August 2017

Certification News

How GCF works

GCF members can request for new or updated mobile functionality to be brought into certification by submitting a Work Item Proposal (WIP) to GCF's Steering Group (SG). Approved WIPs are passed to one of GCF's Agreement Groups.

The Conformance Agreement Group (CAG) develops and maintains certification criteria that demonstrate a device conforms to standards.

The Field Trial and Interoperability Agreement Group (FTAG) develops certification criteria for interoperability and field trial test scenarios. Field trials are an essential element of GCF testing and unique to the GCF certification scheme.

CAG2 manages the conformance testing regime for 3GPP2 devices (cdma2000).

The relevant Agreement Group develops the original high-level WIP to create a more detailed Work Item Description (WID). The WID specifies a selection of relevant test cases sufficient to provide a robust assessment of the functionality covered by the Work Item.

Whenever possible, GCF draws on test specifications defined by the standards body which created the underlying functionality.

The test industry uses GCF's conformance test case selections to guide the development of their own test platforms. Test companies can submit their platforms for validation by GCF.

GCF's Device Certification Criteria (DCC) database is the vitally important resource for the industry containing detailed information on all the test cases required to test and certify all technologies and functionalities covered within the GCF scheme. It also contains listings of validated test platforms.

CAG, FTAG, and CAG2 all meet quarterly, between successive SG meetings.

CAG scores 50 at Wembley

GCF's Conformance Agreement Group reached the milestone of its 50th meeting when CAG met at Wembley Stadium in London in April. The meeting was kindly hosted by UK operator EE which has made the world-famous venue a testbed for mobile technologies. Valerie Townsend, who participated in the first meeting and later served as a chair over many years, shared her recollections on the origins of CAG in the GSM era and its evolution to support the introduction of 3G and then LTE. Cutting the celebration cake are (from left to right) Thomas Bannet, Director of the EE device test laboratory, Valerie Townsend, Umer Javaid, EE's Senior Device Testing Engineer together with Rasheed Mohammed of Motorola Mobility and Wolfgang Schubert of Rohde & Schwarz, the current CAG Chair and Vice Chair respectively.

Work Items handled by GCF's agreement groups typically fall into four broad categories: new mobile technologies and functionalities; existing technology or functionality that has been extended to a new frequency band; existing functionality that has been updated and enhanced in a later release of core standards. A recent development has been Work items that allow a functionality to be certified for a particular Carrier Aggregation band combination.

New functionality brought into GCF at CAG#50 included Enhanced Voice

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New IoT Agreement Group

With the 'Internet of Things' (IoT) predicted to revolutionise almost every aspect of our lives as well as generating cost-savings and new revenue opportunities for businesses throughout the economy, GCF is at the forefront of ensuring these new products and services will be interoperable with IoT networks and services.

GCF Certification already covers new Low Power Wide Area (LPWA) radio technologies NB-IoT and LTE CAT-M1. The first GCF-certified products incorporating NB-IoT or CAT-M1 are expected in 2H2017. In addition, GCF has recently launched a new IoT Agreement Group (IAG) to develop certification criteria and processes to assess IoT services and Application Programming Interfaces (APIs) to ensure that the smart products and services of the future can correctly interoperate with each other. GCF is keen to welcome IoT experts and companies developing IoT products and services to participate in IAG.

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CAG scores 50 at Wembley

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Services (EVS) for VoLTE and Smart Congestion Mitigation in LTE (Rel-12).

At the start of CAG#50, 25 LTE bands were covered by GCF. Conformance testing of LTE devices is covered by three umbrella Work Items covering RF, EPC and Protocol which need to be adapted to each new spectrum band. At Wembley, all three umbrella Work Items were activated for TDD Band 34 (2100 MHz). The Protocol Work Item was also activated for FDD Band 66, paving the way for the full activation of the extended US AWS band in the near future.

