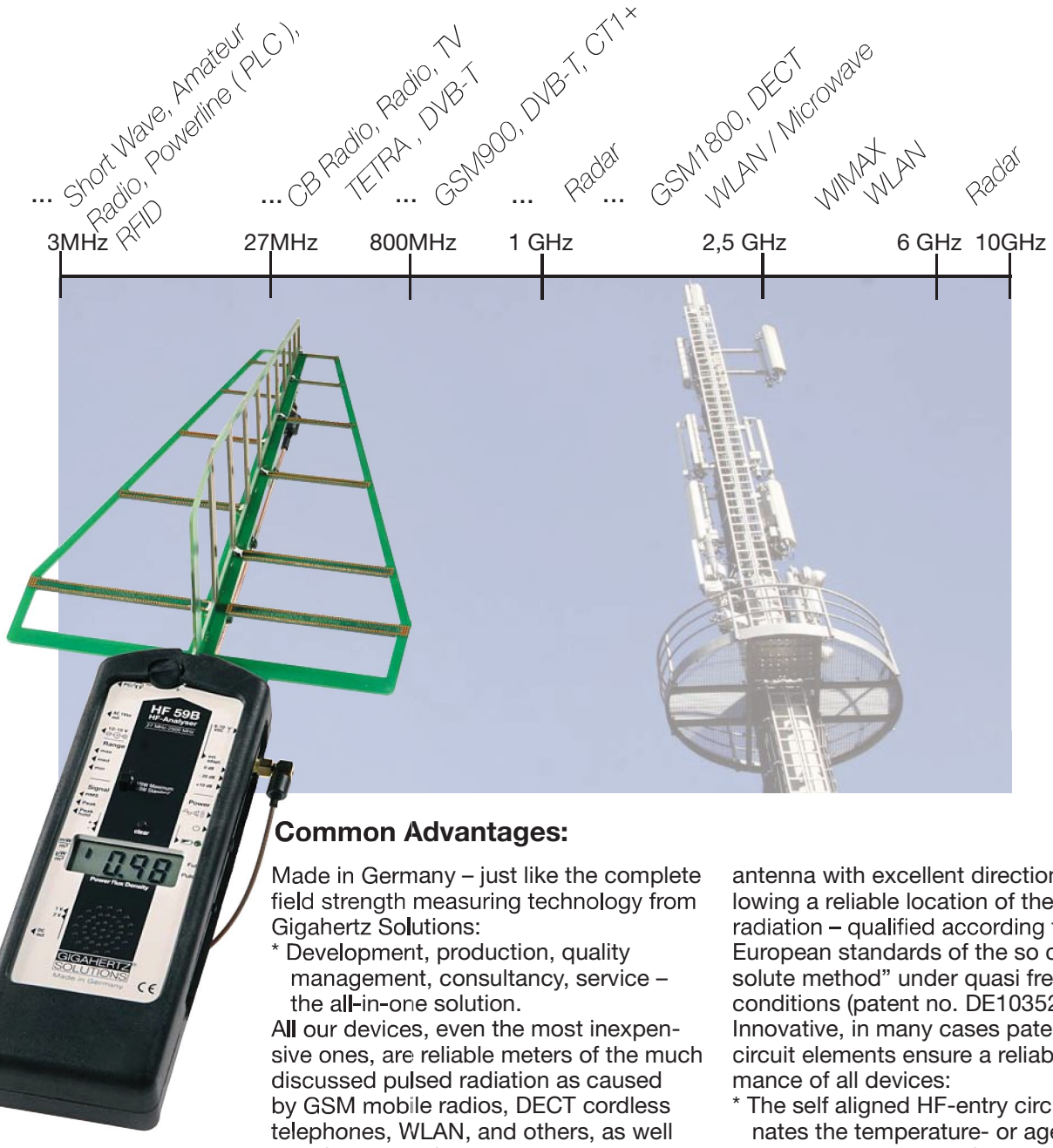
HF Measurement Technology

GIGAHERTZ SOLUTIONS Made in Germany

For the evaluation of high frequency radiation from 27 MHz to 6 GHz (to be amplified to 3 Mhz - 10 GHz in 2010), a range comprising frequencies from radio and TV (digital as well as analogue), TETRA (digital public safety networks), microwave radio relay, GSM mobile radio, radar, DECT cordless telephones, UMTS mobile radio, Wi-Fi, WLAN, microwave ovens, WiMAX.



