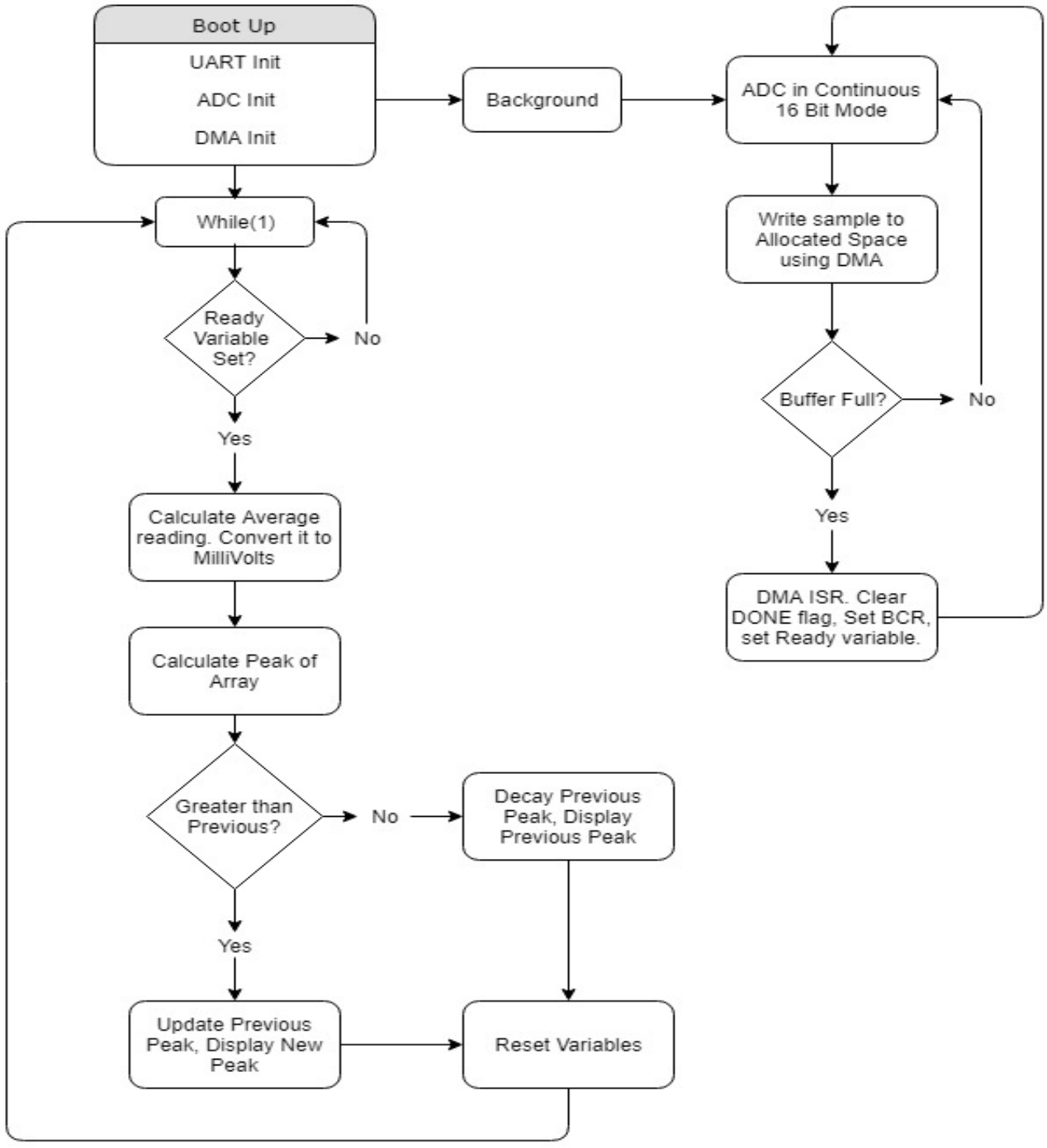
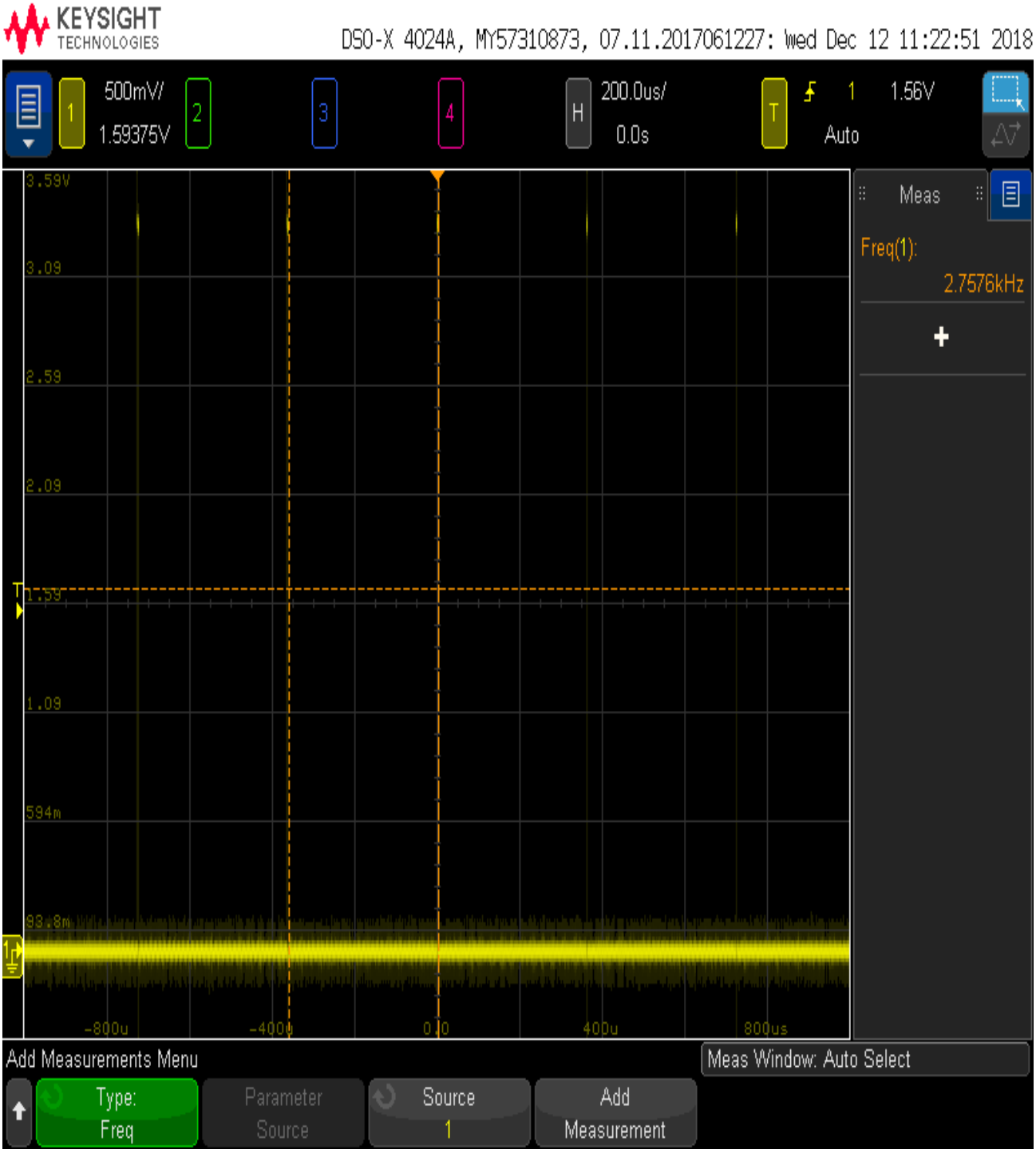
# Project 3

**Report By: Poorn Mehta and Rushi Macwan**

## Block Diagram:



## Oscilloscope Screenshot:



## Questions and Answers:

1. What is the behavior of the system when no input signal is applied?

**Answer**: Noise appears on the ADC input, and thus, small random values are given as the output.

2. What source and destination DMA read and write size did you choose and why?

**Answer**: Both of 16 bits – since the resolution of ADC is 16 bits, and the data register containing ADC result contains only 16 valid bits.

3. What is the consequence of a lengthy or delayed interrupt service for the data retrieved by the DMA controller?

**Answer**: The data provided as output by ADC in that time will be lost since DMA is at BCR 0 – with DONE flag raise – consequently inactive.

4. What effect does changing the buffer size have on system processing efficiency?

**Answer**: The efficiency decreases because interrupts are more frequently generated, consuming processor. However, if the buffer is too large, the processor will have less RAM to work with – also reducing efficiency.

5. What other effect(s) does changing the buffer size have on the system?

**Answer**: The data printing will be triggered too fast to be observable if the buffer size is small. On the other hand however, if the buffer size is moderate or large, functions such as float printing won't work.