



COREXOM I9074L M.2 MODULE USER MANUAL

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2026/02/28

P/N : SP.F1J06G003

Revision History

Rev.	Date	Description
0.1	2026/02/28	1st time draft release

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About This Document

- Illustrations in this documentation might look different from your product.
- Depending on the model, some optional accessories, features, and software programs might not be available on your device.
- Depending on the version of operating systems and programs, some user interface instructions might not be applicable to your device.
- Documentation content is subject to change without notice. Coretronic Reality Inc. (CRI) makes constant improvements on the documentation of your computer, including this guidebook.

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1. Introduction

CRI I9074L is a high perform M.2 module to leverage QCN9074 chip with Qualcomm® 802.11ax technology which is a highly integrated wireless local area network (WLAN) system-on chip (SoC) for 2.4/5/6 GHz IEEE802.11ax/ac/n/g/b/a applications. QCN9074 performs AP and STA functionality with 4x4 MIMO and 4 spatial streams. The QCN9074 is a dual-synthesizer WLAN radio with native 160 MHz support, and through PCIe to access for Enterprise Access Points and Campus deployments.

The QCN9074 chip platform is a single band 4x4 802.11 ax WLAN. The I9074L M.2 module is includes 2.4 GHz and 5 GHz, however it only works in either 2.4 GHz or 5 GHz, not dual band operation.

2. Features and Specification

The following table shows the detailed features and Spec. of I9074L M.2 module.

Key features of I9074L M.2 module

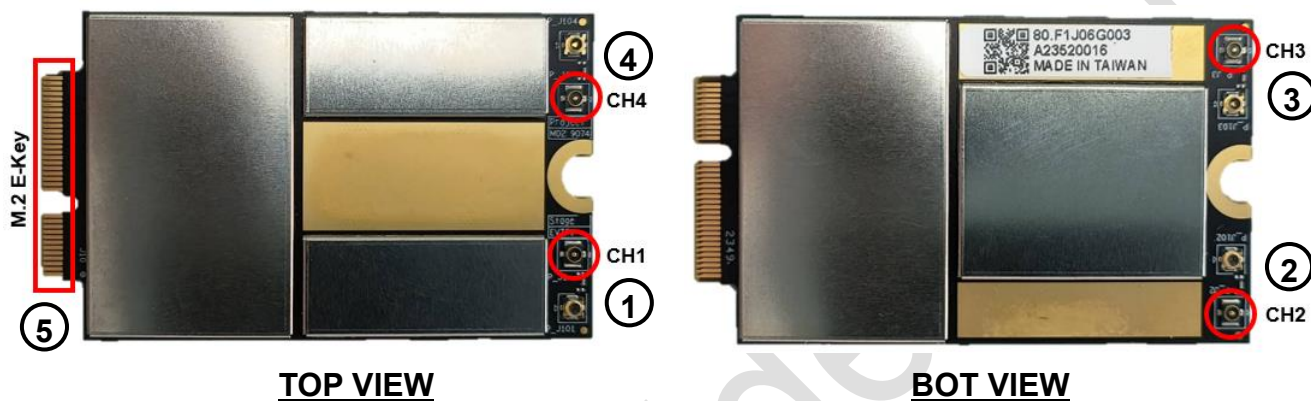
Item	Description
Chip Platform	Qualcomm QCN9074
Technology	Wi-Fi 6, IEEE 802.11ax/ac/n/g/b/a
MIMO	4T4R
Frequency	US : 2412MHz~2462MHz, 5180MHz~5240MHz / 5745MHz~5825MHz JP : 2412MHz~2472MHz, 5180MHz~5240MHz
RF signal B.W	FCC 20MHz /40MHz, JP 20MHz
Data rate (Max.)	UDP 240 Mbps, TCP 140 Mbps (via 20MHz B.W)
RF Tx Power	● $\leq 24\text{dBm}$ @ 2.4GHz ● $\leq 24\text{dBm}$ @ 5GHz
RF Rx Sensitivity	-95 dBm @ 20MHz
Interfaces	2 lanes PCIe Gen 2, over M.2 (E key)
Power Supply	3.3V, 5V on M.2
Power Consumption	● 2.4GHz 4T4R < TBC ● 5GHz 4T4R < TBC
Dimension	53 x 31 x 4.3 mm
Weight	Around 16 g
Operation Temp.	-20 ~ 70 °C
Storage Temp.	-20 ~ 70 °C
Device Driver	Ubuntu Driver for QBR5165

Notice : When using, be sure to connect the antenna as a load at the antenna terminal to prevent no-load reflection from damaging the PA.

