

4.9 GHz to 6.4GHz, 45 Degree Horn, Dual Pol. N-type Adapter

KP-5HA-45-N



Features

- This horn antenna is packaged with KP-5PDA-N radio adapter
- High-performance gain and patterns that are stable over a wide bandwidth
- Interference mitigation with highly suppressed side-lobes and superior front-to-back that allows channel reuse
- Over 25 dB cross polarization discrimination and port isolation for optimal MIMO performance
- Ideal for high-density AP deployments with radio co-location due to compact size and highly focused radiation
- Improved coverage near and far from the tower with equal elevation and azimuth beamwidths
- Adjustable horizontal / vertical or $\pm 45^\circ$ slant polarization that is compatible with all 5 GHz CPE radios
- Quick-connect waveguide allows polarization to be adjusted and quick change of adapters without tools
- Direct Connect radio-specific and dual polarized N-type connector adapters available
- Fine azimuth- and elevation- tilt markings to simplify alignment
- Mountable on left or right side of the pole without flipping upside down

Applications

- Wireless MIMO LAN systems & IEEE 802.11n applications
- Point-to-multipoint (PtMP) requiring sectorial coverage
- Supports public safety (4.9 GHz), U-NII-1, 2, 3, and 4 (5.15-5.925 GHz), and up to 6.4GHz for world-wide market
- Mobile WiMAX Wireless Internet Provider “cell” sites
- Gap coverage close to the tower
- High-density deployments requiring frequency reuse to achieve high capacity and data rates
- Valleys, mountains, mines, or regions with large elevation changes that need uniform coverage

Description

The KP-5HA-45-N is a high performance symmetrical horn antenna with a 6 dB beamwidth of 45° and a stable gain of 16 dBi and over an ultra-wide bandwidth of 4.9 GHz to 6.4 GHz. This horn antenna is packaged with KP-5PDA-N radio adapter with 2 x N-type female connectors that are compatible with any connectorized radio.

The horn antenna’s symmetrical radiation patterns was optimized using advanced genetic algorithm techniques to have significantly reduced side lobes that rapidly drops below 30 dB outside the main beam and a minimum front-to-back of 38 dB. The highly suppressed side lobes and superior front to back allows for channel (frequency) reuse and can reach high levels of spectral efficiency in the most challenging and noisy environments. The polarization is adjustable between horizontal/vertical and $\pm 45^\circ$ slant, making the horn compatible with any 4.9 GHz to 6.4 GHz single or dual polarization 2 x 2 MIMO radio and eliminates the risk of link strength degradation due to polarization mismatch.

The KP-5PDA-N is a push-in adapter that features simplified installation with patented, quick-connect waveguide technology to the antenna and a durable housing with superior 2 x N-type female connectors. The weatherproof adapter is built to withstand challenging environments subject to intense UV, rain, snow, and ice and is highly reliable over a longer product lifetime.

Configuration

| | |
|------------------------------|---|
| Application Band | 5 GHz |
| Band Type | Single |
| Radiation Pattern | Directional |
| Polarization | H/V or 45 Deg. Slant |
| Connector Type | N Female |
| Number of Ports | 2 |
| Lightning Protection | RF connector grounded to mounting bracket |
| Housing Material and Plating | Anodized Aluminum, Powder Coat |

Click the following link (or enter part number in “SEARCH” on website) to obtain additional part information including price, inventory and certifications:
[4.9 GHz to 6.4GHz, 45 Degree Horn, Dual Pol. N-type Adapter KP-5HA-45-N](#)

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Electrical Specifications

| Description | Minimum | Typical | Maximum | Units |
|---------------------------|---------|---------|---------|---------|
| Frequency Range | 4.9 | | 6.4 | GHz |
| Input VSWR | | 1.5:1 | | |
| Impedance | | 50 | | Ohms |
| Horizontal 6dB Beam Width | | 45 | | Degrees |
| Vertical 6dB Beam Width | | 45 | | Degrees |
| Input Power | | | 100 | Watts |

Specifications by Band

| Description | Band 1 | Band 2 | Band 3 | Band 4 | Band 5 | Units |
|---------------------------|-------------|-------------|-------------|--------|--------|---------|
| Range | 4,900-5,400 | 5,400-5,900 | 5,900-6,400 | | | MHz |
| Gain | 15.3 | 16 | 16.1 | | | dBi |
| Horizontal HPBW | 31 | 31 | 30 | | | Degrees |
| Horizontal 6dB Beam Width | 45 | 45 | 43 | | | Degrees |
| Vertical HPBW | 31 | 31 | 30 | | | Degrees |
| Vertical 6dB Beam Width | 45 | 45 | 43 | | | Degrees |
| Cross Polar Ratio HPBW | 25 | 25 | 22 | | | dB |
| Port Isolation | 30 | 30 | 26 | | | dB |
| Front to Back Ratio | 36 | 38 | 38 | | | dB |
| VSWR Max | 2:1 | 1.7:1 | 1.7:1 | | | |

Mechanical Specifications

| | |
|------------------------|------------------------------------|
| Radome Material | UV Resistant PVC |
| Housing Material | Anodized Aluminum |
| Housing Plating/Color | Powder Coat |
| Size | |
| Length | 10.5 in [266.7 mm] |
| Width | 10.8 in [274.32 mm] |
| Height | 9.5 in [241.3 mm] |
| Mounting Mast Diameter | 0.75 to 3.6 in [19.05 to 91.44 mm] |
| Weight | 6.5 lbs [2.95 kg] |

Environmental Specifications

Temperature

Operating Range -40 to +60 deg C

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Wind Survivability
Wind Loading

125 MPH [201.17 KPH]
Frontal, 24 lbf

Plotted and Other Data

Notes:

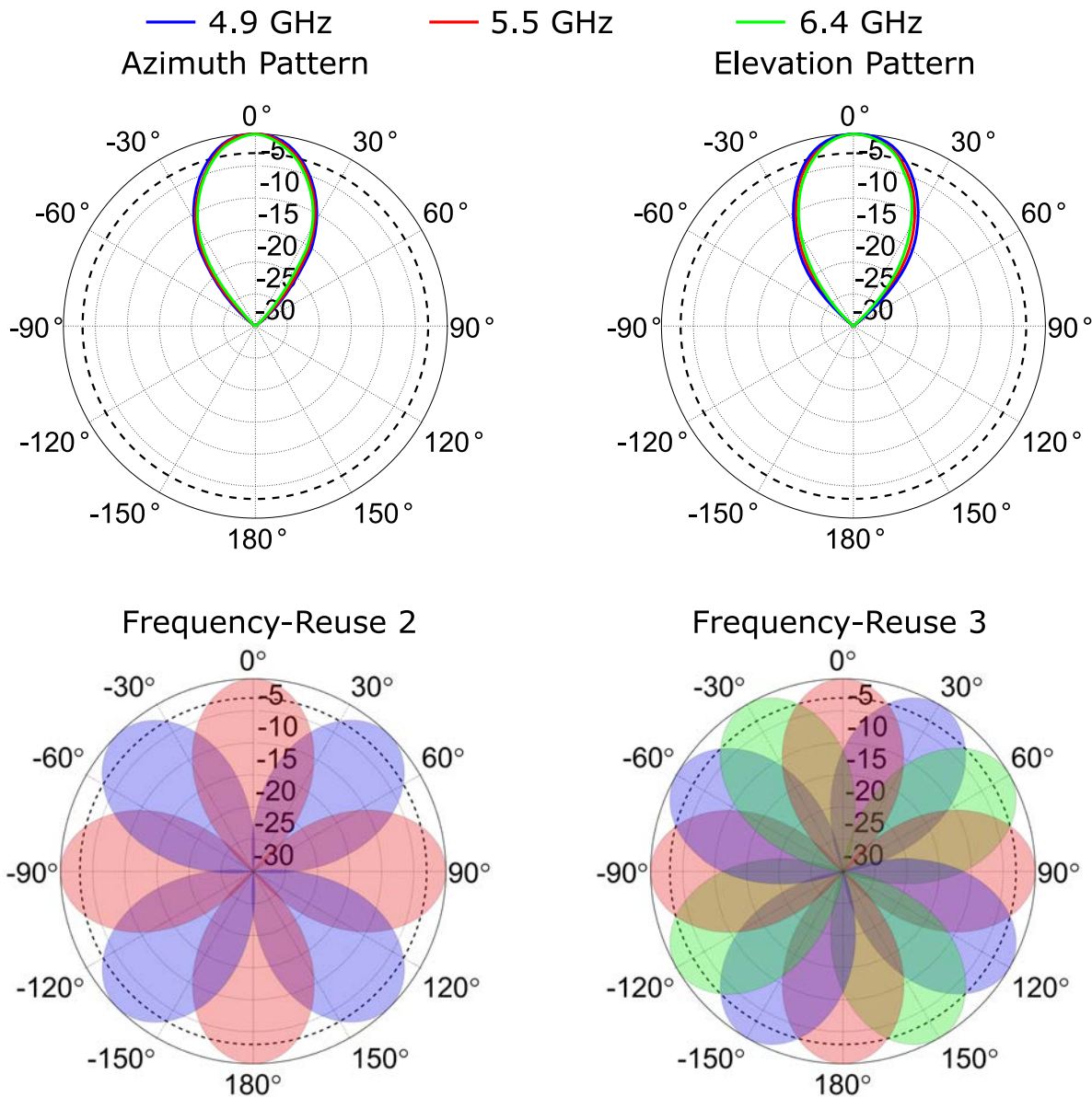
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Typical Radiation Pattern



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Appendix

Electrical Downtilt: Angle in the antenna's elevation pattern in which the maximum gain occurs.

Gain: Antenna's average gain.

Front to Back Ratio @ 180°±30°: Average difference between the antenna's maximum gain and the maximum gain in the antenna's back lobe over ±30° angles.

Cross-polarization Ratio (dB): Typical difference between the co-polarization and cross-polarization gain across the sector's 3 dB Beam Width.

Dedicated to serving the needs of the Wireless Internet Service Provider (WISP) market, KP Performance Antennas offers purpose built products that reliably perform in the field. KP Performance Antennas product line consists of Yagi, Grid, Omni, Dish and other style antennas that operate in the 900 MHz, 2.4 GHz, 3 GHz, and 5 GHz frequencies.

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The information contained within this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part in order to implement improvements. KP Performance reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. KP Performance does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and KP Performance does not assume liability arising out of the use of any part or document.

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KP-5HA-45-N CAD Drawing

