



Wireless Antenna Tutorial

What are Wireless Antennas?

Wireless antennas are the part of a radio communications system that radiate and/or collect radio frequency energy.

How are Wireless Antennas used?

Wireless antennas are typically connected via low loss coaxial cable either to an amplifier, splitter, filter or directly to a wireless access point or router. For outdoor applications wireless antennas are often attached via mounting

clamps to a mast or to the side of a building via mounting brackets. Wireless Antennas used indoors are typically ceiling mounted or sometimes mounted high up on a wall.

Where are Wireless Antennas used?

Wireless antennas are used in many environments and for many applications. Models for both indoor and outdoor use are available as well as specialty antennas such as Marine antennas used in nautical applications.

Wireless antennas are used in both commercial and military/government applications including small office/home office (SOHO) networks, Enterprise (office) networks, supervisory

control and data acquisition (SCADA) networks, homeland security, factory automation, mining, oil processing, wireless cafe "hotspots", energy management and control, police, fire and emergency services networks, radio frequency identification (RFID) applications and industrial science and medical (ISM) networks.

Wireless antennas are used in/on buildings, oil rigs, wind turbines, terrestrial vehicles, boats, aircraft and other mobile and stationary platforms.

There are two main types of WiFi antennas, Omni Directional and Directional

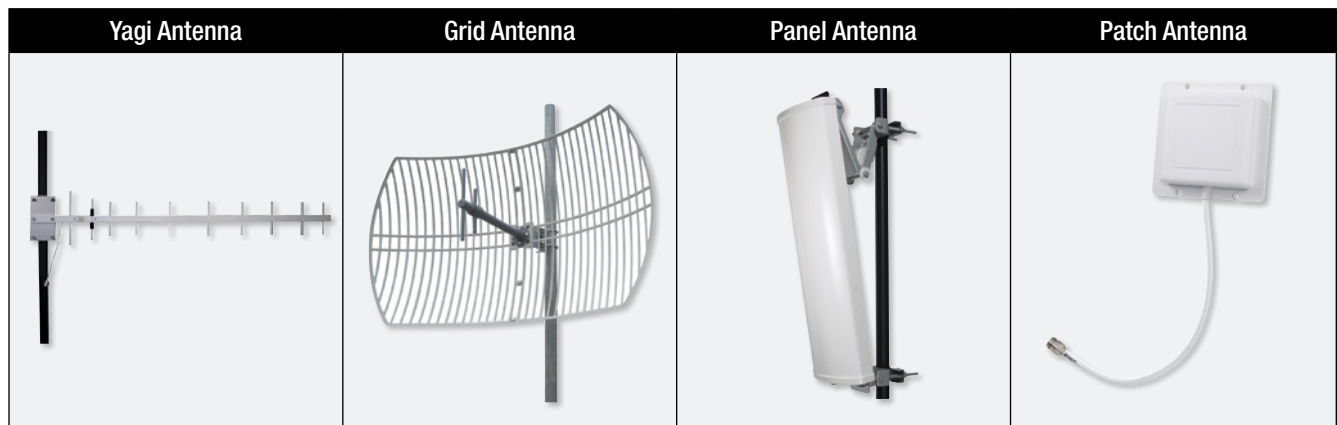
Omni Directional Antennas provide a 360° donut shaped radiation pattern to provide the widest possible signal coverage in indoor and outdoor wireless applications. An analogy for the radiation pattern would be how an un-shaded incandescent light bulb illuminates a room. Types of Omni Directional Antennas include "Rubber Duck" Antennas often found on access points and routers, Omni Antennas found outdoors and Ceiling Antennas used inside buildings and structures.

Omni Directional Antennas















Directional antennas, as the name implies, focus the wireless signal in a specific direction resulting in a limited coverage area. An analogy for the radiation pattern would be how a vehicle head light illuminates the road. Types of Directional Antennas include Yagi, Parabolic Grid, Patch and Panel Antennas.

Directional Antennas



A Critical Component for Every Wireless Application...

The selection of the correct antenna is paramount to achieving overall wireless system performance. L-com's HyperGain® antennas offer a wide range of frequencies, antenna styles, gain specifications and beamwidth coverage for your wireless system applications and needs. When performance is essential, select the best HyperGain® antenna to fit the application.

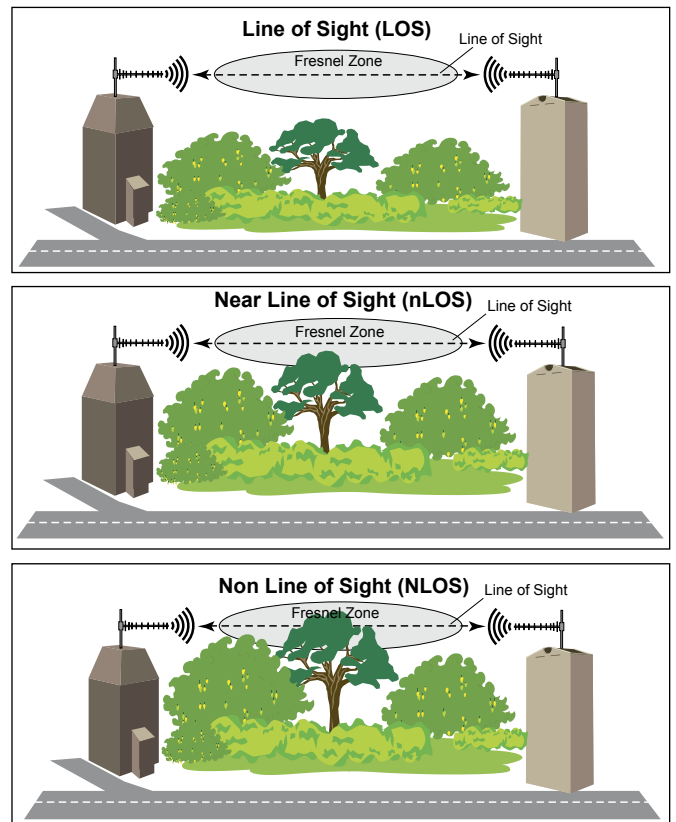
Antenna Styles/Characteristics							
Style	*Features	Style	*Features	Style	*Features	Style	*Features
 <p>GRID</p> <ul style="list-style-type: none"> • Die cast construction • UV stable light gray powder coat finish • Easy to assemble • Rugged all weather operation 		 <p>RUBBER DUCK</p> <ul style="list-style-type: none"> • 360° coverage • Tilt & swivel design • Ideal for access points 		 <p>YAGI</p> <ul style="list-style-type: none"> • All weather operation • Can be installed for either vertical or horizontal polarization 		 <p>MIMO</p> <ul style="list-style-type: none"> • Multi-band • Broad-band • MIMO configurations • Dual polarity • Spatial diversity 	
 <p>DISH</p> <ul style="list-style-type: none"> • UV stable polymer finish • All weather operation • Optional radomes 		 <p>ARRAYS</p> <ul style="list-style-type: none"> • 360° coverage • Stainless steel construction • All weather operation 		 <p>PANEL</p> <ul style="list-style-type: none"> • All weather operation • Sector / directional coverage • Mechanical down-tilt 		 <p>CEILING</p> <ul style="list-style-type: none"> • 360° coverage • Indoor use • Compact size, easy to mount • MIMO configurations 	
 <p>OMNI</p> <ul style="list-style-type: none"> • 360° coverage • Indoor & outdoor use • Mobile applications • Compact models available 		 <p>LOG PERIODIC</p> <ul style="list-style-type: none"> • Ideal for use with multiband access points and routers • 2.3 GHz to 6.5 GHz • Compact size - low profile 		 <p>MARINE</p> <ul style="list-style-type: none"> • 360° coverage • Nautical environments • All weather operation 		 <p>MOBILE MOUNT</p> <ul style="list-style-type: none"> • 360° coverage • All weather operation 	

* Product features may vary. See individual antennas for differences.

LINE OF SITE IS CRITICAL TO THE SUCCESS OF YOUR WIRELESS NETWORK

The path between two antennas is referred to as the Line of Sight. There are three main categories of Line of Sight, the first being full Line of Sight (LOS) where no obstacles reside between the two antennas, the next is called Near Line of Sight (nLOS) which includes partial obstructions such as tree tops between the two antennas and lastly Non Line of Sight (NLOS) where full obstructions exist between the two antennas. By determining the specific line of sight conditions in the WiFi network area you can then determine the correct type of wireless system to install.

The Fresnel Zone referenced in the diagrams (right) is an electromagnetic phenomenon, where light waves or radio signals get diffracted or bent from solid objects near their path. The radio waves reflecting off the objects may arrive out of phase with the signals that traveled directly to the receiving antenna thus reducing the power of the received signal.

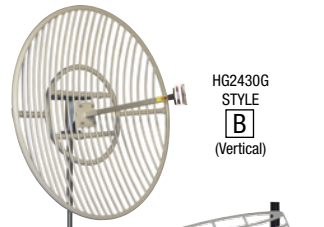




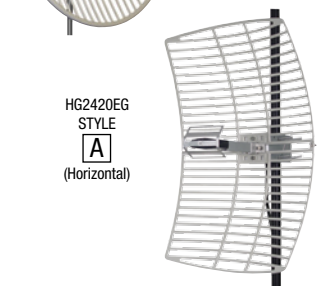
HG8915EG
STYLE
A
(Vertical)



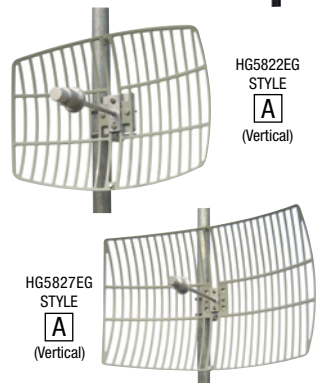
HG1922EG-NF
STYLE
A
(Vertical)



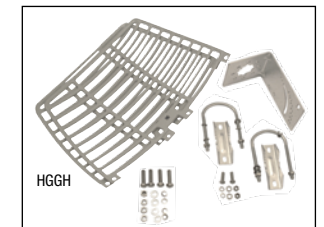
HG2430G
STYLE
B
(Vertical)



HG2420EG
STYLE
A
(Horizontal)



HG5822EG
STYLE
A
(Vertical)



HG5827EG
STYLE
A
(Vertical)



HGFH-215EG-NF

"STYLE" refers to shape of antenna in series.
Vertical/Horizontal refers to polarity.

Item #	Style	Description	1-9	10-24	25-99	100+
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HyperLink® Grid Antennas

L-com's HyperLink® grid antennas feature a multi-piece reflector grid. With this type of design they are not only easy to assemble, but they significantly reduce shipping costs compared to similar antennas with one piece reflector grids. These durable all weather antennas have an open frame grid design. This minimizes wind loading on the antenna.

900 MHz Grid Antenna

HG8915EG	A	15 dBi, N Female Connector	97.00	89.24	81.48	CALL
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1.9 GHz Grid Antenna

HG1922EG-NF	A	22 dBi, N Female Connector	85.00	78.20	71.40	CALL
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2.4 GHz Grid Antennas

HG2427G	A	27 dBi, N Female Connector	215.00	202.10	189.20	CALL
HG2430G	B	30 dBi, 18" (45.7cm) Pigtail with N Female Connector	528.00	496.32	464.64	CALL
HG2430G-NM	B	30 dBi, 18" (45.7cm) Pigtail with N Male Connector	538.00	505.72	473.44	CALL
HG2415EG-NF	A	15 dBi, 12" (30.5cm) Pigtail with N Female Connector	43.00	39.56	36.12	CALL
HG2415EG-NF-5PK	A	15 dBi, 12" (30.5cm) Pigtail with N Female Connector, 5-Pack	190.00	174.80	159.60	CALL
HG2415EG-NM	A	15 dBi, 12" (30.5cm) Pigtail with N Male Connector	43.00	39.56	36.12	CALL
HG2415EG-NM-5PK	A	15 dBi, 12" (30.5cm) Pigtail with N Male Connector, 5-Pack	190.00	174.80	159.60	CALL
HG2420EG-NF	A	20 dBi, 12" (30.5cm) Pigtail with N Female Connector	49.00	45.08	41.16	CALL
HG2420EG-NF-5PK	A	20 dBi, 12" (30.5cm) Pigtail with N Female Connector, 5-Pack	215.00	197.80	180.60	CALL
HG2420EG-NM	A	20 dBi, 12" (30.5cm) Pigtail with N Male Connector	49.00	45.08	41.16	CALL
HG2420EG-NM-5PK	A	20 dBi, 12" (30.5cm) Pigtail with N Male Connector, 5-Pack	215.00	197.80	180.60	CALL
HG2424EG-NF	A	24 dBi, 12" (30.5cm) Pigtail with N Female Connector, Lightweight Grid	54.00	49.68	45.36	CALL
HG2424EG-NF-5PK	A	24 dBi, 12" (30.5cm) Pigtail with N Female Connector, Lightweight Grid, 5-Pack	243.00	223.56	204.12	CALL
HG2424EG-NM	A	24 dBi, 12" (30.5cm) Pigtail with N Male Connector, Lightweight Grid	54.00	49.68	45.36	CALL
HG2424EG-NM-5PK	A	24 dBi, 12" (30.5cm) Pigtail with N Male Connector, Lightweight Grid, 5-Pack	243.00	223.56	204.12	CALL

3.5 GHz Grid Antenna

HG3527EG	A	27 dBi, N Female Connector	110.00	105.60	101.20	CALL
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4.9 - 5.8 GHz Grid Antennas

HG4958-22EG	A	22 dBi, N Female Connector	56.00	51.52	47.04	CALL
HG4958-22EG-5PK	A	22 dBi, N Female Connector, 5-Pack	253.00	232.76	212.52	CALL
HG4958-27EG	A	27 dBi, N Female Connector	61.00	56.12	51.24	CALL
HG4958-27EG-5PK	A	27 dBi, N Female Connector, 5-Pack	280.00	257.60	235.20	CALL

5.8 GHz Grid Antennas

HG5822EG	A	22 dBi, N Female Connector	54.00	49.68	45.36	CALL
HG5822EG-5PK	A	22 dBi, N Female Connector, 5-Pack	245.00	225.40	205.80	CALL
HG5827EG	A	27 dBi, N Female Connector	60.00	55.20	50.40	CALL
HG5827EG-5PK	A	27 dBi, N Female Connector, 5-Pack	270.00	248.40	226.80	CALL

Additional connector options available at L-com.com

L-com Grid Antenna Replacement Hardware

L-com offers replacement parts for your parabolic grids. These spare part kits consist of the grid, pole mounting bracket and hardware.

