



The Multinational Power Electronics Association

PSMA Magnetics Committee Meeting

October 9TH 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

- Introductions
- 2025 Oct 5 Planning Meeting Report to BOD
- 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



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Magnetics Committee

October 5, 2025

**Edward Herbert, George Slama, Matt Wilkowski
Committee Co-Chair(s)**

2026 Planned Activities



- **Workshop(s)**
 - **Pre APEC Power Magnetics at High Frequency Workshop**
 - **Saturday March 21 2026 San Antonio**
 - **Coordinating with Capacitors workshop**
 - **Satellite Workshops**
 - **Summer/Fall workshops coordinated with University/Industry Consortium**
 - **Discussion with AMPED (UPITT/NCSU) for potential summer 2026 PSMA related workshop**
 - **Scientific Network (ScN) – Magnetics - interest in PSMA workshop activity**

2026 Planned Activities



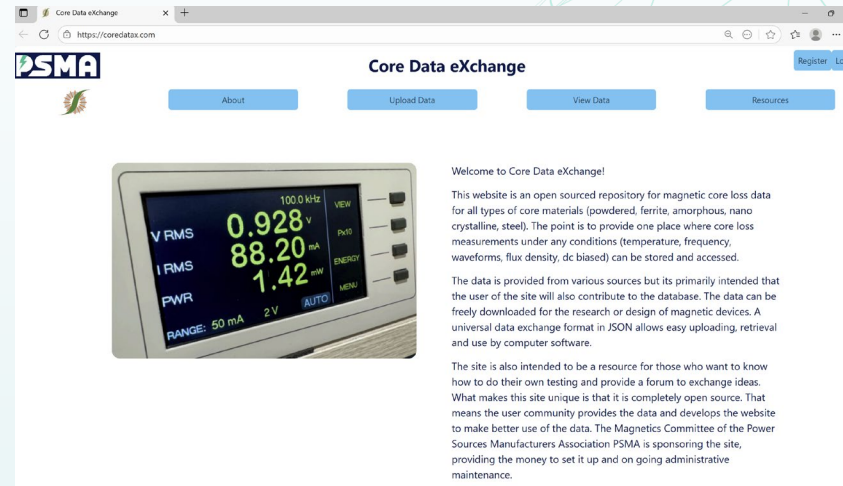
- **Industry Sessions**
 - **Magnetics committee sponsored**
 - **Overcoming Technical and Marketing Challenges to Meet Market Demands**
 - seven presentation session
 - **Magnetic Materials for Existing and Emerging Applications Part 1 and Part 2**
 - Two back-to-back four presentation sessions
 - **Co-sponsor with Capacitors Committee**
 - **Pairing capacitors with Inductors to Create Better Solutions**
 - four presentation session

2026 Planned Activities

- **Special Projects In Process**

- **Core Loss Data Base**

- URL: coredataX.com



- **Current Driven Core Loss**

- **Potential update as a technology demonstration during 2026 magnetics workshop**
- **Technology demonstration for 2027 magnetics workshop**
- **Technology report in Special Projects tab of Magnetics Forum on PSMA website**
- **Data for Core Loss Data base**
- **IEEE Power Electronics Article**

2026 Planned Activities

- **Special Projects – Potential New Project(s) Starting in 2026**
 - **Core Loss for frequency range $1 \text{ MHz} < F < 100 \text{ MHz}$**
 - **Three phases**
 - **Phase 1: Develop reproducible and qualifiable test method**
 - **Phase 2: Populate core loss data base with magnetic materials for IVR application**
 - **Phase 3: Recommended Practice for Magnetics for FIVR applications**
 - » **Terminology**
 - » **Identify matrix of structures and materials**
 - » **Figure of Merit (FOM)**
 - **Other**

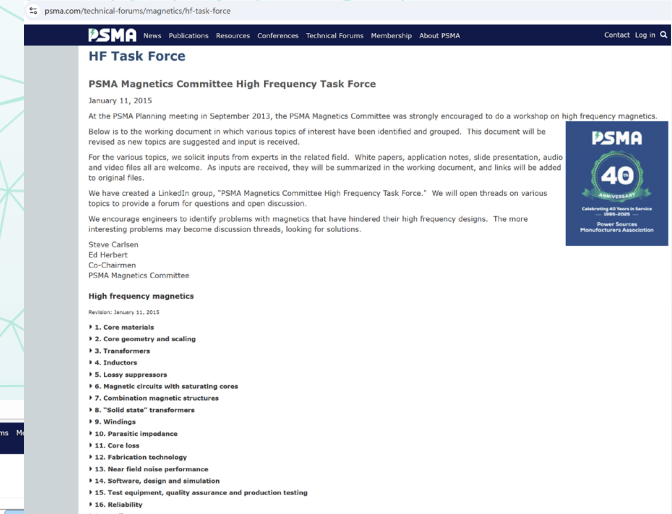


2026 Planned Activities



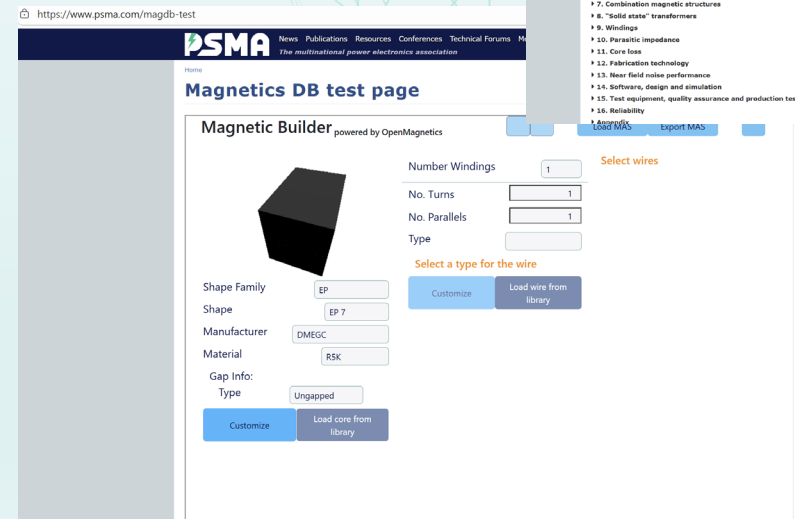
- **Magnetics Technical Forum**
 - **Update HF Task Force Tab**

