

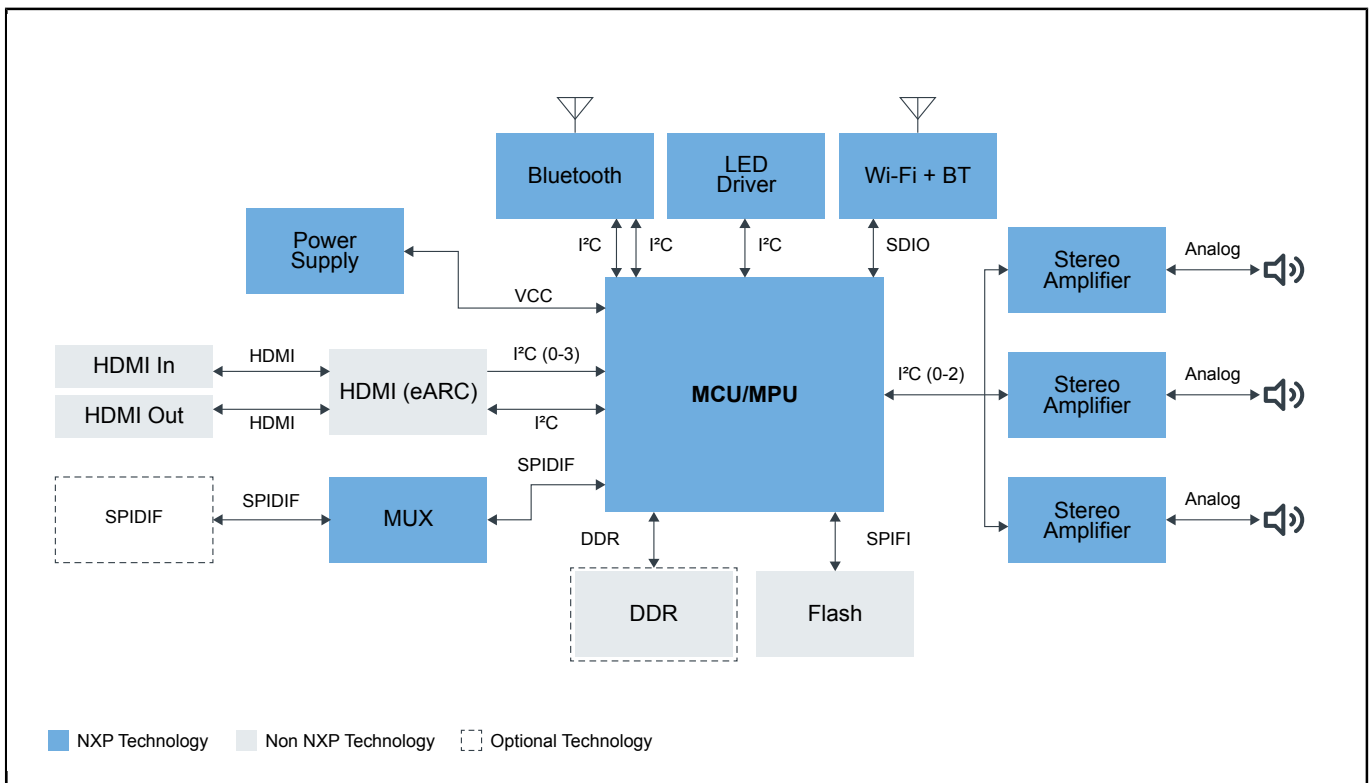


# Soundbar

Last Updated: May 9, 2023

With TVs getting thinner, the in-device sound quality has become very limited. Users are now using separate sound bar or speakers to get higher audio quality and complexity. With i.MX 8M family, create one-chip solution with flexible SW audio framework (Immersiv3D) to handle audio decode and pre/post processing (supporting Dolby Atmos), latency control, audio distribution and also easy to add voice assistant services (AVS and GVA) with multichannel AEC and beamforming to create an immersive experience.

