



PAGE 1/8 **ISSUE** SERIES PART NUMBER MD11-039 20-02-25 **ANTENNA** (.793) BLADE ASSEMBLY (35.50) OPPOSITE SIDE NO MARKING TRAP (3.015)49" MAX. ( Ø.780 )JULIAN DATE CODE RADIALL LOGO **GOOSENECK** (3.015)RADIAL (6.890) STRAP GASKET--.109 .055 REFERENCE **PLANE** MATCHING UNIT TNC INTERFACE <u>AMU</u> (3.015)**DUST CAP REMOVED** DUST CAP UNITS: INCH

All dimensions are in Inches. Tolerances according ISO 2768 m-H





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#### **ELECTRICAL CHARACTERISTICS**

Frequency: 30-512 MHz Nominal Impedance: 50 Ω VSWR: 3.5:1 Max

Gain: See figures p4-8

Radiation Pattern

Horizontal Plane (Θ=90°): **Omni-directional** Vertical Plane (Φ=0°/90 ): Dipolar

**Linear Vertical** Polarization:

Power withstanding: W duty cycle

(1 min on/1 min off)

**TNC Male** Connector type:

### **MECHANICAL CHARACTERISTICS**

Antenna Color: **Black matte** 

Matching Unit Material: **PET Black PET Black** Trap Material: Molded part Texture: Mold-Tech MT 11040

Matching Unit Length: 3.015 Inches

Blade Material: Stainless Steel

Blade Flex Test: Cycles

0-180° around ø0.5"

Weight (antenna): Oz Overall length: Inches Max.

#### **ENVIRONMENTAL CHARACTERISTICS**

Operating Temperature: ° C

MIL-STD-810F, Methods 501.4 & 502.4, Procedure II

Storage Temperature: -55/+85

MIL-STD-810F, Methods 501.4 & 502.4, Procedure I

-40/+70

Thermal Shock: ° C

MIL-STD-810F, Method 503.4, **Procedure I Steady State** 

Humidity 95% Relative Humidity

(Non-condensing): **Through Operating Temp range** 

MIL-STD-810F, Method 507.4,

Procedure 4.5.2 for five 48hr cycles

Salt Fog: Salt Concentration

96 Hours

MIL-STD-810F, Method 509.4 Icing / Freezing: Ice Thickness 13 mm

MIL-STD-810F, Method 521.2,

Procedure I Sand & Dust: MIL-STD-810F, Method 510.4,

Procedure I & Procedure II

**US Standard Set Of Test Fungi** Fungus: **Duration 28** Days

MIL-STD-810F, Method 508.5



# **Technical Data Sheet**

49" BLADE ANTENNA 20W 30 – 512MHz

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Solar Radiation :		Test Category A1, Curve W MIL-STD-810F, Method 505.4,			
Immersion :			Procedure I 20 2 MIL-STD-810F, Method 512.4,	Meters (sea water) Hrs	
	Altitude (Operational) :		Procedure I Equivalent to 43.1 30,000	Psia Ft	
	Shock :		MIL-STD-810F, Method 500.4, Procedure II 20g	Peak Acceleration	
			11ms MIL-STD-810F, Method 516.4, Procedure I	Duration	
	Vibration (Loose Cargo Transport):		MIL-STD-810F, Method 514.5, Procedure II, Category 5.2		
Shock (Transit Drop Test) :		Drop Test) :	48 MIL-STD-810F, Method 516.5, Procedure IV, 26 Drops	Inches	
			Procedure IV, 26 Drops		

**OTHERS CHARACTERISTICS** 



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#### **CURVES**

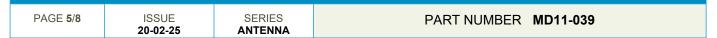
### **VSWR Measurement on a JEM Chassis** 5.00E+00 4.50E+00 4.00E+00 3.50E+00 loaded 3.00E+00 unloaded 2.50E+00 2.00E+00 1.50E+00 1.00E+00 30 60 90 120 150 180 210 270 300 330 360 390 420 450 480 510

Figure 1: Typical VSWR unloaded measured 1m above the ground on the radio chassis

Frequency (MHz)







