

## Product Overview

### AX5243: Ultra-Low Power Narrow-Band Sub GHz (27 - 1050 MHz) RF Transceiver

For complete documentation, see the data sheet.

The AX5243 is a true single chip ultra-low power narrow-band CMOS transceiver for use in licensed and unlicensed bands from 27 and 1050 MHz. The on-chip transceiver consists of a fully integrated RF front-end with modulator, and demodulator. Base band data processing is implemented in an advanced and flexible communication controller that enables user friendly communication via the SPI interface. It supports any data rate from 0.1 kbps to 125 kbps for FSK, 4-FSK, GFSK, GMSK, MSK, ASK and PSK modulations.

The AX5243 can be operated from a 1.8 V to 3.6 V power supply over a temperature range of -40°C to 85°C. It consumes 7 - 48 mA for transmitting at 868 MHz carrier frequency, 4 - 51 mA for transmitting at 169 MHz depending on the output power. In receive operation, it consumes 9 - 11 mA at 868 MHz carrier frequency and 6.5 - 8.5 mA at 169 MHz. It also features an internal lowest power fully integrated oscillator. In default mode the frequency of oscillation is 640 Hz +/- 1.5%, in fast mode it is 10.2 kHz +/- 1.5%. These accuracies are reached after the internal hardware has been used to calibrate the low power oscillator versus the RF reference clock.

The AX5243 features make it an ideal interface for integration into various battery powered solutions such as ticketing or as transceiver for telemetric applications e.g. in sensors.

#### Features

- Carrier frequency range of 27 - 1050 MHz
- High Sensitivity and High Selectivity Receiver
- Low Power Oscillator and Wake on Radio (WOR) Mode
- Automatic Frequency Control (AFC)

#### Benefits

- Wide frequency range to work with
- Data rates from 0.1 kbps to 125 kbps and 45 dB adjacent channel rejection
- Allows for very low average receiver power
- Capable of tracking transmitter frequency within the RX filter band width

#### Applications

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

#### Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	Data Transmission Standard	Frequency Band (MHz)	Carrier Frequency (MHz)	Package Type
AX5243-1-TW30	1.144	Pb-free Halide free non AEC-Q and PPAP	Active	4-FSK	27-1050	169 MHz	QFN-20
				AFSK		433 Mhz	
				ASK		868 Mhz	
				FM			
				FSK			
				GFSK			
				GMSK			
				MSK			
				PSK			

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