

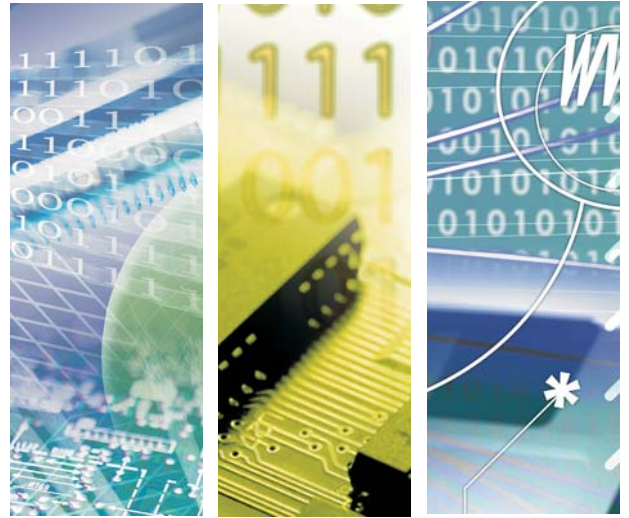


# DGF109A

IEEE 802.11AC/bgn Wi-Fi with BT Module



802.11AC/bgn+BT4.0 M.2, 2T2R, 2230



DGF109A

## Introduction of Products

DGF109A is an dual band 802.11ac/a/b/g/n Dual-Band WiFi + Bluetooth NGFF adapter. It is a 2T2R (WiFi/BT co-existence supported) technology, with 20/40/80MHz and 256-QAM to maximize bandwidth. Bointec DGF109A lets you move at the speed of life with faster speeds (up to 867 Mbps, 1~3Mbps EDR for Bluetooth), higher capacity, broader coverage and longer battery life. Dramatically reshapes your connected experience.

As usual DGF109A incorporated with advanced security encryption, such as WEP, WPA, WPA2, and 802.1x for secure wireless connection

## Product Highlight

- Main Chip:QCA6174A-5
- Bluetooth V4.2, V4.1, V4.0 LE, V3.0+HS, Bluetooth V2.1+EDR system, backward compatible with BT version of 1.1, 1.2 and 2.0
- BT supports Class I (Output power up  $\leq +10$  dBm)
- BT transmission speed including 1M, 2M and 3Mbps EDR operations
- Support for Simple Pairing (SP) and Enhanced Inquiry Response (EIR) function
- Support for SCATTERNET and PICONET
- HCI USB interface to work with Windows upper layer stack
- Operates at ISM frequency Band(2.4/5GHz)
- IEEE Standards Support, 802.11a, 802.11b, 802.11g, 802.11n and 802.11ac
- Wi-Fi using Low power PCI Express interface
- Enterprise level security supporting: WPA, WPA2
- Two-stream spatial multiplexing up to 867Mbps data rate



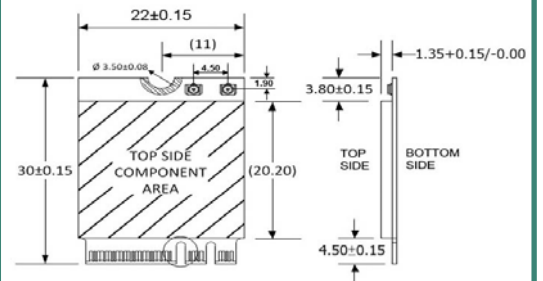
# Specification

| Bluetooth                   |   |
|-----------------------------|---|
| Standard                    | Bluetooth V4.1, V4.0LE, V3.0+HS, V2.1+EDR,                                  |
| Bus Interface               | USB 1.1   |
| Data Rate                   | 1 Mbps, 2Mbps and Up to 3Mbps   |
| Modulation Scheme           | GFSK, $\pi/4$ -DQPSK and 8-DPSK   |
| Frequency Range             | 2.402~2.480 GHz   |
| Transmit Output Power       | 0? Output Power ? +10; Class 1Device  |
| Receiver Sensitivity        | < 0.1% BER at -70dBm  |
| Software                    | BluetoothSuite  |
| WiFi                        |   |
| Standard                    | IEEE802.11ac, IEEE802.11a , IEEE802.11b , IEEE 802.11g , IEEE 802.11n       |
| BusInterface                | Low Power PCI Express   |
| Data Rate                   | 802.11a: 54, 48, 36, 24, 18, 12, 9, 6 Mbps                                  |
|                             | 802.11b: 11, 5.5, 2, 1 Mbps   |
|                             | 802.11g: 54, 48, 36, 24, 18, 12, 9, 6 Mbps                                  |
|                             | 802.11n: MCS 0 to 15 for HT20MHz,   |
|                             | MCS 0 to 15 for HT40MHz,  |
|                             | 802.11ac: MCS 0 to 8 for HT20MHz  |
| Media Access Control        | MCS 0 to 9 for HT40MHz  |
|                             | MCS 0 to 9 for HT80MHz  |
|                             | CSMA/CA with ACK  |
| Modulation Techniques       | 802.11ac: 256QAM, 64QAM, 16QAM, QPSK, BPSK                                  |
|                             | 802.11a: 64QAM, 16QAM, QPSK, BPSK   |
|                             | 802.11b: CCK, DQPSK, DBPSK  |
|                             | 802.11g: 64QAM, 16QAM, QPSK, BPSK   |
| Network Architecture        | 802.11n: BPSK, QPSK, 16QAM, 64QAM   |
|                             | Ad-hoc mode (Peer-to-Peer )   |
| Security                    | Infrastructure mode   |
|                             | WEP 64&128bit, WPA, WPA-PSK, WPA2, WPA2-PSK, WPS, IEEE 802.1X, IEEE 802.11i |
| Electronics characteristics |   |
| Operating Voltage           | 3.3 V $\pm$ 5% I/O supply voltage   |
| OS Supported                | Linux/Win7/Win8/Win10   |
| Antenna Type                | Dual MHF4 Antenna Connectors x 2  |
| Operating Temperature       | 0° ~ +70°C  |
| Storage Temperature         | -40° ~ +80°C  |
| Operating Humidity          | 5%~95%, non-condensing  |
| Storage Humidity            | 5~95%, non-condensing   |

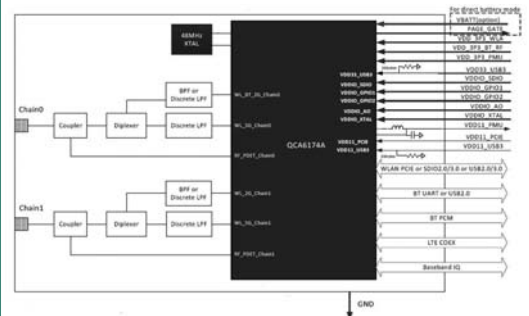
## Product quick glance



## ME Drawing/placement



## Block Diagram



## Ordering Information

| PART NUMBER      | DESCRIPTION                                    |
|------------------|--|
| T.DGF109A        | DGF109A, Single packed                         |
| T.DGF109A-DK     | Bointec packed, DGF109A development kit packed |
| TFGA-DGF109A0-11 | Finished non packaing, Bointec, DGF109A        |



TAIJET BOINTEC CO LTD  
4F, #114, ZHOUZI ST., NEIHU-TAIPEI 11493, TAIWAN  
TEL: +886-2-2759-0081 EMAIL: contact@bointec.com  
WWW.BOINTEC.COM

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