



Compliance Committee Glossary

Version 1.0.05

2020-11-12

[GLOSS_CC]

NFC Forum™

Copyright © 2010-2020 NFC Forum

Contents

1 Overview	2
1.1 Objectives	2
1.2 Scope	2
1.3 Audience.....	2
1.4 Applicable Documents or References	2
1.5 Administration.....	4
1.6 Name and Logo Usage	4
1.7 Intellectual Property	5
1.8 Special Word Usage	5
2 Glossary Terms	6
A. Revision History	17

Tables

Table 1: Revision History.....	17
--------------------------------	----

1 Overview

This document provides an overview of the glossary terms used throughout document in the NFC Forum Compliance Committee.

1.1 Objectives

Provide a single location for all defined glossary terms.

1.2 Scope

This document applies only to glossary terms used by the NFC Forum Compliance Committee.

1.3 Audience

NFC Forum Members are the intended audience of this document.

1.4 Applicable Documents or References

[ACTIVITY]	NFC Activity Technical Specification, NFC Forum
[ANALOG]	NFC Analog Technical Specification, NFC Forum
[ANALOG_TC]	Test Cases for Analog Technical Specification, NFC Forum
[ARCHITECTURE]	NFC Architecture Specification, NFC Forum
[CERPOL]	NFC Forum Certification Policy, NFC Forum
[DEVREQS]	NFC Forum Device(s) Requirements, NFC Forum
[DIGITAL]	NFC Digital Protocol Technical Specification, NFC Forum
[DIGITAL_TC]	Test Cases for Digital Protocol Specification, NFC Forum
[DTA]	Device Test Application Specification, NFC Forum
[ISO/IEC_14443]	Identification cards – Contactless integrated circuit cards – Proximity cards Includes: [ISO/IEC 14443-1:2008], Identification cards – Contactless integrated circuit cards – Proximity cards – Part 1: Physical characteristics [ISO/IEC 14443-2:2010], Identification cards – Contactless integrated circuit cards – Proximity cards – Part 2: Radio frequency power and signal balance

	[ISO/IEC 14443-3:2001], Identification cards – Contactless integrated circuit cards – Proximity cards – Part 3: Initialization and anticollision
	[ISO/IEC_14443-3:2001/Amd.1], Identification cards – Contactless integrated circuit(s) cards – Proximity cards – Part 3: Initialization and Anti-collision, 1 February 2001 with Amendment 1: Bit rates of fc/64, fc/32 and fc/16, 15 June 2005; Amendment 3: Handling of reserved fields and values, 22 March 2006; and Corrigendum 1: Amendment 1 – Corrigendum, 29 August 2006
	[ISO/IEC 14443-4:2008], Identification cards – Contactless integrated circuit cards – Proximity cards – Part 4: Transmission protocol
[ISO/IEC_17025]	ISO/IEC 17025, General requirements for the competence of testing and calibration laboratories, ISO/IEC
[LABREQS]	NFC Forum Authorized Laboratory Requirements NFC Forum
[LLCP]	NFC Logical Link Control Protocol (LLCP) Technical Specification, NFC Forum
[LLCP_TC]	Test Cases for Logical Link Control Protocol Technical Specification, NFC Forum
[MAINTPROC]	Test Case and Document Maintenance Process NFC Forum
[NCIRP]	NCIRP (NFC Forum Issue Resolution Panel) Guide, NFC Forum
[NDEF]	NFC Data Exchange Format (NDEF) Technical Specification, NFC Forum
[PERFORMANCE]	Tag Performance Requirements NFC Forum
[PERF_TC]	Test Cases for Tag Performance tests NFC Forum
[RFC2119]	Key words for use in RFCs to Indicate Requirement Levels, RFC 2119, S. Bradner, March 1997, Internet Engineering Task Force
[RTD]	NFC Record Type Definition Technical Specification, NFC Forum
[SNEP]	NFC Simple NDEF Exchange Protocol (SNEP) Technical Specification, NFC Forum
[SNEP_TC]	Test Cases for Simple NDEF Exchange Protocol Technical Specification, NFC Forum
[T1T]	NFC Forum Type 1 Tag Technical Specification, NFC Forum

[T2T]	NFC Forum Type 2 Tag Technical Specification, NFC Forum
[T3T]	NFC Forum Type 3 Tag Technical Specification, NFC Forum
[T4T]	NFC Forum Type 4 Tag Technical Specification, NFC Forum
[T5T]	NFC Forum Type 5 Tag Technical Specification, NFC Forum
[TLAC]	NFC Forum Test Lab Audit Checklist, Latest version, NFC Forum
[TLAM]	NFC Forum Test Lab Audit Manual, Latest version, NFC Forum
[GLOSS_TC]	Technical Acronyms and Glossary NFC Forum

1.5 Administration

The NFC Forum Compliance Committee Glossary is an open document supported by the Near Field Communication Forum, Inc., located at:

401 Edgewater Place, Suite 600
Wakefield, MA, 01880

Tel.: +1 781-876-8955
Fax: +1 781-610-9864

<http://www.nfc-forum.org/>

The **Compliance Committee** maintains this specification.

1.6 Name and Logo Usage

The Near Field Communication Forum's policy regarding the use of the trademarks *NFC Forum* and the NFC Forum logo is as follows:

- Any company MAY claim compatibility with NFC Forum specifications, whether a member of the NFC Forum or not.
- Permission to use the NFC Forum logos is automatically granted to designated members only as stipulated on the most recent Membership Privileges document, during the period of time for which their membership dues are paid.
- Member’s distributors and sales representatives MAY use the NFC Forum logo in promoting member’s products sold under the name of the member.
- The logo SHALL be printed in black or in color as illustrated on the Logo Page that is available from the NFC Forum at the address above. The aspect ratio of the logo SHALL be maintained, but the size MAY be varied. Nothing MAY be added to or deleted from the logos.
- Since the NFC Forum name is a trademark of the Near Field Communication Forum, the following statement SHALL be included in all published literature and advertising material in which the name or logo appears:

NFC Forum and the NFC Forum logo are trademarks of the Near Field Communication Forum.

