MobileMark

antenna solutions

2017-2018
PRODUCT CATALOGUE
ISSUE 17-1

Moving Wireless Forward

antenna solutions since 1984

Innovative antenna designs • Responsive manufacturing • Trusted partner

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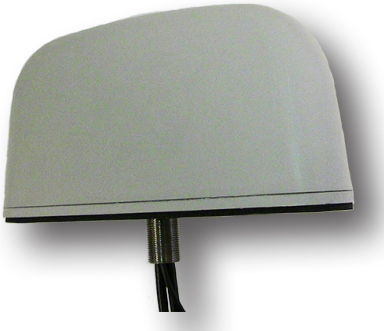
At Mobile Mark, our engineers continue to design innovative antennas so that you can stay one step ahead of new trends in the ever changing wireless world.

LLP602 MIMO LTE/ WiFi/GPS Antenna,
page 74

Reduced profile antennas combine LTE MIMO, WiFi MIMO and GPS. High capacity MIMO (multiple-input-multiple-output) modems need equally high capacity antennas. LLP antennas combine up to 7 separate elements, all in one compact surface-mount radome.



LTB301 Slim Profile 4G LTE/GPS Antenna,
page 24

Designed for a variety of surface mounted applications including mounting on top of utility boxes, the slim profile LTB301offers stellar 2X MIMO 4G LTE performance in addition to GPS. The BD-2400 and BD-5800 for WiFi, in addition to the BD-5900 for DSRC all use this same design.

EM-LTE Flexible Embedded 4G LTE Antenna,
page 19

Embedded antennas can be used for a wide variety of devices and enclosures. The innovative flexible PCB circuit board design of the EM-LTE allows it to fit in almost any space. It operates on the 695-960 MHz and 1710-2700 MHz bands with 2 dBi gain.

PSGN-2000S Flexible Device Antenna,
page 16

Fixed position and flexible device antennas guarantee proper position. A knuckle-swivel connection offers flexibility, but there are installations where a more specific position is needed. The PSGN-2000S offers true flexibility with its innovative bendable poly heat shrink design.

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Public Safety/Emergency Response

WiFi - Embedded, Device & Covert

WiFi - Mobile & Mag-mount

WiFi - DAS, In-building & Infrastructure

DSRC/ITS & PTC

Appendix

Thanks for picking up this catalog!

At Mobile Mark, we are proud of our antennas and are always pleased to share product-updates with our partners, both old and new.

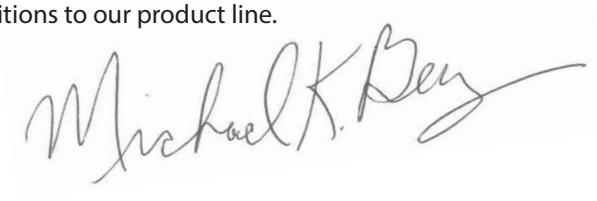
We believe that when you choose an antenna, you are also choosing an antenna company. We strive to provide you with innovative designs, quality production and personalized customer service. With divisions in both the US and Europe, we can address your needs on a global basis.

Part of our commitment to our customers includes staying current on our in-house capabilities. The additional space allows us to streamline operations for quicker turn-around on large production volumes, and to expand product lines into exciting new technologies and applications. Enhanced R&D facilities allow us to build on our custom-design capabilities and to conduct a wider range of environmental testing.

If you think of Mobile Mark as only "mobile" antennas, think again! We offer a full range of antennas including Site Antennas, Device Antennas and Embedded Antennas. If you have a unique application, don't hesitate to give us a call. We'll brainstorm with you to see if one of our off-the-shelf designs will meet your needs. If not, we'll work with you to custom design a solution for your application.

Don't forget to visit our website www.mobilemark.com for the very latest additions to our product line.
We look forward to hearing from you.

Regards,



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Custom Coax Cable Assemblies

Cable Assemblies & Connectors

- Custom RF cable assemblies built to order
- Provides extension capability to standard antennas configurations
- Quality low loss cable

Mobile Mark manufactures custom cable assemblies. All standard cable assemblies/ connectors are 50 Ohm. Standard production lead times are typically 2 weeks. Longer lead times may apply to some.

RG-174 is a very small (approx. 0.1"/2.5 mm) flexible cable best suited for mobile/portable applications up to 1900 MHz. It can be used in short runs up to 2.7 GHz. For miniature sized connectors it has the widest options available.

LMR-100A is the low loss alternative for RG-174. It has the same size diameter (0.1 inch or 2.5 mm) and can be used with the same range of connectors. The cable is well shielded but is still flexible and easy to handle.

RG-58 is the work horse cable and is suitable for applications up to 2.7 GHz. It is best suited for cable runs under approximately 20ft (6 meters).

LL-195 is the same size cable as RG-58, and uses the same size connectors, with the added feature of lower cable losses. Low Loss-195 would be suitable for cable runs over 15 ft (4.5 meters) or in high frequency applications up to 6 GHz. This is our standard cable for applications above 2.5 GHz.

LMR-195FR is a non-halogen (non-toxic), low smoke, fire retardant cable. It has the same diameter as LL-195, can be fitted with the same variety of connectors, and has the same cable loss.

LMR-240 is a lower loss cable than LL-195 and best suited for longer cable runs from 20 ft - 50 ft (6 meters - 15 meters) as well as for higher frequency applications up to 6 GHz or more.

LMR-400 is suitable for long runs & higher frequency applications. Approximately 0.405" diameter (10 mm), it might be too large for some mobile installs, but is perfect for every base station transmitter or access point. Longer lead times may apply.

LMR-600 is the lowest loss cable we offer. It is a premium low loss cable. It is suitable for base station installations where the antenna may be mounted on a tower with long runs of cable.

Model Configurator

CA ☐☐☐/☐☐☐-☐☐

- Cable Length in Inches
- Cable Type
- End Connector 1
- End Connector 2

Example: CA120/195-CC

Cable Options:		Connector Options:	
Code	Cable	Code	Connector
174	RG-174	C	SMA Plug
100	LMR-100A	V	SMA Jack
58	RG-58	X	N Plug
195	LL-195	Y	N Jack
195FR	LMR-195FR	A	TNC JPlug
240	LMR-240	W	TNC Jack
400	LMR-400		
600	LMR-600		

(Other Configurations available.)

Cable Type	Loss Per ft. at 900 MHz	Loss Per ft. at 2000 MHz	Loss Per ft. at 2500 MHz	Loss Per ft. at 5000 MHz
RG-174	0.32 dB	0.49 dB	0.55 dB	NR
LMR-100A	0.22 dB	0.30 dB	0.39 dB	0.50 dB
RG-58	0.14 dB	0.21 dB	0.24 dB	0.43 dB
LL-195	0.10 dB	0.15 dB	0.17 dB	0.25 dB
LMR-195FR	0.10 dB	0.15 dB	0.17 dB	0.25 dB
LMR-240	0.07 dB	0.10 dB	0.12 dB	0.17 dB
LMR-400	0.04 dB	0.06 dB	0.07 dB	0.12 dB
LMR-600	<.01 dB	<.01 dB	<.01 dB	0.10 dB

Note: Loss per ft is equivalent to loss per 30 cm.

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Mounting Accessories & Options

Pole Mount for Stud Antennas

Wall Mount for OD Series Antenna

Truck Mirror Mount for Stud

Trunk Lid Mount Stud Antennas

-
- Truck mirror and trunk lid mounts available for Stud mount antennas
- Wall/Pole mount adapts stud antennas to fixed base station/access point

Pole Mount Adapter Kit
The model RM-MK wall and pole mount can be used to adapt a stud mount antenna for used as a fixed access point. The kit can accommodate antennas with stud diameter up to 3/4" (70mm) and is supplied with a 2.75" (6.9 cm) ground plate.

Pole Mount - LTM Series
The LTM-PMK is the standard pole mount kit for the LTM series. The heavy duty bracket is designed for quick and easy installation.

Universal Mount
The NT-MK L-bracket mount can be used for a number of different models, including many of the site antennas.

Truck Mirror Mount
The Truck Mirror Mount (Model SM-MM) can be used to adapt most of Mobile Mark's Stud mount antennas for truck side mirror mounting. The ground plate is 2.75" diameter (70 mm) aluminum and the mounting hole can accommodate up to 3/4" stud (19 mm).

Trunk Lid Mount Adapter
The model SM-TM provides vehicle trunk (or hood) lid mounting for our stud mount antennas. The SM-TM provide mounting U shaped tangs (with set screws), that wrap around the trunk surface/weatherstrip. The ground plate is 2 3/4" round (70 mm), and can accommodate a stud size of up to 3/4" (19 mm).

Wall Mount - OD Series
The model OD-WMK is a simplified L shaped bracket to mount the OD Series antennas to a wall. The aluminum bracket provides a 5" (12.7cm) standoff from the wall, and is supplied with U Bolts for accommodating the 1" diameter (25 mm) of the OD body.

Replacement kits
Replacement kits are often requested to make it easier to move an antenna from one installation to another. In particular, the re-install tape kit for the MM3 glass mount antennas facilitates re-installation.

Note: Some mounting accessories & kits may only be availabe from the USA.

Model #	Description
Wall Mount	
PN-WMK	Adjustable wall mount for panels
NLM-WM	Wall mount for NLM Series
Wall/Pole Mount Adapter	
RM-MK	Wall & Pole adapter kit for stud mnt. antennas
BP-MK	Pole/Wall mount for BP Series
LTM-PMK	Pole/Wall mount LTM Series
Universal Pole Mount/Wall Mount	
NT-MK	L-bracket mount
Mobile Mount	
SM-TM	Vehicle Trunk lid mount with ground plate
SM-MM	Truck Mirror mount, with ground plate
Omni Series Mounts	
OD-WMK	L Bracket for wall mount OD Series antennas
OD-MK	Standard Pole mount; Fits mast up to 2.5" OD
Pipe Mount	
NLM-PM	Pole mount for NLM Series
YAG-PMK	Pole mount for YAGI antennas
Replacement Kit	
MM-K	MM3 Re-install tape kit
PN-MK	Replacement mount for PS Series

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PSTG0-925SF Series
PSTG0-915SE Series
PSTG0-868SF Series
PSTG0-915SF Series

Device Unity Gain UAV Antennas

- Sleek profile with small SMA connectors
- Models for ISM or RFID Applications
- Tough polyurethane radome resists impact damage

These UAV quarterwave antennas offer high performance with the minimum of size. It can be used for either ISM or RFID applications. The sleek profile pairs well with a wide variety of devices.

The PSTG0-868SF is a unity gain antenna used for UAV applications. Measuring 3 1/2:" (88.9mm) in height, this small sized whip antenna is designed to be used with remote unmanned aerial vehicles.

The PSTG0-915SF/PSTG0-925SF are unity gain antennas used for UAV applications. Measuring 3 3/8" (85.7mm) in height, this small sized whip antenna is designed to be used with remote unmanned aerial vehicles.

The PSTG0-915SE UAV Quarterwave Antenna offers high performance with a slim profile. It operates at 902-915 MHz and can be used for either ISM or RFID applications. The overall antenna length is 2 7/8-inches (73mm); it features a flexible whip and terminates with an SMA connector. A groundplane is required for optimum performance.

The antenna radomes are made from black matt polyurethane, which provides a protective, waterproof covering. It is a solid material, with some flexibility.
Due to their small size and flexible material, these antennas are suitable for wireless devices such as access points, or hand-held portable units. In addition, they are suitable for both consumer and commercial applications.

As quarterwave antennas, the ground plane in the device influences the performance of these antennas. The specific radiation characteristics depend on the total configuration of the unit when interfaced with the antenna.

A number of factors can influence the radiation characteristics of the antenna such as how the wireless device is handled or where the device is mounted. A ground plane is required for optimum performance.

Model Number	Freq. Band
UNITY GAIN UAV ANTENNAS	
PSTG0-868SF	865-870 MHz
PSTG0-915SF	902-928 MHz
PSTG0-925SF	870-690 MHz
PSTG0-915SE	902-915 MHz

*Min. Order Quantity (MOQ) 250 Units

Specifications			
Frequency:	See above	Radome Material:	Polyurethane; black matt finish
Gain:	0 dBi max	Connector:	SMA Male (Plug)
VSWR:	2:1 max over range	Whip Length:	
Impedance:	50 Ohm nominal	PSTG0-925SF	3 3/8 inches (85.7 mm)
Maximum Power:	5 Watts	PSTG0-868SF	3 1/2 inches (89 mm)
Electrical Length:	1/4 wave	PSTG0-915SF	3 3/8 inches (85.7 mm)
Operating Temp:	-40°C to +85°C	PSTG0-915SE	2 7/8 inches (73 mm)
Polorization:	Vertical	Water Ingress:	IPx5

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HD3-915 Low Profile Heavy Duty ISM Antenna

ISM Antenna

- 902-928 MHz antenna with durable overmolded radome
- Designed to be surface mounted
- Ground plane independent

These heavy duty low profile ISM antennas are designed for fixed M2M applications. This HD3-915 antenna operates in the frequency range of 902-928 MHz, and the HD3-868 antenna operates in the frequency rante of 868-870 MHz; both with a peak gain of 3 dBi.

These antennas are low profile and are ideal for providing ISM M2M capability in environments where the antenna is regularly subjected to physical wear and tear.

Impact from a car tire passing overhead or damage caused by an animal in an agricultural setting are examples of durability tests that this antenna is designed to handle.

Measuring only .50" (1.27 cm) high and 3.52" (8.94cm) in diameter, the HD3-915 is a compact antenna that can easily be mounted to almost any surface.

There is a 5/8-24 x .50 threaded stud at the base of the antenna where it is mounted, and standard low loss-195 cable with an SMA plug is routed through for connection.

The product comes standard with 3 feet (9.14 cm) of cable, but custom cable lengths are available.

These heavy duty ISM antennas are enclosed in an overmolded radome made out of black ABS plastic, which provides a durable housing that is also UV resistant.

The HD3-915 and HD3-868 are ground plane independent, meaning there is no ground plane requirement for proper operation.

Model #	Frequency
HD3-915-3C-BLK-36	902-928 MHz
HD3-868-3C-BLK-36	868-870 MHz

Model numbers indicates 36" of Cable - 3Ft

Available in black only

Specifications			
Frequency:		Net Weight:	8oz (1/2 lbs) (226g)
HD3-915	902-928 MHz		
HD3-868	868-870 MHz	Pigtail Cable :	Low Loss-195, 1 foot (30.5cm) request longer lengths at time of order
Gain:	3 dBi peak		
VSWR:	Less than 2:1		
Operating Temp:	-40° to +80° C	Pigtail Connector:	SMA Plug (Male), others available, please specify
Nominal Impedance:	50 ohm nominal		
Maximum Power:	10 watts		
Polarization:	Vertical		
Radome/Mount:	.50" H x 3.52"w (8.94cm)	Shock & Vibration:	EN 61373, IEEE1478, MIL-810G
Radome Material:	Black ABS Plastic	Water Ingress:	IP67
Mounting:	5/8 - 18 x .50 threaded stud		

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Omni-directional ISM 915 MHz Systems

ECO5-915
with N Jack

Recessed
N Plug

- Economical, weatherproof and durable
- Designed for both indoors and outdoors
- Can be pole or directly mounted an N connector

The ECO5-915 covers 902-928 MHz. It was designed specifically for ISM applications in the 902-928 MHz band. The antenna offers easy installation, compact size and efficient electrical performance.

The ECO Series are free space antennas; no ground plane is required so the antenna can be mounted just about anywhere. Standard mounting hardware is included for pole mounting.

There are two connection options available. The ECO5 typically terminates with an integrated N-jack (female) connector at the base of the antenna.

There is also an ECO5-915RN with a reccessed N-plug, enabling the antenna to be surface mounted. No additional hardware is required for this model.

The standard ECO5-915 configuration easily mounts on to poles up to 2" (5 cm) in diameter.

The second configuration, the "RN" model, terminates with a recessed N-plug (male) connector built into the base of the antenna. These antennas are typically attached directly to a device or installation box.

Cable assemblies are available from Mobile Mark to connect the site antenna to the modem. These cable assemblies can be custom produced for any length.

Model #	Connector
ECO5-915-WHT	Standard N Jack (Female)
ECO5-915RN-WHT	"Recessed N" Direct mount with N Plug (Male)

Color options available for above models
WHT-White

Specifications			
Frequency/Gain:	902-928 MHz, 5 dBi gain	Radome Material:	White fiberglass
VSWR:	2:1 max over range		
Impedance:	50 Ohm nominal	Connector:	
Max Power:	10 Watts	ECO5-915	N-jack (female)
ECO5 Beamwidth	22° El, 360° Az	ECO5-915RN	Direct mount option Recessed N Plug (Male)
Operating Temp:	-40° to +80° C		
Lightning Protection:	External recommended	Antenna Length:	23.5 in (59.6 cm)
Max Wind Velocity:	100 mph (160 kph)	Weight:	
Antenna Diameter:	0.63 in (1.6 cm) Radome, 0.9 in (2.3 cm) at the base	ECO5-915	5 oz. (.14 kg)
		ECO5-915RN	8 oz (.22 kg)
Pole Mounting:	Mounts up to 2" (5cm) diameter pole	Shock & Vibration:	EN 61373, EN 300 019-2-4, MIL 810G, IEC 60068, IEEE 1478
Surface mount option:	Recessed N (Male)	Water Ingress	IPx5

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Panel Antennas, 6 dBic, RFID & ISM

PN6-915

Swivel Mounting Bracket

- Weatherproof radome; in-building or outdoor coverage use
- 6 dBi gain for 915 RFID (US), 868 RFID (EU), and 915 ISM
- Available in Right Hand and Left Hand Circularly Polarized (CP)

Mobile Mark's PN6 Series antennas have been a popular solution for many RFID systems. These mid-gain antennas are ideal for systems where the tags read are neither too close not too far from the reader.

The PN6-915 antennas have also been used for applications in the ISM 915 band.

The PN6 Series antennas are available as either circularly polarized righthand or lefthand. With 5.5 dBic gain, these antennas can provide an improvement in system performance over micro sized patch.

For RFID applications, these antennas are typically used for mid-range reader applications, portals and conveyor belts.

These patch antennas are small 5.75 in, (146 mm) square and attractive. When mounted on a wall the compact mounting configuration only requires a maximum of 2.7 inch (69 mm) clearance.

The radome is a durable ASA material, finished in white. The standard mounting hardware provided includes a swivel wall mount and a stainless steel clamp for pole mounting. Other options include a tape or velcro mount.

The antenna terminates with 6 (152 mm) inches of RG-58 cable and SMA Plug (Male) connector. Longer lengths are available, please consult your sales representative.

The PN6 Series has a DC shorted front end and is compatible with antenna sensing circuits found in the current generation of RFID readers. If your reader has a feature that requires a 10K ohm resistor, the PN6 antenna can be special ordered with this feature.

Model #	Description
PN6-915RCP-1C-WHT-6	RHCP for US RFID
PN6-915LCP-1C-WHT-6	LHCP for US RFID
PN6-868LCP-1C-WHT-6	LHCP for EU RFID
PN6-868RCP-1C-WHT-6	RHCP for EU RFID

Add -FV for a Velcro mount optional
Add -FT for a Tape mount optional

For other connector & cable configurations, please contact your sales representative

Specifications			
Frequency:		Lightning Protection:	External recommended
PN6-915 Series	902 - 928 MHz	Antenna Radome:	White ASA
PN6-868 Series	865 - 870 MHz	Mounting:	
Gain:		Standard	Swivel Wall/pole mounting with hose clamp
PN6-915 Series	6 dBic		
PN6-868 Series	5 dBic	Velcro optional	Flat backing plate w/ Velcro
Axial Ratio:	3 db Max	Tape optional	Flat backing plate w/ Tape
VSWR:	2:1 max over range	Radome Size:	5.75" Hx 5.75" Wx 0.7" D (146 mm x146mm x 18 mm)
Impedance:	50 Ohm nominal		
Maximum Power:	10 Watts	Weight:	1.1 lbs (0.5 kg)
Beamwidth:	80° elevation, 80° azimuth	Termination:	6"(152 mm) RG-58/SMA Plug
Front-to-Back ratio:	10 dB	Shock & Vibration:	EN 61373, IEEE 1478, MIL-810G
Operating Temp:	-40°C to +85°C	Water Ingress	IPx5

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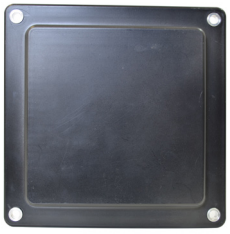

HD7 Series with Integral N Female

HD7 Series with Integral N Female

Optional Pole Mount

Heavy Duty, High Vibration Panel Antennas, 7 dBic RFID & ISM

- Heavy-duty impact resistant; has passed industry standard shock & vibration tests
- Has dust/water ingress rating of IP67
- 7 dBic panel for long range systems

When an extremely rugged antenna is needed for use in the harshest conditions, then the HD7 antenna are the antennas of choice. They are the most rugged RFID antennas designed to date and have surpassed every test thrown at them, including being run over by a car.

The HD7 Series antennas are circularly polarized, US models are RHCP (Right Hand Circularly Polarized) and European models are LHCP (Left hand Circularly Polarized). Because of the circular polarization, the orientation of the RFID tag antenna will not affect the performance of readers. With 7 dBic gain, these antennas provide significant performance improvements over a micro-sized patch.

They can be mounted in any setting, including directly against metal, and can be used indoors or outdoors. Please note that the integral N Female connector is mounted on the back of the antenna. They are designed to operate in close proximity to metal, which normally has a tendency to detune antennas.

The HD7 antennas are compact and aesthetically pleasing, measuring only 8.25" H x 8.25" W x .75" D (21 cm x 21 cm x 1.9 cm). Not only is the radome attractive, it is also the toughest RFID antenna that we have designed and produced to date.

The antennas are provided with 4 corner holes with metal reinforcing bushings for mounting flush to a surface. This mounting style provides the most versatile mounting options for this product, while maintaining the impact ability.

The HD7 Series has a DC shorted front end and is compatible with antenna sensing circuits found in the current generation of RFID readers.

Model #	Description
HD7-915RCP-BLK	Panel, N female, US 902-928 MHz
HD7-868LCP-BLK	Panel, N female, EU 865-870 MHz
HD7-915RCP-PM-BLK	Panel includes Pipe mount
HD7-868LCP-PM-BLK	Panel includes Pipe mount

Specifications			
Frequency:	902-928 MHz (US) 865-870 MHz (EU)	Radome Size:	8.25" Hx 8.25" Wx ¾" D (21 cm x 21 cm x 1.9 cm)
Gain:	7 dBic maximum		
Axial Ratio:	3 dB Max	Weight:	1.5 lbs (0.5 kg)
VSWR:	1.5:1 max over range	Antenna Radome:	Black ASA
Impedance:	50 Ohm nominal		
Maximum Power:	20 Watts	Connector:	Special heavy duty N female, exits from back of antenna
Beamwidth:	75° elevation, 75° azimuth		
Operating Temp:	-40°C to +85°C	Sensing type:	DC Shorted
Mounting:	4 Hole Corner Mount with metal reinforcing bushings ⅝ inch diam (8 mm)	Shock & Vibration:	EN 61373, IEEE 1478, MIL-810G TIA-329.2-C
Pipe Mount (optional):	Mounts up to 2" (5.1 cm) OD Outside Diameter	Dust/Water Ingress:	IP67

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PN8 Series,
8 dBic gain

Panel Antennas
8 dBic RFID

- 8 dBic gain is the maximum allowable gain for general RFID applications
- Mounting hardware allows vertical tilt adjustment of up to 24-degrees
- Mid-range coverage, such as in a warehouse setting

Mobile Mark offers 8 dBic RFID Patch Antennas for both the 868 MHz and 915 MHz bands.

Frequency band use varies by region. US models cover 902-928 MHz with Right Hand Circular Polarity. Models for Europe and many other parts of the world cover 865-870 MHz with Left Hand Circular Polarization.

The Patch Antenna is intended for mid-range to long-range coverage, such as in a warehouse setting. The antenna offers 8 dBic gain with a beamwidth of 70-degrees elevation and 70-degrees azimuth.

The unique high efficiency design provides a broadband match, making it possible to maintain the VSWR at 1.5:1 typical and 2:1 max, over the entire range.

The rugged radome and heavy aluminum back plate make it well suited for industrial applications. The ASA radome is both impact resistant and UV resistant. The antenna is operational from -40°to +85° Celsius and can handle a maximum power of 20 watts.

The PN8 Series antenna is relatively compact for the gain. It measures 9" x 9" x 1.6" (23 cm x 23 cm x 4 cm) and is typically supplied with 1-foot (30cm) of RG-58 cable with an SMA connector. Connectors may vary per customer request. The antenna is pipe mounted with a rugged L-bracket and U-Bolt mounting kit. This allows for a secure and easy installation. A slot in the standard mounting bracket allows for vertical tilt adjustment of up to 24-degree.

The PN8 Series has a DC shorted front end and is compatible with antenna sensing circuits found in the current generation of RFID readers.

If your reader has a feature that requires a 10K ohm resistor, the PN8 antenna can be special ordered with this feature.

Model #	Frequency
PN8-915RCP-1C-WHT-12	902-928 MHz
PN8-868LCP-1C-WHT-12	865-870 MHz
PN8-915-10K-1C-WHT-12	902-928 MHz
PN8-868-10K-1C-WHT-12	865-870 MHz

Note: models specified above indicate 1 foot (30 cm)of cable and an SMA male connector (e.g. -1C). Model number will change to specify a different cable length or connector. Contact your sales representative for other connector options.

Specifications			
Frequency:		Cable:	Black RG-58, 1 ft (30 cm)
Europe	865-870 MHz	Case:	9" x 9" x 1.6" (23 cm x 23 cm x 4 cm)
US	902-928 MHz	VSWR:	1.5:1 typical 2:1 max over range
Gain:	8 dBic	Maximum Power:	20 Watts
Polarization:		Case Material:	WHITE UV Resistant ASA
868 MHz systems	LHCP	Connector:	SMA Male (Plug)
915 MHz systems	RHCP	Mounting:	Pipe mounting; L-Bracket with U-Bolt Mounts up to 2.5" dia. (6.3 cm)
Axial Ratio:	3 db Max	Operating Temp:	-40° to +85° C
Beamwidth:			
Elevation	70 degrees		
Azimuth	70 degrees		
Impedance:	50 ohms		

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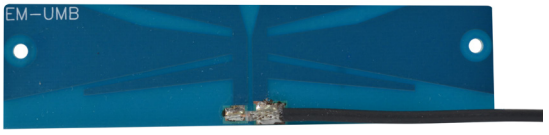

Embedded
Antennas

Embedded Antennas
Internal Cellular Antennas

- Off-the-shelf antenna models listed; custom designs also available
- In-house design, prototyping and testing for quick turn-around
- Designed to be integrated/embedded into OEM designs

Mobile Mark's range of embedded or internal antennas can be used by Cellular OEMs, systems integrators or contract manufacturers to improve the efficiency of the wireless units they are producing.

Our antennas have been used in applications as diverse as smart meters and vending machines.

These three board-only embedded antennas are offered for cellular frequencies. Two of the antennas are tuned for networks in particular geographic areas and the third offers broadband coverage.

The EM-900/1900 Series covers the traditional US Cellular 3G bands of 850 & 1900 MHz including both GSM and GSMA devices. The EM-925/1800 Series is tuned to cover the traditional European GSM bands of 925 & 1800 MHz.

For applications requiring wider bandwidth coverage, Mobile Mark offers the EM-UMB Series which covers 824-960 & 1500-2200 MHz. This antenna covers both the US and European bands, and it also covers the UMTS, and AWS bands at 1.7 & 2.1 GHz.

The EM-900/1900 and EM-925/1800 boards offer unity gain with an omni-directional radiation pattern. The broadband EM-UMB offers 2 dBi gain.

The off-the-shelf designs presented here will typically meet performance requirements for traditional GSM/CDMA Cellular devices. If there is something unusual about the final setting or application, Mobile Mark can help with a custom designed antenna.

Mobile Mark has the experience to design just the right antenna for your device. We offer state of the art design capabilities, including 3-D simulations using design software. We also offer in-house prototype development for quick turn-around.

The boards have a special coating to inhibit oxidation and maintain performance.

Model #	Description
EM-UMB-2C-6	Embedded Broadband Cellular
EM-900/1900-2C-6	Embedded Dualband Cellular
EM-925/1800-2C-6	Embedded Dualband Cellular

Other cable and connector combinations are available.

Specifications

Frequency:		Maximum Power:	5 watts
EM-UMB	824-960 & 1500-2200 MHz		
EM-900/1900	824-894 MHz & 1850-1900 MHz	Dimensions:	
EM-925/1800	870-960 MHz & 1710-1880 MHz	EM-UMB	4.5" x 1.17" (114mm x 30mm)
		EM-900/1900	3.2" x .95" (81mm x 24mm)
Gain:		EM-925/1800	3.2" x .95" (81mm x 24mm)
EM-UMB	2 dBi		
EM-900/1900	Unity	Cable/Connector:	6-inches (152 mm) RG-174 with SMA plug
EM-925/1800	Unity		
		Optional Cable:	LMR-100 & RG-178
VSWR:	2.5:1 max over all bands	Optional Connectors:	U.FL
Operating Temp:	-40° to +85° C	(Model number will change)	
		Mounting:	Fixed double sided tape
Nominal Impedance:	50 ohms		

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ISM & Cellular
PSTG0 Series

PSTG0-
2400

PSTG-915
Series

PSTG0-925SE
Series

Device Antennas Quarterwave, 824-2485 MHZ

- Sleek profile with small SMA connectors
- Models for GSM/CDMA are backwards compatible to earlier generations
- Tough polyurethane radome resists impact damage

These quarterwave antennas offer high performance with the minimum of size. The sleek profile pairs well with a wide variety of devices.

Different single and dual band combinations are offered, providing maximum flexibility. Typical popular dual band combinations include US Cellular GSM/CDMA at 850 & 1900 MHz, and European GSM at 925 & 1800 MHz.

Other combinations are available, as specified in the model number table, included the PSTG0-1950/2140 designed to cover UMTS frequency bands.

Single band models are offered for US 850 band Cellular, or 902-928 ISM, or EU 925 Band GSM. A single band WiFi model is also available for 2.4 GHz.

The antennas are available with an SMA Male connector. In addition, the PSTG-915 is also available with a reverse polarity SMA.

The antenna radomes are made from black matt polyurethane, which provided a protective, waterproof covering. It is a solid material, with some flexibility.

Due to their small size and flexible material, these antennas are suitable for wireless devices such as access points, or hand-held portable units. In addition, they are suitable for both consumer and commercial applications.

As quarterwave antennas, the ground plane in the device influences the performance of these antennas. The specific radiation characteristics depend on the total configuration of the unit when interfaced with the antenna.

A number of factors can influence the radiation characteristics of the antenna such as how the wireless device is handled or where the device is mounted. A ground plane is required for optimum performance.

Model Number	Freq. Band
Dual Band	
PSTG0-900/1900HKS	824-894 & 1850-1990 MHz
PSTG0-925/1800HKS	890-960 & 1710-1880 MHz
PSTG0-925/1900HKS	890-960 & 1850-1990 MHz
PSTG0-1950/2140HKS	1920-1980 & 2110-2170 MHz
Single Band	
PSTG0-900HKS	824-894 MHz
PSTG0-925HKS	870-960 MHz
PSTG-915S	902-928 MHz
PSTG-915RS	902-928 MHz
PSTG0-925SE*	870-960 MHz
PSTG0-2400HS	2400-2485 MHz
PSTG0-2400HRS	2400-2485 MHz

*Min. Order Quantity (MOQ) 250 Units

Specifications			
Frequency:	See above	Connector:	SMA Plug (male) except PSTG-915RS & PSTG0-2400HRS with Rev Polarity SMA plug
Gain:	0 dBi max		
VSWR:	2:1 max over range		
Impedance:	50 Ohm nominal	Whip Length:	
Maximum Power:	5 Watts	PSTG0 Series	1.6 inches (41 mm)
Operating Temp:	-40°C to +85°C	PSTG-915 Series	3.2 inches (81 mm)
		PSTG0-925SE	2.875 inches (73 mm)
Radome Material:	Polyurethane; black matt finish	PSTG0-2400HS	1.0 inches (25 mm)
		Water Ingress:	IPx5

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PSKN Series in Straight Position

PSN in fixed straight

PSNRA in fixed right angle position

Device Antennas, Halfwave, LTE 3G/4G Dual-band, 694-2750 MHz

- Sleek profile with adjustable elbow for straight or angled operation
- Compact design, ground plane independent with high performance
- Can be configured as fixed straight or fixed right angle (prefix PSN or PSNRA)

The PSKN Dual band antennas offer excellent performance and are available for a number of dualband and broadband wireless data applications.

Three different series are available; a model for US Cellular 3G, a model for EU GSM, and a wideband model for US Cellular including GSM/CDMA, LTE & AWS/UMTS.

The EU GSM 925 MHz lower band also covers with the ISM 915 band (902-928 MHz), without any sacrifice in performance. Additionally, a model is available with reverse polarity SMA connector, for use in ISM 915.

The broadband options, PSKN3-700/2100S and PSKN3-700/2700S, cover traditional cellular frequencies as well as the new LTE 700 MHz band and the UMTS bands.

This PSKN series is a "blade" style antenna with an adjustable right angle elbow. Overall length is 7.75" (20 cm) in a straight position, and 6.75 " (17.2 cm) in a right angle position. Peak gain on all bands is 3 dBi.

The halfwave design means the antennas are ground-plane independent; the antennas can be used on plastic or metal without concern for proper ground size.

The radome material is a semi-flex polyurethane, providing some give when stressed but maintaining long term durability.

The antennas pass a number of industrial and military shock & vibration stantards, and have been rated IPx5 for water ingress. The PSN models are rated IP67.

The antennas are available with SMA, TNC or Reverse Polarity SMA (for 902-928 ISM applications).

Model #	Frequency (MHz)	Connector
US CDMA/GSM/Data		
PSKN3-900/1900T	824-894 & 1850-1990	TNC Plug
PSKN3-900/1900S	824-894 & 1850-1990	SMA Plug
EU GSM & ISM 915		
PSKN3-925/1800S	870-960 &1710-1880	SMA Plug
PSKN3-925/1800T	870-960 & 1710-1880	TNC Plug
EU GSM & ISM 915 with Rev Pol SMA		
PSKN3-925/1800RS	870-960 & 1710-1880	Rev SMA Plug
Wideband with SMA		
PSKN3-700/2100S	694-960 & 1710-2170	SMA Plug
PSKN3-700/2700S	694-960 & 1710-2750	SMA Plug

All Knuckle-Swivel Models (PSKN) Available in Fixed Position: PSN - Straight Fixed Position. PSNRA - Right Angle Fixed Position.

Specifications

Frequency ranges:		Whip Length:	6.75" (172 mm) at 90° angle, 7.75" (197 mm) when straight
900/1900	824-894 & 1850-1990 MHz	Radome Material:	Polyurethane, with black matt finish, and knurled connector.
925/1800	870-960 & 1710-1880 MHz	Shock & Vibration:	EN 61373, IEEE 1478, MIL-810G, TIA-329.2-C
700/2100	694-960 & 1710-2170 MHz	Water Ingress:	IP67 (PSN series) IPx5 (others)
700/2700	694-960 & 1710-2750 MHz	Style:	
Gain:	3 dBi peak	PSKN	Adjustable Straight, Right Angle
VSWR:	2:1 max over range	PSN	Fixed Straight
Impedance:	50 Ohm nominal	PSNRA	Fixed Right Angle
Maximum Power:	5 Watt		
Operating Temp:	-40°C to +85°C		
Connector:	SMA Plug (Male), TNC Plug (Male), or Reverse Pol SMA		

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PSGN-2000S

Device Halfwave, Flexible Portable Antenna, 1500-2700 MHz

- Device antenna for Broadband & M2M
- 3 dBi gain peak with flexible poly heatshrink covered goosneck design
- Halfwave design requires no ground plane

The PSGN-2000S is a half-wave flexible rubber duck style device antenna that requires no ground plane for operation. This makes it ideal for use with portable or small remote devices with little or no ground plane. They can even be used with products that consist of an all plastic chassis or case.

The PSGN-2000S is a Device Antenna with a unique design. It is covered in a Flexible Poly Heatshtrink Covered Gooseneck that allows the antenna to bend into nearly any position. This antenna uses a full length center fed dipole configuration. Radiated energy is most pronounced along the horizon, with maximum peak of 3 dBi, free space.

When mounted with the whip close to metal, the energy pattern can become shaped, and result in higher peak gain.

VSWR ranges from <2:1 to <2.5:1 depending on the frequency for the intended application. For the 1500-2400 MHz band, the VSWR ratio is <2:1. The frequency range of 2400-2700 MHz allows for a <2.5:1 VSRW ratio.

The antennas are encased in UV stable black polyamide. The antenna radomes are waterproof, however additional sealing of connectors would be required if mounting permanently in an outdoor environment.

The PSGN-2000S mounts to network devices in a very straightforward fashion with a standard SMA connector. The simple but elegant design and is ideal for portable Cellular M2M applications. The antenna was originally created as a portable antenna that could be carried on a person. This makes it an incredibly versatile design for portable and device cellular M2M solutions.

Other device antennas models are available for several different frequency bands including a number of specialized Military bands as well as WiFi on 2.4 & 5 GHz for COTS (commercial off the shelf) networks.

Minimum orders apply to these specialized models, please consult factory for latest details and availability.

Model #	Frequency	Gain
PSGN-2000S	1500-2700 MHz	3 dBi peak

*Measured without groundplane

Specifications

Frequency:	See above	Case Material:	Black Polyamide, UV Stable
Gain:	3 dBi peak		
VSWR:		Temperature Range:	-40° to +85° C
1500-2700 MHz	<2:1		
2400-2700 Mhz	<2.5:1	Mounting:	Direct SMA Plug
Impedance:	50 Ohm nominal		
Maximum Power:	10 Watts	Weight:	1.25 oz (35g)
IP Rating:	IP67		
		Antenna Dimensions:	7.125" Length x 0.44" Diameter (181 mm x 11 mm)
Connector:	SMA plug		

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CVL Antenna

Covert Antenna, LTE Broadband 694-2700 MHz

- Global LTE coverage for worldwide projects
- Extremely slim profile for tight installations
- Built-in mounting holes for easy installation

Mobile Mark's new CVL-WLF Series Covert Antenna covers all Cellular & LTE networks from the 694 MHz to 2.7 GHz, including 3G/4G, AWS, UMTS and LTE. This antenna is ideal for modems with high data throughput that are designed to operate on multiple networks worldwide.

The antenna is broadbanded enough that it can be stocked for multiple modems. Regardless of where the modem is designed for use, the antenna is designed to provide efficient coverage on the bands that operate in that country.

The antenna has excellent performance characteristics and performs well at all points in the operating frequencies bands. The CVL-WLF antenna offers 2 dBi gain with a VSWR rating of under 2:1 across the bandwidth.

The CVL-WLF has a very slim profile: the depth of the antenna is less than ¼" (6mm). The overall dimensions are also small. The antenna is approximately 5 ¾" long, including the mounting holes, and 1 ½" wide (146mm x 38mm).

The antenna features an over-molded plastic radome made from UV stable polyamide that allows some flexing of the antenna case. This flexibility, along with the antenna's slim profile, allows it to fit into a wide variety of mounting locations.

The CVL-WLF can be mounted either outside or inside a stand-alone device, a NEMA box or a vehicle. If mounted inside, the enclosure must be non-metallic; in other words the enclosure must be built out of a material such as plastic or fiberglass that will not block the transmission signal.

This antenna is typically configured with 8 feet (2.5m) of RG-174 cable and an SMA plug connector. Other cable lengths or connector options are available.

The antenna comes with two built-in grommet holes for an easy and secure installation. If the mounting holes are not needed and space is an issue, the mounting holes can be cut off. If the mounting holes are not used the antenna can be mounted with double sided tape.

This CVL-WLF antenna is completely encased in plastic and meets the water & dust ingress rating of IP69. In addition, it passes the following Military and Industrial standards for Shock & Vibration: IEEE-147, EN61373, TIA329.2-C and MIL-810G.

