Application Guide

ANTENNA & CABLE APPLICATION GUIDE FOR 2100/2101/2102 AND WA21/WA22 ACCESS POINTS

TABLE OF CONTENTS

Introduction **1**
Regulatory Concerns **1**
Basic Antenna Concepts **1-2**
Radiation Patterns of Various Antennas **3**
Typical Installations **4-7**
2100 2.4 GHz / 900 MHz Direct Connection Antenna Circuits 4
2101 / 2102 2.4 GHz Direct Connection Antenna Connection 4
2100 2.4 GHz / 900 MHz Antenna Circuits with Splitter 5
2101 / 2102 2.4 GHz Antenna Circuits with Splitter 5
2100 2.4 GHz / 900 MHz Antenna Circuits with Splitter 6
and Lightning Suppressors
2101 / 2102 2.4 GHz Antenna Circuits with Splitter and 6
Lightning Suppressors
UHF Antenna Circuit 7
Plenum Cable Cross Reference **8**
Cable Assemblies **8-12**
067265 - TNC Plug / N Receptacle, 12 inch 8
067266 - TNC Plug / N Plug, 24 inch 9
071178 - TNC Plug / N Plug, 12 feet 9
064616 - N Plug / N Plug, 30 inch 10
063245 - N Plug / N Plug, 60 inch 10
063246 - N Plug / N Plug, 20 feet 10
071179 - N Plug / N Plug, 30 feet 10
069886 - MMCX / N Receptacle 10
069887 - Radiall (Lucent) / N Receptacle 11
070402 - MMCX / N Plug 11
070403 - Radiall (Lucent) / N Plug 12
Antennas **12-23**
2.4 GHz **12-20**
063363 - Antenna, 2.4 GHz, Omni 12
063365 - Antenna, 2.4 GHz, Yagi 13
063366 - Antenna, 2.4 GHz, Flat Panel 13
065349 - Antenna, 2.4 GHz, 9DBI, Omni 14
066147 - Antenna, TNC, 2.4 GHz, Dipole 14
067261 - Antenna, 2.4 GHz, 3DBI, Mini Omni (N Recept Conn) 15
070140 - Antenna, 2.4 GHz, 3DBI, Mini Omni (MMCX Conn) 16
070141 - Antenna, 2.4 GHz, 3DBI, Mini Omni, (Radiall Conn) 16
067262 - Antenna, 2.4 GHz, 5DBI, Dual Flat Panel 17
067263 - Antenna, 2.4 GHz, 9DBI, Flat Panel 18
067263 - Rear View 18
069753 - Antenna, 2.4 GHz, Omni, 2101 (MMCX Conn) 19
069903 - Antenna, 2.4 GHz, Omni, 2101 (Radiall Conn) 19
071121 - Antenna, 2.4 GHz, Diversity, 3DBI 19
071122 - Antenna, 2.4 GHz, Corner Reflect 20
071488 - Diversity Antenna, 2.4 GHz (MMCX Conn) 20
071489 - Diversity Antenna, 2.4 GHz (Radiall Conn) 20
N Receptacle used on various antennas 15
5.25-5.35GHz (Mid-Band **21-23**
072730 - Antenna, 5.25-5.35 GHz, Omni, Swivel TNC, 4 DBI 21
072759 - Antenna, 5.25-5.35 GHz, Omni, 6 DBI 21
072760 - Antenna, 5.25-5.35 GHz, Omni, 9 DBI 22
072761 - Antenna, 5.25-5.35 GHz, Omni, 3 DBI, Ceiling Mount 22
072762 - Antenna, 5.25-5.35 GHz, Corner Reflect 23
Accessories **23-24**
069888 - Kit, Bracket, Mounting, Antenna 23
069893 - Kit, Power Supply Holder 24
061868 - Lightning Suppressor 24

INTRODUCTION

The purpose of this document is to provide Intermec Technologies Corp. personnel a tool which will enable them to better understand how the various Intermec antennas, cable assemblies, and accessories blend together. This guide is biased towards 2.4 GHz offerings. Future updates will include 900 MHz and UHF.

REGULATORY CONCERNS

Note

The information below will help you to understand some of the regulatory issues surrounding the use of antenna, antenna circuits, and radios. However, it is critical to remember that all antennas must be approved and certified before they can be used with radio (RF) equipment purchased from Intermec.

FCC

FCC requirements limit the total output power of a wireless LAN system operating in the 900 MHz and 2.4 GHz frequency ranges to 4 Watts. This limit is expressed in EIRP, which stand for "Effective Isotropically Radiated Power." This is the total power created by the transmitter and gain generated by the antenna, minus any loss due to cabling and connections. Given this 4W (4000 mW) maximum, the EIRP must not exceed 36dBi. The FCC has not stated EIRP maximums of UHF systems.

ETSI

ETSI requirements limit the total output power of a 2.4 GHz wireless LAN system to 0.1 Watt (100 mW). Given this 100 mW maximum, the EIRP must not exceed 20dBm. 900 MHz systems are not allowed and UHF system maximum EIRPs vary from country to country. Most European countries such as France and Italy operate under a lower power directive, which limits them to a maximum output limit of 10 mW.

Non-ETSI & Non-FCC Countries

Electromagnetic-transmission regulations are mandated by each country's own governing body. Many countries follow the directives issued by ETSI or the FCC but others create their own regulations.

Before adding radios or antennas to a RF system, please consult a certified Intermec Systems Consultant operating in the country where the system will be used.

