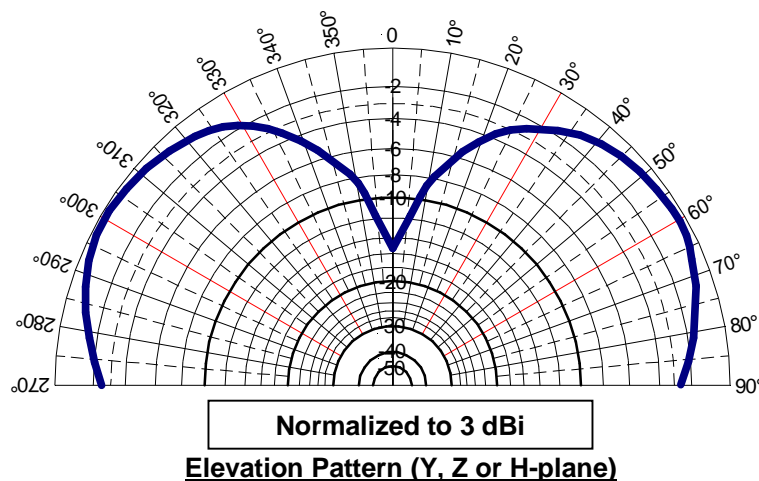


# Phantom<sup>®</sup> NGP Mobile Antennas for Ham / CELL / GSM / PCS/ WiFi / 802.11 / BT Wireless



### FEATURES

- Patented Field Diversity  
Pat No. 5,977,931 & 6,292,156
- High performance mobile antenna operates on a non-metallic surface or no ground plane (NGP)
- High performance whipless design for mobile application.
- Easy installation w/ optional NMO mounts
- 100% tested on a network analyzer

### ELECTRICAL SPECIFICATIONS

<b>VSWR:</b>	< 2:1
<b>Nominal Gain:</b>	3 dBi
<b>Maximum Power:</b>	10 W
<b>Nominal Impedance:</b>	50Ω
<b>Polarization:</b>	Vertical & Horizontal
<b>Pattern:</b>	Omni-Directional
<b>Half-Power Beamwidth:</b>	130° x 360° (Elevation° x Azimuth°)
<b>Coaxial Cable Length &amp; Type:</b>	None
<b>Termination:</b>	NMO Socket or, type N-female

### MECHANICAL SPECIFICATIONS

<b>Color:</b>	Black or White
<b>Height:</b>	2.30" & 3.30"
<b>Diameter:</b>	1.438"
<b>Weight:</b>	0.15 lb & 0.25 lb
<b>Radome Material:</b>	ABS
<b>Mounting Info: &lt;1000MHz:</b>	NMO (PN: MB8, MAB8)
<b>DC to 6 GHz:</b>	NMO (PN: MB195) (Sold Separately)
<b>Noise Suppressor (optional):</b>	BlackHawk NS1535 1-35 VOLT, 15Amp Noise Suppressor (Sold Separately)



