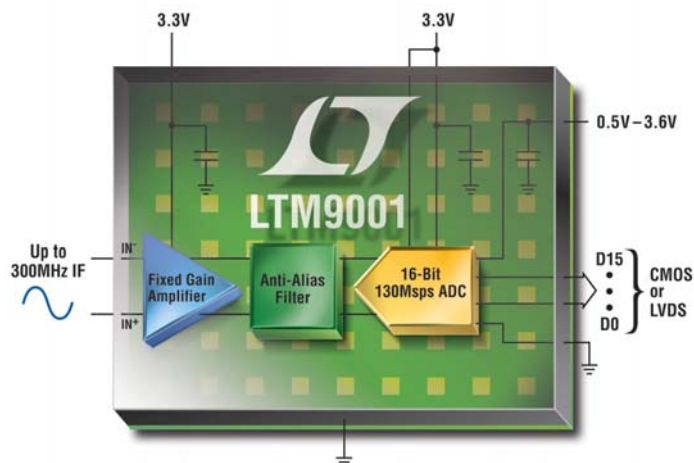


LTM9001: 16-Bit IF/Baseband μ Module Receiver

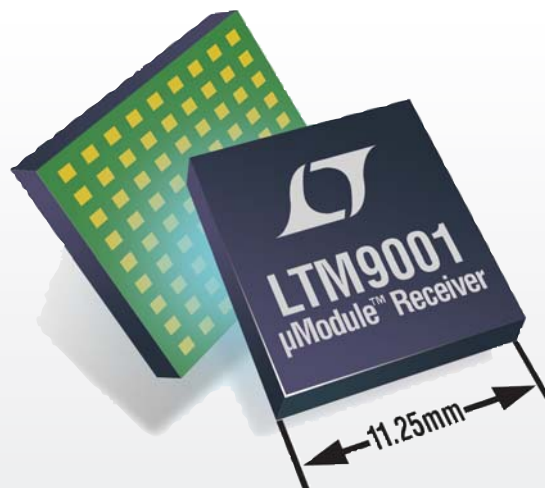


μ Module® Subsystem Dramatically Reduces Design Complexity and Board Space

The LTM®9001 is a 16-bit, IF/baseband receiver subsystem that leverages years of applications engineering expertise to maximize high speed ADC performance. The LTM9001 alleviates the need for driver and ADC impedance matching, filtering, bypass placement and layout, eliminating long hours of troubleshooting and reducing time to market. With no external components required, the LTM9001 provides a high performance solution in less than half the board space of a discrete implementation.

Features

- 16-Bit High Speed ADC
- Up to 300MHz IF Range
- 75dB SNR, 83dB SFDR (LTM9001-AD)
- Low Noise, Low Distortion Amplifiers
 - Fixed Gain: 8dB, 14dB, 20dB or 26dB
 - 50 Ω , 200 Ω or 400 Ω Input Impedance
- Integrated Passive Components
 - Anti-Alias Filter
 - Supply and Reference Bypass Capacitance
- No External Components Required
- Selectable LVDS or CMOS Outputs
- Optional Data Output Randomizer
- Optional Internal Dither
- ECCN 5A991 - No Export License Required
- 11.25mm $\times$ 11.25mm $\times$ 2.32mm LGA Package



Semi-Custom Options LTM9001

AMPLIFIER IF RANGE	AMPLIFIER INPUT IMPEDANCE	AMPLIFIER GAIN	FILTER	ADC SAMPLE RATE	ADC RESOLUTION	OUTPUT	PART NUMBER
300MHz	200 Ω	20dB	162.5MHz BPF; 50MHz BW	130Msps	16-Bit	LVDS/CMOS	LTM9001-AA
300MHz	200 Ω	14dB	70MHz BPF, 25MHz BW	130Msps	16-Bit	LVDS/CMOS	LTM9001-AD
300MHz	400 Ω	8dB	DC-300MHz LPF	160Msps	16-Bit	LVDS/CMOS	LTM9001-BA
300MHz	400 Ω	8dB	DC-10MHz LPF	25Msps	16-Bit	CMOS	LTM9001-GA

Select Combination of Options from Columns Below

DC-300MHz	50 Ω	26dB	LPF TBD	160Msps	16-Bit	LVDS/CMOS	
DC-140MHz	200 Ω	20dB	BPF TBD	130Msps	14-Bit	LVDS/CMOS	
DC-70MHz	200 Ω	14dB		105Msps		CMOS	
DC-35MHz	400 Ω	8dB		80Msps		CMOS	



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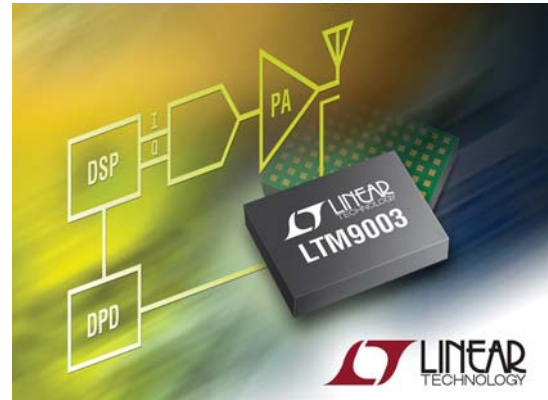
LTM9002: 14-Bit, 125Mps Dual-Channel IF/ Baseband μ Module Receiver

Semi-Custom Options LTM9002

AMPLIFIER IF RANGE	AMPLIFIER INPUT IMPEDANCE	AMPLIFIER GAIN	FILTER	ADC SAMPLE RATE	ADC RESOLUTION	AUXILIARY DAC	PART NUMBER
300MHz	50 Ω	26dB	170MHz LPF	125Mps	14-Bit	12-Bit, SPI	LTM9002-AA
140MHz	200 Ω (Channel A) 400 Ω (Channel B)	20dB (Channel A) 8dB (Channel B)	25MHz LPF	65Mps	12-Bit	None	LTM9002-LA

LTM9003: 12-Bit Digital Pre-Distortion Receiver Subsystem

- Fully Integrated Receiver Subsystem for Digital Pre-Distortion Applications
- Down-Converting Mixer with Wide RF Frequency Range: 400MHz to 3.8GHz
- 125MHz Wide Bandpass Filter, <0.5dB Passband Ripple
- Low Power ADC with Up to 12-Bit Resolution, 250Mps Sample Rate
- 145.5dBm/Hz Input Noise Floor, 25.8dBm IIP3
- 1.5W Total Power Consumption
- 50 Ω Single-Ended RF and LO Ports
- Internal Bypass Capacitance, No External Components
- ADC Clock Duty Cycle Stabilizer
- 11.25mm $\times$ 15mm LGA package



Semi-Custom Options

The μ Module construction affords a new level of flexibility in application-specific standard products. Standard ADC, amplifier and RF components can be integrated regardless of their process technology and matched with passive components to a particular application.

Linear Technology has in place a program to deliver other speed, resolution, IF range, gain and filter configurations for nearly any specified application. These semi-custom designs are based on existing ADCs, amplifiers and mixers with an appropriately modified matching network. The final subsystem is then tested to the exact parameters defined for the application. The final result is a fully integrated, accurately tested and optimized solution in the same package. For more details, contact Linear Technology.

Benefits of μ Module Technology

- Ease of Use
 - Eliminates Most Challenges of Driving High Speed ADCs
 - Integrates Key Components
 - Simplifies Layout without Sacrificing Performance
 - Provides System-Level Testing
- Dramatically Smaller and Simpler than Discrete Implementations
- Proven LTC Quality, Reliability and Service
- ECCN 5A991 - No Export License Required

