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ADVANCED ELECTRICAL GROUND SUPPORT EQUIPMENT (EGSE) ARCHITECTURE FOR
GEOSTATIONARY COMMUNICATION SATELLITE

Abstract

This paper presents Electrical Ground Support Equipment (EGSE) and Payload Special Check out Equipment (SCOPE) for the test and measurement of communication satellite Payload at subsystem and system level. The main emphasis of this paper is to demonstrate the principle test equipment and instruments that are used during the payload testing at all the levels of satellite development. Also it covers the payload test matrix for an automatic test control setup.

Electrical Ground Support Equipment (EGSE)/ Special Check out Equipment (SCOPE) requirements, functions and architecture for C-band and Ku-band payloads are presented in details along with their interfaces with satellite during different phases of satellite testing. It provides test setup, in a single rack cabinet that can easily be moved from payload assembly and integration environment to thermal vacuum chamber all the way to launch site (for pre-launch test and verification).