XDA-1000 / XDA-2000 Active Directional Antennas

Purpose-built accessories for YSA-P400 spectrum analyzers with 500 MHz to 10/20 GHz coverage

At a Glance

Designed for YSA-P400 field workflows, the XDA-1000 and XDA-2000 provide continuous coverage from 500 MHz to 10 GHz or 20 GHz for spectrum monitoring, signal searching, and interference localization.

A built-in broadband amplifier with manual bypass extends usable measurement dynamic range, while typical passive gain reaches 5 dBi and amplifier noise figure is as low as 1.5 dB.

Integrated azimuth, pitch, and roll sensing, automatic antenna-factor workflows, a 680 g enclosure, and an ergonomic handle support efficient handheld measurements in laboratory and field environments.

YSA-P400 Active Directional Antenna Accessories - XDA-1000 / XDA-2000

Directional Field Measurements with YSA-P400

Connected to a YSA-P400 spectrum analyzer, the active directional antenna combines directional response with a switchable broadband amplifier to improve sensitivity when locating low-level RF sources. Bypass mode supports stronger signals and wider practical measurement range.

An integrated attitude and heading reference system reports azimuth, pitch, and roll in real time. The YSA-P400 measurement workflow can correlate pointing direction with spectrum amplitude, field strength, and position data for more efficient search and survey work.

Key Features

- **Broad Frequency Coverage**
  Continuous operation from 500 MHz to 10 GHz or 20 GHz, depending on the selected model.
- **Directional Response**
  Typical passive gain up to 5 dBi supports source localization and directional field measurements.
- **Switchable Amplifier**
  A built-in broadband amplifier provides 20 dB or 16 dB typical gain with manual bypass.
- **Attitude Measurement**
  Integrated heading, pitch, and roll sensing provides real-time pointing information.
- **YSA-P400 Integration**
  50 MHz calibration spacing supports automatic antenna-factor loading in the YSA-P400 measurement workflow.
- **Field-Ready Form**
  A 680 g enclosure, integrated handle, and USB-powered operation support extended handheld use.

Measurement Applications

Signal Search and Interference Hunting

Use directional response, live spectrum level, and antenna attitude to narrow the bearing of unknown or interfering emitters.

Coverage and Mapping

Combine GNSS measurement points, received signal strength, and antenna attitude for multidimensional coverage assessment.

Field-Strength Surveys

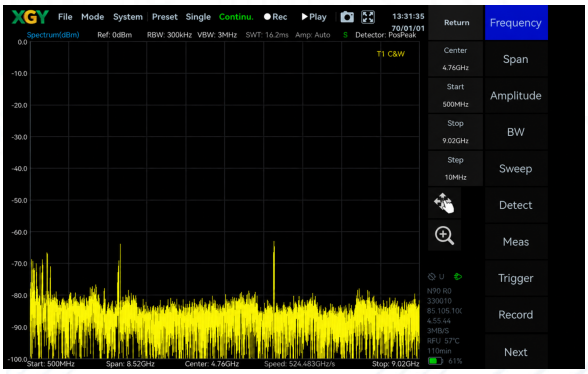
Apply stored antenna factors to convert measured levels into field-strength results across the calibrated frequency range.

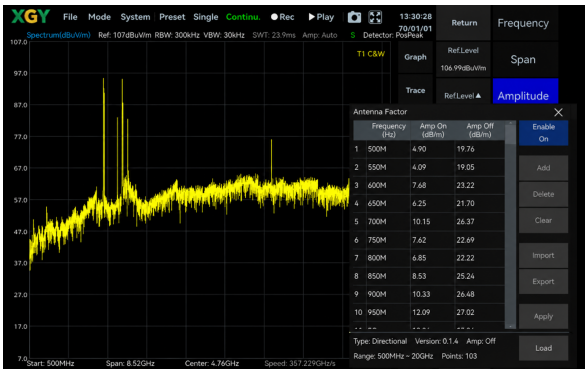
RF Test and Monitoring

Support portable spectrum monitoring, site surveys, pre-compliance investigations, and general RF test-and-measurement work.

