DECLARATION OF COMPLIANCE
MPE EVALUATION REPORT

Test Lab

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Applicant Information

ITRONIX CORPORATION
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FCC IDENTIFIER:	**KBCIX100XA555WLBT**
IC IDENTIFIER:	**1943A-IX100Xb**
Model(s):	**IX100XA555WLBT**

FCC Rule Part(s):	**47 CFR §24(E), §22(H); §2.1091; §1.1310**
IC Rule Part(s):	**RSS-133 Issue 2, RSS-132 Issue 1 (Provisional)**
FCC Classification:	**PCS Licensed Transmitter worn on body (PCT)**
IC Classification:	**2 GHz Personal Communication Services (RSS-133)** **800 MHz Cellular Telephones Employing New Technologies (RSS-132)**
Device Type:	**Rugged Handheld PC with Sierra Wireless AirCard 555/550 CDMA Modem (co-located with USI WM-BB-AG-01 802.11b / Bluetooth Combo Transmitter) w/ Itronix IX100X Vehicle Cradle & MaxRad 3 dBi Gain Vehicle-Mount Antenna**
Tx Frequency Range(s):	**1851.25 - 1908.75 MHz (PCS CDMA)** **824.70 - 848.31 MHz (Cellular CDMA)**
Max. RF Output Power Evaluated:	**23.0 dBm Conducted (PCS CDMA)** **23.0 dBm Conducted (Cellular CDMA)**
Antenna Type(s) Evaluated:	**MaxRad 3 dBi Gain Vehicle-Mount (P/N: WMLPVDB800/1900)**

This device was determined to be compliant with localized Maximum Permissible Exposure (MPE) for 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.

Duane Friesen
EMC Manager
Celltech Labs Inc

1.1 MPE Calculation Data

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

PCS CDMA

Tx Frequency:	1880.0	(MHz)
Max. RF Output Power at Antenna Input Terminal:	23.0	(dBm)
3 dBi Antenna Gain minus 2.80 dB cable loss for 17 ft cable:	0.20	(dBi)

S=	1.00	(mW/cm^2)
P=	199.5262	(mW)
G=	1.05	(numeric)

R = 4.08 (cm)

S (mw/cm^2) at 20cm

0.041520193

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

Cellular CDMA

Tx Frequency:	835.9	(MHz)
Max. RF Output Power at Antenna Input Terminal:	23.0	(dBm)
3 dBi Antenna Gain minus 1.89 dB cable loss for 17 ft cable:	1.11	(dBi)

S=	0.56	(mW/cm^2)
P=	199.5262	(mW)
G=	1.29	(numeric)

R = 6.07 (cm)

S (mw/cm^2) at 20cm

0.051198751

2.1 Calculation to determine MPE

$$S = \frac{PG}{4\pi R^2}$$

$$R = \sqrt{\frac{PG}{4\pi S}}$$

S= power density
P= power input to the antenna
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

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 Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Average Time (minutes)
(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 CDMA band (1850-1910 MHz) is 1.0 $mW/cm^{\wedge 2}$; and the limit for the frequency range in the cellular CDMA band (824-849 MHz) is 0.6 $mW/cm^{\wedge 2}$ (F/1500). The data in this report demonstrates that the Itronix Corporation Model: IX100XA555WLBT Rugged Handheld PC FCC ID: KBCIX100XA555WLBT, with the internal Sierra Wireless AirCard 555/550 Dual-Band CDMA Modem (co-located with USI WM-BB-AG-01 802.11b / Bluetooth Combo Transmitter and internal antennas), Itronix IX100X Vehicle Cradle, and MaxRad 3 dBi Gain Vehicle-Mount Antenna, 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.**
2. **The internal 802.11b and Bluetooth transmitters do not utilize the vehicle-mount antenna operation.**