

|                                                                                                                           |                           |                              |                                  |                 |
|---------------------------------------------------------------------------------------------------------------------------|---------------------------|------------------------------|----------------------------------|-----------------|
| <br>Testing and Engineering Services Lab | Test Report Serial No.:   | 061506KBC-T756-E24G          | Report Issue Date:               | August 22, 2006 |
|                                                                                                                           | Date(s) of Evaluation:    | June 21 - July 27, 2006      | Report Revision No.:             | Revision 1.0    |
|                                                                                                                           | Test Standard(s):         | FCC 47 CFR §2, §22H, §24E    | Industry Canada RSS-132, RSS-133 |                 |
|                                                                                                                           | Test Lab Registration(s): | FCC Lab Registration #714830 | Industry Canada Lab File #3874   |                 |

## Appendix D - Maximum Permissible Exposure Calculation

### D.1 REFERENCES

|                              |                                          |
|------------------------------|------------------------------------------|
| Normative Reference Standard | FCC CFR 47§1.1310<br>IEEE Std C95.1-1999 |
| Procedure Reference          | FCC CFR 47§2.1091                        |

### D.2 LIMITS

| FCC CFR 47§1.1310 Table 1(b) | Frequency          | Power Density             |
|------------------------------|--------------------|---------------------------|
|                              | 300 - 1500 MHz     | f/1500 mW/cm <sup>2</sup> |
|                              | 1500 - 100,000 MHz | 1.0 mW/cm <sup>2</sup>    |

### D.3 ENVIRONMENTAL CONDITIONS

|                     |    |
|---------------------|----|
| Temperature         | na |
| Humidity            | na |
| Barometric Pressure | na |

### D.4 MEASUREMENT EQUIPMENT SETUP

|                                   |                                                                                                                                                                                                                           |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MEASUREMENT EQUIPMENT CONNECTIONS | The results described herein were determined by calculations, so no measurement equipment was used. The power measurements for each radio used in these calculations were made as described in Appendix A of this report. |
| MEASUREMENT EQUIPMENT SETTINGS    | n/a                                                                                                                                                                                                                       |

### D.5 DUT OPERATING DESCRIPTION

|                |                                                                                                                                                         |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dual-Band GPRS | The maximum GPRS RF conducted output power in each band used for these calculations was measured on Channel 251 for Cellular and Channel 661 for PCS.   |
| Dual-Band EDGE | The maximum EDGE RF conducted output power in each band used for these calculations was measured on Channel 190 for Cellular and Channel 661 for PCS.   |
| Dual-Band UMTS | The maximum UMTS RF conducted output power in each band used for these calculations was measured on Channel 4233 for Cellular and Channel 9400 for PCS. |

|                                                                                                                           |                           |                              |                                  |                 |
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|                                                                                                                           | Date(s) of Evaluation:    | June 21 - July 27, 2006      | Report Revision No.:             | Revision 1.0    |
|                                                                                                                           | Test Standard(s):         | FCC 47 CFR §2, §22H, §24E    | Industry Canada RSS-132, RSS-133 |                 |
|                                                                                                                           | Test Lab Registration(s): | FCC Lab Registration #714830 | Industry Canada Lab File #3874   |                 |

## D.6 TEST RESULTS

### D.6.1 Calculations:

#### Swivel Dipole Antenna (Max. Measured Conducted Power - Cellular GPRS Mode)

Prediction of MPE Limit  
OET Bulletin 65, Edition 97-01

Equation from page 18

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

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

**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  
**SL**= power density limit

Ratio of Time On versus Total Transmit Time

0.25

Choose

ENTER

Occupational/Controlled ☐  
General Population/Uncontrolled ☒

Tx Frequency:

848.80 (MHz)

Maximum Peak Power at Antenna Input Terminal:

32.28 (dBm)

Source-Based Time-Average Factor:

-6.02 (dB)

Antenna gain:

2.60 (dBi)

SL= 0.57 (mW/cm<sup>2</sup>)

P= 422.6102 (mW)

G= 1.82 (numeric)

R = 10.40 (cm)

S (mw/cm<sup>2</sup>)  
at 20cm

0.15282675

#### Formulae:

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

where: S = Power Density Limit  
P = Power Output of the Device  
G = Numeric Antenna Gain  
R = Distance from Antenna

