The Multinational Power Electronics Association

PSMA Magnetics Committee Meeting

June 5TH 2025

Ed Herbert, George Slama, Matt Wilkowski
Committee Chairs

PSMA is a not-for-profit organization and a CO-SPONSOR OF APEC

PSMA Magnetics Committee Meeting Agenda
June 5, 2025

- Introductions
- 2026 Workshop Planning
- 2026 Industry Session Planning
- Special Projects
  - Core Loss Database
  - Current Driven Core Loss
  - Electrical Parameters of Magnetic Materials – phase 2
- Magnetics Forum on PSMA Website
- Open Magnetics
- Power Technology Roadmap
- Next Meeting

PSMA Magnetics Committee Meeting Agenda
June 5, 2025

- Introductions
- 2026 Workshop Planning
- 2026 Industry Session Planning
- Special Projects
  - Core Loss Database
  - Current Driven Core Loss
  - Electrical Parameters of Magnetic Materials – phase 2
- Magnetics Forum on PSMA Website
- Open Magnetics
- Power Technology Roadmap
- Next Meeting

PSMA Magnetics Committee Meeting Agenda – 2026 Workshop Planning
June 5, 2025

- ✓ Identify Themes
  - Overall Theme: Measurements and Data Trends to Achieve Better Analytic Models and Simulation Models Towards Improved Design Tools
  - AM Theme: Developing Analytic and Simulation Models from Measurement Data
  - PM Theme: Starting with Design Basics to Achieve Design Automation
- ✓ PSMA Special Projects Request
  - Approved by PSMA BOD on May 16, 2025
- ✓ 2026 Magnetics Workshop Banner
  - Draft available – May 20, 2025
    - Use for PSMA 2025 Q2 Newsletter article
- ✓ 2025 PSMA 2 Quarter Newsletter
  - Draft article submitted - May 27, 2025
- ❑ Next Steps (June 2025 thru August 2025)
  - Identify – Invite – Confirm Keynote presenters
  - Identify – Invite – Confirm Lecture presenters
  - Identify – Invite – Confirm Technology Demonstrations

PSMA Magnetics Committee Meeting Agenda – 2026 Workshop Banner
June 5, 2025

PSMA Magnetics Committee Meeting Agenda – Milestone Schedule
June 5, 2025

AI #	Description	Target Date	Actual date	Comments
1	Compile post workshop survey results	3/17/2025	3/17/2025	
2	Identify themes for workshop	4/9/2025	4/9/2025	
3	Post final presentations from previous workshop to attendees only URL	4/11/2025	4/10/2025	
4	Identify theme for industry session	5/7/2025	5/7/2025	
5	Approve expenses for previous workshop	5/1/2025	5/1/2025	
6	Establish budget	5/5/2025	5/6/2025	
7	Create banner for the workshop	5/15/2025	5/20/2025	
8	2ND quarter PSMA newsltter article	5/23/2025	5/27/2025	
9	Submit workshop proposal to PSMA BOD	6/1/2025	5/14/2025	Approved PSMA BOD on 5/16/2025
10	Identify target keynote presenters	6/18/2025		
11	Identify lecture presenters	6/18/2025		
12	lidentify technology demonstrators	6/18/2025		
13	Solicit keynote presenters	6/30/2025		
14	Solicit lecture presenters	6/30/2025		
15	Solicit tech demonstrators	6/30/2025		
16	Solicit workshop partners	7/1/2025		
17	Confirm keynote presenter	8/1/2025		
18	Confirm lecture presenters	8/1/2025		
19	Confirm technology demonstrators	8/21/2025		
20	Submit 3RD quarter PSMA newsletter article	8/22/2025		
21	Identify poster presenters	9/12/2025		
22	Solicit poster presenters	9/30/2025		
23	Confirm poster presenters	10/15/2025		
24	Confirm partners	10/15/2025		
25	Publish final presentations from previous workshop to public PSMA URL	10/15/2025		
26	Tour facilities in conjunction with pre-APEC meeting	10/15/2025		
27	Post tentative agenda on website	10/22/2025		
28	Open registration	10/24/2025		

PSMA Magnetics Committee Meeting Agenda – Magnetics Workshop - AM Session Presenters June 5, 2025

- AM Theme: Developing Analytic and Simulation Models from Measurement Data
- Keynote:
  - Who – Marian Kazimierczuk Professor Emeritus Wright Stata University– Academia
  - Who -
    - Analytic Models
- Lecture presenter 2:
  - Lucas Pniak – SAFRAN Research and Technology Center – Industry
    - Planar Transformers Electromagnetic Modelling Considering Capacitive Couplings Up to 100 MHz
- Lecture presenter 3:
  - Nick Kirkby – ASU – Research
    - NIST Standards – Error Analysis (consider for student poster if Kirkby is still a student)
  - Miroslav Vasic/Danile Rios Linares – University of Madrid – Academia
    - Artificial Neural networks (ANN) and Digital Twin to optimize DAB transformer design
- Lecture presenter 4:
  - Thomas Guillod – Dartmouth – Research
    - Qualifying measurement data, eliminating bias

PSMA Magnetics Committee Meeting Agenda – Magnetics Workshop PM Session Presenters June 5, 2025

- PM Theme: Applying Design Basics to Achieve Design Automation
- Keynote:
  - Who - Affiliation – Sector
    - Topic
- Lecture presenter 6:
  - Harold Eicher – Champs– Industry
    - Data silos – available design equation from old white papers
  - Alfonso Martinez – Wurth Elektronik
    - Open Magnetics -
- Lecture presenter 7:
  - TBD – SIMPLIS Technologies – Industry
    - Simulation models
- Lecture presenter 8:
  - TBD – Frenetic – Industry
    - Excel spreadsheets to AI

PSMA Magnetics Committee Meeting Agenda – Magnetics Workshop – Tech Demo Presenters
June 5, 2025

