



May 14, 2001

Federal Communications Commission  
Equipment Approval Services  
7435 Oakland Mills Road  
Columbia, MD 21046  
Attn: Joe Dichoso

**SUBJECT: Itronix Corporation**  
**FCC ID: KBCIX250RIM902**  
**Class II Permissive Change**  
**731 Confirmation No.: EA100859**  
**Correspondence Reference No.: 19240**

Dear Joe:

On behalf of Itronix Corporation is an amendment in response to your e-mail dated May 14, 2001 requesting additional information for the subject application.

1. In the original application, antenna factor and cable loss method was used for ERP measurements. Since that time we have been instructed by the FCC to use signal substitution method, which was used during the Permissive Change testing in this filing. The following is a detailed description of the ERP signal substitution measurement method used: The EUT is first placed into the field test area at 3.0 meters. The field of maximum intensity is found by rotating the EUT approximately 360 degrees and changing the height of the receive antenna from 1 to 4 meters. Both horizontal and vertical polarizations are investigated. The field strength is recorded from a calibrated spectrum analyzer for each channel being performed. The EUT is then replaced with a calibrated dipole of a well-known gain. The dipole is fed through a directional coupler and the power at the coupler port is monitored. The field of maximum intensity is found for the dipole and the power adjusted in order to read the same on the spectrum analyzer that was found for the EUT. The feed point for the dipole is then connected to a calibrated power meter and the power adjusted to read the same as the coupler port previously recorded, to account for any mismatch in impedance, which may occur at the dipole antenna. The forward power for the dipole is then determined. The actual ERP level is determined by adding the forward power and the calibrated gain of the dipole. Attached is the calibration certificate and gain information of the dipole antenna used for the ERP measurements.
2. Attached is the applicable RF exposure manual warning statement for the IX550 rugged laptop PC.
3. We confirm that conducted output power measurements were made and are subsequently listed in the test report.

If you have any further questions or comments, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Shawn McMillen", written over a horizontal line.

Shawn McMillen  
General Manager  
Celltech Research Inc.  
Testing & Engineering Lab

cc: Itronix Corporation



Cert I.D. 6557

Lab Code 115844/1207.01

P.O. Box 80589 78708-0589  
2205 Kramer Lane, Austin, TX., 78753-4002  
(512) 835-4684

## Certificate of Calibration Conformance

Page 1 of 3

The instrument identified below has been individually calibrated in compliance with the following standard(s):

ANSI C63.5 - 1988, American National Standard for Electromagnetic Compatibility-Radiated Emission Measurements in Electromagnetic Interference (EMI) Control-Calibration of Antennas, American National Standards Institute, Inc.

Environment: Laboratory MTE is maintained in a temperature controlled environment with ambient conditions from 18 to 28 C, relative humidity less than 90%. The instrument under test has been calibrated on an open air test site (OATS) with environment temperature conditions ranging from 0 to 40 C which has no known influences on measurement quality.

|                                 |                            |                            |                |
|---------------------------------|----------------------------|----------------------------|----------------|
| <b>Manufacturer:</b>            | EMCO                       | <b>Operating Range:</b>    | 400 - 1000 MHz |
| <b>Model Number:</b>            | 3121C-DB4                  | <b>Instrument Type:</b>    | DIPOLE Balun 4 |
| <b>Date Code/SN:</b>            | 0003 - 1494                |                            |                |
| <b>Tracking Number:</b>         | J 49718                    |                            |                |
| <b>Date Completed:</b>          | 04-Apr-00                  |                            |                |
| <b>Test Type:</b>               | 3 and 10 Meter, Horizontal |                            |                |
| <b>Calibration Uncertainty:</b> | 03m                        | 400 - 1000 MHz, +/-1.0 dB; |                |
| (95% Confidence Level)          | 10m                        | 400 - 1000 MHz, +/-1.0 dB; |                |

**Test Remarks:** None

**Recall/Interval:** 18 Month Factory Calibration Provided

Calibration Traceability: All Measuring and Test Equipment (MTE) identified below are traceable to the National Institute for Standards and Technology (NIST). Calibration Laboratory and Quality System controls are compliant with the objectives of MIL-STD 45662A, ISO/IEC Guide 25 and ANSI/NC SL Z540-1.

