

PSDE5014 SGEE5005, Signals & Digital Comms Assignment 2018_19

by Christopher Milner

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Course:

HND Electrical and Electronic Engineering

Module:

Digital Signals and Communications

PSDE5014

Assignment Title:

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1. Executive Summary

2. Research into analogue and digital communication systems and techniques

(1400)

Amplitude and frequency modulation techniques

In 1897, Tomaso Guglielmo Marconi invented a wireless transmitter that could send the human voice through space without wires. The classic Marconi radio used a method of modulation known today as amplitude modulation or AM.

In AM transmissions, the amplitude of a carrier frequency changes in accordance with an input analogue signal. The frequency of the carrier remains constant.

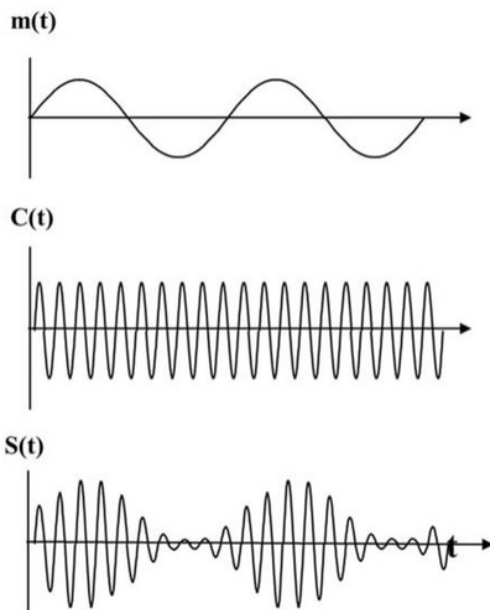


Figure 1 shows

ADCs affect of the range and frequency.

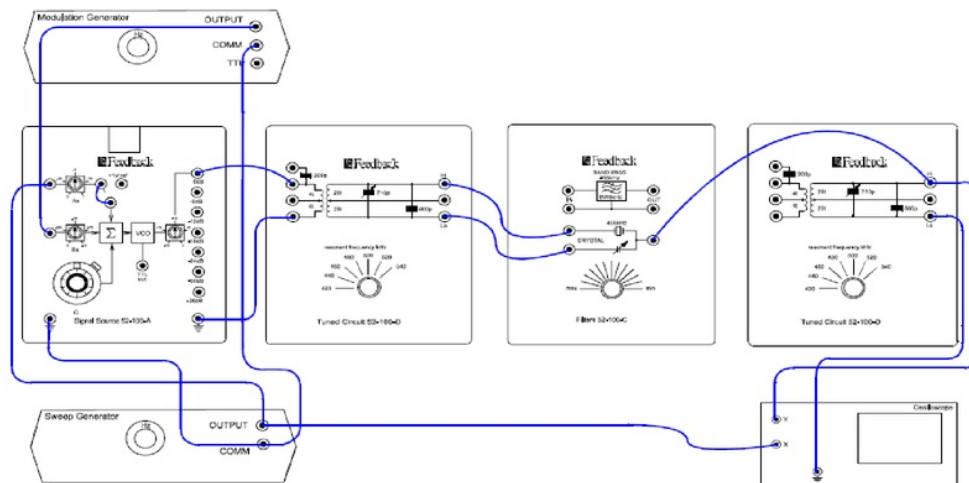
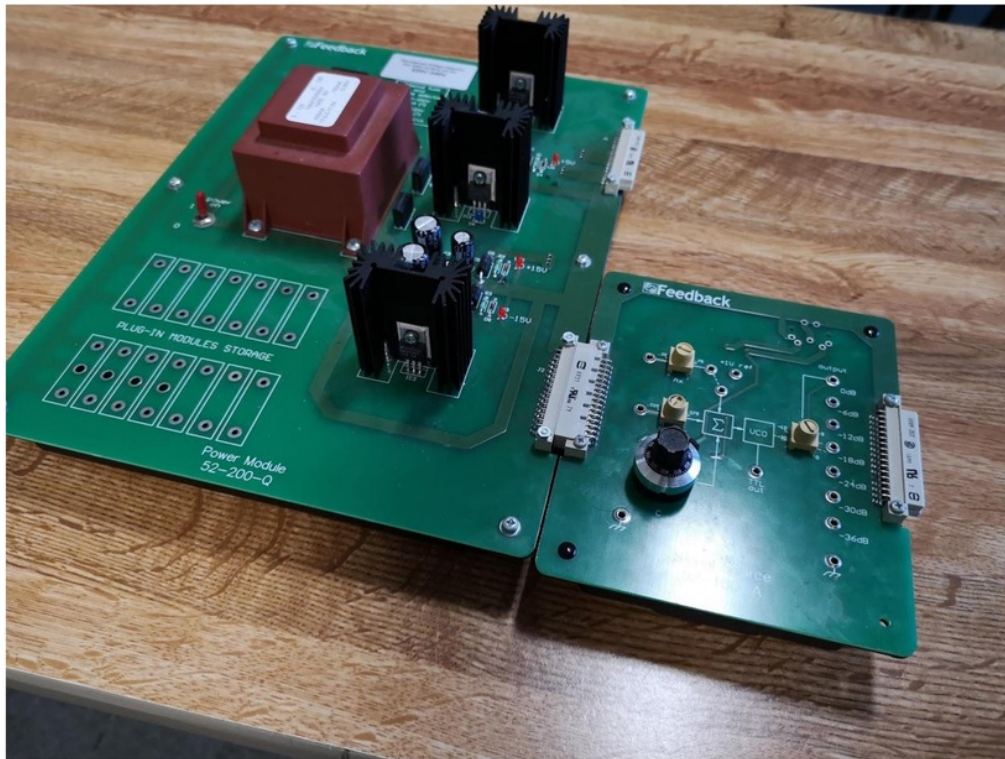
PAM PCM

Modulation schemes (QPSK QAM 16)

