

COVER LETTER

Dian Widi Astuti
Universitas Mercu Buana
Jl. Meruya Selatan No. 1 Kembangan
081584474695

18 February 2024

Dear,

We wish to submit an original research article entitled “**Bandwidth Enhancement for Half Mode Substrate Integrated Waveguide Antenna using Defected Ground Structures**” for consideration by SINERGI.

We confirm that this work is original and has not been published elsewhere, nor is it currently under consideration for publication elsewhere. We promise not to withdraw this article after it has been processed by the Editorial Team. If there is a withdrawal, we are willing to pay a penalty of USD 150 (IDR 2000K) to the SINERGI Editorial Team.

In this paper, I/we report on / show that:

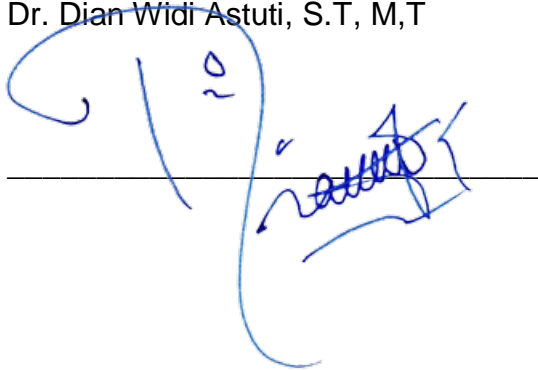
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|---------------------|---|--|
| Field | : | Engineering |
| Topic | : | Antenna and Propagation |
| Brief Background | : | Substrate integrated waveguide (SIW) slot antenna suffers a narrow impedance bandwidth. It occurs because of a thin substrate rather than a conventional waveguide in bulky Hallow. The half mode substrate integrated waveguide (HMSIW) slot antenna resulting from the miniaturized SIW slot antenna also caused a lower fractional bandwidth. |
| Research Problem | : | The miniaturized SIW and a thin substrate induced a narrow impedance bandwidth or a lower fractional bandwidth. |
| Overview of Method | : | This paper endorsed bandwidth enhancement on HMSIW by using a demi-hexagonal ring slot. The broadband impedance bandwidth simulation (27.36%) is generated by triple resonance for solving a narrow impedance bandwidth. |
| Significant finding | : | Both the simulation findings and the measurement results are consistent. The impedance bandwidth measurement occurs on 8.91 – 12.62 GHz (34.46%) with at least triple resonance. |

We have no conflicts of interest to disclose.

Thank you for your consideration of this manuscript.

Sincerely,

Dr. Dian Widi Astuti, S.T, M,T



AUTHORSHIP STATEMENT

We wish to submit an original research article entitled “**Bandwidth Enhancement for Half Mode Substrate Integrated Waveguide Antenna using Defected Ground Structures**” for consideration by SINERGI.

All persons who meet authorship criteria are listed as authors, and all authors certify that they have participated sufficiently in work to take public responsibility for the content, including participation in the concept, design, analysis, writing, or revision of the manuscript.

| | |
|-----------------|---------------------------------------|
| Author 1 | |
| Name | : Dian Widi Astuti |
| Affiliation | : Universitas Mercu Buana |
| Email Address | : dian.widiastuti@mercubuana.ac.id |
| Author 2 | |
| Name | : Muslim |
| Affiliation | : Universitas Mercu Buana |
| Email Address | : muslim@mercubuana.ac.id |
| Author 3 | |
| Name | : Umaisaroh |
| Affiliation | : Universitas Mercu Buana |
| Email Address | : umaisaroh@mercubuana.ac.id |
| Author 4 | |
| Name | : Imelda Uli Vistalina Simanjuntak |
| Affiliation | : Universitas Mercu Buana |
| Email Address | : imelda.simanjuntak@mercubuana.ac.id |
| Author 5 | |
| Name | : Huda Bin A Majid |
| Affiliation | : Universiti Tun Hussein Onn Malaysia |
| Email Address | : mhuda@uthm.edu.my |
| Author 6 | |
| Name | : Syah Alam |
| Affiliation | : Universitas Trisakti |
| Email Address | : syah.alam@trisakti.ac.id |

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| Affiliation | : | Universitas Riau |
| Email Address | : | yusnita.rahayu@lecturer.unri.ac.id |
| Scopus url | : | https://www.scopus.com/authid/detail.uri?authorId=24822760300 |
| Google Scholar url | : | https://scholar.google.com/citations?user=KGH0e8cAAAAJ&hl=en&oi=ao |
| | | |
| Reviewer 2 | : | |
| Name | : | Achmad Munir |
| Affiliation | : | Institut Teknologi Bandung |
| Email Address | : | munir@ieee.org |
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| | | |
| Reviewer 3 | : | |
| Name | : | Mudrik Alaydrus |
| Affiliation | : | Universitas Mercu Buana |
| Email Address | : | mudrik.alaydrus@mercubuana.ac.id |
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