

TO: Mr. Errol Chang
FCC Application Processing Branch

February 9, 2001

From: Mr. Bill Eaton
SAIC Wireless Systems Group

Subject: Submittal for FCC ID LPRLPR902M-ICU-0
731 Confirmation Number : EA99776
Correspondence Reference Number: 17946

Sir:

In response to item 3 of correspondence Reference number 17946 please accept this document as a brief description of the device function.

The In-Vehicle Control Unit (ICU) designed for the BellSouth Global Positioning System is scheduled to be deployed across the nine state area serviced by BellSouth Telecommunications in support of their installation and maintenance fleet.

The ICU system configuration is based on commercially available technology that is hosted in a vehicle-mounted enclosure that has been designed and tested to meet these industry standards:

1. *Joint SAE/TMC Recommended Environmental Practices for Electronic Equipment Design (Heavy-Duty Trucks)* Document No. SAE J1455.
2. *Code of Federal Regulations*, Federal Communications Commission, Subchapter A, General, Part 15 and Part 90.
3. *Surface Vehicle Electromagnetic Compatibility (EMC) Standards Manual*, SAE HS-3600, 1999 Edition.

The ICU Model Number LCM386-20531200006 manufactured by Symbol Technologies, Inc. for Science Applications International Corporation in support of this program complies with Part 15 of the FCC rules and thus is appropriately marked.

The ICU contains a 12 channel GPS receiver manufactured by Conexant, Remote Alert Receiver manufactured by Street Smart Security, and a BSWD Wireless Modem manufactured by Research In Motion (RIM).

The use of the GPS receiver (TU30-D140) in the ICU is passive, requiring no intervention or activity by the technician. Periodically, the in-vehicle system GPS/vehicle data is communicated through the BSWD (now Cingular Wireless) wireless network utilizing the RIM 902M transceiver (FCC ID: L6AR902M-2-0) to update the GPS Server Function located in the BellSouth data center. The ICU also provides the technician with a remote emergency alert capability by hosting a Remote Alert Receiver that can be activated up to 150 feet in line of sight of the vehicle utilizing an FOB transmitter (FCC ID:KFR-SAIC). The data center back office system is also capable of monitoring vehicle activities and reporting exceptions that are generated when measured data deviates beyond specified nominal tolerances.

The ICU system accumulates positional information and sends reports to the data center based on time and distance thresholds established by the data center staff. The ICU only operates while the vehicle ignition is in the on position and normally is maintained in a power down state when the vehicle is not being operated.

The antenna system associated with the ICU is mounted on the exterior of the BellSouth fleet vehicles.. Utilizing an antenna plate the mounting location of the antennas associated with the ICU are controlled through mechanical design, installation procedures and installation training to ensure that the external placement of the antennas is such that a safe distance of six inches is maintained between the antennas, vehicle operator and nearby persons.

To preclude installation defects of the antenna cabling that could result in unacceptable VSWR all RF cables are preterminated to a uniform length. This uniform length (14 feet) ensures that the energy delivered to the antenna remains consistent with our design requirements and is not subject to on-site modification. Specific to the RIM902M-2-0 RF path SAIC part number 230030-1 REV (B) identifies the cable manufactured to our specifications by Maxrad, Inc., which is terminated in the BMAX 9155S Antenna also of Maxrad, Inc. for the entire fleet.

The preferred mounting location for the ICU is the vehicle cab behind the passenger seat mounted vertically on the rear wall or cage. The ICU cable connections are protected by an Access Denial Plate and strain relief to preclude any inadvertent disconnection of the system cabling. Required Torque settings for the RF connections are included in the installation documentation and training.

The Grant of Equipment Authorization-Certification FCC identifier L6AR902M-2-0 states approval of the RIM902M-2-0 operating with three different antenna types and a 1 dB loss cable or greater. Two of these antenna types are listed as 3 dBd gain antennas. As a matter of comparison we are operating the RIM902M-2-0 with a 4 dBd antenna and a cable configuration which a 3dB loss.

A review of the Maximum Permissible Exposure Evaluation with respect to FCC Rule Part 47CFR 2.1091 for the R902M-2-0 conducted by the APREL Laboratories and a matter of public record as made available on the FCC OET website has been conducted by SAIC. In addition the APREL Laboratories and EESI Laboratories both qualified FCC certification organizations have been consulted as an independent sources on our specific application and filing to ensure that we have high confidence that we are in compliance with the FCC requirement.

Due to the nature and specific restrictions (antennas and cable lengths) outlined in the Grant of Equipment Authorization-Certification FCC identifier L6AR902M-2-0 for the RIM 902M-2-0 transceiver we respectfully request an unique FCC Identifier LPRLPR902M-ICU-0 be granted to identify our product as configured. It is SAIC's understanding that the MPE/SAR testing previously conducted on the RIM 902M-2-0 radio and as referenced in our Application for Equipment Authorization is valid for the proposed filing as we have made no modifications to the device.

Respectfully,

Bill Eaton

