

9-33-14

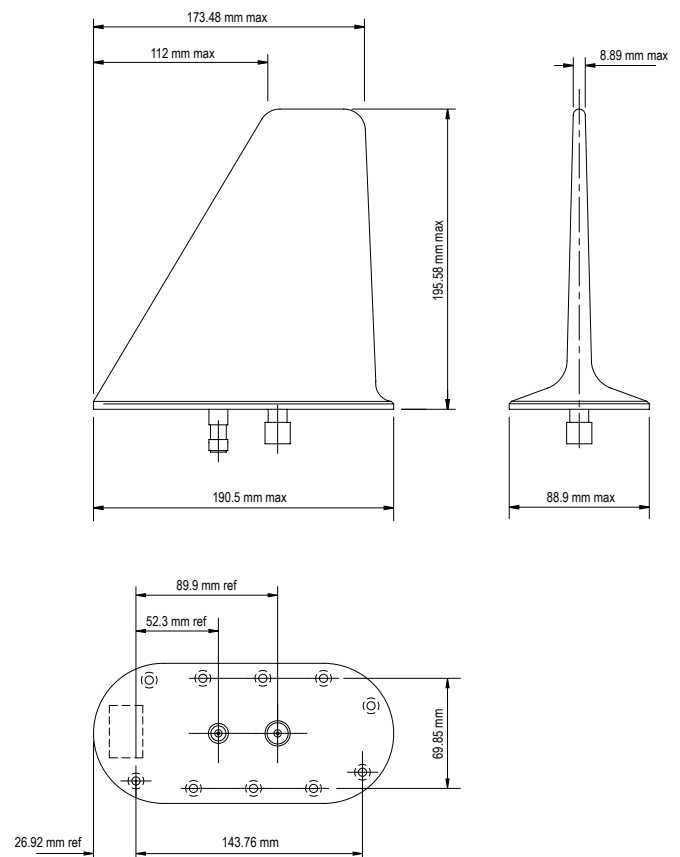
CHELTON

UHF/L-Band Antenna

The 9-33-14 is a high-strength, combined UHF and L-band blade antenna designed to provide communications in frequency bands 225 MHz to 400 MHz and 960 MHz to 1220 MHz. The antenna is capable of operating under extreme environmental conditions.

The 9-33-14 is configured as a notch antenna at L-band, and as a shunt fed monopole for UHF communications. The feed to the antenna is split to provide isolation between the UHF and L-band functions.

The antenna comprises a machined, aluminium alloy blade, with a high strength Kevlar trailing edge cover. The electrical circuitry is enclosed by an aluminium alloy baseplate with an integral filter assembly housing a TNC female and SC female connector. All cavities are foam filled to provide additional structural stability and to prevent ingress of moisture.



UHF/L-Band Antenna

ELECTRICAL

Frequency	225 MHz - 400 MHz (UHF) 960 MHz - 1220 MHz (L-band)	
Gain	dBi	MHz
	≥ 1.5	225
	≥ 2.5	312.5
	≥ 3.0	400
	≥ 3.0	960
	≥ 3.0	1090
	≥ 3.0	1220
Polarisation	Vertical when mounted vertically	
Radiation Pattern	Omnidirectional in azimuth (nominal) As per quarter wave monopole in elevation (nominal)	
Power Rating	150 W CW average	225 - 400 MHz
	100 W average, 4 kW peak	960 - 1220 MHz
Impedance	50 ohms nominal	
VSWR	< 2.5:1	30 MHz - 512 MHz
	< 2.0:1	950 MHz - 1 000 MHz
	< 1.8:1	1000 MHz - 1100 MHz
	< 2.0:1	1100 MHz - 1250 MHz
Isolation	≥ 50 dB between bands	
Connectors	UHF:	TNC Type Female
	L-Band:	SC Type Female

MECHANICAL

Dimensions (LxWxH)	195.6 x 190.5 x 88.9 mm (maximum)
Weight	1 kg (maximum)
Aerodynamic Loads	4,200 kgf/m ² functional (6 psi) 6,300 kgf/m ² minimum ultimate (9 psi)
Mounting Configuration	10 holes fixed location

ENVIRONMENTAL

High Temperature	MIL-STD-810	
	Operational:	+71°C
	Storage:	+95°C
Low Temperature	MIL-STD-810	
	Operational:	-40°C
	Storage:	-54°C
Altitude	MIL-STD-810	24384 m (80000 ft)
Acceleration:	MIL-STD-810	13.5 g all axes
Shock	MIL-STD-810	
	Functional:	20 g, 11 ms, sawtooth
	Crash Hazard:	40 g, 11 ms, sawtooth
Vibration	MIL-STD-810D, Method 514.3, Procedure I, Category 5 Fig 514.2-2A (modified)	
Thermal Shock	10°C/min between operational limits	
Rain	Normal operation when exposed to rain	
Humidity	Normal operation with relative humidity up to 95% at 60°C	
Salt Fog	No degradation by salt exposure up to 48 hr at 5% salinity	
Solar Radiation	No degradation of performance due to direct exposure	
Fungus	The exterior or exposed materials shall not be degraded by fungal attack	
Magnetic Effect	RTCA DO-160E, Section 15, Category Z	