Common Advantages:

Made in Germany – just like the complete field strength measuring technology from Gigahertz Solutions:

* Development, production, quality management, consultancy, service – the all-in-one solution.

All our devices, even the most inexpensive ones, are reliable meters of the much discussed pulsed radiation as caused by GSM mobile radios, DECT cordless telephones, WLAN, and others, as well as, of course, of the un-pulsed radiation between 800 MHz und 2.5 GHz.

They are equipped with a digital measured value display which shows the total exposure within the measured frequency range, directly in the entity corresponding to the building biology standard values (µW/m²), without error-prone add-ups, thus allowing a straight forward assessment of the exposure, as well as a determination of suitable remedial actions, and a control of their effectiveness.

All devices come with a mechanically stable, logarithmic-periodic measuring antenna with excellent directionality, allowing a reliable location of the source of radiation – qualified according to the pan-European standards of the so called “absolute method” under quasi free-space conditions (patent no. DE10352175).

Innovative, in many cases patented circuit elements ensure a reliable performance of all devices:

* The self aligned HF-entry circuit: eliminates the temperature- or age-dependent zero deviation of these sensitive components. (Patent DE10317805)
* The antenna curve is fully compensated, and falsifying influences from radiation sources below the specified frequency range are inhibited by a steep-sided high pass filter.
* Extremely high linearity right down to the lowest scale limit. (Patents DE19809784 and DE10317805).

Useful details are a standard implementation, such as an acoustic signal proportional to the field strength, a “low-batt.”-indication, and the battery saving “auto-power-off”.

RF-Analyser HF32D

for an easy evaluation of the HF exposure

This is the device for technical amateurs - especially easy to operate. It allows a straight forward assessment of the exposure, a determination of suitable remedial actions, as well as a control of their effectiveness.

Even this starter device already combines all common advantages.
The reading shows the total pollution without any calculation required.
The measured values are reliably displayed directly in the entity corresponding to the building biology standard values.
An acoustic signal proportional to the field strength with "Geiger-counter-effect" helps identifying regions with increased exposure.
Digital display of 1 µW/m² up to 1999 µW/m².

Scope of delivery: Measurement device, attachable log.-per. antenna incl. cable, alkaline manganese battery, detailed instructions manual with factual background information

Technical data:

Frequency Range:	800 MHz - 2.5 GHz
Measurement Range:	Power flux density: 1 - 1999 µW/m²
Accuracy:	Basic accuracy including linearity tolerance : +/- 6dB Zero offset and rollover +/- 9 digits
Sensor:	Logarithmic periodic antenna
Audio Analysis:	acoustic signal proportional to the field strength with "Geiger-counter-effect"
Signal rating:	peak value
Power supply:	9 Volt alkaline manganese battery (included), average operation time 10 - 12 hours Low-Batt. indication, auto-power-off

RF-Analyser HF35C

for an easy HF evaluation, incl. audio analysis

This is THE device for technical amateurs - especially easy to operate. It supports all above mentioned "common advantages" and it allows a straight forward assessment of the exposure, a determination of suitable remedial actions, as well as a control of their effectiveness.

Has the same features and configuration as the HF32D, however additionally offers
Audio analyses for the identification of pulsed radiation sources (mobile radio (GSM, UMTS/G3), cordless telephones (DECT), WLAN (Bluetooth), air-traffic control radar) by means of an acoustic signal proportional to the modulation frequency.
Display of peak value as well as average value (switchable).
Sensitivity increased by a factor of 10 (from a minimum display resolution of 0.1µW/m² to a maximum of 1999 µW/m²).
HINT: Our best-selling meter for the easy evaluation!