- ❑ Technology Demonstration Presenters
  - ➢ Presenter 1:
    - Who – Rohde & Schwarz – Industry
      - VNA – S-Parameters
  - ➢ Presenter 2:
    - Who - Hioki – Industry
      - Power analyzer, LCR meter, Impedance Analyzer
  - ➢ Presenter 3:
    - Who - Affiliation – Industry
      - Dielectric Withstanding Voltage/Insulation resistance
  - ➢ Presenter 4:
    - Who – PE Systems – Industry
      - Double Pulse Set
  - ➢ Presenter 4:
    - Who - Affiliation – Industry
      - Automated test Systems
  - ➢ Presenter 4:
    - Who - Affiliation – Industry
      - Partial Discharge
  - ➢ Presenter 7:
    - Marcin Kacki/Student - Hitachi Energy/University of Madrid – Industry/Academia collaboration
      - Impact of unequal flux distribution on power loss (potential poster)
  - ➢ Presenter 8:
    - Who - Affiliation – Sector
      - TBD
  - ➢ Presenter 9:
    - Who - Affiliation – Sector
      - TBD
  - ➢ Presenter 10:
    - Who - Affiliation – Sector
      - TBD
  - ➢ Presenter 11:
    - Who - Affiliation – Sector
      - TBD
  - ➢ Presenter 12:
    - Who - Affiliation – Sector
      - TBD

***Abstract*—Planar transformer technology provides a serious alternative to wound transformers for improving the efficiency and power density of isolated converters. The flat shape of its coil turns and the interleaving of its windings allow an excellent control of the skin and proximity effects. The major drawback of planar technology is the strong capacitive couplings between the windings. These couplings are detrimental to the increased switching frequency induced by the new wide-bandgap transistors, and to electromagnetic compatibility. Using fundamental equations, material properties, and geometric dimensions, the present work proposes a semianalytical electromagnetic model of planar transformers able to account for capacitive couplings. Compared with current models, it allows rapid estimation of all its sizing parameters: losses, leakage inductance, bandwidth, and interwinding impedance. This novel model was experimentally validated over a wide frequency range (1 kHz up to 100 MHz) using transformers with both series and parallel connected windings.**

Ref URL: https://ieeexplore.ieee.org/document/10436540

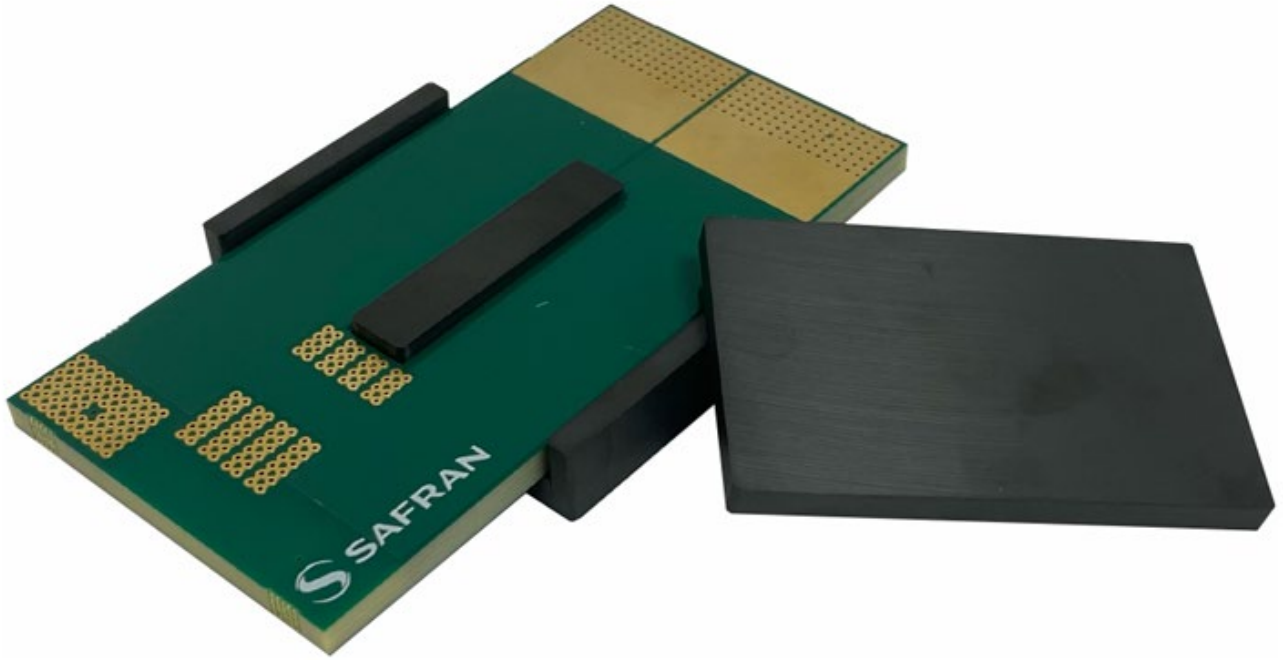


Fig. 1. Photograph of planar transformer with an EI core.

