NORTEL NETWORKS™

2.4 GHz External Antenna(s) Pictures and data sheets

Nortel Access Point Models 2230 & 2231

Prepared by:
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To:

Federal Communications Commission
7435 Oakland Mills Road
Columbia, Maryland 21046

Subject: 2.4 GHz External Antenna

Gentlemen,

The attached data sheets for the 2.4 GHz external patch antennas indicates that the available gains in this series are 3dBi , 5dBi and 9 dBi.

Nortel is only using the 3dBi and 5 dBi antennas of this series. It is NOT using the 9dBi antenna

If you have any questions, please do not hesitate to contact me at: david@waitt.us or (408) 832-7053

Sincerely,

David Waitt
Consultant representing Nortel

CENTURION WIRELESS TECHNOLOGIES, INC.

Specifications

2400 MHz Sphere

Omnidirectional Antenna

Part Number (P/N):
CAF94101 CAF94170
CAF94150 CAF94144

Features:

- Omnidirectional antenna provides a considerable gain improvement over traditional dipole antennas, within a remarkably small case that perfectly blends into any environment.
- It is particularly applicable in environments such as offices and hospitals, where aesthetics are critical to successful wireless deployment and wide angle coverage is necessary.
- For easy installation, the Sphere quickly attaches to a ceiling tile frame with a standard metal clip.

Specifications:

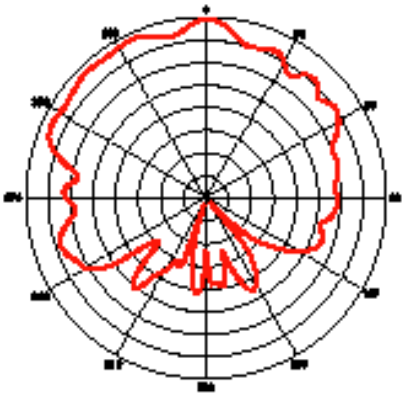
Element Type	Air-Loaded Patch
Frequency Range	2400-2500 MHz
Peak Gain	3 dBi
Polarization[1]	Linear
Impedance	50 ohms
Maximum Input Power	50 watts
VSWR (Min. Performance)	1.5:1
Connector	Customer Choice
Dimensions (cm)	6.4 x 6.3 x 1.7 cm
Housing Coating Material	ABS
Operating Temperature	-40º to +70ºC
Storage Temperature	-40º to +70ºC

Includes a low-loss, RG 142, plenum rated "pigtail" cable.
[1]Contains both vertical and horizontal components, the ratio of which varies with the spatial location.

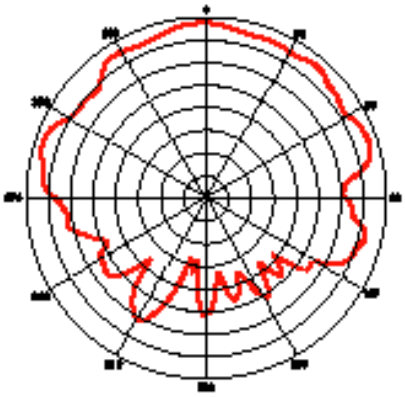
Sphere 2400

Cables & Connectors:

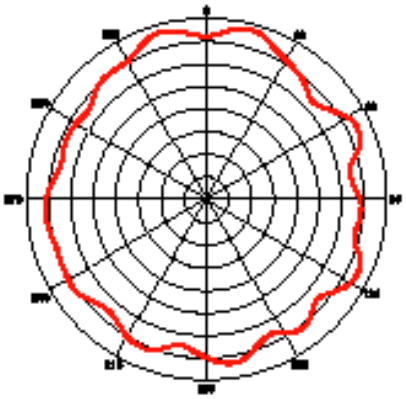
Part Number	Cable	Connector
CAF94101	12" RG-142 Plenum Rated Coax	SMA-Male
CAF94170	12" RG-142 Plenum Rated Coax	N-Female
CAF94150	36" RG-142 Plenum Rated Coax	RP-TNC
CAF94144	36" RG-142 Plenum Rated Coax	RP-TNC



Azimuth Plane
Cut perpendicular to the antenna and perpendicular to the cable



Elevation Plane
Cut perpendicular to the antenna along the cable axis



Omni Plane
Cut in the plane of the antenna parallel to the cable

Specifications subject to change without notice

CENTURION WIRELESS TECHNOLOGIES, INC.
3425 N.44th St., LINCOLN, NE 68504 USA
SALES PHONE 800.228.4563 • SALES FAX 800.826.3774
INTERNATIONAL PHONE 402.474.0706 • FAX 402.467.4528

DIRECTIONAL/BI-DIRECTIONAL ANTENNAS

Reliability Without the Expense…

Reliable coverage is always a priority in streamlining the effectiveness of wireless devices. This is especially crucial in commercial, office, campus and residential environments that strive to cover a multitude of users in an open space or long corridor.

