

DK-EVAL-04A

IQRF development kit

User's Guide



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Electrical specifications*(Typical values unless otherwise stated)*

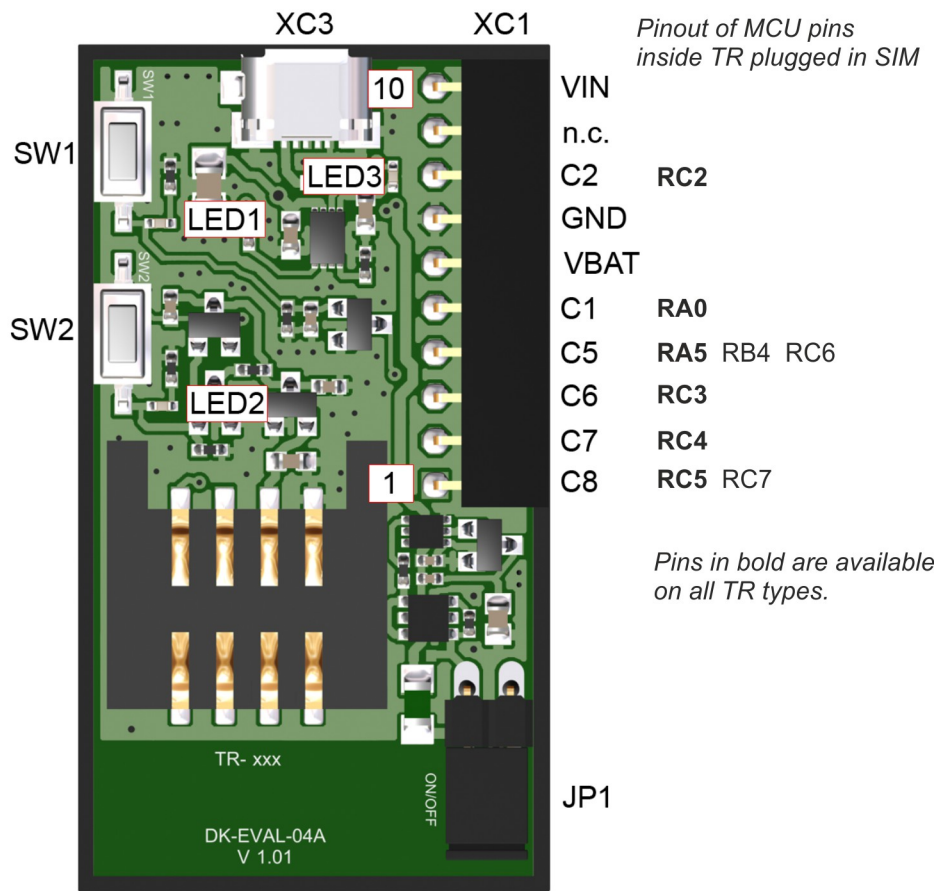
Power supply	
Accumulator	LIP552240, 400 mAh, nominal voltage 3.7 V
External source	
Via micro USB connector (with charging)	4.4 V to 6.0 V DC
Via XC1 connector, pin 6	3.5 V to 6.0 V DC
Supply current	
Sleep	1.5 μ A (powered from accumulator, jumper JP1 disconnected)
Accumulator charged	50 mA max.
Temperature	
Operating	
Accumulator not charged	-20°C to +60°C
Accumulator charged	0 °C to +45 °C
Storage	-20°C to +20°C (1 year), +10°C to +25°C recommended
Supported TR modules	TR-52B, TR-52D, TR-55D, TR-56D and similar types, in SIM card format
Dimensions	48 mm x 27 mm x 11 mm
Weight	17 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.

Power supply (from external source)	6.0 V
Ambient temperature	-20 °C to +60 °C
Storage temperature	-20°C to +60°C (1 month)

Hardware



Power supply

DK-EVAL-04A is supplied from internal accumulator or from external power source via micro USB connector XC3 which also serves as a charger. The TR module is supplied when jumper JP1 is set. Charging is indicated by LED3. The accumulator is protected against over-current (by resettable fuse SN035-16) and against over-discharging.

The accumulator should be kept charged.

For external power source also connector XC1 (pins 6 and 7) can be used.

Jumper JP1 must be disconnected in this case.

Pushbuttons

- User pushbutton SW1 is connected to pin C5 of the TR module, active low. Therefore, the TR module should have the C5 pin configured as input with internal pull-up. It is arranged by OS by default. Wake-up on change or interrupt on change on this pin can also be configured by user software.
- Reset pushbutton SW2 TR module is disconnected from power supply when the SW2 pushbutton is pressed.

LEDs

- LED1 and LED2 are on when the appropriate pushbutton is pressed.
- LED3: charging indication. LED3 is on during charging and switched off when fully charged.

SIM connector

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 disconnected from power while the SW2 pushbutton is held.

Supported TR module types

TR	Supported
TR-52D	Yes
TR-53D	–
TR-54D v1.01	–
TR-54D v1.02	Yes
TR-55D	Yes
TR-56D	Yes

TR	Supported
TR-58DA	–
TR-52B	Yes
TR-53B	–
TR-72D	Yes
TR-76D	Yes

Caution: The unsupported TR modules must not be plugged into DK-EVAL-04A SIM connector.

Interface connector

Interface connector XC1 makes SIM I/O pins, power supply and ground accessible externally. It is compatible with IQRF DDC development kits.

Caution: DK-EVAL-04A PCB layout is optimized for space savings during development of network applications with a lot of nodes on a table. Thus, this kit is not intended for range tests using TR modules with internal PCB antenna (e.g. TR-52DA, the range would be shortened in this case). For range test use e.g. TR-52D and an external antenna.

Product information

Pack list

- DK-EVAL-04A kit (without a TR-module)
- Accumulator (soldered) inside
- 1 jumper (power on switch)

Recommended options

- | | |
|----------------------|--|
| • TY-A6A | Power supply with USB A connector |
| • CAB-USBABMICRO-100 | Cable for TY-A6A power supply |
| • DK-PWR-01 | Power supply expansion board (to supply and charge up to 5 DK-EVAL-04A kits) |

Ordering code

- | | |
|---------------|--------------------------------|
| • DK-EVAL-04A | IQRF universal development kit |
|---------------|--------------------------------|

Document history

- | | |
|----------|---|
| • 150805 | Extended for TR-72D and TR-76D transceivers. Temperature range revised. |
| • 150119 | Pinout of MCU pins added in chapter <i>Control and indication</i> . |
| • 140801 | Chapter <i>Supported TR module types</i> added. |
| • 140124 | First release. |

Sales and Service

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Partners and distribution

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