### Standards and Equipment Used:

#### Make / Model / Name / S/N / Recall Date

|         |         |                  |        |           |
|---------|---------|------------------|--------|-----------|
| Anritsu | MS4623A | Network Analyzer | 992201 | 14-Jun-00 |
|---------|---------|------------------|--------|-----------|

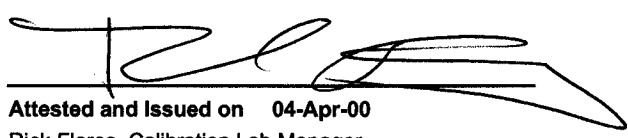
### Condition of Instrument

#### On Release:

In Tolerance

  
Calibration Completed By

Lee D. Thompson, Cal Lab Technician

  
Attested and Issued on 04-Apr-00

Rick Flores, Calibration Lab Manager



**Gain and Antenna Factors for Dipole Antenna**  
**Manufactured by EMC Test Systems**  
**Model Number: DB-4    Serial Number: 1494**  
**3.0 Meter Calibration                      Polarization: Horizontal**

| Frequency<br>(MHz) | Antenna<br>Factor (dB/m) | Gain<br>Numeric | Gain<br>dBi |
|--------------------|--------------------------|-----------------|-------------|
| 400                | 21.0                     | 1.35            | 1.3         |
| 425                | 21.3                     | 1.42            | 1.5         |
| 450                | 21.6                     | 1.48            | 1.7         |
| 475                | 21.9                     | 1.54            | 1.9         |
| 500                | 22.2                     | 1.58            | 2.0         |
| 525                | 22.9                     | 1.48            | 1.7         |
| 550                | 23.6                     | 1.38            | 1.4         |
| 575                | 24.3                     | 1.28            | 1.1         |
| 600                | 25.0                     | 1.19            | 0.7         |
| 625                | 25.2                     | 1.24            | 0.9         |
| 650                | 25.4                     | 1.29            | 1.1         |
| 675                | 25.5                     | 1.34            | 1.3         |
| 700                | 25.7                     | 1.39            | 1.4         |
| 725                | 26.2                     | 1.31            | 1.2         |
| 750                | 26.8                     | 1.24            | 0.9         |
| 775                | 27.3                     | 1.17            | 0.7         |
| 800                | 27.9                     | 1.10            | 0.4         |
| 825                | 27.9                     | 1.15            | 0.6         |
| 850                | 28.0                     | 1.20            | 0.8         |
| 875                | 28.1                     | 1.26            | 1.0         |
| 900                | 28.1                     | 1.31            | 1.2         |
| 925                | 28.4                     | 1.30            | 1.1         |
| 950                | 28.7                     | 1.28            | 1.1         |
| 975                | 29.0                     | 1.26            | 1.0         |
| 1000               | 29.3                     | 1.24            | 0.9         |

## Warnings and Cautions

**WARNING** It is important that only authorized Itronix personnel attempt repairs on Itronix equipment as this might void any maintenance contract with your company. Unauthorized service personnel might be subject to shock hazard on some Itronix equipment if removal of protective covers is attempted.

The product you have purchased is powered by a rechargeable battery. The battery is recyclable and, under various state and local laws, it may be illegal to dispose of this battery into the municipal waste stream. Do not crush the battery or place it in a fire. Check with your local solid-waste officials for details on recycling options or proper disposal.

**CAUTION** Internal components of the GoBook (IX550) computer will be damaged if exposed to contaminants. When dust covers, the PC card door, or the battery door are open on the computer, shield the unit from all contaminants such as liquids, rain, snow, and dust.

**WARNING** ***“In order to comply with the FCC RF exposure requirements this device must be operated with a minimum separation distance of 4 cm between the user/nearby persons and the antenna in its intended vertical operating position.”***

**“The antenna location is fixed in the upper left edge of the display screen and is not to be relocated”**

*“The equipment has been approved to [Commission Decision “CTR21”] for pan-European single terminal connection to the Public Switched Telephone Network (PSTN). However, due to differences between individual PSTNs provided in different countries the approval does not, of itself, give an unconditional assurance of successful operation on every PSTN network termination point.*

*In the event of problems, you should contact your equipment supplier in the first instance.*