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Area Monitor System

AMB-8059 Car Mounting Kit option

Narda EMF drive test solution

ITU-T K.113 Compliant

- **Automated EMF drive test solution covered by isotropic antennas**
- **Interchangeable probes from 10 Hz to 40 GHz for low & high frequency applications**
- **Multi-band probes for telecommunications monitoring**
- **Electromagnetic fields level maps in a minimum of time**
- **On board GPS synchronized with the field strength**
- **Common GPS Format for easy exchange**
- **Easy installation and removal on vehicle roof thanks to the magnetic mounting kit**
- **Integrated Wi-Fi for easy data exchange**
- **Capability of live results on a laptop through a fiber optic cable**
  - No influence on the measurement values due a copper cable

Area monitor AMB-8059/00
with Car Mounting Kit option

INTRODUCTION

Narda EMF Area 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 AMB-8059 handles applications from a few Hertz through to long wave and on up to high frequency microwave radiation using a selection of interchangeable probes for electric and magnetic fields.

Fast and Continuous Monitoring

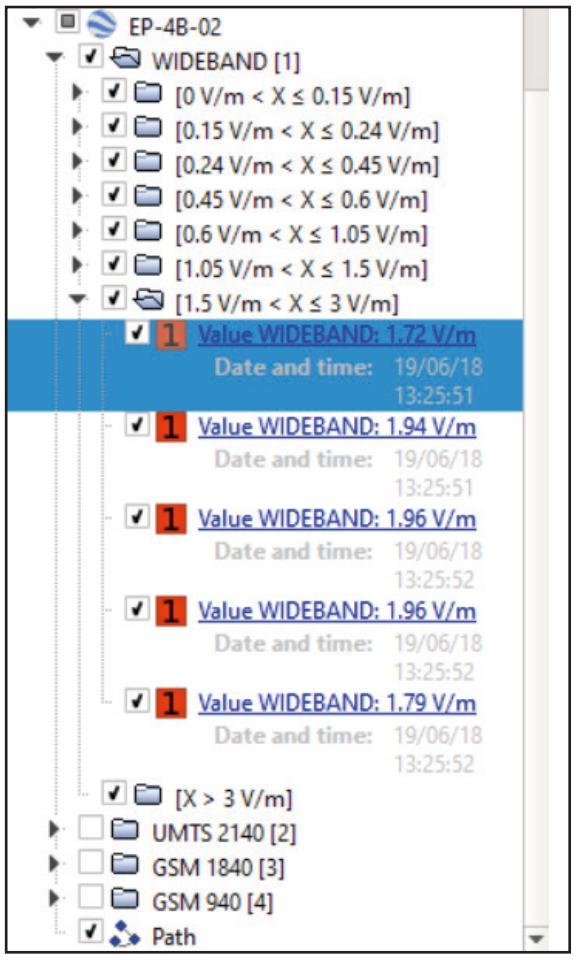
The Car Mounting Kit is an option of the area monitor AMB-8059/00. It allows for monitoring wide geographical areas while driving. EMF data are correlated with GPS coordinates to identify areas requiring more detailed measurements. Direct readings in the car, on a laptop, are possible by means of the fiber optic link.
Vehicle and station are galvanically isolated.
The magnetic base mount allows for safe, quick installation on any car roof (non-magnetic hardtops excluded).
A simple software shows, in real time, values of each band and according to the ITU-T, directive K.113, it is possible to monitor data acquisition and set a luminous and acoustic alarm that is activated according to vehicle's speed.

