HDA Series

ANTENNA SERIES
PRODUCT MANUAL

HANDHELD ACTIVE DIRECTIONAL ANTENNA

HDA Series
500 MHz - 10/20 GHz

V1.0
05/29/2026

HAROGIC

HDA Series Overview

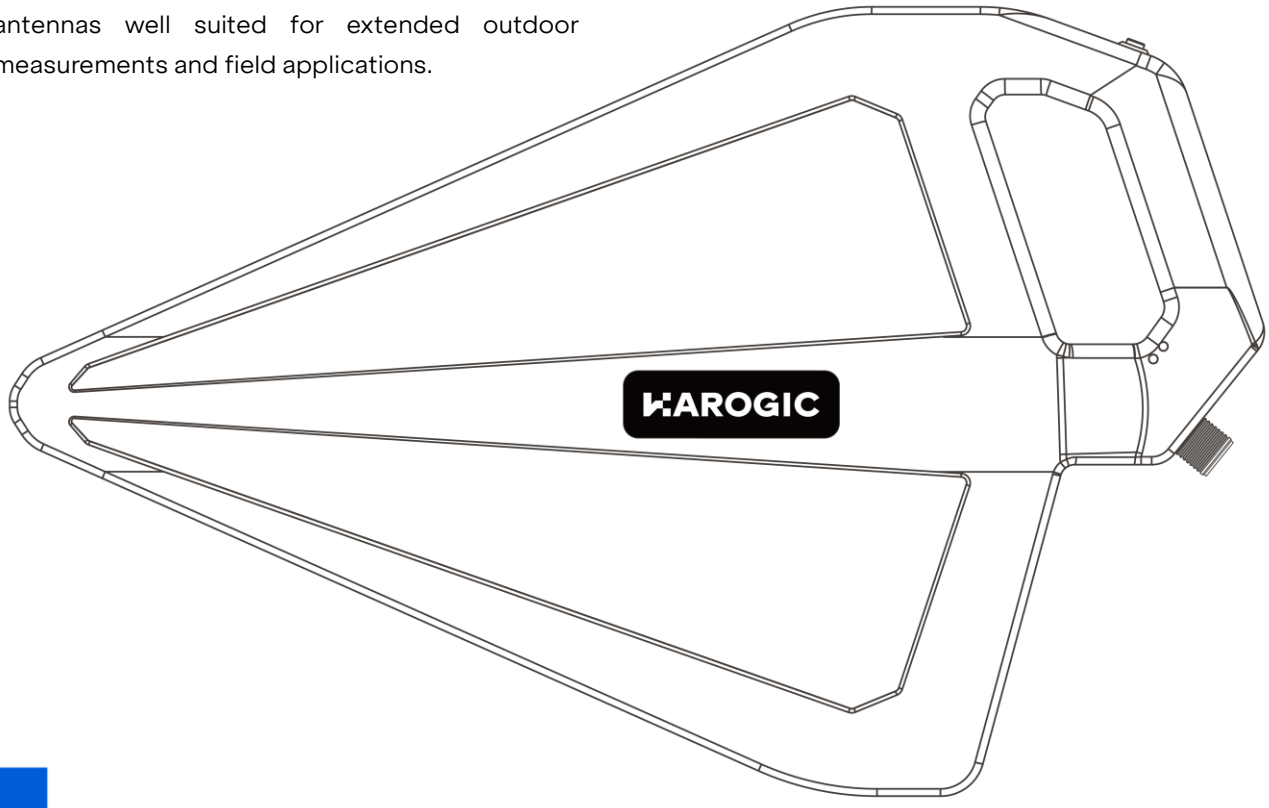
Overview

The HDA Series active directional antennas cover frequencies from 500 MHz to 10/20 GHz and are suitable for a broad range of RF test and measurement applications. High directivity supports accurate localization of signal sources. A built-in broadband amplifier enhances system sensitivity, while switchable bypass and amplification modes provide extended measurement dynamic range. The integrated Attitude and Heading Reference System delivers real-time pitch, roll, and heading information.

The HDA Series is fully compatible with HAROGIC spectrum analyzers. Antenna factors are automatically applied, and real-time azimuth, pitch, and roll information is available to support efficient measurement workflows. The lightweight enclosure and ergonomic design provide comfortable handling and operation, making the antennas well suited for extended outdoor measurements and field applications.