HGGH-04	400mm Grid Replacement Hardware	28.00	27.44	26.88	CALL
HGGH-04-5PK	400mm Grid Replacement Hardware, 5-Pack	90.00	88.20	86.40	CALL
HGGH-06	600mm Grid Replacement Hardware	33.00	32.34	31.68	CALL
HGGH-06-5PK	600mm Grid Replacement Hardware, 5-Pack	110.00	107.80	105.60	CALL
HGGH-10	1000mm Grid Replacement Hardware	47.00	46.06	45.12	CALL
HGGH-10-5PK	1000mm Grid Replacement Hardware, 5-Pack	170.00	166.60	163.20	CALL

Grid Replacement Feedhorns

L-com offers replacement feedhorns for your parabolic grids. These kits consist of only the feedhorn. Includes hardware to mount feedhorn to dish. Mast mounting hardware not included.

900 MHz Grid Replacement Feedhorn

HGFH-915EG	15 dBi Parabolic Grid Replacement Feedhorn	55.00	54.45	53.90	CALL
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2.4 GHz Grid Replacement Feedhorns

HGFH-215EG-NF	15 dBi Parabolic Grid Replacement Feedhorn	25.00	24.75	24.50	CALL
HGFH-220EG-NF	20 dBi Parabolic Grid Replacement Feedhorn	28.00	27.72	27.44	CALL
HGFH-224EG-NF	24 dBi Parabolic Grid Replacement Feedhorn	30.00	29.70	29.40	CALL

4.9/5.8 GHz Grid Replacement Feedhorns

HGFH-522EG	22 dBi Parabolic Grid Replacement Feedhorn	30.00	29.70	29.40	CALL
HGFH-527EG	27 dBi Parabolic Grid Replacement Feedhorn	35.00	34.65	34.30	CALL

Tip *How to assemble and install a Grid Antenna*

Two-piece grid antenna reflectors allow easy handling, shipping, and transportation to the site. Large grid antennas come in two symmetrical sections. They are bolted together on site easily, with feed then installed. See the online video for complete instructions at L-com.com/Videos/A25.



Item #	Style	Description	1-9	10-24	25-99	100+
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Parabolic Dish Antennas - Superior Strength Design Ensures Durability

HyperLink® WiFi parabolic dish antennas feature a high quality aluminum reflector dish for superior strength. The dish is coated in a light gray UV-inhibited polymer for durability and aesthetics. These directional UV antennas can be used in point to point as well as point to multipoint applications.

Built to withstand the elements, HyperLink® dish antennas offer high performance at competitive prices. When designing these WiFi parabolic dish antennas, our design team factored in requirements such as location usage and environmental extremes. From versatile mounting options to features such as perforated reflectors, these antennas were built to withstand the test of time while maintaining optimal performance.

2.4 GHz Dish Antenna

HG2414D	D	14 dBi, 260mm Dia, N Female Connector	43.00	39.56	36.12	CALL
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2.4 GHz Dual Polarized Dish Antennas

HG2418DPD	B	18 dBi, 400mm Dia, Dual Polarity, with (2) N Female Connectors, MIMO	140.00	128.80	117.60	CALL
HG2422DPD	B	22 dBi, 600mm Dia, Dual Polarity, with (2) N Female Connectors, MIMO	167.00	153.64	140.28	CALL
HG2425DPD	B	25 dBi, 900mm Dia, Dual Polarity, with (2) N Female Connectors, MIMO	302.00	277.84	253.68	CALL

4.9 GHz Dish Antenna

HG4931D	B	30.5 dBi, 900mm Dia, N Female Connector	300.00	276.00	252.00	CALL
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4.9 - 5.8 GHz Dual Polarized Dish Antennas

Because of its superb electrical performance and mechanical stability, the parabolic dish antenna can be used in a wide variety of high performance 4.9 GHz and 5 GHz range (5.1/5.3/5.4/5.8 GHz) wireless applications. The wide band design of this antenna eliminates the need to purchase different antennas for each frequency. This simplifies installations since the same antenna can be used for a wide array of wireless applications. This antenna features 25 - 34 dBi of gain with a 4.8° horizontal beam-width and 4.9° vertical beam-width.

HG4958DP-25D	B	25 dBi, 400mm Dia, Dual Polarity, with (2) N Female Connectors, MIMO	151.00	138.92	126.84	CALL
HG4958DP-30D	B	30 dBi, 600mm Dia, Dual Polarity, with (2) N Female Connectors, MIMO	178.00	163.76	149.52	CALL
HG4958DP-34D	B	34 dBi, 900mm Dia, Dual Polarity, with (2) N Female Connectors, MIMO	312.00	287.04	262.08	CALL

5.1 - 5.8 GHz Dual Polarized Dish Antennas

HG5158DP-29D	B	28.5 dBi, 600mm Dia, Dual Polarized, (2) N Female Connectors, MIMO	180.00	169.20	158.40	CALL
HG5158DP-32D	B	32 dBi, 900mm Dia, Dual Polarized, (2) N Female Connectors, MIMO	315.00	296.10	277.20	CALL

5.1 - 5.8 GHz Dish Antennas

HG5158-23D	B	23 dBi, 400mm Dia, N Female Connector	167.00	153.64	140.28	CALL
HG5158-28D	B	28 dBi, 600mm Dia, N Female Connector	205.00	188.60	172.20	CALL
HG5158-31D	B	31 dBi, 900mm Dia, N Female Connector	300.00	276.00	252.00	CALL

5.4 GHz Dish Antennas

HG5423D	B	23 dBi, 400mm Dia, N Female Connector	157.28	150.99	144.70	CALL
HG5432D	B	32 dBi, 900mm Dia, N Female Connector	290.00	278.40	266.80	CALL

5.8 GHz Dish Antennas

HG5817D	A	17 dBi, 246mm Dia, N Female Connector	50.00	46.00	42.00	CALL
HG5833D	B	33 dBi, 900mm Dia, N Female Connector	302.00	277.84	253.68	CALL
HG5824D	B	24 dBi, 400mm Dia, N Female Connector	167.00	153.64	140.28	CALL
HG5829D	B	29 dBi, 600mm Dia, N Female Connector	205.00	188.60	172.20	CALL

Radome Cover Kits

HyperLink® radome covers are an ideal way to provide additional protection to our parabolic dish antennas. These lightweight radome kits feature fiberglass construction and UV stable gray finish. Drain holes are provided on the radome cover to help prevent moisture build-up inside the dish antenna.

HGR-04	Radome Cover Kit for 400mm Dia Dish	55.00	53.90	52.80	CALL
HGR-06	Radome Cover Kit for 600mm Dia Dish	69.00	67.62	66.24	CALL
HGR-09	Radome Cover Kit for 900mm Dia Dish	80.00	78.40	76.80	CALL

Dish Antenna Replacement Hardware

L-com offers replacement parts for your parabolic dishes. These spare part kits consist of the dish, pole mounting bracket and all of the hardware.

HGDH-400	Replacement Hardware for 400mm Dia Dish	100.00	99.00	98.00	CALL
HGDH-600	Replacement Hardware for 600mm Dia Dish	125.00	123.75	122.50	CALL
HGDH-900	Replacement Hardware for 900mm Dia Dish	245.00	242.55	240.10	CALL

Dish Antenna Replacement Feedhorns

L-com offers replacement feedhorns for your parabolic dishes. These kits consists of only the feedhorn. Mast mounting hardware not included.

2.4 GHz Dish Replacement Feedhorns

HGFH-218DPD	18 dBi Dual Polarity Dish Replacement Feedhorn	65.00	64.35	63.70	CALL
HGFH-222DPD	22 dBi Dual Polarity Dish Replacement Feedhorn	70.00	69.30	68.60	CALL
HGFH-225DPD	25 dBi Dual Polarity Dish Replacement Feedhorn	105.00	103.95	102.90	CALL

4.9/5.8 GHz Dual Polarity Replacement Dish Feedhorns

HGFH-525DPD	25 dBi Dual Polarity Dish Replacement Feedhorn	80.00	79.20	78.40	CALL
HGFH-530DPD	30 dBi Dual Polarity Dish Replacement Feedhorn	90.00	89.10	88.20	CALL
HGFH-534DPD	34 dBi Dual Polarity Dish Replacement Feedhorn	130.00	128.70	127.40	CALL

5.8 GHz Dish Replacement Feedhorns

HGFH-524D	24 dBi Parabolic Dish Replacement Feedhorn	70.00	69.30	68.60	CALL						
HGFH-529D	29 dBi Parabolic Dish Replacement Feedhorn	80.00	79.20	78.40	CALL </tr <tr> <td>HGFH-533D</td> <td>33 dBi Parabolic Dish Replacement Feedhorn</td> <td>100.00</td> <td>99.00</td> <td>98.00</td> <td>CALL</td> </tr>	HGFH-533D	33 dBi Parabolic Dish Replacement Feedhorn	100.00	99.00	98.00	CALL
HGFH-533D	33 dBi Parabolic Dish Replacement Feedhorn	100.00	99.00	98.00	CALL						



"STYLE" refers to shape of antenna in series.

Item #	Style	Description	1-9	10-24	25-99	100+
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698 - 960 / 1710 - 2700 MHz Omni Directional DAS Antennas

L-com's HyperLink® Omni Directional antennas for Distributed Antenna Systems (DAS) are used to distribute Cellular and WiFi signals throughout a building or area.

HG72704U	F	3/4 dBi with N Female Connector	49.00	45.08	41.16	CALL
HG72107U-PRO	A	4/7 dBi with N Female Connector	157.00	144.44	131.88	CALL

800 - 900 MHz Omni Directional Antennas

The HyperLink® Wireless brand of 900 MHz HGV-series Omni Directional antennas are versatile and economical yet maintain high performance standards. These antennas feature a lightweight, compact, all weather operation design and include a pole mounting bracket.

HGV-903U	A	3 dBi, N Female Connector	60.00	56.40	52.80	CALL
HGV-906U	A	6 dBi, N Female Connector	67.00	62.98	58.96	CALL
HG906U-PRO	A	6 dBi, N Female Connector	103.00	94.76	86.52	CALL
HG908U-PRO	A	8 dBi, N Female Connector	150.00	138.00	126.00	CALL

1.9 GHz Omni Directional Antenna

The HyperGain® HG1911U-PRO is a high performance Omni Directional antenna designed for the 1900 MHz band. It is ideally suited for multipoint Personal Communication Services (PCS) and 1.9 GHz cellular band applications where high gain and wide coverage is desired.

HG1911U-PRO	A	11 dBi, N Female Connector (available in 5-Pack)	90.00	82.80	75.60	CALL
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2.4 GHz Omni Directional Antennas

L-com's HyperLink® brand 2.4 GHz Omni directional antennas are perfect for wide 360° coverage multi point applications. These robust Omni directional antennas are designed for years of outdoor use.

HG2408U-NF	B	8 dBi, 12" (30.5cm) Pigtail with N Female Connector	81.00	74.52	68.04	CALL
HG2408U-NM	B	8 dBi, 12" (30.5cm) Pigtail with N Male Connector	81.00	74.52	68.04	CALL
HG2408U-RBP	B	8 dBi, 12" (30.5cm) Pigtail with RP-BNC Plug Connector	81.00	74.52	68.04	CALL
HG2408U-RSP	B	8 dBi, 12" (30.5cm) Pigtail with RP-SMA Plug Connector	81.00	74.52	68.04	CALL
HG2408U-RTP	B	8 dBi, 12" (30.5cm) Pigtail with RP-TNC Plug Connector	81.00	74.52	68.04	CALL
HGV-2402U	D	2 dBi, N Female Connector	39.00	36.66	34.32	CALL
HGV-2404U	D	4 dBi, N Female Connector	45.00	42.30	39.60	CALL
HGV-2406U	D	6 dBi, N Female Connector	53.00	49.82	46.64	CALL
HGV-2409U	D	8 dBi, N Female Connector	61.00	57.34	53.68	CALL
HG2405UP-NF	E	5 dBi, N Female Connector	41.00	38.54	36.08	CALL
HG2407UP-NF	E	7 dBi, N Female Connector	49.00	46.06	43.12	CALL
HG2409UP-NF	E	9 dBi, N Female Connector	56.00	52.64	49.28	CALL
HG2409U	A*	8.5 dBi, N Male Connector	60.00	56.40	52.80	CALL
HG2409UM-RSP	B*	8.5 dBi, Marine, 3ft (0.9m) Pigtail with RP-SMA Plug Connector	135.00	126.90	118.80	CALL
HG2409U-PRO	A*	9 dBi, N Female Connector (available in 5-Pack)	79.00	75.84	72.68	CALL
HG2409UDT-PRO	A	9 dBi, 7 Degree Electrical Down-Tilt, N Female Connector (available in 5-Pack)	84.00	80.64	77.28	CALL
HG2411UDT-PRO	A	11 dBi, 8 Degree Electrical Down-Tilt, N Female Connector (available in 5-Pack)	97.00	93.12	89.24	CALL
HG2412U-PRO	A	12 dBi, 12" (30.5cm) Pigtail w/ N Female Connector ANATEL Certified (available in 5-Pack)	120.00	115.20	110.40	CALL
HG2412UP-NF	E	12 dBi, N Female Connector	63.00	59.22	55.44	CALL
HG2415U-PRO	A	15 dBi, N Female Connector (available in 5-Pack)	133.00	125.02	117.04	CALL

* Similar to this style-see online Data Sheet for details.

