

Features

- Quad-core ARM 64bit A53@1.8GHz Processor
- 1GB DDRL3L System Memory
- 8MB NOR Flash, 256MB NAND Flash
- Supports Dynamic Frequency Selection(DFS)
- 2x2 On-board 2.4GHzradio, 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-S 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 (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 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 1 x 1Gbps Ethernet Ports
NGFF Slot	M.2 (NGFF) E-Key Socket with MiniPCIe 3.0(For WiFi Module)
SD Card Slot	1x SD Card Slot(Optional)
USB /header	1x SD Card Slot(Optional)
POE	Option 1: 48V~56V passive POE/Active POE(Suport 802.3 at) Option 2: 24V~48V passive POE
DC Jack	24V~48V power supply
LED header	2.0 pitch pin header
UART	Universal asynchronous receiver transmitter serial ports
Wireless	On-board 802.11 b/g/n/ax 2x2 MU-MIMO OFDMA 2.4GHz, max 27dBm per chain (2 MMCX Connectors) On-board 802.11 a/n/ac/ax 2x2 MU-MIMO OFDMA 5GHz, max 27dBm per chain (2 MMCX Connectors)
Nor Flash	8 MB
Nand Flash	256 MB
Dimension	120mm x 105mm x 20mm
GPS	Support(Optional)

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
	MCS11	19dBm	22dbm	±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
	MCS11	19dBm	22dbm	±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

Radio RX Specifications (5180MHz-5825MHz)

Operating Mode	Data Rate	RX Sensitivity	Tolerance
5GHz 802.11a	6Mbps	-96	±2dB
	54Mbps	-81	±2dB
5Ghz 802.11n/ac VHT20	MCS0	-96	±2dB
	MCS7	-78	±2dB
	MCS8	-76	±2dB
5Ghz 802.11n/ac VHT40	MCS0	-93	±2dB
	MCS7	-77	±2dB
	MCS8	-76	±2dB
	MCS9	-73	±2dB
5Ghz 802.11n/ac VHT80	MCS0	-90	±2dB
	MCS7	-74	±2dB
	MCS8	-71	±2dB
	MCS9	-68	±2dB
5Ghz 802.11ax HE20	MCS0	-96	±2dB
	MCS1	-95	±2dB
	MCS2	-93	±2dB
	MCS3	-91	±2dB
	MCS4	-88	±2dB
	MCS5	-85	±2dB
	MCS6	-83	±2dB
	MCS7	-81	±2dB
	MCS8	-78	±2dB
	MCS9	-75	±2dB
	MCS10	-72	±2dB
	MCS11	-70	±2dB
5Ghz 802.11ax HE40	MCS0	-94	±2dB
	MCS1	-94	±2dB
	MCS2	-93	±2dB
	MCS3	-90	±2dB
	MCS4	-87	±2dB
	MCS5	-84	±2dB
	MCS6	-81	±2dB
	MCS7	-78	±2dB
	MCS8	-75	±2dB
	MCS9	-73	±2dB
	MCS10	-70	±2dB