Ref URL: https://ieeexplore.ieee.org/document/10436540

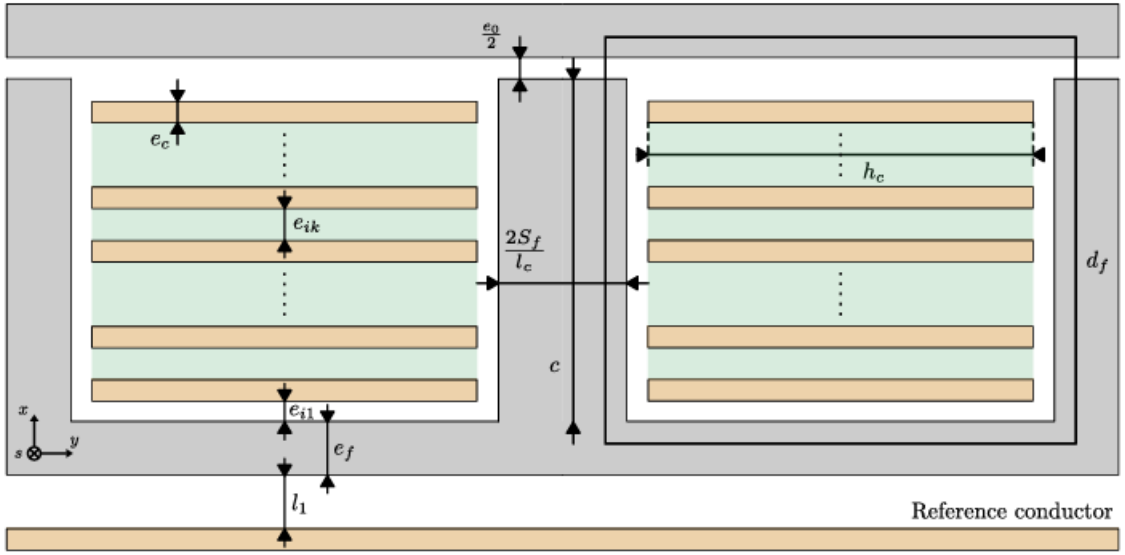


Fig. 3. Definition of the geometric parameters.

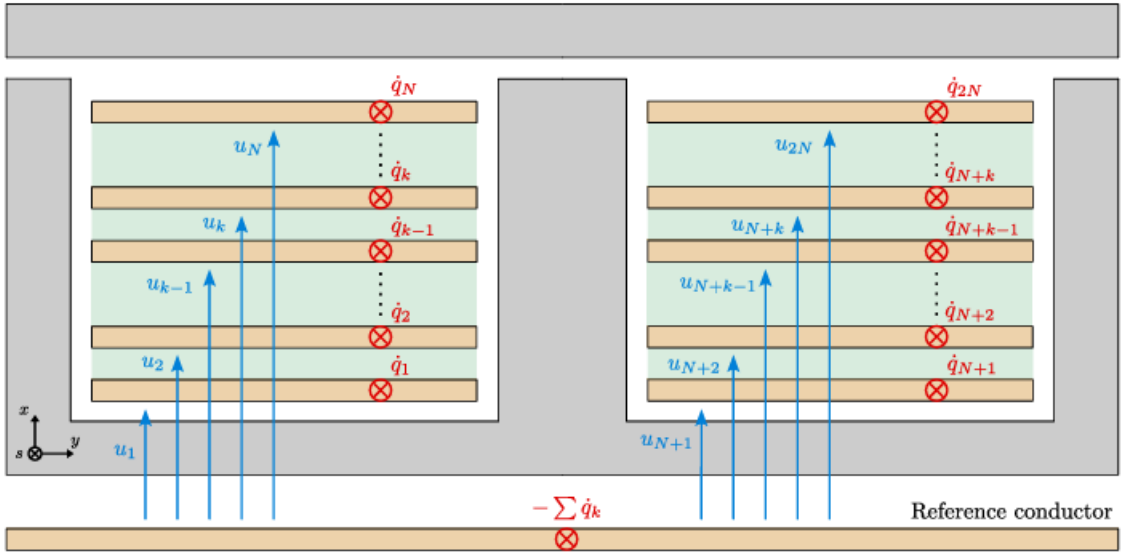


Fig. 4. Definition of the currents and voltages.

