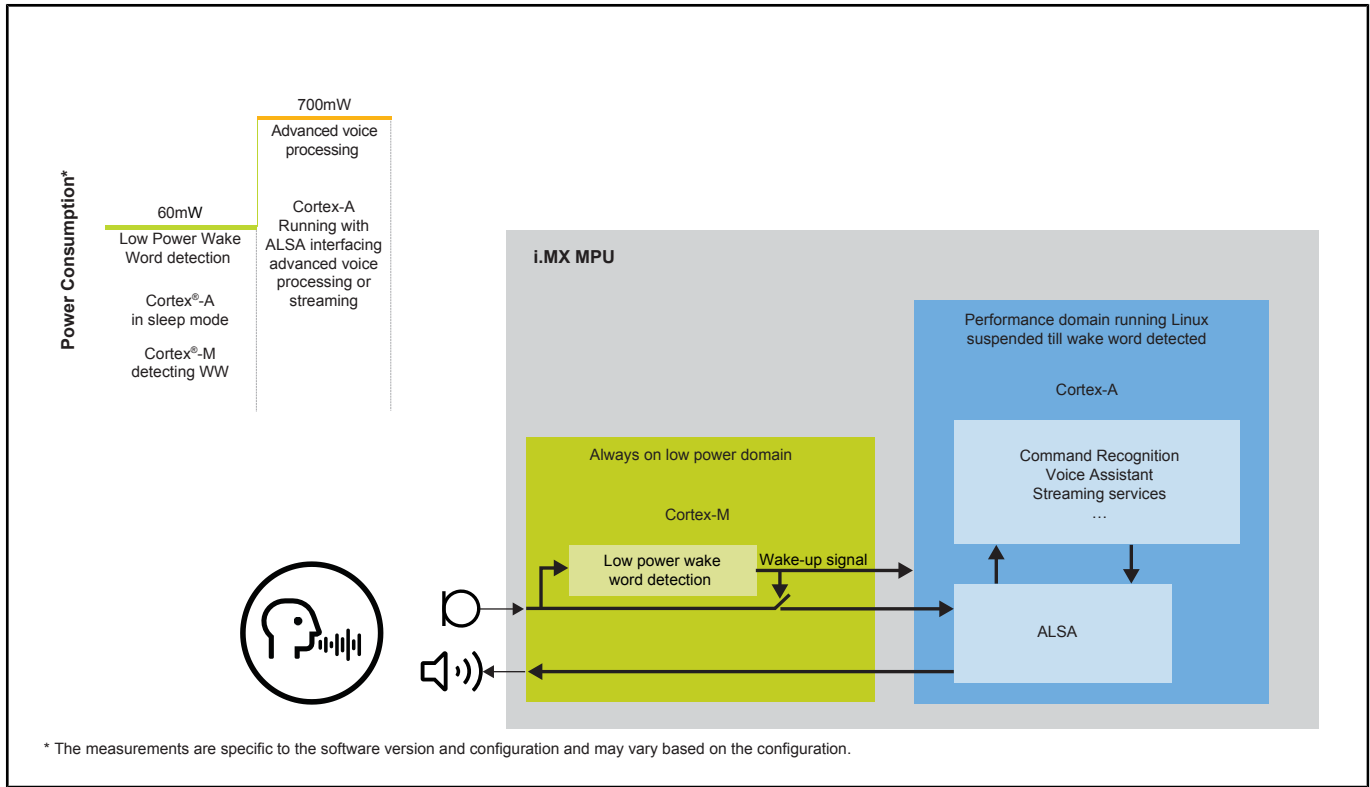# 应用软件包：在**i.MX MPU**上使能低功耗语音**UI**功能
