

Features

- Dual-core ARM 64 bit A53@1.0GHzProcessor
- 512MB DDRL3L System Memory
- 8MB NOR Flash, 256MB NAND Flash
- Support BT5.1(optional)
- 2x2 On-board 2.4GHz radio, up to 573Mbps physical Data Rate
- 2x2 On-board 5GHz radio,up to 2402Mbps physical Data Rate
- Support Openwifi



Applications

- 802.11ax MU- MIMO OFDMA Access Point
- Mesh router supporting Easy Mesh Hotel Wireless
- Smart AP TWT

Product Description

The DR5018S, based on the IPQ5018 chipset, is an enterprise-grade wireless module that integrates a BT5.1 radio module, along with 2x2 2.4GHz, 2x2 5GHz, high-power radio modules. It is specifically designed to provide users with mobile access to high-bandwidth video streaming, voice communication, and data transmission, making it ideal for office environments as well as challenging RF conditions in factories and warehouses.

Absolute Maximum Rating

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

Hardware Specifications

Symbol	Parameter
CPU	Qualcomm-Atheros IPQ5018
CPU Frequency	Quad-core ARM 64 bit A53 @ 1.0 GHz processor
System Memory	512MB DDR3L 16-bit interface with 32-bit memory bus design
Ethernet Port	1 x 1Gbps Ethernet Port, 1x2.5Gbps Ethernet Port
USB3.0	1x USB2.0 Interface
SGMII	1x SGMII Interface
UART	1x UART Interface
LEDs	
Wireless	2x2 On-board 2.4GHz radio, up to 573Mbps physical Data Rate 2x2 On-board 5GHz radio, up to 2402Mbps physical Data Rate
Channel Spectrum Widths for WLAN	Support 20/40MHz at 2.4GHz Support 20/40/80/160MHz at 5GHz
Modulation Techniques	OFDMA: BPSK, QPSK, DBPSK, DQPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM
Power	1) DC Jack: 12V-52V DC power supply 2) POE: Active POE, 802.3at/BT, 48V passive POE
Nor Flash	8 MB
Nand Flash	128 MB
DDR	512MB
Dimension	

Radio TX Specifications (2412MHz-2482MHz)

Operating Mode	Data Rate	Power		Tolerance
		1 Chain	2 Chains	
2.4Ghz 802.11ax HE20	MCS0	23dbm	26dbm	±2dB
	MCS1	23dbm	26dbm	±2dB
	MCS2	23dbm	26dbm	±2dB
	MCS3	23dbm	26dbm	±2dB
	MCS4	23dbm	26dbm	±2dB
	MCS5	23dbm	26dbm	±2dB
	MCS6	23dBm	26dBm	±2dB
	MCS7	22dBm	25dBm	±2dB
	MCS8	21dBm	24dBm	±2dB
	MCS9	21dBm	24dBm	±2dB
	MCS10	18dBm	21dBm	±2dB
	MCS11	17dbm	20dbm	±2dB
2.4Ghz 802.11ax HE40	MCS0	23dbm	26dbm	±2dB
	MCS1	23dbm	26dbm	±2dB
	MCS2	23dbm	26dbm	±2dB
	MCS3	23dbm	26dbm	±2dB
	MCS4	23dbm	26dbm	±2dB
	MCS5	23dbm	26dbm	±2dB
	MCS6	23dbm	26dbm	±2dB
	MCS7	22dBm	25dBm	±2dB
	MCS8	21dBm	24dBm	±2dB
	MCS9	21dBm	24dBm	±2dB
	MCS10	21dBm	24dBm	±2dB
	MCS11	19dbm	22dbm	±2dB

Radio RX Specifications (2412MHz-2482MHz)

