

# Protocol Test

## 6103 AIME and 6103 AIME/CT GAN/UMA Test Solution

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### System Description

- GAN and GSM(E)GPRS MS air interface protocol Conformance Test System
- Comprehensive suite of 3GPP TS 51.010 section 80 GAN test cases
- Integrated logging of all cellular and GAN protocol layers in one easy to use MMI
- Single platform through the development life cycle of GAN R&D, Integration & Conformance Testing
- Automated Test Cases able to be run in the same regression or conformance campaign as GSM / GPRS or EGPRS test cases

### Benefits

- Faster testing cycles as all Cellular and GAN tests can be run from a single regression test campaign
- Easy to use MMI logs all Cellular and GAN messages in one GUI
- Pre-conformance and compliance testing can be performed in a lab based environment, reducing test times and costs

Aeroflex introduces its Generic Access Network (GAN) test solution on the well proven and established 6103 AIME and 6103 AIME/CT systems.

Often referred to as UMA (Unlicensed Mobile Access), GAN is a 3GPP release 6 feature where a cellular device equipped with a second wireless transceiver such as 802.11g can register not only through a cellular protocol stack such as GSM but also through a second IP based connection such as WLAN.

Handovers and cell (re)selection are a critically important role in GAN device testing as voice and data loss is undesirable. Maintaining the best link quality and QoS is paramount to end user satisfaction and GAN adoption in the market. The Aeroflex GAN solution is able to test both of these features within one single control environment, complete with full message logging of both the GSM and GAN messaging.

The 6103 AIME can be upgraded to support GAN testing from a basic 1 test set configuration supporting just GSM and GPRS through to its more comprehensive configuration of up to 8 test sets and supporting EDGE.

Offering a powerful, flexible and comprehensive test tool the 6103 AIME/CT extends its capability of supporting GSM, AMR, DARP, GPRS, EGPRS and DTM test cases. It also supports a complete suite of all GAN test cases as listed in 3GPP TS51.010 section 81, 82 & 83, speeding up the development lifecycle from initial DSP, protocol R&D, and system integration through to pre-compliance and certification of GSM/GAN devices.

## Supported Features

The system supports all three specified suites of cryptographic algorithms associated with IKEv2 and the three specified suites for IPSec ESP. Authentication using EAP-SIM and EAP-AKA are supported, therefore allowing the system to test both GSM & dual mode / GAN terminals.

## GANC Emulation

Aeroflex has developed a simple upgrade to the 6103 AIME and 6103 AIME/CT systems to emulate a 3GPP compliant GAN network over an 802.11b/g WLAN, by developing its own GANC emulator. Capable of handling the Security GateWay functionality required to terminate the complex encryption algorithms necessary to protect the traffic over the unlicensed WLAN spectrum, requiring the following hardware :

- PC running Linux to emulate the GANC Security GateWay (SeGW)
- Two 802.11b/g access points

## System configuration

The following option is required to upgrade a 6103 AIME system to support GAN and includes two 802.11b/g access points and a Dell PC with global support running Linux.

- 6103G-325 - GAN AIME

The 6103 AIME/CT requires the above option as well as the following to be able to run all the 3GPP TS51.010 section 81, 82 & 83 test cases.

- 6103G-379 - GAN AIME/CT
- 6103G-680 - GAN Discovery and Registration section 81
- 6103G-681 - GAN CS and PS Domain Procedures section 82/3

## 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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