V3 Faster w/ Envelope

MAGP$_y$3

Smart Probe for WPT Near-Field Compliance

What is MAGPy3?

MAGPy3 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. It features new-generation hardware that delivers substantially enhanced performance. We offer a MAGPy3 handheld system optimized for *in situ* evaluations (IEC/IEEE 63184:2025, Clauses 5.2.3 and 5.2.4) and a robot-based system, DASY8 Module WPT, for compliance testing in laboratories (IEC/IEEE 63184:2025, Clauses 5.2.3 and 5.2.5). Both systems offer significant advantages over other instruments and reduce overestimation of exposures larger than 40 dB.

MAGPy3 – *In Situ* Compliance Testing with Basic Restrictions

Description

The **M**agnetic **A**mplitude and **G**radient **P**robe System Version 3 (MAGPy3) is a stand-alone, handheld device composed of the MAGPy3 probe (MAGPy3-8H3D+E3DV3) and the integrated MAGPy3 Data Acquisition System (MAGPy3-DASV3), connected to an integrated tablet computer with an intuitive browser-based graphical user interface (GUI). MAGPy3 measures incident magnetic (H-) and electric (E-)fields and the H-field gradient (∇H) and uses the gradient to estimate the maximum incident fields at probe surface, induced E-field, current density (J), and specific absorption rate (SAR) values defined in various standards.

Applications

MAGPy3 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
- mobile phones, wearable devices, Internet of Things (IoT), and other ubiquitous WPT-ready devices
- high-power electromagnetic sources

Compliance

MAGPy3 allows devices to be tested for compliance with current guidelines regarding occupational exposure and exposure of the general public: ICNIRP 1998, ICNIRP 2010, ICNIRP 2020, IEEE C95.1-2019, FCC, Health Canada Safety Code 6, EU Council Recommendation 1999, EU Directive 2013, BGV B11, and 26.BImSchV.

Features	Benefits
8 Isotropic H-field sensors (loop: 1 cm²; at the corners of a 22 mm cube) 1 Isotropic E-field sensor (dipole / monopole length: 53 mm)	Single probe for H- and E-fields Improved isotropy High spatial resolution (<1 cm³) Assessment of ∇H
Fast time domain measurement	Sampling rate: up to 50 MHz
Broad frequency range	3 kHz – 10 MHz
Large dynamic range	H-field: 0.1 – 3200 A/m E-field: 0.08 – 2000 V/m
Estimation of the incident fields at the probe surface based on gradient information	Accurate evaluation at the device surface according to regulatory requirements
Estimation of induced fields based on gradient information	Reduced overestimation of exposure by direct comparison with basic restrictions (BR)
High-speed data transfer	USB3
All-in-one device	Evaluation of incident H-, E-, and ∇H-fields and induced E-field, J, and SAR for compliance with national and international standards
Turnkey	Fully equipped with web-based GUI and embedded software for compliance testing
Calibration	ISO17025

Graphical User Interface

MAGPy3, with its intuitive GUI (available in different languages), allows easy access to the following information and visualization:

- battery status, peak frequency, exposure standard
- spectra of 3D H- and E-fields
- zero span of 3D H-, E-, and ∇H-fields
- streaming of H- and E-field envelopes
- compliance evaluations with reference levels (RL) and BR
- data logging (snapshot / data-export option)

MAGPy3 GUI during an example measurement. Compliance with both RL and BR, shown as exposure ratios, are continuously updated during the measurement.

For more information visit: speag.swiss/products/magpy/magpy3/

DASY8 Module WPT V3.0+

The robot-based scanning system, DASY8 Module WPT V3.0+, equipped with the MAGPy3 probe, is optimized for high-precision 3D H- and E-fields measurements and compliance testing against the BR without overestimation.
For more information visit: speag.swiss/products/dasy8/m-wpt/

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