Data sheet

Rev 2.0
19.09.2014

Biconical EMC broadband antennas - BicoLOG Series

Broadband transmission and reception from 20MHz to 3GHz - mobile and stationary use

Highlights:

- Only a single broadband test antenna for the complete frequency range from 20MHz up to 3GHz
- Optimal for usage with spectrum analysers for EMC measurement
- Suitable for mobile use
- Small weight and dimensions
- Made in Germany
- **10 years warranty**

Calibration & standards:

- The biconical antennas of the BicoLOG®. series are suitable for EMI interference field strength measurement. The specialized broadband characteristics allow measurements to be taken in the complete specified frequency range **without switching.**
- **These antennas are suitable for measurments according to the following standards and procedures:**
  CISPR, VDE, MIL, VG, EN 55011, EN 55013, EN 55015, EN 55022, MIL-Std-461.

Included with delivery:

- BicoLOG® EMI testantenna
- **Typical calibration data with up to 106 calibration points (5MHz and 10MHz steps!)**

References / examples of proof:

- NATO, Belgium
- Rohde & Schwarz Rome, Italy
- EADS, Germany
- Robert Bosch GmbH, Germany
- Australian Government Department of Defence, Australia
- Eurocontrol, Netherlands

AARONIA AG
WWW.AARONIA.DE

Distributed by: Reliant EMC LLC,
3311 Lewis Ave, Signal Hill CA 90755, 408-916-5750, www.reliantemc.com

Specifications

BicoLOG® 5070

- Design: Biconical Antenna
- Frequency range: **50MHz** to **700MHz**
- Max. transmission power: 5W AM (100MHz)
- Nominal impedance: 50 Ohms
- Gain: **-29dBi** to 1dBi
- Antenna factor: **20-33dB/m**
- Calibration points: **70** (5MHz and 10MHz steps)
- RF connection: SMA (female) or N with adapter
- Tripod socket: 1/4”
- Dimensions (L/W/D) : (350x160x140)mm
- Weight: 350gr
- **Warranty: 10 years**

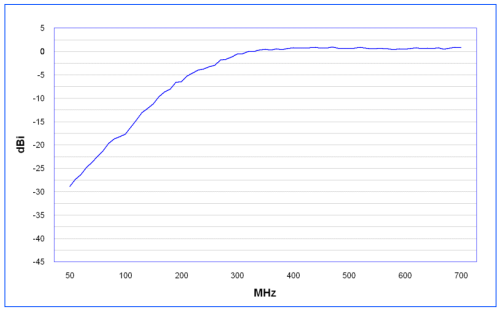
BicoLOG® 30100

- Design: Biconical Antenna
- Frequency range: **30MHz** to **1GHz**
- Max. transmission power: 5W AM (100MHz)
- Nominal impedance: 50 Ohms
- Gain: **-39dBi** to 1dBi
- Antenna factor: **20-41dB/m**
- Calibration points: **104** (5MHz and 10MHz steps)
- RF connection: SMA (female) or N with adapter
- Tripod socket: 1/4”
- Dimensions (L/W/D) : (350x160x140)mm
- Weight: 350gr
- **Warranty: 10 years**

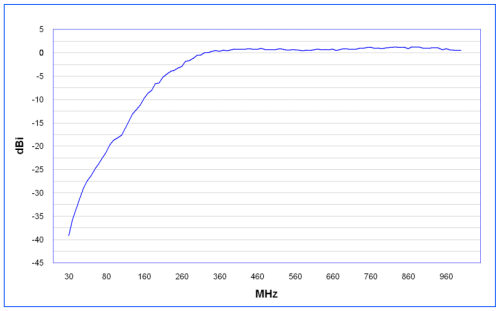
NEW: BicoLOG® 30100E

- Design: Biconical Antenna
- Frequency range: **30MHz** to **1GHz**
- Max. transmission power: 5W AM (100MHz)
- Nominal impedance: 50 Ohms
- Gain: **-31dBi** to 1dBi
- Antenna factor: **17-31dB/m**
- Calibration points: **194** (**5MHz steps**)
- RF connection: SMA (female) or N with adapter
- Tripod socket: 1/4”
- Dimensions (L/W/D) : (540x225x225)mm
- Weight: 1150gr
- **Warranty: 10 years**
- **Optimized for EMC measurements**

