Continuous, remote monitoring and logging of electromagnetic fields

- Interchangeable probes from 10 Hz to 40 GHz for low frequency & high frequency applications
- Multi-band probes for telecommunications monitoring
- Simultaneous monitoring of electric and magnetic fields
- Fully autonomous operation:
  - Solar panel power supply
  - Built-in 3G modem
  - Built-in Wi-Fi
  - 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
- Drive test capability of AMB-8059/00 model according to ITU-K.113

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 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.
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 AMB Series

Its broadband application is the optimum solution for technical superiority from a tight budget.

Four models are available:

<table>
<thead>
<tr>
<th>Unit designation</th>
<th>AMB-8059/03</th>
<th>AMB-8059/02</th>
<th>AMB-8059/01</th>
<th>AMB-8059/00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solar panel (24/7) &amp; back-up battery</td>
<td>✔</td>
<td>✔</td>
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<td>✔</td>
</tr>
<tr>
<td>Internal 3G modem</td>
<td>✔</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wi-Fi</td>
<td>✔</td>
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<tr>
<td>Ethernet port</td>
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<tr>
<td>GPS sensor</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
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<tr>
<td>Battery life 6 – 12 months (Li-Ion)</td>
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<tr>
<td>Remote capabilities</td>
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<td>✔</td>
<td>✔</td>
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<tr>
<td>Long-term measurement</td>
<td>○</td>
<td>●</td>
<td>○</td>
<td>●</td>
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<tr>
<td>Short-term measurement</td>
<td>○</td>
<td>○</td>
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<tr>
<td>Drive test measurement</td>
<td></td>
<td></td>
<td></td>
<td>○ (1)</td>
</tr>
</tbody>
</table>

(1) Car mounting kit required, see optional accessories

○ particularly suitable ● suitable
Narda offers a wide range of different isotropic probes. These include quad-band probes for separating mobile telephone services as well as wideband measurement from 0.1 MHz to 40 GHz. Special probes are available for low frequency magnetic or electric fields from 10 Hz to 5 kHz. This means that emissions from high-voltage cables and transformer stations can be recorded. Further, it is possible to combine up to two probes, e.g. an electric and a magnetic field probe in the so-called “dual probe configuration”.

The Applications - Narda Area Monitor Probes

<table>
<thead>
<tr>
<th>Frequency range</th>
<th>0.1 MHz to 3 GHz</th>
<th>0.1 MHz to 7 GHz</th>
<th>10 Hz to 5 kHz</th>
<th>0.3 MHz to 18 GHz</th>
<th>0.3 MHz to 40 GHz</th>
<th>0.1 MHz to 8 GHz</th>
<th>0.1 MHz to 3 GHz GSM, UMTS</th>
<th>0.1 MHz to 7 GHz GSM, UMTS</th>
<th>0.1 MHz to 8 GHz</th>
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<tbody>
<tr>
<td>Field type (isotropic sensors)</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>H</td>
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<tr>
<td>Band type</td>
<td>Single</td>
<td>Single</td>
<td>Single</td>
<td>Single</td>
<td>Single</td>
<td>Single</td>
<td>Tri</td>
<td>Quad</td>
<td>Quad</td>
</tr>
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</table>

Mobile communications ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ●
## SPECIFICATIONS

### EP-1B-01 Electric Field Probe*

<table>
<thead>
<tr>
<th>Field Probe* Frequency range</th>
<th>0.1 MHz to 3 GHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement range</td>
<td>0.2 to 200 V/m (dynamic range &gt; 60 dB)</td>
</tr>
<tr>
<td>Measurement resolution</td>
<td>0.01 V/m</td>
</tr>
<tr>
<td>Overload</td>
<td>600 V/m</td>
</tr>
</tbody>
</table>
| 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*

