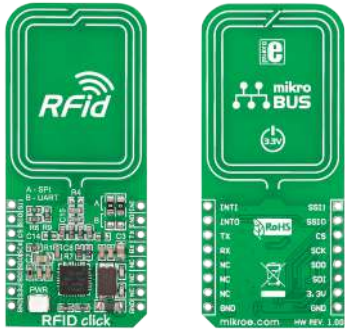# RFid click™

1. Introduction

RFid click™ is an accessory board in **mikroBUS**™ form factor. It's a compact and easy solution for adding RFid to your design. It features **CR95HF** 13.56 MHz contactless transceiver as well as trace antenna. RFid click™ communicates with the target board microcontroller via **mikroBUS**™ UART (TX, RX), SPI (MISO, MOSI, SCK, CS) INT, RST, PWM and AN lines. The board is designed to use 3.3V power supply only. LED diode (GREEN) indicates the presence of power supply.
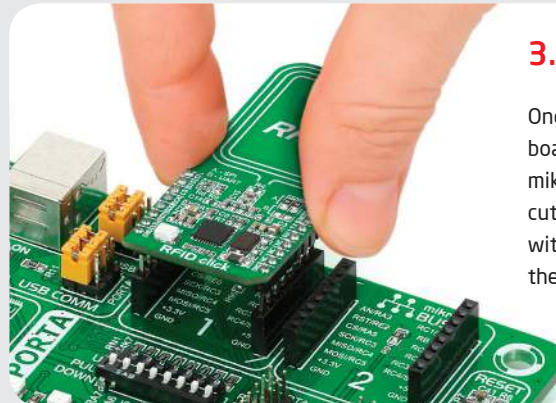
2. Soldering the headers

Before using your click™ board, make sure to solder 1x8 male headers to both left and right side of the board. Two 1x8 male headers are included with the board in the package.
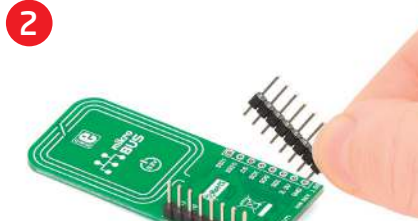
Turn the board upside down so that bottom side is facing you upwards. Place shorter pins of the header into the appropriate soldering pads.

Turn the board upward again. Make sure to align the headers so that they are perpendicular to the board, then solder the pins carefully.

3. Plugging the board in

Once you have soldered the headers your board is ready to be placed into desired mikroBUS™ socket. Make sure to align the cut in the lower-right part of the board with the markings on the silkscreen at the mikroBUS™ socket. If all of the pins are aligned correctly, push the board all the way into the socket.
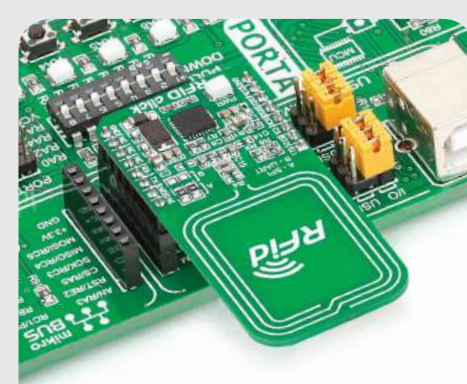
4. Essential features