Ref URL: https://ieeexplore.ieee.org/document/10436540

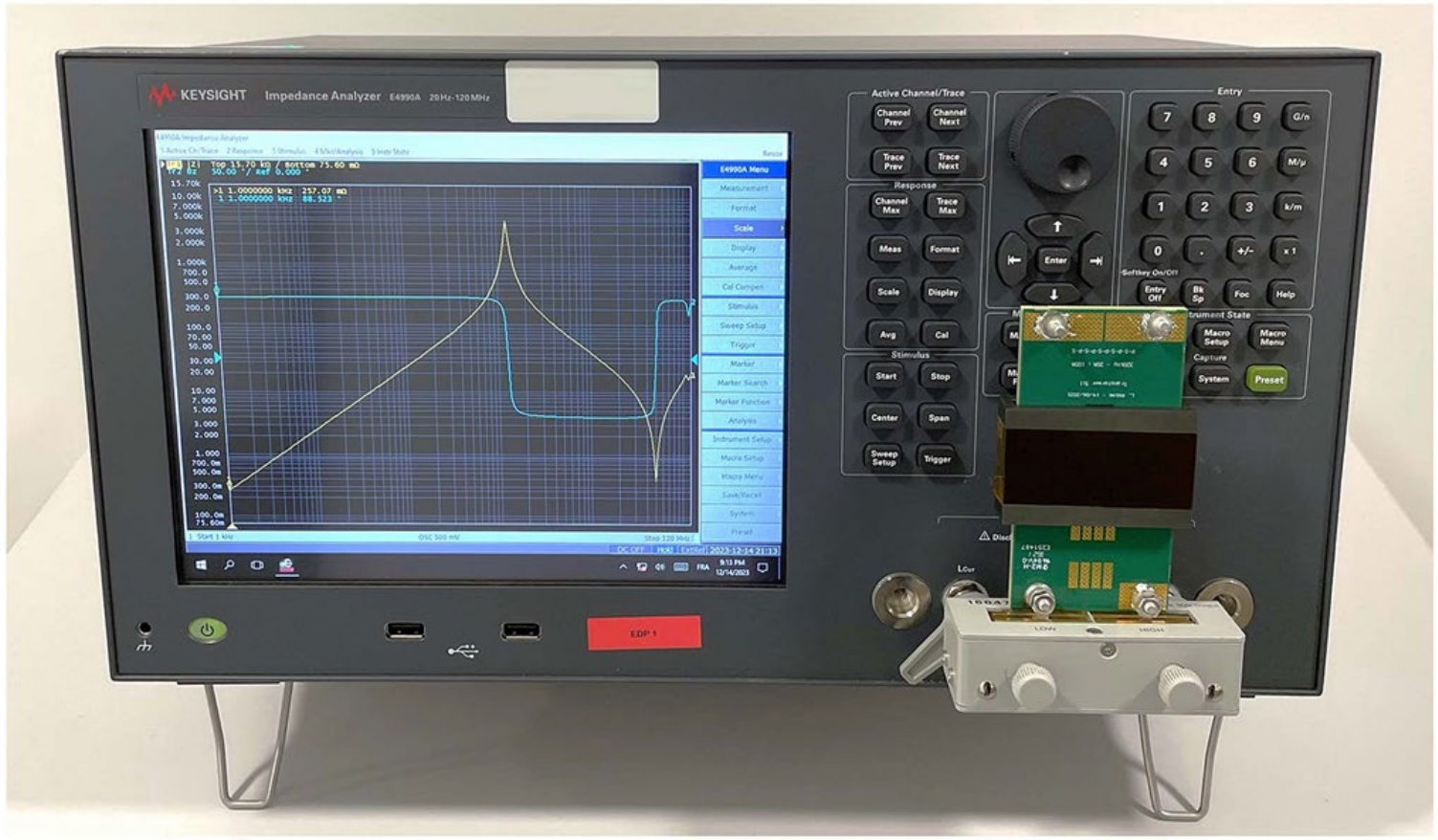
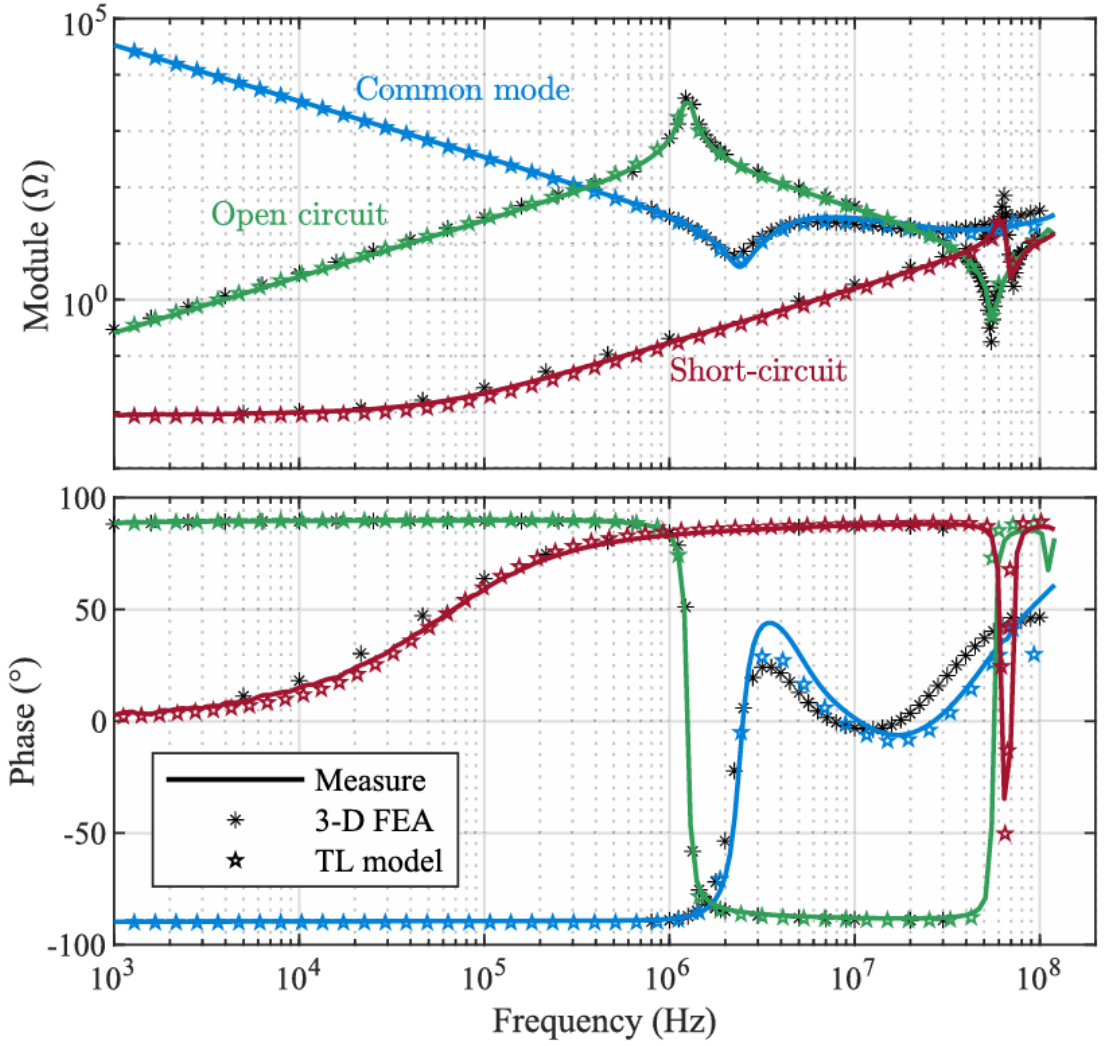


Fig. 6. Photograph of the experimental setup. This particular test is carried out on a fully interleaved transformer in open circuit.

