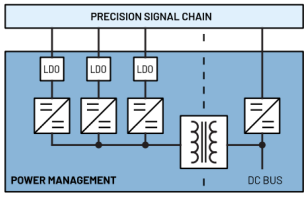
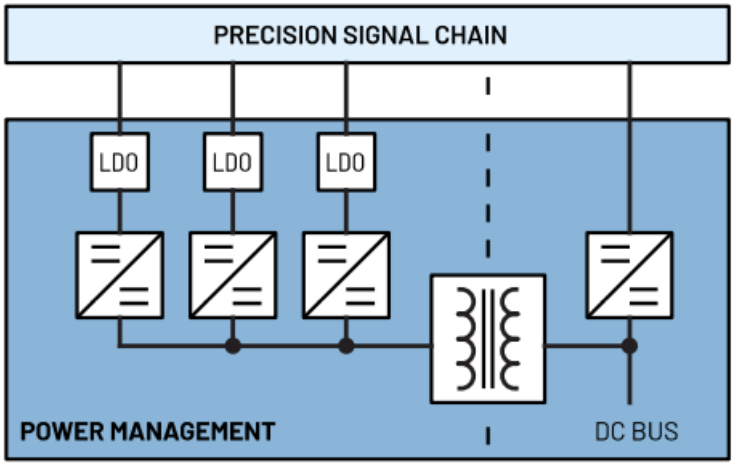


ANALOG DEVICE Precision Low Power Signal Chains User Guide

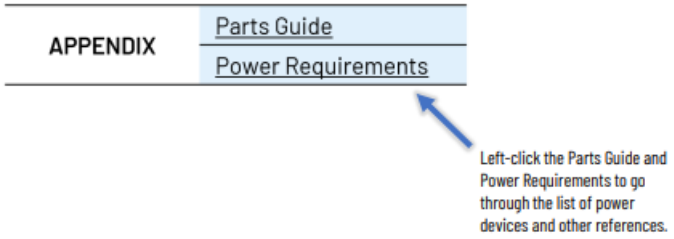
Contents

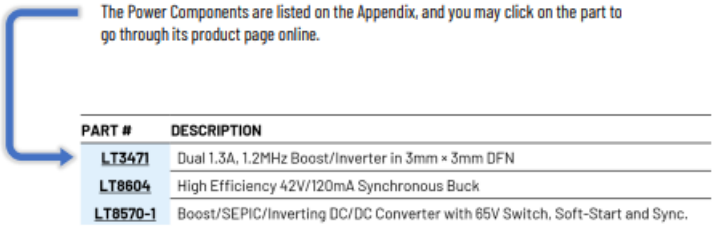
ANALOG DEVICE Precision Low Power Signal Chains



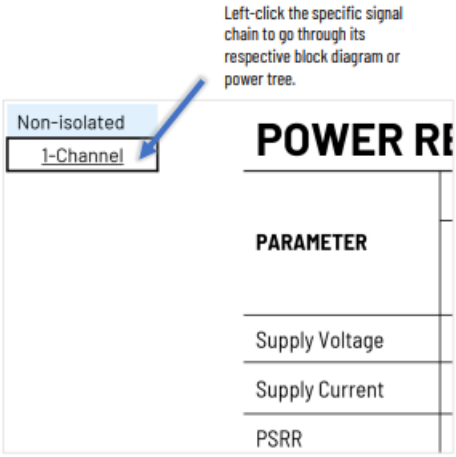
This document is interactive. You can click on any underlined text to navigate through the document.