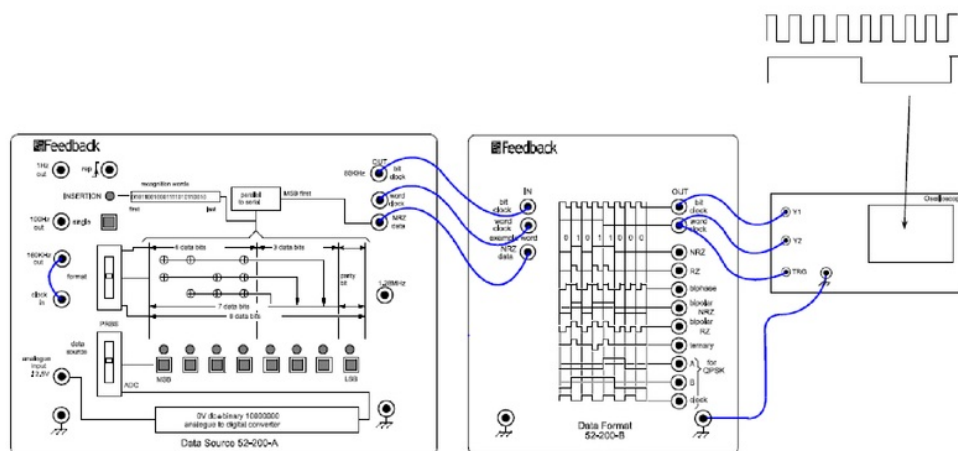
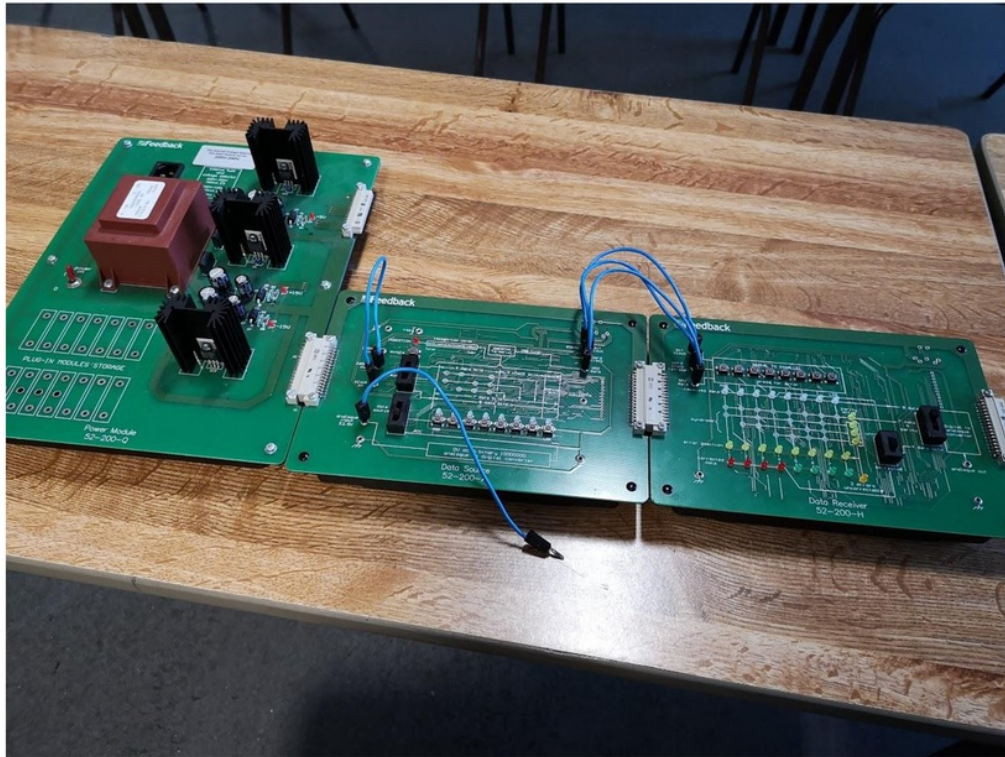
Pleisiosynchronous (near synchronous) and synchronous digital hierachy

3. Experimental Method

3.1 Frequency Modulation Experiment

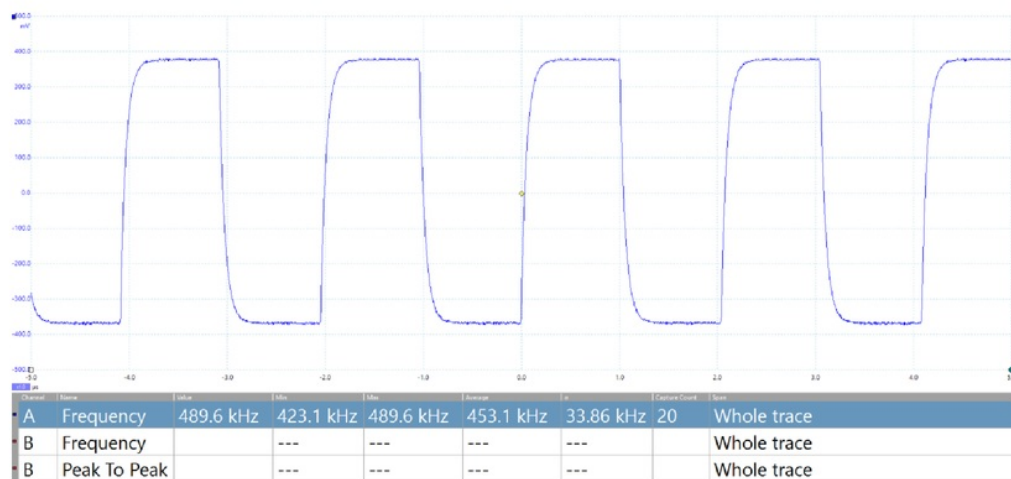
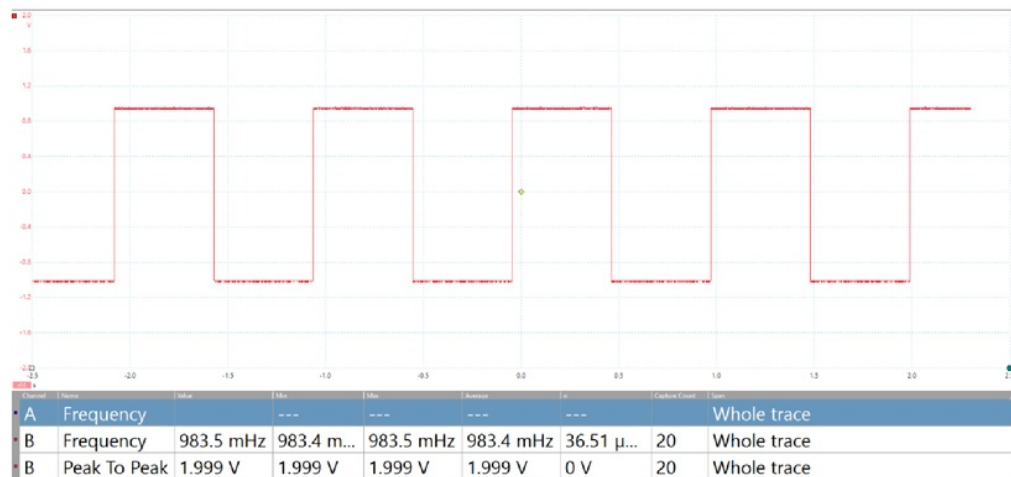