BASIC ANTENNA CONCEPTS

Antennas and Power

Antennas do not increase nor decrease the power applied to them. They can only transmit or receive the amount of power that is applied to them. It is possible to have some power loss before or after the signal leaves the antenna. An example of this is "line boss", which is a decrease in power due to imperfect connections and imperfect conductivity to cabling materials. It is, however, possible to increase the power output in a certain direction. But the total power emitted will always be the same as the amount applied to the antenna minus the amount lost due to line loss, ohmic loss, reflection loss etc.

dBi – (decibels relative to an isotropic {spherical} radiation pattern): An isotropic antenna is a theoretical antenna that radiates in the shape of a perfect sphere.
dBm – (decibels relative to one milliwatt): dBm is a commonly used unit of measurement in the RF industry that expresses radio frequency power relative to a 1 mW point of reference.
dBd – (decibels relative to a ½ wave dipole antenna): dBd is gain with respect to a ½ wave dipole antenna. Some commercial antenna companies use dBd to rate their antennas.
EIRP – (Effective isotropically radiated power): The mathematical product of (1) the power supplied to the antenna and (2) its gain.

Gain

Gain is given in dB (decibels). If an "I" is added as in 3dBi, this rating is relative to an "isotropic" antenna. An isotropic antenna is a theoretical antenna that radiates in the shape of a perfect sphere. If a "d" is added as in 3dBd, this rating is relative to a "dipole" antenna. A dipole antenna with a rating of 2.14dB is equivalent to a 0dBd antenna.

Line-of-sight

This refers to the fact that some electromagnetic wave frequencies require a clear line of sight between transmitter and receiver. This is largely because higher frequency electromagnetic waves, such as those in the 2.4 GHz range, do not bend around or penetrate objects as well as some lower frequency signals.

Multipath, Reflection, or Physical Interference

Because of the electromagnetic properties of waves used to transmit data, large metal objects in the immediate transmission path of the antenna will likely cause distortion of the signal and should therefore be avoided.

Omni-directional

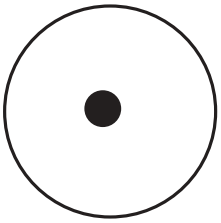
An omni-directional antenna radiates evenly horizontally around the antenna in a plane parallel to the earth. These antennas do not always radiate evenly vertically around the antenna in a plane perpendicular to the earth. By giving up vertical coverage, above and or below the antenna and refocusing that signal around the antenna, it is possible to achieve gain with an omnidirectional antenna.

Omni-gain

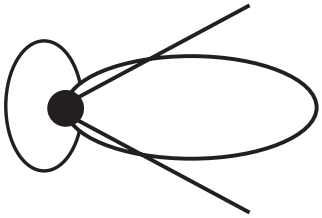
Wavelength and operating frequency determine the size of the antenna. By using a longer antenna, you do not achieve greater overall coverage, but you can achieve greater distance in a focused direction. For example, omnidirectional antennas with gain achieve some measure of gain in the horizontal plane.

RADIATION PATTERNS OF VARIOUS ANTENNAS

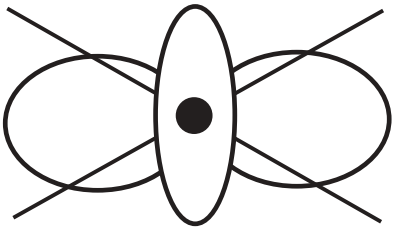
Omnidirectional:
Circular pattern in open spaces
Range is slightly effected by antenna gain but the radiation pattern will reamin relatively circular.



Flat Panel:
Modest directional coverage with a slight backlobe
The main lobe of the radiation pattern can be from almost circular to fairly oblong in shape. Good for slightly directional coverage such as down corridors or away from walls.



Dual Flat Panel:
Bi-directional coverage
Good transmission down two opposing directions of a corridor.



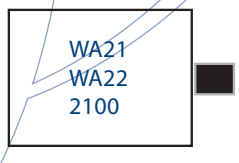
Directional YAGI (High Gain):
Highly focused signal
Good for wireless bridging or very specialized coverage. Not available for _watt (500 mW), 2.4 GHz uses.

There must always be a tradeoff between gain and coverage area. As can be seen in the radiation patterns presented, the higher the gain (directional distance) as with the Yagi antenna, the narrower the coverage. And conversely, the lower the gain, the more universal the coverage about the antenna's axis.

Antenna patterns are 3 dimensional. The radiation patterns (above) are views of the azimuth plain, which is a top down view.

TYPICAL INSTALLATIONS

WA21/WA22/2100 900 MHz / 2.4 GHZ / 5.3 GHz (Mid-Band) Direct Connection Antenna Circuit



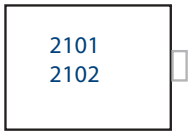
WA21 and WA22
Support
2.4 GHz and 5.3 GHz
(Mid-Band)
2100 supports 900 MHz
and 2.4 GHz

Any Intermec 900 MHz, 2.4 GHz, or 5.3 GHz (Mid-Band)
Antenna with N Receptacle Connector

067266 - Cable - 2' (61cm)
071178 - Cable - 12' (366cm)

* See Table on page 8 for plenum cable cross reference.

