

COVER LETTER

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[June 25, 2022]

Dear,

I/We wish to submit an original research article entitled “[**DUAL-BAND FREQUENCY RECONFIGURABLE 5G MICROSTRIP ANTENNA**]” for consideration by SINERGI.

I/We confirm that this work is original and has not been published elsewhere, nor is it currently under consideration for publication elsewhere.

I/We confirm that we will continue to follow and carry out the process of this article in accordance with the provisions and are willing to accept penalties for not implementing them.

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

Topic	:	Frequency Reconfigurable Microstrip Antenna
Brief Background	:	Antenna microstrip is an antenna widely developed and used in modern telecommunications equipment because of its advantages: simple shape, lightweight, easy to fabricate, and easy to integrate. Microstrip antenna is also used in 5G development which is expected to increase communication capacity and also be able to provide very large data rates. The used frequency in 5G is ranged from 24 Ghz to 86 GHz as approved by WRC-15. However, the 5G network that uses high frequency has a weakness: transmitted waves are vulnerable to weather because of their dense waveform. Therefore, the multiband is used to support different frequencies in one antenna. Furthermore, antenna reconfiguration is used to set the antenna to work on a different frequency and adjust different radiation patterns depending on the needs without changing the form of the antenna.
Research Problem	:	As single antenna can be reconfigured for multiple parameters, antenna reconfiguration is used to set the antenna to work at a particular frequency, adjust the radiation pattern, and determine the antenna's

		polarization depending on needs. This multiband antenna can be configured by adding a switch to the antenna's patch element to determine the antenna's working frequency. Multiband antennas are also used because they can replace two or more antennas that are separated into one antenna only, reducing the size of the installation, cost, and complexity of the antenna.
Overview of Method	:	The microstrip antenna is designed on CST Studio with two radiating elements using the RT Duroid 5880 as the substrate. Diode is placed between the two radiating elements to act as a switch to enable different configurations. The configuration is where in the ON condition the current flow to both radiating element resulting the antenna works on both working frequency, and OFF condition where the current cant flow to the second radiating element so only resulting on one working frequency
Significant finding	:	Simulation results show the OFF condition only works at 38 GHz with an S-parameter value of -31.215 dB. In comparison, in the ON condition, the antenna works on 28 GHz and 38 GHz frequencies with S-parameter -10.805 dB and -10.041 dB, respectively.

We have no conflicts of interest to disclose.

Thank you for your consideration of this manuscript.

Sincerely,
[Yusnita Rahayu]



AUTHORSHIP STATEMENT

I/We wish to submit an original research article entitled “[**DUAL-BAND FREQUENCY RECONFIGURABLE 5G MICROSTRIP ANTENNA**]” 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.

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POTENTIAL REVIEWERS

Please submit 3 (three) potential reviewers (*that have not listed in SINERGI*) to speed up the review process that competent for the topic and has a good reputation in that area.

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