START 10-5-2021 @21:18

Need to look over some info on 5 since it may conflict with slides Max created and reassess the order and pace.

5) Specifications of electrical equipment such as temperature ranges, detection ranges, transmission ranges, signal speed. (This is a hard bullet to answer as we have not begin testing our equipment)

***(NOTE: 1 meter = 3.28 feet, 0.1 meter = 0.328 feet. Using 3 feet gives a decent estimation.)***

A) Tech Specs:

A1) Arduino:

aa1) Temp Range: Depends on processor and battery

aaa1) Processor: 60C – 150C ~~(~~76F – 302F)

aaa2) Battery: Charging: 0C – 45C (32F – 113)

Discharging: 20C – 60C (68F - 140F)

aa2) Detect range: N/A

aa3) Signal Speed: N/A

A2) Magnetometer:

aa1) Temp Range: 40C – 85C ~~(~~40F – 185F)

aa2) Detection Range: (Anecdotal)Around 2 meters ( Only given 8 Gauss)

aa3) Signal Speed: 5 – 100 ms ( Using inverse Freq.)

aa4) Operating Frequency: 10 – 200 Hz

A3) ToF Sensor:

aa1) Temp Range: 20C – 70C (-4F – 158F)

aa2) Detection Range: (Bare module, no cover glass, @23C, @2.8V nominal)

aaa1) White Target:

aaaa1) Indoor :Typical 2 meters

Minimum: 1.2 meters

aaaa2) Overcast Outdoor: Typical: 0.8 meters

Minimum: 0.6 meters

aaa2) Grey Target:

aaaa1) Indoor :Typical: 0.8 meters

Minimum: 0.7 meters

aaaa2) Overcast Outdoor: Typical: 0.5 meters

Minimum: 0.4 meters

aa3) Signal Speed: (At 1.2 meters, 2 meters for Long Range)

aaa1) Default: 33ms

aaa2) High Accuracy: 200ms

aaa3) Long Range: 33ms

aaa4) Hi Speed: 20ms

aa4) Operating Frequency: 0 – 108 MHz

END 22:38

Slide Explanation:

The Operating Temps:

Arduino: -76F – 302F

Magnetometer: -40F – 185F

Time of Flight: -4F – 158F

Sensor Range:

Magnetometer: Around 2 meters (6.6 ft)

Time of Flight: 0.6 – 2 meters (2 – 6.6 ft)

Signal Speed:

Magnetometer:10 – 200 Hz (5 – 100 ms)

Time of Flight: 20 – 200 ms (Hi speed to Precise)

Power Use (Assuming for 1 hour, at 3.7v):

At Sleep: Approx: 114uA (0.114mA)

Receiving: 36mA (864mAh for 24 hours)

Sending (Normal/Boost): 80mA/161mA (1910.4mAh/3854.4mAh for 24 hours)

Send/Receive (Normal/Boost): 83mA/164mA (2774.4 mAh/4718.4 mAh for 24 hrs)

Enough for 2 minutes???

END 23:35