2101 / 2102 2.4 GHz Direct Connection Antenna Circuit

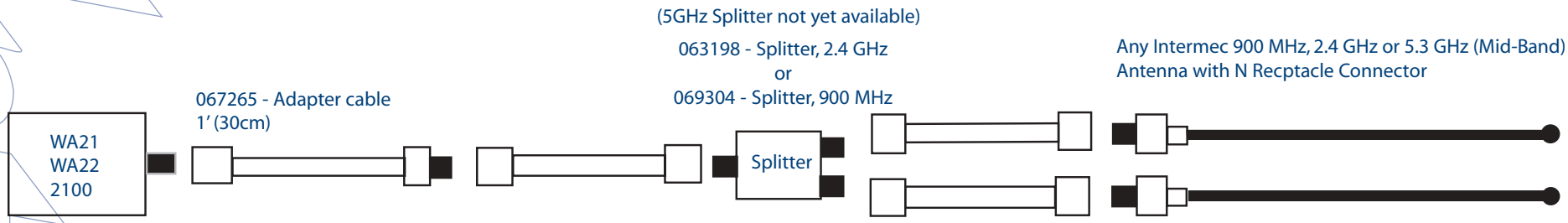


070402 - Cable - MMCX
070403 - Cable - Radiall
069888 - Kit, Bracket, Mtg

Any Intermec 2.4 GHz Antenna
with N Receptacle Connector

070140 - Antenna, 3dBi Mini Omni, MMCX
070141 - Antenna, 3dBi Mini, Omni, Radiall (Lucent)
071488 - Diversity Antenna, MMCX
071489 - Diversity Antenna, Radiall (Lucent)

WA21/WA22/2100
900 MHz / 2.4 GHZ / 5.3 GHz (Mid-Band)
Antenna Circuit with Splitter



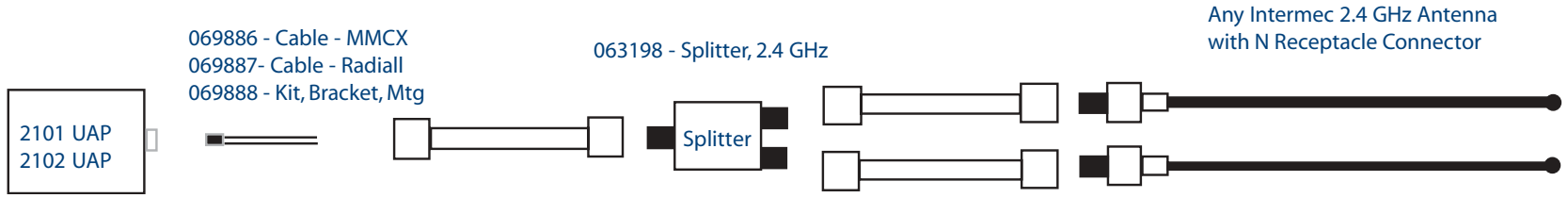
WA21 and WA22 support
2.4 GHz and 5.3 GHz (Mid-Band).
2100 supports 900 MHz and 2.4 GHz

064616 - Cable - 2.5' (76cm)
063245 - Cable - 5' (152cm)
063246 - Cable - 20' (610cm)
071179 - Cable - 30' (914cm)

064616 - Cable - 2.5' (76cm)
063245 - Cable - 5' (152cm)
063246 - Cable - 20' (610cm)
071179 - Cable - 30' (914cm)

* See Table on page 8 for plenum cable cross reference.

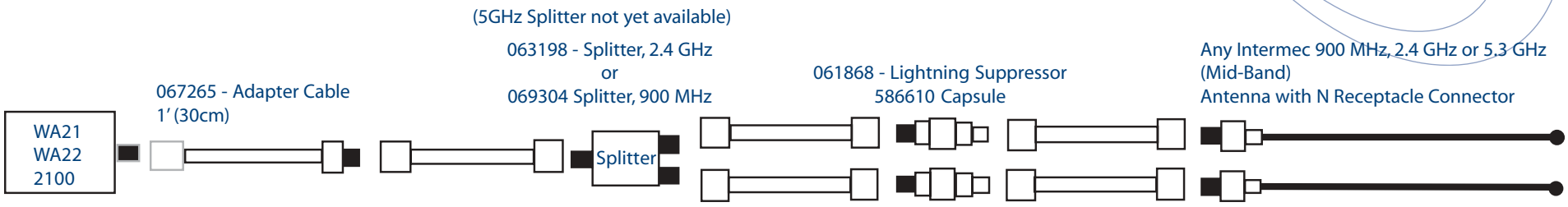
2101 / 2102 2.4 GHz Antenna
Circuit with Splitter



064616 - Cable - 2.5' (76cm)
063245 - Cable - 5' (152cm)
063246 - Cable - 20' (610cm)
071179 - Cable - 30' (914cm)

064616 - Cable - 2.5' (76cm)
063245 - Cable - 5' (152cm)
063246 - Cable - 20' (610cm)
071179 - Cable - 30' (914cm)

WA21/WA22/2100
900 MHz / 2.4 GHZ / 5.3 GHz (Mid-Band)
Antenna Circuit with Splitter and Lightning Arrestor



WA21 and WA22 Support
2.4 GHz and 5.3 GHz (Mid-Band)
2100 supports 900 MHz and 2.4 GHz

