

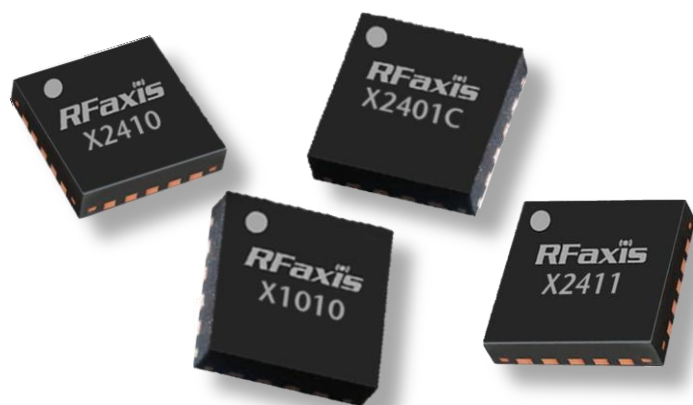
CMOS RFeIC Portfolio for Smart Energy/Smart Home, ZigBee and ISM

Features and Benefits

- Single-Chip/Single-Die RFeIC in pure CMOS
- Highest Level of Integration with Smallest Size
- Easy PCB Design with Complete On-Chip Impedance Matching and RF Decoupling
- Industry's Most Cost-Effective Front-End Solution

Applications

- Smart Energy/AMI/AMR
- Smart Home/HAN
- Wireless Sound & Audio
- Remote Control
- Asset Management
- Generic ISM Band Radio



The RFaxis RF Front-end IC (RFeIC) family for smart energy/smart home, ZigBee and generic ISM includes the industry's most densely integrated, high performance RF front-end solutions on the market today. Built upon RFaxis' patented single-chip/single-die RFeIC architecture, these miniature ICs come complete with on-chip input and output impedance matching and are fully RF decoupled on all DC voltage supply pins, thus requiring the minimum number of external components and typically take only a fraction of PCB footprint when compared with competitor solutions.

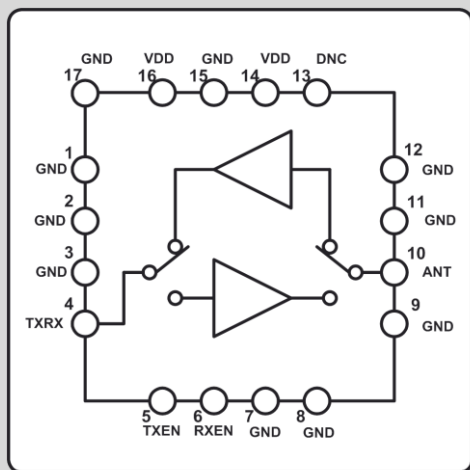
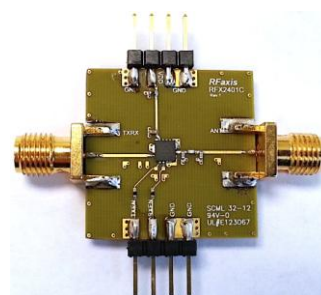
The RFX2401C is a fully integrated RFeIC that incorporates all key RF functionality needed for IEEE 802.15.4/ZigBee or other 2.4GHz ISM band systems. It provides a high-efficiency PA, LNA, Tx/Rx switch, antenna switch, matching networks and harmonic filters, all in a single chip and housed in a tiny 3x3mm 16L QFN package. The RFX2411/RFX2410 provide additional antenna diversity capabilities without any increase in package size. The RFX1010 is a universal sub-GHz RFeIC capable of delivering up to half-watt output power at the antenna port over an exceptionally broad frequency range from 780 to 960MHz.

Designed and fabricated in industry-standard bulk CMOS technology, these reliable RFeICs not only simplify RF designs tremendously, they also provide a significant cost reduction compared with traditional GaAs or SiGe based RF front-end solutions, enabling customers to deliver high-performance RF products with the lowest possible overall BOM cost.

P/N	Description	Frequency	Vcc	Tx Gain	Tx Psat	Rx Gain	Rx NF	Package
		(GHz)	(V)	(dB)	(dBm)	(dB)	(dB)	
RFX2401C	2.4GHz ZigBee/ISM RFeIC with PA, LNA, T/R & Antenna Switch	2.4-2.5	3.3	25	+22	12	2.4	3x3mm QFN16
RFX1010	Broadband 700~900MHz 0.5W RFeIC with PA, LNA, SPDT	0.78-0.96	3.3	30	+27	12	2.5	3x3mm QFN16
RFX2411	2.4GHz ZigBee/ISM RFeIC with PA, LNA/Bypass, T/R Switch & Antenna Diversity Switch	2.4-2.5	3.3	24	+21	12	2.5	3x3mm QFN20
RFX2410	2.4GHz ZigBee/ISM RFeIC with PA, Rx Bypass, T/R Switch & Antenna Diversity Switch	2.4-2.5	3.3	24	+21	2 (IL)	N/A	3x3mm QFN20