Model #	Cable
CVL-WLF-2C-BLK-96	8' (2.5m), RG-174
CVL-WLF-2C-BLK-36	3' (91.4cm), RG-174

Specifications			
Frequency:	694-960 MHz 1700-2700 MHz	Dimension:	5 ¾"L x 1 ½"W x 1/4" (6mm) H (146mm x 38mmx6mm))
Gain:	2 dBi		
VSWR:	2:1	Mounting:	Two .19" mounting hole or Double sided tape
Radome Material:	UV Stable Polyamide		
Nominal Impedance:	50 Ohms (nominal)	Cables:	8 ft. long RG-174 standard
Max power:	10 watt	Connectors:	SMA Plug (Male)
Operating Temp:	-40 to +85° C	Shock and Vibration:	IEEE1478, EN61373, MIL-810G, TIA 329.1-C
Color:	Black	Water Ingress:	IP69

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PSTG0-1650SF
Series

PSTG0-1350SF
Series

Device Unity Gain UAV Antennas

- Sleek profile with small SMA connectors
- High performance quarterwave antennas
- Tough polyurethane radome resists impact damage

These UAV quarterwave antennas offer high performance with the minimum of size. The sleek profile pairs well with a wide variety of devices.

The PSTG0-1650SF is a unity gain antenna used for UAV applications. Measuring 1 5/8" (41.33mm) in height, this small sized whip antenna is designed to be used with remote unmanned aerial vehicles. It operates on a frequency range of 1625-1725 MHz with unity gain and a 2:1 VSWR ratio. The nominal impedance for this antenna is 50 Ohms, with a maximum power of 5 watts.

The PSTG0-1350SF is a unity gain antenna used for UAV applications. Measuring 2 1/8" (53.9mm) in height, this small sized whip antenna is designed to be used with remote unmanned aerial vehicles. It operates on a frequency range of 1350-1390 MHz with unity gain and a 2:1 VSWR ratio. The nominal impedance for this antenna is 50 OHMS, with a maximum power of 5 watts.

The antenna radomes are made from black matt polyurethane, which provided a protective, waterproof covering. It is a solid material, with some flexibility.

Due to their small size and flexible material, these antennas are suitable for wireless devices such as access points, or hand-held portable units. In addition, they are suitable for both consumer and commercial applications.

As quarterwave antennas, the ground plane in the device influences the performance of these antennas. The specific radiation characteristics depend on the total configuration of the unit when interfaced with the antenna.

A number of factors can influence the radiation characteristics of the antenna such as how the wireless device is handled or where the device is mounted. A ground plane is required for optimum performance.

Model Number	Freq. Band
UNITY GAIN UAV ANTENNAS	
PSTG0-1650SF	1625-1725 MHz
PSTG0-1350SF	1350-1390 MHz
*Min. Order Quantity (MOQ) 250 Units	

Specifications			
Frequency:	See above	Radome Material:	Polyurethane; black matt finish
Gain:	0 dBi max	Connector:	SMA Male (Plug)
VSWR:	2:1 max over range	Whip Length:	
Impedance:	50 Ohm nominal	PSTG0-1650SF	1 5/8 inches (41 mm)
Maximum Power:	5 Watts	PSTG0-1350SF	2 1/8 inches (54 mm)
Operating Temp:	-40°C to +85°C		
Polorization:	Vertical	Water Ingress:	IPx5
Electrical Length:	1/4 wave		

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Flexible LTE Internal Strip Antenna

EM-LTE Antenna

- Flexible Circuit Board
- 695-960 MHz and 1710-2700 MHz bands
- Bend Radius of 2.5 Inches

The EM-LTE is a broadband Cellular and LTE circuit board that covers both the 695-960 MHz band and the 1710-2700 MHz bands and provides 2 dB gain across the entire bandwith.

This antenna features an innovative PCB flexible circuit board material with a bend radius of 2.5 inches (6.35cm); allowing it to fit in almost any space or enclosure.

Our antennas have been used in applications as diverse as smart meters and vending machines.

Measuring only 1.3" (3.4 cm) by 5.4" (13.7cm) in diameter, the EM-LTE is a compact embedded antenna that can mounted inside wireless devices or access points that are used in a wide variety of different M2M settings. This slim profile (.20 mm) antenna mounts with VHB tape.

A standard RG-174 thin flexible cable is soldered to the feed point and an SMA plug (or male) connector is used to make the connection. The product comes standard with 12 inches (30.5 cm) of RG-174 cable, but custom cable lengths are available. The maximum power of this antenna is 5 watts.

If there is something unusual about the final setting or application, Mobile Mark can help with a custom designed antenna.

Mobile Mark has the experience to design just the right antenna for your device. We offer state of the art design capabilities, including 3-D simulations using design software. We also offer in-house prototype development for quick turn-around.

The boards have a special coating to inhibit oxidation and maintain performance.

Model #	Description
EM-LTE-2C-12	Embedded circuit board antenna

Other connectors are available.

Specifications			
Frequency:	695-960 & 1710-2700 MHz	Dimensions:	5.4" x 1.3" (13.7cm x 3.4cm)
Gain:	2 dBi	Cable/Connector:	12-inches (30.5cm) RG-174 with SMA plug
VSWR:	2.5:1 max	Radome Material:	PCB Only
Operating Temp:	-30° to +80° C	Mounting:	VHB Tape
Nominal Impedance:	50 ohms		
Maximum Power:	5 watts		
Bend Radius:	2.5" (6.35cm)		

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Embedded Antennas
Internal Cellular Antennas

EM-700/2700
Embedded
Antenna

- Off-the-shelf antenna
- Boards have special coating to inhibit oxidation and maintain performance
- Designed to be integrated/embedded into OEM designs

Mobile Mark's range of embedded or internal antennas can be used by Cellular OEMs, systems integrators or contract manufacturers to improve the efficiency of the wireless units they are producing.

Our antennas have been used in applications as diverse as smart meters and vending machines.

The EM-700/2700 embedded antenna has capability for broadband cellular with a low-profile circuit board design that can be easily integrated into a wide variety of Cellular M2M applications.

The EM-700/2700 covers broadband cellular frequencies from 694-960 MHz & 1710-2750 MHz. The gain for this antenna ranges from 0 dBi in the low band (694-960 Mhz) to 2.5 dBi peak in the high band (1710-2750 MHz).

The off-the-shelf design presented here will typically meet performance requirements for traditional GSM/CDMA Cellular devices.

If there is something unusual about the final setting or application, Mobile Mark can help with a custom designed antenna.

Mobile Mark has the experience to design just the right antenna for your device. We offer state of the art design capabilities, including 3-D simulations using design software.

We also offer in-house prototype development for quick turn-around.

The boards have a special coating to inhibit oxidation and maintain performance.

For further protection, most antenna boards can also be encased in a molded plastic body or a hard plastic case.

Model #	Description
EM-700/2700-2C-6	With SMA connector and 6 inches (15.2 cm) of RG-174 cable
EM-700/2700-OR-6	With U-FL connector and 6 inches (15.2cm) of RG-178 cable
EM-700/2700-7C-6	With SMA connector and 6 inches (15.2cm) of LMR-100 cable

Other cable and connector combinations are available

Specifications

Frequency:	694-960 MHz & 1710-2750 MHz	Dimensions:	4.96" x .53" (126mm x 13mm)
Gain:		Standard Cable/Connector:	6-inches (15.2 mm) RG-174 with SMA plug
694-960 MHz	0 dBi		
1710-2750 MHz	2.5 dBi	Optional Cable:	LMR-100 & RG-178 or
		Optional Connector:	U-FL connector
VSWR:	2.5:1 max over all bands		(OR configuration)
Operating Temp:	-40° to +80° C		
Nominal Impedance:	50 ohms	Mounting:	Fixed double sided tape
Maximum Power:	10 watts		

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Surface Mount Antennas, SM low Profile, 806-1990 MHz

Dual-Band Surface

- Mounts easily to roof, trunk or any bulk-head
- Low Profile radome for easy clearance for rooftop installations
- Models available for Trunking & ISM

The Dual band antenna provides operation on a variety of networks. The low profile surface mount style antennas can be mounted to any metal structure such as a vehicle roof, cargo container, or trailer bulkhead.

Electrical operation is provided by a low profile, yet high efficiency air dielectric radiating element. This maintains effective radiation across the desired frequency range, with omnidirectional coverage.

Unity gain performance is maintained across the operating band for each model.

The antennas are enclosed in a weatherproof UV rated ASA radome, and supplied with all mounting hardware and sealing gasket. The low profile design is only 0.95 " (24 mm) high.

This antenna design uses a 5/8" (16 mm) mounting hole for securing to the vehicle. Access to the underside of the body surface is required to aid the installation.

The antennas come with 15 feet (4.5 meters) of cable and a choice of RF connector (SMA is standard). Other cable lengths and connectors are available, please consult sales representative for details.

Note: Groundplane required for optimal performance.

Model #	Band(s)
SM-900/1900-1C-WHT-180	US GSM/CDMA
SM-925/1800-1C-WHT-180	EU GSM & DCS

Please specify desired connectors at time of order.

Color options: WHT-White, BLK-Black or GRY-Grey

Specifications			
Frequency:		Stud length:	5/8" (16 mm) long
900/1900	824-894 & 1850-1990 MHz	Stud mounting:	5/8" dia x 18/32"long (16mmx14mm) thread for 7/32" thick (5.3mm) metal
925/1800	870-960 & 1710-1880 MHz		
Gain:	Unity or better	Connector:	SMA Plug (Male) Standard Specify at time of order
VSWR:	2:1 max over range		
Operating Temp:	-40° to +85° C		
Impedance:	50 ohms	Shock & Vibration:	EN 61373, IEEE 1478, MIL-810G, TIA-329.2-C
Maximum Power:	10 Watts		
Cable:	RG-58, 15 ft (4.5 meters) Low loss-195 optional	Water Ingress:	IPx5 (When properly mounted)
Case Material:	White or Black ASA; Grey ABS		
Case Size:	4.5"D x .95"H (114 mm x 24 mm)		

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Dual & Broadband RM/RMM Series

Magnet Mount Version

Pole/Wall Adapter

Direct N Version

Surface Mount & Mag-Mount Cellular 3G & UMTS/AWS

- Broadband RMM model for UMTS & 802.11b/g
- Flexible seal provides watertight use
- The benchmark for PTCRB certifiable systems

These antennas complement Mobile Mark's broad line of antenna products for Cellular 3G applications.

The RM3 Dual Band is a medium profile 3" H, (76 mm) antenna with performance of 3 & 5 dBi max (frequency dependent). A ground plane is required to maximize gain. The antenna radome consists of black ASA UV resistant plastic, with a metal base and threaded feed thru.

The bottom of the RM series is outfitted with a gasket for complete sealing. A mounting nut is provided. Magnetic mount versions, MGRM-900/1900 allow use without drilling a hole.

The RMM-UMB is a broadband version capable of simultaneous operation on worldwide bands from 750 MHz up to 2.7 GHz, with excellent response. A direct N version is also available along with the standard surface mount.

Note: Groundplane required for optimal performance.

Model #	Description
RM3-900/1900-1C-BLK-12	Dual Band US GSM/CDMA
RM3-900/1900-DN-BLK	Dual Band US GSM/CDMA
RM3-925/1800-1C-BLK-12	EU GSM/DCS-1800
RM3-925/1800-DN-BLK	EU GSM/DCS-1800
RMM-UMB-1C-BLK	Broadband US/EU Cellular
RMM-UMB-DN-BLK	Broadband US/EU Cellular
MGRM-900/1900-1C-BLK-120	Mag Mt US GSM/CDMA
MGRM-925/1800-1C-BLK-120	Mag Mt EU GSM/DCS
MGRM-UMB-1C-BLK-120	Mag Mt US/EU Broadband

Add "-TM" for Vehicle Trunk Lid Mount Option

RM-MK	Pole/wall mount for RMs w/ ground plane
NT-MK	Universal Pole/wall mount (L-Bracket)

Color options: WHT-White or BLK-Black

Specifications

Frequency*:	
900/1900 MHz	824-894 & 1850-2170 MHz
925/1800 MHz	870-960 & 1710-2170 MHz
UMB	750-1250, 1650-2700 MHz
Peak Gain:	3 dBi @ 750-1250 MHz, 5 dBi @ 1650-2000 MHz, & 3 dBi @ 2100-2700 MHz
VSWR*:	2:1 max over range
Operating Temp:	-40° to +85° C
Nominal Impedance:	50 ohms
Maximum Power:	10 watts
RM3/RMM Size:	1.7" diameter x 3" high (43 mm x 76 mm)
Case Material:	ASA plastic, UV Resistant
DN Stud:	Direct N Jack (Female)
RM Mounting Stud:	5/8" (16 mm) diameter feed thru, 3/4" long thread for 1/2" metal (19mm long for 12.7 mm metal)
RM Hardware:	Mounting nut included
RM Cable:	RG-58, 1 foot (304 mm)
Pigtail Connector:	SMA Plug (Male)
MGRM Mag Size:	1.7" diameter x 3.6" high (43 mm x 92 mm) Mag Base, 2.6"D (67 mm)
MGRM Mag Cable:	10 ft (3 m) RG-58 & SMA
Shock & Vibration:	EN 61373, IEEE 1478, MIIL-810G, TIA-329.2-C
Dust/Water ingress:	RM:IP67; MGRM:IPx5

*Measured on 1' (30cm) ground with 1' cable (30cm)

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Magnet Mount Antenna Dual Band 824-2500 MHz

- Dual Band Models for Cellular GSM/ CDMA, 3G, GPRS, and Networks
- Multiband models expand into WiFi, AWS, HSDPA/UMTS, ISM 915 & Trunking
- Small profile base with ultra-strong magnet holds secure for mobile or fixed use

Mobile Mark's GSM/CDMA Mag mount family provides the variety to fit into every application.

Mag-Mount antennas are designed for users who like a roof mount antenna but need portability or extreme ease of installation. Roof top position allows use of the entire roof as a ground plane, enhancing the antenna's performance.

GSM/CDMA dualband models are designed for many of the current generation of carrier markets. The MAG0 model is even wideband enough to be used for additional applications such as ISM 915, 2.4 GHz WiFi or AWS, UMTS/HSDPA.

A powerful magnet holds the antenna securely and the scratch resistant bases protect the surface. The case of these antennas are made of polycarbonate. The radiator on model MAGV-UCE is made of rust proof (304) stainless steel. These antennas are tough enough for almost any application.

Different connectors are available, and should be requested at the time of order. Please consult table for model and frequency range.

The MAG0 & MAGV antennas are also available with integral GPS antennas for AVL applications.

Model #	Frequency	Gain
MAGV-UCE-1C00-BLK-180	804-960 &1700-2000	3 dBi(peak)
MAG2-UMB-2C-BLK-120	695-960 & 1710-2200	2 dBi
MAG0-900/1900-2C-BLK-120	804-960 & 1700-2500	Unity

Color options available
BLK-Black only

Specifications			
Frequency:	See above	Dimensions:	
Cellular/SMR Gain:	See above	MAG2 Mag Mount	3" H x 1" D (76 mm x 25 mm)
VSWR:	2:1 max over range	MAG0 Mag Mount	3 1/2"H x 3 3/4" D (89 mm x 95 mm)
Operating Temp:	-40° to +85° C	MAGV Mag Mount	5 1/2" H x 3 3/4"D (140 mm x 95 mm)
Nominal Impedance:	50 ohms		
Maximum Power:	10 Watts for 800/900 MHz	Color Options:	Black Only
Cable:		Shock & Vibration:	MAG2: EN 61373, IEEE 1478, MIL-810G, TIA-329.2-C
MAGV & MGX	15ft (4.5 meters) of RG-58		
MAG0 & MAG2	10 ft (3 meters) of RG-174	Water Ingress:	MAG2: IPx5
MAGV Whip:	304 Stainless Steel		
Connector:	SMA Plug (Male) standard		
Case Material:			
MAG0, MAGV, MGX	Polycarbonate		
MAG2	Polyurethane		

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LTB301 multiband 3-cable Cellular/LTE MIMO & GPS

LTB301 Antenna

- 3-cables: two Cellular/LTE and one GPS
- Field proven design; dependable link
- Slim line, blade style: fits on NEMA Box

This 3-element LTB antenna is designed for Utility Cabinets and NEMA Boxes, it can be mounted in any setting where a slim profile is desired. It offers outstanding electrical performance as well as a unique mechanical package.

Mobile Mark's LTB301 blade-style Multiband/MIMO antenna for Smart Grids combines two Cellular LTE elements and one GPS element in a slim, compact radome. It measures only 7 1/2" long by 1 1/2" deep and less than 4" tall (19cm x 3.8 cm x 10cm). It is attached through a single mounting hole that accommodates all three cable connections. A special gasket preserves the IP67 water ingress rating when properly mounted.

Using our new slim line package, the LTB301 is a Multiband 4G/LTE 2x MIMO (multiple-input-multiple-output) antenna with dual LTE (694-960 MHz and 1710-2700 MHz) in addition to GPS at 1575 MHz. This particular model comes with SMA plugs and two 18" (45.72cm) RF Cables as well as one 18" (45.72 cm)RG-174 cable for GPS. The LTB can also be configured without GPS. This blade style antenna is ground-plane independent and designed to perform on either a fiberglass or metal box.

Model Configurator

LTB301- □□-□□□□-□□□-□

Cable/Connector 1
Cable/Connector 2
Cable/Connector 3
Color
Cable Length in Inches (eg. 12 or 180)

Example: LTB301-3C3C2C-GRY-18

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
3	LL-195	C	SMA	GRY	Grey
2	RG-174				

Specifications

Frequency & Gain (peak):	
Cable 1 & 2 (Cellular/LTE)	694-960 MHz, 3 dBi & 1710-2700 MHz, 4 dBi
Cable 3 (GPS)	1575 MHz
VSWR*:	2:1 VSWR over Range
Impedance:	50 Ohm Nominal
Maximum Power:	10 Watts
GPS	
Amplifier Bias:	2.7 to 5 VDC
Noise Figure:	2.0 dB max, 1.7 dB typical
Current:	20 mA max, 10 mA typical
Mounting dimensions	5/8" (1.5 cm) Dia. Feed through 1" (2.54 cm) lg. thread for up to 3/4" (1.9 cm) thick surface (Electrical Cabinet)

Radome Material:	Light Grey UV Inhibative Plastic
Operating Temperature:	-40° to +80° C
Connectors/Interface:	SMA Plugs standard. Connectors may vary
Cable 1-2 (Cellular/LTE)	Separate LL-195, 18" (45.72 cm)
Cable 3 (GPS)	RG-174, 18" (45.72cm)
Groundplane:	None required
Shock & Vibration:	EN 300 019-2-4, IEC 60068, SAE J1455
Water Ingress:	IP67

*Measured on 1'(30cm) ground with 1'(30cm) cable

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LTE Broadband Panel
Dual Slant, 8 & 12 dBi

PND-700/2100

- Compatible with FirstNet & LTE networks
- Two-Feed Dual Slant 45°
- Adjustable tilt pole mount, up to 20° downtilt

Mobile Mark's PND-700/2100 is a LTE Directional Panel Antenna with a dual-feed linearly polarized model. It offers 8 & 12 dBi gain, and covers 694-690 & 1710-2170 MHz. The corresponding beamwidths for this antenna ranges from 30° Elevation to 60° Azimuth.

VSWR is rated at 2:1 for both models, allowing for the best power reflection from the antenna.

Mobile Mark's panel antennas are excellent for deploying point-to-point and point-to-multipoint applications. This antenna is housed in attractive Vacuum Formed radomes. The PND-700/2700 measures

Units can be added or removed as network deployments change. All models are supplied with heavy-duty adjustable pole mount brackets which accommodate pipes of up to 2 ½ (6.4 cm) inches in diameter. The mounting bracket hardware and all bolts are made from stainless steel.

An adjustable tilt pole mounting bracket allows simple alignment. The mount contains a continuous adjustable tilt slot; the antenna can be adjusted up to 20° downtilt. All of the mounting hardware need for pole mounting is provided.

The antennas are extremely rugged and dependable; and DC grounded external protection is reccomended for lightning protection. The PND Series antennas are housed in attractive grey vacuum formed plastic.

There are two connectors on the bottom of the dual-feed model. Because these antennas are light and compact, moderate pole mounting configurations can be used for easy firstnet network deployment.

Compact and easy-to-install; complete mounting hardware provided with the antenna.

Model #	Gain
PND-700/2100D	8 & 12 dBi
PND-700/2100N	8 & 12 dBi

Connector options include N female Jack (N), or 7/16 DIN(D)
Color: GRY- GREY

Specifications			
Frequency:	694-960/1710-2170 MHz	Dimensions:	24" H x 8" W (61 cm x 20 cm)
Gain:	8 & 12 dBi		
VSWR Max:	2:1		
Impedance:	50 Ohm nominal	Mounting:	Adjustable pole mount, and Stainless steel U Bolts
Max Power:	100 watts		
Beamwidth:			
694-960 MHz	60° EL, 60° AZ	Bracket:	
1710-2170 MHz	30° EL, 30° AZ	Pole mount	20° vertical downtilt adjustment; 3 ⅞" standoff (9.88 cm)
Lightning Protection:	External recommended		
		Connector:	
Operating Temp:	-40° to +85° C	PND-700/2100D:	7/16 DIN
		PND-700/2100N:	"N" Panel Jack
Material:	White vacuum formed plastic		

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LTE Broadband Panel
8 dBi

PN8-700/2100

- Compatible with FirstNet & LTE networks
- Single-feed, Linearly Polarized
- Adjustable tilt pole mount, up to 20° downtilt

Mobile Mark's PN8-700/2100 is a LTE Directional Panel Antenna with a single-feed linearly polarized model. It offers 8 dBi gain, and covers 694-690 & 1710-2170 MHz.

The antenna offers 8 dBi gain accross the band with a maximum VSWR of 2:1.

Mobile Mark's panel antennas are excellent for deploying point-to-point and point-to-multipoint applications. This antenna is housed in attractive Vacuum Formed radomes. The PN8-700/2100 measures 8" (20.3 cm) wide by 12" (30.5 cm) tall and 5" (12.7cm) in diameter.

Units can be added or removed as network deployments change. All models are supplied with heavy-duty adjustable pole mount brackets which accommodate pipes of up to 2 ½ (6.4 cm) inches in diameter. The mounting bracket hardware and all bolts are made from stainless steel.

An adjustable tilt pole mounting bracket allows simple alignment. The mount contains a continuous adjustable tilt slot; the antenna can be adjusted up to 24° downtilt. All of the mounting hardware need for pole mounting is provided.

The antennas are extremely rugged and dependable; and DC grounded external protection is reccomended for lightning protection. The PN8 Series antennas are housed in attractive grey vacuum formed plastic.

Single connector on the back of the single-feed model; two connectors on the bottom of the dual-feed model. Because these antennas are light and compact, moderate pole mounting configurations can be used for easy firstnet network deployment.

Compact and easy-to-install; complete mounting hardware provided with the antenna.

Model #	Gain
PN8-700/2100D	8 & 12 dBi
PN8-700/2100N	8 & 12 dBi

Supplied with 1-ft (30.5 cm) RF-195 pigtail cable
Jumper cables are also available, built to order.

Specifications			
Frequency:	694-960/1710-2170 MHz	Dimensions:	12" H x 8"W x5"D (30 cm x 20 cm x 12.7 cm)
Gain:	8 dBi		
VSWR Max:	2:1		
Impedance:	50 Ohm nominal		
Max Power:	100 watts	Mounting:	Adjustable pole mount, and Stainless steel U Bolts
Beamwidth:			
694-960 MHz	60° EL, 90° AZ		
1710-2170 MHz	30° Az, 90° El	Bracket:	
		Pole mount	24° vertical downtilt adjustment 3 ⅞" standoff (9.88 cm)
Lightning Protection:	External recommended		
Max Wind Velocity:	125+ mph (193 kph)	Connector:	
Operating Temp:	-40° to +85° C	PN8-700/2100D:	7/16 DIN
		PN8-700/2100N:	"N" Panel Jack
Material:	White vacuum formed plastic		

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Omni-Directional Antenna 694-960 MHz & 1700-2700 MHz

OD3-700/2700

- 2-3 dBi antenna provides uniform omni coverage
- Mounting kit includes all hardware needed
- Available for high vibration applications with MOD2 option

The OD Series Antennas are optimized for use in 3G cellular, 4G LTE, and LTE plus systems using the 694-960 MHz and 1700-2700 MHz bands.

These antennas can be used for access point or customer premise equipment (CPE) units. Their omni-directional coverage makes installation simpler because they are easier to align with other antennas in the wireless network.

Using the latest PCB technology, these antennas improve high-speed broadband system performance. This design maintains an omni pattern in the horizontal plane.

The OD Series are free space antennas; no ground plane is required.

The antennas can be directly outfitted with coax cable so no additional jumpers are required. A variety of connectors can be used for the final termination.

The fiberglass radome (1" diameter/25 mm) makes the antennas durable and rugged. They can withstand the harshest environments of snow, wind, rain and ice.

The OD Series Antennas at 694-960 MHz and 1700-2700 Mhz are available in black.

The feed assembly is made of precision machined aluminum components and is irridited for weather protection.

The OD Series Antennas are supplied with all the hardware needed to install them to a mast. The OD antennas normally terminate with a female N connector.

Custom cable assemblies are available to connect the antenna to the radio or modem.

Model #	Description	Interface
OD3-700/2700	Standard	N Jack (Female)
OD3-700/2700MOD2	Heavy Duty	N Jack (Female)

Specifications			
Frequency & Gain:	694-960 MHz; 2 dBi 1700-2700 MHz; 3 dBi	OD Series Interface:	N Female jack
VSWR:	<2:1	Length/Weight:	17.25 inches (44.4 cm), 2.5 lbs cm, 1.13kg)
Nominal Impedance:	50 ohms	Mounting Kit:	Mast mount kit included
Max. Power (continuous):	25 Watts	Mounting Dimensions:	Mounts to mast up to 2.5" (6.3 cm)
Vertical Beamwidth:			
694-960 MHz:	60 degrees		
1700-2700 MHz:	50 degrees	Operating Temp:	-40° to +80° C
Wind Survivability:	100 mph (161 kph) minimum with 1/2" (12.7 mm) radial ice	Material:	Fiberglass radome with aluminum body
		Water Ingress:	IPx5
Lightning Protection:	DC shorted External suggested	Shock & Vibration:	EN 300 019-2-4, IEC 60068
Antenna Diameter:	1" (25mm), main mast	MOD2 Option:	Foam Filled

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Omni-Directional MIMO Antennas, LTE

DOD3 Omni-Directional

- Multiple-Input-Multiple-Output antenna design
- Omni-directional antennas
- Each MIMO antenna is configured with 2 connectors

MIMO (Multiple-Input-Multiple-Output) systems, also known as spatial multiplexing, transmit different data on different antenna elements.

With a MIMO system, the data is decoded and combined at the receive end. The net result is greater data throughput and improved bandwidth efficiency.

Mobile Mark's new MIMO (Multiple-Input-Multiple-Output) Site Antennas provide two-cable feeds, each with identical frequency coverage.

The separate antenna elements are housed within the compact rugged radome. Each element is fed to a separate connector and each covers the entire bandwidth specified.

The antennas are durable and rugged. They can withstand the harshest environments of snow, wind, rain and ice.

The DOD Series omni-directional antennas have passed Industry standards for Shock & Vibration. The antennas have also been rated IPx5 for Water Ingress.

The feed assembly is made of precision machined aluminum components and is irridited for weather protection. These antennas come with all the hardware needed to install it to a mast.

The DOD Series Omni-directional Antenna provides 2-3 dBi gain in a radome measuring just under 30" (76.2cm) tall x 1" (2.54cm) in diameter. The cables exiting the base of the antenna are typically 12" (30.48cm) in length.

Model #	# of Connections
DOD3-700/2700-BLK	2 SMA connectors

Specifications			
Frequency:	694-960 MHz & 1700-2700 MHz	Dimensions:	29 5/8"H x 1"D (75 cm x 2.5 cm)
Gain:			
694-960 MHz	2 dBi	Weight:	2.5 lbs (1.13 kg)
1700-2700 MHz	3 dBi		
VSWR:	<2:1 max over range	Material:	Fiberglass, Color, Black
Isolation:	>20 dB between elements		
Impedance:	50 Ohms (nominal)	Mounting:	Mounts to up to 2 1/2" (6.35 cm) OD Pipe, U-bolt kit included
Max power:	10 watts		
Beamwidth:			
694-960 MHz	60° Elevation		
1700-2700 MHz	50° Elevation	Connectors & Cables:	2 Cables 12" (30.4 cm) LL-195 w/ SMA plug (male) connectors Custom lengths available
Wind Survivability:	125 mph (201 kph) minimum with 1/2" (12.7 mm) radial ice		
Operating Temp:	-40 to +80° C	Water Ingress:	IPx5
Cable jumpers:	Available separately	Shock and Vibration:	EN 300 019-2-4, IEC 60068
Lightning protection:	External recommended		

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LLP202 Broadband Cellular Surface Mount Global LTE MIMO

LLP Series

- 2-cables: two for Global Cellular/LTE
- Covers LTE frequencies worldwide, from 694 MHz to 3700 MHz
- Ideal for cellular M2M applications

Mobile Mark's new LLP202 is a two cable variant of our new lower profile surface mount antenna design. This antenna has two identical cables for Global LTE capability on the 694-960 MHz and 1710-3700 MHz bands.

Gain for the LLP202 ranges from 0 to 4 dBi depending on the frequency being used. The lower profile design makes it perfect for any surface mounted wireless application that requires high performance in a low profile package.

LTE MIMO (multiple-input-multiple-output) modems offer greater speed and capacity than earlier generations of modems. In order to ensure optimum performance the LTE MIMO system needs multiple antennas on both the transmission and receive ends.

Measuring 9" (22.8cm) x 3.5" (8.9cm) with a height of 1.25" (3.18cm), the LLP202 series antennas take up significantly less space than multiple antennas. The radome is available in black and white .

This antenna is not available as a mag mount.

Model Configurator

LLP202-□□□□□□-□

Cable/Connector 1
Cable/Connector 2
Color
Cable Length in Inches (eg. 12)

Example: LLP202-3C3C-BLK-12

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
2	LL-195	C	SMA	WHT	White
				BLK	Black

(Other Configurations available.)

Specifications

Frequency & Gain (peak):	
Cable 1 & 2 (Global LTE)	694-960 MHz, 0-3 dBi 1710-3700 MHz, 4 dBi
VSWR:	2:1 VSWR over Range
Impedance:	50 Ohm Nominal
Maximum Power:	10 Watts
Case:	
Surface Mount	9"x 3.5" x 1.25" (22.8cm x 8.9cm x 3.18cm)
Radome Material:	ASA UV-Stable Plastic

Operating Temperature:	-40° to +80° C
Connectors:	SMA Plugs (Male) standard
Cable:	
Cable 1-2	Separate LL-195,12" (30cm)
Mounting:	Through hole, ground plane dependent
Shock & Vibration:	IEEE1478, EN 61373, MIL-810G TIA329.2-C
Water Ingress:	IP67

Measured on 1' (30cm) ground with 1' cable (30cm)

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PND10-700/2700

Directional Panel
2x LTE MIMO 700-2700 GHz

- Low cost fixed solution for 2x LTE MIMO
- High gain performance (9 dBi - 10 dBi)
- Dual Slant polarization (+45°, -45°)

Mobile Mark's new broadband PND10-700/2700 offers a high gain, low cost directional dual LTE solution. It is an excellent choice for deploying point-to-point coverage in the 695-2700 MHz band. This model covers the entire range with a VSWR of 2:1.

The gain for the PND10-700/2700 ranges from 9 dBi to 10 dBi for each frequency band. For 695-960 MHz, the gain is 9 dBi peak. The 1710-2170 MHz band has 10 dBi peak gain. Finally, the 2400-2700 MHz band also has 10 dBi peak gain.

Multiple antenas can be phased together to provide increased capacity and target a specific coverage area.

This model features a front -to-back ratio of 25 db. By maintaining this F-to-B ratio along with low side lobe levels, the possibility of off axis interference is greatly reduced.

The antenna is housed in a very attractive grey ASA plastic. The dimensions for the PND10-700/2700 are 15" H x 15"W (38 cm x 38 cm), this antenna will be unobtrusive in any indoor or outdoor environment.

The antenna can be pole mounted for easy network deployment. An adjustable tilt pole mounting bracket allows for simple alignment. The antennas can be adjusted for up to 15° downtilt.

The antenna terminates with two N Jack (Female) connectors located on the backside of the antenna.

Mobile Mark can provide cable assemblies (jumpers) in a variety of cable types and lengths.

Model #	Description
PND10-700/2700	2x LTE MIMO Panel Directional Antenna

Specifications			
Frequency & Gain		Dimensions:	15" H x 15"W (38 cm x 38 cm)
695-960 MHz	9 dBi	Weight:	3 lbs (1.4 kg)
1710-2170 MHz	10 dBi		
2400-2700 MHz	10 dBi	Mounting:	Adjustable pole mount, mounting brackets included with purchase
VSWR Max:	2:1		
Impedance:	50 Ohm nominal		
Max Power:	50 watts	Bracket:	
Beamwidth:		Pole mount	15° vertical downtilt adjustment mounted to 1" to 2.5" OD pipe
695-960 MHz	59° EL, 65° AZ		
1710-2700 MHz	37° EL, 60° AZ		
Front to Back Ratio:	25 dB	Connectors:	dual N Jack (Female) on backside of antenna
Lightning Protection:	External recommended		
Max Wind Velocity:	125 mph (201 kph)		
Operating Temp:	-40° to +80° C	Cable assemblies available for purchase seperately	
Material:	Grey ASA radome		

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PNM2-LTE

OD Wall Mount MIMO LTE, 694-960/1710-2700 MHZ

- Weatherproof radome; perfect for in-building & outdoor coverage
- 2 dBi gain for 694-960 & 1710-2700 LTE
- Wall mount design with mounting key holes and supplied tape

Mobile Mark's PNM2-LTE Series antennas are a popular solution for MIMO LTE systems. These mid-gain antennas are ideal for wall mounted in-building or outdoor omni-directional coverage.

Mobile Mark's PNM2-LTE is perfect for MIMO LTE systems, with two RG-58 cables that terminate with SMA plugs to provide true MIMO capability.

These patch antennas are small (5.75 in, 146 mm square) and attractive. The radome is a durable ASA material, finished in white. The compact wall mounted configuration is designed for easy installation. The standard mounting hardware provided includes 4 pieces of mounting tape to help wall mount the antenna using the two mounting keyholes on the back side of the radome

The <2.5:1 VSWR ratio is measured with 1 foot of RG-58 cable (305 mm), and the antenna terminates with an SMA Plug (Male) connector. Longer lengths are available, please consult your sales representative.

The nominal impedance for the PNM2-LTE is rated at 50 OHMs, and the maximum power for this antenna is 5 watts. In addition, with 2 dBi gain, customers can expect top notch omni-directional performance from this antenna.

For customers looking for an easy to install omni-directional fixed antenna for their MIMO LTE systems, the PNM2-LTE offers a fantastic wall mounted solution that does not compromise on performance or capability.

Model #	Description
PNM2-LTE-1C1C-WHT-12	Omni Wall Mount MIMO LTE

For other connector & cable configurations, please contact your sales representative

Specifications			
Frequency:	694-960 MHz 1710-2700 MHz	Mounting:	Wall Mount with rear side Mounting Key Holes, supplied with 4 pieces of mounting tape
Gain:	2 dBi		
VSWR:	<2.5:1*		
Impedance:	50 Ohm nominal	Radome Size:	5.75" Hx 5.75" Wx 0.7" D (146 mm x146mm x 18 mm)
Maximum Power:	5 Watts		
		Weight:	1.1 lbs (0.5 kg)
Operating Temp:	-30°C to +80°C		
		Cable/connector:	White RG-58/SMA Plug
Lightning Protection:	External recommended		
Antenna Radome:	White ASA Plastic		

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Omni-Directional Fixed Surface Mount

OD3-700/2700DN

- Easily surface mounts to a customer supplied box or enclosure
- Omni-directional cellular antenna
- Configured with a recessed N connector

The OD3-700/2700DN is a Wide Band Omni-Directional Cellular Antenna with a unique "pipe" design that is small in size without sacrificing performance.

What makes this antenna different from others in the OD lineup is the Direct N connection (DN). It operates on the 694-960 & 1710-2700 MHz bands to offer true Wide Band Cellular capability for 3G and 4G.

The radome is made from a white fiberglass material that looks appealing and is very durable. The OD3-700/2700DN is a perfect fit for mounting on top of a customer supplied enclosure or box.

The OD3-700/2700DN borrows its capabilities from the standard pole mounted OD3-700/2700, and was designed for customers looking for a surface mounted omni-directional solution. The antenna is durable and rugged. It can withstand the harshest environments of snow, wind, rain and ice.

Since the OD3-700/2700DN is often installed in an outdoor setting, external lightening protection is recommended. It also has a wind survivability of 100 mph (161 kph) minimum with 1/2" (1.3 cm) radial ice.

The OD3-700/2700DN Omni-directional Antenna provides 2-3 dBi gain in a radome measuring just under 10" (25.4cm) tall x 1" (3cm) in diameter. Cable assemblies connected to the base of the antenna can be customized depending on the customers needs for their specific application.

Model #	Connection
OD3-700/2700DN-WHT	Recessed N Plug

Specifications			
Frequency:	694-960 MHz & 1710-2700 MHz	Lightning protection:	External recommended
Gain:			
694-960 MHz	2 dBi	Dimensions:	10"H x 1"D (25.4 cm x 3 cm)
1710-2700 MHz	3 dBi	Weight:	0.5 lbs (0.22 kg)
		Material:	Fiberglass, White
VSWR:	<2:1 max over range		
Impedance:	50 Ohms (nominal)	Mounting:	Surface mount with 4" (1cm) thread height, mounts to customer supplied box
Max power:	10 watts		
Beamwidth:			
694-960 MHz	60° El	Connector:	Recessed N Plug, cable assemblies available
1710-2700 MHz	50° El		
Wind Survivability:	100 mph (161 kph) minimum 100 mph (161 kph) minimum with 1/2" (1.3 cm) radial ice	Shock and Vibration:	EN300019-2-4, IEC 60067
		Water Ingress:	IPx5
Operating Temp:	-40 to +80° C		
Cable jumpers:	Available separately		

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Heavy Duty Mobile Antennas
LTE/WiMAX 2.5 & 3.5 GHz

ECOM
Magnet Mount

ECOS
Spring Mount

- Magnetic Mount and Spring Mount
- Ground plane independent designs can be used on any surface
- Elevated Feed spring mount versions provide additional clearance for light bars

Mobile Mark's ECO Mobile series are high frequency antennas designed for new technology applications in WiMAX or LTE at 2.5-2.7 GHz bands or WiMAX at 3.4-3.7 GHz.

These antennas are available in two styles: Magnet Mount and Spring mount. The Magnet Mount provides a mounting solution that allows them to be used as Mobile Antennas. The Spring Mount maintains vertical position at all speeds, but will deflect if hit by an obstruction.

The ECOM magnetic mount models have a 2.6" (66 mm) base, and use a strong commercial magnet. They provide a scratch resistant covering on the bottom. The cable exits out of the side of the base.

The magnet mounts use low loss -195 cable to improve efficiency. The vertical radomes are black fiberglass with an ASA base assembly. All antennas are weatherproof.

The ECOS spring mounts have the radiating element located higher in a longer radome, providing higher clearance for lightbars on police vehicles.

The spring on the ECOS model is trong and flexible enough to handle the impact with obstacles such as tree branches over-head in a vehicle mounted application.

Cable assemblies from Mobile Mark for the ECOS are sold separately, however they can be added to the order at the time of purchase.

Model #	Gain	Height
Magnetic Mount Models		
ECOM6-2600-BLK-120	6 dBi	11.87"/30.15cm
ECOM6-3500-BLK-120	6 dBi	11.87"/30.15cm
Spring Mount Models		
ECOS6-2600DN-BLK	6 dBi	16.3"/41cm
ECOS6-3500DN-BLK	6 dBi	16.3"/41cm

Cable assemblies sold separately

Specifications			
2600 Series Frequency:	2.5-2.7 GHz	Base/Mount:	ASA plastic & steel
3500 Series Frequency:	3.4-3.7 GHz	MAG Base Size:	2.6" D (66 mm)
Gain:	6 dBi	Cable Length/type:	
VSWR:	2:1 over band	Mag Mounts	10 ft of LL-195 (3 meters)
Impedance:	50 Ohm nominal	Connector:	
Maximum Power:	10 Watts	ECOM	SMA Plug (Male), standard
Operating Temp:	-40° to +80° C	ECOS	Direct N
Radome:	Black Fiberglass	Mount:	
Wind Survivability:		ECOM	Magnet mount
ECOM	100 mph (161 kph) with 1/2" (1.3 cm) radial ice	ECOS	Surface mounts up to 1/4" thick (.64cm)
ECOS	125 mph (201 kph) with 1/2" (1.3cm) radial ice		

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Omni-Directional Antenna Cellular AWS, 1710-2170 MHz, High-vibration resistant

OD5-2000MOD2

- 5 dBi antenna provides uniform omni coverage
- Mounting kit includes all hardware needed
- Foam filled for extra protection against high-vibration

The OD Series Antennas are optimized for use in a wide variety of Cellular AWS wireless systems using the 1710-2170 MHz band.

