



DR-AP6018-S-A

11AX MU-MIMO OFDM DUAL BAND
DUAL CONCURRENT ACCESS POINT

DR-AP6018-S-A is a 2x2 2.4G&5G high power Radio AP Router which including 1x DR6018(IPQ6010) Board; 2 x 2.4G&5G dipole Antennas; 1 x PSU(DC power or PoE);

1 x Enclosure.

Dipole antenna

- 2 x 2.4G&5G Antenna
- 5dBi 2.4GHz/5Ghz
- SMA Plug interface
- Plastic rod of black
- RoHS compliance

Enclosure

- Dimension: 133x 128 x 44 mm
- Aluminum alloy material
- Support Wallys' PCBA Mainboard





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Features

- Quad-core ARM 64bit A53@1.8GHz Processor
- 1GB DDR L3L System Memory
- 32MB NOR Flash, 256MB NAND Flash
- Supports Dynamic Frequency Selection (DFS)
- 2x2 On-board 2.4GHz radio, up to 573Mbps physical Data Rate
- 2x2 On-board 5GHz radio, up to 1201Mbps physical Data Rate

Applications

- 802.11ax MU-MIMO OFDMA Access Point
- Smart AP TWT

Product Description

DR6018 V4 based on IPQ6010 chipset is an enterprise wireless module integrated with 2x2 5G high power Radio module and 2x2 2.4G 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.



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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)	%

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Hardware Specifications

Symbol	Parameter
CPU	Qualcomm-Atheros IPQ6010
CPU Frequency	Quad-core ARM 64 bit A53 @1.8 GHz processor
System Memory	1GB (2x 512MB) DDR3L 16-bit interface with 32-bit memory bus design
Ethernet Port	1 x 1Gbps Ethernet Ports & POE 3 x 1Gbps Ethernet Ports , 1x 2.5Gbps Ethernet Port,
NGFF Slot	M.2 (NGFF) “E Key” Socket with MiniPCIe 3.0(For WiFi Module) M 2 (NGFF) “B Key” Socket with USB 3 0(For 5G Module)
SD Card Slot	1x SD Card Slot
USB /header	1x USB 2.0 Port
POE	24V~48V passive POE/Active POE(Suport 802.3bt)
DC Jack	24V power supply
LED header	LEDs
Serial Port	1x Serial Port 4 Pin Connector
Wireless	On-board2x22.4GHz MU-MIMO OFDMA802.11b/g/n/ax,max 23dBm per chain On-board2x25GHz MU-MIMOOFDMA 802.11a/n/ac/ax,max 20dBm per chain 4 x MMCX Connectors
Bluetooth	optional
Nor Flash	8-32MB (normally is 8MB)
Nand Flash	256MB
DDR	256MB~512MB
Dimension	133mm x 128mm x 44mm

Power Consumption

	Working Mode	Maxim Power Consumption
1	DR6018 startup	8W
2	DR6018 run with dual band WIFI On board	14W
3	DR6018 run with DR9074	24W
4	DR6018 run with QUECTEL RM500Q-GL	24.5W
5	DR6018 run with DR9074 and QUECTEL RM500Q-GL	34.5w

