

User Manual

Bointec Wifi Series DGF109A / DGF104A



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Release history:

<u>Date</u>	<u>Release note</u>
2018/5/13 v0.1	Peter Wang, First initialized
2018/9/12 v1.0	Andrew MacArthur, First Release
2021/12/8 v1.01	Howard Juang, add IC warning wording

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PRODUCT WARRANTY

Bointec warrant that each of its products will be free from material and workmanship defects for a period of one year from the invoice date. If the customer discovers a defect, Bointec will, at its option, repair or replace the defective product at no charge to the customer, provided it is returned during the warranty period of one year, with transportation charges prepaid. The returned product must be properly packaged in its original packaging to obtain warranty service.

If the serial number and the product shipping data differ by over 30 days, the in-warranty service will be made according to the shipping date. In the serial numbers the first and second two digits give the year of manufacture, and the last first and second digit means the month (e. g., with -10 for October, -11 for November and -12 for December). For example, the serial number 070000-10 means October of year 2007.

interference in which case the user will be required to correct the interference at his own expense.

Safety Precautions

◆ **Warning!**



Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronic personnel should open the PC chassis.

◆ **Caution!**



Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.

Canadian IC Warning

Required End Product Labeling

Any device incorporating this module must include an external, visible, permanent marking or label which states: "Contains IC : **23942-DGF109A104A**"

Obligation d'étiquetage du produit final:

Tout dispositif intégrant ce module doit comporter un externe, visible, marquage permanent ou une étiquette qui dit: "Contient IC : **23942-DGF109A104A**"

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference, and
2. This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

1. l'appareil ne doit pas produire de brouillage, et
2. l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Caution: Exposure to Radio Frequency Radiation

1. To comply with the Canadian RF exposure compliance requirements, this device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.
2. To comply with RSS 102 RF exposure compliance requirements, a separation distance of at least 20 cm must be maintained between the antenna of this device and all persons.

Attention: exposition au rayonnement radiofréquence

1. Pour se conformer aux exigences de conformité RF canadienne l'exposition, cet appareil et son antenne ne doivent pas être co-localisés ou fonctionnant en conjonction avec une autre antenne ou transmetteur.
2. Pour se conformer aux exigences de conformité CNR 102 RF exposition, une distance de séparation d'au moins 20 cm doit être maintenue entre l'antenne de cet appareil et toutes les personnes.

FCC Warning

Required End Product Labeling

Any device incorporating this module must include an external, visible, permanent marking or label which states: "Contains FCC ID: **2AMAF-DGF109A104A**"

Additional testing, Part 15 Subpart B disclaimer

The modular transmitter is only FCC authorized for the specific rule parts (i.e., FCC transmitter rules) listed on the grant, and that the host product manufacturer is responsible for compliance to any other FCC rules that apply to the host not covered by the modular transmitter grant of certification.

The final host product still requires Part 15 Subpart B compliance testing with the modular transmitter installed.

FCC

This module has been tested and found to comply with the following requirements for Modular Approval.

- Part 15.247 - Operation within the bands 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz.
- Part 15.407 – General technical requirements.

Test Modes

This device uses various test mode programs for test set up which operate separate from production firmware. Host integrators should contact the grantee for assistance with test modes needed for module/host compliance test requirements.

Federal Communications Commission (FCC) Statement

15.19

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

- 1) this device may not cause harmful interference and
- 2) this device must accept any interference received, including interference that may cause undesired operation.

15.105(b)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to

part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

15.21

You are cautioned that changes or modifications not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.

FCC RF Radiation Exposure Statement:

1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

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1 Packing List

Before you use this Product, you may want to check what the items are inside the package:

- DPE109A / DPE104A module
- Accessory Pack (optional)
- 2.4GHz antenna, simple, Bointec P/N: TWRN-9161201-102
- Driver and User Manual CD

If any of these items are missing or damaged, contact your distributor or sales representative immediately.

2 Customer Service

We provide service guide for any problem as follow steps :

- Contact with your distributor, sales representative always as first step, as they are able to provide you enough information to answer your question.
- Email to Bointec Customer Service, we stand behind first line services if they are not able to help you for some advanced technical issues or additional assistance.