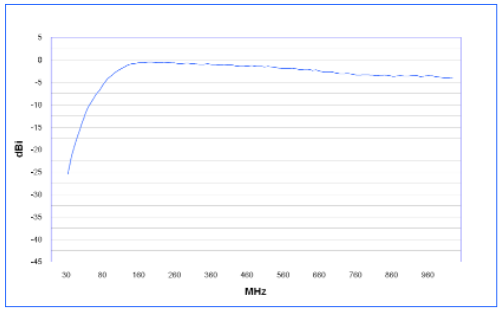
Gain Diagram BicoLOG 5070



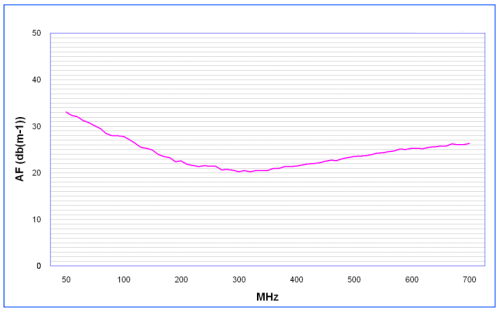
Gain Diagram BicoLOG 30100



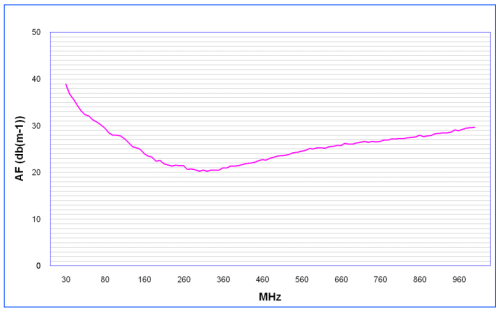
Gain Diagram BicoLOG 30100E



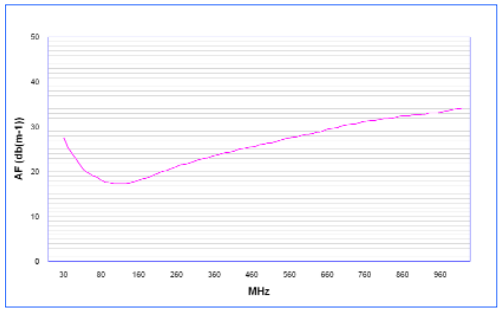
Antenna factor BicoLOG 5070



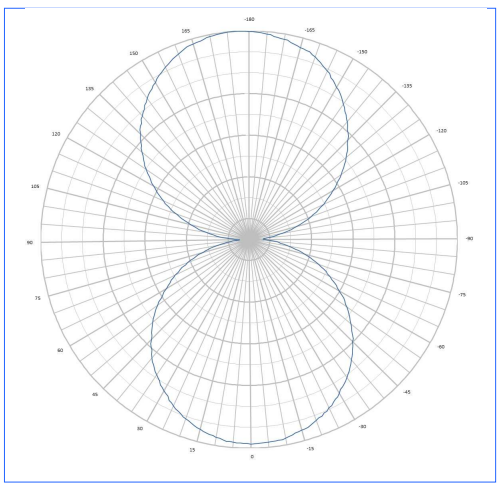
Antenna factor BicoLOG 30100



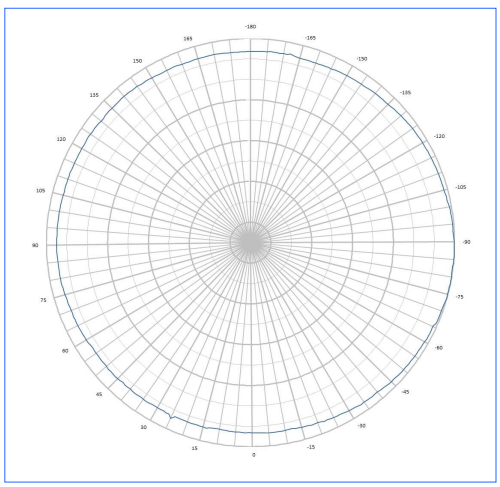
Antenna factor BicoLOG 30100E



Horizontal Pattern (typical) BicoLOG Antennas



Vertical Pattern (typical) BicoLOG Antennas



BicoLOG® 20100

- Design: Biconical Antenna
- Frequency range: **20MHz** to **1GHz**
- Max. transmission power: 5W AM (100MHz)
- Nominal impedance: 50 Ohms
- Gain: **-45dBi** to 1dBi
- Antenna factor: **20-42dB/m**
- Calibration points: **106** (5MHz and 10MHz steps)
- RF connection: SMA (female) or N with adapter
- Tripod socket: 1/4”
- Dimensions (L/W/D) : (350x160x140)mm
- Weight: 350gr
- **Warranty: 10 years**