Ref URL: https://ieeexplore.ieee.org/document/10436540



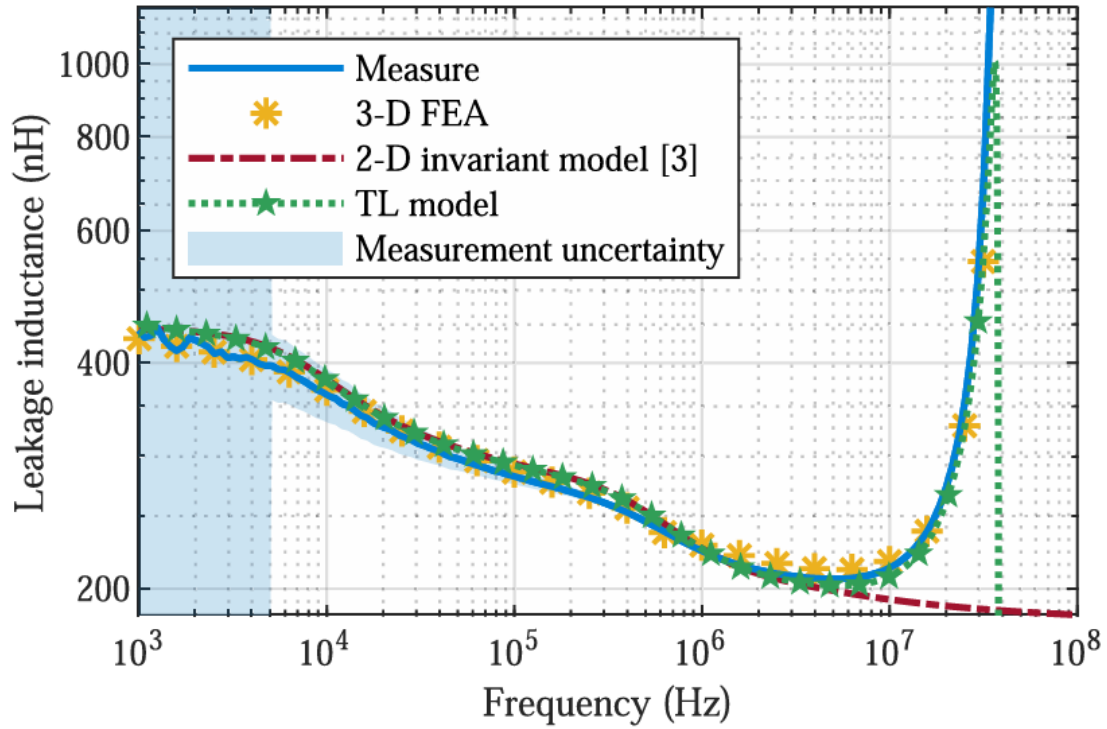


Fig. 10. Winding leakage inductance as a function of frequency, i.e., imaginary part of short-circuit impedance (noninterleaved case).

Ref URL: https://ieeexplore.ieee.org/document/10436540

PSMA Magnetics Committee Meeting Agenda
June 5, 2025

- Introductions
- 2026 Workshop Planning
- 2026 Industry Session Planning
- Special Projects
  - Core Loss Database
  - Current Driven Core Loss
  - Electrical Parameters of Magnetic Materials – phase 2
- Magnetics Forum on PSMA Website
- Open Magnetics
- Power Technology Roadmap
- Next Meeting

PSMA Magnetics Committee Meeting Agenda – 2026 Industry Session Planning
June 5, 2025

- ✓ Identify Themes
  - Manufacturing Challenges and Directions
  - Magnetic Materials for Existing and Emerging Applications
  - Pairing Capacitors with Inductors to Create Better Solutions

- ❑ Next Steps (June 2025 thru July 2025 for August Submission to APEC)
  - Identify – Invite – Confirm presenters
  - Strategy 50/50 mix of industry and research presenters
  - PSMA to identify ten (10) industry sessions to sponsors other will need to be submitted outside of PSMA umbrella
  - APEC 2026 Industry Session Proposal submission deadline is August 15, 2025

PSMA Magnetics Committee Meeting Agenda – Industry Session Planning
June 5, 2025

❑ Manufacturing Challenges and Directions

- Presenter 1:
  - Who - Affiliation – Industry
    - Automation
- Presenter 2:
  - Who - Affiliation – Industry
    - Low profile cores for high current applications
- Presenter 3:
  - Rudy Geisler – National Magnetics – Industry
    - TBD
- Presenter 4:
  - Who - Affiliation – Industry
    - Molded versus Pressed Cores
- Presenter 5:
  - Peter Weiner - Norwe – Industry
    - 3D Printing and or Laser Direct Structuring
- Presenter 6:
  - Who - Affiliation – Industry
    - Safety Issues
- Presenter 7:
  - Who – Affiliation – Industry
    - Transformers for 400V/48V scalable to 800V/48V power conversion for AI data centers
- Presenter Backup:
  - Marcin Kacki - Hitachi Energy/University of Madrid – Industry/Research collaboration
    - Experimental data confirming analytical calculations and simulations to address challenges of transformer design for DAB

PSMA Magnetics Committee Meeting Agenda – Industry Session Planning
June 5, 2025

❑ Magnetic Materials for Existing and Emerging Applications

- Presenter 1:
  - Alexander Stadler – Coburg University - Research
    - Overview of relevant magnetic material properties for existing and emerging applications
- Presenter 2:
  - Sai Pranesh Amirisetti – University of Florida (Gainesville) – Research
    - Electroplated Nanocomposite Magnetic Material
- Presenter 3:
  - Who - Sandia – Research
    - TBD
- Presenter 4:
  - Toshio Hiraoka - Taiyo Yuden – Industry
    - Magnetic material for IVR applications
- Presenter 5:
  - Bill Jahnke MK Magnetics – Industry
    - Tape Wound Amorphous Cores
- Presenter 6:
  - Hideki Oyama – Ajinomoto Fine-Techno – Industry
    - Magnetic powders and films
- Presenter 7:
  - Tobias Trupp - Magnetec – Industry
    - Nanocrystalline Cores
- Presenter Backup:
  - Dave Rollins - MHW – Industry
    - TBD

PSMA Magnetics Committee Meeting Agenda – Industry Session Planning
June 5, 2025

- ❑ Pairing Capacitors with Inductors to Create Better Solutions
- ❑ Capacitors teaming with Inductors to Create better Solutions
- ➢ Presenter 1:
  - Jared Quinzer – Wurth Elektronik – Industry
    - TBD
- ➢ Presenter 2:
  - Arturo Mediano – HF Labs - Research
    - Shielding, Filter Locations
- ➢ Presenter 3:
  - Who – Schnaffer – Industry
    - Emi filters
- ➢ Presenter 4:
  - Who – Affiliation – Sector
    - TBD

PSMA Magnetics Committee Meeting Agenda
June 5, 2025

- Introductions
- 2026 Workshop Planning
- 2026 Industry Session Planning
- Special Projects
  - Core Loss Database
  - Current Driven Core Loss
  - Electrical Parameters of Magnetic Materials – phase 2
- Magnetics Forum on PSMA Website
- Open Magnetics
- Power Technology Roadmap
- Next Meeting