These antennas can be used for Cellular AWS machine to machine applications. Their omni-directional coverage makes installation simpler because they are easier to align with other antennas in the wireless network.

The OD5-2000MOD2 radome is foam filled to improve antenna performance in high vibration environments such as in mining applications.

The OD Series are free space antennas; no ground plane is required. This design maintains an omni pattern in the horizontal plane.

The fiberglass radome (1" diameter/25 mm) makes the antennas durable and rugged. They can withstand the harshest environments of snow, wind, rain and ice.

The OD Series Antennas at 1710-2170 MHz are only available with a black radome.

The feed assembly is made of precision machined aluminum components and is irridited for weather protection.

The OD Series Antennas are supplied with all the hardware needed to install them to a mast. The OD antennas normally terminate with a female N connector.

Custom cable assemblies are available to connect the antenna to the radio or modem.

Model #	Interface
OD5-2000MOD2-BLK	N Jack (Female)
Mounting hardware provided	
Note: Available in Black only	

Specifications

Frequency:	1710-2170 MHz	Termination:	
Gain:	5 dBi	Direct Connection:	N Jack (Female)
Nominal Impedance:	50 ohms	Mounting Kit:	Mast mount kit included
Max. Power (continuous):	25 Watts	Mounting Dimensions:	Mounts to mast up to 2.5" (6.3 cm)
Vertical Beamwidth (elevation):	20 degrees	Operating Temp:	-40° to +80° C
Wind Survivability:	125 mph (201 kph) minimum 125 mph with 1/2" (12.7 mm) radial ice	Material:	Fiberglass radome with aluminum body
Antenna Diameter:	1" (25mm), main mast	Shock & Vibration:	IEEE1478, EN61373, MIL-810G, TIA 329.2-C
Length/Weight:	26.75 inches (67.9 cm), 2.5 lbs (1.13kg)	Water Ingress:	IP67

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LTM503 5-cable: Global LTE MIMO, WiFi, Iridium® & GPS

- 5-cables: two for Global Cellular/LTE, one for WiFi, one for Iridium and one for GPS
- Covers all Cellular & LTE frequencies worldwide, from 694 MHz to 3700 MHz
- For fleet management apps. requiring Iridium coverage

Mobile Mark's LTM503 Series Multiband Diversity/MIMO antenna contains five separate antennas, all in one compact antenna housing: two broadband LTE/Cellular antennas, one dual-band WiFi antenna, one Iridium® antenna and one GPS antenna. The LTM503 differs from the LTM501 in that it covers the Iridium frequencies from 1616-1626.5 MHz.

LTE MIMO (multiple-input-multiple-output) modems offer greater speed and capacity than earlier generations of modems.

With 5-elements, the new LTM503 antenna is ideal for fleet management systems that combine GPS & Glonass with any Global LTE MIMO modem as well as WiFi MIMO modem.

Measuring 5.5" (140mm) in diameter with a low profile of 2.38" (60mm), the LTM series antennas take up significantly less space than multiple antennas and cut down on installation time and costs by offering a single mounting hole. The antennas are available in either surface-mount or mag-mount and can also be configured for combined GPS & Glonass use.

Model Configurator

LTM503-□□□□□□□-□□□-□

- Cable/Connector 1
- Cable/Connector 2
- Cable/Connector 3
- Cable/Connector 4
- Cable/Connector 5
- Color
- Cable Length in Inches (eg. 12 or 180)

Example: LTM503-3C3C3C3C2C-WHT-180
MLTM503-3C3C3C3C2C-BLK-180 (mag-mount option)

Specify "LTMG" or "MLTMG" instead of "LTM" or "MLTM" for GPS/Glonass combination antenna.

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
1	RG-58	A	TNC	WHT	White
2	RG-174	C	SMA	BLK	Black
3	LL-195	J	RP SMA		

(Other Configurations available.)

Specifications

Frequency & Gain (peak)*:	
Cable 1 & 2 (Global LTE)	694-960 MHz, 3 dBi & 1710-3700 MHz, 4 dBi
Cable 3 (WiFi)	2.4-2.5 & 4.9-6.0 GHz, 5 dBi
Cable 4 (Iridium)	1616-1626.5 MHz
Cable 5 (GPS)	1575 MHz, 26 dB, 5 dBic
Optional GPS & Glonass	1575 Mhz & 1612 MHz
VSWR*:	2:1 VSWR over Range
Impedance:	50 Ohm Nominal
Maximum Power:	10 Watts
GPS	
Amplifier Bias:	2.7 to 5 VDC
Noise Figure:	2.0 dB max, 1.7 dB typical
Current:	20 mA max, 10 mA typical
Case size:	
Surface Mount	5.50" Dia. x 2.38" High (140mm x 60.4mm)
Magnet Mount	5.50" Dia. x 2.78" High (140mm x 70.6mm)
Radome Material:	ASA UV-Stable Plastic
Operating Temperature:	-40° to +80° C
Connectors:	
Cable:	SMA Plugs Standard
Cable 1-4	Separate LL-195,15 ft (4.5m)
Cable 5 (GPS)	RG-174, 15 ft (4.5 meters)
LTM Mounting:	7/8" (22mm) Dia. Feed thru 3/4" (19mm)Long thread for up to 1/2" (13mm) thick surface
MLTM Mounting:	Magnet mount
Shock & Vibration:	IEEE1478, EN61373, MIL-810G, TIA 329.2-C
Water Ingress:	IPX7

*Measured on 1'(30cm) ground with 1'(30cm) cable

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Surface Mount Iridium Communications®

DM-1620 in White

DM-1620 in Black

- Available for 1616-1626.5 MHz (Iridium)
- Ground plane reccomended for optimal performance
- Rugged and attractive low profile ASA radome

The DM antennas provide a low profile style antenna that can be mounted to any vehicle, container or bulkhead. The rugged style is excellent for industrial applications, yet attractive for consumer use.

Models are available with a stud mount, allowing easy thru-hole mounting to a surface. The DM-1620 operates on the 1616-1626.5 MHz Iridium band. These use a 5/8" (16mm) feed thru for securing to the vehicle. The antennas are outfitted standard with 10 feet (3 meters) of low loss-195 cable, and terminate with an SMA Plug (Male).

The antenna gain is 3.5 dBi with no ground plane required. The antennas can even be mounted on fiberglass or plastic housing.

The antenna radome is available in white or black ASA. The bottom mounting plate is outfitted with a sealing gasket for a watertight seal.

The DM-1620 is the perfect match for surface mounted applications requiring Iridium communications. In particular the relatively low profile design is ideal for a mobile setting, such as being surface mounted on top of a truck.

The antenna is designed with RHCP, otherwise known as Right Hand Circular Polarization. This polarization is ideal for any antenna intended for Iridium communications.

Model #	Description
DM-1620-3C-WHT-120	Iridium Surface Mount Antenna
Cable Low Loss-195, 10 ft (3m) Iridium (1616-1626.5 MHz)	
Color options available for above models WHT-White or BLK-Black	

Specifications			
Frequency:	1616-1626.5 MHz	Connector:	SMA Plug
Gain:	3.5 dBi peak	Mounting:	3/4" L stud (19 mm) 5/8" diameter (16 mm) feed thru for 7/32" thick surface (5.3mm)
VSWR:	<2:1 max over range		
Operating Temp:	-40° to +85° C		
Nominal Impedance:	50 ohms		
Maximum Power:	10 watts	Jumper/Cable Option:	Use jumpers for longer length install or order with custom
Case Material:	White or black UV Resistant ASA plastic	Shock & Vibration:	EN 61373, IEEE 1478, MIL-810G TIA-329.2-C
Radome:	3" diameter x 1 1/2" high (76 mm x 38 mm)	Water Ingress:	IP67
Hardware Supplied:	Nut, lockwasher, gasket		
Cable:	LL-195, 10 ft (3 meters)		

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GPS and GPS/GLONASS Surface & Glass Mount

SM & SMG Series
Surface/Hole Mount

IW & IWG Series On-Window

- Choice of GPS-only or combined GPS & GLONASS
- 2.7 to 5 VDC with low current (10 ma typical)
- Window Mount version uses VHB double sided tape

These GPS-only or combined GPS/Glonass antennas offer an alternative and secure installation to a traditional mag mount. With proper positioning in or on a vehicle, they enhance the performance of the receiver.

Antenna performance is 26 dB, with 5 dBi antenna gain for both the GPS-only and the combined GPS/Glonass antennas. The antenna circuitry has a low 2.0 dB max noise figure with excellent filter characteristics. Power (2.7 to 5 VDC) and signal is applied through the same cabling directly to the antenna.

The IW (GPS-only) and IWG (GPS & Glonass) Glass Mount antenna places the antenna element directly against the glass of the vehicle, oriented up towards the satellites.

The cable exits near the top side allowing direct entry into a vehicle headliner. The antenna is designed to be mounted on the interior of the window only.

The SM (GPS-only) and SMG (GPS & Glonass) Surface Mount antenna uses a 5/8" feed thru (16 mm) for securing to the vehicle. Access to the underside of the body surface is required to complete the installation. These antennas are enclosed in a weatherproof ASA radome measuring 2.5" (64 mm) in diameter.

Model #	Description
SM-1575-2C-WHT-180	Surface mount GPS
SMG-1575-2C-WHT-180	Surface mount GPS & Glonass
IW-1575-2C-BLK-180	On-Window GPS
IWG-1575-2C-BLK-180	On-Window GPS & Glonass

Color Options
SM Series: WHT - white or BLK - black
IW Series: BLK - black only

Standard connector is a SMA Plug (Male)

Specifications

Frequency:	
GPS	1575 MHz
GLONASS	1612 MHz
Gain:	26 dB LNA 5 dBi nominal RHCP Antenna
VSWR:	2:1 max over range
Nominal Impedance:	50 ohms
Noise Figure:	2.0 dB max, 1.7 dB typical
Amplifier Bias:	2.7 to 5 VDC
Current:	20 mA max, 10 mA typical
IW & IWG	
Case:	Black ABS
Size	1 5/8" H x1 5/8" W x 7/8" D (41 mm x 41 mm x 22mm)
Mounting:	Double sided 3M VHB tape

SM & SMG	
Case:	White or black ASA
Size:	2.5" dia. x .75" H (64 mm x 19 mm)
Mounting:	5/8" diameter, 3/4" long shaft (16 mm dia, 19 mm long)
Hardware:	Nut, lockwasher and gasket included
Cable:	15 ft (4.5 meters) RG-174
Connector:	SMA Plug (Male)
Operating Temp:	-40° to +80° C
SM & SMG	
Shock & Vibration:	EN 61373, IEEE 1478, Mil-801-G, TIA-329.2-C
Water Ingress:	IPx5

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GPS Timing

Standard Pole Mount
NT-MK

GPS-only, Heavy Duty Timing 1575 MHz

- Water and shock resistant
- Compact design, only 3.7" x 1.6" (40mm x 93mm)
- Mounting options: Surface Mount, Pole

This Heavy Duty GPS Timing Antenna can be used for a wide variety of applications including network synchronization in equipment cabinets and cell towers, geographic surveying, railroad track-side electronics shacks and agri-business planting.

The NT-1575 GPS Timing Antenna is housed in a rugged and weather-resistant radome that has undergone rigorous temperature, moisture, shock and vibration testing.

The antenna has a 5dBi nominal patch element and a 26 dB L.N.A. and is designed for right-hand circular polarization (RHCP).

The interior of the antenna is completely sealed with high impact foam. The radome is made from UV resistant ASA plastic. It will resist impact and will not discolor from the sun or elements.

The compact antenna measures 1.6-inches (40mm) tall by 3.66-inches (93mm) in diameter. It terminates with a TNC Jack connector and can be surface mounted to a ¾-inch diameter hole or pole mounted on pipes up to 2 ½ inches outside diameter.

The standard mount for the NT-1575 GPS Timing Antenna is an L-bracket. This sturdy bracket provides a secure platform for the antenna and may be mounted to a pole with an outside diameter 2 ½ inches (6.3 cm).

An adaptor for direct mounting to a pipe is also available.

The antenna has been tested to and passed the following industry standards: EN 300 019-2-4 and IEC 60068. The antenna has also been rated at IPx7 for water ingress resistance and has an ESD rating of 15KV.

Model #	Description
NT-1575-WHT	GPS, 1575.42 +/- 2 MHz
NT-1575-WHT-SP205	High Gain 32 dB +/- 2 dB
NT-MK	L-bracket mount

The NT-1575 is available in White only

Specifications			
Frequency:	GPS, 1575.42 +/- 2 MHz	Connectors:	TNC Jack (Female)
Gain:	5 dBi nominal RHCP	Case Material:	UV resistant ASA
VSWR:	2:1 max over range	Color:	White
Impedance:	50 Ohm nominal		
Amplifier Bias:	2.7 to 5 VDC	Mounting:	¾" dia. x ½" long (19mm x 13mm) threaded metal stud, with Nut
Amplifier Current:	30 mA (max), 10 mA (typical)		
Noise Figure:	2.0 dB max, 1.7 dB typical		
Amplifier LNA gain:	26 dB +/- 2 dB (Optional High gain 32 dB +/- 2 dB)		
		Shock and Vibration:	EN 300 019-2-4, IEC 60068
Case:	3.7"D x 1.6"H (93 mm x 40 mm)	Water Ingress:	IPx7
		ESD Resistance:	15 kV
Operating Temp:	-40° to +80° C	Special configurations available upon request. Please consult your sales representative for details/availability.	
Dimension:	1.6" Tall x 3.7" D (40mm x 93mm)		

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Magnetic Mount
GPS Antenna

GPS-Only Magnet Mount (MAG Series)

- Magnet version mounts easily to roof or trunk of vehicle.
- High gain 26 dB active amplifier with low noise characteristics
- Small foot print; less than 1.75" x 2" (4.5cmx5cm)

Mobile Mark's GPS Magnet Mount Antennas complements Mobile Mark's full range of GPS Mobile antennas with a convenient and portable mounting option. The magnet mount style allows the antennas to be moved from from car-to-car, and its small size makes it easy to transport.

The antenna design is very small, but still contains a small powerful magnet. The magnet can be attached to the roof, hood or trunk of any metal vehicle or flat surface. The cable would then be routed to the GPS receiver, typically through a vehicle window.

The antenna provides durability and weatherproofing, using a sealed polycarbonate case. When not in use, the antenna can easily be removed.

Although the antenna could be mounted on any surface, the antenna should ideally be placed on metal at least 5" (127 mm) wide. This will provide the maximum GPS operation.

GPS performance is provided by a 26 dB low noise amplifier, with 5 dBi of antenna gain. Power required for the GPS amplifier is either 2.7 or 5 VDC. The power is supplied through the cable along with the GPS signal. Most GPS receivers will provide the needed power for the amplifier circuit without modifications.

The antenna is rated IPx5 for water ingress protection. The standard cable supplied with the Magnet Mount antenna is 10 feet (3 meters) of RG-174. Standard connector supplied is an SMA Plug (Male).

Different connectors can be supplied if requested, please consult your sales representative for availability.

Additional Mobile Mark GPS antennas include Surface Mount and Window Mount.

MultiBand antennas that combine GPS with other wireless applications are also available in a wide variety of mounting styles including additional Mag-mount options.

Model #	Description
MAG-1575-2C-BLK-120	Magnetic Mount GPS, Black
MAG-1575-2C-WHT-120	Magnetic Mount GPS, White

Color options available for above models
WHT-White or BLK-Black

Specifications			
Frequency:	1575.42 +/- 4 MHz	Cable Type:	RG-174, 10 feet (3 meters)
GPS Gain:	26 dB LNA 5 dBi nominal RHCP Antenna	Case/Mount:	1.75"W x 2.0"L x 0.56" H (4.5 cm x 5 cm x 1.5 cm)
VSWR:	2:1 max over range	Case Material:	Polycarbonate, Black or White
Noise Figure:	2.0 dB max		
Operating Temp:	-40° to +80° C	Connector:	SMA Plug (Male) standard, others available on request
Nominal Impedance:	50 ohms		
Amplifier Bias:	2.7 to 5 VDC	Water Ingress:	IPx5
Current:	20 mA max, 10 mA typical		

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Covert Broadband Antenna Global LTE with GPS

CVW-LTE

- Compact, covert profile; 1.6" W x 5.5" L
- Global LTE antenna; available with or without GPS antenna
- Broadband coverage: 694-960 & 1700-2700 MHz

Mobile Mark's new CVW-LTE Series Covert Antenna covers even more frequencies than the earlier antennas in the Covert Series. This broadband antenna performs on all Cellular & LTE networks from the 694 MHz to 2.7 GHz, including 3G/4G, AWS, UMTS and LTE. The antenna offers 2.5 dBi gain across the bandwidth.

It can be configured with one cable for Cellular & LTE coverage, or with a second cable for GPS coverage. It can be used for Cellular M2M (machine-to-machine) applications or for GPS Tracking and Fleet Management.

The CVW-LTE is very compact, measuring only 5 ½" wide by just over 1 ½" wide (140mm x 40mm). The antenna is encased in a solid radome made from black ABS plastic.

The antenna's slim profile allows it to fit into a wide variety of mounting locations. It can be mounted either outside or inside a standalone device, NEMA box or vehicle.

If mounted inside, the enclosure must not be built of metal but must be built out of a material such as plastic or fiberglass that will not block the transmission. The antenna is mounted with industrial grade double sided tape.

The antenna is typically configured with 10 feet of RG-174 cable for both the Cellular/LTE antenna and the GPS, with SMA plug connectors on both cables.

Other cable lengths or connector options are available.

This resilient antenna has been tested for Shock and Vibration and has passed the following Military & Industrial standards: IEEE-1478, EN61373 and MIL-810G. It has also been tested for water ingress and rated IPx7.

Model Configurator

CVW-LTE-□□□□-BLK-120

Cable/Connector 1
Cable/Connector 2

Example: CVW-LTE-1C2C-BLK-120
CVW-LTE-2C2E-BLK-120

Cable Options:

Code	Cable
1	RG-58
2	RG-174

Connector Options:

Code	Connector
A	TNC
B	Mini UHF
C	SMA
E	MCX

(Other Configurations available.)

Specifications

Frequency:		Max power:	10 watt
Cable 1	695-960/1700-2700 MHz, 2.5 dBi	Dimension:	5 ½"L x 1 ½"W (140mm x 40mm)
Cable 2	1575.42 +/- 2 MHz	Mounting:	Direct Double sided tape
VSWR:	2:1	Operating Temp:	-40° to +80° C
Radome Material:	Black ASA plastic	Color:	Black
GPS:		Cables:	10 ft. long RG-174
LNA Gain	26dB	Connectors:	SMA Plug (Male)
Noise Figure	2.0 dB max, 1.7 dB typical	Shock and Vibration:	IEEE1478, EN61373, MIL-810G, TIA 329.1-C
Amplifier Bias	2.7 to 5 VDC		
Amplifier Current	20 mA, 10 mA typical	Water Ingress:	IPx7
Nominal Impedance:	50 Ohms (nominal)		

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Surface Mount, Low Profile Wideband with

Low Profile Wideband 800-2200 MHz with GPS

- Multiband antenna for GPS and Cellular Voice/Data including AWS
-
- Rugged case; passes industry and military shock and vibration testing

This two-cable antenna combines two applications at a time: GPS on one cable and any one of several wireless data applications on the other cable.

The LMW Series stands out from the other Mobile Mark Surface Mount Antenna Series in that it is extremely broad-banded and covers worldwide cellular bands from 800-960 MHz and 1700-2200 MHz, including UMTS and AWS. It has excellent performance characteristics and performs well across the entire band.

This new wideband Surface Mount Antenna offers greater flexibility for stocking and installation because it can function over multiple systems.

For GPS, the performance is 26 dB amplifier gain with 5 dBi RHCP nominal antenna gain. The antennas have low noise figure with excellent filter characteristics.

This rugged antenna can be mounted with complete confidence in a wide range of settings. It can be mounted to any vehicle, container or bulkhead with a threaded stud mount. For optimal performance, a ground plane is recommended.

Model Configurator

LMW-UMB-□□ □□-□□□-□□□

Cable/Connector 1
Cable/Connector 2
Color
Cable Length in Inches (eg. 12 or 180)

Example: LMW-UMB-3C2C-WHT-180

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
1	RG-58	A	TNC	WHT	White
2	RG-174	B	Mini UHF	BLK	Black
3	LL-195	C	SMA		

(Other Configurations available.)

Specifications

Frequency:	
Cable 1	800 - 2200 MHz
Cable 2, GPS	1575.42 +/- 2 MHz
Data Side:	
Gain (800 - 1250 MHz)	2 dBi
Gain (1650 - 2200 MHz)	4 dBi
VSWR:	2:1 max over range
Nominal Impedance:	50 ohms
Power:	20 Watts
Operating Temp:	-40° to +80° C
GPS Side:	
Amplifier gain	26 dB, LNA
Antenna gain	5 dBi nominal RHCP, Antenna
Noise Figure	2.0 dB max, 1.7 dB typical
Amplifier Bias	2.7 to 5 VDC
Amplifier Current	20 mA max, 10 mA typical

Standard Cables:	
Cable 1	Low Loss-195 15 ft (4.5 meters)
Cable 2 (GPS)	RG-174, 15 ft (4.5 meters)
Optional Cables:	
Cable 1	RG-58, 15 ft (4.5 meters)
Connectors:	SMA Plug (Male) standard
Case:	3.5"D x 1.5"H (89 mm x 38 mm)
Case Material:	UV resistant ASA
Mounting:	5/8" dia.x 1/2" long (16 mm x 13 mm) Up to ¼" (6.4 mm) thick metal
Hardware:	Nut and gasket included
Shock & Vibration:	EN 61373, IEEE 1478, MIL-810G TIA-329.2-C
Water Ingress:	IPx7

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Surface Mount Multi-band 2.4, 4.9-6 GHz & GPS

Multiband 2.4/4.9-6 GHz & GPS
(White shown, black also available)

- Stud mounts easily to roof, trunk or bulkhead
- High performance GPS with 26 dB active amplifier
- Operates 2.4/5 GHz & 4.9 Public Safety Bands

This multiband Stud mount antenna integrates several broad-band/data networks with GPS. The antenna operates on 2.4 WiFi, 5 GHz WiFi, and GPS. The antenna will also operate on 2.4 Video Surveillance, and 4.9 GHz for Public Safety Broad-band. The antenna is excellent for any application needing a secure and stealthy antenna.

The design uses a 5/8" feed thru (16 mm) for securing to the vehicle. Access to the underside of the body surface is required to complete the installation. The GPS feed of the antennas are outfitted with 15 feet (4.5 meters) of RG-174 cable & SMB or SMA connectors. All connectors are male (plugs). The broadband cable is 15 feet of Low Loss-195 cable (4.5 meters).

GPS performance is 26 dB, with 5 dBi antenna gain. The GPS circuit has a low noise figure (2.0 dB max) with excellent filter characteristics. Power for the GPS amplifier (2.7-5 VDC) and signal is applied through the same cabling directly to the GPS circuit.

The dome portion of the antenna measures 2.85" D x 1.45" H total (72mm x 37mm). It is made of weatherproof ASA Resin, which is a strong, durable outdoor material with UV stable properties. The antenna is supplied with a weatherseal gasket for the underside and mounting nut.

Model Configurator

DM-W15-□□-□□-□□□-□□□□

Cable/Connector 1
Cable/Connector 2
Color
Cable Length in Inches (eg. 12 or 180)

Example: DM-W15-3A2C-WHT-180

Also available as a Mag-mount.
Mag-mount option: MGD-W15-3A2C-WHT-180

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
1	RG-58	A	TNC	WHT	White
2	RG-174	B	Mini UHF	BLK	Black
3	LL-195	C	SMA		
		D	SMB		

(Other Configurations available.)

Specifications

Frequency:	2.4/4.9-6 GHz
Gain:	2.5 dBi
GPS	1575 MHz
GPS Gain:	26 dB LNA 5 dBi nominal RHCP Antenna
VSWR:	2:1 max over range
Noise Figure:	2.0 dB max, 1.7 dB typical
Operating Temp:	-40° to +80° C
Nominal Impedance:	50 ohms
Maximum Power:	10 Watts
Amplifier Bias:	2.7 to 5 VDC
Current:	20 mA max, 10 mA typical
Cable:	
GPS	RG-174, 15 ft (4.5 meters)
2.4/5 GHz	LL-195, 15 ft (4.5 meters)
Surface mount Case:	2.85"D x 1.45"H (72 mm x 37 mm)
Mag-mount Case:	3.75" D x 1.9"H (95 mm x 46mm)
Case Material:	White or black ASA
Stud Mounting:	5/8" dia x 3/4" long (16 mm x 19 mm) for 3/8" thick (9.5 mm) metal
Hardware:	Locknut and gasket included
Connector:	See above, others available
Shock & Vibration:	EN 61373, IEEE 1478, MIL-810G, TIA-329.2-C
Water Ingress:	IPx7

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Surface Mount, Low Profile Cellular 806-1990 MHz & GPS

Tri-Band 850/1900 & GPS

- High performance GPS with 26 dB active amplifier
- Secure & low profile less than 1" high (25 mm), mounts to 5/8" hole (16 mm)
- For Cellular 3G and Trunking

The Tri-Band antenna provides operation on Cellular and Trunking bands along with GPS. The surface mount style antennas can be mounted to any vehicle, cargo container or trailer.

Models are available for Cellular 3G networks. Separate cabling is provided for the GPS and cellular/Data interface.

The design uses a 5/8" feed through (16 mm) for securing to the vehicle. For the GPS interface, the antennas are outfitted with 15 feet (4.5 meters) of RG-174 cable and choice of connector.

The connectors are typically SMA Plug (Male). The cellular cable is 15 feet of RG-58 (4.5 meters). Please consult factory for special lengths or connectors.

GPS performance is 26 dB, with 5 dBi antenna gain. The GPS circuit has a low noise figure (2.0 dB max) with excellent filter characteristics. Power for the GPS amplifier (2.7-5 VDC) and signal is applied through the same cabling directly to the GPS circuit.

The antennas are supplied with all mounting hardware and sealing gasket.

Model Configurator

SM-□□□-□□□□-□□□

Frequency Option
Cable/Connector 1
Cable/Connector 2
Color

Example: SM-U15-1A2C-WHT-180

Color Options:
BLK-Black, WHT-White, GRY-Grey

Freq. Options:		Cable Options:		Connector Options:	
Code	Freq (MHz)	Code	Cable	Code	Connector
U15	850/1900/GPS	1	RG-58	A	TNC
E15	925/1800/GPS	2	RG-174	B	Mini UHF
		3	LL-195	C	SMA
				D	SMB
				E	MCX

(Other Configurations available.)

Specifications

Frequency:	
U15	824-894 MHz/1850-1990 MHz
E15	870-960 MHz/1710-1880 MHz
GPS	1575.42 +/- 2 MHz
Cellular / PCS Gain:	Unity
GPS Gain:	26 dB LNA 5 dBi nominal RHCP Antenna
VSWR:	2:1 max over range
Noise Figure:	2.0 dB max, 1.7 dB typical
Operating Temp:	-40° to +80° C
Nominal Impedance:	50 ohms
Maximum Power:	10 Watts (800/900 MHz Band)
Amplifier Bias:	2.7 to 5 VDC
Current:	20 mA max, 10 mA typical

Cable:	
Cable 1 (Cellular/PCS)	RG-58, 15 ft (4.5 meters)
Cable 2 (GPS)	RG-174, 15 ft (4.5 meters)
Case:	4.5"D x .95"H (114mm x 24 mm)
Case Material:	White or Black: ASA; Grey: ABS
Stud Mounting:	5/8" dia x 18/32" long (16 mm x14 mm) thread for 7/32" thick (5.3 mm) metal
Hardware:	Locknut and gasket included
Connector:	See above, others available
Shock & Vibration:	EN 61373, IEEE 1478, MIL-810G, TIA-329.2-C
Water Ingress:	IPx5

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antenna solutions

Quad-Band
Surface Mount

Magnet Mount
Model MAGV

Mirror Mount
Model SM-MM

Trunk Lip
Mount Model

Surface Mount Antennas 806-1990 MHz & GPS

- High performance GPS with 26 dB active amplifier
- Secure & low profile only 5" high (127 mm)
- Quad-Band for popular combinations

This antenna provides a high level of integration for Fleet Management & AVL tracking applications in a permanent thru-hole mount. The Quad-band Surface mount provides operation on all Cellular and PCS bands worldwide along with GPS. The GPS antenna has an active amplifier for maximum satellite reception.

This antenna operates on a range of wireless networks, for compatibility around the world. With advanced designs, there is no interaction between bands. This unit requires drilling a 3/4" hole (19 mm) for mounting. Underside access is required for securing.

A separate connector is provided for the GPS interface and the 925/1800 MHz interface. The antennas are provided with 15 foot (4.5 meter) cables (RG-58 for Cell/PCS, RG-174 for GPS). Standard connectors are SMA/SMB for GPS, and SMA for cellular.

GPS performance is 26 dB LNA, with 5 dBi nominal RHCP antenna gain. The GPS circuit has a low noise figure (2.0 dB max) with excellent filter characteristics. Power for the GPS amplifier signal is applied through the same cabling directly to the GPS circuit.

Model Configurator

SMV-UCE-□□-□□□-□

Cable/Connector 1
Cable/Connector 2
Color
Cable Length in Inches (eg. 12 or 180)

Example: SMV-UCE-1A2C-BLK-180
MAGV-UCE-1A2C-BLK-180

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
1	RG-58	A	TNC	WHT	White
2	RG-174	B	Mini UHF	BLK	Black
3	RF-195	C	SMA		
		D	SMB		
		E	MCX		

(Other Configurations available.)

Specifications

Frequency:	806-960, 1710-1990 MHz & GPS	Cable:	
Cellular / PCS Gain:	2 dBi (804-960), Unity (1710-1990)	GPS	RG-174, 15 feet (4.5 meters)
		PCS/DCS	RG-58, 15 feet (4.5 meters)
GPS Gain:	26 dB, LNA 5 dBi nominal RHCP Antenna	Dimensions:	5" height (127 mm) Base is 1" H x 2 5/8" D (25 mm x 67 mm)
VSWR:	2:1 max over range	Stud Mounting:	3/4" dia x 1/2" long (19 mm x 13 mm) for 3/16" thick (4.7 mm) surface Optional Mirror & Trunk Mount
Noise Figure:	2.0 dB max, 1.7 dB typical		
Operating Temp:	-40° to +80° C		
Nominal Impedance:	50 ohms		
Maximum Power:	10 Watts (Cell/PCS Band)		
Amplifier Bias:	2.7 to 5 VDC		
Current:	20 mA max, 10 mA typical	Connector:	SMA/SMA standard
Whip:	304 Stainless Steel	Shock & Vibration:	EN 61373, IEEE 1478, MIL-810G, TIA-329.2-C
Base Material:	Polycarbonate	Water Ingress:	IPx5

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MobileMark
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Surface Mount Antennas VHF, 220 or UHF & GPS

- UHF model available for 450 MHz Band and provides 26 dB active GPS gain
- VHF models operate on popular frequencies, including PTC 220 MHz with 26 dB GPS gain
- High efficiency whip is 9 inches max (23 cm) on 220 MHz or UHF band.

For VHF or UHF tracking applications, these dual band configurations combine GPS with VHF, UHF or PTC 220 MHz (Positive Train Control) into one neat package.

This saves on space, looks and installation time without sacrificing performance. The desired frequency for VHF, UHF and 220 must be specified at time of order.

These antennas can be mounted to a vehicle's metal surface or any bulkhead through a 3/4" hole (19 mm). The antennas provide completely independent dual band operation.

A loaded quarterwave whip keeps the VHF 220 whip down to a minimal size.

GPS performance is 26 dB LNA, with 5 dBi nominal antenna gain. The GPS circuitry has a low noise figure (2.0 dB max) with excellent filter characteristics. No interaction occurs between the bands.

The GPS cable/interface is 15 feet of RG-174 cable (4.5 meters) and SMB or SMA connector. The band models are outfitted with either a BNC or N connector and 15 feet of RG-58 (4.5 meters)

Model #	Description
SM-150/1575-1A2C-BLK-180	VHF Band & GPS
SM-220/1575-1A2C-BLK-180	220 MHz Band & GPS
SM-450/1575-1A2C-BLK-180	UHF Band & GPS
MAG-450/1575-2C2C-BLK-120	UHF Band & GPS

Please specify connectors required and frequency at time of order.

SM's available in Black or White. MAG available in Black only

Specifications

Frequency:	
VHF Model	130-170 MHz, factory set
220 VHF Model	220-224 MHz, factory set
UHF Model	450-470 MHz, factory set
GPS, all Models	1575.42 +/- 2 MHz
Gain (all models):	Unity
VSWR:	2:1 max over range
GPS Gain:	26 dB LNA 5 dBi nominal RHCP Antenna
Noise Figure:	2.0 dB max, 1.7 dB typical
Nominal Impedance:	50 ohms
Maximum Power:	30 Watts on VHF or UHF
Amplifier Bias:	2.7 to 5 VDC
Current:	20 mA max, 10 mA typical
Cable:	
SM	GPS: RG-174 VHF/UHF: RG-58
MAG	Dual RG-174
Operating Temp:	-40° to +80° C
Case Material:	Polycarbonate

Dimensions:	
220 MHz Model	8 1/2" height (216 mm)
UHF Model	9" height (229 mm)
VHF Model	18" at lowest freq. (457 mm)
Base Dimension:	1" H x 2 5/8" D (25mm x 67 mm)
Stud Mounting:	3/4" dia x1/2" long (19 mm x13 mm) for 3/16" thick (4.7 mm) surface
Whip Material:	304 Stainless Steel
Cable Attachment:	Integral to device, bottom exit
GPS Connector:	SMA Plug (Male)
VHF/UHF Connector:	TNC Plug (Male) supplied loose for installation Other connectors available
Shock & Vibration:	EN 61373, IEEE 1478, MIL-810G, TIA-326.2-C
Water Ingress:	IPx5

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MobileMark
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LMW201, Low Profile
Mobile LTE with GPS

Low Profile LTE, with GPS 695-960/1710-2700 MHz

- Multiband antenna for Cellular LTE and GPS
- Can be used for Mobile LTE applications
- For optimal performance, a ground plane is recommended

This two-cable antenna combines two applications at a time: GPS on one cable and any one of several wireless data applications on the other cable.

The LMW Series stands out from the other Mobile Mark Surface Mount Antenna Series in that it is extremely broad-banded and covers LTE cellular bands from 695-960 MHz and 1710-2700 MHz. It has excellent performance characteristics and performs well across the entire band.

This new wideband Surface Mount Antenna offers greater flexibility for stocking and installation because it can function over multiple systems.

For GPS, the performance is 26 dB amplifier gain with 5 dBi RHCP nominal antenna gain. The antennas have low noise figure with excellent filter characteristics.

This rugged antenna can be mounted with complete confidence in a wide range of settings. It can be mounted to any vehicle, container or bulkhead with a threaded stud mount. For optimal performance, a ground plane is recommended.

Model Configurator

LMW-201-□□ □□-□□□-□

Cable/Connector 1
Cable/Connector 2
Color
Cable Length in Inches (eg. 12 or 180)

Example: LMW-201-3C2C-WHT-180

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
1	RG-58	A	TNC	WHT	White
2	RG-174	B	Mini UHF	BLK	Black
3	LL-195	C	SMA		

(Other Configurations available.)

Specifications

Frequency:	
Cable 1, LTE	695-960/1710-2700 MHz
Cable 2, GPS	1575.42 +/- 2 MHz
Data Side:	
Gain (695-960 MHz)	Unity
Gain (1710-2700 MHz)	3 dBi
VSWR:	<2.5:1 max over range
Nominal Impedance:	50 ohms
Power:	10 Watts
Operating Temp:	-40° to +80° C
GPS Side:	
Amplifier gain	26 dB, LNA
Antenna gain	5 dBi nominal RHCP, Antenna
Noise Figure	2.0 dB max, 1.7 dB typical
Amplifier Bias	2.7 to 5 VDC
Amplifier Current	20 mA max, 10 mA typical

Standard Cables:	
Cable 1	LL-195 15 ft (4.5 meters)
Cable 2 (GPS)	RG-174, 15 ft (4.5 meters)
Optional Cables:	
Cable 1	RG-58, 15 ft (4.5 meters)
Connectors:	SMA Plug (Male) standard
Case:	3.5"D x 1.5"H (89 mm x 38 mm)
Case Material:	UV resistant ASA
Mounting:	5/8" dia.x 3/4" long (16 mm x 19 mm) Up to 1/2" (12.7 mm) thick metal
Hardware:	Nut and gasket included
Water Ingress:	IP67
Shock & Vibration:	EN 61373, IEEE 1478, MIL-810G

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Global LTE, with GPS
695-960/1710-3700 MHz

LMW202, Low Profile
Global LTE with GPS

- Multiband antenna for Global LTE and GPS
- Can be used for Mobile Global LTE applications
- For optimal performance, a ground plane is recommended

This two-cable antenna combines two applications at a time: GPS on one cable and any one of several wireless data applications on the other cable.

The LMW Series stands out from the other Mobile Mark Surface Mount Antenna Series in that it is extremely broadbanded and covers Global LTE cellular bands from 695-960 MHz and 1710-3700 MHz. It has excellent performance characteristics and performs well across the entire band.

This new wideband Surface Mount Antenna offers greater flexibility for stocking and installation because it can function over multiple systems.

For GPS, the performance is 26 dB amplifier gain with 5 dBi RHCP nominal antenna gain. The antennas have low noise figure with excellent filter characteristics.

This rugged antenna can be mounted with complete confidence in a wide range of settings. It can be mounted to any vehicle, container or bulkhead with a threaded stud mount. For optimal performance, a ground plane is recommended.

Model Configurator

LMW-202 - □□ □□ - □□□ - □□□

Cable/Connector 1
Cable/Connector 2
Color
Cable Length in Inches (eg. 12 or 180)

Example: LMW-202-3C2C-WHT-180

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
1	RG-58	A	TNC	WHT	White
2	RG-174	B	Mini UHF	BLK	Black
3	LL-195	C	SMA		

(Other Configurations available.)

Specifications

Frequency:	
Cable 1, Global LTE	695-960/1710-3700 MHz
Cable 2, GPS	1575.42 +/- 2 MHz
Data Side:	
Gain (695-960 MHz)	Unity
Gain (1710-3700 MHz)	3 dBi
VSWR:	<2.5:1 max over range
Nominal Impedance:	50 ohms
Power:	10 Watts
Operating Temp:	-40° to +80° C
GPS Side:	
Amplifier gain	26 dB, LNA
Antenna gain	5 dBi nominal RHCP, Antenna
Noise Figure	2.0 dB max, 1.7 dB typical
Amplifier Bias	2.7 to 5 VDC
Amplifier Current	20 mA max, 10 mA typical

Standard Cables:	
Cable 1	LL-195 15 ft (4.5 meters)
Cable 2 (GPS)	RG-174, 15 ft (4.5 meters)
Optional Cables:	
Cable 1	RG-58, 15 ft (4.5 meters)
Connectors:	SMA Plug (Male) standard
Case:	3.5"D x 1.5"H (89 mm x 38 mm)
Case Material:	UV resistant ASA
Mounting:	5/8" dia.x 3/4" long (16 mm x 19 mm) Up to 1/2" (12.7 mm) thick metal
Hardware:	Nut and gasket included
Water Ingress:	IP67
Shock & Vibration:	EN 61373, IEEE 1478, MIL-810G

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Low Profile LTE-U, with GPS 695-960/1710-6000 MHz

LMW203, Low Profile
LTE-U with GPS

- Multiband antenna for Cellular LTE-U and GPS
- Can be used for Mobile LTE-U applications
- For optimal performance, a ground plane is recommended

This two-cable antenna combines two applications at a time: GPS on one cable and any one of several wireless data applications on the other cable.

The LMW Series stands out from the other Mobile Mark Surface Mount Antenna Series in that it is extremely broadbanded and covers LTE-U cellular bands from 695-960 MHz and 1710-6000 MHz. It has excellent performance characteristics and performs well across the entire band.

This new wideband Surface Mount Antenna offers greater flexibility for stocking and installation because it can function over multiple systems.

For GPS, the performance is 26 dB amplifier gain with 5 dBi RHCP nominal antenna gain. The antennas have low noise figure with excellent filter characteristics.