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



- **Introduce Magnetics Builder Tab**

- URL: <https://www.psma.com/magdb-test>



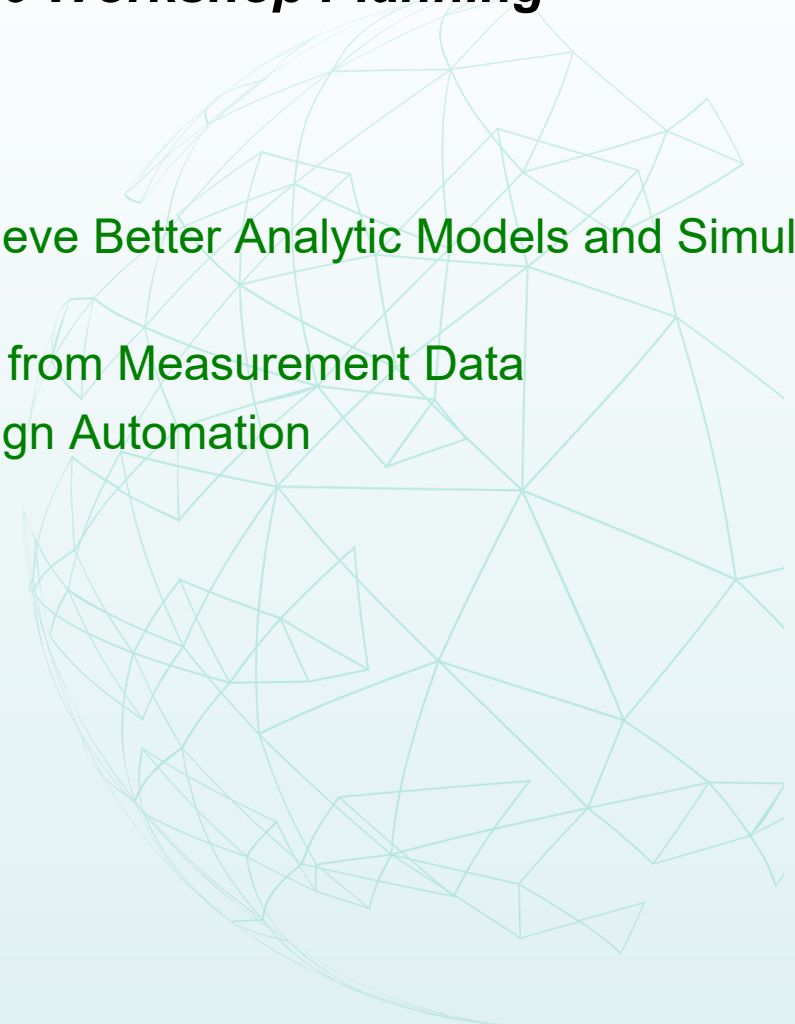
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PSMA Magnetics Committee Meeting Agenda – 2026 Workshop Planning

- ✓ 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 3 Quarter Newsletter
 - Article published – September 9, 2025
- ☐ Next Steps (June 2025 thru August 2025)
 - ✓ Identify – Invite – Confirm Keynote presenters
 - Identify – Invite – Confirm Lecture presenters - 78% complete
 - Identify – Invite – Confirm Technology Demonstrations – 75% complete



PSMA Magnetics Committee Meeting Agenda – 2026 Workshop Banner



Power Magnetics @ High Frequency Workshop

PSMA Magnetics Committee - 21 March 2026, San Antonio, TX USA

PSMA



PSMA Magnetics Committee Meeting Agenda – Milestone Schedule



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 newsletter 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	Identify 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

❑ AM Theme: Developing Analytic and Simulation Models from Measurement Data

➤ Keynote:

- Peter Zacharius (University of Kassel)
 - Analytic Models

➤ Lecture presenter 2:

- Lucas Pniak – SAFRAN Research and Technology Center – Industry – verbal confirmation
 - Planar Transformers Electromagnetic Modelling Considering Capacitive Couplings Up to 100 MHz

➤ Lecture presenter 3:

- Miroslav Vasic/Danile Rios Linares – University of Madrid – Academia
 - Artificial Neural networks (ANN) and Digital Twin to optimize DAB transformer design

➤ Lecture presenter 4:

- Reddy Andapally Bharadwaj – CBMM – Industry
 - Data collection and analysis to Create accurate Material Models for FEA Simulation

➤ Lecture presenter 5:

- Thomas Guillod – Dartmouth – Research – Invited awaiting response
 - Qualifying measurement data, eliminating bias

PSMA Magnetics Committee Meeting Agenda – Magnetics Workshop PM Session Presenters

□ PM Theme: Applying Design Basics to Achieve Design Automation

➤ Keynote:

- **Asier Arruti Romero – University of Mondragon – Academia**
 - **Core loss from the aspect of physics-based modelling**

✓ Lecture presenter 7:

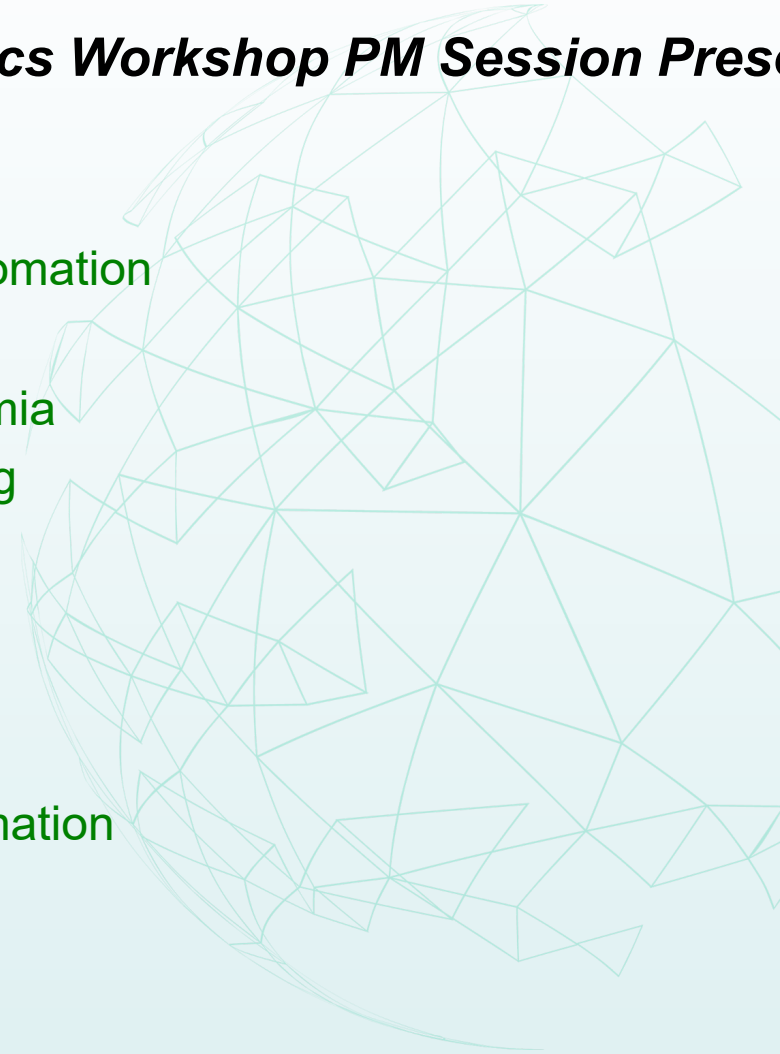
- **Alfonso Martinez – Würth Elektronik**
 - **Analytical models for leakage and stray inductance**

✓ Lecture presenter 8:

- **TBD – SIMPLIS Technologies – Industry – verbal confirmation**
 - **Simulation models**

➤ Lecture presenter 9:

- **TBD – Frenetic – Industry**
 - **Excel spreadsheets to AI**



PSMA Magnetics Committee Meeting Agenda – Magnetics Workshop – Tech Demo Presenters

❑ 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 5:

- Joaquim Tristan - UPITT – Academic
 - Automated Test Systems

➤ Presenter 6:

- Bachman/Wohlrath/Reibenweber - Tridelta/STS/Colburg Industry/Academic Collaboration
 - Next generation of ferrite cores

➤ 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:

- Jun Wang - Bristol – Academic
 - TPT

➤ Presenter 9:

- Alfonso Martinez – Würth – Industry
 - Core Loss Data Base

➤ Presenter 10:

- Lukas Mueller - Micrometals – Industry/Academic
 - Current Driven Core Loss

➤ Presenter 11:

- Michael Freitag - Yageo – Industry
 - TBD

➤ Presenter 12:

- JC Sun/Tobias Trupp – BsT/Magnetec – Industry
 - TBD

PSMA Magnetism Committee Meeting Agenda – Magnetism Workshop – Student Posters

- **Presenter 1:**
 - Nick Kirkby – ASU
 - NIST Standards – Error Analysis
- **Presenter 2:**
 - Who - Affiliation
 - TBD
- **Presenter 3:**
 - Who - Affiliation
 - TBD
- **Presenter 4:**
 - Who – Affiliation
 - TBD



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PSMA Magnetics Committee Meeting Agenda – 2026 Industry Session Planning

❑ Previous Industry Sessions

- Presentations from industry sessions of 2023, 2024 and 2025 are not indicated on “Presentations” tab of the Magnetics Technical Forum
- Action Item: John Horzepa to check with APEC Industry Session chairs if we can restart the practice of making the APEC industry session presentations available on the “Presentation” tab of the Magnetics Technical Forum of the PSMA website if we wait one year after each APEC to place the presentations of the technical forum.
 - This proposal has been accepted
 - Ed (APEC 2023 and 2024) and Matt (2025) to provide John with IS session presentations from indicated years

PSMA Magnetics Committee Meeting Agenda – 2026 Industry Session Planning

✓ Identify Themes

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

☐ Next Steps (prior to Opening of APEC 2026 Registration on October 21)

- Confirm presenters
- Submission of industry session details – October 21, 2025



PSMA Magnetics Committee Meeting Agenda – 2026 Industry Session Planning (Unofficial Approved Industry Sessions)



APEC 2026 Industry Session Schedule							
Day	Session 1	Session 2	Session 3	Session 4	Session 5	Session 6	Size
Tues AM	What is the next killer application for wide bandgap semiconductors?	AI and Digital Twins Transforming Power Device Innovation	Capacitor circuit design essentials for modern challenges	3D-Power Packaging for AI and its Application in Power Systems Optimization			7
Wed AM	Beyond Silicon: Integrated Wide Bandgap Power Solutions for Next-Generation Systems	AI Tools for More Efficient Power Electronics Design			Overcoming Technical and Manufacturing Challenges to Meet Market Demands		7
Wed PM	New era of Power technologies, Devices, Topologies and applications						7
Thu AM1	Improving Energy Efficiency and Availability Part 1	Magnetic Materials for Existing and Emerging Applications Part 1			Reliability: From Stress to Strength: Physics-Based Reliability for Next-Generation GaN Power Systems	Pairing Capacitors with Inductors to Create Better Solutions	4
Thu AM2	Improving Energy Efficiency and Availability Part 2	Magnetic Materials for Existing and Emerging Applications Part 2					4
Legend	PSMA	Curated	Organic				

PSMA Magnetics Committee Meeting Agenda – Industry Session Planning

Addressing Technical Manufacturing Challenges and Directions to Meet Emerging Market Demands

