DATASHEET

Wi-Fi Mini PCIe Module
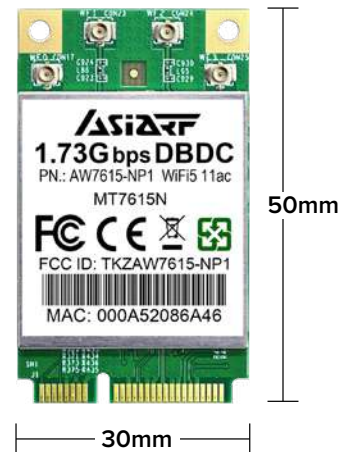
AW7615-NP1

2.4 / 5GHz
802.11ac/ a/b/g/n

Description

AW7615-NP1 is a Wi-Fi Mini PCIe Module based on Mediatek MT7615 which is a WiFi Mini PCIe single chip which supports 1733 Mbps PHY rate. It fully complies with IEEE 802.11ac and IEEE 802.11 a/b/g/n standards, offering feature-rich wireless connectivity at high standards, and delivering reliable, cost-effective throughput from an extended distance.

Optimized RF architecture and baseband algorithms provide superb performance and low power consumption. Intelligent MAC design deploys a high efficient offload engine and hardware data processing accelerators which completely offloads Wi-Fi task of the host processor. MT7615 is designed to support standard based features in the areas of security, quality of service and international regulations, giving end users the greatest performance any time and in any circumstance.

MT7615 supports concurrent dual-band operation at 5GHz and 2.4GHz band (DBDC, Dual-Band-Dual-Concurrent). It enables diversified applications that require one link at 2.4GHz band, and the other at less crowded 5GHz band simultaneously.

With the advent of 802.11ac, multiuser MIMO (MU-MIMO) is defined. MT7615 supports MU-MIMO with different configurations. An AP is able to use its antenna arrays to transmit multiple frames to different clients at the same time and over the same frequency spectrum.

50mm

30mm

Features

- Supports 4x4 4SS 11ac wave2 MU-MIMO and 160MHz channels
- MU-MIMO configurations of
  - 4 users: 4*1ss
  - 3 users: 2*1ss + 1*2ss or 3*1ss
  - 2 users: 2*2ss or 1*1ss + 1*2ss or 2*1ss
- Supports 5, 10, 20, 40, 80, 80+80, and 160MHz channels
- Embedded ARM Cortex R4 processor for full host CPU offload
- Embedded 32-bit RISC microprocessor
- iNIC Gen2 with full Wi-Fi offload
- Highly integrated RF with 40nm low power process
- 4T4R with support of up to 1733Mbps PHY rate
- Configurable 4x4/3x3 or 2x2n+2x2ac DBDC

- Noise mitigation:
- Supports background scan function for fast channel switching
- Supports spectrum analysis for non-Wi-Fi signals
- Intelligent power saving
- Hardware-based Airtime Fairness (QoS)
- Integrate high efficiency internal 2.4G/5G PAs
- Intelligent Calibration (iCal) reduces the production time
- Supports external PA/LNA/TRSW design
- Proprietary LTE coexistence over UART
- WoWLAN via GPIO (client mode), supports Host Sleep (AP mode)
- Compact 12mm*12mm DRQFN118 package with PCIe Gen2 interface