This rugged antenna can be mounted with complete confidence in a wide range of settings. It can be mounted to any vehicle, container or bulkhead with a threaded stud mount. For optimal performance, a ground plane is recommended.

Model Configurator

LMW-203 -□□ □□-□□□-□

Cable/Connector 1
Cable/Connector 2
Color
Cable Length in Inches (eg. 12 or 180)

Example: LMW-203-3C2C-WHT-180

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
1	RG-58	A	TNC	WHT	White
2	RG-174	B	Mini UHF	BLK	Black
3	RF-195	C	SMA		

(Other Configurations available.)

Specifications

Frequency:	
Cable 1, LTE-U	695-960/1710-6000 MHz
Cable 2, GPS	1575.42 +/- 2 MHz
Data Side:	
Gain (695-960 MHz)	Unity
Gain (1710-6000 MHz)	3-5 dBi
VSWR:	<2.5:1 max over range
Nominal Impedance:	50 ohms
Power:	10 Watts
Operating Temp:	-40° to +80° C
GPS Side:	
Amplifier gain	26 dB, LNA
Antenna gain	5 dBi nominal RHCP, Antenna
Noise Figure	2.0 dB max, 1.7 dB typical
Amplifier Bias	2.7 to 5 VDC
Amplifier Current	20 mA max, 10 mA typical

Standard Cables:	
Cable 1	LL-195 15 ft (4.5 meters)
Cable 2 (GPS)	RG-174, 15 ft (4.5 meters)
Optional Cables:	
Cable 1	RG-58, 15 ft (4.5 meters)
Connectors:	SMA Plug (Male) standard
Case:	3.5"D x 1.5"H (89 mm x 38 mm)
Case Material:	UV resistant ASA
Mounting:	5/8" dia.x 3/4" long (16 mm x 19 mm) Up to 1/2" (12.7 mm) thick metal
Hardware:	Nut and gasket included
Water Ingress:	IP67
Shock & Vibration:	EN 61373, IEEE 1478,MIL-810G

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SMW-UMB multiband, 3-cable Cellular, WiFi & GPS

3-Cable
Multiband

Black Case

Mag-Mount

- Available with combination GPS & Glonass antennas
- Saves time and money by reducing the number of installations
- Available in either Surface-mount (SMW Series or Mag-mount (MGW Series)

Mobile Mark's SMW-UMB antennas are three-cable multiband antennas providing coverage for three different wireless devices. The antennas are typically used for Cellular, WiFi and GPS combinations.

The broadband "cellular" element covers all wireless applications from 800-2700 MHz, including US and European Cellular channels, AWS, UMTS, WiFi 2.4 GHz and WiMAX 2.6 GHz.

The second element in the SMW-UMB covers 2.4-2.5 GHz and can be used for 802.11b/g systems.

This surface mount multiband antenna mounts easily to a roof, trunk or bulkhead. The stud mount design uses a ¾" feed thru (19mm) for securing to the vehicle.

It is extremely weather resistant and rated IP67 for water ingress. For best performance, the antenna should be mounted on a metal surface or ground plane.

This antenna is available in a mag-mount configuration; the model family is MGW.

Model Configurator

SMW-UMB-□□ □□ □□-□□□-□

- Cable/Connector 1
- Cable/Connector 2
- Cable/Connector 3
- Color
- Cable Length in Inches (eg. 12 or 180)

Example: SMW-UMB-3C3C2C-WHT-180 (surface mount)
MGW-UMB-3C3C2C-BLK-180 (mag mount)

Specify "SMWG" or "MGWG" instead of "SMW" or "MGW" for GPS/Glonass combination antenna.

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
1	RG-58	A	TNC	WHT	White
2	RG-174	B	Mini UHF	BLK	Black
3	LL-195	C	SMA		

(Other Configurations available.)

Specifications

Frequency & Gain (peak)*:	
Cable 1	800-1250 MHz, 3 dBi 1650-2700 MHz, 5 dBi
Cable 2	2400-2485 MHz, 5 dBi
Cable 3 (GPS)	1575.42 +/- 2 MHz, LNA 26dB 5 dBi nominal RHCP, Antenna
GPS & Glonass Option:	1575 MHz & 1612 MHz
Data Element:	
VSWR*	2:1 max over range
Nominal Inpedance	50 ohms
Power	10 Watts
GPS:	
Noise Figure	2.0 dB max, 1.7 dB typical
Amplifier Bias	2.7 to 5 VDC
Amplifier Current	20 mA, 10 mA typical
Case:	4.2"D x 3.2"H (107 mm x 81 mm) add ½" (13 mm) for mag base
Case Material:	White or Black UV resistant ASA
Cable:	
Cable 1 & 2	Separate LL-195,15 ft (4.5 meters)
Cable 3 (GPS)	RG-174, 15 ft (4.5 meters)
Connectors:	SMA Plug (Male)
SMW Mounting:	Threaded metal stud ¾" dia. x ½" long (19 mm x 13 mm) for ¼" (6 mm) thick metal; supplied with gasket and nut
Mag Mounting:	Magnet
Operating Temp:	-40° to +80° C
Shock & Vibration:	IEEE1478, EN 61373, MIL-810G TIA 329.2-C
Dust/Water Ingress:	IP67

*Measured on 1' (30cm) ground with 1' cable (30cm)

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3-Cable
Multiband

Black Case

Mag-Mount

SMW-301 multiband, 3-cable Cellular, WiFi & GPS

- Available with combination GPS/Glonass
- Covers GPS, Cellular, AWS, WiFi, WiMAX, Public Safety 4.9 & DSRC 5.9 GHz
- Available in either Surface-mount (SMW Series or Mag-mount (MGW Series)

Mobile Mark's SMW-301 antennas are three-cable multiband antennas providing coverage for three different wireless devices. The antennas are used for Cellular, WiFi and GPS combinations.

The broadband "cellular" element covers all wireless applications from 800-2700 MHz, including US and European Cellular channels, AWS, UMTS, WiFi and WiMAX.

The second element in the SMW-301 provides dual coverage on both 2.4-2.5 GHz and 4.9-6.0 GHz so it can be used on 802.11a/b/g/n systems. The SMW-301 could also be used for Public Safety 4.9 GHz or for DSRC 5.9 GHz.

This surface mount multiband antenna mounts easily to a roof, trunk or bulkhead. The stud mount design uses a ¾" diam. feed thru (19mm) for securing to the vehicle. It is extremely weather resistant and rated IP67 for water ingress.

For best performance, the antenna should be mounted on a metal surface or ground plane.

The antenna is also available in a mag-mount configuration (MGW).

Model Configurator

SMW-301-☐☐ ☐☐ ☐☐ - ☐☐☐ - ☐☐☐

- Cable/Connector 1
- Cable/Connector 2
- Cable/Connector 3
- Color
- Cable Length in Inches (eg. 12 or 180)

Example: SMW-301-3C3C2C-WHT-180 (surface mount)
MGW-301-3C3C2C-BLK-180 (mag mount)

Specify "SMWG" or "MGWG" instead of "SMW" or "MGW" for GPS/Glonass combination antenna.

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
1	RG-58	A	TNC	WHT	White
2	RG-174	B	Mini UHF	BLK	Black
3	LL-195	C	SMA		

(Other Configurations available.)

Specifications

Frequency & Gain (peak):	
Cable 1	800-1250 MHz, 3 dBi 1650-2700 MHz, 5 dBi
Cable 2	2.4-2.5 & 4.9-6.0 GHz, 5 dBi
Cable 3 (GPS)	1575.42 +/- 2 MHz, LNA 26dB 5 dBi nominal RHCP, Antenna
GPS & Glonass Option:	1575 MHz & 1612 MHz
Data Modem:	
VSWR	2:1 max over range
Nominal Inpedance	50 ohms
Power	10 Watts
GPS:	
Noise Figure	2.0 dB max, 1.7 dB typical
Amplifier Bias	2.7 to 5 VDC
Amplifier Current	20 mA, 10 mA typical
Case:	4.2"D x 3.2"H (107 mm x 81 mm) add ½" (13 mm) for mag base

Case Material:	White or Black UV resistant ASA
Cable:	
Cable 1 & 2	Separate LL-195,15 ft (4.5 meters)
Cable 3 (GPS)	RG-174, 15 ft (4.5 meters)
Connectors:	SMA Plug (Male)
SMW Mounting:	Threaded metal stud ¾" dia. x ½" long (19 mm x 13 mm) for ¼" (6 mm) thick metal; supplied with gasket and nut
Mag Mounting:	Magnet
Operating Temp:	-40° to +80° C
Shock & Vibration:	IEEE1478, EN 61373, MIL-810G TIA 329.2-C
Dust/Water Ingress:	IP67

*Measured on 1' (30cm) ground with 1' cable (30cm)

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SMW-303 multiband, 3-cable DSRC or WiFi MIMO & GPS

- Popular choice for DSRC trials
- Covers GPS, WiFi, Public Safety 4.9 & Military 4.4 GHz
- Available in either Surface-mount (SMW Series or Mag-mount (MGW Series)

The SMW-303 Series Antenna provides multiband coverage on WiFi at 2.4 & 5 GHz, Public Safety at 4.9 GHz, Military at 4.4 GHz, DSRC at 5.9 GHz and GPS. The antenna is configured with 3 cables: one for GPS and the other two for the modems.

This surface mount multiband antenna mounts easily to a roof, trunk or bulkhead. The stud mount design uses a ¾" diameter feed thru (19mm) for securing to the vehicle.

The data cables are 15 feet of Low Loss -195 (4.5 meters). GPS cable is 15 feet of RF-174. All connectors are male unless otherwise requested.

For best performance, the antenna should be mounted on a metal surface or ground plane. A Mag-mount version is available with the same performance specs.

The antennas are enclosed in a 4.2"D x 3.2"H weatherproof ASA radome (107 mm x 81 mm) and supplied with all mounting hardware and a sealing gasket. The SMW Series is extremely weather resistant and rated IP67 for Dust and Water Ingress. The antennas have also passed industrial and military shock and vibration testing.

Model Configurator

SMW-303-□□ □□ □□ - □□□ - □□□

Cable/Connector 1
Cable/Connector 2
Cable/Connector 3
Color
Cable Length in Inches (eg. 12 or 180)

Example: SMW-303-3C3C2C-WHT-180 (surface mount)
MGW-303-3C3C2C-BLK-180 (mag mount)

Specify "SMWG" or "MGWG" instead of "SMW" or "MGW" for GPS/Glonass combination antenna.

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
1	RG-58	A	TNC	WHT	White
2	RG-174	B	Mini UHF	BLK	Black
3	LL-195	C	SMA		

(Other Configurations available.)

Specifications

Frequency & Gain (peak):	
Cable 1	2.4-2.5 & 4.9-6.0 GHz, 5 dBi
Cable 2	2.1-2.5 & 4.4-6.0 GHz, 5 dBi
Cable 3 (GPS)	1575.42 +/- 2 MHz, LNA 26dB 5 dBi nominal RHCP, Antenna
GPS & Glonass Option:	1575 MHz & 1612 MHz
Data Modem:	
VSWR	2:1 max over range
Nominal Inpedance	50 ohms
Power	10 Watts
GPS:	
Noise Figure	2.0 dB max, 1.7 dB typica
Amplifier Bias	2.7 to 5 VDC
Amplifier Current	20 mA, 10 mA typical
Case Dimensions:	4.2"D x 3.2"H (107 mm x 81 mm) add ½" (13 mm) for mag base
Case Material:	White or Black UV resistant ASA

Cable:	
Cable 1 & 2	Separate Low Loss-195,15 ft (4.5 meters)
Cable 3 (GPS)	RG-174, 15 ft (4.5 meters)
Connectors:	SMA Plug (Male)
Surface Mounting:	Threaded metal stud ¾" dia. x ½" long (19 mm x 13 mm) for ¼" (6 mm) thick metal; supplied with gasket and nut
MGW Mounting:	Magnet
Operating Temp:	-40° to +80° C
Shock & Vibration:	IEEE1478, EN 61373, MIL-810G, TIA 329.2-C
Dust/Water Ingress:	IP67

*Measured on 1'(30cm) ground with 1'(30cm) cable

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SMW-305 multiband, 3-cable Cellular/LTE 700 MHz, WiFi & GPS

- 3 antennas in 1 antenna housing
- Covers GPS, Cellular/LTE/AWS, WiFi Public Safety 4.9 & DSRC 5.9 GHz
- Available in either Surface-mount (SMW Series or Mag-mount (MGW Series)

The SMW-305 Series Antennas features 3-elements in one antenna radome. The unique feature of this model is that the cellular element (Cable 1) is extremely widebanded and can cover: LTE at 700 MHz as well as the established 850/1900 GSM/CDMA bands, 1.7/2.1 AWS bands and WiMAX 2.5 all on a single board.

In additional to covering all of the cellular bands on the first antenna element, the antenna also covers 2.4/5 dual-band WiFi on the second antenna element. Alternatively, the second element can be used for other specialized applications such as: Public Safety coverage at 4.9 GHz, or DSRC at 5.9 GHz.

The antenna is enclosed in a 4.2"D x 3.2"H (107 mm x 81 mm) weatherproof radome, and supplied with all mounting hardware and a sealing gasket. The radome is available in either black or white.

The antenna is available in either surface mount (SMW Series) or mag mount (MGW Series).

Model Configurator

SMW-305-☐☐ ☐☐ ☐☐ - ☐☐☐ - ☐☐☐

Cable/Connector 1
Cable/Connector 2
Cable/Connector 3
Color
Cable Length in Inches (eg. 12 or 180)

Example: SMW-305-3C3C2C-WHT-180 (surface mount)
MGW-305-3C3A2C-BLK-180 (mag mount)

Specify "SMWG" or "MGWG" instead of "SMW" or "MGW" for GPS/Glonass combination antenna.

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
1	RG-58	A	TNC	WHT	White
2	RG-174	B	Mini UHF	BLK	Black
3	LL-195	C	SMA		

(Other Configurations available.)

Specifications

Frequency & Gain*:	
Cable 1	694-894 MHz, 2 dBi 1700-2700 MHz, 5 dBi
Cable 2	2.4-2.5 & 4.9-6.0 GHz, 5 dBi
Cable 3 (GPS)	1575.42 +/- 2 MHz, LNA 26dB 5 dBi nominal RHCP, Antenna
GPS & Glonass Option:	1575 MHz & 1612 MHz
Data Modem:	
VSWR*	2:1 max over range
Nominal Inpedance	50 ohms
Power	10 Watts
GPS:	
Noise Figure	2.0 dB max, 1.7 dB typical
Amplifier Bias	2.7 to 5 VDC
Amplifier Current	20 mA, 10 mA typical
Case:	4.2"D x 3.2"H (107 mm x 81 mm) add ½" (13 mm) for mag base

Case Material:	White or Black UV resistant ASA
Cable:	
Cable 1 & 2	Separate Low Loss-195,15 ft (4.5 meters)
Cable 3 (GPS)	RG-174, 15 ft (4.5 meters)
Connectors:	SMA Plug (Male)
Surface Mounting:	Threaded metal stud ¾" dia. x ½" long (19 mm x 13 mm) for ¼" (6 mm) thick metal; supplied with gasket and nut
MGW Mounting:	Magnet
Operating Temp:	-40° to +80° C
Shock & Vibration:	IEEE1478, EN 61373, MIL-810G TIA 329.2-C
Dust/Water Ingress:	IP67

*Measured on 1'(30cm) ground with 1'(30cm) cable

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SMW-310 multiband, 3-cable UHF, WiFi or Public Safety 4.9 &

3-Cable
Multiband

- 3 antennas in 1 antenna housing
- Covers UHF, WiFi 2.4/5 GHz, or Public Safety 4.9 GHz & GPS
- True omni-directional pattern; provides exceptional performance

The SMW-310 Series Antenna has three separate RF cable feeds and will most typically be used for UHF, WiFi & GPS. Bandwidth coverage is 450-470 MHz on the first cable, 2400-2485 MHz & 4.9-6.0 GHz on the second cable and 1575 MHz for GPS on the third cable.

The ideal application for this product is public safety vehicles, such as police cars. This combination of frequencies is standard on most police cars in-service today. The SMW Series is a lower cost solution by reducing the number of installations and by reducing the downtime for those installations. Also, having three elements in one radome significantly reduces the overall footprint.

The antennas can be mounted to any vehicle, cargo container or trailer. The stud mount design uses a ¾" feed thru (19mm) for securing to the vehicle. For best performance, the antenna should be mounted on a metal surface or ground plane.

For the GPS interface, the antennas are typically outfitted with 15 feet of RG-174 cable (4.5 meters). The UHF interface cable is 15 feet of RG-58 and the WiFi interface has 15 feet of low loss-195. All connectors are male unless requested otherwise.

The antennas are enclosed in a 4.2"D x 3.2"H weather-proof radome (107 mm x 81 mm), The SMW series of antennas are fully weather resistant with a Dust and Water Ingress rating of IP67. The radome color is white or black UV resistant ASA.

Not available in a mag mount.

Model Configurator

SMW-310- 1 □□□ □□□ - □□□ - □□□

- Connector 1
- Cable/Connector 2
- Cable/Connector 3
- Color
- Cable Length in Inches (eg. 12 or 180)

Example: SMW-310-1C3C2C-WHT-180

Specify "SMWG" instead of "SMW"
for GPS/Glonass combination antenna.

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
1	RG-58	A	TNC	WHT	White
2	RG-174	B	Mini UHF	BLK	Black
3	LL-195	C	SMA		

(Other Configurations available.)

Specifications

Frequency & Gain (peak)*:	
Cable 1	450-470 MHz, 2 dBi
Cable 2	2.4-2.5 & 4.9-6.0 GHz, 5 dBi
Cable 3 (GPS)	1575.42 +/- 2 MHz, LNA 26dB 5 dBi nominal RHCP, Antenna
GPS & Glonass Option:	1575 MHz & 1612 MHz
VSWR*:	2:1 max over range
Nominal Impedance:	50 ohms
Power:	
UHF	30 Watts
WiFi	10 Watts
GPS:	
Noise Figure	2.0 dB max, 1.7 dB typical
Amplifier Bias	2.7 to 5 VDC
Amplifier Current	20 mA, 10 mA typical

Case:	4.2"D x 3.2"H (107 mm x 81 mm) add ½" (13 mm) for mag base
Case Material:	White or Black UV resistant ASA
Cable:	
Cable 1	RG-58 cable,15 ft (4.5 meters)
Cable 2	LL-195 cable,15 ft (4.5 meters)
Cable 3 (GPS)	RG-174, 15 ft (4.5 meters)
Connectors:	SMA Plug (Male) standard
Mounting:	Threaded metal stud ¾" dia. x ½" long (19 mm x 13 mm) for ¼" (6 mm) thick metal
Operating Temp:	-40° to +80° C
Shock & Vibration:	IEEE1478, EN 61373, MIL-810G TIA 329.2-C
Dust/Water Ingress:	IP67

*Measured on 1'(30cm) ground with 1'(30cm) cable

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3-Cable
Multiband

Mag-Mount

Black Case

SMW-311 multiband, 3-cable Global Cellular/LTE, WiFi & GPS

- 3 antennas in 1 antenna housing
- Covers all Cellular/LTE frequencies worldwide, WiFi at 2.4/5 GHz & GPS
- Available in either Surface-mount (SMW Series or Mag-mount (MGW Series)

The SMW-311 Series antennas features 3 antenna elements in one radome. The unique feature of this model is that the cellular element (Cable 1) is extremely widebanded and can cover the traditional GSM/CDMA frequencies, 700 MHz LTE, 1.7 & 2.1 GHz AWS/UMTS bands and LTE/WiMAX at 2.5 or 3.7 GHz, all on a single board.

This antenna is truly ready for any 4G or 5G rollout but is also compatible with earlier generation such as GPRS. See the spec table below for exact frequencies covered on each cable.

In additional to covering all Cellular & LTE bands worldwide on the first antenna element, the antenna also covers 2.4/5 GHz dual-band WiFi on the second antenna element. Alternatively, the second element can be used for other specialized applications such as: Public Safety coverage at 4.9 GHz, Military at 4.4 GHz or DSRC at 5.9 GHz.

The antenna is enclosed in a 4.2"D x 3.2"H (107 mm x 81 mm) weatherproof radome, and supplied with all mounting hardware and a sealing gasket. The radome is available in either black or white.

The antenna is available in either surface mount (SMW Series) or mag mount (MGW Series). The antennas can also be built with a commbined GPS & Glonass antenna.

Model Configurator

SMW-311-□□ □□ □□ - □□□ - □

Cable/Connector 1
Cable/Connector 2
Cable/Connector 3
Color
Cable Length in Inches (eg. 12 or 180)

Example: SMW-311-3C3C2C-WHT-180
MGW-311-3C3C2C-BLK-180

Specify "SMWG" or "MGWG" instead of "SMW" or "MGW" for GPS/Glonass combination antenna.

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
1	RG-58	A	TNC	WHT	White
2	RG-174	C	SMA	BLK	Black
3	LL-195	D	SMB		
		J	RP SMA		

(Other Configurations available.)

Specifications

Frequency & Gain*:	
Cable 1	694-960 MHz, 3 dBi 1710-3700 MHz, 4 dBi
Cable 2	2.4-2.5 & 4.9-6.0 GHz, 5 dBi
Cable 3 (GPS)	1575.42 +/- 2 MHz, LNA 26dB 5 dBi nominal RHCP, Antenna
Data Modem:	
VSWR*	2:1 max over range
Nominal Inpedance	50 ohms
Power	10 Watts
GPS:	
Noise Figure	2.0 dB max, 1.7 dB typical
Amplifier Bias	2.7 to 5 VDC
Amplifier Current	20 mA, 10 mA typical
GPS & Glonass Option:	1575 MHz & 1612 MHz
Operating Temp:	-40° to +80° C

Case:	4.2"D x 3.2"H (107 mm x 81 mm) add ½" (13 mm) for mag base
Case Material:	White or Black UV resistant ASA
Cable:	
Cable 1 & 2	Separate LL-195,15 ft (4.5 meters)
Cable 3 (GPS)	RG-174, 15 ft (4.5 meters)
Connectors:	SMA Plug (Male)
MGW Mounting:	Magnet Mount
SMW Mounting:	Threaded metal stud ¾" dia. x ½" long (19 mm x 13mm) for¼" (6mm) thick metal; supplied with gasket & nut; other stud lengths available
Shock & Vibration:	IEEE1478, EN 61373, MIL-810G TIA 329.2-C
Dust/Water Ingress:	IP67

*Measured on 1'(30cm) ground with 1'(30cm)

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Surface Mount Multiband PTC 220 MHz, WiFi & GPS

3-Cable Multiband

- 3 antennas in 1 antenna housing
- Designed for Positive Train Control (PTC) at 220 MHz along with WiFi and GPS
- Rugged, heavy duty construction

The SMW-PTC Series Antenna was designed for PTC (Positive Train Control) applications. Designed & built with heavy duty construction to survive the rigors of railroad use.

This antenna uses our popular SMW Series platform to combine PTC with WiFi and GPS. As with our other SMW antennas, this antenna contains 3-elements all within the same radome. The first element covers 220-220 MHz, the second element covers 2.4-2.5 GHz and the third covers GPS at 1575 MHz.

The SMW-PTC antennas provide 2 dBi gain on the PTC element, 5 dBi gain on the WiFi element, and 5 dbi gain with a 26 dB amplifier on the GPS element. The antennas will handle 10 watts of power.

The surface mount models use a ¾-inch feed thru (19 mm) for securing to the vehicle. Access to the underside of the body surface is required to complete the installation of the SMW Series. For best performance the antenna should be mounted on a metal surface or ground plane. A mag-mount option is not available.

The antenna is enclosed in a 4.2"D x 3.2"H (107 mm x 81 mm) weatherproof radome, and supplied with all mounting hardware and a sealing gasket. The radome is available in either black or white.

Model Configurator

SMW-PTC-1☐ ☐☐ ☐☐ - ☐☐☐ - ☐☐☐

- Connector 1
- Cable/Connector 2
- Cable/Connector 3
- Color
- Cable Length in Inches (eg. 12 or 180)

Example: SMW-PTC-1C3C2C-WHT-180

Specify "SMWG" instead of "SMW" for GPS/Glonass combination antenna.

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
1	RG-58	A	TNC	WHT	White
2	RG-174	B	Mini UHF	BLK	Black
3	LL-195	C	SMA		
		D	SMB		
		E	MCX		

(Other Configurations available.)

Specifications

Frequency & Gain (peak):	
Cable 1	220-222 MHz, 2 dBi
Cable 2	2400-2485 MHz, 5 dBi
Cable 3 (GPS)	1575.42 +/- 2 MHz, LNA 26dB
	5 dBi nominal RHCP, Antenna
VSWR:	2:1 max over range
Nominal Impedance:	50 ohms
Power:	10 Watts
GPS:	
Noise Figure	2.0 dB max, 1.7 dB typical
Amplifier Bias	2.7 to 5 VDC
Amplifier Current	20 mA, 10 mA typical
GPS & Glonass Option:	1575 MHz & 1612 MHz
Case:	4.2"D x 3.2"H (107 mm x 81 mm)
Case Material:	White or Black UV resistant ASA

Cable:	
Cable 1 (220)	RG-58 cable,15 ft (4.5 meters)
Cable 2 (WiFi)	LL-195 cable,15 ft (4.5 meters)
Cable 3 (GPS)	RG-174, 15 ft (4.5 meters)
Connectors:	SMA Plug (Male) standard
Mounting:	Threaded metal stud ¾" dia. x ½" long (19 mm x 13 mm) for ¼" (6 mm) thick metal; supplied with gasket and nut
Operating Temp:	-40° to +80° C
Shock & Vibration:	IEEE1478, EN 61373, MIL-810G, TIA 329.2-C
Dust/Water Ingress:	IP67

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Black Case

4-Cable Multiband

Mag-Mount

SMW-404 multiband, 4-cable Cellular, Dual WiFi & GPS

- 4 antennas in 1 antenna housing
- Covers GPS, Cellular, AWS, Military 4.4, WiFi & WiMAX
- Available in either Surface-mount (SMW Series or Mag-mount (MGW Series)

The SMW-404 Series Antennas are configured with four different cables. It provides high performance Cellular GSM/CDMA, AWS, UMTS, two separate 2.4/4.9-6.0 GHz elements (of which the second is broadbanded) and GPS. This combination is particularly useful for Public Safety Video and Mesh Networking applications can be used for diversity coverage or for two separate 2.4/4.9 devices.

The antenna uses a ¾-inch feed thru (19 mm) for securing to the vehicle. Access to the underside of the body surface is required to complete the installation. For best performance, the antenna should be mounted to a metal surface or ground plane.

The antenna is also available as a mag-mount for temporary set-ups. The model prefix "MGW" should be used instead of "SMW" to specify a mag-mount antenna.

Both the surface mount and mag-mount antennas are configured with 15 feet (4.5 meters) of cable. The communications channels use low loss-195 cable and the GPS channel uses RG-174.

The antennas can also be configured for combined GPS & Glonass use.

Model Configurator

SMW-404-□□ □□ □□ □□ -□□□ -□

- Cable/Connector 1
- Cable/Connector 2
- Cable/Connector 3
- Cable/Connector 4
- Color
- Cable Length in Inches (eg. 12 or 180)

Example: SMW-404-3C3C3C2C-WHT-180
MGW-404-3C3C3C2C-BLK-180

Specify "SMWG" or "MGWG" instead of "SMW" or "MGW" for GPS/Glonass combination antenna.

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
1	RG-58	A	TNC	WHT	White
2	RG-174	B	Mini UHF	BLK	Black
3	LL-195	C	SMA		
		D	SMB		
		E	MCX		

(Other Configurations available.)

Specifications

Frequency & Gain (peak):	
Cable 1	800-1250 MHz, 3 dBi & 1650-2700 MHz, 5 dBi
Cable 2	2.4-2.5 & 4.9-6.0 GHz, 5 dBi
Cable 3	2.1-2.5 & 4.4-6.0 GHz, 5 dBi
Cable 4 (GPS)	1575.42 +/- 2 MHz, LNA: 26dB 5 dBi nominal RHCP
VSWR:	2:1 max over range
Nominal Impedance:	50 ohms
Maximum Power:	10 Watts
GPS	
Amplifier Bias:	2.7 to 5 VDC
Noise Figure:	2.0 dB max, 1.7 dB typical
Current:	20 mA max, 10 mA typical
GPS & Glonass Option:	1575 MHz & 1612 MHz
Case:	4.2"D x 3.2"H (107 mm x 81 mm) add ½" (13 mm) for mag base
Operating Temp:	-40° to +80° C
Cable:	
Cables 1 - 3	Separate LL-195 15 ft (4.5 meters)
Cable 4	RG-174, 15 ft (4.5 meters)
Connector:	SMA Plug (Male) standard
Case Material:	White or Black UV resistant ASA
MGW Mounting:	Magnet Mount
SMW Mounting:	Threaded metal stud ¾" dia. x ½" long (19 mm x 13mm) for¼" (6mm) thick metal; supplied w/ gasket & nut; other stud lengths available
Shock & Vibration:	IEEE1478, EN 61373, MIL-810G, TIA 329.2-C
Dust/Water Ingress:	IP67

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SMW-410 multiband, 4-cable MIMO WiFi, & GPS

- 4 antennas in 1 antenna housing
- Covers GPS, WiFi 2.4/5.0 GHz, Military 4.4 or Public Safety 4.9 GHz
- Three WiFi elements can be used for WiFi MIMO or for separate WiFi modems

The SMW-410 Series Antennas features 4 elements in one antenna radome. The unique feature of this model is that it offers two identical high gain elements covering 2.4 GHz & 4.9-6.0 GHz. Of the remaining two elements in the SMW-410, one is used for GPS at 1575 MHz and the other covers 2.1-2.5 GHz & 4.4-6.0 GHz. All three elements offer an impressive 5 dBi gain.

This antenna is designed for applications that combine GPS with 2-cable or 3-cable MIMO WiFi, Public Safety at 4.9 GHz or Military at 4.4 GHz.

For the GPS interface, the antennas are outfitted with 15 feet (4.5 meters) of RF-174 cable. The remaining three elements are fed with 15 feet (4.5 meters) or low loss -195 cable.

The antenna is housed in an impact resistant radome made from ASA. It has been rated for shock and vibration as well as water ingress and will stand up to harsh weather or to rough treatment.

The antenna can be ordered as a surface mount antenna or as a mag-mount antenna.

Model Configurator

SMW-410-□□ □□ □□ □□ - □□□ - □□

Cable/Connector 1
Cable/Connector 2
Cable/Connector 3
Cable/Connector 4
Color
Cable Length in Inches (eg. 12 or 180)

Example: SMW-410-3C3C3C2C-WHT-180
MGW-410-3C3C3C2C-BLK-180

Specify "SMWG" or "MGWG" instead of "SMW" or "MGW" for GPS/Glonass combination antenna.

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
1	RG-58	A	TNC	WHT	White
2	RG-174	B	Mini UHF	BLK	Black
3	LL-195	C	SMA		
4	RG-188	D	SMB		
7	LMR-100	J	RP SMA		

(Other Configurations available.)

Specifications

Frequency & Gain (peak):	
Cable 1	2.1-2.5 & 4.4-6.0 GHz, 5 dBi
Cable 2	2.4-2.5 & 4.9-6.0 GHz, 5 dBi
Cable 3	2.4-2.5 & 4.9-6.0 GHz, 5 dBi
Cable 4 (GPS)	1575.42 +/- 2 MHz, LNA: 26dB 5 dBi nominal RHCP
VSWR:	2:1 max over range
Nominal Impedance:	50 ohms
Maximum Power:	10 Watts
GPS	
Amplifier Bias:	2.7 to 5 VDC
Noise Figure:	2.0 dB max, 1.7 dB typical
Current:	20 mA max, 10 mA typical
GPS & Glonass Option:	1575 MHz & 1612 MHz
Case:	4.2"D x 3.2"H (107 mm x 81 mm) add ½" (13 mm) for mag base

Case Material:	White or Black UV resistant ASA
Cable:	
Cables 1 - 3	Separate LL-195 15 ft (4.5 meters)
Cable 4	RG-174, 15 ft (4.5 meters)
Connector:	SMA Plug (Male)
MGW Mounting:	Magnet Mount
SMW Mounting:	Threaded metal stud ¾" dia. x ½" long (19 mm x 13mm) for¼" (6 mm) thick metal; supplied with gasket & nut; other stud lengths available
Operating Temp:	-40° to +80° C
Shock &Vibration:	IEEE1478, EN 61373, MIL-810G, TIA 329.2-C
Dust/Water Ingress:	IP67

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4-Cable Multiband

Black Case

Mag-Mount

SMW-412 multiband, 4-cable LTE 700 MHz, AWS, WiFi & GPS

- 4 antennas in 1 antenna housing
- Covers GPS, 700 MHz LTE, AWS, WiFi, & Public Safety 4.9 GHz
- Available in either Surface-mount (SMW Series or Mag-mount (MGW Series)

The SMW-412 Series Antennas features 4 elements in one antenna radome. The unique feature of this model is that the cellular element (Cable 1) is extremely widebanded and can cover: LTE at 700 MHz as well as the established 850/1900 GSM/CDMA bands, 1.7/2.1 AWS bands and WiMAX 2.5 all on a single board.

This antenna is truly ready for any 4G rollout but is also compatible with earlier generation such as GPRS. See the spec table below for exact frequencies covered on each cable.

In additional to covering all of the cellular bands on Cable 1, the antenna also covers 2.4/5 dual-band WiFi on Cables 2 & 3. Other specialized applications are possible, e.g. Public Safety coverage at 700 MHz & 4.9 GHz, Military at 4.4 GHz or DSRC at 5.9 GHz.

The antenna is enclosed in a 4.2"D x 3.2"H (107 mm x 81 mm) weatherproof radome, and supplied with all mounting hardware and a sealing gasket.

The radome is available in either black or white. The antennas are available in either surface mount or mag-mount models. The antennas can also be configured for combined GPS & Glonass use.

Model Configurator

SMW-412-□□ □□ □□ □□ - □□□ - □□□

- Cable/Connector 1
- Cable/Connector 2
- Cable/Connector 3
- Cable/Connector 4
- Color
- Cable Length in Inches (eg. 12 or 180)

Example: SMW-412-3C3C3C2C-WHT-180
MGW-412-3C3C3C2C-BLK-180

Specify "SMWG" or "MGWG" instead of "SMW" or "MGW" for GPS/Glonass combination antenna.

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
1	RG-58	A	TNC	WHT	White
2	RG-174	B	Mini UHF	BLK	Black
3	LL-195	C	SMA		
		D	SMB		
		E	MCX		

(Other Configurations available.)

Specifications

Frequency & Gain*:	
Cable 1	694-894 MHz, 3 dBi & 1.7-2.7 GHz, 5 dBi
Cable 2	2.4-2.5 & 4.9-6.0 GHz, 5 dBi
Cable 3	2.1-2.5 & 4.4-6.0 GHz, 5 dBi
Cable 4 (GPS)	1575.42 +/- 2 MHz, LNA: 26dB 5 dBi nominal RHCP
VSWR*:	2:1 max over range
Nominal Impedance:	50 ohms
Maximum Power:	10 Watts
GPS Amplifier Bias:	2.7 to 5 VDC
GPS Noise Figure:	2.0 dB max, 1.7 dB typical
GPS Current:	20 mA max, 10 mA typical
GPS & Glonass Option:	1575 MHz & 1612 MHz
Case:	4.2"D x 3.2"H (107 mm x 81 mm) add ½" (13 mm) for mag base
Cable:	
Cables 1 - 3	Separate LL-195 15 ft (4.5 meters)
Cable 4	RG-174, 15 ft (4.5 meters)
Connector:	SMA Plug (Male)
Case Material:	White or Black UV resistant ASA
MGW Mounting:	Magnet Mount
SMW Mounting:	Threaded metal stud ¾" dia. x ½" long (19 mm x 13mm) for¼" (6 mm) thick metal; supplied with gasket & nut; other stud lengths available
Operating Temp:	-40° to +80° C
Shock & Vibration:	IEEE1478, EN 61373, MIL-810G TIA 329.2-C
Dust/Water Ingress:	IP67

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4-Cable
Multiband

Black Case

Mag-Mount

SMW-414 multiband, 4-cable Global Cellular/LTE, WiFi & GPS

- 4 antennas in 1 antenna housing
- Covers GPS, all Cellular/LTE frequencies worldwide & two separate WiFi elements
- Combined GPS/Glonass antenna element available

The SMW-414 Series antennas features 4 antenna elements in one radome. The unique feature of this model is that the cellular element (Cable 1) is extremely widebanded and can cover the traditional GSM/CDMA frequencies, 700 MHz LTE, 1.7 & 2.1 GHz AWS/UMTS and LTE/WiMAX at 2.5 or 3.7 GHz, all on a single board.

This antenna is truly ready for any 4G or 5G rollout but is also compatible with earlier generation such as GPRS. See the spec table below for exact frequencies covered on each cable.

In additional to covering all global cellular bands on Cable 1, the antenna also covers 2.4/5 dual-band WiFi on Cables 2 & 3. This can be used for two separate WiFi modems or for a WiFi MIMO modem.

The antenna is enclosed in a 4.2"D x 3.2"H (107 mm x 81 mm) weatherproof radome, and supplied with all mounting hardware and a sealing gasket.

The radome is available in either black or white. The antennas are available in either surface mount or mag-mount models. The antennas can also be configured for combined GPS & Glonass use.

Model Configurator

SMW-414-☐☐ ☐☐ ☐☐ ☐☐ - ☐☐☐ - ☐☐☐

- Cable/Connector 1
- Cable/Connector 2
- Cable/Connector 3
- Cable/Connector 4
- Color
- Cable Length in Inches (eg. 120 or 180)

Example: SMW-414-3C3C3C2C-WHT-180
MGW-414-3C3C3C2C-BLK-180

Specify "SMWG" or "MGWG" instead of "SMW" or "MGW" for GPS/Glonass combination antenna.

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
1	RG-58	A	TNC	WHT	White
2	RG-174	B	Mini UHF	BLK	Black
3	LL-195	C	SMA		
		J	Rev Pol SMA		

(Other Configurations available.)

Specifications

Frequency & Gain*:	
Cable 1	694-960 MHz, 3 dBi 1710-3700 MHz, 4 dBi
Cable 2	2.4-2.5 & 4.9-6.0 GHz, 5 dBi
Cable 3	2.1-2.5 & 4.4-6.0 GHz, 5 dBi
Cable 4 (GPS)	1575.42 +/- 2 MHz, LNA: 26dB 5 dBi nominal RHCP
VSWR*:	2:1 max over range
Nominal Impedance:	50 ohms
Maximum Power:	10 Watts (max)
GPS Amplifier Bias:	2.7 to 5 VDC
GPS Noise Figure:	2.0 dB max, 1.7 dB typical
GPS Current:	20 mA max, 10 mA typical
GPS & Glonass Option:	1575 MHz & 1612 MHz
Case:	4.2"D x 3.2"H (107 mm x 81 mm) add ½" (13 mm) for mag base

Cable:	
Cables 1 - 3	Separate LL-195 15 ft (4.5 meters)
Cable 4	RG-174, 15 ft (4.5 meters)
Connector:	SMA Plug (Male)
Case Material:	White or Black UV resistant ASA
MGW Mounting:	Magnet Mount
SMW Mounting:	Threaded metal stud ¾" dia. x ½" long (19 mm x 13 mm) for ¼"(6 mm) thick metal; supplied with gasket & nut; other length studs available
Operating Temp:	-40° to +80° C
Shock &Vibration:	IEEE1478, EN 61373, MIL-810G TIA 329.2-C
Dust/Water Ingress:	IP67

*Measured on 1'(30cm) ground with 1'(30cm) cable

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LTM301 multi-band 3-cable Cellular/LTE MIMO & GPS

- 3-cables: two Cellular/LTE and one GPS
- Cellular/LTE elements used for either Diversity or MIMO
- Mechanically sound, meets Industrial & Military specs

Mobile Mark's LTM301 Series Multiband Diversity/MIMO antenna is designed for modems that combine a GPS receiver with a 2-element LTE MIMO modem. The LTM301 contains three separate antennas, all in one compact antenna housing: two identical Cellular & LTE 700 MHz elements and one GPS.

LTE MIMO (Multiple-input-multiple-output) modems offer greater speed and capacity than earlier generations of modems, but in order to ensure optimum performance the LTE MIMO system needs multiple antennas on both the transmission and receive ends.

Measuring 5.5" (140mm) in diameter with a low profile of 2.38" (60.4mm), LTM series antennas take up significantly less space than multiple antennas.

The LTM301 antenna does not require a groundplane to meet its specifications. It can even be mounted on fiberglass roofs.