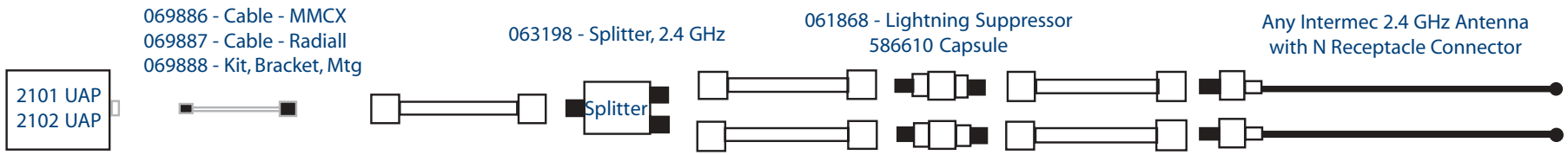
064616 - Cable - 2.5' (76cm)
063245 - Cable - 5' (152cm)
063246 - Cable - 20' (610cm)
071179 - Cable - 30' (914cm)

064616 - Cable - 2.5' (76cm)
063245 - Cable - 5' (152cm)
063246 - Cable - 20' (610cm)
071179 - Cable - 30' (914cm)

064616 - Cable - 2.5' (76cm)
063245 - Cable - 5' (152cm)
063246 - Cable - 20' (610cm)
071179 - Cable - 30' (914cm)

*See Table on page 8 for plenum cable cross reference.

2101 / 2102 2.4 GHz Antenna Circuit with Splitter and Lightning Supressor



064616 - Cable - 2.5' (76cm)
063245 - Cable - 5' (152cm)
063246 - Cable - 20' (610cm)
071179 - Cable - 30' (914cm)

064616 - Cable - 2.5' (76cm)
063245 - Cable - 5' (152cm)
063246 - Cable - 20' (610cm)
071179 - Cable - 30' (914cm)

064616 - Cable - 2.5' (76cm)
063245 - Cable - 5' (152cm)
063246 - Cable - 20' (610cm)
071179 - Cable - 30' (914cm)

UHF Antenna Circuits
2100 UAP

UHF Antenna 805-511-001

Antenna Kits

203-449-001 = 805-511-001 with attached 36' (11 m) cable
203-449-002 = 805-511-001 with attached 36' (11 m) cable
203-449-003 = 805-511-001 with attached 18' (5.5 m) cable

-or-

805-430-001, UHF 7dBi magnetic mount antenna with attached 12' cable

216-565-001 36' Cable Extension
216-565-003 18' Cable Extension
216-565-004 50' Cable Extension
216-565-005 75' Cable Extension
216-565-006 100' Cable Extension

805-431-000, UHF 1/4 wave ground plane antenna
(Requires one of the cables to the left to connect to AP)

PLENUM CABLE CROSS REFERENCE

Description	Standard Cable Assembly Part Number	Plenum Cable Assembly Part	Cable Assembly Length Number
TNC Plug/N Receptacle	067265	072821	12 Inches
TNC Plug/ N Plug	067266	072822	24 Inches
TNC Plug/ N Plug	071178	072823*	12 Feet
N Plug/ N Plug	064616	072824	30 Inches
N Plug/ N Plug	063245	072825	5 Feet
N Plug/ N Plug	063246	072826	20 Feet
N Plug/ N Plug	071179	072827	30 Feet

* Recommended cable assembly for plenum applications

CABLE ASSEMBLIES

067265Cable Assy, TNC Plug / N Receptacle12 Inch

Used to connect 2100/WA21/WA22 to
N Plug Cable Assys:
064616, 063245, 063246, 071179, 072824,
072825, 072826, and 072827

Cable loss standard (067265):.2 DB at 2.4 GHz
.3 DB at 5.35 GHz
Cable loss plenum (072821): .2 DB at 2.4 GHz
.3 DB at 5.35 GHz

Cable Assy, TNC Plug / N Plug
067266 – 24 Inch Standard
071178 – 12 Feet Standard
072822 – 24 Inch Plenum
072823 – 12 Feet Plenum

TNC Plug Shown

Connect 2100/WA21/WA22 to Antennas 063363, 063365, 063366. 065349,067261, 067262, 067263, 071121, 071122, 072759, 072760, 072761, and 72762

Cable loss standard :	
(07266 - 24 inch)	.1 DB at 2.4 GHz
	.2 DB at 5.35 GHz
(071178 - 12 feet)	.8 DB at 2.4 GHz
	1.2 DB at 5.35 GHz
Cable loss penum:	
(072822 - 24 inch)	.1 DB at 2.4 GHz
	.2 DB at 5.35 GHz
(072823-12 feet)	.8 DB at 2.4 GHz
	1.2 DB at 5.35 GHz

Cable Assy, TNC Plug / N Plug
067266 – 24 Inch Standard
071178 – 12 Feet Standard
072822 – 24 Inch Plenum
072823 – 12 Feet Plenum

N Plug Shown

Connect 2100 to Antennas 063363, 063365, 063366. 065349, 067261, 067262, 067263, 071121, 071122, 072759, 072760, 072761 and 72762

Cable Assy, N Plug / N Plug
064616 – 30 Inch Standard
063245 – 5 Feet Standard
063246 – 20 Feet Standard
071179 – 30 Feet Standard
072824–30 Inch Plenum
072825–5 Feet Plenum
072826–20 Feet Plenum
072827–30 Feet Plenum

Connect to cable assy 067265 and 072821. Connect to Antennas 063363, 063365, 063366, 065349, 067261, 067262, 067263,071121, 071122, 072759, 72760, 072761 and 072762.

