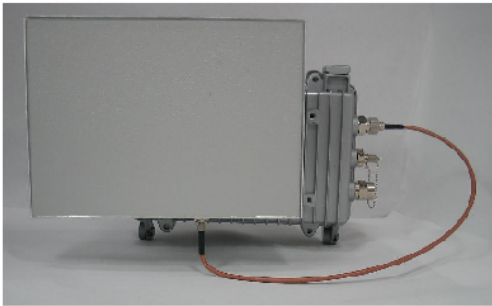


Appendix C. Antenna Type

NTA.2407 Panel Antenna

The NTA-2407 is a compact, light-weight, vertically polarized panel antenna intended to mount to the APU Enclosure. The antenna consists of a printed patch array enclosed in an aluminum cavity with a UV stabilized ASA radome. The antenna is sealed and intended for outdoor use.

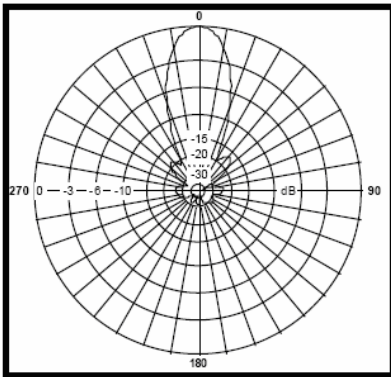


Electrical Specifications

Frequency Range: 2400-2483 MHz
Gain: 14 +/- 1 dBi
VSWR: 2.0:1 max.
Polarization: Vertical
Power: 20 Watts
H-Plane Beamwidth: 27 degrees
E-Plane Beamwidth: 36 degrees
Front to Back Ratio: 25 dB min. (azimuth)
Cross Pol. Discrimination: 13 dB min.
Electrical Beamtilt: N/A
Impedance: 50 ohms nominal
Termination: SMA female

Radiation Patterns/Masks

H-Plane



Mechanical Specifications

Length: 8 in. (203 mm)
Diameter: N/A
Width: 11 in. (279.4 mm)
Depth: 0.44 in. (11 mm)

Weight (incl. hardware): 1.66 lb. (0.75 kg)
Rated Wind Velocity: 125 mph (200 km/h)
Horizontal Thrust at rated wind: 38 lb. (17.2 kg)

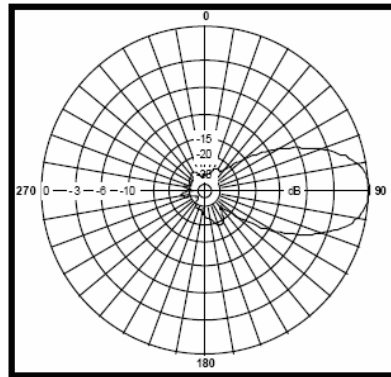
Mechanical Tilt: 0 +/- 22.5° Pan
Mounting: Mounts to APU Enclosure

Pig-Tail Length: N/A

Material Specifications

Radiating Elements: Plated copper on PCB
Reflector: Irridited aluminum
Radome: Gray UV stabilized ASA
Mounting Hardware: Aluminum and HDG steel

E-Plane



NTA.2412 Bidirectional Antenna

The NTA-2412 is a vertically polarized bidirectional antenna intended to mount to the APU Enclosure. The antenna consists of a printed dipole array enclosed in a UV stabilized ASA radome for superior weatherability. It is designed for wireless data in the ISM band and is at DC ground to aid in lightning protection.



Mechanical Specifications

Length: 10.5 in. (267 mm)

Diameter: 3 in. (76 mm)

Width: N/A

Depth: N/A

Weight (incl. hardware): 2 lb. (0.9 kg)

Rated Wind Velocity: 125 mph (200 km/h)

Horizontal Thrust at rated wind: 9 lb. (4 kg)

Mechanical Tilt: N/A

Mounting: Mounts to APU Enclosure

Pig-Tail Length: 12 in. (304.8mm)

Electrical Specifications

Frequency Range: 2400-2483 MHz

Gain: 9 dBi (peak)

VSWR: 1.5:1 max.

Polarization: Vertical

Power: 5 Watts

H-Plane Beamwidth: 60 degrees

E-Plane Beamwidth: 28 degrees

Front to Back Ratio: N/A

Cross Pol. Discrimination: 20 dB min.

Electrical Beamtilt: N/A

Impedance: 50 ohms nominal

Termination: N male

Material Specifications

Radiating Elements: Plated copper on PCB

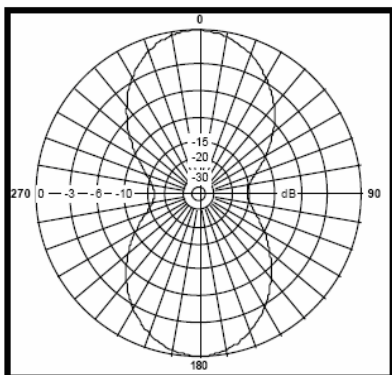
Reflector: Irridited aluminum

Radome: Gray UV stabilized ASA

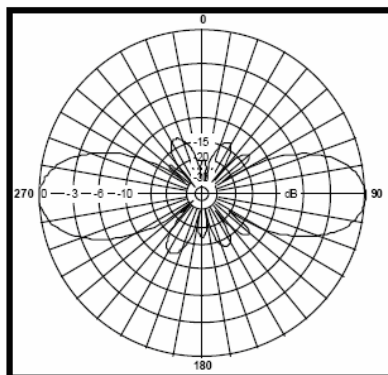
Mounting Hardware: Aluminum and HDG steel

