

# Directional Yagis Antennas Superior Quality & Performance

Our directional gamma matched yagis, 3 elements, VHF 200MHz series are designed focus on economical and high performance. This VHF yagi series is a 7.1 dBi antenna gain operates on 216-285 MHz frequency ranges. It is manufactured using high strength 6061-T6 aluminum to withstand heavy ice, high wind and other harsh conditions.



#### **FEATURES**

- High performance at low cost
- Fixed tune gamma matched design
- 100% tested on a network analyzer

### **APPLICATIONS**

Designed for low cost residential and commercial applications

### **ELECTRICAL**

**Nominal Impedance:** 

Frequency Range: see product model

 VSWR:
 < 2:1</td>

 Return Loss:
 -10dB max

 Nominal Gain:
 7.1 dBi

 Front to Back Ratio:
 17 dB

 Maximum Power:
 300 W

**Polarization:** Vertical or Horizontal

50Ω

Pattern: Directional

**Azimuthal (Vert) Beamwidth:** 76° **Elevation (Horz) Beamwidth:** 79°

Tuning: fixed tuned

Transmitting / Receiving: Both

## **MOUNTING**

**Included:** Yagi mounting kit for installation

**MECHANICAL** 

Material: 6061-T6 Aluminum

 Length:
 41.5"

 Height:
 25.75"

 Boom Diameter:
 0.875"

 Weight:
 2 lbs

Rated Wind Velocity: 120mph (222 kph)
Temperature Rating: -40°C to +85°C
Equivalent Flat Area: 0.5610 sq. ft. (max)

Cable: None

**Termination:** N-female connector

Color: Silver

Lightning Protection: Lightning Arresto

Lightning Arrestor LABH350NN (Sold Separately)



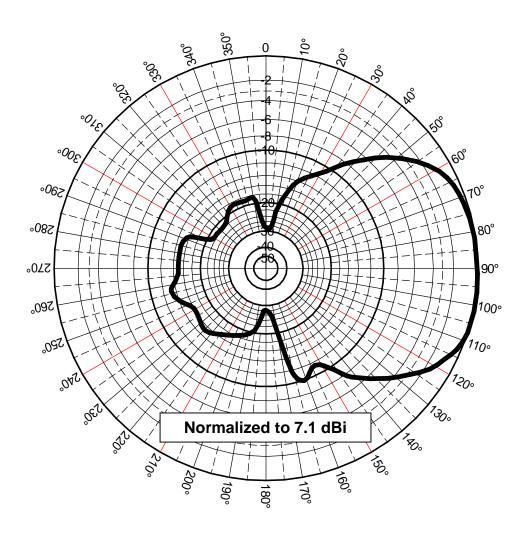
#### Model and Ordering Information:

<u>Model#</u>	<u>Description</u>	<u>Type</u>
YS2163	216-225 MHz, 3 elements, Gamma Matched, Yagi, 7.1 dBi	<b>Economical</b>
YS2203	225-250 MHz, 3 elements, Gamma Matched, Yagi, 7.1 dBi	<b>Economical</b>
YS2503	250-285 MHz, 3 elements, Gamma Matched, Yagi, 7.1 dBi	<b>Economical</b>



# **Directional Yagis Antennas Superior Quality & Performance**

# **ANTENNA RADIATION PATTERN**



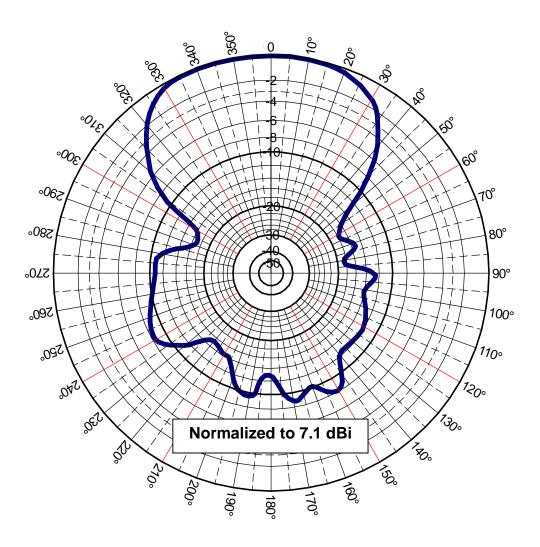
Azimuthal Pattern (X, Y or E-Plane) **Representation Pattern** 

