



Product Overview

AX5043: Ultra-low Power RF Transceiver, 27-1050 MHz

For complete documentation, see the [data sheet](#)

Product Description

The AX5043 is a true single chip, narrow-band, ultra-low-power ASK and FSK RF transceiver for the 27 MHz to 1050 MHz frequency bands. It offers the unique combination of ultra-low power consumption for transmit and receive operation combined with highest sensitivity and high selectivity. A link budget of 143 dB at 1 kbps is achieved, if the built-in forward error correction (FEC) is used this can be extended to 146 dB without extra external components. The AX5043 works perfectly down to 1 kbps in a 6.25 kHz channel.

An integrated voltage regulation system allows the direct use of batteries and short start-up times enable time- and energy-efficient protocols. Transmit power and receive characteristics do not change over the supply voltage range of 1.8 - 3.6 V.

The AX5043 supports FSK, MSK, 4-FSK, GFSK, GMSK, AFSK and ASK modulations. In transmit mode, all modulations are shaped. For FSK gaussian filters with BT=0.3 or BT=0.5 are available to meet the most stringent regulatory requirements. Power ramping can be configured without restrictions. Maximum output power level is 16 dBm.

Features	Benefits
<ul style="list-style-type: none">Carrier frequency range 27 - 1050 MHzUltra-low powerConstant TX output power over the full VDD range of 1.8 - 3.6 VFully autonomous lowest power wake-on-radio mode (500 nA)Packet RX/TX without microcontroller intervention	<ul style="list-style-type: none">Wide frequency range to work withAchieves low power capability without sacrificing link budget or selectivityTransmit power and receive characteristics do not change over the supply voltage rangeAutonomously handles wake-on-radio cyclingSupports a wide range of packet formats that are handled without microcontroller intervention.

Applications

- IOT (Internet of Things)
- Automated Meter Reading (AMR)
- Security Applications
- Building Automation
- Wireless Networks

Part Electrical Specifications

Product	Compliance	Status	Data Transmission Standard	Frequency Band (MHz)	Carrier Frequency (MHz)	Package Type
AX5043-1-TA05	Pb-free Halide free	Active	GFSK MSK FSK FM AFSK GMSK 4-FSK ASK PSK	27-1050		QFN-28
AX5043-1-TW30	Pb-free Halide free	Active	FM GMSK ASK GFSK PSK MSK FSK 4-FSK AFSK	27-1050		QFN-28

For more information please contact your local sales support at www.onsemi.com

Created on: 12/9/2016