Operating Mode	Data Rate	RX Sensitivity	Tolerance
2.4Ghz 802.11b	1Mbps	-98	±2dB
	2Mbps	-95	±2dB
	5.5Mbps	-92	±2dB
	11Mbps	-92	±2dB
2.4Ghz 802.11g	6Mbps	-94	±2dB
	54Mbps	-80	±2dB
2.4Ghz 802.11n/ac VHT20	MCS0	-92	±2dB
	MCS7	-75	±2dB
2.4Ghz 802.11n/ac VHT40	MCS0	-90	±2dB
	MCS7	-70	±2dB
2.4Ghz 802.11ax HE20	MCS0	-92	±2dB
	MCS8	-74	±2dB
	MCS9	-72	±2dB
	MCS10	-69	±2dB
	MCS11	-64	±2dB
2.4Ghz 802.11ax HE40	MCS0	-89	±2dB
	MCS8	-72	±2dB
	MCS9	-69	±2dB
	MCS10	-66	±2dB
	MCS11	-61	±2dB

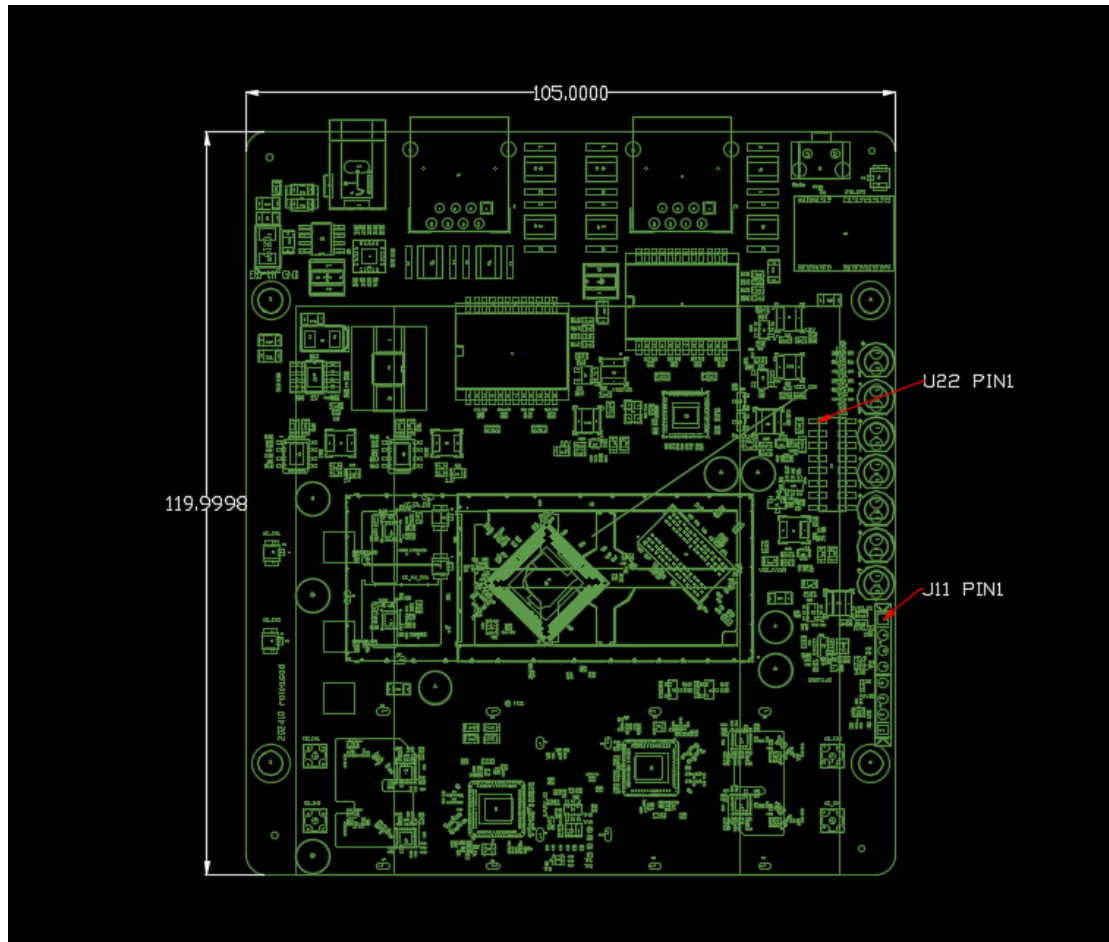
RF Parameter(5G)