- Presenter 1:
 - 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
- ✓ Presenter 2:
 - Claudio Canete-Cabeza – Würth – Industry
 - Transformers for 400V/48V scalable to 800V/48V power conversion for AI data centers
- Presenter 3:
 - Peter Weiner - Norwe – Industry
 - 3D Printing and or Laser Direct Structuring
- Presenter 4:
 - Dr. Xinru Li - CBMM – Industry
 - Customizable Magnetic components for Next-Generation Power Electronics Using Nanocrystalline Flake Ribbon
- Presenter 5:
 - Martin Kuo – ITG Electronics – Industry
 - Robotics factory to Improve Efficiency of Magnetics
- Presenter 6:
 - Chris Riccardella – Standex – Industry
 - Automation Planar Magnetics
- Presenter 7:
 - Peter Guo – DMEG – Industry
 - New magnetic materials and production automation
- Presenter 8:
 - Alex Lang – Würth – Industry
 - Voltage Ratings for Transformers and Inductors
- Backup Presenter
 - Rudy Geisler – National Magnetics – Industry
 - Custom magnetic cores to meet Advanced technical requirements
- Backup Presenter:
 - Who - Affiliation – Industry
 - Molded versus Pressed versus Sintered cores
- Backup presenter:
 - Martin Kuo – ITG – Industry
 - Solutions for High Power Motor Drives

PSMA Magnetics Committee Meeting Agenda – Industry Session Planning

Magnetic Materials for Existing and Emerging Applications

☐ Part 1

➤ Presenter 1:

- Lukas Reibenweber – Coburg University – Research

✓ Presenter 2:

- Sai Pranesh Amiriseti – University of Florida (Gainesville) – Research – verbal confirmation
 - Electroplated Nanocomposite Magnetic Material

✓ Presenter 3:

- Toshio Hiraoka - Taiyo Yuden – Industry
 - Metal Chip Power Inductor for IVR Applications: High Performance with Customizable Flexibility

✓ Presenter 4:

- Dale Huber/Jason Neely - Sandia – Research
 - Super Magnetism Nano Particles for Power Applications

☐ Part 2

✓ Presenter 5:

- Abraham Solis MK Magnetics – Industry
 - Tape Wound Amorphous Cores

✓ Presenter 6:

- Tobias Trupp - Magnetec – Industry
 - Nanocrystalline Cores for EMI applications

✓ Presenter 7:

- Michael Freitag – Yageo – Industry
 - Nanocrystalline Cores for Power Choke Applications

✓ Presenter 8:

- Dr. Naoki – CBMM– Industry
 - The Role of Nb in Nanocrystalline Ribbon and core manufacturing

✓ Presenter 9:

- Hideki Oyama – Ajinomoto Fine-Techno – Industry
 - Magnetic powders and films

PSMA Magnetics Committee Meeting Agenda – Industry Session Planning

□ Pairing Capacitors with Inductors to Create Better Solutions

➤ Presenter 1:

- ✓ Simon Reuing – Yageo – Industry
 - A Practical Guide for Power Conversion

➤ Presenter 2:

- ✓ Symon Pasko – Schaffner – Industry
 - The importance of magnetic and capacitive components in emc filters

➤ Presenter 3:

- ✓ Jared Quinzer – Würth Elektronik – Industry
 - Best practices for defining inductors for emi filters

➤ Presenter 4:

- ✓ Bryce Hestermann – Utah State University – Academia
 - ✓ Performance of Common-Mode Chokes with Enhanced Differential-Mode Inductance in EMI Filters including Capacitive Interactions

➤ Presenter 5 (alternative):

- Arturo Mediano – HF Labs - Research
 - Shielding, Filter Locations



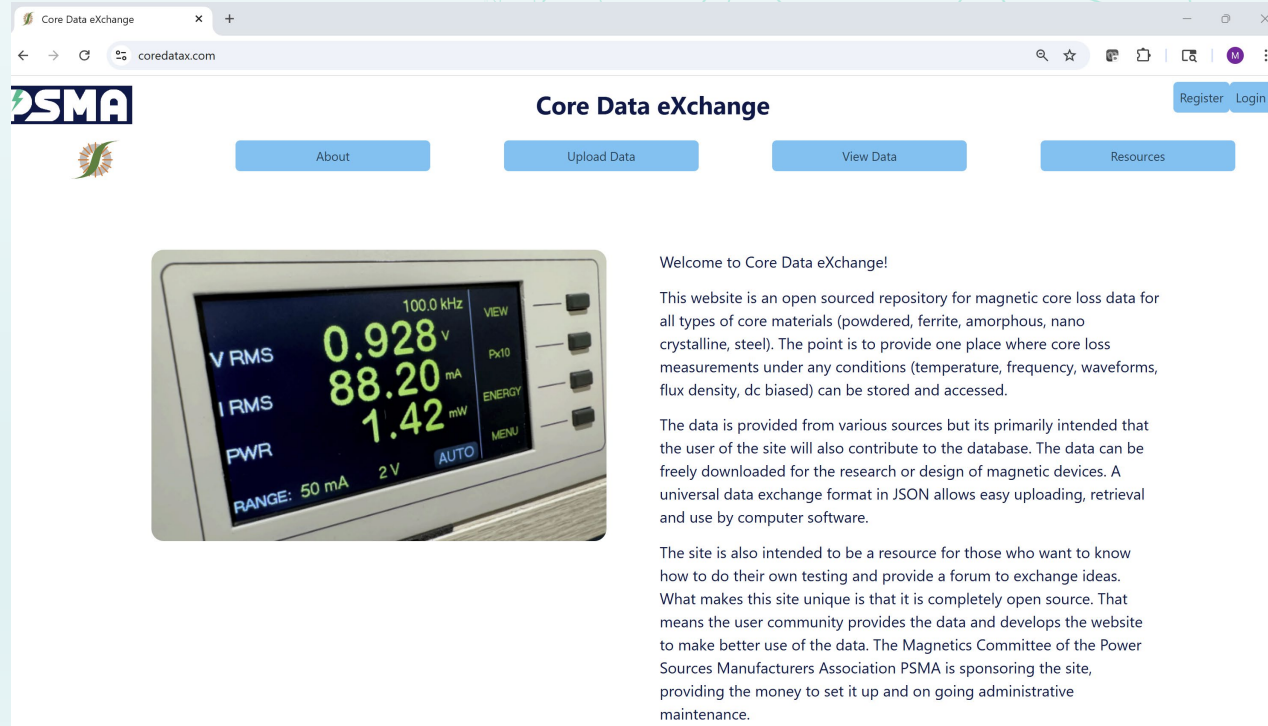
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PSMA Magnetics Committee Meeting Agenda – Special Projects – In Process

- Core Loss Database
 - on-line needs formatting/styling
 - URL: coredataX.com
 - URL: <https://www.pσμα.com/magddb-test>



Welcome to Core Data eXchange!

