

ARF2496K PRODUCT BRIEF

Ultra-Low Power Fully Integrated 2.4GHz RF Transceiver IC

The ARF2496K RF transceiver IC is a very cost effective and extremely low power consuming 2.4GHz RF IC, enabling flexible bi-directional wireless connectivity for a wide range of consumer, industrial and commercial applications. This all-CMOS 2.4GHz transceiver IC employs GFSK technology for higher interference resistance and programmable frequency synthesizer for multi-channel capability.

ARF2496K's patent pending **Multiple-Packet Burst** mode consumes extremely low power current and reduces the MCU load, making it the ideal solution for wireless portable applications. Features such as CDR and data scrambler also reduces system design efforts.

Requiring only a few external components and data rate of 1Mbps, the ARF2496K transceiver IC enables cost effective, low power consumption, multi-channel and easy to implement 2-way wireless communication links. In turn, reducing R&D schedules, expenses and uncertainties, while accelerating time to market for wireless applications.

ARF2496K Key Benefits

Multiple-Packet Burst Mode reducing the power consumption by at least 91%

CRC Error Correction ensures high integrity of the RF transmission

Fully Integrated on-chip functional blocks lowering the total system cost, increasing reliability, reducing the form factor, simplifying design thus improving time-to-market

External fine-tuning is NOT required, saving production cost and improving yield

Built-in Data Scrambler reduces development efforts and balances the DC offset

Programmable Output Power Level offering flexibility in applications

Only a few external RF components are required

Analog RSSI & Digital RSSI enables adaptive frequency hopping

Image Rejection greatly improves interference immunity

CDR facilitates easier data slicing and system design

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Applications

- Wireless Mice
- Wireless Keyboards
- Wireless Game Pads
- Wireless Audio/Voice
- Remote Controls
- Home Automation
- Home Security
- Automotive Networks
- Industrial Networks
- Remote Sensing
- Remote Metering
- Interactive Toys

ARF2496K Specifications

Frequency Range	2.4GHz ~ 2.527GHz
Power Supply Voltage	1.9V ~ 3.6V
Data Rate	250Kbps / 1Mbps
Receiver Sensitivity	-93dBm@10 ⁻³ BER (250Kbps) -85dBm@10 ⁻³ BER (1Mbps)
Number of Channels	128
Modulation/Demodulation Scheme	GFSK
Current Consumption (Tx Mode)	13mA@0dBm
Current Consumption (Rx Mode)	18mA
Current Consumption (Power Saving Mode)	<1μA
Adjustable Tx Output Power Level	0dBm, -5dBm, -10dBm, -20dBm
RF Channel Switching Time	<200μs
Operating Temperature	-40°C ~ +85°C
Package	QFN24

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