BES2800HP

Brief Datasheet

Ultra-low Power Bluetooth and Wi-Fi Audio Platform for Headphones, Open-type Adaptive ANC and AI Voice

CONTACT US:

Company: *Bestechnic (Shanghai) Co., Ltd. ("**BES**")*

Address: *2F, Building B, Lane 2889 Jinke Road, Pudong, Shanghai (201203)*

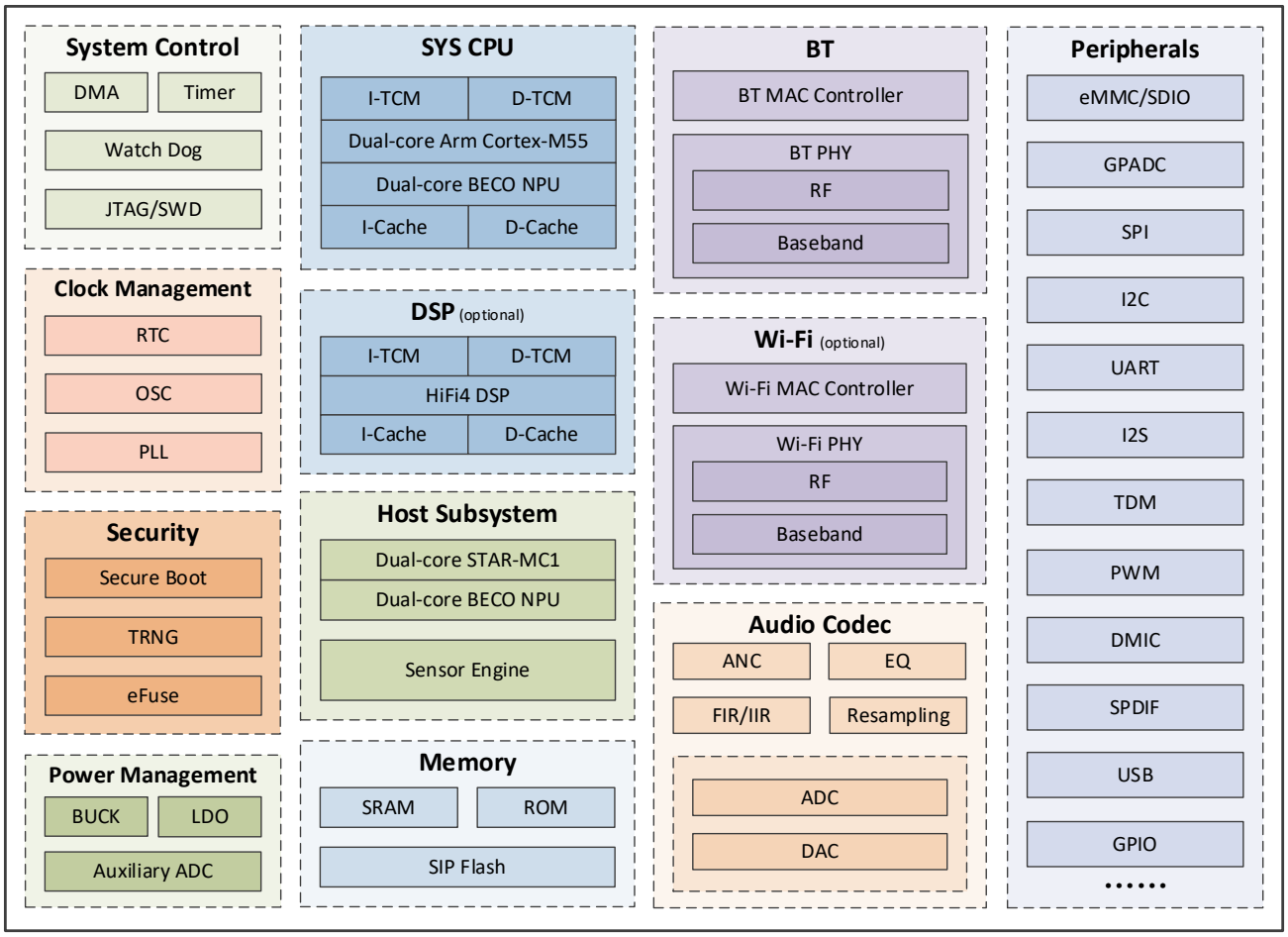
Phone: *(86)21 6877 1788*

For product inquiries and more information, please visit www.bestechnic.com*.*

1 General Description

The BES2800HP is an ultra-low power, high performance, smart audio SoC with integrated Bluetooth and Wi-Fi (optional). The platform incorporates a powerful CPU subsystem comprising a dual-core Arm Cortex-M55 processor with a dual-core BECO NPU, a BES proprietary coprocessor for advance signal processing and NN workloads, a Tensilica HiFi 4 DSP (optional), an audio codec, and a host subsystem comprising a dual-core STAR-MC1 processor with a dual-core BECO NPU. This combination significantly reduces power consumption while providing substantial application processing capabilities.

The platform incorporates a dual-mode Bluetooth 6.1 subsystem for both Bluetooth classic and LE audio, and a Wi-Fi 6 subsystem for high-throughput wireless connectivity and lossless audio. The highly integrated solution is optimized through the use of IBRT technology, a BES patented sniffing technique that incorporates Forward Error Correction (FEC) for enhanced RF performance in TWS systems.



System Block Diagram

1.1 Applications

- Smart Wi-Fi and Bluetooth headphones / gaming headsets with ANC
- Smart TWS earbuds with real-time adaptive ANC
- Smart wireless speakers
- Smart glasses
- Other portable audio devices

1.2 Features & Specifications*

CPU Subsystem	Dual-core ARM Cortex-M55
	Tensilica HiFi 4 DSP (optional)
Host Subsystem	Dual-core STAR-MC1
	Sensor engine
Memory and Storage	Shared 8.3 MB SRAM
	Flash in package
	boot ROM
Bluetooth Subsystem	Dual-mode BT 6.1 with LE audio
Wi-Fi Subsystem	Dual-Band 2.4G & 5G Wi-Fi IEEE 802.11 a/b/g/n/ax (optional)
Audio & Voice Features	2x DACs
	4x ADCs
Peripheral Interfaces	eMMC/SDIO/GPADC/SPI/I2C/UART/I2S/TDM/PWM/DMIC/SPDIF/USB/GPIO……
Package	220-pin BGA

* The content in the table is subject to change without notice.