



## FEATURES

- **High Strength Broadband Blade Antenna**
- **Frequency Selective passive Matching Network**
- **Requires no external tuning**
- **Fully Foamed for High Environmental Integrity**
- **Suitable for wide band Multi-Mode Radios - optimized VHF/AM minimal VHF/Low band performance**
- **Designed to MIL-STD-810 environmental conditions**
- **Twin connectors for V/UHF and UHF Hi Band**

**21-50-331**

**Wide-band VHF/UHF Airborne  
Blade Antennas  
30 to 941 MHz**



The 21-50-331 is a vertically polarized, omni-directional antenna, compatible with all popular airborne radios operating within the 108 to 941 MHz frequency range and with limited capability from 30-108 MHz. This antenna can handle up to 25 Watts of power and requires no external tuning.

This wideband, multi-function antenna developed by Cooper Antennas Ltd is particularly suited to public service, para-military and tactical military communications. Rugged design ensures reliability in world wide conditions of service on helicopters and subsonic aircraft.

Use of proprietary matching techniques optimizes efficiency and provides omni-directional radiation throughout the operating frequency range. Unique element shaping preserves elevation pattern throughout frequency band.

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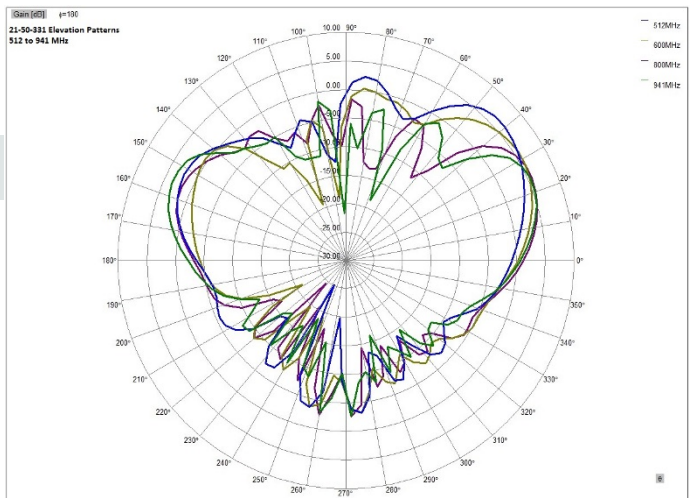
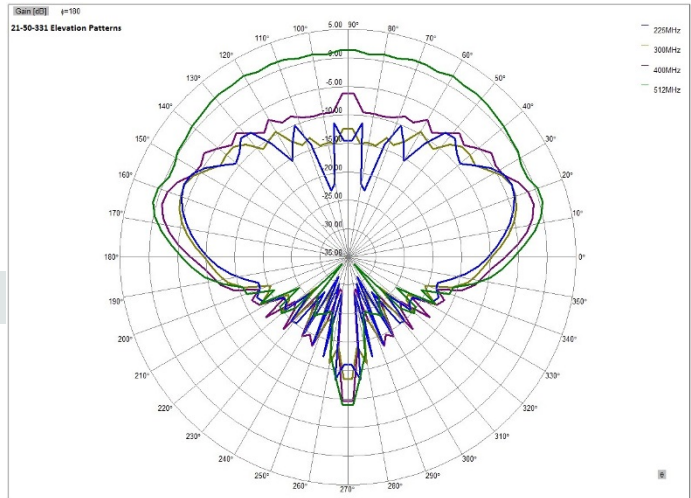
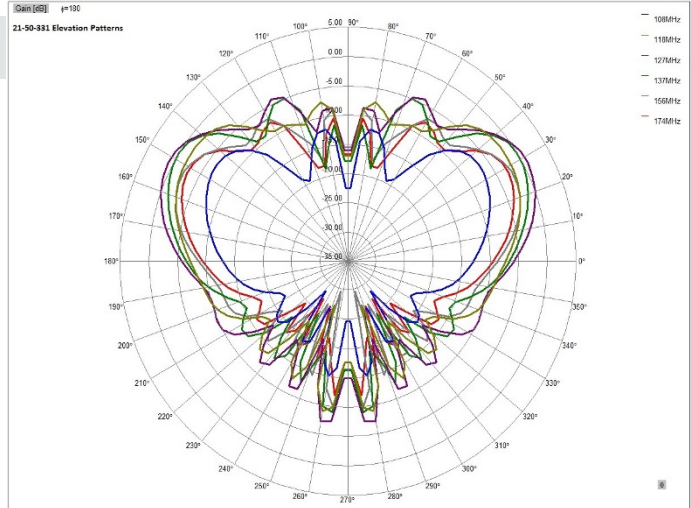
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# SPECIFICATIONS

## Cooper Antennas Model 21-50-331 Wide-band Airborne Blade Antenna

### ELECTRICAL

<b>Frequency</b>	<b>30 - 512 MHz</b> <b>512 - 941 MHz</b>
<b>Gain (Typical)</b>	<b>108 - 174 MHz -3 dBi average</b> <b>(-2dBi minimum 118-137 MHz)</b> <b>225 - 512 MHz + 1 dBi average</b> <b>512 - 941 MHz 0 dBi average</b>
<b>VSWR</b>	<b>≤ 2.5:1</b>
<b>Impedance (nominal)</b>	<b>50 Ohms</b>
<b>Power</b>	<b>25 Watts CW</b>
<b>Polarization</b>	<b>Vertical (when vertically mounted)</b>
<b>Radiation Pattern</b>	<b>Azimuth : Nominally Omni-directional</b> <b>Elevation : See graphs</b>
<b>Antenna RF Connector</b>	<b>Type N Female ( 30 - 512 MHz)</b> <b>TNC Female ( 512 - 941 MHz)</b>



### MECHANICAL

<b>Antenna Shell Type</b>	<b>High density foam filled epoxy/fiber glass shell set in aluminum alloy base.</b>
<b>Height</b>	<b>9.4 inches (239mm) max</b>
<b>Weight</b>	<b>3 lbs (1.36kg) max</b>
<b>Mounting Holes</b>	<b>10 x Ø 0.208 inch (5.3mm) holes</b>

### FINISH PART NUMBER COLOR DESCRIPTION

<b>21-50-331</b>	<b>FED-STD 595 Code 17925 Gloss white Urethane</b>
<b>21-50-331F81</b>	<b>FED STD 595 Code 36118 Medium Gunship Gray</b>
<b>21-50-331F04</b>	<b>FED-STD 595 Code 37038 Lusterless black urethane</b>

Other finish options are available. Please specify finish required when ordering.

Note: Cooper Antennas Ltd has a policy of continuous product improvement and data herein is therefore subject to change. Please check with Cooper Antennas Ltd that this data sheet is at latest issue before initiating contract activity.