

## Measurement technique - We have the overall view

**Customers with installed room shielding should verify the existing pollution in regular intervals anyway!** New installed mobile phone base stations or new equipment in your house could belatedly change the load situation.

**We have a good overview of all analyzers on the market and keep all relevant devices available, for tests at our site.**

Tests show, how unbelievable strong the results of the analyzers differ, regarding test **reading, accuracy, quality and handling.** If one for example tries to measure a cordless phone under defined terms, one will obtain measurements between  $0.0 \mu\text{W}/\text{m}^2$  and  $3000 \mu\text{W}/\text{m}^2$ . The accurate value, as



measured with a spectrum analyzer, is  $100 \mu\text{W}/\text{m}^2$ . **Devices from Gigahertz Solutions show the most accurate results**

**when averaged by several sources.** This is why we favour to sell those devices.

## Meters - Various manufacturers

Beyond Gigahertz-Solutions, there are particular **devices of other producers with special**

**features:** Either they are very small and used e.g. for travelling, very low priced referring to a

frequency of 8 GHz or they join EMF and RF measuring functions.

### TM-190 - Meter (HF+LF)



TM-190 (YSHIELD® Edition)

Basic device for the measurement of high frequency electromagnetic fields (RF) in a frequency range of 50 MHz - 3.5 GHz and low frequency electric and magnetic fields (EMF) at 50-60 Hz. **Not recommended for electro-sensitive persons, the sensitivity starts not until**

$30 \mu\text{W}/\text{m}^2$ . From our professional view not a real "measurement" device, because its limited accuracy and sensitivity. However this cheap device is anyhow cool and small enough for every baggage.

#### Important

**There is only an english manual available.** Don't buy this device if you cannot understand and accept an english manual. **Item location Germany.** Inside the EU you don't have to pay customs duties or taxes.

#### Technical data

- Electromagnetic fields (HF) from 50 MHz bis 3.5 GHz
- Low-frequency electrical fields (LF) from 50-60 Hz

- Low-frequency magnetic fields (NF) from 50-60 Hz
- Displayable units for magnetic fields: mG und  $\mu\text{T}$
- Displayable units for electrical fields: V/m
- Displayable units for electromagnetic fields:  $\mu\text{W}/\text{m}^2$  -  $\text{mW}/\text{m}^2$ ,  $\mu\text{W}/\text{cm}^2$  -  $\text{mW}/\text{cm}^2$ ,  $\text{mV}/\text{m}$  -  $\text{V}/\text{m}$ , dBm
- Battery: 3 x 1.5V AAA, 8 hours battery life time
- Size: 11.5 x 6 x 2.1 cm
- Weight: 120 g
- Scope of delivery: Meter TM-190, batteries, english manual

**TM-195 - Meter (HF)**



TM-195 (YSHIELD® Edition)

Basic device for the measurement of high frequency electromagnetic fields (RF) in a frequency range of 50 MHz - 3.5 GHz. **Not recommended for**

**electrosensitive persons, the sensitivity starts not until at 10 µW/m<sup>2</sup>.** However a cheap alternative for little money.

**Important**

**There is only an english manual available.** Don't buy this device if you cannot understand and accept an english manual. **Item location Germany.** Inside the EU you dont have to pay customs duties or taxes.

**Technical data**

- Frequency range: 50 MHz - 3.5 GHz

- Sensitivity: 4 µW/m<sup>2</sup> - 600,000 µW/m<sup>2</sup>
- Units: mV/m, V/m, µA/m, mA/m, µW/m<sup>2</sup>, mW/m<sup>2</sup>, µW/cm<sup>2</sup>
- Triple axis antenna (X, Y, Z)
- Data logger up to 200 samples
- Calibration factor
- Battery: 9 V, 10-15 hours runtime
- Dimensions: 6 x 6 x 19.5 cm
- Weight: 200 g
- Scope of delivery: Meter TM-195, battery 9 V, english manual, carrying bag

**TM-196 - Meter (HF)**



TM-196 (YSHIELD® Edition)

Basic device for the measurement of high frequency electromagnetic fields (RF) with an extra wide frequency range from 10 MHz - 8 GHz. **Not**

**recommended for electrosensitive persons, the sensitivity starts not until at 10 µW/m<sup>2</sup>.** However a cheap alternative for 8 GHz.