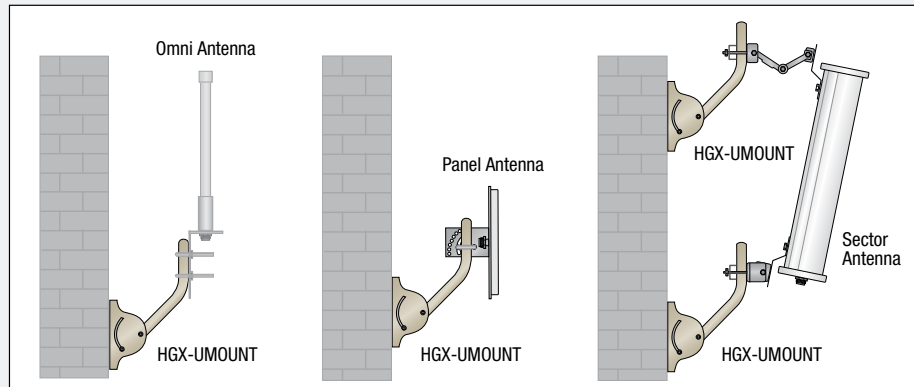
2.4 GHz Dual Polarized Omni Directional Antennas

The HyperLink® Wireless brand of DPU-Series Omni Directional antennas are versatile and offer high performance standards. These antennas feature a dual polarized MIMO design, all weather operation and include integral pole mounting hardware.

HG2406DPU	G	6 dBi, Dual Polarity with (2) N Female Connectors, MIMO	135.00	124.20	113.40	CALL
HG2410DPU	G	10 dBi, Dual Polarity with (2) N Female Connectors, MIMO	200.00	184.00	168.00	CALL
HG2413DPU	G	13 dBi, Dual Polarity with (2) N Female Connectors, MIMO	270.00	248.40	226.80	CALL

Tip Alternative mounting options for L-com's Sector, Panel and Omni WiFi Antennas

If it is not possible to install a WiFi antenna on a mast or pole, you can use the HGX-UMOUNT mounting bracket for side of building installations. In the diagram below two of L-com's HGX-UMOUNT brackets are connected to a HyperLink® brand HG2414SP-090 sector antenna. This mounting option will work with sector style antennas that have two (one upper and one lower) mounting point and with standard flat panel and Omni antennas using just one HGX-UMOUNT (see diagrams below).



Best Seller

HG72704U
STYLE
F

HGV-906U
STYLE
A

HG2408U
STYLE
B

HGV-2406U
STYLE
D

HG2412UP-NF
STYLE
E

HG2415U-PRO
STYLE
A

HG2410DPU
STYLE
G

Dual Polarity

"STYLE" refers to shape of antenna in series.

Item #	Style	Description	1-9	10-24	25-99	100+
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2.4 - 5.8 GHz Dual Band Omni Directional Antennas

The HyperLink® Wireless brand of HGV-series Omni Directional antennas are versatile and economical yet maintain high performance standards. These antennas feature a lightweight, compact, all weather operation design and include a pole mounting bracket.

HG2458-06U-PRO	A	6 dBi, Dual Band Omni Antenna, N Female Connector (available in 5-Pack)	110.00	103.40	96.80	CALL
HG2458-09U-PRO	A	9 dBi, Dual Band Omni Antenna, N Female Connector (available in 5-Pack)	120.00	112.80	105.60	CALL
HGV-2458-03U	D	3 dBi, Dual Band, N Female Connector	41.00	38.54	36.08	CALL
HGV-2458-05U	D	5 dBi, Dual Band, N Female Connector	48.00	45.12	42.24	CALL
HGV-2458-07U	D	7 dBi, Dual Band, N Female Connector	56.00	52.64	49.28	CALL
HG245806U-4RTP	F	4/6 dBi, Dual Band, (4) RP-TNC Plug Connectors, MIMO	140.00	128.80	117.60	CALL
HG245806U-4RSP	F	4/6 dBi, Dual Band, (4) RP-SMA Plug Connectors, MIMO	140.00	128.80	117.60	CALL

2.4-5.8 GHz Dual Band/Dual Polarized 4x4 MIMO Omni Directional Antennas

HyperLink® Wireless 2.4/5 GHz DPU Series are the world's first 802.11ac 4x4 MIMO outdoor Omni Directional, dual polarized/dual frequency antenna line, which features patent-pending technology. These antennas supported MIMO types include 2x2 systems (two streams), 3x3 systems (three streams) and 4x4 systems (4 streams).

HG2458-06DPU	M	6 dBi, Dual Band, Dual Polarized with (4) N Female Connectors	210.00	193.20	176.40	CALL
HG2458-09DPU	M	9 dBi, Dual Band, Dual Polarized with (4) N Female Connectors	260.00	239.20	218.40	CALL
HG2458-11DPU	M	11 dBi, Dual Band, Dual Polarized with (4) N Female Connectors	310.00	285.20	260.40	CALL

2.6 GHz Omni Directional Antenna

The HyperGain® HG2609U is a high performance Omni Directional WiFi antenna designed for the 2.6 GHz MMDS band. This compact and lightweight antenna is compatible with IEEE 802.16, 802.20 and WiMAX applications as well as NLOS applications. The HG2609U is ideal for Wireless Internet Service Providers (WISP) offering service in the less crowded 2.6 GHz band and is compatible with Navini™ Ripwave®.

HG2609U	*	8.5 dBi, N Male Connector	72.00	66.24	60.48	CALL
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* See online Data Sheet for style details.

3.5 GHz Omni Directional Antennas

These HyperGain Antennas are professional high gain omni-directional base station WiFi antenna designed and optimized for the 3.5 GHz band. Typical applications include IEEE 802.16e, WiMAX and Mobile WiMAX applications.

HG3509U-PRO	B	9 dBi, N Female Connector	97.00	89.24	81.48	CALL
HG3512UP-NF	B	11.5 dBi, N Female Connector	97.00	91.18	85.36	CALL

4.9 - 5.8 GHz Omni Directional Antennas

Hyperlink's product line of high quality antennas for the 4940-4990 MHz band (4.9 GHz) offer cost effective solutions designed to meet the applications of Homeland Security and the Public Safety Program in the U.S.

HGV-4958-04U	D	4 dBi, N Female Connector	31.00	29.14	27.28	CALL
HGV-4958-06U	D	6 dBi, N Female Connector	42.00	39.48	36.96	CALL
HGV-4958-09U	D	9 dBi, N Female Connector	65.00	61.10	57.20	CALL
HGV-4958-12U	D	12 dBi, N Female Connector	84.00	78.96	73.92	CALL

5.1 - 5.8 GHz Omni Directional Antennas

The HyperLink® Wireless brand of UP-series Omni Directional antennas are versatile and economical yet maintain high performance standards. Designed for operation from 5.1 GHz to 5.8 GHz, these antennas feature an aluminum base and fiberglass all weather operation design and include a pole mounting bracket.

HG5158-06UP-NF	E	6 dBi, N Female Connector	54.00	49.68	45.36	CALL
HG5158-09UP-NF	E	8.5 dBi, N Female Connector	60.00	55.20	50.40	CALL

5.1 - 5.8 GHz Dual Polarized Omni Directional Antennas

The HyperLink® Wireless DP series 5 GHz Omni Directional antennas combine vertical and horizontal polarization in a single enclosure. It is a professional quality antenna designed primarily for MIMO point-to-multipoint applications.

HG5158DP-10U	G	10 dBi, Dual Polarity with (2) N Female Connectors	150.00	141.00	132.00	CALL
HG5158DP-13U	G	13 dBi, Dual Polarity with (2) N Female Connectors	200.00	188.00	176.00	CALL

5.3 - 5.8 GHz Omni Directional Antennas

The HyperLink® Wireless brand of U-series 5 GHz Omni Directional antennas are versatile and economical yet maintain high performance standards. These antennas feature an aluminum base and fiberglass all weather operation design and include a pole mounting bracket.

HG5310U	C	5.3 GHz, 10 dBi, N Female Connector	86.00	80.84	75.68	CALL
HG5412U	C	5.4 GHz, 12 dBi, N Female Connector	97.00	93.12	89.24	CALL
HG5806U-PRO	A	5.8 GHz, 6 dBi, N Female Connector (available in 5-Pack)	79.00	75.84	72.68	CALL
HG5809U-PRO	A	5.8 GHz, 9 dBi, N Female Connector (available in 5-Pack)	91.00	87.36	83.72	CALL
HG5808U	C	5.8 GHz, 8 dBi, N Female Connector	85.00	81.60	78.20	CALL
HG5812U-PRO	A	5.8 GHz, 12 dBi, N Female Connector (available in 5-Pack)	102.00	97.92	93.84	CALL

5.8 GHz Omni Directional Down-Tilt Antenna

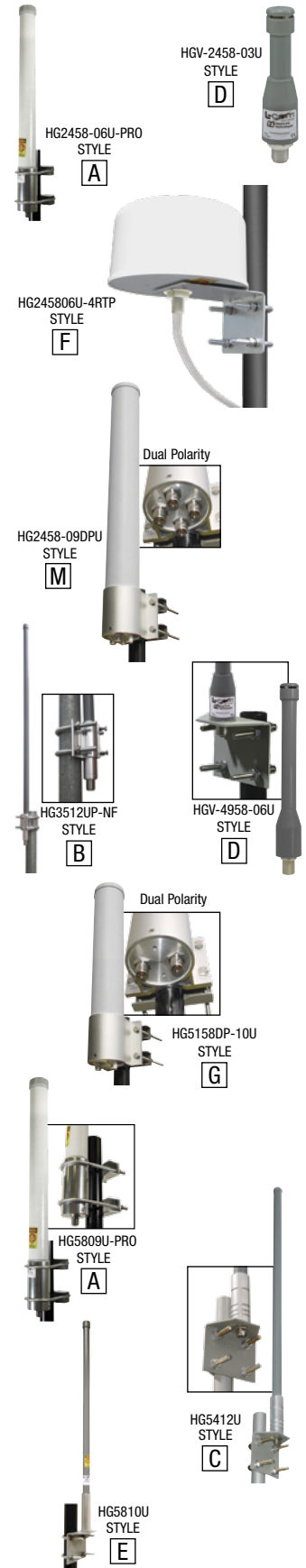
The HyperLink® HG5811UDT-PRO is a Profession Grade Omni Directional Down-Tilt antenna that can be used for Commercial installations. The antenna features high gain and superior VSWR. The unit is optimized for the 5.8 GHz band applications. The pattern is electrically tilted downward to improve coverage from higher mounting elevations in difficult sites such as apartment complexes and similar installations.

HG5811UDT-PRO	A	11 dBi, 8 Degree Electrical Down-Tilt with N Female Connector	95.00	91.20	87.40	CALL
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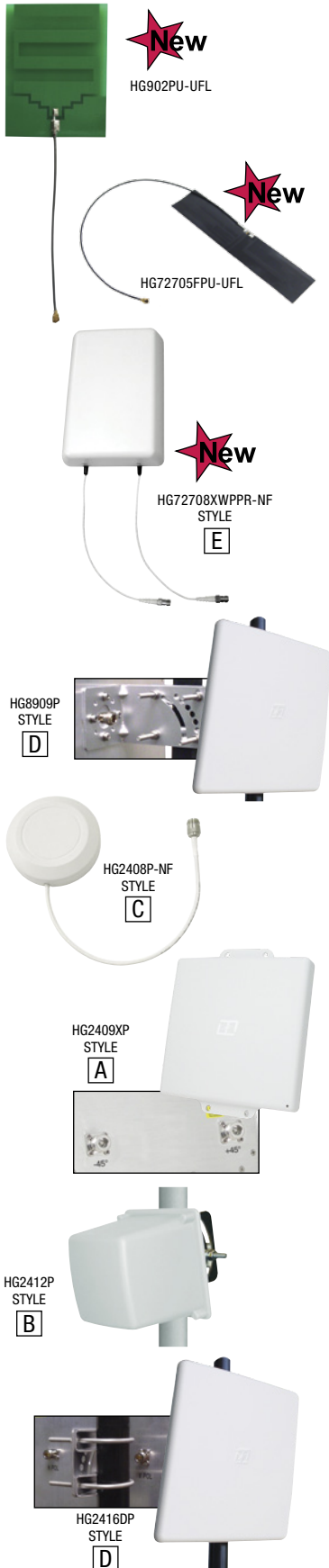
5.8 GHz Omni Directional Wireless LAN Antenna

The HyperLink® HG5810U is a very compact yet high performance Omni Directional WiFi antenna designed for the 5.8 GHz ISM and UNII band. It is ideally suited for multipoint and mobile applications where high gain and wide coverage is desired.

HG5810U	E	10 dBi, Wireless LAN, N Female Connector	96.93	93.06	89.18	CALL
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"STYLE" refers to shape of antenna in series.





Item #	Style	Description	1-9	10-24	25-99	100+
HyperLink® Embedded/Internal PCB Antennas						
HyperLink® embedded/internal antennas are designed to directly integrate into devices requiring wireless capability. By embedding these antennas directly into a device, the need for external antennas is eliminated. In addition to our standard embedded antenna offerings, L-com engineering can also custom design embedded antenna solutions to meet specific customer applications.						
HG902PU-UFL		900 MHz Embedded Omni Directional Antenna, U.FL Connector	11.00	10.12	9.24	CALL
HG2402PU-UFL		2.4 GHz Embedded Omni Directional Antenna, U.FL Connector	11.00	10.12	9.24	CALL
HG2458-05PU-UFL		2.4/5.8 GHz Dual Band Embedded Omni Directional Antenna, U.FL Connector	13.00	11.96	10.92	CALL
HG4958-05PU-UFL		4.9 - 5.8 GHz Embedded Omni Directional Antenna, U.FL Connector	13.00	11.96	10.92	CALL
HG72705FPU-UFL		700-2700 MHz, Flexible Embedded Omni Directional Antenna, U.FL Connector	13.00	11.96	10.92	CALL

HyperLink® Patch and Panel Antennas - Compact and Lightweight

These high performance directional patch and panel antennas are available for indoor and outdoor applications covering multiple popular frequencies. Our patch antennas are lightweight and feature aesthetic UV-stable, UL flame rated plastic radomes which can also be painted to match the room or building structure. Designed to be installed for horizontal or vertical polarization, they can be wall or ceiling mounted, as well as mast mounted using U-bolts.

