
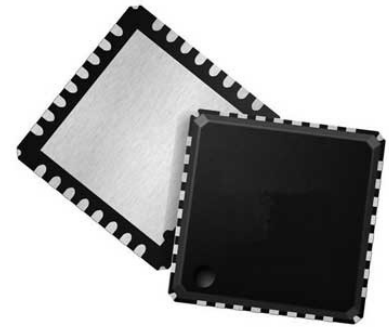


RF Transceiver O-QPSK 1.8V/3V 32-Pin VQFN EP Tray

Manufacturer:	Microchip Technology, Inc
Package/Case:	QFN32
Product Type:	Communication & Networking ICs
RoHS:	RoHS Compliant/Lead free 
Lifecycle:	Active



Images are for reference only

[Inquiry](#)

General Description

Low-power, low-voltage 700/800/900MHz transceiver designed for low-cost IEEE 802.15.4-2011, ZigBee Pro, 6LoWPAN, and high data rate ISM applications available in China, Europe, North America, and Japan. The transceiver offers an extreme 120 dB link budget (-110 dBm receiver sensitivity / +10 dBm transmit power). It is a true SPI-to-antenna solution providing a complete radio transceiver interface between the antenna and the microcontroller. MAC and AES hardware accelerators improve overall system power efficiency and timing.

It comprises the analog radio transceiver and the digital demodulation including time and frequency synchronization, and data buffering. All RF-critical components are integrated on a single chip minimizing the number of required external components to the antenna, crystal and decoupling capacitors. The bidirectional differential antenna pins, used for transmission and reception, eliminate the need for an external antenna switch.

An internal 128 byte RAM buffers transmit and receive data. Two on chip low dropout (LDO) voltage regulators provide the internal analog and digital 1.8V supply.

Key Features

Fully integrated 769-935MHz transceiver including:

Chinese WPAN band from 779 to 787MHz

European SRD band from 863 to 870MHz

North American ISM band from 902 to 928MHz

Japanese band from 915 to 930MHz

Direct Sequence Spread Spectrum with different modulation and data rates:

BPSK with 20 and 40kb/s, compliant to IEEE® 802.15.4-2003/2006/2011

O-QPSK with 100 and 250kb/s, compliant to IEEE 802.15.4-2006/2011

O-QPSK with 250kb/s, compliant to IEEE 802.15.4-2011

O-QPSK with 200, 400, 500, and 1000kb/s PSDU data rate

Flexible combination of frequency bands and data rates

Industry leading link budget:

Receiver sensitivity up to -110dBm

Programmable TX output power up to +11dBm

Ultra-low current>

Ultra-low supply voltage (1.8V to 3.6V) with internal regulator

Easy to use interface:

Registers, frame buffer, and AES accessible through fast SPI

Clock output with prescaler from radio transceiver

Radio transceiver features:

128-byte FIFO (SRAM) for data buffering

Fully integrated, fast settling PLL to support Frequency Hopping

Battery monitor

Adjustable receiver sensitivity

Integrated TX/RX switch, LNA, and PLL loop filter

Automatic VCO and filter calibration

Integrated 16MHz crystal oscillator

Special IEEE 802.15.4™-2011 hardware support:

FCS computation and Clear Channel Assessment

RSSI measurement, Energy Detection and Link Quality Indication

MAC hardware accelerator:

Automated acknowledgement and retransmission

CSMA-CA and Listen Before Talk (LBT)

Automatic address filtering and automated FCS check

Extended feature set hardware support:

AES 128-bit hardware accelerator

Antenna Diversity

RX/TX indication for external RF front end control

True Random Number Generation for security application

Optimized for low BoM Cost and ease of production:

Few external components necessary (crystal, capacitors and antenna)

Excellent ESD robustness

Industrial temperature range from -40°C to +85°C

I/O and packages:

32-pin Low-Profile QFN Package 5 x 5 x 0.9mm³

RoHS/Fully Green

Compliant to IEEE 802.15.4-2003/2006/2011

Compliant to ETSI EN 300 220-1, and FCC 47 CFR Section 15.247

Recommended For You

AT86RF233-ZUR

Microchip Technology, Inc

QFN32

ATmega128RFA1-ZU

Microchip Technology, Inc

QFN64

AT86RF215-ZUR

Microchip Technology, Inc

QFN48

AT86RF231-ZU

Microchip Technology, Inc

QFN32

AT86RF233-ZU

Microchip Technology, Inc

QFN32

ATWILC1000B-UU-T

Microchip Technology, Inc

55LWLCSP3.25x3.25

ATBILC1000A-MU-T

Microchip Technology, Inc

QFN32

ATWINC1500B-MU-T

Microchip Technology, Inc

QFN40

AT86RF215-ZU

Microchip Technology, Inc

QFN48

ATSAMR34J18BT-I/7JX

Microchip Technology, Inc

TFBGA

ATWILC1000B-MU-Y

Microchip Technology, Inc

QFN

AT88RF1354-ZU

Microchip Technology, Inc

VQFN6x6

ATSAMR35J18BT-I/7JX

Microchip Technology, Inc

TFBGA-64

ATWILC1000B-MU-T

Microchip Technology, Inc

QFN

ATSAMR21G17A-MU

Microchip Technology, Inc

QFN48