



Rev 1.1  
02.04.2009

# Log periodic broadband yagi antenna Series HyperLOG<sup>®</sup> 70xx - span 700MHz to 6GHz

Excellent LogPer antennas for mobile measurements and laboratory

## 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
- ◆ **10 years warranty**

## Calibration & standards:

- ◆ The log-periodic precompliance test antenna of the HyperLOG<sup>®</sup> 70xx 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<sup>®</sup> 70xx-Antenna
- ◆ **Typical calibration data with up to 533 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:

- ◆ Airbus Deutschland, Germany
- ◆ EADS, Germany
- ◆ ATI Research, USA
- ◆ Motorola, Spain
- ◆ University of California, USA
- ◆ Los Alamos National Laboratory, USA



Made in Germany

# Specifications

## HyperLOG® 7025:

- ◆ Design: Logarithmic-periodic
- ◆ Frequency range: **700MHz-2,5GHz**
- ◆ Max. transmission power: 100 W CW (400MHz)
- ◆ Nominal impedance: 50 Ohm
- ◆ VSWR (typ.): <1:2
- ◆ Gain (typ.): **4dBi**
- ◆ Antenna factor: **23-34dB/m**
- ◆ Calibration points: **183** (10MHz steps)
- ◆ RF connection: SMA socket (18GHz) or N socket using an adapter
- ◆ Dimensions (L/W/D): (340x200x25) mm
- ◆ Weight: 270gr
- ◆ **Warranty: 10 years**

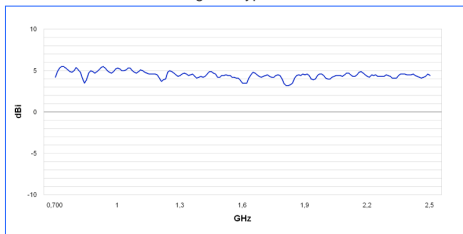
## HyperLOG® 7040:

- ◆ Design: Logarithmic-periodic
- ◆ Frequency range: **700MHz-4GHz**
- ◆ Max. transmission power: 100 W CW (400MHz)
- ◆ Nominal impedance: 50 Ohm
- ◆ VSWR (typ.): <1:2
- ◆ Gain (typ.): **4dBi**
- ◆ Antenna factor: **23-38dB/m**
- ◆ Calibration points: **333** (10MHz steps)
- ◆ RF connection: SMA socket (18GHz) or N socket using an adapter
- ◆ Dimensions (L/W/D): (340x200x25) mm
- ◆ Weight: 270gr
- ◆ **Warranty: 10 years**

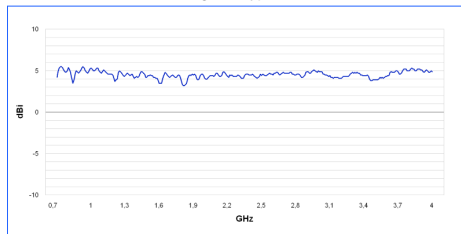
## HyperLOG® 7060:

- ◆ Design: Logarithmic-periodic
- ◆ Frequency range: **700MHz-6GHz**
- ◆ Max. transmission power: 100 W CW (400MHz)
- ◆ Nominal impedance: 50 Ohm
- ◆ VSWR (typ.): <1:2
- ◆ Gain (typ.): **5dBi**
- ◆ Antenna factor: **26-41dB/m**
- ◆ Calibration points: **533** (10MHz steps)
- ◆ RF connection: SMA socket (18GHz) or N socket using an adapter
- ◆ Dimensions (L/W/D): (340x200x25) mm
- ◆ Weight: 250gr
- ◆ **Warranty: 10 years**

