



Requirements for Wireless Innovation Forum Authorized AFC System Test Lab

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Wireless Innovation Forum Authorized AFC System Test Lab Requirements

1 Introduction and Scope

This document defines the requirements and steps that a test lab must follow to become and maintain status as a Wireless Innovation Forum (WinnForum) Automated Frequency Coordination (AFC) System Authorized Test Lab (ATL) for testing WinnForum Specifications and Test Plans. Included in this document are:

- Requirements and process for a test lab to become an AFC System ATL
- Ongoing compliance requirements for ATLs
- Requirement waivers
- List of reference agreements
- Fees

This document may be amended at a later date if additional requirements and/or steps are needed.

1.1 Keywords

The following terms are used within this document and should be interpreted as described in [RFC-2119](#):

- SHALL is a mandatory requirement (negative is SHALL NOT)
- SHOULD is recommended requirement/best practice (negative is SHOULD NOT)
- MAY is an optional requirement, i.e., something that is allowed (negative is NEED NOT)

2 References

1.1 Normative references

ISO/IEC 17025 - General requirements for the competence of testing and calibration laboratories, ISO Organization (<https://www.iso.org/publication/PUB100424.html>)

3 Abbreviations

- *AFC* Automated Frequency Coordination
- *ATL* Authorized Test Lab
- *FCC* Federal Communications Commission

- *IEC* International Electrotechnical Commission
- *ISO* International Organization for Standardization
- *RFP* Request for Proposal
- *SME* Subject Matter Expert
- *TLATG* Test Lab Assessment Task Group

4 WinnForum Approved Test Plans

The testing to be performed by the ATLs will be identified by the WinnForum as part of the Service Agreement and be licensed for use per Section 6. Throughout this document, reference to Test Plans are those developed and approved by the WinnForum, including the tests and their related test procedures.

5 ATL Requirements

To apply for, become, and maintain status as a WinnForum AFC System ATL, the following requirements must be met:

- Meet FCC eligibility requirement(s) which is to be determined
- Possess accreditation under ISO/IEC 17025 “General Requirements for the Competence of Testing and Calibration Laboratories,” with the scope of accreditation being the WinnForum approved 6 GHz AFC System Test Plan(s)
- Be capable of performing the duties of an ATL by having:
 - A subject matter expert (SME) in the area of testing the AFC Systems as described in section 7.2
 - Experienced test engineers
 - Ability to run the test harness, to analyze results and produce testing results
 - Ability to generate test vectors
 - Ability to generate a certification test report
- Submit an application demonstrating these requirements, as described in Section 7.2
- Sign the license and service agreements as described in section 6
- Be subject to review and inter-laboratory comparison testing as defined in section 9.4

6 License and Service Agreements

All agreements are between the ATL and the WinnForum and do not involve the Test Lab Assessment Task Group (TLATG). The License Agreement and Service Agreements may be contained within the same document. The agreements will be made available to prospective applicants upon request.

6.1 License Agreement

The License Agreement will provide a license to the ATL enabling the use of the required test plans, test harness, and test vectors for testing of AFC Systems. The details of the licenses are defined within the License Agreement. If a third-party license agreement is required, the Test Lab may be required to provide evidence that such license has been granted.

6.2 Service Agreement

The Service Agreement outlines all contractual agreements between the ATL and the WinnForum.

7 AFC System Test Lab Authorization Process

7.1 Overview

Test lab authorization consists of the following steps:

- Receiving accreditation under ISO/IEC 17025, “General Requirements for the Competence of Testing and Calibration Laboratories,” with the scope of accreditation being the WinnForum approved 6 GHz AFC System Test Plan(s)
- Submitting a complete application package, as described in Section 7.2
- Receiving approval by the WinnForum to be an ATL on the basis of the application and any additional discussions with the WinnForum as needed
- Satisfying the Ongoing Compliance Requirements, as described in Section 9

7.2 Application Submission

A prospective AFC System test lab shall prepare an application package consisting of:

- Proof of ISO/IEC 17025 accreditation to the WinnForum approved 6 GHz AFC System Test Plan(s)
- Proof of meeting FCC eligibility
- Test lab overview, including experience with the current test modules defined in the WinnForum approved 6 GHz AFC System Test Plan(s)
- CVs/resumes of the lab’s SME and engineers who will be involved with the testing, identifying their qualifications and experience in execution of test harness
- Demonstrated execution of the test harness in the form of sample test harness output
- Detailed written test procedures for executing the current test modules defined in the WinnForum approved 6 GHz AFC System Test Plan(s)
- A test report template, including traceability matrix
- Valid sample test vectors representative of additional tests that the test lab may run

The package shall be submitted to the WinnForum following instructions provided in associated Request for Proposal (RFP).

