



### FUNCTION: ANALOG FRONT END FOR CONTACTLESS SMARTCARD READER

#### ■ GENERAL DESCRIPTION

- This is an analog front end dedicated to contactless Smartcards.
- This interface complies with ISO 14443-2 Type B: powering, data transfer from reader to card with amplitude modulation, data transfer from card to reader.

#### ■ MAIN FEATURES

- Supply voltage: from 5 V to 15 V
- Modulation: 10% ASK
- Data transfer to card: up to 424 KBit/second
- Data transfer to reader: up to 424 KBit/second
- DC subcarrier output level
- Quartz oscillator 13.56 MHz  $\pm$  100 ppm

### FUNCTION: DECODER AND FRAME FORMATING FOR CONTACTLESS SMARTCARD READERS

#### ■ GENERAL DESCRIPTION

- This is an FPGA dedicated to contactless Smartcard. This interface complies with ISO 14443-3 Type B

#### ■ MAIN FEATURES

- Supply voltage: 3.3 V
- Programmable data transfer from reader to card
- 106 KBit/second, 212 KBit/second and 424 KBit/second
- Programmable data transfer from card to reader
- 106 KBit/second, 212 KBit/second and 424 KBit/second
- 8 bit parallel interface for MCU
- Programmable SCI interface from 4800 to 115 KBit/second

### FUNCTION: MCU FOR CONTACTLESS SMARTCARD READER

#### ■ GENERAL DESCRIPTION

- the ST92163 is a 8/16 bit MCU

#### ■ MAIN FEATURES

- Supply voltage: 5 V
- Internal memory 16 K bytes OTP
- 2 K Bytes of RAM
- 24 MHz CPU frequency
- Full speed USB
- SCI up to 315 KBit
- External memory up to 256 KBytes
- Rich instruction set with 14 addressing modes, versatile development tools, including assembler, linker, C compiler, hardware emulators and real time operating system.

Figure 1 Contactless Reader Architecture