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

Source-Based Time-Average Factor = 10 \* log (Time On / (Time On + Time Off))

Power Output of the Device (W) = 10 \* log (RF Output Power (dBm) + Source-Based Time Average Factor (dB))

|                         |                                                                                |                                                                                                                      |                   |           |                |                                                                                                                     |
|-------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------|-----------|----------------|---------------------------------------------------------------------------------------------------------------------|
| Company:                | Itronix Corporation                                                            | FCC ID:                                                                                                              | KBCIX260PLUSAC860 | Model(s): | IX260PLUSAC860 | <br>A GENERAL DYNAMICS COMPANY |
| DUT Type:               | Laptop PC with Sierra Wireless AC860 Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem |                                                                                                                      |                   |           |                |                                                                                                                     |
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| <br>Testing and Engineering Services Lab | Test Report Serial No.:   | 061506KBC-T756-E24G          | Report Issue Date:               | August 22, 2006 |
|                                                                                                                           | Date(s) of Evaluation:    | June 21 - July 27, 2006      | Report Revision No.:             | Revision 1.0    |
|                                                                                                                           | Test Standard(s):         | FCC 47 CFR §2, §22H, §24E    | Industry Canada RSS-132, RSS-133 |                 |
|                                                                                                                           | Test Lab Registration(s): | FCC Lab Registration #714830 | Industry Canada Lab File #3874   |                 |

#### D.6.2 Calculations:

##### Swivel Dipole Antenna (Max. Measured Conducted Power - PCS GPRS Mode)

#### Prediction of MPE Limit OET Bulletin 65, Edition 97-01

##### Equation from page 18

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

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

**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  
**SL**= power density limit

Ratio of Time On versus Total Transmit Time

0.25

Choose

ENTER

Occupational/Controlled ☐  
General Population/Uncontrolled ☒

Tx Frequency: 1880.00 (MHz)  
Maximum Peak Power at Antenna Input Terminal: 28.63 (dBm)  
Source-Based Time-Average Factor: -6.02 (dB)  
Antenna gain: 2.60 (dBi)

**SL**= 1.00 (mW/cm<sup>2</sup>)  
**P**= 182.3644 (mW)  
**G**= 1.82 (numeric)

**R = 5.14 (cm)**

**S (mw/cm<sup>2</sup>)  
at 20cm**

0.065947658

#### Formulae:

$S = \frac{PG}{4\pi R^2}$  where: S = Power Density Limit  
P = Power Output of the Device  
G = Numeric Antenna Gain  
R = Distance from Antenna  
 $R = \sqrt{\frac{PG}{4\pi S}}$

Source-Based Time-Average Factor = 10 \* log (Time On / (Time On + Time Off))

Power Output of the Device (W) = 10 \* log (RF Output Power (dBm) + Source-Based Time Average Factor (dB))

|                         |                                                                                |                                                                                                                      |                   |           |                |                                                                                                                     |
|-------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------|-----------|----------------|---------------------------------------------------------------------------------------------------------------------|
| Company:                | Itronix Corporation                                                            | FCC ID:                                                                                                              | KBCIX260PLUSAC860 | Model(s): | IX260PLUSAC860 | <br>A GENERAL DYNAMICS COMPANY |
| DUT Type:               | Laptop PC with Sierra Wireless AC860 Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem |                                                                                                                      |                   |           |                |                                                                                                                     |
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|                                                                                                                           | Date(s) of Evaluation:    | June 21 - July 27, 2006      | Report Revision No.:             | Revision 1.0    |
|                                                                                                                           | Test Standard(s):         | FCC 47 CFR §2, §22H, §24E    | Industry Canada RSS-132, RSS-133 |                 |
|                                                                                                                           | Test Lab Registration(s): | FCC Lab Registration #714830 | Industry Canada Lab File #3874   |                 |

#### D.6.3 Calculations:

##### Swivel Dipole Antenna (Max. Measured Conducted Power - Cellular EDGE Mode)

##### Prediction of MPE Limit OET Bulletin 65, Edition 97-01

##### Equation from page 18

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

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

**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  
**SL**= power density limit

Ratio of Time On versus Total Transmit Time

0.25

Choose

ENTER

Occupational/Controlled ☐  
General Population/Uncontrolled ☒

Tx Frequency: 836.60 (MHz)

