

Frequency selective monitoring by using a three axis isotropic antenna

ITU-T K.83
compliant

- ▲ **Frequency range: 100 kHz to 6 GHz**
- ▲ **Built in spectrum analyzer for monitoring up to 20 user defined frequency bands**
- ▲ **Fully autonomous operation:**
 - Solar panel power supply
 - Built-in mobile 3G modem
 - Automatic data transfer
 - Daily reports, warnings & alarm messages via SMS
 - On-board GPS
- ▲ **Easy integration into test environments and Web Based Applications**
- ▲ **Low weight, robust design, compact size for indoor and outdoor operations**



Area Monitor AMS-8061
with Solar Panel

INTRODUCTION

Narda EMF Monitors are equipped with exclusive, state-of-the-art sensors having high sensitivity, accuracy and reliability. Their robust, uncluttered construction is perfect for long-term outdoor installation. The AMS-8061 combines a tried and tested measurement method with selective frequency range by using a three axis isotropic antenna.

Minimum outlay, maximum result

An EMF monitoring system is made up from a series of EMF monitors installed wherever the EMF presence needs to be assessed continuously or by long term observation. The EMF monitors store the data and report them using conventional mobile data communication at set time intervals to a central unit, e.g. PC or data server. The system size can range from a single location up to countrywide coverage. Narda EMF monitors combine all the features that are essential for this purpose: autonomy, outdoor usability, mobility, robustness, and low operating costs.

You can be certain to find the ideal solution for every area of application with Narda. And you can depend on its reliability, thanks to our decades of experience coupled with cutting edge technology, backed up by our own certified calibration laboratory.



The AMS Series

Its frequency selective application is the optimum solution for technical superiority from a tight budget. Narda EMF Monitors can do more than just record and store measurement values at a specific location. The AMS-8061 recognizes which frequency bands and services are responsible for a particular radiation.

For example, if several antennas are installed at one location. It is possible to distinguish between the various mobile services (GSM, UMTS, LTE) as well as between FM TV transmitters. By the help of the built in spectrum analyzer it is possible to determine for each individual EMF source whether the corresponding emission limit values are being adhered to, in addition to evaluating the effects on the environment.



Sensor model	EHA-2B-01	HA-1B-01	EA-1B-01	EA-1B-02
Frequency range	100 kHz - 6 GHz	100 kHz - 100 MHz	110 MHz - 6 GHz	27 MHz - 3 GHz
Measurement range	0.01 - 160 V/m	100 µA/m - 7 A/m	0.01 - 160 V/m	0.01 - 200 V/m
Sensitivity	0.01 V/m	100 µA/m	0.01 V/m	0.01 V/m
Overload	435 V/m	20 A/m	435 V/m 435 V/m	
Resolution	0.01 V/m	100 µA/m	0.01 V/m	0.01 V/m
Linearity	≤ ± 2 dB	≤ ± 2 dB	≤ ± 2 dB	≤ ± 2 dB
Frequency response (flatness)	≤ ± 3 dB	≤ ± 3 dB	≤ ± 3 dB	≤ ± 3 dB
Overall anisotropy (EN50383)	< 2.5 dB up to 3 GHz < 3.5 dB up to 6 GHz	< 2.5 dB	< 2.5 dB up to 3 GHz < 3.5 dB up to 6 GHz	< 2.5 dB
Unit	V/m	A/m	V/m	V/m

The Applications - Narda Area Monitor Probes

Probe designation	EHA-2B-01	HA-1B-01	EA-1B-01	EA-1B-02
Frequency range	100 kHz to 6 GHz	100 kHz to 100 MHz	110 MHz to 6 GHz	27 MHz to 3 GHz
Field type (isotropic sensors)	E	H	E	E
Mobile communications	●		●	●
TV broadcasting	●		●	●
Directional radio	●		●	●
Radio	●	●		●
Wi-Fi	●		●	
Beacon radio		●		

AMS-8061	
Solar panel (24/7) & back-up battery	✓
Internal modem	✓
Ethernet port	✓
USB	✓
RS232	✓
GPS sensor	✓
Temperature sensor	✓
Humidity sensor	✓
Remote capabilities	✓