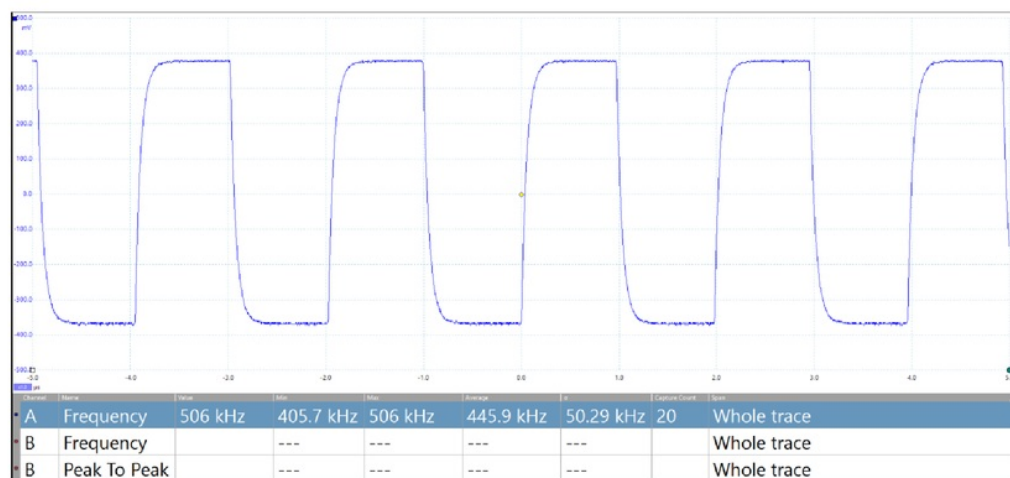
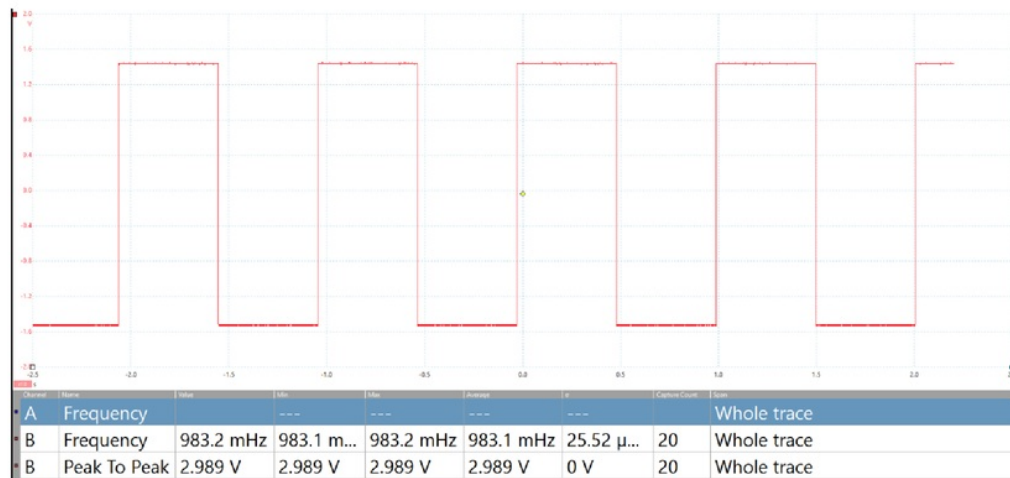
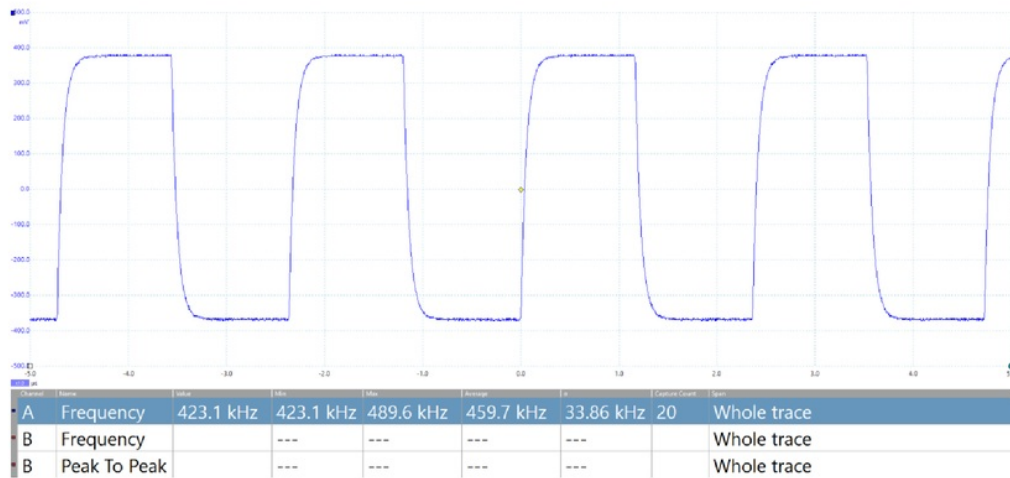
3.2 ADC Experiment

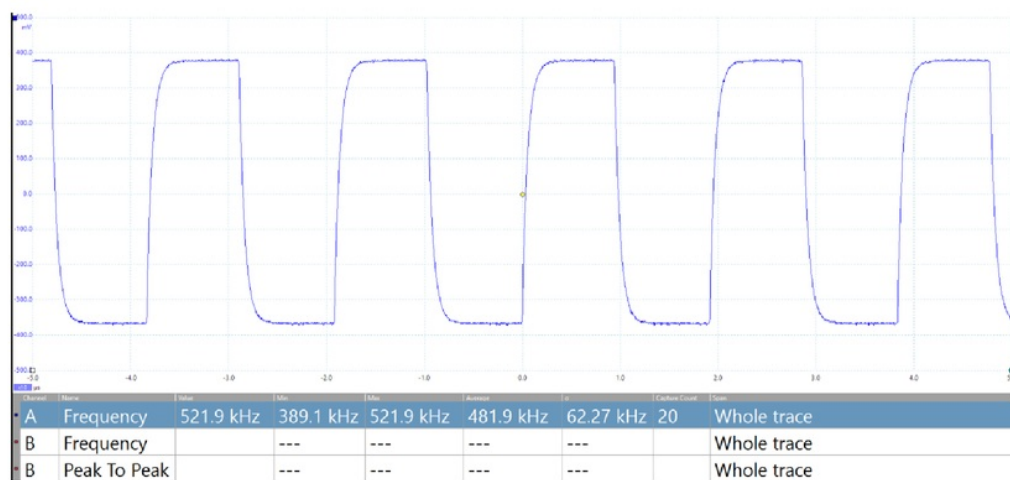
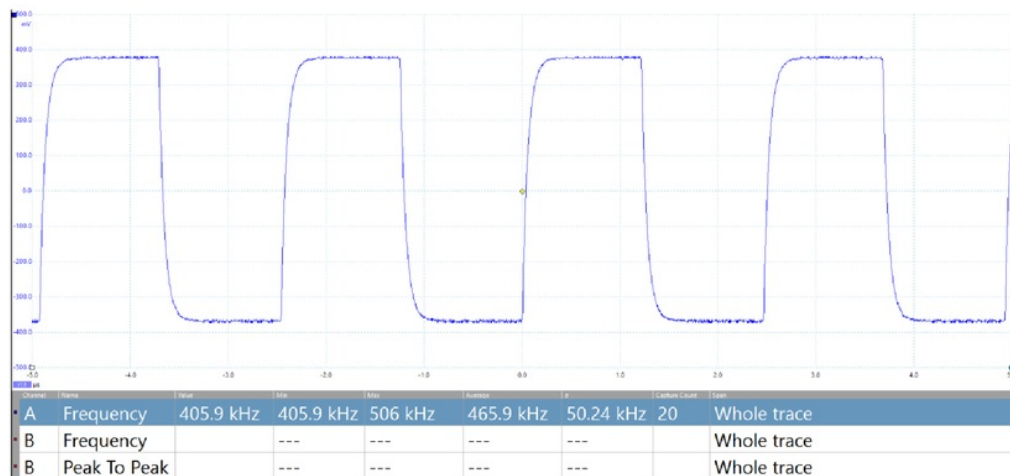


