GE Security

ActiveKEY Modem
User Manual

Document Version 1.2
Created on 8/15/2008

GE SECURITY
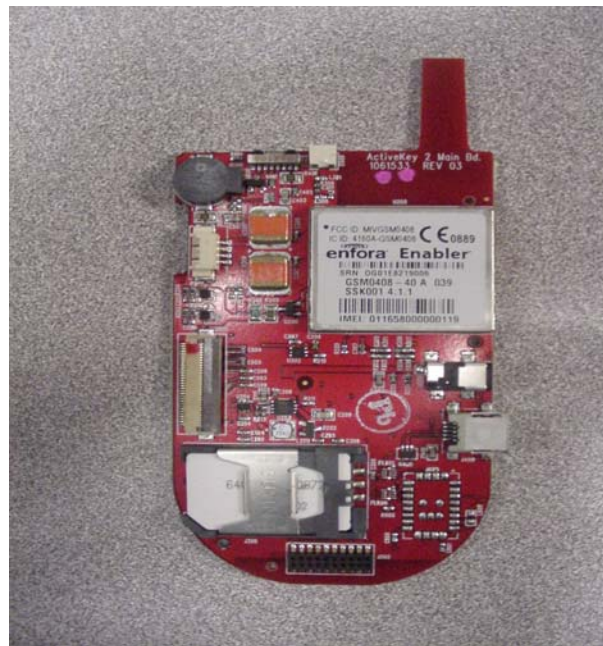
TABLE OF CONTENTS

Classification: GE Public

1. SCOPE

1.1. WHAT IT IS

This document describes the data modem used in the ActiveKEY product. The modem will be a PTCRB certified generic data modem that can be used in other applications beyond the ActiveKEY product. The modem supports SMS and GPRS data transmission, using the GSM cellular network.

2. ELECTRICAL COMPONENTS

2.1. CELLULAR DATA MODEM

The wireless communication for this design is currently handled by an Enfora GSM0408MG700 Cellular modem module. This is a quad band module and is controlled by the associated GE proprietary application running in the module.

The cellular data modem circuit was designed for use in the ActiveKEY product and as a stand alone cellular data modem for universal use in any GE applications requiring digital cellular communication capability.

The module resides on a small circuit board that also contains a interface parts for battery charging, connection to external keypad and LCD display, and USB and power input ports. The cellular modem will work over an input voltage range of 3.3 to 4.3 VDC.

2.2. ENFORA RADIO

The Enfora module used in the ActiveKEY is the GSM0408MG700. For more information on the Enfora radio, please refer to the following documents:

Title	Version	Date
GSM0308IG_Enfora_Enabler_IIIG_Integration_Guide_ -_Revision_1.03.pdf	1.03	07/17/07
AT Command Document GSM0308AT001	1.01	07/03/07

2.3. RADIO COMMUNICATION

The AT+CPMS command is used to query the Enfora for the number of received messages currently stored in its SIM.

The AT+CMGL command is used to get the Enfora to output a list of received messages stored in the SIM, and their associated index number (1-25).

The AT+CMGR command reads a specific message from the SIM, accessed by its index number.

The AT+CMGD command deletes a message from the SIM, again, accessed by its index number.

2.4. SWITCHING POWER SUPPLY

All power control and battery charging control circuitry are internal to the Enfora radio module.

3. MODULE INTERFACE

For universal applications of the GE modem card all communications to the modem are through the USB port.

Input power is derived through connection to J201 with the positive connection on pin 1, and ground on pin 2.

4. FCC INFORMATION

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The Active Key modem board is designed to be installed in specific identified host units in portable applications (used closer than 20cm to the body). In order to satisfy FCC rules conditions each modem installation must meet the following conditions:

The integral antenna design of the modem board cannot be changed.

The installer must ensure that when the modem is fitted in its final installation the ERP at 850MHz operation must not exceed +33dBm, and at 1900MHz operation the EIRP must not exceed +30dBm.

Each host installation must comply with the FCC Specific Absorption Rate (SAR) requirements and the intentional emissions to FCC Part 15, together with the appropriate warning text added to the user information.

The modem cannot be operated or co located in conjunction with any other antenna or transmitter.

A certification request must be filed with the FCC for each new host installation, which must include the test results taken.

If the FCC ID for the modem is not visible when installed in its host platform, then the integrator must place a label on the exterior of the host platform identifying the modem with FCC ID used.

Violation of the above will invalidate the RF exposure rules.