**Important**

**There is only an english manual available.** Don't buy this device if you cannot understand and accept an english manual. **Item location Germany.** Inside the EU you dont have to pay customs duties or taxes.

**Technical data**

- Frequency range: 10 MHz - 8 GHz

- Sensitivity: 4 µW/m<sup>2</sup> - 300,000 µW/m<sup>2</sup>
- Units: mV/m, V/m, µA/m, mA/m, µW/m<sup>2</sup>, mW/m<sup>2</sup>, µW/cm<sup>2</sup>
- Triple axis antenna (X, Y, Z)
- Data logger up to 200 samples
- Calibration factor
- Battery: 9 V, 10-15 hours runtime
- Dimensions: 7,7 x 8 x 38 cm
- Weight: 180 g
- Scope of delivery: Meter TM-196, battery 9 V, english manual, carrying case

**ESI 24 - Indicator (HF+LF)**



ESI 24 (YSHIELD® Edition)

Elementary analyzer for the use by laymen, to provide a **quick overview of the load situation.** Concrete measured values wont

be displayed, the measurements are inticated with **LEDs in ample colors corresponding to the standard of building biology.**

**ESI 24: The top-device of the series for HF+LF.** During standard mode, the 3 types of fields (electric fields, magnetic fields, electromagnetic fields) are indicated with each 6 LEDs. Whilst using the high-definiton mode for high-frequency fields, all 18 LEDs will be available for a particularized display.

**Technical data**

- Low-frequency electrical fields (LF) from 16 Hz to 3 kHz
- Low-frequency magnetic fields (NF) from 16 Hz to 3 kHz
- Electromagnetic fields (HF) from 50 MHz to 10 GHz
- Operating modes: Standard mode, high resolution mode HF, location mode, hold mode
- Power supply: 9 V battery
- Operating time: 10 to 15 hours with a 9 V battery
- Size: 140 x 63 x 30 mm
- Scope of delivery: Detector, battery, operating manuals in German and English.

## ESI 23 - Indicator (HF+LF)



ESI 23 (YSHIELD® Edition)

Elementary analyzer for the use by laymen, to provide a **quick overview of the load situation**. Concrete measured values wont be displayed, the measurements are inticated with **LEDs in ample colors corresponding to the standard of building biology**.

**ESI 23: The cheapest device of the series for HF+LF.** The 3 types of fields (electric fields, magnetic fields, electromagnetic fields) are indicated with each 5 LEDs.

### Technical data

- Low-frequency electrical fields (LF) from 16 Hz to 3 kHz
- Low-frequency magnetic fields (NF) from 16 Hz to 3 kHz
- Electromagnetic fields (HF) from 50 MHz to 6 GHz
- Operating mode: Standard.
- Power supply: 9 V battery
- Operating time: 10 to 15 hours with a 9 V battery
- Size: 140 x 63 x 30 mm
- Scope of delivery: Detector, battery, operating manuals in German and English.

## ESI 22 - Indicator (LF)



ESI 22 (YSHIELD® Edition)

Elementary analyzer for the use by laymen, to provide a **quick overview of the load situation**. Concrete measured values wont be displayed, the measurements are inticated with **LEDs in ample colors corresponding to the standard of building biology**.

**ESI 22: Cheap device for LF only.** The 2 types of fields (electric fields, magnetic fields) are indicated with each 5 LEDs.

### Technical data

- Low-frequency electrical fields (LF) from 16 Hz to 3 kHz
- Low-frequency magnetic fields (NF) from 16 Hz to 3 kHz
- Operating mode: Standard.
- Power supply: 9 V battery
- Operating time: 10 to 15 hours with a 9 V battery
- Size: 140 x 63 x 30 mm
- Scope of delivery: Detector, battery, operating manuals in German and English.