Connection Status, Working Mode, and Antenna Factors

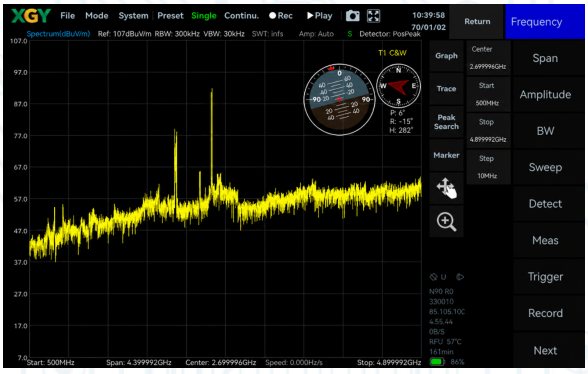
The YSA-P400 interface shows antenna status and bypass or amplifier mode on the left, with frequency-indexed amplifier-on and amplifier-off antenna-factor data for one-click correction-profile loading on the right.

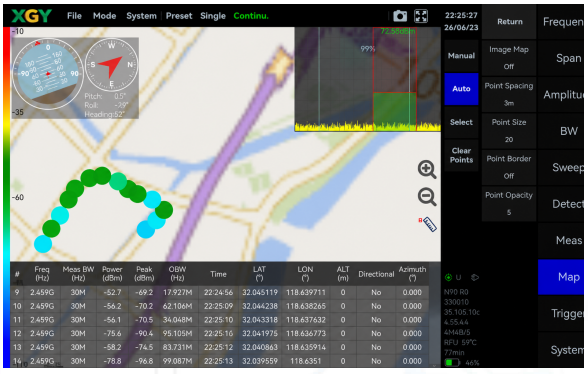




Real-Time Attitude and Mapping

The YSA-P400 interface overlays pitch, roll, and heading on the spectrum display, and correlates GNSS position, received signal strength, and antenna attitude for colour-coded signal searching and coverage analysis.





Electrical Performance

Model	XDA-1000	XDA-2000
	Frequency and Directionality	
Frequency Range	500 MHz to 10 GHz	500 MHz to 20 GHz
Half-Power Beamwidth	66 deg at 6 GHz	68 deg at 6 GHz; 35 deg at 15 GHz
Front-to-Back Ratio	>15 dB	>14 dB
Typical Passive Gain	5 dBi	5 dBi from 0.5 to 12 GHz; 2.4 dBi from 12 to 20 GHz
	Active Amplifier	
Typical Amplifier Noise Figure	1.5 dB	1.9 dB
Typical Amplifier Gain	20 dB	16 dB
Calibration Points	191 at 50 MHz spacing	391 at 50 MHz spacing
Maximum Field Strength, Amplifier Mode	17 V/m at 6 GHz	16 V/m at 6 GHz; 52 V/m at 15 GHz

Gain, beamwidth, front-to-back ratio, VSWR, amplifier gain, and amplifier noise figure are typical values where stated.

Interface, Sensing, and Mechanical Specifications

Model	XDA-1000	XDA-2000
	Common RF Characteristics	
Polarization	Linear	Linear
Typical VSWR	<2.0	<2.0
RF Connection	N female, 50 ohm	N female, 50 ohm
	Attitude and Control	
Measured Attitude	Pitch, roll, heading	Pitch, roll, heading
Azimuth Range	0 to 360 deg	0 to 360 deg
Pitch Range	-180 to +180 deg	-180 to +180 deg
Roll Range	-90 to +90 deg	-90 to +90 deg
	Power and Construction	
Power and Host Connection	USB Type-C; USB Type-C to USB Type-A host cable	USB Type-C; USB Type-C to USB Type-A host cable
Dimensions (L x W x D)	430 x 270 x 35 mm	430 x 270 x 35 mm
Weight	680 g	680 g

