



## 2.4/ 5 GHz 11 dBi Dual Band / Dual Polarized Omni Antenna

### Antennas Technical Data Sheet

**PE51OM1008**

#### Features

- True 360 degree omni directional antennas which feature patent pending technology
- Dual polarity/dual frequency feed system in single enclosure
- MIMO - Multiple-Input and Multiple-Output, separate inputs for 2.4 GHz and 5 GHz - four connectors total
- UV-Resistant radome for all-weather operation
- Heavy duty industrial grade design

#### Applications

- 2.4/5 GHz IEEE 802.11a/b/g and 802.11ac applications
- Supports 1x2, 2x2 and 4x4 MIMO AP/Routers
- WiMax, WISP and WiFi applications
- Wireless video systems
- Point-to-multipoint applications

#### Description

The HyperGain PE51OM1008 is a professional high gain dual band/dual polarity omnidirectional base station antenna designed and optimized for 2.4 and 5 GHz frequencies. This antenna is ideally suited for multipoint applications where long range and wide coverage is desired. The DPU series stands out from the competition since they are true 360 degree omni directional antennas which feature patent pending technology.

The PE51OM1008 is actually four antennas in one, a 2.4 GHz dual polarized antenna and a 5 GHz dual polarized antenna together in a single radome. Each frequency features separate feeds for both horizontal and vertical polarities, four N-Female connectors total. This antenna incorporates advanced dual polarization technology that allows for the interoperability of two radio transmit and receive paths. This technology allows for the attenuation of unwanted signals from adjacent channels and/or co-located equipment.

The PE51OM1008 construction features a heavy-duty UV resistant PVC radome for durability and aesthetics. Designed to operate in the harshest of environments, the PE51OM1008 far exceeds other omnidirectional antennas. The included mounting system features twin heavy-duty mounting clamps and bolts for superior strength.

#### Configuration

Design	Omni
Band Type	Multi
Radiation Pattern	Omni Directional
Polarization	Vertical/Horizontal
Connector Type	N Female
Interface 2	N Female
Interface 3	N Female
Interface 4	N Female
Number of Ports	4
Lightning Protection	DC Ground/DC Oen

#### Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range	2,400		5,800	MHz
Input VSWR			1.6:1	
Impedance		50		Ohms
Gain		6		dBi
Isolation	28			dB

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Input Power 100 Watts

**Specifications by Band**

Description	Band 1	Band 2	Band 3	Band 4	Band 5	Units
Range	2.4 to 2.5	5.1 to 5.8				GHz
Gain	6	11				dBi
Horizontal Beam Width	360	360				Degrees
Vertical Beam Width	25	6.5				Degrees
VSWR Max	1.6:1	1.8:1				
Maximum Input Power	100	100				Watts

**Mechanical Specifications**

Radome Material PVC

**Size**

Radome Diameter 2.9 in [73.66 mm]  
 Overall Length 49.2 in [124.97 cm]  
 Width 2.9 in [73.66 mm]  
 Height 2.9 in [73.66 mm]  
 Mounting Mast Diameter 1.6 to 3.5 in [40.64 to 88.90 mm]  
 Weight 8.2 lbs [3.72 kg]

Mechanical Specification Notes:  
 Radome material is UV-resistant PVC.

**Environmental Specifications**

**Temperature**

Operating Range -40 to +60 deg C  
 Wind Loading 130 MPH [209.21 KPH]

**Compliance Certifications** (see [product page](#) for current document)

**Plotted and Other Data**

Notes:

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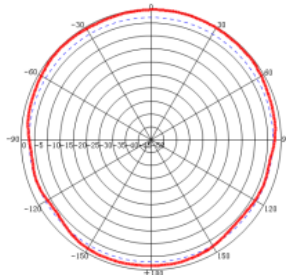
2.4/ 5 GHz 11 dBi Dual Band / Dual Polarized Omni Antenna

