

NxH3670 Wireless Gaming Headset Solution



COMPANY CONFIDENTIAL



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NxH3670 Value proposition

Applications

Wireless gaming / communication headsets: small form factor communication and consumer gaming headsets with long battery life

Power efficient

Lowest active energy consumption in the market
Average power consumption of **<8.5mW** for 48kHz audio

Highly integrated

Low external component count enabling **miniaturized devices**

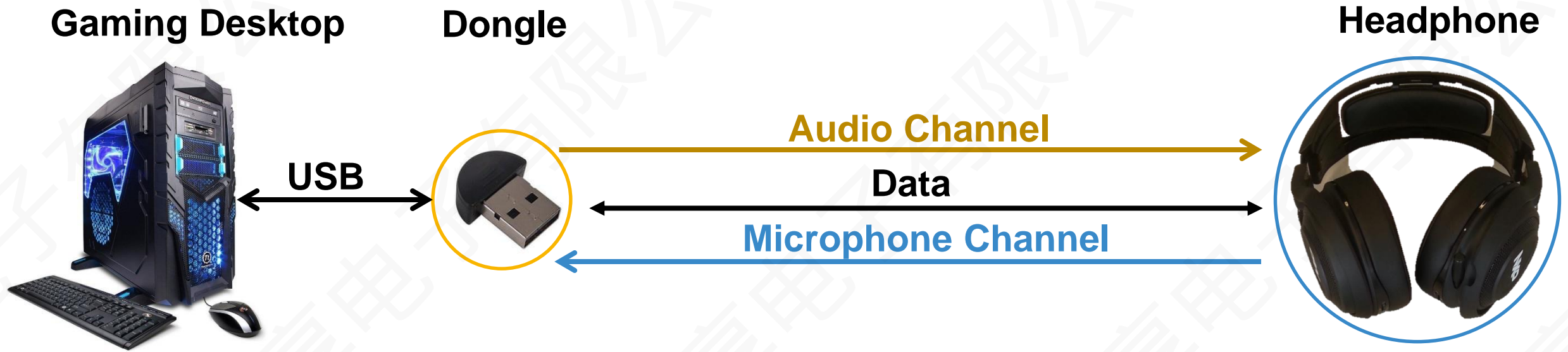
HiFi Audio

Optimized architecture with DSP and hardware support for robust, high quality **audio streaming** at **<20ms latency**

Flexible

Bluetooth Low Energy 5.0 certified.
Proprietary low latency audio streaming support

