DS-PAGER

Development set for GW-USB-13

Brief Manual

Detailed description see the DS-PAGER User's guide and other information on the DS-PAGER CD.

Description

DS-PAGER is a development set for IQRF gateway GW-USB-13. The DS-PAGER is intended for development and GW-USB-13 for followed-up production. GW-USB-13 is a generic module, i.e. the hardware is fixed and functionality is adapted by the user SW only.

Electrical specifications	*(**typical values** unless otherwise stated)*
Power supply:	5.0 ± 0.35 V DC
Accumulator:	LIP-552240 (Li-Pol 3.7 V, 400 mAh)
Temperature range:	0 °C to +70 °C

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:	-30 °C to +80 °C

Hardware

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.

MCU

GW is controlled by the 8b microcontroller PIC18F66J55, 24 MIPS, 64 pins.

Oscillators

MCU is clocked by internal 48 MHz RC oscillator using the internal PLL. The secondary crystal oscillator 32.768 kHz is available for RTCC and to minimize power consumption.

Sleep mode

Intended for current consumption minimizing, especially in idle or while supplied from the accumulator. It is possible to switch off all functions and peripherals by SW. Sleep can be invoked by the program and terminated by various methods depended on SW. GW power is not switched off, the Sleep mode is used instead of this.

EEPROM memory

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

Beeper can be driven from the PWM module output or by software. The functionality is fully under software control.

TR module

The transceiver module is inserted in SIM card connector. User program should be uploaded by an external programmer outside the GW or inside the GW using RF PGM wireless upload (RF PGM should be enabled in external programmer first) – see the AN009 Application note.

Antenna

GW uses the built-in PCB antenna module board.

Caution: To enable TR removal, the GW is delivered with TR module not connected to the antenna. It should be soldered by the user before usage.

Case

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

Tip: The TR module can be uploaded via RF PGM with the case closed.

Interfaces and connectors

interface	pins	connector type
USB	5	Micro USB
Accumulator	2	Soldering stripes
Charger	2	Via Micro USB connector
MCU programming (ICSP) and debugging (ICD)	5	Cable connector
TR module	8 1	SIM connector Through hole soldering for antenna connection

Case

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

Tip: The TR module can be uploaded via USB without opening the case.

Software

The set is delivered with the demo software programmed in the GW MCU and in the TR module. PC software for USB communication is also available. See the DK-PAGER User's guide for details.

Pack list

- GW-USB-13 with Demo application programmed (in Sleep mode)
- TR-52B with E07-SPI standard example programmed (see the IQRF Startup package), inserted in SIM connector, not connected to the antenna, switching to the RF PGM after reset disabled
- Accumulator (soldered)
- Micro USB cable
- Programming/debugging cable
- CD with software and documentation

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