- Special Projects
  - In Process
    - Core Loss Database - active
  - For discussion
    - Current driven core loss testing – proposal in process
    - Electrical parameters of magnetic materials – phase 2
  - Pending
    - Steinmetz like approximation
    - Spice model
    - Propagation in magnetic materials

- Core Loss Database
  - Database will be on its own website and linked directly through a page on PSMA website
    - First meeting with PSMA webmaster on April 25
    - Second Meeting with PSMA webmaster on Thursday May 8
      - Receive proposal from PSMA webmaster to cover his costs
    - Setting up account and servers

PSMA Magnetics Committee Meeting Agenda – Special Projects – Current Driven Core Loss
June 5, 2025

- Current Driven Core Loss
  - Draft proposal by Lukas Mueller

PSMA Magnetics Committee Meeting Agenda – Special Projects – Current Driven Core Loss
June 5, 2025

Introduction

The accurate characterization of magnetic materials is vital in the development of the next generation of inductive components for wireless chargers, electric vehicle electronics and VRMs for AI processors.

For over 100 years, magnetic materials have been characterized primarily using voltage driven signals on toroidal cores. Core loss and amplitude permeability are determined in respect to the calculate flux density in these toroidal sample core. However, the magnetization force and flux density are not constant throughout the core, varying as the magnetic path length increases from the inside to the outside diameter of the toroid. Due to the non-linear permeability behavior of most magnetic materials, the effective flux density in the core has to be calculated using magnetic dimensions. These magnetic dimensions are generally defined in IEC-60205. However, for different core materials, like powder magnetic cores, there is the competing IEC-63182 standard, which highlights the issue using equivalent magnetic dimensions when characterizing magnetic materials with different properties.

A theoretically more accurate way to measure and characterize magnetic materials on toroid cores is to apply a known magnetization force to the core. This eliminates any ambiguity about the applied measurement signal to the magnetic material. In order to apply a known magnetization force to the core, a current driven measurement setup has to be used. The goal of this project is to develop, test and compare such a setup.

Submitted by Lucas Mueller on May 19, 2025

PSMA Magnetics Committee Meeting Agenda – Special Projects – Current Driven Core Loss
June 5, 2025

Problem Statement

The flux density distribution in a toroid core is poorly defined as it depends on the non-linear permeability behavior of the material to be measured. The measured data therefore only represents an approximate average of the toroid core tested, not the actual material characteristics of the core material. This disconnect can lead to large errors when the data taken on toroid cores is applied to different core geometries, like planar cores, which are popular in the next generation of power converters.

In contrast, the magnetization force applied to a toroid core can be accurately determined using Ampere's law independent of the material characteristics to be evaluated. By applying a set and know magnetization force, the material data can be measured accurately. The measured data can also be more easily and accurately applied to different core shapes as no assumptions had to be made about the effective magnetic dimensions or flux density.

Applying a controlled magnetization force to a magnetic core required the core to be tested using a current source instead of a voltage source.

Submitted by Lucas Mueller on May 19, 2025

PSMA Magnetics Committee Meeting Agenda – Special Projects – Current Driven Core Loss
June 5, 2025

State of the Art

Commercial LCR meters support both voltage and current driven tests. However, in current driven mode, the LCR meter still applies a voltage driven signal and uses a feedback loop to set the voltage in order to achieve the desired current. However, the feedback circuit doesn't ensure a true sinusoidal current is applied to the core under test, it only ensures the peak current equals the desired value. The non-linear permeability of the core material can then result in undesirable harmonics in the actual applied current, impacting the accuracy of the measurement.

Most core loss measurement approaches rely on voltage drive signals as well. Sinusoidal or square wave voltages are applied to the core samples for measurements without regard for the waveshape of the current. A current driven measurement will potentially provide more accurate results, especially for non-linear core materials.

Submitted by Lucas Mueller on May 19, 2025

PSMA Magnetics Committee Meeting Agenda – Special Projects – Current Driven Core Loss June 5, 2025

Proposed approach and prior work

Existing LCR and core loss meters apply a sinusoidal voltage to the core sample during the measurement. In order to emulate a current driven signal, the voltage amplitude is adjusted until the peak measured current is equal to the desired value. Due to the non-linear amplitude permeability of the magnetic core, this can cause a non-sinusoidal current to be applied to the core. For a true current driven measurement, a sinusoidal current needs to be applied to the magnetic core.

For this project, a class AB amplifier will be used to generate the driving signal. The amplifier will power the inductor under test which is in series with a current sense resistor. The signal measured over the current sense resistor is applied to a feedback compensator to control the class AB amplifier. The setpoint of the compensator is the desired current signal to be applied to the inductor under test. The voltage across the inductor can be measured either using a two-winding measurement set-up or by measuring the voltage applied to the inductor in series to the current sense resistor and subtracting the current sense resistor voltage.

Based on the voltage and current measurements core loss and amplitude permeability can be determined.

Submitted by Lucas Mueller on May 19, 2025

PSMA Magnetics Committee Meeting Agenda – Special Projects – Current Driven Core Loss
June 5, 2025

PSMA Special Project Nomination Form

Date: May 19th 2025

Committee sponsoring the project: Magnetics Committee
Project Champion:
Individual sponsoring the project:
Team Members identified: Lukas Mueller, Jun Wang
Potential Team Members:

Propose to add
Matt Wilkowski Ed Herbert
as a potential team member

Project Description and Scope: The purpose of this project is to build a circuit to measure magnetic core loss under current excitation instead of voltage excitation. The circuit is then used to evaluate differences in core loss with a current driven circuit compared to a voltage driven circuit.

Submitted by Lucas Mueller on May 19, 2025

PSMA Magnetics Committee Meeting Agenda – Special Projects – Current Driven Core Loss
June 5, 2025

PSMA Mission

To enhance the stature of member companies and their products and to improve their knowledge of industry developments.

