

Welcome / Bem-vindo



Mobile and IoT Device Certification in Latin America

2019 March 26th



Telefonica

Welcome / Bem-vindo



GCFTM

Global Certification Forum

**Agenda and
Introduction to GCF**

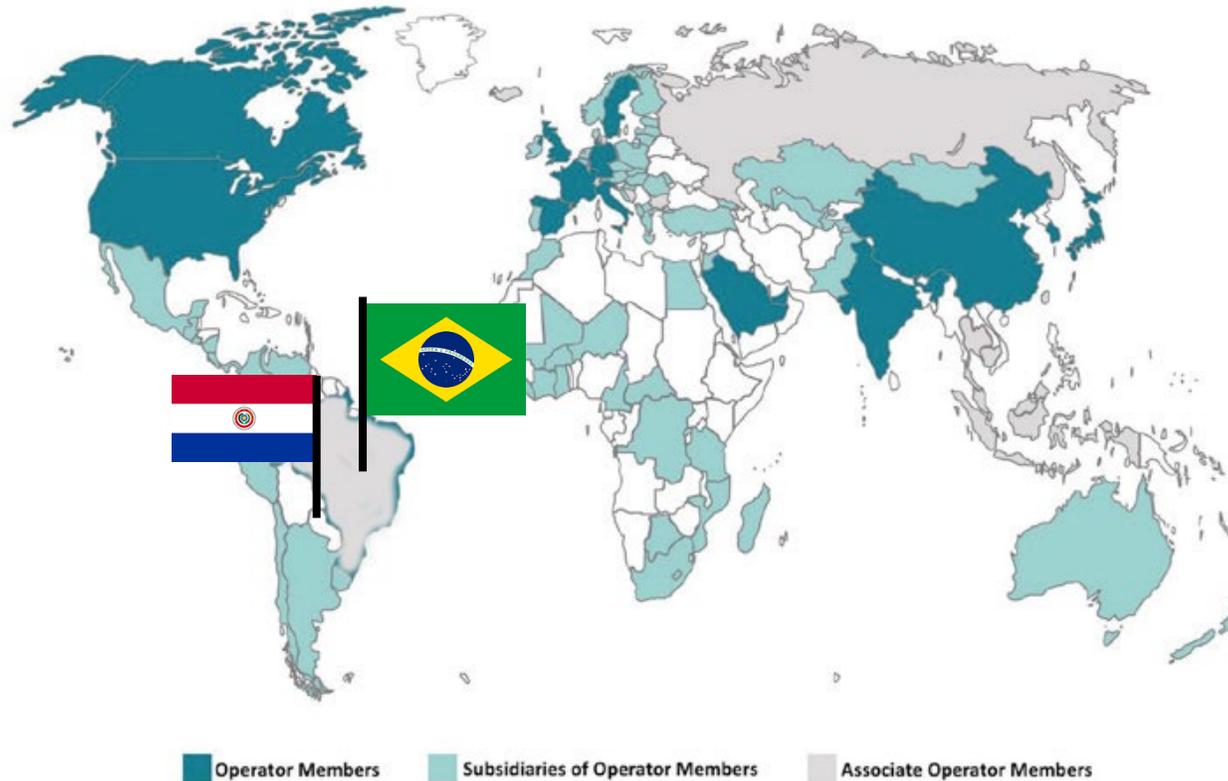
Lars Nielsen
GCF General Manager



Telefonica

Welcome to the first GCF workshop in Latin America

GCF operator members



Agenda for today

9:00 Opening speech

- Fabio Moraes, Strategic Engagement Director, GSMA

9:10 Welcome, Agenda overview and Introduction to GCF

- Lars Nielsen, General Manager, GCF

9:20 Overview of GCF Certification Processes

- Asif Hamidullah, GCF Program Lead, GCF

9:35 Device quality with GCF certification

- Atila Branco, Network Planning Director, Telefonica

9:55 GCF Certification for newest technologies NB-IoT and 5G

- Camillo Carlini, Mobile Devices Manager, Telecom Italia

10:15–10:30 Networking coffee break

10:30 RSP eSIM standalone certification in GCF

- Asif Hamidullah, GCF Program Lead, GCF

10:45 Chipset Manufacturers' perspective of certification

- Samir Vani, Corporate Sales America & Europe, Mediatek

11:10 IoT Certification within GCF

- Lars Nielsen, General Manager, GCF

11:35 Device Manufacturers perspective of certification

- Roy Church, GCF Steering Group chair

12:00–13:00 Lunch

12:00–13:00 Lunch

13:00 Test Industry perspective of certification

- Alejandro Torrecilla, Global Carrier Services Director, DEKRA

13:20 Panel discussion on certification in Brasil and LATAM

- Prabha Aithal, Director, Subscriber Product Engineering, AT&T
- Carlos Pedraz Rodriguez, Head of Future Readiness, CCDO, Telefonica
- Camillo Carlini, Mobile Devices Manager, Telecom Italia
- Jacob John, 3GPP RAN5 Chair, Technologist – Standards & Certification
- Alejandro Torrecilla, Global Carrier Services Director, DEKRA

13:50 Closing remarks

- Lars Nielsen, General Manager, GCF

14:00 Workshop

Meet with Lars and Asif