Technical Specifications	
AMS-8061 Selective Area Monitor	
Frequency range	100 kHz to 6 GHz (in accordance with antenna specifications)
User-Programmable frequency bands	Up to 20, individual start-stop frequency settings
Sensor type	Triaxial, isotropic antenna system
Sensor dimensions	120 mm
Sensor RF connection	50 Ohm, N-male
Sensor control	Multi-pin connector
Measurement range	0,01 to 200 V/m
Dynamic range	> 60 dB in all settings of the attenuator
Sensitivity	0.01 V/m (depending on the band setting)
Overload	435 V/m
Resolution	0.01 V/m
Linearity	$\leq \pm 2$ dB
Frequency response (flatness)	$\leq \pm 3$ dB
Overall anisotropy (EN50383)	< 2.5 dB to 3 GHz; < 3.5 dB to 6 GHz
Out of band attenuation	> 50 dB (depending on settings)
Rejection	> 20 dB
Reading rate	Up to 200 ms (depending on settings)
Measuring parameters	Settable bands and automatic configuration (RBW, Hold time, Detector Pk-RMS, Attenuator, Zero Span)
Unit	V/m, % of preset limit of each band, A/m
EMF stored values	AVG or RMS, Max value
Average and Average time	Arithmetic or RMS; 1 – 15 minutes
Storing rate	1, 2, 6, 15 minutes
Max logging before overwriting	18 month @ 6 minutes storing rate; 3 month @ 1 minute storing rate; circular memory
Alarms	SMS and/or data download for: field over limit, memory full, open case, temperature, humidity, low battery, sensor failure, main unit failure.
Communication	FTP and CSD protocols via internal 3G modem, Ethernet, RS-232 and USB link
GSM module	Penta-band (800, 850, 900, 1900, 2100 MHz) UMTS/3G
Data download	FTP: automatic to server; CSD: automatic or manual to PC
SIM card type (not included)	Standard SIM
SMS	SMS to 10 mobile phones (daily report of Max. EMF value, min. battery voltage)
Battery management	Every record includes battery voltage and charge current value
Temperature and humidity sensors	Internal, logged in memory
GPS coordinates	Latitude, longitude
Clock	Internal real time clock
Firmware upgrade	Remotely upgradable (FTP, CSD), Ethernet, RS232
Interface	RS-232, Ethernet and USB
External memory	Micro SD card (not included)

Technical Specifications

AMS-8061 Selective Area Monitor

Power supply	Solar panel 17.5 V, 2 x 40 W Backup sealed Pb rechargeable battery, 12 V External DC 12 V – 3 A AC power supply and battery charger 100...240 V, 50/60 Hz to 24 VDC, 1.25A
Autonomy with battery only	48 to 60 Hours, depending on settings
Autonomy with solar panel	For best performance install solar panels in direct sunlight. 24 hours/365 days for PSH (Peak Sun Hours) >= 2; equal to >=2 kWh/m2 per day.
Operating temperature	-10 °C to 55 °C
Humidity	≤ 95%
Wind speed	Max 150 km/h (unit must be installed according to instructions)
Protection grade	IP55
Radome dimensions (Ø x H)	250 x 740 mm
Base dimensions (L x H x D)	660 x 95 x 600 mm
Pole (Ø x H)	60 x 760 mm
Solar panel dimensions (L x H x D)	1100 x 610 x 35 mm
Overall dimensions (L x H x D)	1480 x 1100 x 715 mm
Weight approx.	34 kg
Country of origin	Italy

ORDERING INFORMATION

AMS-8061

Remote station

- Tri-axial antenna 100 kHz to 6 GHz (EHA-2B-01)
- Back-up battery
- Support base and mast

AMS-8061

Included in delivery

- 2 cable ties
- Ballast bag
- Tools kit
- AC/DC power supply / battery charger
- RS-232 cable
- Ethernet cable
- Software USB memory
- Operating manual
- Certificate of calibration

Narda Safety Test Solutions GmbH

Sandwiesenstrasse 7
 72793 Pfullingen, Germany
 Phone: +49 7121 9732-0
 Fax: +49 7121 9732-790
 support.narda-de@L3T.com
 www.narda-sts.com

Narda Safety Test Solutions Srl

Via Leonardo da Vinci, 21/23
 20090 Segrate (Milano) - Italy
 Phone: +39 02 26 998 71
 Fax: +39 02 26 998 700
 nardait.support@L3T.com
 www.narda-sts.it

Narda Safety Test Solutions

435 Moreland Road
 Hauppauge, NY 11788, USA
 Phone: +1 631 231-1700
 Fax: +1 631 231-1711
 nardasts@L3T.com
 www.narda-sts.us