### SmartSound™

**Primary Applications**

- **True Wireless Audio**
  Earbuds today feature a multitude of microphones. Not only for phone calls, but for noise cancelation, transparency functions, and always-on smart assistants.

- **Smart Homes**
  With multiple mics configured in an array, the resulting beam pattern makes it easy for products like smart assistants to hear voice commands from across the room.

- **Mobile Devices**
  Wide dynamic range and high sound to noise ratio produces great results in any environment.

- **Robotics**
  Advanced semiconductor micro fabrication techniques advance voice recognition technology and further improve the intelligence of interactive robots.

### Featured Products

- **T5837 & T5838**
  - **Headsets & Earbuds, Smart Speakers, Game Controllers, Internet of Things**
  - Industry-leading low power consumption: 50 – 70% lower than competitors
  - High SNR and AOP in all operational modes
  - Acoustic Activity Detect w/ programmable thresholds and filters with power consumption as low as 20 μA
  - Available with −37 dBFS sensitivity in HQM (T5837)

- **T5848**
  - **Smartphones, Tablets, Headsets**
  - High SNR & AOP in all operational modes
  - Acoustic Activity Detect w/ programmable thresholds and filters with power consumption as low as 20 μA
  - Industry-leading low power consumption: 50 – 70% lower than competitors
  - AAD with programmable thresholds & filters with 20 μA power consumption
  - SoundWire allows a high mic count, bi-directional data, and control bits. I²S provides multibit PCM data ready to process.

### Product Categories

- **T5837 & T5838**
  - Headsets & Earbuds, Smart Speakers, Game Controllers, Internet of Things
  - Industry-leading low power consumption: 50 – 70% lower than competitors
  - High SNR and AOP in all operational modes
  - Acoustic Activity Detect w/ programmable thresholds and filters with power consumption as low as 20 μA
  - Available with −37 dBFS sensitivity in HQM (T5837)

- **T5838**
  - Smartphones, Tablets, Headsets
  - High SNR & AOP in all operational modes
  - Acoustic Activity Detect w/ programmable thresholds and filters with power consumption as low as 20 μA
  - Industry-leading, first high SNR & high dynamic range I²S output, high SNR & AOP in all modes (T5848)
  - Ultra-low power consumption
  - AAD with programmable thresholds & filters with 20 μA power consumption
  - SoundWire allows a high mic count, bi-directional data, and control bits. I²S provides multibit PCM data ready to process.

- **T5838 & T5848**
  - Smartwatches, Wearables, TV Remotes & Set Top Boxes
  - Industry-leading, first high SNR & high dynamic range I²S output, high SNR & AOP in all modes (T5848)
  - Ultra-low power consumption
  - I²S output allows direct connection to a wide variety of SoCs, MCUs (T5848)
  - Acoustic Activity Detect w/ programmable thresholds and filters with power consumption as low as 20 μA

### Product Details

<table>
<thead>
<tr>
<th>Product Number</th>
<th>Package Size</th>
<th>Sensitivity (high quality mode)</th>
<th>Sensitivity (low-power mode)</th>
<th>SNR (high quality)</th>
<th>SNR (low-power)</th>
<th>AOP (high quality)</th>
<th>AOP (low-power)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>T5837</td>
<td>3.5 × 2.65 × 0.98 Bottom Port</td>
<td>−21 dB FS ±1 dB</td>
<td>−26 dB FS ±1 dB</td>
<td>68 dBA</td>
<td>65 dBA</td>
<td>133 dB SPL</td>
<td>117 dB SPL</td>
<td>Industry standard sensitivity</td>
</tr>
<tr>
<td>T5838</td>
<td>3.5 × 2.65 × 0.98 Bottom Port</td>
<td>−21 dB FS ±1 dB</td>
<td>−26 dB FS ±1 dB</td>
<td>68 dBA</td>
<td>65 dBA</td>
<td>133 dB SPL</td>
<td>119 dB SPL</td>
<td>AAD with programmable thresholds &amp; filters with 20 μA power consumption</td>
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<td>T5848</td>
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<td>65 dBA</td>
<td>133 dB SPL</td>
<td>119 dB SPL</td>
<td>Ultra-low power, high SNR, multi-mode I²S</td>
</tr>
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