Maximum Peak Power at Antenna Input Terminal: 26.89 (dBm)

Source-Based Time-Average Factor: -6.02 (dB)

Antenna gain: 2.60 (dBi)

SL= 0.56 (mW/cm<sup>2</sup>)

P= 122.1631 (mW)

G= 1.82 (numeric)

R = 5.63 (cm)

S (mw/cm<sup>2</sup>)  
at 20cm

0.044177321

#### Formulae:

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

where: S = Power Density Limit  
P = Power Output of the Device  
G = Numeric Antenna Gain  
R = Distance from Antenna

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

Source-Based Time-Average Factor = 10 \* log (Time On / (Time On + Time Off))

Power Output of the Device (W) = 10 \* log (RF Output Power (dBm) + Source-Based Time Average Factor (dB))

|                         |                                                                                |                                                                                                                      |                   |           |                |                                                                                                                     |
|-------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------|-----------|----------------|---------------------------------------------------------------------------------------------------------------------|
| Company:                | Itronix Corporation                                                            | FCC ID:                                                                                                              | KBCIX260PLUSAC860 | Model(s): | IX260PLUSAC860 | <br>A GENERAL DYNAMICS COMPANY |
| DUT Type:               | Laptop PC with Sierra Wireless AC860 Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem |                                                                                                                      |                   |           |                |                                                                                                                     |
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| <br>Testing and Engineering Services Lab | Test Report Serial No.:   | 061506KBC-T756-E24G          | Report Issue Date:               | August 22, 2006 |
|                                                                                                                           | Date(s) of Evaluation:    | June 21 - July 27, 2006      | Report Revision No.:             | Revision 1.0    |
|                                                                                                                           | Test Standard(s):         | FCC 47 CFR §2, §22H, §24E    | Industry Canada RSS-132, RSS-133 |                 |
|                                                                                                                           | Test Lab Registration(s): | FCC Lab Registration #714830 | Industry Canada Lab File #3874   |                 |

#### D.6.4 Calculations:

##### Swivel Dipole Antenna (Max. Measured Conducted Power - PCS EDGE Mode)

#### Prediction of MPE Limit OET Bulletin 65, Edition 97-01

##### Equation from page 18

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

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

**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  
**SL**= power density limit

Ratio of Time On versus Total Transmit Time

0.25

Choose

ENTER

Occupational/Controlled ☐  
General Population/Uncontrolled ☒

Tx Frequency: 1880.00 (MHz)

Maximum Peak Power at Antenna Input Terminal: 25.73 (dBm)

Source-Based Time-Average Factor: -6.02 (dB)

Antenna gain: 2.60 (dBi)

SL= 1.00 (mW/cm<sup>2</sup>)

P= 93.5276 (mW)

G= 1.82 (numeric)

R = 3.68 (cm)

S (mw/cm<sup>2</sup>)  
at 20cm

0.033822007

#### Formulae:

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

where: S = Power Density Limit  
P = Power Output of the Device  
G = Numeric Antenna Gain  
R = Distance from Antenna

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

Source-Based Time-Average Factor = 10 \* log (Time On / (Time On + Time Off))

Power Output of the Device (W) = 10 \* log (RF Output Power (dBm) + Source-Based Time Average Factor (dB))

|                         |                                                                                |                                                                                                                      |                   |           |                |                                                                                                                     |
|-------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------|-----------|----------------|---------------------------------------------------------------------------------------------------------------------|
| Company:                | Itronix Corporation                                                            | FCC ID:                                                                                                              | KBCIX260PLUSAC860 | Model(s): | IX260PLUSAC860 | <br>A GENERAL DYNAMICS COMPANY |
| DUT Type:               | Laptop PC with Sierra Wireless AC860 Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem |                                                                                                                      |                   |           |                |                                                                                                                     |
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|                                                                                                                           | Date(s) of Evaluation:    | June 21 - July 27, 2006      | Report Revision No.:             | Revision 1.0    |
|                                                                                                                           | Test Standard(s):         | FCC 47 CFR §2, §22H, §24E    | Industry Canada RSS-132, RSS-133 |                 |
|                                                                                                                           | Test Lab Registration(s): | FCC Lab Registration #714830 | Industry Canada Lab File #3874   |                 |

