# FCC ID : 2AKI8-CRADLE

## 1. RF EXPOSURE

### 1.1.The Requirement

System operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. See Section 15.247(b)(4) and Section 1.1307(b)(1)

### 1.2.Limit For Maximum Permissible Exposure (MPE)

Limits for General Population/ Uncontrolled Exposure

| Frequency Range (MHz) | Electric Field Strength (E) (V/m) | Magnetic Field Strength (H) (A/m) | Power Density (S) ( $mW/cm^2$ ) | Averaging Time $\|E\|^2, \|H\|^2$ or S (minutes) |
|---|---|---|---|---|
| 0.3-1.34 | 614 | 1.63 | (100)* | 30 |
| 1.34-30 | 824/f | 2.19/f | (180/f)* | 30 |
| 30-300 | 27.5 | 0.073 | 0.2 | 30 |
| 300-1500 | | | f/1500 | 30 |
| 1500-100,000 | | | 1.0 | 30 |

F = frequency in MHz, * Plane-wave equivalent power density

### 1.3.MPE Calculation Method

Predication of MPE limit at a given distance
Equation from page 18 of OET Bulletin 65, Edition 97-01
$S=PG/4\pi R^2$

Where: S=power density
P=power input to 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

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the antenna is 0dBi, the RF power density can be obtained.

## 1.4.TEST RESULTS

Maximum measured transmitter power

| Test Frequency （MHz） | Minimum Separation Distance (cm) | Output Power (dBm) | Target power (dBm) | Target power (mW) | Antenna Gain (Numeric) | Power Density At 20 cm ($mW/cm^2$) | Power Density Limit ($mW/cm^2$) | Test Results |
|---|---|---|---|---|---|---|---|---|
| 2406 | 20.00 | 9.96 | 10±1 | 12.589 | 1 | 0.0025 | 1.000 | Pass |
| 2439 | 20.00 | 9.66 | 10±1 | 12.589 | 1 | 0.0025 | 1.000 | Pass |
| 2475 | 20.00 | 9.64 | 10±1 | 12.589 | 1 | 0.0025 | 1.000 | Pass |

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure.

## 1.5.FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, Human proximity to the antenna shall not be less than 20cm(8 inches) during normal operation. Proposed RF exposure safety information to include in User’s Manual.

# IC : 22462-CRADLE

## 2. RF EXPOSURE

### 2.1. Exemption Limits for Routine Evaluation – RF Exposure Evaluation

RSS-102 Section 2.5.2:
RF exposure evaluation is required if the separation distance between the user and/or bystander and the device's radiating element is greater than 20 cm, except when the device operates as follows:

at or above 300 MHz and below 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 1.31 x 10-2 $f$0.6834 W (adjusted for tune-up tolerance), where $f$ is in MHz

### 2.2. TEST RESULTS

Maximum measured transmitter power

| Channel Frequency (MHz) | Minimum Separation Distance (cm) | Antenna gain (dBi) | E.I.R.P (dBm) | Target power (dBm) | Max Target power (W) | Limit (W) | Test Results |
|---|---|---|---|---|---|---|---|
| 2406 | 20.00 | 0 | 9.96 | 10±1 | 0.0126 | 2.679 | Pass |
| 2439 | 20.00 | 0 | 9.66 | 10±1 | 0.0126 | 2.705 | Pass |
| 2475 | 20.00 | 0 | 9.64 | 10±1 | 0.0126 | 2.732 | Pass |

The measurement results comply with the IC Limit for the uncontrolled RF Exposure.
Conclusion: No SAR is required.