

Package Solution

MIMOJunior MMJ543

WIRELESS 300Mbps OUTDOOR Access Point
Built in 13dBi 5GHz DUAL POLARIZATION ANTENNA
or 8dBi 2.4GHz DUAL POLARIZATION ANTENNA



Features

- MIPS 24K-family 300MHz network processor
- Atheros XSPAN technology
- Support Compex WLM200 series Mini-PCI Radio
- IEEE 802.11n/a/b/g
- Built in dual-polarization antenna, Either 8dBi 2.4GHz or 13dBi 5GHz
- *2 RP-SMA Male Connector for External Antenna(Optional) ^①
- Supported Power-over-Ethernet(PoE passive)
- Supported IEEE802.11i , IEEE802.1x authentication
- Embedded NOR flash
- With Grounding Terminal
- Weatherproof casing

TECHNICAL SPECIFICATIONS

SYSTEM INFORMATION	
Processing Specifications	Atheros AR7130/300MHz
Memory Size	32MB DDR SDRAM
NOR Flash	4MB (up to 16MB max)
LAN Interface	1 x 10/100 BASE-T Ethernet Port
Antenna	Integrated directional dual-polarization antenna, Either 8dBi 2.4GHz or 13dBi 5GHz
Max power consumption	4 Watts(bare board only)
Power method	Passive Power over Ethernet
External Antenna Connection	2 x RP-SMA male socket(Optional) ^①
Certification	FCC, CE certified
ROHS Compliant	Yes
Weight	420grams
Humidity	5% to 95% (non-condensing)
Temperature Range	Operating: -20°C to 70°C Storage: -40°C to 90°C
Dimension	223 x 123 x 60 (mm)

WLM200N5-26dBm MIMO MINIPCI CARD RADIO							
TX SPECIFICATIONS							
	DataRate		TX Power		Tolerance		
802.11a	6-24Mbps		26dBm		±2dB		
	36Mbps		25dBm		±2dB		
	48Mbps		24dBm		±2dB		
	54Mbps		22dBm		±2dB		
	DataRate	TX Power	Tolerance		DataRate	TX Power	Tolerance
5Ghz 11n HT 20	MCS 0	24dBm	±2dB	5Ghz 11n HT 40	MCS 0	24dBm	±2dB
	MCS 1	24dBm	±2dB		MCS 1	24dBm	±2dB
	MCS 2	24dBm	±2dB		MCS 2	24dBm	±2dB
	MCS 3	24dBm	±2dB		MCS 3	24dBm	±2dB
	MCS 4	22dBm	±2dB		MCS 4	22dBm	±2dB
	MCS 5	20.5dBm	±2dB		MCS 5	20.5dBm	±2dB
	MCS 6	20.5dBm	±2dB		MCS 6	20.5dBm	±2dB
	MCS 7	17.5dBm	±2dB		MCS 7	17.5dBm	±2dB
	MCS 8	24dBm	±2dB		MCS 8	24dBm	±2dB
	MCS 9	24dBm	±2dB		MCS 9	24dBm	±2dB
	MCS 10	24dBm	±2dB		MCS 10	24dBm	±2dB
	MCS 11	24dBm	±2dB		MCS 11	24dBm	±2dB
	MCS 12	22dBm	±2dB		MCS 12	22dBm	±2dB
	MCS 13	20.5dBm	±2dB		MCS 13	20.5dBm	±2dB
	MCS 14	20.5dBm	±2dB		MCS 14	20.5dBm	±2dB
MCS 15	17.5dBm	±2dB	MCS 15	17.5dBm	±2dB		
RX SPECIFICATIONS							
	Data Rate	Sensitivity (Maximum/Typical 2Rx)	Tolerance		Data Rate	Sensitivity (Maximum/Typical 2Rx)	Tolerance
802.11a	6M	-95/-91dBm	±2dB	802.11a	24M	-90/-86dBm	±2dB
	9M	-95/-91dBm	±2dB		36M	-87/-83dBm	±2dB
	12M	-95/-91dBm	±2dB		48M	-83/-79dBm	±2dB
	18M	-94/-90dBm	±2dB		54M	-82/-78dBm	±2dB
5Ghz 11n HT 20	MCS0	-95/-91dBm	±2dB	5Ghz 11n HT 40	MCS0	-91/-87dBm	±2dB
	MCS1	-94/-90dBm	±2dB		MCS1	-90/-86dBm	±2dB
	MCS2	-92/-88dBm	±2dB		MCS2	-88/-84dBm	±2dB
	MCS3	-88/-84dBm	±2dB		MCS3	-85/-81dBm	±2dB
	MCS4	-85/-81dBm	±2dB		MCS4	-82/-78dBm	±2dB
	MCS5	-81/-77dBm	±2dB		MCS5	-78/-74dBm	±2dB
	MCS6	-80/-76dBm	±2dB		MCS6	-77/-73dBm	±2dB
	MCS7	-77/-73dBm	±2dB		MCS7	-74/-70dBm	±2dB
	MCS8	-94/-90dBm	±2dB		MCS8	-91/-87dBm	±2dB
	MCS9	-92/-87dBm	±2dB		MCS9	-88/-84dBm	±2dB
	MCS10	-89/-85dBm	±2dB		MCS10	-86/-82dBm	±2dB
	MCS11	-86/-82dBm	±2dB		MCS11	-83/-79dBm	±2dB
	MCS12	-83/-79dBm	±2dB		MCS12	-80/-76dBm	±2dB
	MCS13	-78/-74dBm	±2dB		MCS13	-75/-71dBm	±2dB
	MCS14	-77/-73dBm	±2dB		MCS14	-73/-69dBm	±2dB
MCS15	-74/-69dBm	±2dB	MCS15	-70/-66dBm	±2dB		

