DB30512-M

VHF/UHF sectional vehicle whip, monopole/dipole, GPS, 2.35 m, 30-88 MHz, 225-512 MHz

Tactical Antennas: Vehicle Mount

General

The DB30512-M is a tactical dual band whip antenna, designed to be installed on armed forces vehicles, for connection to a VHF radio 30-88 MHz and a UHF radio 225-512 MHz.

The antenna is designed as a monopole in the VHF band, with performance similar to an end-fed VHF only antenna. The UHF part is an elevated high gain dipole which reduces distortion of the radiation patterns that could be caused by the environment of a vehicle.

The antenna is available with single or dual feed in the VHF/UHF bands. Optional L1 or L1/L2 GPS is also available. See option table on page 3 for details.

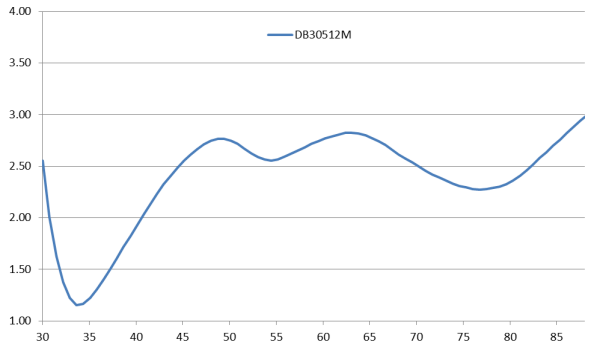
Electrical Specifications

	VHF	UHF	L1 GPS (option)	L1/L2 GPS (option)
Frequency	30-88 MHz	225-512 MHz	1575.42 ± 1.023 MHz	L1 - 1575.42 ± 10 MHz L2 - 1227.60 ± 10 MHz
VSWR	≤3.5:1 (see plot)	≤3.5:1 (see plot)	Supply voltage: 3 V ± 0.5 V Pre-amplifier: 27 dB Noise Figure: 2 dB Supply Current: < 35 mA	Supply voltage: 2.7-5.5 V Pre-amplifier: 26.5 dB @ 5 V Noise Figure: 2.5 dB Supply Current: < 60 mA
Gain	From - 3 to + 3 dBi compared to λ/4 whips on a 3x3 m ground plane. (see typical plot)	From -1 to +3 dBi. 0.5 dBi in average. (see typical plot)		
Impedance	50 Ω	50 Ω		
Power	100 W CW	50 W CW		
Connector (Default)	BNC female (see option table)	TNC female (see option table)	SMA female	SMA female
EMP	Integrated			
Polarisation	Vertical		RHCP	RHCP
Directivity	Omnidirectional			
Isolation	See Plot			

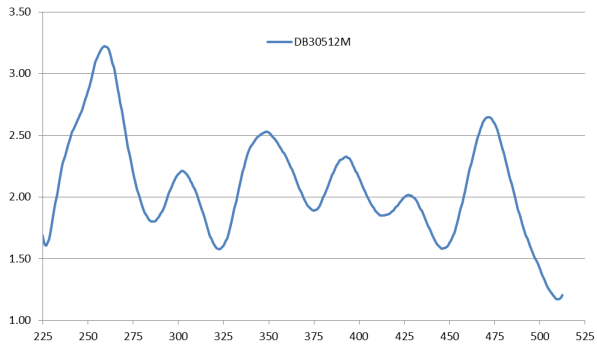
Mechanical and Environmental Specifications

Dimensions	Height: 2.35 m Top diameter: 8 mm
Weight	Total: 3.4 kg Base: 2.1 kg Lower Whip: 1.1 kg Upper Whip: 0.2 kg
Color	Base: Black Whips: Green or Sand
Temperature Range Operation	- 40°C to + 70°C
Temperature Shock	- 40°C to + 55°C and + 55°C to - 40°C
Heat and Humidity	30°C @ 88% HR
Salt Fog	96 hours
Immersion	1 m for 2 hours
Rain	100 mm/h
Oak Beam Test	25 impacts at 40 km/h
Drop Test	26 drops, 1.2 m height
Wind Rating	160 km/h