The antennas are available in either black or white, and can be configured as either surface mount or mag-mount models. The antennas can also be configured for combined GPS & Glonass use.

Model Configurator

LTM301-□□□□□-□□□-□□□

- Cable/Connector 1
- Cable/Connector 2
- Cable/Connector 3
- Color
- Cable Length in Inches (eg. 12 or 180)

Example: LTM301-3C3C2C-WHT-180
MLTM301-3C3C2C-BLK-180 (mag-mount option)

Specify "LTMG" or "MLTMG" instead of "LTM" or "MLTM" for GPS/Glonass combination antenna.

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
1	RG-58	A	TNC	WHT	White
2	RG-174	C	SMA	BLK	Black
3	LL-195	J	RP SMA		

(Other Configurations available.)

Specifications

Frequency & Gain (peak)*:	
Cable 1 & 2 (Cellular/LTE)	694-960 MHz, 3 dBi & 1710-2170 MHz, 4 dBi
Cable 3 (GPS or	1575 MHz
Optional GPS/Glonass)	1575 & 1612 MHz
LNA:	26 dB/2 dB max N. F.
GPS/Glonass antenna gain:	5 dBic
Bias:	3.3/5 VDC
VSWR*:	2:1 VSWR over Range
Impedance:	50 Ohm Nominal
Maximum Power:	10 Watts
Surface Mount dimensions	5.50" Dia. x 2.38" High (140mm x 60.4mm)
Magnet Mount dimensions	5.50" Dia. x 2.78" High (140mm x 70.6mm)

Radome Material:	ASA UV-Stable Plastic
Operating Temperature:	-40° to +80° C
Connectors:	SMA Plugs standard, other connectors available
Cable 1-2 (Cellular/LTE)	Separate LL-195,15 ft 4.5 meters) standard
Cable 3 (GPS or GPS/Glonass)	RG-174, 15 ft (4.5 meters)
LTM Mounting:	7/8" (22mm) Dia. Feed through 3/4"(19mm)Long Thread for up to 1/2" (12mm)thick surface
MLTM Mounting:	Magnet mount
Groundplane:	None required
Shock & Vibration:	IEEE1478, EN61373, MIL-810G, TIA 329.2-C
Water Ingress:	IP67

*Measured on 1'(30cm) ground with 1'(30cm) cable

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LTM310 multi-band 3-cable LTE-U Cellular MIMO & GPS

- 3-cables: two for LTE-U and one for GPS
- Cellular antenna, ready for LTE-U at 6 GHz
- Meets Industrial & Military specs

Mobile Mark's LTM310 Series Multiband Diversity/MIMO antenna contains three separate antennas, all in one compact antenna housing: two identical LTE-U Cellular antennas and one GPS antenna. The LTE-U elements are broadbanded enough to cover LTE-U frequencies from 694-960 MHz, 1710-3700 MHz, and 4.9-6.0 GHz.

LTE-U MIMO (multiple-input-multiple-output) modems offer greater speed and capacity than earlier generations of modems. In order to ensure optimum performance the LTE-U MIMO system needs multiple antennas on both the transmission and receive ends. The LTM410, LTM310 or LTM610 acheives this with two identical LTE-U elements.

This 3-element LTM antenna is designed for fleet management systems that combine a GPS receiver with a 2-element LTE-U MIMO modem. For fleet management systems that add in a WiFi MIMO modem, the LTM510 is recommended.

Measuring 5.5" (140mm) in diameter with a low profile of 2.38" (60.4mm), LTM series antennas take up significantly less space than multiple antennas. The radome is available in either black or white. The antennas are available in either surface mount or mag-mount models. The antennas can also be configured for combined GPS & Glonass use.

Model Configurator

LTM310 - □□□□□□-□□□-□□□

- Cable/Connector 1
- Cable/Connector 2
- Cable/Connector 3
- Color
- Cable Length in Inches (eg. 12 or 180)

Example: LTM310-3C3C2C-WHT-180
MLTM310-3C3C2C-BLK-180 (mag-mount option)

Specify "LTMG" or "MLTMG" instead of "LTM" or "MLTM" for GPS/Glonass combination antenna.

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
1	RG-58	A	TNC	WHT	White
2	RG-174	C	SMA	BLK	Black
3	LL-195	J	RP SMA		
		K	RP TNC		

(Other Configurations available.)

Specifications

Frequency & Gain (peak)*:	
Cable 1 & 2 (LTE-U)	694-960 MHz, 3 dBi & 1710-3700 MHz, 4 dBi 4.9-6.0 GHz, 5 dBi
Cable 3 (GPS)	1575.42 +/- 2 MHz, 26 dB, 5 dBi
VSWR*:	<2:1 VSWR over Range
Impedance:	50 Ohm Nominal
Maximum Power:	10 Watts
GPS	
Amplifier Bias:	2.7 to 5 VDC
Noise Figure:	2.0 dB max, 1.7 dB typical
Current:	20 mA max, 10 mA typical
Case:	
Surface Mount	5.50" Dia. x 2.38" High (140mm x 60.4mm)
Magnet Mount	5.50" Dia. x 2.78" High (140mm x 70.6mm)
Radome Material:	ASA UV-Stable Plastic
Operating Temperature:	-40° to +80° C
Connectors:	SMA Plugs standard, Others Available
Cable:	
Cable 1-2	Separate LL-195,15 ft (4.5 meters) standard
Cable 3 (GPS)	RG-174, 15 ft (4.5 meters)
LTM Mounting:	7/8" (22mm) Dia. Feed through 3/4"(19mm)Long Thread for up to 1/2" (12mm)thick surface
MLTM Mounting:	Magnet mount
Shock & Vibration:	IEEE1478, EN61373, MIL-810G, TIA 329.2-C
Water Ingress:	IP67

*Measured on 1' (30cm) ground with 1' (30 cm) cable

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LTM401 multi-band 4-cable Cellular/LTE MIMO, WiFi & GPS

- 4-cables: two for Cellular/LTE, one for WiFi, and one for GPS
- Cellular/LTE elements used for either Diversity or MIMO
- Meets Industrial & Military specs

Mobile Mark's LTM401 Series Multiband Diversity/MIMO antenna contains four separate antennas, all in one compact antenna housing: two identical LTE 700 MHz & Cellular antennas, one 2.4/5 GHz dual-band WiFi antenna, and one GPS antenna.

MIMO (multiple-input-multiple-output) modems offer greater speed and capacity than earlier generations of modems. They achieve this by sending RF signals on multiple antenna elements to maximize the amount of information transmitted and received, but in order to ensure optimum performance the systems need multiple antennas on both the transmission and receive ends.

This 4-element LTM antenna is designed for fleet management systems that combine GPS with a single element WiFi (non-MIMO) modem as well as a 2-element LTE MIMO modem. For systems that require Global LTE up to 3700 MHz the 4-cable LTM402 is recommended.

Measuring 5.5" (140mm) in diameter with a low profile of 2.38" (60.4mm), LTM series antennas take up significantly less space than multiple antennas and cut down on installation time and costs by offering a single mounting hole.

Model Configurator

LTM401-□□□□□□-□□□-□□□

- Cable/Connector 1
- Cable/Connector 2
- Cable/Connector 3
- Cable/Connector 4
- Color
- Cable Length in Inches (eg. 12 or 180)

Example: LTM401-3C3C3C2C-WHT-180
MLTM401-3C3C3C2C-BLK-180 (mag-mount option)

Specify "LTMG" or "MLTMG" instead of "LTM" or "MLTM" for GPS/Glonass combination antenna.

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
1	RG-58	A	TNC	WHT	White
2	RG-174	C	SMA	BLK	Black
3	LL-195	J	RP SMA		

(Other Configurations available.)

Specifications

Frequency & Gain (peak)*:	
Cable 1 & 2 (LTE)	694-960 MHz, 3 dBi & 1710-2170 MHz, 4 dBi
Cable 3 (WiFi)	2.4-2.5 & 4.9-6.0 GHz, 5 dBi
Cable 4 (GPS)	1575.42 +/- 2 MHz, 26 dB, 5 dBi
GPS & Glonass Option:	1575 MHz & 1612 MHz
VSWR*:	2:1 VSWR over Range
Impedance:	50 Ohm Nominal
Maximum Power:	10 Watts
Case:	
Surface Mount	5.50" Dia. x 2.38" High (140mm x 60.4mm)
Magnet Mount	5.50" Dia. x 2.78" High (140mm x 70.6mm)
Radome Material:	ASA UV-Stable Plastic

Operating Temperature:	-40° to +80° C
Connectors:	SMA Plugs standard
Cable:	
Cable 1-3	Separate LL-195,15 ft (4.5 meters) standard
Cable 4 (GPS)	RG-174, 15 ft (4.5 meters)
LTM Mounting:	7/8" (22mm) Dia. Feed through 3/4"(19mm)Long Thread for up to 1/2"(12mm) thick surface
MLTM Mounting:	Magnet mount
Shock & Vibration:	IEEE1478, EN61373, MIL-810G, TIA 329.2-C
Water Ingress:	IP67

*Measured on 1'(30cm) ground with 1'(30cm) cable

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LTM404 Dual-band 4-cable WiFi MIMO Antenna

- 4x MIMO Surface-Mount Antenna
- Two WiFi elements can be used for WiFi MIMO or for separate WiFi modems
- Meets Industrial & Military specs

Mobile Mark's LTM404 Series Dual-band WiFi MIMO antenna contains four separate antennas, all in one compact antenna housing.

WiFi MIMO (multiple-input-multiple-output) modems offer greater speed and capacity than earlier generations of modems. They achieve this by sending RF signals on multiple antenna elements to maximize the amount of information transmitted and received.

This 4-element LTM antenna provides coverage on both 2.4-2.5 & 4.9-6.0 GHz.

Measuring 5.5" (140mm) in diameter with a low profile of 2.38" (60.4mm), and 5.5" (140mm) x 2.78" (70.6mm) with the magnet mount. The LTM series antennas take up significantly less space than multiple antennas and cut down on installation time and costs by offering a single mounting hole.

The antennas are avaliable in either surface-mount or mag-mount versions.

Model Configurator

LTM404-□□□□□□-□□□-□

Cable/Connector 1
Cable/Connector 2
Cable/Connector 3
Cable/Connector 4
Color
Cable Length in Inches (eg. 12 or 180)

Example: LTM404-3C3C3C3C-WHT-180
MLTM404-3C3C3C3C-BLK-180 (mag-mount option)

Cable Options:	
Code	Cable
3	LL-195

Connector Options:	
Code	Connector
A	TNC
C	SMA
J	RP SMA

Color Options:	
Code	Color
WHT	White
BLK	Black

(Other Configurations available.)

Specifications

Frequency & Gain (peak):	
Cables 1-4 (WiFi):	2.4-2.5 GHz/4.9-6.0 GHz
Gain:	5 dBi
VSWR*:	2:1 VSWR over Range
Impedance:	50 Ohm Nominal
Maximum Power:	10 Watts
Case:	
Surface Mount	5.50" Dia. x 2.38" High (140mm x 60.4mm)
Magnet Mount	5.50" Dia. x 2.78" High (140mm x 70.6mm)
Radome Material:	ASA UV-Stable Plastic
Operating Temperature:	-40° to +80° C
Connectors:	SMA Plugs standard
Cable:	
Cables 1-4	Separate low loss-195, 15 ft (4.5 meters) standard
LTM Mounting:	7/8" (22mm) Dia. Feed thru 3/4"(19mm) Long Thread for up to 1/2"(13mm) thick surface
MLTM Mounting:	Magnet mount
Shock & Vibration:	IEEE1478, EN61373, MIL-810G, TIA 329.2-C
Water Ingress:	IP67

*Measured on 1'(30cm) ground with 1'(30cm) cable

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LTM410
Antenna

Black Case

Mag-Mount

LTM410 multi-band 4-cable LTE-U Cellular, WiFi & GPS

- 4-cables: two for LTE-U, one for WiFi, and one for GPS
- LTE-U ready; coverage up to 6 GHz
- Meets Industrial & Military specs

Mobile Mark's LTM410 Series Multiband Diversity/MIMO antenna contains four separate antennas, all in one compact antenna housing: two identical LTE-U Cellular antennas, one 2.4/5 GHz dual-band WiFi antenna, and one GPS antenna.

LTE-U MIMO (multiple-input-multiple-output) modems offer greater speed and capacity than earlier generations of modems. They achieve this by sending RF signals on multiple antenna elements to maximize the amount of information transmitted and received, but in order to ensure optimum performance the systems need multiple antennas on both the transmission and receive ends.

This 4-element LTM antenna is designed for fleet management systems that combine GPS with a single element WiFi (non-MIMO) modem as well as a 2-element LTE-U MIMO modem. For systems that require MIMO on the WiFi bands, the 5-cable LTM510 is recommended.

Measuring 5.5" (140mm) in diameter with a low profile of 2.38" (60.4mm), 5.5" (140mm) x 2.78" (70.6mm) with the magnet mount, LTM series antennas take up significantly less space than multiple antennas and cut down on installation time and costs by offering a single mounting hole.

Model Configurator

LTM410- □□ □□ □□ □□ □□ - □□□ - □□

- Cable/Connector 1
- Cable/Connector 2
- Cable/Connector 3
- Cable/Connector 4
- Color
- Cable Length in Inches (eg. 12 or 180)

Example: LTM410-3C3C3C2C-WHT-180
MLTM410-3C3C3C2C-BLK-180 (mag-mount option)

Specify "LTMG" or "MLTMG" instead of "LTM" or "MLTM" for GPS/Glonass combination antenna.

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
1	RG-58	A	TNC	WHT	White
2	RG-174	C	SMA	BLK	Black
3	LL-195	J	RP SMA		

(Other Configurations available.)

Specifications

Frequency & Gain (peak)*:	
Cable 1 & 2 (LTE-U)	694-960 MHz, 3 dBi & 1710-3700 MHz, 4 dBi 4.9-6.0 GHz, 5 dBi
Cable 3 (WiFi)	2.4-2.5 & 4.9-6.0 GHz, 5 dBi
Cable 4 (GPS)	1575.42 +/- 2 MHz, 26 dB, 5 dBi
VSWR*:	<2:1 VSWR over Range
Impedance:	50 Ohm Nominal
Maximum Power:	10 Watts
GPS	
Amplifier Bias:	2.7 to 5 VDC
Noise Figure:	2.0 dB max, 1.7 dB typical
Current:	20 mA max, 10 mA typical
Case:	
Surface Mount	5.50" Dia. x 2.38" High (140mm x 60.4mm)
Magnet Mount	5.50" Dia. x 2.78" High (140mm x 70.6mm)
Radome Material:	ASA UV-Stable Plastic
Operating Temperature:	-40° to +80° C
Connectors:	SMA Plugs standard
Cable:	
Cable 1-3	Separate LL-195,15 ft (4.5m)
Cable 4 (GPS)	RG-174, 15 ft (4.5 meters)
LTM Mounting:	7/8" (22mm) Dia. Feed thru 3/4"(19mm)Long Thread for up to 1/2"(12mm) thick surface
MLTM Mounting:	Magnet mount
Shock & Vibration:	IEEE1478, EN61373, MIL-810G, TIA 329.2-C
Water Ingress:	IP67

*Measured on 1' (30 cm) ground with 1' (30 cm) cable

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LTM501 multi-band 5-cable LTE MIMO, WiFi MIMO & GPS

- 5-cables: two for Cellular/LTE, two for WiFi, and one for GPS
- Cellular/LTE elements used for either Diversity or MIMO
- Does not require a ground plane

Mobile Mark's LTM501 Series Multiband Diversity/MIMO antenna contains five separate antennas, all in one compact antenna housing: two LTE 700 MHz & Cellular antennas, two dual-band WiFi antennas, and one GPS antenna.

MIMO (multiple-input-multiple-output) modems offer greater speed and capacity than earlier generations of modems. They achieve this by sending RF signals on multiple antenna elements to maximize the amount of information transmitted and received. To ensure optimum performance, the systems need multiple antennas on both the transmission and receive ends.

With 5-elements, the new LTM antenna is ideal for fleet management systems that combine GPS with both an LTE MIMO modem as well as WiFi MIMO modem. For systems that require Global LTE up to 3700 MHz, the 5-cable LTM502 is recommended.

Measuring 5.5" (140mm) in diameter with a low profile of 2.38" (60.4mm), LTM series antennas take up significantly less space than multiple antennas. The radome is available in either black or white. The antennas are available in either surface mount or mag-mount models. The antennas can also be configured for combined GPS & Glonass use.

Model Configurator

LTM501-□□□□□□□-□□□-□

- Cable/Connector 1
- Cable/Connector 2
- Cable/Connector 3
- Cable/Connector 4
- Cable/Connector 5
- Color
- Cable Length in Inches (eg. 12 or 180)

Example: LTM501-3C3C3C3C2C-WHT-180
MLTM501-3C3C3C3C2C-BLK-180 (mag-mount option)

Specify "LTMG" or "MLTMG" instead of "LTM" or "MLTM" for GPS/Glonass combination antenna.

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
1	RG-58	A	TNC	WHT	White
2	RG-174	C	SMA	BLK	Black
3	LL-195	J	RP SMA		

(Other Configurations available.)

Specifications

Frequency & Gain (peak)*:	
Cable 1 & 2 (Cellular/LTE)	694-960 MHz, 3 dBi 1710-2170 MHz, 4 dBi
Cable 3 & 4 (WiFi)	2.4-2.5 & 4.9-6.0 GHz, 5 dBi
Cable 5 (GPS)	1575.42 +/- 2 MHz, 26 dB, 5 dBi
GPS & Glonass Option:	1575 MHz & 1612 MHz
VSWR*:	2:1 VSWR over Range
Impedance:	50 Ohm Nominal
Maximum Power:	10 Watts
Case:	
Surface Mount	5.50" Dia. x 2.38" High (140mm x 60.4mm)
Magnet Mount	5.50" Dia. x 2.78" High (140mm x 70.6mm)
Radome Material:	ASA UV-Stable Plastic
Operating Temperature:	-40° to +80° C
Connectors:	SMA Plugs standard
Cable:	
Cable 1-4	Separate LL-195, 15 ft (4.5m)
Cable 5 (GPS)	RG-174, 15 ft (4.5 meters)
LTM Mounting:	7/8" (22mm) Dia. Feed thru 3/4"(19mm) long thread for up to 1/2" (12mm) thick surface
MLTM Mounting:	Magnet mount
Shock & Vibration:	IEEE1478, EN61373, MIL-810G, TIA 329.2-C
Water Ingress:	IP67

*Measured on 1'(30cm) ground with 1'(30cm) cable

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LTM510 multi-band 5-cable LTE-U Cellular, WiFi & GPS

- 5-cables: two for LTE-U, two for WiFi, and one for GPS
- LTE-U ready: Coverage up to 6 GHz
- WiFi elements used for WiFi MIMO or for separate WiFi modems

Mobile Mark's LTM510 Series Multiband Diversity/MIMO antenna contains five separate antennas, all in one compact antenna housing: two LTE-U Cellular antennas, two dual-band WiFi antennas, and one GPS antenna.

MIMO (multiple-input-multiple-output) modems offer greater speed and capacity than earlier generations of modems. They achieve this by sending RF signals on multiple antenna elements to maximize the amount of information transmitted and received. To ensure optimum performance, the systems need multiple antennas on both the transmission and receive ends.

With 5-elements, the new LTM antenna is ideal for fleet management systems that combine GPS with both an LTE-U MIMO modem as well as WiFi MIMO modem.

Measuring 5.5" (140mm) in diameter with a low profile of 2.38" (60.4mm), LTM series antennas take up significantly less space than multiple antennas. The radome is available in either black or white. The antennas are available in either surface mount or mag-mount models. The antennas can also be configured for combined GPS & Glonass use.

Model Configurator

LTM510- □□□□□□□-□□□-□

- Cable/Connector 1
- Cable/Connector 2
- Cable/Connector 3
- Cable/Connector 4
- Cable/Connector 5
- Color
- Cable Length in Inches (eg. 12 or 180)

Example: LTM510-3C3C3C3C2C-WHT-180
MLTM510-3C3C3C3C2C-BLK-180 (mag-mount option)

Specify "LTMG" or "MLTMG" instead of "LTM" or "MLTM" for GPS/Glonass combination antenna.

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
1	RG-58	A	TNC	WHT	White
2	RG-174	C	SMA	BLK	Black
3	LL-195	J	RP SMA		

(Other Configurations available.)

Specifications

Frequency & Gain (peak)*:	
Cable 1 & 2 (LTE-U)	694-960 MHz, 3 dBi 1710-3700 MHz, 4 dBi 4.9-6.0 GHz, 5 dBi
Cable 3 & 4 (WiFi)	2.4-2.5 & 4.9-6.0 GHz, 5 dBi
Cable 5 (GPS)	1575.42 +/- 2 MHz, 26 dB, 5 dBi
VSWR*:	2:1 VSWR over Range
Impedance:	50 Ohm Nominal
Maximum Power:	10 Watts
GPS	
Amplifier Bias:	2.7 to 5 VDC
Noise Figure:	2.0 dB max, 1.7 dB typical
Current:	20 mA max, 10 mA typical
Case:	
Surface Mount	5.50" Dia. x 2.38" High (140mm x 60.4mm)
Magnet Mount	5.50" Dia. x 2.78" High (140mm x 70.6mm)
Radome Material:	ASA UV-Stable Plastic
Operating Temperature:	-40° to +80° C
Connectors:	SMA Plugs standard
Cable:	
Cable 1-4	Separate LL-195, 15 ft (4.5m)
Cable 5 (GPS)	RG-174, 15 ft (4.5 meters)
LTM Mounting:	7/8" (22mm) Dia. Feed through 3/4"(19mm) long thread for up to 1/2" (12mm) thick surface
MLTM Mounting:	Magnet mount
Shock & Vibration:	IEEE1478, EN61373, MIL-810G, TIA 329.2-C
Water Ingress:	IP67

*Measured on 1'(30cm) ground with 1'(30cm) cable

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Black Case

LTM601 Antenna
6 cables

LTM601 multi-band 6-cable LTE MIMO, WiFi MIMO & GPS

- 6-cables: two for Cellular/LTE, three for WiFi, and one for GPS
- Cellular/LTE elements used for either Diversity or MIMO
- WiFi elements used for WiFi MIMO or for separate WiFi modems

Mobile Mark's LTM601 Series Multiband Diversity/MIMO antenna contains six separate antennas, all in one compact antenna housing: two LTE 700 MHz & Cellular antennas, three dual-band WiFi antennas, and one GPS antenna.

MIMO (multiple-input-multiple-output) modems offer greater speed and capacity than earlier generations of modems. They achieve this by sending RF signals on multiple antenna elements to maximize the amount of information transmitted and received. To ensure optimum performance, the systems need multiple antennas on both the transmission and receive ends.

With 6-elements, the new LTM antenna is ideal for fleet management systems that combine GPS with both an LTE 2xMIMO modem as well as a WiFi 3xMIMO modem.

Measuring 5.5" (140mm) in diameter with a low profile of 2.38" (60.4mm), LTM series antennas take up significantly less space than multiple antennas. The radome is available in either black or white. The antennas can also be configured for combined GPS & Glonass use.

This antenna is not available as a mag-mount.

Model Configurator

LTM601-□□□□□□□□□-□□□-□

- Cable/Conn 1
- Cable/Conn 2
- Cable/Conn 3
- Cable/Conn 4
- Cable/Conn 5
- Cable/Conn 6
- Color
- Cable Length in Inches (eg. 12 or 180)

Example: LTM601-3C3C3J3J3J2C-WHT-180

Specify "LTMG" instead of "LTM" for GPS/Glonass combination antenna.

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
2	RG-174	C	SMA	WHT	White
3	LL-195	J	RP SMA	BLK	Black

(Other Configurations available.)

Specifications

Frequency & Gain (peak)*:	
Cable 1 & 2 (Cellular/LTE)	694-960 MHz, 3 dBi 1710-2170 MHz, 4 dBi
Cable 3, 4 & 5 (WiFi)	2.4-2.5 & 4.9-6.0 GHz, 5 dBi
Cable 6 (GPS)	1575 MHz, 26 dB, 5 dBi
GPS & Glonass option	1575 MHz & 1612 MHz
VSWR*:	2:1 VSWR over Range
Impedance:	50 Ohm Nominal
Maximum Power:	10 Watts
GPS	
Amplifier Bias:	2.7 to 5 VDC
Noise Figure:	2.0 dB max, 1.7 dB typical
Current:	20 mA max, 10 mA typical
Case:	5.50" Dia. x 2.38" High (140mm x 60.4mm)
Radome Material:	ASA UV Inhibative Plastic
Operating Temperature:	-40° to +80° C
Connectors, standard:	SMA Plugs & RP SMA Plugs
Cable:	
Cable 1-5	Separate LL-195, 15 ft (4.5m)
Cable 6 (GPS)	RG-174, 15 ft (4.5 meters)
Mounting:	7/8" (22mm) Dia. Feed through 3/4"(19mm) long thread for up to 1/2" (12mm) thick surface
Shock & Vibration:	IEEE1478, EN61373, MIL-810G, TIA 329.2-C
Water Ingress:	IP67, NEMA 4X

*Measured on 1'(30cm) ground with 1'(30cm) cable

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LTM602 Antenna
6 cables

LTM602 multi-band 6-cable Cellular, WiFi & GPS

- 6-cables: two for Global Cellular, three for WiFi, and one for GPS
- Global Cellular covers up to 3.7 GHz
- WiFi elements used for WiFi MIMO or for separate WiFi modems

Mobile Mark's LTM602 Series Multiband Diversity/MIMO antenna contains six separate antennas, all in one compact antenna housing: two Global Cellular (up to 3.7 GHz) antennas, three dual-band WiFi antennas, and one GPS antenna.

MIMO (multiple-input-multiple-output) modems offer greater speed and capacity than earlier generations of modems. They achieve this by sending RF signals on multiple antenna elements to maximize the amount of information transmitted and received.

To ensure optimum performance, the systems need multiple antennas on both the transmission and receive ends.With 6-elements, the new LTM antenna is ideal for fleet management systems that combine GPS with both a Global Cellular 2xMIMO modem as well as a WiFi 3xMIMO modem.

Measuring 5.5" (140mm) in diameter with a low profile of 2.38" (60.4mm), LTM series antennas take up signifi cantly less space than multiple antennas. The radome is available in either black or white. The antennas can also be configured for combined GPS & Glonass use.

This antenna is not available as a mag-mount.

Model Configurator

LTM602-□□□□□□□□□-□□□-□

- Cable/Conn 1
- Cable/Conn 2
- Cable/Conn 3
- Cable/Conn 4
- Cable/Conn 5
- Cable/Conn 6
- Color
- Cable Length in Inches (eg. 12 or 180)

Example: LTM602-3C3C3J3J3J2C-WHT-180

Specify "LTMG" instead of "LTM" for GPS/Glonass combination antenna.

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
2	RG-174	C	SMA	WHT	White
3	RF-195	J	RP SMA	BLK	Black

(Other Configurations available.)

Specifications

Frequency & Gain (peak)*:	
Cable 1 & 2 (Cellular)	694-960 MHz, 3 dBi 1710-3700 MHz, 4 dBi
Cable 3, 4 & 5 (WiFi)	2.4-2.5 & 4.9-6.0 GHz, 5 dBi
Cable 6 (GPS)	1575 MHz, 26 dB, 5 dBi
GPS & Glonass option	1575 MHz & 1612 MHz
VSWR*:	2:1 VSWR over Range
Impedance:	50 Ohm Nominal
Maximum Power:	10 Watts
GPS	
Amplifier Bias:	2.7 to 5 VDC
Noise Figure:	2.0 dB max, 1.7 dB typical
Current:	20 mA max, 10 mA typical
Case size:	5.50" Dia. x 2.38" High (140mm x 60.4mm)
Radome Material:	ASA UV Inhibative Plastic

Operating Temperature:	-40° to +80° C
Connectors, standard:	SMA Plugs & RP SMA Plugs
Cable:	
Cable 1-5	Separate LL-195, 15 ft (4.5m)
Cable 6 (GPS)	RG-174, 15 ft (4.5 meters)
Mounting:	7/8" (22mm) Dia. Feed through 3/4"(19mm) long thread for up to 1/2" (12mm) thick surface
Shock & Vibration:	IEEE1478, EN61373, MIL-810G, TIA 329.2-C
Water Ingress:	IP67, NEMA 4X

*Measured on 1'(30cm) ground with 1'(30cm) cable

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LTM603 Antenna
6 cables

LTM603 MIMO Surface Mount Antenna

- 6X MIMO Surface Mount Antenna
- Features 6 separate connection ports for optimum WiFi performance
- WiFi elements can be used for WiFi MIMO or for separate WiFi modems

Mobile Mark's LTM603 Series surface mount antenna contains six separate antennas, all in one compact antenna housing: six WiFi antennas.

Designed for 802.11ac networks that use up to 6 separate inputs, this antenna provides MIMO (multiple-input-multiple-output) performance.

Each antenna element provides coverage on both 2.4-2.5 & 4.9-6.0 GHz. This allows the antenna to operate on the 5 GHz band for 802.11ac, but also be backwards compatible for 802.11n and 802.11 b/g modems. This antenna is ideally suited not only for a single 6x MIMO modem but also for two 3x MIMO modem.

Measuring 5.5" (140mm) in diameter with a low profile of 2.38" (60.4mm), LTM series antennas take up significantly less space than multiple antennas and cut down on installation time and costs by offering a single mounting hole.

The antennas are available in either surface-mount or mag-mount versions.

Model Configurator

LTM603-□□□-□□□-□□□-□□□-□□□-□□□-□□□-□□□-□□□-□□□

Cable/Conn 1
Cable/Conn 2
Cable/Conn 3
Cable/Conn 4
Cable/Conn 5
Cable/Conn 6
Color
Cable Length in Inches (eg. 12 or 180)

Example: LTM603-3C3C3C3C3C3C-WHT-180

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
3	LL-195	C	SMA	WHT	White
		J	RP SMA	BLK	Black

(Other Configurations available.)

Specifications

Frequency & Gain (peak):	
Cabels 1-6 (WiFi)	2.4-2.5 GHz/4.9-6.0 GHz
Gain:	4 dBi
VSWR*:	2:1 VSWR over Range
Impedance:	50 Ohm Nominal
Maximum Power:	10 Watts
Case size:	5.50" Dia. x 2.38" High (140mm x 60.4mm)
Radome Material:	ASA UV Inhibative Plastic
Operating Temperature:	-40° to +80° C
Connectors, standard:	SMA Plugs & RP SMA Plugs
Cable:	
Cable 1-6	Separate LL-195, 15 ft (4.5m)
Mounting:	7/8" (22mm) Dia. Feed thru 3/4"(19mm) long thread for up to 1/2" (12mm) thick surface
Shock & Vibration:	IEEE1478, EN61373, MIL-801G, TIA 329.2-C
Water Ingress:	IP67

*Measured on 1' (30cm) ground with 1' (30cm) cable

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LTM610 Antenna
6 cables

LTM610 multi-band 6-cable LTE-U Cellular, WiFi & GPS

- 6-cables: two for LTE-U, three for WiFi, and one for GPS
- LTE-U ready: Coverage up to 6 GHz
- WiFi elements used for WiFi MIMO or for separate WiFi modems

Mobile Mark's LTM610 Series Multiband Diversity/MIMO antenna contains six separate antennas, all in one compact antenna housing: two LTE-U antennas, three dual-band WiFi antennas, and one GPS antenna.

MIMO (multiple-input-multiple-output) modems offer greater speed and capacity than earlier generations of modems. They achieve this by sending RF signals on multiple antenna elements to maximize the amount of information transmitted and received. To ensure optimum performance, the systems need multiple antennas on both the transmission and receive ends.

With 6-elements, the new LTM antenna is ideal for fleet management systems that combine GPS with both an LTE-U 2xMIMO modem as well as a WiFi 3xMIMO modem.

Measuring 5.5" (140mm) in diameter with a low profile of 2.38" (60.4mm), LTM series antennas take up significantly less space than multiple antennas. The radome is available in either black or white. The antennas can also be configured for combined GPS & Glonass use.

This antenna is not available as a mag-mount.

Model Configurator

LTM610- □□□ □□ □□ □□ □□ □□ - □□□ - □

- Cable/Conn 1
- Cable/Conn 2
- Cable/Conn 3
- Cable/Conn 4
- Cable/Conn 5
- Cable/Conn 6
- Color
- Cable Length in Inches (eg. 12 or 180)

Example: LTM610-3C3C3J3J3J2C-WHT-180

Specify "LTMG" instead of "LTM" for GPS/Glonass combination antenna.

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
2	RG-174	C	SMA	WHT	White
3	LL-195	J	RP SMA	BLK	Black

(Other Configurations available.)

Specifications

Frequency & Gain (peak)*:	
Cable 1 & 2 (LTE-U)	694-960 MHz, 3 dBi 1710-3700 MHz, 4 dBi 4.9-6.0 GHz, 5 dBi
Cable 3, 4 & 5 (WiFi)	2.4-2.5 & 4.9-6.0 GHz, 5 dBi
Cable 6 (GPS)	1575 MHz, 26 dB, 5 dBi
GPS & Glonass option	1575 MHz & 1612 MHz
VSWR*:	<2:1 VSWR over Range
Impedance:	50 Ohm Nominal
Maximum Power:	10 Watts
GPS	
Amplifier Bias:	2.7 to 5 VDC
Noise Figure:	2.0 dB max, 1.7 dB typical
Current:	20 mA max, 10 mA typical
Case size:	
Surface Mount:	5.50" Dia. x 2.38" High (140mm x 60.4mm)
Magnet Mount:	5.50" Dia. x 2.78" High (140mm x 70.6mm)
Radome Material:	ASA UV Inhibative Plastic
Operating Temperature:	-40° to +80° C
Connectors, standard:	SMA Plugs & RP SMA Plugs
Cable:	
Cable 1-5	SeparateLL-195, 15 ft (4.5m)
Cable 6 (GPS)	RG-174, 15 ft (4.5 meters)
LTM Mounting:	7/8" (22mm) Dia. Feed through 3/4"(19mm) long thread for up to 1/2" (12mm) thick surface
MLTM Mounting:	Magnet mount
Shock & Vibration:	IEEE1478, EN61373, MIL-810G, TIA 329.2-C
Water Ingress:	IP67, NEMA 4X

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LLP Series Antenna

LLP302 Global Cellular/LTE MIMO & GPS

- 3-cables: two for Global Cellular/LTE and one for GPS
- Covers LTE frequencies worldwide, from 694 MHz to 3700 MHz
- Avaliable with GPS or with combination GPS/Glonass

Mobile Mark's new LLP302 Series Multiband Diversity/MIMO antenna contains three separate antennas, all in one compact antenna housing: two identical LTE/Cellular antennas and one GPS antenna. The LTE/Cellular element is broadbanded enough to cover all LTE frequencies worldwide through 3700 MHz.

LTE MIMO (multiple-input-multiple-output) modems offer greater speed and capacity than earlier generations of modems. In order to ensure optimum performance the LTE MIMO system needs multiple antennas on both the transmission and receive ends.

This 3-element LLP antenna is designed for fleet management systems that combine a GPS receiver with a 2-element LTE MIMO modem.

Measuring 9" (22.8cm) x 3.5" (8.9cm) with a low profile of 1.25" (3.18cm), the LLP302 series antennas take up significantly less space than multiple antennas. The radome is available in black and white . The antennas can also be configured for combined GPS & Glonass use.

This antenna is not available as a mag mount.

Model Configurator

LLP302- □□□□□-□□□-□

Cable/Connector 1
Cable/Connector 2
Cable/Connector 3
Color
Cable Length in Inches (eg. 12 or 180)

Example: LLP302-3C3C2C-WHT-180

Specify "LLPG" instead of "LLP" for GPS/Glonass combination antenna

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
2	RG-174	C	SMA	WHT	White
3	LL-195	J	RP SMA	BLK	Black
		A	TNC		

(Other Configurations available.)

Specifications

Frequency & Gain (peak):	
Cable 1 & 2 (Global LTE)	694-960 MHz, 0-3 dBi & 1710-3700 MHz, 4 dBi
Cable 3 (GPS)	1575 MHz, 26 dB, 5 dBi
GPS & Glonass option	1575 MHz & 1612 MHz
VSWR:	2:1 VSWR over Range
Impedance:	50 Ohm Nominal
Maximum Power:	10 Watts
GPS	
Noise Figure:	2.0 dB max, 1.7 dB typical
Amplifier Bias:	2.7 to 5 VDC
Current:	20 mA max, 10 mA typical
Case:	
Surface Mount	9"x 3.5"x 1.25" (22.8cm x 8.9cm x 3.18cm)
Radome Material:	ASA UV-Stable Plastic
Operating Temperature:	-40° to +80° C
Connectors:	SMA Plugs (male) standard
Cable:	
Cable 1-2	SeparateLL-195,15 ft (4.5 meters) standard
Cable 3 (GPS)	RG-174, 15 ft (4.5 meters)
Mounting:	Through hole, ground plane dependent
Shock & Vibration:	IEEE1478, EN 61373, MIL-810G TIA329.2-C
Water Ingress:	IP67

*Measured on 1' (30cm) ground with 1' (30cm) cable

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LLP402 Low Profile, multi-band 4-cable LTE, WIFI & GPS

LLP402 Antenna

- 4-cables: two for Cellular & LTE, one for WiFi, and one for GPS
- Designed for fleet management modems
- Available with GPS or with combination GPS/Glonass

Mobile Mark's LLP402 Series Multiband Diversity/MIMO antenna contains four separate antenna elements, all in one compact antenna housing: two broadband LTE/Cellular antennas, one WiFi antennas, and one GPS antenna. The LLP402 covers Cellular LTE frequencies from 694-3700 MHz.

MIMO (multiple-input-multiple-output) modems for both WiFi and LTE/Cellular offer greater speed and capacity than earlier generations of modems. They achieve this by sending RF signals on multiple antenna elements to maximize the amount of information transmitted and received. To ensure optimum performance, the systems need multiple antennas on both the transmission and receive ends.

This 4-element LLP antenna is designed for fleet management modems that combine GPS with a single (non-MIMO) WiFi element and two LTE MIMO elements.

Measuring 9" (22.8cm) x 3.5" (8.9cm) with a low profile of 1.25" (3.18cm), the LLP402 series antennas take up significantly less space than multiple antennas. The radome is available in black and white . The antennas can also be configured for combined GPS & Glonass use.

This antenna is not available as a mag-mount.

Model Configurator

LLP402 - □□□ □□ □□ □□ □□ - □□□

Cable/Conn 1
Cable/Conn 2
Cable/Conn 3
Cable/Conn 4
Color
Cable Length in Inches (eg. 12 or 180)

Example: LLP402-3C3C3C2C-BLK-180

Specify "LLPG" instead of "LLP" for GPS/Glonass combination antennas

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
2	RG-174	C	SMA	BLK	Black
3	LL-195	J	RP SMA	WHT	White

(Other Configurations available.)

Specifications

Frequency & Gain (peak):	
Cable 1 & 2 (Global LTE)	694-960 MHz, 0-3 dBi 1710-3700 MHz, 4 dBi
Cable 3 (WiFi)	2.4-2.5 & 4.9-6.0 GHz, 4 & 5 dBi
Cable 4 (GPS)	1575 MHz, 26 dB, 5 dBi
GPS & Glonass option	1575 MHz & 1612 MHz
VSWR:	2:1 VSWR over Range
Impedance:	50 Ohm Nominal
Maximum Power:	10 Watts
GPS	
Amplifier Bias:	2.7 to 5 VDC
Noise Figure:	2.0 dB max, 1.7 dB typical
Current:	20 mA max, 10 mA typical
Case size:	9"x 3.5" x 1.25" (22.8cm x 8.9cm x 3.18cm)

Radome Material:	ASA UV-Stable Plastic
Operating Temperature:	-40° to +80° C
Connectors, standard:	SMA Plugs (male) standard
Cable:	
Cable 1-3	Separate LL-195, 15 ft (4.5m)
Cable 4 (GPS and GPS/Glonass)	RG-174, 15 ft (4.5 meters)
Mounting:	Through hole, ground plane dependent
Shock & Vibration:	IEEE1478, EN61373, MIL-801G, TIA 329.2-C
Water Ingress:	IP67,

*Measured on 1'(30cm) ground with 1'(30cm) cable

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LLP502 Low Profile, multi-band 5-cable LTE, WIFI & GPS

LLP502
Antenna

- 5-cables: two for Cellular & LTE, two for WiFi, and one for GPS
- WiFi elements can be used for WiFi MIMO or for separate WiFi modems
- Available with GPS or with combination GPS/Glonass

Mobile Mark's LLP502 Series Multiband Diversity/MIMO antenna contains five separate antenna elements, all in one compact antenna housing: two broadband LTE/Cellular antennas, two dual-band WiFi antennas, and one GPS antenna. The LLP502 covers Cellular LTE frequencies from 694-3700 MHz.

