dB Systems Inc.

2501 S. Antenna Avenue
Hurricane, Utah 84737 USA

SPECIFICATION SHEET

GLIDE SLOPE ANTENNA, DIRECTIONAL, DE-ICING
MODEL dBs 300AI

dBs PART NUMBER 300300-108

The dBs 300AI is a premium performance Glide Slope (Path) antenna; built by dB Systems Inc., a worldwide leader in aircraft navigation antennas. Engineered and built on the legacy of all dBs products, this antenna delivers consistent phase stable RF signal in the world's most severe locations, such as Cold Bay, Alaska. FAA approved, and certified for use in all Instrument Landing Systems (ILS), each antenna is phase matched and tested to meet the current FAA standards for low ceiling and limited visibility landings. It is the only glide slope antenna with a removable dipole channel assembly.

This feature minimizes the need for adjustment following antenna replacement, as the corner reflector assembly can remain in place on the tower while the channel assembly is removed and replaced. When used with the appropriate transmitter system, the dBs 300AI antenna transmits specially formed radio frequency (RF) beams in the frequency range of 328 to 336 MHz. Aircraft equipped with the proper airborne receiving equipment can follow the glide slope signal (provided by the dBs 300AI) and can lock on and follow appropriate descent angle safely down to the runway. Features solid radome with a built-in heating element.

The glide slope antenna assembly consists of three collinear dipoles mounted in front of a 90-degree corner reflector, which form the shaped horizontal and vertical patterns of the antenna.

The assembly includes a temperature stabilized RF Distribution System, individual antenna element integral monitors, and a monitor combining device which provides a single monitor output. The entire RF Distribution System, as well as the integral monitor, are constructed using phase stable, semi-rigid coaxial cable which provides less sensitivity to environmental changes.

The 300AI features dB Systems' high performing, reliable 300A which is mounted in the state-of-the-art solid radome. The radome features a heating element which is embedded in the radome to prevent any ice from forming in front of the radiating surface and melts up to ½" of radial ice should extreme conditions present. Radiating elements have 100% radome coverage to minimize environmental effects.

The heater input is 240VAC using an MS-3102-22-9P circular mil connector interface.

The RF input (J1) and the monitor output (J2) connectors are both Type N female receptacles.

Glide Slope Support Bracket (P/N 300500-100)

Optional Position Adjusting Mounting Bracket allows ±18 inches of continuous adjustment of the antenna's physical position in the vertical and horizontal axis.

GLIDE SLOPE ANTENNA, DIRECTIONAL, DE-ICING

Model dBs 300AI
dBs PART NUMBER 300300-108

SPECIFICATIONS/CHARACTERISTICS

TYPE: Uni-Directional Corner Reflector

AZIMUTH COVERAGE: 23° Nominal HPBW

FREQUENCY RANGE: 328 through 336 MHz (no adjustments or tuning required)

ARRAY: 3 collinear dipoles

COAXIAL CABLE: Semi-Rigid, Low Loss, Phase Stable

POLARIZATION: Horizontally polarized; vertical component >25 dB below horizontal component

GAIN, MAIN BEAM: >10 dB/iso

VERTICAL COVERAGE: 80° Nominal HPBW. Front to Back ratio > 16 dB.

MAIN BEAM LOCATION: Within ±2° of mechanical axis. Electrical center is normal to and centered within the reflector face.

POWER HANDLING CAPABILITY: <50 watts CW

IMPEDANCE: 50 Ω nominal

VSWR: <1.25:1 from 328 MHz to 336 MHz

SIZE: 30" H x 87.5" L x 15" W

WEIGHT: 97 lbs.

SHIPPING WEIGHT: Crate is 93" L x 24" W x 44" H and weighs 305 lbs. Crate is stackable.

RF MONITOR: Monitor coupling factor is 10 dB ± 1 dB below input signal level. Monitor is stable to within ±0.5 dB and ±5° (electrical phase) over environmental conditions.

ANTENNA HEATER: Main Power 240 VAC; 240 watts. Heaters always wired to ON. External thermostat control required.

INTERFACE CONNECTORS:
Main RF Input: Type N Female
RF Monitor Output: Type N Female
Antenna Heater AC Input: MS-3102-22-9P

ENVIRONMENTAL: FAA-G-2100F, Environmental III (4 in./hr. rain, sleet, and snow)

MOUNTING: 4 each 7/16 dia. through holes for 3/8 dia bolts. Interface bolt pattern horizontal separation is 21.5"; vertical separation is 19.75".

SUPPORT BRACKET, GLIDE SLOPE:
Optional Position Adjusting Mounting Bracket (P/N 300500-100) allows ±18" continuous adjustment of antenna physical position in vertical and horizontal axis.

