UIS8811 Device Specification Brief

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Revision History

Version	Date	Notes
V1.0	2021/10/12	First draft

Contents

1 System Overview

1.1 General Description

UIS8811 is an advanced system-on-chip solution integrated NB-IoT modems. Building on the success of UNISOC's current solutions, the UIS8811 integrates RF transceiver for low cost.

UIS8811 supports plenty of peripherals such as SDIO, UART, I2C, SPI, GPIOs, PWM, SEGLED. Integrated PMIC provides power to SOC and all peripherals.

5.8X5.9mm TFBGA package and 138 balls.

1.2 Features

1.2.1 Platform Features

Microcontroller Subsystem

- 312MHz ARM China STAR CPU is used as Application processor and DSP with 32KB I-Cache and 32KB D-Cache, FPU/SAU/MPU
- Support for Secure Boot
- Support for Secure Storage
- Crypto Engine
- Trusted Base System Architecture for Armv8-M
- Boot from uart1 or uart3
- Fourteen general DMA channels for peripherals
- Multiple SoC low power modes with rich wakeup sources

Memory

- 960K-Byte SRAM
- 2K-Bit E-fuse
- Integrated SPI Nor Flash
- Integrated PSRAM (optional)

User Interface

- 4 Pulse Width Modulator
- Up to 32 GPIOs with interrupt function
- 5 UART interface
- 1 SDIO interface
- 3 I2C interface
- 2 SPI (master) interface
- Up to 4 column x 4 row keypad
- 1 external SPI Nor Flash interface
- 1 18-Bit SEGLED

Power Management

- DC-DC and LDOs solution(PMIC UIP1811) deriving from VBAT
- Flexible I/O voltage support 1.8V, 2.8V, 3.3V
- External pin reset

Clock Source

- 26MHz DCXO or TCXO
- 32.768KHz crystal oscillator

1.2.2 Modem Features

NB-IoT Communication

- 3GPP Release 13/14 NB-IoT specification fully compliant
- Supported RF band: 1/2/3/4/5/8/12/13/17/18/19/20/25/26/28/66/70/71, wide frequency range
- Supports all three deployment scenarios (standalone, in-band, and guard-band)
- Supports both single-tone and multi-tone transmission modes in uplink
- Supports 200KHz bandwidth in downlink and uplink
- Supports PSM and eDRX mode
- Support CP-CIoT and UP-CIoT

1.3 Package Information

Plastic-encapsulated surface mount packages are sensitive to damage induced by absorbed moisture and temperature. ALL the chips are MSL 3, which had been marked on the label for every package.

Table 1-1 Package Information

Device Name	**UIS8811**
Body Size	**5.8X5.9 mm**
Ball count	**138**
Ball Pitch	**0.4mm**
Ball Size	**0.23mm**
Ball Matrix	**14X14**