3. Interface

3.1 Major interface Connector location

Below picture identify the major interface connectors found on the I9074L M.2 module



No.	Function Description
1	IPEX4 ANT Conn, CH 1
2	IPEX4 ANT Conn, CH 2
3	IPEX4 ANT Conn, CH 3
4	IPEX4 ANT Conn, CH 4
5	M.2 E-Key pins array

3.2 MIMO RF Channels' configuration

I9074L M.2 module can be configured MIMO models listed in below

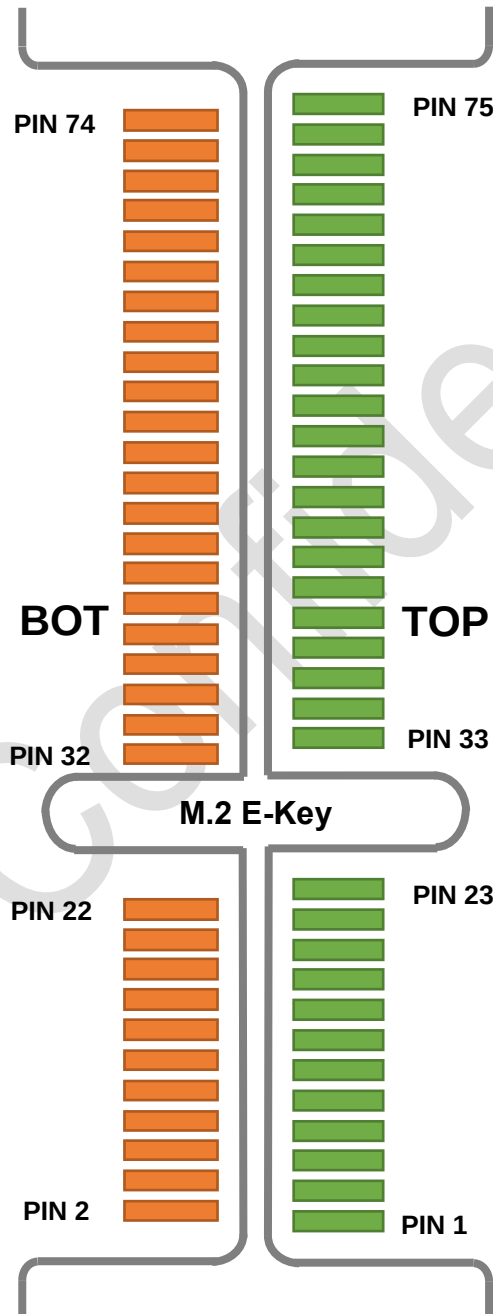
	CH1	CH2	CH3	CH4
4T/4R	TX/RX	TX/RX	TX/RX	TX/RX

RF Antenna Connect type : I-PEX MHF4, P/N : 20449-001E-03

3.3 M.2 Pin Assignment

The following figure shows the M.2 pin assignment of the module.

Pin Name	Pin #
VDD_3P3_PCIE	74
VDD_3P3_PCIE	72
NA	70
NA	68
NA	66
NA	64
NA	62
NA	60
NA	58
PCIE0_WDIS_1P8_L	56
NA	54
PCIE0_PERST	52
NA	50
PINE_BT_ACT	48
MOD_WL_ACT	46
MOD_BT_STS	44
PINE_BT_ACT_2	42
MOD_WL_ACT_2	40
MOD_WL_STS_2	38
NA	36
NA	34
NA	32
NOTCH	30-24
NA	22
NA	20
GND	18
PCIE_LED1	16
NA	14
NA	12
WC12_UART_RXD_PCIE	10
WC12_UART_TXD_PCIE	8
PCIE_LED0	6
VDD_3P3_PCIE	4
VDD_3P3_PCIE	2



Pin #	Pin Name
75	GND
73	NA
71	NA
69	GND
67	PCIE0_TX1_N
65	PCIE0_TX1_P
63	GND
61	PCIE0_RX1_N
59	PCIE0_RX1_P
57	GND
55	PCIE0_WAKE_N
53	PCIE0_CLKREQ_N
51	GND
49	PCIE0_REFCLK_N
47	PCIE0_REFCLK_P
45	GND
43	PCIE0_TX0_N
41	PCIE0_TX0_P
39	GND
37	PCIE0_RX0_N
35	PCIE0_RX0_P
33	GND
31-25	NOTCH
23	VDD_XPA_PCIE
21	VDD_XPA_PCIE
19	VDD_XPA_PCIE
17	VDD_XPA_PCIE
15	VDD_XPA_PCIE
13	VDD_XPA_PCIE
11	VDD_XPA_PCIE
9	TP9
7	GND
5	NA
3	NA
1	GND