**Antennas Technical Data Sheet**

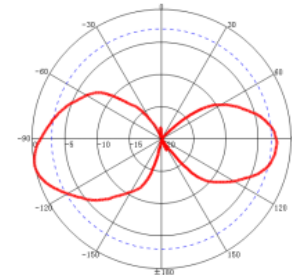
**PE510M1008**

**RF Antenna Patterns**

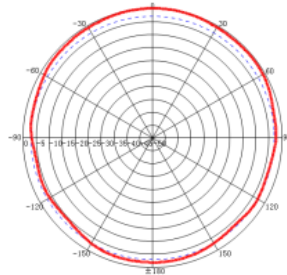
**Horizontal Polarization**



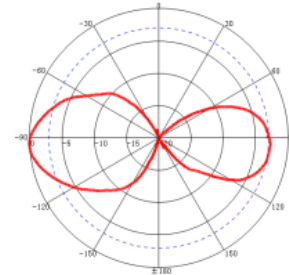
**H-Plane: 2400 MHz**



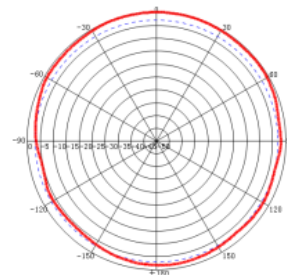
**V-Plane: 2400 MHz**



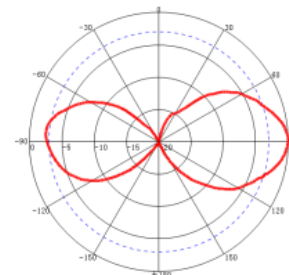
**H-Plane: 2450 MHz**



**V-Plane: 2450 MHz**



**H-Plane: 2500 MHz**



**V-Plane: 2500 MHz**

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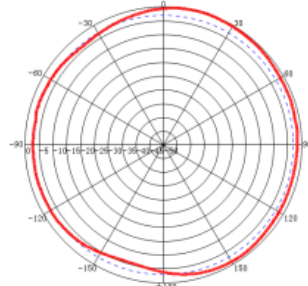


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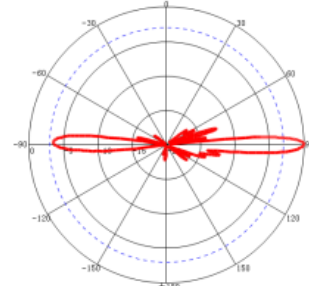
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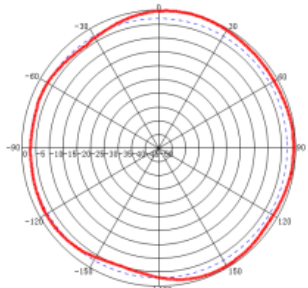
**Horizontal Polarization**



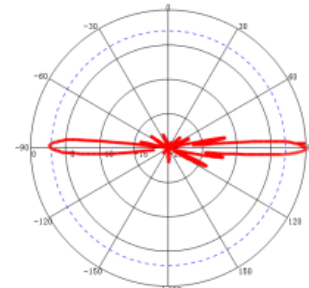
**H-Plane: 5100 MHz**



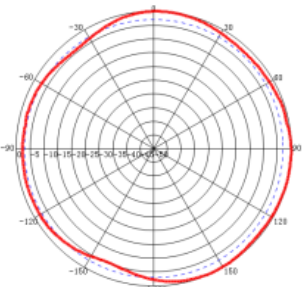
**V-Plane: 5100 MHz**



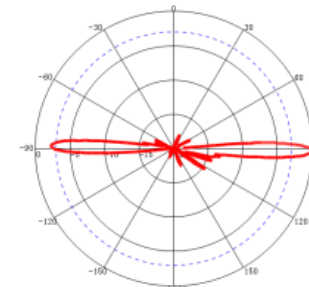
**H-Plane: 5500 MHz**



**V-Plane: 5500 MHz**



**H-Plane: 5800 MHz**



**V-Plane: 5800 MHz**

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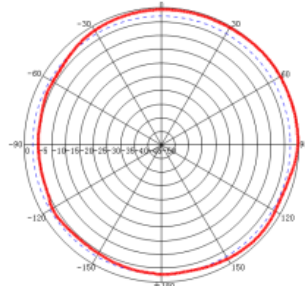


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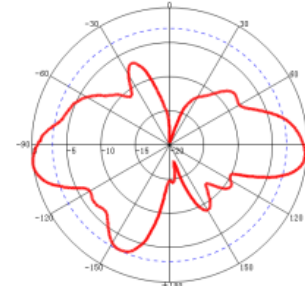
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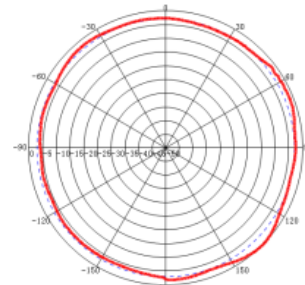
**Vertical Polarization**



