

**AMERICAN INTERNATIONAL UNIVERSITY-BANGLADESH**

**Laboratory Report Cover Sheet**

Title: Study of Amplitude and Frequency Modulator and Demodulator using Simulink

Experiment Number: 07 Course Title: Data Communication

Course Code: COE3103 Course Instructor: Nowshin Alam

Semester: Spring 2023-2024 Section: E Date of Submission: 22-04-2024

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| ***Faculty use only*** | | |
| *Faculty Comments* | **Marks Obtained** |  |
|  |
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|  | **Total Marks** |  |
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| --- | --- | --- | --- | --- | --- |
| Category | Proficient  [6] | Good  [5-4] | Acceptable  [3-2] | Unacceptable [1] | Secured Marks |
| **Introduction and/or Theory** | * Explains all necessary and relevant theoretical background information, measures, and variables. | * Explains the important parts of theoretical background information, may be partially irrelevant or need more details. | * Explains some theoretical background information, but some information may be missing, irrelevant or inaccurate. | * A lot of information is missing, out of context and/or inaccurate. |  |
| **Experimental procedure/Code** | * Working procedure or code is clearly presented and is supported by proper comments. * Simulation program file is provided which runs properly and shows the expected result. * Methods are clearly written, including all steps in sufficient detail for the experiment to be repeated. | * Working procedure or code is given for the experiment to be sufficient. * Simulation program file is provided which runs properly but the output does not perfectly align with expected result. * Methods are correct but the steps may be lacking in detail, making the experiment hard to be repeated. | * Working procedure or code is missing some steps and/or contains some mistakes. * Simulation program file is provided which runs properly but the output has many problems. | * Working procedure or code is absent or missing major steps and/or contains mistakes. * Simulation program file is not provided/is completely wrong. |  |
| **Block Diagrams and Graphical Results** | * Clear, accurate diagrams and graphs are labeled neatly and accurately with excellent detail. * Simulated result meets all criteria; outcomes are described clearly and accurately. | * Diagrams and plots are included and are correctly labeled in brief, but there may be some lack of clarity. * Most criteria are met, but there may be some lack of clarity and/or incorrect information. | * Diagrams and plots are included and are labeled, minor mistakes may be present. * Results do not match exactly with the theoretical values and/or analysis is unclear. | * Needed plots/ diagrams are missing or are missing important labels. * Experimental results are missing or completely incorrect. |  |
| **Data Interpretation and**  **analysis** | * Interpretation and analysis of related outcomes (consequences and implications) are logical and reflect student’s informed evaluation and ability to place evidence. * Any report questions are properly answered with detailed justification or calculations. | * Analysis is logically tied to information (because information is chosen to fit the desired conclusion); some related outcomes are not clear. * Report questions are answered correctly but may be lacking detail or contain minor logical error. | * Analysis is inconsistently tied to some of the information discussed; related outcomes (consequences and implications) are oversimplified. * Report questions are answered but contain wrong information or major logical error. | * Only the data was reported, there is no analysis. * Report questions are missing or are completely wrong. |  |
| **Overall writing quality** | * Demonstrates thorough and sophisticated understanding. Conclusions drawn are appropriate for analyses; * Writing is strong and easy to understand; ideas are fully elaborated and connected; effective transitions between sentences; no typographic, spelling, or grammatical errors. | * Hypotheses are clearly stated, but some concluding statements not supported by data or data not well integrated. * Writing is clear and ideas are connected; effective transitions between sentences; minor typographic, spelling, or grammatical errors. | * Some hypotheses missing or misstated; conclusions not supported by data. * Writing lacks clarity, noticeable amount of typographic, spelling, or grammatical errors are present. | * Conclusions do not match hypotheses, not supported by data; no integration of data from different sources. * Very unclear language, many grammatical and spelling errors. |  |
| Comments: |  | | | Total Marks  (Out of 30): |  |

