

厂家

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<div><div>芯片</div><div>内核</div><div>ARM Cortex-M4F</div><div>尺寸</div><div>5x5mm,6x6mm,8x8mm</div><div>UART</div><div>电流</div><div>兼容标准</div><div>-Compatible with Bluetooth Core Specification including BR/EDR/LE-1M/LE-2M/LE-Coded (Long Range) -Fully integrated balun and synthesizer minimizes external components. -RF circuit design minimizes power-consumption while keeping excellent performance</div><div>简述</div><div>调试</div><div>DSP RAM</div><div>8KB x 22</div><div>音频控制</div></div>	

4-way association cache controller

晶振

no

电源失效

no

Wifi

-

AoA/AoD

频率

40MHz

同步串行接口

传感器控制器

接收器灵敏度

升级方式

Manual

封装型式

QFN

DSP技术

概要

BLUETOOTH DUAL MODE AUDIO SOC

PLL时钟

no

I2S

名称

RTL8763B

Flash (kB)

I2C

-

待机

输出功率

CPU时钟频率

40MHz

针脚

DSP时钟速度

特性

BR / EDR / LE

可选晶振

no

PDM

LE Audio

- 无

类型

蓝牙低功耗, 蓝牙双模

蓝牙版本

5.1

I2S

24-bit, 192kHz on I2S digital audio

射频规范

- Supports TX +10dBm (typ.) maximum output power for Bluetooth classic
- Supports TX +10dBm (typ.) maximum output power for Bluetooth BLE
- Supports TX +4dBm (typ.) maximum output power for Bluetooth BLE low power TPM mode
- Receive sensitivity: -94dBm (2Mbps EDR)
- Receive sensitivity: -97dBm (BLE)
- Receiver sensitivity: -106.5dBm (125K BLE long range)
- Single-end TX/RX RF port without matching component required (when TX power is below +4dBm and using PIFA type PCB antenna)
- Crystal oscillator with built-in integrated capacitor for clock offset digital tuning (0~20pF), could save 2-compensation CL cap following Realtek design guidelines

CPU特性

针距

RC时钟

no

PWM

品牌

瑞昱

SRAM (kB)

实时时钟

no

CPU构造

32-bit

通道

外部时钟

no

协议

-

RADIO

SAADC

国家

中国

EEPROM (kB)

加密加速计

可编程通道

看门狗计数器

no

TWI

no

蓝牙5性能

-

SPIM

NFC标签

SPI

Executed external SPI flash

公钥硬件加速器

固定通道

QDEC

-

蓝牙5.1支持

Yes

SPIS

CMP

概述

The RT8763B series are single-chip Bluetooth ROM audio solutions for mono (RTL8763BM) and stereo (RTL8763BF/BFR, RTL8763BS, RTL8763BA) applications. The RT8763B is composed of an ARM core and an ultra-low power DSP core with high efficiency computing power, high performance audio codec, power management unit, ADC, ultra-low current RF transceiver, and smart I/O distribution controller.

The parameter configuration tools, the EVB kits, and the MP kits, including controller hardware and software, provide a simple and flexible procedure for customers to quickly design and proceed to mass production with Realtek's new generation of audio solutions. These complete total solutions provide a fast and highly reliable development path with a very competitive R-BOM.

- Bluetooth 5 specification compatible
- Supports HFP 1.7, HSP 1.2, A2DP 1.3, AVRCP 1.6, SPP 1.2 and PBAP 1.0
- Single-end RF radio output with high performance 10dBm of transmitter power and -94dBm 2M EDR receiver sensitivity
- Supports Bluetooth classic (BDR/EDR)

