



Rev 1.9  
19.09.2014

## LogPer antenna HyperLOG® 40xx span 400MHz to 6GHz

Broadband antenna for the complete frequency range up to 6GHz

### Highlights:

- ◆ Optimal for usage with spectrum analysers for EMC measurement
- ◆ Incl. high-tech radom with modern, appealing design
- ◆ Excellent forward/backward ratio
- ◆ Freely alignable polarisation
- ◆ Excellent symmetry of radiation patterns
- ◆ Integrated 1/4" tripod socket
- ◆ Suitable for mobile use
- ◆ Made in Germany

### Calibration & standards:

- ◆ The log-periodic precompliance test antenna of the HyperLOG® 40xx series are suitable for 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 measurement 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:

- ◆ HyperLOG® 40xx-Antenna
- ◆ **Typical calibration data with up to 561 calibration points (10MHz steps)**
- ◆ Aluminum design carrycase with custom padding
- ◆ Sturdy, detachable pistol grip with "miniature tripod" mode
- ◆ Special Aaronia SMA toolset with over-torque protection

### References / examples of proof:

- ◆ Boeing, USA
- ◆ Rohde & Schwarz, Germany
- ◆ DaimlerChrysler AG, Germany
- ◆ EADS, Belgium
- ◆ Philips Semiconductors, Germany
- ◆ Infineon, Austria



Made in Germany



# Specifications

## HyperLOG® 4025:

- ◆ Design: Logarithmic-periodic
- ◆ Frequency range: **400MHz-2,5GHz**
- ◆ Max. transmission power: 100 W CW (400MHz)
- ◆ Nominal impedance: 50 Ohm
- ◆ VSWR (typ.): <1:2
- ◆ Gain (typ.): **4dBi**
- ◆ Antenna factor: **18-34dB/m**
- ◆ Calibration points: **211** (10MHz steps)
- ◆ RF connection: SMA socket (18GHz) or N socket using an adapter
- ◆ Dimensions (L/W/D): (590x360x30) mm
- ◆ Weight: 1200gr

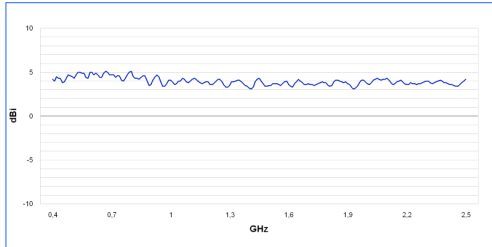
## HyperLOG® 4040:

- ◆ Design: Logarithmic-periodic
- ◆ Frequency range: **400MHz-4GHz**
- ◆ Max. transmission power: 100 W CW (400MHz)
- ◆ Nominal impedance: 50 Ohm
- ◆ VSWR (typ.): <1:2
- ◆ Gain (typ.): **4dBi**
- ◆ Antenna factor: **18-38dB/m**
- ◆ Calibration points: **361** (10MHz steps)
- ◆ RF connection: SMA socket (18GHz) or N socket using an adapter
- ◆ Dimensions (L/W/D): (590x360x30) mm
- ◆ Weight: 1200gr

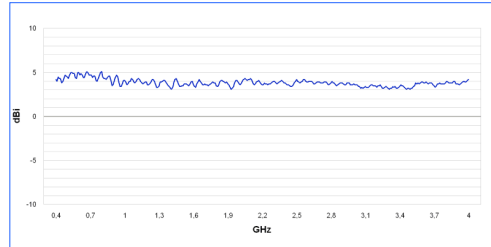
## HyperLOG® 4060:

- ◆ Design: Logarithmic-periodic
- ◆ Frequency range: **400MHz-6GHz**
- ◆ Max. transmission power: 100 W CW (400MHz)
- ◆ Nominal impedance: 50 Ohm
- ◆ VSWR (typ.): <1:2
- ◆ Gain (typ.): **5dBi**
- ◆ Antenna factor: **20-40dB/m**
- ◆ Calibration points: **561** (10MHz steps)
- ◆ RF connection: SMA socket (18GHz) or N socket using an adapter
- ◆ Dimensions (L/W/D): (590x360x30) mm
- ◆ Weight: 1000gr