## ESI 21 - Indicator (HF)



ESI 21 (YSHIELD® Edition)

Elementary analyzer for the use by laymen, to provide a **quick overview of the load situation**. Concrete measured values wont be displayed, the measurements are inticated with **LEDs in ample colors corresponding to the standard of building biology**.

**ESI 21: Cheap device of the series for HF only.** The field type (electromagnetic fields) is indicated with 10 LEDs.

### Technical data

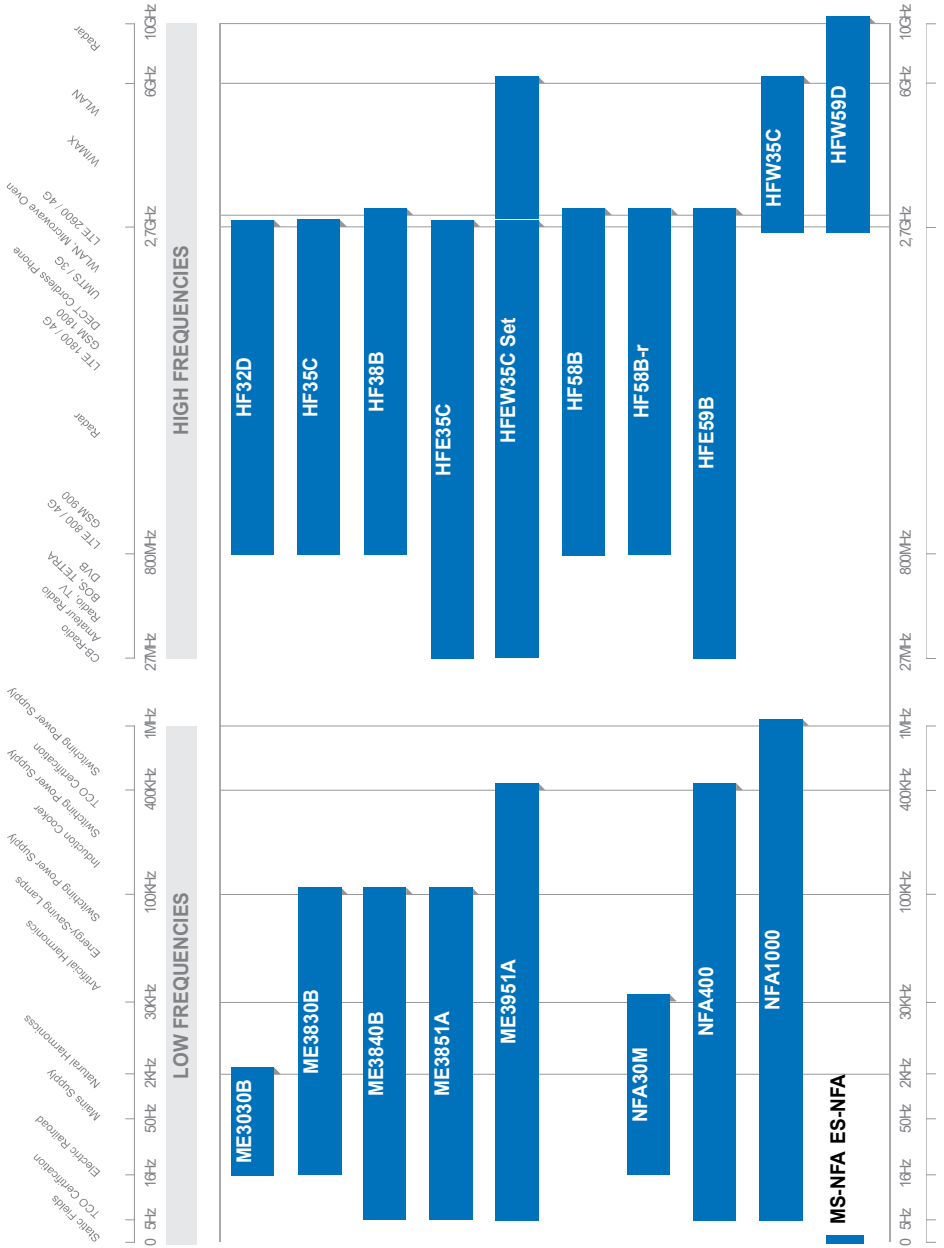
- Electromagnetic fields (HF) from 50 MHz to 8 GHz
- Operating mode: Standard.
- Power supply: 9 V battery
- Operating time: 10 to 15 hours with a 9 V battery
- Size: 140 x 63 x 30 mm
- Scope of delivery: Detector, battery, operating manuals in German and English.