### Model and Ordering Information:

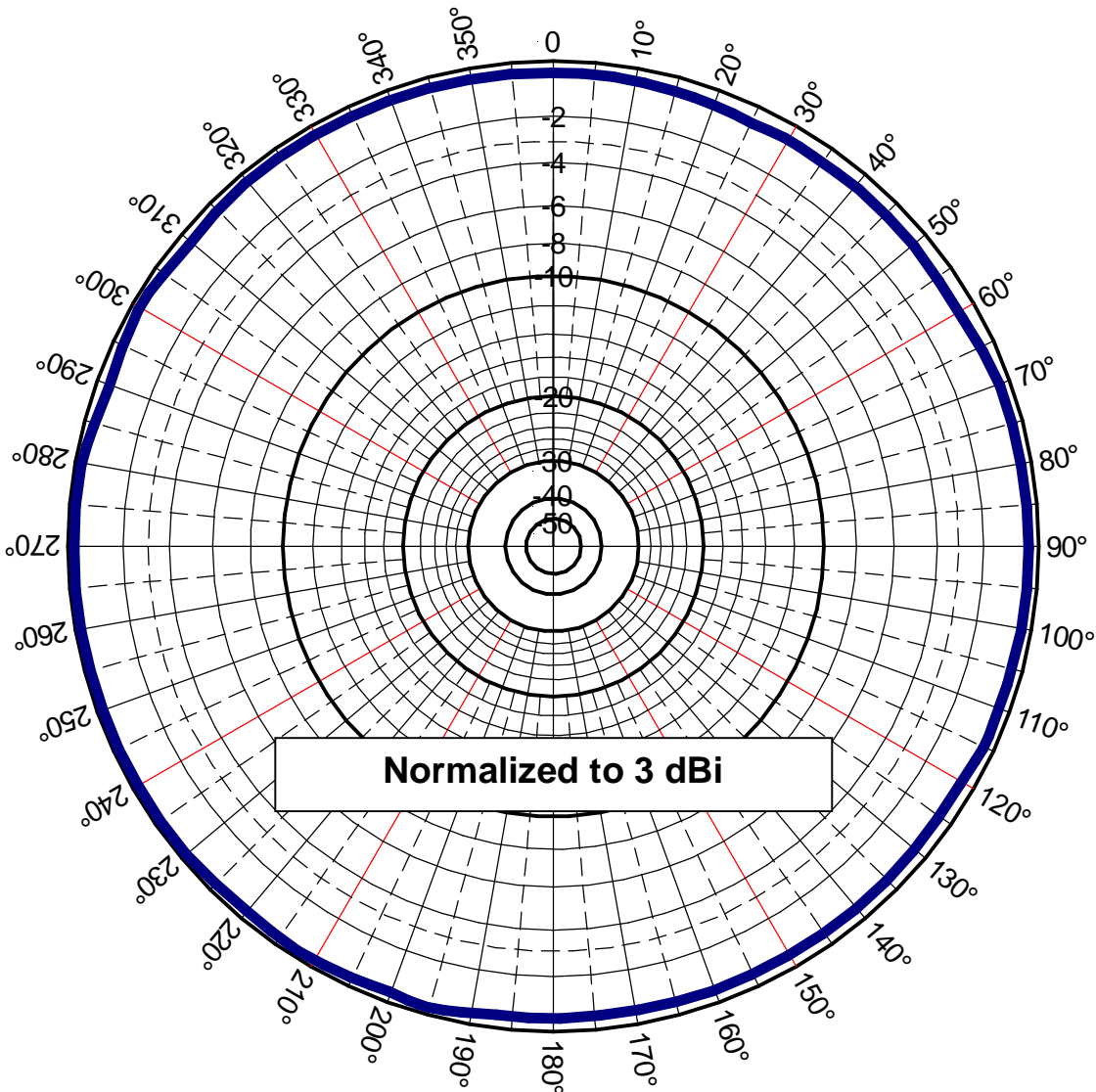
Model#	Applications	Frequency	Dimension	Mount	Color
TRA(B)4100N	Mobile/Fixed	410-430 MHz	1.44" dia x 3.3"h	NMO	White (B for Black)
TRA(B)4300N	Mobile/Fixed	430-450 MHz	1.44" dia x 3.3"h	NMO	White (B for Black)
TRA(B)4500N	Mobile/Fixed	450-470 MHz	1.44" dia x 3.3"h	NMO	White (B for Black)
TRA(B)4700N	Mobile/Fixed	470-490 MHz	1.44" dia x 3.3"h	NMO	White (B for Black)
TRA(B)7462N	Mobile/Fixed	746-796 MHz	1.44" dia x 2.3"h	NMO	White (B for Black)
TRA(B)8063N	Mobile/Fixed	806-866 MHz	1.44" dia x 2.3"h	NMO	White (B for Black)
TRA(B)8213N	Mobile/Fixed	821-896 MHz	1.44" dia x 2.3"h	NMO	White (B for Black)
TRA(B)8903N	Mobile/Fixed	890-960 MHz	1.44" dia x 2.3"h	NMO	White (B for Black)
TRA(B)9023N	Mobile/Fixed	902-928 MHz	1.44" dia x 2.3"h	NMO	White (B for Black)
TRA(B)18503N	Mobile/Fixed	1850-1990MHz	1.44" dia x 2.3"h	NMO	White (B for Black)
TRA21303N	Mobile/Fixed	2130-2200 MHz	1.44" dia x 2.3"h	NMO	White (B for Black)
TRA(B)24003N	Mobile / IBW	2.4-2.5 GHz	1.44" dia x 2.3"h	NMO	White (B for Black)
TRA24003CM	Fixed / IBW	2.4-2.5 GHz	2.5" dia x 3.1"h	P-mount	White
TRA24003WM	Fixed / IBW	2.4-2.5 GHz	2.5" dia x 3.1"h	P-mount	White
TRADCA	Fixed / IBW	NA – mount only	2.5" dia x 0.65"h	Drop Ceiling	White

