

CK-USB-04

IQRF Development Kit

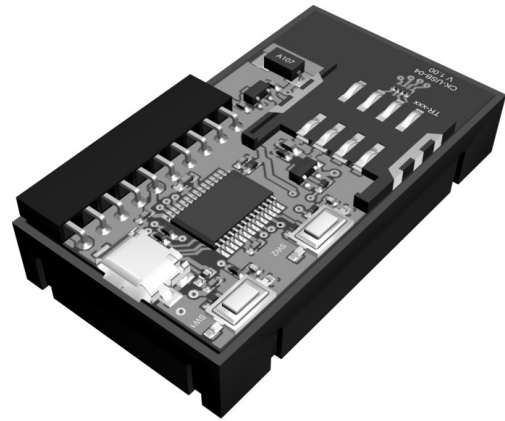
Firmware v1.00

User's Manual



Description

CK-USB-04 is a development kit intended for programming and debugging of user applications based on IQRF transceiver modules. It can serve also as a final application.



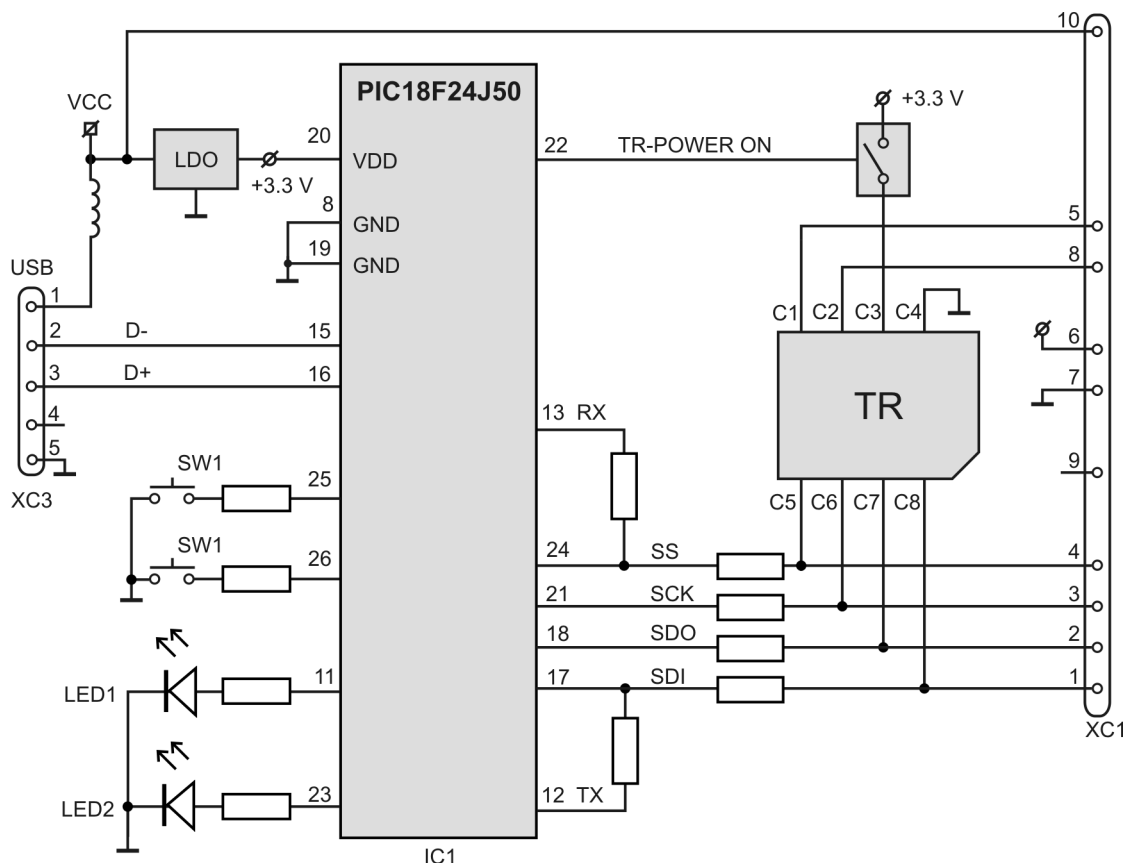
Applications

- Programmer for IQRF transceiver modules
- IQRF debugging kit
- End IQRF application host
- USB gateway
- USB to SPI converter
- PC connectivity

Key features

- Compatible with DDC (IQRF Development Daisy Chain) kits
- Supported by the IQRF IDE development environment
- SIM connector for transceiver module
- USB interface (custom device, MICRORISC VID & PID)
- I/O and power supply interface
- 2 pushbuttons, 2 LEDs
- Powered from USB or external supply
- Up to 5 devices controlled by IQRF IDEs on single PC
- Bootloader for firmware upgrade