Centurion's Whisper directional and Terrace bi-directional antennas offer an affordable option for in-building antenna systems. Our innovative designs blend into any atmosphere and provide excellent coverage in high traffic areas.

FEATURES & OPTIONS:

WHISPER - Directional Antenna

- Self contained in a durable sleek radome, the Whisper is designed to blend in anywhere - residential, campus or commercial
- Inexpensive yet reliable, the Whisper utilizes Centurion's patented technology to achieve maximum efficiency.
- Typical applications include wireless local loop, in-building wireless (voice and data), WLAN, DECT, WPBX, and broadband Internet access.

TERRACE - Bi-directional Antenna

- Utilizes a patented low-profile design to provide coverage in corridors or long hallways
- Provides outstanding performance in healthcare and office environments, where a long hallway presents a design or coverage challenge

Antennas

In-Building

DIRECTIONAL/BI-DIRECTIONAL ANTENNAS

SPECIFICATIONS:

General specifications for In-Building Directional and Bi-Directional Antennas:

ELEMENT TYPE	Air-Loaded Patch
FREQUENCY RANGE	806-2500 MHz
PEAK GAIN	5.0-9.0 dBi
POLARIZATION[1]	Linear
IMPEDANCE	50 ohms
MAXIMUM INPUT POWER	50 watts
FRONT/BACK RATIO	18-20 dBi
VSWR (MIN. PERFORMANCE)	1.5:1-2.0:1
RADOME MATERIAL (INDOOR)	ABS or Luran
RADOME MATERIAL (OUTDOOR)	Kydex[2] or Luran[2]

All centurion products are designed for maximum efficiency and are customizable and scalable to meet your frequency and application requirements.

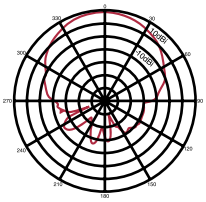
[1] Polarization axis is parallel to the cable axis, or along the long axis of the antenna for models without cable pigtails.

[2] UV tolerance rated to 7 years of outdoor exposure.

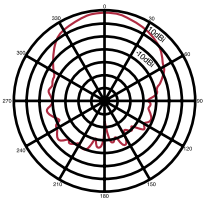
PATTERNS:

As displayed in these typical patterns, In-Building Directional and Bi-Directional antennas offer superior high-gain reception over a broad area.