MIMO (multiple-input-multiple-output) modems for both WiFi and LTE/Cellular offer greater speed and capacity than earlier generations of modems. They achieve this by sending RF signals on multiple antenna elements to maximize the amount of information transmitted and received. To ensure optimum performance, the systems need multiple antennas on both the transmission and receive ends.

With 5-elements, the new LLP502 antenna is ideal for fleet management systems that combine GPS with both any Global LTE MIMO modem as well as WiFi 2x MIMO.

Measuring 9" (22.8cm) x 3.5" (8.9cm) with a low profile of 1.25" (3.18cm), the LLP502 series antennas take up significantly less space than multiple antennas. The radome is available in black and white . The antennas can also be configured for combined GPS & Glonass use.

This antenna is not available as a mag-mount.

Model Configurator

LLP502 - □□□□□□□-□□□□

Cable/Conn 1
Cable/Conn 2
Cable/Conn 3
Cable/Conn 4
Cable/Conn 5
Color
Cable Length in Inches (eg. 12 or 180)

Example: LLP502-3C3C3C3C2C-BLK-180

Specify "LLPG" instead of "LLP" for GPS/Glonass combination antennas

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
2	RG-174	C	SMA	BLK	Black
3	RF-195	J	RP SMA	WHT	White

(Other Configurations available.)

Specifications

Frequency & Gain (peak):	
Cable 1 & 2 (Global LTE)	694-960 MHz, 0-3 dBi 1710-3700 MHz, 4 dBi
Cable 3 & 4 (WiFi)	2.4-2.5 & 4.9-6.0 GHz, 4 & 5 dBi
Cable 5 (GPS)	1575 MHz, 26 dB, 5 dBi
GPS & Glonass option	1575 MHz & 1612 MHz
VSWR:	2:1 VSWR over Range
Impedance:	50 Ohm Nominal
Maximum Power:	10 Watts
GPS	
Amplifier Bias:	2.7 to 5 VDC
Noise Figure:	2.0 dB max, 1.7 dB typical
Current:	20 mA max, 10 mA typical
Case size:	9"x 3.5"x 1.25" (22.8cm x 8.9cm x 3.18cm)
Radome Material:	ASA UV-Stable Plastic
Operating Temperature:	-40° to +80° C
Connectors, standard:	SMA Plugs (male) standard)
Cable:	
Cable 1-4	Separate LL-195, 15 ft (4.5m)
Cable 5 (GPS and GPS/Glonass)	RG-174, 15 ft (4.5 meters)
Mounting:	Through hole, ground plane dependent
Shock & Vibration:	IEEE1478, EN61373, MIL-801G, TIA 329.2-C
Water Ingress:	IP67

*Measured on 1' (30cm) ground with 1' cable (30 cm)

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LLP602 Antenna

LLP602 Low Profile 6-cable LTE, WiFi & GPS

- 6-cables: two for Cellular & LTE, three for WiFi, and one for GPS
- WiFi elements can be used for WiFi MIMO or for separate WiFi modems
- Avaliable with GPS or with combination GPS/Glonass

Mobile Mark's LLP602 Series Multiband Diversity/MIMO antenna contains six separate antenna elements, all in one compact antenna housing: two broadband LTE/Cellular antennas, three WiFi antennas, and one GPS antenna. The LLP602 covers Cellular LTE frequencies from 694-3700 MHz.

MIMO (multiple-input-multiple-output) modems for both WiFi and LTE/Cellular offer greater speed and capacity than earlier generations of modems. They achieve this by sending RF signals on multiple antenna elements to maximize the amount of information transmitted and received. To ensure optimum performance, the systems need multiple antennas on both the transmission and receive ends.

With 6-elements, the new LLP602 antenna is ideal for fleet management systems that combine GPS with both an LTE 2x MIMO modem as well as a WiFi 3x MIMO Modem.

Measuring 9" (22.8cm) x 3.5" (8.9cm) with a low profile of 1.25" (3.18cm), the LLP602 series antennas take up significantly less space than multiple antennas. The radome is available in black and white . The antennas can also be configured for combined GPS & Glonass use.

This antenna is not avaliable as a mag-mount.

Model Configurator

LLP602 - □□□ □□ □□ □□ □□ □□ - □□□ - □□

- Cable/Conn 1
- Cable/Conn 2
- Cable/Conn 3
- Cable/Conn 4
- Cable/Conn 5
- Cable/Conn 6
- Color
- Cable Length in Inches (eg. 12 or 180)

Example: LLP602-3C3C3J3J3J2C-WHT-180

Specify "LLPG" instead of "LLP" for GPS/Glonass combination antenna

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
2	RG-174	C	SMA	WHT	White
3	LL-195	J	RP SMA	BLK	Black
		A	TNC		

(Other Configurations available.)

Specifications

Frequency & Gain (peak)*:	
Cable 1 & 2 (Cellular)	694-960 MHz, 0-3 dBi 1710-3700 MHz, 4 dBi
Cable 3, 4 & 5 (WiFi)	2.4-2.5 & 5-6 GHz, 4 & 5 dBi
Cable 6 (GPS)	1575 MHz, 26 dB, 5 dBi
GPS & Glonass option	1575 MHz & 1612 MHz
VSWR*:	2:1 VSWR over Range
Impedance:	50 Ohm Nominal
Maximum Power:	10 Watts
GPS	
Amplifier Bias:	2.7 to 5 VDC
Noise Figure:	2.0 dB max, 1.7 dB typical
Current:	20 mA max, 10 mA typical
Case size:	9"x 3.5"x 1.25" (22.8cm x 8.9cm x 3.18cm)
Radome Material:	ASA UV-Stable Plastic
Operating Temperature:	-40° to +80° C
Connectors, standard:	SMA Plugs (male) standard
Cable:	
Cable 1-5	Separate LL-195, 15 ft (4.5m)
Cable 6 (GPS)	RG-174, 15 ft (4.5 meters)
Mounting:	Through hole, ground plane dependent
Shock & Vibration:	IEEE1478, EN 61373, MIL-810G TIA329.2-C
Water Ingress:	IP67,

*Measured on 1' (30cm) ground with 1'(30cm) cable

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LLP702 Low Profile, multi-band 7-cable LTE, WIFI & GPS

LLP702
Antenna

- 7-cables: two for Cellular & LTE, four for WiFi, and one for GPS
- WiFi elements can be used for WiFi MIMO or for separate WiFi modems
- Available with GPS or with combination GPS/Glonass

Mobile Mark's LLP702 Series Multiband Diversity/MIMO antenna contains five separate antenna elements, all in one compact antenna housing: two broadband LTE/Cellular antennas, four dual-band WiFi antennas, and one GPS antenna. The LLP702 covers Cellular LTE frequencies from 694-3700 MHz.

MIMO (multiple-input-multiple-output) modems for both WiFi and LTE/Cellular offer greater speed and capacity than earlier generations of modems. They achieve this by sending RF signals on multiple antenna elements to maximize the amount of information transmitted and received. To ensure optimum performance, the systems need multiple antennas on both the transmission and receive ends.

With seven elements, the new LLP702 antenna is ideal for fleet management systems that combine GPS with both an LTE 2x MIMO modem as well as a WiFi 4x MIMO Modem.

Measuring 9" (22.8cm) x 3.5" (8.9cm) with a low profile of 1.25" (3.18cm), the LLP702 series antennas take up significantly less space than multiple antennas. The radome is available in black and white . The antennas can also be configured for combined GPS & Glonass use.

This antenna is not available as a mag-mount.

Model Configurator

LLP702 - □□□□□□□□□□□□□□

Cable/Conn 1
Cable/Conn 2
Cable/Conn 3
Cable/Conn 4
Cable/Conn 5
Cable/Conn 6
Cable/Conn 7
Color
Cable Length in Inches (eg. 12 or 180)

Example: LLP702-3C3C3C3C3C3C2C-BLK-180

Specify "LLPG" instead of "LLP" for GPS/Glonass combination antennas

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
2	RG-174	C	SMA	BLK	Black
3	RF-195	J	RP SMA	WHT	White

(Other Configurations available.)

Specifications

Frequency & Gain (peak):	
Cable 1 & 2 (Global LTE)	694-960 MHz, 0-3 dBi 1710-3700 MHz, 4 dBi
Cable 3, 4, 5 & 6 (WiFi)	2.4-2.5 & 5-6 GHz, 4 & 5 dBi
Cable 7 (GPS)	1575 MHz, 26 dB, 5 dBi
GPS & Glonass option	1575 MHz & 1612 MHz
VSWR:	2:1 VSWR over Range
Impedance:	50 Ohm Nominal
Maximum Power:	10 Watts
GPS	
Amplifier Bias:	2.7 to 5 VDC
Noise Figure:	2.0 dB max, 1.7 dB typical
Current:	20 mA max, 10 mA typical
Case size:	9"x 3.5"x 1.25" (22.8cm x 8.9cm x 3.18cm)

Radome Material:	ASA UV-Stable Plastic
Operating Temperature:	-40° to +80° C
Connectors, standard:	SMA Plugs (male) standard
Cable:	
Cable 1-6	Separate LL-195, 15 ft (4.5m)
Cable 7 (GPS and GPS/Glonass)	RG-174, 15 ft (4.5 meters)
Mounting:	Through hole, ground plane dependent
Shock & Vibration:	IEEE1478, EN61373, MIL-801G, TIA 329.2-C
Water Ingress:	IP67,

*Measured on 1' (30cm) ground with 1' cable (30cm)

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Surface Mount
Public Safety 4.9 GHz

ECOM
Magnet Mount

ECOS
Spring Mount

- Magnetic Mount and Spring Mount
- Ground plane independent designs can be used on any surface
- Elevated Feed spring mount versions provide additional clearance for light bars

Mobile Mark's ECO Mobile series are omni-directional antennas designed for fixed and mobile Public Safety applications using the 4.9 GHz band (4940-4990 Mhz).

These antennas are free space designs and ground plane independent. High gain coupled with low loss cable compensates for the losses that occur at higher bands.

The mag-mounts use low loss -195 cable to improve efficiency. The vertical radomes are black fiberglass with an ASA base assembly. All antennas are weatherproof.

The spring mount antennas can be paired with low loss cable assemblies plugged into the Direct N Jack to complete the connection.

The magnetic mount models have a 2.6" (66 mm) base, and use a strong commercial magnet. They provide a scratch resistant covering on the bottom. The cable exits out of the side of the base.

The ECOS have the radiating element located higher in a longer radome, providing higher clearance for lightbars on police vehicles.

The spring on the ECOS model is strong and flexible enough to handle impact with obstacles such as tree branches overhead in a vehicle mounted application.

Cable assemblies from Mobile Mark for the ECOS are sold separately, however they can be added to the order at the time of purchase.

Model #	Gain	Height
Magnetic Mount Models		
ECOM6-4900-BLK-120	6 dBi	9.87"/25cm
ECOM9-4900-BLK-120	9 dBi	14"/35.56cm
Spring Mount Models		
ECOS6-4900DN-BLK	6 dBi	12.5"/32cm
ECOS9-4900DN-BLK	9 dBi	16.3"/41cm

Models above are available in Black Only

Specifications

Frequency:	4.9-5.0 GHz
Gain:	6 or 9 dBi
VSWR:	2:1 over band
Impedance:	50 Ohm nominal
Maximum Power:	10 Watts
Operating Temp:	-40° to +80° C
Radome:	Black Fiberglass
Wind Survivability:	
ECOM	100 mph (161 kph) with 1/2" (1.27 cm) radial ice
ECOS	125 mph (201 kph) with 1/2" (1.27cm) radial ice
Base/Mount:	ASA plastic & steel
MAG Base Size:	2.6" D (66 mm)
Cable Length/type:	
Mag Mounts	10 ft of LL-195 (3 meters)
Connector:	
ECOM	SMA Plug (Male), standard
ECOS	Direct N
Mount:	
ECOM	Magnet mount
ECOS	Surface mounts up to 1/4" thick (.64cm)

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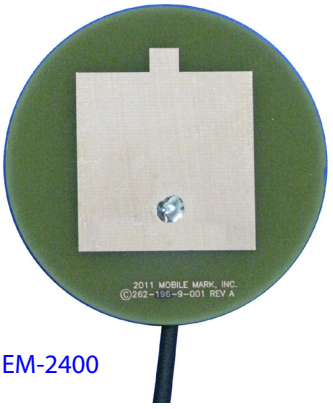
Embedded Antennas
Internal WiFi Antenna Boards



EM-2400

EM-2400/5500

Embedded WiFi Antennas

- Off-the-shelf antenna models listed here; custom designs also available
- In-house design, prototyping and testing for quick turn-around
- Designed to be integrated/embedded into OEM designs

Mobile Mark's range of embedded or internal antennas can be used by WiFi OEMs, systems integrators or contract manufacturers to improve the efficiency of the wireless units they are producing.

These embedded antennas have been installed in applications as diverse as body-worn clothing, handheld devices and smart meters.

The innovative designs and quality materials improve the wireless performance of all these devices.

The two embedded antenna models presented here cover WiFi frequencies. The EM-2400 Series covers the 2.4 GHz band (e.g. it can be used for 802.11b/g applications) and the EM-2400/5500 Series covers both the 2.4 & 5 GHz bands (it can be for all 802.11 applications, i.e. 802.11a/b/g/n/ac).

The dual-band EM-2400/5500 offers 2 dBi gain and is extremely compact, measuring 1.42" x .475" (36mm x 12mm). The antenna exhibits an omni-directional radiation pattern.

The single-band EM-2400 offers 5 dBi gain. It is round and slightly larger, measuring 2" (51 mm) in diameter. The EM-2400 exhibits a directional radiation pattern with a beamwidth of 80° azimuth (horizontal) and 80° elevation (vertical). The EM-2400 has afront-to-back ratio of 10 dB.

Both board styles have a special coating to inhibit oxidation and maintain performance.

The EM Series are typically configured with 6-inches (152mm) of RG-174 cable and an SMA plug connector. They mount to the device with double sided tape.

The off-the-shelf designs presented here will typically meet performance requirements for most WiFi devices. But, if there is something unusual about the final setting or application, Mobile Mark can help with a custom designed antenna.

Mobile Mark has the experience to design just the right antenna for your device. We offer state of the art design capabilities, including 3-D simulations using design software. We also offer in-house prototype development for quick turn-around.

For further protection, the antenna boards can also be encased in a molded plastic body or a hard plastic case.

Model #	Description
EM-2400/5500-2C-6	Embedded Omni-directional
EM-2400-2C-6	Embedded Directional

Specifications			
Frequency:		Front-to-Back Ratio:	
EM-2400/5500	2.4-2.5 & 4.9-6.0 GHz	EM-2400	10 dB
EM-2400	2400-2485 MHz	Beamwidth:	
Gain:		EM-2400	80° Az 80° El
EM-2400/5500	2 dBi	Dimensions:	
EM-2400	5 dBi	EM-2400/5500	1.4" x .48" (36 mm x 12 mm)
		EM-2400	2.0" diam. (51 mm)
VSWR:	2.5:1 max over all bands		
Operating Temp:	-40° to +85° C	Cable/Connector:	6-inches (152 mm) RG-174 with SMA plug
Nominal Impedance:	50 ohms	Optional Cable/Connectors:	LMR-100 & RG-178
Maximum Power:		(Model Suffix will change)	U.FL & MMCX
EM-2400	5 Watts	Mounting:	Fixed double sided tape
EM-2400/5500	2 Watts		

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All Models in Straight position

PSKN3 for 3.5 GHz

PSKN3-2400 Single Band

PSKN-24/55 Series Dual Band 2.4/5

Device Halfwave Antennas WiFi & WiMAX

- Up to 2.3 dBi gain styles with semi-flexible radome and adjustable knuckle
- Single and Dual Band Models for WiFi 802.11and WiMAX 3.5 GHz
- Sleek molded profile, choice of SMA, TNC or Rev Polarity SMA connectors

These half-wave rubber duck style device antennas require no ground plane for operation. This makes them ideal for use with portable devices or products with no substantial ground plane. They can even be used with products that are built with an all plastic chassis or case.

The PSKN Series antennas use a full length dipole configuration and feature 2.3 dBi gain.

A knuckle feature on the PSKN Series allows the antenna to be adjusted between a straight position and a right-angle 90° position. This is useful for products that may need to be both horizontal and vertical, or where the connector is placed on the side of a radio device.

The PSN3 series are only available in a straight vertical position. This is the optimim choice when the antenna position needs to be in a constant vertical position.

The radome is made of flexible Polyurethane. Standard connector styles available include TNC or SMA. For FCC part 15 compliance, select models offer reverse polarity SMA or reverse polarity TNC connectors.

Model #	Style	Frequency
TNC Male Connectors		
PSKN3-2400T	Adjustable	2400-2485 MHz
PSKN3-3500T	Adjustable	3400-3700 MHz
PSN3-2400T	Straight	2400-2485 MHz
SMA Male Connectors		
PSKN3-2400S	Adjustable	2400-2485 MHz
PSKN3-3500S	Adjustable	3400-3700 MHz
PSKN3-24/55S	Adjustable	2.4-2.5 GHz & 5.0-6.0 GHz
PSN3-2400S	Straight	2400-2485 MHz
Rev SMA Plug Connectors		
PSKN3-2400RS	Adjustable	2400-2485 MHz
PSKN3-24/55RS	Adjustable	2.4-2.5 GHz & 5.0-6.0 GHz
PSN3-2400RS	Straight	2400-2485 MHz
Rev TNC Plug Connectors		
PSKN3-2400RT	Adjustable	2400-2485 MHz
PSN3-2400RT	Straight	2400-2485 MHz

Specifications	
Frequency:	See above
Gain:	2.3 dBi max
VSWR:	2:1 over band
Impedance:	50 Ohm nominal
Maximum Power:	10 Watts
Connector:	See models above
Whip Length Straight:	
PSKN3-2400	6 1/2 in (165 mm)
PSKN3-3500	3 7/8 in (99 mm)
PSKN3-24/55	3 7/8 in (99 mm)
PSN3-2400	6 1/2 in (165 mm) Straight only
Temperature Range:	-40°C to +85°C
Case Material:	Polyurethane
Whip Length 90°:	
PSKN3-2400:	5 3/4 in (146 mm)
PSKN3-3500:	3 1/8 in (79 mm)
PSKN3-24/55:	3 1/8 in (79 mm)
PSN3-2400	Not available in 90°
Right Angle Standoff:	
PSKN3-2400	1 1/4" inside (32 mm) clearance
PSKN3-3500	13/16" inside (21 mm) clearance
PSKN3-24/55	13/16" inside (21 mm) clearance
PSN3-2400	Not available in 90°
Shock & Vibration:	EN 61373, IEEE 1478, MIL-810G TIA-329.2-C
Water Ingress:	IPx5

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Surface Mount Micro WiFi, WiMAX & 4.9 Public Safety

MRM Body
Mount Antenna

- Mounts easily to vehicle or fixed utility box with a small 9/16" mounting hole (14.3 mm)
- Impressive 2.5 dBi gain in a thumb-sized radome
- Rugged and weather tight ASA radome with foam sealing gasket

The MRM Stud mount series are micro-antennas that provide gain and performance that is close to larger products.

A variety of single and dual band models are available for different broadband data system for WiFi and WiMAX applications. The MRM-UMB model, for example, covers 1.7-6.0 GHz.

The MRM antenna design is "thumb" sized, only 1.35" H x 1" D (34 mm x 25mm). These antennas have a 1/2" diameter stud (13 mm) for mounting on up to 3/8" thick surface (9.5mm).

To mount the antenna, access to the underside of the body surface is required. A Hex mounting nut is also provided.

The antennas are normally outfitted with 1 foot (305 mm) of low loss -195 cable with an SMA Plug (Male) connector. Antennas can be factory ordered with any cable length and connector required. Jumper cables can be provided for completing a longer installation.

Peak antenna gain performance is 2.5 dBi for the MRM Series. The antennas should be mounted on metal for best overall performance.

The MRM Series antenna radome consists of white or black UV resistant plastic with a heavy duty metal base.

The bottom mounting plate is outfitted with a foam gasket for complete outdoor weather sealing.

Model #	Frequency
MRM3-2400-3C-BLK-12	2.4-2.5 GHz
MRM3-2600-3C-BLK-12	2.5-2.7 GHz
MRM3-3500-3C-BLK-12	3.3-3.7 GHz
MRM3-5500-3C-BLK-12	4.9-6.0 GHz
MRM-UMB-3C-BLK-12	1.7-6.0 GHz
MRM3-2400/5500-3C-BLK-12	2.4-2.5 & 4.9 - 6.0 GHz

Color options available for above models
WHT-White or BLK-Black

Specifications

Frequency:	See above	Pigtail Cable :	Low loss-195, 1 foot (305 mm), request longer lengths at time of order
Gain:	2.5 dBi peak		
VSWR:	2:1 max over range		
Operating Temp:	-40° to +85° C		
Nominal Impedance:	50 ohms	Pigtail Connector:	SMA Plug (Male), others available, please specify
Maximum Power:	10 watts		
Radome/Mount:	1.0" diameter x 1.35" high (25 mm x 34 mm)	Jumper/Cable Option:	Use jumpers (cable assemblies) for longer installation
Case Material:	ASA plastic, UV Resistant	Shock & Vibration:	EN 61373, IEEE 1478, MIL-810G TIA-329.2-C
Hardware Supplied:	Nut & sealing gasket (gasket attached)		
Mounting:	1/2" Diameter stud (13 mm) 5/8" L (16 mm) for 3/8" thick surface(9.5 mm)	Water Ingress:	IP67

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Low Profile Heavy Duty WiFi 2.4 GHz Antenna

HD4-2400 Antenna

- 2.4 GHz antenna with durable overmolded radome
- High Impact resistant or rollover
- Ground plane independent

The HD4-2400 is a heavy duty WiFi antenna designed for fixed M2M applications. This omni-directional antenna operates in the frequency range of 2400-2485 MHz, with a peak gain of 4 dBi.

This antenna is a low profile antenna that is ideal for providing WiFi M2M capability in environments where the antenna is regularly subjected to physical wear and tear. Impact from a car tire passing overhead or damage caused by an animal in an agricultural setting are examples of durability tests that this antenna is designed to handle.

Measuring only .52" (1.3 cm) high and 2.75" (6.89 cm) in diameter, the HD4-2400 is a compact antenna that can easily be mounted to almost any surface. There is a 5/8-24 x .50 (1.27cm) threaded stud at the base of the antenna where it is mounted, and standard low loss-195 cable with an SMA plug is routed through for connection. Custom lenghts are also available.

The heavy duty WiFi antenna is enclosed in an overmolded radome made out of black UV stable polyamide, which provides a durable housing that is also UV resistant.

The HD4-2400 is ground plane independent, meaning there is no ground plane requirement for proper operation. The heavy duty WiFi antenna has a 57 degree vertical beamwidth and a 360 degree horizontal beamwidth, giving this product effective capability for omni-directional WiFi coverage.

Model #	Frequency
HD4-2400-3C-BLK-36	2.4-2.5 GHz
Model # indicates 36" of Cable - 3Ft	
Available in black only	

Specifications			
Frequency:	2400-2485 MHz	Mounting:	5/8 - 24 x .50 (1.27cm) threaded stud
Gain:	4 dBi peak	Dimensions:	.52"(1.3cm) H x 2.75"w (6.89cm)
VSWR:	Less than 2:1	Net Weight:	8oz (1/2 lbs) (226g)
Operating Temp:	-40° to +80° C	Pigtail Cable :	LL-195, 3 feet (92 cm), request longer lengths at time of order
Nominal Impedance:	50 ohm nominal	Pigtail Connector:	SMA Plug (Male), others available, please specify
Vertical Beamwidth (Elev):	57° Elevation	Shock & Vibration:	EN 61373, IEEE1478, MIL-810G
Horizontal Beamwidth (Az):	360° Azimuth	Water Ingress:	IP67
Maximum Power:	10 watts		
Polarization:	Vertical		
Radome Material:	Black UV Stable Polyamide		

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RM Series - DN

RM Series

Pole/Wall

MGRM Mag-

Surface Mount & Mag-Mount 2.4 GHz & Wideband

- Ground plane independent omni configuration
- Rugged and attractive ASA radome, available in thru-hole or mag mount
- Wideband model operates over 1.7-6.0 GHz with excellent linear performance

These antennas are industry leading models in our 2.4 & 5 GHz antenna line. The rugged design is excellent for industrial applications, yet attractive for consumer use. Magnetic mount versions offer semi-permanent or noninvasive installation options.

The stud mount design uses a 5/8" (16mm) feed thru or a direct N Jack (Female) for securing to the vehicle. For longer cable runs, low loss-195 cable may be substituted (option).

Antenna performance is 5 dBi (peak gain) for the RM Series, with no ground plane required for proper operation.

The wideband models RM-WHF & MGRM-WHF can operate over the entire frequency range of 1.7-6 GHz. These wideband models can be used for 802.11 a/b/g/n/ac, AWS, WIMAX and 4.9 Public safety, just to name a few.

The RM Series antenna radome consists of Black or White ASA UV resistant plastic with a heavy metal base and threaded feed-thru, or a direct N Jack (Female).

The MGRM style is a mag mount version of the RM. It utilizes the same housing as the RM series, with a powerful rare earth magnet for secure mobile applications. The magnet bottom is outfitted with a protective vinyl cover, to prevent marring of the vehicle surface.

Model #	Description	Frequency
RM3-2400-1C-BLK-12	Pigtail/SMA	2.4-2.5 GHz
RM3-2400-DN-BLK	Direct N	2.4-2.5 GHz
MGRM3-2400-1C-BLK-120	Mag Mount	2.4-2.5 GHz
RM-WHF-3C-BLK-12	Pigtail/SMA	1.7-6 GHz
RM-WHF-DN-BLK	Direct N	1.7-6 GHz
MGRM-WHF-3C-BLK-120	Mag Mount	1.7-6 GHz

RM-MK	Pole/wall mount hardware
NT-MK	Heavy Duty Universal Pole/Wall Mount

Specifications

Frequency:	See above
Gain:	5 dBi (peak)
VSWR:	2:1 max over range
Operating Temp:	-40° to +85° C
Nominal Impedance:	50 ohms
Maximum Power:	10 watts
RM3 Radome/Mount:	1.75" diameter x 3" high (45 mm x 76 mm)
MGRM Mag Size:	1.7" diameter x 3 5/8" high (43 mm x 92 mm) Mag Base, 2 5/8"D (67 mm)
Case Material:	ASA plastic, UV Resistant
RM Hardware:	Nut, lockwasher & Gasket
RM Mounting:	3/4" Long stud (19 mm) 5/8" diameter (16 mm) feed thru for 1/2" thick surface (12.7 mm)
RM Options	Pole & Wall Mount adapter
DN Stud	Direct N Jack (Female)
Cable & Connectors:	
2400 models	RG-58 & SMA Plug (Male)
WHF models	LL-195 & SMA Plug (Male)
Cable Lengths:	
RM models	1 ft (305 mm) standard
MGRM models	10 ft (3 m)
Color Options:	Black or White
Shock & Vibration:	EN 61373, IEEE 1478, MIL-810G TIA-329.2-C
Dust/Water Ingress:	RM: IP67, MGRM: IPx5

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Surface Mount & Mag-Mount 2.4 & 4.9-6.0 GHz

DM Series in White

DM Series in Black

MGD Dual Band Mag

Trunk Lid Mount Option

- Available in Single band 2.4 GHz and Dualband 2.4/4.9-6.0 GHz
- Ground plane independent omni configuration
- Rugged and attractive low profile ASA radome

The DM antennas provide a low profile style antenna that can be mounted to any vehicle, container or bulkhead. The rugged style is excellent for industrial applications, yet attractive for consumer use.

Models are available in a stud mount (DM) or Mag Mount (MGD, dual band only).

The DM stud mount Single band operates on the 2.4 GHz WiFi band, and the dual band Series on 2.4/4.9-6 GHz. These use a 5/8" (16mm) feed thru for securing to the vehicle. The antennas are outfitted standard with 1 foot (305 mm) of cable & connector, typically SMA Plug (Male).

Antenna performance is 2.0 dBi with no ground plane required. The antennas can even be mounted on fiberglass or plastic housing.

The antenna radome is available in white or black ASA. The bottom mounting plate is outfitted with a sealing gasket for a watertight seal.

The MGD Mag Mount is a dual band antenna (both 2.4 GHz & 4.9-6.0 GHz). It provides 2.5 dBi peak gain on either band. It has a powerful magnet for securing to an appropriate metal surface. The antenna has a 3.75" (95 mm) base. The unit has an elevated grip-lip for properly removing the antenna. The base is covered with protective vinyl sheet to prevent scratches.

The MGD Mag Antennas are outfitted with 10 feet (3 m) of low loss-195 cable and connector, typically SMA Plug (Male).

Model #	Frequency
DM2-2400-1C-WHT-12	2.4-2.5 GHz
DM2-2400/5500-3C-WHT-12	2.4-2.5 & 4.9-6.0 GHz
MGD-2400/5500-3C-BLK-120	2.4-2.5 & 4.9-6.0 GHz
TM-MK	Trunk Lid Mount
NT-MK	Heavy Duty Pole/Wall Mount

Color options available: Black - BLK and WHT-White

Specifications

Frequency:	See above
Gain:	2.5 dBi peak
VSWR:	2:1 max over range
Operating Temp:	-40° to +85° C
Nominal Impedance:	50 ohms
Maximum Power:	10 watts
Case Material:	White or black UV Resistant ASA plastic
MGD Mag Unique Specs	
MGD Mag Radome:	3 3/4" D x 1 7/8" H (95 mm x 48 mm)
MGD Cable:	Low Loss-195, 10 ft (3m) & SMA Plug (Male)

DM Stud Mount Unique Specs	
DM Radome:	3" diameter x 1 1/2" high (76 mm x 38 mm)
Hardware Supplied:	Nut, lockwasher, gasket
DM Pigtail Cable :	RG-58, 1 ft (305 mm), SMA Plug
DM Mounting:	3/4" L stud (19 mm) 5/8" diameter (16 mm)feed thru for 1/2" thick surface (12.7mm)
Mounting Option:	Pole/Wall Mount adapter NT-MK
Jumper/Cable Option:	Use jumpers for longer length install or order with custom
Shock & Vibration:	EN 61373, IEEE 1478, MIL -810G, TIA-329.2-C
Water Ingress:	DM: IPx7

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Magnet Mount Antennas WiFi, 2.4 & 2.4/4.9-6 GHz

IMAG5

MGD Series 2.4 & 4.9-6 GHz

- Single band for 2.4 GHz, dual band models for 2.4-2.5 & 4.9 - 6 GHz
- Built-in ground plane improves high frequency performance
- Low profile, powerful magnet securely holds antenna

Mobile Mark's high frequency Magnet Mount antennas are useful for many applications including surveillance work, 2.4 WiFi/ISM, and other high frequency applications. Their unique design features allow them to overcome many of the problems normally associated with higher frequency systems.

The IMAG Series mag-mounts have a ground plane at the feedpoint. This design overcomes the typical ground decoupling that occurs at the higher frequencies.

Because the IMAG antennas have their own built-in ground plane but will require a metal surface to be mounted. Available in either a unity gain (0 dBi) or 5 dBi.

The IMAG Series are very small in design and appearance. A powerful mini magnet holds the antenna securely at all times. The 3" round (76 mm) integral ground plane on the IMAG5 can serve as a removal handle.

The low profile 5 dBi whip with tight winding phasing coil reduces potential whistling noise.

The MGD-2400/5500 antenna operates on WiFi 2.4 & 5 GHz and can also be used for public safety 4.9 GHz and DSRC 5.9. It is typically supplied with an SMA plug connector, others are available.

A steel surface (but not stainless steel) will provide best contact with the powerful magnet. All units are supplied with a choice of RF connectors.

Standard cable supplied is low loss-195, which has excellent electrical characteristics.

Model #	Gain	Frequency
MGD-2400/5500-3C-BLK-120	2.5 dBi	2.4-2.5 & 4.9-6 GHz
MGD-2400/5500-3C-WHT-120	2.5 dBi	2.4-2.5 & 4.9-6 GHz
IMAG5-2400-3C-BLK-120	5 dBi	2400-2485 MHz
Available in WHT-White or BLK-Black		

Specifications

Frequency:	See above	MGD Radome:	White or black ASA plastic
Gain:	See above		
VSWR:	2:1 over band	IMAG Whip:	302 stainless steel
Impedance:	50 Ohm nominal		
Maximum Power:	10 Watts	Cable:	10 feet (3 meters) of LL-195
Operating Temp:	-40° to +85° C		
		Connector:	SMA Plug (Male) standard
Antenna Height:			
IMAG5 series	4 ⅞ inches (124 mm)	Shock & Vibration:	MGD series, EN 61373, IEEE 1478, MIL-810G TIA-329.2-C
MGD Size:	1.9" High x 3.4" Diameter (48 mm x 86 mm)		
IMAG Mount:	ASA plastic & metal		

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Mag-Mount & Trunk Lid, WiFi 2.4 & 5 GHz

ECOM
Magnet Mount

ECOT
Trunk Lid

- Magnetic Mount and Trunk Lid Mount
- Ground plane independent designs can be used on any surface.
- Elevated Feed versions provide additional clearance for light bars

Mobile Mark's new ECO Mobile series are high frequency antennas designed for applications in the 2.4 - 6 GHz bands. The 5 GHz model, can be used for DSRC 5.9 GHz.

These antennas are free space designs and ground plane independent. As such the antennas will continue to perform electrically on any surface, including fiberglass.

High gain coupled with low loss cable compensates for the losses that occur at higher bands.

All antennas use low loss-195 cable to improve efficiency. The cable lengths vary by antenna style: 10-feet (3 m) for mag-mounts and 15-feet (4.5 m) for trunk-lid mounts. The vertical radomes are made of black fiberglass with an ASA base assembly.

The magnetic mount models have a 2.6" (66 mm) base, and use a strong commercial magnet. They provide a scratch resistant covering on the bottom. The cable exits out of the side of the base.

Trunk lid units mount securely to vehicle trunk lip with set screws. An allen wrench is provided for attaching the trunk lid mount. A cable guide routes the cable around the mounting bracket and through the trunk molding into the vehicle where the radio is typically located.

Model #	Gain	Frequency
Magnetic Mount Models		
ECOM5-2400-3C-BLK-120	5 dBi	2.4-2.5 GHz
ECOM6-5500-3C-BLK-120	6 dBi	5-6 GHz
ECOM9-5500-3C-BLK-120	9 dBi	5-6 GHz

Models above are available in Black Only

Specifications			
Frequency:		Radome:	Black Fiberglass
2400	2.4-2.5 GHz	Base/Mount:	ASA plastic & steel
5500	5.0-6.0 GHz		
		MAG Base Size:	2.6" D (66 mm)
Gain:	See above		
		Cable Length/type:	
VSWR:	2:1 over band	Mag Mounts	10 ft of LL-195 (3 meters)
		Trunk lid Mounts	15 ft of LL-195 (4.5 meters)
Impedance:	50 Ohm nominal		
		Connector:	SMA Plug (Male), standard
Maximum Power:	10 Watts		
Operating Temp:	-40° to +85° C	Shock & Vibration:	EN 61373, IEEE 1478, MIL-810G TIA-329.2-C

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Spring Mount

Mirror Mount

Surface Mount Spring Mount WiFi, 2.4 & 5 GHz

- Integral spring provides strength at speed and provides flex for overhead obstructions
- Ground plane independent designs can be used on any surface
- Seperate cable assemblies allow choice of cable length and connector type.

Mobile Mark's spring mounted ECO Mobile Series antennas cover popular systems: WiFi 2.4 or 5 GHz, Public Safety 4.9 GHz, 5 GHz Broadband and DSRC 5.9 GHz.

These ECOS antennas are ground plane independent and can be used on any surface.

High gain coupled with low loss cable compensates for the losses that occur at higher bands. These models terminate on the bottom with an SMA Female connector.

The spring mount antennas can be paired with low loss cable assemblies plugged into the Direct N Jack to complete the connection.

The ECOS have the radiating element located higher in a longer radome. The spring on the ECOS model is strong and flexible enough to handle impact with obstacles such as tree branches overhead in a vehicle mounted application.

The heavy duty spring maintains the antenna's vertical position at all speeds, but will deflect if hit by an obstruction.

Cable assemblies from Mobile Mark for the ECOS are sold separately, however they can be added to the order at the time of purchase.

Models

Spring Mount Omni Models

Model	Frequency	Gain
ECOS5-2400DN-BLK	2.4 - 2.5 GHz	5 dBi
ECOS8-2400DN-BLK	2.4 - 2.5 GHz	8 dBi
ECOS6-5500DN-BLK	5.0 - 6.0 GHz	6 dBi
ECOS9-5500DN-BLK	5.0 - 6.0 GHz	9 dBi

Add "SM-MM" for Mirror Mount Option

Typical cable assemblies: CA

Specifications

Frequency:	See above	Weight:	>1 lb (0.45 kg) all models not including cable assembly
Gain:	See above		
VSWR	2:1 over band		
Impedance:	50 Ohm nominal	Height:	
Maximum Power:	10 Watts	5 dBi	16.3 in/41 cm
Operating Temp:	-40° to +85° C	6 dBi	12.5 in/30 cm
Radome:	Fiberglass (black)	6 dBi	24.8 in/63 cm
Base/Mount:	Brass chrome plated	9 dBi	16.3 in/41 cm
Mounting Depth:	1/4" thick surface (6.4 mm)		
Base Dimension:	1.5" Diameter (38 mm)	Mounting:	Top mount assembly, "tilt-in" with internal teeth & locking ring
Spring:	Heavy duty Stainless Steel, 3/4" diameter (19 mm)		
Termination:	"N" Jack		

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Surface Mount, MIMO Mobile WiFi 2.4 & 5 GHz

MIMO Low Profile Surface Mount Antennas
available with 2 or 3 MIMO elements

- Multiple-Input-Multiple-Output antenna
- Models with 2 or 3-cables: each cable with identical bandwidth coverage
- Meets Industry and Military shock and vibration standards

Many of the newest wireless networks, are moving towards greater use of MIMO (Multiple-Input-Multiple-Output) systems and MIMO Antennas.

MIMO systems, also known as spatial multiplexing, transmit different data on different antenna elements. The net result is greater data throughput and improved bandwidth efficiency.

Mobile Mark's MIMO Mobile Antenna provides two or three cable feeds, each with identical frequency coverage. Separate antenna elements are housed within a compact rugged radome.

Each element is fed by a different cable; each cable covers the entire bandwidth specified.

This Low Profile Surface Mount Antenna is housed in a rugged, UV Resistant, ASA radome that measures 1.5-inches (38mm) tall x 3.5-inches (89mm) in diameter.

Standard configuration is Low Loss -195 cable with SMA Plug (Male).

The SMD Antenna will stand up to harsh environments. It has a water ingress rating of IPx7 and has been tested to and passed Industry and Military shock and vibration standards.

Model Configurator

SMD-W-3☐3☐3☐-☐☐☐-☐

Cable/Connector 1
Cable/Connector 2
Cable/Connector 3*
Color
Cable Length in Inches (eg. 12 or 180)

Example: SMD-W-3C3C3C-WHT-180

* for 2 cable option, omit one set of cable/connectors
eg. SMD-W-3C3C-WHT-180

Specify "MSMD" instead of "SMD" for
Magnet Mount Option

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
3	LL-195	A	TNC	WHT	White
		B	Mini UHF	BLK	Black
		C	SMA		

(Other Configurations available.)

Specifications

Frequency:	2.4-2.5 & 4.9-6.0 GHz	Color:	White or black
Gain:	4 dBi (peak)	SMD Mounting:	Thru-hole, 5/8" (16 mm) diam., 3/4" (19 mm) long threaded stud
VSWR:	2:1 max over range		
Isolation:	>20 dB between elements		
Impedance:	50 Ohms (nominal)	SMD Mounting Surface:	Up to ¼" (6.3 mm) thick metal
Max power:	20 Watts		
Polarization:	Vertical	MSMD Mounting:	Magnet mount
Power:	20 Watts max	Connectors:	SMA Plug (Male) Standard
		Operating Temp:	-40° to +85° C
Cables:	low loss-195, 15 ft (4.5 m)		
Case:	3.5"D x 1.5"H (89 mm x 38 mm)	Shock and Vibration:	EN 61373, IEEE-1478, MIL-810G TIA-329.2-C
Weight:	1.0 lbs (.45 kg)		
Case Material:	UV resistant ASA	Water Ingress:	IPx7 (when properly mounted)

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Surface Mount, Spring Mount WiFi 2.4-2.5 GHz & 5.0-6.0 GHz

ECOM
Magnet Mount

ECOS
Spring Mount

- Magnetic Mount and Spring Mount
- Ground plane independent designs can be used on any surface
- Elevated Feed spring mount versions provide additional clearance for light bars

Mobile Mark's ECO Mobile series are high frequency antennas designed for new WiFi technology applications.