Cable loss standard:
(064616-30 inch) .2 DB at 2.4 GHz
.3 DB at 5.35 GHz
(063245-5 feet) .3 DB at 2,4 GHz
.5 DB at 5.35 GHz
(063246-20 feet) 1.3 DB at 2.4 GHz
2.1 DB at 5.35 GHz
(071179-30 feet) 1.3 DB at 2.4 GHz
2.1 DB at 5.35 GHz

Cable loss plenum:
(072824-30 inch) .2 DB at 2.4 GHz
.3 DB at 5.35 GHz
(072825-5 feet) .3 DB at 2,4 GHz
.5 DB at 5.35 GHz
(072826-20 feet) 1.3 DB at 2.4 GHz
2.0 DB at 5.35 GHz
(072827-30 feet) 1.3 DB at 2.4 GHz
2.0 DB at 5.35 GHz

069886
Cable Assy, MMCX, Splice N

Used to connect 2101 and 2102 pc card radio with MMCX connector to Intermec N Plug Cable Assys, 064616, 063245, 063246, and 071179.

069887
Cable Assy, Radiall, Splice N

Used to connect 2101 and 2102 pc card radio with Radiall (Lucent) connector to Intermec N Plug
Cable Assys, 064616, 063245, 063246, and 071179.

070402
Cable Assy, MMCX, N Plug

Used to connect 2101 and 2102 pc card radio with MMCX connector to Intermec Antennas, 063363, 063365, 067261, 067262, 067263, 071121, and 071122.

070403
Cable Assy, Radiall, N Plug

Used to connect 2101 and 2102 pc card radio with Radiall (Lucent) connector to Intermec Antennas,
063363, 063365, 067261, 067262,
067263, 071121, and 071122.

ANTENNAS

063363
Antenna, 2.4 GHz, Omni

FCC
ETSI
Size: 1.0 diameter x 11.5 inches
2.5 x 29.2 cm

Hardware for mast installation provided.

Approx. Beam Width

Gain	Azimuth Plane	Elevation/Vertical Plane
5 DBI	360 degrees	30 degrees

063365
Antenna, 2.4 GHz, Yagi

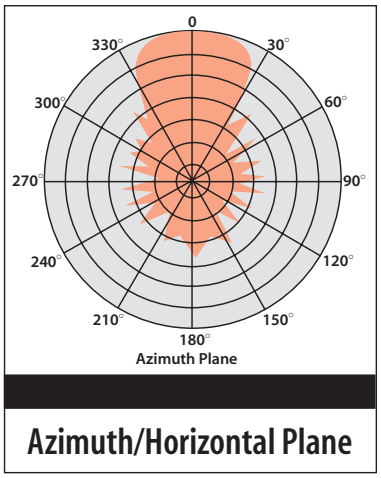
FCC
Size: 26.0 x 4.0 x 1.0 inch
66.0 x 10.2 x 2.5 cm

This antenna is designed to have the base attached to a wall. Hardware for mast installation is also provided.

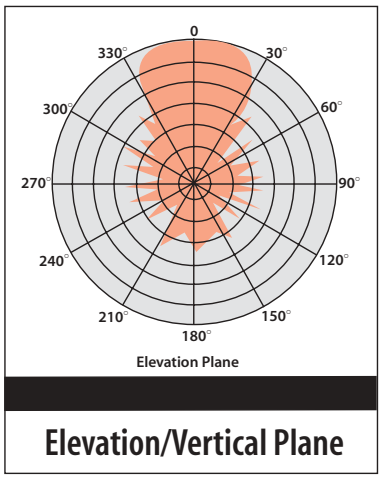
Approx. Beam Width

Gain	Azimuth Plane	Elevation/Vertical Plane
15 DBI	34 degrees	30 degrees

The patterns shown assume the base of the antenna is mounted to a wall. The six o'clock point is the base of the antenna.



Azimuth/Horizontal Plane



Elevation/Vertical Plane

063366
Antenna, 2.4 GHz, Flat Panel

FCC
Size: 9.5 x 9.5 x 2.0 inch
24.1 x 24.1 x 5.1 cm

Hardware for mast installation provided.

Approx. Beam Width

Gain	Azimuth Plane	Elevation/Vertical Plane
14 DBI	30 degrees	30 degrees

065349
Antenna, 2.4 GHz, 9DBI, Omni

FCC
ETSI
Size: 1.7 diameter x 22.0 inches
4.3 x 55.9 cm

Hardware for mast installation provided.

Approx. Beam Width

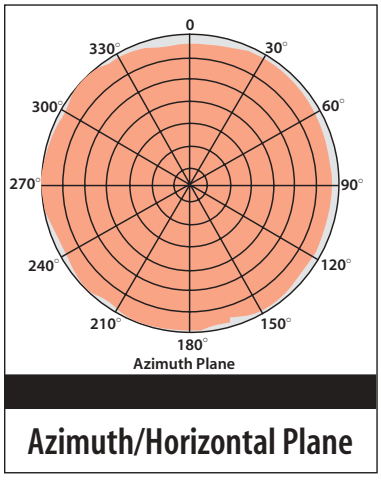
Gain	Azimuth Plane	Elevation/Vertical Plane
9 DBI	360 degrees	14 degrees