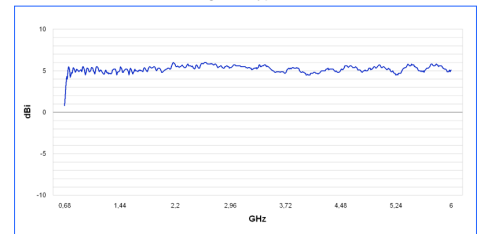
Gain Diagram HyperLOG 7025



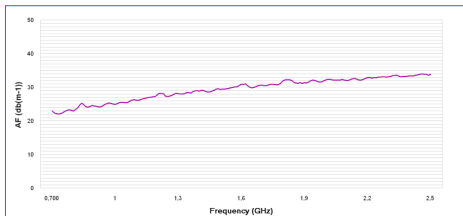
Gain Diagram HyperLOG 7040



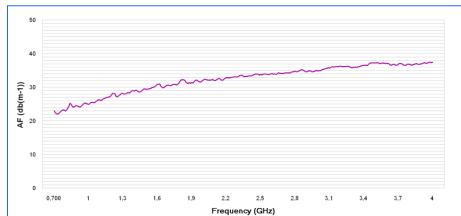
Gain Diagram HyperLOG 7060



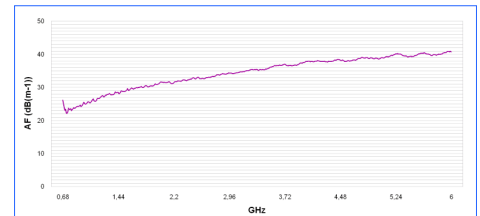
Antenna factor HyperLOG 7025



Antenna factor HyperLOG 7040



Antenna factor HyperLOG 7060



## Frequency Range Aaronia HyperLOG® EMC precision Measurement-Antennas

Antenna Version	380MHz	400MHz	680MHz	700MHz	2,5GHz	4GHz	6GHz	8GHz	10GHz	18GHz	Total	Examples for the utilizable frequency range
HyperLOG® 7025	-	-	-	✓	✓	-	-	-	-	-	700MHz - 2,5GHz	GSM900, GPS, DECT, GSM1800, UMTS, Microwave, WLAN
HyperLOG® 7040	-	-	-	✓	✓	✓	-	-	-	-	700MHz - 4GHz	GSM900, GPS, DECT, GSM1800, UMTS, Microwave, WLAN, WiFi, Radar, WiMAX, UWB (FB2-FB4)
HyperLOG® 7060	-	-	-	✓	✓	✓	✓	-	-	-	700MHz - 6GHz	GSM900, GPS, DECT, GSM1800, UMTS, Microwave, WLAN, WiFi, Radar, WiMAX, UWB (FB2-FB7)
HyperLOG® 6080	-	-	✓	✓	✓	✓	✓	✓	-	-	680MHz - 8GHz	GSM900, GPS, DECT, GSM1800, UMTS, microwave ovens, WLAN, WiFi, Radar, WiMAX, 5,8GHz W-Lan, radio links, UWB (FB2-FB7)
HyperLOG® 60100	-	-	✓	✓	✓	✓	✓	✓	✓	-	680MHz - 10GHz	GSM900, GPS, DECT, GSM1800, UMTS, microwave ovens, WLAN, WiFi, Radar, WiMAX, 5-6GHz WLAN, radio links, weather radar, UWB (FB2-FB8)
HyperLOG® 60180	-	-	✓	✓	✓	✓	✓	✓	✓	✓	680MHz - 18GHz	GSM900, GPS, DECT, GSM1800, UMTS, microwave ovens, WLAN, WiFi, radar, WiMAX, 5-6GHz WLAN, radio links, weather radar, misc. satellite services, UWB (FB2-FB10)
HyperLOG® 4025	-	✓	✓	✓	✓	-	-	-	-	-	400MHz - 2,5GHz	70cm amateur radio, GSM900, GPS, DECT, GSM1800, UMTS, microwave ovens, WLAN, WiFi
HyperLOG® 4040	-	✓	✓	✓	✓	✓	-	-	-	-	400MHz - 4GHz	70cm amateur radio, GSM900, GPS, DECT, GSM1800, UMTS, microwave ovens, WLAN, WiFi, radar, UWB (FB2-FB4)
HyperLOG® 4060	-	✓	✓	✓	✓	✓	✓	-	-	-	400MHz - 6GHz	70cm amateur radio, GSM900, GPS, DECT, GSM1800, UMTS, microwave ovens, WLAN, WiFi, WiMAX, Radar, 5-6GHz WLAN, UWB (FB2-FB7)
HyperLOG® 3080	✓	✓	✓	✓	✓	✓	✓	✓	-	-	380MHz - 8GHz	TETRA, 70cm amateur radio, GSM900, GPS, DECT, GSM1800, UMTS, microwave ovens, WLAN, WiFi, WiMAX, Radar, 5-6GHz WLAN, radio links, UWB (FB2-FB7)
HyperLOG® 30100	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	380MHz - 10GHz	TETRA, 70cm amateur radio, GSM900, GPS, DECT, GSM1800, UMTS, microwave ovens, WLAN, WiFi, WiMAX, Radar, 5-6GHz WLAN, radio links, weather radar, UWB (FB2-FB8)
HyperLOG® 30180	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	380MHz - 18GHz	TETRA, 70cm amateur radio, GSM900, GPS, DECT, GSM1800, UMTS, microwave ovens, WLAN, WiFi, WiMAX, Radar, 5-6GHz WLAN, radio links, weather radar, UWB (FB2-FB8)

