

Rev 2.1  
12.09.2014

## RF Near Field Probe Set DC to 9GHz

EMF & RF close field sniffer-set for use with any Spectrum Analyzer or Measurement Receiver

### Included with delivery:

- ◆ 1 x 50mm magnetic field probe
- ◆ 1 x 25mm magnetic field probe
- ◆ 1 x 12mm magnetic field probe
- ◆ 1 x 6mm magnetic field probe
- ◆ 1 x E-field probe
- ◆ **Pre-amplifier with power supply (only PBS2)**
- ◆ 1m SMB-to-SMA Cable
- ◆ Pistol grip with tripod function
- ◆ Transport case with paddings
- ◆ Exhaustive manual
- ◆ Power Converter Excel files on CD
- ◆ **Power Converter App for iPhone & iPad**  
(Download via Apple Store)

  
**AARONIA AG**  
WWW.AARONIA.DE

Made in Germany



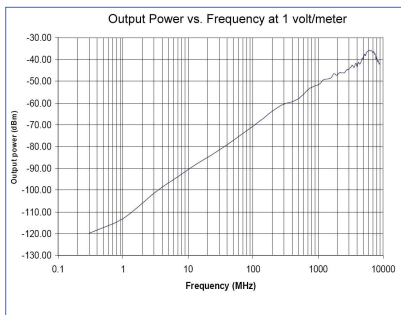
# Specifications:

## PBS1 & PBS2 Sniffer Set:

- ◆ Frequency range: **DC-9GHz**
- ◆ Pre-Amplifier noise (PBS2): 3.5dB typical
- ◆ PreAmplifier type/gain (PBS2): "linear" falloff. 1MHz: 40dB; 3GHz: 37.5dB; 6GHz: 35dB
- ◆ Dimensions of case (L/W/D): (300x190x70) mm
- ◆ Weight PBS1 (case incl. probes): 1200gr
- ◆ Weight PBS2 (case incl. probes and pre-amplifier): 1500gr
- ◆ **Warranty: 10 years**

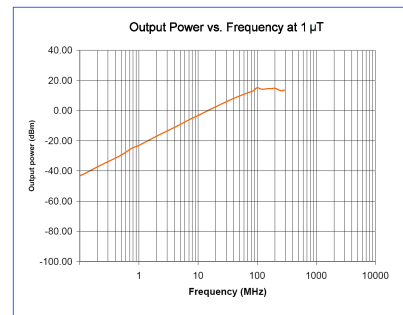
## Isotropic E-field probe:

- ◆ Sensor diameter: 3mm
- ◆ Maximum resonance frequency: 9GHz
- ◆ Connector: 50 Ohms SMB socket (m)
- ◆ **Warranty: 10 years**



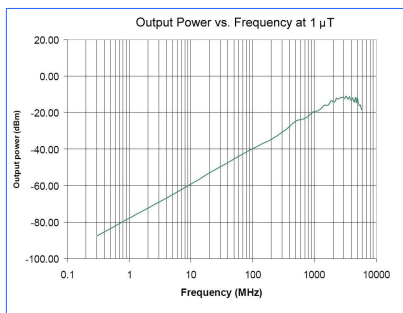
## 50mm magnetic field probe:

- ◆ Sensor diameter: 50mm
- ◆ Maximum resonance frequency: 700MHz
- ◆ Connector: 50 Ohms SMB socket (m)
- ◆ **Warranty: 10 years**



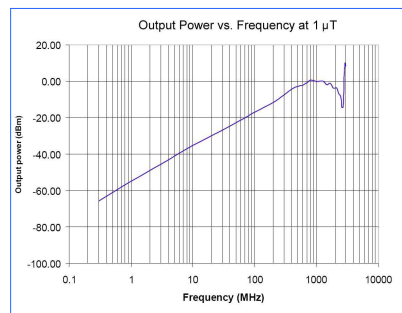
## 6mm magnetic field probe:

- ◆ Sensor diameter: 6mm
- ◆ Maximum resonance frequency: >6GHz
- ◆ Connector: 50 Ohms SMB socket (m)
- ◆ **Warranty: 10 years**



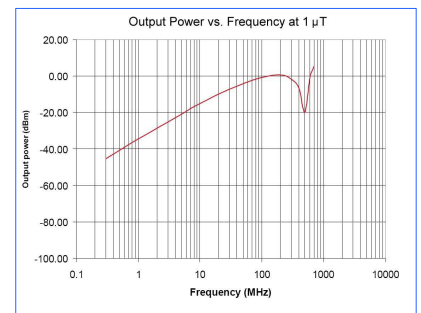
## 12mm magnetic field sniffer:

- ◆ Sensor diameter: 12mm
- ◆ Maximum resonance frequency: 2,6GHz
- ◆ Connector: 50 Ohms SMB socket (m)
- ◆ **Warranty: 10 years**



## 25mm magnetic field probe:

- ◆ Sensor diameter: 25mm
- ◆ Maximum resonance frequency: 500MHz
- ◆ Connector: 50 Ohms SMB socket (m)
- ◆ **Warranty: 10 years**



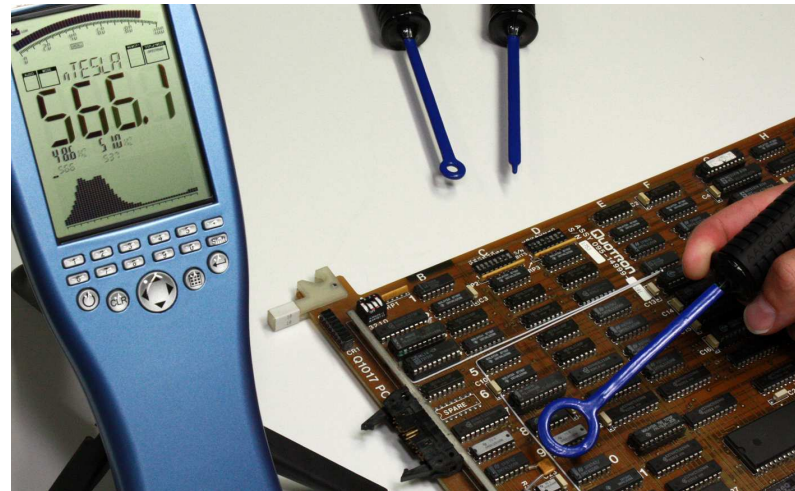
Included in delivery is a transport case with paddings for the 5 probes and for the pre-amplifier with power supply (only included at the PBS2). Each probe-set also contains an exhaustive english manual, a 1m SMB-to-SMA cable and a pistol grip with miniature tripod function.

# Details

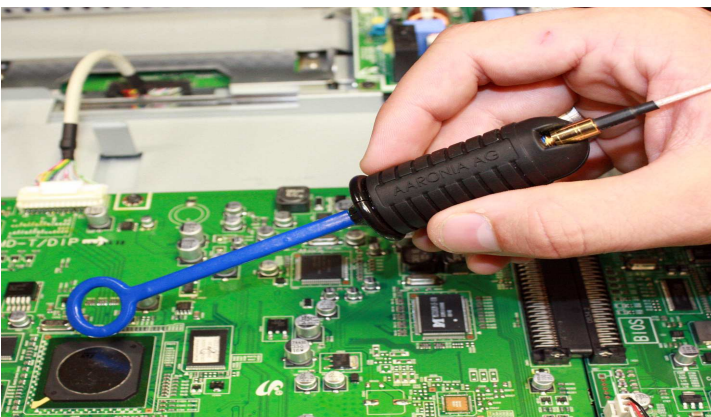
The EMC Near Field probe set allows for straightforward pinpointing and measurement of interference sources in electronic component groups as well as execution and monitoring of generic EMC measurement. Our RF near field probe set is especially suitable for:

- Pinpointing interference sources
- Estimation of interference field strength
- Verification of shielding and filtering measures
- Identifying faulty components
- Detecting circuitry overly sensitive to interference

The set includes a total of 5 probes: 4 probes for magnetic field measurement and one for measurement of electric fields. All probes are covered with an insulating layer, thus allowing safe measurement of oscillators or mains lines.