066147
Antenna, TNC, 2.4 GHz, Dipole

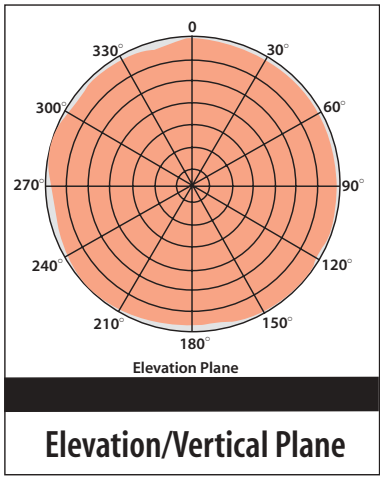
FCC
ETSI
Size: .6 diameter x 6.0 inches
1.5 x 15.3 cm

Approx. Beam Width

Gain	Azimuth Plane	Elevation/Vertical Plane
1 DBI	360 degrees	90 degrees

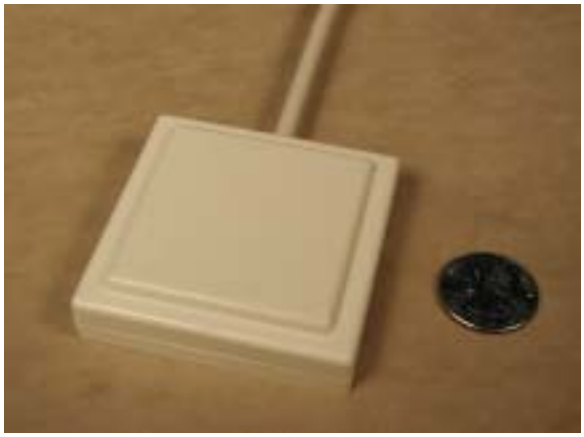


Azimuth/Horizontal Plane



Elevation/Vertical Plane

Antenna, 2.4 GHz, 3DBI Mini Omni
067261 – with N Receptacle Connector
070140 – with MMCX Connector
070141 – with Radiall (Lucent) Connector



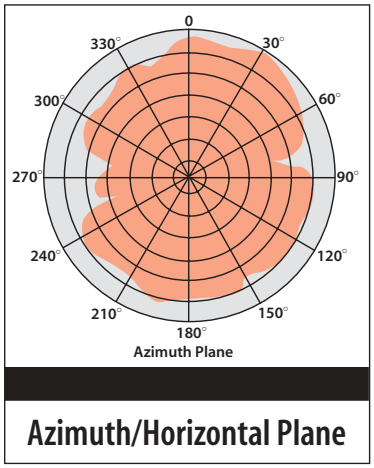
FCC
ETSI
Size: 2.0 x 2.5 x 1.0 inches
5.1 x 6.4 x 2.5 cm

The back surface of this antenna can be mounted to a wall or a ceiling. Hardware for drop-ceiling installation is also provided.

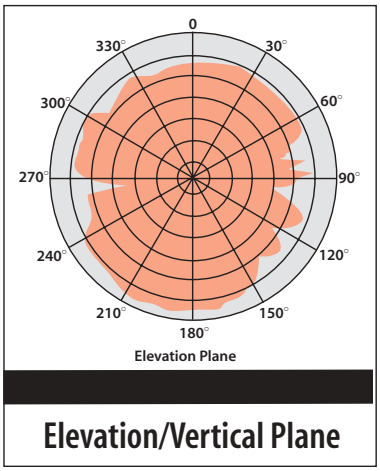
Approx. Beam Width

Gain	Azimuth Plane	Elevation/Vertical Plane
3 DBI	See diagrams below for actual patterns	

The patterns shown assume the antenna is mounted to a wall with the cable directed at the ceiling. The six o'clock point is the portion of the antenna that is mounted to the wall.



Azimuth/Horizontal Plane



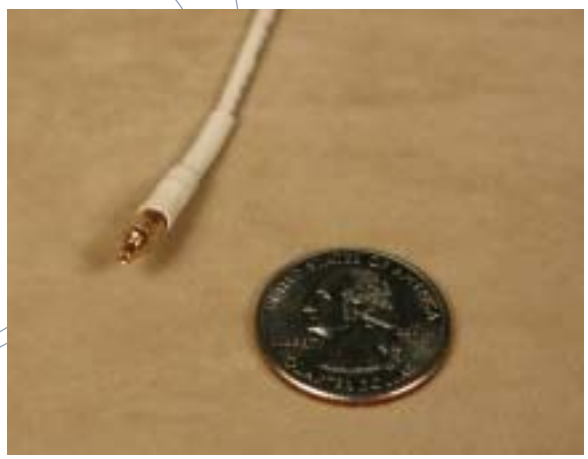
Elevation/Vertical Plane

N Receptacle Connector used on the following Antennas:

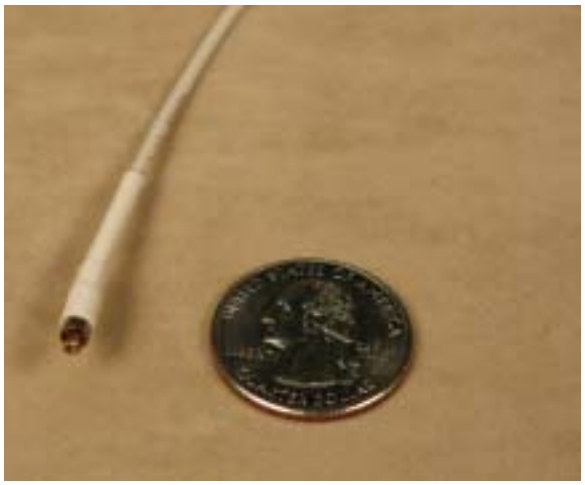
063363, 063365, 067261, 067262, 067263, 071121, 071122, 072761, and 072762.

