

IQRF-BB-02

IQRF Breakout board

User's guide



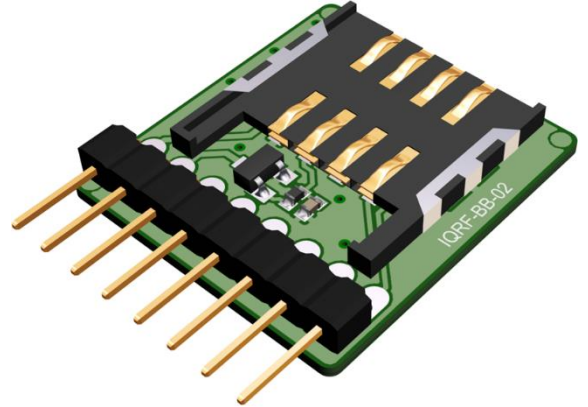
Description

IQRF-BB-02 breakout board is a development adapter for connecting an IQRF TR transceiver to any device with 3 V or 3.3 V logic.

It enables easy development with platforms like ChipKIT™, BeagleBone, Raspberry Pi and others.

Interconnectivity by individual single-wire cables ensures absolute versatility.

IQRF-BB-02 is intended especially for applications using IQRF SDK (Software Development Kit) and DPA framework for wireless applications without TR programming. However, it can be used in any SW application.



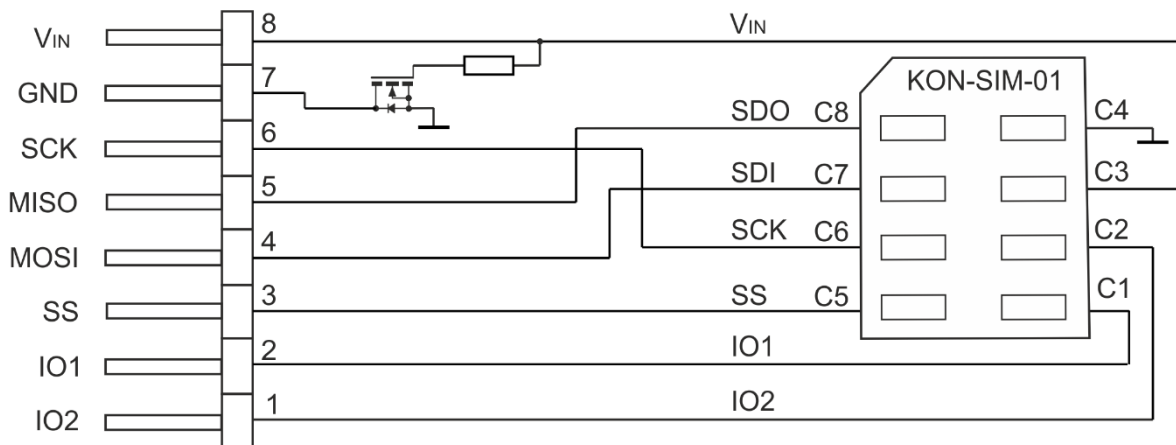
Key features

- Enables arbitrary interconnection
- 3 V as well as 3.3 V logic supported
- Protection against inverted power supply polarity
- 8 pins, 6 TR I/Os
- SIM card connector with metallic holder for TR transceiver
- Compatible with TR-72D, TR-52D, TR-62D, TR-53B and TR-52B

Applications

- IQRF wireless development with any 3 V or 3.3 V device
- ChipKIT, BeagleBone, Raspberry Pi and similar boards
- IQRF SDK plug and play support
- RF connectivity in many fields
- Internet of Things

Schematic



Information contained in this publication regarding device applications and the like is provided only for your convenience and may be superseded by updates. It is your responsibility to ensure that your application meets with your specifications.

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Electrical specifications

Typical values *unless otherwise stated*

Supply voltage (V_{IN})	3.0 V to 3.4 V (See datasheet of TR transceiver used)
Operating temperature	-40 °C to +85 °C
Size (L x W x H)	29.8 mm x 20.8 mm x 5.5 mm

Absolute maximum ratings

Stresses above listed maximum values may cause permanent damage to the device and affect device reliability. Functional operation at these or any other conditions beyond those specified is not supported.