NxH3670 Wireless Headset Use Case



Data channel

- HCI interface
- ~4kbps

Forward audio channel

- Stereo audio
- SBC HQ audio codec
- 48kHz, 16 bit
- Latency < 20ms

Microphone channel

- Mono audio
- G.722 audio codec
- 16kHz, 16 bit

NxH3670 Features 1/3

Fully integrated 2.4GHz RF Transceiver

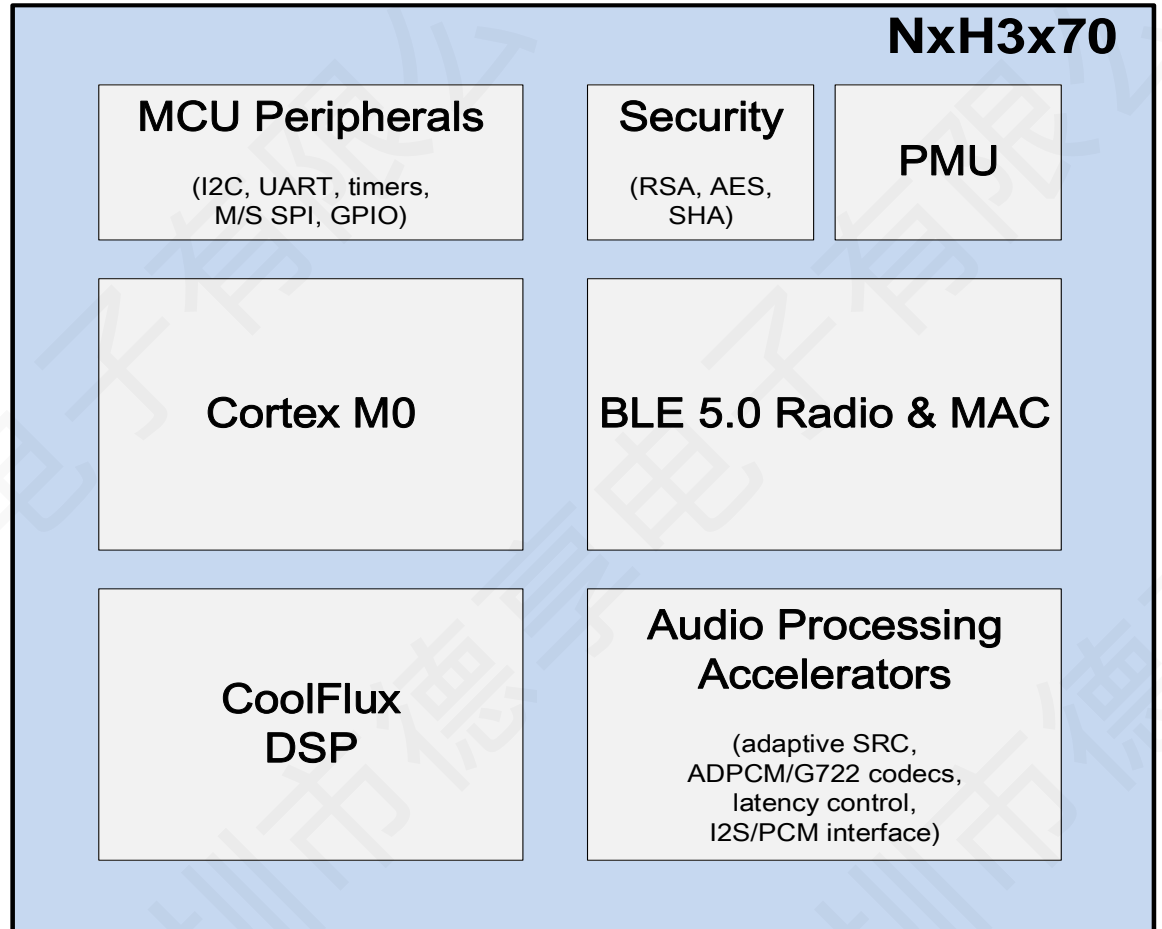
- PHY + MAC + Higher network layers
- Supports BLE 1 & 2Mbps mode
- TX output power of -10dBm to +4dBm
- RX sensitivity of
 - -94 dBm in BLE 1Mbps mode
 - -90 dBm in BLE 2Mbps mode
- Supports 16MHz and 32MHz XTAL

Multi-standard PHY and Link Layer

- Bluetooth Low Energy 5.0 certified
- Proprietary isochronous audio streaming protocol