Antennas 063366, 065349, 072759, and 072760 use the same style of N Receptacle but the connector is attached directly to the antenna.

MMCX Connector on Antenna 070140



Radiall (Lucent) Connector on Antenna 070141



067262
Antenna, 2.4 GHz, 5DBI, Dual Flat Panel

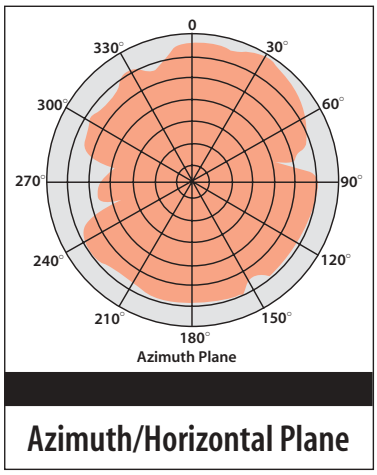
FCC
Size: 2.7 x 2.5 x .8 inches
6.9 x 6.4 x 2.0 cm

This antenna should be installed so that the two larger surfaces each face down one direction of a corridor.

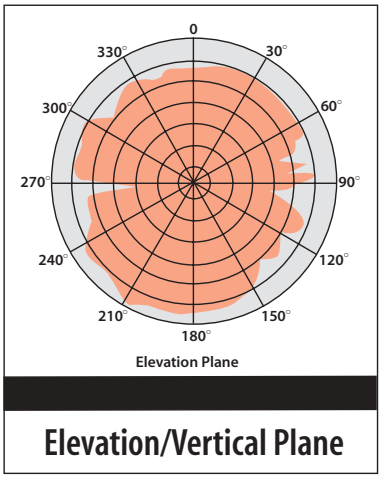
Approx. Beam Width

Gain	Azimuth Plane	Elevation/Vertical Plane
5 DBI	60 degrees	30 degrees

The patterns shown assume the antenna is mounted as described above. The six o'clock and twelve o'clock points are the two large surfaces.



Azimuth/Horizontal Plane



Elevation/Vertical Plane

067263
Antenna, 2.4 GHz, 9DBI, Flat Panel

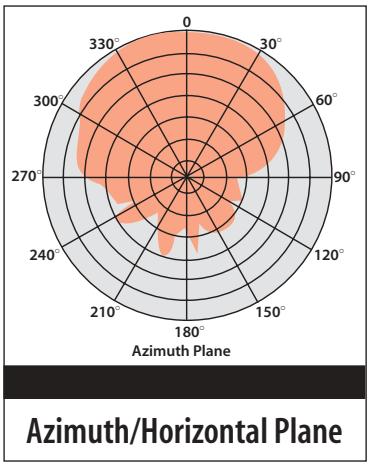
FCC
Size: 5.0 x 5.0 x .75 inches
12.7 x 12.7 x 1.9 cm

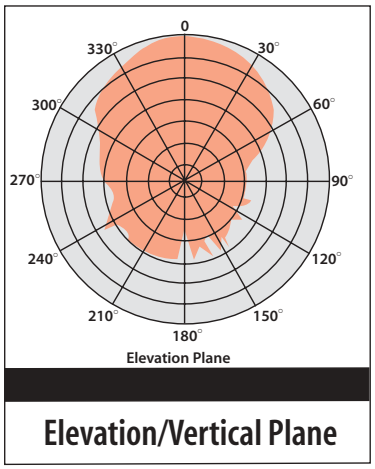
This antenna is mounted with the back surface to a wall. The side of the antenna where the cable exits is normally pointed to the ceiling. Also provided with Velcro patches, plastic drywall anchors, self threading screws and Tilt Pan bracket. Tilt Pan bracket shown below.

Approx. Beam Width

Gain	Azimuth Plane	Elevation/Vertical Plane
9 DBI	60 degrees	60 degrees

The patterns shown assume the antenna is mounted as described above. The six o'clock point is the portion of the antenna (back) that is mounted to the wall.





067263
Antenna, 2.4 GHz, 9DBI, Flat Panel

Rear View shown with Tilt Pan Mount

069753
Antenna, 2.4 GHz, Omni, 2101 with MMCX Connector

FCC
ETSI
Size: .42 diameter x 4.0 inches
1.1 x 10.2 cm

Approx. Beam Width

Gain	Azimuth Plane	Elevation/Vertical Plane
1 DBI	360 degrees	90 degrees

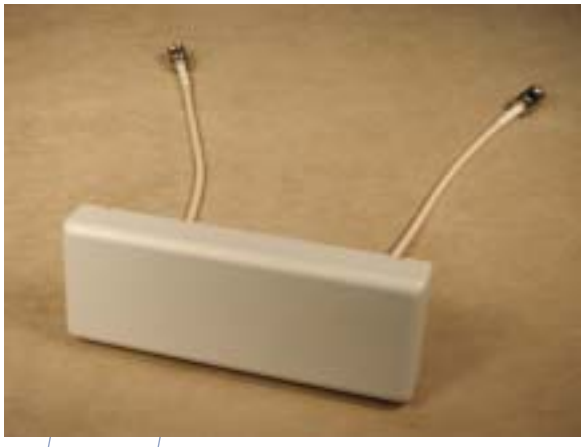
069903
Antenna, 2.4 GHz, Omni, 2101, with Radiall (Lucent) Connector

FCC
ETSI
Size: .42 diameter x 4.0 inches
1.1 x 10.2 cm

Approx. Beam Width

Gain	Azimuth Plane	Elevation/Vertical Plane
1 DBI	360 degrees	90 degrees

071121
Antenna, 2.4 GHz, Diversity, 3DBI



FCC
Size: 2.7 x 7.2 x 1.0 inches
6.9 x 18.3 x 2.5 cm

Provided with integral clip for drop-ceiling installation.