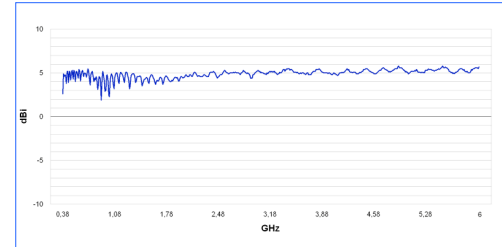
Gain Diagram HyperLOG 4025



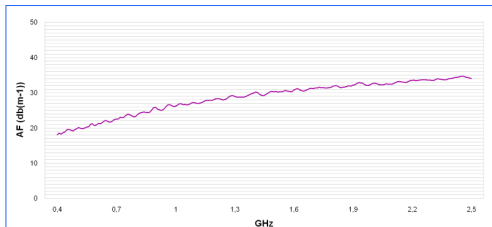
Gain Diagram HyperLOG 4040



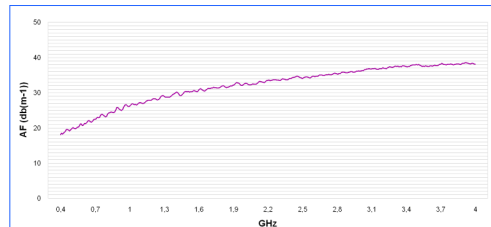
Gain Diagram HyperLOG 4060



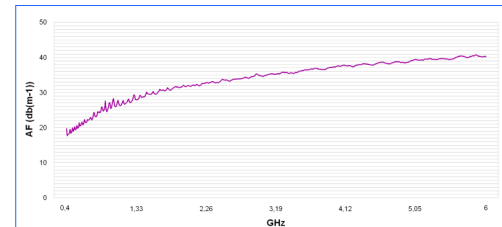
Antenna factor HyperLOG 4025



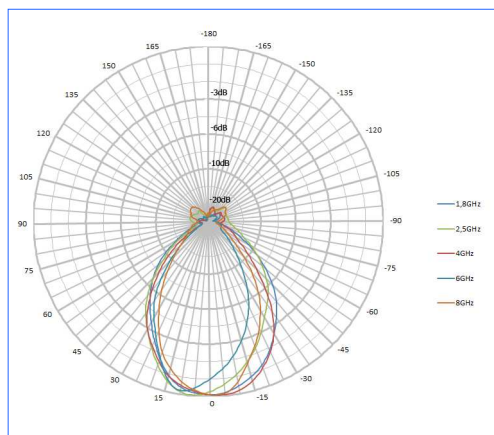
Antenna factor HyperLOG 4040



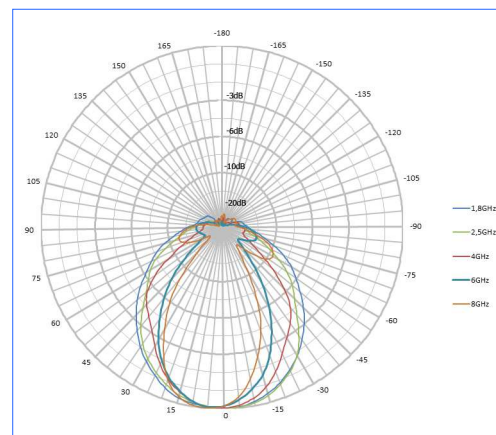
Antenna factor HyperLOG 4060



Horizontal Pattern HyperLOG 40xx Serie



Vertikal Pattern HyperLOG 40xx Serie



# Description



HyperLOG 40xx Antenna with optional aluminum tripod

The HyperLOG® antennas come standard with a specially constructed, high tech radom housing. This housing has been constructed after intense research with the most modern computer technology in such a way that its shape, material and special coating have virtually no influence on measurements, not even in case of dew or other kinds of humidity collecting on the surface. Another important factor for Aaronia was the development of a radom with the lowest possible damping factor achievable. This turned out to be quite an adventure for our development team, particularly in the high GHz ranges. Fortunately, this adventure has been mastered resulting in a beautiful, elegant design, to the complete satisfaction of the development team. Our first test measurements even by far surpassed our guidelines!