<table>
<thead>
<tr>
<th>Field Probe* Frequency range</th>
<th>0.1 MHz to 7 GHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement range</td>
<td>0.2 V/m to 200 V/m (dynamic range &gt; 60 dB)</td>
</tr>
<tr>
<td>Measurement resolution</td>
<td>0.01 V/m</td>
</tr>
<tr>
<td>Overload</td>
<td>600 V/m</td>
</tr>
</tbody>
</table>
| 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-04 Electric Field Probe*

<table>
<thead>
<tr>
<th>Frequency range</th>
<th>10 Hz to 5 kHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement range</td>
<td>5 V/m to 20 kV/m (dynamic range &gt; 72 dB)</td>
</tr>
<tr>
<td>Measurement resolution</td>
<td>0.1 V/m</td>
</tr>
<tr>
<td>Overload</td>
<td>&gt; 30 kV/m</td>
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<tr>
<td>Flatness @ 100 V/m (40 Hz – 1 kHz)</td>
<td>1 dB (typical 0.5 dB)</td>
</tr>
<tr>
<td>Anisotropy @ 100 V/m</td>
<td>0.5 dB @ 50 Hz</td>
</tr>
<tr>
<td>H-Field rejection</td>
<td>&gt; 20 dB</td>
</tr>
<tr>
<td>Size and weight</td>
<td>77 mm x 53 mm Ø, 110 g</td>
</tr>
</tbody>
</table>

### EP-1B-05 Electric Field Probe*

<table>
<thead>
<tr>
<th>Frequency range</th>
<th>0.3 MHz to 18 GHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement range</td>
<td>0.5 V/m to 800 V/m (dynamic range &gt; 64 dB)</td>
</tr>
<tr>
<td>Measurement resolution</td>
<td>0.01 V/m</td>
</tr>
<tr>
<td>Overload</td>
<td>1200 V/m</td>
</tr>
</tbody>
</table>
| Flatness @ 6 V/m | 1 MHz to 1 GHz: ±1.5 dB  
                                  | 1 GHz to 12 GHz: ±3.0 dB  
                                  | 12 GHz to 18 GHz: ±4.0 dB |
| Linearity        | ± 0.5 dB (± 0.3 typical) (1.2 V/m 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*

<table>
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<tr>
<th>Feature</th>
<th>Specification</th>
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<tbody>
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<td><strong>Frequency range</strong></td>
<td>0.3 MHz to 40 GHz</td>
</tr>
<tr>
<td><strong>Measurement range</strong></td>
<td>0.5 V/m to 800 V/m (dynamic range &gt; 64 dB)</td>
</tr>
<tr>
<td><strong>Measurement resolution</strong></td>
<td>0.01 V/m</td>
</tr>
<tr>
<td><strong>Overload</strong></td>
<td>1200 V/m</td>
</tr>
<tr>
<td>Flatness @ 6 V/m</td>
<td>1 MHz to 1 GHz ±1.5 dB</td>
</tr>
<tr>
<td></td>
<td>1 GHz to 12 GHz ±3.0 dB</td>
</tr>
<tr>
<td></td>
<td>12 GHz to 23 GHz ±4.0 dB</td>
</tr>
<tr>
<td></td>
<td>23 GHz to 40 GHz ±5.0 dB</td>
</tr>
<tr>
<td><strong>Linearity</strong></td>
<td>±0.5 dB (±0.3 typical) (1.2 V/m to 200 V/m) at 200 MHz</td>
</tr>
<tr>
<td><strong>Anisotropy @ 200 MHz</strong></td>
<td>±0.8 dB (typical 0.5 dB @ 930 and 1800 MHz)</td>
</tr>
<tr>
<td><strong>H field rejection</strong></td>
<td>&gt; 20 dB</td>
</tr>
<tr>
<td><strong>Size and weight</strong></td>
<td>450 mm x 55 mm Ø, 180 g</td>
</tr>
</tbody>
</table>