You may have the following information ready before you inquiry for support :

- Product serial number
- Peripheral attachments
- Software (OS, version, application software, etc.)
- Description of complete problem
- The exact wording of any error messages

Free technical support is available from distributor and Bointec Customer Service every business day. We are always ready to give advice on application requirements or specific information on the installation and operation of any of our products. Do not hesitate to contact us, Supporting email

address is available at : support@bointec.com

3 Safety and Warranty

Read these safety instructions carefully:

- Refer to this user manual from time to time if you need to know something more about the product.
Keep this user manual document for later reference.
- Please disconnect this equipment from any power source before cleaning. Do not use liquid or spray detergents for cleaning. Use a damp cloth.
- For pluggable equipment, the power outlet must be installed near the equipment and must be easily accessible.
- Keep this equipment away from humidity.
- Install this equipment on a reliable surface during installation. Dropping it or letting it fall could cause damage.
- The openings on the enclosure are for air convection. Protect the equipment from overheating. DO NOT COVER THE OPENINGS.
- Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
- Position the power cord so that people cannot step on it. Do not place anything over the power cord.
- All cautions and warnings on the equipment should be noted.
- If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient over-voltage.
- Never pour any liquid into an opening. This could cause fire or electrical shock.
- Never open the equipment. For safety reasons, only qualified service personnel should open the equipment.
- If any of the following situations arises, get the equipment checked by service personnel:
 - A. The power cord or plug is damaged.
 - B. Liquid has penetrated into the equipment.
 - C. The equipment has been exposed to moisture.
 - D. The equipment does not work well, or you cannot get it to work according to the user manual.

- E. The equipment has been dropped and damaged.
- F. The equipment has obvious signs of breakage.
- Generally, do not leave this equipment in an uncontrolled environment where the storage temperature is below -20° C (-4° F) or above 60° C (140° F). It may damage the equipment. Unless we describe it in the Specification, the product itself is an industrial grade product. Even if so, do not store the product that exceeds the limitation of the product endurance.

4 Introduction

This specification wrote as a guideline for DGF109A/DFG104A installation and apply to use. Any change will not process unless this document changed.

4.1 Product overview

Bointec DGF109A/DFG104A is a dual band 802.11ac/a/b/g/n Dual-Band WiFi + Bluetooth miniPCIe adapter. It is a 2T2R (WiFi/BT co-existence supported) technology, with 20/40/80MHz and 256-QAM to maximize bandwidth. DGF109A/DFG104A 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.

Bointec DPE109A/DPE104A incorporated with advanced security encryption, such as WEP, WPA, WPA2, and 802.1x for secure wireless connection. Bointec DGF109A/DFG104A also supports the latest Bluetooth 4.2 specification, which includes both High Speed and Low-Energy operation to extend personal area connectivity to a variety of devices.

DGF109A/DFG104A also delivers superior WLAN/Bluetooth coexistence to ensure the best possible wireless experience. DGF109A/DFG104A offers advanced algorithms developed to mitigate interference and takes advantage of the physical proximity of the WLAN and Bluetooth radios to provide maximum performance.

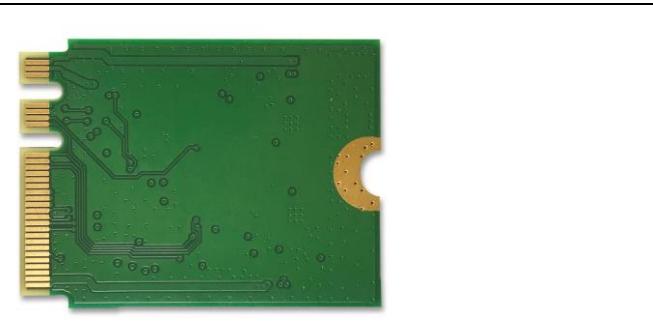
4.2 Reference Documents

- Bointec DPE109A DPE104A product speciation document

5 Mechanical Specification

5.1 Main Module

DPE109A / DPE104A module as below :

	
Figure 1. Top View	Figure 2. Bottom View

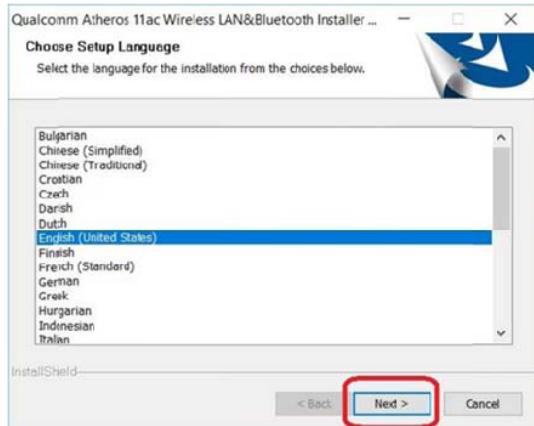
6 Software Installation

6.1 Driver installation under Windows systems

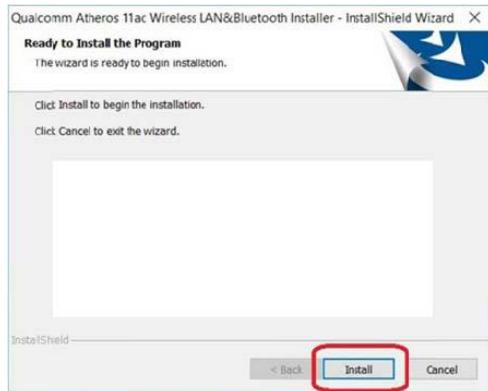
1. Click [Qualcomm Atheros QCA6174_9377_Installer].

