



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 measurements 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



Made in Germany

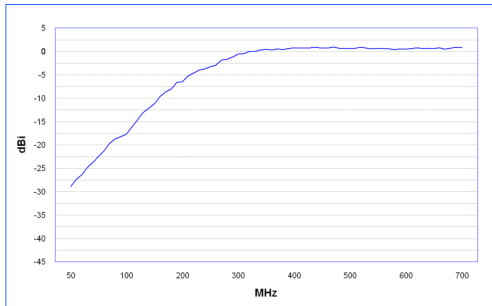


# Specifications

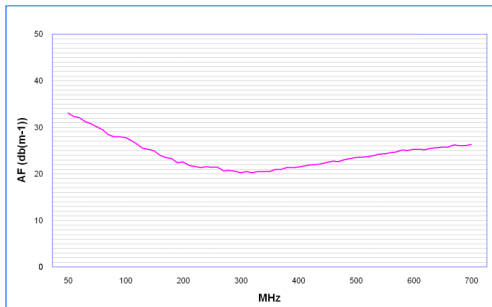
## BicoLOG® 5070

- ◆ 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**

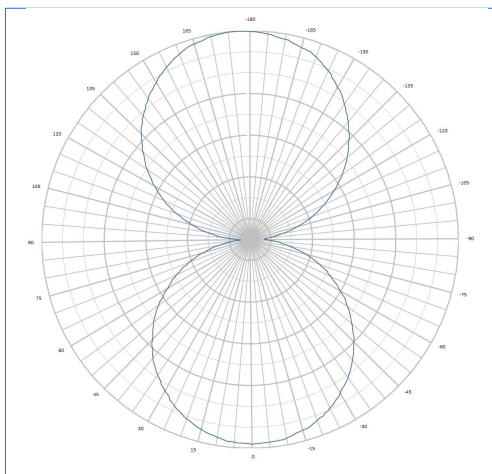
Gain Diagram BicoLOG 5070



Antenna factor BicoLOG 5070



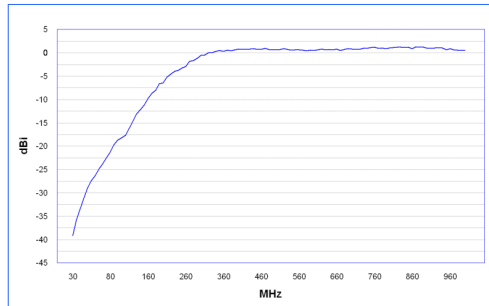
Horizontal Pattern (typical) BicoLOG Antennas



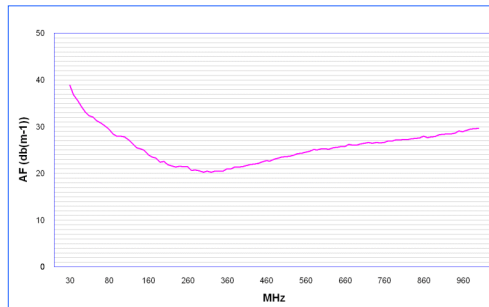
## BicoLOG® 30100

- ◆ 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**

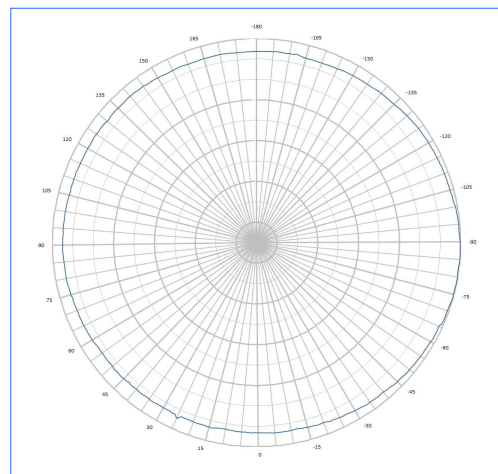
Gain Diagram BicoLOG 30100



Antenna factor BicoLOG 30100



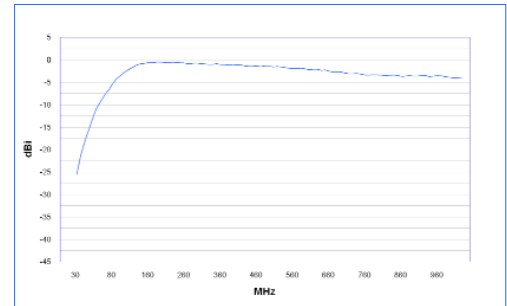
Vertical Pattern (typical) BicoLOG Antennas