### EP-1B-08 Electric Field Probe*

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
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<tbody>
<tr>
<td><strong>Frequency range</strong></td>
<td>0.1 MHz to 8 GHz</td>
</tr>
<tr>
<td><strong>Measurement range</strong></td>
<td>0.2 V/m to 200 V/m (dynamic range &gt; 60 dB)</td>
</tr>
<tr>
<td><strong>Measurement resolution</strong></td>
<td>0.01 V/m</td>
</tr>
<tr>
<td><strong>Overload</strong></td>
<td>600 V/m</td>
</tr>
<tr>
<td>Flatness @ 20 V/m</td>
<td>3 MHz to 200 MHz ±0.8 dB</td>
</tr>
<tr>
<td></td>
<td>0.15 MHz to 6 GHz ±2 dB</td>
</tr>
<tr>
<td></td>
<td>0.1 MHz to 8 GHz ±3 dB</td>
</tr>
<tr>
<td><strong>Linearity</strong></td>
<td>±0.5 dB (0.5 to 100 V/m) @ 50 MHz</td>
</tr>
<tr>
<td><strong>Anisotropy @ 6 V/m</strong></td>
<td>±0.8 dB @ 50 MHz (typical 0.6 dB)</td>
</tr>
<tr>
<td><strong>H-Field rejection</strong></td>
<td>&gt; 20 dB</td>
</tr>
<tr>
<td><strong>Size and weight</strong></td>
<td>450 mm x 55 mm Ø, 180 g</td>
</tr>
</tbody>
</table>

### EP-3B-01 Tri-Band Electric Field Probe*

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Frequency range</strong></td>
<td></td>
</tr>
<tr>
<td>Wideband: 0.1 MHz to 3 GHz</td>
<td></td>
</tr>
<tr>
<td>Low pass: 0.1 to 862 MHz</td>
<td></td>
</tr>
<tr>
<td>High pass: 933 MHz to 3 GHz</td>
<td></td>
</tr>
<tr>
<td><strong>Measurement resolution</strong></td>
<td>0.01 V/m</td>
</tr>
<tr>
<td><strong>Measurement range</strong></td>
<td>0.2 to 200 V/m (dynamic range &gt; 60 dB)</td>
</tr>
<tr>
<td><strong>Overload</strong></td>
<td>600 V/m</td>
</tr>
<tr>
<td>Flatness @ 20 V/m</td>
<td>1 to 200 MHz ± 0.8 dB</td>
</tr>
<tr>
<td></td>
<td>0.15 MHz to 3 GHz ±1.5 dB</td>
</tr>
<tr>
<td></td>
<td>1 to 200 MHz ± 0.8 dB</td>
</tr>
<tr>
<td></td>
<td>0.15 MHz to 862 MHz ± 1.5 dB</td>
</tr>
<tr>
<td></td>
<td>933 MHz to 3 GHz ± 1.5dB</td>
</tr>
<tr>
<td><strong>Linearity</strong></td>
<td>±0.5 dB (0.5 to 100 V/m)</td>
</tr>
<tr>
<td><strong>Anisotropy @ 6 V/m</strong></td>
<td>±0.8 dB @ 50 MHz (typical 0.6 dB)</td>
</tr>
<tr>
<td><strong>Out of band attenuation</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td></td>
<td>933 MHz to 3 GHz &gt; 23 dB (ref. to 50 MHz)</td>
</tr>
<tr>
<td></td>
<td>0.1 to 862 MHz &gt; 23 dB (ref. to 1 GHz)</td>
</tr>
<tr>
<td><strong>H field rejection</strong></td>
<td>&gt; 20 dB</td>
</tr>
<tr>
<td><strong>Size and weight</strong></td>
<td>450 mm x 55 mm Ø, 180 g</td>
</tr>
</tbody>
</table>

(*) All probes include on board A/D conversion, calibration factors on E²PROM, and temperature sensor
**EP-4B-01 Quad-Band Electric Field Probe***