The area monitor placed on a car roof

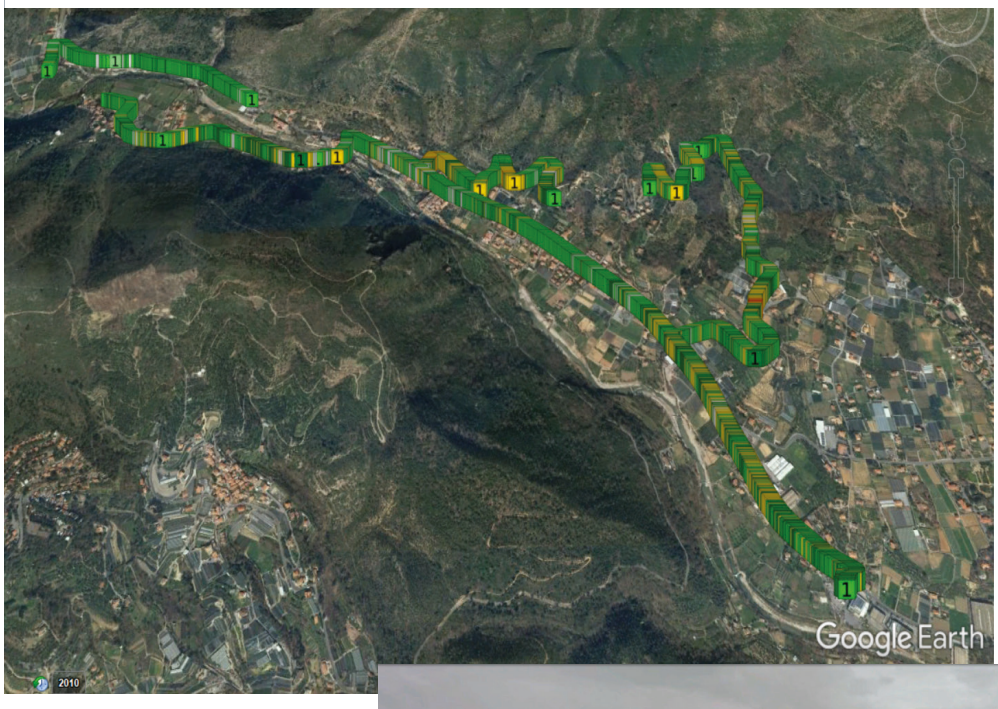
Google Earth

The maximum potential is however obtained from the use of Google Earth. In addition to saving data in the GPX format, the user can choose to have a KML file, perfectly compatible with the Google viewer.
The data of the probes are divided into levels according to the number of bands and each band is, in turn, divided into sub-levels according to the ITU-T directive K.113 and to the limits set by the user.
On the map, in addition to the route, the field values are indicated with different colors according to their criticality.
For each data collected it is also possible to display additional characteristics such as temperature, humidity, battery voltage, speed, acceleration, date and time.

Data related to each single point

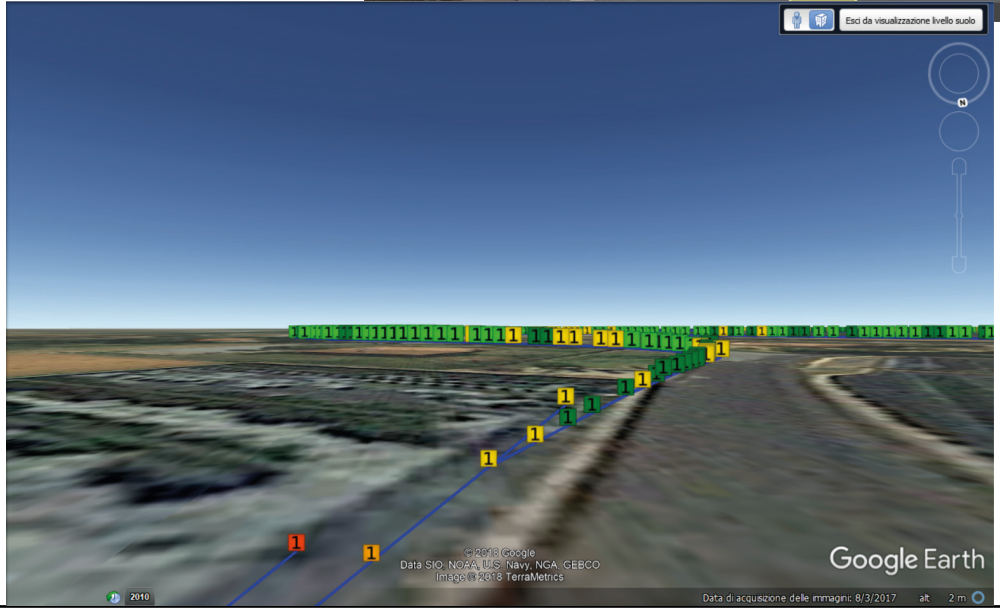


Example of levels obtained with a quad band probe model EP-4B-02 with limit set to 3 V/m



