DR-AP6018-S(OUTDOOR)

11AX MU-MIMO OFDMADUALBAND
DUAL CONCURRENT EMBEDDED BOARD

Description

DR-AP6018-S(Outdoor) is a 2x2 2.4G&5G high power Radio AP Router which including 1x DR6018-S Board;1 x Onmi Antenna; 1 x POE Adapter(24V^1A~48V^0.6A);1 x Enclosure.

Planar Antenna

- 2 x 5G Antenna
- 5G: 16dbi

DRA25 Antenna(Option)

ElectricalProperties :

Frequency Range：2.4~2.5&5.15~5.85GHz
Impedance：50Ω
VSWR：2.0 Max （≤2.0）
Gain(peak)：6±0.5dBi
Polarization：Linear; Vertical

Physical Properties :

Cable：RG-141 Cable
Connector：N-type PLUG
Antenna CAP：ABS
OperatingTemp：-40℃~+65℃
Storage Temp：-40℃~+75℃
CableTemp：＜+250℃

Enclosure

- Dimension: 275x140x48mm
- UV Protected and Durable ABS Radome
- IP67 Waterproof Level
- Support Wallys' PCBA Mainboard

Absolute Maximum Rating

Parameter	Rating	Unit
Supply Voltage	24V~48V(DC Jack)	V
Operating Temperature Range	-40 to +70	ºC
Storage Temperature Range	-45 to +105	ºC
Operating Humidity Range	5 to +95 (non-condensing)	%
Storage Humidity Range	0 to +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 (2x 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(Option)
USB /header	1x USB 3.0 Port(Option)
POE	24V~48V passive POE/Active POE(Suport 802.3bt)
DC Jack	24V~48V power supply
LED header	2.0 pitch pin header
Serial Port	1x Serial Port 4 Pin Connector
Wireless	On-board 2x22.4GHz MU-MIMO OFDMA 802.11b/g/n/ax,max 23dBm per chain On-board 2x25GHz MU-MIMOOFDMA 802.11a/n/ac/ax,max 20dBm per chain 4x MMCX Connectors
Nor Flash	8MB
Nand Flash	256MB
DDR	256MB~512MB
Dimension	120mm x 105mm x 20mm
GPS	Support(Option)

Radio TX Specifications(5180MHz-5825MHz)

Operating Mode	Data Rate	Power		Tolerance
		1 Chain	2 Chains	
5Ghz 802.11ax HE20	MCS0	20dBm	23dbm	±2dB
	MCS1	20dBm	23dBm	±2dB
	MCS2	20dBm	23dBm	±2dB
	MCS3	20dBm	23dBm	±2dB
	MCS4	19dBm	22dBm	±2dB
	MCS5	18dBm	21dBm	±2dB
	MCS6	17dBm	20dBm	±2dB
	MCS7	16dBm	19dBm	±2dB
	MCS8	15dBm	18dBm	±2dB
	MCS9	14dBm	17dBm	±2dB
	MCS10	13dBm	16dBm	±2dB
	MCS11	13dBm	16dbm	±2dB
5Ghz 802.11ax HE400	MCS0	20dBm	23dbm	±2dB
	MCS1	20dBm	23dBm	±2dB
	MCS2	20dBm	23dBm	±2dB
	MCS3	20dBm	23dBm	±2dB
	MCS4	19dBm	22dBm	±2dB
	MCS5	18dBm	21dBm	±2dB
	MCS6	17dBm	20dBm	±2dB
	MCS7	16dBm	19dBm	±2dB
	MCS8	15dBm	18dBm	±2dB
	MCS9	14dBm	17dBm	±2dB
	MCS10	13dBm	16dBm	±2dB
	MCS11	13dBm	16dbm	±2dB
5Ghz 802.11ax HE80	MCS0	20dBm	23dbm	±2dB
	MCS1	20dBm	23dBm	±2dB
	MCS2	20dBm	23dBm	±2dB
	MCS3	20dBm	23dBm	±2dB
	MCS4	19dBm	22dBm	±2dB
	MCS5	18dBm	21dBm	±2dB
	MCS6	17dBm	20dBm	±2dB
	MCS7	16dBm	19dBm	±2dB
	MCS8	15dBm	18dBm	±2dB
	MCS9	14dBm	17dBm	±2dB
	MCS10	13dBm	16dBm	±2dB

	MCS11	13dBm	16dbm	±2dB

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

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 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	USB3.0
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