

Test Report S/N:	073004-548bKBC
Test Type:	MPE Evaluation

# DECLARATION OF COMPLIANCE MPE EVALUATION REPORT

**Test Lab** 

**CELLTECH LABS INC.**Testing and Engineering Lab

1955 Moss Court Kelowna, B.C. Canada V1Y 9L3

Phone: 250-448-7047
Fax: 250-448-7046
e-mail: info@celltechlabs.com
web site: www.celltechlabs.com

**Applicant Information** 

ITRONIX CORPORATION

801 South Stevens Street Spokane, WA 99204

**United States** 

FCC Rule Part(s): 47 CFR §24(E), §2.1091; §1.1310

IC Rule Part(s): RSS-133 Issue 2, RSS-102 Issue 1 (Provisional)

FCC Classification: PCS Licensed Transmitter (PCB)

IC Classification: 2GHz Personal Communication Services

Device Type: Rugged Handheld PC w/ AirCard 750 PCS GPRS PCMCIA Modem with Itronix Vehicle Cradle and MaxRad Vehicle-Mount Antenna

FCC IDENTIFIER: KBCIX100XAC750
IC IDENTIFIER: 1943A-IX100Xa
Model(s): IX100XAC750

Modulation: GMSK

Tx Frequency Range: 1850.2 - 1909.8 MHz

RF Conducted Output Power: 28.7 dBm Peak (1850.2 MHz) 28.6 dBm Peak (1880.0 MHz)

28.6 dBm Peak (1909.8 MHz)

Max. No. of Time Slots Evaluated: 4 (Class 12)

Max. Source-Based Time-Av. Duty Cycle: 50 %

Source-Based Time-Av. Conducted Pwr: 25.7 dBm Peak (1850.2 MHz) 25.6 dBm Peak (1880.0 MHz)

25.6 dBm Peak (1880.0 MHz) 25.6 dBm Peak (1909.8 MHz)

Antenna Type(s) Evaluated: MaxRad 3 dBi Gain Vehicle-Mount (P/N: WMLPVDB800/1900)

This device is compliant with localized Maximum Permissible Exposure (MPE) for the Uncontrolled Exposure / General Population limits specified in FCC 47 CFR §1.1310 and Industry Canada RSS-102 Issue 1 (Provisional), in accordance with the requirements of FCC OET Bulletin 65, Edition 97-01, Health Canada's Safety Code 6, ANSI / IEEE C95.1-1992, and ANSI / IEEE C95.3-1992.

I attest to the accuracy of data. All measurements and/or calculations were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

This evaluation report shall not be reproduced partially, or in full, without the prior written approval of Celltech Labs Inc. The results and statements contained in this report pertain only to the device(s) evaluated.

Duane Friesen EMC Manager Celltech Labs Inc.



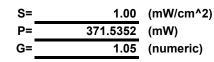
Test Report S/N:	073004-548bKBC
Test Type:	MPE Evaluation

# 1.1 MPE Calculation Data

#### 1. MaxRad 3 dBi Gain Vehicle-Mount Antenna (P/N: WMLPVDB800/1900)

#### **PCS GPRS**

Tx Frequency: 1850.2 (MHz)
Source-Based Time-Averaged Power at Antenna Input Terminal: 25.7 (dBm)
3 dBi Antenna Gain minus 2.80 dB cable loss for 17 ft cable: 0.20 (dBi)



R = 5.56	(cm)
----------	------

S (mw/cm^2) at 20cm

0.077314218



MaxRad 3 dBi Gain Vehicle-Mount Antenna P/N: WMLPVDB800/1900

### 2.1 Calculation to determine MPE

$$S = PG$$
 **S=** power density

P= power input to the antenna

 $4\pi K^2$  G= power gain of the antenna in the direction of interest relative to an isotropic radiator

R= distance to the center of radiation of the antenna



Ī	Test Report S/N:	073004-548bKBC
	Test Type:	MPE Evaluation

# 3.1 MPE Limits

According to FCC 47 CFR 1.1310: The criteria listed in the following table shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b).

#### LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency	Electric Field	Magnetic Field	Power Density	Average Time		
Range	Strength (V/m)	Strength (A/m)	(mW/cm <sup>2</sup> )	(minutes)		
(MHz)						
(A)Limits For Occupational / Control Exposures						
30-300	61.4	0.163	1.0	6		
300-1500			F/300	6		
1500-100,000			5	6		
(B)Limits For General Population / Uncontrolled Exposure						
30-300	27.5	0.073	0.2	30		
300-1500			F/1500	30		
1500-100,000	•••	•••	1.0	30		

F = Frequency in MHz

# 4.1 Summary

The Maximum Permissible Exposure (MPE) limit (General Population / Uncontrolled Exposure environment) for the frequency range in the PCS band (1850-1910 MHz) is 1.0 mW/cm^2. The data in this report demonstrates that the Itronix Corporation Model: IX100XAC750 Rugged Handheld PC FCC ID: KBCIX100XAC750 with internal Sierra Wireless AirCard 750 PCS GPRS Modem, Vehicle Cradle (Itronix P/N: 50-0107-001), and 3 dBi Gain Vehicle-Mount Antenna (MaxRad P/N: WMLPVDB800/1900), complies with the Maximum Permissible Exposure (MPE) requirements specified in FCC §2.1091, §1.1310, OET Bulletin 65 (Edition 97-01), and Health Canada's Safety Code 6 for the General Population / Uncontrolled Exposure environment.

#### Notes:

1. The 17 ft antenna cable is supplied with and connected to the vehicle antenna at time of purchase.