Permanent Mounting Option:

Please order by antenna model and adding letter "P" to indicate permanent mounting option  
(TRA8063NP for white and TRAB8063NP for black model)

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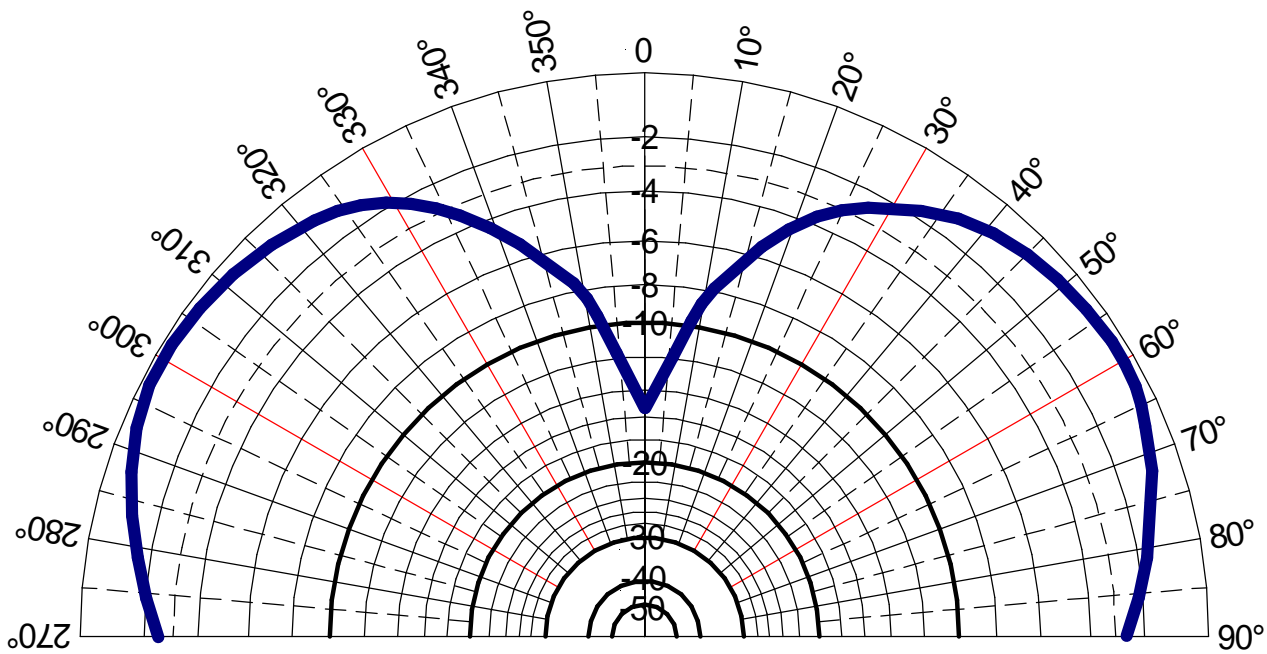
## Typical Radiation Pattern



Azimuthal Pattern (X,Y or E-plane)