WLM200N2-26 MIMO MINIPCI CARD RADIO

TX SPECIFICATIONS

	DataRate	TX Power	Tolerance		DataRate	TX Power	Tolerance
802.11b	11Mbps	26dBm	±2dB	802.11g	6-24Mbps	26dBm	±2dB
	5.5Mbps	26dBm	±2dB		36Mbps	26dBm	±2dB
	2Mbps	26dBm	±2dB		48Mbps	22dBm	±2dB
	1Mbps	26dBm	±2dB		54Mbps	21dBm	±2dB
2.4Ghz 11n HT20	MCS 0	23dBm	±2dB	2.4Ghz 11n HT40	MCS 0	22dBm	±2dB
	MCS 1	23dBm	±2dB		MCS 1	22dBm	±2dB
	MCS 2	23dBm	±2dB		MCS 2	22dBm	±2dB
	MCS 3	23dBm	±2dB		MCS 3	22dBm	±2dB
	MCS 4	23dBm	±2dB		MCS 4	22dBm	±2dB
	MCS 5	22dBm	±2dB		MCS 5	22dBm	±2dB
	MCS 6	21dBm	±2dB		MCS 6	21dBm	±2dB
	MCS 7	20dBm	±2dB		MCS 7	20dBm	±2dB
	MCS 8	23dBm	±2dB		MCS 8	22dBm	±2dB
	MCS 9	23dBm	±2dB		MCS 9	22dBm	±2dB
	MCS 10	23dBm	±2dB		MCS 10	22dBm	±2dB
	MCS 11	23dBm	±2dB		MCS 11	22dBm	±2dB
	MCS 12	23dBm	±2dB		MCS 12	22dBm	±2dB
	MCS 13	22dBm	±2dB		MCS 13	22dBm	±2dB
	MCS 14	21dBm	±2dB		MCS 14	21dBm	±2dB
MCS 15	20dBm	±2dB	MCS 15	20dBm	±2dB		