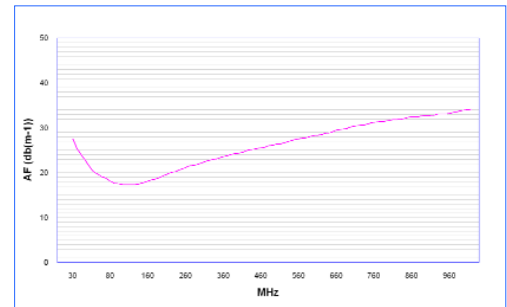
## NEW: BicoLOG® 30100E

- ◆ 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 30100E



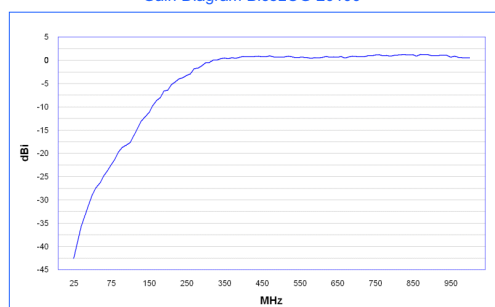
Antenna factor BicoLOG 30100E



## 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**

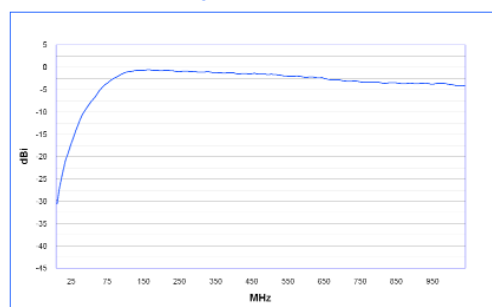
Gain Diagram BicoLOG 20100



## 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**

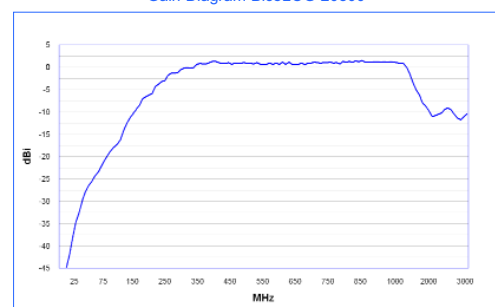
Gain Diagram BicoLOG 20100E



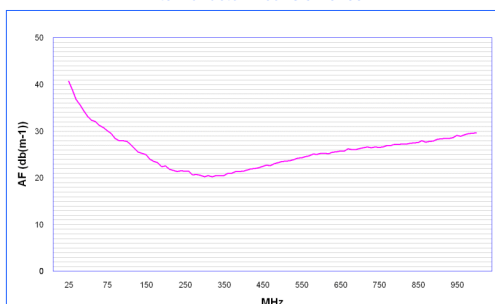
## BicoLOG® 20300

- ◆ 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**

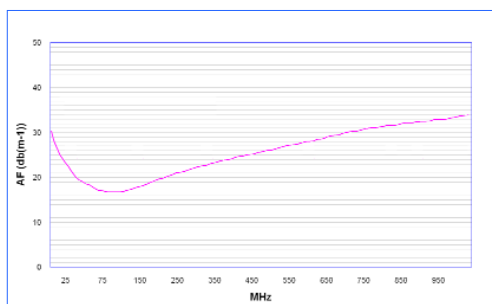
Gain Diagram BicoLOG 20300



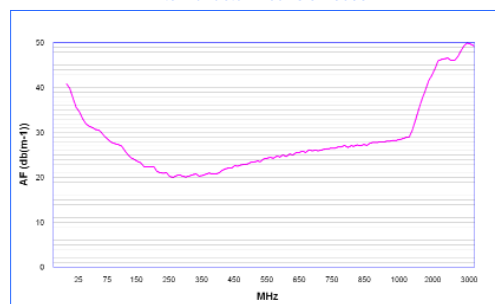
Antenna factor BicoLOG 20100



Antenna factor BicoLOG 20100E



Antenna factor BicoLOG 20300



# Recommended accessories for Aaronia Antennas

## Heavy Plastic Carrycase PRO

Shock 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!)

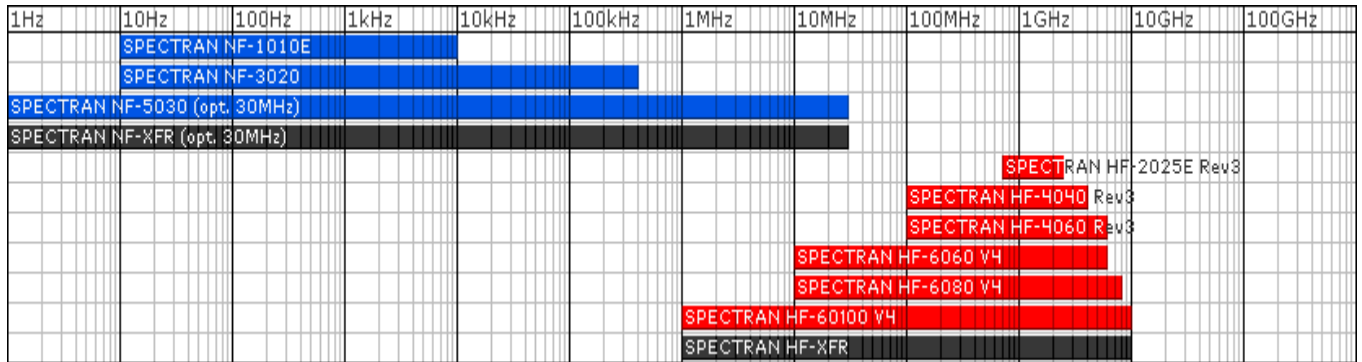
Highly recommend for the usage of BicoLOG antennas. Quick and easy change of antenna polarization, perfect antenna handling (even with the more heavy BicoLOG X-Series).

Order/Art.-No.: 282



# Frequency overview Analyzer & Antennas

## Frequency Overview SPECTRAN Spectrum Analyzer



## Frequency Overview HyperLOG and BicoLOG Antennas and Probes

# References

## User of Aeronia 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

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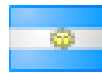
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