

JXA3441ME

14-Bit, Quad-Channel, 600MSPS High-Speed ADC

Pin-Compatible Alternative to AD9694

600 MSPS ADC Rate	14 Bit Resolution	4 (simultaneous sampling) Channels	>70 dB SNR (typ.)
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Product Overview

The JXA3441ME is a 14-bit, quad-channel, simultaneously sampling high-speed pipelined ADC with 600MSPS per channel and an integrated JESD204B serial interface. All four channels share a single sampling clock, ensuring channel-to-channel phase consistency better than 0.5 degrees. The JESD204B interface supports Subclass 1 deterministic latency, facilitating multi-chip cascaded expansion.

Key Features

- 14-bit resolution, 4-channel simultaneous sampling
- 600 MSPS per channel, >300 MHz analog input bandwidth
- Channel-to-channel phase match: <0.5° typical
- JESD204B interface (Subclass 1), 4 SerDes lanes @ up to 8 Gbps
- Pin-to-pin compatible with AD9694 — direct drop-in replacement
- On-chip digital calibration for gain & phase matching
- Low power: <800 mW typical, 48-pin LFCSP package

Key Specifications

Parameter	Value
Resolution	14 Bit
Number of Channels	4 (simultaneous sampling)
Sample Rate (per channel)	600 MSPS
ADC Architecture	Pipelined
Analog Input Bandwidth	>300 MHz
SNR (typical)	>70 dB
SFDR (typical)	>85 dBc
Channel-to-Channel Phase Match	<0.5° (typical)
Interface Type	JESD204B (Subclass 1)
SerDes Lanes	4
SerDes Line Rate	Up to 8 Gbps
Supply Voltage	1.8V / 2.5V
Power Consumption	<800 mW (typical)
Operating Temperature	-40°C to +85°C
Package	48-Pin LFCSP
Lead Time	~6 Weeks

Applications

- Phased Array Radar — Digital T/R modules, multi-channel receive front-ends
 - Communications Systems — Multi-channel receivers, base station RF front-ends
 - Multi-Channel Data Acquisition — High-speed sync acquisition cards
 - Power System Monitoring — Traveling wave ranging, fault recording
- Industrial NDT — Ultrasonic testing, phased array inspection
 - Electronic Warfare — Multi-channel direction finding, spectrum monitoring
 - Scientific Instruments — Particle physics detection, biomedical imaging
 - Test & Measurement — Arbitrary waveform acquisition, protocol analysis

Ordering Information

Attribute	Details
Part Number	JXA3441ME
Package	48-Pin LFCSP
Temperature Range	-40°C to +85°C
Compatible Device	AD9694 (pin-to-pin)