## Soundbars Block Diagram

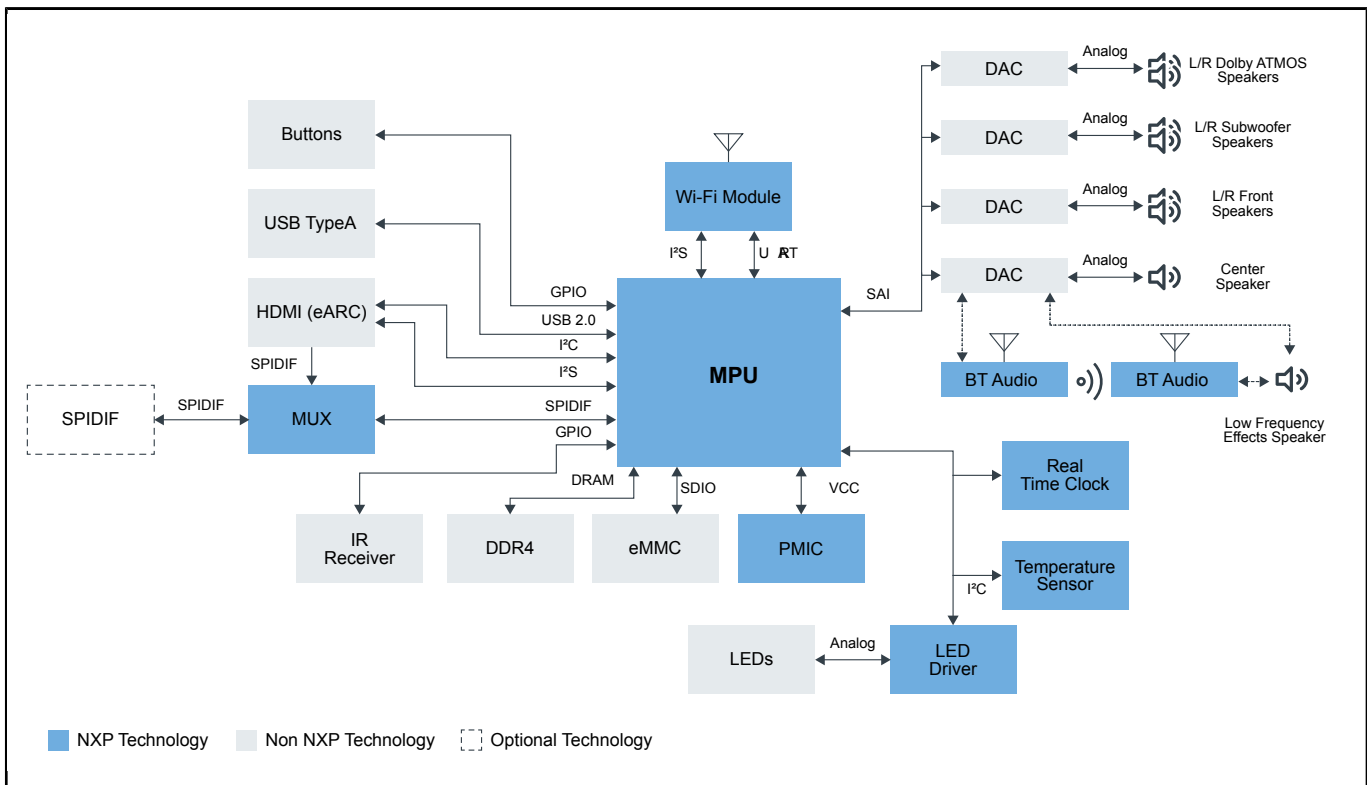


### Recommended Products for Soundbars

MCU/MPU	<ul style="list-style-type: none"> <li>• <a href="#">i.MX-RT600</a>: i.MX RT600 Crossover MCU with Arm® Cortex®-M33 and DSP Cores</li> <li>• <a href="#">i.MX-RT1060</a>: i.MX RT1060: Crossover MCU with Arm® Cortex®-M7</li> <li>• <a href="#">i.MX8MMINI</a>: i.MX 8M Mini - Arm® Cortex®-A53, Cortex-M4, Audio, Voice, Video</li> </ul>
---------	---