Radiation Patterns/Masks

H-Plane



E-Plane



NTA.2400 Omni directional Antenna

The NTA-2400 is a vertically polarized, medium gain, omni-directional antenna that covers the 2.4-2.5 GHz ISM band. This antenna is a robust point to multi-point antenna designed to be completely waterproof. The antenna is intended to mount to the APU Enclosure.

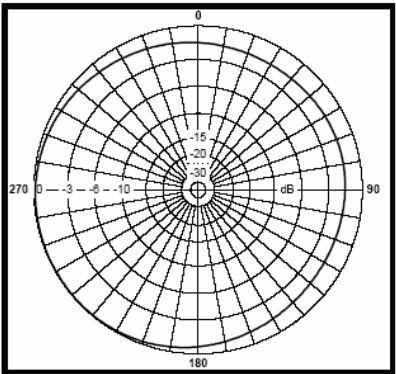


Electrical Specifications

Frequency Range: 2400-2483 MHz
Gain: 7 dBi typ.
VSWR: 2.0:1 typ.
Polarization: Vertical
Power: 5 Watts
H-Plane Beamwidth: 360 degrees
E-Plane Beamwidth: 14 degrees typ.
Front to Back Ratio: N/A
Cross Pol. Discrimination: 18 dB typ.
Electrical Beamtilt: N/A
Impedance: 50 ohms nominal
Termination: N female

Radiation Patterns/Masks

H-Plane



Mechanical Specifications

Length: 26 in. (660 mm)
Diameter: 3.9 in. (100 mm)
Width: N/A
Depth: N/A

Weight (incl. hardware): 1.25 lb. (0.57 kg)
Rated Wind Velocity: 125 mph (200 km)
Horizontal Thrust at rated wind: 7 lb. (3.2 kg)

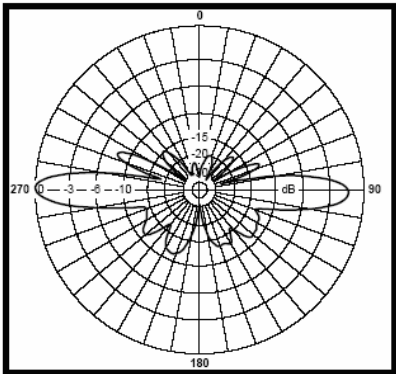
Mechanical Tilt: N/A
Mounting: Mounts to APU Enclosure

Pig-Tail Length: N/A

Material Specifications

Radiating Elements: Copper
Reflector: N/A
Radome: Gray UV stabilized PVC
Mounting Hardware: Aluminum and Stainless steel

E-Plane



ET-PR12 Built-in Panel Antenna

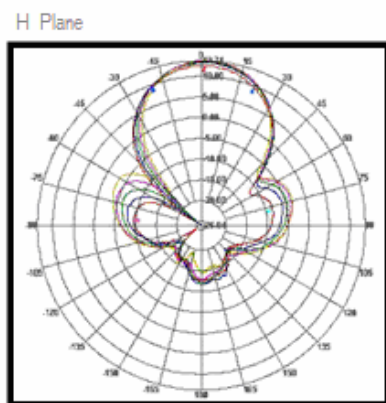
The ET-PR12 is a compact, light-weight, vertically polarized panel antenna intended to be built in the CSU Enclosure. The antenna consists of a printed patch array enclosed in an aluminum cavity with a UV stabilized ASA radome. The antenna is sealed and intended for outdoor use.



Electrical Specifications

Frequency Range : 2400~2500 MHz
 Gain : 12.0dBi (Minimum)
 VSWR : 1 : 1.5 (Typical)
 Polarization : Linear (Vertical or Horizontal)
 Power : 3 Watts
 H-Plane Beam width : 35 degrees
 E-Plane Beam width : 35 degrees
 Front to Back Ratio : > 30dB
 Cross Pol. Discrimination : 20 dB min.
 Electrical Beam tilt : N/A
 Impedance : 50 ohms nominal
 Termination : SMB male

Radiation Patterns/Masks



Mechanical Specifications

Length : 7 in. (180mm)
 Diameter : N/A
 Width : 7 in. (180mm)
 Depth : 0.79 in. (20mm)
 Weight (Incl. hardware) : 1.0kg
 Rated Wind Velocity : 75 N (160 km/h)
 Horizontal Thrust at rated wind : 75 N (160km/h)
 Mechanical Tilt : 90° ~ - 45°
 Built-in : Built in CSU Enclosure
 Pig-Tail Length : N/A

Material Specifications

Radiating Elements : Plated copper on PCB
 Reflector : aluminum
 Radome : Gray UV Stabilized ASA
 Built-in Hardware : Aluminum and HDG Steel