The resulting antenna had the best possible protection against mechanical stress and environmental influence without sacrificing any of its performance.



Lot of space for optionally accessories:  
The HyperLOG® transportcase

With their log-periodic measurement antennas from the HyperLOG® 40xx series, Aaronia finally offers a very cost-effective alternative, which at the same time meets the highest expectations. In conjunction with the HyperLOG® antennas, every regular spectrum analyser becomes a fully professional directional RF measurement device within a few moments. Thus, a perfect "dream team" for EMC measurement in the laboratory or for outdoor use is at your disposal.

The LogPer antennas of the HyperLOG® 40xx series are identical to those of the 70xx series, but have an enhanced frequency range down to 400MHz, particularly for covering the 70cm amateur radio band (430 MHz and up). Consequently, the dimensions of the antennas had to be increased significantly.



Spectrum Analyser and HyperLOG® directional antenna

Included with delivery: A sturdy aluminum design carrycase with custom padding for the antenna, cables and accessories. Furthermore, every antenna of the HyperLOG® 40xx series includes a detachable multi-functional pistol grip with "miniature-tripod" mode and an appropriate SMA tool.

# Recommended accessories for Aaronia Antennas

## Aluminum tripod

Height adjustable, high stability. STRONGLY recommended for use with HyperLOG 40xx and 30xxx antennas! Max. height: 105cm.

Order/Art.-No.: 281



## 1m / 5m / 10m SMA-Cable

High quality special SMA cable for connecting any HyperLOG®-Antenna or BicoLOG®-Antenna with various test equipment like our 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 HyperLOG®-Antenna with any standard spectrum-analyzer with N connector. Also this adapter is needed to connect BicoLOG® antennas to a Spectran Spectrum Analyzer.

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!)

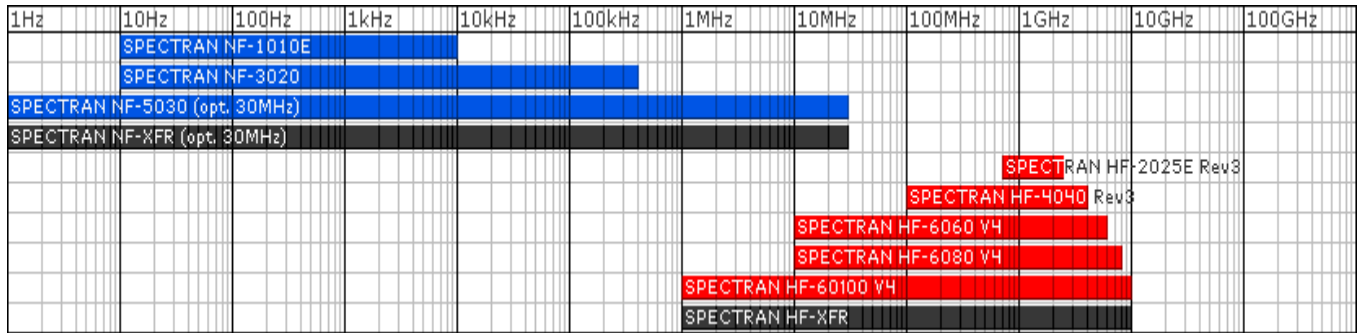
Highly recommend for the usage of HyperLOG antennas. Quick and easy change of antenna polarization, perfect antenna handling (even with the more heavy HyperLOG 40.. X-series).