VSWR

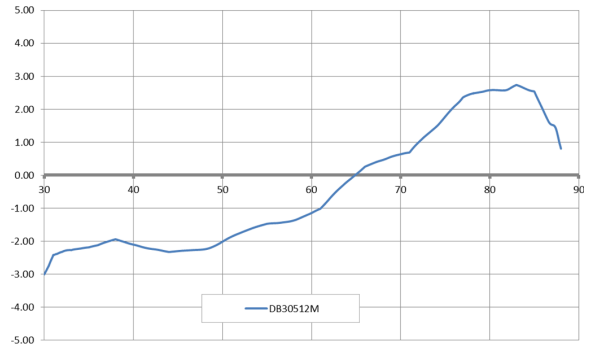


Typical VHF VSWR
(edge of 3 x 3m ground-plane)

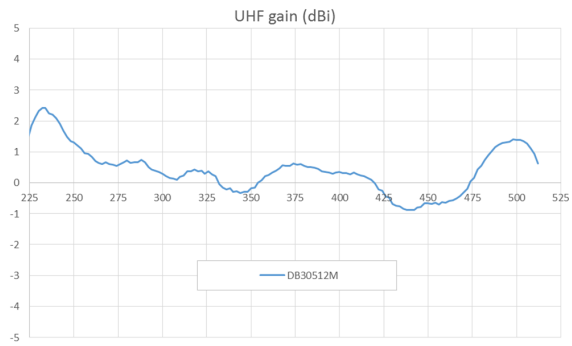


Typical UHF VSWR
(edge of 3 x 3m ground-plane)

Gain

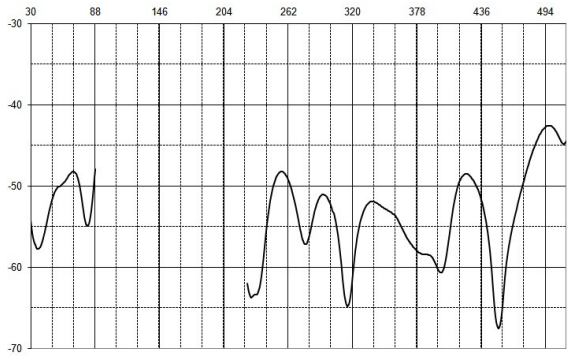


Typical VHF gain in dB rel. λ/4 whips



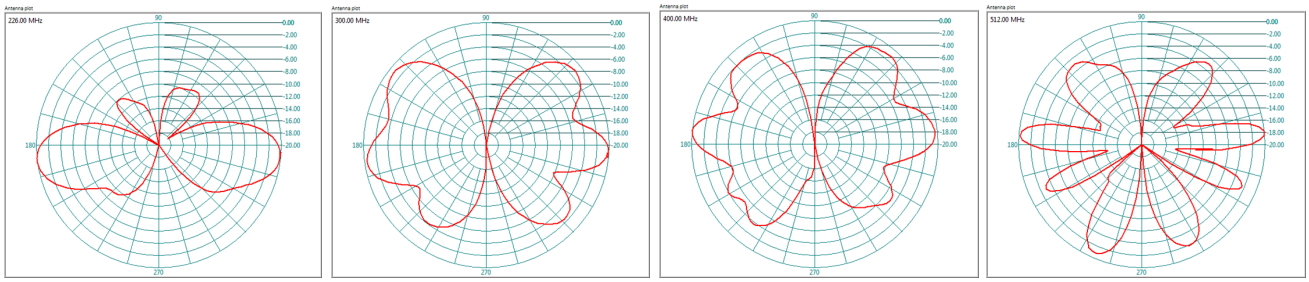
Typical UHF gain in dBi

Isolation



Typical isolation between VHF/UHF ports

Radiation Patterns



Options Table

Description	Part Number	VHF Connector	UHF Connector	GPS Connector
Dual-Band 30-88 MHz 225-512 MHz Dual Feed	DB30512-MDF	BNC Female	N Female (BNC and TNC option)	N/A
Dual-Band 30-88 MHz 225-512 MHz Dual Feed, L1 GPS	DB30512-MDF-L1	BNC Female	N Female (BNC and TNC option)	SMA Female
Dual-Band 30-88 MHz 225-512 MHz Dual Feed, L1/L2 GPS	DB30512-MDF-L2	BNC Female	N Female (BNC and TNC option)	SMA Female
Dual-Band 30-88 MHz 225-512 MHz Single Feed	DB30512-MSF	BNC Female (BNC and N option)		N/A
Dual-Band 30-88 MHz 225-512 MHz Single Feed, L1 GPS	DB30512-MSF-L1	BNC Female (BNC and N option)		SMA Female
Dual-Band 30-88 MHz 225-512 MHz Single Feed, L1/L2 GPS	DB30512-MSF-L2	BNC Female (BNC and N option)		SMA Female

Partnered Supplier

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