- Supports Bluetooth Low Energy (BLE)
  - Generic access service
  - Device information service
  - Proprietary services for data communication
  - Apple Notification Center Service (ANCS)
- Real Wireless Stereo (RWS)
- Supports USB type-C audio
- Supports iAP2
- Realtek's latest RCV (Real Clear Voice) technology for narrowband and wideband voice connection, including wind noise reduction
- Supports high resolution audio codec up to 24bits, 192kHz audio data format
- Supports dual analog and digital MIC, AUX-IN, I2S digital audio, analog output
- Supports high speed UART, I2C, SPI and USB2.0 compatible interface
- Supports high resolution 12-bits multi-channel ADC
- Supports PWM I/O and smart LED controller
- Supports USB BC1.2 battery charging
- Smart I/O distribution scheme with MUX
- Built-in 8Mbits FLASH memory (RTL8763BF/RTL8763BFR)
- Integrated dual switch mode power regulator, linear regulators, and battery charger; charging current up to 400mA
- Built-in battery voltage monitoring and thermal protection scheme with external thermal resistor
- SBC, AAC decoder support
- Package: 5x5mm<sup>2</sup> QFN40 (RTL8763BM, RTL8763BF, RTL8763BFR), 6x6mm<sup>2</sup> QFN48 (RTL8763BS) and 8x8mm<sup>2</sup> QFN68 (RTL8763BA) with 0.4mm pitch
- Supports OTA and USB firmware upgrade
- GSM 217Hz interference block out design
- Low BOM cost
- Green (RoHS compliant and no antimony or halogenated flame retardants)
- Supports PTA (Packet Traffic Arbiter) when co-existing with Wi-Fi

#### DSP Audio Processing

- Enhanced Tensilica Hi-Fi-mini compatible 24-bit DSP core
- 2 single-cycle MACs: 24 x 24-bit multiplier and 56-bit accumulator
- Supports G.711 A-Law,  $\mu$ Law, continuous-variable-slope-delta (CVSD) and mSBC voice codecs
- Supports 8/16 kHz 1/2-mic noise suppression and echo cancellation
- Packet Loss Concealment (PLC) for voice processing
- SBC, and AAC-LC audio codecs supported for BT audio streaming

#### Audio Codec

- Dual operation voltage range 2.8V and 1.8V
- Supports cap-less, single-ended, and differential mode at the DAC path
- Supports 16ohm and 32ohm speaker loading
- Stereo 24-bit digital-to-analog (DAC) with 102dBA SNR
- Stereo 24-bit analog-to-digital (ADC) with 97dBA SNR
- 5-band configurable EQ at both DAC/ADC paths
- Sampling rates of 8, 16, 32, 44.1, 48, 88.2, and 96kHz are supported.
- Built-in MIC bias generator

#### RAM and ROM Size

- ROM size 768KB
- MCU RAM size 16KB x 8 Data RAM + 8KB X 2 cache RAM
- DSP RAM 8KB x 22

RF

- Supports TX +10dBm (typ.) maximum output power for Bluetooth classic
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- Receive sensitivity: -94dBm (2Mbps EDR)
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Baseband Features

- 40MHz main clock
- Supports serial flash for FW storage and parameter upgrade
- Adaptive Frequency Hopping (AFH)
- Multi-link support
- Supports Serial Copy Management System (SCMS-T) content protection

GPIO

加速器

通道组

PDM

有  
安全

TWIM

特性

CAN

真随机数发生机器

USB

no

TWIS

方框图

CAN FD

监控器

SPI

no

UARTE

RAM(KB)

16KBx8 Data +8KBX2 cache

应用说明

- Mono headset
- Stereo headset
- Real Wireless Stereo (RWS) headset
- Mono speaker
- Stereo speaker

人机界面

two PDM digital MIC inputs

Quad SPI

-

NFCT

开发板

安全模块

调试界面

SWD debug interface

LDO

no

USBD

数据手册

时钟 [数量, 位]

no

VBUS

no

QSPI

PWM [数量, 位]

图片

可调供电输出

-

ADC [数量, 位]

价格

0.00

DAC [数量, 位]

元

□

电压 [最小~最大] (V)

2.8V ~ 4.35V (VBAT)

评分

no 

模拟组件

no

环境温度 (最小~最大) (°C)

-20°C ~ +70°C

低功耗组件

no

缓存

-

结温(最小~最大) (°C)

温度传感器

no