# The easiest way to create personalized artificial intelligence voice assistant system
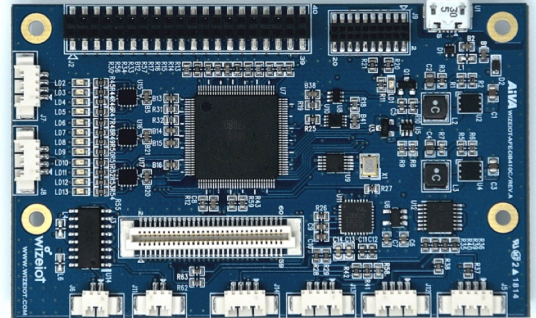
AiVA for DragonBoard 410c (and 96Boards)

Description

WizeIoT AiVA-96 mezzanine board for DragonBoard 410c and 96Boards enables developers of the smart home devices such as smart panels, kitchen equipment and oth commercial and industrial electronics products to evaluat and prototype far-field hands-free voice interface using Amazon Alexa, Google Assistant, Microsoft Cortana, IBM Watson voice service. Built around the XMOS XVF3000 voice processor with direct interfacing to a line array of four digital microphones, the AiVA board is an ideal platform for developers who want to integrate AI speaker into their products.
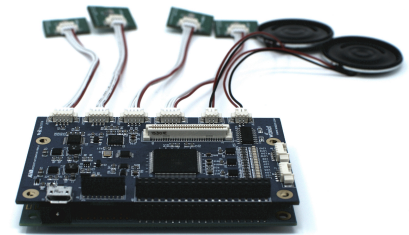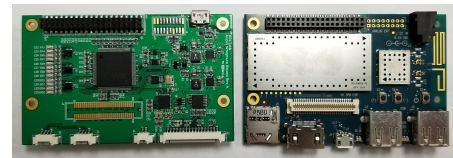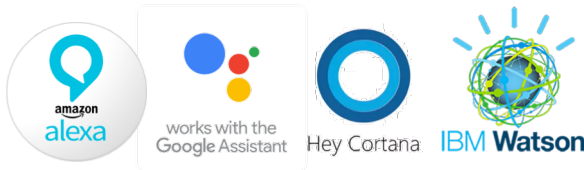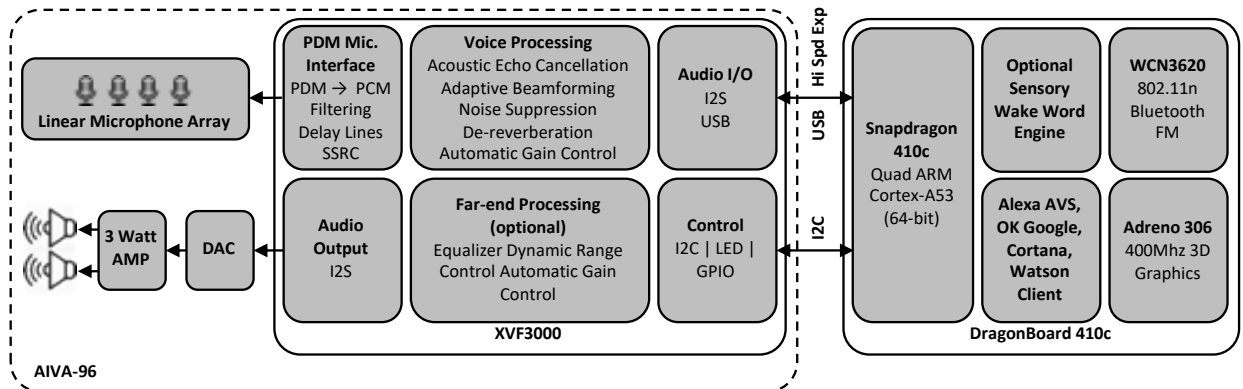

Key Features

- Mezzanine board design for DragonBoard 410c (and 96Boards)
- XMOS XVF3000 processor
- Linear Microphone Array:
  • 4x Infineon IM69D130 MEMS microphones
  • Dividable mic board
- Micro-USB connector for power and USB connection
- Low jitter, audio quality clock
- DAC with integrated 3-watt amplifier
- 13 user controlled LEDs

- Support for multiple OS
  • Debian, Raspbian, Android
  • Windows 10 IoT Core
  • Windows, macOS, Linux
- Sample codes for commercial AI voice assistant services
  • Amazon Alexa
  • Google Assistant
  • Microsoft Cortana
  • IBM Watson (TBD)
- Works as a smart home hub
- Developer support through open source community
  • http://iotoi.io

Kit Includes

- AiVA-96 AFE board for DragonBoard 410c (and 96Boards)
- High quality MEMS detachable 4-way microphone array module
- Microphone module connector cables
- XMOS xTAG v3.0 connector
- 2-watt dual speakers
- Mounting cardboard case
- Optional Zigbee and Z-Wave modules (not included in the base package)

---

wize iot

Designed by WizeIoT, Inc in Seattle, Washington. http://www.wizeiot.com

Alexa* is Amazon's, **Google Assistant*** is Google's, **Cortana*** is Microsoft's, **Watson*** is IBM's voice commands for the virtual personal cloud-based voice assistant services. **96Boards** is Linario's, **DragonBoard**TM 410c is Arrow Electronics's latest ARM based development boards. Other third party trademarks are here by acknowledged. Contents are subject to change.

*Ai*VA-96 Functional Block Diagram

Tech Details

XVF3000 processor

- XMOS XVF3000 programmable multi-core voice processor for far-field hands-free communication
- Integrated Voice DSP processing includes:
  - 4-microphone adaptive beam-former
  - Full-duplex Acoustic Echo Cancellation(AEC) with barge-in support
  - De-reverberation, noise suppression, Automatic Gain Control (AGC)
  - Speaker independent keyword trigger detection
- High speed USB2.0 compliant device
  - Multi-channel USB Audio Class 1.0
- Inter-IC Sound (I²S) audio interfaces
- Inter-Integrated Circuit (I²C) serial control interface
- Integrated 2048KB flash
- 128-pin TQFP package 0.4mm pitch

XVF3000 based AFE board

- XVF3000 voice processor
- Low jitter audio clock source
- DAC with 3-watt amplifier for dual audio out
- 2 UART connectors for building smart home hub
  - Optional Zigbee module
  - Optional Z-Wave module
- XMOS xTAG v3.0 connector for firmware upgrade

Linear microphone array

- 4x PDM MEMS microphones

Ordering Information

WizeIoT's AiVA-96 Development Kit and its individual components can be ordered from Arrow Electronics.

*Ai*VA-96 Development Kit
Part # AiVA-96

Zigbee 3.0 *Xtreme*
Part # ZBX3-UBUT

Z-Wave *Xtreme*
Part # ZWX-UT

DragonBoard 410c
Part # DRAGONBOARD 410C

For questions about the kit or additional information, go to **arrow.com** or contact your local Arrow sales representative.

Alexa* is Amazon's, **Google Assistant*** is Google's, **Cortana*** is Microsoft's, **Watson*** is IBM's voice commands for the virtual personal cloud-based voice assistant services. **96Boards** is Linario's, **DragonBoard**™ 410c is Arrow Electronics's latest ARM based development boards. Other third party trademarks are here by acknowledged. Contents are subject to change.