SmartSAT's family of satellite simulators set the standard for UHF SATCOM test equipment. An essential component of every well-equipped SATSOM testing and training facility, the rugged, reliable, and easy to use, SATSIM accurately simulates satellite channel and propagation characteristics, enabling users to test radio performance, troubleshoot communication systems and train personnel.

FEATURES

- Selectable external or internal reference
- Fully controllable signal and noise levels
- Programmable propagation time delay
- Intuitive touch screen interface
- Internal white noise generator
- USB remote control port
- One year warranty

1-Channel SATSIM
USS-101-001

4-Channel SATSIM
USS-101-400

2-Channel SATSIM
USS-101-003

HIGHLIGHTS

SATSIM is the ideal device to deploy in test labs or in the field for evaluating and troubleshooting critical UHF SATCOM transceivers and receive-only terminals.

This versatile test set…

• allows the user to quickly determine if a radio or SATCOM system is operating to specification.

• includes built-in independent synthesizers enabling the selection of any uplink or downlink frequency on a per channel basis.

• provides total control of receive signal level, noise power, and signal-to-noise ratio.

• allows the user to determine the impact of platform movement in a laboratory environment utilizing a built-in Doppler generator.

• provides a wide range of time delay selections for testing network timing.

• provides accurate simulation of UHF satellite channel characteristics.

SYSTEM INTEROPERATBILTY

SATSIM simulates the hard limiting narrowband filtering (5 and 25 kHz) characteristics of all UHF satellites, including:

AFSATCOM	LEASAT
Intelsat 22	UFO
(IS-22)	MUOS
Skynet 5	

SATSIM is an excellent test aid for all common UHF SATCOM systems, such as:

Integrated Waveform (CIB / IBS-1 / IBS-S)
DAMA
Secure Narrowband Voice

MECHANICAL SPECIFICATIONS

Weight	<45 lbs
Size	19" Rack mount, 3U 24" Deep

ELECTRICAL SPECIFICATIONS

Input Voltage	100 – 240 VAC
	47 – 66 Hz
Power	25 W Max. per channel

TEMPERATURE SPECIFICATIONS

Storage	-20°C to +70°C
Operating	0°C to +55°C

ACCESSORIES

AC Cables	US 3 Prong Plug
Interface Cable	Standard USB
Power Attenuator*	100 W, 30 dB
RF Cable*	N to BNC

*1 ea per channel

PERFORMANCE CHARACTERISTICS

Signal Control Range
    Maximum input -10 dBm
    >80 dBm range in 1.0 dB increments

Noise Source
    Internal white noise generator
    >62 dB range in 0.5 dB increments

Doppler Generator
    0 to ±5 kHz
    Programmed to user profile
    Rate of change to 100 Hz/sec

Time Delay
    0 to 300 msec
    Programmed to users' parameters

SATSIM LabVIEW Module | USS-LVM-100

Provides complete control of SATSIM functions and can be easily integrated into the users custom LabVIEW program for full customization of the testing environment .

DAMA CCOW | Option D

Provides a single DAMA Channel Control Orderwire (CCOW) installed in the SATSIM, allowing the unit to perform as a 25 kHz DAMA Net Controller in the DC, unencrypted orderwire mode. This options generates the CCOW and provides network timing via the downlink transmission

Filtered RX/TX Port Installed | Option P

Provides a single filtered port connection on the SATSIM, in addition to the standard connectors, for uplink and downlink RF signals.

Combiner Attenuator Test Set | SSC-101-400

The Combiner Attenuator Test Set (CATS) is an external test set that simulates over-the-air RF network by combining uplink and downlink signals from multiple sources into a single RF environment.

Over-The-Air-Kit | USS-OTA-002

Allows users to communicate over short distances (<2 km) to the shipboard, airborne or other user platforms and equipment. The kit consists of two portable SATCOM antennas, a filtered preamplifier, bias-tee, and low power amplifier and internal filters which can be ordered with new SATSIM or retrofitted into SATSIMs with touch-screen displays.

Removable Touch Screen Display | USS-RT-XXX

A removable touch screen display that can be substituted for the built-in touch screen display on all bench-top and rack mount SATSIM models. The Removable touch screen comes standard on all Briefcase SATSIMs.

Maintenance and Calibration | USS-CAL-X

Provides detailed inspection, maintenance and system calibration to ensure equipment is functioning optimally and in accordance with original specifications. Maintenance and Calibration is recommended annually.

Other Customization

70 Mhz IF and other custom options are available upon request.

Training

Full SATSIM user training provided at user site.