#### D.6.5 Calculations:

##### Swivel Dipole Antenna (Max. Measured Conducted Power - Cellular UMTS Mode)

#### Prediction of MPE Limit OET Bulletin 65, Edition 97-01

##### Equation from page 18

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

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

**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  
**SL**= power density limit

Ratio of Time On versus Total Transmit Time

1.00

Choose

ENTER

Occupational/Controlled ☐  
General Population/Uncontrolled ☒

Tx Frequency: 846.60 (MHz)

Maximum Peak Power at Antenna Input Terminal: 24.00 (dBm)

Source-Based Time-Average Factor: 0.00 (dB)

Antenna gain: 2.60 (dBi)

SL= 0.56 (mW/cm<sup>2</sup>)

P= 251.1886 (mW)

G= 1.82 (numeric)

R = 8.03 (cm)

S (mw/cm<sup>2</sup>)  
at 20cm

0.090836286

#### Formulae:

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

where: S = Power Density Limit  
P = Power Output of the Device  
G = Numeric Antenna Gain  
R = Distance from Antenna

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

Source-Based Time-Average Factor = 10 \* log (Time On / (Time On + Time Off))

Power Output of the Device (W) = 10 \* log (RF Output Power (dBm) + Source-Based Time Average Factor (dB))

|                         |                                                                                |                                                                                                                      |                   |           |                |                                                                                                                     |
|-------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------|-----------|----------------|---------------------------------------------------------------------------------------------------------------------|
| Company:                | Itronix Corporation                                                            | FCC ID:                                                                                                              | KBCIX260PLUSAC860 | Model(s): | IX260PLUSAC860 | <br>A GENERAL DYNAMICS COMPANY |
| DUT Type:               | Laptop PC with Sierra Wireless AC860 Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem |                                                                                                                      |                   |           |                |                                                                                                                     |
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|                                                                                                                           | Date(s) of Evaluation:    | June 21 - July 27, 2006      | Report Revision No.:             | Revision 1.0    |
|                                                                                                                           | Test Standard(s):         | FCC 47 CFR §2, §22H, §24E    | Industry Canada RSS-132, RSS-133 |                 |
|                                                                                                                           | Test Lab Registration(s): | FCC Lab Registration #714830 | Industry Canada Lab File #3874   |                 |

#### D.6.6 Calculations:

##### Swivel Dipole Antenna (Max. Measured Conducted Power - PCS UMTS Mode)

#### Prediction of MPE Limit OET Bulletin 65, Edition 97-01

##### Equation from page 18

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

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

**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  
**SL**= power density limit

Ratio of Time On versus Total Transmit Time

1.00

Choose



ENTER



Occupational/Controlled ☐  
General Population/Uncontrolled ☒

Tx Frequency: 1880.00 (MHz)

Maximum Peak Power at Antenna Input Terminal: 23.00 (dBm)

Source-Based Time-Average Factor: 0.00 (dB)

Antenna gain: 2.60 (dBi)

SL= 1.00 (mW/cm<sup>2</sup>)

P= 199.5262 (mW)

G= 1.82 (numeric)

R = 5.38 (cm)

S (mw/cm<sup>2</sup>)  
at 20cm

0.072153826

#### Formulae:

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

where: S = Power Density Limit  
P = Power Output of the Device  
G = Numeric Antenna Gain  
R = Distance from Antenna

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

Source-Based Time-Average Factor = 10 \* log (Time On / (Time On + Time Off))

Power Output of the Device (W) = 10 \* log (RF Output Power (dBm) + Source-Based Time Average Factor (dB))

|                         |                                                                                |                                                                                                                      |                   |           |                |                                                                                                                     |
|-------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------|-----------|----------------|---------------------------------------------------------------------------------------------------------------------|
| Company:                | Itronix Corporation                                                            | FCC ID:                                                                                                              | KBCIX260PLUSAC860 | Model(s): | IX260PLUSAC860 | <br>A GENERAL DYNAMICS COMPANY |
| DUT Type:               | Laptop PC with Sierra Wireless AC860 Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem |                                                                                                                      |                   |           |                |                                                                                                                     |
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|                                                                                                                           | Date(s) of Evaluation:    | June 21 - July 27, 2006      | Report Revision No.:             | Revision 1.0    |
|                                                                                                                           | Test Standard(s):         | FCC 47 CFR §2, §22H, §24E    | Industry Canada RSS-132, RSS-133 |                 |
|                                                                                                                           | Test Lab Registration(s): | FCC Lab Registration #714830 | Industry Canada Lab File #3874   |                 |