<table>
<thead>
<tr>
<th>Frequency range</th>
<th>Meas. range</th>
<th>Meas. resolution</th>
<th>CW damage level</th>
<th>Flatness @ 6 V/m</th>
<th>Linearity</th>
<th>Anisotropy</th>
<th>Out of band attenuation</th>
<th>Centre frequency drift</th>
<th>H field rejection</th>
<th>Size and weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wideband 0.1MHz to 3 GHz</td>
<td>0.2 to 200 V/m</td>
<td>0.03 to 30 V/m</td>
<td>0.01 V/m</td>
<td>1 to 200 MHz ± 0.8 dB</td>
<td>± 0.5 dB (0.5 to 100 V/m)</td>
<td>± 0.8 dB @ 50 MHz, 3 V/m (typical 0.6 dB)</td>
<td>Rejection to 1842 MHz(GSM): 25 dB</td>
<td>-40 °C – 50 °C = ± 100kHz</td>
<td>&gt; 20 dB</td>
<td>450 mm x 55 mm Ø, 210 g</td>
</tr>
<tr>
<td>EGSM 900 925 to 960 MHz</td>
<td>0.03 to 30 V/m</td>
<td></td>
<td></td>
<td>925 to 960 MHz +0.5/-2.5 dB</td>
<td>± 0.5 dB (0.06 to 20 V/m)</td>
<td>± 0.8 dB@ 942.5 MHz, 3 V/m (typical 0.6 dB)</td>
<td>Rejection to 942 MHz(GSM): 15 dB</td>
<td>-20 °C – 40 °C = ± 100 kHz/°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EGSM 1800 1805 to 1880 MHz</td>
<td>0.03 to 30 V/m</td>
<td></td>
<td></td>
<td>1805 to 1880 MHz +0.5/-2.5 dB</td>
<td>± 0.5 dB (0.06 to 20 V/m)</td>
<td>± 0.8 dB@ 1842.5 MHz, 3 V/m (typical 0.6 dB)</td>
<td>Rejection to 942 MHz(GSM): 17dB</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UMTS 2110 to 2170 MHz</td>
<td>0.03 to 30 V/m</td>
<td></td>
<td></td>
<td>2110 to 2170 MHz +0.5/-2.5 dB</td>
<td>± 0.5 dB (0.06 to 20 V/m)</td>
<td>± 0.8 dB@ 2140 MHz, 3 V/m (typical 0.6 dB)</td>
<td>Rejection to 942 MHz(GSM): 110 dB</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* All probes include on board A/D conversion, calibration factors on EPROM, and temperature sensor.

---

**EP-4B-02 Quad-Band Electric Field Probe***

<table>
<thead>
<tr>
<th>Frequency range</th>
<th>Meas. range</th>
<th>Meas. resolution</th>
<th>Dynamic range</th>
<th>Flatness @ 6 V/m</th>
<th>Linearity</th>
<th>Anisotropy</th>
<th>Out of band attenuation</th>
<th>Centre frequency drift</th>
<th>H field rejection</th>
<th>Size and weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wideband 0.1 MHz to 7 GHz</td>
<td>0.2 to 200 V/m</td>
<td>0.03 to 30 V/m</td>
<td>&gt;60 dB</td>
<td>3 to 200 MHz ± 1.5 dB</td>
<td>± 0.5 dB (0.5 to 100 V/m)</td>
<td>± 0.8 dB@ 50 MHz, 3 V/m (typical 0.6 dB)</td>
<td>Rejection to 1842 MHz(GSM): 25 dB</td>
<td>-40 °C – 60 °C = ± 100kHz</td>
<td>&gt; 20 dB</td>
<td>450 mm x 55 mm Ø, 210 g</td>
</tr>
<tr>
<td>EGSM 900 925 to 960 MHz</td>
<td>0.03 to 30 V/m</td>
<td></td>
<td></td>
<td>925 to 960 MHz +0.5/-2.5 dB</td>
<td>± 0.5 dB (0.1 to 20 V/m)</td>
<td>± 0.8 dB@ 942.5 MHz, 3 V/m (typical 0.6 dB)</td>
<td>Rejection to 942 MHz(GSM): 15 dB</td>
<td>-20 °C – 60 °C = ± 100 kHz/°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EGSM 1800 1805 to 1880 MHz</td>
<td>0.03 to 30 V/m</td>
<td></td>
<td></td>
<td>1805 to 1880 MHz +0.5/-2.5 dB</td>
<td>± 0.5 dB (0.1 to 20 V/m)</td>
<td>± 0.8 dB@ 1842.5 MHz, 3 V/m (typical 0.6 dB)</td>
<td>Rejection to 942 MHz(GSM): 13 dB</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UMTS 2110 to 2170 MHz</td>
<td>0.03 to 30 V/m</td>
<td></td>
<td></td>
<td>2110 to 2170 MHz +0.5/-2.5 dB</td>
<td>± 0.5 dB (0.1 to 20 V/m)</td>
<td>± 0.8 dB@ 2140 MHz, 3 V/m (typical 0.6 dB)</td>
<td>Rejection to 942 MHz(GSM): 17dB</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### HP-1B-01 Magnetic Field Probe*