Viewing of the whole path with all aquired points

Path displayed in street view mode



Path displayed at ground level with all acquisition points

Specifications

AMB-8059 Car Mounting Kit option*	
General Specifications	
Field probes	Interchangeable
Interfaces	USB through optical fiber, Wi-Fi
Other alarms	Protective case opening, internal overheat, internal humidity, low battery, probe malfunction, field over limit
Internal battery	Non rechargeable primary battery, lithium SAFT LSH20 3.6 V commercially available
Vehicle speed	0 to 60 km/h
Sample rate	300 ms (GPS coordinates synchronized with EMF)
Operating time	Over 200 h (max current consumption 40 mA with Wi-Fi OFF)
Max data storage in drive test application	18 hours
Installation	Magnetic mounting kit for the vehicle
Compliance	2014/30, 2014/35, CEI 211-6, CEI 211-7, ITU-T K.83, ITU-T K.113
Ambient temperature	-20 to +55 °C
Dimensions	301 x 241 x 750 mm (complete of AMB-8059/00)
Weight	Less than 3 kg
Environmental protection	IP55
Country of origin	Italy

* The Car Mounting Kit is a separate option of the AMB-8059/00 and has to be purchased apart

EP-1B-01 Electric Field Probe**	
Field Probe* Frequency range	**0.1 MHz to 3 GHz**
Measurement range	0.2 to 200 V/m (dynamic range > 60 dB)
Measurement resolution	0.01 V/m
Overload	600 V/m
Flatness @ 20 V/m	1 to 200 MHz ± 0.8 dB; 0.15 MHz to 3 GHz ± 1.5 dB
Linearity	± 0.5 dB (0.5 to 100 V/m)
Anisotropy @ 6 V/m	± 0.8 dB @ 50 MHz (typical 0.6 dB)
H-Field rejection	> 20 dB
Size and weight	450 mm length, 55 mm Ø, 180 g

EP-1B-03 Electric Field Probe**	
Field Probe* Frequency range	**0.1 MHz to 7 GHz**
Measurement range	0.2 V/m to 200 V/m (dynamic range > 60 dB)
Measurement resolution	0.01 V/m
Overload	600 V/m
Flatness @ 20 V/m	3 MHz to 200 MHz: ±0.8 dB; 0.15 MHz to 3 GHz: ±1.5 dB ; 0.1 MHz to 6 GHz: ±2 dB
Linearity	± 0.5 dB (0.5 to 100 V/m)
Anisotropy @ 6 V/m	± 0.8 dB @ 50 MHz (typical 0.6 dB)
H-Field rejection	> 20 dB
Size and weight	450 mm x 55 mm Ø, 180 g

EP-1B-05 Electric Field Probe**	
Field Probe* Frequency range	**0.3 MHz to 18 GHz**
Measurement range	0.5 V/m to 800 V/m (dynamic range > 64 dB)
Measurement resolution	0.01 V/m
Overload	1200 V/m
Flatness @ 6 V/m	1 MHz to 1 GHz: ±1.5 dB; 1 GHz to 12 GHz: ±3 dB ; 12 GHz to 18 GHz: ±4 dB
Linearity	± 0.5 dB (± 0.3 typical) (1.2 to 200 V/m) @ 200 MHz
Anisotropy @ 200 MHz	± 0.8 dB (typical 0.5 dB @ 930 and 1800 MHz)
H-Field rejection	> 20 dB
Size and weight	450 mm x 55 mm Ø, 180 g

