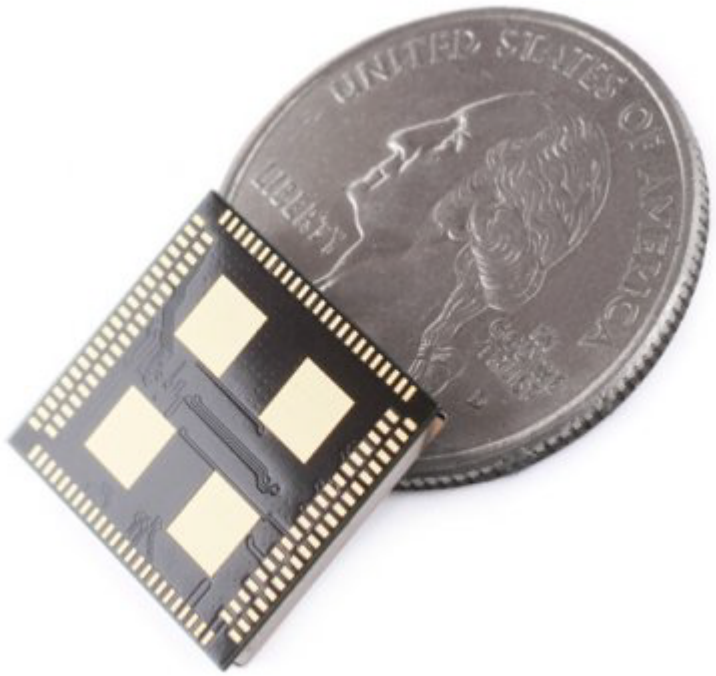

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LinkIt MT2502A Module -Scale for IoT solution

SKU: 317030022

Description

LinkIt MT2502A Module is a low-cost and low-power consumption IoT SiP module. The module is an operating deisgned for Wearables and Internet of Things(IoT)devices that can

connect to other smart devices or directly to cloud applications and services. It integrates voice-band,audio-band,base-band analog front-end and full-featured power management unit. With its embedded support for GPRS/GSM, this highly integrated SoC design avoids the need for multiple chips, meaning smaller devices and reduced costs for device creators, as well as eliminating the need for compatibility tests. This module is complemented by Wi-Fi and GNSS chips, offering high performance and low power consumption to devices with more sophisticated communication or location acquisition requirements.With LinkIt MT2502A Module, it's easier and cheaper for device manufacturers to produce desirable, functional wearable products.

Features:

General

- Integrated voice-band, audio-band and base-band analog front-end
- Integrated full-featured power management unit

MCU subsystem

- ARM7EJ-S TM 32-bit RISC processor
- Java hardware acceleration for fast Java-based games and applets
- High-performance multi-layer AHB bus
- Dedicated DMA bus with 16 DMA channels
- On-chip boot ROM for factory flash programming
- Watchdog timer for system crash recovery
- 3 sets of general-purpose timers
- Circuit switch data coprocessor
- Division coprocessor

Serial flash interfaces

- Supports various operating frequency combinations for serial flash
- Supports QPI and SPI serial flash

User interfaces

- 5-row x 5-column keypad controller with hardware scanner
- Supports multiple key presses for gaming
- Dual SIM/USIM controller with hardware T=0/T=1 protocol control
- Real-time clock(RTC) operating with a low-quiescent-current power supply
- General-purpose I/Os(GPIOs) available for auxiliary applications
- 2 sets of Pulse Width Modulation(PWM) output
- 24 external interrupt lines
- 1 external channel auxiliary 10-bit A/D converter

Security

- Supports security key and chip random ID

Connectivity

- 3 UARTs with hardware flow control and supports baud rate up to 921600bps
- FS/LS USB 1.1 device controller
- Multimedia card, secure digital Memoy Card, host controller with flexible I/O voltage power
- Supports 4-bit SDIO interface for SDIO peripherals as well as WIFI connectivity
- DAI/PCM and I2S interface for audio applications
- I2C master interface for peripheral management including image sensors
- SPI master/slave interface for peripheral management.

Power management

- Li-ion battery charger
- 12 LDOs for the power supply of memory card, camera, Bluetooth, RF, SIM card and other diversified usage.
- 1 open-drain output switches to supply/control the LED
- LDO type vibrator
- One NMOS switch to control keypad LED
- Thermal overload protection
- Under-voltage protection
- Different levels of power-down modes with sophisticated software control enables excellent power saving performance

Test and debugging

- Built-in digital and analog loop back modes for both audio and baseband front-end
- DAI port complies with GSM Rec.11.10
- JTAG port for debugging embedded MCU

Specification:

Model Name: AI2502S05
Chipset: MT2502A
Core: ARM7 EJ-STM
Clock Speed: 260MHz
Flash: 16MB
RAM: 4MB

Operation Conditions

- Temperature: -20℃~70℃（Operating），-40℃~85℃（Storage）
- Humidity：10~95%（Operating），5~95%（Storage）
- Dimension：17mm x 15mm x 1.8mm（Max.）

- Package：LGA

Electrical Specifications

- Digital IO Pins：TBD（Pin Count），3.3V（Voltage）
- Analog Input Pins：TBD（Pin Count），0~5V（Voltage）
- PWM Output Pins： Max Resolution：13bit

  Max Frequency@Resolution：
  1.6kHz@13bit
  50.8KHz@8bit
  800kHz@4bit

- I2C（master only）: 100Kbps, 400Kbps, 3.4Mbps
- SPI (master only): 104Kbps~26Mbps
- GSM/GPRS: 850/900/1800/1900 MHz
- Bluetooth: BR/EDR/BLE(Dual Mode)

Overview

Weight: 0 g