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency range</td>
<td>10 Hz to 5 kHz</td>
</tr>
<tr>
<td>Measurement range and overload</td>
<td>50 nT to 200 μT (dynamic range &gt;72 dB); overload: &gt; 1 mT</td>
</tr>
<tr>
<td>Measurement resolution</td>
<td>1 nT</td>
</tr>
<tr>
<td>Flatness</td>
<td>40 Hz to 1 kHz, 1 dB (typical 0.6 dB)</td>
</tr>
<tr>
<td>Linearity</td>
<td>± 0.5 dB (200 nT to 100 μT)</td>
</tr>
<tr>
<td>Anisotropy</td>
<td>0.3 dB @ 50 Hz, 3 μT</td>
</tr>
<tr>
<td>E field rejection</td>
<td>&gt; 20 dB</td>
</tr>
<tr>
<td>Size and weight</td>
<td>83 mm x 53 mm Ø, 110 g</td>
</tr>
</tbody>
</table>

*All probes include on board A/D conversion, calibration factors on E'PROM, and temperature sensor*

### AMB-8059 Multi-band EMF Area Monitor

#### Technical Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency range</td>
<td>Depending on probe (see probe specifications)</td>
</tr>
<tr>
<td>Dynamic range</td>
<td>Depending on probe (see probe specifications)</td>
</tr>
<tr>
<td>Resolution</td>
<td>Depending on probe (see probe specifications)</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>Depending on probe (see probe specifications)</td>
</tr>
<tr>
<td>Linearity</td>
<td>Depending on probe (see probe specifications)</td>
</tr>
<tr>
<td>Accuracy</td>
<td>Depending on probe (see probe specifications)</td>
</tr>
<tr>
<td>Measurement Units</td>
<td>V/m, kV/m, nT, μT, mT. The unit shown depends on the probe connected</td>
</tr>
<tr>
<td>Field measured</td>
<td>Total field, average and Peak (MAX)</td>
</tr>
<tr>
<td>Sampling</td>
<td>1 measurement every 1 s</td>
</tr>
</tbody>
</table>
### Measurement / acquisition functions

<table>
<thead>
<tr>
<th>Function</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memorization interval</td>
<td>Programmable from 30 seconds to 15 minutes</td>
</tr>
<tr>
<td>Memory</td>
<td>Over 128 MB</td>
</tr>
<tr>
<td>Max data storage capacity</td>
<td>Over 364 days with 1 acquisition every minute</td>
</tr>
<tr>
<td>Data download</td>
<td>Manual, automatic managed by the unit at predefined timings (1), (3)</td>
</tr>
<tr>
<td></td>
<td>Automatic by PC (2), (3)</td>
</tr>
<tr>
<td></td>
<td>Automatic creation of .TXT and .BMP file after download</td>
</tr>
<tr>
<td>Functions</td>
<td>AVG, RMS, maximum peak; daily report via SMS (3)</td>
</tr>
<tr>
<td></td>
<td>Display and marking of data acquired during modem transmission (3)</td>
</tr>
<tr>
<td>Field strength alarm</td>
<td>Two programmable field strength thresholds (warning and alarm) with automatic notice both of exceeding the limit and returning within the limits (3)</td>
</tr>
<tr>
<td>Clock</td>
<td>Real time internal clock</td>
</tr>
<tr>
<td>Messages</td>
<td>SMS which can be sent to up to 10 mobile phones simultaneously (2)</td>
</tr>
<tr>
<td>Battery management</td>
<td>Every record includes Battery Voltage and Charge Current value</td>
</tr>
<tr>
<td>Temperature management</td>
<td>Every record includes Internal Temperature value</td>
</tr>
<tr>
<td>Humidity management</td>
<td>Every record includes Internal Humidity value</td>
</tr>
<tr>
<td>GPS coordinates</td>
<td>Programmable record</td>
</tr>
</tbody>
</table>