For the resources



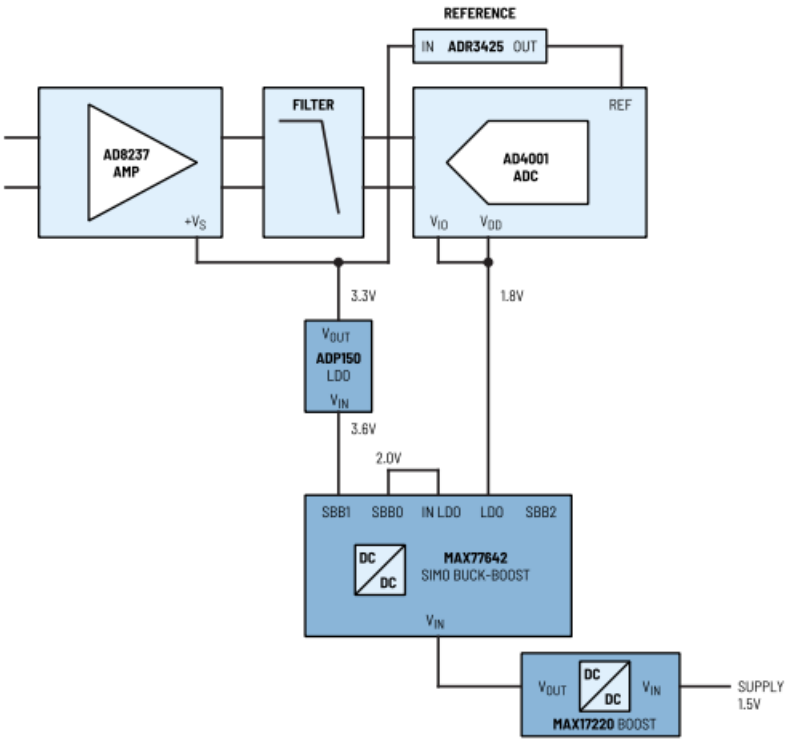


For the individual pages



Precision Low Power

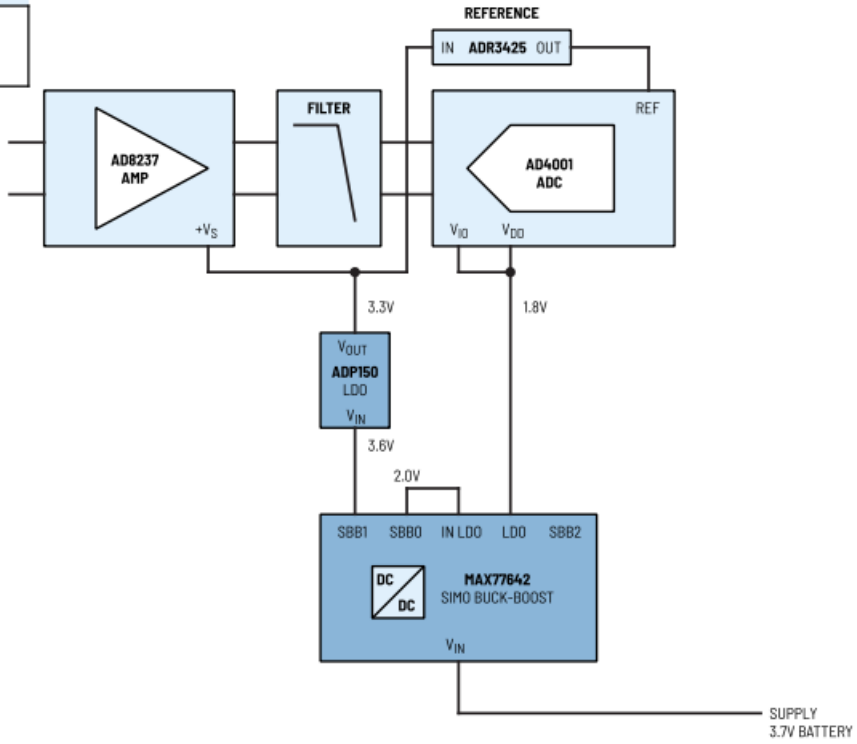
Non-isolated	Isolated
1.5V Supply	5V Supply
3.7V Supply	
> 5.5V Supply	



