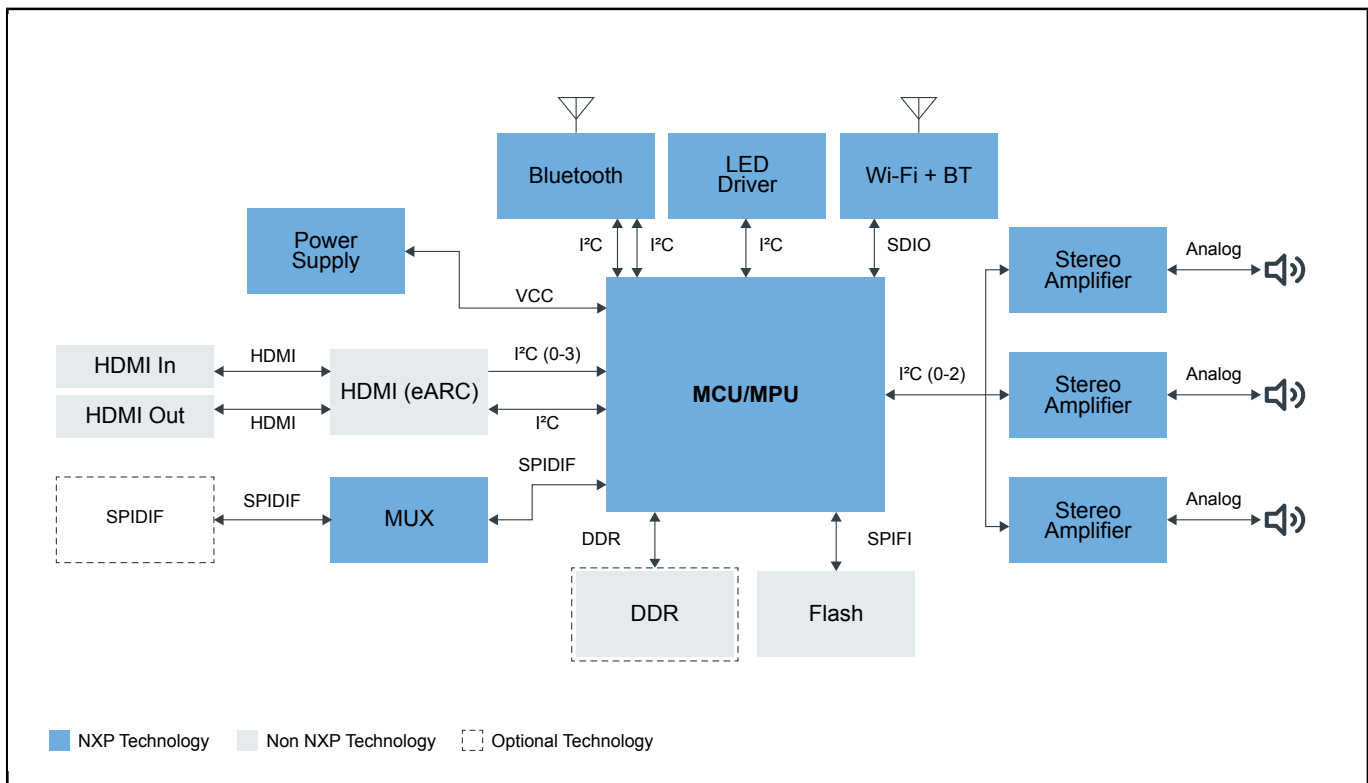# Soundbar

Last Updated: Mar 19, 2025

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.
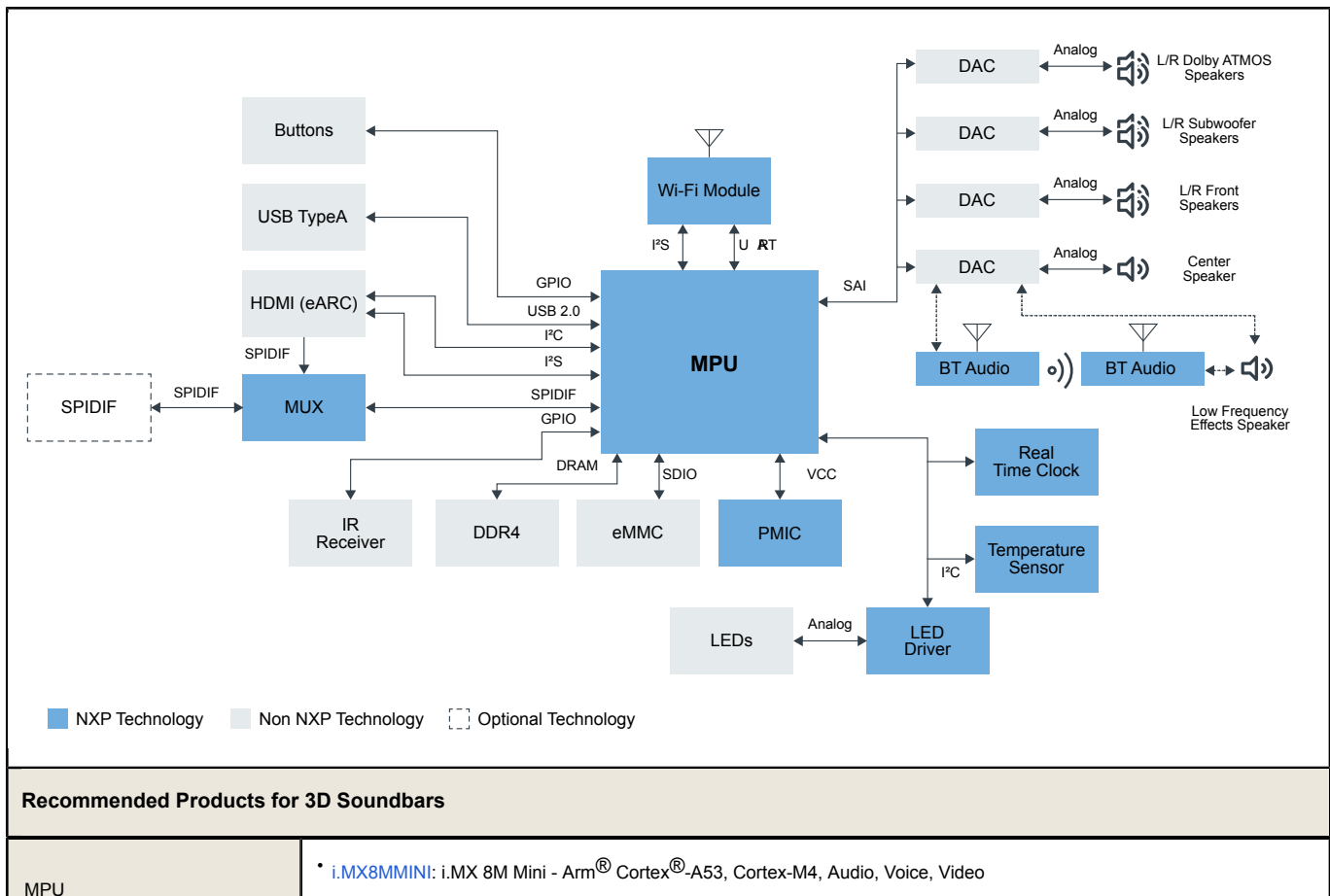
Soundbars Block Diagram

Recommended Products for Soundbars	
MCU/MPU	• i.MX-RT600: i.MX RT600 Crossover MCU with Arm® Cortex®-M33 and DSP Cores • i.MX-RT1060: i.MX RT1060: Crossover MCU with Arm® Cortex®-M7 • i.MX8MMINI: i.MX 8M Mini - Arm® Cortex®-A53, Cortex-M4, Audio, Voice, Video