# Phantom® NGP Mobile Antennas for Ham / CELL / GSM / PCS/ WiFi / 802.11 / BT Wireless

## Typical Radiation Pattern

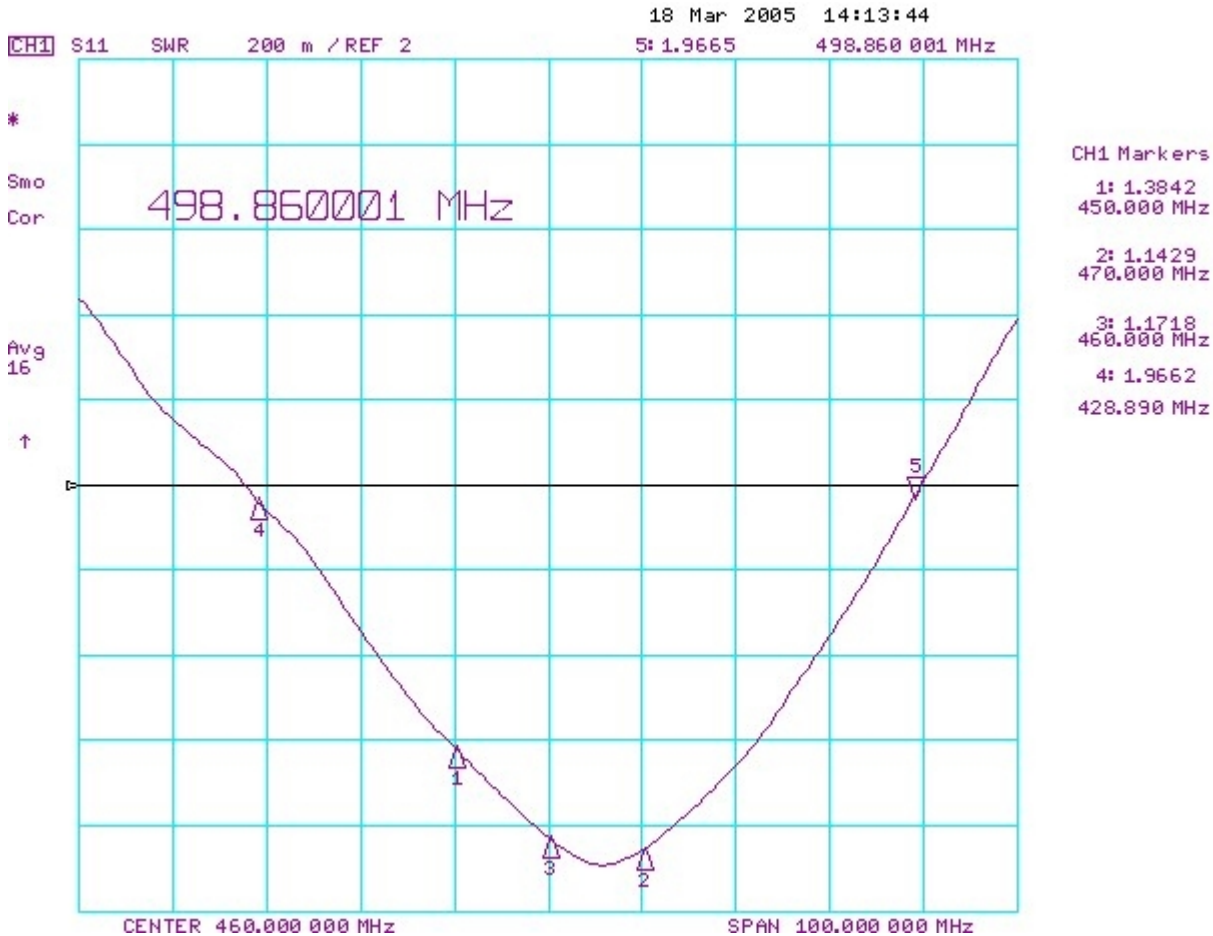


Normalized to 3 dBi

Elevation Pattern (Z,Y or H-plane)

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## VSWR of TRA(B)4500N & TRA(B)4500NP