The following table shows the M.2 module pin function description

Pin #	Pin name	Voltage	Type	Description
47	PCIE0_REFCLK_P	PCle	AI,AO	PCle Gen 3 reference clock – positive
49	PCIE0_REFCLK_M	PCle	AI,AO	PCle Gen 3 receive lane 0 – negative
41	PCIE0_TX0_P	PCle	AO	PCle Gen 3 Transmit lane 0– positive
43	PCIE0_TX0_M	PCle	AO	PCle Gen 3 Transmit lane 0– negative
35	PCIE0_RX0_P	PCle	AI	PCle Gen 3 receive lane 0 – positive
37	PCIE0_RX0_M	PCle	AI	PCle Gen 3 receive lane 0 – negative
65	PCIE0_TX1_P	PCle	AO	PCle Gen 3 Transmit lane 1– positive
67	PCIE0_TX1_M	PCle	AO	PCle Gen 3 Transmit lane 1– negative
59	PCIE0_RX1_P	PCle	AI	PCle Gen 3 receive lane 1 – positive
61	PCIE0_RX1_M	PCle	AI	PCle Gen 3 receive lane 1 – negative
53	PCIE0_CLKREQ_N	1P8	DO	PCle Clock request
52	PCIE0_PERST	1P8	DI	PCle reset signal
55	PCIE0_WAKE_N	1P8	DO	PCle wake up signal
10	WC12_UART_RXD_PCIE	1P8	DI	UART Rx signal
8	WC12_UART_TXD_PCIE	1P8	DO	UART Tx signal
6	PCIE_LED0	1P8	DO	LED control
16	PCIE_LED1	1P8	DO	LED control
	VDD_XPA_PCIE	5V	PI	5V power supply for external FEM
	VDD_3P3_PCIE	3P3	PI	3.3V power supply for module
	GND		GND	Ground

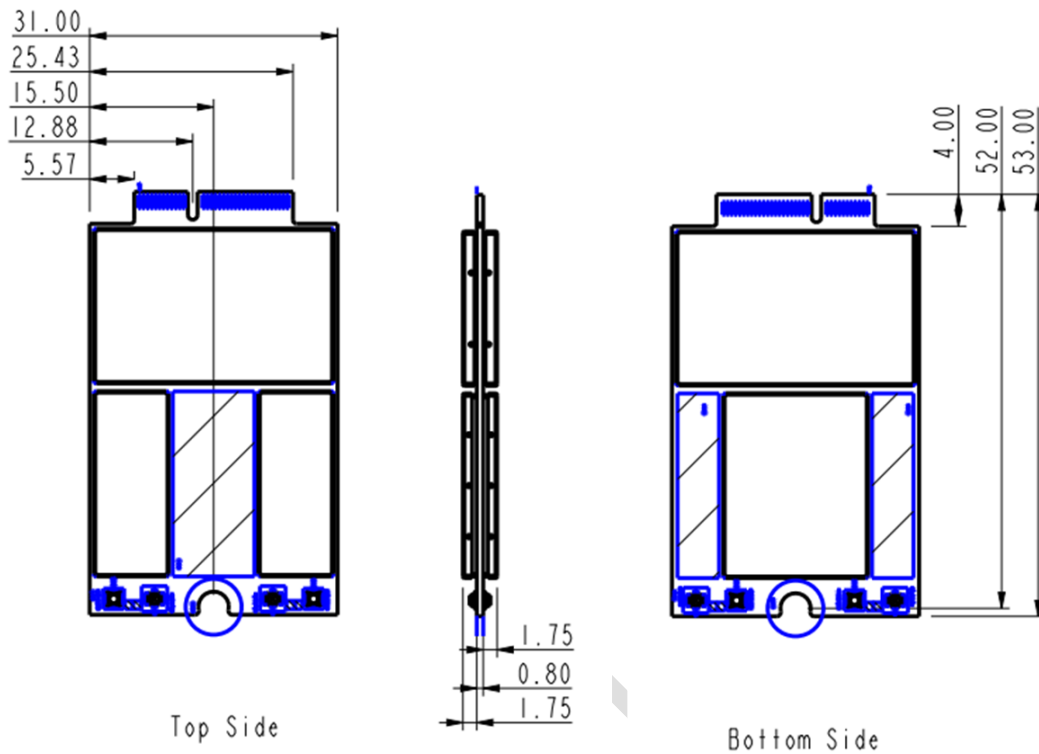
3.4 Power Rated

The recommended operating conditions for the M.2 module to meet all performance specifications at 4T4R.