**APPROVED** 



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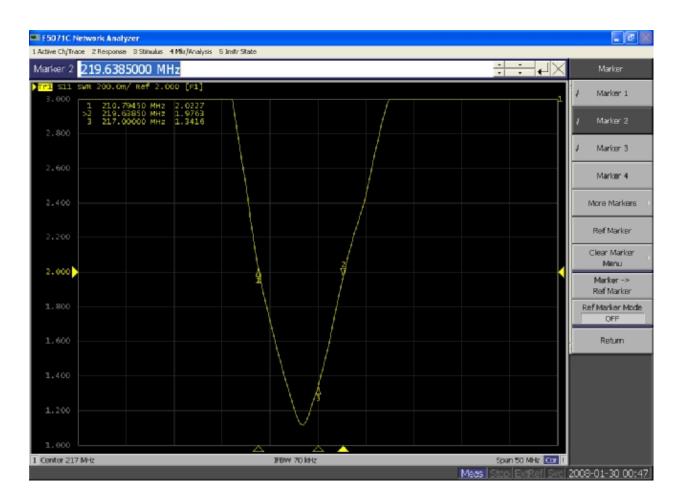
# **ANTENNA RADIATION PATTERN**



Elevation Pattern (Y, Z or H-Plane) Representation Pattern



## VSWR of Y(B)2203 (See Cutting Chart per requirement)



Y(B)2203 Typical VSWR sweeps on a heavy duty mounting bracket

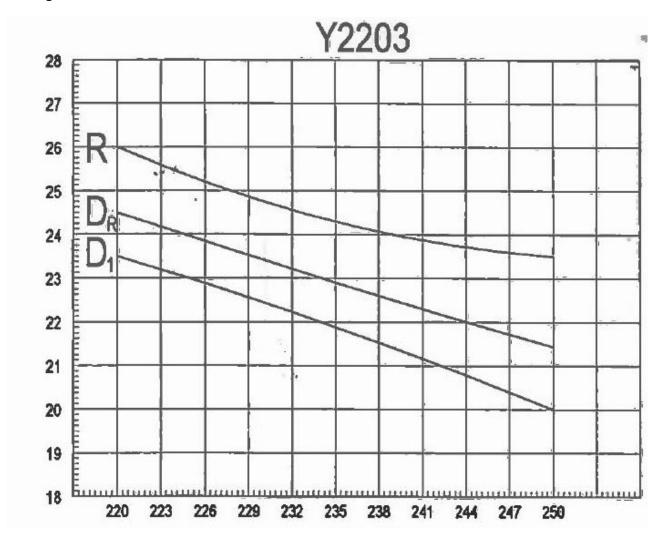
Sample Bandwidth per VSWR Plot (VSWR < 2:1)

Marker 1: VSWR 2.0227 to 1 @ 210.7945 MHz Marker 2: VSWR 1.9763 to 1 @ 219.6385 MHz Marker 3: VSWR 1.3416 to 1 @ 217.000 MHz

01/30/2008



## **Cutting Chart & Instructions**



### Tuning Instructions: (Bandwidth is ~9MHz)

- 1. For example, select frequency of interest at center frequency of 220MHz.
- 2. Cut the reflector element (R) per cutting chart above to 26". The reflector element is located approximately 10" away from the tip of the mounting boom area.
- 3. Cut the driven element (DR) per cutting chart above to 24.5" long. The driven element is located in the center between the reflector and the director elements.
- 4. Cut the director element (D1) per cutting chart above to 23.5" long. The director element is located 1" away from the tip of the boom.

#### Notes:

For quick visual inspection, be sure it is uniform for all elements when it is looking from the side (vertically) from the tip of the element toward the boom and the other end of the element tip.

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