7.3 Assessment Process

The WinnForum shall establish a TLATG to review Test Lab application packages as they are submitted to ensure that all the requirements are met as established in Section 4 of this standard. The task group shall be made up of industry stakeholders operating independently of the WinnForum and shall not include representatives of candidate test labs seeking authorization or their affiliates.

The Test Lab shall submit the completed application package to the WinnForum along with any waivers that apply. The TLATG will review the application package to ensure all requirements are met with the exception of requested waivers. The TLATG will review all waivers to study the requirement to which the waiver applies, the impacts of waiving the indicated requirement and ensure that a waiver compliance

date is included. Based on the waiver review, the TLATG may respond to the Test Lab with modification to the waiver.

The Test Lab's provided sample test vectors will be made publicly available by the WinnForum on behalf of the TLATG. There will be the opportunity for a public examination of the sample test vectors for a two (2) week validation period. During the validation period, if the sample test vectors' correctness is challenged, the TLATG will provide the nature of the challenge to the Test Lab. Notification will be provided for review by means of auto notification by GitHub for those which have subscribed to the GitHub repository.

Any additional deficiencies determined by the TLATG will be documented and provided to the Test Lab. Once the Test Lab resolves the deficiencies, the Test Lab shall submit to the TLATG documentation showing that the deficiency has been resolved, and the TLATG will review the submitted documentation. When the TLATG determines all deficiencies have been corrected, the TLATG will notify the Test Lab.

7.3.1 *Challenging Test Lab Test Vectors*

The WinnForum will act as the communication point between the challenger and other groups within this process. The identity of the party submitting the challenge will not be shared with the TLATG, Test Lab or subject matter experts. All submitted challenges will be submitted to the WinnForum to enable the challenging entity and point of contact to be removed before submission to the TLATG to maintain the submitting entity's anonymity.

In the event of a challenge to the sample test vector(s), the TLATG shall review the challenge to determine the validity of the challenge. If the TLATG determines that the challenge is not valid, the TLATG shall respond to the challenger with information on why the challenge was determined to be invalid. If the TLATG determined that challenge is valid, the TLATG shall forward the challenge to the Test Lab for resolution.

The Test Lab shall provide written response to the challenge, which may include updated sample test vectors. If updated test vectors are supplied, the WinnForum will make the updated test vectors publicly available. The TLATG will provide the challenger with the Test Lab response, which may include updated test vectors, and the challenger will have two (2) weeks to respond. If the challenger agrees that the challenge has been cleared or does not notify the TLATG of a continued challenge within the response period, the challenge shall be considered clear. If the challenger does not agree, they shall notify the TLATG through the WinnForum within the response period.

The TLATG can involve impartial subject matter experts of their choosing to validate the challenge. Should the challenge be validated, the challenge will remain in force and the Test Lab will be informed. In the case that the challenge is not validated, the TLATG will determine if the challenge should remain in force or be considered cleared.

7.4 **Authorization Decision**

Test Labs that have submitted an application package and been determined to fully meet the requirements established in Section 4 of this standard by the TLATG and have no outstanding test vector sample challenges will be conditionally authorized until they sign the WinnForum 6 GHz Authorized Test Lab

Service Agreement. Once the WinnForum 6 GHz Authorized Test Lab Service Agreement has been signed, the Test Lab will move from conditional to full authorization.

Test Labs that have submitted an application package that includes waivers and been determined to have meet the requirements established in Section 4 with the exception of those specified in approved waivers of this standard by the TLATG and having no outstanding test vector challenges, will be conditionally authorized until they have satisfied/cleared said waivers and sign the WinnForum 6 GHz Authorized Test Lab Service Agreement.

Any Test Lab that has submitted an application package and has outstanding test vector challenges can not be conditionally or fully authorized until the challenge has been cleared.

Should a candidate Test Lab believe that it has been unfairly denied approval, the candidate can petition the WinnForum Board of Directors for reconsideration.

7.5 License and Service Agreements

Upon a Test Lab becoming conditionally authorized and having no outstanding waivers, the WinnForum will send all applicable agreements to the Test Lab for execution.

8 Process for Requirement Waiver Submission

A Test Lab may submit a request to have one or more requirements as defined in Section 4 waived. The Test Lab shall include the waiver(s) as part of the application package. Only one requirement is allowed per waiver; however, multiple waivers may be included in the application package.

