BES2800BP

Ultra-low Power Bluetooth/Wi-Fi Smart Wearable Platform

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*.*

DISCLAIMER:

# 1   General Description

The BES2800BP is an ultra-low power, high performance, smart wearable 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 subsystem, 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, as well as a Wi-Fi 6 subsystem for high-throughput wireless connectivity. Furthermore, it integrates a multimedia subsystem that includes a 2.5D GPU for advanced graphics capabilities, an LCD controller with up to 3-layer alpha blending, and a 4-lane or dual 2-lane MIPI DSI with up to 720p 24bpp resolution.
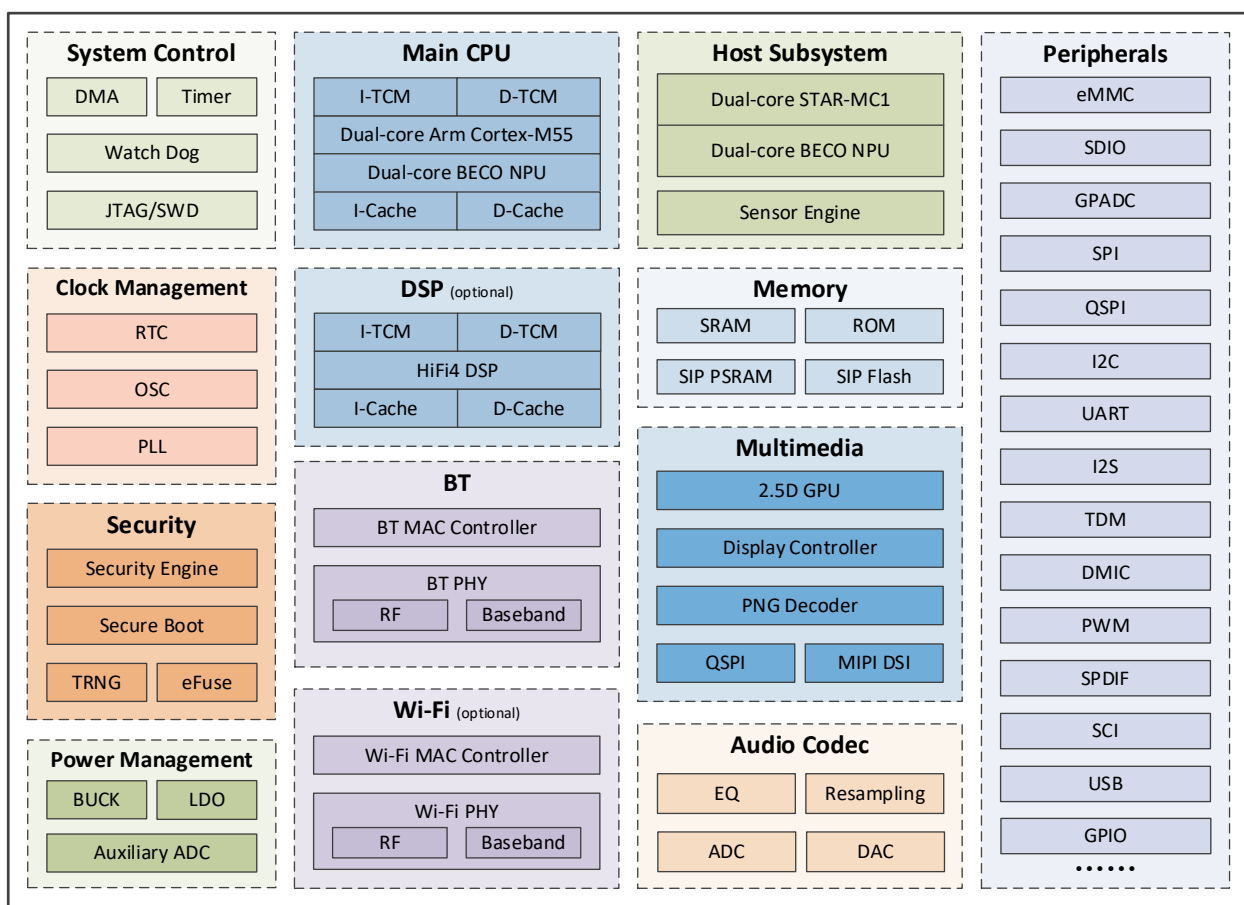
System Block Diagram

1.1 Applications

- Smart Bluetooth/Wi-Fi watches
- Smart glasses
- Other wearable 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 and PSRAM in package
	boot ROM
Bluetooth Subsystem	Dual-mode BT 5.4 with LE audio
Wi-Fi Subsystem	Dual-Band 2.4G & 5G Wi-Fi IEEE 802.11 a/b/g/n/ax (optional)
Graphics & Multimedia	2.5D Vector GPU
	MIPI DSI
Audio & Voice Features	1x DAC
	3x ADCs
Peripheral Interfaces	eMMC/SDIO/GPADC/SPI/QSPI/I2C/UART/I2S/TDM/DMIC/PWM/SPDIF/SCI/USB/GPIO……
Package	363-pin BGA

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

1.2 Features & Specifications[*]