SCL 010/SC R331CL -NTTCom – USB Contact less reader OEM Manual

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1.0 Product Specification

1.1 Overview

The SCL010/ SCR331CL -NTTCom is based on the SCM Microsystems' STC3 Micro Controller. The SCL010/ SCR331CL -NTTCom is the industry's first to offer on-board flash. This enables future firmware and application enhancements that guarantee against obsolescence.
The SCL010/ SCR331CL -NTTCom offers the best price/performance in the market.

1.2 Product Features

  ➢ PC/SC 2.0 compliant drivers
  ➢ Type A – CL , Type B – CL , Mifare, Felica
  ➢ ISO14443 Compliant
  ➢ USB CCID like Host interface handled by SCM vendor drivers
  ➢ USB2.0 compliant full speed device
  ➢ High bus-powered through USB
  ➢ Device firmware upgradeable in the field through USB
  ➢ WHQL compliant drivers for WINXP platform,VISTA,WIN 2003 Server
  ➢ One single color LED indicating contactless activity

1.3 OS Support

The following OS is supported by SCL010/SCR331CL-NTTCom:

  ➢ Windows XP (including all service packs)

  ➢ Windows 2000 (including all service packs)

  ➢ Windows 2003   Server

  ➢ Windows 2008   Server

  ➢ Vista

(32-bit and 64-bit for above all OSs)

2.0 Hardware Specification

2.1 Adapter Power

  • High Bus Powered (>100mA and <500mA) (draws power from the USB bus), for USB operation.

2.2 Clock Frequency

  • STC3 chip internally running @24 MHz for USB operation, derived from an external 12 MHz crystal
  • ICC clock @4MHz
  • Contactless reader's Transmitter antenna and receiver circuit works @13.56MHz using PN512 chip

3.0   Software Specifications

3.1   Operating System

- Generic device firmware
- Vendor drivers for WIN98SE, WINME , WIN2000, WINXP, Windows Server 2003,Windows vista, Windows Server2008.,

3.2   PICC Parameters

Some important PICC parameters, supported contact-less card types, maximum operable PICC frequencies, operating voltages etc., are detailed in the tables below.

ICC Parameters	Value/Description
Type A memory card PICC	Supported
Type A T=CL PICC	Supported
Type B memory card PICC	Supported (Through SCM Specific APDUs)
Type B T=CL PICC	Supported
Felica	Supported
ISO-14443 compliant	Yes
PC/SC compliant	Yes (Contactless cards simulated as T=1 cards)
WHQL compliant	Yes (Windows 2000, Windows XP, Windows Server 2003,Windows Server2008)
PICC operating frequency	13.56MHz
Maximum supported card baud-rate	424Kbps

3.3   USB Parameters

USB Parameters	Value/Description
USB Specification	USB 2.0 FS Device
USB Speed	Full Speed Device (12Mbit/s)
Device Class	Vendor

4.0   Software Modules

4.1   Firmware

Device firmware that supports USB interface is provided.
On USB, the firmware implements CONTACT-LESS interface.

4.2   USB Drivers

The driver gets loaded and it handles CONTACT-LESS operations.

The reader is seen at the host level as below.

'SCR331CL-NTTCom' - for SCR331CL-NTTCom

'SCL010' - for SCL010

4.3   Utilities

4.3.1 Installation

SCM provides Install Shield Installer for Windows to install the product. The SCM drivers as well as the utilities can be installed with the help of this installer.

4.3.2 DFU Utility

DFU utilities/drivers for dynamic Device Firmware Upgrade (DFU) are shipped with the device for USB interface. DFU utilities/drivers are capable of performing a DFU under the following operating systems.

Operating System	Support
WIN2003 Server	Yes
Vista	Yes
WIN2000	Yes
WINXP	Yes

5.0   Regulatory Compliance

This section describes the product's compliance with U.S. and international safety and electromagnetic compatibility (EMC) regulations.

5.1   Safety Regulations

Below Table the safety regulations the product complies with when correctly installed in a compatible host system.

Regulation	Title
UL 60950	US Safety of Information Technology Equipment
EN 60950:2000	The Standard for Safety of Information Technology Equipment including Electrical Business Equipment. (European Union)

5.2   EMC Regulations

Regulation	Title
FCC (Class B)	Title 47 of the Code of Federal Regulations, Parts 2 and 15, Subpart C,Radio Frequency Devices. (USA)
VCCI:1997 Class B ITE	
Radio Law Japan	

5.2.1 FCC Compliance Statement (USA)

Product Type: Contactless smart card reader.
Product Name: SCL010/ SCR331CL   -NTTCom

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.
         This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 Sub part C of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance

with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and the receiver.

Connect the equipment to a different electrical branch circuit from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

Any changes or modifications to the equipment not expressly approved by SCM could void the user's authority to operate the equipment.

5.3 Product Ecology Statements

The following information is provided to address worldwide product ecology concerns and regulations.

5.3.1 Disposal Considerations

This product contains the following materials that may be regulated upon disposal: lead solder on the printed wiring board assembly.

5.3.2 Recycling Considerations

SCM encourages its customers to recycle its products and their components (e.g., batteries, circuit boards, plastic enclosures, etc.) whenever possible. In the U.S., a list of recyclers in your area can be found at: http://www.eiae.org/
In the absence of a viable recycling option, products and their components must be disposed of in accordance with all applicable local environmental regulations.

5.4 Product Certification Markings

Below Table lists the product certification markings.

Description	Marking
UL file number for SCL010/ SCR331CL -NTTCom XXXXXXXXX	
FCC ID for intentional radiator Class B equipment.	FCC ID MBPSCL 010 - 4400
VCCI Declaration of Conformity logo mark for Class B equipment.	
Radio Law Japan RF certification	