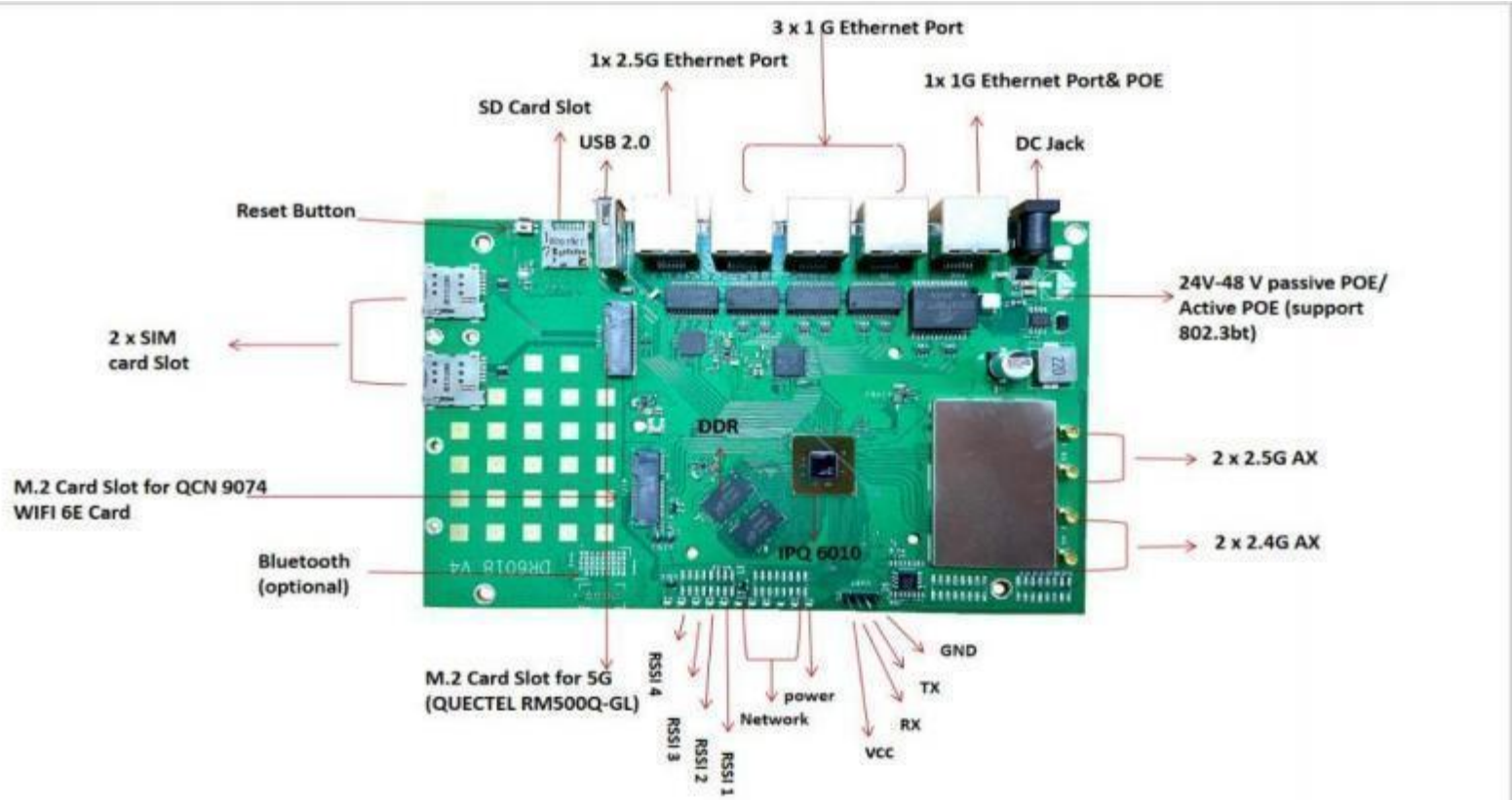
Radio TX Specifications(5180MHz-5825MHz)

Operating Mode	Data Rate	Power		Tolerance
		1 Chain	2 Chains	
5Ghz 802.11ax HE20	MCS0	27dBm	30dbm	±2dB
	MCS1	26dBm	29dBm	±2dB
	MCS2	26dBm	29dBm	±2dB
	MCS3	26dBm	29dBm	±2dB
	MCS4	25dBm	28dBm	±2dB
	MCS5	24dBm	27dBm	±2dB
	MCS6	23dBm	26dBm	±2dB
	MCS7	21dBm	24dBm	±2dB
	MCS8	20dBm	23dBm	±2dB
	MCS9	20dBm	23dBm	±2dB
	MCS10	20dBm	23dBm	±2dB
5Ghz 802.11ax HE400	MCS0	27dBm	30dbm	±2dB
	MCS1	26dBm	29dBm	±2dB
	MCS2	26dBm	29dBm	±2dB
	MCS3	26dBm	29dBm	±2dB
	MCS4	25dBm	28dBm	±2dB
	MCS5	24dBm	27dBm	±2dB
	MCS6	23dBm	26dBm	±2dB
	MCS7	21dBm	24dBm	±2dB
	MCS8	20dBm	23dBm	±2dB
	MCS9	20dBm	23dBm	±2dB
	MCS10	20dBm	23dBm	±2dB
5Ghz 802.11ax HE80	MCS0	27dBm	30dbm	±2dB
	MCS1	26dBm	29dBm	±2dB
	MCS2	26dBm	29dBm	±2dB
	MCS3	26dBm	29dBm	±2dB
	MCS4	25dBm	28dBm	±2dB
	MCS5	24dBm	27dBm	±2dB
	MCS6	23dBm	26dBm	±2dB
	MCS7	21dBm	24dBm	±2dB
	MCS8	20dBm	23dBm	±2dB
	MCS9	20dBm	23dBm	±2dB
	MCS10	20dBm	23dBm	±2dB
MCS11	19dBm	22dbm	±2dB	

Radio TX Specifications(2412MHz-2482MHz)

