dB Systems Inc.

2501 S. Antenna Avenue
Hurricane, Utah 84737 USA

SPECIFICATION SHEET

VDB ANTENNA, SINGLE ELEMENT, FOLDABLE
MODEL dBs 130

dBs PART NUMBER 130300-100

The single element dBs 130 VDB antenna is an elliptically polarized, VHF data broadcast (VDB) antenna. It exhibits an omni-directional azimuth pattern and a shaped vertical pattern, which is similar to a dipole.

The elliptical polarization provides 4 dB more gain in the horizontal plane than the vertical plane.

The single element foldable VDB antenna is specially designed for mobile applications. It weighs 10.4 lbs. and folds to a size of 22.5" H x 9.3" W.

The single element VDB antenna provides VHF data uplink service for all appropriately equipped aircraft within an approximate 20 nmi or greater radius of the LAAS ground station.

It is specifically designed to operate with VDB transmit signals operating from 108 to 118 MHz.

Peak power handling capability for the dBs 130 is ≤ 250 watts CW. The main lobe gain is ≥ -1.0 dBi for the horizontally polarized component and ≥ -5.0 dBi for the vertically polarized component.

One Type N Female Jack is used for the RF connection. RF input is 50 Ω nominal and VSWR is less than 2.0:1.

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VDB ANTENNA, SINGLE ELEMENT, FOLDABLE

Model dBs 130
dBs PART NUMBER 130300-100

SPECIFICATIONS/CHARACTERISTICS

TYPE: Elliptically Polarized Dipole Array

AZIMUTH GAIN VARIATION: Omni-directional, with maximum azimuth gain variation of ≤ ± 1.0 dB

FREQUENCY OF OPERATION: 108 MHz to 118 MHz

ARRAY: Four horizontally positioned dipoles.

POLARIZATION: Elliptically polarized**;** horizontally polarized gain is nominally 4 dB greater than vertically polarized gain.

GAIN, MAIN BEAM:
Horizontally Polarized Component: ≥ -1.0 dBi
Vertically Polarized Component: ≥ -5.0 dBi

GAIN OF FIRST MAJOR SIDE LOBE: Both vertically and horizontally polarized vertical patterns are similar to a vertically polarized dipole. Side lobes do not exist.

DIRECTION OF MAXIMUM GAIN IN ELEVATION: Nominally 0° (on horizon)

SLOPE (VICINITY OF HORIZON): ≈ 0 dB/°

POWER HANDLING CAPABILITY: Up to at least 250 W CW

IMPEDANCE: 50 Ω nominal

VSWR: Not greater than 2.0:1 measured at end of low loss cable not exceeding 5 feet in length.

HALF POWER BEAMWIDTH IN ELEVATION PLANE: ≈ 105°

HALF POWER BEAMWIDTH IN AZIMUTH PLANE: The antenna is omni-directional in the azimuth plane.

RF MONITOR: This option is available upon request.

RADOME COVERAGE AND WEATHERPROOFING: Entire antenna weatherproofed and sealed. Antenna does not use a radome. Birds and ice buildup could degrade antenna performance.

HEIGHT, WEIGHT AND SIZE (FOLDED): 22.5” H x 9.3” W (in widest dimension) x 10.4 lbs.

HEIGHT, WEIGHT AND SIZE (DEPLOYED): 22.9” H x 40” W (in widest dimension) x 10.4 lbs.

ANTENNA MOUNTING: Antenna adapts to a 2.0” O.D. pipe (provided by customer) and is secured with 2 each 3/8-16 x 1.5” thumb screws in the antenna base.

WIND LOADING: Withstands without damage 100 mph gusts

RF FEED CONNECTORS: One Type N jack RF port for main RF connection.

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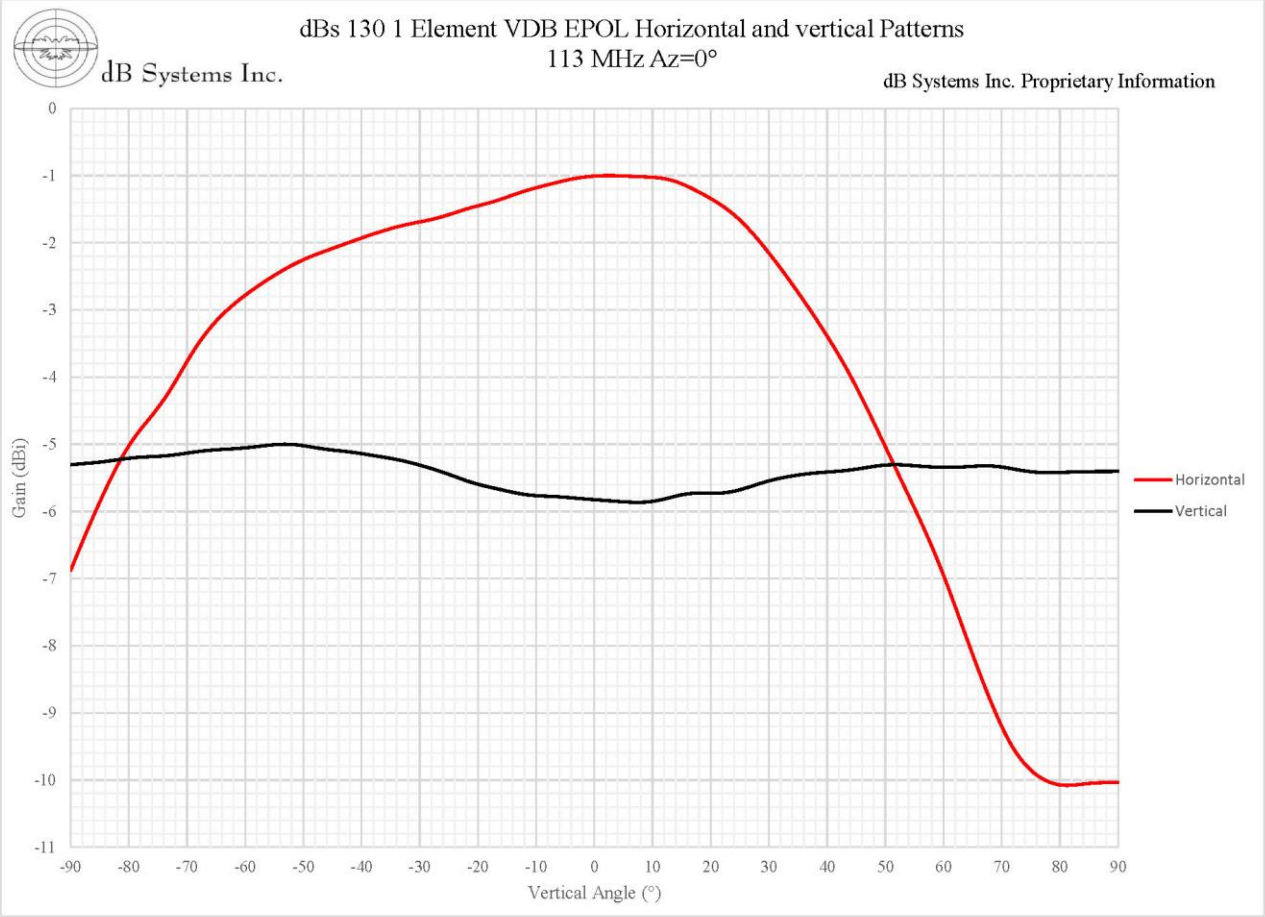
dBs 130 Vertical Pattern



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