



## NETGEAR ProSafe® Wireless LAN Antennas and Cables

ProSafe 14 dBi Patch Panel Directional Antenna - ANT24D18  
ProSafe 10 dBi 2x2 Indoor/Outdoor Directional Antenna - ANT224D10  
ProSafe 9 dBi Omni-directional Antenna - ANT2409  
ProSafe 7 dBi Omni-directional Antenna - ANT2407  
ProSafe 5 dBi 3x3 Omni-directional Antenna - ANT32405  
ProSafe 5 dBi Omni-directional Antenna - ANT2405  
ProSafe Low-Loss Antenna Cables

Data Sheet

### Optimize WLAN Range and Power

NETGEAR's ProSafe line of antennas and accessories for 802.11b, 802.11g and 802.11n devices give you multiple options for maximizing the reach and performance of your wireless infrastructure devices. Every WLAN deployment is unique. When planning a network that incorporates wireless, varying facility sizes, construction materials, distance between transmission points and physical obstructions must be accounted for. With both directional and omni-directional antennas, indoor and outdoor options, low-loss cables, mounting hardware, and other accessories, installers can customize a wireless solution that meets the requirements of even the most challenging applications.

#### ProSafe 14 dBi Patch Panel Directional Antenna



The ANT24D18 indoor/outdoor directional\* 2.4 GHz antenna provides a 3-in-1 solution for mixed applications in combination with an 802.11b or 802.11g access point or wireless router. One, it delivers extended access point range in a single floor environment ideally positioned in the corner of a building. Two, it functions point-to-point so that you can wirelessly connect LANs between buildings in a campus-type environment. Three, it provides multifloor transmission when placed on a ceiling, as the higher power output extends the range through typical flooring materials. Includes several mounting options (fixed wall, wall adjustable, and pole), cable sold separately.

\*Directional: Concentrates transmit and receive radio-frequency energy into a cone, or beam, for higher signal strength and reception in a single direction.

#### ProSafe 10 dBi 2x2 Indoor/Outdoor Directional Antenna



The ANT224D10 2.4 GHz antenna provides extended range connectivity for point-to-point wireless bridges at wireless 802.11n speeds. With a maximum range of 8.5 KM, the ANT224D10 enables high speed connections for building-to-building deployments. Additionally, this antenna can be used indoors for floor-to-floor connectivity or to provide a narrow beam of coverage. Due to the multiple streams of traffic in the 802.11n specification, this antenna requires two antenna cables, which are available in a variety of lengths. It includes several mounting options and comes with wall/pole mounting hardware. Cables are sold separately.

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### ProSafe 9 dBi Indoor/Outdoor Omni-directional Antenna



The ANT2409 indoor/outdoor 2.4 GHz antenna provides extended point-to-multi-point coverage for wireless 802.11g devices. Optimal for medium range indoor or outdoor point-to-multi-point applications. Included lightning arrestor (a \$90 value) helps prevent damage due to lightning-induced surges or static electricity in outdoor applications. Typically hung from crossbars of drop ceilings or on a rooftop, the waterproof and UV resistant ANT2409 includes wall and pole mounting materials for installation ease; antenna cable and grounding cable not included.

### ProSafe 7 dBi Omni-directional Antenna



The ANT2407 indoor Omni-directional 2.4 GHz antenna enables improved coverage for 802.11g devices. Using passive RF shaping and enabling more optimal placement, the ANT2407 can extend your range and improve your connectivity for 2.4 GHz devices. Integrated magnets allow for mounting on magnetic surfaces such as file cabinets, white boards, and ceiling T-bars. Desktop and wall mounting are also possible. With an integrated 1.5 m cable, the ANT2407 can connect directly to an access point. Includes wall-mounting kit.

### ProSafe 5 dBi 3x3 Omni-directional Antenna



The ANT32405 indoor 2.4 GHz antenna is for multiple-input-multiple-output wireless devices such as 802.11n access points. Using three dipole antennas, the ANT32405 supports 3x3 or 2x3 streams of traffic, as supported by the 802.11n standard. Integrated magnetics enable optimal placement of the antenna element, offering mounting capabilities on file cabinets, white boards and ceiling T-bars. Desktop and wall mounting are also possible. With an integrated 1m cable, the ANT32405 can connect directly to an access point. Includes wall-mounting kit.

### ProSafe 5 dBi Omni-directional Antenna



The ANT2405 indoor omni-directional\*\* antenna is designed to extend coverage of wireless 802.11b or 802.11g devices. This antenna is especially useful in optimizing coverage when you want to place your wireless access point or router out of plain view – in a wiring closet or above a ceiling pad. Locate this antenna at the top of a cubicle, on a ceiling, desktop or wall, where it is more receptive to radio signals. Ideal placement is on a wall, 2 m high, or on the ceiling facing the area to cover. Includes mounting brackets, cable sold separately.\*\*\*

\*\* Omni-directional: Radiates radio-frequency energy equally in all directions for widespread, all-points deployment.

\*\*\*NETGEAR recommends use of antenna cable up to 5 m long with the ANT2405 antenna.

## ProSafe Wireless LAN Indoor/Outdoor Antennas

Product	ANT24D18	ANT224D10	ANT2409
Description	ProSafe 14 dBi Patch Panel Directional Antenna - ANT24D18	ProSafe 10 dBi 2x2 indoor/outdoor directional antenna - ANT224D10	ProSafe 9 dBi Omni-directional Antenna - ANT2409
Wireless Signal	IEEE 802.11g	IEEE 802.11n	IEEE 802.11g
Typical Application	Indoor/Outdoor	Indoor/Outdoor	Indoor/Outdoor
Maximum Outdoor Range	21.4 km (13.3 miles) <sup>1</sup>	8.5 km (5.28 miles) <sup>4</sup>	11.5 km (7.2 miles) <sup>2</sup>
Frequency Range	2400 - 2500 MHz	2400 - 2500 MHz	2400 - 2485 MHz
Gain	14 dBi <sup>3</sup>	10 dBi <sup>3</sup>	9 dBi <sup>3</sup>
Beam Width	Horizontal 60° Vertical 30°	Horizontal 33° Vertical 32°	Horizontal 360° Vertical 30°
Polarization	Linear; Vertical	Linear; Vertical	Vertical
Operational Temperature	-30° to 75° C (-22° to 167° F)	-30° to 80° C (-22° to 176° F)	-30° to 80° C (-22° to 176° F)
Dimensions	262 x 240 x 30 mm (10.31 x 9.44 x 1.18 in)	240 x 240 x 40mm (9.45 x 9.45 x 1.57 in)	625 x 75 x 56 mm (24.6 x 2.95 x 2.2 in)
Weight	1.5 kg (3.35 lb)	.7 kg (1.54 lb)	.9 kg (2 lb)
Connectors	<ul style="list-style-type: none"> <li>• Antenna - Reverse N female</li> <li>• Lightning arrestor - Reverse N female</li> <li>• Adapter - Reverse SMA</li> </ul>	<ul style="list-style-type: none"> <li>• Antenna - N Jack Male</li> <li>• Lightning arrestor - N Jack Male to N Jack Male</li> <li>• Extended Cable - N Plug Female</li> </ul>	<ul style="list-style-type: none"> <li>• Antenna - Reverse N female</li> <li>• Lightning arrestor - Reverse N female</li> <li>• Adapter - Reverse SMA</li> </ul>
Package Contents	<ul style="list-style-type: none"> <li>• 14 dBi Patch Panel Directional Antenna ANT24D18 (cable required, sold separately)</li> <li>• Wall and pole mount brackets and hanging materials</li> <li>• One reverse N type to reverse SMA adapter</li> <li>• 2 m low-loss antenna cable (to connect antenna to the lightning arrestor)</li> <li>• Lightning arrestor</li> <li>• Installation guide and Warranty/support card</li> </ul>	<ul style="list-style-type: none"> <li>• NETGEAR ProSafe Indoor/Outdoor 10 dB 2x2 Directional Antenna ANT224D10</li> <li>• 2 lightning arrestors with 30 cm low-loss cables</li> <li>• 2 reverse N/SMA adapters</li> <li>• Wall mount and pole mounting hardware</li> <li>• Installation Guide and Warranty/ Support card</li> </ul>	<ul style="list-style-type: none"> <li>• Indoor/Outdoor 9 dBi Omni-directional Antenna - ANT2409 (cable required, sold separately)</li> <li>• Wall and pole mount brackets and hanging materials</li> <li>• One reverse N type to reverse SMA adapter</li> <li>• 2 m low-loss antenna cable (connection for lightning arrestor)</li> <li>• Lightning arrestor</li> <li>• Installation guide and Warranty/support card</li> </ul>
Warranty	NETGEAR 2-year warranty	NETGEAR 2-year warranty	NETGEAR 2-year warranty
Ordering Information (all regions)	ANT24D18	ANT224D10-10000S	ANT2409-20000S

## ProSafe Wireless LAN Indo or/Outdoor Antennas Continued

Product	ANT2407	ANT32405	ANT2405
Description	ProSafe 7 dBi Omni-directional Antenna - ANT2407	ProSafe 5 dBi 3x3 Omni-directional Antenna - ANT32405	ProSafe 5 dBi Omni-directional Antenna - ANT2405
Wireless Signal	IEEE 802.11g	IEEE 802.11n	IEEE 802.11g
Typical Application	Indoor	Indoor	Indoor
Frequency Range	2400 – 2485 MHz	2400 - 2500 MHz	2400 - 2500 MHz
Gain	7 dBi <sup>3</sup>	5 dBi <sup>3</sup>	5 dBi <sup>3</sup>
Beam Width	Horizontal 360° Vertical 60°	Horizontal 360° Vertical 30°	Horizontal 360° Vertical 30°
Polarization	Vertical	Vertical	Linear Vertical
Operational Temperature	-30° to 80° C (-22° to 176° F)	-20° to 65° C (-4° to 149° F)	-10° to 65° C (-4° to 149° F)
Dimensions	110 x 65 x 300 mm (4.33 x 2.56 x 11.81 in) Integrated cable length: 1.5 m	280 x 98 x 28 mm (11 x 3.86 x 1.1 in) Integrated cable length: 1.0 m	99.2 x 53.9 x 27.5 mm (3.91 x 21.2 x 1.08 in)
Weight	.23 kg (.51 lb)	.237 kg (.52 lb)	.055 kg (.12 lb)
Connectors	Reverse SMA female	Reverse SMA female	Reverse SMA
Package Contents	<ul style="list-style-type: none"> <li>Indoor 7 dBi Omni-directional Antenna with integrated cable - ANT2407</li> <li>Wall-mounting kit</li> <li>Installation guide and Warranty/support card</li> </ul>	<ul style="list-style-type: none"> <li>5 dBi 3x3 Omni-directional Antenna - ANT32405</li> <li>Wall-mount kit</li> <li>Installation guide and Warranty/support card</li> </ul>	<ul style="list-style-type: none"> <li>Indoor 5 dBi Omni-directional Antenna ANT2405 (cable required, sold separately)</li> <li>Ceiling/wall-mount bracket</li> <li>Installation guide and Warranty/support card</li> </ul>
Warranty	NETGEAR 2-year warranty	NETGEAR 2-year warranty	NETGEAR 2-year warranty
Ordering Information (all regions)	ANT2407-10000S	ANT32405-10000S	ANT2405

1 Range estimation is based on FCC-compliant operation of two (2) 802.11 APs each with two (2) ANT24D18 antennas placed at 90 degree rotation, 5 m antenna cables, and lightning arrestors installed. With the antennas positioned 36 m above the ground, data rate should sustain 1 Mbps under ideal line-of-sight conditions.

2 Range estimation is based on FCC-compliant operation of two (2) 802.11 APs each with two (2) ANT2409 antennas, 1 m antenna cables, and lightning arrestors installed. With the antennas positioned 27 m above the ground, data rate should sustain 1 Mbps under ideal line-of-sight conditions.

3 Gain: A ratio of decibels to an isotropic antenna that is commonly used to measure antenna coverage.

4 Range estimation is based on FCC-compliant operation of two (2) 802.11 APs each with two (2) ANT24D18 antennas, 3 m antenna cables, and lightning arrestors installed. With the antennas positioned 26 m above the ground, data rate should sustain 1 Mbps under ideal line-of-sight conditions.

**Low-loss Antenna Cables**

These 1.5 m, 5 m, and 10 m antenna cables offer low loss at 2.4 GHz and added flexibility for setting up access points at a greater distance from a power source. They come with reverse SMA connectors and provide a standard connection optimized for use with NETGEAR's line of WLAN antennas (range can be drastically reduced if longer or higher loss cables than these are used).

**NETGEAR low-loss cables with 2 Reverse SMA Connectors extend the length between NETGEAR wireless access points or routers and the external antenna without sacrificing range.**

Part Number	ACC-10314-01	ACC-10314-03	ACC-10314-04
Cable Length	1.5 m (4.9 ft)	5 m (16.4 ft)	10 m (32.8 ft)
Maximum Cable Loss with Connectors	1.4 dB	3.7 dB	7.0 dB
Weight	50 g (1.76 oz)	225 g (7.94 oz)	440 g (15.53 oz)
Attenuation	0.21 dB/ft maximum or .659 dB/m maximum at 2.5 GHz		
Operating Temperature	-40° to 75° C (-40° to 167° F)		
Minimum Bend Radius	26 mm (1 in)		
Connectors	Reverse SMA female (both ends)		
Package Size	450 x 280 x .12 mm (17.72 x 11.02 x .004 in)		
Warranty	NETGEAR 2-year warranty		
Ordering Information (all regions)	1.5 meter cable ACC-10314-01	5 meter cable ACC-10314-03	10 meter cable ACC-10314-04

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This product comes with a limited warranty, the acceptance of which is a condition of sale.

\*Basic technical support provided for 90 days from date of purchase.

†Maximum wireless signal rate derived from IEEE standard 802.11 specifications. Actual data throughput and wireless coverage will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead, lower actual data throughput rate and wireless coverage. NETGEAR makes no express or implied representations or warranties about this product's compatibility with any future standards.

This product has been tested for quality assurance and this product or its components may have been recycled.

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