CLEV6630B - Operational Description

Customer Evaluation Board CLRC663, CLEV6630B is an example of implementation of ISO/IEC 14443A and ISO/IEC 14443B reader/writer, NFC reader/writer (P2P passive initiator mode) on the same printed board. Middle size antenna, implemented on the same pcb (reader and antenna can be broken into separate parts), permits reading/writing on distance up to 50 mm (RFID card or other NFC device). The onboard USB connector permits direct connection and communication with personal computer.

Power supply is via usb port or via SELV rated and limited power source (7-13.5V DC / 500 mA).

Customer Evaluation Board CLRC663, CLEV6630B is intended to send and receive data according to the ISO 14443A and ISO 14443B protocol. Data transfer from reader to/from contactless cards operates at frequency 13.56 MHz.

LPC1769 microcontroller is connected to CLRC663 reader IC via SPI serial communiaction port. JTAG connector is needed only to connect computer to write firmware into LPC1769 microcontroller. I2C interface on microcontroller is connected to EEPROM IC.

Main part of Customer Evaluation Board CLRC663, CLEV6630B, is contactless reader IC CLRC663. The CLRC663 is a highly integrated high power output NFC frontend IC for contactless communication at 13,56 MHz. This frontend IC utilizes an outstanding modulation and demodulation concept completely integrated for different kinds of contactless communication methods and protocols at 13.56 MHz. Contactless Reader IC CLRC663 use only one power supply voltage: 3V3 V DC via power supply IC (LM3940IMP-3.3). All other voltages are generated internally. CLRC663 IC use external quartz (27.12 MHz). SPI comunication is used to connect reader IC CLRC663 to microcontroller. Complementary output stage (TX1, TX2) pins are used to generate output signal for antenna via filter stage and matching capacitors. Filter stage provide maximum adaption from output stage (CLRC663) to antenna (with matching capacitors).

Disclaimer:

This module is intended only for development and evaluation purposes, and cannot be used in a finished product without further certification on the assembly.