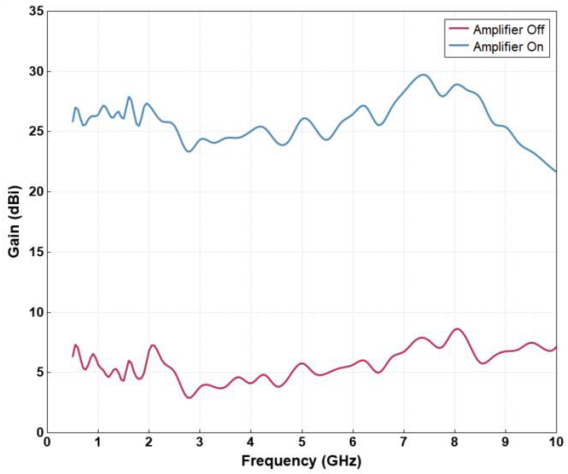
Model Selection Guidance

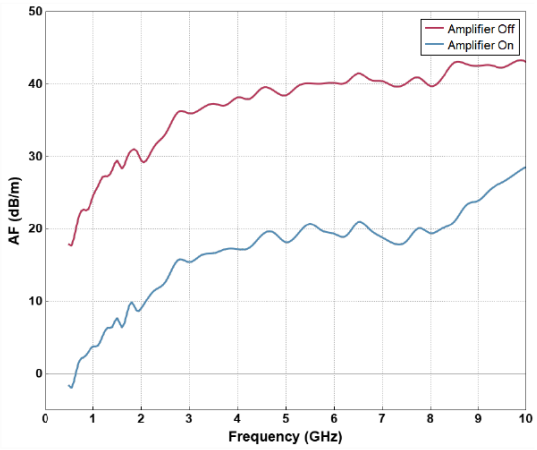
For YSA-P400 workflows, choose the XDA-1000 for measurements up to 10 GHz and its higher 20 dB typical amplifier gain. Choose the XDA-2000 when coverage above 10 GHz is required.

For high-field measurements, use bypass mode as appropriate for the connected host instrument. For calibrated field-strength work, confirm the connected model and load its corresponding antenna-factor data.

XDA-1000 Gain and Antenna Factor

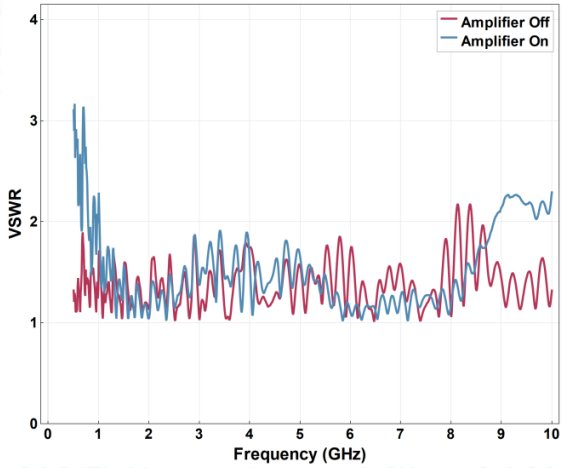
Amplifier-off/on gain and antenna-factor response from 500 MHz to 10 GHz.