EP-1B-06 Electric Field Probe**	
Field Probe* Frequency range	**0.3 MHz to 40 GHz**
Measurement range	0.5 V/m to 800 V/m (dynamic range > 64 dB)
Measurement resolution	0.01 V/m
Overload	1200 V/m
Flatness @ 6 V/m	1 MHz to 1 GHz: ±1.5 dB; 1 GHz to 12 GHz: ±3 dB ; 12 GHz to 23 GHz: ±4 dB; 23 GHz to 40 GHz: ±5 dB
Linearity	± 0.5 dB(±0.3 typical) (1.2 to 200 V/m) @ 200 MHz
Anisotropy @ 200 MHz	± 0.8 dB (typical 0.5 dB @ 930 and 1800 MHz)
H-Field rejection	> 20 dB
Size and weight	450 mm x 55 mm Ø, 180 g

EP-1B-08 Electric Field Probe**	
Field Probe* Frequency range	**0.1 MHz to 8 GHz**
Measurement range	0.2 V/m to 200 V/m (dynamic range > 60 dB)
Measurement resolution	0.01 V/m
Overload	600 V/m
Flatness @ 20 V/m	3 MHz to 200 MHz: ±0.8 dB; 0.15 MHz to 6 GHz: ±2 dB ; 0.1 MHz to 8 GHz: ±3 dB
Linearity	± 0.5 dB (0.5 to 100 V/m) @ 50 MHz
Anisotropy @ 6 V/m	± 0.8 dB @ 50 MHz (typical 0.6 dB)
H-Field rejection	> 20 dB
Size and weight	450 mm x 55 mm Ø, 180 g

EP-4B-01 Quad-Band Electric Field Probe**				
Frequency range	**Wideband 0.1 MHz to 3 GHz**	**EGSM 900 925 to 960 MHz**	**EGSM 1800 1805 to 1880 MHz**	**UMTS 2110 to 2170 MHz**
Meas. range	0.2 to 200 V/m	0.03 to 30 V/m	0.03 to 30 V/m	0.03 to 30 V/m
Meas. resolution	0.01 V/m			
Dynamic range	>60 dB			
Flatness @ 6 V/m	1 to 200 MHz ± 0.8 dB 0.15 MHz to 3 GHz ± 1.5 dB	925 to 960 MHz +0.5/-2.5 dB	1805 to 1880 MHz +0.5/-2.5 dB	2110 to 2170 MHz +0.5/-2.5 dB
Linearity	± 0.5 dB (0.5 to 100 V/m)	± 0.5 dB (0.06 to 20 V/m)	± 0.5 dB (0.06 to 20 V/m)	± 0.5 dB (0.06 to 20 V/m)
Anisotropy	± 0.8 dB @ 50 MHz, 3 V/m (typical 0.6 dB)	± 0.8 dB@ 942.5 MHz, 3 V/m (typical 0.6 dB)	± 0.8 dB@ 1842.5 MHz, 3 V/m (typical 0.6 dB)	± 0.8 dB@ 2140 MHz, 3 V/m (typical 0.6 dB)
Out of band attenuation	Not applicable	Rejection to 1842 MHz(GSM): 25 dB to 2140 MHz(UMTS): 25 dB	Rejection to 942 MHz(GSM): 15 dB to 2140 MHz(UMTS): 13 dB	Rejection to 942 MHz(GSM): 17dB to 1842 MHz(GSM): 10 dB
Centre frequency drift	Not applicable	40 °C – 50 °C = ± 100kHz -20 °C – 40 °C = ± 100 kHz/°C		
H field rejection	> 20 dB			
Size and weight	450 mm x 55 mm Ø, 210 g			