This website is an open sourced repository for magnetic core loss data for all types of core materials (powdered, ferrite, amorphous, nano crystalline, steel). The point is to provide one place where core loss measurements under any conditions (temperature, frequency, waveforms, flux density, dc biased) can be stored and accessed.

The data is provided from various sources but its primarily intended that the user of the site will also contribute to the database. The data can be freely downloaded for the research or design of magnetic devices. A universal data exchange format in JSON allows easy uploading, retrieval and use by computer software.

The site is also intended to be a resource for those who want to know how to do their own testing and provide a forum to exchange ideas. What makes this site unique is that it is completely open source. That means the user community provides the data and develops the website to make better use of the data. The Magnetics Committee of the Power Sources Manufacturers Association PSMA is sponsoring the site, providing the money to set it up and on going administrative maintenance.

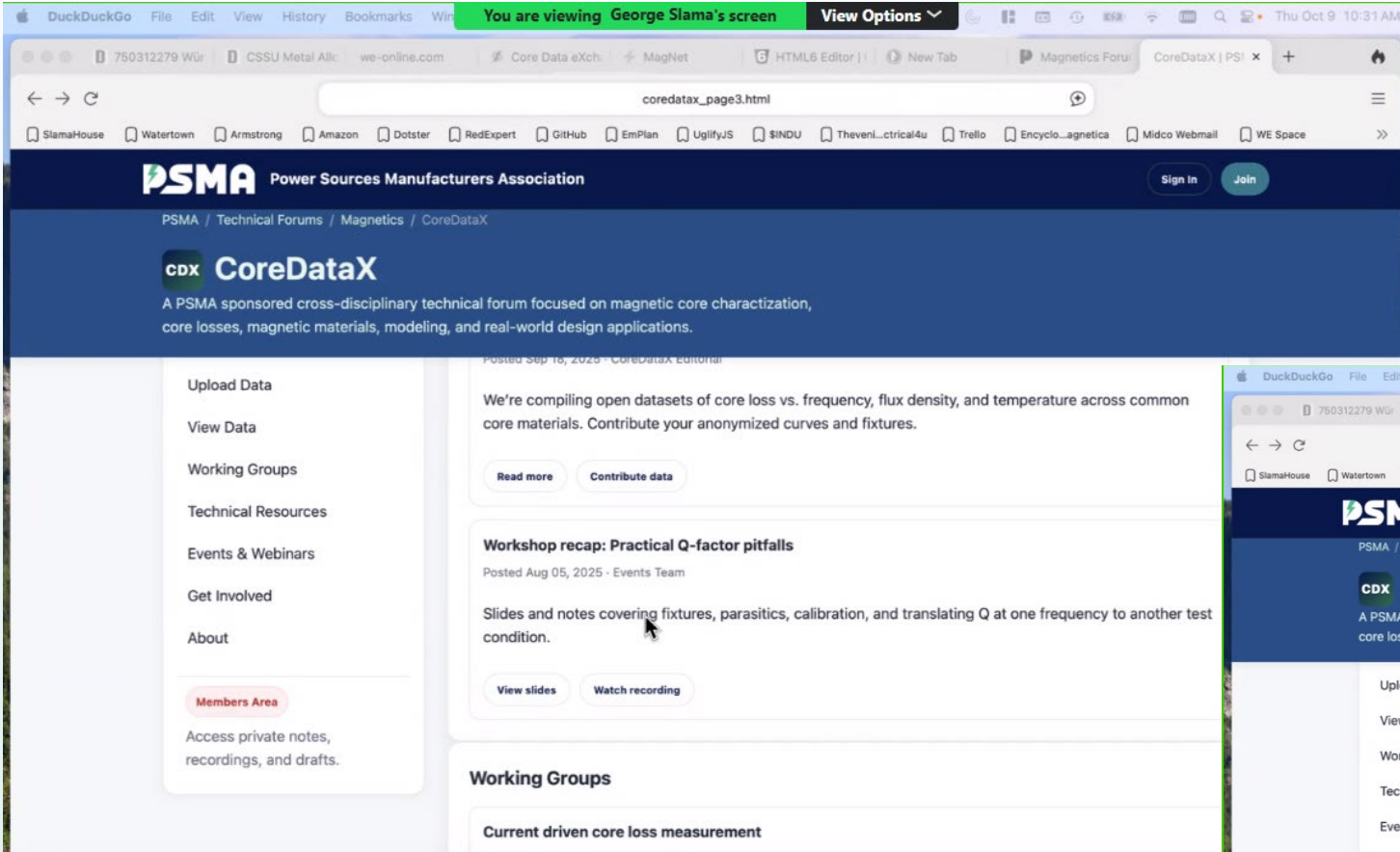
PSMA Magnetics Committee Meeting Agenda – Special Projects – In Process

The image displays four overlapping browser screenshots of the PSMA CoreDataX website. Each screenshot shows a different section of the site:

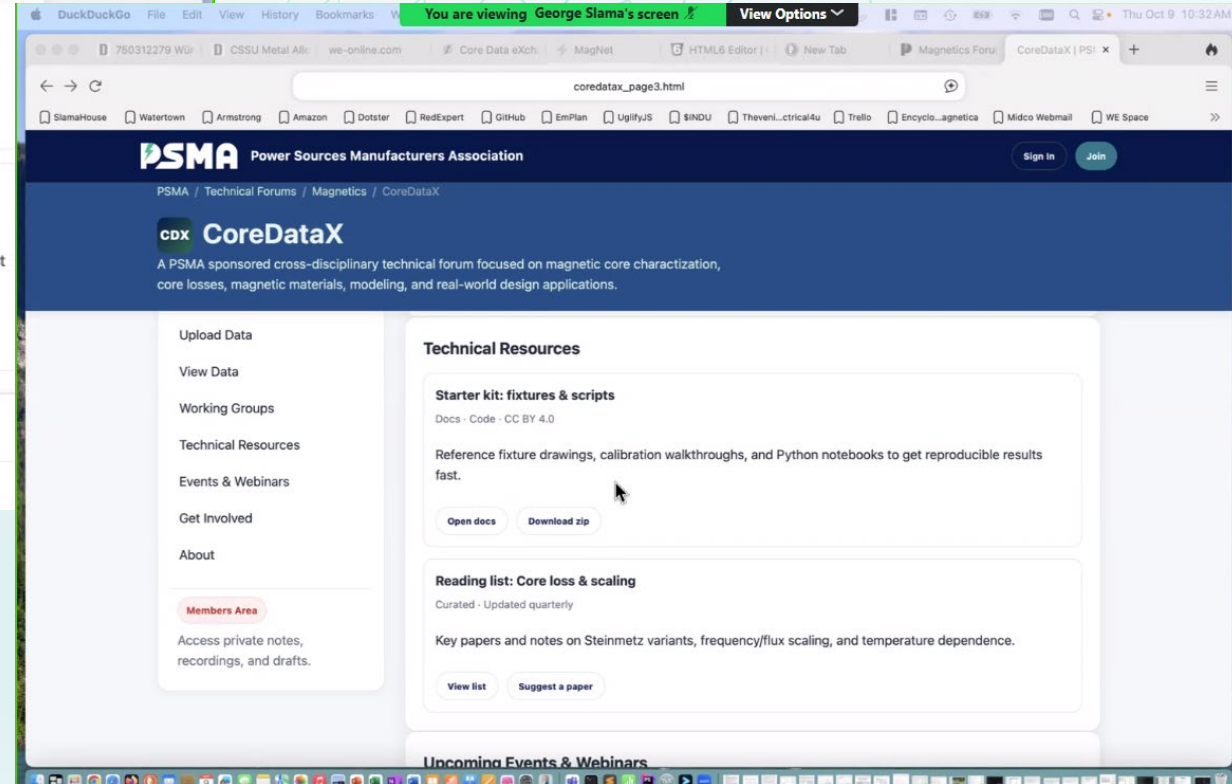
- Top-left screenshot:** Shows the 'About CoreDataX' section. The text reads: "CoreDataX brings together engineers, researchers, and practitioners interested in magnetic core components — covering core loss measurement, core loss modeling, AC permeability, temperature factor measurements, and application-driven design."
- Top-right screenshot:** Shows the 'About CoreDataX' section, similar to the top-left, but with a different layout of the navigation menu.
- Bottom-left screenshot:** Shows the 'Technical Resources' section. It includes a 'Starter kit: fixtures & scripts' with a 'Download zip' button, and a 'Reading list: Core loss & scaling' with a 'View list' button.
- Bottom-right screenshot:** Shows the 'Working Groups' section. It lists three groups: 'Current driven core loss measurement' (meets monthly), 'Core loss 1 MHz to 100 MHz' (meets monthly), and 'Triple Pulse Testing method' (meets weekly). Each group has 'Join' and 'Notes' buttons.

The PSMA logo is visible in the top left of each screenshot. The browser address bar in all screenshots shows 'coredatax_page3.html'. The browser tabs and address bar are also visible, showing the user is viewing 'George Slama's screen'.

PSMA Magnetics Committee Meeting Agenda – Special Projects – In Process



This screenshot shows the PSMA CoreDataX website. The header includes the PSMA logo and navigation links. The main content area features a post titled "We're compiling open datasets of core loss vs. frequency, flux density, and temperature across common core materials. Contribute your anonymized curves and fixtures." with buttons for "Read more" and "Contribute data". Below this is a "Workshop recap: Practical Q-factor pitfalls" post with "View slides" and "Watch recording" buttons. A sidebar on the left contains navigation options like "Upload Data", "View Data", "Working Groups", "Technical Resources", "Events & Webinars", "Get Involved", and "About". A "Members Area" button is also present.



This screenshot shows the PSMA CoreDataX website with a focus on technical resources. The main content area features a "Starter kit: fixtures & scripts" section with "Open docs" and "Download zip" buttons. Below it is a "Reading list: Core loss & scaling" section with a "View list" button. A sidebar on the left is identical to the first screenshot. The "Members Area" button is also visible.

PSMA Magnetics Committee Meeting Agenda – Special Projects – In Process

- Current driven core loss testing –
 - Approved by PSMA BOD June 20, 2025
 - Project can start upon receipt of 50% upfront gift payment
 - PSMA to submit gift form
 - Payment to University of Nebraska care of Jun Wang
 - 50% final payment after approval of final report

Payment from PSMA has been approved but not received by University of Nebraska
Student has been hired and project to start next week
Payment has been made

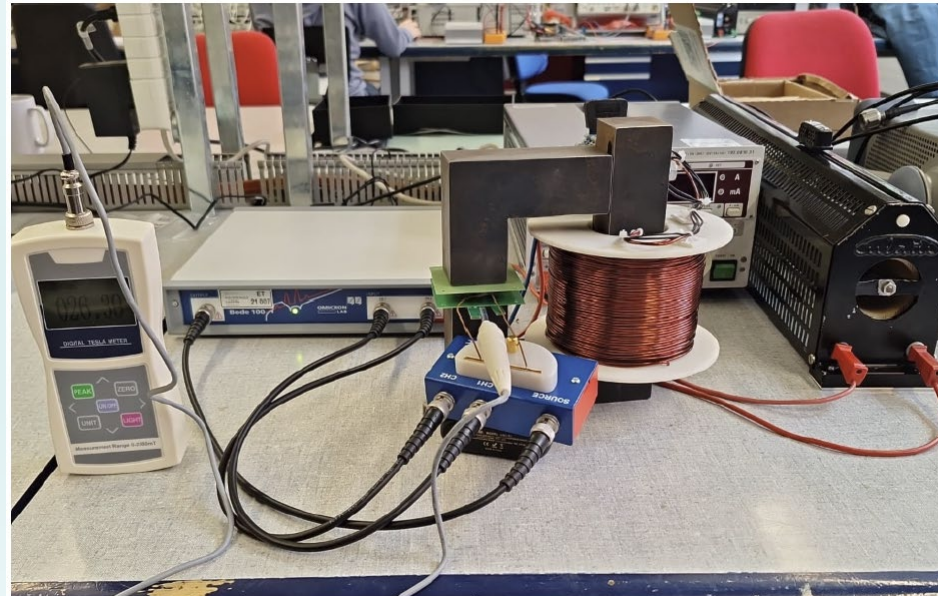
PSMA Magnetics Committee Meeting Agenda – Special Projects – In Process

