

Protocol Test

6103 AIME and 6103 AIME/CT A-GPS Test Solution

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System Description

- A-GPS and GSM/(E)GPRS MS air interface protocol development and conformance test system
- Comprehensive suite of all 33 3GPP TS 51.010 section 70 A-GPS test cases
- Full integrated logging facility of all layer 3 RRLP messaging
- Integrated high performance 12 channel GPS satellite simulator
- Available as an upgrade to the already widely used and industry-respected 6103 AIME and AIME/CT systems

Benefits

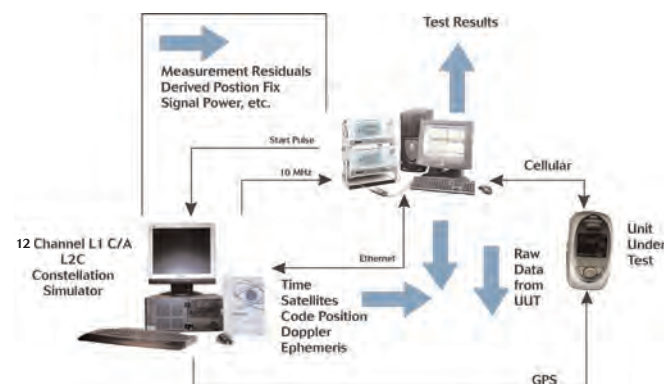
- Automation provides a quick and effective method for long repetitive GPS test runs
- Easy decoding of RRLP messaging makes identifying protocol issues quick and easy
- No need for frequent field testing in networks where you have no control over network behavior
- Accelerate development of products for emerging location-based services markets in North America, Europe and Asia

Aeroflex introduces Assisted GPS (A-GPS) support on the 6103 AIME for device R&D and on the 6103 AIME/CT for conformance testing. Location-based services (LCS) hold out considerable promise as a valuable revenue generator for wireless carriers.

Their extension beyond the realms of the emergency services and into the commercial arena looks set to open up a significant opportunity for wireless carriers to provide their subscribers with value-added applications and services utilizing location-based functionality.

Consequently time-to-market and cost-to-market are critical while development complexity is further increased with the addition of A-GPS functionality.

To address the rapidly emerging market for A-GPS based devices, while continuing to reduce time-to-market and the need for costly field trials, Aeroflex has created a fully integrated A-GPS test solution based on its well-proven 6103 AIME and 6103 AIME/CT mobile handset test systems. Allowing repeatable, deterministic and automated testing within a lab based environment.



The 6103 AIME system and Navigation Laboratories L1 GPS simulator are a fully integrated solution, providing both the cellular and GPS RF output coupled through a combiner within the GPS rack. The rack, as well as housing the GPS simulator, also provides either a single connection to a combined GSM/GPS connection or separate RF connections to the device's GPS receiver and the GSM antenna.

GPS Simulation

Aeroflex has partnered with Navigation Laboratories, a leading provider of GPS test solutions, to provide an integrated 12 channel Constellation Simulator that is already widely used in global avionics, defense and space applications, but exclusively used by Aeroflex for A-GPS testing in wireless markets. The NavLabs satellite simulator emulates the entire 24 satellite GPS constellation and provides high performance modeling of all associated GPS satellite and vehicle effects, to provide a complete environment for developing and testing A-GPS devices.

Supported Features

The 6103 AIME and 6103 AIME/CT supports all 3 location methods defined in 3GPP.

Mobile-Assisted is where a device is sent via the network all the data concerning the location of the satellites (assistance data). The device then makes the measurements and sends these back to the network, so a position fix can be made on the network side.

Mobile-Based, the assistance data is again provided however the terminal calculates the position fix and sends it back to the network. This method is often favored by operators as infrastructure costs and complexity is reduced.

Conventional GPS, where a device supporting speech and a traditional GPS chipset, but not supporting any assistance data, instead using a traditional GPS fix, then sending the location back to the network over a simple RRLP message. This is typically only used in emergency 911 or 112 situations.

Auto-assistance data is generated from the GPS simulator and sent through the AIME system and delivered over the control or user plane to the mobile terminal without any need for manual intervention.

To support the upcoming commercial LCS market, where location will become a key factor in instant messaging or 'where are you or your friends' applications, Aeroflex has developed the 6103 AIME system to be able to support user plane location techniques, such as OMA based SUPL.

System Configuration

The following option is required to upgrade a 6103 AIME system to support A-GPS:

- 6103G-361 - A-GPS AIME
- 6103G-95 - GPS Constellation Simulator (NLC-LP-AGPS)

The 6103 AIME/CT requires the above option as well as the following to be able to run all the 3GPP TS51.010 section 70 A-GPS test cases. This includes all the A-GPS tests listed in the GCF work item 16 and PTCRB RFT 34.

- 6103G-378 - A-GPS AIME/CT
- 6103G-695 - Assisted GPS Network Induced Tests Section 70.7.x
- 6103G-696 - Assisted GPS Mobile Originated / Terminated Tests 70.8.x to 70.10.x

Support

Support of the system is an essential element in maximizing efficiency and return on investment of the equipment. Aeroflex offers several comprehensive hardware support packages which are tailored to typical usage profiles.

The solutions are delivered with a comprehensive worldwide hardware, software and test case support package. Three tiers of support packages are offered to the user: Standard, Silver and Gold.

Regardless of the level of support chosen, users have access to a helpdesk facility where any faults or issues can be logged and are guaranteed to receive a response from Aeroflex within the next working day.

The support also covers issues such as specification tracking and any changes in the 3GPP versions of the standard. To fulfill specific support needs, the user is able to customize any of the support packages.

Further details about support can be found in the support section on the Aeroflex web site.

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