Manpack VHF High-Power Antenna

20 – 520 MHz

Product Code: OMNI-A0178

VERSION: 1.7

PRODUCT FEATURES:

- High efficiency VHF antenna
- Full-band coverage, takes the place of 2 regular high-power antennas
- Proven flexible base spring protects the antenna

APPLICATION AREAS:

- Manpack high-power systems
- Wideband monitoring
- Dismounted force protection
- Carry-forward high-power solutions

SPECIFICATIONS:

Product code:	
OMNI-A0178	N-type (M) connector
OMNI-A0178-01	7/16 (M) connector
Electrical:	
Frequency range	20 – 520 MHz
Gain	See graph
VSWR	< 3.5:1, typical 2.5:1
Nominal impedance	50 Ω
Azimuth pattern	Omni-directional
Elevation pattern	Monopole pattern
Power handling	30 W CW
DC resistance	Short circuit
Groundplane requirements	Groundplane dependent, Minimum 400 mm x 200 mm x 500 mm, manpack recommended
Mechanical:	
Dimensions of base (l x d)	125 mm x 60 mm
Dimensions of whip (l x d)	875 mm x 25 mm max
Total mass	0.5 kg
Mounting	On connector at base
Colour	Black, others on request
Environmental: designed to meet the following specifications	
Temperature range	Storage: -30 °C to +70 °C Operation -30 °C to +55 °C
Humidity	MIL-STD-801F Test 507.4 Storage: 0% to 95% RH Operation: 0% to 95% RH
Weatherproofing	IP 66 rain resistant (when mounted on a connector)
Shock and vibration	MIL-STD-810E 516.4: vibration category 8, shock 40 g
Exposed materials	Painted aluminium and stainless steel. Black pigmented plastic
Wind Survival	160 km/h

PRODUCT OVERVIEW:

This wideband manpack antenna covers the full VHF band with some extension to 20 MHz and 520 MHz. It is mounted on a connector base, with a matching unit at the base, a spring for shock absorption and flexibility, and has a thin steel whip. By covering the full VHF band in 1 antenna, it replaces 2 conventional high-power antennas, reducing clutter and visual signature on the manpack system.

The matching section at the base of the antenna contains transformers and loading for the whip. This is mounted directly onto the N-type connector. The whip extends from the top of the matching section, it is spring-loaded at its base, and flexible over its length.

The radiating whip is loaded along its length to control the antenna radiation patterns. It is thin and flexible over most of its length, with loads protruding slightly. The whip will not be damaged by contact with trees, doorways etc., in normal operation.

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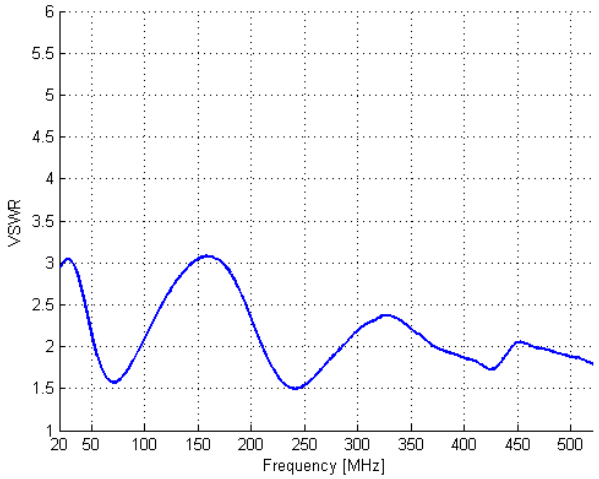
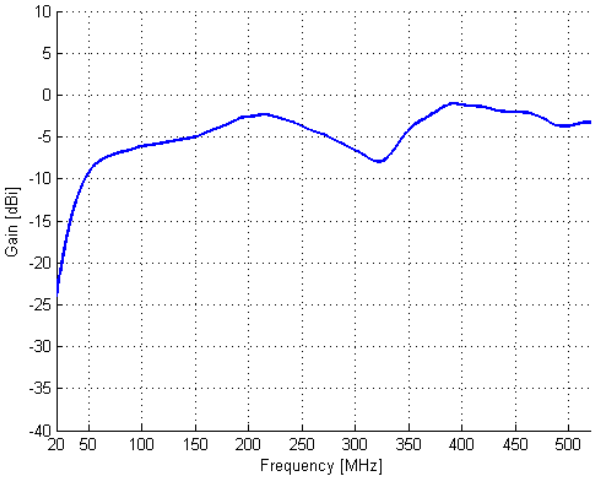
VSWR AND GAIN GRAPHS:

VSWR:

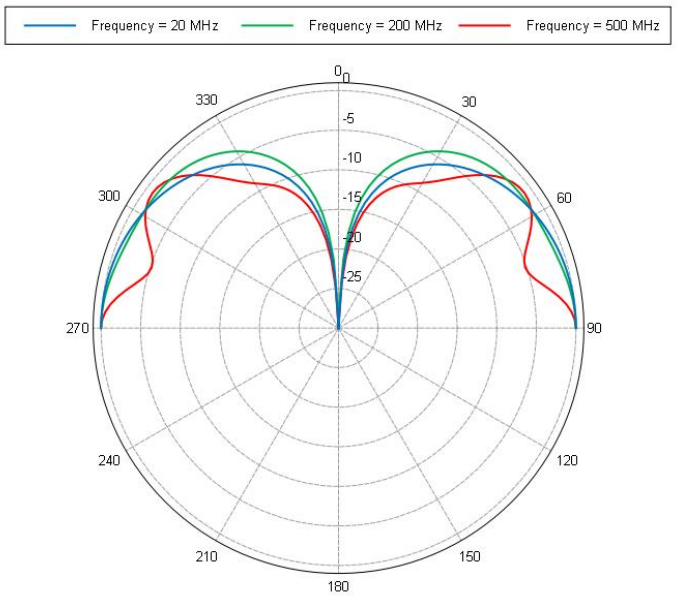


GAIN:



Radiation patterns:

E-plane:



sales@alaris.co.za
www.alarisantennas.com