These antennas are free space designs and ground plane independent. High gain coupled with low loss cable compensates for the losses that occur at higher bands.

All antennas use low loss -195 cable to improve efficiency. The vertical radomes are black fiberglass with an ASA base assembly. All antennas are weatherproof.

The magnetic mount models have a 2.6" (66 mm) base, and use a strong commercial magnet. They provide a scratch resistant covering on the bottom. The cable exits out of the side of the base.

The ECOS have the radiating element located higher in a longer radome, providing higher clearance for lightbars on police vehicles.

The spring on the ECOS model is strong and flexible enough to handle impact with obstacles such as tree branches overhead in a vehicle mounted application.

Cable assemblies from Mobile Mark for the ECOS are sold separately, however they can be added to the order at the

Model #	Frequency	Gain
Magnetic Mount Models		
ECOM5-2400-BLK-120	2.4 - 2.5 GHz	5 dBi
ECOM8-2400-BLK-120	2.4 - 2.5 GHz	8 dBi
ECOM6-5500-BLK-120	5.0 - 6.0 GHz	6 dBi
ECOM9-5500-BLK-120	5.0 - 6.0 GHz	9 dBi
Spring Mount Models		
ECOS5-2400DN-BLK	2.4 - 2.5 GHz	5 dBi
ECOS8-2400DN-BLK	2.4 - 2.5 GHz	8 dBi
ECOS6-5500DN-BLK	5.0 - 6.0 GHz	6 dBi
ECOS9-5500DN-BLK	5.0 - 6.0 GHz	9 dBi

Models above are available in Black Only

Specifications

Frequency:	See above	Base/Mount:	ASA plastic & steel
Gain:	See above	MAG Base Size:	2.6" D (66 mm)
VSWR:	2:1 over band	Cable Length/type:	
Impedance:	50 Ohm nominal	Mag Mounts	10 ft of LL-195 (3 meters)
Maximum Power:	10 Watts	Connector:	
Operating Temp:	-40° to +80° C	ECOM	SMA Plug (Male), standard
Radome:	Black Fiberglass	ECOS	Direct N
Wind Survivability:		Mount:	
ECOM	100 mph (161 kph) with 1/2" (1.3cm) radial ice	ECOM	Magnet mount
		ECOS	To surfaces up to 1/4" thick (.64cm)
ECOS	125 mph (201 kph) with 1/2" (1.3cm) radial ice		

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SMD-W HV Surface Mount, MIMO Mobile WiFi

MIMO Low Profile Surface Mount Antennas
available with 2 or 3 MIMO elements

- Multiple-Input-Multiple-Output antenna
- Model with 3-cables: each cable with identical bandwidth coverage
- High Vibration design, passed Industry and Military shock and vibration standards

Many of the newest wireless networks, are moving towards greater use of MIMO (Multiple-Input-Multiple-Output) systems and MIMO Antennas.

MIMO systems, also known as spatial multiplexing, transmit different data on different antenna elements. The net result is greater data throughput and improved bandwidth efficiency.

Mobile Mark's MIMO Mobile Antenna provides two or three cable feeds, each with identical frequency coverage. Separate antenna elements are housed within a compact rugged radome.

Each element is fed by a different cable; each cable covers the entire bandwidth specified.

This Low Profile Surface Mount high vibration (HV) Antenna is housed in a rugged, UV Resistant, ASA radome that measures 1.5-inches (38mm) tall x 3.5-inches (89mm) in diameter.

Standard configuration is Low Loss RF-195 cable with SMA Plug (Male).

The SMD Antenna will stand up to harsh environments. It has a water ingress rating of IPx7 and has been tested to and passed Industry and Military shock and vibration standards.

Model Configurator

SMD-W- 3 ☐ 3 ☐ 3☐-☐☐☐-☐

Cable/Connector 1
Cable/Connector 2
Cable/Connector 3*
Color
Cable Length in Inches (eg. 12 or 180)

Example: SMD-W-3J3J3J-WHT-180

* for 2 cable option, omit one set of cable/connectors
eg. SMD-W-3J3J-WHT-180

Specify "MSMD" instead of "SMD" for Magnet Mount Option

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
3	LL-195	J	Rev Pol SMA	WHT	White
		C	SMA	BLK	Black

(Other Configurations available.)

Specifications

Frequency:		Color:	White or black
Cable 1-3	2.4-2.5 & 4.9-6.0 GHz	SMD Mounting:	Thru-hole, 5/8" (16 mm) diam.." 3/4" (19 mm) long threaded stud
Gain:	4 dBi (peak)		
VSWR:	2:1 max over range		
Isolation:	>20 dB between elements	SMD Mounting Surface:	Up to ¼" (6.3 mm) thick metal
Impedance:	50 Ohms (nominal)		
Max power:	20 Watts	MSMD Mounting:	Magnet mount
Polarization:	Vertical	Connectors:	Rev Pol SMA Plug Standard
Power:	20 Watts max	Operating Temp:	-40 to +85° C
Cables:	LL-195, 15 ft (4.5 m)	Shock and Vibration:	EN 61373, IEEE-1478, MIL-810G, TIA-329.2-C
Case:	3.5"D x 1.5"H (89 mm x 38mm)		
Weight:	1.0 lbs (.45 kg)	Water Ingress:	IPx7 (when properly mounted)
Case Material:	UV resistant ASA		

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Directional, Corner Reflector WiFi 2.4 & 5 GHz

SCR12-2400
Large Corner

SCR9-2400
Mini Corner Reflector

- Available in 9-12 dBi gain; efficient Front to Back ratio
- Efficient Point-to-Point coverage
- Small aperture; minimizes wind loading
- Split balun feed provides superior bandwidth & gain performance

Mobile Mark's WiFi Corner Reflector antennas provide efficient point-to-point and point-to-multipoint coverage for remote monitoring, surveillance or mesh networks.

A SCR Series corner reflector antenna consists of a half-wave element, spaced approximately a quarterwave length in front of a reflector panel. The reflector panel serves to narrow both the horizontal and vertical pattern for increased gain and directivity.

This antenna design is able to provide excellent gain performance without sacrificing bandwidth. Cable Assemblies are available from Mobile Mark.

Model #	Gain	Frequency
SCR9-2400-WHT	9 dBi	2300-2600 MHz
SCR12-2400-WHT	12 dBi	2300-2600 MHz
SCR10-5250-WHT	10 dBi	5.15-5.35 GHz
SCR12-5725-WHT	12 dBi	5.72-5.93 GHz
SCR-2400/5500-WHT	9 dBi & 12 dBi	Dualband 2.4-2.5 GHz & 4.9-6.0 GHz

Color options available for above models
WHT-White or BLK-Black

Specifications

Frequency:	See above
Gain:	See above
VSWR:	2:1 max over band
Impedance:	50 Ohm nominal
Max Wind Velocity:	125+ mph (193 kph)
Operating Temp:	-40° to +85° C
Material:	Powder-coated aluminum, ASA plastic radome
SCR9-2400, SCR12-2400, SCR10-5250, SCR12-5725	
Maximum Power	100 Watts
Front-to-Back ratio	22 dB or better
Lightning Protection	DC grounded, external protection recommended
SCR-2400/5500	
Maximum Power	10 Watts
Front-to-Back ratio	30 dB or better
Lightning Protection	NA, external recommended
SCR9-2400, SCR10-5250, SCR12-5725, SCR-2400/5500	
Aperture	3" x 5.5" (76 mm x 140 mm)
Panel Size	3" x 3" ea (76 mm x 76 mm)
Weight	1 lb (0.5 kg)

SCR12-2400	
Aperture	7" x 10.5"(178 mm x 266 mm)
Panel Size	7" x 7" (178 mm x 178 mm)
Weight	2.2 lbs (1 kg)
Beamwidth:	
SCR9-2400	78° El, 60° Az
SCR12-2400	50° El, 36° Az
SCR10-5250	57° El, 30° Az
SCR12-5725	75° El, 26° Az
SCR-2400/5500	
2.4 -2.5 GHz	45° El, 35° Az
4.9 - 6.0 GHz	35° El, 25° Az
Pole Mounting:	Hardware included
Mounting Dimension:	Mounts up to 2" (51 mm) out side diameter (OD) mast Exception: SCR12-2400 mounts up to 2.5" (64 mm) OD mast
Connector:	N Jack (Female), attached at rear of antenna
Shock & Vibration:	EN 300 019-2-4, IEC 60068

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PS Series Sector

Adjustable Pole Mount Bracket

Optional Wall Mount Bracket

Directional Antennas, Sector Panels, WiFi 2.4 GHz

- High gain 12 dBi for point to point and multipoint applications
- Attractive low profile styling can be used for access point or subscriber
- Model covers 2.4 GHz WiFi

This Mobile Mark Panel antenna is designed for WiFi 2.4 GHz systems.

The PS Series sectorized panel antenna is excellent for deploying point-to-point applications. The antenna uses advanced PCB technology.

By designing the antenna specifically for WiFi 2.4 GHz, we've made this model much smaller, higher performance and lower cost than most competitor offerings.

The PS Series housing is a very attractive grey Polystyrene plastic. Compact in size, 12.5" H x 3" W (32 cm x 7.6 cm) this antenna will be unobtrusive in any indoor or outdoor environment.

The PS12-2400-90 model for WiFi 2.4 GHz is offered in a 90^0 sector in the horizontal beam. The antenna has a 22^0 vertical beam.

The PS Series has an adjustable metal bracket, that allows easy alignment and tilt. The unit can be adjusted down in a vertical axis in a continuous range using a sliding slot. which allows for a 0° - 45° downtilt. With these full features, an array of antennas can be field assembled to provide a complete omni-cell. Mounts to pipe with up to 2 1/2" (63mm) outside diameter.

An optional mounting bracket adapter can be provided for wall mount; allows for both vertical & horizontal adjustment.

For maximum reliability and weatherproofing, the antennas are outfitted with an N connector at the back of these models.

Custom cable assemblies are available using a variety of cables including low loss LMR-400, low loss-195, and traditional RG-58. Jumper cables are also available, and built to order.

Model #	Gain	Frequency	Sector Size
PS12-2400-90-GRY	12 dBi	2.4 - 2.485 GHz	90 degrees
PN-WMK	Optional Wall Mount		

Specifications

Frequency:	2.4-2.485 GHz	Dimensions:	12.5" H x 3" W (all models) 32 cm x 7.6 cm
Gain:	12 dBi		
VSWR Max:	2:1	Weight:	1 lb (0.45 kg)
Impedance:	50 Ohm nominal		
Max Power:	25 watts	Pole Mounting:	L-bracket with S.S. U-bolts, continuous adjustment up to 45° downtilt, standard
Beamwidth:	90° Az, 22° El		
Front to Back Ratio:	25 dB or better	Optional Wall Mounting:	Double swivel, vertical (up to 30° downtilt) & horizontal (45° from center, 90° total) adjustment, order separately
Lightning Protection:	External recommended		
Max Wind Velocity:	125 + mph (193 kph)		
Material:	Light Grey Polystyrene radome	Connector:	Integral N Female
Temperature:	-40° C to +85° C		

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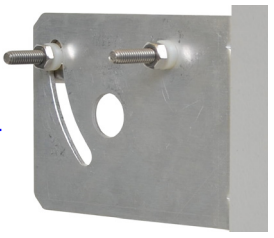
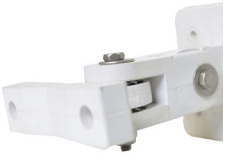
PS Series Sector Antenna



Adjustable Pole Mount Bracket



Optional Wall Mount Bracket

Directional Antennas, Sector Panels, 5 GHz Systems

- Weatherproof for outdoor use; compact and attractive for inbuilding
- High gain performance (10 dBi - 14 dBi)
- Available in 45°, 60°, 90° and 120° sectors

These antennas can be used for deploying point-to-point backhaul, or for point-to-multipoint applications. In addition to 5 GHz WiFi, these antennas can also be deployed in smart highway or DSRC applications.

Models are available in several sector configurations with different gain factors. Model PS14-5500-45 provides 14 dBi gain with a 45 degree sector. This model is also an excellent choice for point-to-point, since they are only a fraction of the size of a parabolic.

Model PS12-5500-60 provides 12 dBi gain and a 60 degree sector. Model PS11-5500-90 provides 11 dBi gain, and a corresponding 90 degree sector.

Model PS10-5500-120 provides gain of 10 dBi, yet allows a generous 120 degree sector. Front to back ratio on all models is maintained at better than 25 dB. This allows true sectorization. Alternatively, these sectors allow services to be isolated to different areas.

The PS Series antennas are compact. Conventional pole mounting can be used, for quick and uncomplicated network deployment. The adjustable tilt mounting bracket allows easy alignment. Pole mounted, the antenna can be adjusted 360 degrees around the pole, as well as up to 45 degree vertical downtilt. Surface/wall mounting is also be accommodated with an optional double swivel wall bracket allowing for both vertical and horizontal adjustment.

The antenna housing is a very attractive light grey ASA plastic. Compact in size, only 12.5" H x 3" W (32 cm x 7.6 cm), this antenna will be unobtrusive in any indoor or outdoor environment. These models are 100% weatherproof and can withstand the harshest conditions.

The antenna terminates with an integral Female N connector. Mobile Mark can provide jumper cables in a variety of cable/connector types.

External lightning protection is recommended (to protect the radio) for outdoor mounting.

This antenna design uses the latest PCB technology for high performance, lower cost and compact size.

Model #	Gain	Sector Size
PS10-5500-120-GRY	10 dBi	120 degree sector
PS11-5500-90-GRY	11 dBi	90 degree sector
PS12-5500-60-GRY	12 dBi	60 degree sector
PS14-5500-45-GRY	14 dBi	45 degree sector
PN-WMK	Optional Wall Mount	

Specifications

Frequency:	5.0 - 6.0 GHz
Gain:	See model table
VSWR Max:	2:1
Impedance:	50 Ohm nominal
Max Power:	25 Watts
Beamwidth:	
PS10-5500-120	120° Az, 11° El
PS11-5500-90	90° Az, 12° El
PS12-5500-60	60° Az, 12° El
PS14-5500-45	45° Az, 11° El
Front to Back Ratio:	25 dB or better
Operating Temp:	-40° to +85° C
Lightning Protection:	External recommended
Max Wind Velocity:	125+ mph (193 kph)

Material:	Light Grey Polystyrene
Dimensions:	12.5" H x 3" W (all models) 32 cm x 7.6 cm
Weight:	1 lb (0.45 kg)
Pole Mounting (standard):	L-bracket with U-bolts, up to 2 1/2" (6.3 cm) O.D. pipe, horiz. adjustment up to 45° downtilt
Optional Wall Mounting:	Vertical (up to 30° downtilt) & horizontal (45° from center)
Connector:	Integral N Female

Custom jumper cables are available upon request

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Directional Yagi Antennas
High frequency 4.4-6.0 GHz

Directional Yagi with Standard wall mounting

Optional Swivel pipe mounting

- Slim attractive profile, 7.5" total length including mounting bracket
- High gain for efficient point-to-point
- Can be used for DAS & In-building applications or mounted outside

This high quality and reliable Yagi Antenna can be used for any of the wireless applications that fall in the 4.4-6.0 GHz frequency range. These include WiFi 5 GHz, DSRC 5.9 GHz, Public Safety 4.9 GHz or Military 4.4 GHz.

The YAG12 antenna's compact size also makes it a nature choice for In-building installations.

The YAG12 Series offers 10 dBi gain from 4.4-5.4 GHz and 12 dBi gain from 5.47-6.0 GHz. This makes the antenna very effective for applications such as mesh systems, point-to-point or point-to-multi-point.

ISP and Service Providers will find these antennas particularly efficient for short range backhaul applications or for providing coverage in hard to cover areas such as in an in-building corridor.

The antenna's compact profile and White color helps this Yagi fit in anywhere. The antenna measures only 6.35" long x 2.75" high x .56" wide (16 cm x 7 cm x 1.3 cm).

The slim profile makes this antenna aesthetically pleasing for indoor use.

The radome is made from ASA, which resists discoloration by UV rays even if the product is exposed to many years of sunlight.

Mounting options for this antenna include both wall mounting and optional pipe mounting. The unique adjustable mount has a 45° adjustable range both in the vertical range and the horizontal range.

Cable assemblies are available including low loss-195, RG-58, LMR-240 and LMR-400. Choices of connectors include SMA, TNC, and N connectors.

Model #	Gain	Connector
YAG12-5500-3C-WHT-12	10 & 12 dBi	SMA Plug
YAG12-5500-3X-WHT-12	10 & 12 dBi	N Plug
YAG-PMK	Optional pipe mount	

For cable jumpers & other connectors, please contact your sales representative

Specifications			
Frequency & Gain:	4.4-5.4 GHz, 10 dBi 5.47-6.0 GHz, 12 dBi	Adjustment:	Both vertical and horizontal adjustment up to 45°
VSWR:	2:1 max over range		
Impedance:	50 Ohm nominal	Radome Size:	2.75" H x 6.35" L x 0.56" W (7 cm x 16 cm x 1.4 cm)
Maximum Power:	25 Watts		
Beamwidth:	30° elevation, 55° azimuth		
Front-to-Back ratio:	Better than 15 dB	Size with mount:	2.75" x 7.5" x .56" (7 cm x 19 cm x 1.4 cm)
Operating Temp:	-40°C to +85°C		
Lightning Protection:	External recommended		
Antenna Radome:	ASA, White	Cable:	1 ft (30.5 cm) low loss-195
Weight:	.5 lbs (0.23 kg)	Termination:	SMA Plug or N Plug, others available
Mounting:		Shock & Vibration	EN 300 019-2-4, IEC 60068
Standard	45° adjustable Swivel Wall Mnt.	Water Ingress:	IPx5
Optional	45° adjustable Swivel Pipe Mnt.		

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Directional Yagi Antennas Dualband 2.4 & 5 GHz WiFi

Directional Yagi with Standard wall mounting

Optional Swivel pipe mounting

- High gain 8 dBi for efficient point to point
- Wall-mount for DAS & In-building applications or Pole-mount outside
- Mounting bracket allows 45° vertical and horizontal adjustment

This high quality and reliable Yagi Antenna is designed for WiFi hot-spots and mesh networks operating on dual-band 2.4 & 5 GHz.

The YAG8 Series antenna offers 8 dBi gain and provides directional coverage for point-to-point and point-to-multipoint applications.

The antenna is compact and aesthetically pleasing. It measures only 7 ½ inches (191 mm) from the mounting base to the tip of the antenna. Its slim profile is even more impressive, measuring only 0.56 inches (14 mm) from side to side.

The small size of the YAG8 antenna makes it ideal for In-building DAS (Distributed Antenna Systems) applications.

The radome is made from a white ASA material which blends in well with most settings. The ASA material is UV protected and resists discoloration, even when exposed to many years of sunlight.

The YAG8 Series antennas were designed with outdoor applications in mind and will stand up to harsh weather conditions, but they are attractive enough to blending into in-building settings.

ISP and Service Providers will find these antennas useful for extending a network or providing efficient coverage in hard to cover areas such as in a building corridor.

The mounting options for this antenna make it very versatile; from pipe mounting to wall mounting, installation of this antenna is a breeze.

The unique adjustable mount has a 45° adjustable range in both the vertical range and the horizontal direction.

Model #	Gain	Connector
YAG8-W-3C-WHT-12	8 dBi	SMA Plug
YAG8-W-3X-WHT-12	8 dBi	N Plug
YAG-PMK	Optional pipe mount	

For cable jumpers & other connectors, please contact your sales representative

Specifications			
Frequency:	2.4-2.5 GHz & 4.9-6.0 GHz	Radome Size:	2.75" H x 6.35" L x 0.56" W (7 cm x 16 cm x 1.4 cm)
Gain:	8 dBi		
VSWR:	2:1 max over range	Size with mount:	2.75" x 7.5" x .56" (7 cm x 19 cm x 1.4 cm)
Impedance:	50 Ohm nominal		
Maximum Power:	25 Watts		
Beamwidth:	70° elevation, 90° azimuth	Weight:	.5 lbs (0.23 kg)
Front-to-Back ratio:	Better than 15 dB		
Operating Temp:	-40°C to +85°C	Cable:	1 ft (30.5 cm) LowLoss-195
Lightning Protection:	External recommended		
		Termination:	SMA Plug or N Plug
Antenna Radome:	ASA, White	Shock & Vibration	EN 300 019-2-4, IEC 60068
		Water Ingress:	IPx5
Mounting:			
Standard	45° adjustable Swivel Wall Mnt.		
Optional	45° adjustable Swivel Pipe Mnt.		

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ECO Series 2.4-5 GHz
Models with N Jack (Female)

Recessed N
Plug (Male)

Broadband, Omni-directional WiFi 2.4 & 5 GHz Systems

- Gain configurations from 5 dBi to 12 dBi
- Economical, weatherproof and durable design for both indoors and outdoors
- RN, Direct mount option with N Plug (male) can be mounted directly on device

Mobile Mark's ECO Omni antennas are designed for all new data & broadband systems, including WiFi 802.11 systems. Using PCB technology, these antennas improve high-speed broadband system performance in an economical package.

The ECO Series are free space antennas; no ground plane is required. Standard hardware includes pole/wall mount.

The antenna element is enclosed in a tough white or black fiberglass radome. The antenna terminates with an integrated N-female. For direct male N mounting, series "RN" can be chosen.

These antennas can withstand the harshest outdoor environments, yet are quite attractive for indoor use.

Model #	Gain	Frequency
ECO5-2400-WHT	5 dBi Omni	2.4 - 2.5 GHz
ECO8-2400-WHT	8 dBi Omni	2.4 - 2.5 GHz
ECO6-5500-WHT	6 dBi Omni	5.0 - 6.0 GHz
ECO9-5500-WHT	9 dBi Omni	5.0 - 6.0 GHz
ECO12-5800-WHT	12 dBi Omni	5.7 - 6.0 GHz
ECO5-2400RN-WHT	Recessed N Plug (male)	
ECO8-2400RM-WHT	Recessed N Plug (male)	

Color options available for above models
WHT-White or BLK-Black

Specifications

Frequency/Gain:	See table
Gain	See table
VSWR:	2:1 max over range
Impedance:	50 Ohm nominal
Max Power:	25 Watts
Beamwidth:	
ECO5	30° El, 360° Az
ECO6	25° El, 360° Az
ECO8	12° El, 360° Az
ECO9	12° El, 360° Az
ECO12	7° El, 360° Az
Operating Temp:	-40° to +85° C
Lightning Protection:	External recommended
Max Wind Velocity:	125+ mph (193 kph)
Material:	White or black fiberglass
Weight:	<0.75 lbs (< 0.340 kg)
Antenna Diameter:	0.63 in (1.6 cm) Radome, 0.9 in (2.3 cm) at the base
Mounting:	Pole or surface mount, mounts up to 2" (5.1 cm) Includes S.S. saddle
Antenna Length:	
ECO5-2400	14 in (35.6 cm)
ECO8-2400	23 in (58.4 cm)
ECO6-5500	10 in (25.4 cm)
ECO9-5500	14 in (35.6 cm)
ECO12-5800	18 in (45.7 cm)
RN versions	⅝" (1.6 cm) longer than standard lengths
Connector:	N Jack (Female) standard
PT Pigtail Option:	1ft LL-195 cable (30 cm) with N Male
RN Option:	Recessed N Plug (Male)
Shock & Vibration:	EN 61373, EN 300 019-2-4, MIL 810G, IEC 60068, IEEE 1478
Water	IPx5

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ECO Series Dual Band shown with standard Pole/wall mount

Omni-directional Dualband 2.4 & 5.0 GHz WiFi

- Gain configuration of 5 dBi for both bands (802.11 compatible)
- Economical, weatherproof and durable design for both indoors and outdoors
- No groundplane required

Today's WiFi networks work twice as hard, and Mobile Mark's dual-band omni-directional site antennas are designed to help. Using PCB technology, these antennas improve high-speed broadband system performance in an economical package.

The ECO Series are free space antennas; no groundplane is required.

The antenna element is enclosed in an tough white or black fiberglass radome. The low profile radome is only 0.63 inches (1.6 cm) diameter, and 0.9 in (2.3 cm) at the base.

The standard antenna terminates with an integrated N-female. The standard mount configuration includes a pole/wall mount, which includes U Bolt. The mount also has flanges for near flush wall mounting.

The units have a threaded ferrule and lock nut. The units provide a direct coax into the antenna and can be outfitted with a variety of connectors, such as Reverse Polarity TNC or SMA.

For direct N mounting, the "RN" Series is built with a recessed "N" Plug (Male) connector.

This model would be attached directly to an N female on an access point or any bulkhead.

These antennas can withstand the harshest outdoor environments, yet are quite attractive for indoor use.

Model	Description
ECO5-2400/5500-WHT	N Jack (female)
ECO5-2400/5500RN-WHT	Recessed N Plug (male)

Color options available for above models
WHT-White or BLK-Black

Specifications

Frequency:	2.4 - 2.5 GHz & 5.150 - 5.925 GHz
Gain:	5 dBi both bands
VSWR:	2:1 max over band
Impedance:	50 Ohm nominal
Max Power:	25 Watts
Beamwidth:	30° El, 360° Az
Operating Temp:	-40° to +85° C
Lightning Protection:	External recommended
Max Wind Velocity:	125+ mph (193 kph)
Material:	White or black fiberglass
Weight:	<0.75 lbs (< 0.340 kg)
Antenna Diameter:	0.63 in (1.6 cm) Radome, 0.9 in (2.3 cm) at the base
Antenna Length:	
Standard	9" (22.9 cm)
PT-Pigtail version	9 ¾" (24.8 cm)
RN Option	9 ⅝" (24.4 cm)
Mounting (standard):	Direct N Jack, Pole or Wall (mounts up to 2" OD. Pipe (5 cm) includes SS saddle
Mounting "RN" Option:	Recessed N Male, mounts to N female
Shock & Vibration:	EN 300 019-2-4, IEC 60068
Water Ingress	IPx5

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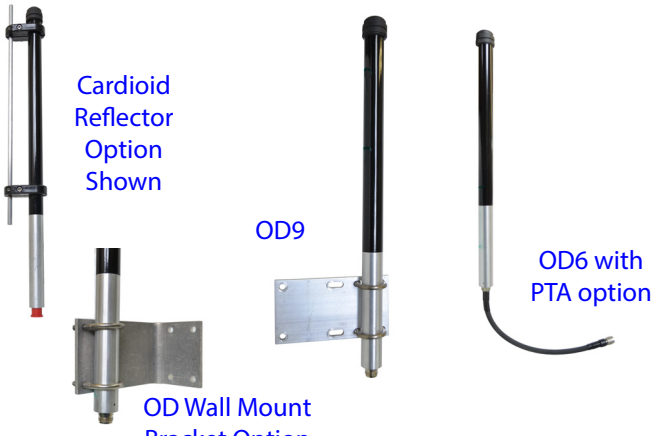
Omni-Directional Antennas, WiFi 2.4 GHz



- 3 dBi, 6 dBi, 9 dBi & 12 dBi antennas provide uniform omni coverage
- Unique design allows economical build out
- Reflector options provide directional beamshaping & sectorization

The OD Series antennas provide omni-directional coverage for WiFi 2.4 GHz applications. Four models are available from 3-12 dBi gain.

These antennas are colinear arrays. Unique phasing cancels out-of-phase current distribution, improving performance. The OD series are free space antennas; no ground plane is required.

Unique options for the OD series are add-on Reflector Kits that beam shape the omni pattern. Reflector options are available to provide cardioid shape in 90 degree, 120 degree & 180 degree patterns. These can result in improved directional gain and isolation for reduced interference.

The antennas are durable and rugged. They can withstand the harshest environments of snow, wind, rain and ice.

The feed assembly is made of precision machined aluminum components and is irridited for weather protection. These antennas come with all the hardware needed to install it to a mast.

For ISM, Part 15 compliant connectors are available (reverse polarized), please consult your sales representative.

Model #	Freq. (MHz)	Gain	Applications
OD3-2400-BLK	2400-2485	3 dBi	WiFi, ISM, Video
OD6-2400-BLK	2400-2485	6 dBi	WiFi, ISM, Video
OD9-2400-BLK	2400-2485	9 dBi	WiFi, ISM, Video
OD12-2400-BLK	2400-2485	12 dBi	WiFi, ISM, Video

Model	Other Options
ODR9-2400K	Add-on 90° Reflector kit for OD9
ODR9-2400T120K	Add-on 120° Reflector kit for OD9
ODR9-2400T180K	Add-on 180° Reflector kit for OD9

Reflectors are also available for 3, 6 & 12 dBi models

OD-WMK Wall Mount Bracket

Color options available: WHT - White or BLK-Black

Specifications

Frequency & Gain:	See above
VSWR:	2:1 max over range
Nominal Impedance:	50 ohms
Max. Power (continuous):	100 watts
Vertical Beamwidth (-3 dB point):	
3 dBi Model	55 degrees
6 dBi Model	25 degrees
9 dBi Model	14 degrees
12 dBi Model	7 degrees
Wind Load (flat plate equiv.):	30-40 sq. inches (194-258 sq.cm)
Rated Wind Velocity:	120+ mph (193+kph)
Operating Temp:	-40° to +85° C
Lightning Protection:	External suggested
OD Series Interface:	N Jack (Female)
Antenna Diameter:	1" (25 mm), main mast
Length/Weight:	
3 dBi Models	14", 1.5 lbs (36 cm, 0.7 kg)
6 dBi Models	17", 1.5 lbs (43 cm, 0.7 kg)
9 dBi Models	29", 2.0 lbs (74 cm, 0.9 kg)
12 dBi Model	41", 2.5 lbs (104cm, 1.1 kg)
Mounting Kit:	Mast mount kit included
Mounting Dimensions:	Use mast up to 2.5" (6.3 cm)
Material:	Fiberglass radome with aluminum body
Options:	Reflector Option Kits Pigtail Cable Option Part 15 Reverse Connectors Wall Mount Bracket
Shock & Vibration:	EN 300 019-2-4, IEC 60068
Water Ingress:	IPx5

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OD9-2400MOD2
High Vibration

OD-WMK
Wall Mount
Bracket Option

MOD6-2400
Marine

Omni-directional, High Vibration & Marine, 2.4 GHz

- Uniform omni-directional coverage
- Marine versions provide powder coat finish with stainless steel hardware
- High vibration models have conformal foam dampening for heavy mining & construction

These antennas are extreme environment versions of our popular OD Series Antennas.

The MOD Series are special Marine/Sea Water resistant antennas with external metal fittings specially protected for the typical sea or harbor environment. The mount assembly and the base of the antenna are powder coated, with other mounting hardware being stainless steel.

For very high vibration environments (mining, quarry and oil field construction) the OD-MOD2 series provides a viable solution for a wide area network.

The feed assembly is made of machined aluminum components and is irridited for weather protection.

Both series are colinear arrays and provide uniform omni-directional coverage. Unique phasing cancels out-of-phase current distribution, improving performance.

Model #	Frequency	Gain
High Vibration Products		
OD3-2400MOD2-BLK	2400-2485	3 dBi
OD6-2400MOD2-BLK	2400-2485	6 dBi
OD9-2400MOD2-BLK	2400-2485	9 dBi
OD5-2400/5500MOD2-BLK	2400-2485 & 5150-5925	5 dBi
Marine		
MOD3-2400-WHT	2400-2485	3 dBi
MOD6-2400-WHT	2400-2485	6 dBi
MOD9-2400-WHT	2400-2485	9 dBi
MOD12-2400-WHT	2400-2485	12 dBi

Color options available for the OD-MOD2 series
WHT-White or BLK-Black

OD-WMK Wall Mount Bracket

Specifications

Frequency & Gain:	See above
VSWR:	2:1 max over band
Nominal Impedance:	50 ohms
Max. Power (continuous):	100 watts
Vertical Beamwidth (-3 dB point):	
3 dBi Models	55 degrees
6 dBi Models	25 degrees
9 dBi Models	14 degrees
12 dBi Model	7 degrees
2400/5500 Model	22° at 2.4 GHz, 30° at 5 GHz
Rated Wind Velocity:	120+mph (200+kph)
Operating Temp:	-40° to +85° C
Lightning Protection:	External suggested
Connector:	N female connector
Mounting Kit:	Mast mount kit included Wall Mount Bracket Optional (OD-WMK)

Mounting Dimensions:	Mast up to 2.5" D (64mm)
Antenna Diameter:	1" (25 mm)
Length/Weight:	
2400/5500 Model	13", 2.5 lbs (33 cm, 1.1 kg)
3 dBi Models	14", 1.5 lbs (36 cm, 0.7 kg)
6 dBi Models	17", 1.5 lbs (43 cm, 0.7 kg)
9 dBi Models	29", 2.0 lbs (74 cm, 0.9 kg)
12 dBi Model	41", 2.5 lbs (104 cm, 1.1 kg)
Material:	
MOD Marine Series	White Fiberglass radome with Powder Coat aluminum
OD-MOD2 Series	Black or white fiberglass with irridited aluminum
Shock & Vibration:	EN 300 019-2-4, IEC 60068
Water Ingress:	IPx5

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Directional & Omni-Directional MIMO Antennas, WiFi

Directional Antennas

Omni-Directional Antennas

- Multiple-Input-Multiple-Output antenna design
- Directional and Omni-directional antennas
- Each MIMO antenna is configured with 2 or 3 connectors

MIMO (Multiple-Input-Multiple-Output) systems, also known as spatial multiplexing, transmit different data on different antenna elements.

With a MIMO system, the data is decoded and combined at the receive end. The net result is greater data throughput and improved bandwidth efficiency.

Mobile Mark's new MIMO (Multiple-Input-Multiple-Output) Site Antennas provide three-cable feeds, each with identical frequency coverage.

The separate antenna elements are housed within the compact rugged radome. Each element is fed to a separate connector and each covers the entire bandwidth specified.

The PND Series Panel Antenna provides 8 dBi gain in a compact radome measuring 12.5" (31.75cm) tall x 3" (7.62cm) wide x 1.25" (3.18cm) deep. The three connectors exit from the back of antenna.

The DOD Series Omni-directional Antenna provides 5 dBi gain in a radome measuring just under 30" (76.2cm) tall x 1" (2.54cm) in diameter.

The cables exiting the base of the antenna are typically staggered at 9" (22.86 cm), 12" (30.48cm) and 15" (38.1cm) in length, for easy handling during installation.

Custom cable assemblies are available.

Model #	# of Connections
PND8-2400/5500-2-GRY	2 inputs
PND8-2400/5500-3-GRY	3 inputs
DOD5-2400/5500-3C3C-BLK	2 inputs
DOD5-2400/5500-3C3C3C-BLK	3 inputs

Specifications

Frequency:	
PND8	2.4-2.5 GHz & 4.9-6.0 GHz
DOD5	2.4-2.5 GHz & 5150-5925 MHz
Gain:	
PND8	8 dBi all bands
DOD5	5 dBi all bands
VSWR:	2:1 max over range
Isolation:	>20 dB between elements
Impedance:	50 Ohms (nominal)
Max power:	25 watt
Beamwidth:	
2.4-2.5 GHz	PND8 90° Az, 60° El DOD5 40° El
4.9-6.0 GHz	PND8 120° Az, 30° El DOD5 45° El
Operating Temp:	-40 to +85° C
Cable jumpers:	Available separately
Lightning protection:	External recommended
Case:	
PND8	12.5"H x 3"W x1.25" D (32 cm x 8 cm x 3 cm)
DOD5	29 5/8"H x 1"D (75 cm x 3 cm)
Material:	
PND8	UV resistant polystyrene, Gray
DOD5	Fiberglass, Color, Black
Mounting:	Mounts to up to 2 1/2" OD pipe, U-bolt kit included
PND Adjustment:	Vertical tilt adjustment up to 45°
Connectors:	
PND	2 or 3 SMA Jack (female) bulkhead connectors built-in
DOD	2 or 3 Cables 9", 12", 15" w/ SMA plug (male) connectors; custom lengths avail.
Shock and Vibration:	EN 300 019-2-4, IEC 60068

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WiFi Panel Antenna
6x MIMO, Quad-polarization

- Directional Antenna for 802.11ac
- Quad-polarization MIMO (i.e. Horizontal, Vertical, +45 Degree Slant, and -45 Degree slant)
- Attractive, compact package measuring 9" x 9" (23cm x 23cm)

The new 802.11ac networks are designed for high density, high capacity usage. To perform as they are intended to perform, the antennas need to match the capabilities of the modems and provide the same 6x MIMO coverage; this new Panel Antenna provides that kind of operation for 6x MIMO WiFi system.

This new WiFi 6x MIMO Panel Antenna features six separate connection ports in order to provide optimum MIMO (multiple-input-multiple-output) performance for the new WiFi 802.11ac modems.

The PND10-W-AC6-WHT panel antenna achieves MIMO performance by using multiple polarizations for the six elements housed within the antenna. This 6-port MIMO antenna features quad-polarization: vertical, horizontal, slant -45 degree, and slant +45 degree for state-of-the-art MIMO technology.

The antenna provides coverage on both 2.4-2.5 & 4.9-6.0 GHz, which allows the antenna to operate on the 5 GHz band for 802.11ac, but also be backwards compatible for 802.11n and 802.11b/g modems.

The antenna offers 8 dBi gain on the 2.4 GHz band and 10 dBi gain on the 5 GHz band. These gain levels provide wireless coverage over a longer distance while still providing adequate beamwidth coverage for easy installation and alignment.

The antenna covers 100 degree azimuth x 60 degree elevation at 2.4 GHz and 40 degree azimuth x 45 degree elevation at 5 GHz. Alignment is also aided by the adjustable tilt mount that comes with the antenna.

The antenna gets high marks for its efficiency with a minimum front-to-back ration fo 20 dB and an antenna isolation figure of greater than 20 dB. It is designed to handle up to 20 watts of power.

Compact and attractive, this antenna will fit in well with any 802.11ac WiFi MIMO Installation.

Model #	Description
PND10-W-6AC-WHT	2.4-2.5 & 4.9-6.0 GHz

Description:
Directional Antenna for 802.11ac applications. Quad-polarization MIMO. Six Rev Pol SMA Jack connectors.

Specifications			
Frequency:	2.4-2.5 & 4.9-6.0 GHz	Beamwidth:	
Gain:		2.4-2.5 GHz	100 Degree azimuth x 60 Degree elevation
2.4-2.5 GHz	8 dBi gain	4.9-6.0 GHz	40 Degree azimuth x 45 Degree elevation
4.9-6.0 GHz	10 dBi gain	Impedance:	50 ohms
Polarization:		VSWR:	2:1 max over range
Connector #1	Horizontal	Maximum Power:	20 Watts
Connector #2	+45 Degree Slant		
Connector #3	-45 Degree Slant	Case:	9"x9"x1.6" (23cmx23cmx4cm)
Connector #4	Vertical	Case Material:	White ASA Plastic
Connector #5	+45 Degree Slant	Connectors (all 6):	Rev Pol SMA Jack (Female)
Connector #6	-45 Degree Slant	Mounting:	L-Bracket with U-bolt. Mounts up to 2.5" dia. (6.3 cm)
Front to Back ratio:	20 dB minimum		
Antenna isolation:	>20 dB		
Operating Temp:	-40 Degrees to +85 Degrees		

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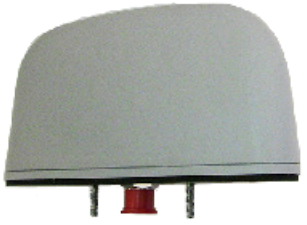
BD-5800 Blade Style WiFi Antenna



Blade Style Antenna

- Slim profile; dependable link
- Mechanically sound, meets IPx7 water ingress standards
- Bi-Directional blade style

The BD-5800 antenna is designed for Utility Cabinets and NEMA Boxes, it can be mounted in any setting where a slim profile is desired. It offers outstanding electrical performance as well as a unique mechanical package.

Mobile Mark's BD-5800 blade-style antenna has a single element for 5.725 to 5.85 GHz WiFi in a slim, compact radome. It measures only 7 1/2" long by 1 1/2" deep and less than 4" tall (19 cm x 3.8 cm x 10 cm).

This blade style antenna is ground-plane independent and designed to perform on either a fiberglass or metal box with up to a .20" (5 mm) thick surface.

