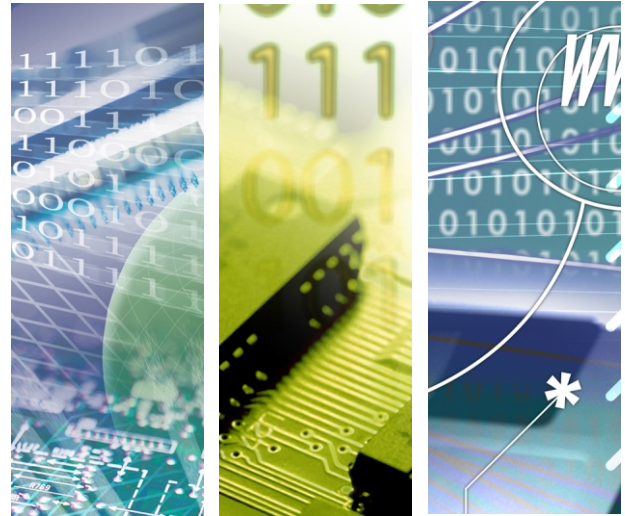




DPE307R

802.11AX/AC/abgn Wi-Fi with BT5.2 MiniPCle



DPE307R

802.11abgn/AC/AX+BT5.2/5.0, 2T2R, miniPCle, Realtek RTL8852BE

Introduction of Products

Bointec DPE307R IEEE 802.11 a/b/g/n/ac/ax PCIE WIFI with Bluetooth 5.2 combo miniPCle module is a highly integrated single-chip MIMO (Multiple In, Multiple Out) wireless local area network (WLAN) solution to let users enjoy the digital content through the latest wireless technology without using the extra cables and cords. It combines a WLAN MAC, a 2T2R capable WLAN baseband, and RF in s single chip. It enables a high performance, cost effective, low power, compact solution that easily fits onto the PCI Express and USB M.2 module.

Bointec DPE307R baseband implements Multi-user Multiple Input, Multiple Output (MU-MIMO) Orthogonal Frequency Division Multiplexing (OFDM) with two transmit and two receive paths (2T2R). Features include two spatial stream transmissions, short Guard Interval (GI) of 400ns, spatial spreading, and support for variant channel bandwidth.

Moreover, Bointec DPE307R provides one spatial stream space- time block code (STBC), Transmit Beam forming (TXBF) and Low Density Parity Check (LDPC) to extend the range of transmission. At the receiver, extended range and good minimum sensitivity is achieved by having receiver diversity up to 2 antennas. As the recipient, DPE307R also supports explicit sounding packet feedback that helps senders with beam forming capability.

Product Highlight

Wi-Fi Feature:

- Support 802.11ax 2x2,Wave-2 compliant with MU-MIMO
- Complete 802.11n MIMO solution for 2.4GHz and 5Ghz band
- Host Interface PCIe v2.1 Gen2.
- Multiple BSSID feature allows the RTL8852BE to assume multiple MAC identities when used as a wireless bridge

BT Feature:

- Compatible with Bluetooth v5.2
- Host Interface: USB 2.0
- Integrated 32K oscillator for power management



