

19-440-10

CHELTON

V/UHF Broadband and UHF
SATCOM Antenna 30 MHz - 400
MHz

Key features:

- Enhanced gain at 30MHz
- Very high side load resistance
- Lightning protection

The 19-440-10 V/UHF Broadband and UHF SATCOM Antenna covers the frequency bands 30 MHz to 88 MHz and 108 MHz to 152 MHz for communications, and 240 MHz to 400 MHz for high angle satellite communications. In addition, the 19-440-10 may be used for either UHF communications or low angle UHF satellite communications (but not both simultaneously).

The 19-440-10 is low-profile in construction and intended for general airborne applications.

A variant of the 19-440-10, the 19-440-10N, offers alternative types of connector.

Low angle coverage is provided by the vertical element, and high angle coverage is provided by the circularly polarized element. In this way, essentially full hemispheric coverage is achieved for satellite communications.

The 19-440-10 utilizes a one-piece vertical shell moulded under heat and pressure for high strength and resistance to moisture ingress.

The horizontal element is contained within a circular fibreglass moulding, which is securely and permanently fitted to the vertical shell.

An aluminium alloy base plate provides for fixing the antenna to the airframe, and careful design of internal ribs and base-to-shell load transfer ensures very high side loading acceptance.



ELECTRICAL

Frequency Range

Low Angle	30 MHz-88 MHz 108 MHz - 152 MHz 225 MHz - 400 MHz
High Angle	240 MHz - 400 MHz

Gain

Low Angle	30 MHz >-26 dBi 88 MHz >-15 dBi 108 MHz-118 MHz >-10 dBi * 118 MHz-152 MHz >-6.5 dBi * 225 MHz-400 >0 dBi *
High Angle	+5 dBiC minimum (average full band) at zenith

Polarisation

Low Angle	Vertical
High Angle	Predominantly RHCP at zenith

Power Rating

Low Angle	30 MHz-88 MHz 50 W max 108 MHz-152 MHz 50 W max 225 MHz-400 MHz 200 W max
High Angle	240 MHz-400 MHz 200 W max

Impedance

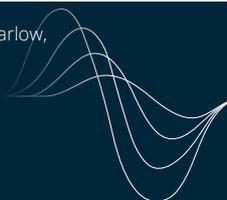
50 ohm (nominal)

VSWR

Low Angle	2.5:1 max
High Angle	2.0:1 max

Isolation

≥ 15 dB (mid-band)



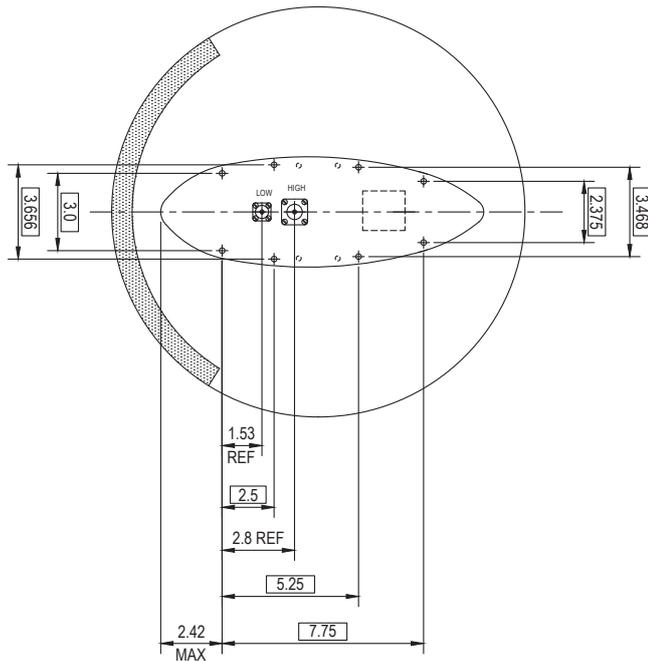
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ENVIRONMENTAL

Operational Temperature	-54°C to +95°C
Temperature/Altitude	MIL-STD-810C, Method 504.1, Procedure I, Category 5
Acceleration	MIL-STD-810E, Method 516.4, Procedures I and V Functional: 20 g, 11 ms, sawtooth Crash Hazard: 40 g, 11 ms, sawtooth
Vibration	MIL-STD-810E, Method 514.4, Procedure I, Category 10
Temperature Shock	MIL-STD-810E, Method 503.3, Procedure I
Humidity	MIL-STD-810C, Method 507.1, Procedure I
Salt Fog	MIL-STD-810C, Method 509.1, Procedure I. 48 hours exposure to 5% salt solution
Dust (Fine Sand)	MIL-STD-810C, Method 510.1, Procedure I
Explosive Atmosphere	MIL-STD-810E, Method 511.3, Procedure I
Fungus	MIL-STD-810D, Method 508.3



MECHANICAL

Height	209.55 mm (8.25")	
Width	403.86 mm (15.9")	
Max Weight	3.65 kg (3.3 lbs)	
Connectors	19-440-10	19-440-10N
Low Angle	TNC Type Female	N Type Female
High Angle	N Type Female	N Type Female
Mounting	8 holes fixed location	