RX SPECIFICATIONS

	DataRate	Sensitivity (Maximum/Typical 2Rx)	Tolerance		DataRate	Sensitivity (Maximum/Typical 2Rx)	Tolerance
802.11g	6 Mbps	-96/-92dBm	±2dB	802.11b	1 Mbps	-96/-92dBm	±2dB
	9 Mbps	-96/-92dBm	±2dB		5.5Mbps	94/-90dBm	±2dB
	12 Mbps	-96/-92dBm	±2dB		11 Mbps	-91/-87dBm	±2dB
	18 Mbps	-95/-91dBm	±2dB				
	24Mbps	-92/-88dBm	±2dB				
	38Mbps	-89/-85dBm	±2dB				
	48Mbps	-85/-81dBm	±2dB				
54Mbps	-83/-79dBm	±2dB					
2.4Ghz 11n HT20	MCS0	-96/-92dBm	±2dB	2.4Ghz 11n HT40	MCS0	-90/-86dBm	±2dB
	MCS1	-95/-91dBm	±2dB		MCS1	-90/-86dBm	±2dB
	MCS2	-93/-89dBm	±2dB		MCS2	-89/-85dBm	±2dB
	MCS3	-90/-86dBm	±2dB		MCS3	-87/-82dBm	±2dB
	MCS4	-87/-81dBm	±2dB		MCS4	-84/-79dBm	±2dB
	MCS5	-83/-76dBm	±2dB		MCS5	-79/-75dBm	±2dB
	MCS6	-81/-76dBm	±2dB		MCS6	-78/-74dBm	±2dB
	MCS7	-79/-73dBm	±2dB		MCS7	-75/-71dBm	±2dB
	MCS8	-95/-91dBm	±2dB		MCS8	-90/-86dBm	±2dB
	MCS9	-93/-89dBm	±2dB		MCS9	-89/-85dBm	±2dB
	MCS10	-90/-86dBm	±2dB		MCS10	-87/-83dBm	±2dB
	MCS11	-87/-83dBm	±2dB		MCS11	-84/-80dBm	±2dB
	MCS12	-84/-80dBm	±2dB		MCS12	-81/-77dBm	±2dB
	MCS13	-79/-75dBm	±2dB		MCS13	-76/-72dBm	±2dB
	MCS14	-77/-73dBm	±2dB		MCS14	-74/-68dBm	±2dB
MCS15	-75/-71dBm	±2dB	MCS15	-71/-67dBm	±2dB		

Firmware Information

Multiple SSID

- Supports up to 4 virtual access points (VAP) per radio, with unique BSSID. Each VAP can configure their own security

Long Range Support

- Suitable for long-range wireless deployment with Proprietary Long Distance Algorithm for ACK and CTS timeout adjustment support.
- Provides recommended values for the parameters and at the same time allow for manual fine-tuning for optimal performance.

Signal Strength Indicators

- Adjustable signal strength range to display at 4 different levels.

FIRMWARE INFORMATION	
Operating Modes	<ul style="list-style-type: none"> • Access Points • Station • Station WDS • Repeater WDS • Wireless Adapter • Station + Router • Access Point + Router
WAN Type	<ul style="list-style-type: none"> • Static IP • Dynamic IP • PPPoE
Device Management	<ul style="list-style-type: none"> • HTTP / HTTPs Web Server • SNMP V2c • Telnet / Secure Shell (SSH)
Data Capture & Notification	<ul style="list-style-type: none"> • Event Login (Syslog) • Detailed Statistics per Client
Virtual Access Point (VAP)	<ul style="list-style-type: none"> • Up to 4 SSIDs with unique MAC Addresses (BSSID)
Advanced Features	<ul style="list-style-type: none"> • Built-in DHCP server • Transmission Power Control (One dB per step) • Closed System (Suppress SSID) • Transmission Rate Control • Spanning Tree Protocol

OTHER PROMINENT FEATURES	DESCRIPTION
Long Range Parameter Settings	Suitable for Long Range wireless deployment with high receiver sensitivity.
CPE Point-to-Point (PtP)	Ideal as CPE device connecting PtP with a central AP
Power with Passive PoE	Device power from PoE through ethernet cable provide flexible installation.
IEEE 802.11h (DFS & TPC)	Enables worldwide operation through support for standards-based Dynamic Frequency Selection (DFS) and Transmission Power Control (TPC)
SNMP Trap	SNMP Traps enable an agent to notify the management station of significant events by way of an unsolicited event.
Signal Strength LEDs Indicators	Adjustable signal strength range to display at 4 different levels
DHCP Relay (Only in Gateway or Wireless Routing Client Mode)	Allows DHCP Clients on different subnets to get IP address from central DHCP server.
Remote Upgrade of Firmware	Allows user to upgrade their firmware through Telnet/SSH
RIP 1 / 2 (Only in Gateway or Wireless Routing Client Mode)	Routing Information Protocol Version 1 / 2