	<ul style="list-style-type: none"> <li>• <b>i.MX8MNANO</b>: i.MX 8M Nano Family - Arm® Cortex®-A53, Cortex-M7</li> <li>• <b>IMX8MPLUS</b>: i.MX 8M Plus – Arm® Cortex®-A53, Machine Learning, Vision, Multimedia and Industrial IoT</li> </ul>
Power Supply	<ul style="list-style-type: none"> <li>• <b>PCA9450</b>: Power Management IC (PMIC) for i.MX 8M Mini/Nano/Plus</li> </ul>
Bluetooth	<ul style="list-style-type: none"> <li>• <b>NXH3670</b>: Ultra-low Power, Low Latency Audio for Wireless Gaming Headphone</li> <li>• <b>NXH3675</b>: Ultra-Low Power Bluetooth Low Energy Audio Solution with Integrated Flash</li> </ul>
Wi-Fi + BT	<ul style="list-style-type: none"> <li>• <b>88W8987A</b>: 88W8987 (Automotive): 2.4/5 GHz Dual-Band 1x1 Wi-Fi® 5 (802.11ac) + Bluetooth® 5.2 Solution</li> </ul>
Stereo Amplifier	<ul style="list-style-type: none"> <li>• <b>TDF8597TH</b>: I<sup>2</sup>C-Bus Controlled Dual Channel 43 W/2 Ω, Single Channel 85 W/1 Ω Class-D Power Amplifier with Full Diagnostics</li> </ul>
LED Driver	<ul style="list-style-type: none"> <li>• <b>PCA9955ATW</b>: 16-channel Fm+ I2C-bus 57 mA/20 V constant current LED driver</li> </ul>
Analog Switch (MUX)	<ul style="list-style-type: none"> <li>• <b>NX3L1G3157</b>: Low-Ohmic Single-Pole Double-Throw Analog Switch</li> </ul>

### 3D Soundbars Block Diagram



#### Recommended Products for 3D Soundbars

MPU	<ul style="list-style-type: none"> <li>• <b>i.MX8MMINI</b>: i.MX 8M Mini - Arm® Cortex®-A53, Cortex-M4, Audio, Voice, Video</li> <li>• <b>i.MX8MNANO</b>: i.MX 8M Nano Family - Arm® Cortex®-A53, Cortex-M7</li> <li>• <b>IMX8MPLUS</b>: i.MX 8M Plus – Arm® Cortex®-A53, Machine Learning, Vision, Multimedia and Industrial IoT</li> </ul>
-----	--

WiFi + BT	<ul style="list-style-type: none"> <li>• <a href="#">88W8987A</a>: 88W8987 (Automotive): 2.4/5 GHz Dual-Band 1x1 Wi-Fi® 5 (802.11ac) + Bluetooth® 5.2 Solution</li> </ul>
Power Management	<ul style="list-style-type: none"> <li>• <a href="#">PCA9450</a>: Power Management IC (PMIC) for i.MX 8M Mini/Nano/Plus</li> </ul>
Real-Time clock	<ul style="list-style-type: none"> <li>• <a href="#">PCA85073A</a>: Automotive Tiny Real-Time Clock/Calendar with Alarm Function and I²C-Bus</li> </ul>
Temperature sensor	<ul style="list-style-type: none"> <li>• <a href="#">PCT2075</a>: I²C-Bus Fm+, 1 Degree C Accuracy, Digital Temperature Sensor and Thermal Watchdog</li> </ul>
Analog Switch (MUX)	<ul style="list-style-type: none"> <li>• <a href="#">NX3L1G3157</a>: Low-Ohmic Single-Pole Double-Throw Analog Switch</li> </ul>
Software	<ul style="list-style-type: none"> <li>• <a href="#">IMMERSIV3DAF</a>: Immersiv3D™ Audio Framework Software</li> </ul>
LED Driver	<ul style="list-style-type: none"> <li>• <a href="#">PCA9955BTW</a>: 16-Channel Fm+ I²C-Bus 57 MA/20 V Constant-Current LED Driver</li> </ul>
BT Audio	<ul style="list-style-type: none"> <li>• <a href="#">NXH3670</a>: Ultra-low Power, Low Latency Audio for Wireless Gaming Headphone</li> </ul>

View our complete solution for [Soundbar](#).

**Note:** The information on this document is subject to change without notice.

---

**www.nxp.com**

NXP and the NXP logo are trademarks of NXP B.V. All other product or service names are the property of their respective owners. The related technology may be protected by any or all of patents, copyrights, designs and trade secrets. All rights reserved. © 2024 NXP B.V.