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Client: Psion Teklogix Inc.
Model: 9160-RA2060
Standards: FCC 15.247 & RSS-210
FCC ID: GM39160RA2060
Report #: 2005076

Appendix B: Antenna Specifications Per FCC §15.204(c)

Please refer to the following page.

2.4 GHz ISM Enclosed Yagi Antenna Series

The MAXRAD MYP yagis can be used as bridge antennas between two networks or for point-to-point communications. They are field adjustable for vertical or horizontal polarization with matched principal plane beamwidths for optimum performance in either orientation. This design also provides improved front-to-back ratio and sidelobe suppression that reduces interference. All models feature a robust mounting structure for consistent performance regardless of weather conditions.

General Specifications:

2.4 GHz ISM enclosed yagi antenna series

Polarization:

Vertical or horizontal, linear (user adjustable)

Nominal Impedance:

50 Ohms

Mounting Method:

Heavy duty yagi mounting bracket (included) permits mast mounting on masts up to 2" O.D.

MYK18 adjustable wall/pipe mount allows 180° (included angle) azimuth and elevation adjustment (sold separately).

Stacking harnesses available to stack two yagis (sold separately).

Termination:

N, female is standard

Consult factory for other connector options

Features and Benefits:

- Field adjustable to allow vertical or horizontal polarity. Eliminates co-channel interference from neighboring radiators. Polarity markings molded on the antenna ensure installation in the correct orientation.
- Optional, articulating mount. Allows precise adjustment of the antenna both vertically and horizontally.
- All antennas include a robust mast mount bracket designed to withstand 125 mph wind.
- Matched principal plane beamwidths with excellent sidelobe suppression and cross-polarization rejection of more than 20 dB. Provides superior signal quality with enhanced gain performance and minimal interference from neighboring radiators.
- 30 dB front-to-back ratio permits less physical separation on the tower thus adding mounting flexibility at installation sites where space is limited.
- Attractive weather-proof radome constructed of UV resistant material. Provides robust and trouble-free use in harsh outdoor environments.



The MYP24015PT (above) provides 15 dBi of gain and covers frequencies between 2400 and 2485 MHz. A broadband version (model MYPB24015PT) covering frequencies from 2400 - 2686 MHz is also available.

The MYP24010PT (below) provides 10 dBi gain and 23 dB front-to-back in a very compact radome.



The MYK18 adjustable azimuth and elevation mounting bracket is optional with all yagis in this series.

Specifications

Electrical Specifications

Model #	Frequency Range	VSWR	Front-to-Back Ratio	Nominal Gain	Vertical Beamwidth @ 1/2 Power	Horizontal Beamwidth @ 1/2 Power	Maximum Power
MYP24010PT	2400-2485 MHz	< 1.5:1	23 dB	10 dBi	55°	55°	5 Watts
MYP24014PT	2400-2485 MHz	< 1.5:1	30 dB	14 dBi	30°	30°	5 Watts
MYP24015PT	2400-2485 MHz	< 1.5:1	30 dB	15 dBi	30°	30°	5 Watts
MYPB24015PT	2400-2686 MHz	< 1.5:1	30 dB	15 dBi	30°	30°	5 Watts

Mechanical Specifications

Model #	Wind Survival	Lateral Thrust at Rated Wind	Equivalent Flat Plate Area	Cable	Length	Weight
MYP24010PT	125 mph	5.8 lbs	0.060 ft ²	3' (914.4 mm) coax	4.5" L x 3" OD (114 mm L x 76 mm OD)	1 lb (0.5 kg)
MYP24014PT	125 mph	18.3 lbs	0.20 ft ²	36" (914 mm) coax	14" x 3" OD (356 mm L x 76 mm OD)	1 lb (0.5 kg)
MYP24015PT	125 mph	18.3 lbs	0.20 ft ²	18" (457 mm) coax	14" x 3" OD (356 mm L x 76 mm OD)	1 lb (0.5 kg)
MYPB24015PT	125 mph	18.3 lbs	0.20 ft ²	12" (305 mm) LMR195	14" x 3" OD (356 mm L x 76 mm OD)	1 lb (0.5 kg)

Accessories

Model #	Description
MSK2450MN	Stacking harness for two 2.4 GHz MYP directional yagis. N male connector.
MSK2450MSMA	Stacking harness for two 2.4 GHz MYP directional yagis. Male SMA connector.



OD9 Mounted & Reflector Kit

OD9, OD12, OD6 Shown

OD Series Omni Antenna

For WLAN, Video, PCS, and Data Systems

- 3 dBi, 6 dBi, 9 dBi & 12 dBi antennas provide uniform omni coverage
- Unique design allows economical build out
- Mounting kit includes all hardware needed
- Reflector option provides directional beamshaping & increased performance

The OD Series Antennas are optimized for use in a wide variety of wireless systems. Typical uses include WLAN access points or bridge, PCS Microcell, WLL and surveillance transmitters.

These antennas consist of a collinear array with elements stacked vertically. Unique phasing cancels out-of-phase current distribution, improving system performance. This design maintains an omni pattern in the horizontal plane. The OD Series are free space antennas; no ground plane is required.

An option for the OD series is a reflector kit that beam shapes the omni pattern into a directional cardioid shape. This can result in improved directional gain, and isolation for reduced interference.