- Electrical parameters of magnetic materials – phase 2
 - Final report available
 - Approved payment with additional contingency expenses
 - Need invoice from HSLU
 - Place accepted report on special projects tab of Magnetics technical forum
 - Add link to IEEE Xplore for associated APEC 2025 paper
 - KPIs
 - Data
 - Methodology

Action items

Invoice – Approved need to verify payment

Final report on website



PSMA Magnetics Committee Meeting Agenda – Special Projects Pending

– Pending

- Steinmetz like approximation
- Spice model
- Propagation in magnetic materials

Address after APEC 2026 planning meeting in October

Potential special project

European - Scholarship grant to 15 PhD connected with electronic components

- Magnetic materials
- Modelling
- Holistic design

More info may be available after October 22

Students ready to start in January 2026

PSMA should make proposals by December 1

For consideration during PSMA BOD December meeting

Hitachi 3 students

Identify some preliminary ideas

Link students with specific magnetic committee members

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PSMA Magnetics Committee –Magnetics Committee Forum on PSMA Website

- 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)

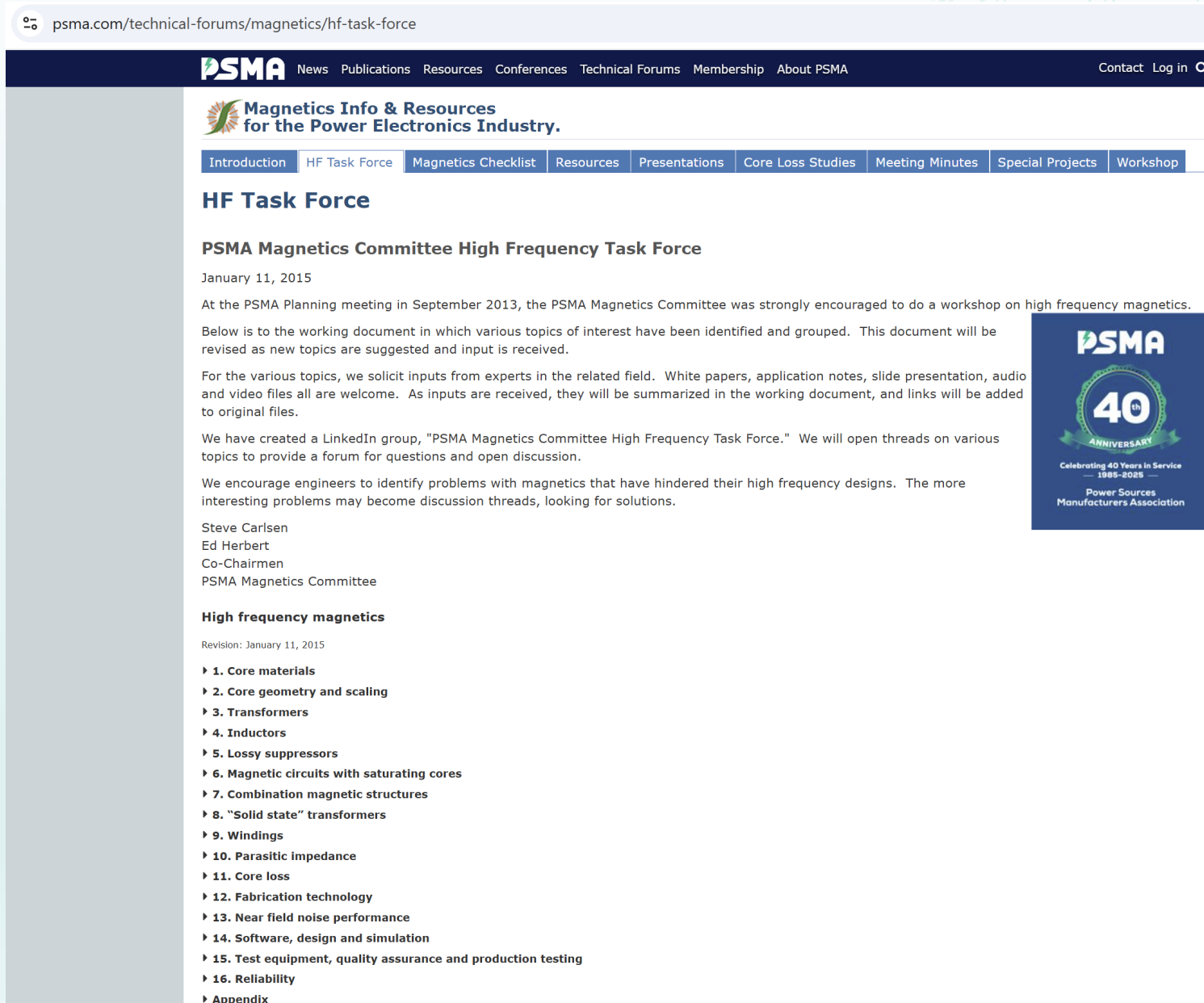
Address
sections 1, 4, 8 and 12
after 2026 workshop
and industry sessions
are finalized

