

Namaste Project Description

By W5NYV

Need Statement

AMSAT needs a transceiver for amateur radio satellite communications that will serve the public good by being well-designed for emergency communications applications.

The Satellite

The targets are an Intelsat ride-along opportunity and AMSAT's Eagle high-earth orbit satellite project.

The Intelsat opportunity is enabled by recent Department of Defense policy changes that require DoD-subsidized launches to allow secondary payloads to take up excess launch capacity.

This is important because the satellite would provide 24 hour-a-day coverage over a very large geographical area. Intelsats are commercial three-axis stabilized communications satellites. A geosynchronous orbit allows for fixed antenna alignment.

The Ground Station

This effort, named Namaste, is intended to provide a well-engineered solution for the ground station portion of AMSAT's Advanced Communications Project. The system is digital, with an uplink in the band of 5.650 – 5.670 GHz and a downlink in the band of 3.400 – 3.410 GHz. The system is all-digital, with features not found in traditional amateur satellite service communications systems.

Current work is focused on requirements analysis (user driven), antenna research, link budget development, and team-building.

Engineering documents are currently available at www.delmarnorth.com/namaste

The engineering cycle is: design, document, build/code, test, validate.

Design consists of all the creative efforts spent specifying how the requirements will be turned into reality.

Documentation consists of all records concerning designing, building, coding, testing, and validation.

Building and Coding consists of the process of physically producing the hardware and software.

Test consists of determining whether or not the hardware and software work as designed.

Validation consists of determining whether or not the hardware and software meet the requirements.

Next Major Engineering Meeting

At Dayton Hamvention in May 2008.

Contact Michelle w5nyv@amsat.org

Next Major Milestones

Draft of system user requirements published.

The Team

Team Namaste includes but is not limited to the following members, in alphabetical order.

Franklin Antonio N6NKF

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Contact Michelle Thompson for current opportunities on Namaste at w5nyv@amsat.org.