## VSWR of TRA(B)4500N & TRA(B)4500NP Typical VSWR sweeps on a non-metallic surface

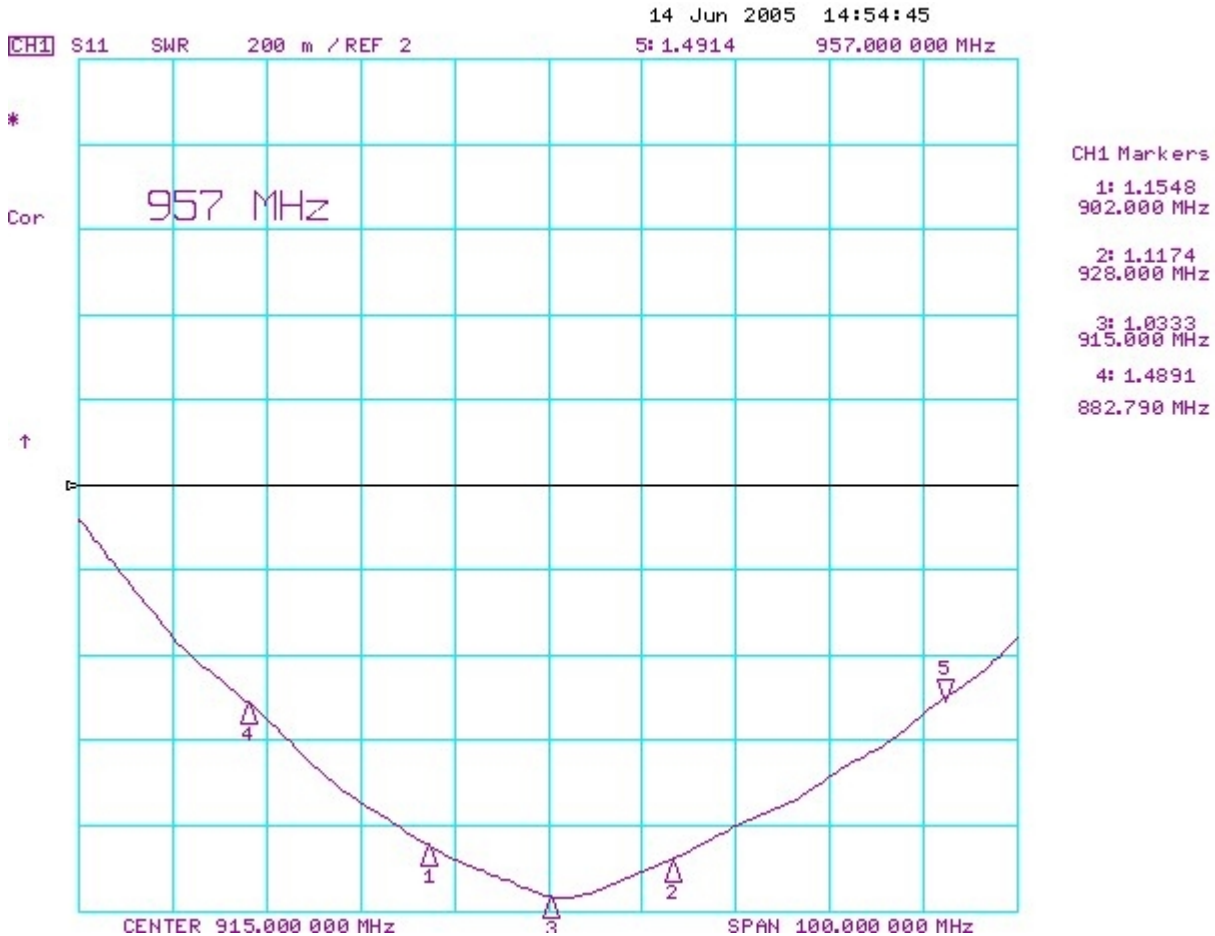
*Primary Specification (BW = 20 MHz, VSWR < 1.5:1)*

Marker 1: 1.3842 to 1 @ 450 MHz  
 Marker 2: 1.1429 to 1 @ 470 MHz  
 Marker 3: 1.1718 to 1 @ 460 MHz

03/18/2005

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## VSWR of TRA(B)9023N & TRA(B)9023NP



TRA(B)9023N & TRA(B)9023NP Typical VSWR sweeps on a non-metallic surface

Primary Specification (BW = 26 MHz, VSWR < 2:1)