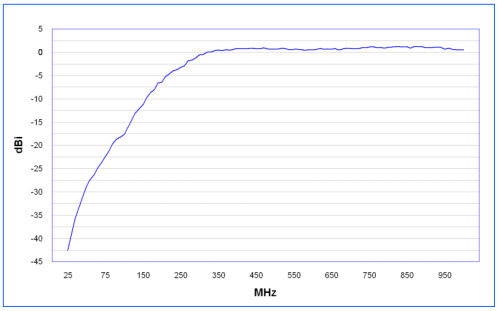
NEW: BicoLOG® 20100E

- Design: Biconical Antenna
- Frequency range: **20MHz** to **1GHz**
- Max. transmission power: 5W AM (100MHz)
- Nominal impedance: 50 Ohms
- Gain: **-38dBi** to 1dBi
- Antenna factor: **17-34dB/m**
- Calibration points: **196** (**5MHz steps**)
- RF connection: SMA (female) or N with adapter
- Tripod socket: 1/4”
- Dimensions (L/W/D) : (540x225x225)mm
- Weight: 1150gr
- **Warranty: 10 years**
- **Optimized for EMC measurements**

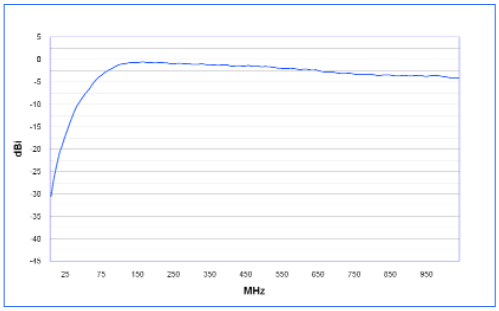
BicoLOG® 20300

- Design: Biconical Antenna
- Frequency range: **20MHz** to **3GHz**
- Max. transmission power: 5W AM (100MHz)
- Nominal impedance: 50 Ohms
- Gain: **-45dBi** to 1dBi
- Antenna factor: **20-51dB/m**
- Calibration points: **296** (5MHz and 10MHz steps)
- RF connection: SMA (female) or N with adapter
- Tripod socket: 1/4”
- Dimensions (L/W/D) : (350x160x140)mm
- Weight: 350gr
- **Warranty: 10 years**

