



Rev 1.2

01.08.2009

# Precompliance EMC Test Antenna HyperLOG® 30xxx series Logarithmic Periodic Antenna. Spans 380MHz to 18GHz

Ultimate functionality and elegant design at a revolutionary price

## Highlights:

- ◆ Only a single broadband antenna for the complete frequency range from 380MHz to 18GHz
- ◆ Optimal for usage with spectrum analysers for EMC measurement
- ◆ Complete ISO calibration certificate (option)
- ◆ **Top-quality high-tech TEFLON antenna support**
- ◆ Freely alignable polarisation
- ◆ Made in Germany
- ◆ **10 years warranty**

## Calibration & standards:

- ◆ The log-periodic precompliance test antenna of the HyperLOG® 30xxx 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® 30xxx-Antenna
- ◆ **Typical calibration data with up to 1763 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, Hamburg, Germany
- ◆ Australian Government Department of Defence, Australia
- ◆ Siemens AG, München, Germany
- ◆ BMW, München, Germany
- ◆ Bundesamt für Sicherheit in der Informationstechnik, Bonn, Germany
- ◆ Fraunhofer Institut Integrierte Schaltungen, Erlangen, Germany



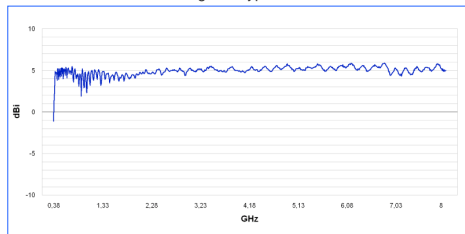
Made in Germany

# Specifications

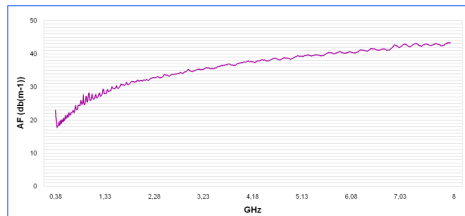
## HyperLOG® 3080:

- ◆ Design: Logarithmic-periodic
- ◆ Frequency range: **380MHz-8GHz**
- ◆ Max. transmission power: 100W CW (400 MHz)
- ◆ Nominal impedance: 50 Ohms
- ◆ VSWR (typ.): <1:2,5
- ◆ Gain (typ.): **5dBi**
- ◆ Antenna factor: **20-43dB/m**
- ◆ Calibration points: **763** (10MHz-steps)
- ◆ RF connection: SMA socket (18GHz) or N socket using an adapter
- ◆ Dimensions (L/W/D): (590x360x30) mm
- ◆ Weight: 1000gr
- ◆ **Warranty: 10 years**

Gain Diagram HyperLOG 3080



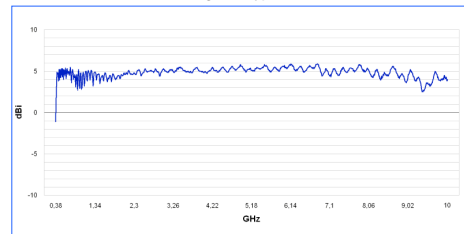
Antenna factor HyperLOG 3080



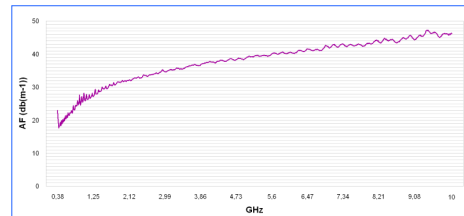
## HyperLOG® 30100:

- ◆ Design: Logarithmic-periodic
- ◆ Frequency range: **380MHz-10GHz**
- ◆ Max. transmission power: 100W CW (400 MHz)
- ◆ Nominal impedance: 50 Ohms
- ◆ VSWR (typ.): <1:2,5
- ◆ Gain (typ.): **5dBi**
- ◆ Antenna factor: **20-46dB/m**
- ◆ Calibration points: **963** (10MHz-steps)
- ◆ RF connection: SMA socket (18GHz) or N socket using an adapter
- ◆ Dimensions (L/W/D): (590x360x30) mm
- ◆ Weight: 1000gr
- ◆ **Warranty: 10 years**

Gain Diagram HyperLOG 30100



Antenna factor HyperLOG 30100



## 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 30xxx 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!

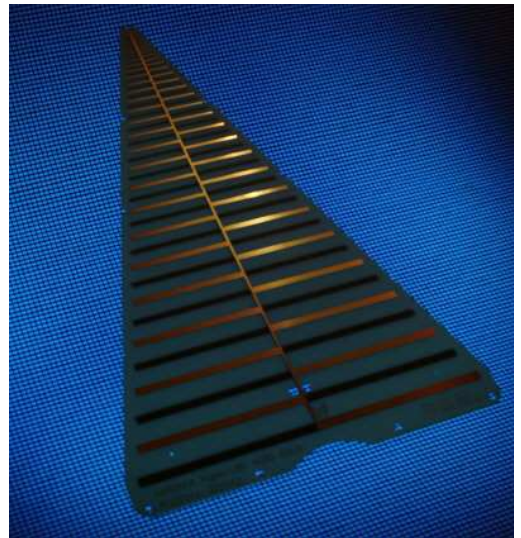
The resulting antenna had the best possible protection against mechanical stress and environmental influence without sacrificing any of its performance.



Lot of space for optionally accessories:  
The HyperLOG® transportcase

With their log-periodic measurement antennas from the HyperLOG® 30xxx 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 TEFLON LogPer antennas of the HyperLOG® 30xxx series are identical to those of the 60xxx series, but have an enhanced frequency range down to 380MHz, particularly for coverage of the important TETRA band. After a huge amount of complex development, a whole series of truly high-tech antennas has evolved, with an exceptional mix of performance, functionality and design in this price category.



Gold-coated, protected TEFLON precision antenna

Included with delivery: A sturdy aluminum design carrycase with custom padding for the antenna, cables and accessories. Furthermore, every antenna of the HyperLOG® 30xxx series includes a detachable multi-functional pistol grip with "miniature-tripod" mode and an appropriate SMA toolset.

# 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



Aluminum tripod

## 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



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