CR95HF
13.56MHz Multi-protocol contactless transceiver IC, with SPI and UART serial access

Product introduction
March 2011
Enabling true passive RF communication between mobile phones and electronic devices

M24LR64 & CR95HF - 13.56MHz
(CR95HF Multi-protocol contactless transceiver)
CR95HF...

- Multi-protocol Contactless Transceiver IC operating in HF (13.56MHz), meant for a wide range of embedded RF applications

- Enables RF communications with Dual Interface EEPROM, RF Memory devices and RFID tags in a wide range of applications:
  - medical equipment
  - portable healthcare devices
  - industrial equipment
  - factory and building automation
  - computers and peripherals
  - consumer electronics

- Suitable for RF reader/writer designs of portable and stationary systems
CR95HF overview

- Multi-protocol 13.56MHz Contactless Transceiver IC
- ISO15693, ISO14443 A-B and NFC ISO18092 compliant analog front-end
- UART and SPI interface
- No Card emulation nor peer-to-peer mode
- Standard QFN32 package, 5x5mm
- 3V operation
- No embedded security algorithm

ISO15693 protocol
ISO18092 protocol
ISO14443-A protocol
ISO14443-B protocol

STMicroelectronics
CR95HF with Dual Interface EEPROM

- The ideal solution for downloading and upgrading data wirelessly!
CR95HF with ST’s ISO15693 Products

- ST ISO15693 products will be supported by the CR95HF with
  - Software libraries
  - Reference design
  - Application notes
CR95HF with ST’s ISO14443 Products

- ST ISO14443 products will be supported by the CR95HF with
  - Software libraries
  - Reference design
  - Application notes

- SRi512/SRT512
  - 512-bit ISO14443-B
  - 32-bit counter & OTP

- SRi2K SRi4K – SRiX4K
  - 2-Kbit, 4-Kbit ISO14443-B
  - 32-bit counter & OTP

- ST23YR18/ST23YR48
  - Secure Dual Contactless Microcontroller w/ 18/48KB

- ST23YR80
  - Secure Dual Contactless Microcontroller w/ 18/48KB

- Other ISO14443 A-B
  - Support of other ISO14443 devices
CR95HF block diagram

- Power and clock management
- User Interface
- Frame Controller
- Analog Front End

- UART: Up to 3.4Mbs
- SPI: Up to 2MHz

- 2.8V-3.3V
- 27.12MHz
- 3V

- ISO15693: Up to 53kb/s
- ISO18092: Up to 424kb/s
- ISO14443-A: Up to 424kb/s
- ISO14443-B: Up to 848kb/s
CR95HF designers support

- DEMO-CR95HF-A
  - Gerber files, BOM
  - PC software

- Hardware design (RF) application note
  - Antenna, EMC Filters (FCC-ETSI tests)
  - For demokit antenna

- ISO15693 and ISO14443 drivers
  - «.c» and «.h» source files and App Note
  - Validated on STM32
CR95HF: reduced BOM

Note: Decoupling on Vpsmain et Vpstx also required
CR95HF ordering information

CR 95 HF-VMD5T

Product Type: Wired
Access Frequency: CR=Contactless reader IC
HF=High Frequency (13.56MHz)
95=SPI + UART

Operating Voltage: V: 2.7V-3.3V

Frequency Band: HF=High Frequency (13.56MHz)

Package: VFQFPN32 5x5 mm

Operating Temperature: 5: -25C / +85C

Tape & Reel