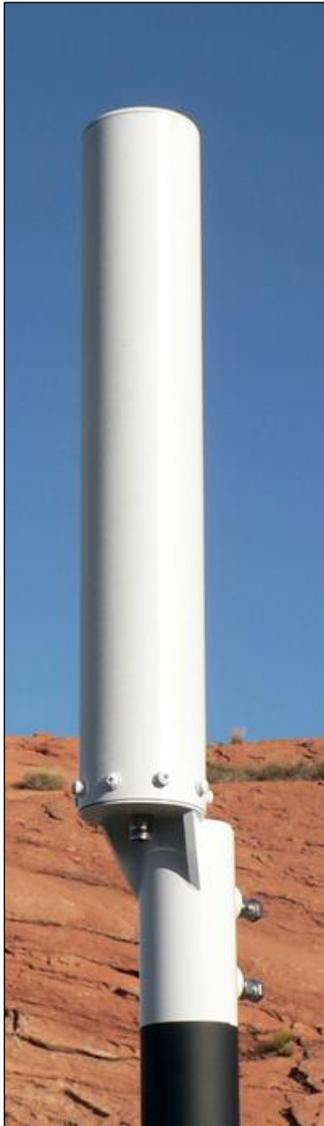


SPECIFICATION SHEET

ADS-B ANTENNA, OMNI-DIRECTIONAL MODEL dBs 620

dBs PART NUMBER 620300-100
APPROVED FOR USE BY FAA UNDER FAR PART 171



The dBs 620 is a 2 element high performance, full service, omni-directional, Automatic Dependent Surveillance-Broadcast (ADS-B) antenna. Frequency range is 978, 1030, and 1090 MHz (no adjustments or tuning required).

This omni-directional antenna has 2 active elements and other components, which produce high main lobe and horizon gain with wide beam width. The main lobe of the vertical pattern is between 0 degrees and +30 degrees above the horizon.

The antenna is lightweight, small, and 100% metal tubular construction making it extremely rugged.

The main RF input connector uses a Type N jack.

The model dBs 620 ADS-B antenna has been designed for ruggedness, lightweight, minimum size, long life, and in accordance with FAA-E-2754 and FAA-E-2100. It also exceeds the requirements of the UK CAA specification.

dBs 620 with Marine Option (P/N: 620300-120): The dBs 620 Marine Version antenna is an optional upgrade. The RF transmission assembly is completely sealed and weatherproofed to protect in harsh environments such as salt water, extreme humidity, wind, sand, snow, and ice. Contact our factory for more details.

ADS-B ANTENNA, OMNI-DIRECTIONAL

Model dBs 620
dBs PART NUMBER 620300-100

SPECIFICATIONS/CHARACTERISTICS

TYPE: Omni-directional

CIRCULARITY: Circular to within ± 1 dB

FREQUENCY RANGE: 978, 1030 & 1090 MHz (no adjustments or tuning required)

ARRAY: 2 active radiator assemblies and 2 chokes in vertical plane (18.5" tall)

POLARIZATION: Vertically Polarized

GAIN, MAIN BEAM: >3 dB/iso, minimum

GAIN, HORIZON: >0 dB/iso, minimum

MAIN BEAM ELEVATION LOCATION: Between $0^\circ + 30^\circ$ above horizon

SLOPE (VICINITY OF HORIZON): ≈ 0.05 dB/ $^\circ$

POWER HANDLING CAPABILITY: Up to at least 5 KW peak RF power at 3% duty cycle

IMPEDANCE: 50 Ω nominal

VSWR: $\leq 1.5:1$ (1030 & 1090 MHz) measured at end of low loss cable not exceeding 5 feet in length.

VERTICAL FIELD PATTERN: The radiation pattern of the antenna in the vertical plane has a lobe of energy not less than 15 degrees wide at the half-power points. The power gain at angles between 30 and 90 degrees below the horizon is lower than the power gain at the peak of the major lobe above the horizon by at least 12 dB. The power gain at angles between 6 and 40 degrees above the horizon does not pass below a straight line joining the points of co-ordinates ($+6^\circ$, -15 dB) and ($+40^\circ$, -25 dB) with values referenced to the peak of the major lobe above the horizon.

SIZE: 24" long, 2 radiator assemblies (driven elements) plus an RF choke assembly at each end, 3 1/4" O.D. radome. Has top cap and mounting base.

WEIGHT: 7 lbs.

PHYSICAL DESIGN: A metal tube, 1.5" O.D. x 1.43" I.D. (0.040" wall thickness) runs through center of antenna for full length. RF transmission lines are located within this tube.

WEATHER PROOFING: Entire antenna, including all cable connectors, is weatherproofed such that removal/replacement of radome is possible without sealing compounds.

ENVIRONMENTAL: Meets FAA-G-2100c Environment III and FAA-E-2754.