The low profile black radome (1" diameter) makes the antennas 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 irradiated for weather protection. The antennas comes with all the hardware needed to install it to a mast. The OD antennas normally terminate with a female N connector. Optional models include pigtail cable

with connector. For ISM, Part 15 compliant connectors are available (reverse polarized), please consult factory.

Model Numbers

Model	Freq.(MHz)	Gain	Applications
OD6-1800	1700-1900	6 dBi	PCN, Surveillance
OD9-1800	1700-1900	9 dBi	PCN, Surveillance
OD6-1900	1850-1990	6 dBi	PCS, CDMA/TDMA
OD9-1900	1850-1990	9 dBi	PCS, CDMA/TDMA
OD3-2400	2400-2485	3 dBi	WLAN, ISM, Video
OD6-2400	2400-2485	6 dBi	WLAN, ISM, Video
OD9-2400	2400-2485	9 dBi	WLAN, ISM, Video
OD12-2400	2400-2485	12 dBi	WLAN, ISM, Video

Frequencies subject to bandwidth constraints; confirm desired frequencies at time of order. For pigtail cable options and special frequencies, please consult factory for latest model numbers and configurations.

Reflector Options

Reflector Options	Model
Add-on kit for 6 dBi models	ODR6-Kit
Add-on kit for 9 dBi models	ODR9-Kit
Add-on kit for 12 dBi models	ODR12-Kit

Specifications

Frequency & Gain:	See above	Material:	Polycarbonate radome, aluminum feed
Bandwidth @2:1 SWR:	140 MHz, 85 MHz for OD12	Length/Weight:	
Nominal Impedance:	50 ohms	3 dBi Models	16 inches, 1.5 lbs
Max. Power (continuous):	100 watts	6 dBi Models	19 inches, 1.5 lbs
Vertical Beamwidth (-3 dB point):		9 dBi Models	27 inches, 2.0 lbs
3 dBi Model	55 degrees	12 dBi Model	41 inches, 2.5 lbs
6 dBi Models	25 degrees	Antenna Diameter:	1", main mast
9 dBi Models	14 degrees	OD Series Interface:	N female connector
12 dBi Model	7 degrees	Mounting Kit:	Mast mount kit included
Wind Loading (flat plate equiv.):	30-40 sq. inches	Mounting Dimensions:	Use mast up to 2" OD
Rated Wind Velocity:	100+ mph	Options:	Reflector Option Kit
Lightning Protection:	External suggested		Pigtail Cable Option
			Part 15 Reverse Connectors

2.4 GHz Whisper

Directional In-Building Antenna

Model Number:

Outdoor - IDO2450
Marine-rated - IDM2450

Specifications:

Element Type	Air-Loaded Patch
Frequency Range	2.4 - 2.5 GHz
Peak Gain	8.5 dBi
Polarization	Linear
Azimuth 3dB Beamwidth	80°
Elevation 3dB Beamwidth	60°
Impedance	50 ohms
Maximum Input Power	50 watts
VSWR (Min. Performance)	1.8:1
Dimensions (L x W x H)	10.4 x 13.5 x 3.6 cm
Housing	ABS
Operating/Storage Temperature	-40° to +70°C



Mounting:

- Wall-mount bracket & screws included
- **Outdoor Optional Bracket:** 5" Outdoor Pan/Tilt Mount (IMO-05A)



Pattern data files for LANPlanner are available at www.centurion.com or www.wirelessvalley.com.

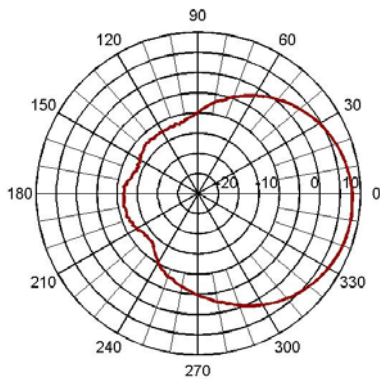


IMO-05A

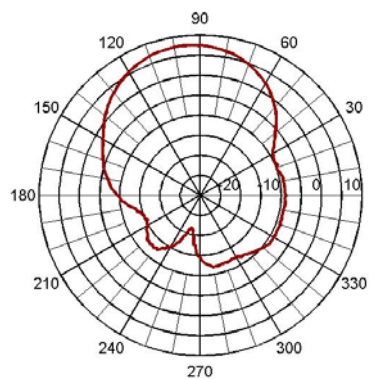
Cables & Connectors:

Model #	Reference #	Plenum Rated Coax	Connector
IDM2450-RT36¹	CAF94157 ¹	36" RG-142	RP-TNC
IDO2450-NF12	CAF94180	12" RG-142	N-Female
IDO2450-RT12	CAF94255	12" RG-142	RP-TNC
IDO2450-RT36	CAF94118	36" RG-142	RP-TNC

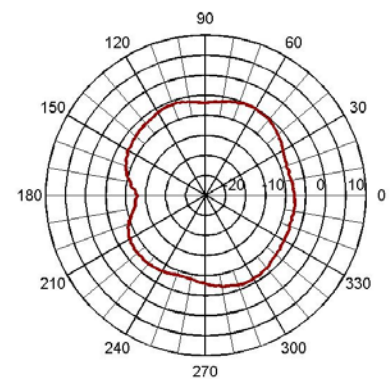
¹ Marine-rated version supplied with swivel mounting bracket



Azimuth Plane



Elevation Plane
phi=0



Elevation Plane
phi=90

Specifications subject to change without notice.

IDO & IDM2450a - 5/17/04