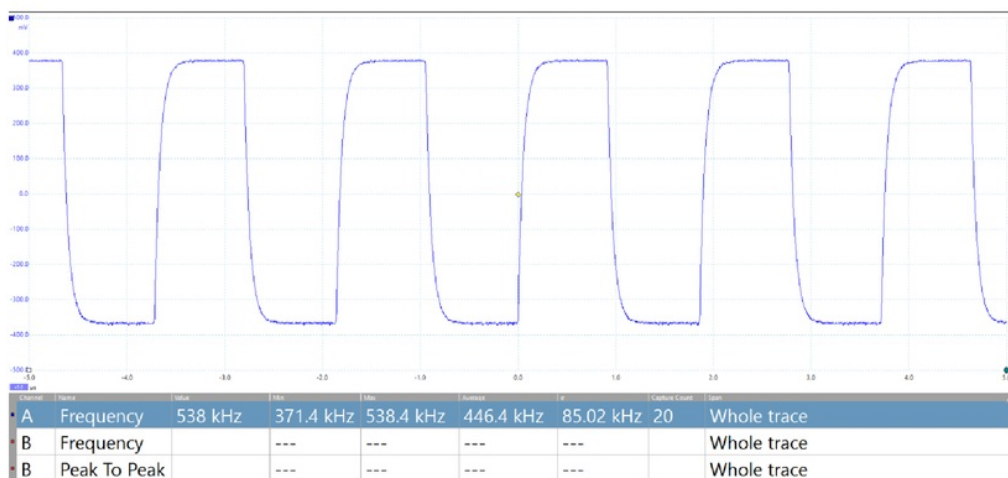
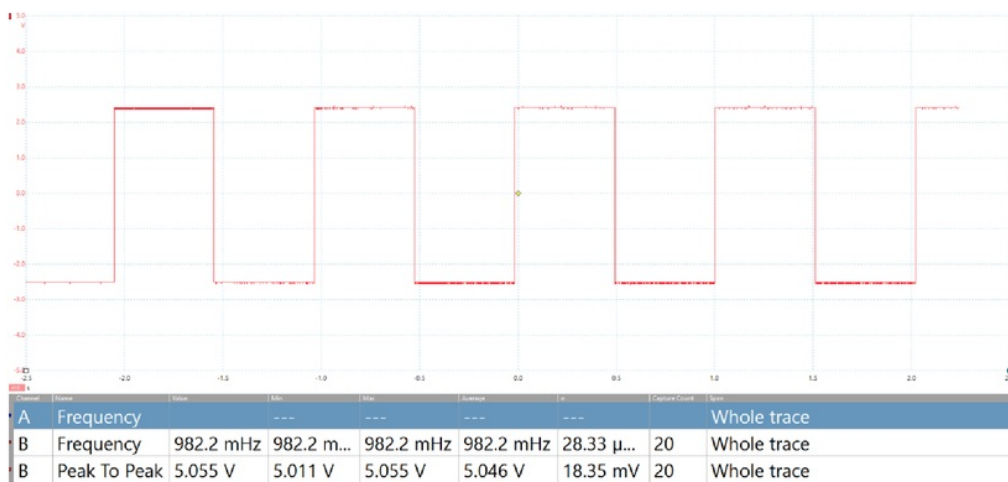
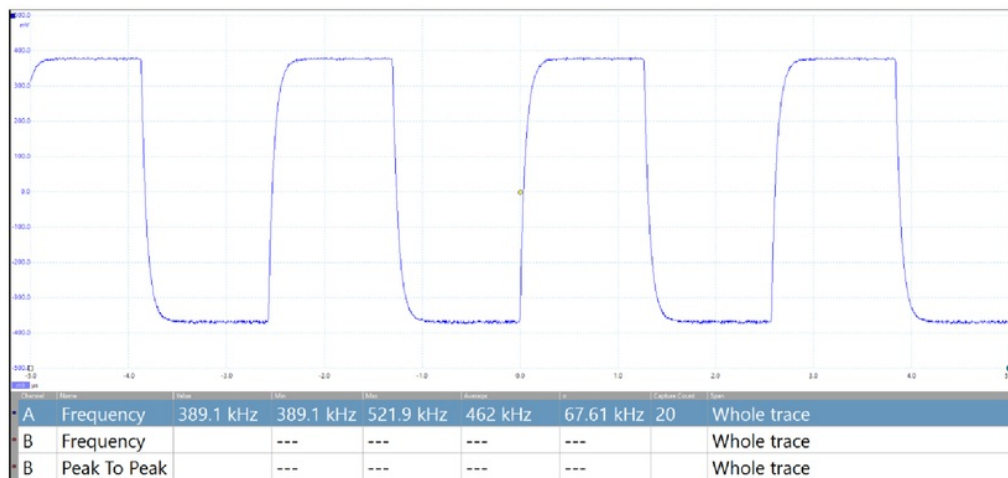
4. Testing, results and analysis

