Operational Description

1 FCC 15.203 ANTENNA REQUIREMENTS

The antenna is permanently attached to the PCB. The antenna is internal to the EUT and it is not readily available to be modified by the end user. Therefore it meets the 15.203 Requirement.

2 DESCRIPTION OF RF SECTION

iClass readers, also called interrogators, transmit 13.56MHz RF Energy to power and communicate with a passive contactless smart card. The RF energy from the reader antenna is collected by the RFID tag antenna and used to power up the microchip in order to obtain identification, location, and other information about the device embedded within.

RFID read-only readers: As the name suggests, these devices can only query or read information from a nearby RFID tag. These readers are found in fixed, stationery applications as well as portable, handheld varieties.

RFID read-write readers: Also known as encoders, these devices read and also write (change) information in an RFID tag. Such RFID encoders can be used to program information into a "blank" RFID tag. A common application is to combine such a RFID reader with a barcode printer to print "smart labels". Smart labels contain a UPC bar code on the front with an RFID tag embedded on the back.

The same PCB is used for the USB and RS232 versions of the EUT. The 13.56 MHz RF Section is the same for the RS232 and USB versions of the EUT.

3 OVERALL PRODUCT DESCRIPTION

The AIR ID Enroll (RDR-7581) is RF Ideas reader that reads the ID (also known as the building access ID) number from HID iCLASS. For MIFARE (and DESFire), or ISO 15693 contactless smart cards this unit read the card serial number.

The USB unit emulates a USB keyboard to Windows or Macintosh PCs and is recognized as a generic USB keyboard device by the OS. In this mode, the user's ID from the proximity token is read and the card's data will be output to the location of the cursor on the screen. This is because the USB reader is actually implemented as a keyboard device. Additional keystrokes may be placed before, in the middle, or after the card's data using the utility software.

Our configuration application also allows the user to specify which data bits from the proximity card are used to create an ASCII number.

The RS-232 outputs the same information to a standard RS-232 port at 9600,N,8,1 in ASCII.

First it may be set up to operate as a ASCII output device. In this mode, the user'ID from the proximity token is read and is sent as a decimal number in ASCII format.

Second, the reader may be set up for operation under the API (application programmer interface) as defined in the pcProx SDK. The pcProx Reader attaches to the computer serial port. When a proximity badge/token is read, the active application will receive the entire proximity badge/token's data.