Operating Mode	Data Rate	Power		Tolerance
		1 Chain	2 Chains	
2.4Ghz 802.11ax HE20	MCS0	27dbm	30dbm	±2dB
	MCS1	26dBm	29dBm	±2dB
	MCS2	26dBm	29dBm	±2dB
	MCS3	26dBm	29dBm	±2dB
	MCS4	25dBm	28dBm	±2dB
	MCS5	24dBm	27dBm	±2dB
	MCS6	23dBm	26dBm	±2dB
	MCS7	21dBm	24dBm	±2dB
	MCS8	20dBm	23dBm	±2dB
	MCS9	20dBm	23dBm	±2dB
	MCS10	20dBm	23dBm	±2dB
	MCS11	19dbm	22dbm	±2dB
2.4Ghz 802.11ax HE40	MCS0	27dbm	30dbm	±2dB
	MCS1	26dBm	29dBm	±2dB
	MCS2	26dBm	29dBm	±2dB
	MCS3	26dBm	29dBm	±2dB
	MCS4	26dBm	28dBm	±2dB
	MCS5	25dBm	27dBm	±2dB
	MCS6	24dBm	26dBm	±2dB
	MCS7	23dBm	24dBm	±2dB
	MCS8	20dBm	23dBm	±2dB
	MCS9	20dBm	23dBm	±2dB
	MCS10	20dBm	23dBm	±2dB
	MCS11	19dbm	22dbm	±2dB

Interface MAP



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GPIO Pin Mapping

GPIO Pin Mapping			
Pin	Signal	Pin	Signal
GPIO 0	AUDIO MUTE BUT	GPIO 1	QPIC BUSY N
GPIO 2	MIC VOL M	GPIO 3	QPIC \bar WE \bar N \bar
GPIO 4	QPIC RE N	GPIO 5	QPIC \bar DAT4 \bar
GPIO 6	QPIC \bar DAT5 \bar	GPIO 7	QPIC \bar DAT6 \bar
GPIO 8	QPIC \bar DAT7 \bar	GPIO 9	WPS \bar
GPIO 10	QPIC \bar CLE N	GPIO 11	QPIC NAND CE N
GPIO 12	QPIC \bar DAT1 \bar	GPIO 13	QPIC \bar DAT2 \bar \bar
GPIO 14	QPIC \bar DAT3 \bar	GPIO 15	QPIC \bar DAT0 \bar
GPIO 16	MIC \bar KPD PWR N	GPIO 17	QPIC \bar ALE \bar
GPIO 18	KYPD HOME N	GPIO 19	GND \bar
GPIO 20	Boot_Config(PULL_DOWN)	GPIO 21	MUTE ON
GPIO 22	ADC RST	GPIO 23	WSA SWR CLK
GPIO 24	WSA SWR DATA	GPIO 25	PWM LED RST
GPIO 26	Boot_Config(PULL_DOWN)	GPIO 27	WSA EN R
GPIO 28	WSA EN L	GPIO 29	PDM CLK0
GPIO 30	PDM DATA0	GPIO 31	PDM CLK1
GPIO 32	PDM DATA1	GPIO 33	EXT MCLK2 ADC
GPIO 34	MIC VOL P	GPIO 35	LED 5G
GPIO 36	PCIE0 WAKE	GPIO 37	LED 2GS
GPIO 38	SPI0 CLK	GPIO 39	SPI0 CS NI
GPIO 40	SPI0 MISO	GPIO 41	SPI0 MOSI
GPIO 42	BLSP2 SCL	GPIO 43	BLSP2 SDA
GPIO 44	BLSP2 UART RX	GPIO 45	BLSP2 UART TX
GPIO 46	BLSP5 SCL	GPIO 47	BLSP5 SDA
GPIO 48	NC	GPIO 49	Boot_Config(PULL_DOWN)
GPIO 50	LED USB0	GPIO 51	BT PRIORITY PTA11
GPIO 52	WLA ACTI PTA12	GPIO 53	BT ACT PTA10
GPIO 54	Boot_Config(PULL_DOWN)	GPIO 55	NC
GPIO 56	NC	GPIO 57	NC

GPIO 58	NC	GPIO 59	PCIE0 CLK REQ
GPIO 60	PCIE0 RSTn	GPIO 61	NC
GPIO 62	SD DET	GPIO 63	SD WP
GPIO 64	MDC	GPIO 65	MDIO
GPIO 66	SD LDO EN	GPIO 67	NC
GPIO 68	NC	GPIO 69	SPI CLK UART RTSn
GPIO 70	SPI CS UART CTSn	GPIO 71	SPI MIS \bar{O} UART RX
GPIO 72	SPI MOSI UART TX	GPIO 73	USB OTG
GPIO 74	NC	GPIO 75	Malibu RESET
GPIO 76	NAPA INT0	GPIO 77	NAPA RESET
GPIO 78	QTZ INT	GPIO 79	QTZ RESET

Boot Config Switch

Boot_Config Switch1(S7)			
Boot_Config			Boot up Interface Select
S7A	S7B	S7C	
0	0	0	SPI NOR. (Default)
0	0	1	eMMC
0	1	0	QPIC, Parallel NAND
0	1	1	USB2.0
1	0	0	SPI-NOR-GPT
S7D			Boot up Interface Select
0			Boot from code ram.(Default)
1			Boot from ROM
Boot_Config Switch2(S9)			
Boot_Config		Boot up Interface Select	
0		No auth.(Default)	
1		Auth is required	