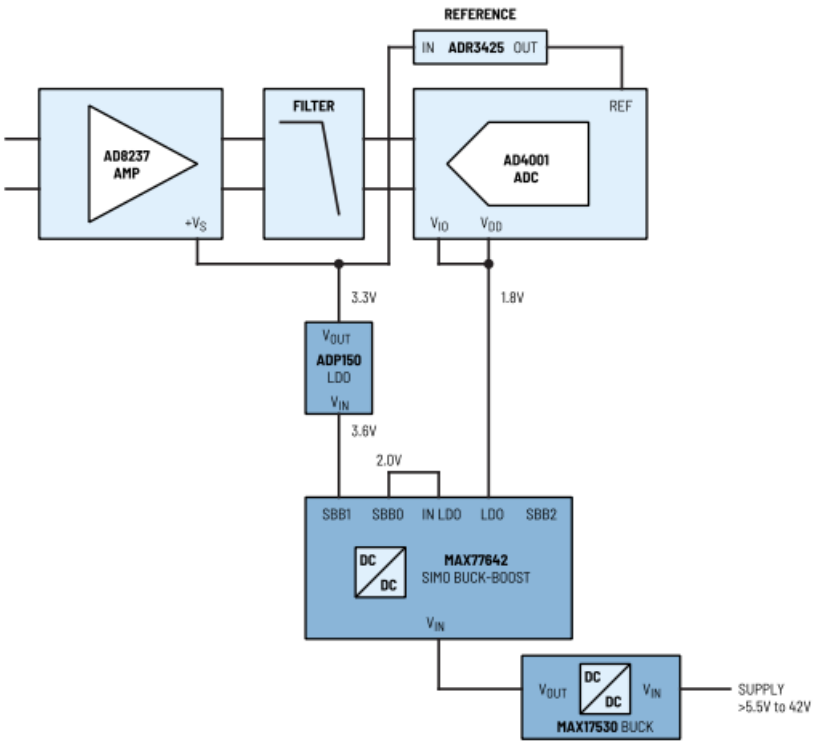
APPENDIX | Parts Guide | Power Requirements | USER GUIDE

Voltage, Current & Biosignal Measurement
Noise Optimized – Single Channel

Non-isolated	Isolated
1.5V Supply	5V Supply
3.7V Supply	
> 5.5V Supply	



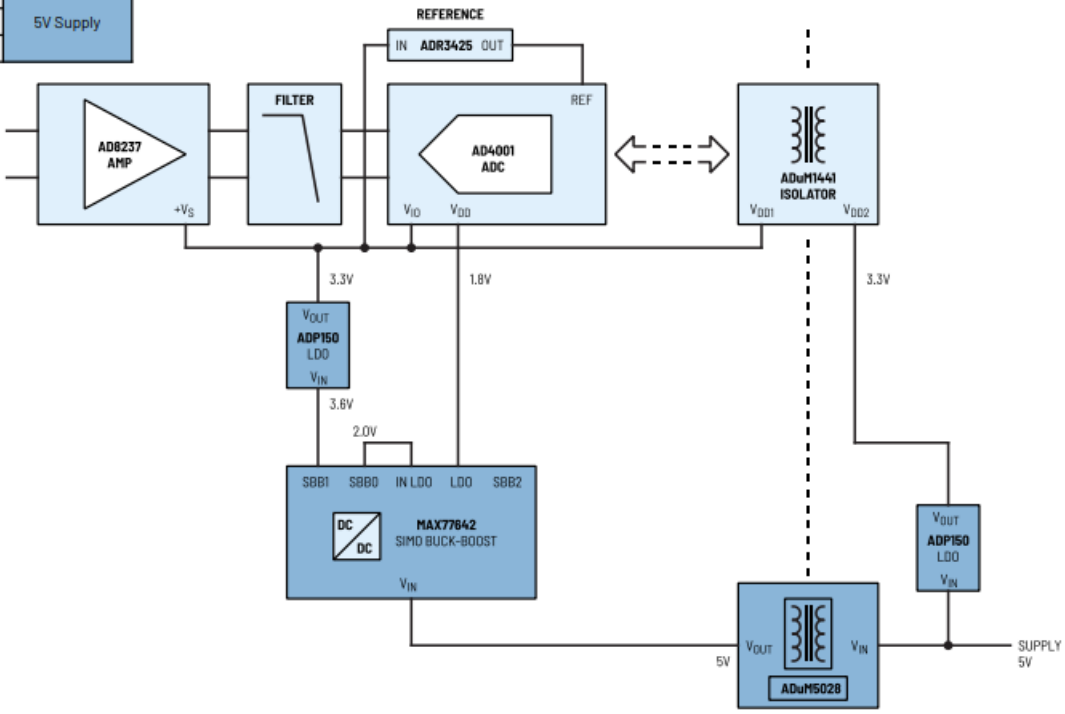
Non-isolated	Isolated
1.5V Supply	5V Supply
3.7V Supply	
> 5.5V Supply	