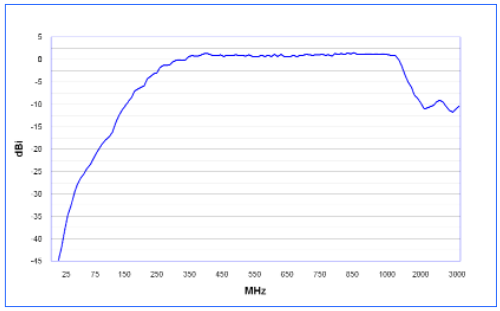
Gain Diagram BicoLOG 20100



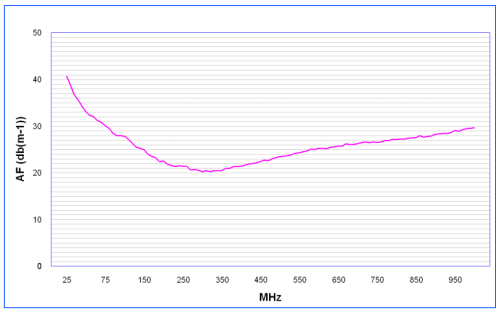
Gain Diagram BicoLOG 20100E



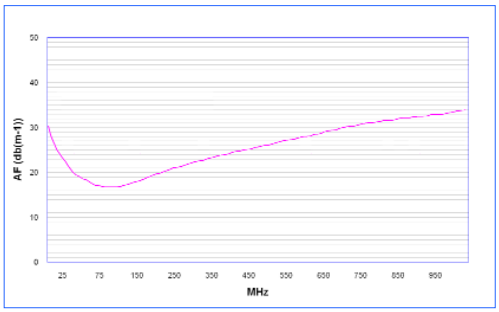
Gain Diagram BicoLOG 20300



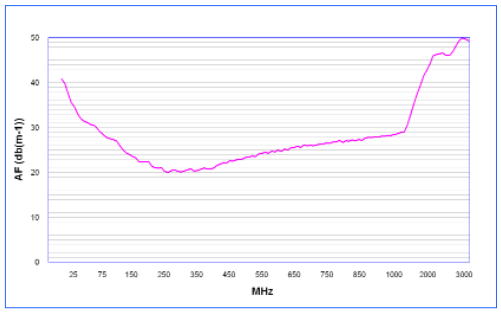
Antenna factor BicoLOG 20100



Antenna factor BicoLOG 20100E



Antenna factor BicoLOG 20300



Recommended accessories for Aaronia Antennas

Heavy Plastic Carrycase PRO

Schock resistant, heavy version with padding. Offers space foam for all BicoLOG® antennas with all accessories. A MUST for the professional user or outdoor usage! Already included with each BicoLOG 30100E or 20100E antenna.

Order/Art.-No.: 244

1m / 5m / 10m SMA-Cable

High quality special SMA cable for connecting any BicoLOG®-Antenna with various test equipment like SPECTRAN RF Spectrum-Analyzer. You can choose between 3 different cables:

1m standard SMA cable (RG316U)
5m LowLoss SMA cable (especially low damping)
10m LowLoss SMA cable (especially low damping)

All versions: SMA plug (male) / SMA plug (male)

Order/Art.-No.: 771 (1m Cable), 772 (5m Cable), 773 (10m Cable)

SMA to N Adapter

This special high quality adapter allows operation of all BicoLOG®-Antenna with any standard spectrum-analyzer with N connector.
Especially massive, chrome-plated design. This adapter is usable for very high frequencies up to at least 18GHz. Physical dimensions are just 30x20mm. Nominal impedance 50 Ohms. Layout: SMA socket (female) / N plug (male).

Order/Art.-No.: 770

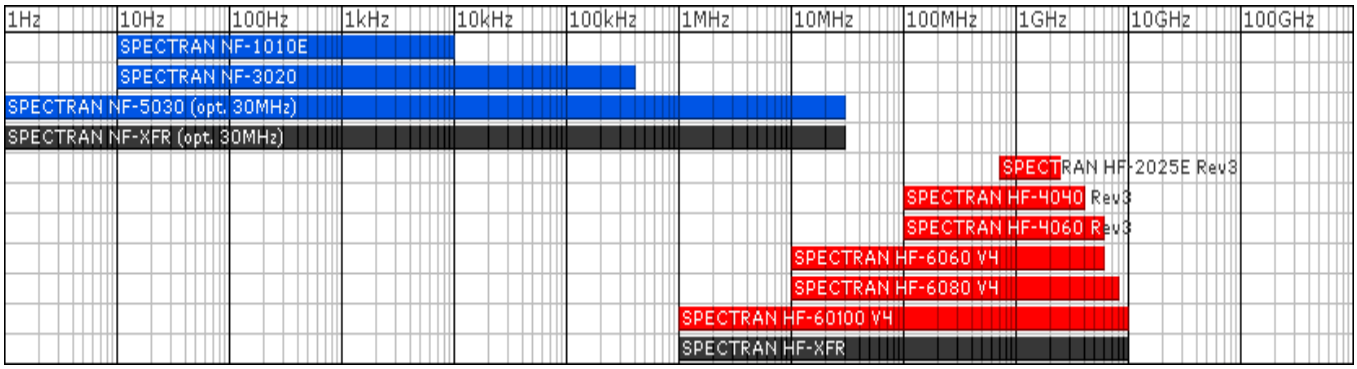
Heavy multifunctional Pistol Grip (strongly recommended!)

