

Features

- Featuring with industrial-grade IPQ4019 chipset
- Integrated with 2x 2 5G high power (27dbm per chain) Radio module and 2x2 2.4G high power (27dbm per chain) Radio module
- Support 5.180GHz to 5.805GHz Frequency Range;
- Support 2.412GHz to 2.482GHz
- Support 2 x 5G MMCX Connectors and 2x2.4G MMCX
- 20MHz/40MHz/80MHzBandwidth
- Support 11ABGN/AC
- RoHS compliance ensure a high level protection of human health and the environment from risks that can be posed by chemicals



Applications

- Security Surveillance
- Commercial radio coverage
- Hotel Wireless application
- Country coverage
- Forest fire protection engineering
- Some special scene application

Product Description

DR4029 based on IPQ4019 chipset is an enterprise wireless module integrated with 2x2 5G high power Radio module and 2x2 2.4 G high power Radio module designed specifically to provide users with mobile access to high-bandwidth video streaming, voice, and data transmission for office and challenging RF environment in factories, warehouses establishment.

Absolute Maximum Rating

Parameter	Rating	Unit
Supply Voltage	24V~48	V
Operating Temperature Range	-40 to +70	°C
Storage Temperature Range	-45 to +105	°C
Operating Humidity Range	5 to +95 (non-condensing)	%
Storage Humidity Range	0 to +90 (non-condensing)	%

Hardware Specifications

Symbol	Parameter
CPU	IPQ4019 (Quad core ARM Cortex A7 at 716.8 MHz)
Antenna Connector	2 x 5G MMCX connectors; 2x2.4G MMCX
10/ 100/ 1000Mbps Gigabit Ethernet	2xRJ45
SFP connector	1xSFP fiber module connector (optional)
3G/4G connector	1xmini PCIe 3G/4G connector support with two sim card
USB connector	1xUSB 3.0 connector
POE	24V~48V passive POE
DC Jack	24V~48V power supply
ROHS Compliance	YES
Dimension	1 15mm x 105mm x 16mm
Max Power	48. 1V x 0. 180A= 8.658W
Nor Flash	2MB~32MB
Nand Flash	128MB
DDR	256MB~512MB

Radio TX Specifications(5180MHz-5825MHz)

Operating Mode	Data Rate	Power		Tolerance
		1 Chain	2 Chains	
802.11a	6 Mbps	27dBm	30dbm	±2dB
	54 Mbps	23dBm	26dbm	±2dB
802.11n HT20	MCS0, MCS8	26dBm	29dbm	±2dB
	MCS7, MCS15	22dBm	25dbm	±2dB
802.11n HT40	MCS0, MCS8	25dBm	28dbm	±2dB
	MCS7, MCS15	21dBm	24dbm	±2dB
802.11ac	MCS0, MCS10, MCS20	25dBm	28dbm	±2dB
	MCS9, MCS19, MCS29	19dBm	22dbm	±2dB

Radio RX Specifications(5180MHz-5825MHz)

Operating Mode	Data Rate	Sensitivity
802.11a	6 Mbps	-96dBm
	54 Mbps	-78dBm
802.11n HT20	MCS0, MCS8	-93dBm
	MCS7, MCS15	-73dBm
802.11n HT40	MCS0, MCS8	-90dBm
	MCS7, MCS15	-70dBm
802.11AC HT40	MCS0, MCS10, MCS20	-90dBm
	MCS9, MCS19, MCS29	-67dBm
802.11AC HT80	MCS0, MCS10, MCS20	-88dBm
	MCS9, MCS19, MCS29	-62dBm

