

# Deutsche Akkreditierungsstelle GmbH

## Annex to the Accreditation Certificate D-K-21340-01-00 according to DIN EN ISO/IEC 17025:2018

**Valid from:** 26.02.2021

Date of issue 26.02.2021

Holder of certificate:

**Dr. Brockhaus-Meßtechnik GmbH & Co. Kommanditgesellschaft  
Gustav-Adolf-Straße 4, 58507 Lüdenscheid**

Calibration in the fields:

### **Electrical Quantities**

#### **Magnetic Quantities**

- **Magnetic field strength**
- **Magnetic flux density**
- **Specific total loss Ps (AC)**
- **Specific apparent power Ss (AC)**

*The management system requirements of DIN EN ISO/IEC 17025 are written in the language relevant to the operations of calibration laboratories. Laboratories that conform to the requirements of this standard, operate generally in accordance with the principles of DIN EN ISO 9001.*

*The certificate together with the annex reflects the status as indicated by the date of issue.  
The current status of any given scope of accreditation may be found respectively in the database of accredited bodies of Deutsche Akkreditierungsstelle GmbH <https://www.dakks.de/en/content/accredited-bodies-dakks>.*

Abbreviations used: see last page

**Page 1 of 3**

**This document is a translation. The definitive version is the original German annex to the accreditation certificate.**

**Annex to the accreditation certificate D-K-21340-01-00**
**Permanent Laboratory**
**Calibration and Measurement Capabilities (CMC)**

Measurement quantity / Calibration item	Range	Measurement conditions / procedure	Expanded uncertainty of measurement <sup>1)</sup>	Remarks
<b>Magnetic field strength</b> Epstein sample	1 A/m to 16500 A/m	DIN IEC 60404-2:2008-06 10 Hz – 400 Hz	$30 \cdot 10^{-5}$	Measured value $\hat{H}$ : maximum magnetic field strength
Epstein sample of soft magnetic material	1 A/m to 16500 A/m	DIN IEC 60404-2:2008-06 10 Hz – 400 Hz	$30 \cdot 10^{-5}$	
Sheet sample (500 mm x 500 mm)	1 A/m to 20000 A/m	DIN IEC 60404-3:2010-04 10 Hz – 100 Hz	$35 \cdot 10^{-5}$	
<b>Magnetic flux density</b> Epstein sample made of non grain oriented electrical sheet	0.1 T to 1.8 T	DIN IEC 60404-2:2008-06 10 Hz – 400 Hz	$15 \cdot 10^{-5}$	Measured value $\hat{J}$ : maximum magnetic polarization
Epstein sample made of grain oriented electrical sheet	0.1 T to 1.9 T	DIN IEC 60404-2:2008-06 10 Hz – 400 Hz	$14 \cdot 10^{-5}$	
Sheet sample (500 mm x 500 mm) made of non grain oriented electrical sheet	0.1 T to 1.6 T	DIN IEC 60404-3:2010-04 10 Hz – 100 Hz	$13 \cdot 10^{-5}$	
Sheet sample (500 mm x 500 mm) made of grain oriented electrical sheet	0.1 T to 1.9 T	DIN IEC 60404-3:2010-04 10 Hz - 100 Hz	$13 \cdot 10^{-5}$	
Epstein sample made of soft magnetic material	0.1 T to 2.3 T	DIN IEC 60404-2:2008-06 10 Hz – 400 Hz	$15 \cdot 10^{-5}$	
<b>Specific total loss Ps (AC)</b> Epstein sample made of grain oriented or non grain oriented electrical sheet	0 W/kg to 100 W/kg	DIN IEC 60404-2:2008-06 10 Hz – 400 Hz	$10 \cdot 10^{-5}$	
Sheet sample (500 mm x 500 mm) made of grain oriented or non grain oriented electrical sheet	0 W/kg to 100 W/kg	DIN IEC 60404-3:2010-04 10 Hz – 100 Hz	$35 \cdot 10^{-5}$	
Epstein sample made of soft magnetic material	0 W/kg to 100 W/kg	DIN IEC 60404-2:2008-06 10 Hz – 400 Hz	$25 \cdot 10^{-5}$	

<sup>1)</sup> The expanded uncertainties according to EA-4/02 M:2013 are part of CMC and are the best measurement uncertainties within accreditation. They have a coverage probability of approximately 95 % and have a coverage factor of  $k = 2$  unless stated otherwise. Uncertainties without unit are relative uncertainties referring to the measurement value unless stated otherwise.

**Annex to the accreditation certificate D-K-21340-01-00**

**Permanent Laboratory**

**Calibration and Measurement Capabilities (CMC)**

Measurement quantity / Calibration item	Range	Measurement conditions / procedure	Expanded uncertainty of measurement <sup>1)</sup>	Remarks
<b>Specific apparent power S<sub>s</sub> (AC)</b> Epstein sample made of grain oriented or non grain oriented electrical sheet	0 VA/kg to 2600 VA/kg	DIN IEC 60404-2:2008-06 10 Hz – 400 Hz	15 · 10 <sup>-5</sup>	Measured value S <sub>s</sub> : specific apparent power
Sheet sample (500 mm x 500 mm) made of grain oriented or non grain oriented electrical sheet	0 VA/kg to 2600 VA/kg	DIN IEC 60404-3:2010-04 10 Hz – 100 Hz	30 · 10 <sup>-5</sup>	
Epstein sample made of soft magnetic material	0 VA/kg to 2600 VA/kg	DIN IEC 60404-2:2008-06 10 Hz – 400 Hz	25 · 10 <sup>-5</sup>	

**Abbreviations used:**

CMC	Calibration and measurement capabilities (Kalibrier- und Messmöglichkeiten)
DIN	Deutsches Institut für Normung e.V.
IEC	International Electrotechnical Commission

<sup>1)</sup> The expanded uncertainties according to EA-4/02 M:2013 are part of CMC and are the best measurement uncertainties within accreditation. They have a coverage probability of approximately 95 % and have a coverage factor of  $k = 2$  unless stated otherwise. Uncertainties without unit are relative uncertainties referring to the measurement value unless stated otherwise.