Operating Mode	Data Rate	TX Power	RX Sensitivity	Tolerance
5GHz 802.11a	6Mbps	27dbm	-96	±2dB
	54Mbps	25dbm	-81	±2dB
5Ghz 802.11n/ac VHT20	MCS0	27dbm	-96	±2dB
	MCS7	25dbm	-78	±2dB
	MCS8	24dBm	-76	±2dB
5Ghz 802.11n/ac VHT40	MCS0	27dbm	-93	±2dB
	MCS7	25dBm	-75	±2dB
	MCS8	24dBm	-73	±2dB
	MCS9	23dBm	-72	±2dB
5Ghz 802.11n/ac VHT80	MCS0	26dbm	-90	±2dB
	MCS7	25dBm	-72	±2dB
	MCS8	24dBm	-70	±2dB
	MCS9	23dBm	-68	±2dB
5Ghz 802.11ax HE20	MCS0	27dbm	-95	±2dB
	MCS9	23dBm	-74	±2dB
	MCS10	22dBm	-69	±2dB
	MCS11	22dBm	-66	±2dB
5Ghz 802.11ax HE40	MCS0	27dbm	-92	±2dB
	MCS9	23dBm	-71	±2dB
	MCS10	22dBm	-66	±2dB
	MCS11	22dBm	-63	±2dB
5Ghz 802.11ax HE80	MCS0	26dbm	-89	±2dB
	MCS9	24dBm	-68	±2dB
	MCS10	22dBm	-63	±2dB
	MCS11	20dBm	-60	±2dB

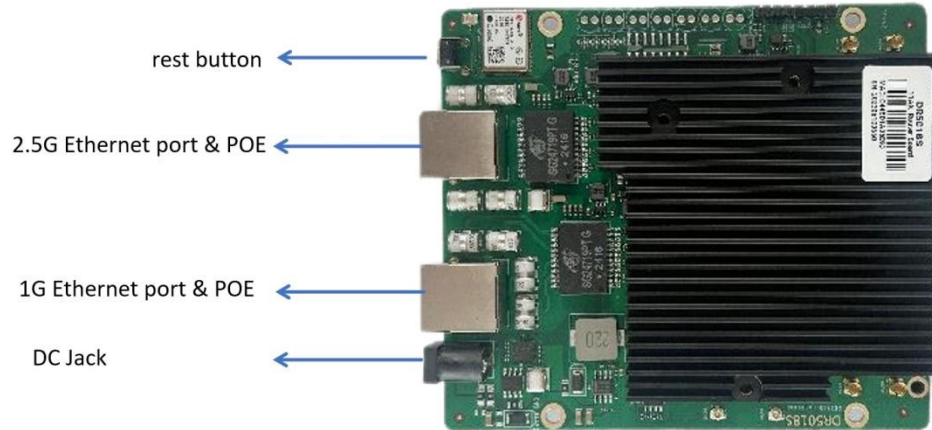
5Ghz 802.11ax HE160	MCS0	24dbm	-86	± 2 dB
	MCS9	21dBm	-65	± 2 dB
	MCS10	20dBm	-60	± 2 dB
	MCS11	17dBm	-57	± 2 dB

Pin Definitions

Pin	Signal	Description
1	GND	
2	NC	
3	NC	
4	NC	
5	NC	
6	NC	
7	NC	
8	NC	
9	GPIO26	
10	GPIO25	
11	GPIO24	
12	GPIO23	
13	2.5G LINK ACT IED	
14	1GE LINK LED CONN	
15	POWER LED	
16	VCC	3.3V



Interface MAP



Product Version

	P/N	Radio	Frequency
1	DR5018S	2.4Ghz 5Ghz	2.5G+1G Ethernet & POE
2	DR5018S-5G	5Ghz	1G Ethernet & POE
3	DR5018S-DB	2.4Ghz 5Ghz	1G Ethernet & POE

Statement

- 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.
- Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 40 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter, except in accordance with FCC multi-transmitter evaluation procedures as documented in this filing.