Customizable Features^②

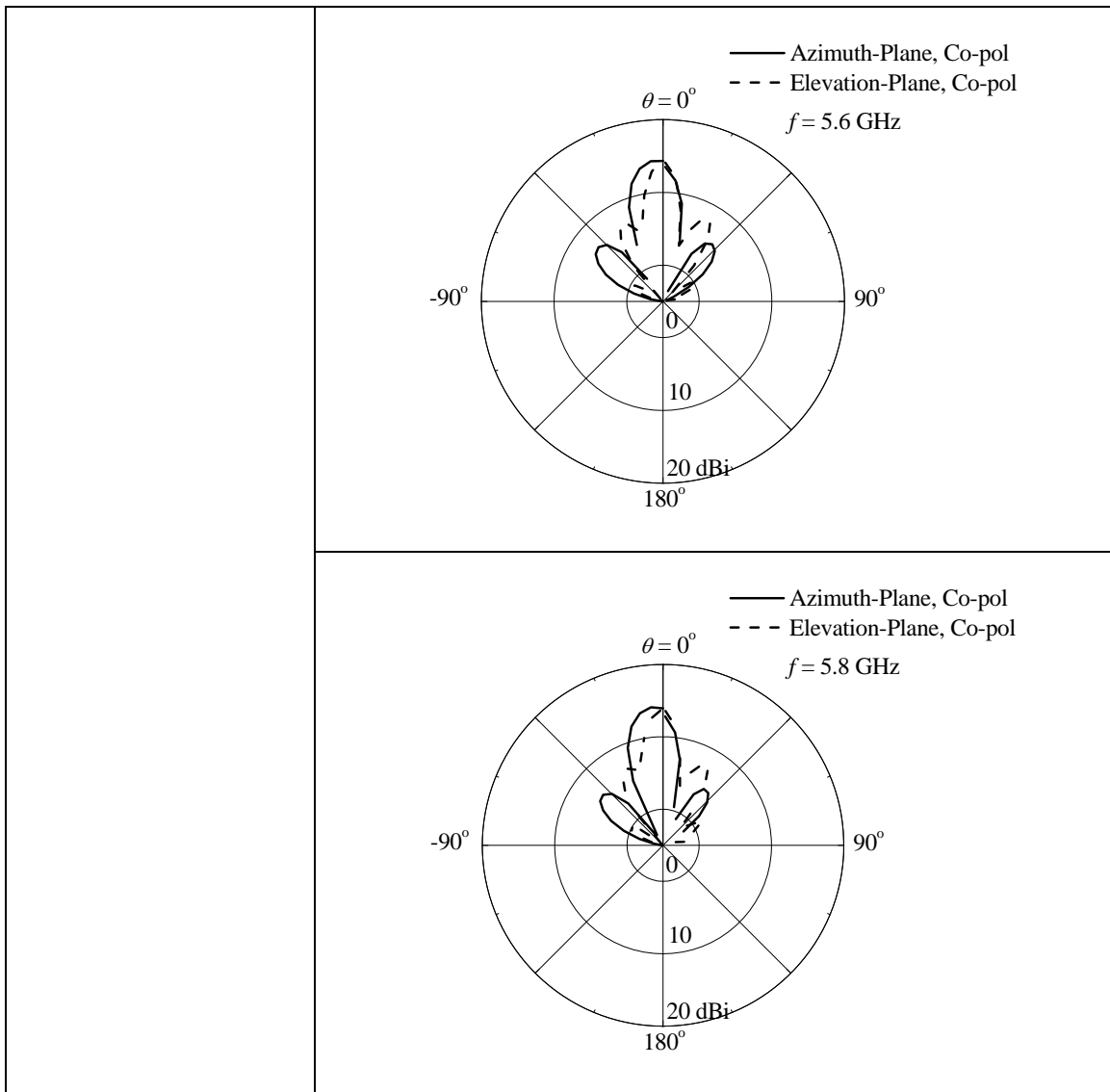
CUSTOMIZABLE FEATURES	DESCRIPTION
Web Page Customization	Customize webpage for OEM customers.

