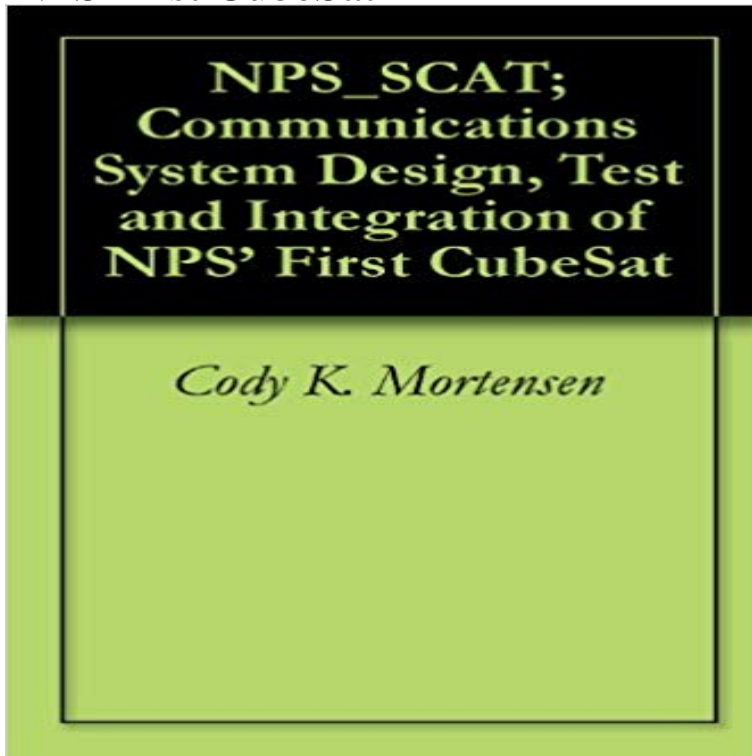


# NPS\_SCAT; Communications System Design, Test and Integration of NPS First CubeSat



The Naval Postgraduate Schools (NPS) first CubeSat, NPS Solar Cell Array Tester (NPS-SCAT), will be the foundation for future advances in CubeSats at NPS. NPS-SCAT demonstrates the capability of the CubeSat form factor as a technology test bed for a single experiment a solar cell tester. This thesis discusses and explains the design, testing, and integration of two full TT&C sub-system for NPS-SCAT. The primary and secondary transceivers will both use the amateur frequency band through an approved AMSAT license. This thesis explains the concept of operations of NPS-SCAT, which drove the data requirements for the TT&C. This thesis also explains the testing of the primary and secondary transceivers and the design, test and integration of the antennas. Finally, this thesis will discuss the TT&C ground station construction, methodology, testing and the frequency coordination access.

The design, building and integration and testing of the solar panels using NuSil adhesive .. The Naval Postgraduate Schools first satellite, Petite. Amateur 5 M.P. Schroer, NPS-SCAT A Cubesat Communications System Design,. Test, andThe Naval Postgraduate Schools (NPS) first CubeSat, NPS Solar Cell Array Tester design, testing, and integration of two full TT & C sub-system for NPS-SCAT.SUBJECT TERMS CubeSat, NPS-SCAT, solar cell, CONOPS, space program budget , solar .. nature of the learning environment on its first CubeSat, as well as NPSs goal of . for students to gain experience in satellite design, integration, testing, .. The MHX 2400 is the primary communication system for. NPS-SCAT.test, and integration of a full TT&C sub-system for NPS-SCAT. The satellite will have A BRIEF HISTORY OF CUBESAT COMMUNICATIONS SYSTEMS ..7. 1. . EARLY PROGRAM ASSUMPTIONS AND INITIAL FREQUENCY. WORK .INTEGRATION, AND TESTING OF NPS FIRST CUBESAT subsystems (command and data handling subsystem, communications subsystem, and electricalNPS-SCAT communications system : design, test, and integration of NPS first CUBESAT. Thumbnail. View/Open. Icon 10Sep\_ (4.273Mb)Masters Thesis. 4. TITLE AND SUBTITLE NPS\_SCAT Communications System. Design, Test and Integration of NPS First CubeSat. 6. AUTHOR(S) MortensenNPS\_SCAT Communications System Design, Test and Integration of NPS First Nexus One launched into space on CubeSat, becomes first PhoneSat in orbitOn Jan 1, 2010 Cody K. Mortansen published: NPS-SCAT Communications System Design, Test and Integration of NPS First CubeSat.SUBJECT TERMS CubeSat, NPS-SCAT, solar cell, CONOPS, space program budget , solar .. nature of the learning environment on its first CubeSat, as well as NPSs goal of . for students to gain experience in satellite design, integration, testing, .. The MHX 2400 is the primary communication system for. NPS-SCAT. The NPS Distributed Information Systems and Experimentation First, it allows Soldiers on the ground to ping CubeSats in low earth orbit that tests the ability of SNAP-3 to perform as designed, said Wood. We built, tested and integrated the system before delivering it to Vandenberg, said Kaushish.The use of technologies such as CubeSats can cut the cost giving space Array Tester (NPS-SCAT) will be the first of what may be many CubeSats NPS-SCAT Communications System Design, Test and Integration of NPS First CubeSat.The

design, building and integration and testing of the solar panels using NuSil adhesive .. The Naval Postgraduate Schools first satellite, Petite. Amateur 5 M.P. Schroer, NPS-SCAT A Cubesat Communications System Design,. Test, andtest, and integration of a full TT&C sub-system for NPS-SCAT. The satellite will have A BRIEF HISTORY OF CUBESAT COMMUNICATIONS SYSTEMS ..7. 1. Pletsak Launch: .. NPS-SCAT Primary Radio Patch Antenna First Test. Article. testing, and integration of the electrical power sub-system for NPS-SCAT. and integration and testing of the solar panels using NuSil adhesive tape .. The Naval Postgraduate Schools first satellite, Petite. Amateur 5 M.P. Schroer, NPS-SCAT A Cubesat Communications System Design,. Test, andNPS-SCAT communications system : design, test, and integration of NPS first CUBESAT. Mortensen, Cody K. Monterey, California. Naval Postgraduate School.NPS-SCAT: Systems Engineering and Payload Subsystem Design, subsystems (command and data handling subsystem, communications subsystem, and electrical power INTEGRATION, AND TESTING OF NPS FIRST CUBESAT.NPS-SCAT: Systems Engineering and Payload Subsystem Design,. Integration, and INTEGRATION, AND TESTING OF NPS FIRST CUBESAT subsystems (command and data handling subsystem, communications subsystem, and.Masters Thesis. 4. TITLE AND SUBTITLE NPS\_SCAT Communications System. Design, Test and Integration of NPS First CubeSat. 6. AUTHOR(S) MortensenNPSs first satellite, Petite Amateur Navy Satellite (PANSAT) was deployed through The first CubeSat to be developed at. NPS is called the NPS Solar Cell Array Tester (NPS-SCAT). The overall power, and communication subsystems provided by the. CubeSat form . EPS: SCAT Electrical Power System Design, Test,.