Industry-lowest Power RF Transceiver

- Continuous RX 4mA @ 1.2V
- Continuous TX (0dBm) 7mA @ 1.2V



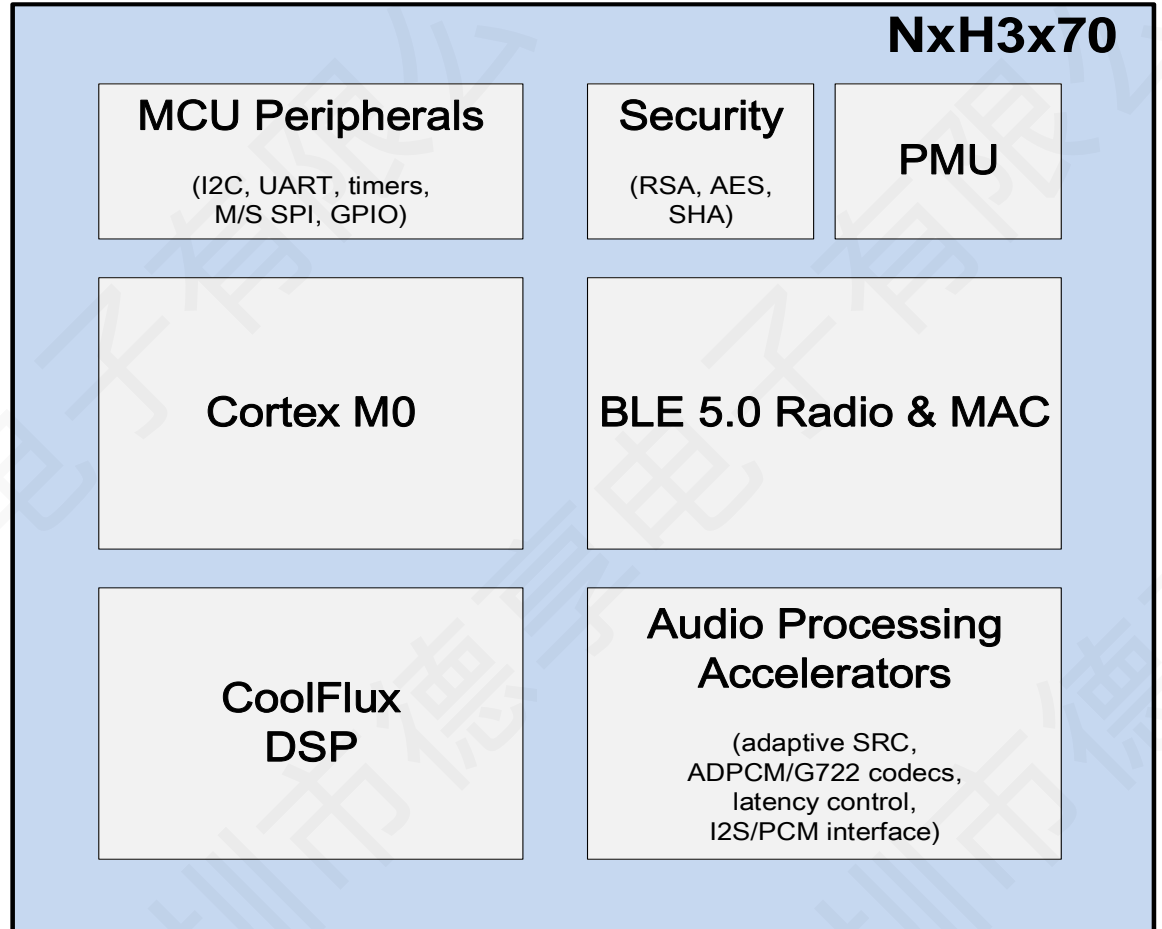
NxH3670 Features 2/3

Cortex M0 MCU

- Runs BLE higher layers and audio profiles
- 3/4 wire slave SPI
- 3/4 wire master SPI
- I2C master
- UART
- SWD