### Part-1:

A paper with text on it

Description automatically generated

# Block Diagram

A computer screen shot of a diagram

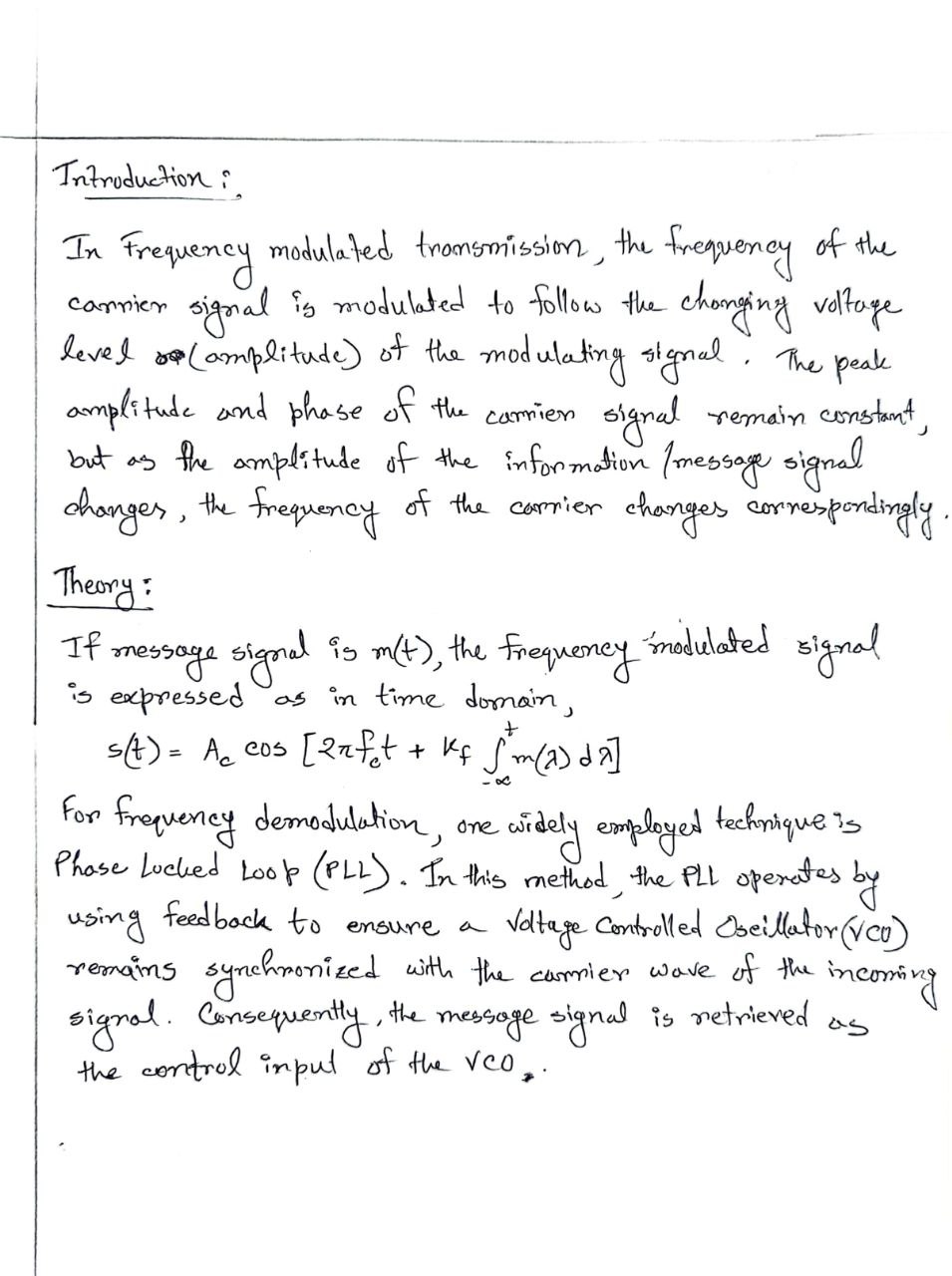
Description automatically generated

Figure: AM modulation and demodulation

## Simulated Results:



### Part 2 :



# Block Diagram :

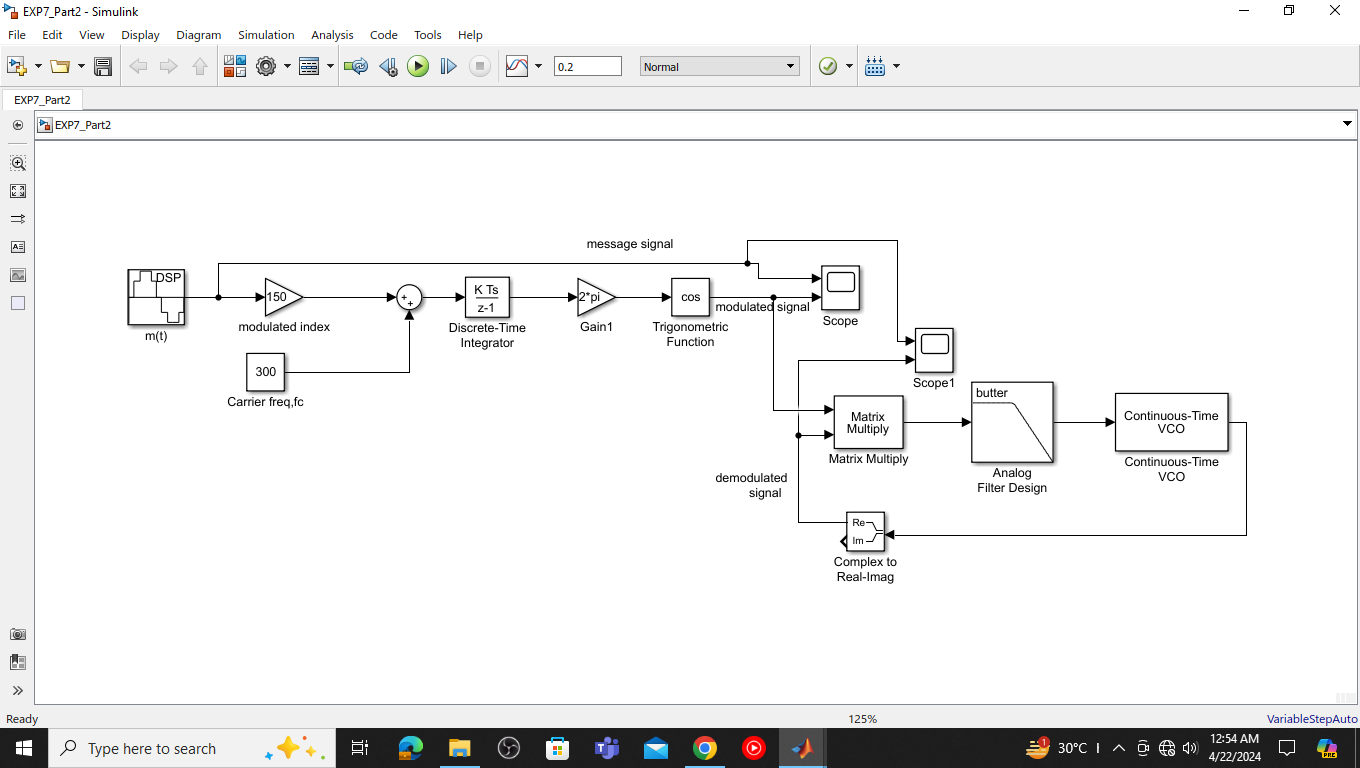


Figure: FM modulation and demodulation

## Simulated Results:

