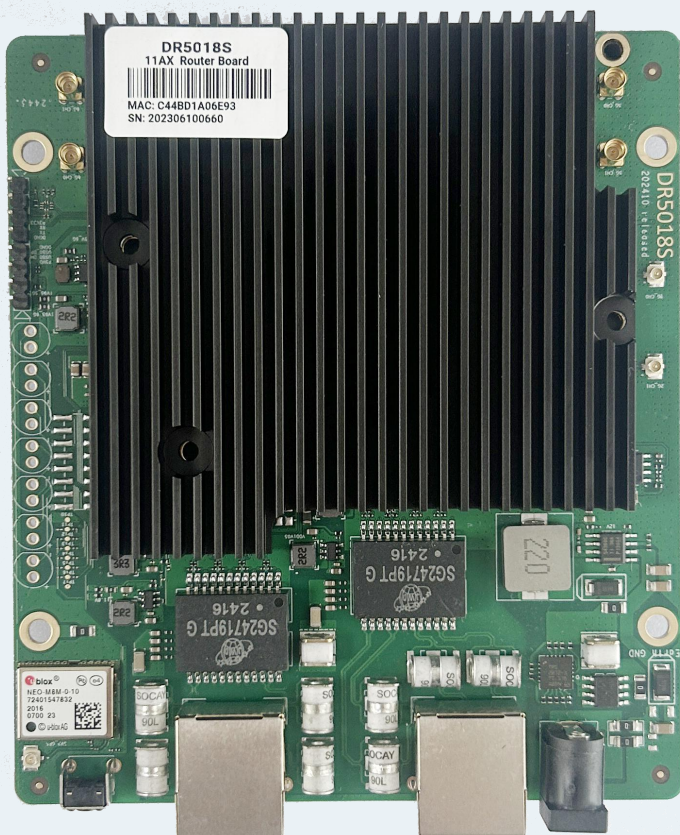


DR5018S

triband onboard



DR5018S



Features

- Dual-core ARM 64 bit A53@1.0GHzProcessor
- 512MB DDRL3L System Memory
- 8MB NOR Flash, 128MB 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
- 2x2 On-board 6GHz radio,up to 2402Mbps physical Data Rate
- Support GPS(optional)
- Support Openwifi
- **CE,UKCA,FCC for routerboard/APS(include enclosure)**

DR5018S



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, and 2x2 6GHz 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.

Product Version

	P/N	Radio	Frequency	certification	
1	DR5018S	2.4Ghz 5Ghz 6Ghz	2.5G+1G Ethernet & POE	CE,UKCA,FCC	With GPS
2	DR5018S-5G	5Ghz	1G Ethernet & POE	CE,UKCA,FCC	Without GPS
3	DR5018S-DB	2.4Ghz 5Ghz	1G Ethernet & POE	CE,UKCA,FCC	Without GPS
4	DR5018S-DB-2.5G	2.4Ghz 5Ghz	2.5G+1G Ethernet & POE	Running	Without GPS
5	DR5018S-255	2.4G 5GHz 5Ghz	2.5G+1G Ethernet & POE	Running	Without GPS
6	DR5018S-2G6G	2.4Ghz 6Ghz	1G Ethernet & POE	Running	With GPS
7	DR5018S-5G6G	5Ghz 6Ghz	1G Ethernet & POE	Running	With GPS

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; 1 x 2.5Gbps Ethernet Port
USB3.0	1x USB2.0 Interface
SGMII	1x SGMII Interface
UART	1x UART Interface
Wireless	2x2 On-board 2.4GHz radio,up to 573Mbps physical Data Rate 2x2 On-board 5GHz radio,up to 2402Mbps physical Data Rate 2x2 On-board 6GHz 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 Support 20/40/80/160MHz at 6GHz
ModulationTechniques	OFDMA: BPSK, QPSK, DBPSK, DQPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM
Power	DC Jack: 12V-52V DC power supply POE:Active POE, 802.3at/BT,48V passive POE
Nor Flash	8 MB
Nand Flash	128 MB
DDR	512MB
Surge	IEC61000-4-5、EN61000-4-5、GB/T17626.5 10/700us 6KV
Dimension	12.2x10.5x2.1cm (heat sink included)
Certification	FCC/CE/UKCA

Radio TX Specifications (2412MHz-2482MHz)

