



21-50-78

**Multi-function V/UHF/LOS
Satcom and GPS Antenna**

30 to 512 MHz & 240 to 400MHz

1564 to 1587/1216 to 1239 MHz

FEATURES

- **Hi angle UHF Satcom & MUOS coverage**
- **Lo Angle V/UHF LOS communication**
- **Covers L1 and L2 GPS Frequencies**
- **EPLRS compatible**
- **Low wingspan minimizes loading on aircraft structure**
- **Fixing holes compatible with 437S1-H**
- **Designed to MIL-STD-810 Environmental Requirements**
- **Erosion protection over all leading edge surfaces**



The 21-50-78 is a rugged multifunction V/UHF LOS, UHF Satcom and GPS antenna designed for airborne applications. A high strength aerodynamic vertical shell houses a 30 to 512 MHz linear element that can be used for V/UHF line of sight "LOS" communications or UHF Satcom at low angles of elevation. This vertical shell also supports a "Bat-Wing" shape horizontal element containing a pair of cross dipoles, connected to provide high angle, right hand circularly polarized UHF Satcom coverage and an L1/L2 passive GPS antenna. The antenna is completely sealed and filled with closed cell foam for long term protection against moisture ingress and reliability is further enhanced by a polyurethane rubber coating over all leading edges.

Cooper Antennas Ltd for non-USA customers
Thames Industrial Estate, Unit K, Fieldhouse Lane,
Buckinghamshire SL7 1TB, UK
Tel: +44 (0) 1628 482 360
Email: sales@cooperantennas.com
www.cooperantennas.com



Australian Representatives
ROJONE, PTY LTD.
Tel: 02 9829 1555
E: sales@rojone.com.au
www.rojone.com.au

SPECIFICATIONS

Cooper Antennas Model 21-50-78

Multi-function V/UHF/LOS/Satcom and GPS Antenna

ELECTRICAL

Frequency	UHF Hi Angle : 240 - 400 MHz V/UHF Lo Angle : 30 - 512 MHz GPS: 1564 - 1587 / 1216 - 1239 MHz
Gain (typical)	Hi Angle : +6.5 dBiC Lo Angle : -20 dBi @ 30 MHz -8.0 dBi @ 88 MHz -5.0 dBi average @ 118-174 MHz +2.0 dBi average @ 225 - 512 MHz GPS: +3.0 dBiC @ Zenith
VSWR	Hi Angle : ≤ 2.0:1 Lo Angle : ≤ 2.5:1 30-451 MHz ≤ 3.0:1 451-512 MHz GPS : ≤ 2.0:1
Impedance (nominal)	50 Ohms for all ports
UHF Power	Hi Angle: 200 Watts CW Lo Angle: 50 Watts (30-88 MHz), 50 Watts (118-174 MHz) 200 Watts (225-512 MHz) GPS: 1 Watt
Polarization	UHF Hi Angle : Right Hand Circular UHF Lo Angle : Vertical GPS: Right Hand Circular
Antenna RF Connector	UHF Hi Angle : N Female UHF Lo Angle : TNC Female GPS: TNC Male

MECHANICAL

Height	12.9 inches (328mm) max
Wingspan	13 inches (330mm) max
Mounting Hole Configuration	8 holes each 0.208 - 0.234 dia. Inches (5.28 - 5.94mm)
Weight	9.86 lbs (4.47Kg)

ENVIRONMENTAL

Designed to Environmental	MIL-E-5400 Class 2 / MIL-STD-810
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FINISH

Antenna: Urethane Lusterless Grey	Baseplate: Unpainted, Alocrom
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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.