

MCU-based Solution for Alexa Voice Service

Turnkey i.MX RT solution for Alexa Built-in

Overview Specifications Buy Get Help

- Alexa Voice Service**
Qualified by Amazon - runs Amazon FreeRTOS.
- Turnkey Solution**
Easy implementation into any application.
- Low BOM Cost**
Reduced by over 50% compared to MPU designs.
- Compact Design**
Ultra-small form factor boards- 30 mm x 40 mm.
- Full Software Capabilities**
Far-field, Noise reduction, Echo cancellation.

Overview

PRE-PRODUCTION

NXP's MCU-based solution for Amazon's Alexa Voice Service (AVS) leverages the i.MX RT crossover processor, enabling developers to quickly and easily add Alexa voice assistant capabilities to their products. This ultra-small form-factor, turnkey hardware design comes completely integrated with Amazon qualified software for an out of the box AVS experience.

This page contains information on a preproduction product. Specifications and information herein are subject to change without notice.

[MCU-Based Solution for Alexa™ Voice Service - Fact Sheet](#)

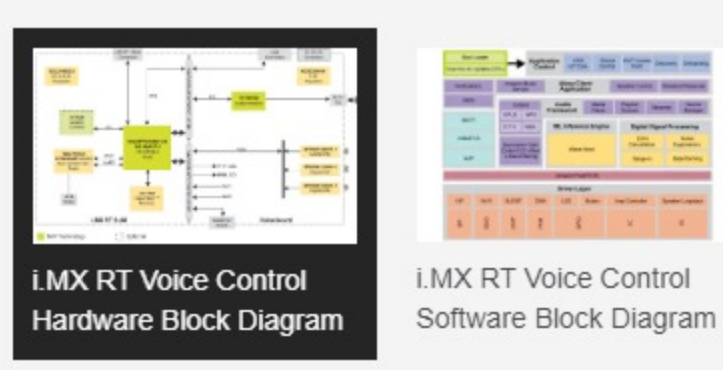
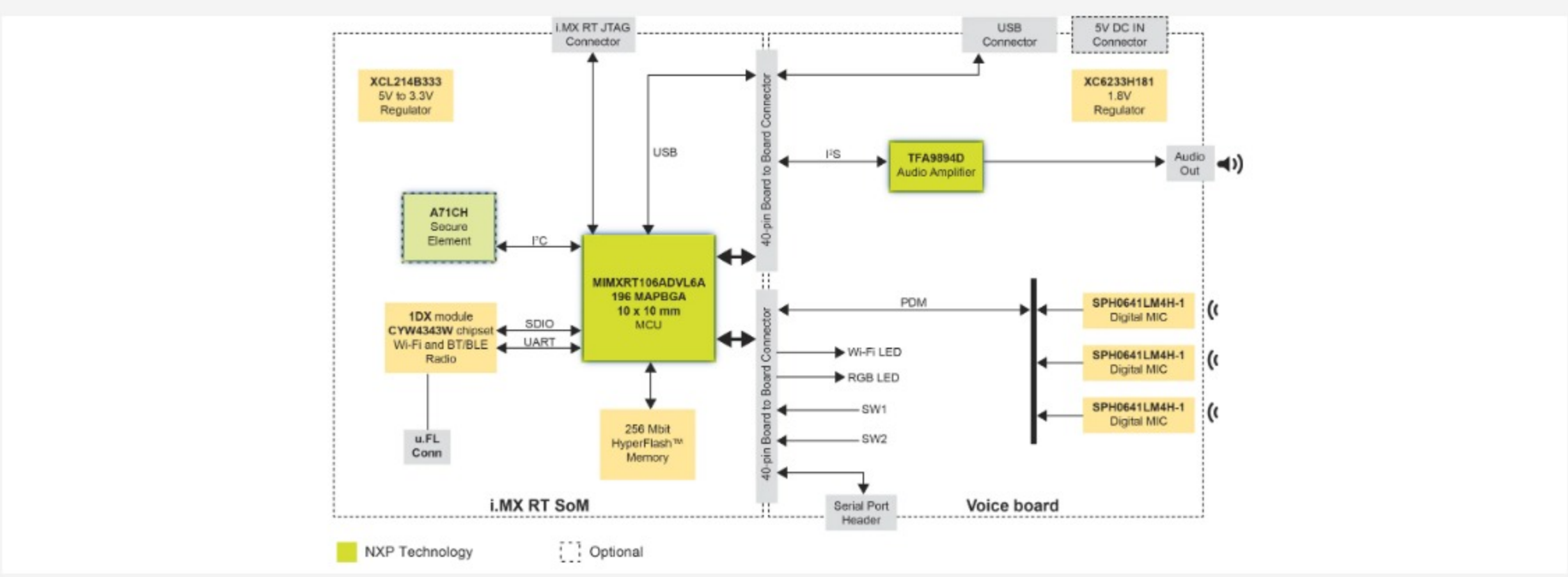
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Specifications

i.MX RT Voice Control Hardware Block Diagram

Click on the diagram below to see recommended products



Recommended Products

Block Diagram	Category	Products	Features
i.MX RT Voice Control Hardware Block Diagram	MCU	i.MX-RT106A: Crossover Processor with Arm® Cortex®-M7 core	High-Speed GPIO, CAN-FD, and synchronous parallel NAND/NOR/PSRAM controller. The i.MX RT106A runs on the Arm® Cortex®-M7 core at 600 MHz.
	Audio Amplifier	TFA9894: Highly power-efficient DSP embedded class-D audio amplifier	The TFA9894 DSP embedded is a highly power-efficient class-D audio amplifier solution associated with speaker protection and boost algorithm.
	Secure Element	A71CH: Plug and Trust - The fast, easy way to deploy secure IoT connections	End-to-end security, from chip to edge to cloud, Secure credential injection for root of trust at IC level, ECC-based authentication, Encrypted/authenticated interface to host processor

Technical and Functional Specifications

Processor	MCU	
General		<ul style="list-style-type: none"> 1x interface, i.MX RT106A Crossover Processor with Arm® Cortex®-M7 core, 3020 CoreMark/1284 DMIPS @ 600 MHz, 32 kB I-cache, 32 kB D-cache, FPU
Power	System Control	<ul style="list-style-type: none"> 1x interface Secure JTAG, PLL OSC, eDMA, 4x Watch Dog, 6x GP Timer, 4x Quadrature ENC, 4x QuadTimer, 4x FlexPWM, IOMUX

Buy

SLN-ALEXA-IOT ACTIVE

MCU-based Solution for Alexa Voice Service

Turnkey embedded i.MX RT voice solution for Amazon's Alexa Voice Service.

Kit contains

- i.MX RT Voice Solution
- USB Type-C Y Cable

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Get Help

Recommended Communities

- [i.MX RT](#)
- [i.MX Solutions](#)
- [MCUXpresso IDE](#)
- [MCUXpresso SDK](#)

Suggested Links

- [Development for Amazon Alexa Voice Services \(AVS\)](#)
- [Press Release: NXP Launches First MCU-based Solution Qualified for Amazon's Alexa Voice Service \(AVS\)](#)
- [NXP MCU Solution Enables Alexa Everywhere](#)

Services

Amazon Voice Services Pre-Certification & Audio Lab

NXP offers a self-test service for Alexa Built-in products, available to its customers desiring to test their devices before submitting to Amazon.