Specification for 8dBi 2.4GHz Antenna

Antenna Specifications	
Gain	8dBi
Radiation	Directional
Frequency Range	2.4-2.5 GHz
Polarization	Dual – Polarization
Horizontal -3dB Beamwidth	60 degrees
Vertical -3dB Beamwidth	60 degrees
Front-to-Back Ratio	>25 dB
VSWR	$\geq 1.12:1$
Return Loss	$\geq 17\text{dB}$
Port to Port Isolation	$\geq 10\text{dB}$
Return Loss & Isolation Plot	<p style="text-align: center;">2.2Ghz to 2.8Ghz Range Plot</p> <p style="text-align: center;">S Parameters, dB</p> <p style="text-align: center;">Frequency, GHz</p> <ul style="list-style-type: none"> —■— Return Loss, S_{11} —●— Return Loss, S_{22} —▲— Isolation, S_{21} —◆— Isolation, S_{12}
Radiation Patterns	<p style="text-align: center;">— Azimuth-Plane, Co-pol - - - Elevation-Plane, Co-pol $f = 2.45 \text{ GHz}$</p> <p style="text-align: center;">$\theta = 0^\circ$</p> <p style="text-align: center;">-90° 90°</p> <p style="text-align: center;">0</p> <p style="text-align: center;">10 dBi</p> <p style="text-align: center;">180°</p>

Specification for 13dBi 5GHz Antenna

Antenna Specifications	
Gain	13dBi
Radiation	Directional
Frequency Range	5.45-5.85 GHz
Polarization	Dual – Polarization
Horizontal -3dB Beamwidth	30 degrees
Vertical -3dB Beamwidth	20 degrees
Front-to-Back Ratio	>25 dB
VWSR	$\geq 1.15:1$
Return Loss	$\geq 14\text{dB}$
Point to Point Isolation	$\geq 12\text{dB}$
Return Loss & Isolation Plot	<p>5Ghz to 6Ghz Range Plot</p> <p>Legend:</p> <ul style="list-style-type: none"> ■ Return Loss, S_{11} ● Return Loss, S_{22} ▲ Isolation, S_{21} ◆ Isolation, S_{12}
Radiation Patterns	<p>— Azimuth-Plane, Co-pol - - - Elevation-Plane, Co-pol $f = 5.4 \text{ GHz}$</p>



Product Information ^③

MODE NAME	SUPPORTED PoE TYPE	POWER REQUIREMENT	RADIO CARD	ANTENNA(DIRECTIONAL)
MMJ543 N2-20	Passive PoE / Compex PoE+	24VDC (input range 12V to 24V DC)	WLM200N2	8dBi 2.4GHz
MMJ543 N2-26	Passive PoE / Compex PoE+	24VDC (input range 12V to 24V DC)	WLM200N2-26	8dBi 2.4GHz
MMJ543 NX-18	Passive PoE / Compex PoE+	24VDC (input range 12V to 24V DC)	WLM200NX	13dBi 5GHz
MMJ543 N5-26	Passive PoE / Compex PoE+	24VDC (input range 12V to 24V DC)	WLM200N5-26	13dBi 5GHz

Ordering Configurations

CODES	Power Supply Version	External Connector	CARTON DIMENSIONS
MMJ543LVx 7A13EUxx	EU version	-	For 10pcs (pcs/ctn), 0.78m*0.38m*0.25m/0.006=12.35KG
MMJ543LVx 7A11USxx	US version	-	
MMJ543LVx 7A13EUxx-C	EU version	1	
MMJ543LVx 7A11USxx-C	US version	1	
MMJ543LVx 7A13EUxx-2C	EU version	2	
MMJ543LVx 7A11USxx-2C	US version	2	

- ① Depends on Order Configuration
- ② Features are not available on the Firmware. Please contact salesperson for customization and subjected to approve.
- ③ Configurations are subjected to change without notice

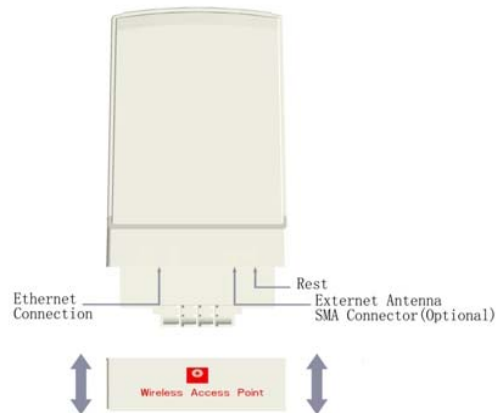
Mounting Options

Mounting Options

1. Pole Mount (Standard)



2. Wall Mount (Optional)



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