

Application

The VHF30512CEF is an ultra wideband vehicle antenna designed for use on all modern in-service military platforms, including armoured or soft skin, metal chassis or composite, wheeled or tracked.

The novel design gives it an excellent gain and radiation pattern across the whole frequency range. The antenna needs no adjustment for different frequencies as all the tuning elements are within the whip.

Bases are available to suit different mounting configurations with optional dual feed connectors and L1 & L1/L2 GPS.

Electrical Specification (Antenna)

Frequency range	30 - 512MHz
VSWR	< 3.5, see diagram
Nominal impedance	50 ohm
Power rating	50 W
Gain	-5 to 1.5 dB rel. ¼ wave dipole see diagram overleaf
Radiation pattern	Azimuth: Omnidirectional
Polarisation	Vertical
Connector	BNC female, others on request

Mechanical specifications:

Design	Centre fed dipole for UHF. End-fed whip for VHF. Radiating element completely enclosed in epoxy/fibreglass laminate. Metal parts are plated brass and stainless steel.
Length	Total: 2.65m Lower whip: 1.14m Upper whip: 1.45m Base: 0.24m
Weight	Total: 3.75kg* Lower whip: 1.2kg Upper whip: 0.3kg Base: 2.25kg*
Wind rating	55 m/s = 125 mph
Finish	Polyurethane lacquer
Colour	Customer Specified
Installation	See base option table
Temperature range	-55 °C, +71°C; -67 °F, +160 °F

* Weight with standard NATO 4 hole base. Base options specified overleaf.

Description	Antenna Base	Base Image	Feed	VHF Connector	UHF Connector	L1 GPS Option	L1/L2 GPS Option
Broadband 30-512 MHz	NATO 4 Hole	A	Single	BNC Female		✓	✓
Broadband 30-512 MHz	NATO 4 Hole	A	Single	N Type Female		✓	✓
Broadband 30-512 MHz	NATO 4 Hole Rigid	E	Single	N Type Female		✓	✓
Broadband 30-512MHz	NATO 6 Hole	B	Single	BNC Female		✓	✓
Broadband 30-512 MHz	NATO 6 Hole	B	Single	N Type Female		✓	✓
Broadband 30-512 MHz	NATO 50mm Thread	C	Single	BNC Female		✓	✓
Broadband 30-512 MHz	Mast Mount	D	Single	BNC Female		X	X
Dual-band 30-88 & 116-512 MHz	NATO 4 Hole	A	Dual	BNC Female	BNC Female	✓	✓
Dual-band 30-88 & 116-512 MHz	NATO 6 Hole	B	Dual	BNC Female	BNC Female	✓	✓

Base Options



A
NATO 4-hole
4 x M10 or 3/8" Bolts
on 114mm PCD
Base diameter 140mm



B
NATO 6-hole
6 x M6 or 1/4" Bolts
on 111mm PCD
Base diameter 140mm



C
NATO
50mm Thread
Base diameter 95mm



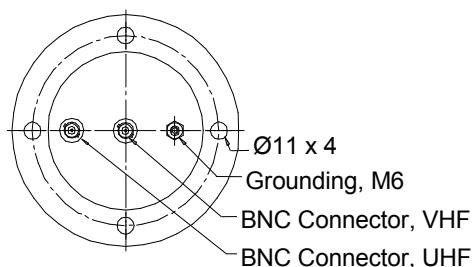
D
Mast Mount Bracket
Rigid (no spring)
24mm Spigot
50mm Spigot
Customer Specified



E
NATO 4-hole
Rigid (no spring)
4 x M10 or 3/8" Bolts
on 114mm PCD
Base diameter 140mm

Dual Feed

Dual feed bases incorporate a diplexer to enable the antenna to operate as a dual band VHF 30-88MHz, UHF 116-512MHz. Below is a typical NATO 4-Hole base with BNC/BNC Dual Feed.

