PDM24519

3-Port MIMO Antenna
2400-2500 MHz/5100-5900 MHz

The PDM24519 antenna is a dual-band three-port directional antenna for use in 802.11n MIMO applications. Equipped with two vertically-polarized ports and a single horizontally-polarized port, the antenna is designed to take advantage of both polarization and spatial separation to enhance coverage areas populated with obstructions. Housed in a compact, low-profile polycarbonate radome and equipped with an articulating arm the antenna can be wall mounted and oriented to take full advantage of the antenna's directionality.

The radiation patterns are uniform and symmetrical, providing high levels of signal density into defined coverage zones. This antenna greatly enhances the performance of 802.11n systems where physical obstructions are anticipated. The dual band frequency coverage means that a single type of antenna can be deployed with any MIMO radio in the 2.4-2.5 GHz and 5.1-5.9 GHz bands.

FEATURES AND BENEFITS

- Vertically and horizontally polarized radiating elements in a single solution
- Compact low-profile housing
- Equitable for both indoor and outdoor solutions
- Wide band 2.4-2.5 GHz and 5.1-5.9 GHz performance

APPLICATIONS

- 802.11n MIMO
- Offices, hotels, and college campuses
- Airports and hospitals
- Bus terminals and train stations
- Museums, libraries, and retail malls
- Outdoor networks

ELECTRICAL SPECIFICATIONS		
Model Name	PDM24519-FNF	
Number of Ports	3	
Operating Frequency (MHz)	2400-2500	5150-5900
VSWR – Max	2:1	
Gain (dBi)	8.0	9.0
Vertical Port 1 to Vertical Port 2	17	33
Horizontal Port 1 to Vertical Port 1	33	>40
Horizontal Port 1 to Vertical Port 2	37	>40
Nominal Impedance (Ohms)	50	
Max Power - Ambient 25°C (W)	10	
Power Handling (W)		
Polarization	Horizontal (port 1); Vertical (ports 2 & 3)	
Vertical Plane 3 dB Beamwidth	45°	30°
Horizontal Plane 3 dB Beamwidth	90°	120°
Front-to-Back Ratio (dB)	20	

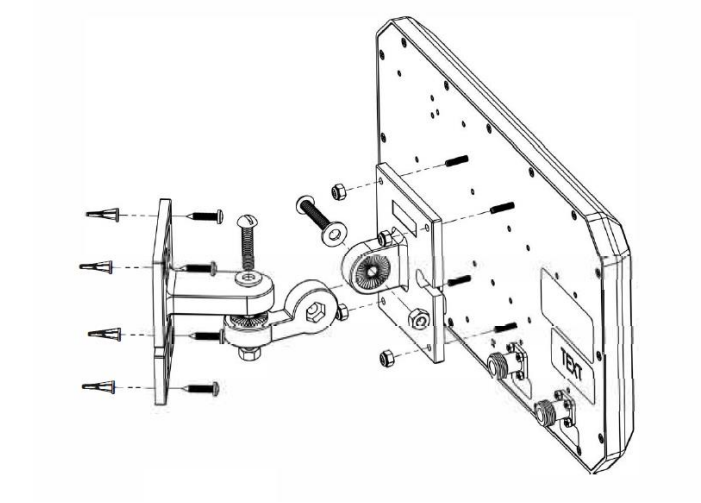
MECHANICAL SPECIFICATIONS	
Dimensions – mm (inches)	178.0 x 305.0 x 25.0 (7.0 x 12.0 x 1.0)
Weight – kg (lbs.)	0.69 (2.20)
Radome Material	Polycarbonate EXL9330 White

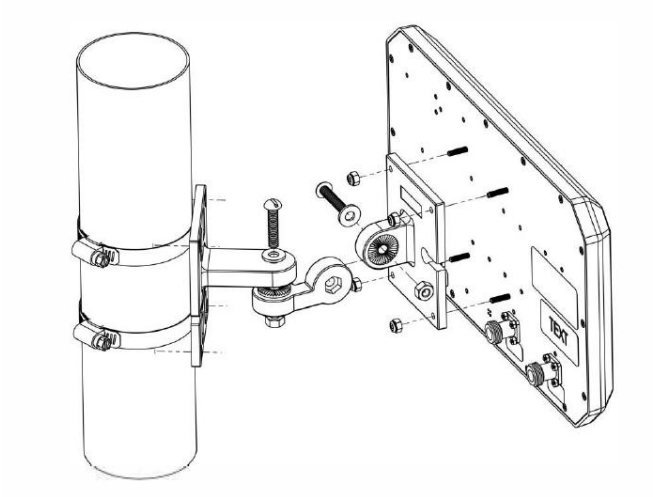
ENVIRONMENTAL SPECIFICATIONS	
Operating Temperature – °C (°F)	-30 to +70°C (-22 to +158°F)
Storage Temperature – °C (°F)	-40 to +85°C (-40 to +185°F)
Ingress Protection Rating	IP67
Material Substance Compliance	RoHS

