

IrDA2™

Manual

All Mikroelektronika's development systems feature a large number of peripheral modules expanding microcontroller's range of application and making the process of program testing easier. In addition to these modules, it is also possible to use numerous additional modules linked to the development system through the I/O port connectors. Some of these additional modules can operate as stand-alone devices without being connected to the microcontroller.

Additional Board

 **MikroElektronika**

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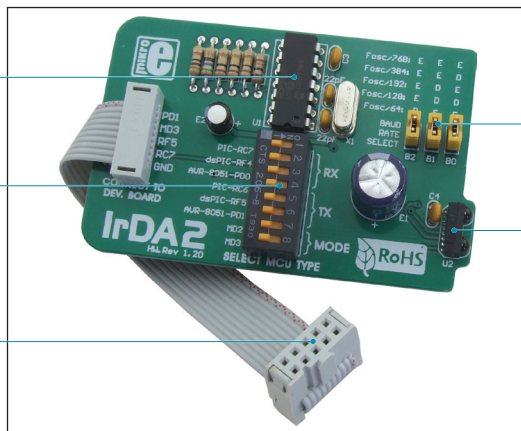
IrDA2 Additional Board

The *IrDA2* additional board is used for wireless communication carried out via infrared waves. This board includes an infrared transceiver modul TFDU4101 used for serial communication with devices transferring data via infrared waves such as printers, fax machines, notebooks, industrial devices, etc. The MCP2120 circuit provided on the board is used to convert data received from the transceiver module and send it to the microcontroller for further processing. The *IrDA2* board communicates with a microcontroller via serial communication UART.

The MCP2120 circuit is placed between the transceiver module and microcontroller

DIP switch SW1 is used to select a development system to connect the *IrDA2* board to

2x5 female connector enables connection with development system



Jumpers used for baud rate selection

Infrared transceiver module TFDU4101

Figure 1: IrDA2 additional board

The TFDU4101 infrared transceiver module can send and receive data in the scope of over 1m at a rate of up to 115.2kbit/s. The baud rate depends on the MCP2120 circuit and position of jumpers B2, B1 and B0. Refer to the table on the right. DIP switch SW1 is used to select a development system to be connected to the additional board, Figure 2.

Labels used in the table have the following meaning:

E - Jumper is placed (Enable)
D - Jumper is removed (Disable)

| Baud rate selection | | | |
|---------------------|----|----|--------------|
| Jumper position | | | Baud rate |
| B2 | B1 | B0 | |
| E | E | E | 14.4 kbit/s |
| E | E | D | 28.8 kbit/s |
| E | D | E | 57.6 kbit/s |
| E | D | D | 86.4 kbit/s |
| D | E | E | 172.8 kbit/s |

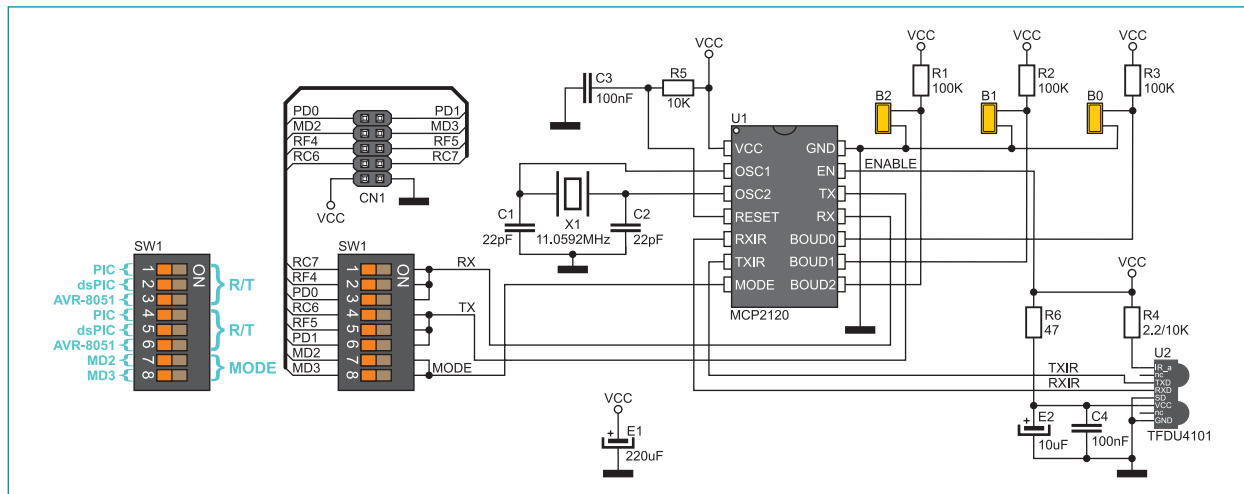


Figure 2: Additional board IrDA2 connection schematic

The function of the pins provided on the 2x5 female connector CN1:

- RC7 - Receive data pin RX for PIC development systems
- RF4 - Receive data pin RX for dsPIC development systems
- PD0 - Receive data pin RX for AVR and 8051 development systems
- RC6 - Transmit data pin TX for PIC development systems
- RF5 - Transmit data pin TX for dsPIC development systems
- PD1 - Transmit data pin TX for AVR i 8051 development systems
- MD2 - Device mode selection for software baud rate operation
- MD3 - Device mode selection for software baud rate operation

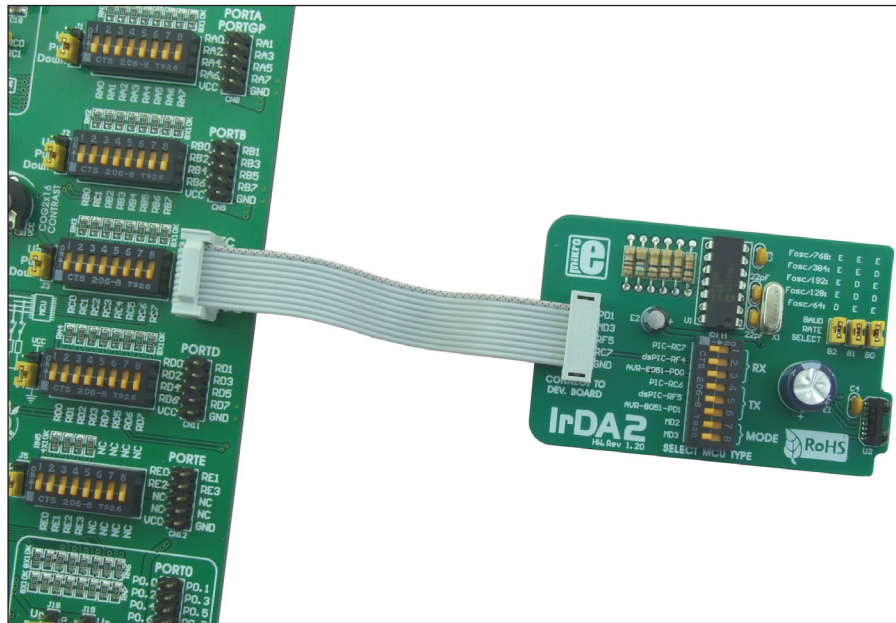


Figure 3: IrDA2 board connected to a development system



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