IOT Systems, LLC

Simulation Lab

Simulation Lab

Features

► Wide-band operation at C-, Ku-, and Ka-band frequencies. Bandwidths up to 250 MHz
► Use of space qualified hardware for critical components
► Full 36 MHz, 54 MHz, 41 MHz, and 72 MHz transponders
► Simulation of channel impairments including continuously variable delay, Doppler shift, rain fade, and tropospheric scintillation
► Adjacent channel, co-channel, adjacent transponder interference, and cross-polarization interference simulation
► Signal monitoring and interference addition at intermediate points
► Standard and user defined impairment profiles
► Noise generation for carrier to noise measurements
► Windows drop down graphical user interface

Applications

► End-to-end RF radio link and satellite link simulation for fixed or mobile channels using transponder hardware
► Satcom equipment system performance verification
► End-to-end bit error ratio (BER) with adjacent-/co-channel, adjacent transponder, and cross-polarization interference
► Transponder loading scenarios with multiple carriers
► Impact of imperfect group-delay and amplitude equalizations in the satellite links on the modem BER
► Evaluation of interference scenarios
► Evaluation of the performance of new modulations over non-linear satellite links
► Real-time subjective and objective video/audio analyses

C-Band Satellite Simulator

Contact Us:
IOT Systems, LLC
22300 COMSAT Drive
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IOT Systems, LLC is a complete satellite services company continuing the mission begun over 40 years ago with the launch of Early Bird: fostering the growth of the commercial communications satellite industry.

IOT Systems, LLC®

Services

► End-to-end RF radio link and satellite link simulation for fixed or mobile channels using transponder hardware

► Satcom equipment system performance verification

► Evaluation and characterization of SSPAs/TWTAs

► Recreation of field anomalies to locate source of problems

► Field testing of satcom equipment and antenna platforms

► Subjective testing of video and audio signals

► Earth station alignment and testing to INTELSAT IESS-308 and Inmarsat SOP-310 standards

► Calibration and verification of software models

Ku-Band Satellite Simulator

Facility Equipment

► International and domestic C- and Ku-band satellite simulators

► Global, zone, hemi-, and spot-beam transponders with 36, 41, 54, and 72 MHz bandwidths

► Mobile channel multipath fading simulator at L/S-band

► Ship motion simulator with two orthogonal axes of motion

► Large 12ft x 8ft shielded room with >100 dB attenuation

► Video and audio subjective evaluation Dark Room

► Extensive inventory of RF and microwave test equipment

► Ancillary RF and microwave components, e.g. precision vane attenuators, mixers, filters, equalizers, waveguides, hybrids, etc.

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