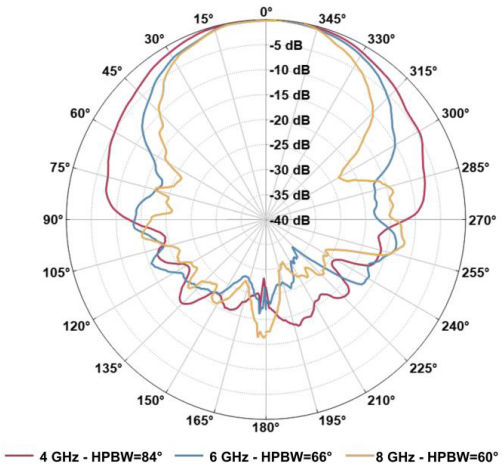




XDA-1000 VSWR and Radiation Patterns

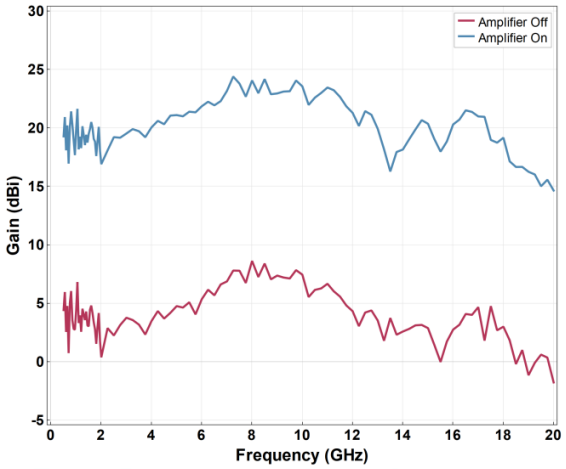
Amplifier-off/on VSWR and typical radiation patterns at 4, 6, and 8 GHz.

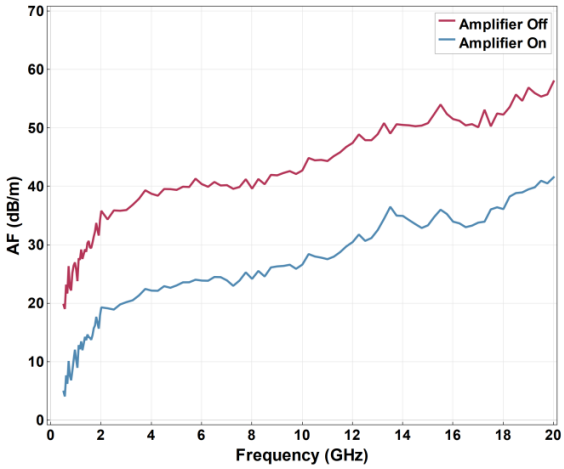




XDA-2000 Gain and Antenna Factor

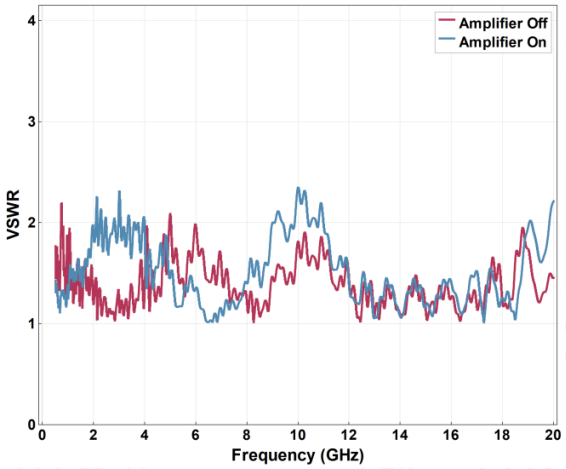
Amplifier-off/on gain and antenna-factor response from 500 MHz to 20 GHz.

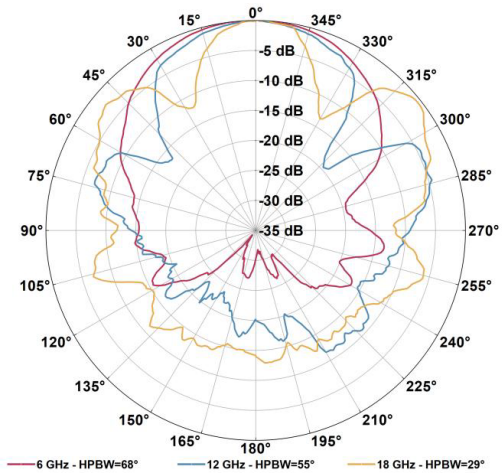




XDA-2000 VSWR and Radiation Patterns

Amplifier-off/on VSWR and typical radiation patterns at 6, 12, and 18 GHz.





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