RTL8730E Series

System and Platform

- Multi-Cores:
  - Dual-core Arm Cortex-A32
  - Real-M300
  - Real-M200
- Dual-core Arm Cortex-A32:
  - Arm Cortex-A32 compatible instruction set
  - Running at a frequency of up to 1.32GHz
  - 32KB 2-way I-Cache, 32KB 4-way D-Cache
  - 256KB 8-way L2 Cache
- Real-M300:
  - Arm Cortex-M55 compatible instruction set
  - Running at a frequency of up to 333MHz
  - 16KB 4-way I-Cache, 32KB 4-way D-Cache
- Real-M200:
  - Arm Cortex-M23 compatible instruction set
  - Running at a frequency of up to 40MHz
  - 16KB 2-way I-Cache, 8KB 2-way D-Cache
- Memory:
  - Supports NOR or NAND Flash
  - Supports PSRAM or DDR Extended Memory

Security

- Secure boot
- Arm TrustZone and TrustZone-M
- True Random Number Generator (TRNG)
- Hardware crypto engine supporting AES and SHA algorithms
- ECDSA/EdDSA/RSA engines
- Whole or partial Flash encryption
- Read Protection (RDP)
- JTAG/SWD password protection/forbidden
- 2K bytes OTP, up to 2K bits for users

RF Features

Wi-Fi

- 802.11 a/b/g/n/ax 1 x 1，2.4GHz + 5GHz
- Supports MCS0 – MCS9 20MHz bandwidth
- Power-saving mechanism
- Supports antenna diversity

BT

- Supports Bluetooth 5.3:
  - BR/EDR
  - BLE
- Supports BLE Long Range
- Separated antenna for Bluetooth
- Supports scatter-net (concurrent central mode and peripheral mode)
- Supports SIG Mesh v1.0 and v1.1
- Supports AoA and AoD
- Supports LE Audio (both CIS and BIS)

Peripheral Interface

- Flexible design of GPIO configuration
- Multi-communication interfaces: SPI x 2, UART x 4, I2C x 3
- Hardware IR transceiver can easily adapt to various IR protocols
- Supports Real-Time Clock timer together with 12 basic timers
- Supports 6 channels of PWM timer and 1 capture timer
- Supports 6 channels of general 12-bit ADC and 1 channel of VBAT
- Supports 9 channels of touch pad
- Supports 8 independent channels of GDMA
- Supports USB 2.0 OTG
- Integrates SD host controller to access SD card and eMMC device
- Embeds a serial LEDC to control the external LED lamps
- Integrates a thermal detector to detect and monitor the real-time temperature inside the chip
- 2-lane MIPI-DSI interface with D-PHY and the maximum bit rate of 1Gbps per lane
- Audio Codec:
  - 5 channels ADC or 8 channels DMIC
  - 2 channels DAC and headphone amplifier
- I2S x 2: up to 384kHz sampling rate
- Low power VAD