Highly recommend for the usage of BicoLOG antennas. Quick and easy change of antenna polarization, perfect antenna handling (even with the more heavy BicoLOG X-Series).

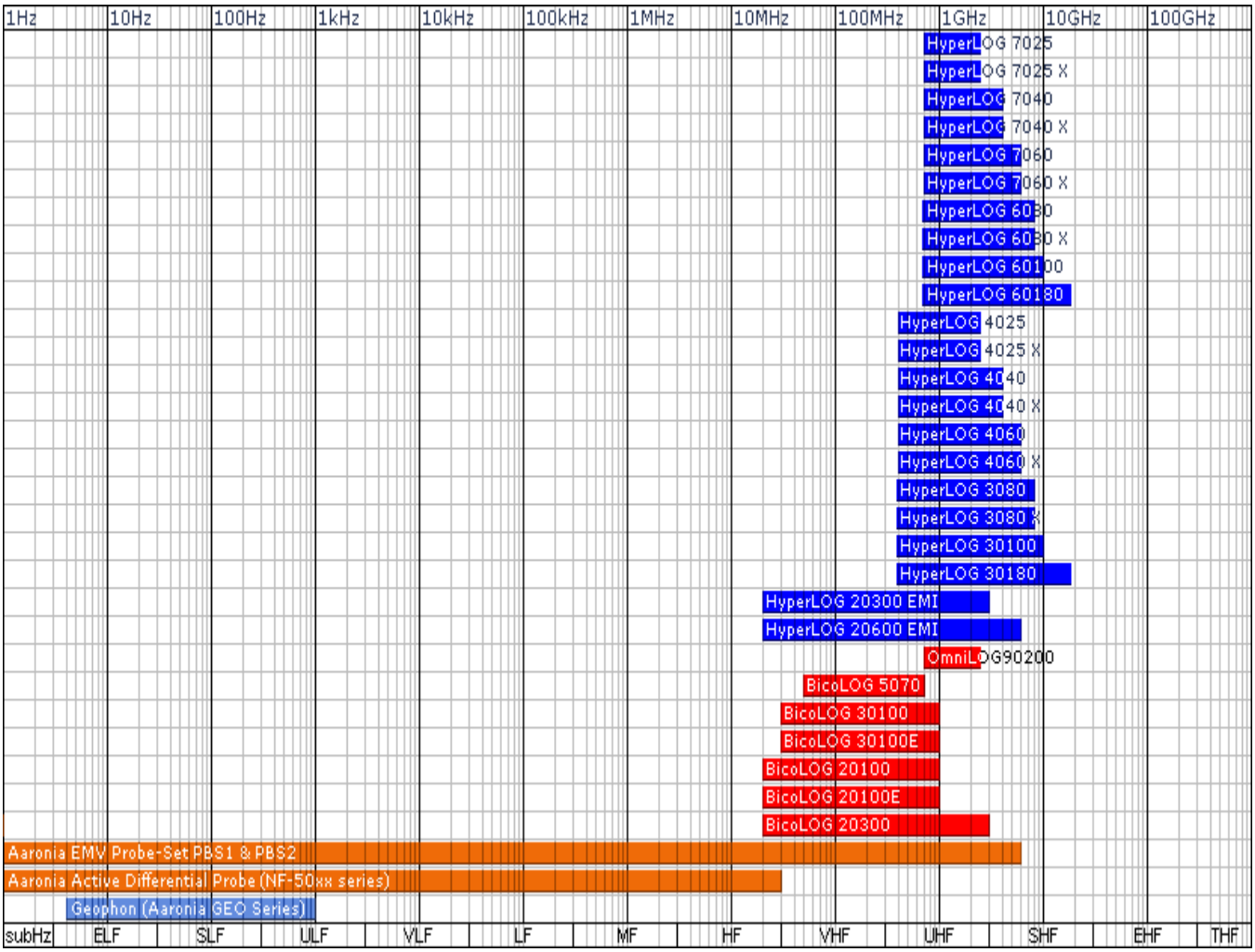
Order/Art.-No.: 282

Frequency overview Analyzer & Antennas

Frequency Overview SPECTRAN Spectrum Analyzer



Frequency Overview HyperLOG and BicoLOG Antennas and Probes



References

User of Aaronia Antennas and Spectrum Analyzers (Examples)