15:00-19:00 GCF SG Pre-Meetings (Operators, Manufacturers, Observers)

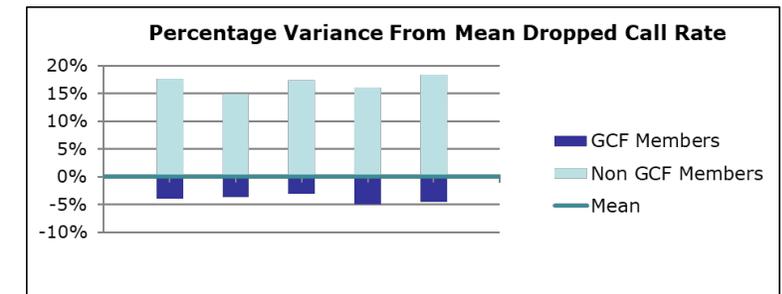
March 27-28 GCF Steering Group meeting #78

Global Certification Forum (GCF) - who are we?



Test once use anywhere networks conformance interoperability Certification Manufacturers multi mode field trials standards based HSPA VoWiFi Roaming Acceptance LTE CDMA2000 Machine to Machine GPRS Member driven mobile NFC VoLTE smartphones bands EDGE DC-HSPA connectivity handset time to market Carrier Aggregation open market GCF Certified TD-LTE Internet of Things Test labs

- **The mobile industry's 3GPP device certification scheme**
 - 319 members from across the globe and growing
 - 29 new members in 2018
 - Major brands participate (Operators, Device Manufacturers and Test Industry)
 - 130+ operators , 110+ manufacturers.
 - Top 15 smartphone manufacturers are all members.
 - 500+ products certified per year
 - See [Device Trends Report](#) (GCF>News>Whitepapers)
- **A GCF certified product has an assured level of interoperability**



GCF Legal Entity

- Incorporated as not-for-profit company since 2008
 - Global Certification Forum (GCF) Ltd, UK Company # 6594830
 - Private company limited by guarantee and not having a share capital
 - Objects for GCF are:
 - to provide common means for documenting and assessing compliance, with requirements established by GCF, in Products for all interested industry players, and
 - to capture global recognition and acceptance of the assessed compliance in avoidance of multiple testing and cost efficiencies.
- Owned by members with a guarantee of 1 £ per member
 - New members must sign Declaration of Participation
 - New members must be accepted by existing members
 - Annual General Meetings & Board Meetings
- Finance
 - Members pay yearly membership fee to fund the company
 - Funds is used to provide service to members (mutual trading)
 - Annual Accounts is public via the UK Companies House