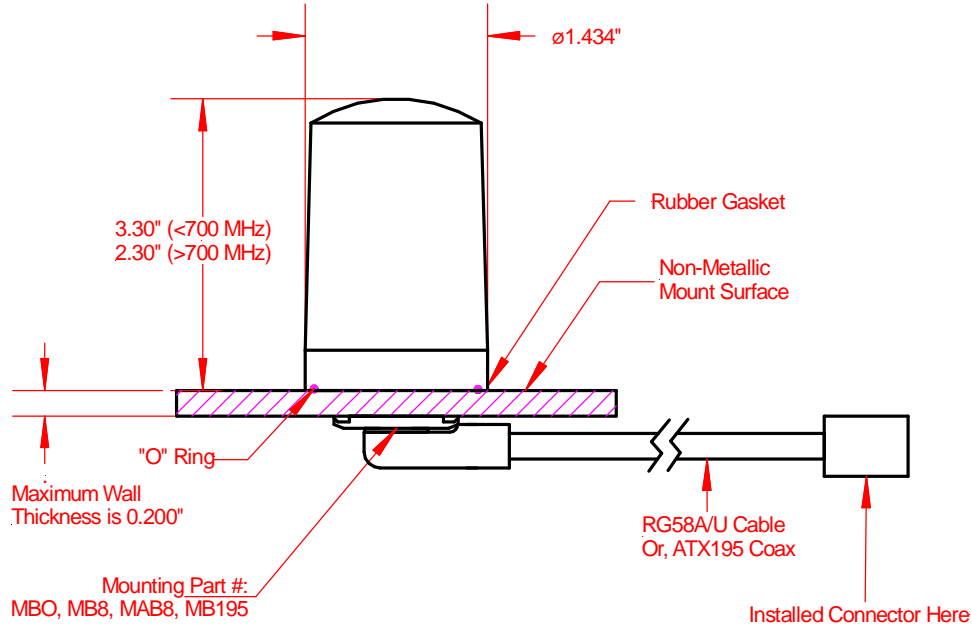
Marker 1: 1.1548 to 1 @ 902 MHz

Marker 2: 1.1174 to 1 @ 928 MHz

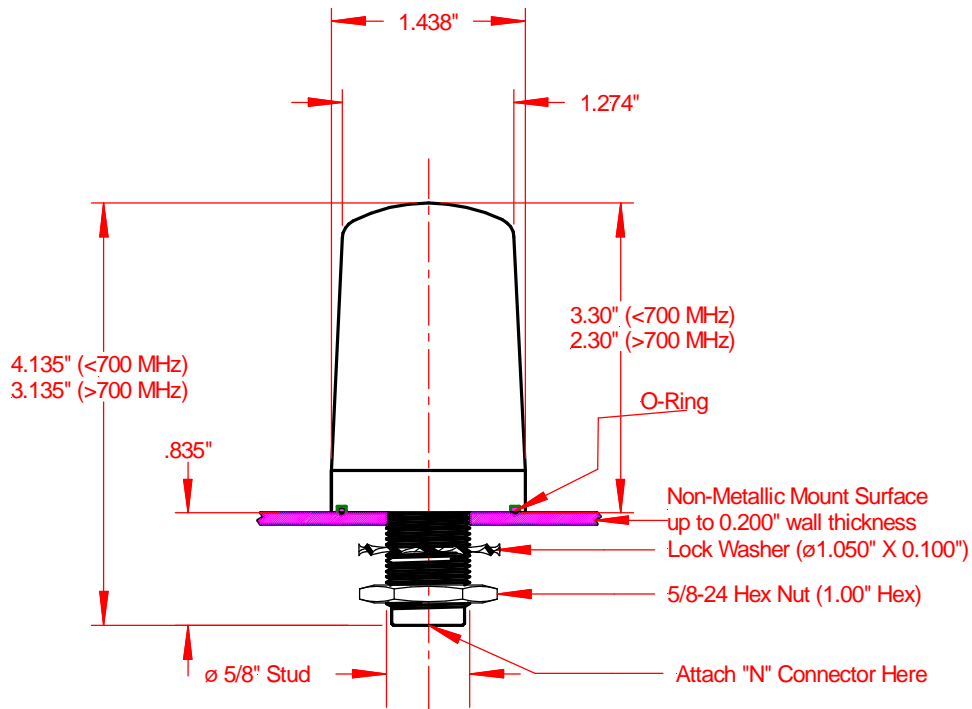
Marker 3: 1.0333 to 1 @ 915 MHz

06/14/2005

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**NMO models**



**P-mount models**