Supply voltage (V_{IN})	4.0 V (See datasheet of TR transceiver used)
Storage temperature	-40 °C to +85 °C
Ambient temperature under bias	-40 °C to +85 °C

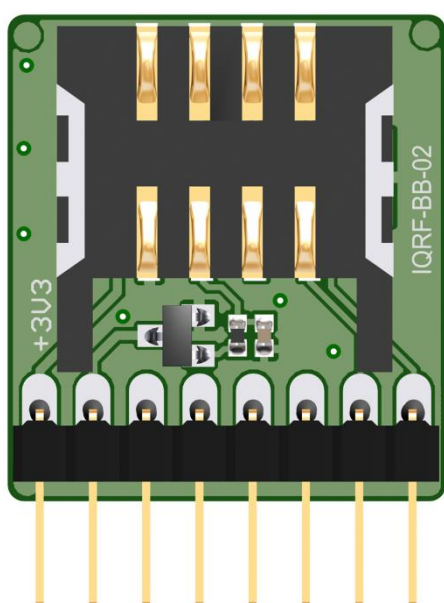
Hardware

Basic components

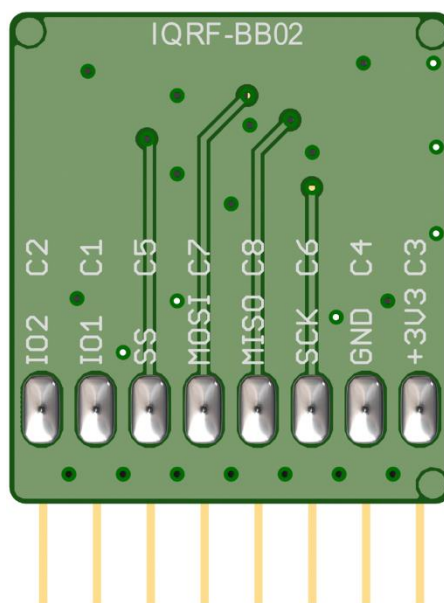
Part	Type
Interface connector	8 pin single row male connector for square 0.635 mm, 2.54 mm pitch pins
SIM connector	KON-SIM-01
Protection against inverted power supply polarity	Based on IRLML2502 MOSFET

Pins

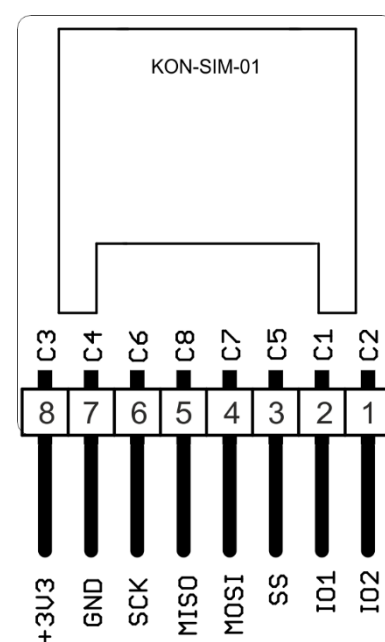
Interface connector		TR SIM connector	
Pin	Name	Pin	Description (See datasheet of given TR transceiver)
1	IO2	C2	I/O
2	IO1	C1	I/O
3	SS	C5	SPI Slave select input, UART TX output
4	MOSI	C7	SPI SDI input, I2C data input/output
5	MISO	C8	SPI SDO output, UART RX input
6	SCK	C6	SPI / I2C clock input/output
7	GND	C4	Ground
8	V _{IN}	C3	Power supply



Top view

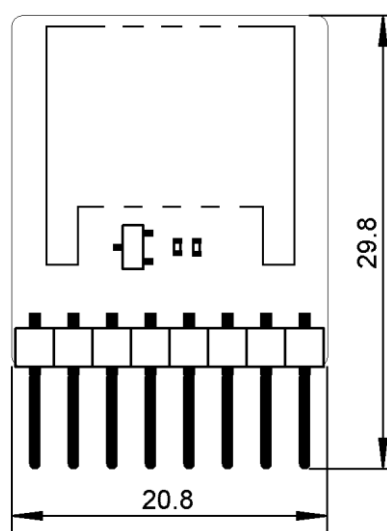


Bottom view



Pinout

Dimensions



Top view. Units: mm.

Application

See IQRF video tutorial set on www.iqrf.org/videos.

Application software

See IQRF SDK (Software Development Kit) for usage IQRF with 3-rd party devices programmable under Java or C/C++.

Product information

Ordering codes

IQRF-BB-02	IQRF breakout board, without interconnecting cables
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Hardware revision

- | | |
|---|--|
| <ul style="list-style-type: none">v1.01 | First release. With silkscreen IQRF-SHIELD-02-MCP. |
|---|--|

Document history

- | | |
|--|---------------|
| <ul style="list-style-type: none">151124 | First release |
|--|---------------|

Sales and Service

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Partners and distribution

Please visit www.iqrf.org/partners.

Quality management

ISO 9001 : 2009 certified

Complies with directives 2011/65/EU (RoHS) and 2012/19/EU (WEEE).



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