Designed specifically as cost-effective solutions for today's demanding wireless applications, HyperLink® patch and panel antenna products offer a unique combination of superior all-weather performance, durability and aesthetics. Applications include IEEE 802.11b/g/n, 900 MHz cellular, RFID, 802.16, 802.20 and WiMAX.

<p>Mounting: L-com's patch antennas offer several unique mounting options. They can be mounted flat against a wall, or to a mast using a pair of 2 inch U-bolts. The antennas also accept most tilt-and-swivel security camera brackets equipped with standard 1/4-20 threads.</p> 	<p>Flush Mount: The HG2408P-NF can be mounted flat against the wall or ceiling. Its unique design allows the cable to exit out of the side or from the back of the unit which is ideal for mounting in locations that require the cable to be hidden.</p> 
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HyperLink® Patch and Panel Antennas

These are low cost high gain antennas that come with their own enclosure space within the antenna radome. Mount your wireless card radio behind the antenna and seal the radome. All come with quick connect Cat5/6 connections. Antenna pigtail cable options are RP-SMA Plug, RP-TNC Plug, MMCX and UFL (with others available).

700-2700 MHz DAS Panel Antenna

HG72708XWPPR-NF	E	700-2700 MHz, 7.5/8.4 dBi, Cross Polarized, PIM Rated, MIMO, (2) N Female Con.	180.00	165.60	151.20	CALL
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900 MHz Patch/Panel Antennas

HG8909P	D	9 dBi, Heavy Duty Flat Panel with N Female Connector	62.00	58.28	54.56	CALL
HG908P-NF	A	8 dBi, Flat Patch, 8" (20.3cm) Sq., 12" (30.5cm) Pigtail with N Female Connector	59.00	54.28	49.56	CALL
HG908P-SM	A	8 dBi, Flat Patch, 8" (20.3cm) Sq., 12" (30.5cm) Pigtail with SMA Male Connector	59.00	54.28	49.56	CALL

900 MHz Circular Polarized Patch Antennas

HG908PCL-NF	A	8 dBi, Left Hand, Circular Polarized, 12" (30.5cm) Pigtail with N Female Connector	54.00	51.84	49.68	CALL
HG908PCL-NM	A	8 dBi, Left Hand, Circular Polarized, 12" (30.5cm) Pigtail with N Male Connector	54.00	51.84	49.68	CALL
HG908PCL-RTP	A	8 dBi, Left Hand, Circular Polarized, 12" (30.5cm) Pigtail with RP-TNC Plug Connector	54.00	51.84	49.68	CALL
HG908PCL-RSP	A	8 dBi, Left Hand, Circular Polarized, 12" (30.5cm) Pigtail with RP-SMA Plug Connector	54.00	51.84	49.68	CALL
HG908PCL-SM	A	8 dBi, Left Hand, Circular Polarized, 12" (30.5cm) Pigtail with SMA Male Plug Connector	54.00	51.84	49.68	CALL
HG908PCR-NF	A	8 dBi, Right Hand, Circular Polarized, 12" (30.5cm) Pigtail with N Female Connector	54.00	51.84	49.68	CALL
HG908PCR-NM	A	8 dBi, Right Hand, Circular Polarized, 12" (30.5cm) Pigtail with N Male Connector	54.00	51.84	49.68	CALL
HG908PCR-RTP	A	8 dBi, Right Hand, Circular Polarized, 12" (30.5cm) Pigtail with RP-TNC Plug Connector	54.00	51.84	49.68	CALL
HG908PCR-RSP	A	8 dBi, Right Hand, Circular Polarized, 12" (30.5cm) Pigtail with RP-SMA Plug Connector	54.00	51.84	49.68	CALL
HG908PCR-SM	A	8 dBi, Right Hand, Circular Polarized, 12" (30.5cm) Pigtail with SMA Male Plug Connector	54.00	51.84	49.68	CALL

1.9 GHz Patch Antennas

HG1908P-NF	A	8 dBi, 4" (10.2cm) Sq., 12" (30.5cm) Pigtail with N Female Connector	49.00	45.08	41.16	CALL
HG1912P-NF	A	12 dBi, 8" (20.3cm) Sq., 12" (30.5cm) Pigtail with N Female Connector	60.00	55.20	50.40	CALL

2.4 GHz Patch/Panel Antennas

HG2408P-NF	C	8 dBi, 4" (10.2cm) Round, 10" (25.4cm) Pigtail with N Female Connector	35.00	32.20	29.40	CALL
HG2409PCL-NF	A	8 dBi, 4" (10.2cm) Sq., LH Cir Polarized, 12" (30.5cm) Pigtail with N Female Connector	36.00	33.12	30.24	CALL
HG2409PCR-NF	A	8 dBi, 4" (10.2cm) Sq., RH Cir Polarized, 12" (30.5cm) Pigtail with N Female Connector	36.00	33.12	30.24	CALL
HG2409P-NF	A	8 dBi, 4" (10.2cm) Sq., 12" (30.5cm) Pigtail with N Female Connector	35.00	32.20	29.40	CALL
HG2409XP	A	9 dBi, 8" (20.3cm) Sq., Cross Polarized, (2) N Female Connectors, MIMO	49.00	45.08	41.16	CALL
HG2410DP	B	10 dBi, 4" (10.2cm) Sq., (2) N Female Connectors, MIMO	36.00	33.12	30.24	CALL
HG2412P	B	12 dBi, 4" (10.2cm) Sq., N Female Connector	33.00	30.36	27.72	CALL
HG2414DP-3NF	D	14 dBi, 12" (30.5cm) Sq., Dual Polarized, (3) N Female Connectors, MIMO	120.00	110.40	100.80	CALL
HG2414P	A	14 dBi, 8" (20.3cm) Sq., N Female Connector	43.00	39.56	36.12	CALL
HG2414P-NF	A	14 dBi, 8" (20.3cm) Sq., 12" (30.5cm) Pigtail with N Female Connector	54.00	49.68	45.36	CALL
HG2416DP	D	16 dBi, 12" (30.5cm) Sq., Dual Polarized, (2) N Female Connectors, MIMO	120.00	110.40	100.80	CALL
HG2416P	A	15.5 dBi, 8" (20.3cm) Sq., N Female Connector	58.00	53.36	48.72	CALL
HG2418P	D	18 dBi, Flat Panel with N Female Connector	67.00	64.32	61.64	CALL

Call for special connectors and cable lengths

"STYLE" refers to shape of antenna in series.

Item #	Style	Description	1-9	10-24	25-99	100+
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2.4 GHz Wide Angle Patch Antennas

These compact 2.4 GHz WiFi antennas provide 5 dBi Gain with broad horizontal beam width of 135 degrees. They are ideally suited for applications requiring coverage of a wide area such as an office, public hotspot, industrial or warehouse use. These antennas are lightweight and feature an aesthetic UV-stable, white ABS UL Flame Rated radome and can also be painted to match the room or building structure. The HG2405P-135 can be installed for horizontal or vertical polarization.

HG2405P-135-NF	C*	5 dBi, Wide Angle, 12" (30.5cm) N Female Connector	40.00	36.80	33.60	CALL
HG2405P-135-NM	C*	5 dBi, Wide Angle, 4ft (1.2m) N Male Connector	40.00	36.80	33.60	CALL
HG2405P-135-RSP	C*	5 dBi, Wide Angle, 4ft (1.2m) RP-SMA Plug Connector	40.00	36.80	33.60	CALL
HG2405P-135-RTP	C*	5 dBi, Wide Angle, 4ft (1.2m) RP-TNC Plug Connector	40.00	36.80	33.60	CALL
HG2405SD-135-NF	C	5 dBi, Wide Angle Spatial Diversity, 12" (30.5cm) Dual N Female Connectors	49.00	45.08	41.16	CALL
HG2405SD-135-NM	C	5 dBi, Wide Angle Spatial Diversity, 4ft (1.2m) Dual N Male Connectors	49.00	45.08	41.16	CALL
HG2405SD-135-RSP	C	5 dBi, Wide Angle Spatial Diversity, 4ft (1.2m) Dual RP-SMA Plug Connectors	49.00	45.08	41.16	CALL
HG2405SD-135-RTP	C	5 dBi, Wide Angle Spatial Diversity, 4ft (1.2m) Dual RP-TNC Plug Connectors	49.00	45.08	41.16	CALL

*Similar to this antenna, but with one antenna lead.

2.4 - 5.8 GHz Wide Angle Patch Antennas

These compact 2.4 - 5.8 GHz WiFi antennas provide Dual Frequency diversity to improve connectivity and data throughput. They provide wide angle pattern to give the provider excellent area coverage from one antenna site.

HG2458-5P-135-NF	C	5 dBi, Wide Angle, 12" (30.5cm) N Female Connector	51.00	46.92	42.84	CALL
HG2458-5P-135-NM	C	5 dBi, Wide Angle, 4ft (1.2m) N Male Connector	51.00	46.92	42.84	CALL
HG2458-5P-135-RSP	C	5 dBi, Wide Angle, 4ft (1.2m) RP-SMA Plug Connector	51.00	46.92	42.84	CALL
HG2458-5P-135-RTP	C	5 dBi, Wide Angle, 4ft (1.2m) RP-TNC Plug Connector	51.00	46.92	42.84	CALL

2.4 - 5.8 GHz Panel Antennas

HG2458-08DP-4NF	A	8 dBi, 8" (20.3cm) Sq., Dual Polarized, (4) N Female Connectors, MIMO	250.00	230.00	210.00	CALL
HG245808DP-4RTP36	A	8 dBi, 8" (20.3cm) Sq., Dual Polarized, 36" (91.4cm) Pigtailed, (4) RP-TNC Plug Connectors, MIMO	225.00	207.00	189.00	CALL
HG2458-09P	A	9 dBi, 8" (20.3cm) Sq., N Female Connector	84.00	77.28	70.56	CALL
HG2458-10DP	B	10 dBi, 8" (20.3cm) Sq., Dual Polarized, (2) N Female Connectors, MIMO	42.00	38.64	35.28	CALL
HG2458-11XP	A	8/11 dBi, 8" (20.3cm) Sq., Dual Polarized, (2) N Female Connectors, MIMO	50.00	46.00	42.00	CALL
HG2458-11P	A	9/11 dBi, 8" (20.3cm) Sq., N Female Connector	65.00	59.80	54.60	CALL
HG2458-20P	A	20 dBi, 12" (30.5cm) Sq., N Female Connector	150.00	141.00	132.00	CALL
HG2458-10DP-6NF	A	10 dBi, 12" (30.5cm) Sq., Dual Polarized, (6) N Female Connectors, MIMO	162.00	149.04	136.08	CALL
HG2458-14DP-3NF	A	14 dBi, 12" (30.5cm) Sq., Dual Polarized, (3) N Female Connectors, MIMO	150.00	138.00	126.00	CALL
HG2458-14DP-4NF	A	14 dBi, 12" (30.5cm) Sq., Dual Polarized, (4) N Female Connectors, MIMO	160.00	147.20	134.40	CALL

2.4 - 5.8 GHz High Density Panel Antenna

The HyperLink HG2458-13HDP-4NF High Density Flat Panel Antenna combines four dual band antennas in a single housing. The unit consists of two vertically and two horizontally polarized multi-patch antennas. It is a professional quality antenna designed primarily for MIMO point-to-multipoint and point-to-point applications in the 2.4 GHz and the 4.9-5.8 GHz frequency bands. The unit can be used with APs and Routers with one to four antenna ports.

HG2458-13HDP-4NF	A	11/13 dBi, 12" (30.5cm) Sq., High Density/Dual Polarized, (4) N Female Connectors, MIMO	230.00	211.60	193.20	CALL
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2.6 GHz Patch Antenna

HG2614P-NF	A	14 dBi, 8" (20.3cm) Sq., 12" (30.5cm) Pigtail with N Female Connector	54.00	49.68	45.36	CALL
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4.9 - 5.8 GHz Dual Polarized Panel Antennas

The HyperLink's Flat Panel Antennas combine vertical and horizontal polarization with high gain over multiple frequencies in a single enclosure. It is a professional quality antenna designed primarily for MIMO point-to-multipoint and point-to-point applications in the 4.9 GHz and 5.8 GHz frequency.

HG4958-17DP-3NF	A	17 dBi, 4.9/5.8 GHz, Dual Polarized Panel with (3) N Female Connectors	150.00	138.00	126.00	CALL
HG4958-19DP	A	19 dBi, 4.9/5.8 GHz, Dual Polarized Panel with (2) N Female Connectors	102.00	93.84	85.68	CALL

3.5 GHz, 4.9 GHz, 5.3 GHz, 5.4 GHz, 5.8 GHz and 4.9 - 5.8 GHz Patch/Panel Antennas

L-com's extensive line of patch antennas that cover frequencies from 3.5 to 5.8 GHz are ideal for applications such as WiMAX and public safety. Several of the patch antennas are broadband/multi-band antennas that eliminate the need to purchase different antennas for each frequency being used. This simplifies installations since the same antenna can be used for a wide array of wireless applications.

