



MAGPy

Smart Probe for WPT
Near-Field Compliance



What is MAGPy ?

MAGPy is the most advanced solution for demonstration of compliance of wireless power transfer (WPT) systems and other near-field sources operating at frequencies between 3 kHz and 10 MHz. We offer a handheld MAGPy optimized for *in situ* evaluations (IEC PAS 63184:2021, Clauses 5.2.3 and 5.2.4) and a robot-based system,

DASY8 Module WPT – MAGPy, for direct comparison with the basic restrictions (IEC PAS 63184:2021, Clauses 5.2.3 and 5.2.5). Both systems offer significant advantages over other instruments and reduce overestimation of exposures greater than 40 dB.

MAGPy – In Situ Compliance Testing With Basic Restrictions

Description

The Magnetic Amplitude and Gradient Probe System (MAGPy) is a stand-alone, handheld device composed of the MAGPy-8H3D+E3D probe and the MAGPy Data Acquisition System (MAGPy-DAS), connected to an integrated tablet computer with an intuitive browser-based graphical user interface (GUI). MAGPy measures incident magnetic (H-) and electric (E-)fields and the H-field gradient (∇H) and uses the gradient to estimate induced E-field, current density (j), and specific absorption rate (SAR) values defined in various standards.

Applications

MAGPy is optimized for *in situ* evaluations of exposure and compliance related to WPT and other sources, including:

- automotive and public transport vehicles
- industrial welding, induction cooking, electronic article surveillance, and other utilities
- WPT networks and installations for energy supply
- umobile phones, wearable devices, Internet of Things (IoT), and other ubiquitous WPT-ready devices
- high-power electromagnetic sources

Compliance

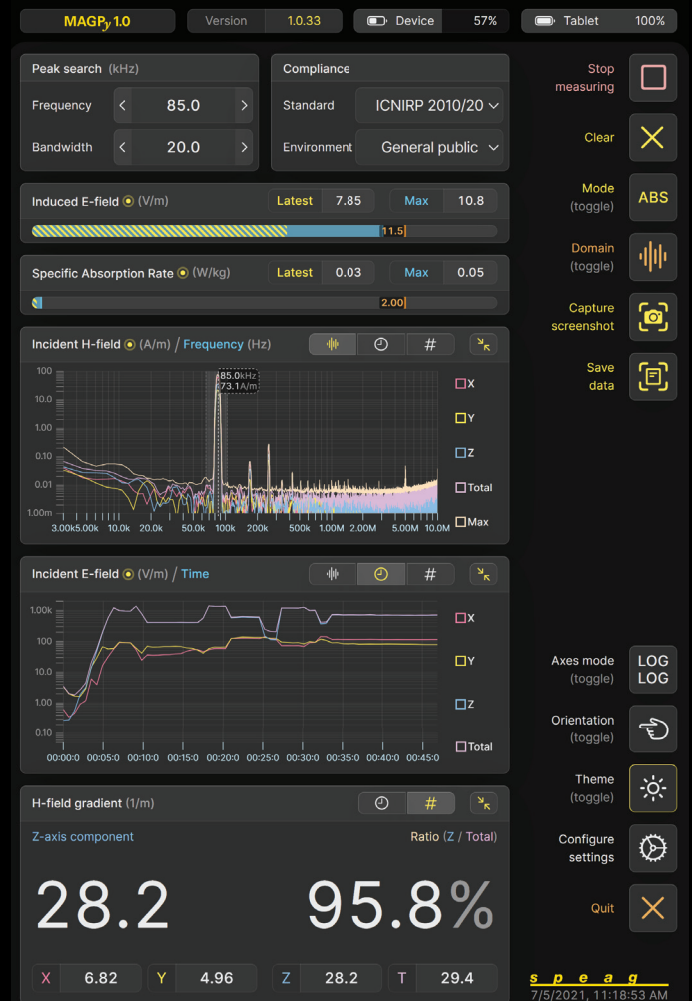
MAGPy allows devices to be tested for compliance with current guidelines regarding occupational exposure and exposure of the general public: IEC PAS 63184:2021, FCC 2020, ICNIRP 1998, ICNIRP 2010, IEEE C95.1 2005, EU Directive 2013, HC Code 6, BGV B11, and 26.BImSchV.

Features	Benefits
8 Isotropic H-field sensors (loop: 1 cm ² ; at the corners of a 22 mm cube) 1 Isotropic E-field sensor (dipole / monopole length: 50 mm)	Single probe for H- and E-fields Improved isotropy High spatial resolution (<1 cm ³) Assessment of ∇H
Frequency and time domain analyses	Sampling rate: 25 MHz
Broad frequency range	3 kHz – 10 MHz
Large dynamic range	H-field: 0.12 μT – 4.0 mT E-field: 0.08 V/m – 2 kV/m ∇H : 0 – 80 T/m/T
Estimation of induced fields based on gradient information	Reduced overestimation of exposure by direct comparison with basic restrictions (BR)
Reduced interference	Low interaction with fields
All-in-one device	Evaluation of incident H-, E-, and ∇H -fields and induced E-fields, and j and SAR values for compliance with national and international standards
Turnkey	Fully equipped with web-based GUI and embedded software for compliance testing
Calibration	ISO17025 (coming soon)

Graphical User Interface

MAGPy, with its intuitive GUI (available in different languages), is easy to use and displays status updates in real-time on:

- battery, main frequency, and recording
- standards evaluations in terms of reference levels (RL) and BR
- time domain 3D E- and H-fields, switchable to fast Fourier transform (FFT) spectra
- time-domain H-field gradient
- documentation (recording, snapshot / replay option, standard selection, etc.)



MAGPy GUI during an example measurement. Compliance with both RL and BR, shown as exposure ratios, are continuously updated during the measurement.

DASY8 Module WPT – MAGPy

The MAGPy probe system of DASY8 Module WPT is optimized for full 3D H-field measurements and direct comparison with the BR without overestimation.

For more information visit speag.swiss/products/dasy8/m-wpt/.