Simplified schematics



Control and indication

Pushbuttons

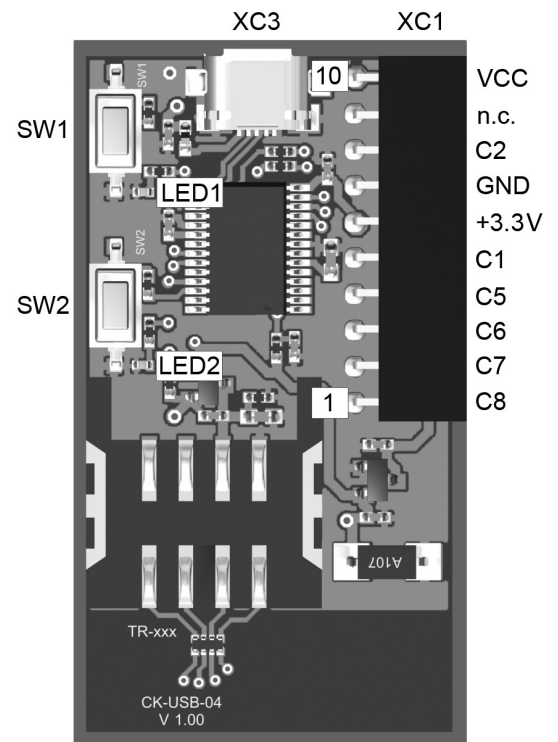
- SW1 – C5 pin control: pushed => C5 = log. 0. During SPI communication this pushbutton is ignored.
- SW2 – TR module power off (useful for TR reset and restart the application)

LEDs

- While a pushbutton is pressed the appropriate LED is on.
- LED2 flashes once after TR reset induced by IQRF IDE or pushbutton SW2.
- LED1 flashes 3x after clicking the IQRF logo in respective IQRF IDE (to identify the kit among other IQRF USB devices in case of multiple IQRF instances).
- Complementary LED1 and LED2 flashing in ~1 s period means missing firmware (see *Upgrade* below).

Connectors

- USB: micro USB
- SIM: supports TR-52B and all higher types of SIM-card sized IQRF transceiver modules.
- XC1: I/O / SPI / power interface. Female connector for square 0.635 mm, 2.54 mm pitch pins



Caution: The TR module can be plugged / unplugged into / from the SIM connector while powered off only.

Tip: Use the SW2 pushbutton for this. The TR module is not powered while the SW2 pushbutton is held.

Electrical specifications

Power supply:

| | |
|--|---|
| Supplied from USB: | 5.0 V |
| Supplied via external power connector: | 3.6 V – 5 V. 3.6 V battery recommended. USB must be disconnected in this case. |

I/O and SPI voltage levels:

3.3 V

Operating temperature:

0 °C to +70 °C
-40 °C to +85 °C (Industrial) available on request

Size:

48 mm x 27 mm x 11 mm

Weight:

10 g

Absolute maximum ratings

Stresses above those values may cause permanent damage to the device. Exposure to maximum rating conditions for extended periods may affect device reliability.

| | |
|----------------------|------------------|
| Supply voltage: | 5.5 V |
| Storage temperature: | -40 °C to +85 °C |

Installing and application

See Application note AN003, IQRF IDE Help and IQRF application examples (www.iqrf.org).

Upgrade

CK-USB-04 firmware can be upgraded by the user with new versions released by the IQRF manufacturer. See Application note AN008 (www.iqrf.org/an008).

Product information

Pack list

- CK-USB-04 IQRF programmer & debugger (without a TR-module)

Recommended options

- CAB-USBABMICRO-100 Standard microUSB communication cable (USB A ↔ micro USB)

Ordering code

- CK-USB-04 IQRF development kit

Document history

- 110419 Absolute maximum ratings added
- 110210 First release

Sales and Service

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Partners and distribution

Please visit www.iqrf.org/partners

Quality management

ISO 9001 : 2000 certified

*Complies with ETSI directives EN 30279 V.1.2.1:99, ETS 30683:97, ETSI EN 301489-1:00,
ETSI EN 300220-1:00, ETSI EN 300390-2V.1.1.1:00*

Complies with FCC directives FCC CFR, Title 47, Part 15, Section 15.209, FCC CFR, Title 47, Part 15, Section 15.249

Complies with Directive 2002/95/EC (RoHS)



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On-line support: <http://iq-esupport.com>



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