Jake Messner

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EXPERIENCE

IMPULSE SPACE | RF Engineer | Mar 2023 – Present | Redondo Beach, CA

- Own all stages of design, bringup, test, and integration of Impulse's dual band radio.
- Work with vendors and customers to spec, design, and integrate mechanical fixtures, antennas, and harnesses.
- Build and manage Impulse's wireless development lab and RF test infrastructure.
- Author and maintain S-Band and X-Band link budgets, lineups, and KPIs for regulatory applications.

SKYDIO | RF Engineer | Mar 2021 – Mar 2023 | Redwood City, CA

- Design, bringup, and troubleshooting of WiFi link budgets and PCBs working with transceiver and front end vendors.
- Hardware bringup and Python scripting to automate RF test instruments for manufacturing and precertification testing.
- Analyze and mitigate receiver desense across complex products with multiple RF subsystems.
- Design and bringup GNSS and ADSB receiver front ends.

APPLE | RF Design Engineer | Aug 2019 – Mar 2021 | Intern Jul 2017 - Dec 2017 | Cupertino, CA

- Wrote specifications for cellular front end modules.
- Troubleshot and identified root causes of issues for cellular failure analysis.
- Worked with vendors to deliver RF modules and do SMD assembly.
- Used Ansys HFSS and SIWave to build and execute RF simulations for PCB designs.

STARRY, INC. | RF Engineering Intern | Jul 2016 – Dec 2016, Jul 2018 - Nov 2018 | Boston, MA

- Used Altium for Schematic Capture and Layout of RF PCBs.
- Software lead for Python autonomous data acquisition and testing of new RF FEMs.

EDUCATION

NORTHEASTERN UNIVERSITY | BSEE in Electrical and Computer Engineering with Honors

May 2019 | Boston, MA

Activities: HuskyHacks (Co-Founder) | IEEE (PR Rep) | Husky Ambassador Tour Guide | Wireless Club | AIAA | NUHacks
Honors and Awards: University Scholars Program (Top 1-2% of Applicants) | Dean's List |
MakeBU Hackathon First Place | HackNY Third Place | MakeCU Second Place | First Place Health PennApps
Relevant Coursework: Electromagnetics | Machine Learning | Wireless Communications | Linear Systems | Digital Design |
Computer Organization | Circuits and Signals | Robotics: Sensing and Navigation | Networks | Engineering Algorithms

SKILLS AND INTERESTS

Engineering / Software: Cadence Allegro, Altium, HFSS, ADS, Network Analyzer, Spectrum Analyzer, LitePoint,
3D Printing, Microsoft Office, C, MATLAB, Verilog, Arduino, Python, SPI, I2C, SMD Soldering (01005, BGA)
Certifications: FAA Remote Pilot (3985666), FCC Amateur Radio General (KD2IQR), PADI Divemaster
Other: Photoshop, Astrophotography and Processing, Big Wall Speed Climbing, PADI Divemaster

PROJECTS

REMOTE CONTROL CARABINER (RCB)

Nov 2021 - Present | Redwood City, CA

- Designed aluminum chassis, linear actuator release mechanism, and swaged cables using SolidWorks.
- Programmed Raspberry Pi Zero to receive 915MHz ISM data from remote and utilize low power in standby.
- Utilized LineGrip load cell to conduct multiple iterations of strength testing to determine MBS.

"DEMENTOR" AUTONOMOUS UAV

Jul 2017 - Feb 2018 | Boston, MA

- Designed and constructed drone to execute flight paths, land, and charge autonomously using Ardupilot.
- Setup Qualcomm 4G dongle reverse ssh tunnel to communicate with drone wirelessly over Mavproxy without range limitation.
- Designed and constructed system to hot swap end effectors using nickel plated magnetic contacts.