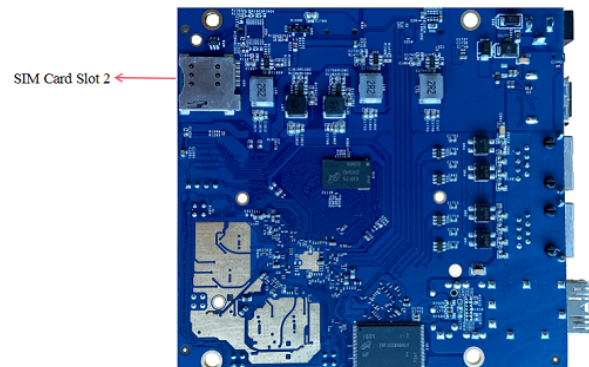
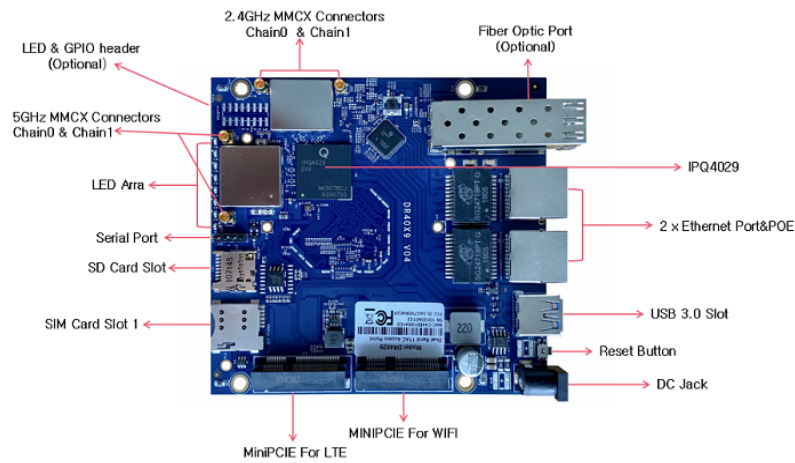
Radio TX Specifications(2412MHz-2482MHz)

Operating Mode	Data Rate	Power		Tolerance
		1 Chain	2 Chains	
802. 11g	6 Mbps	27dbm	30dbm	±2dB
	54 Mbps	25dbm	28dbm	±2dB
802. 1 1n HT20	MCS0, MCS8	26dbm	29dbm	±2dB
	MCS7, MCS15	25dbm	28dbm	±2dB
802. 1 1n HT40	MCS0, MCS8	26dbm	29dbm	±2dB
	MCS7, MCS15	24dbm	27dbm	±2dB

Radio RX Specifications(2412MHz-2482MHz)

Operating Mode	Data Rate	Sensitivity
802. 11g	6 Mbps	-96dBm
	54 Mbps	-78dBm
802. 1 1n HT20	MCS0, MCS8	-93dBm
	MCS7, MCS15	-73dBm
802. 1 1n HT40	MCS0, MCS8	-90dBm
	MCS7, MCS15	-70dBm

Interface MAP



Version

Item	Information
DR40X9- 1	CPU is IPQ4019
DR40X9-2	CPU is IPQ4029

LED & GPIO header

Item	Information	Note
1	PWR LED	
2	Eth1 LED	
3	Eth2 LED	
4	2.4G LED	GPIO32
5	5G LED	GPIO50
6	Strength LED	GPIO36
7	Strength LED	GPIO39
8	NC	
9	GND	
10	Uart1_TX	GPIO8
11	Uart1_RX	GPIO9
12	NC	
13	NC	
14	NC	
15	GND	
16	PWR	

Serial Port

Item	Information	Note
1	PWR	
2	Uart0 TX	
3	Uart0 RX	
4	GND	

GPIO

Item	Information	Note
GPIO11	Control for the switch of SIM cards	

Block diagram of the AP.DK04 Dakota (IPQ40XX) BGA538 module. The central component is the AP.DK04 processor. It interfaces with various components:

- USB 3.0/2.0 Host**, **UART**, **JTAG**, **Nor flash 2MB SO8**, **48MHz XTAL**, **25MHz XTAL**, **Malibu_rst_n**, **PSGMII**, **MDC/MDIO**, **Malibu Giga Ethernet Switch** (with **LAN1**, **LAN2**, and **LX** ports), **16bit DDR3L 256M x 16 512MB**, **1.2v**, **4.7uH**, **PCIESLOT LTE**, **Sim 1**, **Sim 2**, **PCIE SLOT**, **WiFi**, **MTCRO-SD CONN**, **Para nand Flash 1Gbit (128M x 8bit)**, **FEM 0_R1**, **FEM 1_R1**, **2.4G Coupler_0**, **2.4G Coupler_1**, **5.8G Coupler_0**, **5.8G Coupler_1**, **CHO TX**, **CHO RX**, **COMP LER**, **BPF**, **UFL Conn.**, **SMS FILTER LB**, and **SBS FILTER LB**.
- The processor has **GPI032** and **GPI018** pins.

Component	Part Number
SPI NOR FLASH	W25Q256FVFIG
Para.NAND Flash	MT29F1G08ABAEAWP:E
DDR3L	NT5CC256M16CP-DI