RFX2401C 2.4GHz ZigBee/ISM RFeIC

Size: 3 x 3 x 0.55 mm
 Package: 16-L QFN



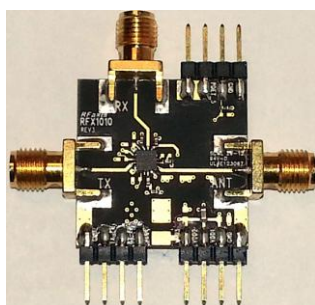
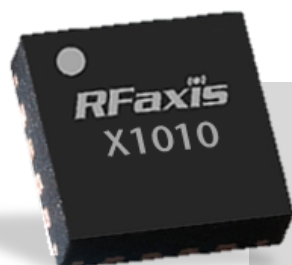
Product Overview

- Single-Chip, Single-Die RF Front-end IC
- PA + LNA + Tx/Rx and Antenna Switch
- Pure CMOS Process
- 2.4 – 2.5 GHz Operation
- 802.15.4 ZigBee, ISM-Band Applications

Key Features

- Fully Integrated Single-Placement FE
- +22dBm Saturated Output Power
- 100mA Total Current for +20dBm Pout
- 17mA Quiescent Current
- 25dB Tx Gain, 12dB Rx Gain
- 2.4dB Noise Figure
- Backward Pin-Compatible with RFX2401 (BiCMOS)

RFX1010 700/800/900MHz 0.5Watt Broadband RFeIC



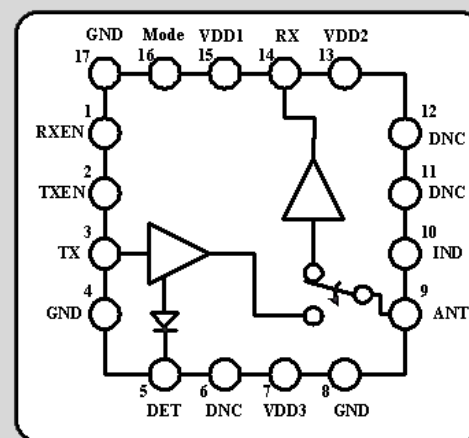
Size: 3 x 3 x 0.55 mm
 Package: 16-L QFN

Product Overview

- Single-Chip, Single-Die RF Front-end IC
- PA + LNA + SPDT + Harmonic Filters
- Pure CMOS
- 780 MHz – 960 MHz Operation
- 802.15.4 ZigBee, ISM-Band Applications

Key Features

- Fully Integrated Single-Placement FE
- +27dBm Saturated Output Power
- 30dB Gain, 270mA @ +24dBm Pout
- 27dB Gain, 360mA @ +27dBm Pout
- Noise Figure: 2.5dB
- Rx Gain: 12dB



RFX2411 ZigBee/ISM RFeIC with PA, LNA with Bypass & Antenna Diversity Switch

Size: 3 x 3 x 0.55 mm

Package: 20-L QFN

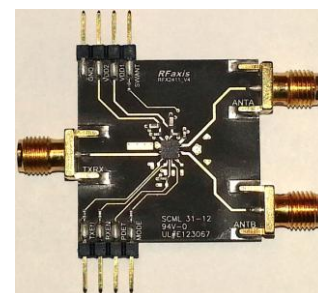
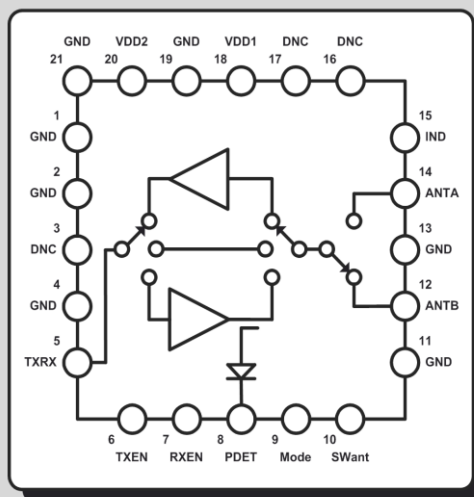


Product Overview

- Single-Chip, Single-Die RF Front-end IC
- PA + LNA + Bypass + Tx/Rx and Antenna Diversity Switches
- Pure CMOS
- 2.4 – 2.5 GHz Operation
- Extended Range 802.15.4 ZigBee, ISM-Band Applications

Key Features

- Fully Integrated Single-Placement FE
- Integrated Power Detector
- +21dBm Saturated Output Power
- 110mA I_{cc} for +20dBm P_{out}
- 24dB Tx Gain, 12dB Rx Gain
- 2.5dB Noise Figure



RFX2410 ZigBee/ISM RFeIC with PA and Antenna Diversity Switch

Size: 3 x 3 x 0.55 mm

Package: 20-L QFN

Product Overview

- Single-Chip, Single-Die RF Front-end IC
- PA + Tx/Rx Port Switch and Antenna Diversity Switch
- Pure CMOS
- 2.4 – 2.5 GHz Operation
- Extended Range 802.15.4 ZigBee, ISM-Band Applications

Key Features

- Fully Integrated Single-Placement FE
- Integrated Power Detector
- +21dBm Saturated Output Power
- 110mA I_{cc} for +20dBm P_{out}
- 24dB Tx Gain
- 2dB Total Rx Path Insertion Loss
- Pin-Compatible with RFX2411

