



How to Use the GRB Simulator to test User Terminal Systems

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- Provides on-site testing of user ingest and data handling systems, such as GOES-R Rebroadcast (GRB) field terminal sites
- Simulates GRB downlink functionality by generating Consultative Committee for Space Data Systems (CCSDS) formatted GRB output data based on user-defined scenarios, test patterns, and proxy data files.
- Includes ready-to-use configurations, scenarios, test patterns and proxy data

Purpose of GRB Simulator

Simulates the generation of Consultative Committee for Space Data Systems (CCSDS) formatted GRB output Level 1b data from five GOES-R Instruments (ABI, SUVI, EXIS, SEISS, and MAG) and also simulates Level 2 data packets from the GLM.

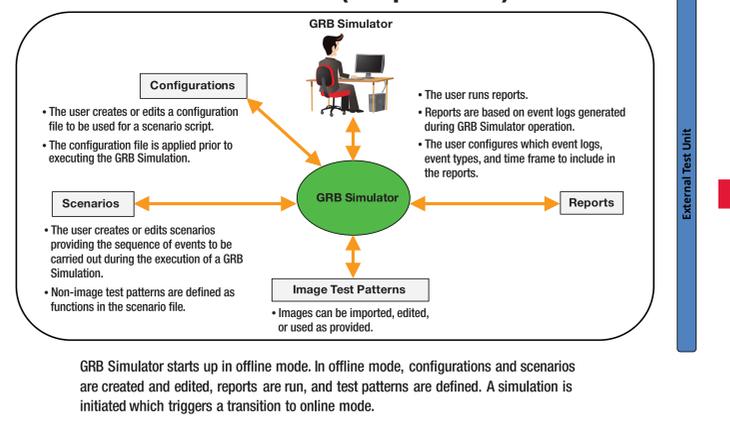
Generates output streams for each circular polarization (LHCP and RHCP) up to 15.5 Mbps per channel using either baseband (digital) or IF transmission method and GRB output data used for on-site testing of user ingest and data handling systems.

The GRB Simulator (GBS) is a fully self-contained system which includes all hardware units needed for operation

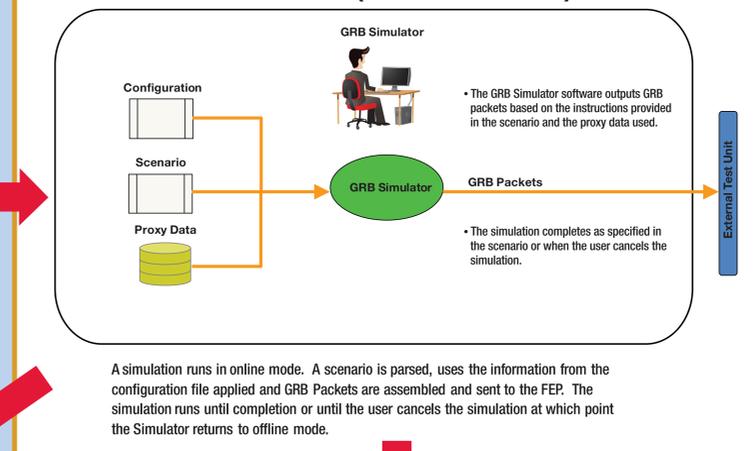
FRONT SIDE BACK SIDE



Offline Mode (Preparation)

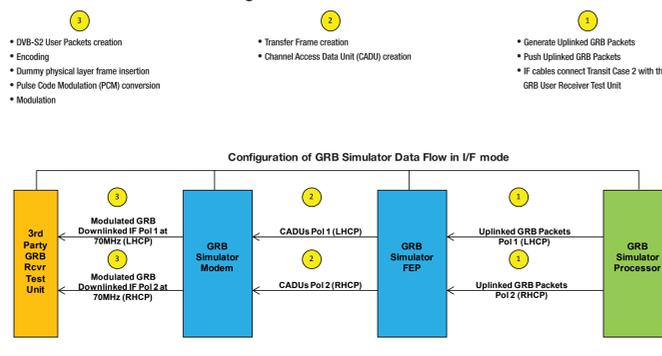


Online Mode (Run Simulation)



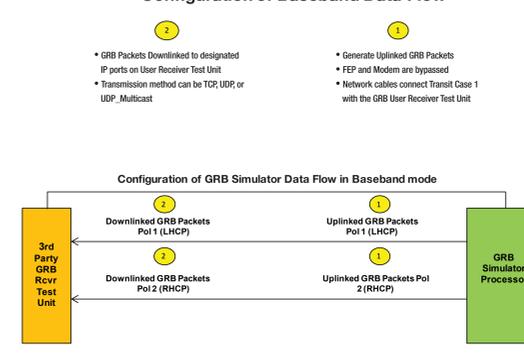
External Connections

Configuration of I/F Data Flow



External Connections

Configuration of Baseband Data Flow



DATA TYPES

Image Test Patterns

- Image Test patterns are test data that are defined by a user
- For imaging instruments (ABI and SUVI), a user can manually create test pattern images using a provided graphical editor
- These graphical image test patterns can be saved in JPEG or PNG format as monochrome or color (RGB) images

Non-Image Test Patterns

- Non-image test patterns, which apply to non-imaging instruments (GLM, SEISS, EXIS, and MAG), may also be defined by the user
- Non-image test patterns are limited to sinusoidal, square, and triangle patterns

Proxy Data

Proxy data are image and non-image test patterns that have been transformed into L1b formatted proxy data suitable for use by the Simulator

HOW TO BORROW A GRB SIMULATOR

GRB Simulators are available for loan through the GOES-R Project
For information on requesting a simulator, visit <http://go.usa.gov/WvXY>

For more Information, see the GOES-R Web Site at: <http://goesr.gov/users/grb.html>

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