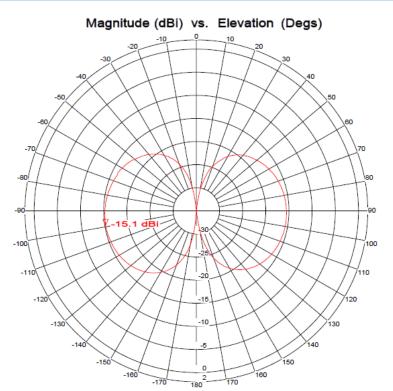


Fig 3: Elevation Pattern F = 45 MHz

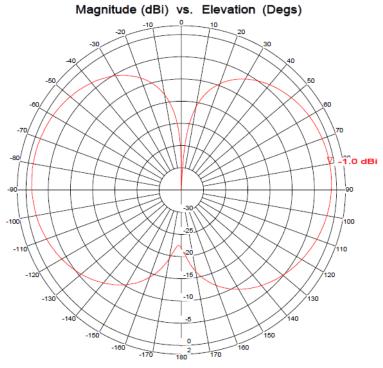


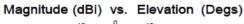
Fig 4: Elevation Pattern F = 75 MHz







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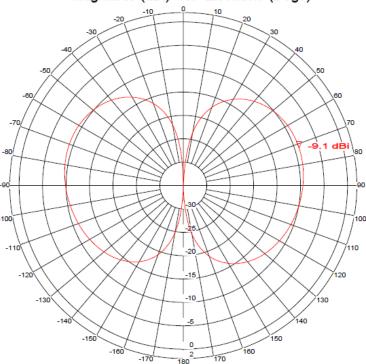


Fig 5: Elevation Pattern F = 100 MHz

## Magnitude (dBi) vs. Elevation (Degs)

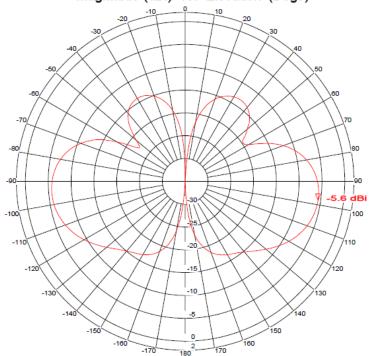
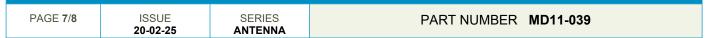


Fig 6: Elevation Pattern F = 200 MHz







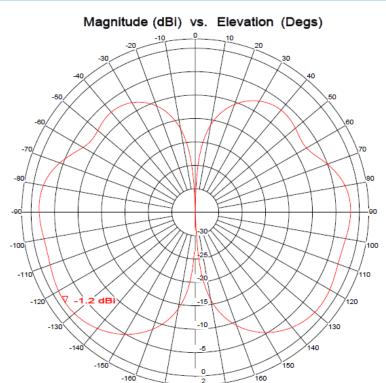


Fig 7: Elevation Pattern F = 300 MHz

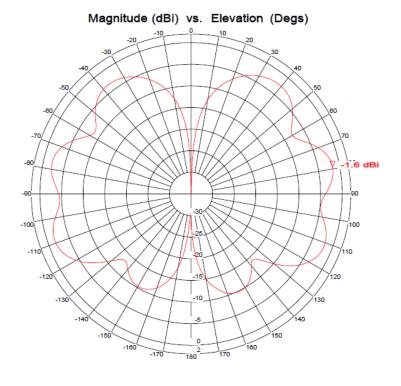


Fig 7: Elevation Pattern F = 400 MHz



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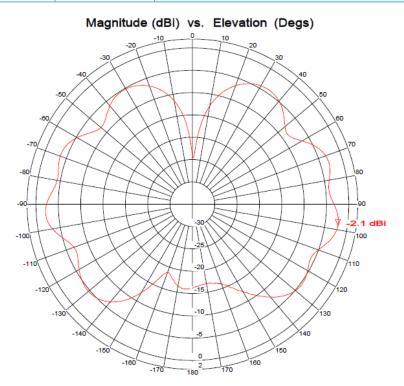


Fig 7: Elevation Pattern F = 500 MHz