Models
HP Indoor Omnidirectional Dual Band 2.5/6dBi MIMO 6 Element Antenna J9659A
HP Indoor Omnidirectional Dual Band 3/4dBi MIMO 3 Element Antenna J9171A
HP Indoor-Outdoor Point-to-Point Dual Band 10/13dBi MIMO 3 Element Antenna J9170A
HP Indoor-Outdoor Narrow Sector Dual Band 8/10dBi MIMO 3 Element Antenna J9169A
HP Outdoor Omnidirectional 6dBi at 2.4GHz MIMO 3 Element Antenna J9719A
HP Outdoor Omnidirectional 8dBi at 5GHz MIMO 3 Element Antenna J9720A

Key features
- Indoor aesthetically pleasing housing
- Indoor MIMO antennas ideal for ceiling mount
- Indoor antennas include ceiling mounting hardware
- Outdoor antenna includes pole mount hardware

Product overview
These MIMO antennas support both the 2.4GHz and 5GHz bands and have been specifically tested with the MSM466 and MSM466-R three spatial stream AP. This is specifically designed to meet the needs of today's most demanding wireless LAN deployments. The MSM MIMO external antennas support the MSM466 and the MSM466-R dual band access point deployments, providing maximum flexibility to help optimize coverage and radio signal predictability. Each external antenna includes the necessary installation hardware to extend a robust wireless network across an entire campus, or for in-building environments.

Features and benefits
Mobility
- **High-gain omnidirectional or directional antennas**: provide specific RF pattern characteristics to increase wireless coverage and signal gain or overcome physical/RF interference
- **Choice of indoor and outdoor antennas**: extend the reach of a wireless LAN within an office, warehouse, or retail environment or for campus-wide indoor and outdoor coverage
- **Choice of mounting options**: for ease of deployment, each antenna includes the necessary mounting hardware to quickly get a wireless LAN up and running
- **Certified external antennas**: specifically designed and certified for use with wireless access points
- **MIMO Antennas have three or six embedded elements**: each antenna has either three of six dual band elements for an easy and clean installation
## HP Indoor Omnidirectional Dual Band 2.5/6dBi MIMO 6 Element Antenna (J9659A)

### Electrical characteristics
- **Frequency range 1**: 2400 - 2500
- **Gain 1 dBi (with antenna cable)**: 2.5
- **Frequency range 2**: 5150 - 5850
- **Gain 2 dBi (with antenna cable)**: 5.9
- **VSWR max**: 2:0
- **H-Plane (3 dB beamwidth)**: Omni directional
- **Polarization**: Linear (vertical)
- **Impedance (Ohms)**: 50
- **RF connector**: Reverse SMA (male)
- **Cable length**: 2.75 ft. (0.84 m)

### Physical characteristics
- **Dimensions**: 8.58(d) x 1.69(h) in. (21.79 x 4.29 cm)
- **Weight**: 1.5 lb. (0.68 kg)
- **Mounting style**: Single 1 inch diameter hole
- **Enclosure**: Polycarbonate

### Environment
- **Operating temperature**: -22°F to 131°F (-30°C to 55°C)
- **Nonoperating/Storage temperature**: -40°F to 149°F (-40°C to 65°C)

### Services
Refer to the HP website at: [www.hp.com/networking/services](http://www.hp.com/networking/services) for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

## HP Indoor Omnidirectional Dual Band 3/4dBi MIMO 3 Element Antenna (J9171A)

### Electrical characteristics
- **Frequency range 1**: 2400 - 2500
- **Gain 1 dBi (with antenna cable)**: 3
- **Frequency range 2**: 4900 - 5900
- **Gain 2 dBi (with antenna cable)**: 4
- **VSWR max**: 2:1
- **E-Plane (3 dB beamwidth)**: 60 degrees
- **H-Plane (3 dB beamwidth)**: Omni directional
- **Polarization**: Linear (vertical)
- **Impedance (Ohms)**: 50
- **RF connector**: Reverse SMA (male)
- **Cable length**: 2.75 ft. (0.84 m)

### Physical characteristics
- **Dimensions**: 3.6(d) x 12.14(w) x 0.87(h) in. (9.14 x 30.84 x 2.21 cm)
- **Weight**: 0.86 lb. (0.39 kg)
- **Mounting style**: Ceiling
- **Enclosure**: White ASA IP-67 rated

### Environment
- **Operating temperature**: -22°F to 131°F (-30°C to 55°C)
- **Nonoperating/Storage temperature**: -40°F to 149°F (-40°C to 65°C)
HP Indoor-Outdoor Point-to-Point Dual Band 10/13dBi MIMO 3 Element Antenna (J9170A)

**Electrical characteristics**
- **Frequency range 1**: 2400 - 2500
- **Gain 1 dBi (with antenna cable)**: 10.9
- **Frequency range 2**: 5100 - 5900
- **Gain 2 dBi (with antenna cable)**: 13.5
- **VSWR max**: 2:1
- **E-Plane (3 dB beamwidth)**: 45/20 degrees
- **H-Plane (3 dB beamwidth)**: 45/20 degrees
- **Polarization**: Linear (vertical)
- **Impedance (Ohms)**: 50
- **RF connector**: N (male)
- **Cable length**: 2.75 ft. (0.84 m)