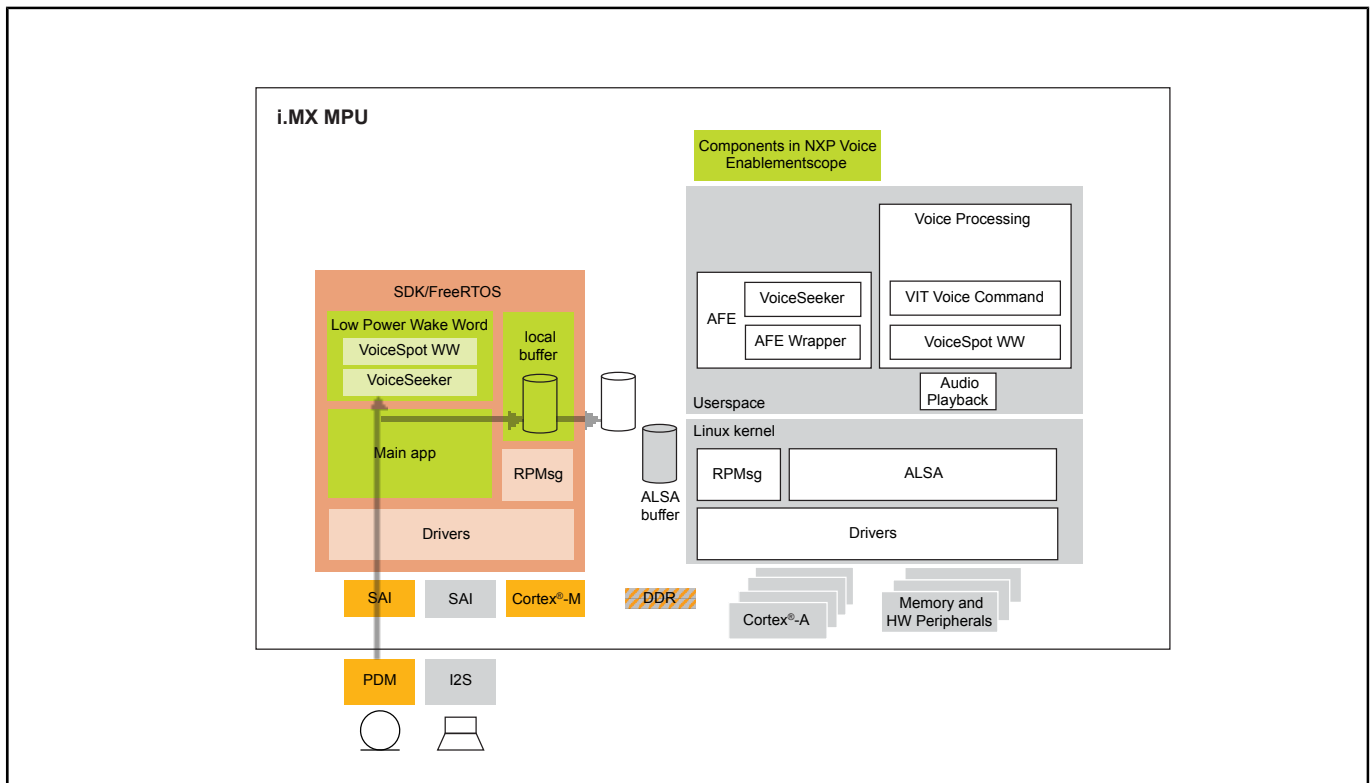
APPSWPACK-LPV-MPU