Carrier Aggregation

Operators worldwide continue to deploy Carrier Aggregation to enhance the efficiency of their own networks and to be able to offer higher data rates to their customers by allowing them to use multiple LTE frequency bands simultaneously. Certification enables manufacturers to verify that their devices can deliver this enhanced performance effectively. However, Certification Criteria need to be validated for each new Carrier Aggregation band combination. Tests for five new band combinations were added to DCC at CAG#50: CA_3A-3A; CA_3A-40A; CA_3A-20A-32A: CA_40D; and CA_41D.

Also related to Carrier Aggregation was the activation of tests for Rel-12 Small Cell Enhancements in the following band combinations: CA_1A-3A-19A; CA_1A-5A-7A; CA_2A-2A-5A and CA_5A-7A.

Minimisation of Drive Test (MDT) for LTE Rel-10 was also extended to both Bands 34 and 66 while conformance testing of Enhanced Downlink Multiple Antenna Transmission for LTE has been added for Band 66 devices.

Single Radio Voice Call Continuity in alerting phase (aSRVCC) has been activated for Band 34.

Enhancing device performance

3GPP continues to update core standards to enhance performance as perceived by device users. Work Items supporting some of these developments were activated at Wembley, including LTE Coverage Enhancements for Bands 2 and 4.

Uplink 64QAM, which improves data rates in LTE devices, was activated for FDD Bands 1, 2, 3, 4, 5, 7, 8, 18, 20, 26, 28, and CA bands combination 38C.

High Power class 2 operation testing has also been activated for TDD Band 41 devices.

The activation of Enhanced, and Further Enhanced Inter-Cell Interference Coordination (eICIC & feICIC) Work Items will help demonstrate devices include functionality to manage interference while Band 34 devices can also be tested for Improved Minimum Performance Requirements: Interference Rejection.

Rel-9 EPS Enhancements have been activated for Bands 34 and 66 while Rel-10 EPS Enhancements have been activated for Band 66.

Test Platforms

Two new test platforms were added to the Device Certification Database at CAG#50

- Keolabs NFC ETSI SHDLC and HCI Test Suite for CLF
- Radisys UE Test Engine

CAG#50 in progress at Wembley Stadium

FTAG focuses on NB-IoT, RCS and IMS

The Field Trial Agreement Group met at the conclusion of CAG#50. The meeting discussed the development of field testing for RCS to accommodate the latest version, CPR (Crane Priority Release) and the use of NB-IoT test networks. Delegates also initiated an investigation into the optimal field testing of IMS functionality on devices incorporating GCF-Certified Modules.

A dozen CDMA devices

CAG2 met in Overland Park, Kansas, USA in April hosted by Sprint. At the date of the meeting 12 cdma2000 devices had been GCF-certified since the start of 2017.

Meet GCF: Industry events & workshops

GCF continues to seek opportunities to meet with mobile industry stakeholders around the world at industry events and workshops.

GCF workshops discuss interoperability issues of concern to the mobile industry in particular regions. At the September workshop in Shenzhen, China, GCF will continue its discussions with local manufacturers about how participation in GCF contributes to improvements in the quality of handsets and IoT devices.

GCF will be at MWC Americas in San Francisco in September and continues its focus on Latin America at Mobile 360 Series Latin America at the end of October having been representated at the America Digital conference and exhibition in Chile in July.

Following on from the workshop in Dubai in early July, GCF returns to the Middle East for Mobile 360 series MENA in October.

Check GCF's event webpage for more detailed information. To arrange a meeting with GCF around any of these events and workshops, please contact gcf@globalcertificationforum.org.

August 2-3	Verizon Wireless Test Fest, Bridgewater, NJ, USA
September 7	GCF China Regional Workshop, Shenzhen, China
September 12-14	MWC Americas, San Francisco, USA
October 9-10	Mobile 360 Series MENA, Dubai, UAE

Membership Matters

22 companies have joined GCF in 2017, taking total membership to 308. New members since the last edition are:

Manufacturers

- Longcheer, China
- LongSung, China

Associate Manufacturers

- Essential Products, USA
- Kippy, Italy
- Sharp, Japan
- Smart Products Connection, Spain
- Wiko, France

Observers

- ARM, UK
- TuV Rheinland, Germany

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