ANTENNA MOUNTING: The configuration of the antenna base is such that the antenna can be mounted directly to a 1.5" diameter vertical pipe by 5". Two 3/8" bolts secure antenna to mounting pipe.

WIND LOADING: Withstands without damage 100 mph gusts

TEMPERATURE: -50° C to $+70^\circ$ C

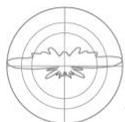
HUMIDITY: Up to 100%

MONITOR PORTS: Optional, not supported; contact factory if required.

CONNECTORS RF: Type N Jack, 1 each

OPTIONAL ITEMS:

- **OBSTRUCTION LIGHT:** Optional, not supported; contact factory if required
- **LIGHTNING ROD ASSEMBLY:** Optional, not supported; contact factory if required
- **PIPE ADAPTER:** Built into antenna base
- **COVER FOR PIPE ADAPTER:** Not supported
- **PLATE ADAPTER:** Optional, not supported; contact factory if required



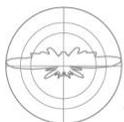
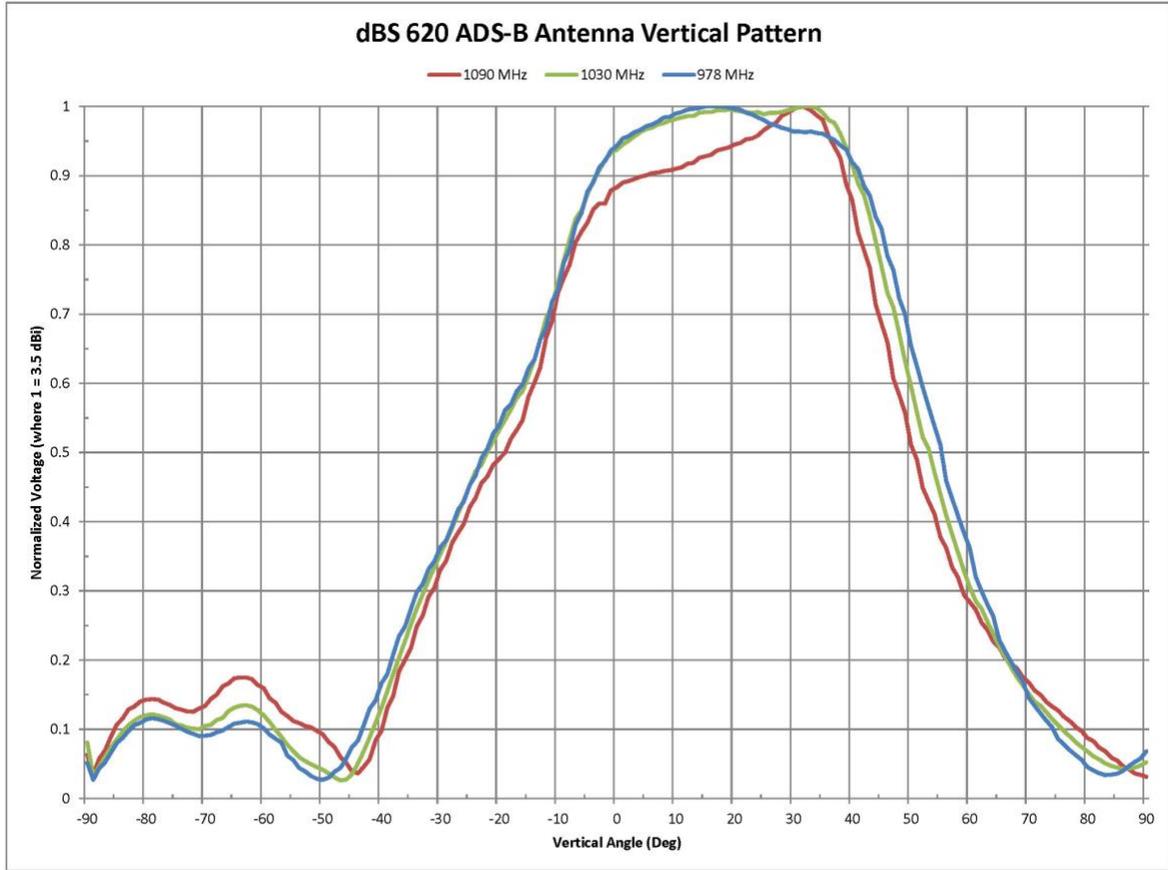
dB Systems Inc.

2005 Turf Sod Rd.
Hurricane, Utah 84737 U.S.A.

Email: sales@dbsant.com | Phone: (435) 635-3352 | www.dbsant.com

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dBs 620 Vertical Patterns



dB Systems Inc.

2005 Turf Sod Rd.
Hurricane, Utah 84737 U.S.A.

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