### General Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>GSM module</td>
<td>Penta-band (800, 850, 900, 1900, 2100 MHz) UMTS/3G (3)</td>
</tr>
<tr>
<td>Wi-Fi</td>
<td>Wi-Fi 802.11 b/g</td>
</tr>
<tr>
<td>Field probes</td>
<td>Interchangeable, several models available, single and dual probe operation</td>
</tr>
<tr>
<td>Interfaces</td>
<td>RS232, USB, Ethernet, Micro SD Card, Wi-Fi, Optical (6), 3G modem (3)</td>
</tr>
<tr>
<td>Protection</td>
<td>Sensor to notify case opening</td>
</tr>
<tr>
<td>Other alarms</td>
<td>Protective case opening, internal overheat, internal humidity, low battery, battery overload (model AMB-8059/01 and AMB-8059/03 only), probe malfunction, field over limit.</td>
</tr>
<tr>
<td>Internal battery</td>
<td>AMB-8059/00 - AMB-8059/02: Non rechargeable primary battery, lithium SAFT LSH20 3.6 V, 13 A/h AMB-8059/01 - AMB-8059/03: Lead, 4 V, 2.5 A/h, rechargeable</td>
</tr>
<tr>
<td>Consumption</td>
<td>1 mA with 3G and Wi-Fi module off</td>
</tr>
<tr>
<td></td>
<td>500 mA max when 3G module is transmitting and Wi-Fi module off (3)</td>
</tr>
<tr>
<td></td>
<td>120 mA max when Wi-Fi module is transmitting and 3G off (3)</td>
</tr>
<tr>
<td></td>
<td>6 mA optical link data query every 1 second; Wi-Fi and 3G off</td>
</tr>
<tr>
<td>External power</td>
<td>DC, 5 V, 1 A max (6)</td>
</tr>
<tr>
<td>Operating time @ 1 sec. rate</td>
<td>AMB-8059/02: about 8 months @ 1min GSM module transmission per day and single probe operating mode (autonomy depends on probe and setting) (4), (5)</td>
</tr>
<tr>
<td></td>
<td>AMB-8059/03: &gt; 80 days in total darkness @ 1min GSM module transmission per day and single probe operating mode (autonomy depends on probe and setting) (4), (5)</td>
</tr>
<tr>
<td></td>
<td>For best performance install solar panels in direct sunlight.</td>
</tr>
<tr>
<td>Recharging time</td>
<td>24 hours with external power unit (AMB-8059/01 and AMB-8059/03 only)</td>
</tr>
<tr>
<td>Auto test</td>
<td>Automatic</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>-20 °C / +55 °C</td>
</tr>
<tr>
<td>Dimensions</td>
<td>(WxDxH) 112 x 112 x 730 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>AMB-8059/00 and AMB-8059/02: 1.2 kg (unit only); 6.5 kg (total weight including supports and base) AMB-8059/01 and AMB-8059/03: 2.4 kg (unit only); 7.7 kg (total weight including supports and base)</td>
</tr>
<tr>
<td>Environmental protection</td>
<td>IP55, IP66 with WP66K optional accessory (Not suitable with dual probe radome extention and Car Mount Kit option)</td>
</tr>
<tr>
<td>Country of origin</td>
<td>Italy</td>
</tr>
</tbody>
</table>

