Lab 4: Recording Frequencies of SD Card

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# Lab 4 Serial Monitor Results

Conclusion: Max Write Frequency to SD Card = 1 Microsecond based on Runtime Readings

We can see below that when we adjust the microsecond delay from 1 to .1, the runtime numbers indicate it is not recording faster than it did at a delay of 1 microsecond vs the change from 10 microseconds to 1 microsecond.



Possible reasons for a maximum frequency cap on an SD card could be:

* The amount of energy the device requires, which may be limited by the type of thermistor cable(s) utilized.
* Frequency compatibility the SD card is supported with other devices.
* The storage capacity of the SD card – such that SD cards near or at full storage run slower.
* The read mechanism utilized by the SD card – UHS-1, UHS-2, UHS-3, etc.
* Quality of materials for the SD card, like the metals and materials utilized for the circuit board & contacts.
* Room temperature affecting the performance and rates of transfer
* The processor may also affect the rate at which the SD card can be written to