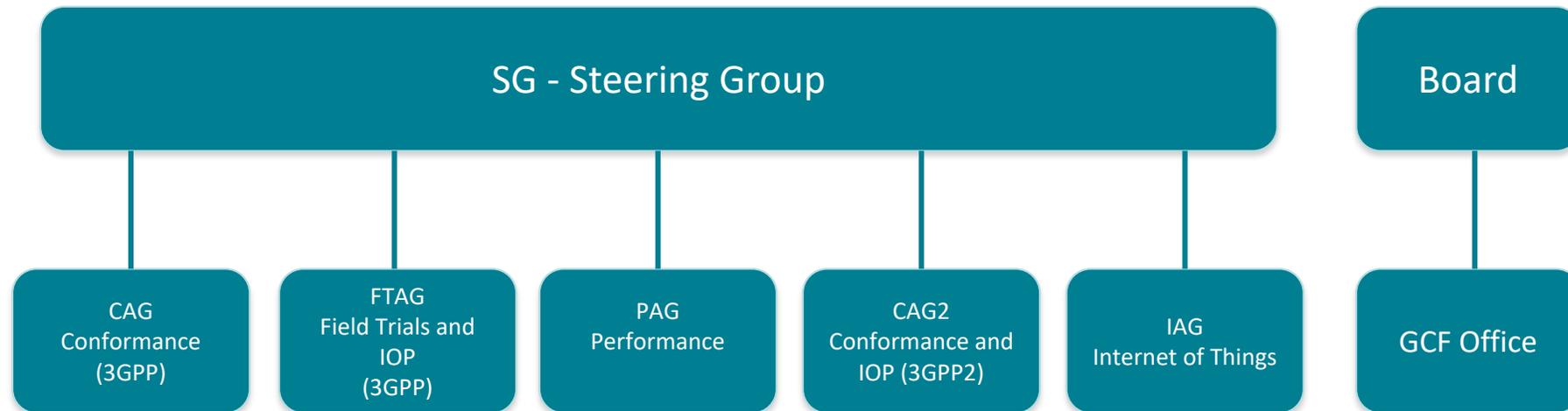
| | Full Manufacturer | Associate Manufacturer AMM I | Associate Manufacturer AMM II |
|---|---------------------------------|------------------------------|-------------------------------|
| Devices & products | | | |
| Personal communications devices e.g. feature phones, smartphone, tablets, USB modem, portable hotspot etc | ✓ | ✓ | X |
| Connected devices based on GCF-Certified wireless modules | ✓ | ✓ | ✓ |
| Wireless modules | ✓ | X | X |
| Reference design Platforms | ✓ | X | X |
| Standards-based Client Applications | ✓ | X | X |
| Certifications per year | Unlimited | Unlimited | Unlimited |
| Quality management system | | | |
| Minimum requirement | ISO 9001 accredited | QAD | QAD |
| Certification processes | | | |
| Assessment | Internal ACE or Third Party ACE | Third Party ACE | Third Party ACE |
| Testing | RTO (Internal or external) | RTO | RTO |
| Membership privileges | | | |
| Nominate candidates for election as | | | |
| Board members | ✓ | X | X |
| Chair/Vice Chair of SG or AG | ✓ | X | X |
| Rapporteurs | ✓ | X | X |
| Propose Work/Performance Items | ✓ | ✓ | ✓ |
| Vote at meetings/elections | ✓ | X | X |
| Free attendance for up to 2 delegates at GCF meetings | ✓ | ✓ | ✓ |
| Access to Device Certification Criteria (DCC) database | ✓ | ✓ | ✓ |
| Certified products included in public listing | ✓ | ✓ | ✓ |
| Certified products automatically notified to all GCF Operator Members | ✓ | ✓ | ✓ |
| Membership fee (2019) | €11,000 | €11,000 | €5,500 |