Function	Min	Typ.	Max	Unit
VDD_3P3_PCIE	3.1	3.3	3.5	V
	-	820	1000	mA
VDD_XPA_PCIE	4.5	5	5.25	V
	-	1700	2100	mA

4. Mechanical Specification

4.1 I9074L M.2 module Mechanical dimensions



4.2 Weight

Around 16 ± 2 g

5. Product Marking, Ordering and Shipping Info.

5.1 Product Marking (Label)



P/N Label :

SP.F1J06G003
S.P. MD2 9074

NCC Certification Label :

型號 : MD2 9074
CCAF23Y10220T0

6. Compliance Statements

MSL (Moisture Sensitivity Level) :

The moisture sensitivity level of this product is rated at MSL Level 2a.

Strategic Hi-Tech Commodity (SHTC) :

☐ Yes (Y) / ☒ No (N) , This product is not intended for use in military application.

RoHS Statement :

This product complies with the EU RoHS Directive (2011/65/EU and its amendments) and does not contain restricted hazardous substances.

Halogen-free Statement :

This product meets halogen-free requirements and does not contain halogen elements such as chlorine (Cl) or bromine (Br).

REACH 247 Statement :

This product does not contain any of the 247 substances of very high concern (SVHCs) listed under the EU REACH regulation.

CMRT v6.5 :

The company adheres to the Conflict Minerals Reporting Template (CMRT v6.5) developed by the Responsible Minerals Initiative (RMI) to disclose the sources of tin (Sn), tantalum (Ta), tungsten (W), and gold (Au). Does this product contain conflict minerals: ☐ Yes / ☒ No

7. RF Certification Notice

NOTICE

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's manual of the end product which integrates this module. The end user manual shall include all required regulatory information/warning as shown in User manual.

Unlicensed radiator / License-exempt radiator

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.

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

List of applicable FCC rules

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

- 47 CFR Part 15 Subpart C Intentional Radiators
- 47 CFR Part 15 Subpart E Unlicensed National Information Infrastructure Devices
- 47 CFR Part 15 Subpart F Ultra-Wideband Operation

Limited module procedures

by case...

RF exposure considerations

1. The host product operating conditions must be such that there is a minimum separation distance of 20 cm (or possibly greater than 20 cm) between the antenna radiating structures and nearby persons. The host manufacturer is obligated to confirm the use conditions of the host product to ensure that the distance specified in the instructions is met. In this case the host product is classified as either a mobile device or a fixed device for RF exposure purposes.
2. If the modular transmitter to be used in a specific type of host platform and installed such that it can be operated at closer than 20 cm to users or nearby persons, please follow below guidance.
 - a. For the host product integrated with this modular transmitter as a stand-alone configuration, the maximum conducted power from the original grant shall be retained in order to meet SAR exemption requirements.
 - b. For configuration with multiple transmitters in the same host, routine evaluation or SAR testing for the simultaneous transmission of the co-located transmitters

according to KDB 447498 is required. The portable host product shall be evaluated for ensuring to continue compliance FCC rule part 2.1093 & part 1.1310 by C2PC. The additional guidance for the portable host products is provided in KDB Publication 996369 D02 and D04.

- c. For the host product is not installed according to this guide, the module certification will be invalid, and a new grant certification will be required for the host product.

ANTENNAS

This radio transmitter has been approved by Federal Communications Commission and Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Label and compliance information

The host device integrating this module must be labeled with the following regulatory identifiers to ensure compliance with regulations, these labels must be clearly visible on the exterior of the host device's enclosure as required by applicable regulatory guidelines.

Contains FCC ID: 2BPQQ-I9074L

Information on test modes and additional testing requirements

The module can be configured to continuously transmit on a specific frequency with a fixed modulation pattern. This allows evaluation of radiated emissions and spurious emissions in a controlled condition.

These test modes are intended for compliance testing only and must not be enabled during normal operation of the final product.

For more detailed information, please contact the grantee for assistance with test modes needed for module/host compliance test requirements.

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.

Note EMI Considerations

Note that a host manufacture is recommended to use KDB996369 D04 Module Integration Guide recommending as "best practice" RF design engineering testing and evaluation in case non-linear interactions generate additional non-compliant limits due to module placement to host components or properties.

For standalone mode, reference the guidance in KDB996369 D04 Module Integration Guide and for simultaneous mode; see KDB996369 D02 Module Q&A Question 12, which permits the host manufacturer to confirm compliance.

How to make changes

Only Grantees are permitted to make permissive changes, if the module will be used differently than granted conditions, please contact us to ensure modifications will not affect compliance.

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