

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. A texting-capable highly-portable Namaste ground station for 2m/70cm operation is also under development. This is called the Namaste SuperPortable.

Current work is focused on requirements analysis (user driven), antenna and feed research, development and analysis of the physical layer, and team-building.

Engineering documents are currently available at www.amsat.org/namaste

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Engineering Design Cycle

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

Design consists of developing requirements and then 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

July 18-20 in San Diego, CA.

Contact Michelle w5nyv@amsat.org

Next Major Milestones

Requirements Design Review

The Team

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

Franklin Antonio N6NKF

Kerry Banke N6IZW

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Doug Scofea KD8ACJ

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