

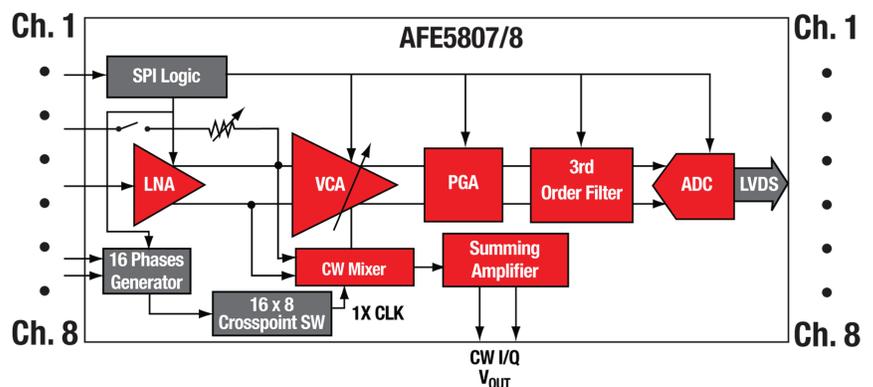
# AFE58xx analog front ends for ultrasound systems



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](http://www.ti.com/ultrasound).

# TI Worldwide Technical Support

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support.ti.com

### TI E2E™ Community Home Page

e2e.ti.com

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<b>Brazil</b>	Phone	0800-891-2616
<b>Mexico</b>	Phone	0800-670-7544
	Fax	+1(972) 927-6377
	Internet/Email	support.ti.com/sc/pic/americas.htm

### Europe, Middle East, and Africa

Phone	
European Free Call	00800-ASK-TEXAS (00800 275 83927)
International	+49 (0) 8161 80 2121
Russian Support	+7 (4) 95 98 10 701

**Note:** The European Free Call (Toll Free) number is not active in all countries. If you have technical difficulty calling the free call number, please use the international number above.

Fax	+ (49) (0) 8161 80 2045
Internet	support.ti.com/sc/pic/euro.htm
Direct Email	asktexas@ti.com

### Japan

Phone	Domestic	0120-92-3326
Fax	International	+81-3-3344-5317
	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	<u>Toll-Free Number</u>
<b>Note:</b> Toll-free numbers do not support mobile and IP phones.	
Australia	1-800-999-084
China	800-820-8682
Hong Kong	800-96-5941
India	1-800-425-7888
Indonesia	001-803-8861-1006
Korea	080-551-2804
Malaysia	1-800-80-3973
New Zealand	0800-446-934
Philippines	1-800-765-7404
Singapore	800-886-1028
Taiwan	0800-006800
Thailand	001-800-886-0010
Fax	+8621-23073686
Email	tiasia@ti.com or ti-china@ti.com
Internet	support.ti.com/sc/pic/asia.htm

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Industrial	<a href="http://www.ti.com/industrial">www.ti.com/industrial</a>
Medical	<a href="http://www.ti.com/medical">www.ti.com/medical</a>
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