APPENDIX | Parts Guide | Power Requirements | USER GUIDE

Voltage, Current & Biosignal Measurement
Noise Optimized – Single Channel

Non-isolated	Isolated
1.5V Supply	5V Supply
3.7V Supply	
≥ 5.5V Supply	



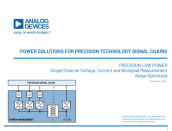
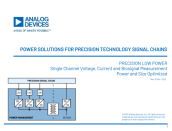
PART #	DESCRIPTION
MAX77642	Ultra Configurable PMIC Featuring 93% Peak Efficiency Single-Inductor, 3-Output Buck-Boost, 1 -LDO for Long Battery Life
MAX17220	400mV to 5.5V Input, nanoPower Synchronous Boost Converter with True Shutdown
MAX17530	4V to 42V, 25mA, Ultra-Small, High-Efficiency, Synchronous Step-Down DC-DC Converter with 2 2µA No-Load Supply Current
ADP150	Ultralow Noise, 150 mA CMOS Linear Regulator
ADuM5028	Low Emission Isolated DC to DC Converter

POWER REQUIREMENTS

PARAMETER	STAGES	Amplifier		ADC		Reference	Isolation	
	Part #	AD8237		AD4001		ADR3425	ADuM1441	
	Pin	$+V_S$	$-V_S$	VDD	VIO	IN	VDD1	VDD2
Supply Voltage	V	3.3	–	1.8	1.8 (or 3 .3)	3.3	3.3	3.3
Supply Current	mA	0.15	–	5.3	0.555	0.1	0.9	0.9
PSRR	dB	73 (100Hz)		55 (750kHz)		54 (100kHz)	–	

- Note 1:
  The supply currents indicated are the maximum quiescent current of the supply rails. For overall full load or short circuit c curr ent
  specifications, refer to the datasheets of the signal chain components.
- Note 2:
  The supply voltages indicated are the values for typical applications.
- Note 3:
  Consult the corresponding datasheets for details on power dissipation if needed.
- Note 4:
  The actual supply current requirement shall be multiplied depending on the number of channels on the signal chain.

Documents / Resources

	ANALOG DEVICE Precision Low Power Signal Chains [pdf] User Guide Precision Low Power Signal Chains, Power Signal Chains, Signal Chains, Chains
	ANALOG DEVICE Precision Low Power Signal Chains [pdf] User Guide Precision Low Power Signal Chains, Low Power Signal Chains, Signal Chains, Chains

References

- Mixed-signal and digital signal processing ICs | Analog Devices
- AD4001 Datasheet and Product Info | Analog Devices
- AD8235 Datasheet and Product Info | Analog Devices
- AD8237 Datasheet and Product Info | Analog Devices
- ADP150 Datasheet and Product Info | Analog Devices
- ADR3425 Datasheet and Product Info | Analog Devices
- ADUM1441 Datasheet and Product Info | Analog Devices
- ADuM5028 Datasheet and Product Info | Analog Devices
- MAX77642 Ultra Configurable PMIC Featuring 93% Peak Efficiency Single-Inductor, 3-Output Buck-Boost, 1-LDO for Long Battery Life | Analog Devices
- MAX17220 400mV to 5.5V Input, nanoPower Synchronous Boost Converter with True Shutdown | Analog Devices
- MAX17530 42V, 25mA, Ultra-Small, High-Efficiency, Synchronous Step-Down DC-DC Converter with 22µA No-Load Supply Current | Analog Devices