3.5 GHz Patch/Panel Antennas

HG3516DP	A	16 dBi, Dual Polarized Panel Antenna with (2) N Female Connectors	152.00	139.84	127.68	CALL
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4.9 GHz Patch Antennas

HG4953P	A	8 dBi, 4" (10.2cm) Sq., Broadband, SMA Male Connector	60.00	55.20	50.40	CALL
HG4911P	A	11 dBi, 4" (10.2cm) Sq., SMA Female Connector	60.00	55.20	50.40	CALL

5.3 GHz Patch Antenna

HG5311P	A	11 dBi, 4" (10.2cm) Sq., SMA Female Connector	60.00	56.40	52.80	CALL
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5.4 GHz Patch/Panel Antennas

HG5411P	A	11 dBi, Flat Patch, 4" (10.2cm) Sq., SMA Female Connector	60.00	56.40	52.80	CALL
HG5419P	A	19 dBi, Broadband Panel, 7" (17.8cm) Sq., N Female Connector	60.00	57.60	55.20	CALL

5.8 GHz Patch Antennas

HG5811P	A	11 dBi, 4" (10.2cm) Sq., SMA Female Connector	60.00	55.20	50.40	CALL
HG5819P	A	19 dBi, 7" (17.8cm) Sq., N Female Connector	60.00	55.20	50.40	CALL
HG5158P	A	8 dBi, 4" (10.2cm) Sq., Broadband, SMA Female Connector	60.00	56.40	52.80	CALL

4.9 - 5.8 GHz Broadband Patch Antennas

HG4958-23P	A	23 dBi, 12" (30.5cm) Sq., Broadband, N Female Connector	100.00	92.00	84.00	CALL
HG4958-07PCL	A	7 dBi, Left Hand Circular Polarized Flat Patch Antenna, SMA Female Connector	75.00	69.00	63.00	CALL
HG4958-07PCR	A	7 dBi, Right Hand Circular Polarized Flat Patch Antenna, SMA Female Connector	75.00	69.00	63.00	CALL

Call for special connectors and cable lengths



"STYLE" refers to shape of antenna in series.



Item #	Style	Description	1-9	10-24	25-99	100+
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900 MHz, 900 MHz - 2.4 GHz, 1.9 GHz, 2.4 GHz, 2.4 - 5.8 GHz and 3.5 GHz Rubber Duck Antennas

These high performance Omni Directional rubber duck antennas provide broad coverage and multiple gain options. HyperLink® flexible rubber duck antennas feature tilt-and-swivel connectors allowing them to be used vertically, at a right angle, or any angle in-between. Suitable as a replacement RF antenna for radios, wireless video transmitters and receivers, as well as digital spread spectrum radios.

900 MHz Rubber Duck Antennas

HG903RD-RSP	B	3 dBi, Tilt/Swivel RP-SMA Plug Connector	13.00	11.96	10.92	CALL
HG903RD-SM	B	3 dBi, Tilt/Swivel SMA Male Connector	13.00	11.96	10.92	CALL
HG905RD-RSP	B	5 dBi, Tilt/Swivel RP-SMA Plug Connector	25.00	23.00	21.00	CALL
HG905RD-SM	B	5 dBi, Tilt/Swivel SMA Male Connector	25.00	23.00	21.00	CALL
HG905RDR-RSP	A	5 dBi, Rigid RP-SMA Plug Connector	25.00	23.00	21.00	CALL

900 MHz - 2.4 GHz Tri Band/Quad Band WiFi Antennas

HG924-2TP-RSP	G	2 dBi, QUAD Band/WiFi 2.4 GHz Patch, with RP-SMA Plug Connector	19.00	17.86	16.72	CALL
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1.9 GHz Rubber Duck Antenna

HG1903RD-RSP	B	3 dBi, Tilt/Swivel RP-SMA Plug Connector	12.00	11.04	10.08	CALL
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2.4 GHz Rubber Duck Antennas

HG2400RDR-RSP	H	0 dBi, Stubby Rigid RP-SMA Plug Connector	10.00	9.20	8.40	CALL
HG2400RDR90-RSP	H	0 dBi, Stubby Rigid 90° RP-SMA Plug Connector	11.00	10.12	9.24	CALL
HG2402RD-RSF	B	2 dBi, Tilt/Swivel RP-SMA Plug Connector	7.50	6.90	6.30	CALL
HG2402RDR-RSP	A	2 dBi, Rigid RP-SMA Plug Connector	8.00	7.36	6.72	CALL
HG2403RD-NM	B	3 dBi, Tilt/Swivel N Male Connector	10.00	9.20	8.40	CALL
HG2403RD-RSF	B	3 dBi, Tilt/Swivel RP-SMA Plug Connector	10.00	9.20	8.40	CALL
HG2403RD-RTF	B	3 dBi, Tilt/Swivel RP-TNC Plug Connector	10.00	9.20	8.40	CALL
HG2403RD-SM	B	3 dBi, Tilt/Swivel SMA Male Connector	10.00	9.20	8.40	CALL
HG2405RD-NM	B	5 dBi, Tilt/Swivel N Male Connector	18.50	17.02	15.54	CALL
HG2405RD-RSP	B	5 dBi, Tilt/Swivel RP-SMA Connector	12.00	11.04	10.08	CALL
HG2405RD-RTP	B	5 dBi, Tilt/Swivel RP-TNC Connector	12.00	11.04	10.08	CALL
HG2407RD-NM	B	7 dBi, Tilt/Swivel N Male Connector	19.00	17.48	15.96	CALL
HG2407RD-RSP	B	7 dBi, Tilt/Swivel RP-SMA Plug Connector	17.00	15.64	14.28	CALL
HG2407RD-RTP	B	7 dBi, Tilt/Swivel RP-TNC Plug Connector	17.00	15.64	14.28	CALL
HG2407RD-SM	B	7 dBi, Tilt/Swivel SMA Male Connector	17.00	15.64	14.28	CALL
HG2409RD-NM	B	9 dBi, Tilt/Swivel N Male Connector	28.00	25.76	23.52	CALL
HG2409RD-RSP	B	9 dBi, Tilt/Swivel RP-SMA Plug Connector	25.00	23.00	21.00	CALL
HG2409RD-RTP	B	9 dBi, Tilt/Swivel RP-TNC Plug Connector	25.00	23.00	21.00	CALL
HG2409RD-SM	B	9 dBi, Tilt/Swivel SMA Male Connector	25.00	23.00	21.00	CALL

2.4 - 5.8 GHz Multi-Band Rubber Duck Antennas

HG2458-5RD-RSP	J	3/5 dBi, Tilt/Swivel RP-SMA Plug Connector	21.00	19.32	17.64	CALL
HG2458RD-RSP	B	3 dBi, Tilt/Swivel RP-SMA Plug Connector	16.50	15.51	14.52	CALL
HG2458RD-RTP	B	3 dBi, Tilt/Swivel RP-TNC Plug Connector	16.50	15.51	14.52	CALL
HG2458RD-SM	B	3 dBi, Tilt/Swivel SMA Male Connector	16.50	15.51	14.52	CALL
HG2458RD-TM	B	3 dBi, Tilt/Swivel TNC Male Connector	16.50	15.51	14.52	CALL

3.5 GHz Rubber Duck Antenna

HG3505RD-RSP	B	5 dBi, Tilt/Swivel RP-SMA Plug Connector	18.50	17.02	15.54	CALL
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1.9 GHz, 2.4 GHz, 2.4/5.8 GHz Rubber Duck Desktop Mobile Antennas

L-com's HyperLink® Omni Directional rubber duck wireless LAN antennas provide broad coverage and 3-9 dBi gain. These magnetic mount antennas feature a coaxial sleeve design with an Omni Directional pattern. These antennas were designed for IEEE 802.11b/g/n wireless LANs and 1.9 GHz cellular PCS radio applications. Mobile applications for these antennas include service vehicles, public transportation, mining vehicles, as well as numerous other commercial and industrial applications where mobility is required. The magnetic base is suitable for affixing to vehicles or other metal surfaces as well as sitting on a tabletop or shelf.

1.9 GHz Rubber Duck Antennas with Magnetic Mount

HG1903MGRD-SM	D	3 dBi, 5ft (1.5m) Cable with SMA Male Connector	24.00	23.04	22.08	CALL
HG1903MGRD-SNP	D	3 dBi, 5ft (1.5m) Cable with SMA Nano Connector	24.00	23.04	22.08	CALL

2.4 GHz Rubber Duck Antennas with Magnetic Mount

HG2407MGRD-RSP	E	7 dBi, 5ft (1.5m) Cable with RP-SMA Plug Connector	25.00	23.50	22.00	CALL
HG2407MGRD-RTP	E	7 dBi, 5ft (1.5m) Cable with RP-TNC Plug Connector	25.00	23.50	22.00	CALL
HG2409MGRD-RSP	E	9 dBi, 5ft (1.5m) Cable with RP-SMA Plug Connector	31.00	29.14	27.28	CALL
HG2409MGRD-RTP	E	9 dBi, 5ft (1.5m) Cable with RP-TNC Plug Connector	31.00	29.14	27.28	CALL

2.4/5.8 GHz Multi-Band Rubber Duck Antennas with Magnetic Mount



HG2458MGRD-RSP	F	3/5 dBi, 5ft (1.5m) Cable with RP-SMA Plug Connector	30.00	28.20	26.40	CALL
HG2458MGRD-RTP	F	3/5 dBi, 5ft (1.5m) Cable with RP-TNC Plug Connector	30.00	28.20	26.40	CALL
HG2458-7RDR-NM	C	7 dBi, Rigid Rubber Duck with N Male Connector	27.00	24.84	22.68	CALL

698-2700 MHz Cellular (LTE)/WiFi Multi-Band Rubber Duck Antenna

HG72703RDR-NM	C	3 dBi, Rigid Rubber Duck with N Male Connector	28.00	25.76	23.52	CALL
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Tip Rubber Duck Antennas

Rubber Duck antennas usually come with an articulated "Swivel" joint, permitting the antenna base to pivot 90°. The antenna can also be ordered with a "Rigid" connector base, when the swivel is not required or needed. These antennas are numbered with an "RDR" suffix after the basic part number. The base can also have a "Rigid 90°" connector base which carries the "RDR90" suffix. If your application requires these options, please inquire about special orders at reasonable pricing.

HG2400RDR90-RSP HG2400RDR-RSP

"STYLE" refers to shape of antenna in series.

Item #	Style	Description	1-9	10-24	25-99	100+
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Sectorial Omni Directional Antennas

HyperLink's sector antennas are designed for Cell Site installations and include a variety of gain, frequency and radiation patterns. These WiFi antennas feature our unique heavy-duty mounting systems that allow installation from level to over 20° down-tilt. These 120° arrays are available supporting a wide range of applications. These antennas feature stainless steel construction for all-weather operation.

2.4 GHz Sectorial Antenna Arrays

HK2414-120	A	14 dBi, Multi-Feed, Includes (3) 120° Antenna with Mounting Array	600.00	564.00	528.00	CALL
HK2414-120NF	A	14 dBi, Single-Feed, Includes (3) 120° Antenna with Mounting Array, Splitter, 3 Cables	750.00	705.00	660.00	CALL
HK2417-120	A	17 dBi, Multi-Feed, Includes (3) 120° Antenna with Mounting Array	690.00	648.60	607.20	CALL
HK2417-120NF	A	17 dBi, Single-Feed, Includes (3) 120° Antenna with Mounting Array, Splitter, 3 Cables	840.00	789.60	739.20	CALL
HK2420-120	A	20 dBi, Multi-Feed, Includes (3) 120° Antenna with Mounting Array	1465.00	1377.10	1289.20	CALL
HK2420-120NF	A	20 dBi, Single-Feed, Includes (3) 120° Antenna with Mounting Array, Splitter, 3 Cables	1615.00	1518.10	1421.20	CALL

Sectorial Panel Antennas

HyperLink's sectorial panel antennas are available in multiple frequencies, gain and 65-180°. They can be used stand alone or in circular groups to maximize coverage and feature heavy-duty plastic radome for all-weather operation, with mounting systems that adjust to pinpoint direction.

698 - 960 / 1710 - 2700 Sector DAS Antennas

HG72710XP-065	D	10 dBi, 65°, 1710-2700 MHz, Cross Polarized, (2) N Female Connectors, MIMO	215.00	197.80	180.60	CALL
HG72712P-120	B	12 dBi, 120°, 1710-2700 MHz, N Female Connector	323.00	297.16	271.32	CALL
HG72714P-090	B	13 dBi, 90°, 1710-2700 MHz, N Female Connector	329.00	302.68	276.36	CALL

900 MHz Sectorial Panel Antennas

HG913P-120	B	13 dBi, 120°, N Female Connector	302.00	277.84	253.68	CALL
HG913HSP-120	B	13 dBi, 120°, Horizontal Polarized, N Female Connector	255.00	239.70	224.40	CALL

2.4 GHz Sectorial Panel Antennas

HG2412P-180	B	12 dBi, 180°, Sector Panel Antenna, N Female Connector	180.00	165.60	151.20	CALL
HG2412SXP-120	D	12 dBi, 120°, Spatial Diversity / Cross Polarized, (4) N Female Connectors, MIMO	375.00	345.00	315.00	CALL
HG2414SP-120	B	14 dBi, 120°, N Female Connector	181.00	166.52	152.04	CALL
HG2415P-180	C	15 dBi, 180°, N Female Connector	340.00	312.80	285.60	CALL
HG2416SXP-090	D	16 dBi, 90°, Spatial Diversity / Cross Polarized, (4) N Female Connectors, MIMO	410.00	377.20	344.40	CALL
HG2417P-120	B	17 dBi, 120°, N Female Connector	205.00	188.60	172.20	CALL
HG2420P-120	B	20 dBi, 120°, N Female Connector	430.00	395.60	361.20	CALL

90 degree versions are available for most Sectorial Panel Antennas. Call your customer service representative for information.

