

DR-AP6018-A (Two Versions) is a 2x2 2.4G&5G high power Radio AP Router which including  
1x DR6018( IPQ6018) Board;  
2 x 2.4G&5G dipole Antennas;  
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: 192x 123 x 44 mm
- Aluminum alloy material
- Support Wallys' PCBA Mainboard



### Features

- Quad- core ARM 64bit  
A53@1.8GHzProcessor
- 1GB DDRL3L System Memory
- 32MB NOR Flash, 256MB NAND Flash
- Supports Dynamic Frequency Selection( DFS)
- 2x2 On-board 2.4GHz radio, upto 573Mbps physical Data Rate
- 2x2 On-board 5GHz radio, upto 1201Mbps physical Data Rate

### Applications

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



### Product Description

DR6018 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.

### Absolute Maximum Rating

Parameter	Rating	Unit
Supply Voltage	24V ~ 48V	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 IPQ6010
CPU Frequency	Quad-core ARM 64 bit A53 @ 1.8 GHz processor
System Memory	1GB (2 x 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 MiniPCle 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(Optional)
USB /header	1x USB 2.0 Port
POE	24V~48V passive POE/Active POE( Suport 802 .3 bt)
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	185mm x 116mm

### Power Consumption

	Working Mode	MaximPower

		Consumption
1	DR6018 startup	8W
2	DR6018 run with dual band WIFI on board	14W
3	DRDR6018 run with DR9074	24W
4	DRDR6018 run with QUECTEL RM5 0 0 Q- GL	24.5W
5	DRDR6018 run with DR9074 and QUECTEL RM500 Q- GL	34 .5w

### Radio TX Specifications (5180MHz-5825MHz)

Operating Mode	Data Rate	Power		Tolerance
		1 Chain	2 Chains	
5 Ghz 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
5 Ghz 802. 11ax HE400	MCS0	27dBm	30dbm	±2dB
	MCS1	26dBm	29dBm	±2dB
	MCS2	26dBm	29dBm	±2dB
	MCS3	26 dBm	29 dBm	±2dB
	MCS4	25dBm	28 dBm	±2dB
	MCS5	24 dBm	27 dBm	±2dB
	MCS6	23dBm	26 dBm	±2dB
	MCS7	21 dBm	24 dBm	±2dB
	MCS8	20dBm	23dBm	±2dB
	MCS9	20dBm	23dBm	±2dB
	MCS10	20dBm	23 dBm	±2dB
	MCS0	27 dBm	30dbm	±2dB
	MCS1	26 dBm	29 dBm	±2dB

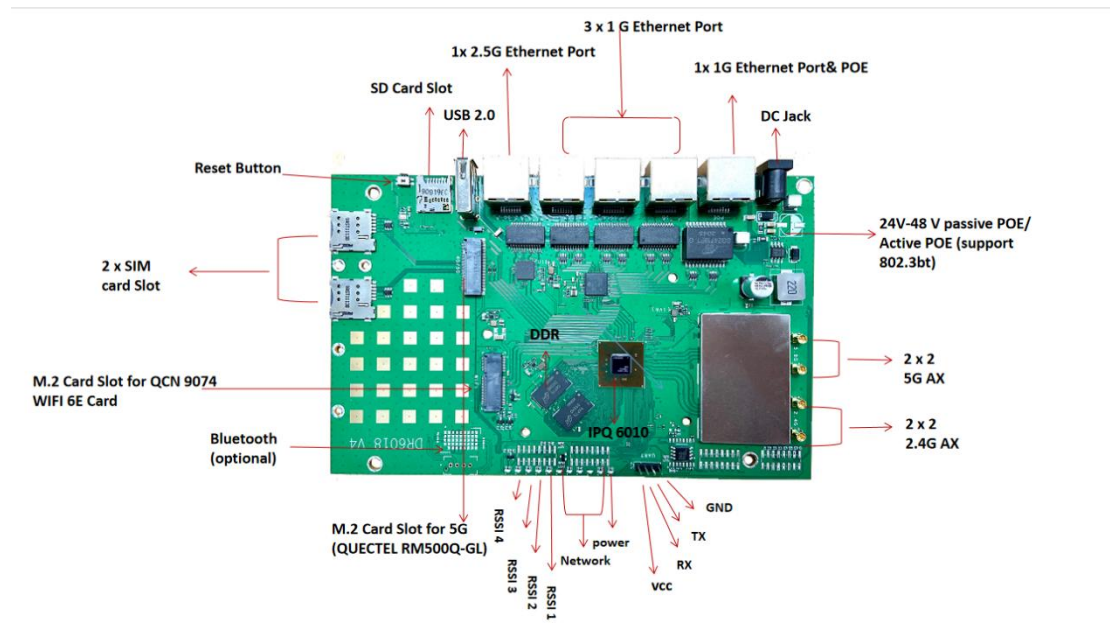
5Ghz 802.11ax HE80	MCS2	26dBm	29dBm	±2dB
	MCS3	26dBm	29dBm	±2dB
	MCS4	25dBm	28dBm	±2dB
	MCS5	24dBm	27dBm	±2dB
	MCS6	23dBm	26dBm	±2dB
	MCS7	21dBm	24dBm	±2dB
	MCS8	20dBm	23dBm	±2dB
	MCS9	20dBm	23dBm	±2dB
	MCS10	20dBm	23dBm	±2dB
	MCS11	19dBm	22dbm	±2dB

### 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
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
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### Interface MAP



### 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_WE_N
GPIO 4	QPIC_RE_N	GPIO 5	QPIC_DAT4
GPIO 6	QPIC_DAT5	GPIO 7	QPIC_DAT6
GPIO 8	QPIC_DAT7	GPIO 9	WPS
GPIO 10	QPIC_CLE_N	GPIO 11	QPIC_NAND_CE_N
GPIO 12	QPIC_DAT1	GPIO 13	QPIC_DAT2

GPIO 14	QPIC_DAT3	GPIO 15	QPIC_DAT0
GPIO 16	MIC_KPD_PWR_N	GPIO 17	QPIC_ALE
GPIO 18	KYPD_HOME_N	GPIO 19	GND
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_MISO_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			Boot up Interface Select
S7A	S7B	S7C	Boot_Config Switch1 (S7)
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_Config Switch1 (S7)
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