Payload Title: DASC – Deployable Antenna Solar Cell

Payload Class: **Small** **Payload ID:**

Institution: University of Maryland Eastern Shore

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I. Mechanical Specifications:

A. Measured weight of the payload (not including payload plate)

Data Logger	85 g
Heater, thermostat	180 g
Camera ,Timer: includes 2 resistors, capacitor, 555 timer, circuit board	180 g
Solar Cell	Solar cells have not been acquired from USF
Deplorably Antenna	To be determined
Construction Materials: ¾ inch screws, fiberglass walls, blue foam insulation, L shape brackets, (payload frame and	500 g
Total:	1.5 Kg (estimated Max.)

B. Provide a mechanical drawing detailing the major components of your payload and specifically how your payload is attached to the payload mounting plate

Exact measurements are currently being examined however will not exceed maximum allowed. The payload will fit into the specified limit of 15 x 15 x 30 cm volume above the mounting plate. The deployable antenna will extend outward from the payload as it is fully erect no more than 20 cm.

The supplied payload mounting plate will be used to attach the payload, and the specified footprint will not be exceeded. On the payload we will use L shaped brackets to secure fiberglass walls to the mounting plate creating a rectangular box shape. The L shaped brackets will be fastened with ¾ inch bolts. The corners of the payload will be lined with a long L shaped bracket to secure walls together.

C. If you are flying anything that is potentially hazardous to HASP or the ground crew before or after launch, please supply all documentation provided with the hazardous components (i.e. pressurized containers, radioactive material, projectiles, rockets…)

N/A

D. Other relevant mechanical information

N/A

II. Power Specifications:

A. Measured current draw at 30 VDC

Supply voltage (V_{CC})	4.5 to 15 V
Supply current (V_{CC} = +5 V)	3 to 6 mA
Supply current (V_{CC} = +15 V)	10 to 15 mA
Output current (maximum)	200 mA
Power dissipation	600 mW

Operating temperature	0 to 70 °C

B. If HASP is providing power to your payload, provide a power system wiring diagram starting from pins on the student payload interface plate EDAC 516 connector through your power conversion to the voltages required by your subsystems.

TBD

C. Other relevant power information

N/A

III. Downlink Telemetry Specifications:

A. Serial data downlink format: Stream **Packetized** (circle one)

B. Approximate serial downlink rate (in bits per second)

N/A

C. Specify your serial data record including record length and information contained in each record byte.

N/A

D. Number of analog channels being used:

2

E. If analog channels are being used, what are they being used for?

Voltage, and Temperature

F. Number of discrete lines being used:

N/A

G. If discrete lines are being used what are they being used for?

N/A

H. Are there any on-board transmitters? If so, list the frequencies being used and the transmitted power.

N/A

I. Other relevant downlink telemetry information.

N/A

IV. Uplink Commanding Specifications:

A. Command uplink capability required: Yes **No** (circle one)

B. If so, will commands be uplinked in regular intervals: Yes **No** (circle one)

C. How many commands do you expect to uplink during the flight (can be an absolute number or a rate, i.e. *n commands per hour*)

N/A

D. Provide a table of all of the commands that you will be uplinking to your payload

N/A

E. Are there any on-board receivers? If so, list the frequencies being used.

N/A

F. Other relevant uplink commanding information.

N/A

V. Integration and Logistics

A. Date and Time of your arrival for integration:

TBD

B. Approximate amount of time required for integration:

N/A

C. Name of the integration team leader:

TBD

D. Email address of the integration team leader:

E. List **ALL** integration participants (first and last names) who will be present for integration with their email addresses:

TBD

F. Define a successful integration of your payload:

The payload will be assimilated in to HASP seamlessly and operate properly.

G. List all expected integration steps:

H. List all checks that will determine a successful integration:

I. List any additional LSU personnel support needed for a successful integration other than directly related to the HASP integration (i.e. lifting,

moving equipment, hotel information/arrangements, any special delivery needs…):

J. List any LSU supplied equipment that may be needed for a successful integration: