BES2600Z

Brief Datasheet

Ultra-low Power Bluetooth and LE Audio Platform

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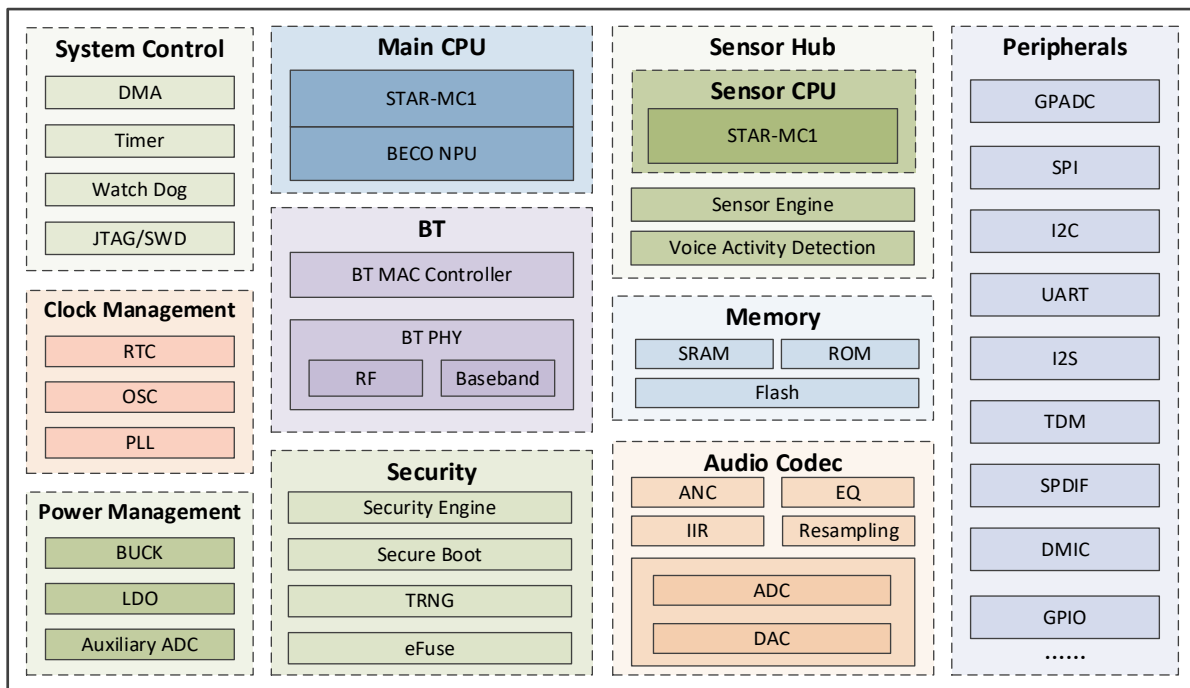*For product inquiries and more information, please visit* www.bestechnic.com*.*

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1   General Description

The BES2600Z is an ultra-low power Bluetooth audio SoC. The platform incorporates a high performance CPU subsystem comprising a dual-core STAR-MC1 with a BECO NPU, a BES proprietary coprocessor for advance signal processing and NN workloads, a sensor hub subsystem comprising a STAR-MC1 processor, RAM/ROM, serial flash for software features and product customization, as well as a variety of interfaces.

The platform integrates a dual-mode Bluetooth 5.3 subsystem for both Bluetooth classic and LE audio, and an audio codec subsystem supporting voice activity detection. 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 Control	Main CPU	Sensor Hub	Peripherals
DMA	STAR-MC1	**Sensor CPU** – STAR-MC1	GPADC
Timer	BECO NPU	Sensor Engine	SPI
Watch Dog		Voice Activity Detection	I2C
JTAG/SWD	**BT** – BT MAC Controller	**Memory**	UART
Clock Management	BT PHY – RF / Baseband	SRAM / ROM	I2S
RTC		Flash	TDM
OSC	**Security**	**Audio Codec**	SPDIF
PLL	Security Engine	ANC / EQ	DMIC
Power Management	Secure Boot	IIR / Resampling	GPIO
BUCK	TRNG	ADC	......
LDO	eFuse	DAC	
Auxiliary ADC			

System Block Diagram

1.1 Applications

- Smart ANC TWS earbuds
- Bluetooth speakers with LE audio
- Bluetooth walkie-talkies
- Other portable audio devices

1.2 Features & Specifications[*]

CPU Subsystem	STAR-MC1
Sensor Hub Subsystem	STAR-MC1
Memory and Storage	Shared 1.2 MB SRAM
	Flash in package
	boot ROM
Bluetooth Subsystem	Dual-mode BT 5.3 with LE audio
Audio & Voice Features	1x DAC
	4x ADCs
Peripheral Interfaces	GPADC/SPI/I2C/UART/I2S/TDM/SPDIF/DMIC/GPIO……
Package	108-ball BGA

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