

# Paper Title: This is a template for an IEEE submission

Author 1, Author 2, Author 3\*,  
Author 4, Author 5, and Author 6, *IEEE Senior Member*

## Abstract—The abstract

**Index Terms**—keywords must be lowercased, common mode chokes, ferrite, complex permeability, multi conductor transmission lines

## I. INTRODUCTION

COMMON mode (CM) ferrite chokes are essential components used for electromagnetic compatibility (EMC) purposes

ToDo notes can be used temporarily to mark pending work that must be done before submitting.

State the purpose of this work

Reference to current state-of-the-art

Explain the organization of the paper.

Units can be written in SI as 20 dB/dec.

A citation example [1]–[3]. This references must be located in the bibliography/references.bib file, using bibtex format.

## II. EXPERIMENTAL AND SIMULATION RESULTS

Something something  $L = 6 \text{ mm}$  and  $W = 3 \text{ mm}$

### A. Experimental setup

In Ohm's law,

$$V = RI \quad (1)$$

Text can include references to figures Fig. 1, to sections Sec. I and to equations (1).

### B. Simulations

More complex formulas can be placed using align environment

$$Z = j\omega L_{fit} \quad (2)$$

$$= j\omega \mu_{fit} \ln \left( \frac{r_e}{r_i} \right) \frac{h}{2\pi} \quad (3)$$

$$= j\omega (\mu'_{fit} - j\mu''_{fit}) \ln \left( \frac{r_e}{r_i} \right) \frac{h}{2\pi} \quad (4)$$

In figure Fig. 2 we show an example of a circuit written in latex. Missing figures that are not available while writing the paper can be placed temporarily Fig. 2

The 1st, 2nd, 3rd, 4th, and 7th authors are with the XXXX, in University of Granada, Spain. 5th author is with YYYY company. 6th author is with ZZZZ institution. \* Corresponding author e-mail: xxx@yyy.zzz.

The work described in this paper and the research leading to these results were supported by the XXXX grants.

## III. CONCLUSIONS

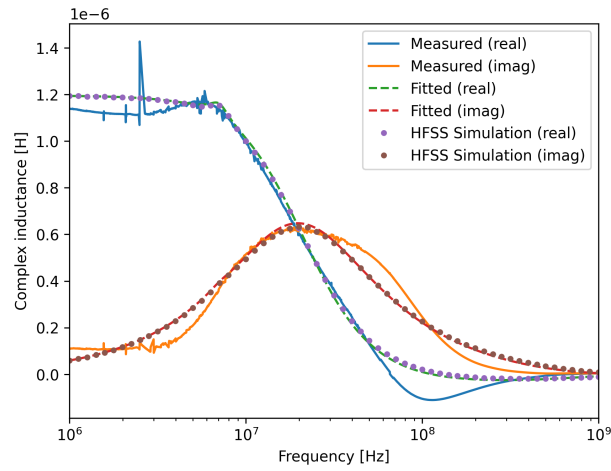
### Conclusions

## IV. ACKNOWLEDGEMENTS

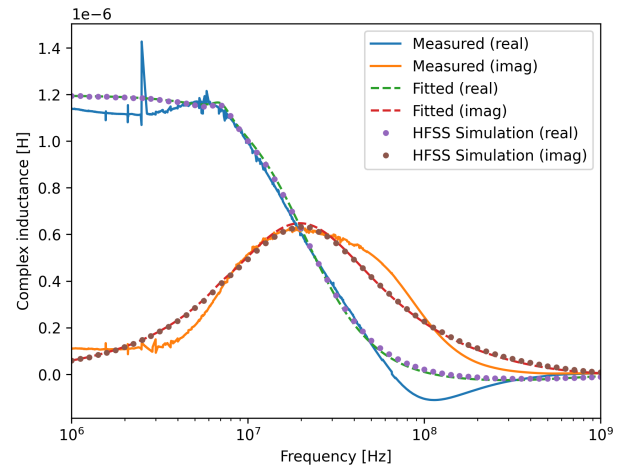
The authors want to thank these people for this and that company for that.

## REFERENCES

- [1] E. S. Lee and B. G. Choi, "Calculation methodologies of complex permeability for various magnetic materials," *Electronics*, vol. 10, no. 17, 2021.
- [2] A. Barba, C. Clausell, J. Jarque, and L. Nuño, "Magnetic complex permeability (imaginary part) dependence on the microstructure of a Cu-doped Ni-Zn-polycrystalline sintered ferrite," *Ceramics International*, vol. 46, no. 10, Part A, pp. 14 558–14 566, 2020. [Online]. Available: <https://www.sciencedirect.com/science/article/pii/S0272884220305812>
- [3] M. Kacki, M. S. Rylko, J. G. Hayes, and C. R. Sullivan, "Analysis and experimental investigation of high-frequency magnetic flux distribution in Mn-Zn ferrite cores," *IEEE Transactions on Power Electronics*, vol. 38, no. 1, pp. 703–716, 2023.



(a) Caption of first figure



(b) Caption of second figure

Fig. 1. Example of figure

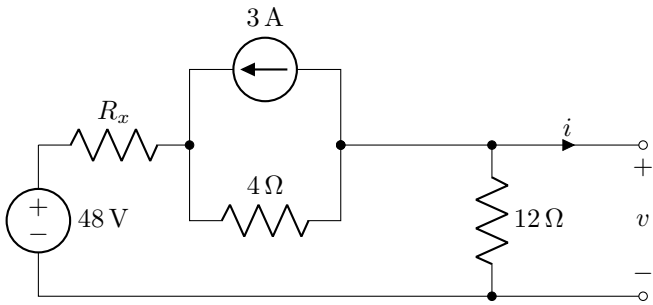


Fig. 2. This is an example of a circuit



Fig. 3. Example of missing figure.