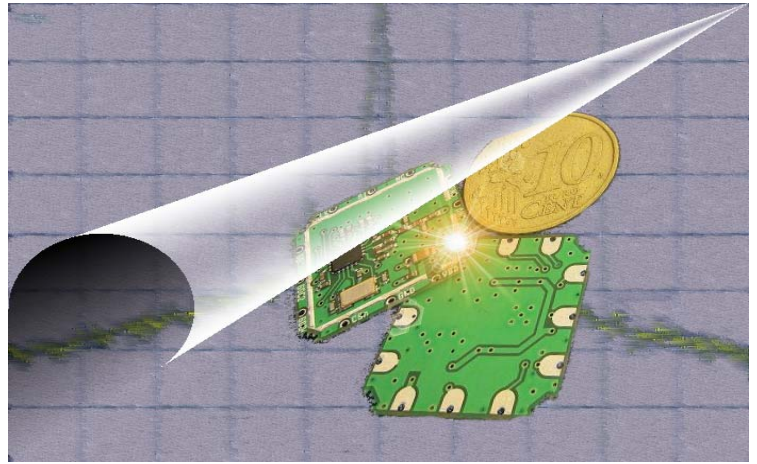




Your best partner  
for embedded  
RF design



# BITxxRT

## BITxxRT series Transceiver Modules

Very low cost transceiver module designed for very low power wireless applications in a very small package (20x20 mm)

### Highly Integrated RF solution

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

Three different versions of the product are available for RF applications in the 433, 868 MHz and 2.4 GHz unlicensed ISM (Industrial, Scientific and Medical) and SRD (Short Range Device) frequency bands.

BITxxRT are ideal solution for home and building automation, control system, sensor networks, etc.

Module can be PTH or SMT assembled.

Lead-free "green package."

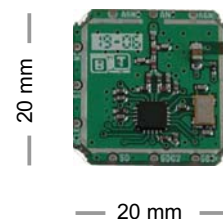
With only **20x20 mm footprint** the modules provide a real **cost-effective** wireless solution.

No additional components are needed, except for a simple antenna and a microcontroller with only 4 pins plus 2 optional

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

**BIT04RT/BIT08RT** suited for system compliant with EN 300 220 (Europe) and FCC CFR Part 15 (US).

**BIT24RT** suited for system compliant with EN 300 328 and EN 300 440 calss 2 (Europe), CFR47 Part 15 (US) and ARIB STD-T66 (Japan).



### Configuration Software

BITxxRT can be configured using the SmartRF® Studio software, available for download from <http://www.chipcon.com> or <http://www.ti.com/lpw>.

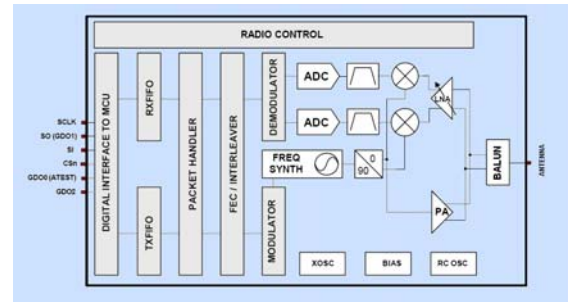
The SmartRF® Studio software is highly recommended for obtaining optimum register settings, and for evaluating performance and functionality.

Should you need any other information or customization don't hesitate to call us.

## Features

- True single module complete RF solution
- Small size (20 x 20 mm)
- High Sensitivity (-109 dbm @ 1.2 kbps, 1% PER)
- Programmable output power up to + 10 dBm for BIT04RT/BIT08RT and +1 dBm for BIT24RT
- Low current consumption (RX: 17 mA, TX: 30 mA @ 10 dbm output power)
- 1.8 - 3.6 V Power Supply
- -40°C to +85°C operating temperature
- RF Data Rate up to 500 kbps
- Custom solutions on request
- Integrated analog temperature sensor
- Digital RSSI output
- Automatic Frequency Compensation

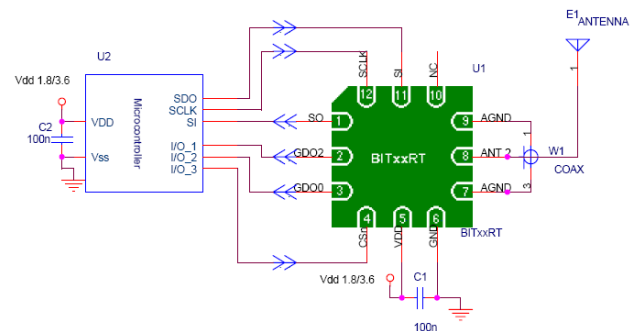
## Block Diagram



## Applications

- Radio Modems
- Ultra low power wireless Transceiver
- Alarm and security systems
- Home and building automation
- Wireless sensor networks
- Telemetry Station
- Wireless audio
- OEM equipment

## Typical Application



## Operating Conditions and Specifications

Parameter	Min.	Typ.	Max.	Units	Remarks
RF Frequency Range	400.0		464.0	MHz	BIT04RT
	864.0		928.0	MHz	BIT08RT
	2410.0		2483.5	MHz	BIT24RT
Operation temperature	-40		+85	°C	
Supply voltage Vdd	1.8		3.6	V	
Current Consumption		1		uA	Power Down
		29		mA	Transmit mode @ max output power
		15		mA	Receive mode @ 1.2 kbps
Sensitivity		-109		dBm	@ 1.2 kbps
		-93		dBm	@ 125 kbps