

Phased Array Antennas

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Project Summary

As a senior embedded software engineer at Hanwha Phasor, I played a key role in the development of an advanced phased array antenna control system working with LEO and GEO satellites. These systems were tailored for high-speed, on-the-move applications, enhancing communication reliability in dynamic environments.

This involved designing software architecture, developing production firmware, and creating hardware drivers for critical components such as antenna ICs, shift registers, SDRAM, and Ethernet switches. I also implemented and tested phased array control algorithms, ensuring optimal system performance and reliability.

In collaboration with antenna, system and electronics engineers, I helped develop the control algorithms for the phased array antennas. I was involved in system integration, and PCB schematics reviews using Altium.

Additionally, I integrated and controlled the Vectornav Inertial Sensor within phased array systems. This required designing precise interfaces to ensure orientation and stability under varying conditions, a critical factor in achieving consistent performance.

My technical expertise includes STM32H7 multi-core microcontrollers, programming in C and C++, and using tools such as Altium for PCB design and Jenkins for CI/CD pipelines. I also developed bootloaders, conducted extensive hardware and software integration tests, and managed development workflows using Jira and Git. These skills have been instrumental in delivering phased array systems that meet demanding operational requirements.