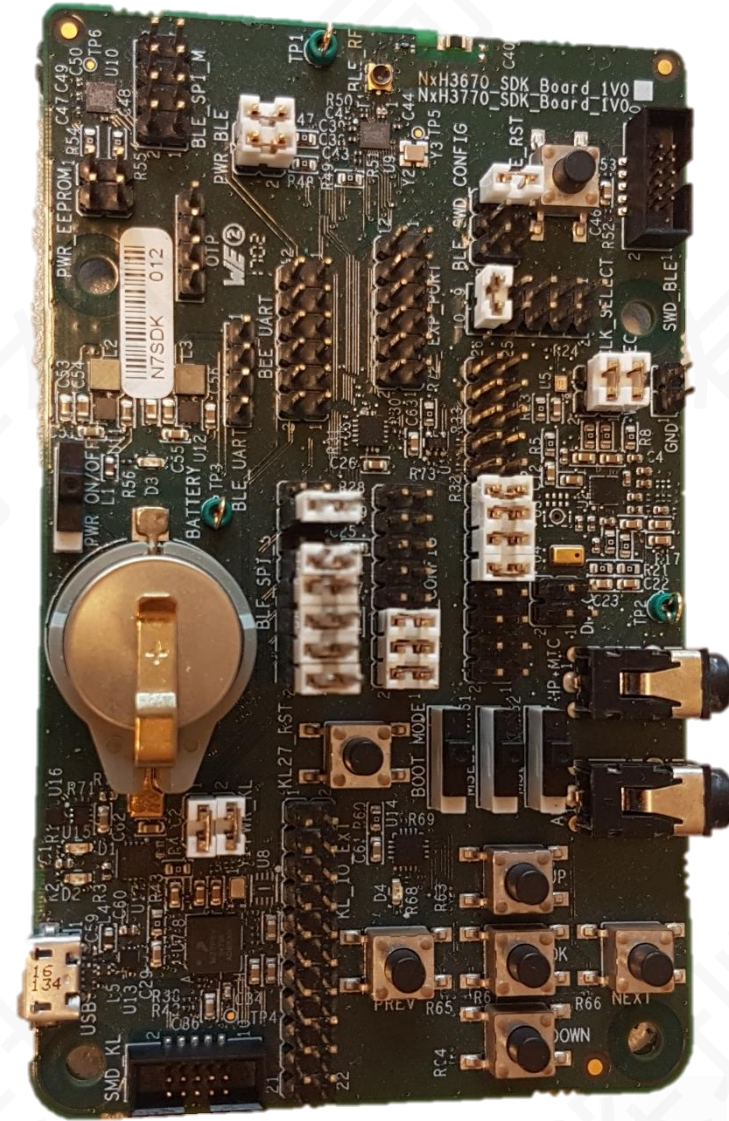
Flexible Audio Path

- Optimized HW-accelerated audio datapath
- Sample frequency: 16 ...48kHz
- CoolFlux DSP
- G722/SBC audio compression codec
- I2S or PCM interface to Host and codecs