Notes:
(1): To the controller PC or to the user’s FTP server depending on the preferred communication mode.
(2): Directly from the station or from the user’s FTP server depending on the preferred communication mode.
(3): AMB-8059/02 and AMB-8059/03 only are equipped with 3G modem.
(4): AMB-8059/00 and AMB-8059/01 power autonomy is longer as they are not equipped with 3G modem module.
(5): Specifications depending on battery age, ambient temperature and GSM field coverage.
(6): Optical link only for the model AMB-8059/03, AMB-8059/01, AMB-8059/00
(7): Only AMB-8059/00 with option car mounting kit for drive test solution
(8): AMB-8059/01 and AMB-8059/03 only; as service in maintenance or backup of solar panel in field from S/N prefix 170WY
### AMB-8059

#### Remote stations
- Area Monitor station powered by internal primary Li-Ion battery: AMB-8059/00
- Area Monitor station powered by solar panel and back-up battery: AMB-8059/01
- Area Monitor remote station with 3G internal modem, powered by internal primary Li-Ion battery: AMB-8059/02
- Area Monitor remote station with 3G internal modem, powered by solar panel and back up battery: AMB-8059/03

#### Field 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 10 Hz to 5 kHz; 5 V/m to 20 kV/m: EP-1B-04
- Electric field probe 0.3 MHz to 18 GHz; 0.5 V/m to 800 V/m: EP-1B-05
- Electric field probe 0.3 MHz to 40 GHz; 0.5 V/m 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
- Tri-band electric field probe 0.1 MHz to 3 GHz / 0.1 MHz to 862 MHz / 933 MHz to 3 GHz; 0.2 to 200 V/m: EP-3B-01
- Quad-band electric field probe 0.1 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
- 8059/mast - Metallic T-shaped base and Fiberglass mast (includes kit of screws, ties and 3 ballast bags): 650.800.085
- 8059/CMK - Car Mounting Kit for drive test solution (AMB-8059/00 only): 650.800.300
- Radome for AMB-8059 dual probe configuration: 231.800.168
- O/E optical converter USB: 650.000.176
- Cable, FO Duplex RP-02 with cable clamp, 10 m (only models AMB-8059/03 and AMB-8059/01 with optical link): 650.000.289
- Cable, FO Duplex RP-02 with cable clamp, 20 m (only models AMB-8059/03 and AMB-8059/01 with optical link): 650.000.290
- Cable, FO Duplex RP-02 with cable clamp, 40 m (only models AMB-8059/03 and AMB-8059/01 with optical link): 650.000.291
- Cable, FO Duplex RP-02, 10 m (only models AMB-8059/00 with optical link): 650.000.196
- Cable, FO Duplex RP-02, 20 m (only models AMB-8059/00 with optical link): 650.000.257
- Cable, FO Duplex RP-02, 40 m (only models AMB-8059/00 with optical link): 650.000.275
- New IP66 Kit adapter (only models AMB-8059/01 and AMB-8059/03): 650.000.310
- Two-wire USB cable, 1.5 m, USB(A)/USB(B), IP67 on station side (AMB-8059/01 and AMB-8059/03 only) from serial number 170WY: 210.500.046

#### Includes in delivery
- Primary Li-ion battery (AMB-8059/00 and AMB-8059/02 only)
- Power supply / Battery Charger (AMB-8059/01 and AMB-8059/03 only)
- Assembled Solar Unit (AMB-8059/01 and AMB-8059/03 only)
- Ethernet cable, IP67 on station side (AMB-8059/01 and AMB-8059/03 only)
- 10 m optical cable and O/E converter USB (AMB-8059/00 only)
- Four-wire USB cable, 1.8 m, USB(A)/USB(B)
- Swivel joint for installation on AMB-8059-MAST
- Operating Manual, Test & Calibration Certificates
- PC Software 8059-NSTS
- PC Software EMF GPS logger (used only by model AMB-8059/00 Car Mounting Kit option)
- PC software Area monitor Configurator

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