3.5 GHz Sectorial Panel Antenna

HG3517DP-090	B	17 dBi, 90°, Dual Polarized, (2) N Female Connectors, MIMO	325.00	299.00	273.00	CALL
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5 GHz Sectorial Cross Polarized Antenna

HG5158-16XP-090	B	16 dBi, 90°, Cross Polarized, Dual Polarity, (2) N Female Connectors, MIMO	135.00	124.20	113.40	CALL
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5 GHz Spatial Diversity Cross Polarized Antenna

HG5816SXP-090	D	16 dBi, 90°, Cross Polarized, Spatial Diversity (4) N Female Connectors, MIMO	430.00	395.60	361.20	CALL
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5.4 GHz Sectorial Panel Antenna

HG5417P-090	B	17 dBi, 90°, N Female Connector	183.15	175.82	168.49	CALL
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5.8 GHz Sectorial Panel Antennas

HG5814P-120	B	14 dBi, 120°, Integral N Female Connector	175.00	161.00	147.00	CALL
HG5817P-090	B	17 dBi, 90°, N Female Connector	180.00	165.60	151.20	CALL

2.4 / 4.9 - 5.8 GHz Dual Feed / Dual Band Sectorial Panel Antennas

HG2458-13P-180	B	13 dBi, 180°, (2) N Female Connectors, MIMO	375.00	345.00	315.00	CALL
HG2458-14P-090	B	14 dBi, 90°, (2) N Female Connectors, MIMO	225.00	207.00	189.00	CALL

4.9 - 5.8 GHz Dual Feed / Dual Polarity Sectorial Panel Antennas

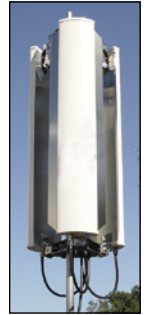
HG5813DP-180	B	13 dBi, 180°, (2) N Female Connectors, MIMO	405.00	372.60	340.20	CALL
HG4958-17DP-090	B	17 dBi, 90°, (2) N Female Connectors, MIMO	120.00	115.20	110.40	CALL

5.1 - 5.8 GHz Dual Polarity Sectorial Panel Antenna

HG5158-19DP-090	B	19 dBi, 90°, (2) N Female Connectors, MIMO	185.00	177.60	170.20	CALL
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HK2414-120
STYLE
A



HK2417-120
STYLE
A



HG72710XP-065
STYLE
D



HG2412SXP-120
STYLE
D



HG72712P-120
STYLE
B



HG5158-16XP-090
STYLE
B



HG2415P-180
STYLE
C

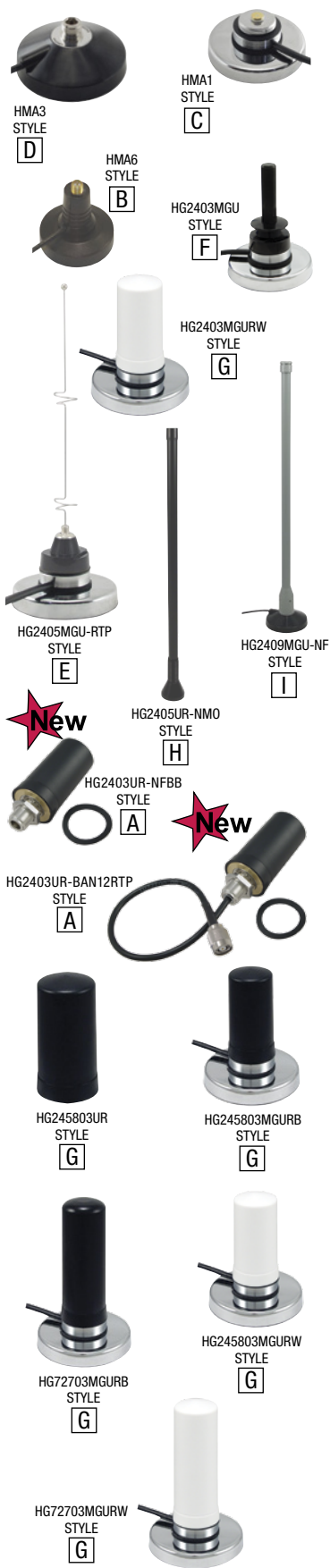


HG5816SXP-090
STYLE
D



HG2458-13P-180
STYLE
B

"STYLE" refers to shape of antenna in series.



Item #	Style	Description	1-9	10-24	25-99	100+
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2.4 GHz Mobile Mount Antennas - Built for Demanding Mobile Applications

Our extensive line of magnetic mount and mast mount mobile Omni Directional antennas are perfect for demanding mobile applications including law enforcement, construction vehicles, and mobile metering. Several styles are offered with many frequency and gain choices supporting IEEE 802.11b/g/n.

- All weather construction
- IEEE 802.11b/g/n
- Bluetooth® and WiFi
- Magnetic and mast mount options
- RoHS compliant

Magnetic Mobile Mounts

HMA1-NFA10	C	NMO to N Female, 10ft (3.0m) 195-Series	26.00	23.92	21.84	CALL
HMA1-NMA10	C	NMO to N Male, 10ft (3.0m) 195-Series	26.00	23.92	21.84	CALL
HMA1-RSPA10	C	NMO to RP-SMA Plug, 10ft (3.0m) 195-Series	26.00	23.92	21.84	CALL
HMA1-RTPA10	C	NMO to RP-TNC Plug, 10ft (3.0m) 195-Series	26.00	23.92	21.84	CALL
HMA3-NFA10	D	N Female to N Female, 10ft (3.0m) 195-Series	31.00	28.52	26.04	CALL
HMA3-NMA10	D	N Female to N Male, 10ft (3.0m) 195-Series	31.00	28.52	26.04	CALL
HMA3-RSPA10	D	N Female to RP-SMA Plug, 10ft (3.0m) 195-Series	31.00	28.52	26.04	CALL
HMA3-RTPA10	D	N Female to RP-TNC Plug, 10ft (3.0m) 195-Series	31.00	28.52	26.04	CALL
HMA6-RSP05	B	RP-SMA Jack to RP-SMA Plug, 5ft (1.5m) 100-Series	21.00	19.32	17.64	CALL
HMA6-RSP10	B	RP-SMA Jack to RP-SMA Plug, 10ft (3.0m) 100-Series	21.00	19.32	17.64	CALL
HMA6-RTP05	B	RP-SMA Jack to RP-TNC Plug, 5ft (1.5m) 100-Series	21.00	19.32	17.64	CALL
HMA6-RTP10	B	RP-SMA Jack to RP-TNC Plug, 10ft (3.0m) 100-Series	21.00	19.32	17.64	CALL

2.4 GHz Antennas with Magnetic Mobile Mounts

HG2403MGU-NM	F	3 dBi, Dual Band, 10ft (3.0m) Cable with N Male Connector	56.25	51.75	47.25	CALL
HG2403MGU-RSP	F	3 dBi, Dual Band, 10ft (3.0m) Cable with RP-SMA Plug Connector	56.25	51.75	47.25	CALL
HG2403MGU-RTP	F	3 dBi, Dual Band, 10ft (3.0m) Cable with RP-TNC Plug Connector	56.25	51.75	47.25	CALL
HG2403MGURW-NM	G	3 dBi, White Radome, 10ft (3.0m) Cable with N Male Connector	54.00	49.68	45.36	CALL
HG2403MGURW-RSP	G	3 dBi, White Radome, 10ft (3.0m) Cable with RP-SMA Plug Connector	54.00	49.68	45.36	CALL
HG2403MGURW-RTP	G	3 dBi, White Radome, 10ft (3.0m) Cable with RP-TNC Plug Connector	54.00	49.68	45.36	CALL
HG2403MGURB-NM	G	3 dBi, Black Radome, 10ft (3.0m) Cable with N Male Connector	54.00	49.68	45.36	CALL
HG2403MGURB-RSP	G	3 dBi, Black Radome, 10ft (3.0m) Cable with RP-SMA Plug Connector	54.00	49.68	45.36	CALL
HG2403MGURB-RTP	G	3 dBi, Black Radome, 10ft (3.0m) Cable with RP-TNC Plug Connector	54.00	49.68	45.36	CALL
HG2405MGU-NM	E	5 dBi, 10ft (3.0m) Cable with N Male Connector	45.50	42.77	40.04	CALL
HG2405MGU-RSP	E	5 dBi, 10ft (3.0m) Cable with RP-SMA Plug Connector	45.50	42.77	40.04	CALL
HG2405MGU-RTP	E	5 dBi, 10ft (3.0m) Cable with RP-TNC Plug Connector	45.50	42.77	40.04	CALL
HG2409MGU-NF	I	8.5 dBi, 10ft (3.0m) Cable with N Female Connector	84.00	78.96	73.92	CALL
HG2409MGU-NM	I	8.5 dBi, 10ft (3.0m) Cable with N Male Connector	84.00	78.96	73.92	CALL
HG2409MGU-RSP	I	8.5 dBi, 10ft (3.0m) Cable with RP-SMA Plug Connector	84.00	78.96	73.92	CALL

2.4 GHz Mobile Mount Antennas

HG2403U-NMO	F	3 dBi, Dual Band, NMO Connector	35.50	32.66	29.82	CALL
HG2403UR-NMOW	G	3 dBi, White Radome, NMO Connector	33.00	30.36	27.72	CALL
HG2403UR-NMOB	G	3 dBi, Black Radome, NMO Connector	33.00	30.36	27.72	CALL
HG2403UR-NFBB	A	3 dBi, Black Radome, N-Female Bulkhead Connector	46.00	42.32	38.64	CALL
HG2403UR-BAN12RTP	A	3 dBi, Black Radome, 12" (30.4cm) Pigtail, RP-TNC Plug Connector	46.00	42.32	38.64	CALL
HG2405U-NMO	E	5 dBi, NMO Connector	25.00	23.00	21.00	CALL
HG2405UR-NMO	H	5 dBi, Black Radome, Flex-Base, NMO Connector	102.32	94.14	85.95	CALL
HG2408UR-NM	H	8 dBi, Black Radome, Flex-Base, N Male Connector	102.00	95.88	89.76	CALL
HG2409U	I	8.5 dBi, N Male Connector	60.00	56.40	52.80	CALL

2.4 - 5.8 GHz Antennas with Magnetic Mobile Mounts

HG245803UR-NMOB	G	3 dBi, Dual band, Black Radome, NMO Connector	38.00	34.96	31.92	CALL
HG245803UR-NMOW	G	3 dBi, Dual band, White Radome, NMO Connector	38.00	34.96	31.92	CALL
HG245803MGURB-NF	G	3 dBi, Dual Band, 10ft (3.0m) Cable with N Female Connector	59.00	54.28	49.56	CALL
HG245803MGURB-NM	G	3 dBi, Dual Band, 10ft (3.0m) Cable with N Male Connector	59.00	54.28	49.56	CALL
HG245803MGURB-RSP	G	3 dBi, Dual Band, 10ft (3.0m) Cable with RP-SMA PLUG Connector	59.00	54.28	49.56	CALL
HG245803MGURB-RTP	G	3 dBi, Dual Band, 10ft (3.0m) Cable with RP-TNC PLUG Connector	59.00	54.28	49.56	CALL
HG245803MGURB-SM	G	3 dBi, Dual Band, 10ft (3.0m) Cable with SMA Male Connector	59.00	54.28	49.56	CALL
HG245803MGURB-TM	G	3 dBi, Dual Band, 10ft (3.0m) Cable with TNC Male Connector	59.00	54.28	49.56	CALL
HG245803MGURW-NF	G	3 dBi, Dual Band, 10ft (3.0m) Cable with N Female Connector	59.00	54.28	49.56	CALL
HG245803MGURW-NM	G	3 dBi, Dual Band, 10ft (3.0m) Cable with N Male Connector	59.00	54.28	49.56	CALL
HG245803MGURW-RSP	G	3 dBi, Dual Band, 10ft (3.0m) Cable with RP-SMA PLUG Connector	59.00	54.28	49.56	CALL
HG245803MGURW-RTP	G	3 dBi, Dual Band, 10ft (3.0m) Cable with RP-TNC PLUG Connector	59.00	54.28	49.56	CALL
HG245803MGURW-SM	G	3 dBi, Dual Band, 10ft (3.0m) Cable with SMA Male Connector	59.00	54.28	49.56	CALL
HG245803MGURW-TM	G	3 dBi, Dual Band, 10ft (3.0m) Cable with TNC Male Connector	59.00	54.28	49.56	CALL

Cellular (LTE)/WiFi Multi-Band Mobile Antennas

HyperLink Wireless multi-band mobile antennas are designed to operate from 698-960 MHz to 1710-2700 MHz, making them ideal for Cellular LTE and IEEE 802.11g WiFi applications. Their operational frequency range also makes them compatible with in-building DAS networks which are used to distribute Cellular and WiFi signals throughout a building or area.

HG72703UR-NMOB	G	3 dBi, Multi Band, Black Radome, NMO Connector	38.00	34.96	31.92	CALL
HG72703UR-NMOW	G	3 dBi, Multi Band, white Radome, NMO Connector	38.00	34.96	31.92	CALL
HG72703MGURB-NF	G	3 dBi, Multi Band, 10ft (3.0m) Cable with N Female Connector	59.00	54.28	49.56	CALL
HG72703MGURB-NM	G	3 dBi, Multi Band, 10ft (3.0m) Cable with N Male Connector	59.00	54.28	49.56	CALL
HG72703MGURB-RSP	G	3 dBi, Multi Band, 10ft (3.0m) Cable with RP-SMA PLUG Connector	59.00	54.28	49.56	CALL
HG72703MGURB-RTP	G	3 dBi, Multi Band, 10ft (3.0m) Cable with RP-TNC PLUG Connector	59.00	54.28	49.56	CALL
HG72703MGURB-SM	G	3 dBi, Multi Band, 10ft (3.0m) Cable with SMA Male Connector	59.00	54.28	49.56	CALL
HG72703MGURB-TM	G	3 dBi, Multi Band, 10ft (3.0m) Cable with TNC Male Connector	59.00	54.28	49.56	CALL
HG72703MGURW-NF	G	3 dBi, Multi Band, 10ft (3.0m) Cable with N Female Connector	59.00	54.28	49.56	CALL
HG72703MGURW-NM	G	3 dBi, Multi Band, 10ft (3.0m) Cable with N Male Connector	59.00	54.28	49.56	CALL
HG72703MGURW-RSP	G	3 dBi, Multi Band, 10ft (3.0m) Cable with RP-SMA PLUG Connector	59.00	54.28	49.56	CALL
HG72703MGURW-RTP	G	3 dBi, Multi Band, 10ft (3.0m) Cable with RP-TNC PLUG Connector	59.00	54.28	49.56	CALL
HG72703MGURW-SM	G	3 dBi, Multi Band, 10ft (3.0m) Cable with SMA Male Connector	59.00	54.28	49.56	CALL
HG72703MGURW-TM	G	3 dBi, Multi Band, 10ft (3.0m) Cable with TNC Male Connector	59.00	54.28	49.56	CALL

"STYLE" refers to shape of antenna in series.