#### D.6.7 Calculations:

##### Vehicle-Mount Antenna (Max. Measured Conducted Power - Cellular GPRS Mode)

Prediction of MPE Limit  
OET Bulletin 65, Edition 97-01

Equation from page 18

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

**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  
**SL**= power density limit

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

Ratio of Time On versus Total Transmit Time

0.25

Choose

ENTER

Occupational/Controlled ☐  
General Population/Uncontrolled ☒

Tx Frequency:

848.80 (MHz)

Maximum Peak Power at Antenna Input Terminal:

32.28 (dBm)

Source-Based Time-Average Factor:

-6.02 (dB)

Antenna gain and Cable Loss:

1.11 (dBi)

SL= 0.57 (mW/cm<sup>2</sup>)

P= 422.6102 (mW)

G= 1.29 (numeric)

R = 8.76 (cm)

S (mw/cm<sup>2</sup>)  
at 20cm

0.108442464

#### Formulae:

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

where: S = Power Density Limit  
P = Power Output of the Device  
G = Numeric Antenna Gain  
R = Distance from Antenna

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

Source-Based Time-Average Factor = 10 \* log (Time On / (Time On + Time Off))

Power Output of the Device (W) = 10 \* log (RF Output Power (dBm) + Source-Based Time Average Factor (dB))

|                         |                                                                                |                                                                                                                      |                   |           |                |                                                                                                                     |
|-------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------|-----------|----------------|---------------------------------------------------------------------------------------------------------------------|
| Company:                | Itronix Corporation                                                            | FCC ID:                                                                                                              | KBCIX260PLUSAC860 | Model(s): | IX260PLUSAC860 | <br>A GENERAL DYNAMICS COMPANY |
| DUT Type:               | Laptop PC with Sierra Wireless AC860 Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem |                                                                                                                      |                   |           |                |                                                                                                                     |
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|                                                                                                                           | Date(s) of Evaluation:    | June 21 - July 27, 2006      | Report Revision No.:             | Revision 1.0    |
|                                                                                                                           | Test Standard(s):         | FCC 47 CFR §2, §22H, §24E    | Industry Canada RSS-132, RSS-133 |                 |
|                                                                                                                           | Test Lab Registration(s): | FCC Lab Registration #714830 | Industry Canada Lab File #3874   |                 |

#### D.6.8 Calculations:

##### Vehicle-Mount Antenna (Max. Measured Conducted Power - PCS GPRS Mode)

Prediction of MPE Limit  
OET Bulletin 65, Edition 97-01

Equation from page 18

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

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

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

R= distance to the center of radiation of the antenna

SL= power density limit

Ratio of Time On versus Total Transmit Time

0.25

Choose



ENTER



Occupational/Controlled ☐  
General Population/Uncontrolled ☒

Tx Frequency:

1880.00 (MHz)

Maximum Peak Power at Antenna Input Terminal:

28.63 (dBm)

Source-Based Time-Average Factor:

-6.02 (dB)

Antenna gain and Cable Loss:

0.20 (dBi)

SL= 1.00 (mW/cm<sup>2</sup>)

P= 182.3644 (mW)

G= 1.05 (numeric)

R = 3.90 (cm)

S (mw/cm<sup>2</sup>)  
at 20cm

0.037948916

#### Formulae:

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

where: S = Power Density Limit

P = Power Output of the Device

G = Numeric Antenna Gain

R = Distance from Antenna

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

Source-Based Time-Average Factor = 10 \* log (Time On / (Time On + Time Off))