Scope of delivery: Measurement device, attachable log.-per. antenna incl. cable alkaline manganese battery, detailed instructions manual with factual background information

Technical data:

Frequency Range:	800 MHz - 2.5 GHz
Measurement Range:	Power flux density: 0.1 - 1999 µW/m²
Accuracy:	Basic accuracy including linearity tolerance : +/- 6dB Zero offset and rollover +/- 9 digits
Sensor:	Logarithmic periodic antenna
Audio Analysis:	Identification of pulsed radiation sources (mobile radio (GSM, UMTS/G3), cordless telephones (DECT), WLAN (Bluetooth), air-traffic control-radar) by means of an acoustic signal proportional to the modulation frequency
Signal rating:	Display of peak value as well as average value (switchable)
Power supply:	9 Volt alkaline manganese battery (included), average operation time 6 - 7 hours Low-Batt. indication, auto-power-off

RF-Analyser HF38B

The link between amateur and professional instruments

This device supports all above mentioned "common advantages". It is especially popular among medics and alternative practitioners, as it offers a perfect combination of easy handling and professional measurement possibilities. It 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.

Has the same features and configuration as the HF35C, however additionally offers some important professional features:
The log.-per. antenna with further improved frequency response.
A 10 times higher sensitivity: Minimum display resolution 0.01 µW/m² .
A measuring range extended upwards by a factor of 10: max. 19.99 mW/m² .
Clearly simplified measurements with the help of the "peak-hold"- function.

Scope of delivery: Measurement device, attachable log.-per. antenna incl. cable
Alkaline Mangan battery, detailed instructions manual with factual background information

Technical data:

Frequency Range:	800 MHz - 2.5 GHz (3.3 GHz with increased tolerance)
Measurement Range:	Power flux density: 0.01 - 19,990 µW/m²
Accuracy:	Basic accuracy including linearity tolerance : +/- 6dB Zero offset and rollover +/- 9 digits
Sensor:	Optimised logarithmic periodic antenna: Less ripple, better directionality, improved shielding vs. ground
Audio Analysis:	Identification of pulsed radiation sources (mobile radio (GSM, UMTS/G3), cordless telephones (DECT), WLAN (Bluetooth), air-traffic control radar) by means of an acoustic signal proportional to the modulation frequency
Signal rating:	Display of peak value, peak hold as well as average value (switchable)
Power supply:	9 Volt alkaline manganese battery (included), average operation time 6 - 7 hours Low-Batt. indication, auto-power-off

RF-Analyser HF58B

for the professional HF analysis

This device represents the low cost access to the professional high frequency broadband measurement technology. Its functions and features are tailored to the needs and practical experiences of the building biology.

In addition to the full functionality of the HF38B:
A quantitative differentiation between pulsed and un-pulsed radiation - a unique feature within the broadband measuring technology (based on our patent DE10317805)
A NiMH battery, a battery charger and a power supply unit inclusive
An AC- and a DC-output (AC: demodulated signal)
LEDs monitoring the function of the antenna

Scope of delivery: Measurement device, attachable log.-per. antenna incl. cable, NiMH battery inside the meter, mains adaptor, battery charger, various adaptors,detailed instructions manual, plastic case.

Technical data:

Frequency Range:	800 MHz - 2.5 GHz (3.3 GHz with increased tolerance)
Measurement Range:	Power flux density: 0.01 - 19,990 µW/m²
Accuracy:	Basic accuracy including linearity tolerance : +/- 4.5dB Zero offset and rollover +/- 7 digits
Sensor:	Optimised logarithmic periodic antenna: Less ripple, better directionality, improved shielding vs. ground
Audio Analysis:	Identification of pulsed radiation sources (mobile radio (GSM, UMTS/G3), cordless telephones (DECT), WLAN (Bluetooth), air-traffic control-radar) by means of an acoustic signal proportional to the modulation frequency
Signal rating:	Display of peak value, peak hold as well as average value (switchable) A quantitative differentiation between pulsed and un-pulsed radiation - a unique feature within the broadband measuring technology
Signal output ports:	An AC- and a DC-output (AC: demodulated signal)
Power supply:	Rechargeable highpower 9.6 Volt NiMH battery pack inside the meter, average operation time: 7 - 8 hours Low-Batt. indication, auto-power-off AC-adaptor for charging and long-term-operation included

RF-Analyser HF58B-r

RADAR-/Crest-optimised version of the HF58B

The radar module sets standards in this category of devices. Its functions and features are tailored to the needs and practical experiences of the building biology. Due to its comparably low price, it is often also used for scientific and industrial purposes, especially in the cell phone and wireless sector.