2.4GHz 802.11a	Data Rate	TX Power (one chain)	TX Power (two chains)	Tolerance
	6Mbps	23dbm	26dbm	±2dB
	9Mbps	23dbm	26dbm	±2dB
	12Mbps	23dbm	26dbm	±2dB
	18Mbps	23dbm	26dbm	±2dB
	24Mbps	23dbm	26dbm	±2dB
	36Mbps	23dbm	26dbm	±2dB
	48Mbps	22dbm	25dbm	±2dB
	54Mbps	21dbm	24dbm	±2dB

Radio TX Specifications (2412MHz-2482MHz)

2.4GHz 802.11n/ac VHT20	Data Rate	TX Power (one chain)	TX Power (two chains)	Tolerance
	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	22dbm	25dbm	±2dB
	MCS7	21dbm	24dbm	±2dB
	MCS8	21dbm	24dbm	±2dB

Radio TX Specifications (2412MHz-2482MHz)

2.4GHz 802.11n/ac VHT40	Data Rate	TX Power (one chain)	TX Power (two chains)	Tolerance
	MCS0	23dbm	26dbm	±2dB
	MCS1	23dbm	26dbm	±2dB
	MCS2	23dbm	26dbm	±2dB
	MCS3	25dbm	28dbm	±2dB
	MCS4	24dbm	27dbm	±2dB
	MCS5	23dbm	26dbm	±2dB
	MCS6	22dbm	25dbm	±2dB
	MCS7	21dbm	24dbm	±2dB
	MCS8	21dbm	24dbm	±2dB
	MCS9	20dbm	23dbm	±2dB

Radio TX Specifications (2412MHz-2482MHz)



2.4GHz 802.11AX HE20	Data Rate	TX Power (one chain)	TX Power (two chains)	RX Sensitivity	Tolerance
	MCS0	23dbm	26dbm	-93dbm	±2dB
	MCS1	23dbm	26dbm	-90dbm	±2dB
	MCS2	23dbm	26dbm	-87dbm	±2dB
	MCS3	25dbm	28dbm	-85dbm	±2dB
	MCS4	24dbm	27dbm	-83dbm	±2dB
	MCS5	23dbm	26dbm	-81dbm	±2dB
	MCS6	22dbm	25dbm	-78dbm	±2dB
	MCS7	21dbm	24dbm	-76dbm	±2dB
	MCS8	21dbm	24dbm	-75dbm	±2dB
	MCS9	0dbm	23dbm	-72dbm	±2dB
	MCS10	18dbm	21dbm	-69dbm	±2dB
	MCS11	16dbm	19dbm	-67dbm	±2dB

2.4GHz 802.11ax HT40	Data Rate	TX Power (one chain)	TX Power (two chains)	RX Sensitivity	Tolerance
	MCS0	23dbm	26dbm	-90dbm	±2dB
	MCS1	23dbm	26dbm	-88dbm	±2dB
	MCS2	23dbm	26dbm	-87dbm	±2dB
	MCS3	25dbm	28dbm	-85dbm	±2dB
	MCS4	24dbm	27dbm	-82dbm	±2dB
	MCS5	23dbm	26dbm	-79dbm	±2dB
	MCS6	22dbm	25dbm	-77dbm	±2dB
	MCS7	21dbm	24dbm	-75dbm	±2dB
	MCS8	21dbm	24dbm	-72dbm	±2dB
	MCS9	0dbm	23dbm	-69dbm	±2dB
	MCS10	18dbm	21dbm	-66dbm	±2dB
	MCS11	16dbm	19dbm	-63dbm	±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(5.15GHz-5.9GHz)

Operating Mode	Data Rate	TX Power (per Chain)	TX Power (2 Chains)	RX Sensitivity	Tolerance
5GHz 802.11a	6Mbps	26dbm	29dbm	-9dbm	±2dB
	54Mbps	21dbm	24dbm	-81dbm	±2dB
5Ghz 802.11n/ac VHT20	MCS0	25dbm	28dbm	-96dbm	±2dB
	MCS7	21.5dbm	24.5dbm	-78dbm	±2dB
	MCS8	21dbm	24dbm	-76dbm	±2dB
5Ghz 802.11n/ac VHT40	MCS0	25dbm	28dbm	-93dbm	±2dB
	MCS7	21.5dbm	24.5dbm	-75dbm	±2dB
	MCS8	21dbm	24dbm	-73dbm	±2dB
	MCS9	20dbm	23dbm	-72dbm	±2dB

RF Parameter(5.15GHz-5.9GHz)

5GHz 802.11n/ac VHT80	Data Rate	TX Power (per Chain)	TX Power (2 Chains)	Tolerance
	MCS0	25dbm	28dbm	±2dB
	MCS1	25dbm	28dbm	±2dB
	MCS2	24dbm	27dbm	±2dB
	MCS3	23.5dbm	26.5dbm	±2dB
	MCS4	23dbm	26dbm	±2dB
	MCS5	22.5dbm	25.5dbm	±2dB
	MCS6	22dbm	25dbm	±2dB
	MCS7	21.5dbm	24.5dbm	±2dB
	MCS8	21dbm	24dbm	±2dB
	MCS9	20dbm	23dbm	±2dB

RF Parameter(5.15GHz-5.9GHz)

5GHz 802.11n/ac VHT160	Data Rate	TX Power (per Chain)	TX Power (2 Chains)	Tolerance
	MCS0	25dbm	28dbm	±2dB
	MCS1	25dbm	28dbm	±2dB
	MCS2	24dbm	27dbm	±2dB
	MCS3	23.5dbm	26.5dbm	±2dB
	MCS4	23dbm	26dbm	±2dB
	MCS5	22.5dbm	25.5dbm	±2dB
	MCS6	22dbm	25dbm	±2dB
	MCS7	21.5dbm	24.5dbm	±2dB
	MCS8	21dbm	24dbm	±2dB
	MCS9	20dbm	23dbm	±2dB

5GHz 802.11ax HE40	Data Rate	TX Power (one chain)	TX Power (two chains)	RX Sensitivity	Tolerance
	MCS0	25dbm	28dbm	-90dbm	±2dB
	MCS1	25dbm	28dbm	-88dbm	±2dB
	MCS2	24dbm	27dbm	-87dbm	±2dB
	MCS3	23.5dbm	26.5dbm	-85dbm	±2dB
	MCS4	23dbm	26dbm	-82dbm	±2dB
	MCS5	22.5dbm	25.5dbm	-79dbm	±2dB
	MCS6	22dbm	25dbm	-77dbm	±2dB
	MCS7	21.5dbm	24.5dbm	-75dbm	±2dB
	MCS8	21dbm	24dbm	-72dbm	±2dB
	MCS9	20dbm	23dbm	-69dbm	±2dB
	MCS10	19.5dbm	22.5dbm	-66dbm	±2dB
	MCS11	19dbm	22dbm	-63dbm	±2dB

5GHz 802.11ax HE80	Data Rate	TX Power (one chain)	TX Power (two chains)	RX Sensitivity	Tolerance
	MCS0	25dbm	28dbm	-88dbm	±2dB
	MCS1	25dbm	28dbm	-86dbm	±2dB
	MCS2	24dbm	27dbm	-83dbm	±2dB
	MCS3	23.5dbm	26.5dbm	-80dbm	±2dB
	MCS4	23dbm	26dbm	-78dbm	±2dB
	MCS5	22.5dbm	25.5dbm	-76dbm	±2dB
	MCS6	22dbm	25dbm	-74dbm	±2dB
	MCS7	21.5dbm	24.5dbm	-71dbm	±2dB
	MCS8	21dbm	24dbm	-68dbm	±2dB
	MCS9	20dbm	23dbm	-66dbm	±2dB
	MCS10	19.5dbm	22.5dbm	-63dbm	±2dB
	MCS11	19dbm	22dbm	-60dbm	±2dB

5GHz 802.11ax HE160	Data Rate	TX Power (one chain)	TX Power (two chains)	RX Sensitivity	Tolerance
	MCS0	25dbm	28dbm	-84dbm	±2dB
	MCS1	25dbm	28dbm	-82dbm	±2dB
	MCS2	24dbm	27dbm	-80dbm	±2dB
	MCS3	23.5dbm	26.5dbm	-78dbm	±2dB
	MCS4	23dbm	26dbm	-75dbm	±2dB
	MCS5	22.5dbm	25.5dbm	-72dbm	±2dB
	MCS6	22dbm	25dbm	-70dbm	±2dB
	MCS7	21.5dbm	24.5dbm	-68dbm	±2dB
	MCS8	21dbm	24dbm	-65dbm	±2dB
	MCS9	20dbm	23dbm	-63dbm	±2dB
	MCS10	19.5dbm	22.5dbm	-60dbm	±2dB
	MCS11	19dbm	22dbm	-57dbm	±2dB