Key Features

- Frequency Range: 500 MHz to 10/20 GHz
- Directional radiation pattern, typical passive gain up to 5 dBi
- Built-in high-performance broadband amplifier with manual bypass
- Typical amplifier noise figure (NF) ≤ 1.9 dB
- Integrated attitude and heading measurement system
- Compatible with full HAROGIC spectrum analyzers, automatic antenna factor loading, and real-time azimuth, pitch, roll output
- Total weight: 680 g, lightweight and portable
- Ergonomic design for long-duration handheld operation

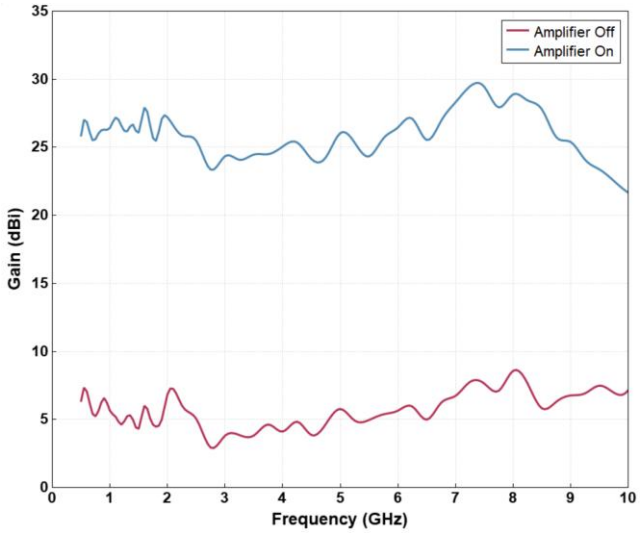


Specifications

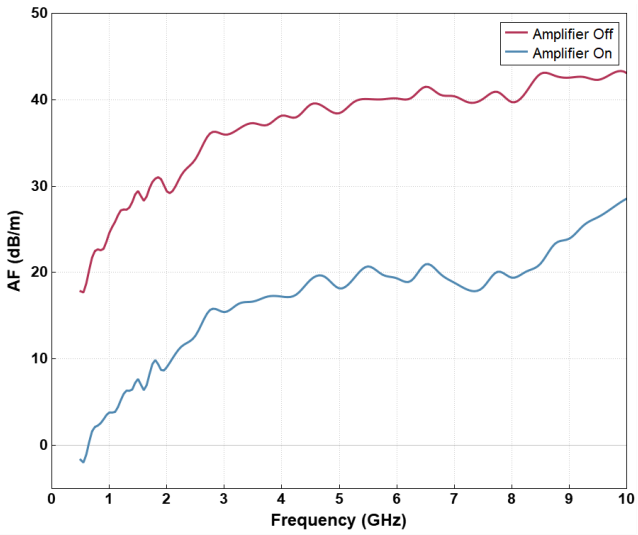
	HDA-100	HDA-200
Frequency range	500 MHz to 10 GHz	500 MHz to 20 GHz
Half-Power beamwidth	66° @ 6 GHz	68° @ 6 GHz, 35° @ 15 GHz
Front-to-Back ratio	>15 dB	>14 dB
Gain	5 dBi, (typ.)	5 dBi @ 0.5 to 12 GHz 2.4 dBi @ 12 to 20 GHz (typ.)
Amplifier noise figure	1.5 dB (typ.)	1.9 dB (typ.)
Amplifier gain	20 dB (typ.)	16 dB (typ.)
Calibration points	191 (50 MHz step)	391 (50 MHz step)
Maximum field strength (Amp mode)	17 V/m @ 6 GHz	16 V/m @ 6 GHz 52 V/m @ 15 GHz
Polarization type	Linear	
VSWR	< 2.0 (typ.)	
Attitude and heading	Pitch, roll, heading	
RF connection	N (F), 50 Ω	
Power supply	USB Type-C; connects to host via USB Type-C to USB Type-A cable	
Dimensions (L x W x D)	430 x 270 x 35 mm	
Weight	680 g	
Angle measurement	azimuth angle: 0° to 360°, pitch angle: −90° to +90°, roll angle: −90° to +90°	

