CK-USB-02

IQRF Development Kit

Firmware v2.00

User's Manual

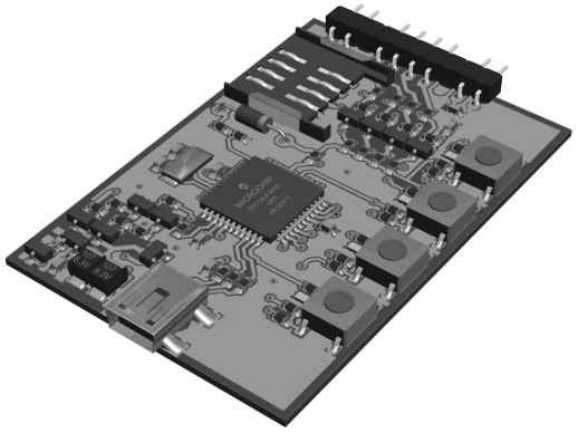
Simple way to smarter wireless solutions

Description:

CK-USB-02 is a development kit intended for comfortable programming and debugging of user applications based on IQRF transceiver modules.

It can serve even as a final application, either in the Custom device (USB) or in the Communication device class (CDC, UART) mode.

In the CDC mode a virtual COM port is created to access a PC via USB like a standard UART. No special PC software needed.



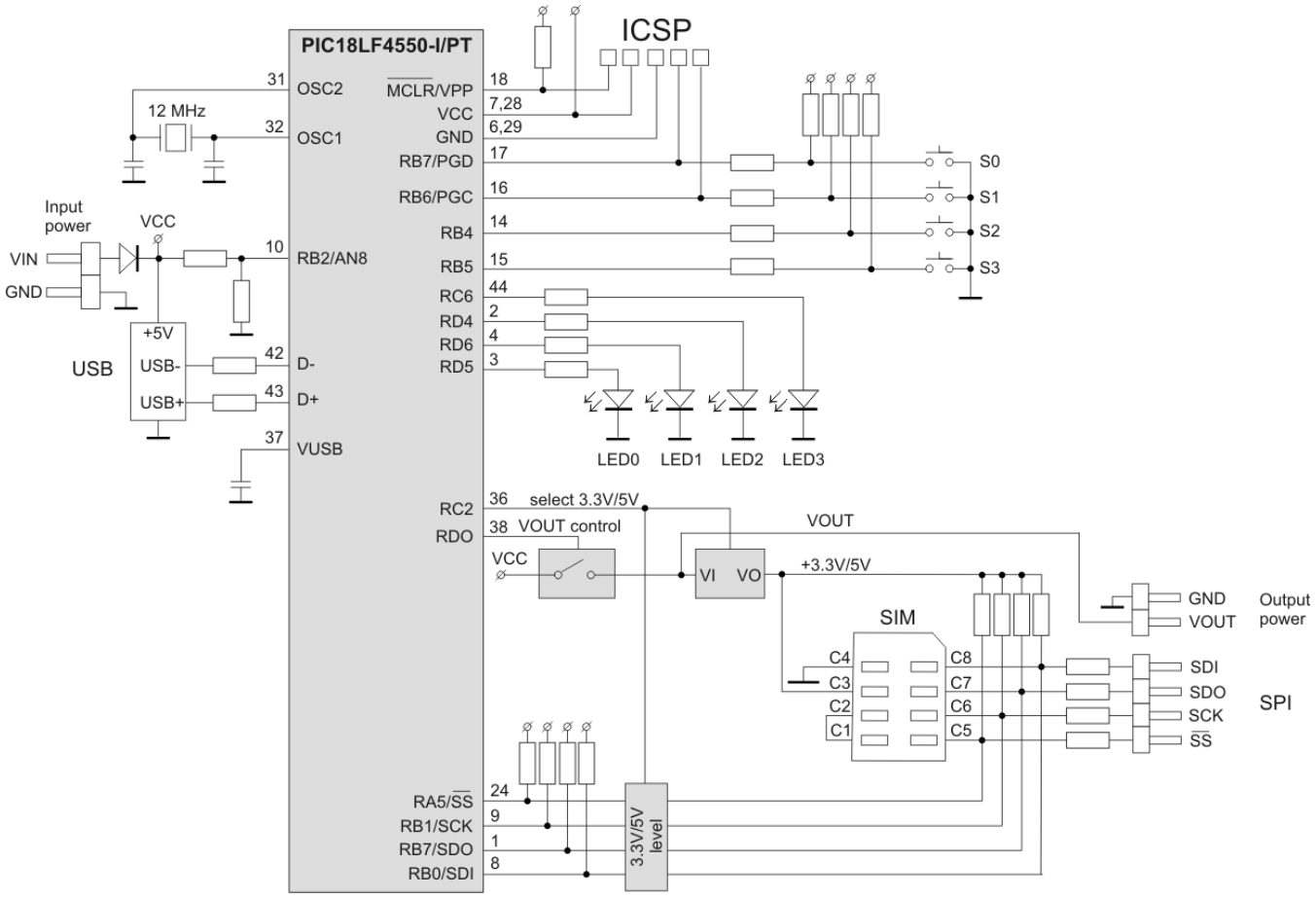
Applications:

- Programmer for IQRF transceiver modules
- IQRF debugging kit
- End IQRF application host
- USB gateway
- USB to SPI converter
- PC connectivity (USB, virtual UART)

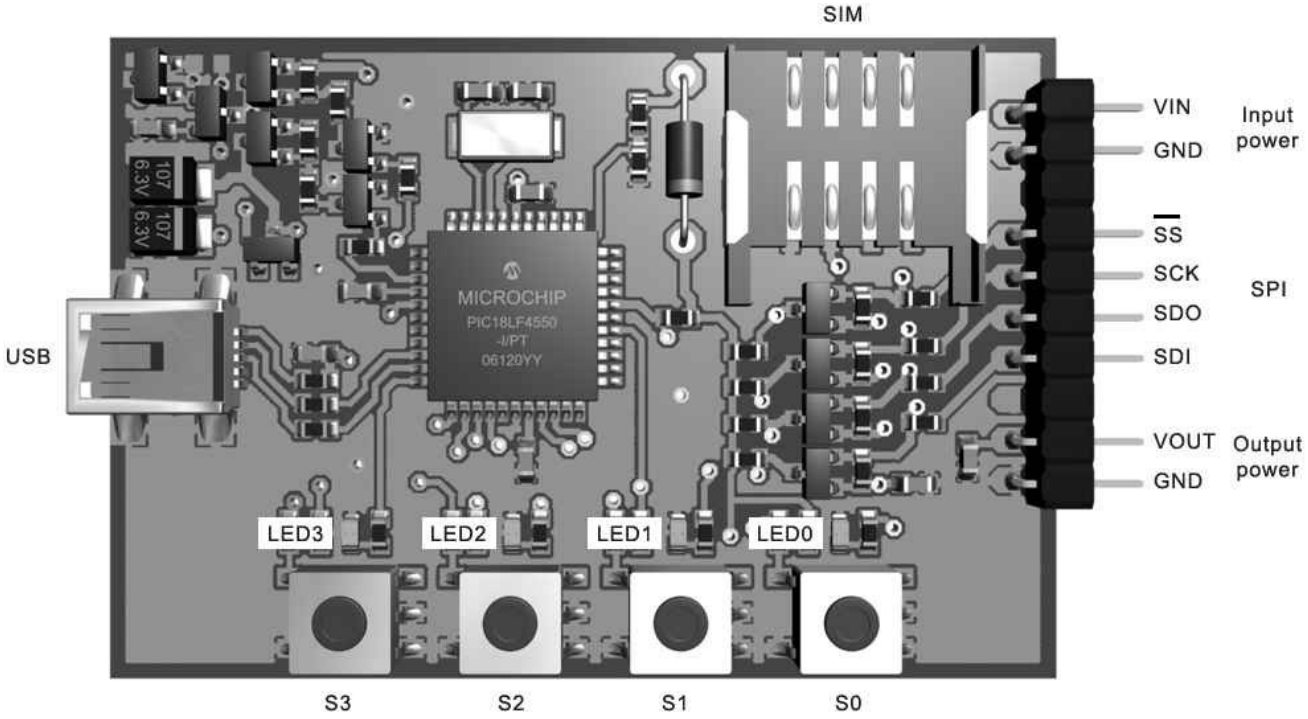
Key features:

- SIM connector for transceiver module
- Interface to DK-PGM-01 and external I/Os
- USB interface (custom device, MICRORISC VID & PID)
- Communication device class (CDC, UART)
- 4 pushbuttons, 4 LEDs
- USB or external power supply
- Supported by the IQRF IDE development environment
- Up to 5 devices controlled by IQRF IDEs on single PC

Simplified schematics:



Top view layout:



Control and indication:

To switch between Custom device and CDC modes press both S2 and S3 simultaneously for ~2 s.
Indication: Custom device – LED3 on, CDC – LED3 blinking.

S0 – switch the TR module to programming mode	~1.5 s LED0 flash
S1 – reset the TR module and run the application	~2.5 s LED1 flash
S2 – -SS pin control: pushed => -SS = log. 0	LED2 on
S3 – device reset	

SPI communication overrides the -SS pin control via the S2 handling.

LED3 flashes 3x after clicking the IQRF logo in respective IQRF IDE.

Connectors:

- USB: mini USB
- SIM: supports all types of SIM-card sized IQRF transceiver modules
- Input power / Output power / SPI: square 0.635 mm, 2.54 mm pitch pins
- ICSP: PCB pads for factory programming only

Electrical specifications:

Power supply:	
supplied from USB:	5.0 V
supplied via Ext. 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:	58.9 mm x 40.0 mm

Installing and application:

See Application note AN003, IQRF IDE Help, IQRF application examples (www.iq-esupport.com) and AN956 (www.microchip.com).

Sales and Service

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Partners and distribution:

Please visit www.iqrf.org/partners

Quality management:

ISO 9001 : 2000 certified

Trademarks:

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Legal:

The IQRF products utilize several patents (CZ, EU, US)

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

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