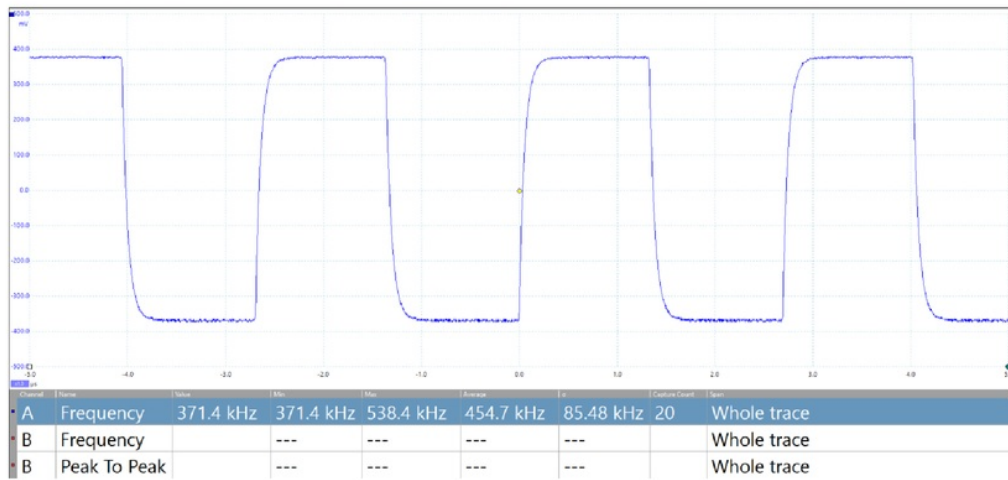
4.1 Frequency Modulation Experiment



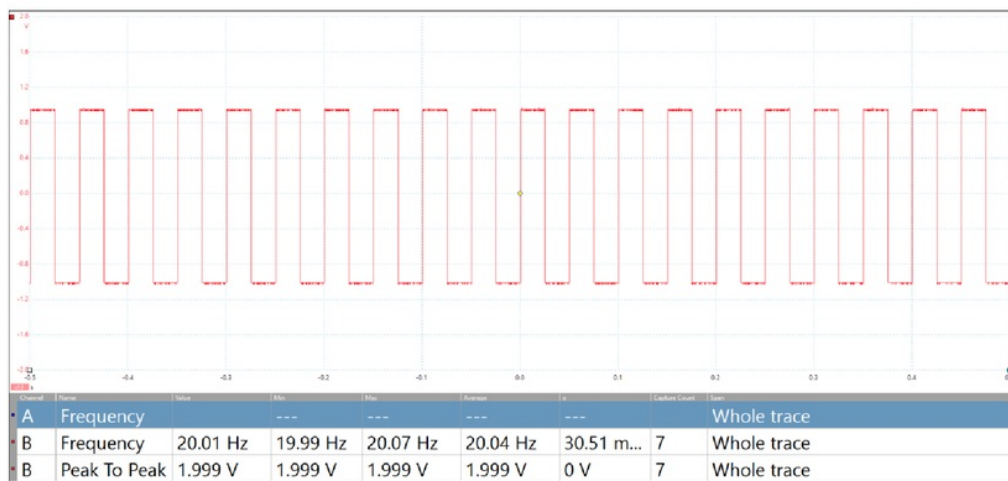


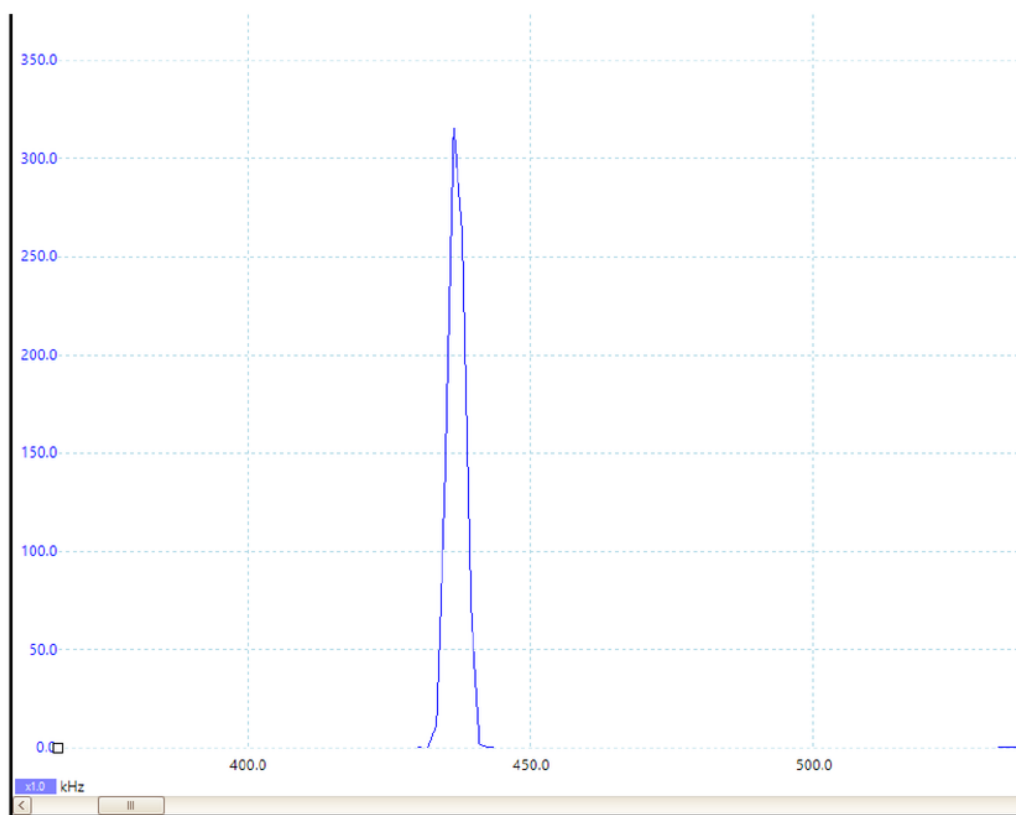


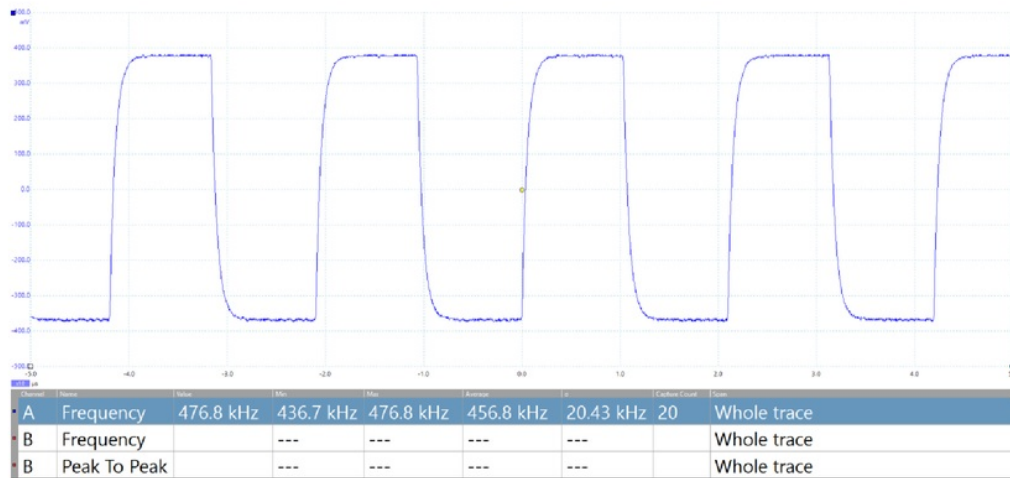