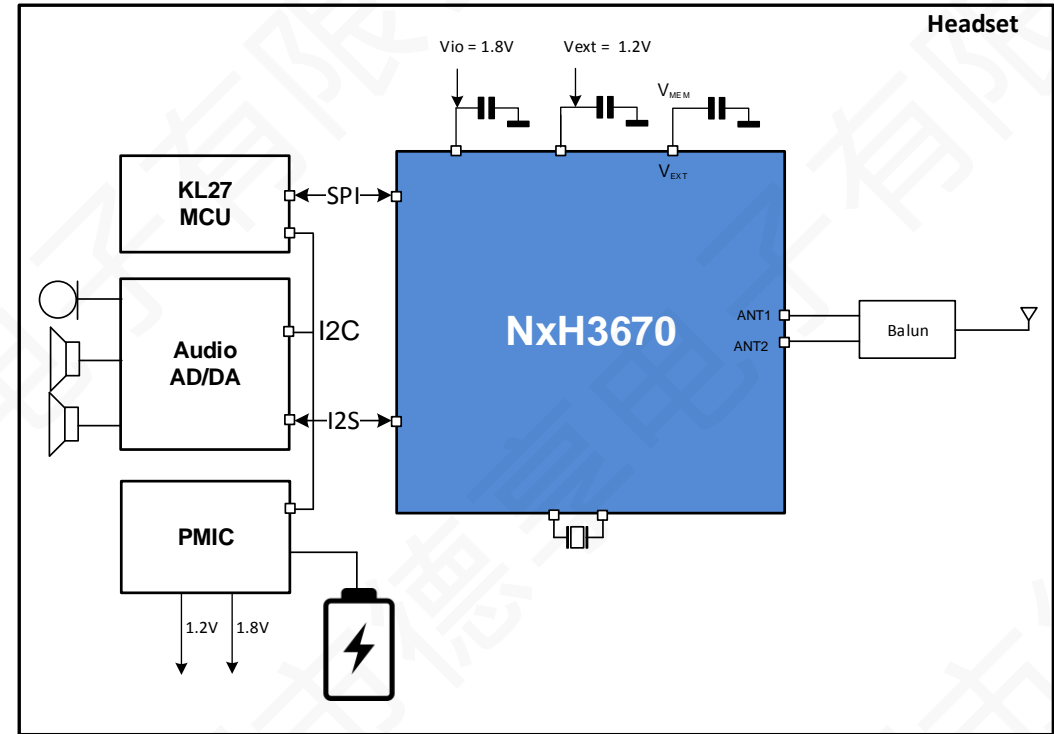
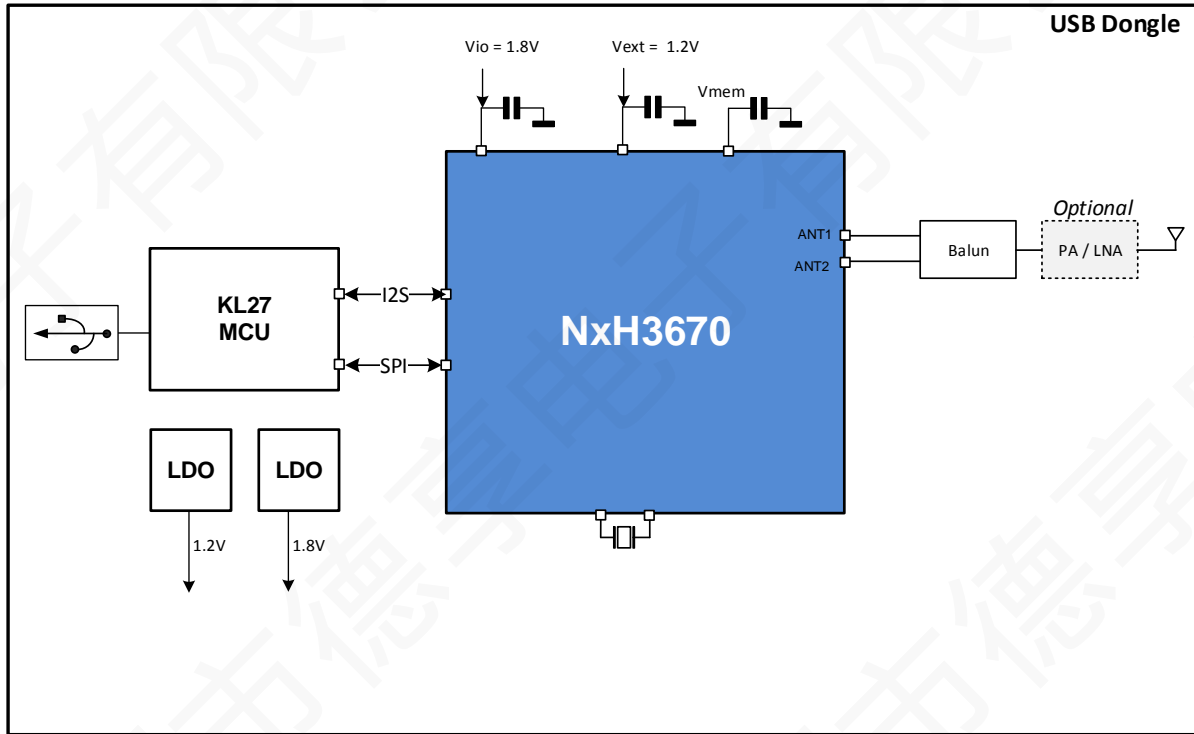


NxH3670 SDK Board

- NxH3670 development board
 - Flexible board intended for SW and system development, debug and bring-up
 - Contains
 - NxH3670
 - KL27 Microcontroller
 - Audio codec
 - Power management
 - Battery
 - Full signal observability
 - Reconfigurable as both dongle as well as headset
- Planning:
 - Available in SampleStore



NxH3670 Reference Design – Gaming Headset



NxH3670 ADK Reference Design

- NxH3670 application development board
 - Contains both dongle as well as headset reference design
 - Form factor reference showing real life performance of the full NxH3670 AoBLE solution
- Dongle
 - NxH3670
 - KL27 MCU
 - Integrated PCB antenna
- Headset
 - NxH3670
 - KL27 MCU
 - Dialog codec
 - Integrated omni-directional PCB antenna
- Planning:
 - Available in SampleStore





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