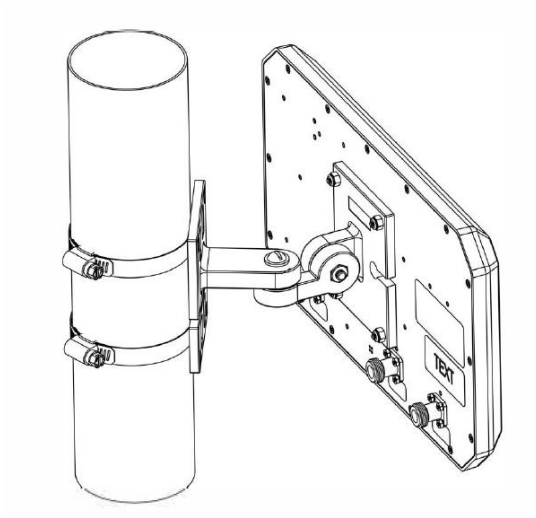
CONFIGURATION

PART NUMBER	CONNECTOR
PDM24519-FNF	Surface Mount Type N Female

MOUNTING OPTIONS







DISPLAY	DESCRIPTION	SIZE	QTY
	Flat washer	1/4”	2
	Hose clamp	-	2
-	Articulating arm	-	1
-	Wall/Mast mount	-	1
-	Antenna mount	-	1
	Plastic wall anchor	#8	4
	SS machine screw	#8 – 18 x 3/4”	4
	Machine screw	¼” – 20 x 1-1/4”	2
	SS split lock washer	¼”	2
	SS hex nut	¼” – 20	2
	SS/nylon hex nut	#6 – 32	4

To assemble and mount the antenna, follow these steps:

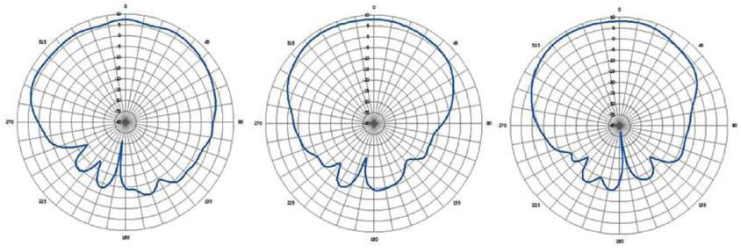
1. Using the four #6-32 nylon lock nuts to attach the molded antenna mount to the exposed studs on the back of the antenna.
2. Using a ¼” – 20 x 1-1/4” machine screw, lock washer, flat washer, and ¼” – 20 hex nut, secure the molded arm to the antenna mount.
3. For installation on a flat surface:
   - Use the molded wall/mast mount as a template to mark hole locations on the flat surface.
   - Drill four 3/16” diameter pilot holes and install wall anchors.
   - Install the mount using four #8 – 18 x 3/4” self-tapping screws.

   For pole or mast installations:
   - Attach the two hose clamps to the molded wall/mast mount. Encircle the pole with each clamp and tighten.
4. To attach the antenna assembly to the wall/mast, install a ¼” x 1-1/4” machine screw, ¼” lock washer, and ¼” flat washer, as shown.
5. Use the screw to attach the free end of the articulating arm to the mount, securing in place with a ¼” – 20 nut.
6. Loosen the ¼” pivot screws as needed to position the antenna for the desired azimuth and elevation steering. Once adjusted, tighten all hardware securely.

RADIATION PATTERNS

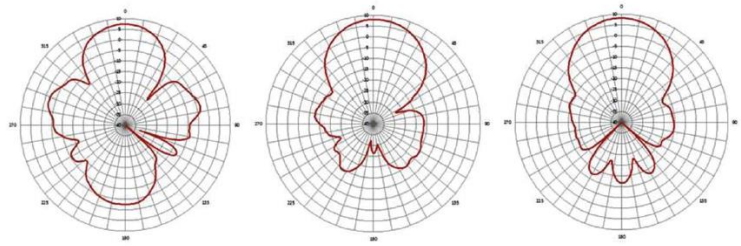
2450 MHz

Azimuth



Port 1: H-pol | Port 2: V-pol | Port 3: V-pol

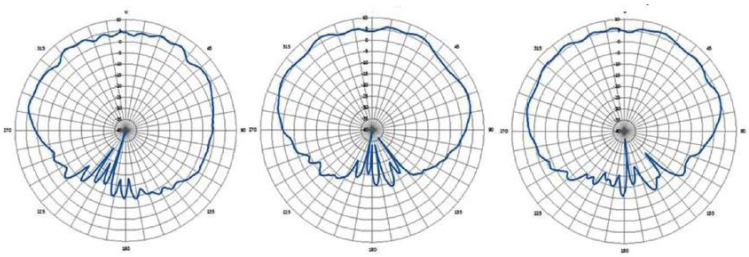
Elevation



Port 1: H-pol | Port 2: V-pol | Port 3: V-pol

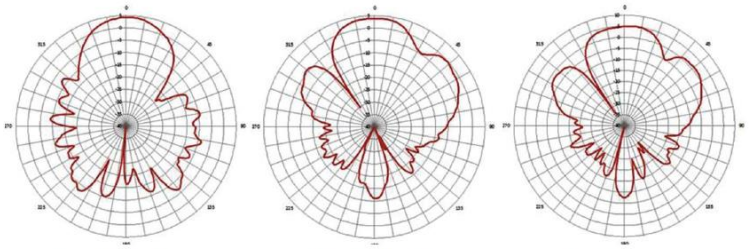
5550 MHz

Azimuth



Port 1: H-pol | Port 2: V-pol | Port 3: V-pol

Elevation



Port 1: H-pol | Port 2: V-pol | Port 3: V-pol

RoHS

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