**Meters overview - Gigahertz-Solutions**

Meters from Gigahertz-Solutions were developed and produced in Germany. No other manufacturer has such a wide and innovative product range.

**We sell this devices preferably, because they measure most accurately** and because they are standard in building biology. **This catalog will only show the most popular devices!** Please

find more meters (extended frequency range) and suitable accessories in our online-shop at [www.yshield.com](http://www.yshield.com) -> [Measurement](#).



## Meters HF - Gigahertz-Solutions

### HF32D - Meter (HF)



YSHIELD® HF 32D

It allows a straight forward assessment of the exposure, a determination of suitable remedial actions, as well as a control of their effectiveness. Simple handling for technical amateurs.

#### Technical data

- Measuring range: 1  $\mu\text{W}/\text{m}^2$  up to 1,999  $\mu\text{W}/\text{m}^2$ .
- Frequency range: 800 MHz up to 2,500 MHz.
- Accuracy: 6 dB, 9 digit.

- Field strength proportional audio signal: The higher the measuring value, the faster the acoustic signal.
- Peak value indication.
- Included in delivery: EMR meter device, attachable, direction-finding log.-per. antenna incl. antenna cable, Alkaline Mangan battery, detailed instruction manual (english), factual background information issuing "electric smog".

### HF35C - Meter (HF)

#### OUR RECOMMENDATION



YSHIELD® HF 35C

It allows a straight forward assessment of the exposure, a determination of suitable remedial actions, as well as a control of their effectiveness. Simple handling for technical amateurs.

#### Technical data

- Measuring range: 0.1  $\mu\text{W}/\text{m}^2$  up to 1,999  $\mu\text{W}/\text{m}^2$ .
- Frequency range: 800 MHz up to 2,500 MHz.
- Accuracy: 6 dB, 9 digits.
- Identification of pulsed radiation sources (mobile radio: GSM, UMTS / G3, cordless

telephones (DECT), WLAN (Bluetooth), radar surveillance stations, etc. by means of an acoustic signal proportional to the modulation frequency.

- Peak value as well as average value (switchable).
- Included in delivery: EMR meter device, attachable, direction-finding log.-per. antenna incl. antenna cable, Alkaline Mangan battery, detailed instruction manual (english), factual background information issuing "electric smog".

### HF38B - Meter (HF)



YSHIELD® HF 38B

#### Technical data

- Measuring range: 0.01  $\mu\text{W}/\text{m}^2$  up to 19,990  $\mu\text{W}/\text{m}^2$ .
- Frequency range: 800 MHz up to 2,500 MHz (3,300 Mhz with additional tolerance).
- Accuracy: 6 dB, 7 digits.
- Improved antenna-h/v-decoupling and minimised ripple compared to HF35C.
- Clearly simplified measurements due to "peak-hold" function.
- Identification of pulsed radiation sources (mobile radio: GSM, UMTS / G3, cordless telephones (DECT), WLAN (Bluetooth), radar surveillance stations, etc. by means of an acoustic signal proportional to the modulation frequency.

- Peak value as well as average value (switchable).
- Included in delivery: EMR meter device, attachable, direction-finding log.-per. antenna incl. antenna cable, Alkaline Mangan battery, detailed instruction manual (english), factual background information issuing "electric smog".

It allows a semi-professional assessment of the exposure, a determination of suitable remedial actions as well as a control of their effectiveness. Simple handling for users with basic knowledge.

