

Design and 3D Printing of Grape 2 Cases

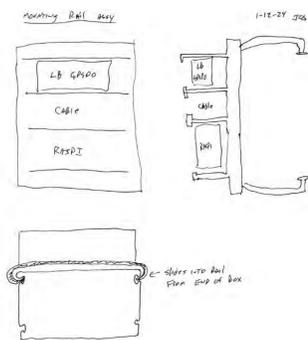
Majid Mokhtari¹, John Gibbons N8OBJ², and Nathaniel A. Frissell W2NAF¹

¹University of Scranton, ²Case Western Reserve University

Abstract

The Grape 2 Personal Space Weather Station is a specialized High Frequency (HF) Scientific Radio Receiver designed to measure Doppler shifts of signals received from standards stations such as WWV, WWVH, and CHU. In this poster, we present the using a CAD software drawings, design process, and photos of cases that were 3D printed for the Grape 2.

Front and Back Panel



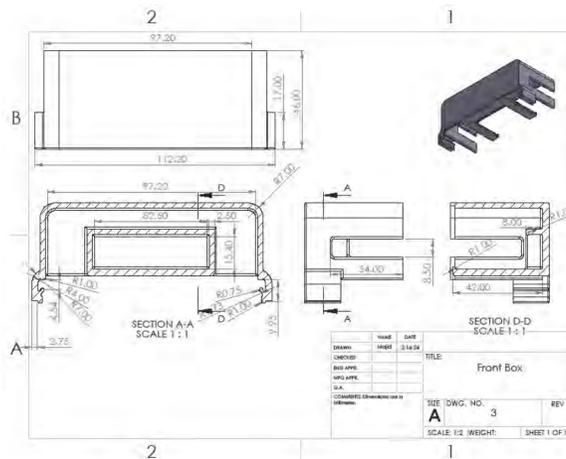
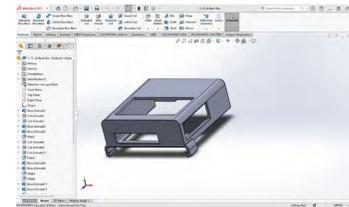
Sliced Info	
Used Filament (g)	17.92
Used Filament (m)	6.01
Used Filament (mm ³)	14451.96
Cost	0.46
Estimated printing time:	
- normal mode	1h10m
- stealth mode	1h12m



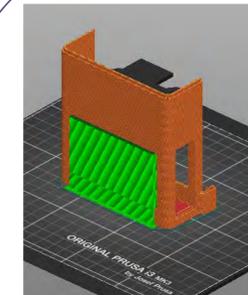
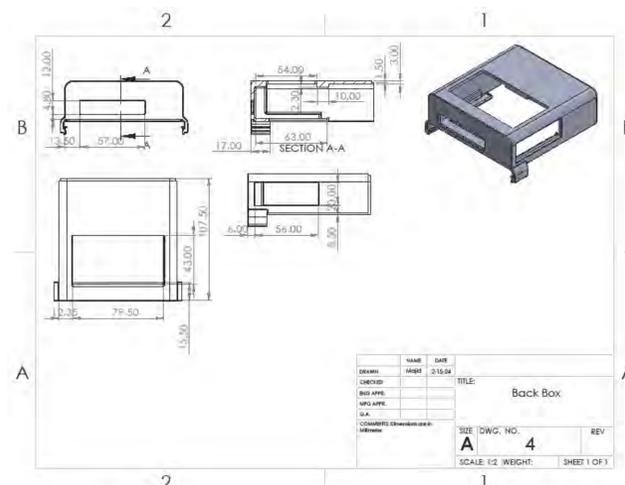
Sliced Info	
Used Filament (g)	15.94
Used Filament (m)	5.35
Used Filament (mm ³)	12856.59
Cost	0.40
Estimated printing time:	
- normal mode	1h3m
- stealth mode	1h4m

Case Body

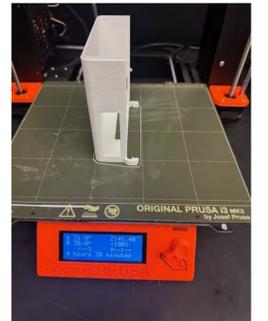
- SOLIDWORKS was used to create the 3D model for the casing.
- Some adjustment needed for the final design of the Front Panel and the Back Panel.



Sliced Info	
Used Filament (g)	32.82
Used Filament (m)	11.01
Used Filament (mm ³)	26470.13
Cost	0.83
Estimated printing time:	
- normal mode	2h44m
- stealth mode	2h47m



Sliced Info	
Used Filament (g)	55.26
Used Filament (m)	18.53
Used Filament (mm ³)	44565.31
Cost	1.40
Estimated printing time:	
- normal mode	4h39m
- stealth mode	4h47m



Digital Files

- Digital files to print these cases are available at <https://doi.org/10.5281/zenodo.10822764>

Final Printing and Assembly

- Final printing was performed by these HamSCI Community members:

B. Engelke – D. Swartz – K. Milnes – D. Hinerman -
D. White – M. Wishek – J. Gibbons – M. Mokhtari



Acknowledgements

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