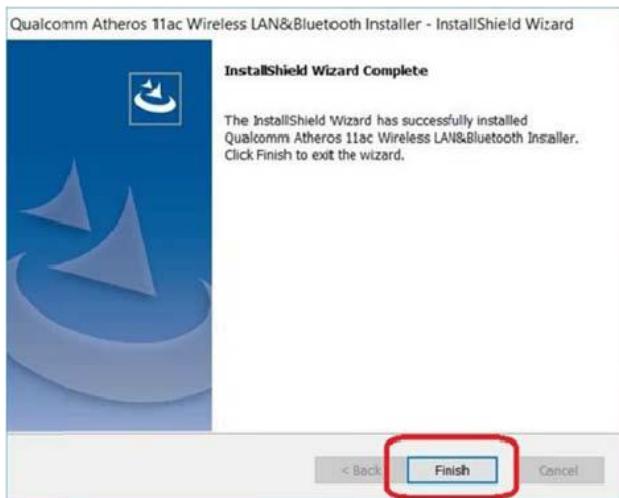
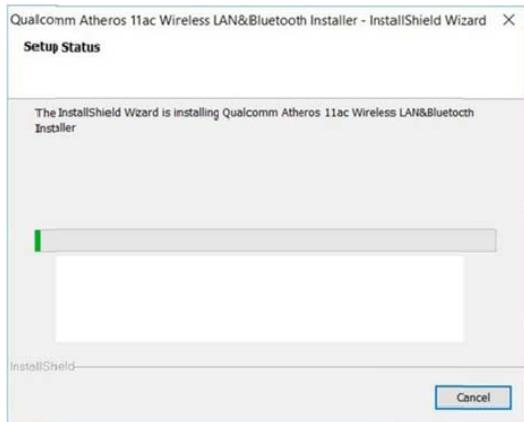


2. Select an interface language, and then click [Next].



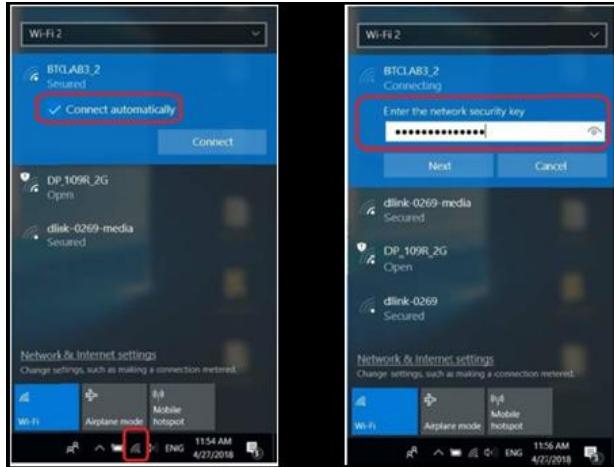
3. Click [Install] to begin the driver installation and follow Install SHield Wizard.



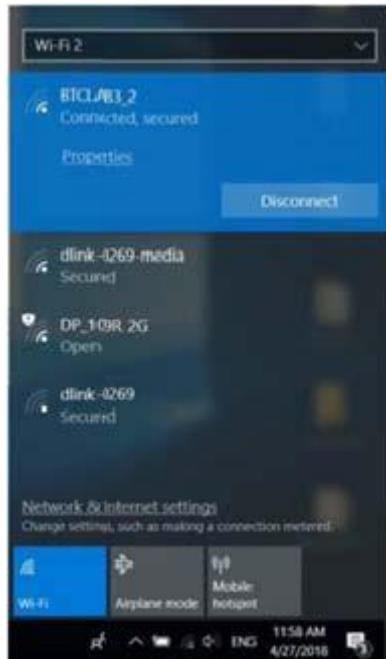


4. Join a Wireless Network

1. Click [Network icon] on the task bar. Select your Wi-Fi network and click [Connect].
2. Enter the correct password of the network and click [Next].



3. When it shows [Connected] as the picture below, then you can enjoy wireless access to Internet now.



6.2 Driver pickup by Linux Android systems

Linux driver are provided for user who would like to install DGF109A/DGF104A under Linux/Android system. For these systems are usually used by experienced users. We simple attach driver package in the driver CD for experienced users to deploy. If you encounter any issue when install driver package or during the procedure, please contact Bointec filed application engineer team.

Appendix A:

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