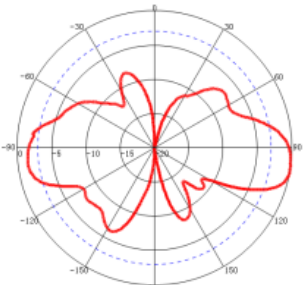
**H-Plane: 2400 MHz**



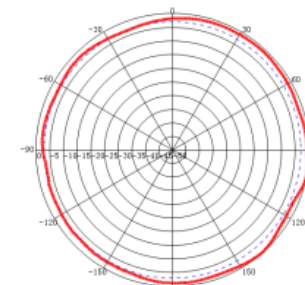
**V-Plane: 2400 MHz**



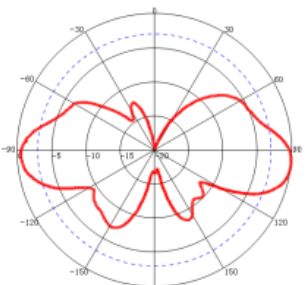
**H-Plane: 2450 MHz**



**V-Plane: 2450 MHz**



**H-Plane: 2500 MHz**



**V-Plane: 2500 MHz**

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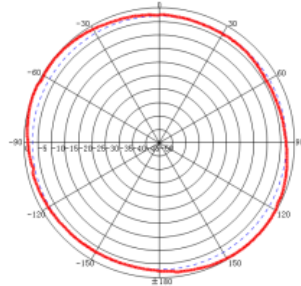


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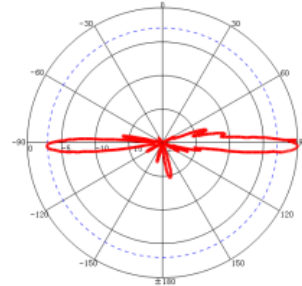
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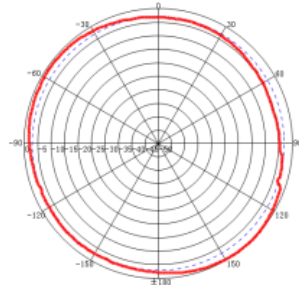
**Vertical Polarization**



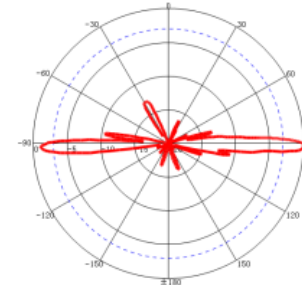
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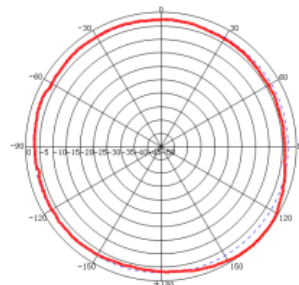
**V-Plane: 5100 MHz**



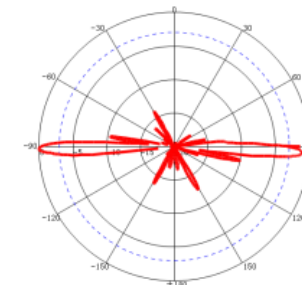
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**V-Plane: 5500 MHz**