**Physical characteristics**
- **Dimensions**: 1.4(d) x 16.2(w) x 14.7(h) in. (3.56 x 41.15 x 37.34 cm)
- **Weight**: 2.43 lb. (1.1 kg)
- **Mounting style**: Pole Mount
- **Enclosure**: White ASA IP-67 rated

**Environment**
- **Operating temperature**: -22°F to 149°F (-30°C to 65°C); IP-67 rated for outdoor use
- **Nonoperating/Storage temperature**: -40°F to 149°F (-40°C to 65°C)

**Services**
Refer to the HP website at: [www.hp.com/networking/services](http://www.hp.com/networking/services) for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

HP Indoor-Outdoor Narrow Sector Dual Band 8/10dBi MIMO 3 Element Antenna (J9169A)

**Electrical characteristics**
- **Frequency range 1**: 2400 - 2500
- **Gain 1 dBi (with antenna cable)**: 8
- **Frequency range 2**: 5100 - 5900
- **Gain 2 dBi (with antenna cable)**: 10.7
- **VSWR max**: 2:1
- **E-Plane (3 dB beamwidth)**: 75/55
- **H-Plane (3 dB beamwidth)**: 70/60
- **Polarization**: Linear (vertical)
- **Impedance (Ohms)**: 50
- **RF connector**: N (male)
- **Cable length**: 2.75 ft. (0.84 m)
## HP Outdoor Omnidirectional 6dBi at 2.4GHz MIMO 3 Element Antenna (J9719A)

### Electrical characteristics
- **Frequency range 1**: 2400 - 2500
- **Gain 1 dBi (with antenna cable)**: 6
- **Impedance (Ohms)**: 50
- **RF connector**: N Type (Male) x 3
- **Cable length**: 3 ft. (.9 m)

### Physical characteristics
- **Dimensions**: 8.25(d) x 10(h) in. (20.96 x 25.4 cm)
- **Wind surface area**: .32 sq. ft. (0.03 sq. m)
- **Wind survival**: 125 mph (201.13 km/hr)
- **Mounting style**: Pole or Wall

### Environment
- **Operating temperature**: -22°F to 158°F (-30°C to 70°C)
- **Nonoperating/Storage temperature**: -40°F to 185°F (-40°C to 85°C)

### Services
Refer to the HP website at: [www.hp.com/networking/services](http://www.hp.com/networking/services) for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

## HP Outdoor Omnidirectional 8dBi at 5GHz MIMO 3 Element Antenna (J9720A)

### Electrical characteristics
- **Frequency range 1**: 5150 - 5875
- **Gain 1 dBi (with antenna cable)**: 8
- **Impedance (Ohms)**: 50
- **RF connector**: N Type (Male) x 3
- **Cable length**: 3 ft. (.9 m)

### Physical characteristics
- **Dimensions**: 8.25(d) x 10(h) in. (20.96 x 25.4 cm)
- **Wind surface area**: .32 sq. ft. (0.03 sq. m)
- **Wind survival**: 125 mph (201.13 km/hr)
- **Mounting style**: Pole or Wall

### Environment
- **Operating temperature**: -22°F to 158°F (-30°C to 70°C)
- **Nonoperating/Storage temperature**: -40°F to 185°F (-40°C to 85°C)

### Services
Refer to the HP website at: [www.hp.com/networking/services](http://www.hp.com/networking/services) for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.
### Accessories

<table>
<thead>
<tr>
<th>Wireless MIMO Antennas accessories</th>
<th>HP Indoor-Outdoor Point-to-Point Dual Band 10/13dBi MIMO 3 Element Antenna (J9170A)</th>
<th>J8996A</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP Antenna Lightning Arrester</td>
<td>J8996A</td>
<td></td>
</tr>
<tr>
<td>HP Indoor-Outdoor Narrow Sector Dual Band 8/10dBi MIMO 3 Element Antenna (J9169A)</td>
<td>J8996A</td>
<td></td>
</tr>
<tr>
<td>HP Antenna Lightning Arrester</td>
<td>J8996A</td>
<td></td>
</tr>
<tr>
<td>HP Outdoor Omnidirectional 6dBi at 2.4GHz MIMO 3 Element Antenna (J9719A)</td>
<td>J8996A</td>
<td></td>
</tr>
<tr>
<td>HP Antenna Lightning Arrester</td>
<td>J8996A</td>
<td></td>
</tr>
<tr>
<td>HP Outdoor Omnidirectional 8dBi at 5GHz MIMO 3 Element Antenna (J9720A)</td>
<td>J8996A</td>
<td></td>
</tr>
<tr>
<td>HP Antenna Lightning Arrester</td>
<td>J8996A</td>
<td></td>
</tr>
</tbody>
</table>
## HP Dual-Band Antenna Lightning Arrester (J8996A)

### Electrical characteristics

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>VSWR max</td>
<td>1.4:1</td>
</tr>
</tbody>
</table>

### Physical characteristics

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>2.4(d) x 0.9(w) x 1.2(h) in. (6.1 x 2.29 x 3.05 cm)</td>
</tr>
</tbody>
</table>

### Notes

- Input RF power, 100 MHz/6000 MHz: 250 W/10 W
- 50 Meg Ohm insulation resistance
- Maximum insertion loss of 0.4 dB

### Services

Refer to the HP website at: [www.hp.com/networking/services](http://www.hp.com/networking/services) for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

---

To learn more, visit: [www.hp.com/networking](http://www.hp.com/networking)

© Copyright 2011 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.