RF Parameter(5.955GHz-7.125GHz)

Operating Mode	Data Rate	TX Power (per Chain)	TX Power (2 Chains)	RX Sensitivity	Tolerance
6GHz 802.11a	6Mbps	26dbm	29dbm	-96dbm	±2dB
	54Mbps	22dbm	25dbm	-81dbm	±2dB
6Ghz 802.11n/ac VHT20	MCS0	26dbm	29dbm	-96dbm	±2dB
	MCS7	22dbm	25dbm	-78dbm	±2dB
	MCS8	21dbm	24dbm	-76dbm	±2dB
6Ghz 802.11n/ac VHT40	MCS0	26dbm	29dbm	-93dbm	±2dB
	MCS7	22dbm	25dbm	-75dbm	±2dB
	MCS8	21dbm	24dbm	-73dbm	±2dB
	MCS9	20dbm	23dbm	-72dbm	±2dB
6Ghz 802.11n/ac VHT80	MCS0	25dbm	28dbm	-90dbm	±2dB
	MCS7	22dbm	25dbm	-72dbm	±2dB
	MCS8	21dbm	24dbm	-70dbm	±2dB
	MCS9	20dbm	23dbm	-68dbm	±2dB

6GHz 802.11n/ac VHT160	Data Rate	TX Power (one chain)	TX Power (two chains)	RX Sensitivity	Tolerance
	MCS0	25dbm	28dbm	-84dbm	±2dB
	MCS1	25dbm	28dbm	-82dbm	±2dB
	MCS2	24.5dbm	27.5dbm	-80dbm	±2dB
	MCS3	24.5dbm	27.5dbm	-78dbm	±2dB
	MCS4	24dbm	27dbm	-75dbm	±2dB
	MCS5	23dbm	26dbm	-72dbm	±2dB
	MCS6	22.5dbm	25.5dbm	-70dbm	±2dB
	MCS7	22dbm	25dbm	-68dbm	±2dB
	MCS8	21dbm	24dbm	-65dbm	±2dB
	MCS9	20dbm	23dbm	-63dbm	±2dB

6GHz 802.11ax HE20	Data Rate	TX Power (one chain)	TX Power (two chains)	RX Sensitivity	Tolerance
	MCS0	26dbm	29dbm	-93dbm	±2dB
	MCS1	25dbm	28dbm	-90dbm	±2dB
	MCS2	24.5dbm	27.5dbm	-87dbm	±2dB
	MCS3	24.5dbm	27.5dbm	-85dbm	±2dB
	MCS4	24dbm	27dbm	-83dbm	±2dB
	MCS5	23dbm	26dbm	-81dbm	±2dB
	MCS6	22.5dbm	25.5dbm	-78dbm	±2dB
	MCS7	22dbm	25dbm	-76dbm	±2dB
	MCS8	21dbm	24dbm	-75dbm	±2dB
	MCS9	20dbm	23dbm	-72dbm	±2dB
	MCS10	19.5dbm	22.5dbm	-69dbm	±2dB
	MCS11	19dbm	22dbm	-67dbm	±2dB