EP-4B-02 Quad-Band Electric Field Probe**				
Frequency range	**Wideband 0.1 to 7000 MHz**	**EGSM 900 925 to 960 MHz**	**EGSM 1800 1805 to 1880 MHz**	**UMTS 2110 to 2170 MHz**
Meas. range	0.2 to 200 V/m	0.03 to 30 V/m	0.03 to 30 V/m	0.03 to 30 V/m
Meas. resolution	0.01 V/m			
Dynamic range	>60 dB			
Flatness @ 6 V/m	3 to 200 MHz ± 1.5 dB 150 kHz to 3 GHz ± 2 dB 0.1 MHz to 7 GHz ± 3 dB	925 to 960 MHz +0.5 / -2.5 dB	1805 to 1880 MHz +0.5 / -2.5 dB	2110 to 2170 MHz +0.5 / -2.5 dB
Linearity	± 0.5 dB (0.5 to 100 V/m)	± 0.5 dB (0.1 to 20 V/m)	± 0.5 dB (0.1 to 20 V/m)	± 0.5 dB (0.1 to 20 V/m)
Anisotropy	± 0.8 dB@ 50 MHz, 3 V/m (typical 0.6 dB)	± 0.8 dB@ 942.5 MHz, 3 V/m (typical 0.6 dB)	± 0.8 dB@ 1842.5 MHz, 3 V/m (typical 0.6 dB)	± 0.8 dB@ 2140 MHz, 3 V/m (typical 0.6 dB)
Out of band attenuation	Not applicable	Rejection to 1842 MHz(GSM): 25 dB to 2140 MHz(UMTS): 25 dB	Rejection to 942 MHz(GSM): 15 dB to 2140 MHz(UMTS): 13 dB	Rejection to 942 MHz(GSM): 17dB to 1842 MHz(GSM): 10 dB
Centre frequency drift	Not applicable	40 °C – 60 °C = ± 100 kHz -20 °C – 40 °C = - 100 kHz / °C		
H field rejection	> 20 dB			
Size and weight	450 mm x 55 mm Ø, 210 g			

HP-1B-01 Magnetic Field Probe**	
Frequency range	**10 Hz to 5 kHz**
Meas. range	50 nT to 200 µT (dynamic range >72 dB); overload: > 1 mT
Meas. resolution	1 nT
Flatness	40 Hz to 1 kHz, 1 dB (typical 0.6 dB)
Linearity	± 0.5 dB (200 nT to 100 µT)
Anisotropy	0.3 dB @ 50 Hz, 3 µT
E field rejection	> 20 dB
Size and weight	83 mm x 53 mm Ø, 110 g

(**) All probes include on board A/D conversion, calibration factors on E^2PROM, and temperature sensor

Ordering information

AMB-8059 Car Mounting Kit	
Area Monitor	
Area Monitor station powered by internal primary Li-Ion battery	**AMB-8059/00**
8059/CMK - Car Mounting Kit for drive test solution	**650.800.300**
Probes	
Electric Field Probe 0.1 MHz to 3 GHz; 0.2 to 200 V/m	**EP-1B-01**
Electric Field Probe 0.1 MHz to 7 GHz; 0.2 to 200 V/m	**EP-1B-03**
Electric Field Probe 0.3 MHz to 18 GHz; 0.5 to 800 V/m	**EP-1B-05**
Electric Field Probe 0.3 MHz to 40 GHz; 0.5 to 800 V/m	**EP-1B-06**
Electric Field Probe 0.1 MHz to 8 GHz; 0.2 to 200 V/m	**EP-1B-08**
Quad-Band Electric Field Probe 0.1 MHz to 3 GHz; 0.2 to 200 V/m / 925 to 960 MHz / 1805 to 1880 MHz / 2110 to 2170 MHz, 0.03 to 30 V/m	**EP-4B-01**
Quad-Band Electric Field Probe 0.1 MHz to 7 GHz; 0.2 to 200 V/m / 925 to 960 MHz / 1805 to 1880 MHz / 2110 to 2170 MHz, 0.03 to 30 V/m	**EP-4B-02**
Magnetic Field Probe 10 Hz to 5 kHz; 50 nT to 200 µT	**HP-1B-01**
Optional accessories	
Soft carrying case for Magnetic plate	**234.400.003**
Soft carrying case for Area monitor	**234.400.001**
Cable, FO Duplex RP-02, 10 m	**650.000.196**
Cable, FO Duplex RP-02, 20 m	**650.000.257**
Cable, FO Duplex RP-02, 40 m	**650.000.275**
Included in delivery	
• Primary Li-ion battery • Soft carrying case for Magnetic plate • Soft carrying case for Area monitor • 10 m optical cable and O/E converter USB • Swivel joint for installation on AMB-8059-MAST • Operating Manual, Test & Calibration Certificates • PC Software 8059-NSTS • PC Software EMF GPS logger	

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