High frequency magnetics

Add paragraph regarding definition of high
frequency dependent on applications

PSMA Magnetism Committee –Magnetism Committee Forum on PSMA Website

<https://psma.com/technical-forums/magnetism/hf-task-force>



The screenshot shows a web browser window with the URL psma.com/technical-forums/magnetism/hf-task-force. The page features a dark blue navigation bar with the PSMA logo and menu items: News, Publications, Resources, Conferences, Technical Forums, Membership, and About PSMA. On the right side of the navigation bar are links for Contact and Log in. Below the navigation bar is a white header area with the PSMA logo and the text "Magnetism Info & Resources for the Power Electronics Industry." A secondary navigation bar contains tabs for Introduction, HF Task Force (which is active), Magnetism Checklist, Resources, Presentations, Core Loss Studies, Meeting Minutes, Special Projects, and Workshop. The main content area is titled "HF Task Force" and "PSMA Magnetism Committee High Frequency Task Force". It includes a date of January 11, 2015, and several paragraphs of text explaining the task force's purpose and goals. A list of co-chairmen (Steve Carlsen and Ed Herbert) is provided. A section titled "High frequency magnetism" lists 16 topics, each preceded by a right-pointing arrow. A revision date of January 11, 2015, is also noted. On the right side of the page, there is a blue square graphic celebrating PSMA's 40th anniversary (1985-2025).

psma.com/technical-forums/magnetism/hf-task-force

PSMA News Publications Resources Conferences Technical Forums Membership About PSMA Contact Log in

PSMA Magnetism Info & Resources for the Power Electronics Industry.

Introduction **HF Task Force** Magnetism Checklist Resources Presentations Core Loss Studies Meeting Minutes Special Projects Workshop

HF Task Force

PSMA Magnetism Committee High Frequency Task Force

January 11, 2015

At the PSMA Planning meeting in September 2013, the PSMA Magnetism Committee was strongly encouraged to do a workshop on high frequency magnetism.

Below is to the working document in which various topics of interest have been identified and grouped. This document will be revised as new topics are suggested and input is received.

For the various topics, we solicit inputs from experts in the related field. White papers, application notes, slide presentation, audio and video files all are welcome. As inputs are received, they will be summarized in the working document, and links will be added to original files.

We have created a LinkedIn group, "PSMA Magnetism Committee High Frequency Task Force." We will open threads on various topics to provide a forum for questions and open discussion.

We encourage engineers to identify problems with magnetism that have hindered their high frequency designs. The more interesting problems may become discussion threads, looking for solutions.


Steve Carlsen
Ed Herbert
Co-Chairmen
PSMA Magnetism Committee

High frequency magnetism

Revision: January 11, 2015

- ▶ 1. Core materials
- ▶ 2. Core geometry and scaling
- ▶ 3. Transformers
- ▶ 4. Inductors
- ▶ 5. Lossy suppressors
- ▶ 6. Magnetic circuits with saturating cores
- ▶ 7. Combination magnetic structures
- ▶ 8. "Solid state" transformers
- ▶ 9. Windings
- ▶ 10. Parasitic impedance
- ▶ 11. Core loss
- ▶ 12. Fabrication technology
- ▶ 13. Near field noise performance
- ▶ 14. Software, design and simulation
- ▶ 15. Test equipment, quality assurance and production testing
- ▶ 16. Reliability

▶ Appendix



PSMA
40th
ANNIVERSARY
Celebrating 40 Years in Service
1985-2025
Power Sources
Manufacturers Association

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PSMA Magnetics Committee Meeting Agenda – Open Magnetics

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

The screenshot displays the PSMA website's navigation bar with links for News, Publications, Resources, Conferences, Technical Forums, Membership, and About PSMA. The main content area features the 'Magnetics DB test page' with a 'Welcome' message and a 'Steps' sidebar. The sidebar includes buttons for 'Welcome', 'Design Req.', 'Op. Points', 'Tool Selector.', 'Continue', and 'Continue and don't show again'. The main text explains the tool's workflow in three steps: 1) defining requirements, 2) defining excitation, and 3) choosing specifications. A footer menu lists various site sections like News, Publications, Resources, Conferences, Technical Forums, Membership, and About PSMA.

PSMA News Publications Resources Conferences Technical Forums Membership About PSMA
The multinational power electronics association Contact Log in

Magnetics DB test page

OpenMagnetics Alf's Musings New Design Other Tools Wizards Donate Bug?

Welcome

Welcome to OpenMagnetics design tool.

Since this is the first time you use it, allow me to explain how it works.

In this tool you don't need to specify if you want an inductor, a transformer, or a flyback. It will be defined by the requirements.

In the first step you will be asked for the requirements of your magnetic component. This usually implies the magnetizing inductance, the number of windings, and their turns ratio; but more things, like the insulation or the maximum dimensions can be added.

In the second step, you need to define the excitation of your component. This implies specifying the voltage and current of each of the ports (primary, secondary, etc.) of the device. You can do this by manually defining them, or by uploading a simulation from your favorite circuit simulator.

In the third step, you will be able to choose what you want to achieve with this specifications: getting a report of your specification, finding a COTS core, getting advise for designing a full magnetic, or even doing it yourself manually.

[View the OpenMagnetics design tool in a new window](#)

News	Publications	Resources	Conferences	Technical Forums	Membership	About PSMA
Welcome to the PSMA	Currently Available from PSMA	Industry Information	APEC	Capacitor	Benefits of PSMA	Purpose
New Product Announcements	Non-members Order Form	Industry Links	CPSS	Education	Membership	Mission
Members in the News	EPSMA Publications	Industry Resources	EnerHarv	Energy Harvesting	Joining Information	Industry Leadership
Other News of Interest		Standards Organizations	IWIPP	Energy Management	Application form	Organization
		Standards Updates	INPEM	Energy Storage	Members: A - Z	Association Office

PSMA Magnetics Committee Meeting Agenda

- Introductions
- 2025 Oct 5 Planning Meeting report to BOD
- 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
 - FIVR and/or HIVR
 - Wafer Level Magnetics
 - TBD
 - TBD

2025 PSMA PTR Released June 2025

Still in process of identifying chairs for the next cycle of the PSMA PTR?

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PSMA Magnetics Committee Meeting Agenda

– Next Meeting

- Thursday November 6 10:00 AM CDT – 11:00 AM CDT Virtual



PSMA Magnetics Committee Meeting Attendance (19)

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
Ranjit Sai
George Slama
JC Sun
Tobias Trupp
Jun Wang – Bristol
Jun Wang - Nebraska
Ningning Wang
Matt Wilkowski
Fritz Wohlrath
Sebastian Bachman
Martin Kuo
Rickey Cheang

Thank You