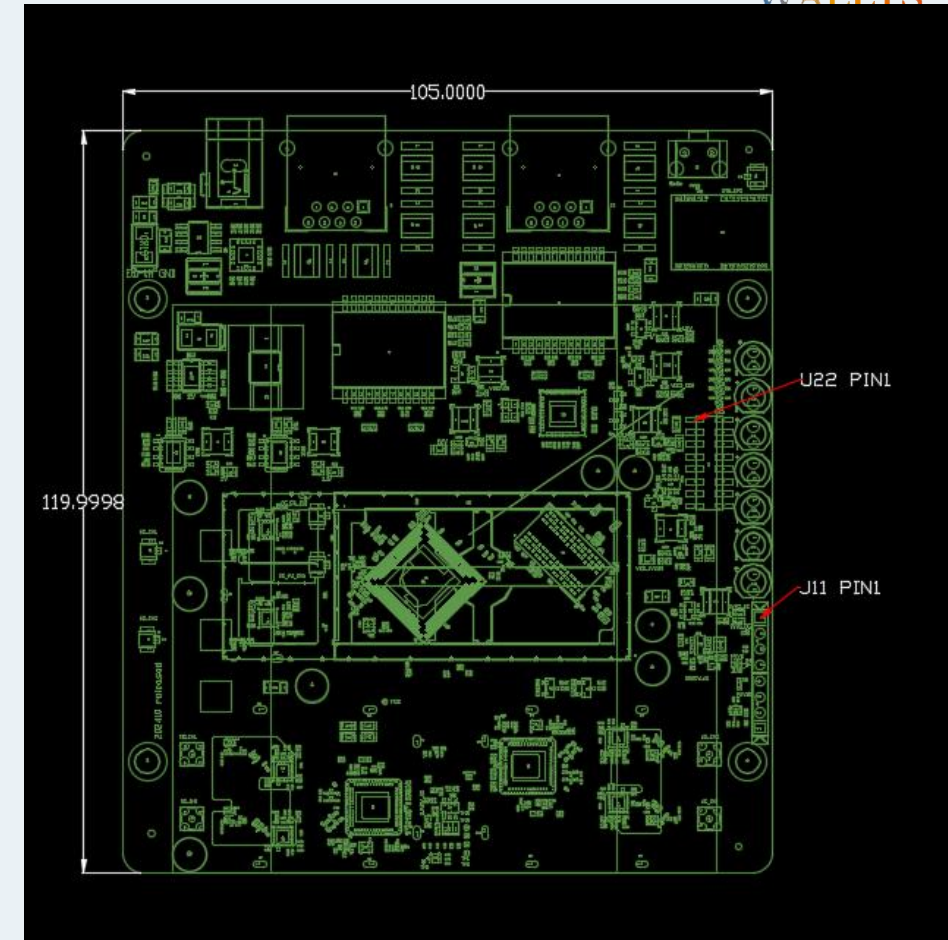
6GHz 802.11ax HE40	Data Rate	TX Power (one chain)	TX Power (two chains)	RX Sensitivity	Tolerance
	MCS0	26dbm	29dbm	-90dbm	±2dB
	MCS1	25dbm	28dbm	-88dbm	±2dB
	MCS2	24.5dbm	27.5dbm	-87dbm	±2dB
	MCS3	24.5dbm	27.5dbm	-85dbm	±2dB
	MCS4	24dbm	27dbm	-82dbm	±2dB
	MCS5	23dbm	26dbm	-79dbm	±2dB
	MCS6	22.5dbm	25.5dbm	-77dbm	±2dB
	MCS7	22dbm	25dbm	-75dbm	±2dB
	MCS8	21dbm	24dbm	-72dbm	±2dB
	MCS9	20dbm	23dbm	-69dbm	±2dB
	MCS10	19.5dbm	22.5dbm	-66dbm	±2dB
	MCS11	19dbm	22dbm	-63dbm	±2dB

6GHz 802.11ax HE80	Data Rate	TX Power (one chain)	TX Power (two chains)	RX Sensitivity	Tolerance
	MCS0	26dbm	29dbm	-88dbm	±2dB
	MCS1	25dbm	28dbm	-86dbm	±2dB
	MCS2	24.5dbm	27.5dbm	-83dbm	±2dB
	MCS3	24.5dbm	27.5dbm	-80dbm	±2dB
	MCS4	24dbm	27dbm	-78dbm	±2dB
	MCS5	23dbm	26dbm	-76dbm	±2dB
	MCS6	22.5dbm	25.5dbm	-74dbm	±2dB
	MCS7	22dbm	25dbm	-71dbm	±2dB
	MCS8	21dbm	24dbm	-68dbm	±2dB
	MCS9	20dbm	23dbm	-66dbm	±2dB
	MCS10	19.5dbm	22.5dbm	-63dbm	±2dB
	MCS11	19dbm	22dbm	-60dbm	±2dB