RFid click ™ with its **CR95HF** IC is a RFid module with integrated transceiver for contactless applications. The board contains dedicated internal frame controller and analog front end (AFE) for RF communications. It supports ISO/IEC 14443 type A and B, ISO/IEC 15693 and ISO/IEC 18092 protocols (tags) as well as the detection, reading and writing of NFC forum type 1, 2, 3 and 4 tags.
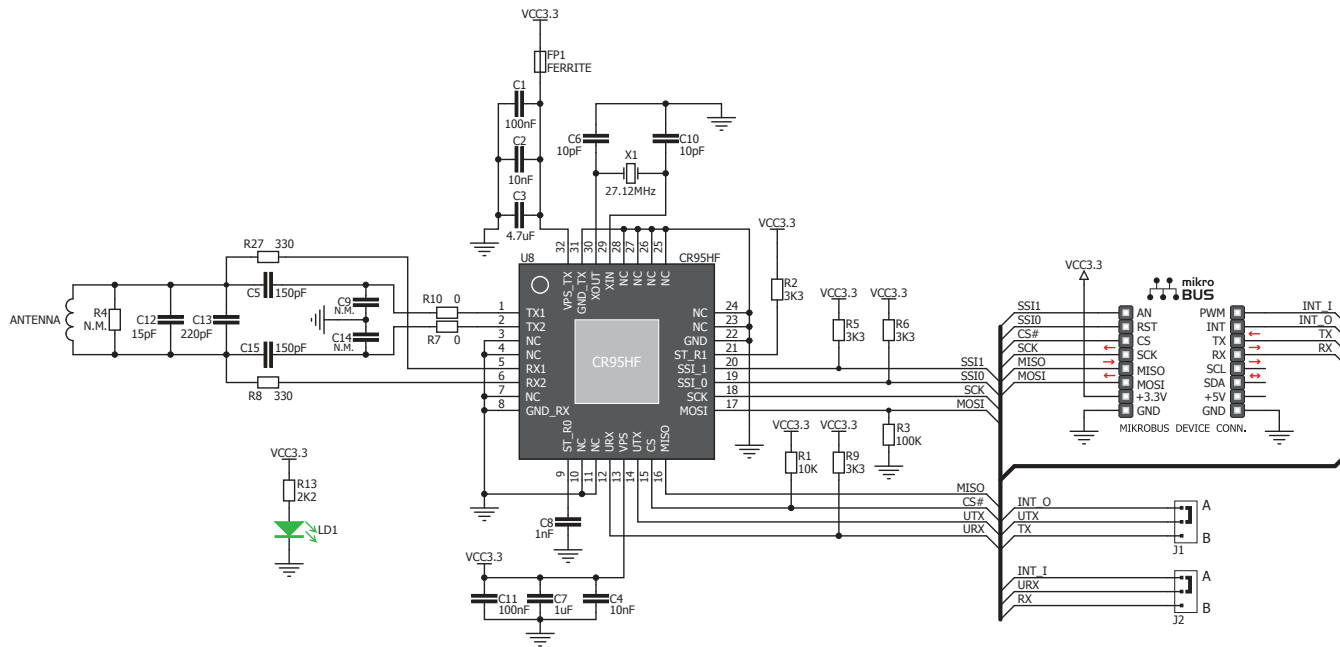
click™ BOARD
www.mikroe.com

RFid click Manual
ver. 1.00

0 100000 024140

5. RFid click™ Board Schematic

ANTENNA

R4 N.M.
C12 15pF
C13 220pF
C5 150pF
C15 150pF
R27 330
R8 330
C9 N.M.
C14 N.M.
R10 0
R7 0

VCC3.3
R13 2K2
LD1

VCC3.3
FP1 FERRITE
C1 100nF
C2 10nF
C3 4.7uF
C6 10pF
C10 10pF
X1 27.12MHz

U8
CR95HF

VPS_TX
GND_TX
XOUT
XIN
NC
NC
NC
NC

TX1
TX2
NC
NC
RX1
RX2
NC
GND_RX

NC
NC
GND
ST_R1
SSI_1
SSI_0
SCK
MOSI

ST_R0
NC
URX
UTX
VPS
UTX
CS
MISO

C8 1nF

VCC3.3
C11 100nF
C7 1uF
C4 10nF

VCC3.3
R2 3K3

VCC3.3
R5 3K3

VCC3.3
R6 3K3

VCC3.3
R1 10K

VCC3.3
R9 3K3

R3 100K

SSI1
SSI0
SCK
MISO
MOSI

MISO
CS#
UTX
URX

INT_O
UTX
TX

INT_I
URX
RX

J1
A
B

J2
A
B

VCC3.3

mikroBUS

SSI1
SSI0
SCK
MISO
MOSI

AN
RST
CS
SCK
MISO
MOSI
+3.3V
GND

PWM
INT
TX
RX
SCL
SDA
+5V
GND

INT_I
INT_O
TX
RX

MIKROBUS DEVICE CONN.

6. SMD jumpers

Two SMD jumpers are provided on the board. In case you want to use UART interface, it is necessary to solder SMD jumpers in **B** position. Otherwise if you want to use SPI interface, jumpers should be left in its default position (**A**). In that case interrupt pins (IN and OUT) are usable.

7. Code Examples

Once you have done all the necessary preparations, it's time to get your click™ board up and running. We have provided the examples for mikroC™, mikroBasic™ and mikroPascal™ compilers on our **Libstock** website. Just download them and you are ready to start.

8. Support

MikroElektronika offers **Free Tech Support (www.mikroe.com/esupport)** until the end of product lifetime, so if something goes wrong, we are ready and willing to help!

MikroElektronika
DEVELOPMENT TOOLS | COMPILERS | BOOKS