



## Product Overview

### BELASIGNA R261: Advanced Noise Reduction Solution for Voice Capture Devices

For complete documentation, see the [data sheet](#)

#### Product Description

BelaSigna® R261 is a complete system-on-chip (SoC) solution that provides advanced dual-microphone noise reduction in voice capture applications such as laptops, mobile phones, webcams, tablet computers and other applications that will benefit from improved voice clarity.

Featuring a novel approach to removing mechanical, stationary and non-stationary noise, the chip preserves voice naturalness for greater speech intelligibility even when the talker is further away or not optimally aligned with microphones providing unmatched freedom of movement for end-users.

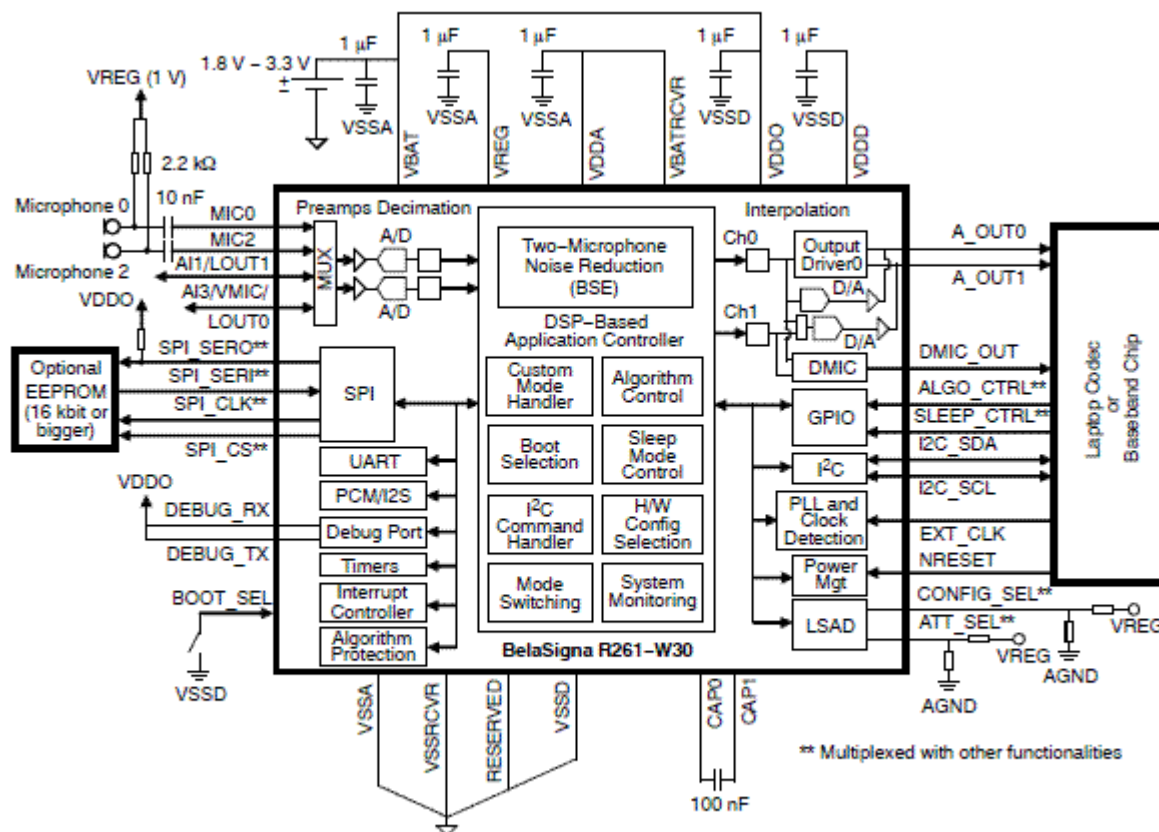
Designed to be compatible with a wide range of codecs, baseband chips and microphones without the need for calibration, BelaSigna R261 is easy to integrate, improving manufacturers' time to market.

Additional features include the ability to customize multiple voice capture modes and tune the algorithm to the unique needs of a manufacturer's device. The chip includes a highly optimized DSP-based application controller with industry-leading energy efficiency and is packaged in two highly compact 5.3 mm<sup>2</sup> WLCSPs to fit into even the most sized-constrained architectures and allow the use of the cheapest printed circuit board design technologies.

Features	Benefits
<ul style="list-style-type: none"><li>Advanced two-microphone noise reduction algorithm</li><li>Preserves voice naturalness</li><li>Supports close-talk and far-talk</li><li>Conference mode enables 360 degree voice pick-up</li><li>Configurable algorithm performance</li><li>Ultra-low power consumption</li><li>Ultra-miniature form factor</li></ul>	<ul style="list-style-type: none"><li>Advanced noise reduction: Effective against stationary and non-stationary background noise to improve voice clarity while preserving voice naturalness</li><li>360° voice pickup: Conference mode enables noise reduction up to 6 meters from voice capture device</li><li>Simplified system integration: Complete System-on-Chip takes two microphone signals and plugs directly into a digital microphone interface (DMIC) or into a host chip's microphone inputs</li><li>Customizable algorithm: Can be adjusted to a manufacturer's desired balance between noise reduction aggressiveness and natural voice quality</li><li>Microphone flexibility: Adaptive nature of algorithm enables flexibility in microphone placement and eliminates production line tuning; compatible with a broad range of microphones</li><li>Configurable system: PC-based application simplifies the configuration of system settings</li><li>Miniature size: Requires minimal PCB area. Easily integrates into end-application architectures</li></ul>

Applications	End Products
<ul style="list-style-type: none"><li>Noise Reduction Audio Processing</li></ul>	<ul style="list-style-type: none"><li>Mobile phones</li><li>Notebook computers</li><li>Tablet computers</li><li>Webcams</li><li>Any device that picks up voice</li></ul>

## Application Diagram



Typical Application Diagram for 30-ball WLCSP Package Option

For more information please contact your local sales support at [www.onsemi.com](http://www.onsemi.com)

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