Last Updated: Aug 24, 2023

该软件包为i.MX 8M Mini和i.MX 8M Plus MPU部署了低功耗语音用户界面(UI)使能解决方案。它利用唤醒词引擎降低功耗，专为利用低功耗Cortex-M内核而设计。识别唤醒词时，Cortex-M内核会唤醒Cortex-A域，以获得更好的声音性能和高级语音处理，从而降低传统语音使能解决方案的功耗。
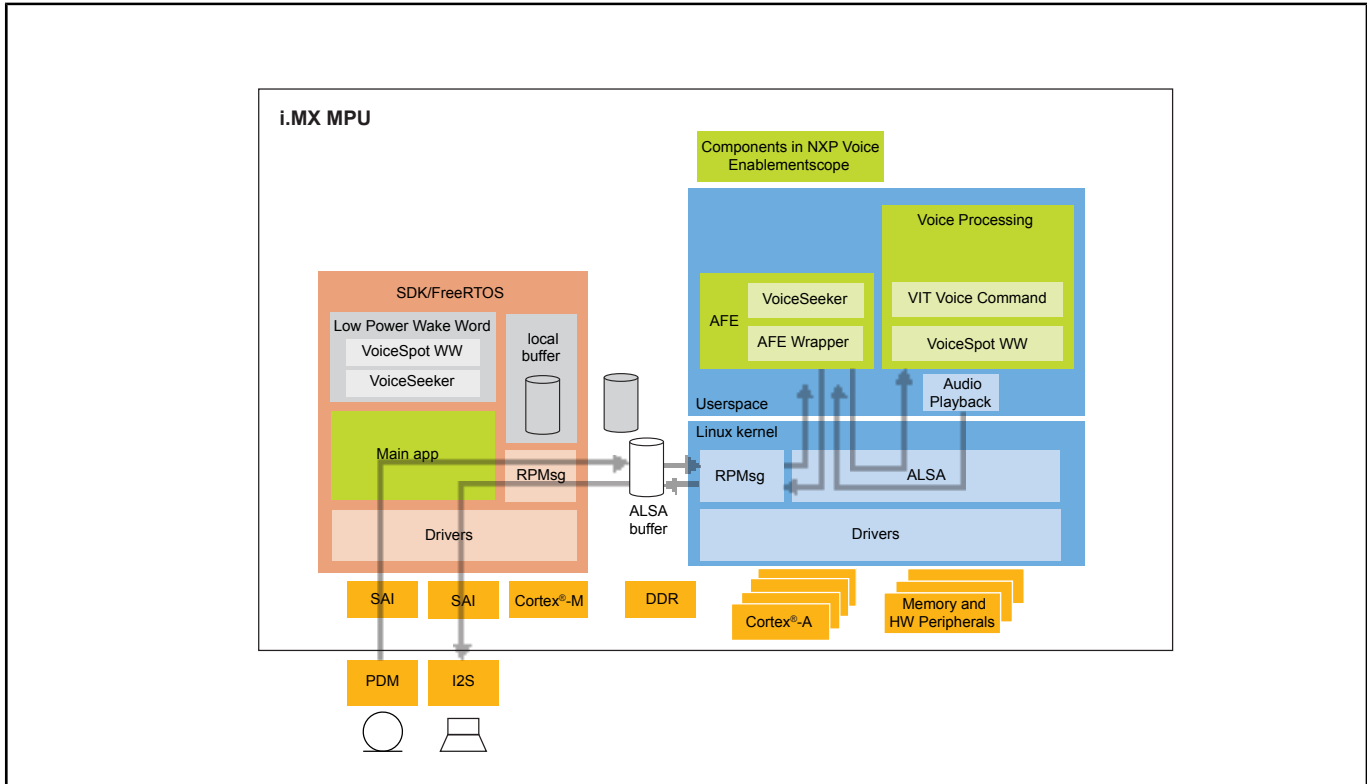
简图 Block Diagram

Power Consumption*

700mW
Advanced voice processing

60mW
Low Power Wake Word detection

Cortex®-A in sleep mode
Cortex®-M detecting WW

Cortex-A Running with ALSA interfacing advanced voice processing or streaming

i.MX MPU

Always on low power domain

Cortex-M

Low power wake word detection

Wake-up signal

Performance domain running Linux suspended till wake word detected

Cortex-A

Command Recognition
Voice Assistant
Streaming services
…

ALSA

* The measurements are specific to the software version and configuration and may vary based on the configuration.

低功耗唤醒词等待状态 Block Diagram

i.MX MPU

Components in NXP Voice Enablementscope

Voice Processing

AFE

VoiceSeeker
AFE Wrapper

VIT Voice Command
VoiceSpot WW

Audio Playback

Userspace

SDK/FreeRTOS

Low Power Wake Word
VoiceSpot WW
VoiceSeeker

local buffer

Main app

RPMsg

Drivers

ALSA buffer

Linux kernel

RPMsg
ALSA

Drivers

SAI   SAI   Cortex®-M   DDR   Cortex®-A   Memory and HW Peripherals

PDM   I2S

全语音处理模式 **Block Diagram**

View additional information for 应用软件包：在i.MX MPU上使能低功耗语音UI功能.

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