\*typical / The logarithmic periodic antennas of the HyperLOG® series are suited for measuring the strength of interfering fields. The special wideband characteristics allow for readings in the entire specified frequency range without switching. The antennas are suited for readings according to the following norms and procedures: CISPR, VDE, MIL, VG, EN 55011, EN 55013, EN 55015, EN 55022, MIL-Std-461.

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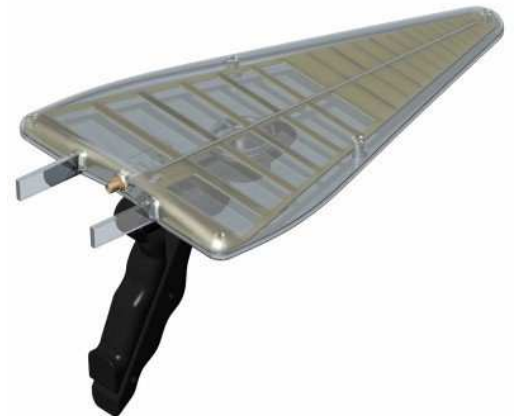
# Description



HyperLOG 70xx Antenna with pistol grip expanded as a miniature tripod

The HyperLOG® 70xx logper 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.



Also available in a "transparent" finish at extra charge



Lot of space for optionally accessories:  
The HyperLOG® transportcase

With their log-periodic measurement antennas from the HyperLOG® 70xx 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.

Due to their flexibility in polarisation, HyperLOG antennas can also be used as handy WLAN or Wifi antennas. Point-to-point WLAN links or networks can be constructed easily using the full bandwidth up to 6GHz, achieving high throughput. Optimal for MMDS, ISM, CCTV and data/telephony transmission.

Included with delivery: A sturdy aluminum design carrycase with custom padding for the antenna, cables and accessories. Furthermore, every antenna of the HyperLOG® 70xx series includes a detachable multi-functional pistol grip with "miniature-tripod" mode and an appropriate SMA toolset.

# Recommended accessories for Aaronia Antennas

## Heavy Plastic Carrycase PRO

Schock resistant, heavy version with padding. Offers spaces for a HyperLOG 70xx or 60xxx antenna and 2 SPECTRAN units with all accessories. A must for the professional user or outdoor usage!

Order/Art.-No.: 243



interior view

exterior view

## 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 Cable (1-10m)

## 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

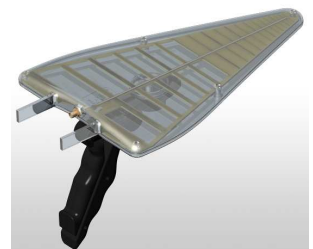


SMA to N Adapter

## Option Transparent

Beautiful, transparent case for HyperLOG® antenna series 30xxx, 40xx, 60xxx and 70xx. Hand-polished.

Order/Art.-No.: Antenna Order-No. + T



transparent finish

# 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

# Visit us at the



Made in Germany

Aaronia AG, Gewerbegebiet Aaronia AG, DE-54597 Strickscheid, Germany  
Phone ++49(0)6556-93033, Fax ++49(0)6556-93034  
Email:mail@aaronia.de URL:www.spectran.com



**Aaronia USA**, 651 Amberton Crossing  
Suwanee, Georgia 30024 USA  
Phone ++1 678-714-2000, Fax ++1 678-714-2092  
Email:sales@aaroniausa.com URL:www.aaroniaUSA.com



**Aaronia UK**, Bellringer Road, Trentham, Lakes South,  
Stoke-on-Trent, ST4 8GB Staffordshire  
Phone ++44(0)845-4379092, Fax ++44(0)870-8700001  
Email:sales@aaronia.co.uk URL:www.aaronia.co.uk

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