

DGF109A M.2 WiFi/BT module



Features:

- * BT & WLAN Co-existence
- * BT V4.2, V4.1, V4.0LE, V3.0+HS, V2.1+EDR.
- * Two-stream spatial multiplexing up to 867Mbps

- * Dual-Band WiFi(2.4/5GHz)
- * BT Output power up $\leq +10$ dBm
- * IEEE Standards: 802.11ac/a/b/g/n

Specifications



Model Name	DGF109A	
Product Description	802.11ac/a/b/g/n Dual-Band WiFi + Bluetooth NGFF(M.2)	
Host Interface	WiFi: PCIe / Bluetooth: USB	
Major Chipset	Qualcomm QCA6174A	
Dimension	22.00 mm x 30.00 mm x 1.35 (+/- 0.15) mm	
Antenna	Small antennas with 0~2 dBi peak gain	
	1. Connector of Ant1: for WiFi Tx/Rx & BT Tx/Rx	
	2. Connector of Ant2: for WiFi Tx/Rx	
Security	WEP 64&128bit, WPA, WPA-PSK, WPA2, WPA2-PSK, WPS, IEEE 802.1X, IEEE 802.11i	
Electrical Specifications	WiFi : 5GHz	WiFi : 2.4GHz
Frequency Range	WiFi: 4.90GHz ~ 5.85GHz (5.0GHz ISM Band)	WiFi: 4.90GHz ~ 5.85GHz (5.0GHz ISM Band)
Modulation	WiFi : 5GHz	WiFi : 2.4GHz
	802.11a : OFDM /64-QAM,16-QAM, QPSK, BPSK	802.11ac: 256QAM, 64QAM, 16QAM, QPSK, BPSK
	802.11n : OFDM /64-QAM,16-QAM, QPSK, BPSK	802.11a: 64QAM, 16QAM, QPSK, BPSK
	802.11ac : OFDM /256-QAM, 64-QAM, 16-QAM, QPSK, BPSK	802.11b: CCK, DQPSK, DBPSK
		802.11g: 64QAM, 16QAM, QPSK, BPSK
		802.11n: BPSK, QPSK, 16QAM, 64QAM
Output Power	802.11a /54Mbps : 13 dBm \pm 2dB @ EVM \leq -25dB	802.11b /11Mbps : 18 dBm \pm 2dB @ EVM \leq -9dB
	802.11n20 /MCS7 : 12.5 dBm \pm 2dB @ EVM \leq -28dB	802.11g /54Mbps : 15 dBm \pm 2dB @ EVM \leq -25dB
	802.11n40 /MCS7 : 12.5 dBm \pm 2dB @ EVM \leq -28dB	802.11n20 /MCS7 :14 dBm \pm 2dB @ EVM \leq -28dB
	802.11ac20 /MCS 8: 11.5 dBm \pm 2dB @ EVM \leq -30dB	802.11n40 /MCS7 :14 dBm \pm 2dB @ EVM \leq -28dB
	802.11ac40 /MCS9 : 10 dBm \pm 2dB @ EVM \leq -32dB	

802.11ac80 /MCS9 : 10 dBm±2dB @ EVM ≤ -32dB

Receive Sensitivity	(11a,20MHz) @10% PER	(11n,20MHz) @10% PER
	- 6Mbps PER @ -90 dBm, typical	- MCS=0 PER @ -90 dBm, typical
	- 54Mbps PER @ -78 dBm, typical	- MCS=7 PER @ -71 dBm, typical
Receive Sensitivity	(11n,20MHz) @10% PER	(11n,40MHz) @10% PER
	- MCS=0 PER @ -90 dBm, typical	- MCS=0 PER @ -86 dBm, typical
	- MCS=7 PER @ -74 dBm, typical	- MCS=7 PER @ -69 dBm, typical
Receive Sensitivity	(11n,40MHz) @10% PER	(VHT,20MHz) @10% PER
	- MCS=0 PER @ -87 dBm, typical	- MCS=0 PER @ -89 dBm, typical
	- MCS=7 PER @ -71 dBm, typical	- MCS=8 PER @ -68 dBm, typical
Receive Sensitivity	(VHT,20MHz) @10% PER	(VHT,40MHz) @10% PER
	- MCS=0, NSS1 PER @ -90 dBm, typical	- MCS=0, NSS1 PER @ -86 dBm, typical
	- MCS=8, NSS1 PER @ -70 dBm, typical	- MCS=9, NSS1 PER @ -63 dBm, typical
Receive Sensitivity	(VHT,40MHz) @10% PER	
	- MCS=0, NSS1 PER @ -87 dBm, typical	
	- MCS=9, NSS1 PER @ -65 dBm, typical	
Receive Sensitivity	(VHT,80MHz) @10% PER	
	- MCS=0, NSS1 PER @ -84 dBm, typical	
	- MCS=9, NSS1 PER @ -62 dBm, typical	
Electrical Specifications	Bluetooth	
Frequency Range	BT: 2,402MHz~2,480MHz	
Modulation	Bluetooth V4.2, V4.1, V4.0LE, V3.0+HS, V2.1+EDR.	
	Payload 2M: $\pi/4$ DQPSK	
	Payload 3M: 8DPSK	
Output Power	BT: $4 \leq \text{Output Power} \leq 15$ dBm (Conductive)	
Receive Sensitivity	< 0.1% BER at -70dBm	
Operating Conditions		
Voltage	3.3V ± 5% IO supply voltage	
Temperature	-10~70°C	
Storage Temperature	-40~85°C	