Government, Military, aeronautic, astronautic

- NATO, Belgien
- Boeing, USA
- Airbus, Hamburg
- Bund (Bundeswehr), Leer
- Bundeswehr (Technische Aufklärung), Hof
- Lufthansa, Hamburg
- DLR (Deutsches Zentrum für Luft- und Raumfahrt, Stuttgart
- Eurocontrol (Flugüberwachung), Belgien
- Australian Government Department of Defence, Australien
- EADS (European Aeronautic Defence & Space Company) GmbH, Ulm
- Institut für Luft- und Raumfahrtmedizin, Köln
- Deutscher Wetterdienst, Tauche
- Polizeipräsidium, Bonn
- Landesamt für Umweltschutz Sachsen-Anhalt, Halle
- Zentrale Polizeitechnische Dienste, NRW
- Bundesamt für Verfassungsschutz, Köln
- BEV (Bundesamt für Eich- und Vermessungswesen)

Research/Development, Science and Universitys

- Deutsches Forschungszentrum für Künstliche Intelligenz, Kaiserslautern
- Universität Freiburg
- Indonesien Institute of Sience, Indonesien
- Max-Planck-Institut für Polymerforschung, Mainz
- Los Alamos National Labratory, USA
- University of Bahrain, Bahrain
- University of Florida, USA
- Universität Erlangen, Erlangen
- Universität Hannover, Hannover
- University of Newcastle, Großbritannien
- Universität Strasbourg, Frankreich
- Universität Frankfurt, Frankfurt
- Uni München – Fakultät für Physik, Garching
- Technische Universität Hamburg, Hamburg
- Max-Planck Institut für Radioastronomie, Bad Münstereifel
- Max-Planck-Institut für Quantenoptik, Garching
- Max-Planck-Institut für Kernphysik, Heidelberg
- Max-Planck-Institut für Eisenforschung, Düsseldorf
- Forschungszentrum Karlsruhe, Karlsruhe

Industry

- Shell Oil Company, USA
- ATI, USA
- Fedex, USA
- Walt Disney, Kalifornien, USA
- Agilent Technologies Co. Ltd., China
- Motorola, Brasilien
- IBM, Schweiz
- Audi AG, Neckarsulm
- BMW, München
- Daimler Chrysler AG, Bremen
- BASF, Ludwigshafen
- Deutsche Bahn, Berlin
- Deutsche Telekom, Weiden
- Siemens AG, Erlangen
- Rohde & Schwarz, München
- Infineon, Österreich
- Philips Technologie GmbH, Aachen
- ThyssenKrupp, Stuttgart
- EnBW, Stuttgart
- RTL Television, Köln
- Pro Sieben – SAT 1, Unterföhring
- Channel 6, Großbritannien
- WDR, Köln
- NDR, Hamburg
- SWR, Baden-Baden
- Bayerischer Rundfunk, München
- Carl-Zeiss-Jena GmbH, Jena
- Anritsu GmbH, Düsseldorf
- Hewlett Packard, Dornach
- Robert Bosch GmbH, Plochingen
- Mercedes Benz, Österreich
- EnBW Kernkraftwerk GmbH, Neckarwestheim
- AMD, Dresden
- Infineon Technologies, Regensburg
- Intel GmbH, Feldkirchen
- Philips Semiconductors, Nürnberg
- Hyundai Europe, Rüsselsheim
- Saarschmiede GmbH, Völklingen
- Wilkinson Sword, Solingen
- IBM Deutschland, Stuttgart
- Vattenfall, Berlin
- Fraport, Frankfurt