Magnetic field measurement on a group of components using the H-field probe



Pinpointing interference sources on a circuit board



Use of the included tripod for the fixation of the H-field probe

The PBS2 probe set additionally contains a high-performance pre-amplifier, allowing measurement of significantly weaker interference sources, boosting the sensitivity of our instruments by up to 40dB.

All probes have deliberately been implemented as passive devices to make them usable as transmitting devices as well. Consequently, components and circuits sensitive to interference can easily be pinpointed.

**Perfect for locating interference sources** which might have been found e.g. in an EN55011, EN55022 or EN50371 (Class A or Class B) survey. After implementing appropriate changes in the circuit, their efficiency can easily and reliably be verified. That way, expensive and time-consuming re-assessments in an EMC laboratory can be skipped.

**Verification of official EMC limits:** For example, should an interference source exceed an official EMC limit by 10dB, our probe set can easily verify if a certain countermeasure succeeds in making the circuitry conforming again.

This is another situation where the probe sets can eliminate the need for expensive and time-consuming measurements in EMC laboratories.

Very useful is the integrated (1/4") tripod connector which allows to mount the probes on each tripod.

**The RF Probe Set can be connected to any Spectrum Analyzer or Oscilloscope. For units with N-connector we offer a SMA-to-N Adapter (optional).**



Each Probe offers a SMB-quick-connector...



... which allows a fast connection/change of the included measurement cable.



The tripod connector at the bottomside of each probe allows the comfortable fixation using the included miniature tripod

# References

## User of Aaronia Antennas, Probe Sets and Spectrum Analyzers (Examples)

### Government, Military, aeronautic, astronautic

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

### Industry

- ◆ Audi AG, Neckarsulm, Germany
- ◆ Rohde & Schwarz, München, Germany
- ◆ Shell Oil Company, USA
- ◆ Motorola, Brazil
- ◆ Anritsu GmbH, Düsseldorf, Germany
- ◆ Philips Technologie GmbH, Aachen, Germany
- ◆ Siemens AG, Erlangen, Germany
- ◆ ThyssenKrupp, Stuttgart, Germany
- ◆ Carl-Zeiss-Jena GmbH, Jena, Germany
- ◆ BMW, München, Germany
- ◆ Daimler Chrysler AG, Bremen, Germany
- ◆ ATI, USA
- ◆ BASF, Ludwigshafen, Germany
- ◆ Hewlett Packard, Dornach, Germany
- ◆ Robert Bosch GmbH, Plochingen, Germany
- ◆ IBM Deutschland, Stuttgart, Germany
- ◆ EnBW Kernkraftwerk GmbH, Neckarwestheim
- ◆ AMD, Dresden, Germany
- ◆ Infineon Technologies, Regensburg, Germany

### Research/Development, Science and Universitys

- ◆ Deutsches Forschungszentrum für Künstliche Intelligenz, Germany
- ◆ Universität Freiburg, Germany
- ◆ Indonesien Institute of Science, Indonesia
- ◆ Max-Planck-Institut für Polymerforschung, Mainz, Germany
- ◆ Los Alamos National Laboratory, USA
- ◆ University of Bahrain, Bahrain
- ◆ University of Florida, USA
- ◆ Universität Erlangen, Erlangen, Germany
- ◆ Universität Hannover, Hannover, Germany
- ◆ University of Newcastle, United Kingdom
- ◆ Universität Strasbourg, France
- ◆ Universität Frankfurt, Frankfurt, Germany
- ◆ Uni München – Fakultät für Physik, Garching, Germany
- ◆ Technische Universität Hamburg, Hamburg, Germany
- ◆ Max-Planck Institut für Radioastronomie, Bad Münstereifel, Germany
- ◆ Max-Planck-Institut für Quantenoptik, Garching, Germany
- ◆ Max-Planck-Institut für neurologische Forschung, Köln, Germany
- ◆ Max-Planck-Institut für Kernphysik, Heidelberg, Germany
- ◆ Max-Planck-Institut für Eisenforschung, Düsseldorf, Germany
- ◆ Forschungszentrum Karlsruhe, Karlsruhe, Germany
- ◆ Forschungszentrum Molekularphysiologie des Gehirns, Germany