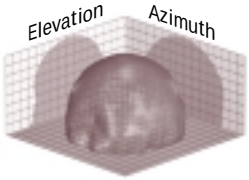
TYPICAL WHISPER ANTENNA PATTERNS



AZIMUTH PLANE
cut perpendicular to the antenna and perpendicular to the cable

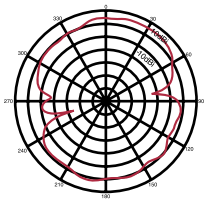


ELEVATION PLANE
cut perpendicular to the antenna along the cable axis

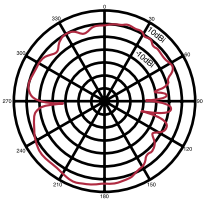


OMNI PLANE
Spherical Projection

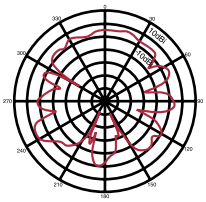
TYPICAL TERRACE ANTENNA PATTERNS



AZIMUTH PLANE
cut perpendicular to the antenna and perpendicular to the cable



ELEVATION PLANE
cut perpendicular to the antenna along the cable axis



OMNI PLANE
cut perpendicular to the antenna along the cable axis

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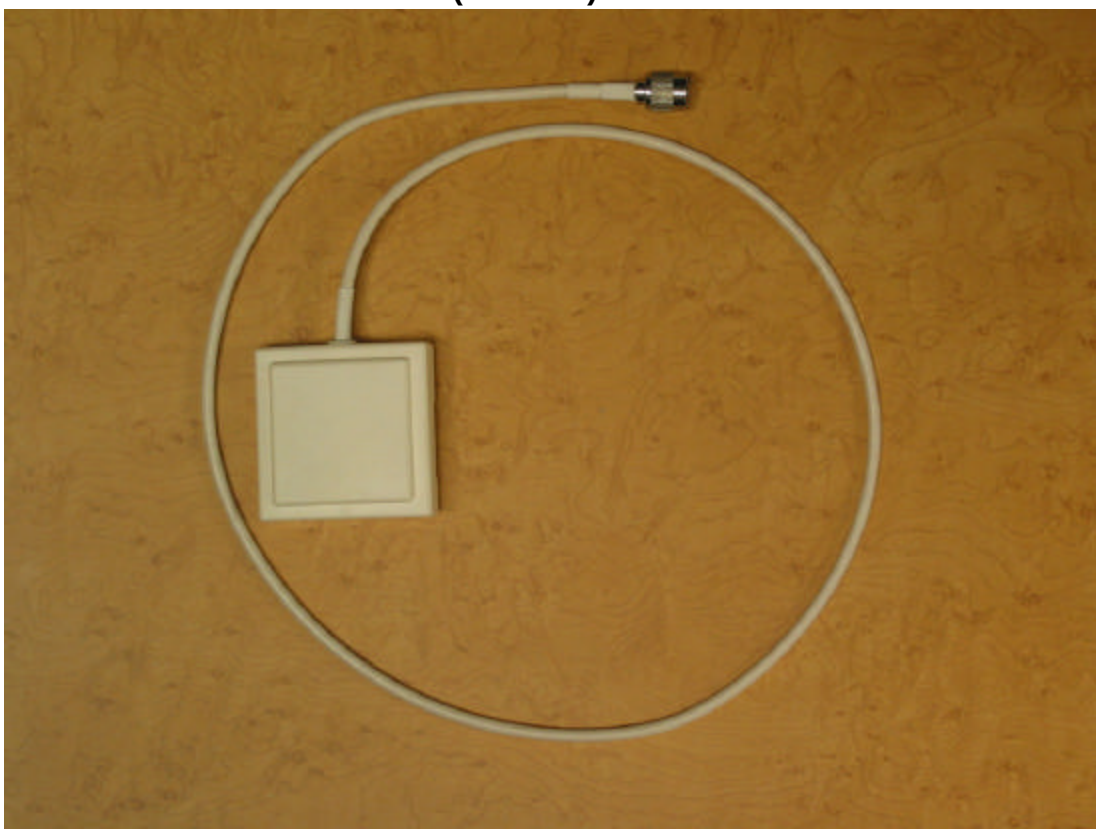
www.centurion.com

