

ULTRALOW POWER CONNECTIVITY

Connectivity Solutions for the Internet of Things



Reliable Connection. Reliable Outcomes. Connectivity Is the Cornerstone of the Internet of Things

At Analog Devices, we make technologies that sense, measure, interpret, and connect—bridging the physical and digital worlds to form the foundation of the Internet of Things. Our technologies are designed to maximize system-level intelligence and reliability, enabling high impact applications where the quality and integrity of data and insights are mission critical.

The best data acquisition and cloud analytics in the world will fail to deliver if communication technology can't reliably connect the two. In some applications, one missed connection can result in a critical failure.

Analog Devices offers a growing portfolio of ultralow power RF transceivers covering sub-GHz and 2.4 GHz frequency bands. Our technologies are the most robust on the market, designed to communicate reliably in noisy RF environments and under heavy interference, and to maintain stability in the harshest conditions. Additionally, our ultralow power capability ensures best-in-class energy efficiency, enabling design flexibility and minimizing cost of ownership.

Let us help you design the most reliable connected solution possible for your application.



Ultralow Power RF Transceiver Portfolio



Radio Challenges for IoT

Reliable communication in challenging RF environments such as factories:

- ▶ Congested ISM bands
- ▶ High power interferers from new LTE bands nearby ISM bands
- ▶ RF obstacles such as steel constructions or thick walls

ADI Designs Robust Radios for More Reliable End Products

- ▶ Industry-leading blocking and ACR ensure messages are received in the presence of unwanted interferers
- ▶ Industry-leading sensitivity minimizes the effects of large RF obstacles
- ▶ Comprehensive factory testing ensures reliability over devices

Ultralow Power Operation

- ▶ ADI radios enable a battery life of over 20 years for connected sensors
- ▶ Highlighted specifications:
 - ADF7030-1 sleep current with settings retained = 10 nA
 - ADF7023 active receive current = 12.8 mA

Radio Support for Multiple Regions and Network Topologies

- ▶ Global frequencies
- ▶ PHY support for multiple protocols including
 - ZigBee, 6LoWPAN, Wi-SUN, Wireless M-Bus, Z-Wave

Radio Solution Development for Fast Time to Market

- ▶ EZ-KIT® enables fast out of the box technology evaluation
- ▶ Radio drivers for ARM® Cortex® microcontrollers for rapid code development
- ▶ ADI technical support ready to help with any queries

RadioVerse ULP Technology and Design Ecosystem

ADI recognizes the challenges associated with RF design and integration, and what it takes to connect devices and bring a solution to market quickly. The RadioVerse™ ULP technology and design ecosystem gets our customers through the entire radio design process—from idea, to proof of concept, to production—as fast as possible.



Visit analog.com/radioverse to learn more.





Ultralow Power RF Transceiver Portfolio



Part Number	Protocols Supported*	Overview	Frequency Range (MHz)	Max Output Power (dBm)	Max Data Rate (kbps)	Min Channelization (kHz)	Price \$U.S. 1000 to 4999
ADF7030-1	802.15.4g, Wi-SUN, Wireless M-Bus Mode N, S, T, C, ZigBee, 6LoWPAN	High performance, narrow-band and wideband platform	169/433/450 to 470/868/915/950	17	400	3	1.99
ADF7030	Wireless M-Bus Mode N	Wireless M-Bus Mode N only	169	17	6.4	12.5	1.99
ADF7024	802.15.4g, Wi-SUN, Wireless M-Bus Mode S, T, C, ZigBee, 6LoWPAN	Reduced flexibility, wideband operation	433/868/915	13.5	300	100	0.99
ADF7023-J	802.15.4g, Wi-SUN, ZigBee	Japanese market, wideband operation	915/950	13.5	300	100	1.79
ADF7023	802.15.4g, Wi-SUN, Wireless M-Bus Mode S, T, C, ZigBee, 6LoWPAN	High flexibility, wideband operation	433/868/915	13.5	300	100	1.79
ADF7241	802.15.4, ZigBee, 6LoWPAN	2.4 GHz	2400	4.8	250	600	1.59
ADF7242	802.15.4, ZigBee, 6LoWPAN	2.4 GHz, high data rate	2400	4.8	2 Mbps	600	1.99
ADF7021-V	Proprietary	Legacy device, external VCO	80 to 960	13	24	9	2.99
ADF7022	Proprietary	Legacy device, wideband operation	868	13.5	38.4	100	1.79
ADF7021-N	Proprietary	Legacy device, high flexibility	80 to 650/868/915	13	24	9	1.99
ADF7021	Proprietary	Legacy device, high flexibility	80 to 650/868/915/950	13	32.8	12.5	2.32
ADF7025	Proprietary	Legacy device, wideband operation	433/868/915	13	384	600	1.99
ADF7020-1	Proprietary	Highly flexible, wideband operation	80 to 650	13	200	100	1.99
ADF7020	Proprietary	Legacy device, wideband operation	433/450 to 470/868/915/950	13	200	100	1.99
ADF7012	Proprietary	Low cost transmitter	75 to 1000	14	50	—	0.99

*The transceivers support PHY layer modes.

EngineerZone Online Support Community

Engage with the Analog Devices technology experts in our online support community. Ask your tough design questions, browse FAQs, or join a conversation.

Visit ez.analog.com



Circuits from the Lab Reference Designs

Circuits from the Lab® reference designs are built and tested by ADI engineers with comprehensive documentation and factory-tested evaluation hardware.

Visit www.analog.com/cftl

**Circuits
from the Lab®**
Reference Designs

Analog Devices, Inc. Worldwide Headquarters

Analog Devices, Inc.
One Technology Way
P.O. Box 9106
Norwood, MA 02062-9106
U.S.A.
Tel: 781.329.4700
(800.262.5643, U.S.A. only)
Fax: 781.461.3113

Analog Devices, Inc. Europe Headquarters

Analog Devices GmbH
Ott-Aicher-Str. 60-64
80807 München
Germany
Tel: 49.89.76903.0
Fax: 49.89.76903.157

Analog Devices, Inc. Japan Headquarters

Analog Devices, KK
New Pier Takeshiba
South Tower Building
1-16-1 Kaigan, Minato-ku,
Tokyo, 105-6891
Japan
Tel: 813.5402.8200
Fax: 813.5402.1064

Analog Devices, Inc. Asia Pacific Headquarters

Analog Devices
5F, Sandhill Plaza
2290 Zuchongzhi Road
Zhangjiang Hi-Tech Park
Pudong New District
Shanghai, China 201203
Tel: 86.21.2320.8000
Fax: 86.21.2320.8222

©2016 Analog Devices, Inc. All rights reserved. Trademarks and registered trademarks are the property of their respective owners. Ahead of What's Possible is a trademark of Analog Devices. BR14921-0-10/16

analog.com



AHEAD OF WHAT'S POSSIBLE™