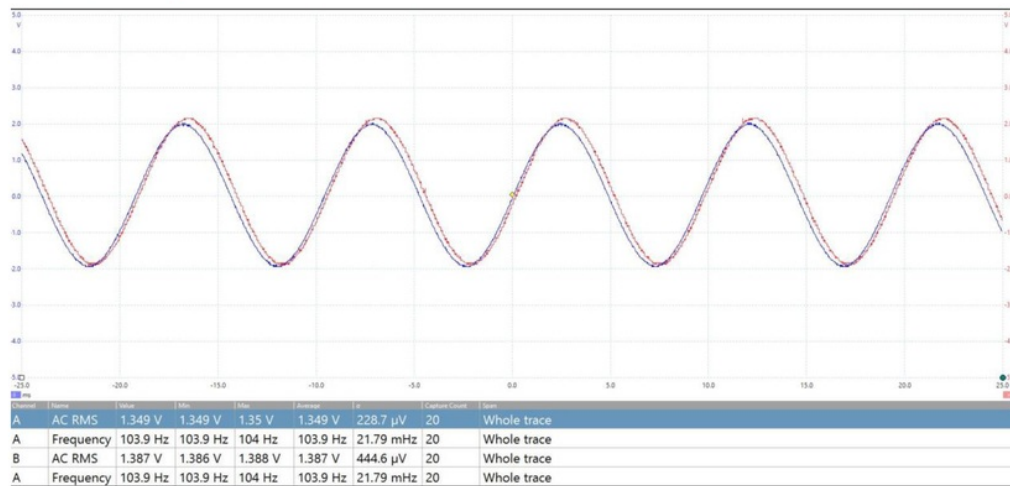
Side band

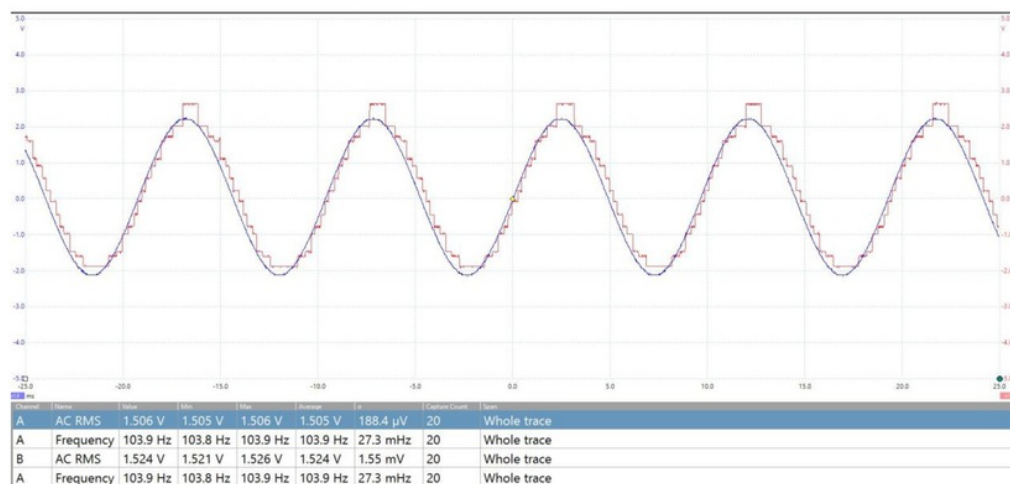
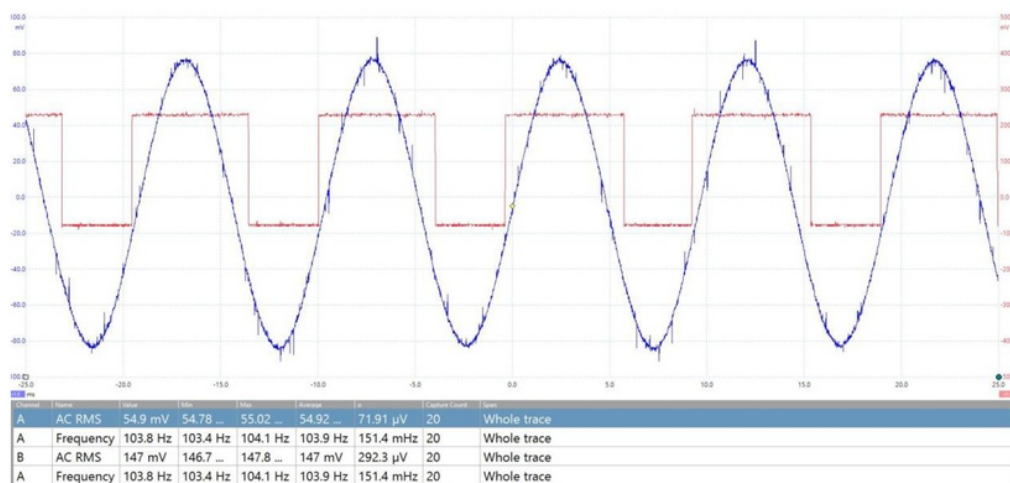
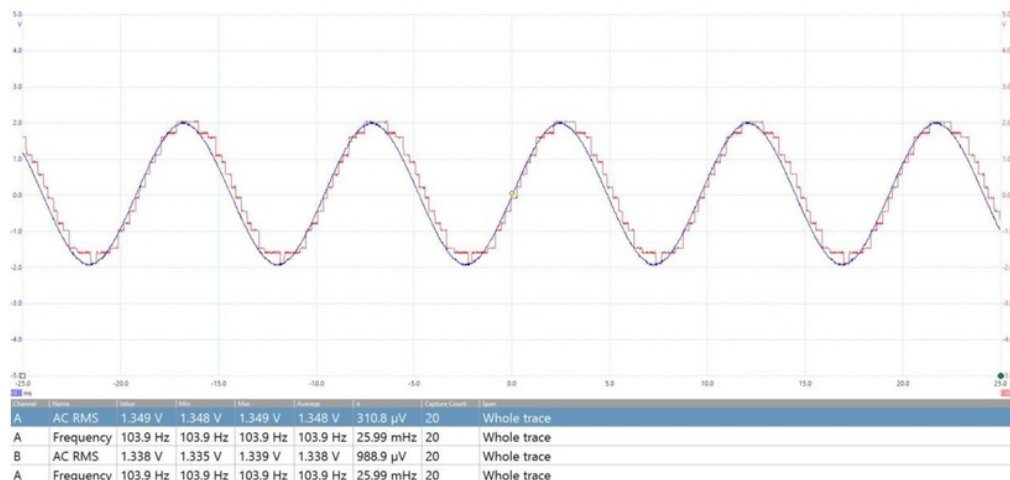