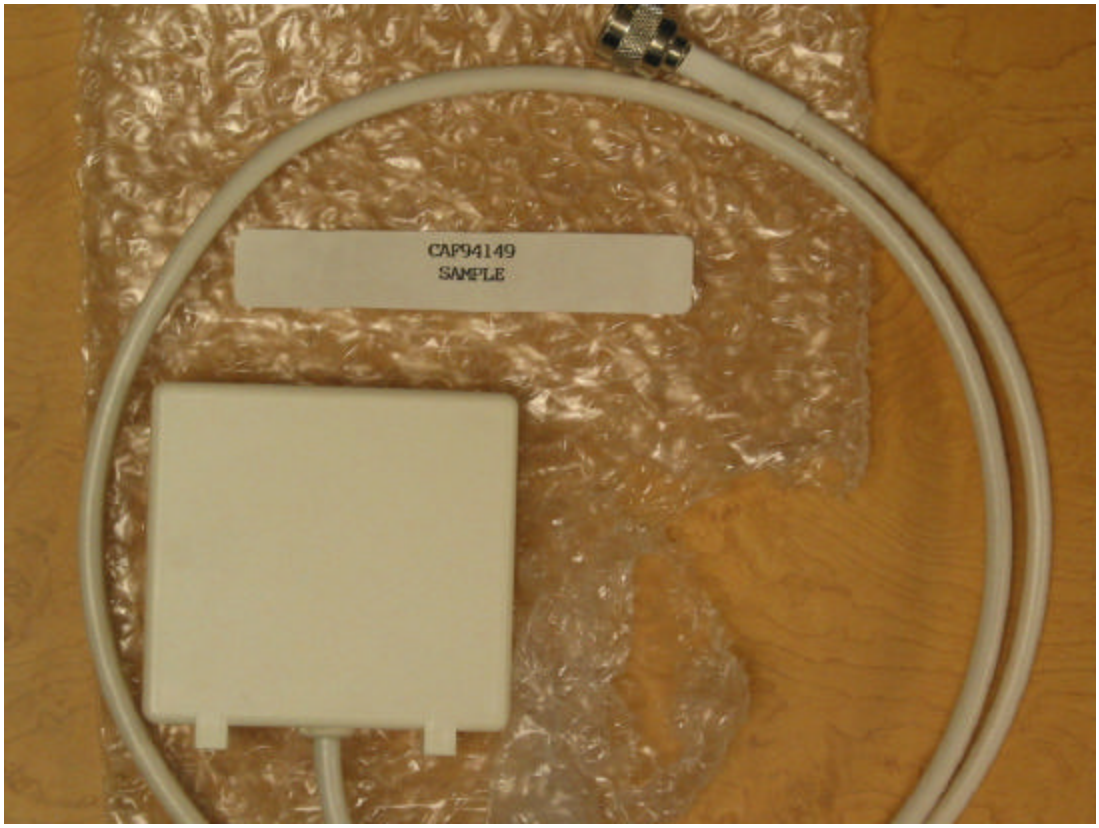
QS-9000 REGISTERED ISO 9001

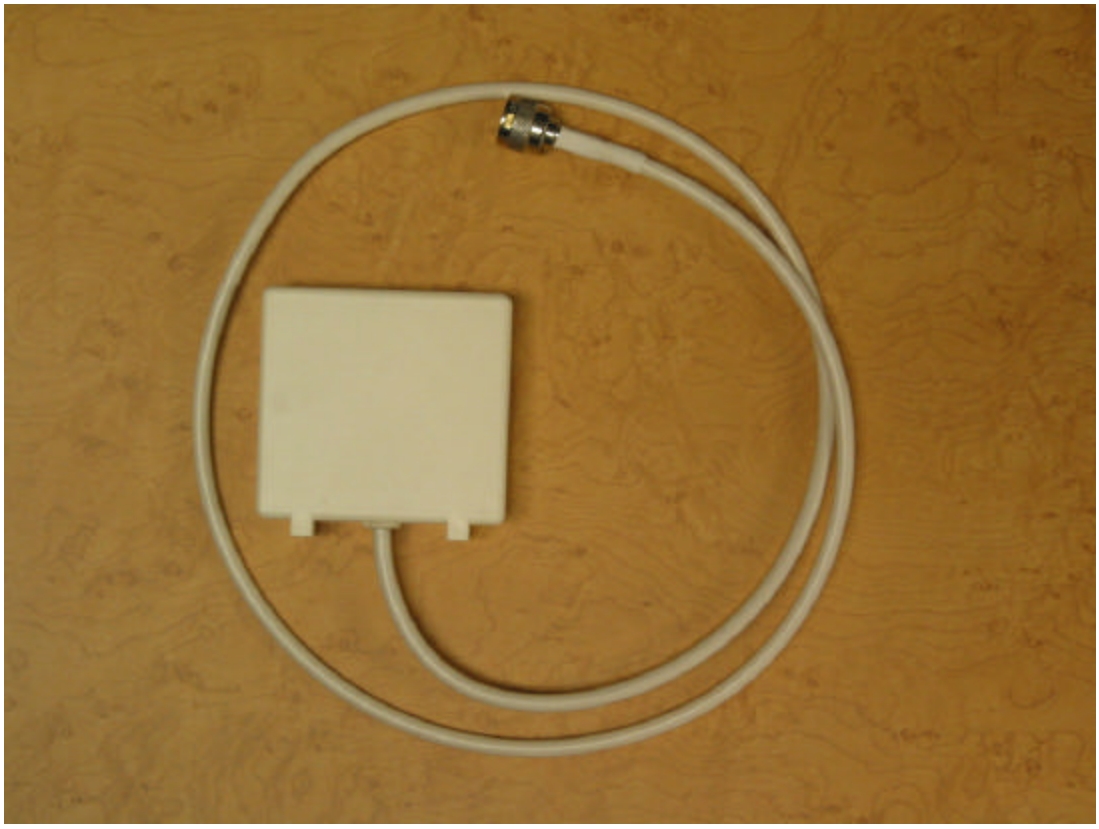
Centurion 2.4 GHz 3dBi (#94150) antenna




Centurion Wireless
Technologies, Inc.
Omnidirectional
2.4 – 2.5 GHz 3dBi
CAF94150 021112

Centurion 2.4 GHz 5dBi (#94149) antenna



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