How will this Project support the mission of PSMA?

The core loss of magnetic materials is a crucial design parameters in modern magnetics. Core loss is generally available for voltage driven waveforms with no DC bias excitation. However, core loss data has not been measured under current driven conditions. Conducting a special project to build a device capable of measuring core loss under current driven conditions will allow the PSMA to record this data and evaluate if there is a difference in core loss with voltage or current driven signal.

In summary the project will further the overall understanding of core loss mechanisms in magnetic materials and determine if further measurements and research is needed from academia and industry.

Submitted by Lucas Mueller on May 19, 2025

PSMA Magnetics Committee Meeting Agenda – Special Projects – Current Driven Core Loss
June 5, 2025

Who will benefit from this project? What will be the benefits?

Both industry and academia will benefit from the project. The project provides core loss data that has not been previously measured. In addition, the project will determine if there is a difference between voltage and current driven core loss measurements. If there is a significant difference, the project will make PSMA members aware of these differences. Also the project will provide members with the schematic for a measurement circuit they can then use to perform their own measurements. Lastly, the data collected with this project can be supplied to PSMA's core data exchange special project to augment their work.

Submitted by Lucas Mueller on May 19, 2025

What will be the output of the project? (report, workshop, award, etc.)

Circuit Schematic

Test Results

Report to be available to PSMA members
via a password protected special projects tab
of the PSMA Magnetics Technical Forum
Public after 6 months

Presentation at future workshop, industry session

Submitted by Lucas Mueller on May 19, 2025

What is the budget for this project?

Not to exceed $8000 USD.
Please provide a breakdown for the expected expenses.

Description	Expected Cost
Cost to hire student/staff	$6000
Contingency*	$2000

*to be defined.

University of Nebraska-Lincoln will sponsor material cost and provide required measurement equipment.
Micrometals, Inc will provide magnetic core samples for testing purposes

Submitted by Lucas Mueller on May 19, 2025

PSMA Magnetics Committee Meeting Agenda – Special Projects – Current Driven Core Loss
June 5, 2025

Project Milestone Targets

Milestone	Target Date
Simulate proposed circuit	Month, Day, Year
Build proposed circuit	Month, Day, Year
Perform measurements on core samples	Month, Day Year
Validated Project Completion	Month, Day, Year

Either assume a start date in September 2025 and develop timelines for four milestones based on assumed start date

Or

Assign interval in moths or weeks for the interval of each milestone

Measure of success for this project:

- A fully functional voltage and current driven magnetic core measurement platform
- Operation over the frequency range of 10 Hz to 20 kHz.
- Peak current up to 5Arms
- Peak voltage up to 50Vrms
- Validation measurement on core samples provided by PSMA members

Propose to modify frequency range to
10 Hz < F 50 kHz
Limitation is frequency response of Class AB amplifier

Submitted by Lucas Mueller on May 19, 2025

Electrical Parameters of Magnetic Materials – phase 2

– Final report pending review
  - Original data limited to N87
  - Some additional data with N27 is available for the report
  - Reviewed report available to PSMA Magnetics committee by end of June
  - PSMA Magnetics committee can tentatively review report during its July meeting
  - No additional work is planned beyond report review.

PSMA Magnetics Committee Meeting Agenda
June 5, 2025

- Introductions
- 2026 Workshop Planning
- 2026 Industry Session Planning
- Special Projects
  - Core Loss Database
  - Curren Driven Core Loss
  - Electrical Parameters of Magnetic Materials – phase 2
- Magnetics Forum on PSMA Website
- Open Magnetics
- Power Technology Roadmap
- Next Meeting

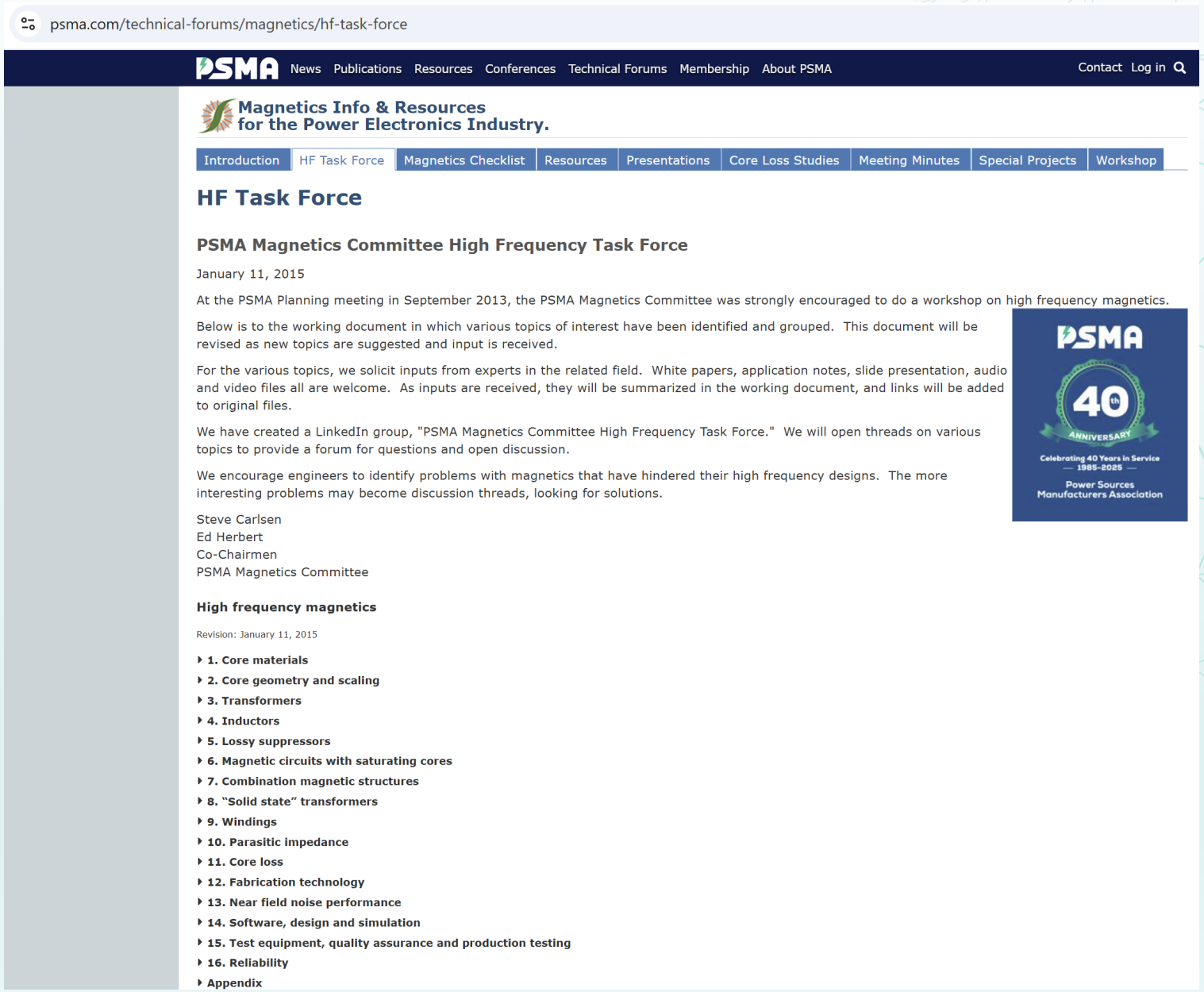
PSMA Magnetics Committee –Magnetics Committee Forum on PSMA Website
June 5, 2025

