

Module Series

IEEE 802.11ah Wireless LAN Module

ITM-6394N



- Supports 902 ~ 928MHz frequency band
- Supports single-stream 150kbps ~ 15Mbps
- Supports AP and STA mode
- UART and HSPI support for host interface
- Power saving: Non-TIM operation, dynamic AID assignment and TWT

The ITM-6394N is the smallest IEEE 802.11ah Wi Fi module that operates in the Sub 1GHz license exempt band, offering longer range and higher data rate for internet of things (IoT) applications. The ITM-6394 supports 1/2/4 MHz channel bandwidth which yields 150 Kbps to 15 Mbps PHY rate that can handle low rate sensors to high rate surveillance camera applications. The self contained Wi Fi networking with huge range of data throughput offers the ideal solution to add Wi Fi connectivity to IoT products with low power consumption requirements.

The ITM-6394N integrated Newracom NRC7394 which is a complete radio front end that is optimized for Sub 1 GHz band. It has a fully integrated PA and fractional N synthesizer. An embedded Cortex M3 ARM® processor in the NRC7394 offers enough processing power to accommodate Wi Fi subsystem as well as user application in a single Wi Fi SoC. NRC7394 also includes two host interfaces, HSPI and UART, and rich peripherals such as general SPI, I2C, UART, PWM, auxiliary ADC, and GPIOs. The low leakage retention memory inside NRC7394 can be used to store code and data necessary for fast wake up from deep sleep mode.

- Low-cost STA/AP: EL operation, Flow Control
- Supports transmission of Standby Radio frame
- Full IEEE 802.11ah compatibility with enhanced performance
- Supports 1/2/4 MHz channel with optional SGI

Main Specification

CPU	ARM Cortex-M3 for Wi-Fi and customer application
Memory	32KB boot ROM 1,088KB system SRAM XIP with cache (2 ways, 16KB) 48KB retention
Communication Peripherals	GPIO X 26 SPI X 2 UART X 2 I2C X 2 10-bit ADC: 2ch input
RF Transceiver	Single-ended RF ports Frequency band: 750 to 950MHz Linear TX output power: 17dBm TX gain range: 30dB -109 dBm Rx sensitivity
Package & Temperature	6mm x 6mm 48-QFN -40 ~ +85°C operating temperature