In addition to the full functionality of the HF58B:
A switch for 2 MHz video bandwidth, allowing especially precise measurements, also of ultra short RADAR signals within the frequency range subject to measurement with a minimum pulse length of up to 0.5 micro seconds, as well as of UMTS-FDD/3G.
Especially high speed of response in the operational mode "peak hold" (patented).

Scope of delivery: Measurement device, attachable log.-per. antenna, incl. cable, NiMH battery inside the meter, mains adaptor, battery charger, various adaptors, detailed instructions manual, plastic case.

Technical data:

Frequency Range:	800 MHz - 2.5 GHz (3.3 GHz with increased tolerance)
Measurement Range:	Power flux density: 0.01 - 19,990 µW/m²
Accuracy:	Basic accuracy including linearity tolerance : +/- 4.5dB Zero offset and rollover +/- 7 digits
Sensor:	Optimised logarithmic periodic antenna: Less ripple, better directionality, improved shielding vs. ground, continuous LED-monitoring of quality of connections
Audio Analysis:	Identification of pulsed radiation sources (mobile radio (GSM, UMTS/G3), cordless telephones (DECT), WLAN (Bluetooth), air-traffic control radar) by means of an acoustic signal proportional to the modulation frequency
Signal rating:	Display of peak value, peak hold as well as average value (switchable) A quantitative differentiation between pulsed and un-pulsed radiation - a unique feature within the broadband measuring technology
Signal output ports:	An AC- and a DC-output (AC: demodulated signal)
Power supply:	Rechargeable highpower 9.6 Volt NiMH battery pack inside the meter, average operation time: 7 - 8 hours Low-Batt. indication, auto-power-off AC-adaptor for charging and long-term-operation included

RF-Analyser HF59B

Our first class HF-device

Due to its extra broad frequency response, this basic device is predestined for an extension with the UBB27 and for detailed, professional analyses. Its functions and features are tailored to the needs and practical experiences of the building biology. Due to its comparably low price, it is often also used for scientific and industrial purposes - mostly as kit called HF E 59B - especially in the sector of EMVU and product development (precompliance).

In addition to the full functionality of the HF58B-r:
A frequency range of down to 27 MHz within the basic device - suitable for the connection of the optionally available antenna UBB27_G3 (the scope of delivery includes a compensated antenna for 800 MHz up to 2.5 or 3.3 GHz).
A calibrated extra AC-measurement output for the demodulated signal, and a scalable DC-output.
HINT: If you only need to measure above 800 MHz the HF58B-r is the cheaper and better solution for you. Only with the antenna UBB27 (included in the kit HFE59B) you can in fact measure frequencies below 800 MHz (e.g. digital TV, TETRA, new GSM Channels in Europe).

Scope of delivery: Measurement device, attachable log.-per. antenna incl. cable, NiMH battery inside the meter, mains adaptor, battery charger, various adaptors, detailed instructions manual, plastic case.

Technical data:

Frequency Range:	A frequency range of down to 27 MHz within the basic device - suitable for the connection of an optionally available antenna (the scope of delivery includes a compensated antenna for 800 MHz up to 2.5 or 3.3 GHz)
Measurement Range:	Power flux density: 0.01 - 19,990 µW/m²
Accuracy:	Basic accuracy including linearity tolerance : +/- 3dB Zero offset and rollover +/- 5 digits
Sensor:	Optimised logarithmic periodic antenna with frequeny compensation directly on the antenna: Less ripple, better directionality, improved shielding vs. ground, continuous LED-monitoring of quality of connections
Audio Analysis:	Identification of pulsed radiation sources (mobile radio (GSM, UMTS/G3), cordless telephones (DECT), WLAN (Bluetooth), air-traffic control radar) by means of an acoustic signal proportional to the modulation frequency
Signal rating:	Display of peak value, peak hold as well as average value (switchable) A quantitative differentiation between pulsed and un-pulsed radiation - a unique feature within the broadband measuring technology
Signal output ports:	A calibrated extra AC-measurement output for the demodulated signal, and a DC-output
Power supply:	Rechargeable highpower 9.6 Volt NiMH battery pack inside the meter, average operation time: 7 - 8 hours Low-Batt. indication, auto-power-off AC-adaptor for charging and long-term-operation included