| | Full Operator | Mission Critical Comms Operator | MVNO | Associate Operator | Associate MVNO |
|--|---------------|---------------------------------|--------|--------------------|----------------|
| Nominate candidates for election as | | | | | |
| Board members | ✓ | X | X | X | X |
| Chair/Vice Chair of SG or AG | ✓ | X | X | X | X |
| Rapporteurs | ✓ | TBD | ✓ | X | X |
| Propose Work/Performance Items | ✓ | TBD | X | X | X |
| Vote at meetings/elections | ✓ | X | X | X | X |
| Free attendance for up to 2 delegates at GCF meetings | ✓ | ✓ | ✓ | ✓* | ✓* |
| Access to Device Certification Criteria (DCC) database | ✓ | ✓ | ✓ | ✓ | ✓ |
| Receive automatic notifications of all new certified devices | ✓ | ✓ | X | ✓ | X |
| The right to challenge a certification | ✓ | TBD | X | X | X |
| Apply to become a Field Trial Qualified Operator (FTQO) | ✓ | TBD | X | ✓ | X |
| Membership fee (2019) | €11,000 | €5,500 | €5,500 | €0 | €0 |

*Daily delegate rate applies

| | Observer |
|---|----------|
| Membership privileges | |
| Number of delegates entitled to free attendance at GCF meetings: | |
| Steering Group meetings | 2 |
| Agreement Group meetings | 2 |
| Opportunity to influence global "best practice" for device testing | ✓ |
| Involvement in the selection of new tests that will become certification criteria | ✓ |
| Early visibility of capabilities that will be required from the test industry | ✓ |
| Opportunity to submit test solutions for GCF endorsement and test case validation | ✓ |
| Access to Device Certification Criteria (DCC) database | ✓ |
| Suitably qualified Observer | |
| Members can offer services as a: | |
| Recognised Test Organisations (RTO) | ✓ |
| Third Party Assessment Capable Entity (ACE) | ✓ |
| Membership fee (2019) | €5,500 |

GCF's Working Group Structure



Decision making:

SG – dual majority of operator and manufacturer members

AGs – consensus with up to two objecting members

What does GCF offer today?

- Common Certification Criteria
 - Promote industry alignment, focus and scale
- Common device certification to known requirements
 - Reduce overheads for operator acceptance testing
- Co-ordinated cross-industry effort
 - Aligns a robust certification scheme to the real needs of industry
- Independently validated GCF test cases, ISO 17025-accredited test labs
 - High confidence in test requirements and results
- Extensive GCF Field Trials
 - Increase confidence in real-world device performance on live networks
- Common Performance Indicators
 - Improve visibility of device Performance

GCF Certification - 1

- Complements regulatory schemes (which focus on spectrum utilisation, EMC, user safety, network protection etc)
- Certification Criteria based on core standards from SDOs
 - SDOs must have FRAND IPR policy
- Scheme has expanded to encompass (amongst others):
 - all 3GPP and 3GPP2 technologies
 - Client Applications and Services e.g. RCS, NFC
 - oneM2M service application layer
- Test cases agreed by the industry for the industry
 - Relevant to the real needs of operators **and** device manufacturers
- Focused on:
 - Providing a platform for harmonisation of testing
 - Avoidance of duplication of testing
 - Reducing testing overheads for manufacturers and operators



GCF Certification - 2

- GCF manages a full certification eco system
 - Validated test cases from SDOs
 - Lab recognition program based on ISO17025
 - Industry agreed procedures
 - Online certification tool available 24-7-365
- Voluntary scheme
 - No obligations on manufacturers nor operators to use GCF
- Manufacturers are fully responsible for their certifications
 - Based on Self Declarations
 - Agreed process for exemptions
- Agreed issue resolution process
 - Operators may challenge a certification
 - If a resolution is not reached bilaterally an independent lab will be used

Public Website:

The screenshot shows the GCF website with the following content:

- Navigation:** About, Certification, Products, Membership, News, Contact us, eSIM RSP
- News:**
 - Mobile & IoT Device Certification in Latin America, 26 March
 - GCF starts 5G certification
- The "Quality Mark" for interoperability trusted by the mobile industry**

GCF Certification benefits all players in the mobile value chain.

