

JXA2421PPB

14-Bit, Dual-Channel, 3GSPS RF Sampling ADC

Pin-Compatible Alternative to AD9208

3 GSPS ADC Rate	14 Bit Resolution	2 Channels	>60 dB SNR (typ.)
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Product Overview

The JXA2421PPB is a 14-bit, dual-channel, 3GSPS-per-channel high-speed pipelined ADC featuring direct RF sampling architecture and JESD204B/C high-speed serial interfaces. Manufactured on an advanced CMOS process, it integrates a high-precision voltage reference, on-chip calibration engine, and digital signal processing blocks, ensuring excellent linearity and noise performance across the full temperature and supply voltage range.

Key Features

- 14-bit resolution, dual-channel simultaneous sampling
- 3 GSPS per channel, direct RF sampling up to >2.5 GHz bandwidth
- JESD204B/C interface (Subclass 1), up to 8 SerDes lanes @ 12.5 Gbps
- On-chip calibration engine for full-temperature-range stability
- Pin-to-pin compatible with AD9208 — drop-in replacement, no PCB respin
- Low power: <2.5 W typical
- 144-pin BGA package, -40°C to +85°C operating range

Key Specifications

Parameter	Value
Resolution	14 Bit
Number of Channels	2
Sample Rate (per channel)	3 GSPS
ADC Architecture	Pipelined
Analog Input Bandwidth	>2.5 GHz
SNR (typical)	>60 dB
SFDR (typical)	>75 dBc
Interface Type	JESD204B/C (Subclass 1)
SerDes Lanes	Up to 8
SerDes Line Rate	Up to 12.5 Gbps
Supply Voltage	1.8V / 2.5V
Power Consumption	<2.5 W (typical)
Operating Temperature	-40°C to +85°C
Package	144-Pin BGA
Lead Time	~6 Weeks

Applications

- Radar & Electronic Warfare — Wideband receivers, DRFM, ECM
 - 5G Wireless Infrastructure — Massive MIMO, active antenna systems
 - Broadband Communications — Point-to-point microwave, satcom ground stations
 - Test & Measurement — High-speed oscilloscopes, spectrum analyzers
- Satellite Communications — Ground receivers, portable terminals
 - Software Defined Radio — Multi-band, multi-standard receivers
 - Phased Array Radar — T/R modules, digital beamforming
 - Research & Education — High-speed data acquisition platforms

Ordering Information

Attribute	Details
Part Number	JXA2421PPB
Package	144-Pin BGA
Temperature Range	-40°C to +85°C
Compatible Device	AD9208 (pin-to-pin)