

### 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 Specification

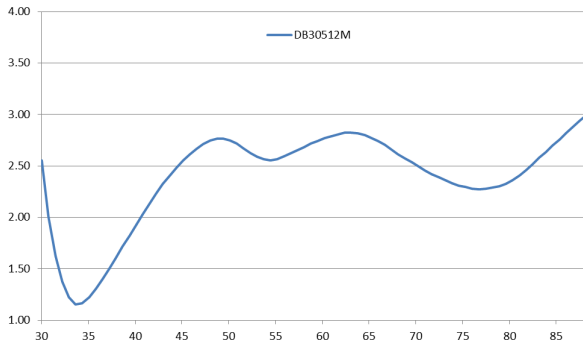
	VHF	UHF	L1 GPS (option)	L1/L2 GPS (option)
Frequency	30-88 MHz	225-512 MHz	1575.42 ± 1.023 MHz	L1 - 1575.42 ± 10 MHz L2 - 1227.60 ± 10 MHz
V.S.W.R.	≤3.5:1 (see plot)	≤3.5:1 (see plot)	Supply voltage: 3V ± 0.5V Pre-amplifier: 27dB Noise Figure: 2dB Supply Current: < 35mA	Supply voltage: 2.7-5.5V Pre-amplifier: 26.5dB @ 5V Noise Figure: 2.5dB Supply Current: < 60mA
Gain	From -3 to +3 dBi compared to λ/4 whips on a 3x3m ground plane. (see typical plot)	From -1 to +3 dBi. 0.5 dBi in average. (see typical plot)		
Impedance	50 omhs	50 ohms		
Power	100 watts CW	50 watts CW		
Connector (default)	BNC female (see option table)	TNC female (see option table)	SMA female	SMA female
EMP	Integrated			
Polarization	Vertical		RHCP	RHCP
Directivity	Omni-directional			
Isolation	See Plot			

### Mechanical & Environmental Specification

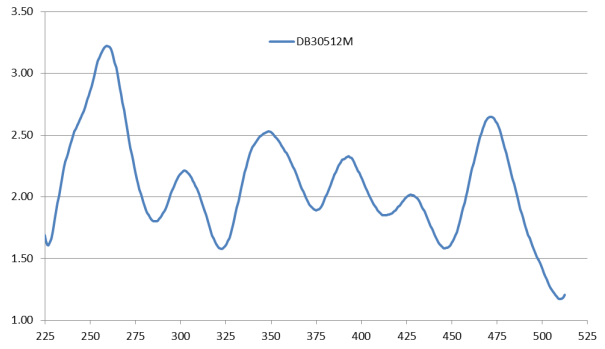
Dimensions	Height	2.35 m
	Top diameter	8 mm
Weight	Total	3.4 kg
	Base	2.1 kg
	Lower whip	1.1 kg
	Upper whip	0.2 kg
Color	Base	Black
	Whips	Green or sand
Temperature range operation	-40°C / +70°C	
Temperature shock	-40°C / +55°C and +55°C / -40°C	
Heat & humidity	30°C @ 88% HR	
Salt fog	96 hours	
Immersion	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

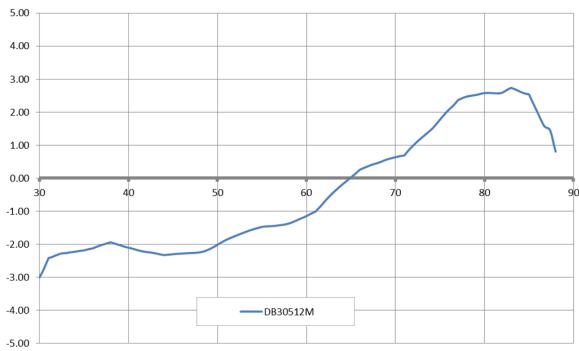


Typical VHF VSWR  
(edge of 3 x 3m ground-plane)

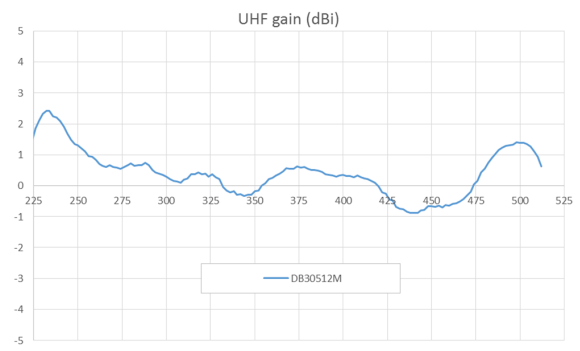


Typical UHF VSWR  
(edge of 3 x 3m ground-plane)

## Gain

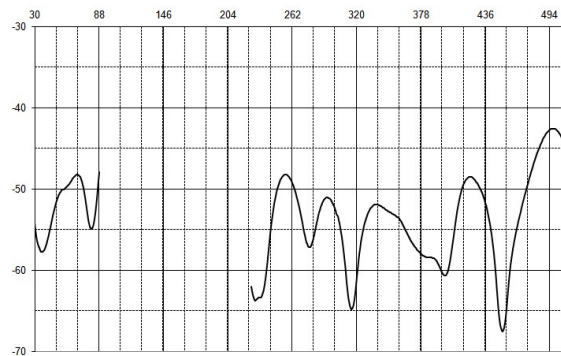


Typical VHF gain in dB rel.  $\lambda/4$  whips



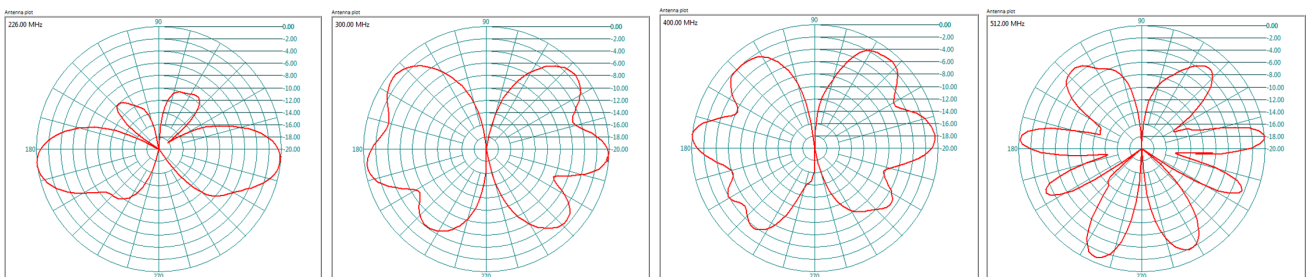
Typical UHF gain in dBi

## 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 & TNC option)	N/A
Dual-Band 30-88 MHz 225-512 MHz Dual Feed, L1 GPS	DB30512-MDF-L1	BNC Female	N Female (BNC & 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 & TNC option)	SMA Female
Dual-Band 30-88 MHz 225-512 MHz Single Feed	DB30512-MSF	BNC Female (BNC & N option)		N/A
Dual-Band 30-88 MHz 225-512 MHz Single Feed, L1 GPS	DB30512-MSF-L1	BNC Female (BNC & N option)		SMA Female
Dual-Band 30-88 MHz 225-512 MHz Single Feed, L1/L2 GPS	DB30512-MSF-L2	BNC Female (BNC & N option)		SMA Female