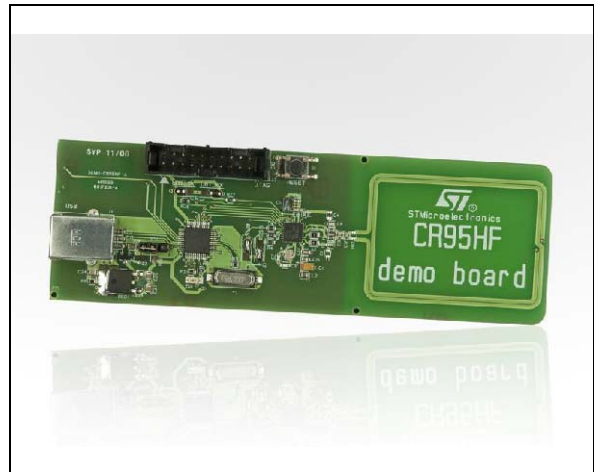


## Demonstration kit for the CR95HF 13.56 MHz transceiver IC

Data brief

### Features

- Ready to use printed circuit board
  - CR95HF multiprotocol transceiver IC
  - STM32F103CB 32-bit microcontroller
  - 47 x 34 mm 13.56 MHz inductive etched antenna and tuning components
  - USB-B connector for communication with host PC and demonstration board powering
  - USB connect/disconnect jumper (must be left in default state)
  - LED indicating completion of board initialization
  - Microcontroller reset button
  - JTAG connector for microcontroller firmware upgrade and debug
- USB cable
- Demonstration tags
  - ISO15693 tag: LRI2K mounted on a 45 x 75 mm antenna
  - ISO 15693 dual interface EEPROM memory: M24LR64-R mounted on a 15 x 15 mm double side etched antenna
- Associated Firmware and PC software
  - On-board demonstration firmware to communicate with the host PC through the USB bus.
  - PC software to communicate with ISO15693 and dual interface EEPROM tags



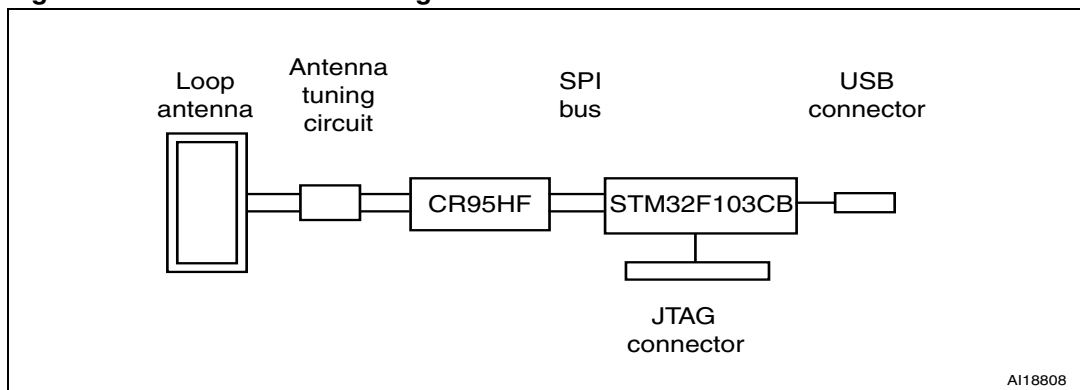
## Description

The DEMO-CR95HF-A is a demonstration kit which allows to evaluate the performances of ST CR95HF 13.56 MHz multiprotocol contactless transceiver. It includes a ready-to-use board to interface with the CR95HF host PC demonstration software through an USB interface.

The DEMO-CR95HF-A is powered through the USB bus and no external power supply is required. It includes a CR95HF contactless transceiver, a 47 x 34 mm 13.56 MHz inductive etched antenna and its associated tuning components.

By default, the CR95HF communicates with the STM32F103CB 32-bit MCU via the SPI bus. The interface can then be changed to UART.

**Figure 1. Functional block diagram**



The DEMO-CR95HF-A is delivered with the following firmware and software which can be downloaded from <http://www.st.com>:

- STM32 DEMO-CR95HF-A-application-firmware: on-board demonstration firmware allowing the CR95HF and the host PC to communicate through the USB bus
- M24LRxx\_application\_software: a PC software that manages the communications with the ISO15693 and Dual Interface EEPROM tags.

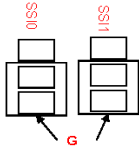
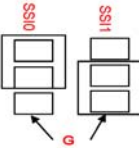
# Hardware configuration

The DEMO-CR95HF-A demonstration board can use either the UART or the SPI as external serial interface. Two solder bridges, SSI0 and SSI1, allow choosing the serial interface (see [Table 1](#)).

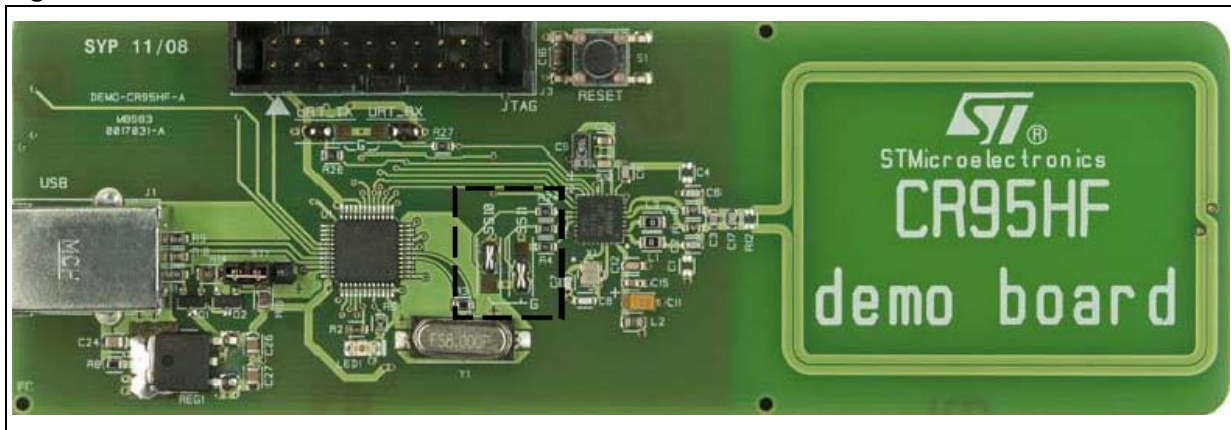
The SPI or UART is then automatically enabled by the CR95HF at power-on.

[Figure 2](#) shows the board configured to use the SPI interface (default configuration).

**Table 1. Solder bridge configuration**

Hardware configuration	Serial interface
	UART
	SPI

**Figure 2. DEMO-CR95HF-A with SPI selected**



## Revision history

**Table 2. Document revision history**

Date	Revision	Changes
22-Apr-2011	1	Initial release.
25-Jul-2011	2	Changed inductive etched antenna to 47x34 mm. Added <a href="#">Section : Hardware configuration</a> . Updated disclaimer on last page.

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