



# HASP Monthly Status Report

**Report Month:** February 2023  
**Submitted by:** Sara Jones/ Wookwon Lee  
**Submit Date:** 02/24/2023  
**Institution:** Gannon University  
**Payload Number:** 2023-12  
**Payload Name:** UHF-Band Video-Streaming Payload

## I) Activities During Previous Month:

- Configured a Raspberry Pi to function as our video source to use one pi-cam.
- Constructed and successfully tested i5 CPU on mini-ITX motherboard to host DTA2115B for video streaming.
- Acquired a power amplifier to transmit at 442-450MHz UHF band.
- Successfully streamed from raspberry pi-cam, through DC-DC converter and mini-ITX motherboard (hosting DTA2115B) to receiving end, DTA2131.

## II) Issues Encountered:

- No major issues.
- Minor for verification - Readings of the supply current needs more verification as our High-Current power amplifier (BK Precision) and digital multimeter (DMM) current readings show differences, for example, maximum 4.82A on DMM vs. 9.0A on BK Precision display with 12 volts during boot-up with DTA 2115B plugged in.
- Fine tuning streaming specifications for best video quality and least power consumption.

## III) Milestones Achieved:

- Successfully streamed from raspberry-pi using an i5-CPU on a mini-ITX motherboard.

## IV) Plans for Coming Month:

- To optimize power consumption of all subcomponents of the payload.

## V) Other Comments or Questions for HASP Management:

- None at the moment.

## VI) Team Composition and Organization:

Fill in text as necessary plus update table below.

Name <sup>(i)</sup>	Start Date	End Date	Role	Student Status	Race <sup>(ii)</sup>	Ethnicity <sup>(iii)</sup>	Gender <sup>(i)</sup>	Disabled
Wookwon Lee	1/9/23	Present	Faculty Advisor	Faculty	Asian	Non-Hispanic	Male	No
Nicholas Conklin	1/9/23	Present	Faculty Co-Advisor	Faculty	White	Non-Hispanic	Male	No
Andrew Snowdy	1/9/23	Present	Project Lead	Undergraduate	White	Non-Hispanic	Male	No
Kalkidan Lakew	1/9/23	Present	Video source operation & integration	Undergraduate	Black	Non-Hispanic	Female	No
Hannah Jacobs	1/9/23	Present	UHF front-end electronics	Undergraduate	White	Non-Hispanic	Female	No
Zoey McClain	1/9/23	Present	Video source operation & integration	Undergraduate	White	Non-Hispanic	Female	No
Sara Jones	1/9/23	Present	UHF modulator operation & testing	Undergraduate	White	Non-Hispanic	Female	No
John White	1/9/23	Present	i5 CPU integration	Undergraduate	White	Non-Hispanic	Male	No

- i. Current NASA guidance requires information from up to date legal documentation (for instance, Driver's License, Passport)
- ii. Accepted options include African-American/Black, Asian, American Indian/Alaskan Native, Native Hawaiian, Pacific Islander, White
- iii. Accepted options are Hispanic on Non-Hispanic.