Item #	Style	Description	1-9	10-24	25-99	100+
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380-6000 MHz DAS and Public Safety DAS Antennas

HyperLink's high performance DAS and Public Safety DAS ceiling mount omni directional antennas are specifically designed to distribute Cellular and WiFi signals throughout a building or area. Public Safety DAS antennas also provide low band coverage for UHF, 600 MHz, 1390-1432 MHz and AWS-3 bands. The Multi-Band design of these omni antennas eliminates the need to purchase different antennas for each frequency.

HG72706DPCUPR-NF	M	700-2700 MHz, 3.5-5.8 dBi, PIM Rated, MIMO, (2) N Female Connectors	98.00	90.16	82.32	CALL
HG75805CUPR-NF	L	700-6000 MHz, 2/5 dBi, PIM Rated, N Female Connector	78.00	71.76	65.52	CALL
HG35805CUPR-NF	O	380-6000 MHz, 2-6.4 dBi, PIM Rated, N Female Connector	125.00	115.00	105.00	CALL
HG72704CU-NF	L	700-2700 MHz, 3/4 dBi, N Female Connector	31.00	29.14	27.28	CALL
HG72704CU-RSP	L	700-2700 MHz, 3/4 dBi, RP-SMA Plug Connector	31.00	29.14	27.28	CALL
HG72704CU-RTP	L	700-2700 MHz, 3/4 dBi, RP-TNC Plug Connector	31.00	29.14	27.28	CALL
HG72705CUPR-NF	L	700-2700 MHz, 2/5 dBi, PIM Rated, N Female Connector	62.00	57.04	52.08	CALL

2.4 GHz/2.4-5.8 GHz Ceiling Antennas - Indoor Single Band/Dual Band/MIMO Antennas

HyperLink® offers a number of Ceiling Antennas in 2.4 GHz and 2.4/5.8 GHz frequencies for many indoor applications. The coverage is 360° and operating with single feed (1 X 1) as well as the new MIMO Multiple feeds (3 X 3 and 6 X 6). MIMO antennas provide the user with a single antenna to couple with the many multiple feed wireless radios operating in 802.11a/b/g/n.

2.4 GHz MIMO Spatial Diversity Ceiling Antennas

HG2403-SDC-3NF	J	3 dBi, Spatial Diversity Ceiling Antenna, (3) N Female Connectors	60.00	57.60	55.20	CALL
HG2403-SDC-3NM	J	3 dBi, Spatial Diversity Ceiling Antenna, (3) N Male Connectors	60.00	57.60	55.20	CALL
HG2403-SDC-3RSP	J	3 dBi, Spatial Diversity Ceiling Antenna, (3) RP-SMA Plug Connectors	60.00	57.60	55.20	CALL
HG2403-SDC-3RTP	J	3 dBi, Spatial Diversity Ceiling Antenna, (3) RP-TNC Plug Connectors	60.00	57.60	55.20	CALL

2.4 - 5.8 GHz Dual Band MIMO Spatial Diversity Ceiling Antennas

HG2458-3SDC-3NF	J	3 dBi, Dual Band Spatial Diversity, (3) N Female Connectors	60.29	56.68	53.06	CALL
HG2458-4SDC-6RSP	K	4 dBi, Dual Band Spatial Diversity, (6) RP-SMA Plug Connectors	91.00	85.54	80.08	CALL
HG2458-4SDC-6RTP	K	4 dBi, Dual Band Spatial Diversity, (6) RP-TNC Plug Connectors	90.47	85.04	79.61	CALL

2.4 - 5.8 GHz Dual Band Ceiling Antennas

HG2458CU-NF	L	3 dBi, Dual Band Ceiling Antenna, N Female Connector	49.00	45.08	41.16	CALL
HG2458CU-RTP	L	3 dBi, Dual Band Ceiling Antenna, RP-TNC Plug Connector	49.00	45.08	41.16	CALL

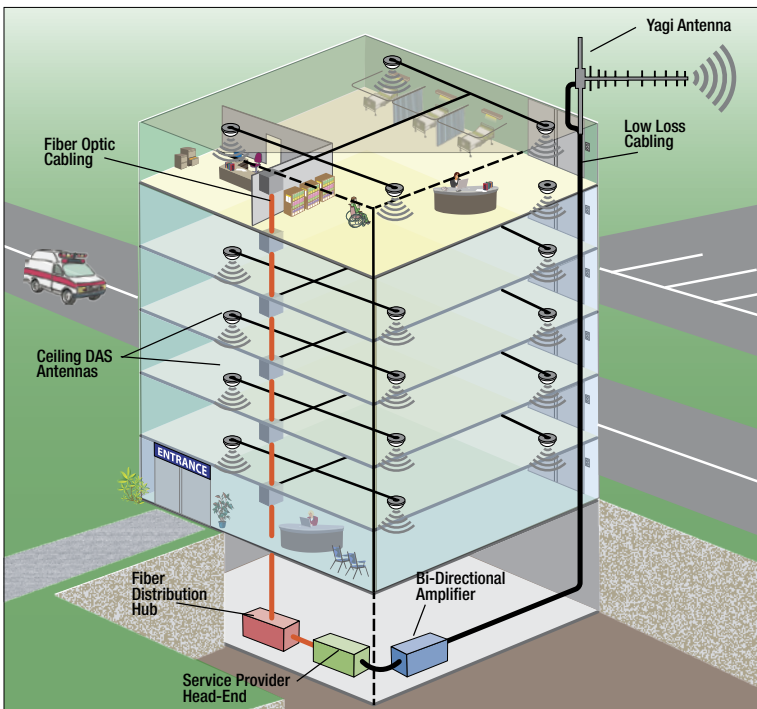
Dual Band GPS/Cellular (3G/LTE) Mobile Magnetic Mount Antennas

The HyperLink Wireless HG-PCGM Series are a small form factor, high performance, combination GPS/Cellular (3G/LTE) antennas aimed at automatic vehicle locator and fleet tracking management systems that serve public safety, railroad, agriculture, utility, mass transit, and defense industries among others.

HG-PCGM01-03FJ	N	28 dBi (GPS) / 3 dBi (Cellular), Magnetic Mount with (2) Fakra Jack Connectors	42.00	38.64	35.28	CALL
HG-PCGM01-03SM	N	28 dBi (GPS) / 3 dBi (Cellular), Magnetic Mount with (2) SMA Male Connectors	42.00	38.64	35.28	CALL

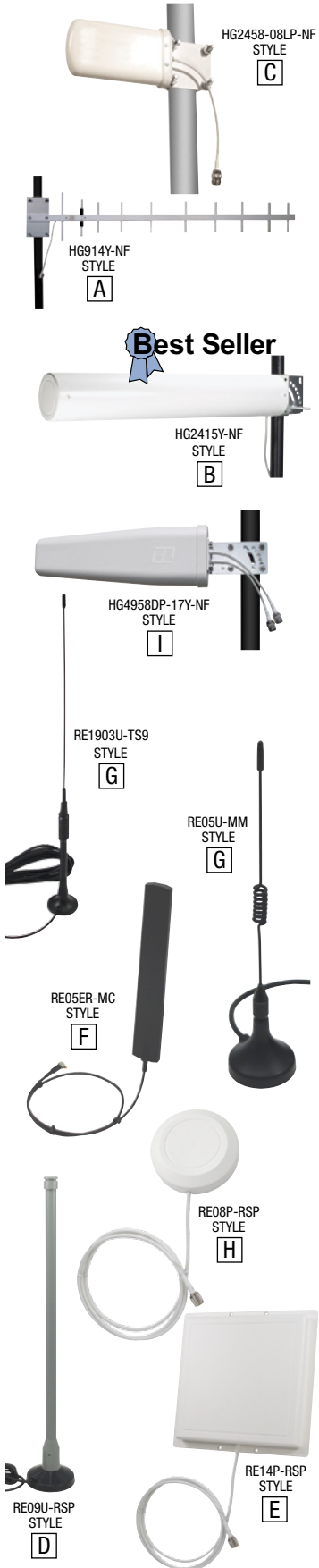


"STYLE" refers to shape of antenna in series.



Medical Facility DAS Network

In the application diagram, L-com's DAS ceiling antennas are connected via low loss coaxial cable to fiber distribution units and then to the data center via fiber optic cabling providing staff, patients and guests with broadband wireless access supporting both cellular and WiFi device connectivity.



Item #	Style	Description	1-9	10-24	25-99	100+
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HyperLink® Log Periodic Antenna

L-com's HyperLink® Log Periodic Antenna features high gain with multi-band performance. The radome enclosed antennas are ideal for all weather operation.

2.4 - 5.8 GHz Log Periodic Antenna

HG2458-08LP-NF	C	8 dBi, Radome Enclosed, 9" (22.9cm) Pigtail with N Female Connector	79.00	72.68	66.36	CALL
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HyperLink® Yagi Antennas

HyperLink® offers both radome enclosed and non-radome enclosed long range directional Yagi antennas. These rugged antennas are ideal for all weather operation.

900 MHz Yagi Antennas

HG903YE-NF	A	3 dBi, Aluminum, 15" (38.1cm) Pigtail with N Female Connector	33.00	31.02	29.04	CALL
HG906YE-NF	A	6 dBi, Aluminum, 15" (38.1cm) Pigtail with N Female Connector	37.00	34.78	32.56	CALL
HG909YE-NF	A	9 dBi, Aluminum, 15" (38.1cm) Pigtail with N Female Connector	41.00	38.54	36.08	CALL
HG912YE-NF	A	12 dBi, Aluminum, 15" (38.1cm) Pigtail with N Female Connector	44.00	41.36	38.72	CALL
HG914YE-NF	A	14 dBi, Aluminum, 15" (38.1cm) Pigtail with N Female Connector	52.00	48.88	45.76	CALL
HG909Y-NF	A	9 dBi, Stainless Steel, 18" (45.7cm) Pigtail with N Female Connector	43.00	39.56	36.12	CALL
HG913Y-NF	A	13 dBi, Stainless Steel, 18" (45.7cm) Pigtail with N Female Connector	65.00	59.80	54.60	CALL
HG914Y-NF	A	14 dBi, Aluminum, 12" (30.5cm) Pigtail with N Female Connector	145.00	133.40	121.80	CALL

1.9 GHz Yagi Antenna

HG1912SY-NF	A	12 dBi, Stainless Steel, 7" (17.8cm) Pigtail with N Female Connector	54.00	49.68	45.36	CALL
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2.4 GHz Yagi Antennas

HG2409Y-NF	B	9 dBi, Radome Enclosed, 12" (30.5cm) Pigtail with N Female Connector	52.00	47.84	43.68	CALL
HG2409Y-NM	B	9 dBi, Radome Enclosed, 12" (30.5cm) Pigtail with N Male Connector	52.00	47.84	43.68	CALL
HG2412SY-NF	A	12 dBi, Stainless Steel, 7" (17.8cm) Pigtail with N Female Connector	54.00	49.68	45.36	CALL
HG2412Y-NF	B	12 dBi, Radome Enclosed, 12" (30.5cm) Pigtail with N Female Connector	59.00	54.28	49.56	CALL
HG2412Y-NM	B	12 dBi, Radome Enclosed, 12" (30.5cm) Pigtail with N Male Connector	59.00	54.28	49.56	CALL
HG2415Y-NF	B	14.5 dBi, Radome Enclosed, 12" (30.5cm) Pigtail with N Female Connector	65.00	59.80	54.60	CALL
HG2415Y-NM	B	14.5 dBi, Radome Enclosed, 12" (30.5cm) Pigtail with N Male Connector	65.00	59.80	54.60	CALL

4.9 - 5.8 GHz Dual Polarized Yagi Antenna

HG4958DP-17Y-NF	I	17 dBi, Radome Enclosed, 12" (30.5cm) Pigtail with (2) N Female Connectors	181.00	166.52	152.04	CALL
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5.8 GHz Yagi Antenna

HG5817Y-NF-1	I	16.5 dBi, Radome Enclosed, 10" (25.4cm) Pigtail with N Female Connector	85.00	78.20	71.40	CALL
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HyperLink® Range Extender Antennas

L-com's HyperLink® range extender antennas can be used to achieve greater range than standard Rubber Duck antennas or a PC card's internal antenna. Full 360° coverage is provided by the Omni Directional antennas and the Patch style range extender antennas feature directional operation. This series supports various applications including 2.4 GHz IEEE 802.11b/g/n wireless LANs, 800-1800 MHz ISM, GSM and RFID.