The requirement waiver shall include the Test Lab name, a point of contact, the requirement requested to be waived, action the Test Lab will perform to eventually satisfy the requirement, and the resolution date by which the requirement will be met.

If at a later time in the approval process, the Test Lab determines that the requirement will not be met by the resolution date, the Test Lab shall submit a request to extend the waiver to a new resolution date. The TLATG will review the request to extend the waiver and determine if the extension is to be granted. The TLATG will notify the Test Lab of its determination and, if the extension is denied, the reason for denial.

If the extension of the waiver is denied and the Test Lab has been granted conditional authorization, the conditional authorization will be suspended until the waiver is cleared. The Test Lab does not need to reapply; however, proof that the requirement has been met shall be provided to have the conditional authorization reinstated.

9 Ongoing Compliance Requirements

For an ATL to maintain its authorization status, the ATL shall continue to meet the requirements as outlined in Section 4. To ensure that the ATL continues to meet the requirements, the ATL shall comply with the Ongoing Compliance Requirements defined within this section. Failure to meet any of the Ongoing Compliance Requirements shall result in the ATL's authorization being revoked. Any ATL that has had their authorization revoked and wishes to be reinstated shall reapply to be an ATL as specified in Section 7.2.

The WinnForum will use best efforts to notify the ATL of any specification changes that may affect their authorization status. ATLs will acknowledge receipt of notification and take actions to maintain their authorization status.

9.1 ISO/IEC 17025 Accreditation

ATLs shall maintain their ISO/IEC 17025 accreditation to the WinnForum approved 6 GHz AFC System Test Plan(s).

9.2 License and Service Agreement Enforcement

The ATL License and Service Agreements, as defined in Section 5, are to be renewed on a periodic basis as defined within the agreements. The WinnForum will send the ATL new agreements before the end of the current period as specified within the agreements, and the ATL shall execute the agreements before the expiration of the current agreements. Failure to execute the agreements will result in the suspension of the ATL's authorization.

9.3 Notification of Substantial Changes

ATLs shall inform the WinnForum of any substantial changes that may affect the ATL's ability to perform as an AFC System Test Lab. Such changes shall include, but not be limited to:

- Changes in key personnel involved with the testing program (e.g., project/test manager)
- Change in testing facilities (e.g. location of the test lab, addition of test lab locations, other facts that may impact testing)
- Change in testing procedures

These changes will be reviewed by the TLATG, and if the changes are found to prevent the ATL from continuing to meet its requirements, the WinnForum will inform the ATL. The WinnForum will include in the notification the issue of concern, actions needed to remedy the issue, and a resolution due date. Failure to resolve the issue by the resolution due date will result in the suspension of the ATL's status.

9.4 Inter-Laboratory Comparison Testing

On a periodic basis, the WinnForum may conduct inter-laboratory comparison testing to ensure consistency in test results across ATLs. Significant inconsistencies will be investigated and addressed. Investigations may require re-testing by the lab, updating of the lab's test procedures or, if the lab is found to be in non-compliance with the ATL requirements, suspension or revocation of the lab's ATL status.

9.5 Confirmation of Current Test Harness Version

New releases will be published via the corresponding GitHub repository¹. ATLs are recommended to subscribe to release notifications for the repository to obtain timely notice of new releases. Such release notification will include information with regards to the end of life of the old release and the required adoption date of the new release, if any.

¹ <https://github.com/Wireless-Innovation-Forum/6-GHz-AFC>

The WinnForum may periodically ask the ATL to provide proof of the current version of the test harness in use. The ATL shall provide this information within the time period specified within the WinnForum request. Failure to provide the information within the time period may result in the suspension of the ATL's authorization.

10 Suspension of an ATL's Status

If the status of an ATL is suspended, the WinnForum will notify the ATL of the suspension as per the Service Agreement. Included in the notification will be the reason for suspension and the new status of the Test Lab, which may involve moving the Test Lab to conditional authorization or revoking all authorization. Also included in the notification will be the actions needed by the Test Lab to clear the suspension as defined in the Service Agreement. Upon notifying the Test Lab, the WinnForum may publicly share the updated status of the Test Lab.

All testing results prior to the lab's suspension will remain valid. All testing results that are produced under a suspended status will be considered invalid.

For the Test Lab to be fully reauthorized, the Test Lab shall have addressed the reason for suspension and been cleared either through the WinnForum or the TLATG, whichever is appropriate to the suspension.

11 Fees

The ATLs may be subject to administration fees for application and maintaining authorization as a WinnForum ATL as defined in the Service Agreement.

Annex A (Informative): Revision History

Document History		
V1.0.0	4 Aug 2022	Initial version.