Gain: 3 DBI

071122
Antenna, 2.4 GHz, Corner Reflect

FCC
Size: 6.0 x 5.5 x 3.0 inches
15.2 x 14.0 x 7.6 cm

Hardware for mast installation provided.

Approx. Beam Width

Gain	Azimuth Plane	Elevation/Vertical Plane
9 DBI	65 degrees	75 degrees

Diversity Antenna, 2.4 GHz
071488 – with MMCX connector
071489 – with Radiall (Lucent) connector

FCC
ETSI
Size: 4.8 x 4.2 x 1.4 inch
12.2 x 10.7 x 3.6 cm

Mounts to ceiling, wall, or desk.
Hardware for drop-ceiling installation provided.

Approx. Beam Width

Gain	Azimuth Plane	Elevation/Vertical Plane
2 DBI (MMCX) 0 DBI (Radiall)	360 degrees	50 degrees

072730
Antenna, 5.25 - 5.35 GHz, Omni, Swivel TNC, 4 DBI

FCC–Mid-Band
Size: .6 diameter x 6.9 inches
1.5 x 17.5 cm

Approx. Beam Width

Gain	Azimuth Plane	Elevation/Vertical Plane
4 DBI	360 degrees	35 degrees

072759
Antenna, 5.25 - 5.35 GHz, Omni, 6 DBI

FCC–Mid-Band
Size: 1.24 diameter x 17.0 inches
3.2 x 43.2 cm

Hardware for mast installation provided

Approx. Beam Width

Gain	Azimuth Plane	Elevation/Vertical Plane
6 DBI	360 degrees	25 degrees

072760
Antenna, 5.25 - 5.35 GHz, Omni, 9 DBI

FCC–Mid-Band
Size: 1.24 diameter x 19.75 inches
3.2 x 50.7 cm

Hardware for mast installation provided.

Approx. Beam Width

Gain	Azimuth Plane	Elevation/Vertical Plane
9 DBI	360 degrees	14 degrees

072761
Antenna, 5.25 - 5.35 GHz, Omni, 3 DBI, Ceiling Mount

FCC–Mid-Band
Size: 3.50 diameter x 1.4 inches
8.9 x 3.6 cm

Mounting kit includes screwa and wall anchors.

Gain	Beam Pattern
3 DBI	Hemispherical Omni-directional

072762
Antenna, 5.25 - 5.35 GHz, Corner Reflect

FCC–Mid-Band
Size: 6.0 x 5.5 x 3.0 inches
15.2 x 14.0 x 7.6 cm

Hardware for mast installation provided.

Approx. Beam Width

Gain	Azimuth Plane	Elevation/Vertical Plane
14 DBI	30 degrees	60 degrees

ACCESSORIES

069888
Kit, Bracket, Mounting, Antenna

Mounting screws provided.

Used to mount Cable Assys, 069886, 069887, 070402, and 070403 to wall.

069893
Kit, Power Supply Holder, 5V

Mounting screws provided.

Used to mount 2101 and 2102 Power Supply to wall.

061868
Lightning Suppressor

Use between Cable Assys, 064616, 063245, 063246, or 071179.

North America
Corporate Headquarters
6001 36th Avenue West
Everett, Washington 98203
tel: 425.348.2600
fax: 425.355.9551

Systems & Solutions
550 2nd Street S.E.
Cedar Rapids, Iowa 52401
tel: 319.369.3100
fax: 319.369.3453

Media Supplies
9290 Le Saint Drive
Fairfield, Ohio 45014
tel: 513.874.5882
fax: 513.874.8487

Europe/ Middle East & Africa
Headquarters
Sovereign House
Vastern Road
Reading, Berkshire RG1 8BT
United Kingdom
tel: +44.118.987.9400
fax: +44.118.987.9401

Asia
Hong Kong
2602 Convention Plaza
Office Tower
1 Harbor Road
Wanchai, Hong Kong
tel: 852.2574.9777
fax: 852.2574.9725

Singapore
25-16 International Plaza
10 Anson Road, 079903
tel: 65.324.8391
fax: 65.324.8393

Australia
Level 7, 200 Pacific Highway
Crows Nest NSW 2065
Australia
tel: 61.2.9492.4400
fax: 61.2.9954.6300

South America & Mexico
Latin America Headquarters
17921 B Skypark Circle
Irvine, California 92614
tel: 949.442.9393
fax: 949.757.1687

Mexico
Tamulipas 141, Primero Piso
06140 Mexico, D.F.
tel: 525.55.211.1919
fax: 525.55.211.8121

Worldwide Fax Document Retrieval Service
800.755.5505
(North America Only)
tel: 650.556.8447

Internet
www.intermec.com

Sales
800.347.2636
(toll free in N.A.)
tel: 425.348.2726

Service and Support
800.755.5505
(toll free in N.A.)
tel: 425.356.1799