William **Boxx**

ELECTRONICS ENGINEER (TS/SCI)

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Summary

Senior RF/Electronics Engineer and technical leader with extensive experience guiding enterprise-level electromagnetic spectrum operations across the Department of Defense. Expert in EMC/EMI and RADHAZ assessments, antenna theory/modeling, and RF test/measurement, with a track record of delivering high-impact solutions and mission results. Strong passion for developing Python/MATLAB and .NET tools for RF and antenna modeling — building solvers, data pipelines, and post-processing that validate predictions against range data — and automating RF test workflows (signal collection, switching, calibration, plotting) to cut cycle time and errors. Proven leader of multi-disciplinary teams and multimillion-dollar portfolios, delivering innovative tools/methods that raise mission readiness and operational efficiency. Recognized advisor to senior leadership, effective in strategic planning, stakeholder alignment, and joint/coalition collaboration.

Education

Johns Hopkins University *August 2016*

M.S. IN ELECTRICAL AND COMPUTER ENGINEERING

University of New Orleans *July 2013*

B.S. IN ELECTRICAL ENGINEERING

Experience

Electromagnetics Section Chief *March 2024 - Present*

85TH ENGINEERING INSTALLATION SQUADRON, USAF *Keesler AFB, MS*

- **Directed 60+ global E3/EMI/RADHAZ TDYs and engineering reports** as Electromagnetics Section Chief; aligned plans, resources, and risk to deliver on schedule and standard. *Leadership & Management*
- **Procured $3M+ in RF test assets** and introduced key system upgrades (e.g., A.I. RF characterization, improved sense and detect, auto DF systems), significantly improving mission readiness. *Technical & Mission Support*
- **Resolved personnel conflicts and improved collaboration**, creating a cohesive, productive team environment aligned with DAF diversity and inclusion principles. *Leadership & Management*
- **Implemented structured onboarding and mentorship plans** for Palace Acquire and PCIP interns, ensuring rapid skill development and meaningful mission contributions. *Leadership & Management*
- **Modernized technical report management process** with a new accountability contract system, reducing cycle time and improving stakeholder satisfaction. *Innovation & Process Improvement*
- **Developed the first-ever SART UTC training plan** and integrated civilians into military exercises, boosting team capability and interoperability. *Training & Workforce Development*

Electronics Engineer *May 2010 - March 2024*

85TH ENGINEERING INSTALLATION SQUADRON, USAF *Keesler AFB, MS*

- **Led development of test automation software**, reducing TDY labor hours by 66% and enabling synchronized multi-location RF surveys — modernizing data collection across global missions. *Innovation & Process Optimization*
- **Developed in-house antenna-modeling toolkit (Python)** that computes near-field/far-field boundaries and generates validated antenna patterns and intensity predictions, directly informing RF/EMC/EMI assessments and speeding pre-mission analysis. *Antenna Theory & Software Development*
- **Experience working with phased array radar systems (UEWR, DARC, LRDR, etc.)** to help assess EMC, EMI, and RADHAZ requirements. *Antenna Array Experience*
- **Led 40+ RF T&M TDYs** for E3/EMC/EMI assessments; architected mission-specific test kits from lab inventory and executed end-to-end measurement plans using spectrum analyzers, VNAs, signal generators, power meters, switch matrices, filters, and amps. *RF Instrumentation Experience*
- **Authored 60+ engineering reports** on EME, EMC, EMI, and RADHAZ topics; consistently delivered ahead of schedule, enabling mission-critical decisions for USAF and DoD stakeholders. *Documentation & Communication Experience*
- **Developed a custom binary encoder** that reduced spectrum data storage by 75%, significantly cutting storage costs and improving processing efficiency across the mission data pipeline. *Innovaion & Process Optimization*
- **Created and maintained a GEMSIS frequency database parser** that reduced parsing time by 99%, enabling rapid access to spectrum data for pre-deployment frequency planning. *Innovation & Process Optimization*
- **Mentored and onboarded new engineers, interns, and junior personnel** through structured training, tool familiarization, and continuous support; built team technical proficiency and increased section capability. *Leadership, Training, & Mentorship*
- **Represented SCYM across USAF, DoD, and allied stakeholders** by briefing senior leaders, collaborating with NTIA, AFLCMC, Johns Hopkins APL, OFCOM, and others on spectrum safety, mission coordination, and technical recommendations. *Strategic Communications & Collaboration*

Skills

RF Test and Measurement

Antenna Modeling	Near/Far Field and Pattern analysis in Python
RF Modeling	Coverage, Propagation, and EMC - Various tools
Spectrum/VNA Measurements	Keysight, Signal Hound, Rohde & Schwarz, Anritsu, various SDRs
Test Design and Build	RF amplifiers/filters/switches
Path-loss/Noise Analysis	For data correction and EMC
Threat Environment Emulation	Waveform capture and identification, RDF, geolocation, and jamming
Leadership	Section Chief (20+ personnel), multi-disciplinary training, mentoring
Communication	Author of 60+ technical reports, led dozens of stakeholder briefings

Computer Languages

Highly Proficient	Python, VB.NET, C#
Proficient	SQL, Javascript, MATLAB, LaTeX
Prior Experience	C++, Bash, PowerShell, HTML, CSS, Typescript

Training

Government Sponsored

2025	**Military Personnel Management Course,** DAF	*Distance Learning*
2024	**DAF New Supervisor Course,** DAF	*Distance Learning*
2018	**Cyber 200,** Air Force Institute of Technology	*Wright Patterson AFB, OH*
2015	**Civilian Acculturation Leadership Training,** Air University	*Maxwell AFB, AL*
2015	**Undergraduate Cyber Training,** AETC	*Keesler AFB, MS*

Self Sponsored

2023	**Innovation Mindset Aspire Journey,** Skillsoft	*Distance Learning - 16 hrs*
2021	**Leadership Development Program Powered by MIT SMR,** Skillsoft	*Distance Learning - 11 hrs*
2021	**Emotional Intelligence for Leaders and Managers,** Pluralsight	*Distance Learning - 11 hrs*
2020	**Software Project Analyst to Senior Software Project Manager,** Skillsoft	*Distance Learning - 66 hrs*
2020	**5G Technologies and Practices,** Skillsoft	*Distance Learning - 19 hrs*
2019	**Deep Learning Specialization by deeplearning.ai,** Coursera	*Distance Learning - 101 hrs*
2019	**Machine Learning by Stanford University,** Coursera	*Distance Learning - 61 hrs*

Awards

Civilian of the Year	2016 (squadron)
Civilian of the Quarter	Q1 2016 (squadron), Q2 2016 (squadron), Q4 2020 (squadron)
Quality Step Increase	2020
Outstanding Appraisal Rating (Highest Level)	2018, 2019, 2020, 2021, 2022, 2023, 2024
Civilian Achievement Award	2015
Ten Outstanding Young Americans	2021 (Nominated)
Information Assurance Fellowship	2021 (Accepted)

Community Involvement

Coach *2022 - Present*

Bay Area Youth Soccer *Bay St. Louis*

- Volunteer soccer coach for the Bay Area Youth Soccer League.