Using our new slim line package, the BD-5800 is a Bi-Directional antenna designed for WiFi 5.8 GHz surface mounted applications. This particular model comes with Direct N connection.

The base bolt is attached through a mounting hole that accommodates the WiFi connection. A special gasket preserves the IPx7 water ingress rating when properly mounted.

Two 5/8" (1.6 cm) studs at the base of the antenna are attached through seperate mounting holes to help prevent the antenna from rotating on the surface.

The BD-5800 has 50 OHM Nominal Impedance with a maximum power of 10 watts. In addition, the VSWR rating for this antenna is less than 2:1 over range.

The beamwidth for the BD-5800 comes in at 40° for Azimuth and 30° for Elevation. While no ground plane is required for this antenna, it does perform better on a metal groundplane. The electrical tilt beamwidth is 0° with no ground plane compared to 7° max uptilt with a groundplane.

Model #	Description
BD-5800-GRY	Bi-directional WiFi @ 5.8 GHz

Specifications			
Frequency:	5.725-5.85 GHz	Radome Material:	Light Grey UV Inhibative Plastic
Gain:	13 dBi		
VSWR:	<2:1 VSWR over Range	Operating Temperature:	-40° to +80° C
Impedance:	50 Ohm Nominal	Connectors/Interface:	Direct N Jack
Maximum Power:	10 Watts	Groundplane:	Not required, but reccomended
Beamwidth:		Electrical Tilt Beamwidth:	
Azimuth:	40° horizontal	No groundplane:	0°
Elevation:	30° vertical	With groundplane:	7° max. uptilt
		Water Ingress:	IPx7
Mounting dimensions	5/8" (1.5 cm) Dia. Feed through 5/8" long thread (1.5 cm) for up to .20 (0.5 cm) thick surface (Electrical Cabinet)	Hardware included:	Two 5/8" (1.6 cm) anti-rotational studs attached at the base of antenna

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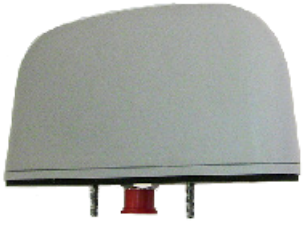
BD-2400 Bi-Directional Blade Style WiFi Antenna



Blade Style Antenna

- Slim profile; dependable link
- Mechanically sound, meets IPx7 water ingress standards
- N Jack Connection

The BD-2400 is a Bi-Directional infrastructure antenna for WiFi at 2.4 GHz. It can be mounted in any setting where a slim profile is desired. It offers outstanding electrical performance as well as a unique physical package.

Mobile Mark's BD-2400 blade-style antenna has a single element for 2.4 to 2.5 GHz WiFi in a slim, compact radome. It measures only 7 1/2" long by 1 1/2" deep and less than 4" tall (19 cm x 3.8 cm x 10 cm).

Using our new slim line package, the BD-2400 comes with a Direct N jack to connect the antenna to the WiFi modem. A cable assembly may be used to complete the connection.

This blade style antenna is ground-plane independent and designed to perform on either a fiberglass or metal box with up to a .20" (5 mm) thick surface.

The base bolt is attached through a mounting hole that accommodates the WiFi connection. A special gasket preserves the IPx7 water ingress rating when properly mounted.

Two 5/8" (1.6 cm) studs at the base of the antenna are attached through seperate mounting holes to help prevent the antenna from rotating on the surface.

The BD-2400 has 50 Nominal Impedance with a maximum power of 10 watts. In addition, the VSWR rating for this antenna is less than 1.5:1 over range.

The beamwidth for the BD-2400 comes in at 50° for Azimuth and 50° for Elevation. While no ground plane is required for this antenna, it does perform better on a metal groundplane.

The electrical tilt beamwidth is 0° with no ground plane compared to 15° max uptilt with a groundplane.

Model #	Frequency:	Gain:
BD-2400-GRY	2.4-2.5 GHz	8-10 dBi

Specifications			
Frequency:	2.4 to 2.5 GHz	Radome Material:	Light Grey UV Inhibative Plastic
Gain:	8 dBi without groundplane 10 dBi with groundplane	Operating Temperature:	-40° to +80° C
VSWR:	<1.5:1 VSWR over Range	Connectors/Interface:	Direct N Jack
Impedance:	50 Ohm Nominal	Groundplane:	Not required, but recco-mended
Maximum Power:	10 Watts	Electrical Tilt Beamwidth:	
Beamwidth:		No groundplane:	0°
Azimuth:	50° horizontal	With groundplane:	10-15° uptilt
Elevation:	50° vertical 25° with ground plane	Water Ingress:	IPx7
Mounting dimensions	5/8" (1.5 cm) Dia. Feed through 5/8" long thread (1.5 cm) lg. thread for up to .20" (0.5 cm) thick surface (Electrical Cabinet)	Hardware included:	Two 5/8" (1.6 cm) anti-rota - tional studs attached at the base of the antennas

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CLTM603 MIMO Ceiling Mount Dualband, WiFi Antenna

CLTM603 Antenna
6 cables

- 6X MIMO Ceiling Mount Antenna
- Ceiling bracket clamp mount
- WiFi elements can be used for WiFi MIMO or for separate WiFi modems

Mobile Mark's CLTM603 Series ceiling mount antenna contains six separate antennas, all in one compact antenna housing: six WiFi antennas. Designed for 802.11ac networks that use up to 6 separate inputs, this antenna provides MIMO (multiple-input-multiple-output) performance.

The antenna provides coverage on both 2.4-2.5 & 4.9-6.0 GHz. This allows the antenna to operate on the 5 GHz band for 802.11ac, but also be backwards compatible for 802.11n and 802.11 b/g modems. This antenna is ideally suited not only for 6x MIMO but also for two 3x MIMO modems.

Measuring 5.5" (140mm) in diameter with a low profile of 2.38" (60.4mm), CLTM series antennas take up significantly less space than multiple antennas and cut down on installation time and costs by offering a single mounting hole.

The CLTM603 has an attached 7/8" (22.2 mm) diameter base bolt with 3/4" (19 mm) lg thread for mounting up to 1/4" (6.4 mm) thick surfaces. The ASA radome is UV-stable, providing extra protection against harmful UV rays.

Model Configurator

CLTM603-□□□□□□□□-□□□-□

Cable/Conn 1
Cable/Conn 2
Cable/Conn 3
Cable/Conn 4
Cable/Conn 5
Cable/Conn 6
Color
Cable Length in Inches (eg. 12 or 180)

Example: CLTM603-3C3C3C3C3C3C-WHT-180

Cable Options:		Connector Options:		Color Options:	
Code	Cable	Code	Connector	Code	Color
3	RF-195	C	SMA	WHT	White
		J	RP SMA	BLK	Black

(Other Configurations available.)

Specifications

Frequency & Gain (peak):	
Cabels 1-6 (WiFi)	2.4-2.5 GHz/4.9-6.0 GHz
Gain:	4 dBi
VSWR*:	2:1 VSWR over Range
Impedance:	50 Ohm Nominal
Maximum Power:	20 Watts
Case size:	5.50" Dia. x 2.38" High (140mm x 60.4mm)
Radome Material:	ASA UV Inhibative Plastic
Operating Temperature:	-40° to +80° C
Connectors, standard:	SMA Plugs & RP SMA Plugs
Cable:	
Cable 1-6	Separate LL-195, 15 ft (4.5m)
Mounting:	Ceiling Mount Bracket attaches to drop ceiling grid
Shock & Vibration:	IEEE1478, EN61373, MIL-801G, TIA 329.2-C
Water Ingress:	IP67,

*Measured on 1' (30 com) ground with 1' (30 cm) cable

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PN17-2400

Optional Wall Mount Bracket

Adjustable Pole Mount Bracket

WiFi Panel Antenna 2.4-2.5 GHz

- Compatible with WiFi systems using 2.4-2.5 GHz WiFi
- High gain performance (17 dBi)
- Adjustable tilt pole mount, up to 24° downtilt

Mobile Mark's new broadband PN Series sectorized panel antennas use the latest PCB technology for high performance, lower cost and compact size. They are excellent choices for deploying point-to-point networks in the 2.4-2.5 GHz band. This model covers the entire range with a VSWR of 2:1.

Multiple antenas can be phased together to provide increased capacity and target a specific coverage area.

This model features a front-to-back ratio of better than 25 db. By maintaining this F-to-B ratio along with low side lobe levels, the possibility of off axis interference is greatly reduced.

The antenna is housed in a very attractive white ASA plastic radome. Compact in size, 9" H x 9" W (23 cm x 23 cm), this antenna will be unobtrusive in any indoor or outdoor environment.

The antennas can be pole mounted for easy network deployment. An adjustable tilt pole mounting bracket allows for simple alignment. The antennas can be adjusted up to 24° downtilt.

An optional wall mount adapter is also available, which provides up to 45° adjustment in both the vertical and horizontal planes. The standoff for the wall mount is 1 1/4" (3.2 cm).

The antenna terminates with a 1 foot pigtail of RF-195 cable and an N Jack (Female) connector.

Mobile Mark can provide cable assemblies (jumpers) in a variety of cable types and lengths.

Model #	Description
PN17-2400-WHT	17 dBi, Pole mount
PN-WMK	Optional Wall Mount

Supplied with 1-ft RF-195 pigtail cable
Jumper cables are also available, built to order.

Specifications			
Frequency:	2400-2500 MHz	Dimensions:	9" H x 9" W (23 cm x 23 cm)
Gain:	17 dBi	Weight:	2.2 lbs (1 kg)
VSWR Max:	2:1		
Impedance:	50 Ohm nominal	Mounting:	Adjustable pole mount, and Stainless steel U Bolts
Max Power:	20 watts		
Beamwidth:	24° El, 27° Az	Bracket:	
		Pole mount	24° vertical downtilt adjustment 3 ⅞" standoff (9.8 cm)
Front to Back Ratio:	25 dB or better		
Lightning Protection:	External recommended		
Max Wind Velocity:	125+ mph (193 kph)	Wall mount (optional)	Up to 45° adjustable range 1 ¼" standoff (3.2 cm)
Operating Temp:	-40° to +85° C		
Material:	White ASA radome	Cable:	1 ft. LL-195
		Connector:	N Jack (Female)

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ECO Series 5.9 GHz Models with N Jack (Female)

Recessed N Plug

Broadband, Omni-directional DSRC 5.9 GHz

- Gain configurations from 6 dBi to 12 dBi
- Economical, weatherproof and durable design for both indoors and outdoors
- Designed for DSRC systems at 5.9 GHz

Mobile Mark's ECO Omni antennas are designed for all new data & broadband systems, including DSRC (Dedicated Short Range Communications) systems at 5.9 GHz.

Using the latest PCB technology, these antennas improve high-speed broadband system performance in an economical package.

These antennas can be used for a variety of wireless applications that fall under the ITS (Intelligent Transportation Systems) umbrella including Smart Highways, Collision Avoidance and Tolling.

The antenna element is enclosed in a tough white or black fiberglass radome. The antenna terminates with an integrated N-female.

For direct male N mounting, series "RN" can be chosen.

These antennas can withstand the harshest outdoor environments, yet are quite attractive for indoor use.

Model #	Gain	Frequency
ECO6-5900-WHT	6 dBi Omni	5.9 - 6.0 GHz
ECO9-5900-WHT	9 dBi Omni	5.9 - 6.0 GHz
ECO12-5900-WHT	12 dBi Omni	5.9 - 6.0 GHz
add "RN"	Direct mount version with N Male	
ECO6-5900RN-WHT	Recessed N Plug (Male)	

*Note: "RN" does not include mounting hardware.

Color options available for above models
WHT-White or BLK-Black

Specifications

Frequency/Gain:	5.9-6.0 GHz
Gain	6-12 dBi (see table)
VSWR:	2:1 max over range
Impedance:	50 Ohm nominal
Max Power:	25 Watts
Beamwidth:	
ECO6	25° El, 360° Az
ECO9	12° El, 360° Az
ECO12	7° El, 360° Az
Operating Temp:	-40° to +85° C
Lightning Protection:	External recommended
Max Wind Velocity:	125+ mph (193 kph)
Material:	White or black fiberglass
Weight:	<0.75 lbs (< 0.340 kg)
Antenna Diameter:	0.63 in (1.6 cm) Radome, 0.9 in (2.3 cm) at the base

Mounting:	Pole or surface mount, mounts up to 2" (5 cm) Includes S.S. saddle
Antenna Length:	
ECO6-5900	10 in (25.4 cm)
ECO9-5900	14 in (35.6 cm)
ECO12-5900	18 in (45.7 cm)
RN Versions	⅝" (16 cm) longer than standard lengths
Connector:	N Jack (Female) standard
RN Option:	Recessed N Plug (Male)
Shock & Vibration:	EN 61373, EN 300 019-2-4, MIL 810G, IEC 60068, IEEE 1478
Water Ingress	IPx5

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DSRC Yagi Antennas
Intelligent Transportation Services

Directional Yagi with Standard wall mounting

Optional Swivel Pipe Mounting

- Slim attractive profile, 7.5" total length including mounting bracket
- High gain for efficient point to point
- Mounting bracket allows 45° vertical and horizontal adjustment

This high quality and reliable Yagi Antenna is designed specifically for DSRC at 5.9-6.0 GHz frequency range.

The YAG12 Series offers 12 dBi gain from 5.9-6.0 GHz. This makes the antenna very effective for applications such as mesh systems, point-to-point or point-to-multi-point.

These antennas can be used for a variety of V2I wireless applications that fall under the ITS (Intelligent Transportation Systems) umbrella including Smart Highways, Collision Avoidance and Tolling.

The antenna's compact profile and subdued white radome measures only 6.35" long x 2.75" high x .56" wide (16 cm x 7 cm x 1.4 cm). The slim profile makes this antenna aesthetically pleasing.

The radome is made from ASA, which resists discoloration by UV rays even if the product is exposed to many years of sunlight.

The mounting options for this antenna make it very versatile; from flat surface mounting to optional pipe mounting. Installation of this antenna is a breeze.

The unique adjustable mount has a 45° adjustable range both in the vertical range and the horizontal range. The antenna can handle up to 25 watts of power and provides coverage range of 55° horizontal beamwidth and 30° vertical beamwidth.

Cable assemblies are available including Low Loss -195, RG-58, LMR-240 and LMR-400. Choices of connectors include SMA, TNC, and N connectors.

Model #	Gain	Connector
YAG12-5900-3C-WHT-12	12 dBi	SMA Plug
YAG12-5900-3X-WHT-12	12 dBi	N Plug
YAG-PMK	Optional pipe mount	

For cable jumpers & other connectors, please contact your sales representative

Specifications			
Frequency:	5.9-6.0 GHz	Adjustment:	Both vertical and horizontal adjustment up to 45°
Gain:	12 dBi		
VSWR:	2:1 max over range		
Impedance:	50 Ohm nominal	Radome Size:	2.75" H x 6.35" L x 0.56" W (7 cm x 16cm x 1.4 cm)
Maximum Power:	25 Watts		
Beamwidth:	30° elevation, 55° azimuth		
Front-to-Back ratio:	Better than 15 dB	Size with mount:	2.75" x 7.5" x .56" (7cm x 19cm x 1.4cm)
Operating Temp:	-40°C to +85°C		
Lightning Protection:	External recommended		
Antenna Radome:	White ASA	Cable:	1 ft (30.5 cm) LL-195
Weight:	.5 lbs (0.23 kg)	Termination:	SMA Plug (male) or N Plug (male), others available
Mounting:			
Standard	45° adjustable Swivel Wall Mnt.	Shock & Vibration	EN 300 019-2-4, IEC 60068
Optional	45° adjustable Swivel Pipe Mnt.	Water Ingress:	IPx5

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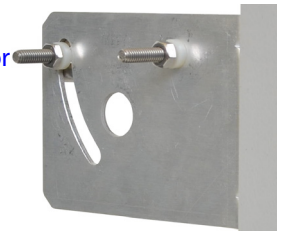
PS Series Sector Antenna



Adjustable Pole Mount Bracket

Optional Wall Mount Bracket

Directional DSRC Antennas, Sector Panels, 5.9 GHz Systems

- Weatherproof for outdoor use
- High gain performance (10 dBi - 14 dBi)
- Available in 45°, 60°, 90° or 120° sector

Developers of the new DSRC systems for Intelligent Transportation Systems at 5.9 GHz will appreciate the PS Series sector antennas. These antennas are excellent for deploying point to point backhaul, or for multipoint applications.

Models are available in several sector configurations with different gain factors. Model PS14-5900-45 provides 14 dBi gain with a 45 degree sector. This model is also an excellent choice for point to point, being only a fraction of the size of a parabolic.

Model PS12-5900-60 provides 12 dBi gain and a 60 degree sector. Model PS11-5900-90 provides 11 dBi gain, and a corresponding 90 degree sector.

Model PS10-5900-120 provides gain of 10 dBi, yet allows a generous 120 degree sector. Front to back ratio on all models is maintained at better than 25 dB. This allows true sectorization or alternatively, services can be isolated to different areas.

The PS Series antennas are compact. Conventional pole mounting can be used, for quick and uncomplicated network deployment. Surface/wall mounting is also accommodated with an optional assembly.

The adjustable tilt mounting bracket allows easy alignment. Pole mounted, the antenna can be adjusted 360 degrees around the pole, as well as 45 degree vertical downtilt.

The antenna housing is a very attractive light grey ASA plastic. Compact in size, only 12.5" H x 3"W x 1.25" D (32 cm x 7.6 cm x 3.2 cm), this antenna will be unobtrusive in any indoor or outdoor environment. These models are 100% weatherproof and can withstand the harshest conditions.

The antenna terminates with an integral Female N connector. Mobile Mark can provide jumper cables in a variety of cable/connector types.

External lightning protection is recommended (to protect the radio) for outdoor mounting.

Model #	Gain	Sector Size
PS10-5900-120-GRY	10 dBi	120 degree sector
PS11-5900-90-GRY	11 dBi	90 degree sector
PS12-5900-60-GRY	12 dBi	60 degree sector
PS14-5900-45-GRY	14 dBi	45 degree sector
PN-WMK	Optional Wall Mount	

Specifications

Frequency:	5.9 - 6.0 GHz
Gain:	See model table
VSWR Max:	2:1
Impedance:	50 Ohm nominal
Max Power:	25 Watts
Beamwidth:	
PS10-5900-120	120° Az, 11° El
PS11-5900-90	90° Az, 12° El
PS12-5900-60	60° Az, 12° El
PS14-5900-45	45° Az, 11° El
Front to Back Ratio:	25 dB or better
Operating Temp:	-40° to +85° C
Lightning Protection:	External recommended
Max Wind Velocity:	125+ mph (193 kph)

Material:	Light Grey Polystyrene
Dimensions (all models):	12.5" H x 3"W 1.25" D 32 cm x 7.6 cm x 3.2 cm
Weight:	1 lb (0.45 kg)
Pole Mounting (standard):	L-bracket with U-bolts, up to 2 1/2" (6.3 cm) O.D. pipe, horiz. adjustment up to 45° downtilt
Optional Wall Mounting:	Vertical (up to 30° downtilt) & horizontal (45° from center)
Connector:	Integral N (Female)

Custom cable assemblies are available upon request

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ITS/DSRC Directional Antenna 18 dBi gain; 5.9 GHz

PN18-5900

Adjustable Pole Mount Bracket

Adjustable Wall Mount Bracket

- Designed for Intelligent Transportation Services Networks using DSRC at 5.9 GHz
- Rugged site antenna, fiberglass radome and heavy aluminum base
- Hardware provided for heavy duty pipe mount

The PN18-5900 Series Antenna is designed to provide directional coverage as part of a specialized ITS/DSRC network at 5.9 GHz. This compact directional panel antenna measures only 5.8" x 5.8" (146mm x 146mm).

The antenna offers 18 dBi gain, with a elevation beamwidth of 20° and a azimuth beamwidth which is also 20°. The front-to-back ratio is 25 dB minimum and the antenna operates from 5.850-5.925 GHz at better than 2:1 VSWR. With these performance factors, the antenna can be used effectively for point-to-point coverage.

This high performance, durable antenna will provide dependable coverage. In additional to being electrically efficient, it is also mechanically sound.

The antenna can handle a maximum power of 10 Watts. It is rated for a temperature range of -30°C to +80°C and has a wind survivability of 100 mph minimum, even with ½" radial ice.

Two models are available, the PN19-5900WM-WHT which is wall mounted, and the PN18-5900PM-WHT which is pole mounted.

The wall-mounting base for the "WM" version allows for both left-to-right and up-or-down adjustment. The offset distance from the wall is 3.75" (95mm) which gives the antenna sufficient clearance for up to 45° vertical and/or horizontal adjustment.

The Pole Mounting hardware for the "PM" version of the antenna is provided. The heavy duty L-bracket is attached to the pole with "U" bolts that can accommodate an outside diameter (O.D.) pole or pipe of up to 2 inches (51mm).

The mounting base on the "WM" wall mounted version can be attached with standard wall anchors (customer supplied).

The antenna terminates with an N jack connector exiting from the back of the antenna. Separate cable assemblies are available from Mobile Mark to connect the antenna to the modem.

Model #	Gain	Mounting
PN18-5900WM-WHT	18 dBi	Wall mount
PN18-5900PM-WHT	18 dBi	Pole mount

Specifications

Frequency:	5850-5925 MHz	Dimensions:	5.8" x 5.8" (146mm x 146mm)
Gain:	18 dBi Max	Weight:	1 lbs (2.2 kg)
VSWR:	2:1 max over range	Wall mount option:	Swivel mounting, both vertical and horizontal
Impedance:	50 Ohms nominal	Pole mount: option:	L-bracket attached to pole up to 2" (51mm) outside diam. vertical adjustment up to 30°
Max Power:	10 Watts		
Beamwidth:	20° Elevation 20° Azimuth	Connector:	N Jack (female) exits from back of antenna
Front to Back Ratio:	25 dB Minimum	Shock & Vibration:	EN 61373, IEEE 1478, MIL-810G
Lightning Protection:	External Recommended	Water Ingress	IPx5
Operating Temp:	-30° to +80° C		
Material:	White ASA Plastic		

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Omni-directional for PTC Positive Train Control

OD3-220 Series

- Rugged site antenna, fiberglass radome and heavy aluminum base
- Antenna can handle up to 200 Watts
- Covers Positive Train Control frequencies, 217-220 MHz

The OD3-220-WHT Antenna is designed to provide omni-directional coverage as part of a Positive Train Control (PTC) network.

The antenna offers 3 dBi gain, a level of gain that provides broad vertical beamwidth and good coverage in a PTC network. The antenna can be used at network hubs or along the rail-line as part of a Wayside network.

The OD3-220-WHT antenna provides omni-directional 360° coverage in the horizontal plane and 80° coverage in the vertical plane.

The antenna can handle a maximum power of 200 Watts. It is rated for a temperature range of -40°C to +80°C and has a wind survivability of 100 mph minimum.

This high performance, durable antennas will provide dependable coverage. In additional to being electrically efficient, it is also mechanically sound. The antenna has a white fiberglass radome and a heavy aluminum base.

The OD3-220-WHT has been tested to Military and Industrial standards EN 300 019-2-4 and IEC 60068 for shock & vibration. In addition, the antenna is rated IPx5 for Water Ingress.

The antenna measures 41 inches (104cm) from the tip of the radome to the bottom of the antenna base. The diameter of the antenna is a slim 1" (25mm) which contributes to its favorable wind survivability rating.

The antenna terminates with an N jack (female) connector. Cable assemblies to connect the antenna to the radio are available separately from Mobile Mark.

Signal loss can occur along the length of the cable connection so it is recommended that the antenna be mounted as close as possible to the modem, or that the connecting installation be done with high quality, low loss cable.

The antenna itself is attached to the mounting brackets with medium "U" bolts and the large "U" bolts are used to attach the mounting plate to the mounting pole or pipe. The large "U" bolts can accommodate an outside diameter (O.D.) pole or pipe of up to 2 ½ inches (63mm). The mounting hardware to pole mount the antenna is provided.

Model #	Gain	Description
OD3-220-WHT	3 dBi	Omni-directional Rod antenna for PTC
Buy America Complaint		

Specifications			
Frequency:	217-220 MHz	Dimensions:	41 ¼" H x 1" D (105cm x 25mm)
Gain:	3 dBi	Weight:	2.5 lbs (5.5 kg)
VSWR Max:	2:1 max over range		
Impedance:	50 Ohm Nomminal	Mounting:	Up to 2 1/2" (6.3 cm) OD Pipe Wall mount (optional)
Max Power:	200 Watts		
Beamwidth:	80° vertical	Connector:	N Jack (female)
Operating Temp:	-40° to +80° C		
Lightning Protection:	External Recommended	Shock & Vibration:	EN 300 019-2-4, IEC 60068
Max Wind Velocity:	100 mph minimum	Water Ingress:	IPx5
Material:	White Fiberglass		

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Inside Window Mount DSRC Only & DSRC/GPS

IW-5900/1575

IW-5900 DSRC

- Both antenna styles uses 3M VHB double sided tape
- Compact and low profile designs
- Choice of DSRC-only or combined DSRC&GPS

These inside window mount DSRC only or combined DSRC/GPS antennas were specifically designed for ITS (Intelligent Transportation Systems), and used for Vehicle -to-Vehicle (V2V) in ITS Trials. These antennas operate on the DSRC frequency, covering 5.85-5.93 GHz.

The IW-5900/1575 is a window mounted vehicle antenna that is designed for DSRC at 5.85-5.93 GHz and GPS at 1575 MHz. The antenna uses LMR-100 cables on DSRC and RG-174 on GPS. It is housed in a single ASA plastic radome. Cable assemblies of any length are available to complete the installation.

The IW-5900/1575 measures 3.56" x 3.41x .47" D (90 mm x 87mm x 12mm).

The IW-5900 DSRC antenna is designed for mounting on the inside of a vehicle windshield. The unique radome design provides internal element tilt to compensate for the tilt angle of the windshield. The cable exits near the top side allowing direct entry into the vehicle headliner.

The IW-5900 measures 1 5/8" H x 1 5/8" W x 7/8" D (41mm x 41 mm x 22 mm).

The antennas are mounted with double sided 3M VHB tape. The IW-5900 and the IW-5900/1575 Glass Mount radomes are made with black ASA Plastic.

Model #	Frequencies
IW-5900/1575-7C2C-BLK-12	5.85-5.93 GHz (DSRC) & 1575 MHz (GPS)
IW-5900-7C-BLK-12	5.85-5.93 GHz (DSRC)
Optional Combination Glonass/GPS Available	
Standard connector is a SMA Plug (Male)	

Specifications

Frequency:	
DSRC	5.85-5.93 GHz
GPS	1575 MHz
GLONASS (Optional)	1612 MHz
VSWR:	2:1 max over range
Maximum Power:	10 Watts
GPS Gain:	1575 +/- 2MHz, LNA 26 dB, 5 dBi nominal RHCP
Amplifier Bias:	3.3 to 5 VDC
Current:	20 mA max, 10 mA typical
IW-5900/1575	
Case:	Black ASA Plastic
Size	.47" H x 3.56" W x 2.41" D (12mm x 91mm x 61mm)
Mounting:	Double sided 3M VHB tape
Cable:	LMR-100, 1 ft long (DSRC) (30 cm) RG-174, 1 ft long (GPS) (30cm)
Connector:	SMA Plug Standard Other connectors available
IW-5900	
Case:	Black ASA
Size:	1.63" dia. x .1.61" H (4.2 mm x 4.1 mm)
Mounting:	Double sided 3M VHB tape
Cable:	LMR-100, 1ft long, (30.5cm)
Connector:	SMA Plug (Male)
Shock & Vibration:	EN 61373, IEEE 1478, Mil-801-G, TIA-329.2-C
Water Ingress:	IPx5

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MobileMark
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High Gain, DSRC with GPS Surface or Magnet Mount

Surface Mount

Magnet Mount

- Ideal for ITS/Smart Highway Trials
- Available in either Surface-mount or Mag-mount
- High Gain Performance on DSRC, 6 dBi

Mobile Mark's high gain DSRC antennas are specifically designed for ITS (Intelligent Transportation Systems), and used for Smart Highway trials and Vehicle-to-Vehicle (V2V) in ITS trials.

These antennas operate on the DSRC (Dedicated Short Range Communications) band, with the frequency covering 5850-5930 MHz.

The SM6-5900/1575 antenna can be mounted to a vehicle's metal surface or any bulkhead through a 3/4" hole (19mm). The MAG6-5900/1575 is mounted with a magnet mount. These antennas are provided with two cables, low loss-195 for DSRC and RG-174 for GPS.

The SM6-5900/1575 antenna measures 5.3" (135mm) from the tip of the Radome Cap to the bottom of the antenna base, while the MAG6-5900/1575 measures 5.5" (140mm). Standard connectors are SMA Plug (Male) on both cables.

The antenna radomes are available in black, and the case material is made out of polycarbonate.

The antennas can handle a maximum power of 10 Watts. The elevation beamwidth is 30 degrees, and the azimuth beamwidth is 360 degrees.

Model #	Mounting
SM6-5900/1575-3C2C-BLK-180	Surface Mount
MAG6-5900/1575-3C2C-BLK-120	Magnet Mount
Optional combination GPS/Glonass available	
Available in Black Only	

Specifications			
Frequency:		MAG6 Cable Length:	10 Feet (4m)
DSRC:	5850-5930 MHz		
GPS:	1575 MHz	Case Material:	Polycarbonate
GLONASS (Optional):	1612 MHz		
DSRC Gain:	6 dBi	SM6 Dimensions:	5.3" (135 mm) tall, base is 2 5/8" D (67 mm)
VSWR:	2:1 max over range		
Nominal Impedance:	50 ohms	SM6 Mounting (Stud):	3/4" dia x 1/2" long thread (19 mm x 12 mm) for 3/16" thick (4.8 mm)
Maximum Power:	10 Watts		
GPS Gain:	1575 +/- 2 MHz, LNA 26 dB 5 dBi nominal RHCP	MAG6 Dimensions:	5.5 (140mm) tall, base is 2 5/8" D (67mm)
Amplifier Bias:	3.3 to 5 VDC		
Current:	20 mA max, 10 mA typical	MAG6 Mounting:	Metal Surface
Elevation Beamwidth:	30 degrees (peak at horizon)	Connector:	SMA/SMA Plug (Male) standard
Azimuth Beamwidth:	360 degrees		
Cable:		Shock & Vibration:	EN 61373, TIA-329.2-C
GPS	RG-174		
DSRC	low loss-195	Water Ingress:	IPx5
SM6 Cable Length:	15 Feet (4.5m)		

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DSRC, Spring Mount Mobile Antennas 5.9 GHz

ECOM
Magnet Mount

ECOS
Spring Mount

- Magnetic Mount and Spring Mount
- Ground plane independent designs can be used on any surface
- Elevated Feed spring mount versions provide additional clearance for light bars

Mobile Mark's ECO Mobile series are high frequency antennas designed for new technology applications in the 5850-5925 MHz bands for DSRC.

These antennas are free space designs and ground plane independent. High gain coupled with low loss cable compensates for the losses that occur at higher bands.

All antennas use Low Loss-195 cable to improve efficiency. The vertical radomes are black fiberglass with an ASA base assembly. All antennas are weatherproof.

The magnetic mount models have a 2.6" (66 mm) base, and use a strong commercial magnet. They provide a scratch resistant covering on the bottom. The cable exits out of the side of the base.

The ECOS have the radiating element located higher in a longer radome, providing higher clearance for lightbars on police vehicles.

These antennas can be used for ITS/Smart Highway trials. Spring mounted antennas have been popular for truck installations and have been used for truck platooning trials.

The spring on the ECOS model is strong and flexible enough to handle impact with obstacles such as tree branches overhead in a vehicle mounted application.

Cable assemblies from Mobile Mark for the ECOS are sold separately, however they can be added to the order at the time of purchase.

Model #	Gain	Height
Magnetic Mount Models		
ECOM6-5900-BLK	6 dBi	10"/25cm
ECOM9-5900-BLK	9 dBi	13.75"/34.9cm
Spring Mount Models		
ECOS6-5900DN-BLK	6 dBi	12.5"/32cm
ECOS9-5900DN-BLK	9 dBi	16.25"/41.3cm

Models above are available in Black Only

Specifications

Frequency:	5850-5925 MHz
Gain:	
ECOM6 & ECOS6	6 dBi
ECOM9 & ECOS9	9 dBi
VSWR:	2:1 over band
Impedance:	50 Ohm nominal
Maximum Power:	10 Watts
Operating Temp:	-40° to +80° C
Radome:	Black Fiberglass
Wind Survivability:	
ECOM	100 mph (161 kph) with 1/2" radial ice
ECOS	125 mph (201 kph) with 1/2" radial ice

Base/Mount:	ASA plastic & steel
MAG Base Size:	2.6" D (66 mm)
Cable Length/type:	
Mag Mounts	10 ft of LL-195 (3 meters)
Connector:	
ECOM	SMA Plug (Male), standard
ECOS	Direct N
Mount:	
ECOM	Magnet mount
ECOS	To surfaces up to 1/4" thick
Water Ingress:	IPx5

Made in the USA

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OD5-5900MOD2

OD5 shown with
PTA option &

Omni-Directional Antenna DSRC, 5850-5925 MHz, High-vibration resistant

- 5 dBi antenna provides uniform omni coverage
- Foam Filled
- Coax pigtail option factory configured for cable length and connectors

The OD Series Antennas are optimized for use in a wide variety of DSRC wireless systems using the 5850-5925 MHz band.

These antennas can be used for Vehicle to Infrastructure in Intelligent Transportation System trials. Their omni-directional coverage makes installation simpler because they are easier to align with other antennas in the wireless network.

The OD5-5900MOD2 radome is foam filled to improve antenna performance in high vibration environments such as in mining applications.

The OD Series are free space antennas; no ground plane is required. This design maintains an omni pattern in the horizontal plane.

An option for the OD series is a coax pigtail termination. The antennas can be directly outfitted with coax cable so no additional jumpers are required. A variety of connectors can be used for the final termination.

The fiberglass radome (1" diameter/25 mm) makes the antennas durable and rugged. They can withstand the harshest environments of snow, wind, rain and ice.
The OD Series Antennas at 5850-5925 MHz are only available with a black radome and are foam filled.

The feed assembly is made of precision machined aluminum components and is irridited for weather protection.

The OD Series Antennas are supplied with all the hardware needed to install them to a mast. The OD antennas normally terminate with a female N connector.

Custom cable assemblies are available to connect the antenna to the radio or modem.

Model #	Interface
OD5-5900MOD2-BLK	N Jack (Female)
OD5-5900MOD2-BLK-PTA	Pigtail termination with choice of connector
Mounting hardware provided	
Note: Available in Black only	

Specifications

Frequency:	5850-5925 MHz
Gain:	5 dBi
Nominal Impedance:	50 ohms
Max. Power (continuous):	10 Watts
Vertical Beamwidth (elevation):	30 degrees
Wind Survivability:	100 mph (161 kph) minimum with 1/2" (12.7 mm) radial ice
Antenna Diameter:	1" (25mm), main mast
Length/Weight:	12.9 inches (32.7 cm), 2.5 lbs (1.13kg)
Termination options:	
Direct Connection:	N Jack (Female)
Coax Pigtail:	RG8 cable, typically 1 ft (90 cm), other lengths available
Mounting Kit:	Mast mount kit included
Mounting Dimensions:	Mounts to mast up to 2.5" (6.3 cm)
Operating Temp:	-40° to +80° C
Material:	Fiberglass radome with aluminum body
Shock & Vibration:	EN 300 019-2-4, IEC 60068
Water Ingress:	IPx5

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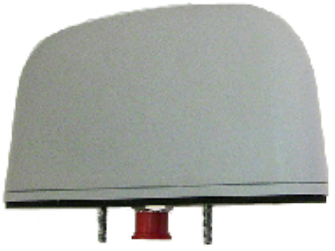
BD-5900 Blade Style DSRC Antenna



Blade Style Antenna

- Slim profile; dependable link
- Mechanically sound, meets IPx7 water ingress standards
- Bi-directional Blade Style

The BD-5900 antenna is designed for Utility Cabinets and NEMA Boxes, it can be mounted in any setting where a slim profile is desired. It offers outstanding electrical performance as well as a unique mechanical package.

Mobile Mark's BD-5900 blade-style antenna has a single element for 5.850 to 5.925 GHz DSRC in a slim, compact radome. It measures only 7 1/2" long by 1 1/2" deep and less than 4" tall (19 cm x 3.8 cm x 10 cm).

This blade style antenna is ground-plane independent and designed to perform on either a fiberglass or metal box with up to a .20" (5 mm) thick surface.

Using our new slim line package, the BD-5900 is a Bi-Directional antenna designed for DSRC 5.9 GHz surface mounted applications. This particular model comes with Direct N connection.

The base bolt is attached through a mounting hole that accommodates the DSRC connection. A special gasket preserves the IPx7 water ingress rating when properly mounted.

Two 5/8" (1.6 cm) studs at the base of the antenna are attached through seperate mounting holes to help prevent the antenna from rotating on the surface.

The BD-5900 has 50 OHM Nominal Impedance with a maximum power of 10 watts. In addition, the VSWR rating for this antenna is less than 2:1 over range.

The beamwidth for the BD-5900 comes in at 40° for Azimuth and 30° for Elevation. While no ground plane is required for this antenna, it does perform better on a metal groundplane. The electrical tilt beamwidth is 0° with no ground plane compared to 7° max uptilt with a groundplane.

Model #	Description
BD-5900-GRY	Bi-directional DSRC @ 5.9 GHz

Specifications			
Frequency:	5.850-5.925 GHz	Radome Material:	Light Grey UV Inhibative Plastic
Gain:	13 dBi		
VSWR:	<2:1 VSWR over Range	Operating Temperature:	-40° to +80° C
Impedance:	50 Ohm Nominal	Connectors/Interface:	Direct N Jack
Maximum Power:	10 Watts	Groundplane:	Not required, but recommended
Beamwidth:		Electrical Tilt Beamwidth:	
Azimuth:	40° horizontal	No groundplane:	0°
Elevation:	30° vertical	With groundplane:	7° max uptilt
Mounting dimensions	5/8" (1.5 cm) Dia. Feed through 5/8" long thread through (1.5 cm) lg. thread for up to .20" (0.5cm) thick surface (Electrical canine)	Water Ingress:	IPx7
		Hardware included:	Two 5/8" (1.6 cm) anti-rotational studs attached at the base of antenna

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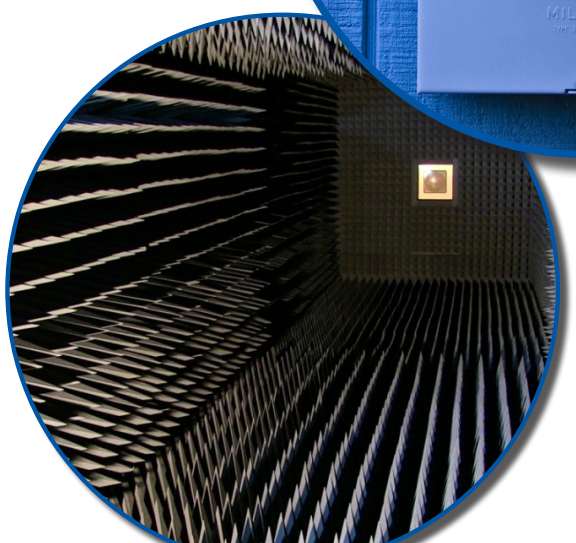

Mobile Mark specializes in unique and attractive antenna designs. We work with our customers to understand developments in the wireless market and offer innovative solutions that keep our customers ahead of the wireless curve. If your wireless requirements have grown, rest assured that we have grown with you.

From the usual to the unusual, our customers turn to us first to provide wireless solutions. Our customers comment of the depth and diversity of the Mobile Mark product line. There are antennas for a wide range of wireless applications, from WiFi to GPS to RFID to Cellular M2M

Our quality program is based on explicit procedures, open communication and continuous improvement. Strong quality controls and pride in workmanship ensure quality products. As the critical link in the wireless network, we are all too aware that dependability is top concern.

Many of our products feature innovative, patented designs, available only from Mobile Mark. Mobile Mark engineers use the latest computer aided design techniques and the designs in our in-house lab, ensuring accurate in-field performance. In-house prototype fabrication allows for custom samples and timely solutions and our antenna designs are run through rigorous product testing.

We pride ourselves in our outstanding customer service. Mobile Mark's global headquarters, including design and production capacity, is located near Chicago, IL. Our European group and factory is located near Birmingham, England.

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- Global Headquarters
- Engineering design center
- Environmental testing facilities
- Expanded manufacturing space

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