



BES2800YP

Brief Datasheet

Ultra-low Power Bluetooth Smart Audio Platform for TWS, Open-type Adaptive ANC and AI Voice Applications

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.

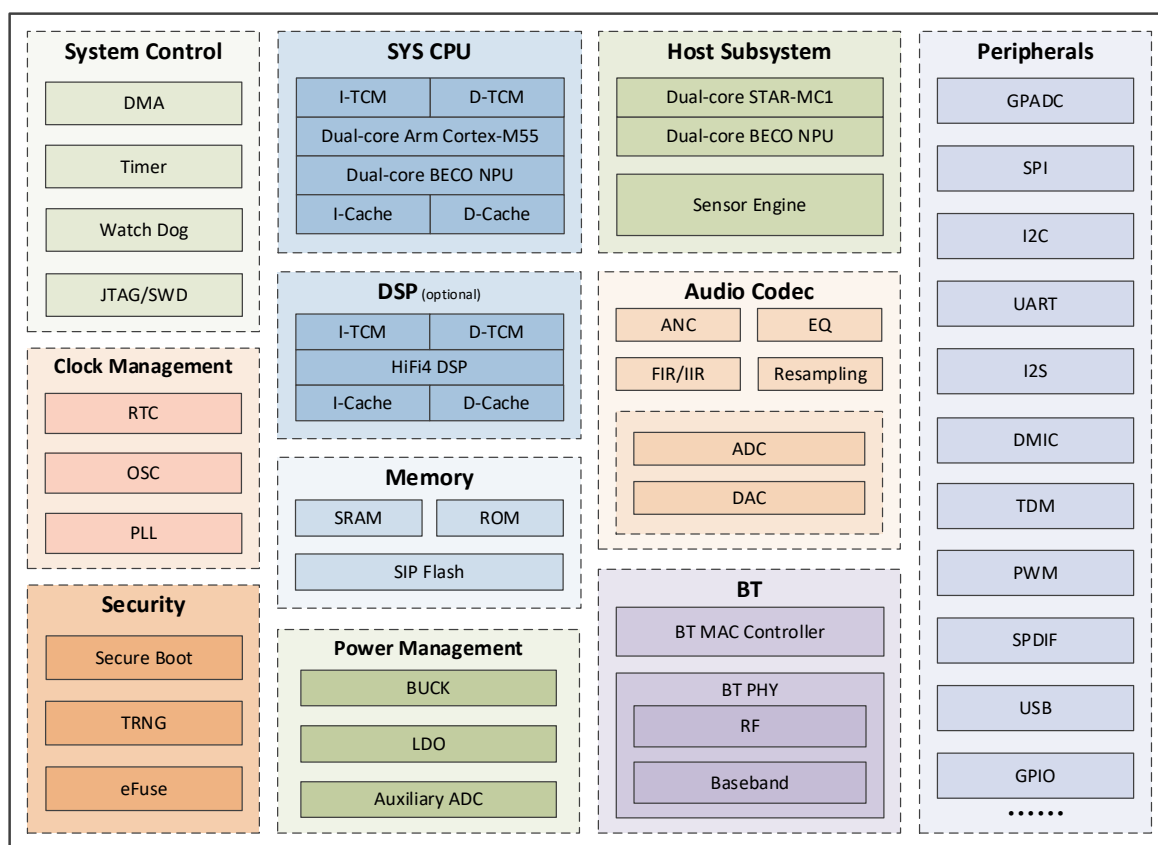
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1 General Description

The BES2800YP is an ultra-low power, high performance, smart Bluetooth audio SoC. 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 5.4 subsystem for both Bluetooth classic and LE 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

- TWS earbuds with real-time adaptive ANC
- Smart OWS earbuds
- Bluetooth + Self-fitting hearing aids
- Smart Bluetooth speakers
- 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 5.4 with LE audio
Audio & Voice Features	2x DACs
	3x ADCs
Peripheral Interfaces	GPADC/SPI/I2C/UART/I2S/DMIC/TDM/PWM/SPDIF/USB/GPIO.....
Package	220-pin BGA

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