For device manufacturers, certified interoperability:

 - Expands the addressable market and facilitates entry into new markets
 - Drives economies of scale
 - Increases sales volumes
 - Cuts return rates and support costs

For operators, certified devices:

 - Perform correctly on their own networks
 - Associate the operators' brand with high quality service delivery
 - Reduce support costs

Certification identifies products that will meet the service level expectations of end-users and drive customer satisfaction

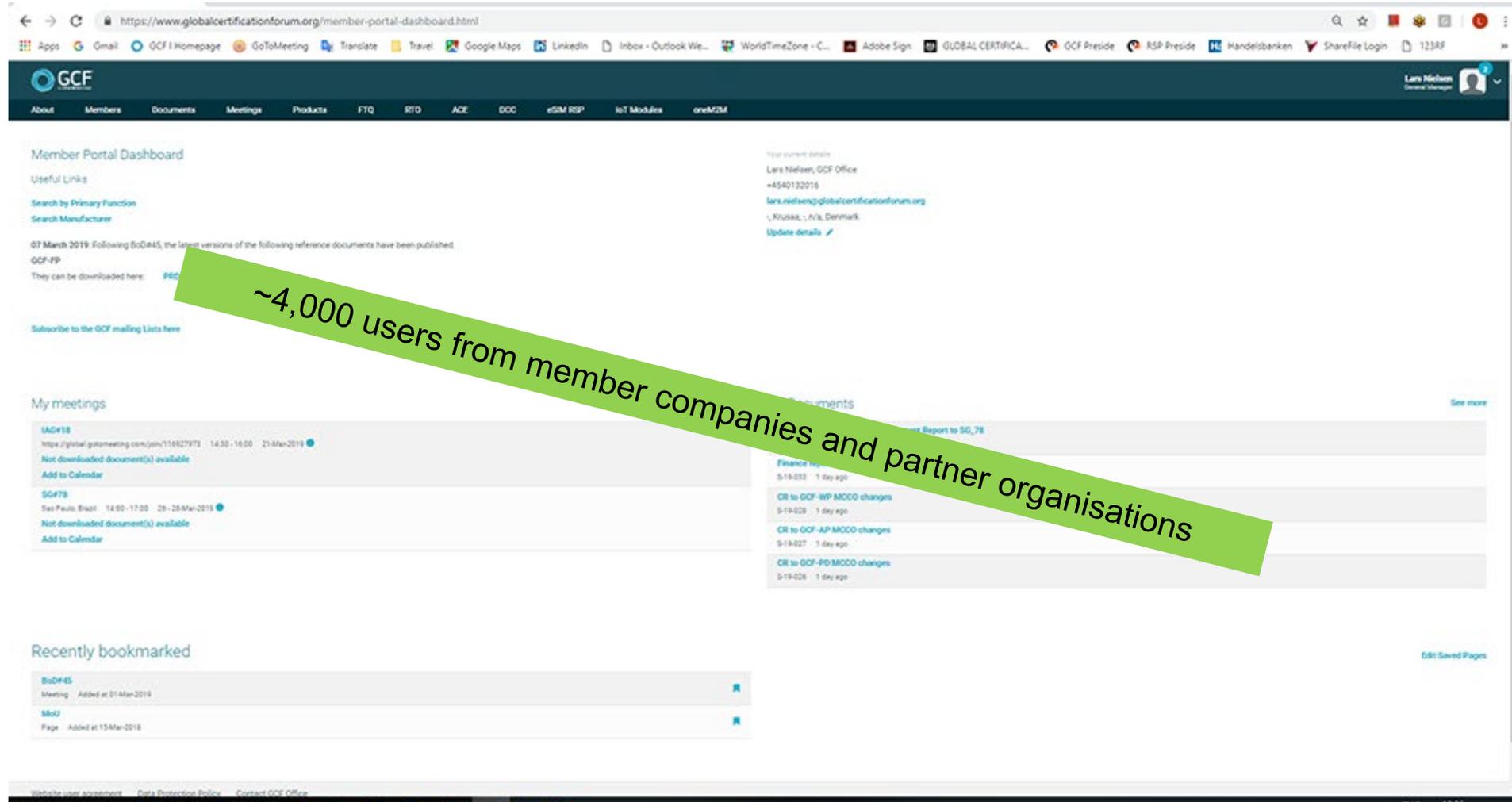
GCF members include:

 - Operators representing all key markets worldwide
 - Manufacturers of handsets, tablets, chipsets, modules and the increasingly diverse devices that incorporate mobile connectivity, including IoT
 - Observers including test laboratories, test system manufacturers and other industry stakeholders.

"Test once, connect anywhere"
- 5 steps to GCF certification**
 1. Join GCF
 2. Develop a test plan
 3. Test your product
 4. Approve the test results
 5. Publish your GCF certification
- Latest product certifications**

| | | |
|--------------|-------------------------------|-------------|
| MAR-EX1A | Huawei Technologies Co., Ltd. | 1 day ago |
| SM-A405FN/DS | Samsung Electronics Co Ltd | 14-Mar-2019 |
| SM-A105G/DS | Samsung Electronics Co Ltd | 13-Mar-2019 |
| SM-A105F/DS | Samsung Electronics Co Ltd | 12-Mar-2019 |
| SM-S260L | Samsung Electronics Co Ltd | 11-Mar-2019 |
| TA-1330 | HMD Global Oy | 11-Mar-2019 |
| TA-1331 | HMD Global Oy | 11-Mar-2019 |
| SM-A505GN/DS | Samsung Electronics Co Ltd | 11-Mar-2019 |
| LM-QB20UM | LG Electronics Ltd | 08-Mar-2019 |
| AMN-LX9 | Huawei Technologies Co., Ltd. | 08-Mar-2019 |

Members Portal:



Test Case Database – DCC:

Welcome to DCC Version 2.1.1.0

All information obtained via participation in GCF is Confidential Information with the restrictions given in GCF-CI section 4.

The Global Certification Forum (GCF) Device Certification Criteria (DCC) enables GCF members to access all the technical Certification Criteria (GCF-CC) required for device Conformance Testing in real time. DCC comprises a series of modules:

Test Platform (TP) Explorer: This lists all the TPs that are used in GCF for testing devices against GCF-CC. Each TP may have many Configurations and Versions and this information is also available.

Test Case (TC) Explorer: This lists all the TCs from the Technical Specifications used by GCF for certification purposes.

Work Item (WI) Explorer: The continual introduction of new releases, features and bands by the Standards Organisations means that there is a large number of TCs needed for GCF-CC. The TCs are managed in WIs which are packages of TCs representing some release, band or feature and each WI will remain stable during the period between CAG meetings.

Meetings: Every 3 months the CAG holds a meeting the primary purpose of which is to agree the contents of GCF-CC for the coming period. This mainly involves approving new WIs, changes to WIs and approval of validation Change Requests when it is the first time a TC is being submitted for approval on a TP.

Change Requests (CR): In addition to the WI and validation Meeting CRs mentioned for meetings, there is the possibility of making changes to the validation status of a TC in between CAG meetings using a 5 Day CR. These appear in the CR module and are approved by default after 5 working days unless challenged by any GCF user.

Certification Criteria (GCF-CC): This provides online and downloadable versions of GCF-CC. The latest, active versions of GCF-CC are updated on a daily basis according to approved 5 Day CRs and show the latest validations on Test Platforms for the Test Cases included in the GCF-CC versions.

Help: There is an online, context-sensitive Help Guide covering the functionality of all of the above modules in detail. Please feel free to use this for further information. If you experience any problems with DCC please contact support@globalcertificationforum.org.

Useful Links: This section provides some convenient links to the most commonly used material related to DCC.