Gain, Antenna Factor and Radiation Patterns

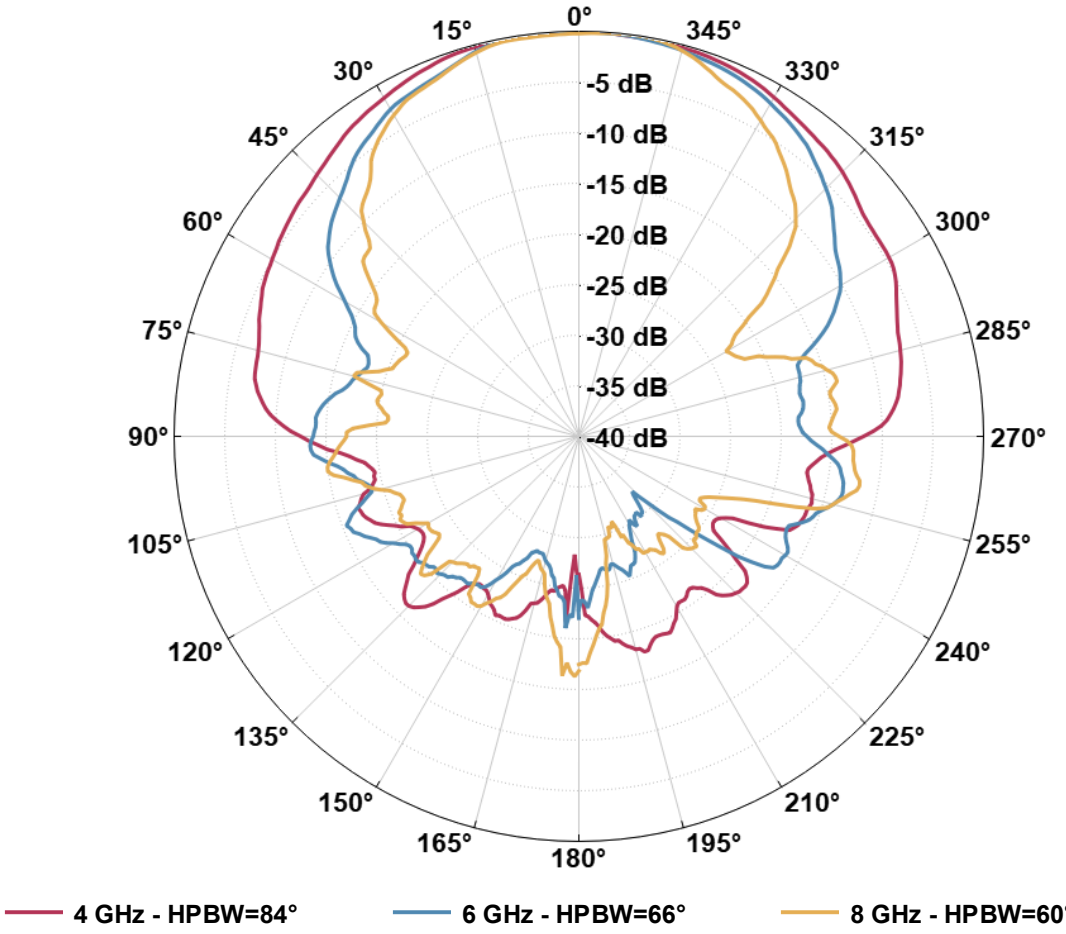
HDA-100 Gain



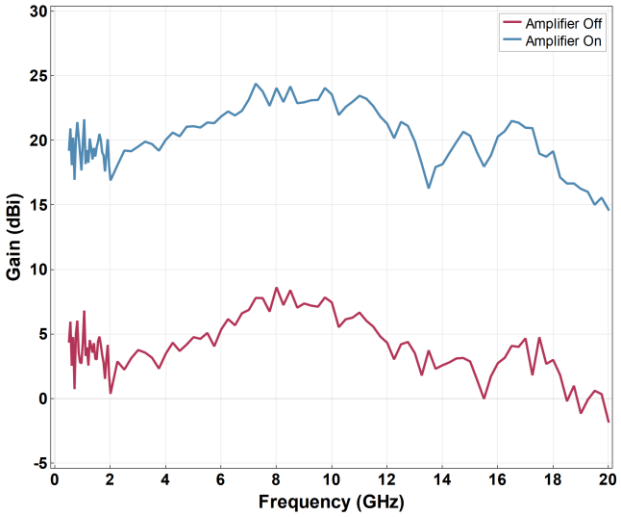
HDA-100 Antenna Factor



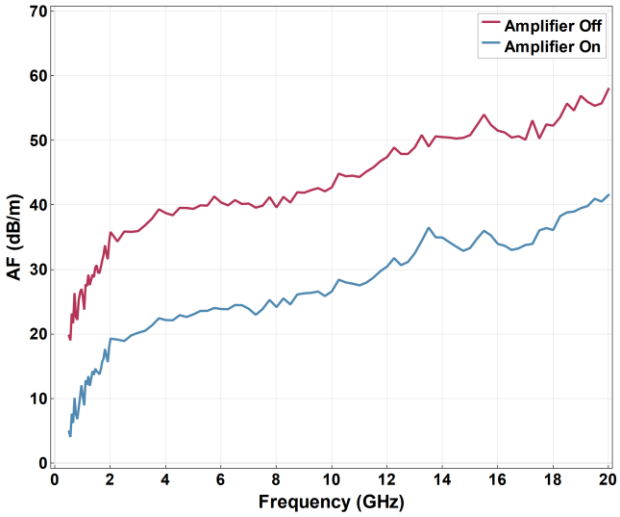
