

Review Form 3

Journal Name:	<a href="#">Journal of Engineering Research and Reports</a>
Manuscript Number:	Ms_JERR_130084
Title of the Manuscript:	Research and Development of an Experimental Device for Military Communication Using Binary Amplitude Shift Keying
Type of the Article	Original Research Article

PART 1: Comments

	Reviewer’s comment	Author’s Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.	The research article addresses the limitations of traditional amplitude modulation (AM) methods used in the military communication. The article focuses on successfully developing a modern experimental communication device using Binary Amplitude Shift Keying (BASK) modulation. Experimental work has been conducted with the developed design for testing and validation of the discussed BASK modulation model. The developed model can be scaled up paving a way for further development finding applications in secure communication applications where traditional modulation schemes prove to be inefficient.	Thank you for your positive feedback on the research article. We appreciate your recognition of the work's focus on addressing the limitations of traditional amplitude modulation (AM) methods and the successful development of a modern experimental communication device using Binary Amplitude Shift Keying (BASK) modulation. We are pleased to know that the experimental validation and the potential scalability of the BASK model are well understood. We agree that this research could pave the way for further advancements in secure communication applications, particularly where traditional modulation schemes may not be as efficient.
Is the title of the article suitable? (If not please suggest an alternative title)	Yes, the title “Research and Development of an Experimental Device for Military Communication Using Binary Amplitude Shift Keying” is suitable.	To better emphasize the focus on constructing the experimental device for educational and research purposes, we have revised the title to "Construction of an Experimental Device for Military Communication Using Binary Amplitude Shift Keying." This title highlights the practical and applied nature of the study while aligning with its primary objective.

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Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.	The abstract is apt for the article. Contains all the information that a reader requires to get an idea of the overview of the paper.	Thank you for your positive feedback on the abstract.
Is the manuscript scientifically, correct? Please write here.	<p>The manuscript is scientifically correct and has been written with care especially explaining the concept of BASK, making it easy for the reader to understand. But some more suggestions/queries are to be addressed which will make the article upto the mark of this reputed journal.</p> <ol style="list-style-type: none"> <li>Does the bit sequence generator of your device generate a PRBS sequence?</li> <li>Can the carrier frequency be tuned to the desired frequency by the user? What is the range of frequencies from which the user can tune to?</li> <li>Is any frequency shift from the desired/selected carrier frequency observed from the carrier wave generator?</li> <li>How does the Low Pass Filter (LPF) change the cutoff frequency based on the carrier frequency selected?</li> <li>More technical description about the experimental set-up like the channel, link range, etc., can be involved. This can help the reader to understand and appreciate the work better.</li> <li>The result section may contain a comparative study with other modulation schemes to support the statement “ This study focuses on addressing the limitations of traditional amplitude modulation (AM) methods” and “ . The research results confirm that BASK modulation offers advantages in enhancing noise resistance and compatibility with modern communication technologies such as 4G and 5G while maintaining high performance in the harsh environments of military communication systems” given in this article.</li> <li>In the equation binary NRZ encoded signal, please explain the term khi.</li> <li>In the first equation of <math>Y(f)</math> it appears that the authors have missed an equal to symbol after <math>FT\{y(t)\}</math></li> <li>It would be appreciated if the authors can provide justification for their work as similar modulation related works have been previously cited/published.</li> </ol>	<p>Thank you for your detailed. Below are our responses to your queries and suggestions:</p> <p>1. Bit Sequence Generator and PRBS Sequence: The bit sequence generator in our device generates a pseudo-random binary sequence (PRBS). We will clarify this in the manuscript for better clarity.</p> <p>2. Carrier Frequency Tuning: Yes, the carrier frequency in the device can be tuned by the user. The user has the ability to select frequencies within the range of 100 MHz to 1 GHz. This will be added to the manuscript.</p> <p>3. Frequency Shift from Desired Carrier Frequency: No significant frequency shift is observed from the desired carrier frequency. The carrier wave generator ensures stability within an acceptable tolerance. We will include this detail in the revised manuscript.</p> <p>4. Low Pass Filter and Cutoff Frequency: The cutoff frequency of the Low Pass Filter (LPF) is adjusted in proportion to the selected carrier frequency. We will elaborate on how the LPF adapts based on the carrier frequency selection in the manuscript.</p> <p>5. Technical Description of the Experimental Set-Up: We appreciate your suggestion. We will add more details about the experimental setup, to provide a clearer understanding of the experimental conditions.</p> <p>6. Comparative Study with Other Modulation Schemes: This is my next research direction that will be published in other works.</p> <p>7. Explanation of "khi" in the Binary NRZ Encoded Signal: The term "khi" in Equation (2) was a typographical error in my original draft. I have removed it in the revised manuscript.</p> <p>8. Missing Equal Sign in <math>Y(f)</math> Equation: Thank you for pointing this out. We will correct the equation by adding the missing equal sign after <math>FT\{y(t)\}</math>.</p> <p>9. Justification for the Work: We acknowledge that similar modulation-related works have been previously published. We will provide a clearer justification for our work, highlighting how our approach advances existing research and fills gaps in the application of BASK for military communication systems.</p>
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.	<p>Since Modulation is a topic where extensive research is performed, more references can be added to enhance the quality of the article when being published in such a reputed journal. The reference, “Bala, D., Waliullah, G. M., Islam, N., Abdullah, I., &amp; Hossain, M. A.” has not been given properly.</p> <p>Also the references are not numbered or called properly in the body of the article.</p>	<p>Thank you for your valuable suggestions. I have added more recent and relevant references to the manuscript to strengthen its foundation, particularly in the area of modulation.</p> <p>Additionally, I have made sure that all references are numbered and</p>

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		cited correctly in the body of the article as per the journal's guidelines. The updated references section and proper citation formatting have been applied in the revised manuscript.
Is the language/English quality of the article suitable for scholarly communications?	Yes the language throughout the article is suitable for scholarly communications.	Thank you for confirming that the language of the article is suitable for scholarly communication. We are glad to know that the writing meets the standards required for publication, and we will ensure that the manuscript is carefully proofread for any further improvements before submission.
Optional/General comments	<div>1. Equations have not been numbered.</div> <div>2. Font size for all the blocks in the figures have to be same. For example, in figure 6, the block sampler is of smaller font than the rest of the blocks.</div>	<div>Thank you for your helpful comments.</div> <div>Equations Not Numbered: We apologize for the oversight. In the revised manuscript, we have numbered all equations appropriately for better reference and clarity.</div> <div>Font Size in Figures: We have corrected the font size inconsistency in Figure 6. The font size for all blocks in the figure has been standardized to ensure uniformity throughout.</div>

PART 2:

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	(If yes, Kindly please write down the ethical issues here in details)	