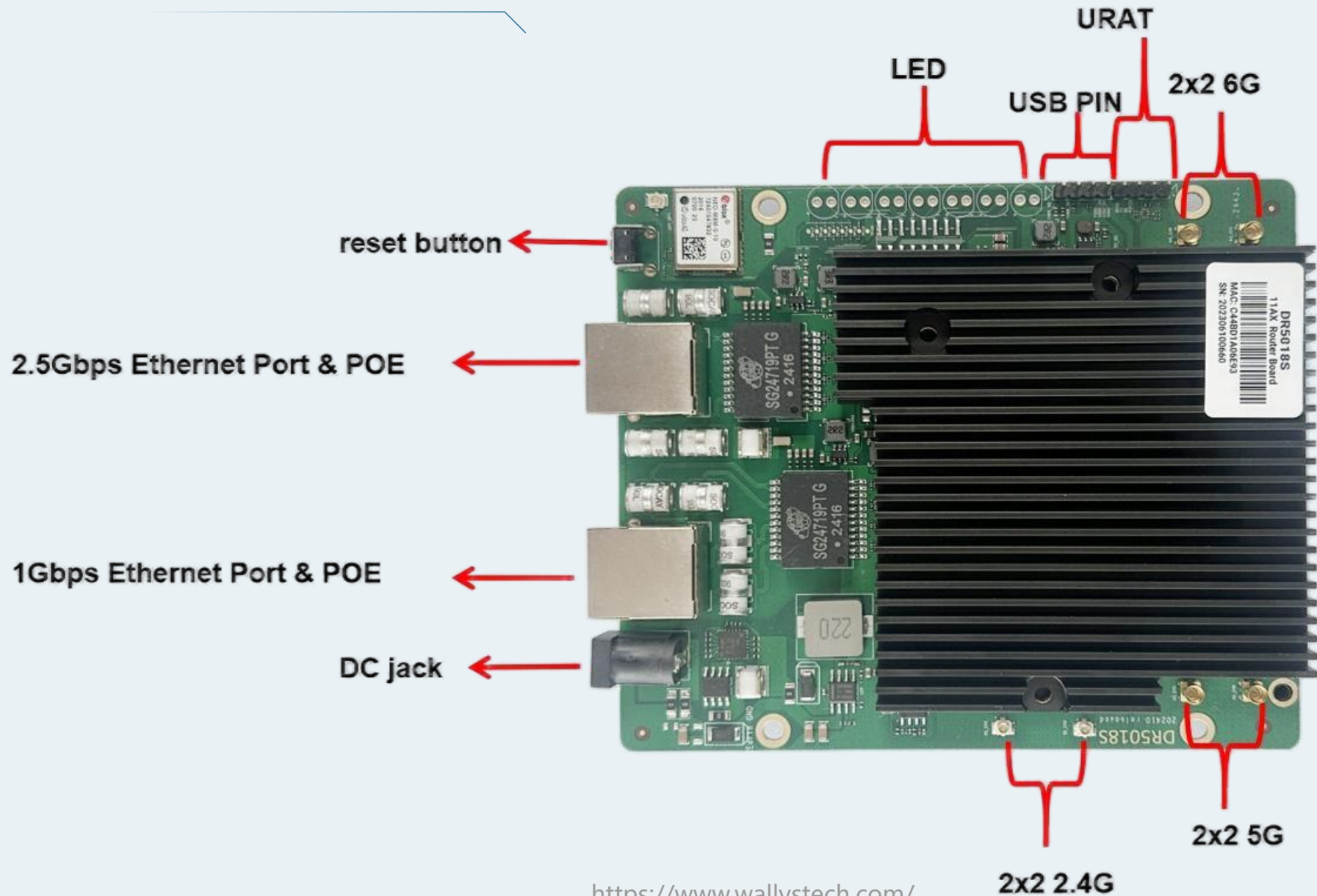
6GHz 802.11ax HE160	Data Rate	TX Power (one chain)	TX Power (two chains)	RX Sensitivity	Tolerance
	MCS0	26dbm	29dbm	-84dbm	±2dB
	MCS1	25dbm	28dbm	-82dbm	±2dB
	MCS2	24.5dbm	27.5dbm	-80dbm	±2dB
	MCS3	24.5dbm	27.5dbm	-78dbm	±2dB
	MCS4	24dbm	27dbm	-75dbm	±2dB
	MCS5	23dbm	26dbm	-72dbm	±2dB
	MCS6	22.5dbm	25.5dbm	-70dbm	±2dB
	MCS7	22dbm	25dbm	-68dbm	±2dB
	MCS8	21dbm	24dbm	-65dbm	±2dB
	MCS9	20dbm	23dbm	-63dbm	±2dB
	MCS10	19.5dbm	22.5dbm	-60dbm	±2dB
	MCS11	19dbm	22dbm	-57dbm	±2dB