# Aaronia Distributors



**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 North China**, Beijing Mesh Communication  
Tech Co. Ltd., No. 2 Huayuan Road, Building 2, Haidian  
District, 100191 Beijing, China  
Phone ++86 10 822 37 606, Fax ++86 10 822 37 609  
Email: sales@bjmesh.com  
URL: www.bjmesh.com.cn



**Aaronia South China**, Shenzhen TORI Wisdom  
Technology Co., Ltd, 3BRM, RD FL Luhua Technology  
Bldg, Guangxia Road 7, Futian, 518049 Shenzhen, China  
Phone ++86 755 888 580 86, Fax +86 755 830 73 418  
Email: mail@aaronia-china.com  
URL: www.aaronia-china.com



**E-Instrument Tech Ltd.**, No. 16, Lane 37  
Guanye E. Riad, Pingchen City,  
324587 Taoyuan County, Taiwan  
Phone: +886 3 4576 809 Fax: +886 3 468 8611  
Email: sales@e-channel.com.tw  
URL: www.e-channel.com.tw



**Testpribor**, Fabriciusa St. 30  
Moscow 125363 Russia  
Phone ++7 495-225-67-37  
Email: testpribor@test-expert.ru  
URL: www.test-expert.ru



**EgeRate Elektronik Muh. ve Tic. Ltd. Sti.**,  
Perpa Ticaret Merkezi, A Blok Kat: 5 No: 141,  
Sisli / Istanbul, Turkey  
Phone ++90 212 220 3483, Fax ++90 212 220 7635  
Email: info@egerate.com  
URL: www.egerate-store.com



**Aimil Ltd**, B-906, BSEL Tech Park, Opp. Vashi Rly Strn,  
400705 Vashi, Navi Mumbai, India  
Phone ++91 22 3918 3554, Fax ++91 22 3918 3562  
Email: sanjayagarwal@aimil.com  
URL: www.aimil.com



**EKKON SA**, Paraná 350, Capital Federal,  
1017 Buenos Aires, Argentina  
Phone ++ 54 114 123 009 1, Fax ++54 114 372 324 4  
Email: info@aaronia-argentina.com.ar  
URL: www.aaronia-argentina.com.ar



**Mono Tech Ltd**, 2 Johanan Hasandlar St.  
44641 Kfar-Sava, Israel  
Phone ++972 72 2500 290, Fax ++972 9 7654 264  
Email: kobi@aaronia.co.il  
URL: www.aaronia.co.il



**Tagor Electronic doo**  
Tihomira Brankovica 21  
18000 Nis, Serbia  
Phone ++381 18 575 545, Fax ++381 18 217 125  
Email: miodrag.stojilkovic@tagor.rs  
URL: www.tagor-instrumenti.rs



**NDN**, Janowskiego 15  
02-784 Warszawa, Poland  
Phone ++48 22 641 1547, Fax ++48 22 641 1547  
Email: ndn@ndn.com.pl  
URL: www.ndn.com.pl



**VECTOR Technologies Ltd**, 40 Diogenous str., 15234  
Halandri, Greece  
Phone ++30 210 685 8008, Fax ++30 210 6858 8118  
Email: info@vectortechnologies.gr  
URL: www.vectortechnologies.gr



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.aaronia.com

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