HDA-100 Typical Frequency Point Radiation Patterns



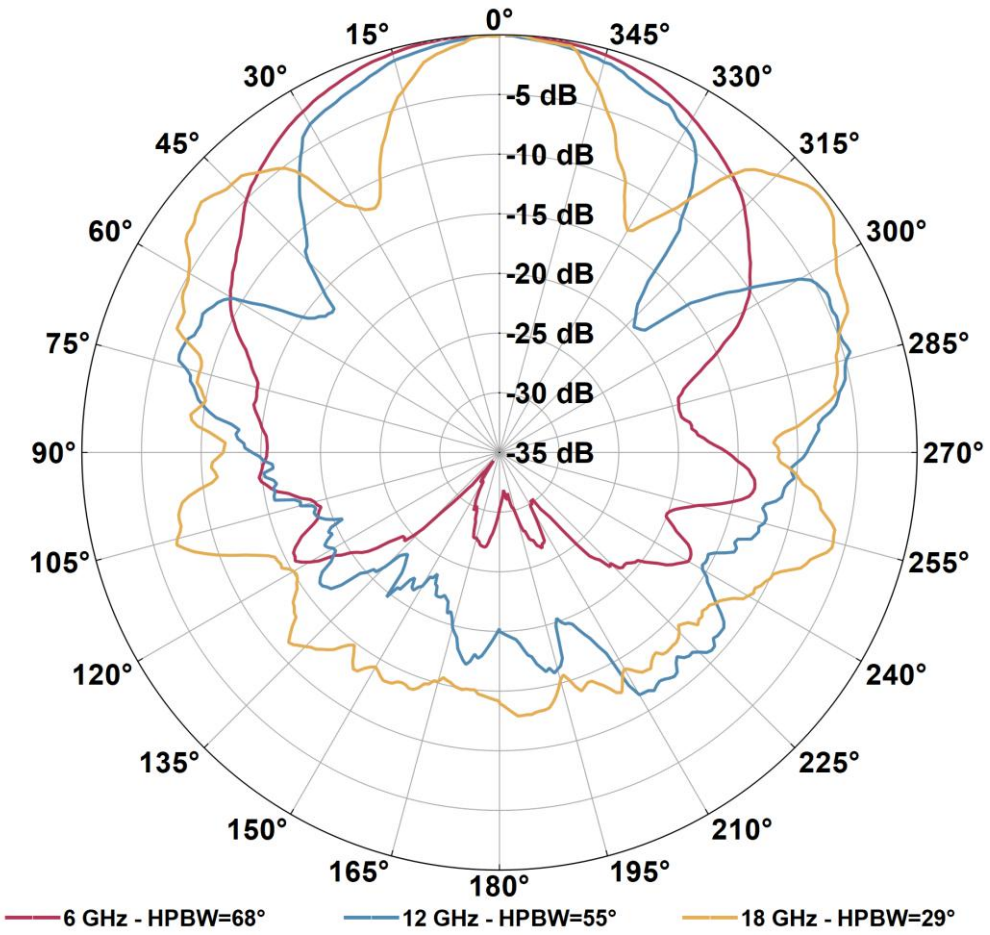
HDA-200 Gain



HDA-200 Antenna Factor



HDA-200 Typical Frequency Point Radiation Patterns



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