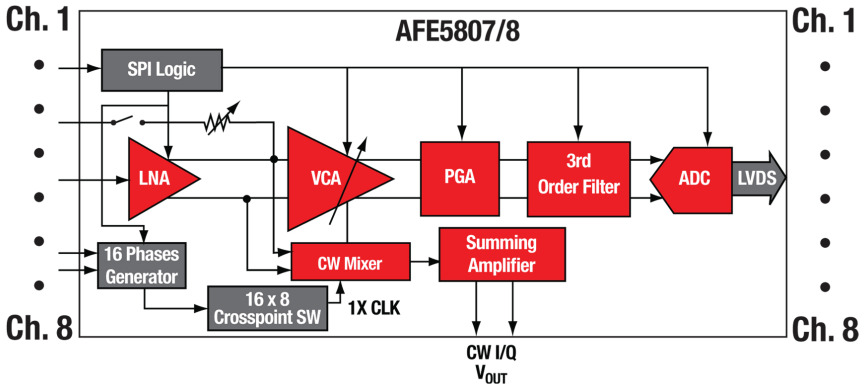
AFE58xx analog front ends for ultrasound systems

Texas Instruments addresses ultrasound manufacturers' need for higher resolution images, greater power efficiency, and cost effectiveness with the industry's lowest power and highest performing analog front ends for ultrasound systems. The AFE58xx product family enables earlier detection and treatment of diseases, and more affordable and accessible systems for new and emerging markets.

Key Features and Benefits

- Best-in-class noise performance for superior image quality and highest diagnostic precision
- Low power and small size for ease of design, smaller system footprint and increased channel count
- Continuous wave (CW) mode option to display blood flow velocity in mid- to high-end, cart-based Spectral Doppler ultrasound systems



The **AFE5807** and **AFE5808** are the highest performing parts with a continuous wave (CW) Doppler mixer and summing amplifier for mid- to high-end, Spectral Doppler ultrasound equipment. The 16-channel **AFE5851** and the 8-channel **AFE5801** bring breakthrough power efficiency and smaller footprint to support handheld ultrasound systems that can fit into a doctor's pocket. The **AFE5805** and **AFE5804** address the specific needs of portable to mid-range ultrasound systems requiring best in class power-noise performance. All devices are complemented on the transmit side by TI's **TX810** T/R switch and join a full portfolio of TI embedded processors, analog and power management solutions allowing manufacturers to bring innovative ultrasound systems to market faster.

Key Features

- Integrated analog front ends:
  - Low-noise amplifiers (LNA)
  - Voltage controlled attenuators (VCA)
  - Programmable gain amplifiers (PGA)
  - Low pass filters (LPF)
  - Analog-to-digital converters (ADC)
- Best-in-class noise and power performance
- Improved dynamic range
- Enables portability with ultra-small package size
- Fast overload recovery

Key features, availability and pricing

	AFE5808	AFE5807	AFE5805	AFE5804	AFE5801	AFE5851
Channels	8	8	8	8	8	16
Integration	LNA+VCA+LPF+ADC+ CW mode		LNA+VCA+LPF+ADC		VCA+LPF+ADC	
Power	153 mW @ 65MSPS	88mW/Ch @ 40MSPS	122mW/Ch @ 40MSPS	101mW/Ch @ 40MSPS	58mW/Ch @ 50MSPS	39mW/Ch @ 32.5MSPS
Noise	0.75 nV/rtHz	1.1 nV/rtHz	0.85 nV/rtHz	1.23 nV/rtHz	5.5 nV/rtHz (without LNA)	5.5 nV/rtHz (without LNA)
ADC SNR	77dBFS	74dBFS	70dBFS	69dBFS	66dBFS	66dBFS
Price	$58 ea. @ 1ku	$56 ea. @ 1ku	$44.70 ea. @ 1ku	$46.70 ea. @ 1ku	$40 ea. @ 1ku	$72 ea. @ 1ku
Package	135-pin, 15*9 mm	135-pin, 15*9 mm	135-pin, 15*9 mm	135-pin, 15*9 mm	64-pin, 9*9mm	64-pin, 9*9mm

For datasheets, samples and more information visit **www.ti.com/ultrasound**.

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International	+49 (0) 8161 80 2121
Russian Support	+7 (4) 95 98 10 701

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Direct Email	asktexas@ti.com

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	Domestic	0120-81-0036
Internet/Email	International	support.ti.com/sc/pic/japan.htm
	Domestic	www.tij.co.jp/pic

Asia

Phone

International	+91-80-41381665
Domestic	Toll-Free Number

Note: Toll-free numbers do not support mobile and IP phones.

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