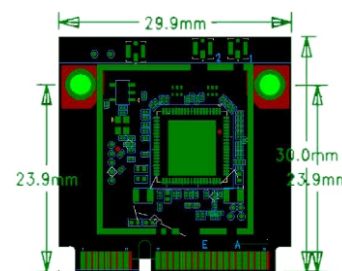
Specification

Wi-Fi	
Standard	IEEE802.11ax, IEEE802.11ac, IEEE802.11a, IEEE802.11b, IEEE 802.11g, IEEE 802.11n
Bus Interface	PCI Express
Data Rate	802.11b: 1, 2, 5.5, 11Mbps 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n (HT20): MCS0~MCS7(1T1R) SISO 6.5~72.2Mbps; 802.11n (HT20): MCS8~MCS15(2T2R) MIMO 13~144.4Mbps; 802.11n (HT40): MCS0~MCS7(1T1R) 13.5~150Mbps; 802.11n (HT40): MCS8~MCS15(2T2R) 27~300Mbps; 802.11ax (HE MU, 26~242RU): MCS0~MCS11(1T1R) 0.4~143.4Mbps; 802.11ax (HE MU, 26~242RU): MCS0~MCS11(2T2R) 0.8~286.8Mbps; 802.11ax (HE SU, non-OFDMA 20MHz): MCS0~MCS11(1T1R) 3.6~143.4Mbps; 802.11ax (HE SU, non-OFDMA 20MHz): MCS0~MCS11(2T2R) 7.3~286.8Mbps; 802.11ax (HE SU, non-OFDMA 40MHz): MCS0~MCS11(1T1R) 3.6~143.4Mbps; 802.11ax (HE SU, non-OFDMA 40MHz): MCS0~MCS11(2T2R) 7.3~286.8Mbps; 802.11ax (HE SU, non-OFDMA 40MHz): MCS0~MCS11(1T1R) 7.3~286.8Mbps; 802.11ax (HE SU, non-OFDMA 40MHz): MCS0~MCS11(2T2R) 14.6~573.5Mbps
Media Access Control	
Modulation Techniques	DSSS, OFDM, DBPSK, DQPSK, CCK, 16-QAM, 64-QAM for WLAN
Network Architecture	
Operation Channel	2.4GHz: USA, NORTH AMERICA, Canada and Taiwan – 1 ~ 11 China, Australia, Most European Countries – 1 ~ 13 Japan – 1 ~ 14(CH14 only for 802.11b) 802.11g: USA, Canada and Taiwan – 1 ~ 11 China, Australia, Most European Countries – 1 ~ 13 5GHz: USA, EUROPE – 36, 40, 44, 48, 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140, 149, 153, 157, 161, 165
Frequency Range	2.4 GHz : 2.412 ~ 2.484 GHz 5 GHz: 4.915 ~5.925Ghz
Security	WAPI WEP 64-bit and 128-bit encryption with HW TKIP processing WPA/WPA2 (Wi-Fi Protected Access) AES-CCMP hardware implementation as part of 802.11i security standard
Bluetooth	
Standard	Bluetooth 2.1+Enhanced Data Rate (EDR) + BT4.2+BT5.2
Bus Interface	USB2.0
Data Rate	Bluetooth 2.1+EDR data rates of 1,2, and 3Mbps
Modulation Scheme	GFSK (1Mbps), $\pi/4$ DQPSK (2Mbps) and 8DPSK (3Mbps)
Frequency Range	2402~2480MHz
Transmit Output Power	Class 2 : 0~6 dBm
Receiver Sensitivity	GFSK: -88 dBm (Typical) $\pi/4$ -DQPSK: -89 dBm (Typical) 8-DPSK: -83 dBm (Typical)
Software	Bluetooth Suite
Electronics characteristics	
Operating Voltage	3.3 V
OS Supported	Microsoft Windows / Linux
Antenna Type	I-PEX MHF3 Connector Receptacle CH1 : Wi-Fi → TX/RX CH2 : Wi-Fi and Bluetooth → TX/RX
Environmental	

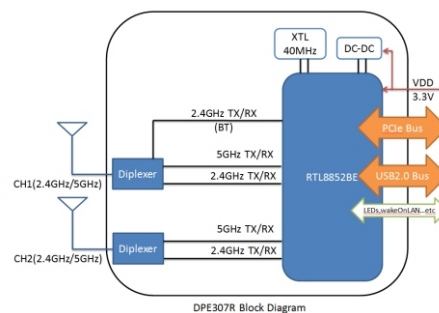
Product quick glance



ME Drawing/placement



Block Diagram



Ordering Information

PART NUMBER	DESCRIPTION
TFGA-DPE307R0-11	Finished non packing, Bointec, DGF307R

Bointec Authorized Distributer



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