Power Output of the Device (W) = 10 \* log (RF Output Power (dBm) + Source-Based Time Average Factor (dB))

|                         |                                                                                |                                                                                                                      |                   |           |                |                                                                                                                     |
|-------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------|-----------|----------------|---------------------------------------------------------------------------------------------------------------------|
| Company:                | Itronix Corporation                                                            | FCC ID:                                                                                                              | KBCIX260PLUSAC860 | Model(s): | IX260PLUSAC860 | <br>A GENERAL DYNAMICS COMPANY |
| DUT Type:               | Laptop PC with Sierra Wireless AC860 Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem |                                                                                                                      |                   |           |                |                                                                                                                     |
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|                                                                                                                           | Date(s) of Evaluation:    | June 21 - July 27, 2006      | Report Revision No.:             | Revision 1.0    |
|                                                                                                                           | Test Standard(s):         | FCC 47 CFR §2, §22H, §24E    | Industry Canada RSS-132, RSS-133 |                 |
|                                                                                                                           | Test Lab Registration(s): | FCC Lab Registration #714830 | Industry Canada Lab File #3874   |                 |

#### D.6.9 Calculations:

##### Vehicle-Mount Antenna (Max. Measured Conducted Power - Cellular EDGE Mode)

Prediction of MPE Limit  
OET Bulletin 65, Edition 97-01

Equation from page 18

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

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

**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  
**SL**= power density limit

Ratio of Time On versus Total Transmit Time

0.25

Choose

ENTER

Occupational/Controlled ☐  
General Population/Uncontrolled ☒

Tx Frequency:

836.60 (MHz)

Maximum Peak Power at Antenna Input Terminal:

26.89 (dBm)

Source-Based Time-Average Factor:

-6.02 (dB)

Antenna gain and Cable Loss:

1.11 (dBi)

SL= 0.56 (mW/cm<sup>2</sup>)

P= 122.1631 (mW)

G= 1.29 (numeric)

R = 4.74 (cm)

S (mw/cm<sup>2</sup>)  
at 20cm

0.031347245

#### Formulae:

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

where: S = Power Density Limit

P = Power Output of the Device

G = Numeric Antenna Gain

R = Distance from Antenna

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

Source-Based Time-Average Factor = 10 \* log (Time On / (Time On + Time Off))

Power Output of the Device (W) = 10 \* log (RF Output Power (dBm) + Source-Based Time Average Factor (dB))

|                         |                                                                                |                                                                                                                      |                   |           |                |                                                                                                                     |
|-------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------|-----------|----------------|---------------------------------------------------------------------------------------------------------------------|
| Company:                | Itronix Corporation                                                            | FCC ID:                                                                                                              | KBCIX260PLUSAC860 | Model(s): | IX260PLUSAC860 | <br>A GENERAL DYNAMICS COMPANY |
| DUT Type:               | Laptop PC with Sierra Wireless AC860 Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem |                                                                                                                      |                   |           |                |                                                                                                                     |
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|                                                                                                                           |                           |                              |                                  |                 |
|---------------------------------------------------------------------------------------------------------------------------|---------------------------|------------------------------|----------------------------------|-----------------|
| <br>Testing and Engineering Services Lab | Test Report Serial No.:   | 061506KBC-T756-E24G          | Report Issue Date:               | August 22, 2006 |
|                                                                                                                           | Date(s) of Evaluation:    | June 21 - July 27, 2006      | Report Revision No.:             | Revision 1.0    |
|                                                                                                                           | Test Standard(s):         | FCC 47 CFR §2, §22H, §24E    | Industry Canada RSS-132, RSS-133 |                 |
|                                                                                                                           | Test Lab Registration(s): | FCC Lab Registration #714830 | Industry Canada Lab File #3874   |                 |

#### D.6.10 Calculations:

##### Vehicle-Mount Antenna (Max. Measured Conducted Power - PCS EDGE Mode)

Prediction of MPE Limit  
OET Bulletin 65, Edition 97-01

Equation from page 18

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

$S$  = 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  
 $SL$  = power density limit

Ratio of Time On versus Total Transmit Time

0.25

Choose

ENTER

Occupational/Controlled ☐  
General Population/Uncontrolled ☒

Tx Frequency:

1880.00 (MHz)

Maximum Peak Power at Antenna Input Terminal:

25.73 (dBm)

Source-Based Time-Average Factor:

-6.02 (dB)

Antenna gain and Cable Loss:

0.20 (dBi)

SL = 1.00 (mW/cm<sup>2</sup>)

P = 93.5276 (mW)

G = 1.05 (numeric)

R = 2.79 (cm)

S (mw/cm<sup>2</sup>)  
at 20cm

0.019462534

#### Formulae:

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

where: S = Power Density Limit  
P = Power Output of the Device  
G = Numeric Antenna Gain  
R = Distance from Antenna

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

Source-Based Time-Average Factor = 10 \* log (Time On / (Time On + Time Off))

Power Output of the Device (W) = 10 \* log (RF Output Power (dBm) + Source-Based Time Average Factor (dB))

|                         |                                                                                |                                                                                                                      |                   |           |                |                                                                                                                     |
|-------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------|-----------|----------------|---------------------------------------------------------------------------------------------------------------------|
| Company:                | Itronix Corporation                                                            | FCC ID:                                                                                                              | KBCIX260PLUSAC860 | Model(s): | IX260PLUSAC860 | <br>A GENERAL DYNAMICS COMPANY |
| DUT Type:               | Laptop PC with Sierra Wireless AC860 Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem |                                                                                                                      |                   |           |                |                                                                                                                     |
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|---------------------------------------------------------------------------------------------------------------------------|---------------------------|------------------------------|----------------------------------|-----------------|
| <br>Testing and Engineering Services Lab | Test Report Serial No.:   | 061506KBC-T756-E24G          | Report Issue Date:               | August 22, 2006 |
|                                                                                                                           | Date(s) of Evaluation:    | June 21 - July 27, 2006      | Report Revision No.:             | Revision 1.0    |
|                                                                                                                           | Test Standard(s):         | FCC 47 CFR §2, §22H, §24E    | Industry Canada RSS-132, RSS-133 |                 |
|                                                                                                                           | Test Lab Registration(s): | FCC Lab Registration #714830 | Industry Canada Lab File #3874   |                 |

#### D.6.11 Calculations:

##### Vehicle-Mount Antenna (Max. Measured Conducted Power - Cellular UMTS Mode)

Prediction of MPE Limit  
OET Bulletin 65, Edition 97-01

Equation from page 18

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

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

**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  
**SL**= power density limit

Ratio of Time On versus Total Transmit Time

1.00

Choose

ENTER

Occupational/Controlled ☐  
General Population/Uncontrolled ☒

Tx Frequency:

846.60 (MHz)

Maximum Peak Power at Antenna Input Terminal:

24.00 (dBm)

Source-Based Time-Average Factor:

0.00 (dB)

Antenna gain and Cable Loss:

1.11 (dBi)

**SL**= 0.56 (mW/cm<sup>2</sup>)

**P**= 251.1886 (mW)

**G**= 1.29 (numeric)

**R** = 6.76 (cm)

**S** (mw/cm<sup>2</sup>)  
at 20cm

0.064455409

#### Formulae:

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

where: S = Power Density Limit  
P = Power Output of the Device  
G = Numeric Antenna Gain  
R = Distance from Antenna

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

Source-Based Time-Average Factor = 10 \* log (Time On / (Time On + Time Off))

Power Output of the Device (W) = 10 \* log (RF Output Power (dBm) + Source-Based Time Average Factor (dB))

|                         |                                                                                |                                                                                                                      |                   |           |                |                                                                                                                     |
|-------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------|-----------|----------------|---------------------------------------------------------------------------------------------------------------------|
| Company:                | Itronix Corporation                                                            | FCC ID:                                                                                                              | KBCIX260PLUSAC860 | Model(s): | IX260PLUSAC860 | <br>A GENERAL DYNAMICS COMPANY |
| DUT Type:               | Laptop PC with Sierra Wireless AC860 Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem |                                                                                                                      |                   |           |                |                                                                                                                     |
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|                                                                                                                           |                           |                              |                                  |                 |
|---------------------------------------------------------------------------------------------------------------------------|---------------------------|------------------------------|----------------------------------|-----------------|
| <br>Testing and Engineering Services Lab | Test Report Serial No.:   | 061506KBC-T756-E24G          | Report Issue Date:               | August 22, 2006 |
|                                                                                                                           | Date(s) of Evaluation:    | June 21 - July 27, 2006      | Report Revision No.:             | Revision 1.0    |
|                                                                                                                           | Test Standard(s):         | FCC 47 CFR §2, §22H, §24E    | Industry Canada RSS-132, RSS-133 |                 |
|                                                                                                                           | Test Lab Registration(s): | FCC Lab Registration #714830 | Industry Canada Lab File #3874   |                 |