In addition to Conformance Testing, GCF defines Interoperability (IOP) Testing and Field Trial (FT) Testing. DCC does contain some information about these testing regimes but not to the same level of detail that is used for Conformance Testing:

IOP: The IOP Work Items are stored in the same WI Explorer as the Conformance WIs, for reference purposes only. The WIs contain the details of the TCs to be performed for IOP but the TCs themselves are not stored in DCC as they are not subjected to the same procedures (e.g. no TPs needed, no CRs).

FT: The FT Work Items are also stored in DCC for reference purposes but again, the TCs are not subjected to the same procedures as Conformance tests and are not stored in DCC. The current FT TCs can be found in GCF-CC Annexes F.5.1 and F.5.2, available from the "PRDs" link in the Official Documents section of this website.

Useful Links

| Link | Description |
|--|--|
| ETAG WIDs | Field Trial Agreement Group (FTAG) Work Item Descriptions (WIDs). |
| Latest version of CC | Excel version of most recent main version of CC (Certification Criteria), created immediately after the closure of the last CAG meeting. |
| Meeting Summary for CAG#57bis meeting | A summary of the treatment of all the meeting Change Requests (CRs) showing which CRs were approved and implemented, partially implemented, rejected or revised. |
| TC Category changes for CAG#57bis meeting | A summary of the Category changes made for each affected TC when the most recent version of CC was created at the end of the last CAG meeting. |
| List of Test Platforms | A list of all the Test Platforms used by DCC, including details of the Configuration Versions and the related Work Item Status. |
| List of approved Test Platforms for each Work Item | Overview of the approved and non-approved Test Platforms for each Band within each GCF Work Item (WI). The list uses the Test Platform Approval Criteria (TPAC). For details of how TPAC is handled see the Permanent Reference Document (PRD) called GCF-OP which can be obtained here . |
| Work Item Summary Report | A report of the current status of all Work Items (WI) showing the TCEC counting and the total number of included test cases per WI. The status after the previous 3 CAG meetings is also shown. |
| Definitions | Some key definitions from the Permanent Reference Document GCF-AD, relevant to DCC. |
| Template file for bulk upload ADDITION | This file is to be used only for the ADDITION of completely new test cases into DCC and is to be used when a new Work Item (WI) has been created. The file will then be used by the GCF Office (using the bulk upload process) to generate a Meeting CR. The file contains the template to be used together with guidance on how to use it. Please ensure that you follow the data formats defined exactly to avoid delay. |
| Template file for bulk upload DELETION | This file is to be used only for the DELETION of existing test cases from existing Work Items in DCC. The file will then be used by the GCF Office (using the bulk upload process) to generate a Meeting CR. The file contains the template to be used together with guidance on how to use it. Please ensure that you follow the data formats defined exactly to avoid delay. |
| Template file for CR Import | This Excel file is the template to be used when you wish to submit a Validation Change Request using the Change Request > New > Generate CR with Import file menu option. The purpose is to save time during the CR creation process and to generate an Excel validation Report automatically and full details of how it should be used can be found in the Help guide. |
| 3GPP TCL | This document contains the GCF selected and prioritised 3GPP test cases in a list to be provided to external organisations such as 3GPP RANs and PTCRB/PWG. |
| WIASS | Work Item Activation Status Report (WIASS). |

below are the latest changes (full details | Test Case Comment)

| Date | Person | Change Request | Type | Action | Object | Message | Main Version |
|---------------------|--------|----------------|---------------|----------------|-----------------------|--|--------------|
| 2019-03-20 00:22:43 | | | System-Change | categorization | Categorization Status | Main Version 3.72.0: changed category to 'B' | 3.72.0 |
| 2019-03-20 00:21:15 | | | System-Change | categorization | Categorization Status | Main Version 3.72.1: changed category to 'B' | 3.72.1 |

Industry Partners:



gcf@globalcertificationforum.org

www.globalcertificationforum.org



<https://www.linkedin.com/company/global-certification-forum-gcf-ltd/>



[@GCF Certified](https://twitter.com/GCF_Certified)