

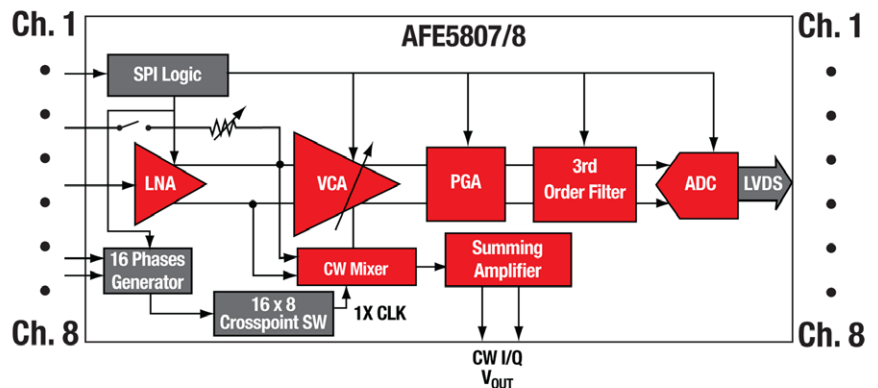
# Texas Instruments brings velocity to ultrasound images with industry's highest performing analog front ends



Introducing two new fully integrated analog front ends (AFE) with a continuous wave (CW) Doppler mixer and summing amplifier for mid- to high-end, Spectral Doppler ultrasound equipment. The AFE5807 and AFE5808 address ultrasound designers' need for superior performance and image quality with the best noise performance at 0.75nV/rHz while maintaining low power and simplifying design with small size. The integrated CW mode, which is said to be the most challenging ultrasound mode for hardware designers, enables the display of blood flow velocity in ultrasound images.

## Key Features and Benefits

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



The AFE5807 and AFE5808 are the highest performing parts in TI's popular AFE58xx family of fully integrated analog front ends (AFE) for ultrasound applications. The AFE58xx family includes the AFE5801 and AFE5851 for handheld ultrasound and AFE5805 and AFE5804 for portable to mid-range ultrasound. All devices are complemented on the transmit side by TI's TX810 T/R switch and join a full portfolio of embedded processors, analog and power management solutions allowing manufacturers to bring innovative ultrasound systems to market faster.

## Key Features

- Integrate analog front ends:
  - Low-noise amplifier (LNA)
  - Voltage controlled attenuator (VCA)
  - Programmable gain amplifier (PGA)
  - Low pass filter (LPF)
  - Analog-to-digital converter (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	136mW/Ch @ 40MSPS	88mW/Ch @ 40MSPS	122mW/Ch @ 40MSPS	101mW/Ch @ 40MSPS	58mW/Ch @ 50MSPS	39mW/Ch @ 32.5MSPS
Noise	0.75 nV/rHz	1.1 nV/rHz	0.85 nV/rHz	1.23 nV/rHz	5.0 nV/rHz (without LNA)	5.0 nV/rHz (without LNA)
ADC SNR	77dBFS	74dBFS	70dBFS	69dBFS	66dBFS	66dBFS
Samples	Available	Available	Available	Available	Available	Available
Production	Dec. 2010	June 2011	July 2008	Sept. 2008	March 2009	Dec.2008
Price	\$68 ea. @ 1ku	\$62 ea. @ 1ku	\$56 ea. @ 1ku	\$58 ea. @ 1ku	\$52 ea. @ 1ku	\$92 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).

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