#### D.6.12 Calculations:

##### Vehicle-Mount Antenna (Max. Measured Conducted Power - PCS UMTS Mode)

Prediction of MPE Limit  
OET Bulletin 65, Edition 97-01

Equation from page 18

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

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

**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  
**SL**= power density limit

Ratio of Time On versus Total Transmit Time

1.00

Choose

ENTER

Occupational/Controlled ☐  
General Population/Uncontrolled ☒

Tx Frequency:

1880.00 (MHz)

Maximum Peak Power at Antenna Input Terminal:

23.00 (dBm)

Source-Based Time-Average Factor:

0.00 (dB)

Antenna gain and Cable Loss:

0.20 (dBi)

**SL**= 1.00 (mW/cm<sup>2</sup>)

**P**= 199.5262 (mW)

**G**= 1.05 (numeric)

**R** = 4.08 (cm)

**S** (mw/cm<sup>2</sup>)  
at 20cm

0.041520193

#### Formulae:

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

where: S = Power Density Limit  
P = Power Output of the Device  
G = Numeric Antenna Gain  
R = Distance from Antenna

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

Source-Based Time-Average Factor = 10 \* log (Time On / (Time On + Time Off))

Power Output of the Device (W) = 10 \* log (RF Output Power (dBm) + Source-Based Time Average Factor (dB))

|                         |                                                                                |                                                                                                                      |                   |           |                |                                                                                                                     |
|-------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------|-----------|----------------|---------------------------------------------------------------------------------------------------------------------|
| Company:                | Itronix Corporation                                                            | FCC ID:                                                                                                              | KBCIX260PLUSAC860 | Model(s): | IX260PLUSAC860 | <br>A GENERAL DYNAMICS COMPANY |
| DUT Type:               | Laptop PC with Sierra Wireless AC860 Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem |                                                                                                                      |                   |           |                |                                                                                                                     |
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|-----------------------------------------------------------------------------------|----------------------------------|------------------------------|----------------------------------|-----------------|
|  | <b>Test Report Serial No.:</b>   | 061506KBC-T756-E24G          | <b>Report Issue Date:</b>        | August 22, 2006 |
|                                                                                   | <b>Date(s) of Evaluation:</b>    | June 21 - July 27, 2006      | <b>Report Revision No.:</b>      | Revision 1.0    |
|                                                                                   | <b>Test Standard(s):</b>         | FCC 47 CFR §2, §22H, §24E    | Industry Canada RSS-132, RSS-133 |                 |
|                                                                                   | <b>Test Lab Registration(s):</b> | FCC Lab Registration #714830 | Industry Canada Lab File #3874   |                 |

#### D.7 PASS/FAIL

In reference to the results outlined in D6 the DUT passes the requirements as stated in the reference standards as follows:

1) The DUT must comply with the minimum spacing requirement of 20 cm to ensure an exposure of not more than  $f/1500$  mW/cm<sup>2</sup> for frequencies between 300 and 1500 MHz and 1 mW/cm<sup>2</sup> for frequencies between 1500 and 100,000 MHz.

#### D.8 SIGN-OFF

I attest to the accuracy of the data. All measurements reported herein were performed by me and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements.

*Spencer Watson*

Spencer Watson  
EMC Manager  
Celltech Labs Inc.

June 27, 2006

Date

|                         |                                                                                |                                                                                                                      |                   |           |                |                                                                                                                     |
|-------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------|-----------|----------------|---------------------------------------------------------------------------------------------------------------------|
| Company:                | Itronix Corporation                                                            | FCC ID:                                                                                                              | KBCIX260PLUSAC860 | Model(s): | IX260PLUSAC860 | <br>A GENERAL DYNAMICS COMPANY |
| DUT Type:               | Laptop PC with Sierra Wireless AC860 Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem |                                                                                                                      |                   |           |                |                                                                                                                     |
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