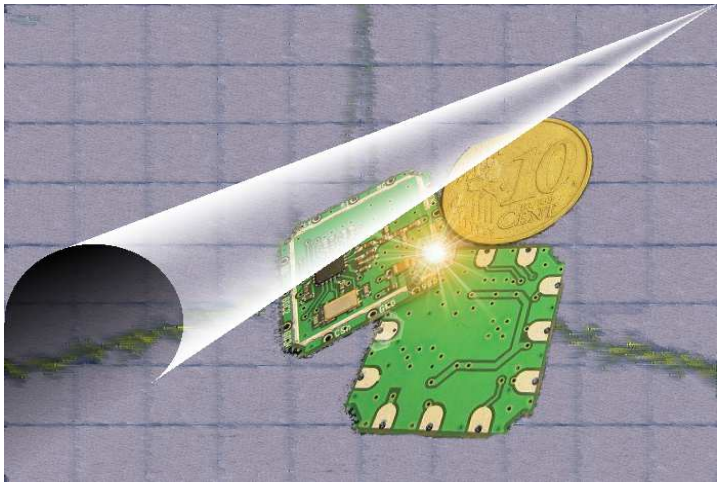
Your best partner for embedded RF design



BITxxxRTH

169, 433, 868/915 MHz
Transceiver Modules

Low cost transceiver modules designed for Narrowband ultra low power wireless systems with channel spacing down to 12.5 kHz in a small package (19 x 19 mm) with up to 16 dBm output power and -127 dBm of sensitivity

Highly Integrated RF Solutions

The **BITxxxRTH** series of modules are very small complete and compact RF solutions.

Different versions of the product are available for RF applications in the 169, 433 and 868/915 MHz unlicensed ISM (Industrial, Scientific and Medical) and SRD (Short Range Device) frequency bands.
BITxxxRTH are ideal solution for home and building automation, control system, sensor networks, Wireless Metering and Wireless Smart Grid (AMR and AMI), etc.

Module can be SMT assembled.
Lead-free “green package.
With only 19 x 19 mm footprint the modules provide a real cost-effective wireless solution.

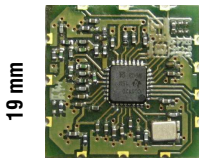
No additional components are needed, except for a simple antenna and a microcontroller with only 4 pins plus 4 optional

All the operating parameters are fully configurable via an SPI interface: RF data-rate, output power, operating channel, Carrier sense, packet length, etc.

BITxxxRTH are suited for system compliant with:

Europe	ETSI EN 300 220
	ETSI EN 54-25
US	FCC CFR47 Part 15
	FCC CFR47 Part 90, 24 and 101
Japan	ARIB RCR STD-T30
	ARIB STD-T67
	ARIB STD-T96

Order code are:
BIT169RTH : Transceiver 169 MHz
BIT433RTH : Transceiver 433 MHz
BIT868RTH : Transceiver 868/915 MHz



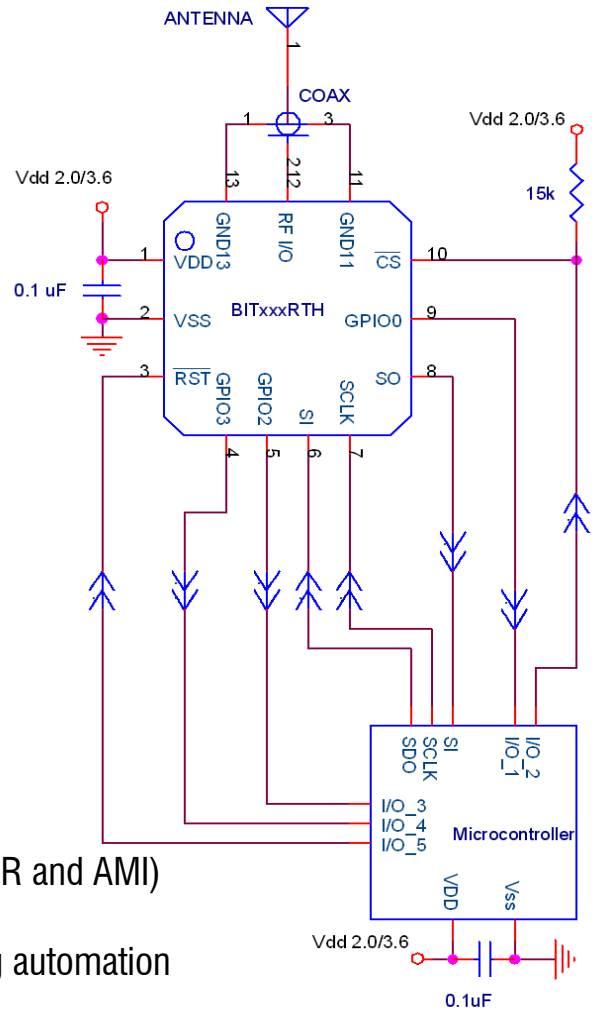
Configuration Software

BITxxxRTH can be configured using the SmartRF® Studio software , available for download from http://www.ti.com/lpw. The SmartRF® Studio software is highly recommended for obtaining optimum register settings, and for evaluating performance and functionality.

Features

- Small size (19 x 19 mm)
- Receive sensitivity down to −127 dBm using built-in coding gain
- Programmable output power up to + 16 dBm
- Programmable data rate up to 200 kbps
- 2-FSK, 4-FSK, GFSK, MSK and OOK
- Support for packet oriented systems
- Support for sync word detection, flexible packet length, and automatic CRC Calculation
- 200 nA sleep mode current consumption
- Fast start-up time; 166 us from IDLE to RX or TX mode
- 128 byte RX and TX FIFO
- Support for Antenna Diversity and Sniff Mode

Typical Application



Applications

Wireless Metering and Wireless Smart Grid (AMR and AMI)
IEEE 802.15.4g systems
Alarm and security systems, Home and building automation
Wireless sensor networks and Active RFID
Telemetry Station
Private mobile radio

Operating Conditions and Specification

Parameter	Min.	Typ.	Max	Units	Remarks
RF Frequency Range	164.0 410.0 820.0		192.0 480.0 960.0	MHz	BIT169RTH BIT433RTH BIT868RTH
Operating Temperature	-30		+85	°C	
Supply Voltage Vdd	2.0		3.6	V	
Current Consumption		0.3 54 3.7 23	1	uA mA mA mA	Power Down Tx mode 169 MHz, +14 dBm RX Sniff Mode @ 1.2 kbps Peak during packet reception
Sensitivity		-127 -123 -103		dBm	@ 300 bps with coding gain @ 1.2 kbps DEV=4KHz @ 200 kbps

Bit is Italian Technology S.r.l.
Viale delle Industrie, 20 - 20020 Arese (MI)
Tel.: (+39)0230465311, fax: (+39)0230465396
http://www.bit.it info@bit.it

a KEVIN SCHURTER company
http://www.kevin.it info@kevin.it