**H-Plane: 5800 MHz**



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**PE51OM1008**

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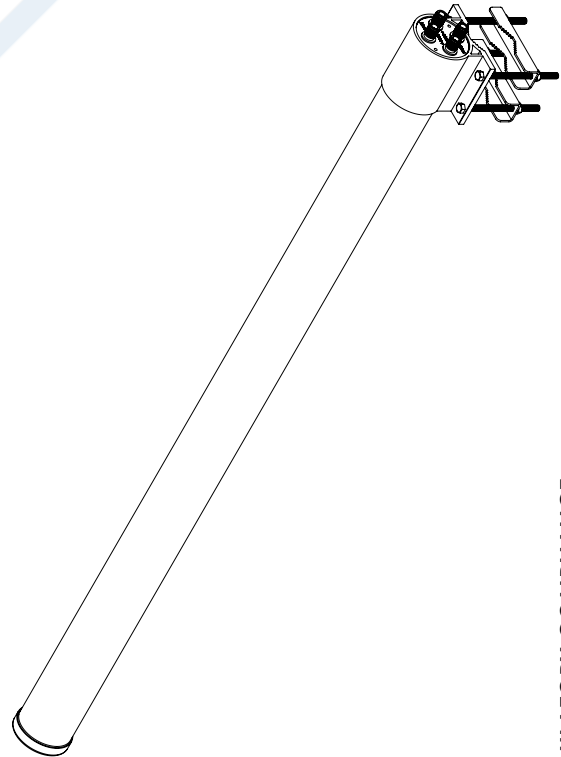
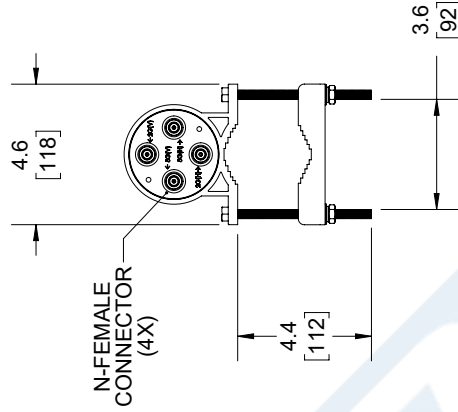
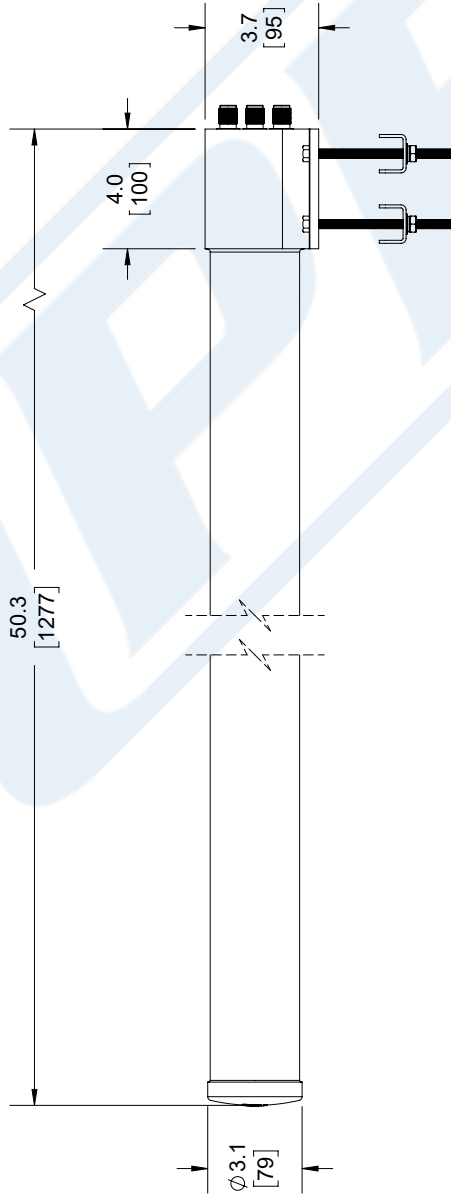
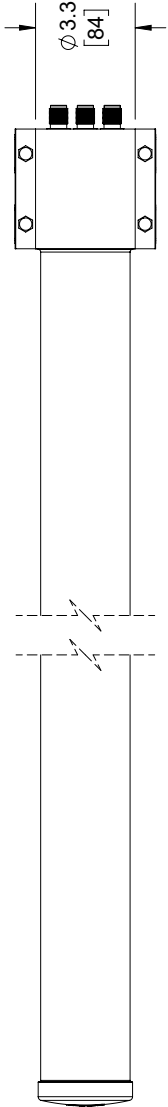
URL: <https://www.pasternack.com/multi-antenna-6-dbi-gain-n-pe51om1008-p.aspx>

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# PE51OM1008 CAD Drawing

## 2.4/ 5 GHz 11 dBi Dual Band / Dual Polarized Omni Antenna

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	2/13/2020	M.MILLER



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LEADING DIMENSIONS ARE INCHES  
DIMENSIONS IN [ ] ARE MILLIMETERS

**TOLERANCES:**

.X = ±.2	[5.08]	FRACTIONS	± 1/32
.XX = ±.02	[.51]	ANGLES ± 1°	
.XXX = ±.005	[.13]	CABLE LENGTH (L) TOLERANCES:	
L ≤ 12 [305] = +1 [25] / -0			
12 [305] < L ≤ 60 [1524] = +2 [51] / -0			
60 [1524] < L ≤ 120 [3048] = +4 [102] / -0			
120 [3048] < L ≤ 300 [7620] = +6 [152] / -0			
300 [7620] < L = +5% / L / -0			

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