800-900 MHz Range Extender Antennas

RE905U-NM	G	5 dBi, MAG Mount Omni 4ft (1.2m) Cable N Male Connector	26.00	23.92	21.84	CALL
RE905U-RSP	G	5 dBi, MAG Mount Omni 4ft (1.2m) Cable RP-SMA Plug Connector	26.00	23.92	21.84	CALL
RE905U-SM	G	5 dBi, MAG Mount Omni 4ft (1.2m) Cable SMA Male Connector	26.00	23.92	21.84	CALL
RE905U-TM	G	5 dBi, MAG Mount Omni 4ft (1.2m) Cable TNC Male Connector	26.00	23.92	21.84	CALL

900/1800-1900 MHz Range Extender Antennas

RE1903U-MC	G	3 dBi, MAG Mount Omni 4ft (1.2m) Cable MC-Card Connector	27.00	24.84	22.68	CALL
RE1903U-NM	G	3 dBi, MAG Mount Omni 4ft (1.2m) Cable N Male Connector	27.00	24.84	22.68	CALL
RE1903U-SM	G	3 dBi, MAG Mount Omni 4ft (1.2m) Cable SMA Male Connector	26.89	24.74	22.59	CALL
RE1903U-SNP	G	3 dBi, MAG Mount Omni 4ft (1.2m) Cable SMA Nano Connector	27.00	24.84	22.68	CALL
RE1903U-TM	G	3 dBi, MAG Mount Omni 4ft (1.2m) Cable TNC Male Connector	27.00	24.84	22.68	CALL
RE1903U-TS9	G	3 dBi, MAG Mount Omni 4ft (1.2m) Cable TS9-Plug Connector	27.00	24.84	22.68	CALL

1.2 GHz Range Extender Antenna

RE1208P-SM	E	8 dBi, 8" (20.3cm) Sq., 3ft (0.9m) Pigtail with SMA Male Connector	37.00	34.04	31.08	CALL
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2.4 GHz Range Extender Antennas

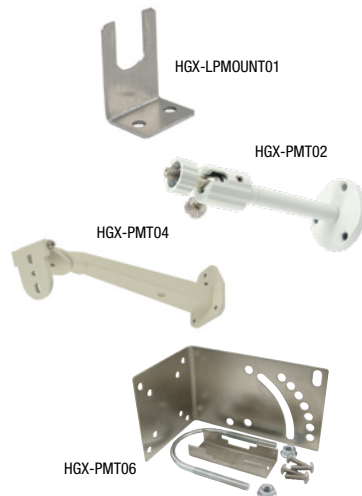
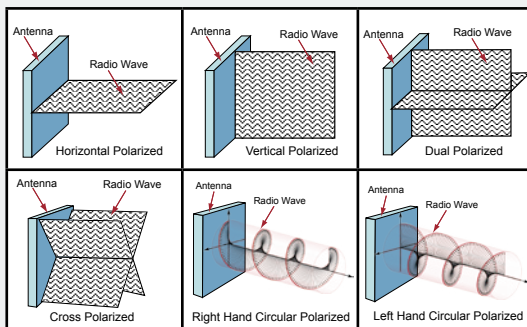
RE05ER-MC	F	5 dBi, 19" (22.9cm) Cable with MC-Card Connector	17.00	15.64	14.28	CALL
RE05ER-MM	F	5 dBi, 19" (22.9cm) Cable with MMCX Connector	17.00	15.64	14.28	CALL
RE05U-MM	G	5 dBi, MAG Mount, 4ft (1.2m) Cable with MMCX Connector	16.00	15.36	14.72	CALL
RE05U-RSP	G	5 dBi, MAG Mount, 4ft (1.2m) Cable with RP-SMA Plug Connector	16.00	15.36	14.72	CALL
RE05U-RTP	G	5 dBi, MAG Mount, 4ft (1.2m) Cable with RP-TNC Plug Connector	16.00	15.36	14.72	CALL
RE07U-RSP	G	7 dBi, MAG Mount, 4ft (1.2m) Cable with RP-SMA Plug Connector	18.00	17.28	16.56	CALL
RE07U-RTP	G	7 dBi, MAG Mount, 4ft (1.2m) Cable with RP-TNC Plug Connector	18.00	17.28	16.56	CALL
RE08P-RSP	H	8 dBi, 4" (10.2cm) Round, 4ft (1.2m) Cable with RP-SMA Plug Connector	38.00	34.96	31.92	CALL
RE08P-RTP	H	8 dBi, 4" (10.2cm) Round, 4ft (1.2m) Cable with RP-TNC Plug Connector	38.00	34.96	31.92	CALL
RE09U-RSP	D	9 dBi, MAG Mount, 4ft (1.2m) Cable with RP-SMA Plug Connector	85.00	79.90	74.80	CALL
RE09U-RTP	D	9 dBi, MAG Mount, 4ft (1.2m) Cable with RP-TNC Plug Connector	85.00	79.90	74.80	CALL
RE09P-RSP	E	8 dBi, 4" (10.2cm) Sq., 4ft (1.2m) Cable with RP-SMA Plug Connector	42.00	38.64	35.28	CALL
RE09P-RTP	E	8 dBi, 4" (10.2cm) Sq., 4ft (1.2m) Cable with RP-TNC Plug Connector	42.00	38.64	35.28	CALL
RE11DP-RSP	E	11 dBi, 8" (20.3cm) Sq., Dual Polarized, 3ft (0.9m) Cables w/RP-SMA Plug Connectors	42.00	38.64	35.28	CALL
RE11DP-RTP	E	11 dBi, 8" (20.3cm) Sq., Dual Polarized, 3ft (0.9m) Cables w/RP-TNC Plug Connectors	42.00	38.64	35.28	CALL
RE11DS-RSP	E	11 dBi, 8" (20.3cm) Sq., Dual Spatial, 3ft (0.9m) Cables w/RP-SMA Plug Connectors	42.00	38.64	35.28	CALL
RE11DS-RTP	E	11 dBi, 8" (20.3cm) Sq., Dual Spatial, 3ft (0.9m) Cables w/RP-TNC Plug Connectors	42.00	38.64	35.28	CALL
RE14P-RSP	E	14 dBi, 8" (20.3cm) Sq., 3ft (0.9m) Cable with RP-SMA Plug Connector	47.00	43.24	39.48	CALL
RE14P-RTP	E	14 dBi, 8" (20.3cm) Sq., 3ft (0.9m) Cable with RP-TNC Plug Connector	47.00	43.24	39.48	CALL

To see our full line of Range Extender Antennas go to L-com.com.

"STYLE" refers to shape of antenna in series.

Tip What is Polarity?

Polarization refers to the orientation of the electric field component of an electromagnetic wave with respect to the Earth's surface. An electromagnetic wave is composed of electric and magnetic fields propagating perpendicular to each other. Radio and light are both electromagnetic waves. Electromagnetic waves can propagate with linear, circular or elliptical polarization. Linear polarization is the most popular method used in WiFi communications and can take two forms, vertical and horizontal. Some antennas utilize dual polarity which provides access and interoperability with both vertical and horizontal polarized antennas. Other polarization options include cross polarization where one element is +45° polarized and the other is -45° polarized. The two opposing 45° angle of the elements produces a cross or X orientation. Circular-polarized antennas have equal response to either horizontal or vertical polarized antennas. These antennas are designed to either support right hand or left hand polarization to suit varied wireless connectivity applications.

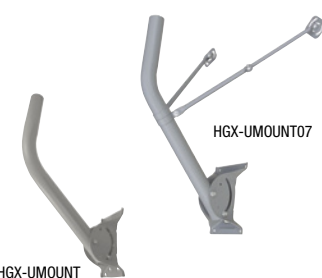
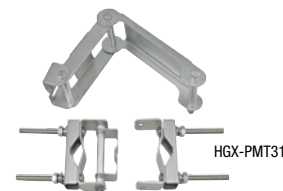
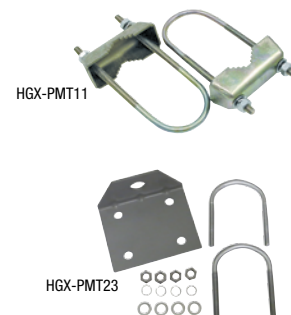


Item #	Description	1-9	10-24	25-99	100+
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Mounting Brackets for Antennas, Amplifiers and Surge Protectors

L-com offers an extensive line of mounting bracket options for its antennas, amplifiers, and surge protectors. Options include wall mount, window mount, mast mount and more. Visit us online at L-com.com for complete bracket dimensions and specifications.

HGX-LPMOUNT01	ALQ2-NMNFBS Surge Protector Mounting Bracket	6.25	5.75	5.25	CALL
HGX-PMT02	Indoor Antenna Mounting Kit, Small Metal Tilt & Swivel	13.00	11.96	10.92	CALL
HGX-PMT03	Indoor Antenna Mounting Kit, Medium Plastic Tilt & Swivel	15.00	13.80	12.60	CALL
HGX-PMT04	Large Metal Tilt & Swivel Mounting Bracket for Wall or Mast Mounting	24.00	22.08	20.16	CALL
HGX-PMT06	60° Tilt & Swivel Mounting Kit for Mounting to 1.25" to 2" Dia. Masts	12.00	11.04	10.08	CALL
HGX-PMT07	Stationary Mounting Kit for Mounting to 1.25" to 2" Dia. Masts	8.00	7.36	6.72	CALL
HGX-PMT08	Suction Cup Window Mounting Kit for Select HyperLink Antennas	13.00	11.96	10.92	CALL
HGX-PMT11	Heavy Duty Stationary Mast Mounting Kit for Mounting to 1.25" to 2" Dia.	14.00	12.88	11.76	CALL
HGX-PMT14	Mast Mount Kit for Outdoor Filters/Splitters 1.25" to 2" Dia. Masts	16.00	14.72	13.44	CALL
HGX-PMT15	Indoor Antenna Mounting Kit - Compact Metal Tilt & Swivel	13.00	11.96	10.92	CALL
HGX-PMT23	Heavy Duty Angled Mast Antenna Mount	12.00	11.04	10.08	CALL
HGX-PMT26	Antenna Array Pole Mount Kit for 120 Degree Sectorial Antennas	135.00	124.20	113.40	CALL
HGX-PMT31	Sector Panel Antenna Replacement Mounting Hardware	57.00	52.44	47.88	CALL
HGX-MMOUNT01	Ratchet Style Marine Antenna Mount	16.00	14.72	13.44	CALL
HGX-UMOUNT	Powder Coated Galvanized Steel "DSS-style" Arm-Outdoor Wall Mounting 21"	20.00	19.20	18.40	CALL
HGX-UMOUNT-10PK	Powder Coated Galvanized Steel "DSS-style" Arm-Outdoor Wall Mounting 10 Pack	150.00	144.00	138.00	CALL
HGX-UMOUNT01	Powder Coated Galvanized Steel "DSS-style" Arm-Outdoor Wall Mounting 26.7"	20.00	19.20	18.40	CALL
HGX-UMOUNT01-10PK	Powder Coated Galvanized Steel "DSS-style" Arm-Outdoor Wall Mounting 10 Pack	155.00	148.80	142.60	CALL
HGX-UMOUNT02	Ceiling/Wall Mount for 4.5" Sq. and 8.5" Sq. Patch Antennas	19.00	18.24	17.48	CALL
HGX-UMOUNT04	Universal Corner Mounting Bracket	30.00	28.80	27.60	CALL
HGX-UMOUNT07	Universal Tube Antenna/Satellite Dish Mount	28.00	26.88	25.76	CALL



RET/AISG 8-Pin FS1 Type Male or Female Connectors

Remote Electrical Tilt (RET) antenna systems are designed so that wireless providers can make adjustments remotely to their antenna systems. The Antenna Interface Standards Group (AISG) has created specifications for the control interface for these types of systems. L-com now offers these FS1 type connectors for AISG applications as well as industrial control applications.

AISGM-2000	RET/AISG 8-Pin FS1 Type Connector, Male	14.50	13.92	13.34	CALL
AISGF-2000	RET/AISG 8-Pin FS1 Type Connector, Female	14.50	13.92	13.34	CALL



RET/AISG 6-Conductor Control Cable Assemblies

L-com's 6-Conductor Remote Electrical Tilt (RET)/AISG compatible control cable assemblies are terminated with Male and Female FS1 type DIN connectors. The connectors on these cable assemblies are interchangeable with Amphenol C 901 A/B/C and Binder 423 series connectors.

CA-AISG6MFM01	RET/AISG 6-Conductor Control Cable, Male/Female, 1.0m	61.14	59.30	57.47	CALL
CA-AISG6MFM02	RET/AISG 6-Conductor Control Cable, Male/Female, 2.0m	65.18	63.22	61.27	CALL
CA-AISG6MFM03	RET/AISG 6-Conductor Control Cable, Male/Female, 3.0m	69.22	67.14	65.07	CALL
CA-AISG6MFM04	RET/AISG 6-Conductor Control Cable, Male/Female, 4.0m	74.50	72.27	70.03	CALL
CA-AISG6MFM05	RET/AISG 6-Conductor Control Cable, Male/Female, 5.0m	78.44	76.09	73.73	CALL
CA-AISG6MFM06	RET/AISG 6-Conductor Control Cable, Male/Female, 6.0m	82.48	80.01	77.53	CALL
CA-AISG6MFM09	RET/AISG 6-Conductor Control Cable, Male/Female, 9.0m	95.95	93.07	90.19	CALL
CA-AISG6MFM10	RET/AISG 6-Conductor Control Cable, Male/Female, 10.0m	101.18	98.15	95.11	CALL
CA-AISG6MFM15	RET/AISG 6-Conductor Control Cable, Male/Female, 15.0m	121.24	117.60	113.96	CALL
CA-AISG6MFM20	RET/AISG 6-Conductor Control Cable, Male/Female, 20.0m	141.23	137.00	132.76	CALL
CA-AISG6MFM30	RET/AISG 6-Conductor Control Cable, Male/Female, 30.0m	182.68	177.20	171.72	CALL
CA-AISG6MFM40	RET/AISG 6-Conductor Control Cable, Male/Female, 40.0m	222.68	216.00	209.32	CALL
CA-AISG6MFM50	RET/AISG 6-Conductor Control Cable, Male/Female, 50.0m	264.02	256.10	248.18	CALL
CA-AISG6MFM60	RET/AISG 6-Conductor Control Cable, Male/Female, 60.0m	304.12	295.00	285.88	CALL

Item #	Description	List Price
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6-Conductor RET/AISG Control Cable by the Meter

L-com now offers 6-Conductor Remote Electrical Tilt (RET) control cable, by the meter.

CA-AISG6-METER	6-Conductor Control Cable, per Meter	4.13
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