- Completed in 2024
  - Section 1.3 Powdered metal
    - Proposal by Lukas Mueller has been accepted
    - Need to add to HF task force tab under magnetics Technical Forum on PSMA website
- Proposed additions/updates
  - Section 1 Core Materials
    - Sputtered (addition)
    - Electroplated (addition)
    - Section 1.4 Nanocrystalline and amorphous metals (populate)
  - Section 4 Inductors
    - TLVR inductors (addition)
  - Section 8 “Solid state” transformers (populate)
  - Section 12 Fabrication Technology
    - Section 12.3.2 Substrate embedded (populate)
    - Section 12.6 PSiP (populate)
    - Section 12.7 PwrSoc (populate)

Address
sections 1, 4, 8 and 12
after APEC 2025

PSMA Magnetics Committee –Magnetics Committee Forum on PSMA Website
June 5, 2025

https://psma.com/technical-forums/magnetics/hf-task-force



PSMA Magnetics Committee Meeting Agenda
June 5, 2025

- Introductions
- 2026 Workshop Planning
- 2026 Industry Session Planning
- Special Projects
  - Electrical parameters of magnetic materials
  - Core Loss Database
- Magnetics Forum on PSMA Website
- Open Magnetics
- Power Technology Roadmap
- Next Meeting

PSMA Magnetics Committee Meeting Agenda – Open Magnetics
June 5, 2025

- What's next?
  - Proceed to integrate into PSMA webpage
    - April 25 – initial discussions with PSMA webmaster
    - May 8 – feedback from PSMA webmaster

PSMA Magnetics Committee Meeting Agenda
June 5, 2025

- Introductions
- 2026 Workshop Planning
- 2026 Industry Session Planning
- Special Projects
  - Core Loss Database
  - Current Driven Core Loss
  - Electrical Parameters of Magnetic Materials – phase 2
- Magnetics Forum on PSMA Website
- Open Magnetics
- Power Technology Roadmap
- Next Meeting

2025 Edition PSMA Power Technology Roadmap
Magnetics Section

- 2025 Topics (Submitted)
  - Embedded Magnetics
    - Integrated Voltage Regulators (IVR)
    - Fully Integrated Voltage Regulators (FIVR)
    - Hybrid Integrated Voltage Regulators (HIVR)
    - Isolated Signal and Low Power Transformers
    - PwrSoC (Power Supply on Chip)
    - Power Systems in Package (PSiP)
  - Solid State Transformers (SST)
  - Trans-Inductor Voltage Regulators (TLVR)
  - Mother Board Voltage Regulators (MBVR)
    - Lateral Power Delivery (LPD)
    - Vertical Power Delivery (VPD)
    - Dual Phase Power Block (DPPB)
  - ~~Wireless Power Transfer (WPT)~~
    - ~~EV Charging~~
  - Core Loss Measurement Methods & Databases
  - Magnetic Material Alternatives Opportunities and Limitations

- 2026/2027 Cycle Topics (Need to identify)
  - Net Zero Bias TLVR
  - Solid State Transformers (SST)
  - Magnetic Materials
  - EV Charging
  - TBD
  - TBD

Ongoing questions

What is publication status of 2025 PSMA PTR

Has a champion been identified for the next cycle of the PSMA PTR?

PSMA Magnetics Committee Meeting Agenda
June 5, 2025

- Introductions
- 2026 Workshop Planning
- 2026 Industry Session Planning
- Special Projects
  - Core Loss Database
  - Current Driven Core Loss
  - Electrical Parameters of Magnetic Materials – phase 2
- Magnetics Forum on PSMA Website
- Open Magnetics
- Power Technology Roadmap
- Next Meeting

PSMA Magnetics Committee Meeting Agenda
June 5, 2025 – Next Meeting

- Thursday July 17 10:00 AM CDT – 11:00 AM CDT Virtual

PSMA Magnetics Committee Meeting
June 5, 2025

Attendance (16)

John Horzepa
Kamyar Ahmadi
Mike Arasim
Andres Arias
Hasan Ahmadian Baghbaderani
Alan Cooper
Jim Cox
Doug Eaton
Frank Feng
Michael Freitag
Ed Herbert
Bryce Hesterman
Marcin Kacki
Mohammed Khodadadi
Alfonso Martinez
Jonas Multhahaler
Frank Oberlitner
Paul Ohodnicki
Lukas Mueller
Mike Ranjram
Rodney Rogers
Ranajit Sai
George Slama
JC Sun
Tobias Trupp
Jun Wang
Ningning Wang
Matt Wilkowski

Thank You