MPU	• i.MX8MNANO: i.MX 8M Nano Family - Arm® Cortex®-A53, Cortex-M7 • IMX8MPLUS: i.MX 8M Plus – Arm® Cortex®-A53, Machine Learning, Vision, Multimedia and Industrial IoT
Power Supply	• PCA9450: Power Management IC (PMIC) for i.MX 8M Mini/Nano/Plus
Bluetooth	• NXH3670: Ultra-low Power, Low Latency Audio for Wireless Gaming Headphone • NXH3675: Ultra-Low Power Bluetooth Low Energy Audio Solution with Integrated Flash
Wi-Fi + BT	• 88W8987A: 88W8987 (Automotive): 2.4/5 GHz Dual-Band 1x1 Wi-Fi® 5 (802.11ac) + Bluetooth® 5.2 Solution • IW611: 2.4/5#GHz Dual-band 1x1 Wi-Fi® 6 (802.11ax) + Bluetooth® 5.4 Solution • IW612: 2.4/5 GHz Dual-Band 1x1 Wi-Fi® 6 (802.11ax) + Bluetooth® 5.4 + 802.15.4 Tri-Radio Solution • 88W8997: 2.4/5 GHz Dual-Band 2x2 Wi-Fi® 5 (802.11ac) + Bluetooth® 5.3 Solution
Stereo Amplifier	• TDF8597TH: I^{2}C-Bus Controlled Dual Channel 43 W/2 Ω, Single Channel 85 W/1 Ω Class-D Power Amplifier with Full Diagnostics
LED Driver	• PCA9955ATW: 16-channel Fm+ I2C-bus 57 mA/20 V constant current LED driver
Analog Switch (MUX)	• NX3L1G3157: Low-Ohmic Single-Pole Double-Throw Analog Switch

3D Soundbars Block Diagram

Recommended Products for 3D Soundbars	
MPU	• i.MX8MMINI: i.MX 8M Mini - Arm® Cortex®-A53, Cortex-M4, Audio, Voice, Video

	• i.MX8MNANO: i.MX 8M Nano Family - Arm® Cortex®-A53, Cortex-M7 • IMX8MPLUS: i.MX 8M Plus – Arm® Cortex®-A53, Machine Learning, Vision, Multimedia and Industrial IoT
WiFi + BT	• 88W8987A: 88W8987 (Automotive): 2.4/5 GHz Dual-Band 1x1 Wi-Fi® 5 (802.11ac) + Bluetooth® 5.2 Solution • IW611: 2.4/5#GHz Dual-band 1x1 Wi-Fi® 6 (802.11ax) + Bluetooth® 5.4 Solution • IW612: 2.4/5 GHz Dual-Band 1x1 Wi-Fi® 6 (802.11ax) + Bluetooth® 5.4 + 802.15.4 Tri-Radio Solution • 88W8997: 2.4/5 GHz Dual-Band 2x2 Wi-Fi® 5 (802.11ac) + Bluetooth® 5.3 Solution
Power Management	• PCA9450: Power Management IC (PMIC) for i.MX 8M Mini/Nano/Plus
Real-Time clock	• PCA85073A: Automotive Tiny Real-Time Clock/Calendar with Alarm Function and I²C-Bus
Temperature sensor	• PCT2075: I²C-Bus Fm+, 1 Degree C Accuracy, Digital Temperature Sensor and Thermal Watchdog
Analog Switch (MUX)	• NX3L1G3157: Low-Ohmic Single-Pole Double-Throw Analog Switch
Software	• IMMERSIV3DAF: Immersiv3D™ Audio Framework Software
LED Driver	• PCA9955BTW: 16-Channel Fm+ I²C-Bus 57 MA/20 V Constant-Current LED Driver
BT Audio	• NXH3670: Ultra-low Power, Low Latency Audio for Wireless Gaming Headphone

View our complete solution for Soundbar.

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

---

www.nxp.com