## HF59B - Meter (HF)



YSHIELD® HF59B

It allows a professional assessment of the exposure, a determination of suitable remedial actions as well as a control of their effectiveness. Simple handling for professionals.

### Technical data

- Measuring range: 0,01  $\mu\text{W}/\text{m}^2$  up to 19,999  $\mu\text{W}/\text{m}^2$ .
- Frequency range: 800 MHz up to 2,500 MHz (3,300 MHz with additional tolerance) with direction-finding decoupled log.-per antenna.
- Accuracy: 3 dB, 5 digits.
- Clearly simplified measurements with the help of the "peak-hold" function.
- Peak value as well as average value (switchable).
- Radar-/UMTS-optimisation (2 MHz video-bandwidth) can be activated.
- DC-output for long-time records, audio-output, normalised AC-output.

- Identification of pulsed radiation sources (mobile radio: GSM, UMTS / G3, cordless telephones (DECT), WLAN (Bluetooth), radar surveillance stations, etc. by means of an acoustic signal proportional to the modulation frequency.
- Included in delivery: Measurement device, log.-per. antenna, NiMH battery inside the meter, mains adaptor, battery charger, detailed instruction manual with factual background information issuing "electro smog".

## HFEW59BD - Meter set (HF)

### OUR RECOMMENDATION



YSHIELD® HFEW 59BD

Suitable for an extensive analysis from 27 MHz to 10 GHz. The splitting-up of the

extra wide frequency range on two devices has shown big advantages in practice, especially regarding the analysis of higher frequency ranges, as those often remain hidden under dominating frequency ranges (such as mobile and DECT-frequencies).

### Technical data

- The set is based on the professional HF analyzers HFE59B und HFW59D (see [www.yshield.com](http://www.yshield.com) -> Measurement), including appropriate accessories.
- The frequency range covers amateur radio, radio, TV,

- TETRA, usual mobile services, DECT, radar (including the denser occupied band from 8.5 – 9.5 GHz as well as both WLAN-bands, WiMAX etc. and all frequencies in-between.
- For detailed information regarding the devices q.v.
- The included attenuator DG20\_G10 is useable for both analyzers.
- Plastic case K2 for a secure transport of devices and antennas.

## Meters NF - Gigahertz-Solutions

### ME3030B - Meter (LF)



YSHIELD® ME 3030B

It allows an uncomplicated evaluation of the exposure, a determination of suitable remedial actions, as well as a control of their effectiveness. Simple handling for amateurs.

#### Technical data

- Measuring range: 1 nT/Vm up to 2,000 nT/Vm.
- Frequency range: 16 Hz up to 2 kHz.
- Accuracy: 2 %, 20 digits.

- An acoustic signal proportional to the field strength with "Geiger-counter-effect" helps identifying regions with increased exposure.
- Included in delivery: Measurement device, Alkaline Mangan battery, detailed instruction manual with factual background information issuing "electro smog".

### ME3830B - Meter (LF)

#### OUR RECOMMENDATION



YSHIELD® ME 3830B

It allows an uncomplicated evaluation of the exposure according to construction biologist standard, a determination of suitable remedial actions, as well as a control of their effectiveness. Simple handling for amateurs.

#### Technical data

- Measuring range: 1 nT/Vm up to 2,000 nT/Vm.
- Frequency range: 16 Hz up to 100 kHz.
- Accuracy: 2 %, 14 digits.

- An acoustic signal proportional to the field strength with "Geiger-counter-effect" helps identifying regions with increased exposure.
- Included in delivery: Measurement device, Alkaline Mangan battery, detailed instruction manual with factual background information issuing "electro smog".

### ME3840B - Meter (LF)



YSHIELD® ME 3840B

allows an easy allocation of the electrosmog frequencies to the traction power or the mains power as well as to the artificial harmonics, thus facilitating an especially precise consultation of remedial actions and an easy control of their effectiveness.

A switchable internal filter module as in the professional devices, allowing a numeric differentiation of traction power and mains supply as well as the artificial higher frequencies. A useful aspect considering the even lower precautionary values for higher frequencies.

