

Article

Broadband RF Phased Array Design with MEEP: A 3D-Printed Open-Source RF Horn in the GHz Bandwidth

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Abstract

A single paragraph of about 200 words maximum.

Keywords: Computational Electromagnetism, Additive Manufacturing, MEEP, RF Engineering, Open-Source Design

1. Introduction

The introduction should briefly place the study in a broad context and highlight why it is important. It should define the purpose of the work and its significance. The current state of the research field should be reviewed carefully and key publications cited. Please highlight controversial and diverging hypotheses when necessary. Finally, briefly mention the main aim of the work and highlight the principal conclusions. As far as possible, please keep the introduction comprehensible to scientists outside your particular field of research. Citing a journal paper [1]. Now citing a book reference [2,3] or other reference types [4,5]. Please use the command [6,7] for the following MDPI journals, which use author–date citation: Administrative Sciences, Arts, Behavioral Sciences, Businesses, Econometrics, Economies, Education Sciences, European Journal of Investigation in Health, Psychology and Education, Games, Genealogy, Histories, Humanities, Humans, IJFS, Journal of Intelligence, Journalism and Media, JRFM, Languages, Laws, Literature, Psychology International, Publications, Religions, Risks, Social Sciences, Tourism and Hospitality, Youth.

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Received:

Revised:

Accepted:

Published:

Citation: Hanson, J. C.; Wildanger, A.

Title. *Electronics* **2025**, *1*, 0.

<https://doi.org/>

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3. Results

This section may be divided by subheadings. It should provide a concise and precise description of the experimental results, their interpretation as well as the experimental conclusions that can be drawn.

3.1. Subsection

3.1.1. Subsubsection

Bulleted lists look like this:

- First bullet;
- Second bullet;
- Third bullet.

Numbered lists can be added as follows:

1. First item;
2. Second item;
3. Third item.

The text continues here.

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All figures and tables should be cited in the main text as Figure 1, Table 1, etc.



Figure 1. This is a figure. Schemes follow the same formatting.

Table 1. This is a table caption. Tables should be placed in the main text near to the first time they are cited.

Title 1	Title 2	Title 3
Entry 1	Data	Data
Entry 2	Data	Data ¹

¹ Tables may have a footer.

The text continues here (Figure 2 and Table 2).

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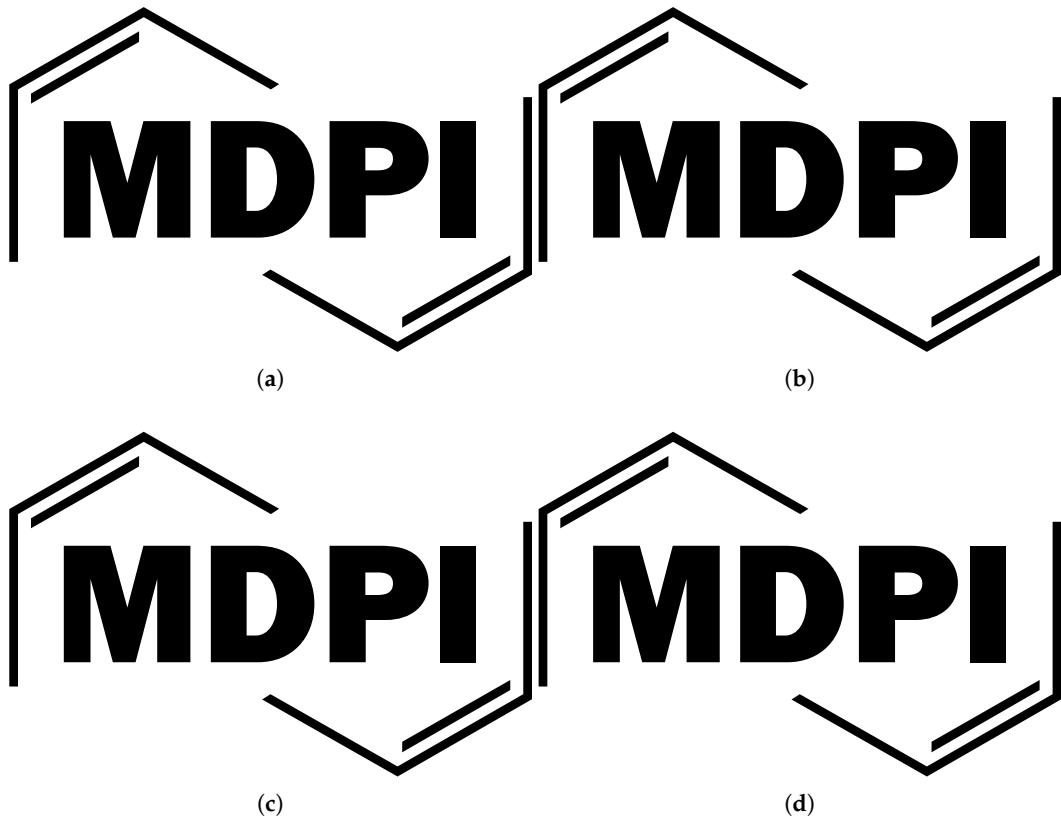


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Title 1	Title 2	Title 3	Title 4
Entry 1 *	Data Data Data	Data Data Data	Data Data Data
Entry 2	Data Data Data	Data Data Data	Data Data Data

* Tables may have a footer.

3.3. Formatting of Mathematical Components

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This is the example 1 of equation:

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$$a = 1, \quad (1)$$

the text following an equation need not be a new paragraph. Please punctuate equations as regular text.

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This is the example 2 of equation:

$$a = b + c + d + e + f + g + h + i + j + k + l + m + n + o + p + q + r + s + t + u + v + w + x + y + z \quad (2)$$

Please punctuate equations as regular text. Theorem-type environments (including propositions, lemmas, corollaries etc.) can be formatted as follows:

Theorem 1. *Example text of a theorem.*

The text continues here. Proofs must be formatted as follows:

Proof of Theorem 1. Text of the proof. Note that the phrase “of Theorem 1” is optional if it is clear which theorem is being referred to. □

The text continues here.

4. Discussion

Authors should discuss the results and how they can be interpreted from the perspective of previous studies and of the working hypotheses. The findings and their implications should be discussed in the broadest context possible. Future research directions may also be highlighted.

5. Conclusions

This section is not mandatory, but can be added to the manuscript if the discussion is unusually long or complex.

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Abbreviations

The following abbreviations are used in this manuscript:

MDPI Multidisciplinary Digital Publishing Institute
DOAJ Directory of open access journals

Appendix A

Appendix A.1

The appendix is an optional section that can contain details and data supplemental to the main text—for example, explanations of experimental details that would disrupt the flow of the main text but nonetheless remain crucial to understanding and reproducing the research shown; figures of replicates for experiments of which representative data are shown in the main text can be added here if brief, or as Supplementary Data. Mathematical proofs of results not central to the paper can be added as an appendix.

Table A1. This is a table caption.

Title 1	Title 2	Title 3
Entry 1	Data	Data
Entry 2	Data	Data

Appendix B

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References

- Author 1, T. The title of the cited article. *Journal Abbreviation* 2008, 10, 142–149.
- Author 2, L. The title of the cited contribution. In *The Book Title*; Editor 1, F., Editor 2, A., Eds.; Publishing House: City, Country, 2007; pp. 32–58.
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