

QUBIK-1 and 2



Libre Space Foundation designed, developed, integrated and delivered 2 PocketQube satellites (QUBIK-1 & QUBIK-2) as well as a PocketQube deployer (PICOBUS) to be flown as part of the DREAM payloads program on the inaugural Firefly Alpha launch from Firefly Aerospace. The satellites are expected to be short-lived with only 3 weeks of predicted orbit lifespan.

QUBIK mission is a twin PocketQube satellite mission, designed for amateur radio service and experiment. The science mission of Qubik is to experiment with LEOP (Launch and Early Operations Phase) and passive RF (radio frequency) orbit determination.

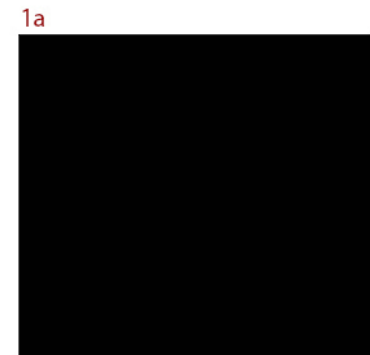
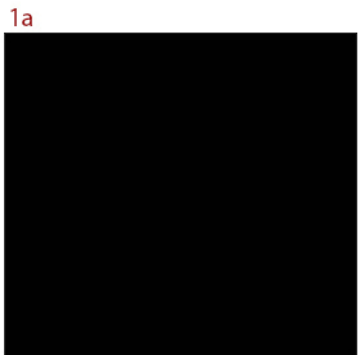
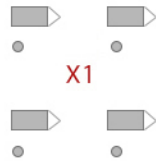
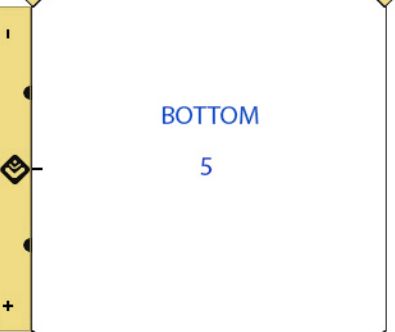
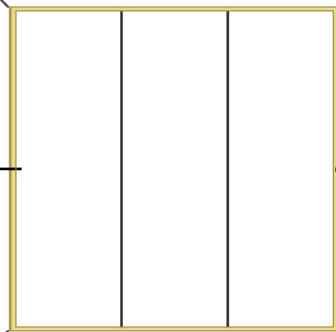
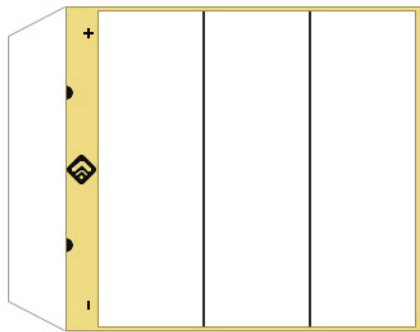
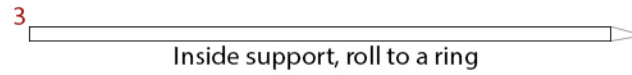
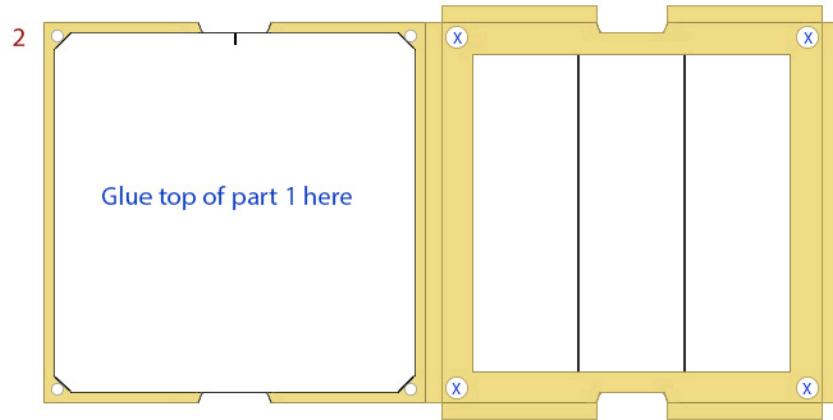
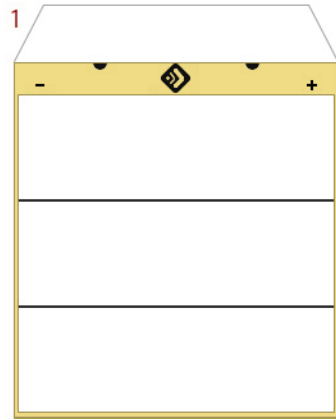
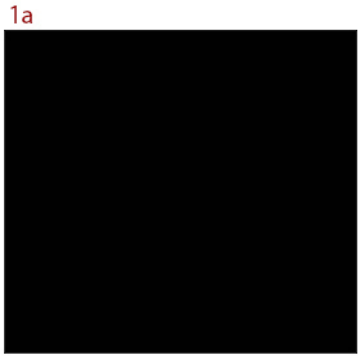
The PocketQubes are tasked to perform Launch and Early Operations Phase (LEOP) Satellite Identification and Tracking experiments. Among the objectives of the experiments is to be able to unambiguously identify satellites early on after deployment and to be able to generate and update existing orbital elements based on Doppler curve tracking. These objectives must be explored in a scalable, distributed and open-source way consistent to the Principles of the Libre Space Manifesto. The fourth objective of the experiments focuses on an in-orbit validation of a re-usable open-source PocketQube Platform.




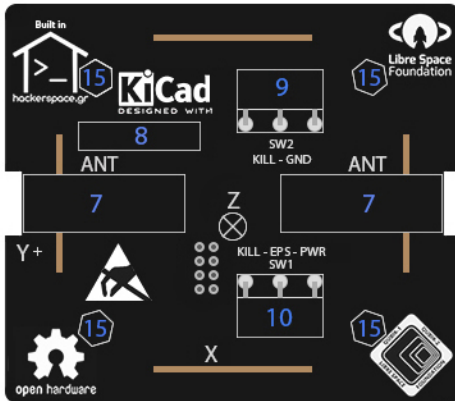
QUBIK-1 and 2

Print model on 65lb cardstock

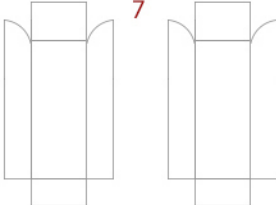
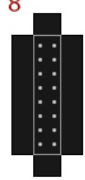
To build both QUBIK 1 and 2,
print each page 2X.

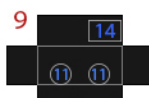
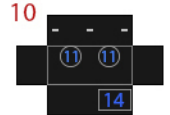




QUBIK-1 and 2

5  **6** 




Glue both to cardstock, then back-to-back, color edges black

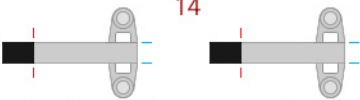
7  **8** 

9  **10** 





11  **11** 

Glue to cardstock Glue to cardstock

12  **13**  **14** 



14 

Color back light grey or silver
Valley fold at the red lines
Mountain fold at the blue lines

15  **16**  **17**  **18** 
















Glue to cardstock Color back Black



19  **20** 

Fold-glue back-to-back at the blue lines

Solar cells

Glue all to two layers of cardstock - color edges black