#### Technical data

- Measuring range: 1 nT/Vm up to 2,000 nT/Vm.

- Frequency range: 5 Hz up to 100 kHz.
- Switchable internal filter module as in the professional devices (16 Hz, 50 Hz high-pass, 2 kHz high-pass).
- Accuracy: 2 %, 14 digits.
- An acoustic signal proportional to the field strength with "Geiger-counter-effect" helps identifying regions with increased exposure.
- Included in delivery: Measurement device, Alkaline Mangan battery, detailed instruction manual with factual background information issuing "electro smog".

The link between amateur and professional instruments! This device is especially popular among medics and alternative practitioners, as it offers a perfect combination of easy handling and professional measurement possibilities. It

## NFA400 - Meter (LF)



YSHIELD® NFA 400

3D-LF-Analyser with Data Logger NFA400 for an in-depth analysis. The NFA400 also comprises all common technical parameters of the NFA series.

### In addition to the three-dimensional magnetic field measurement:

- ONE-dimensional potential-free measurement of the electric field (Y-axis).
- Non-isolated electric field measurement possible with

integrated sensor or with the optionally available TCO conform probe TCO3.

- An integrated voice recorder facilitates the measurement analysis.

### Technical data

- Frequency Range: 5 Hz to 400 KHz (compensated)
- Measurement Range: Magnetic flux density 1 - 19999 nT / Electrical field strength: 0.1-1999 V/m
- Accuracy: 50 / 60 Hz: +/- 5 % / 16 Hz - 30 kHz: +/- 1 dB / 5Hz - 400 kHz: +/- 2 dB / Isotropic deviation: +/- 1.5 dB / Offset +/- 5 Digits
- Sensor: Electrical field strength, potential-free, 1D
- Electrical field strength, non-isolated
- Magnetic flux density, 3D
- Audio Analysis: Field-strength-proportional acoustic signal (with "Geiger counter" effect), switchable

- Electric power supply: 7.4-Volt Li-ion high quality battery pack (included) / Average operating life in the logging mode 36 h / Low-batt indication / Auto-Power-Off function (saves capacity and is deactivated during longterm measurements) / Power supply unit included
- Signal Rating: trueRMS, Peak, Peak Hold
- Weight: 3,3 kg
- Scope of delivery: Meter with silicone holster, 4 GB SDHC SD-card, USB-cable, NFAsoft analysis software, highly flexible grounding cable with 1mm<sup>2</sup> copper diameter, grounding clamp, internal Li-ion battery pack, power supply unit, manual, plastic case

## NFA1000 - Meter (LF)

### OUR RECOMMENDATION



YSHIELD® NFA 1000

**For the most in-depth analysis - the masterpiece on the market!** Innovative alternative to the ME series based on a superior concept for efficient data acquisition of electric and magnetic fields, extensive long-term recordings of all relevant parameters and facilitated interpretation and documentation of the acquired data.

### Technical data

- **Real 3D potential-free electric field measurement**, patent pending.
- **3D measurement of the magnetic field** in a truly isotropic point.
- Separate recordings of railway and grid frequencies as well as higher harmonics with true RMS valuation (16.6 Hz | 50/60 Hz | 100/120 Hz plus even harmonics | 150/180 Hz plus uneven harmonics | other frequencies < 2 kHz | all > 2kHz)
- Measures 110,000 samples per second, the maxima of which are recorded up to 10 times per second on the 4 GB SDHC memory card supplied. Due to the simultaneous and continuous sampling of frequency and axis information you won't miss even the smallest peaks.

- Voice recording of audio notes to facilitate measurement and interpretation of recordings.
- Broadband peak measurements (genuine peak of a wave) as a firmware update in preparation.
- Optional, in preparation: Wireless data transfer to external display unit /PC.
- Supplied with revolutionary PC evaluation software: Super fast real-time presentation, statistic functions (e.g. 95. percentile), analysis tool for "Dirty Power".
- Delivery with all necessary accessories in the plastic case K5
- Li-Ion rechargeable batteries for up to 48 hours of continuous recordings. External power supply possible (power adaptor included).



## Meter sets HF+LF - Gigahertz-Solutions

### MK10 - Meter set (HF+LF)



YSHIELD® MK 10

Basic devices. Set from two devices for EMF and RF.

- Low frequency (EMF):  
16 Hz - 2 kHz
- High frequency (RF):  
800 MHz - 2.7 GHz

The **basic equipment containing the HF32D and ME3030B** in a rugged plastic case, allows an easy evaluation of the personal exposure to HF- and LF- electrosmog according to the guidelines and recommended safe values of the "Standard of Building Biology Measuring Techniques".

### MK20 - Meter set (HF+LF)

#### OUR RECOMMENDATION



YSHIELD® MK 20

Standard devices. According to the building biology standard. Set of two devices for EMF and RF.

- Low frequency (EMF):  
16 Hz - 100 kHz
- High frequency (RF):  
800 MHz - 2.7 GHz

Contains the instruments **ME3830B and HF35C in a rugged plastic case and allows an easy evaluation of the personal exposure to HF- and LF-electrosmog** according to the guidelines and recommended safe values of the "Standard of Building Biology Measuring Techniques". With the very useful feature of an acoustic analysis for a reliable identification of various HF-sources.

### MK30 - Meter set (HF+LF)



YSHIELD® MK 30

Standard devices. Link between standard and prof. devices. Set of two devices for EMF and RF.

- Low frequency (EMF):  
5 Hz - 100 kHz
- High frequency (RF):  
800 MHz - 3.3 GHz

The both devices contained in this measuring kit are a perfect combination of the easily operated devices for technical amateurs with the **additional analytical possibilities offered by the devices for professional evaluations**. This is the top-selling kit for doctors and healers looking for a competent overview over the total emf-pollution either for themselves or for their patients, but who neither have the daily practice nor the time to

get acquainted in the necessary manner with the technology of a professional measurement device.

The **HF38B**, for instance, already features the frequency range, the peak-hold function and the antenna of the professional series. And the **ME3840B** is already equipped with the switchable frequency filter for a clear differentiation of traction supply and mains supply as well as the corresponding artificial harmonics. The devices come well protected in a plastic case with shaped foam filler for a safe transportation.

## MK70-3D - Meter set (HF+LF)

### OUR RECOMMENDATION



YSHIELD® MK 70-3D

High-end devices. Set of two devices for EMF and RF.

- Low frequency (EMF): 5 Hz - 1000 kHz (potential free, 3D)
- High frequency (RF): 27 MHz - 3,3 GHz

**Professional equipment with a worthwhile price point.** This set consists of our two top models, the **NFA1000** and the **HFE59B**. The quasiisotropic antenna of the HF-device has special advantages for the building biology immission measurements, the identification of so-called hot

spots, and additionally extends the analysed frequency range down to 27 MHz. It therefore also includes the TV- and radio-frequencies, as well as the TETRA standards which are to be introduced all over Europe. The NFA1000 with its 3D sensors for E & M, FFT analysis, and data logger is definitely a convincing instrument.

## Accessories - Gigahertz-Solutions

### Plastic case K5



YSHIELD® K5

Plastic case 33 x 27 x 8 cm for HF32D, HF35C, HFW35C and all LF-devices. To our HF-devices, an additional LF-device fits in the case!

### Plastic case K2



YSHIELD® K2

Plastic case 33 x 27 x 16 cm for all HF- and LF-devices. 2 devices fits in the case!

### Attenuator DG20



YSHIELD® DG20

Allows a measurement of major exposures. For high exposures.

- Reduces the sensitivity of the measuring device by a factor of 100 (= 20 dB).
- Adaptor plug to be connected to the antenna input socket.

### TCO3 probe (NFA)



YSHIELD® TCO3

For measurements of E-fields in line with the regulations at locations of difficult access, such as bedroom measurements or low-field electrical installation inspections. Only for NFA1000.