

GW-USB-13-XXX

IQRF USB / OLED Gateway

User's Guide

- GW-USB-13-868
- GW-USB-13-916



Simple way to smarter wireless solutions

Description

GW-USB-13 is an IQRF gateway with USB connectivity and OLED display. It is a part of the IQRF platform intended as an interface between USB and an IQRF network or a portable interface between a human and an IQRF network. It allows to visualise and setup parameters in given application. GW-USB-13 is a generic equipment, i.e. the hardware is fixed and the user can realize specific functionality by software only. Applications should be developed using the DK-GW-USB-13-xxx development kit.



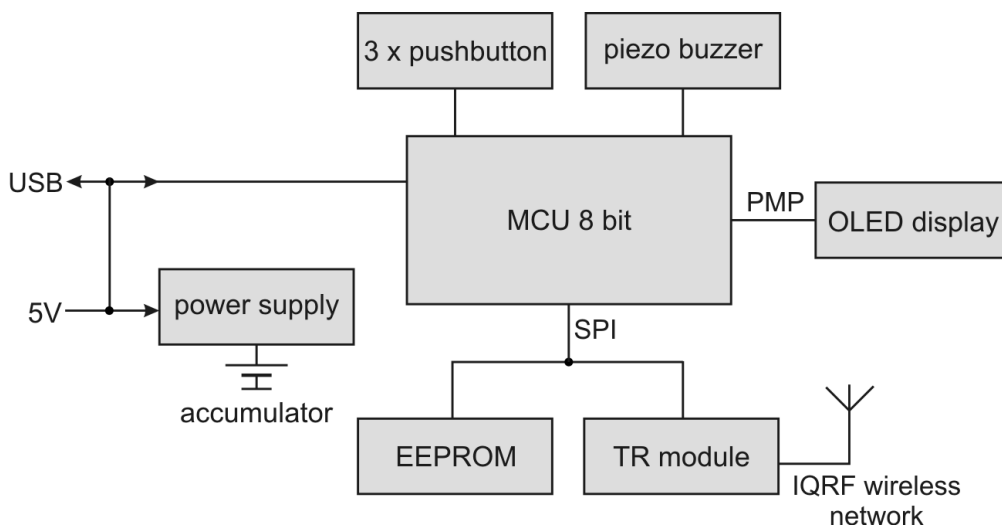
Applications

- Home automation
- Portable controller
- Diagnostic tool
- Portable service tool for IQRF network management

Key features

- OLED display 1", 96 x 64 pixels, white
- 8b microcontroller
- USB v2.0 interface
- EEPROM memory
- 3 pushbuttons
- Piezo buzzer
- IQRF transceiver module with on-board antenna
- Backup accumulator
- Very low power consumption in Sleep mode

Block schematics



Electrical specifications*(typical values unless otherwise stated)*

Power supply	5.0 ± 0.35 V DC
Accumulator	Li-Pol 3.7V, 400mAh
Display	OLED 1", 96 x 64 pixels, white
USB	V2.0 Compliant SIE
Supply current	
operational	25 mA ¹
standby	11 µA ²
accumulator charging	85 mA
Temperature range	0 °C to +70 °C
Frequency range	868 MHz or 916 MHz (according to the TR module)
RF output power	1.3 mW
Supported TR modules	TR-868-31BA or TR-916-31BA
Antenna	PCB on TR module board
Dimensions	93 mm x 42 mm x 14 mm
Weight	42 g ³

Note 1: This current is increased due to charging in case of external supply (depended on the accumulator state).

Note 2: All peripherals shut down.

Note 3: Including accumulator and TR module.

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 (VCC)	5.5 V
Storage temperature	-40 °C to +85 °C

Hardware

GW-USB-13 is a generic equipment, i.e. the hardware is fixed and the user can realize specific functionality by software only. For detailed information refer to DK-GW-USB-13-xxx User's guide.

Power supply

GW-USB-13 is intended to be supplied via micro USB connector, either from PC or from the adapter. The accumulator serves as a backup for external power source and should be charged from it.

Sleep mode

It is possible to switch off all functions and peripherals for current consumption minimizing, especially in idle or while supplied from the accumulator. Refer to User's guide of given GW application for Sleep mode control. GW power is not switched off, the Sleep mode is used instead of this.

EEPROM memory

Capacity: 64 kb, serial interface SPI (shared with the TR module), 1 000 000 erase/write cycles (typ.).

Pushbuttons

Functionality of all three pushbuttons is fully under software control.

Beeper

The functionality is fully under software control.

TR module

The TR-xxx-31BA wireless IQRF transceiver module in SIM card format.

Antenna

GW uses the built-in PCB antenna on TR-xxx-31BA module board.

Case

The plastic case is limited to a very few number of open/close cycles only.

Software

GW functionality depends on user specific application.

Pack list

- GW-USB-13-xxx, in Sleep mode
- TR module in requested frequency band, with E07-SPI example programmed, inserted in SIM connector
- Accumulator (soldered)
- Micro USB cable

Ordering codes:

- | | |
|--------------------|-----------------------------------|
| • GW-USB-13-868 | Gateway GW-USB-13, 868 MHz |
| • GW-USB-13-916 | Gateway GW-USB-13, 916 MHz |
| • DK-GW-USB-13-868 | Developemnt kit for GW-USB-13-868 |
| • DK-GW-USB-13-916 | Developemnt kit for GW-USB-13-916 |

Document history

- | | |
|----------|----------------------------------------------|
| • 090514 | First release |
| • 090626 | Just visual aspects improved |
| • 090825 | Development kit renamed to DK-GW-USB-13-xxx. |

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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