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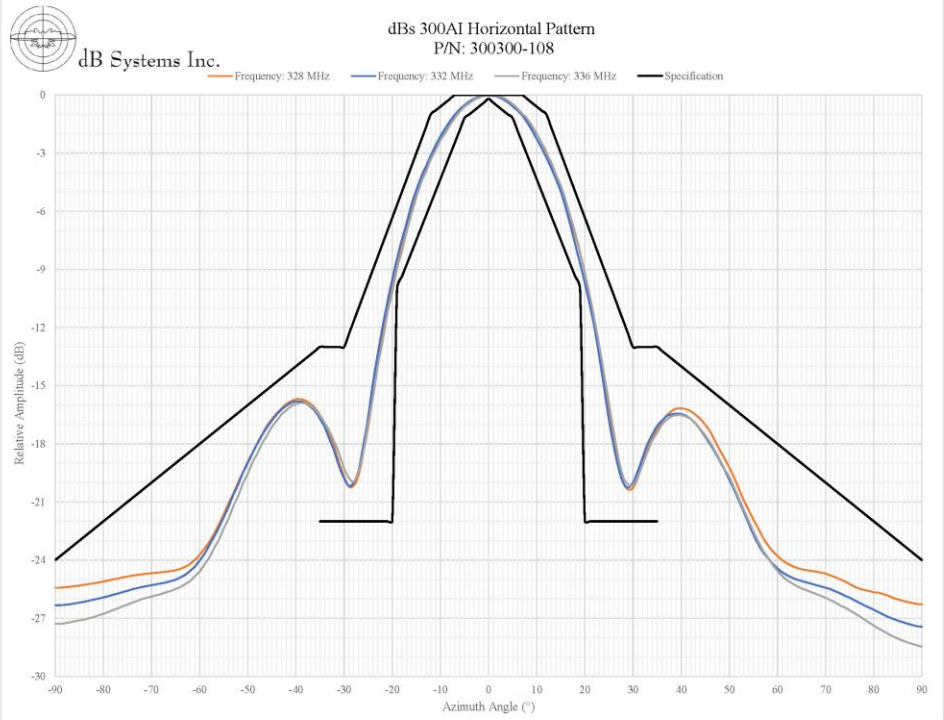
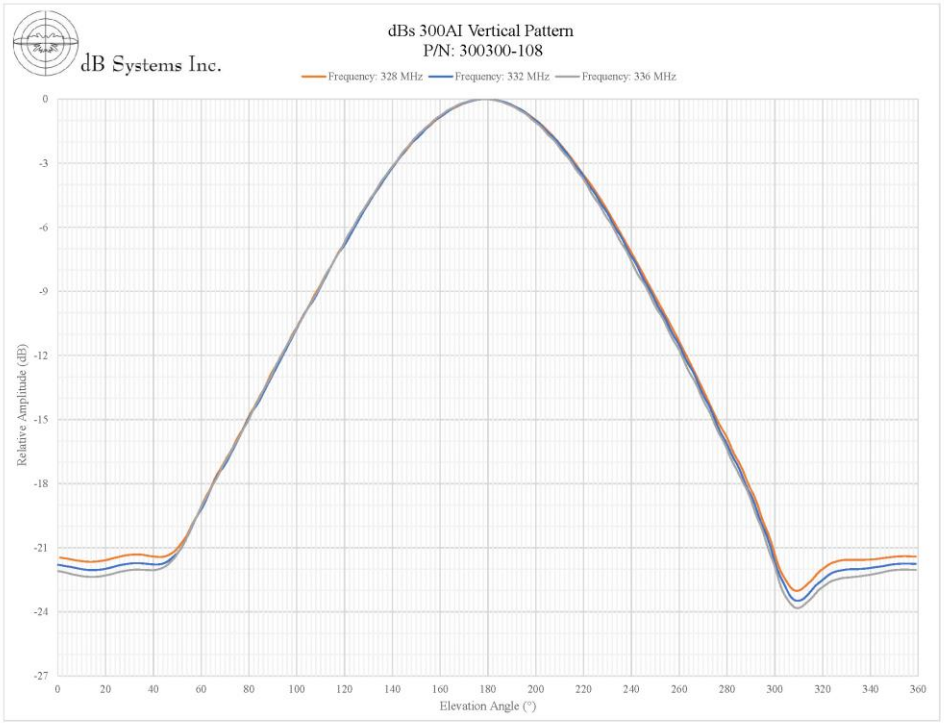
dBs 300AI Horizontal & Vertical Patterns





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