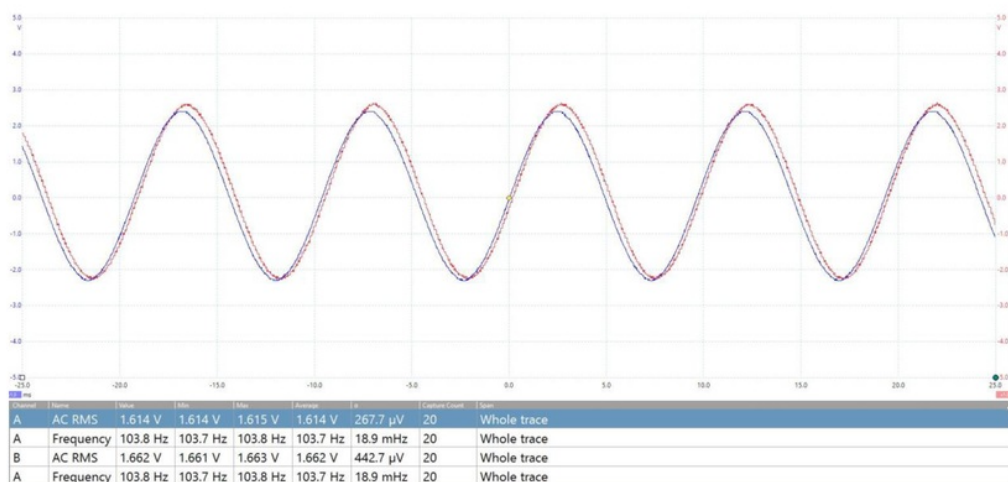
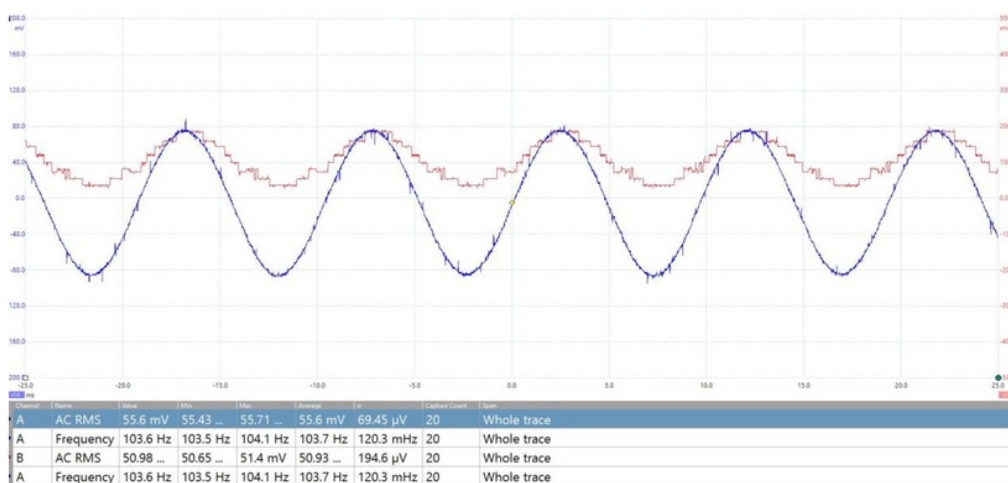
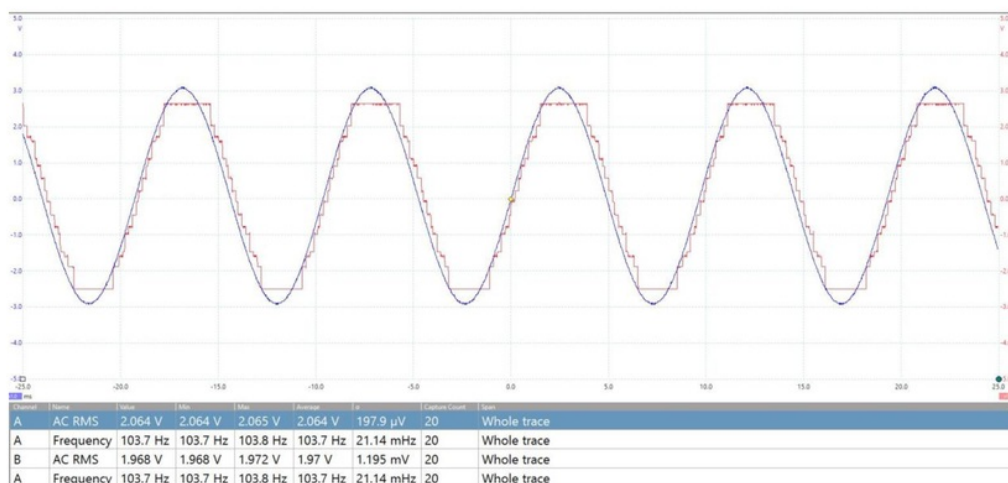


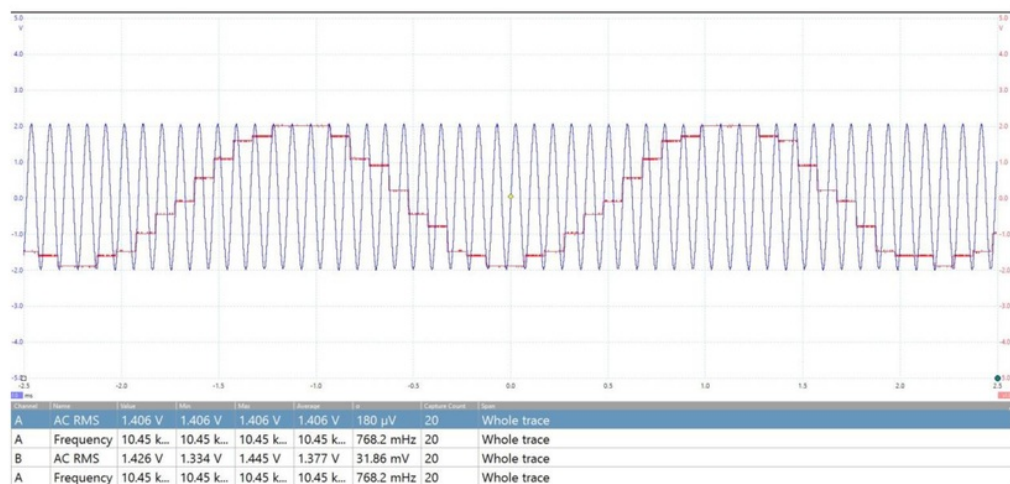
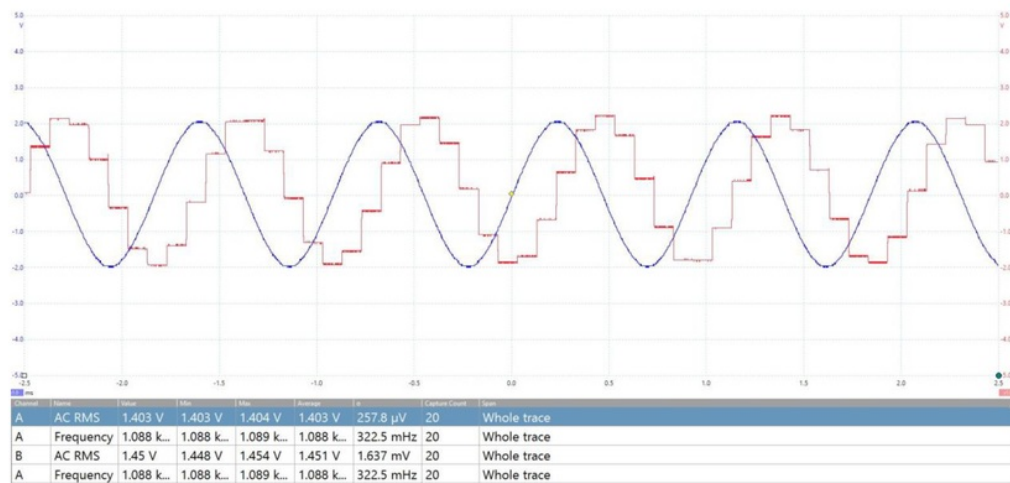
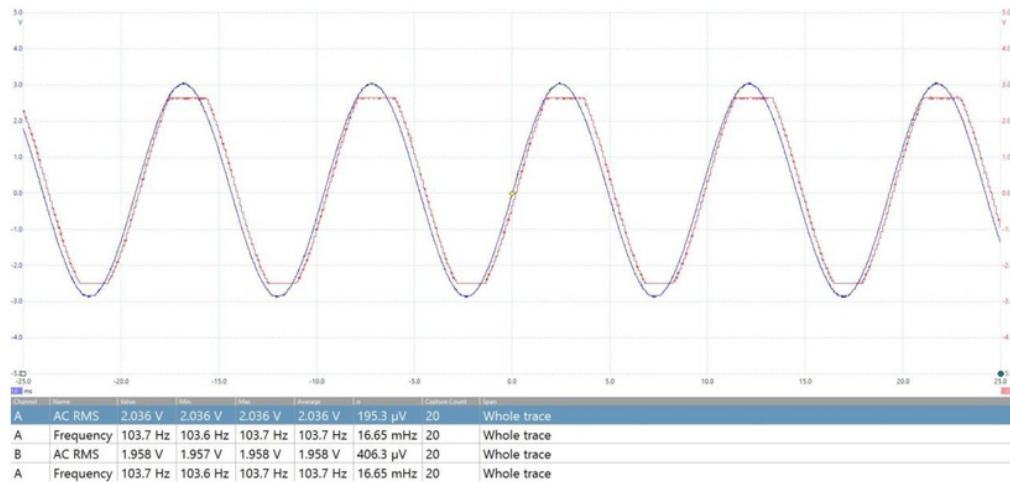