Order/Art.-No.: 282

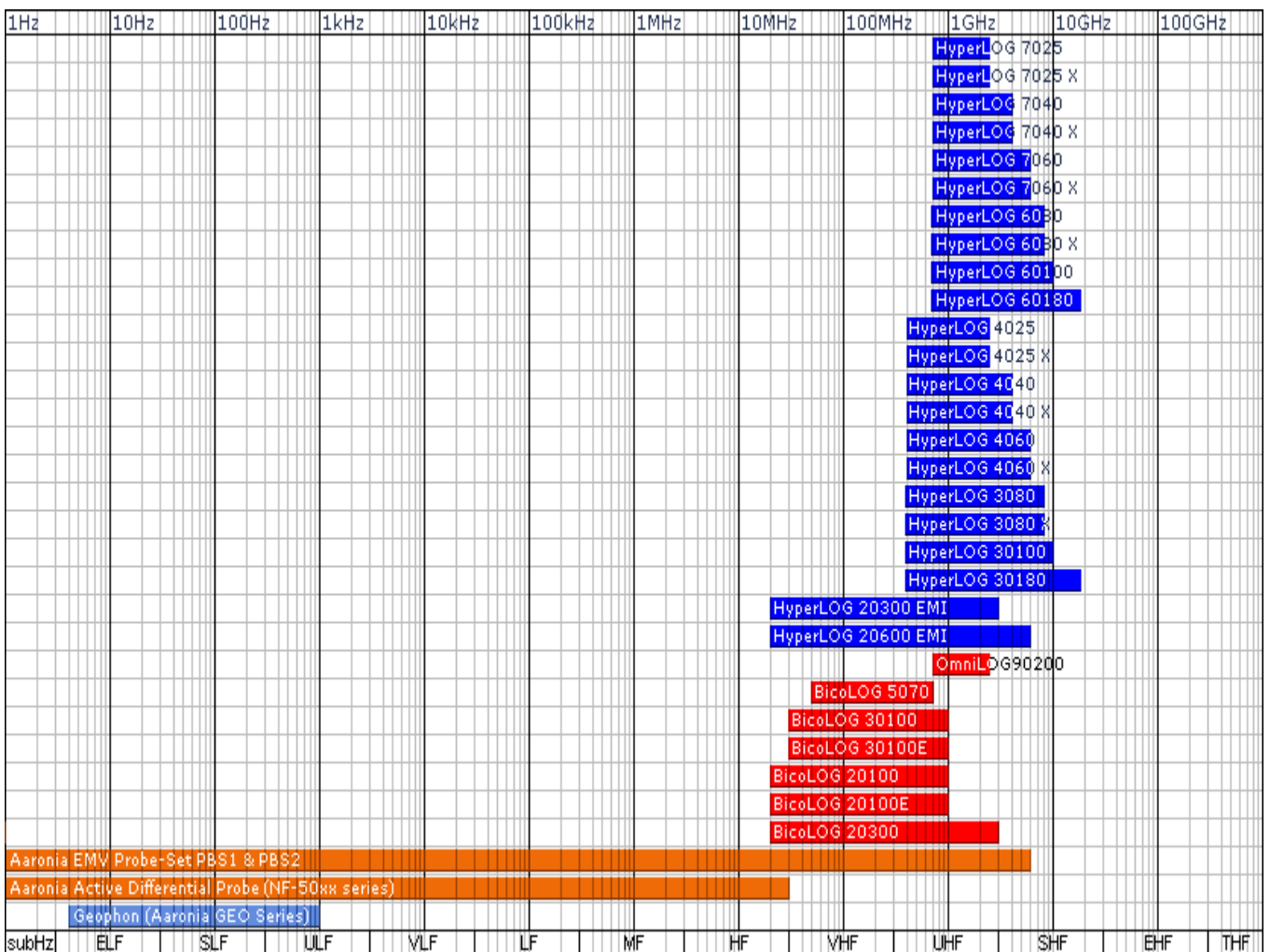


# Frequency overview Analyzer & Antennas

## 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 Science, Indonesien
- ◆ Max-Planck-Institut für Polymerforschung, Mainz
- ◆ Los Alamos National Laboratory, 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