engineers with the appropriate qualifications to carry out their duties. Limits for testing are described under the referenced standards.

The data, data evaluation and equipment configuration represented herein are a true and accurate representation of the Equipment Under Test (EUT). The entity and/or person(s) for which this report has been prepared acknowledge that such the report - in its entirety - is for verification of the EUT to the requirements of FCC OET 65 & ANSI C95.1-1991.

The test results provided within this report are based upon the following global standards:

REFERENCE STANDARD	COMMENT
FCC OET Bulletin 65, Supplements A,B,C	N/A
ANSI/IEEE C95.1-1991	Uncontrolled Environment
ANSI/IEEE C95.3-1991	N/A

~~Prepared By:~~

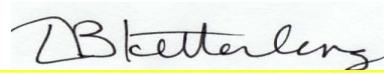


~~Rick Candelas~~
~~Staff Engineer~~
~~Aegis Labs, Inc.~~

~~Date:~~

~~10/02/02~~

~~Report Approved By:~~



~~T. Bruce Ketterling~~
~~Chief Operating Officer~~
~~Aegis Labs, Inc.~~

~~10/02/02~~

~~Date:~~

AEGIS LABS, INC.

22431-B160 Antonio Parkway, #417, Rancho Santa Margarita, CA 92688

Document #	Title	Page
021017-01	SAIC Bell South Fleet Manager – MPE Assessment	3 of 4

1.0 TEST REFERENCES:

Federal Communications Commission - *OET Bulletin 65 and Supplements A,B,C*
ANSI C95.1-1991 - *Safety Guideline for Human Exposure to RF Electromagnetic Fields*

2.0 EQUIPMENT SETUP REFERENCES:

Federal Communications Commission - *OET Bulletin 65 and Supplements A,B,C*
ANSI C95.3-1991 - *IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields – RF and Microwave*

2.1 Test Setup

The RIM ICU was placed on an 80cm dielectric stand. The unit was powered on and operational during testing. The GPS satellite signal was acquired and the test data stream was generated on a laptop in HyperTerminal (19.2k baud, 8 bits, no parity) and was routed out Com1 to the RIM ICU. For testing, the ICU sent a continuous data stream to the appropriate antenna for transmission. The equipment setup information is given in Table 1.

2.2 Test Detection System

The test data collection system was a Broadband Isotropic Radiation Monitor - Narda Model 8616 – which has capability to measure RF fields in the 300kHz - 40GHz frequency range. The test probe – Narda model 8623D – was attached to the radiation meter. Both units were in current calibration (calibration due 03 February 2003).

2.3 Test Data

The test data collection was accomplished at a distance of 40cm from the perimeter of the EUT. A vertical plane of 0-to-2m was probed at 0.5 meter vertical increments on the 360° periphery of the EUT as the data stream was being transmitted by the EUT antenna. The data reported below were the highest readings received in each quadrant of the EUT periphery at a distance of 40cm and at the elevation stated.

The data were collected, corrected for the isotropic probe factor and are presented as corrected data in Table 2 herein. The MPE limit cited in the table is the ANSI C95.1-1991, Table 2 "Maximum Permissible Exposure for Uncontrolled Environments".

Table 1. Test Information

EUT & Mode:	<i>Model</i>	RIM with TriMode Antenna
	<i>Power [Max Rated] Watts</i>	2
	<i>Frequency MHz</i>	RIM 896-902MHz
	<i>Operating Mode: Signals Acquired & Transmitting</i>	RIM with TriMode Antenna
Test Instruments:	<i>Radiation Meter</i>	Narda 8616 300kHz-40GHz
	<i>E-Field Probe</i>	Narda 8623D 300MHz-40GHz
ANSI C95.1 Limit: Uncontrolled Environment	<i>f/1500 mW/cm²</i>	0.6 @ 900MHz
	<i>f/1500 mW/cm²</i>	1.0707 @ 1600MHz
Measurement Distance:	<i>40cm</i>	

Document #	Title	Page
021017-01	SAIC Bell South Fleet Manager – MPE Assessment	4 of 4

Test Data

MPE Data: Front Of Units	Probe Elevation <i>M</i>	Probe Azimuth <i>000°</i>	Power Density <i>mW/cm²</i>
	RIM		Limit 0.60
	0.5	Front	0.05
	1.0	Front	0.05
	1.5	Front	0.05
	2.0	Front	0.05
MPE Data: Right Side of Units	Probe Elevation <i>M</i>	Probe Azimuth <i>090°</i>	Power Density <i>mW/cm²</i>
	RIM		Limit 0.60
	0.5	Right Side	0.1
	1.0	Right Side	0.1
	1.5	Right Side	0.15
	2.0	Right Side	0.15
MPE Data: Left Side of Units	Probe Elevation <i>M</i>	Probe Azimuth <i>270°</i>	Power Density <i>mW/cm²</i>
	RIM		Limit 0.60
	0.5	Left Side	0.10
	1.0	Left Side	0.10
	1.5	Left Side	0.10
	2.0	Left Side	0.10
MPE Data: Rear of Units	Probe Elevation <i>M</i>	Probe Azimuth <i>180°</i>	Power Density <i>mW/cm²</i>
	RIM		Limit 0.60
	0.5	Rear	0.05
	1.0	Rear	0.10
	1.5	Rear	0.10
	2.0	Rear	0.20

3.0 CONCLUSION:

The RIM unit was configured per ANSI C95.3-1991 & FCC OET 65. The unit was evaluated in a typical configuration (GPS satellite acquired and data transmitting) and exercised with a steady data transmissions stream. In this configuration, the RF Maximum Permissible Exposure (MPE) was measured in accordance with FCC OET 65 and ANSI C95.1-1991. The radiated electric field emissions were below the levels of MPE as stated in ANSI C95.1-1991, Table 2, for Uncontrolled Environments.

AEGIS LABS, INC.

22431-B160 Antonio Parkway, #417, Rancho Santa Margarita, CA 92688