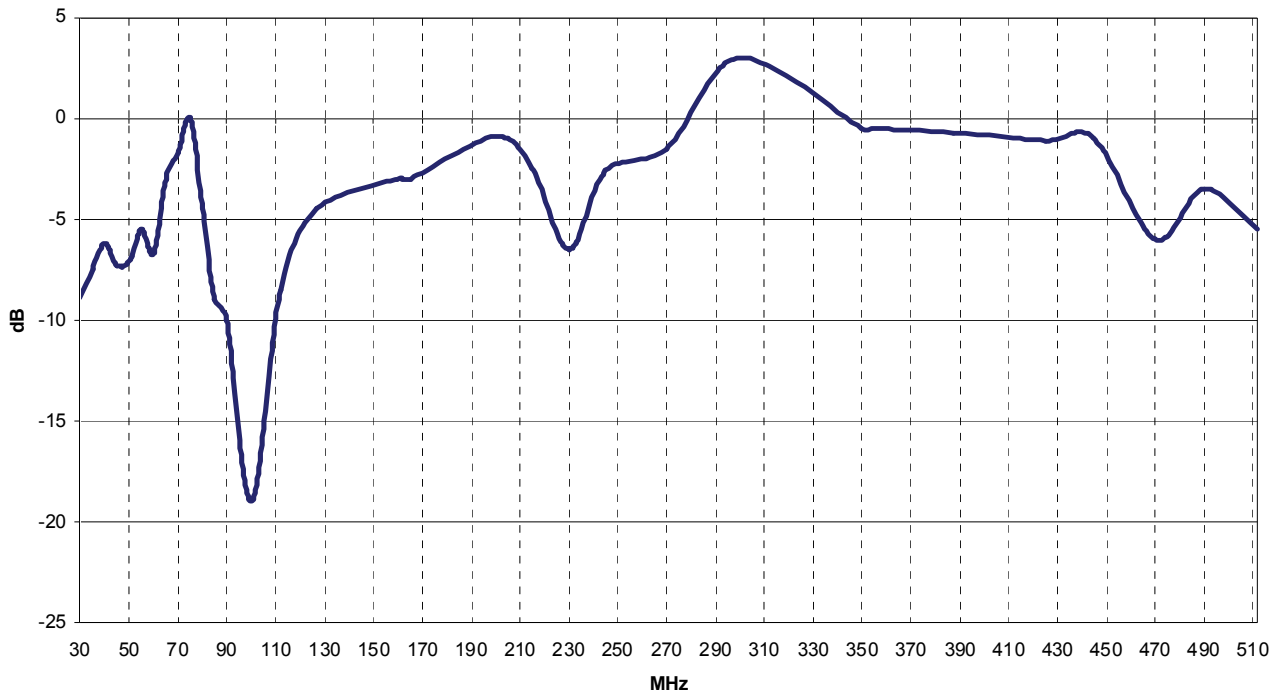


GPS Electrical Specification

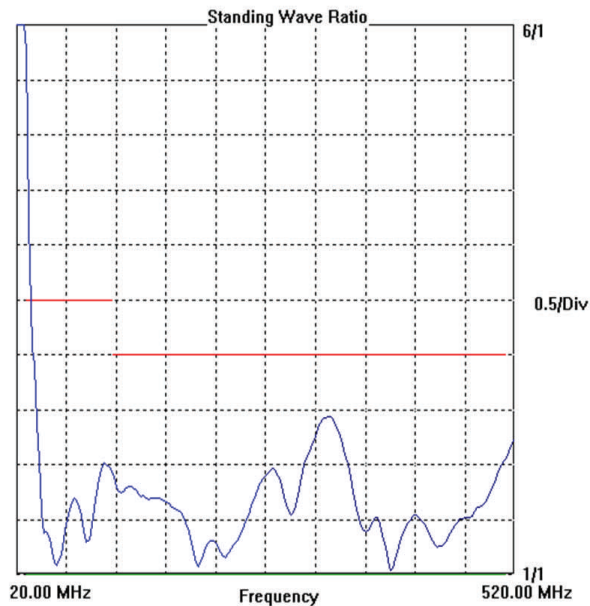
	L1 GPS	L2 GPS
Frequency Band	1575.42 ± 10 MHz	1227.60 ± 10 MHz
Supply Voltage	2.7-5.5V	2.7-5.5V
Pre-amplifier	26.5 dB @ 5V	26.5 dB @ 5V
Noise Figure	2.5dB	2.5dB
Supply Current	< 60mA	< 60mA
Polarisation	RHCP	RHCP
Connector	SMA female	SMA female

Antenna Options

Product	Description
Whip Bag	Protective carrying bag for upper and lower whip sections.
Tie Down Kit	Allows the whip to be tied down to the vehicle while in motion.



Gain relative to a 1/4 wave whip
Antenna installed in the centre of a 3 x 3m ground plane



VSWR Curve
(Single feed Wideband Configuration)