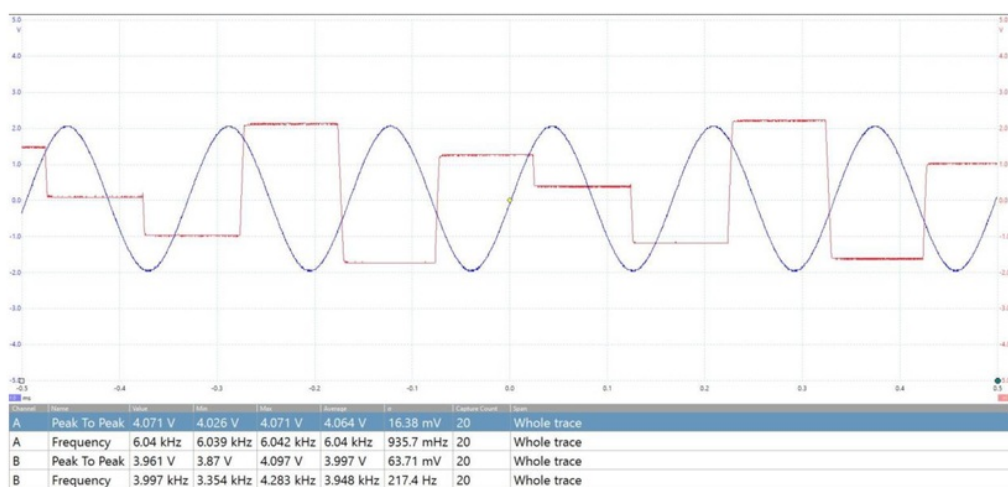
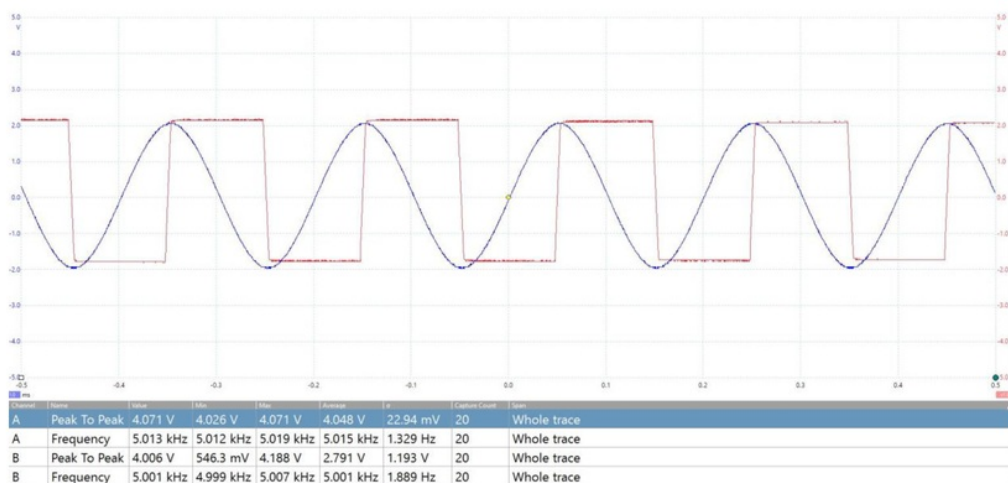
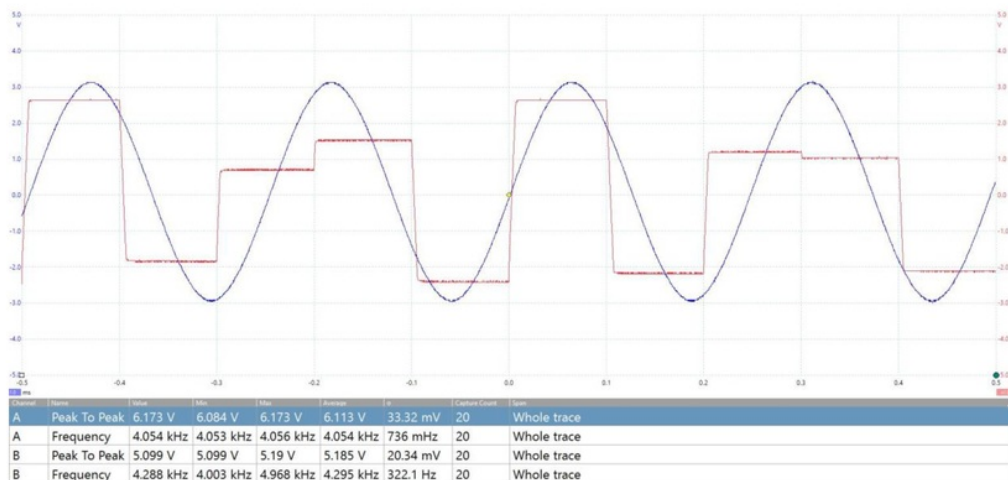
4.2 ADC Experiment











5. Conclusions and Recommendations

7. Citation List

8. Appendices

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GRADEMARK REPORT

FINAL GRADE

GENERAL COMMENTS

Instructor

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GRADING FORM: ASSIGNMENT RUBRIC 2018

CHRISTOPHER MILNER

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ENGAGEMENT WITH LITERATURE



There was very little evidence of any research being carried out for this assignment.

1

KNOWLEDGE AND UNDERSTANDING



The knowledge and understanding of the subject demonstrated by this assignment was generally superficial and lacked critical understanding. The report lacked a lot of the required detail and contained significant inaccuracies and too much irrelevant material. Additionally, your understanding of most of the basic principles as well as the higher level concepts was not shown. Further work - There were a few omissions and misunderstandings

10

throughout the task, which could be read up on for future reference. Explanations need to be written in much more detail and written in a more logical and clearer way.

COGNITIVE AND INTELLECTUAL



The was no evidence of any analysis or evaluation within the report.

PRACTICAL APPLICATION



Your application of practical skills for this task was generally good. You used the resources available appropriately when designing the circuit and you used appropriate options for testing and evaluating the circuit performance. You managed to design an efficient circuit that functioned within the specification and achieved this by only asking for assistance when appropriate. Your results were comprehensive and allowed for a good conclusion to be attempted.

12

TRANSFERABLE SKILLS FOR LIFE



Your written report was reasonably well presented in terms of content and layout and was mostly structured in a coherent way, however you should endeavour to use the available word count more effectively in future.

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