1   Overview

The WMX7219 module is a highly integrated module designed for wireless local area networks (WLANs). It supports 2-stream 802.11ax solutions with MU-MIMO (Multi-User Multiple-Input and Multiple-Output) and features a Wireless LAN (WLAN) PCI Express network interface controller. Additionally, it is equipped with an integrated Bluetooth 5 USB interface controller.

It combines a WLAN MAC, a 2T2R capable WLAN baseband, and RF in a single module. The WMX7219 provides a complete solution for a high-performance integrated wireless and Bluetooth device.
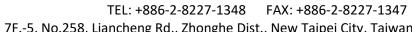
2   Feature

2.1 System

- Compatible with PCI Express Base Specification Revision 2.1
- Compatible with USB2.0 FS-mode Specification for Bluetooth.
- Concurrent Dual Band, Dual Transceiver, Dual Function

2.2 WLAN

- Compliant with IEEE 802.11a/b/g/n/ac/ax
- IEEE 802.11ax MIMO OFDM/OFDMA
- IEEE 802.11ac MIMO OFDM
- IEEE 802.11n MIMO OFDM
- 20 MHz / 40 MHz / 80 MHz / 160 MHz bandwidth transmission
- Support 2.4 GHz , 5 GHz, 6 GHz band channels
- Support 802.11ac 2x2, Wave-2 compatible with MU-MIMO
- Support 802.11ax 2x2, with OFDMA and MU-MIMO, by 4 types PPDU format, such as HE-SU-PPDU, HE-ER-SU-PPDU, HEMU-PPDU, and HE-TB-PPDU
- Complete 802.11n MIMO solution for 2.4 GHz and 5 GHz band and 6 GHz band
- Support Dual band concurrent.
- WAPI (Wireless Authentication Privacy Infrastructure) certified.

2.3 Bluetooth

- Support Bluetooth 5 system (BT 5.3 Logo Compliant)
- Compatible with Bluetooth v2.1+EDR
- Integrated MCU to execute Bluetooth protocol stack
- Enhanced BT/WIFI Coexistence Control to improve transmission quality in different profiles
- Dual Mode support: Simultaneous LE and BR/EDR
- Supports multiple Low Energy states
- Supports Bluetooth Low Energy

2.4 Security

- IEEE 802.11i (WPA, WPA2, WPA3).
  Open, shared key, and pair-wise key authentication services
- WPA3 - Enterprise compliant
- WPA3-Enterprise 192-bit Security (based on AES-GCMP-256 & BIP-GMAC-256)
- Encryption: WEP-40/104, CCMP-128
- 802.lX (EAP-TLS, TTLS, PEAP, LEAP, EAP-FAST)), (EAP-SIM, EAP-AKA)-with OS supports
- Compliance with Windows operating system host implemented FIPS 140-2 security requirements.

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