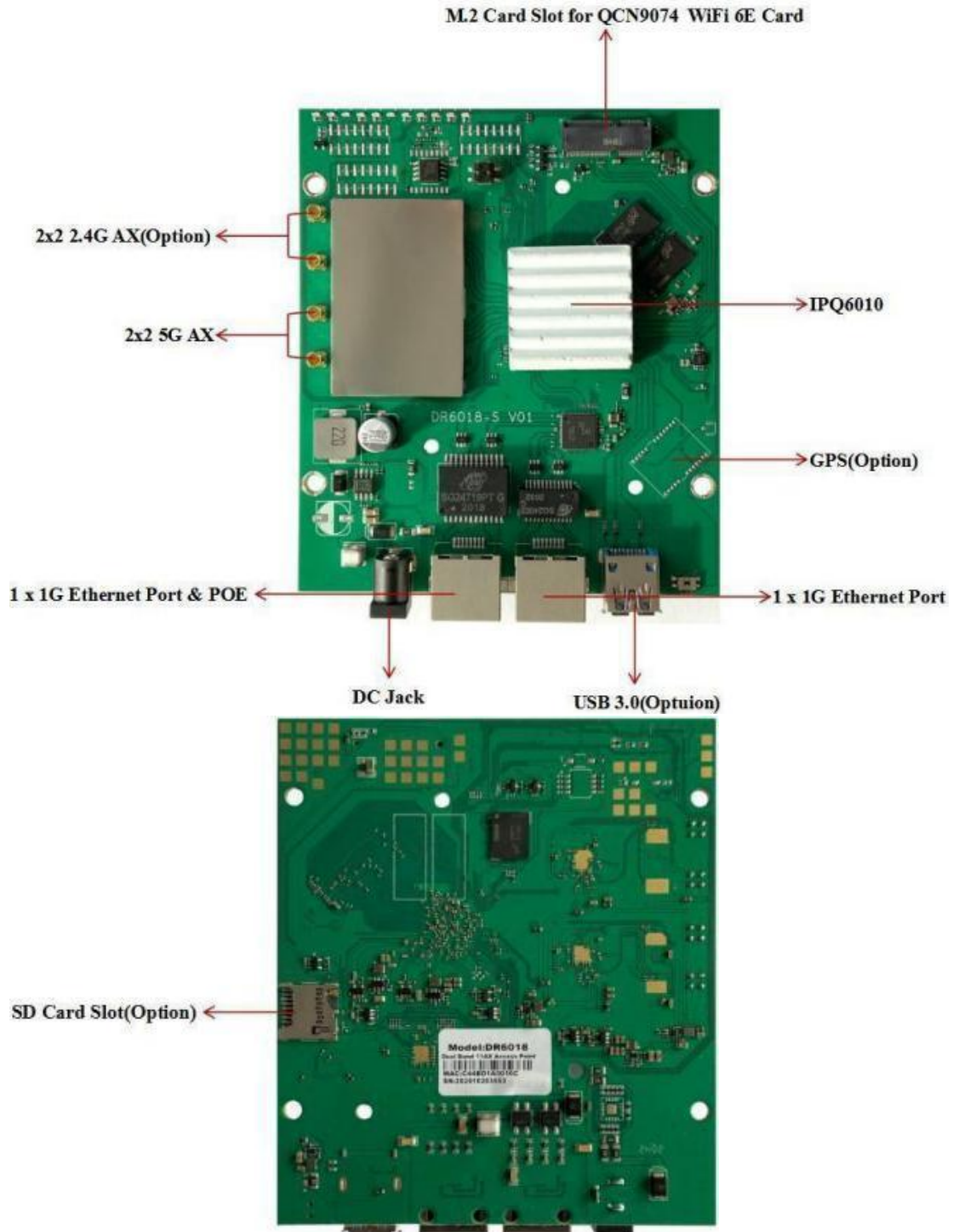
	MCS11	-67	±2dB
5Ghz 802.11ax HE80	MCS0	-93	±2dB
	MCS1	-92	±2dB
	MCS2	-89	±2dB
	MCS3	-86	±2dB
	MCS4	-83	±2dB
	MCS5	-79	±2dB
	MCS6	-78	±2dB
	MCS7	-75	±2dB
	MCS8	-72	±2dB
	MCS9	-70	±2dB
	MCS10	-66	±2dB
	MCS11	-63	±2dB

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	-66	±2dB
2.4Ghz 802.11ax HE40	MCS0	-89	±2dB
	MCS8	-72	±2dB
	MCS9	-69	±2dB
	MCS10	-66	±2dB
	MCS11	-63	±2dB

Interface MAP

125mm x 105mm x 20mm



GPIO Pin Mapping

GPIO	Signal Name	GPIO	Signal Name
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_HOM_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	USB3.0
S7D			Boot_Config Switch1 (S7)
0			Boot from code ram (Default)
1			Boot from ROM
S9			Boot_Config Switch2 (S9)
0			No auth.(Default)
1			Auth is required