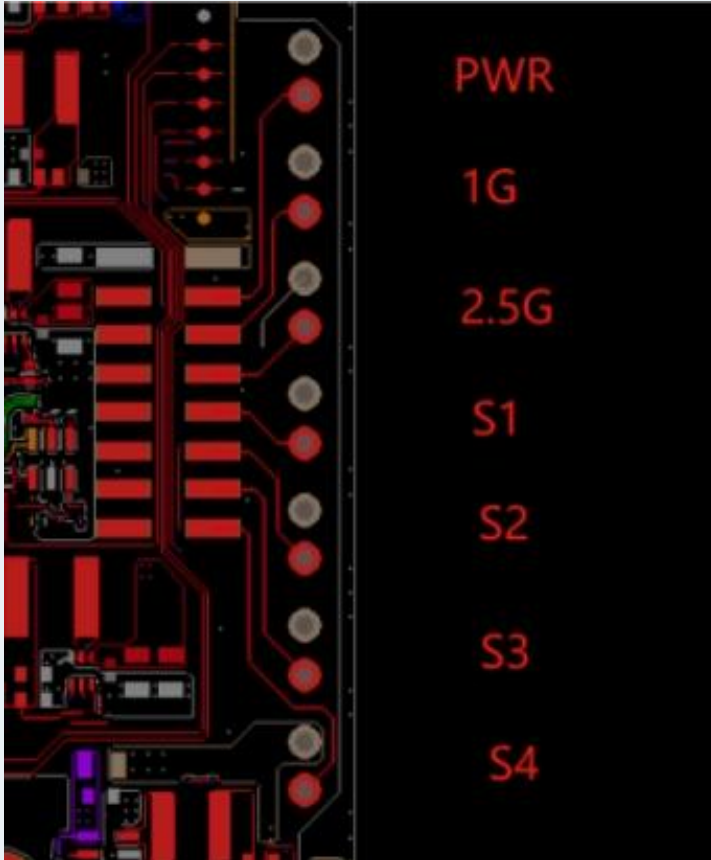
Pin Definitions

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



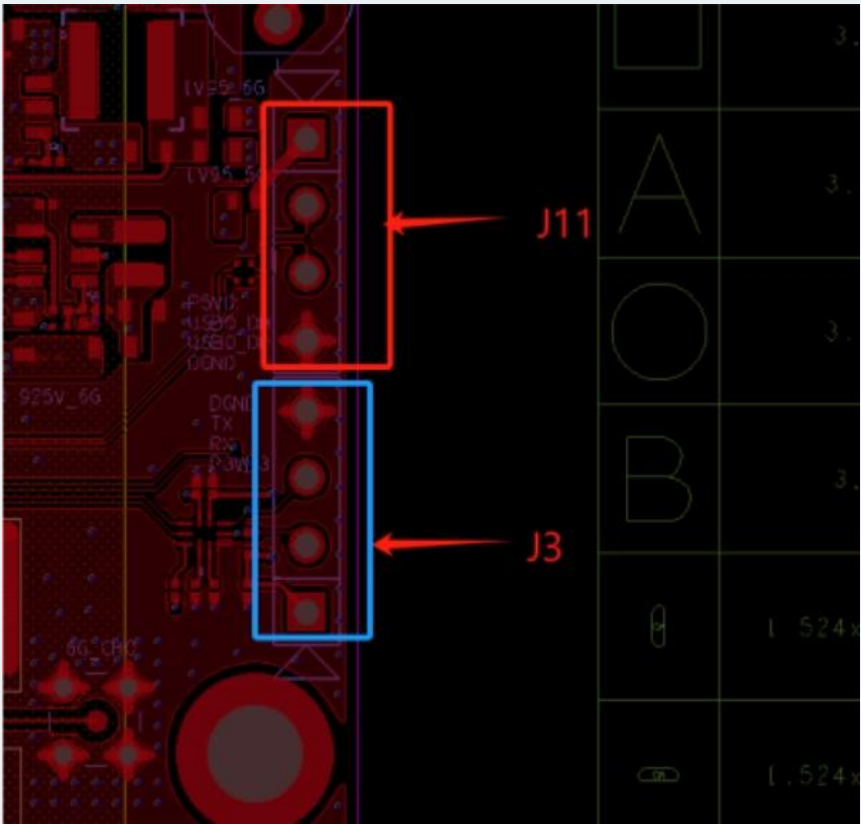
Interface MAP





J11	For usb 2.0	
pin	signal	description
1	VCC	5V
2	DM	
3	DP	
4	GND	GND

J3	For uart	
pin	signal	description
4	GND	GND
3	RX	
2	TX	
1	3.3V	Don't connected



APs Certification--FCC/CE/UKCA





DR5018S