1.7 Intellectual Property

The Compliance Committee Glossary conforms to the Intellectual Property guidelines specified in the NFC Forum’s *Intellectual Property Rights Policy*, as outlined in the *NFC Forum Rules of Procedure*. These documents are available on the [NFC Forum website](#).

1.8 Special Word Usage

The key words “MUST”, “MUST NOT”, “REQUIRED”, “SHALL”, “SHALL NOT”, “SHOULD”, “SHOULD NOT”, “RECOMMENDED”, “MAY”, and “OPTIONAL” in this document are to be interpreted as described in [PERFORMANCE]

Tag Performance Requirements
NFC Forum

[PERF_TC] Test Cases for Tag Performance tests
NFC Forum

[RFC2119].

2 Glossary Terms

Accreditation

The process by which a third-party accreditation body assesses the compliance of an organization to a process standard. For the purposes of the NFC Forum Certification Program, Accreditation amounts to conformance to the standard [ISO/IEC_17025] and is awarded by accreditation bodies that are members of the International Laboratory Accreditation Co-operation (ILAC) and that conform to the ILAC Multilateral Agreement for Recognition (MLA).

Active Communication Mode

See [GLOSS_TC].

Activity

See [GLOSS_TC].

Authorized Test Laboratory

A laboratory that has satisfied and continues to satisfy all requirements set in Section 11 of this document, and is thereby authorized to provide certification testing services to Suppliers.

Applicable Certification Requirements

For a particular product or Certified Implementation, this is the complete list of items in force or active at the time of submission of Certification Information to the Certification Administrator. See [CERPOL].

Bit Duration

$1 \text{ bd} = 128 / (f_C \times D_{\text{POLL} \rightarrow \text{LISTEN}})$ or $1 \text{ bd} = 128 / (f_C \times D_{\text{LISTEN} \rightarrow \text{POLL}})$

Card Emulator

See [GLOSS_TC].

Certification Administrator (CA)

The organization appointed by the NFC Forum to manage the day-to-day operations of the Certification Program in accordance with the policies defined in this document.

Certificate

A document (issued to Suppliers) that formally declares that a device is a Certified Implementation.

Certification Agreement

The agreement between the Supplier and the Certification Administrator (CA) that defines the certification service to be provided and contains the legal commitment by the Supplier to the conditions of the Certification Program.

Certification Information

The complete set of information about a product that is submitted to the Certification Administrator (CA) in support of an application for certification.

Certification Mark License Agreement (CMLA)

The agreement between the Supplier and the NFC Forum that contains the legal commitment by the Supplier to the conditions for the use of the NFC Forum Certification Mark.

Certification Register

The official list of all Certified Implementations and related information that is maintained by the Certification Administrator (CA) and made available on the Certification Program website.

Certification Release

The NFC Forum might publish new versions of its Specifications and will collect a set of them into a consistent group to aid product procurement, development and certification. Each such group is called a Certification Release. A Certification Release's applicable specifications are documented in [DEVREQS] (see [CERPOL]).

Certification Testing

Testing that an NFC Forum Implementation is REQUIRED to undergo to achieve certification.

Certified Implementation

An active NFC Forum Implementation that has successfully completed the certification process and for which the Supplier has been notified in writing by the Certification Administrator (CA) that certification has been achieved.

Collision

See [GLOSS_TC].

Command

See [GLOSS_TC].

Conformance Testing

Set of tests defined for the purpose of determining whether an implementation complies with the set of specifications defined by the NFC Forum.

Connectionless Transport

See [GLOSS_TC].

Connection-oriented Transport

See [GLOSS_TC].

Correct Frame

See [GLOSS_TC].

Cyclic Redundancy Check (CRC)

See [GLOSS_TC].

D_{LISTEN→POLL}

See [GLOSS_TC]

D_{POLL→LISTEN}

See [GLOSS_TC].

Data Link Connection

See [GLOSS_TC].

Device Test Application (DTA)

Part of the DUT that is used for the NFC Forum Certification Test.

In digital testing, IUT is the layer that corresponds to the [DIGITAL] and [ACTIVITY] specifications, embedded in an NFC Forum Device provided for [DIGITAL_TC].

In analog testing, IUT is the layer that corresponds to the [ANALOG] specifications, embedded in an NFC Forum Device provided for [ANALOG_TC].

In LLCP testing, IUT is the layer that corresponds to the [LLCP] specifications, embedded in an NFC Forum Device provided for [LLCP_TC].

In SNEP testing, IUT is the layer that corresponds to the [LLCP] and [SNEP] specifications, embedded in an NFC Forum Device provided for [SNEP_TC].

Device Under Test (DUT)

NFC Forum Device that contains the Implementation Under Test (IUT).

Digital Certification Testing

A defined set of tests that checks the software responsible for the data exchange between an NFC Forum Device and another NFC Forum Device or tag. The tests check the [DIGITAL] and [ACTIVITY].

Engineering Sample

A prototype, commercial, or certified NFC Forum Device. In the context of test tool validation, it is a sample used to verify that the tool correctly executes a test case.

Operating Field Off

See [GLOSS_TC].

Operating Field On

See [GLOSS_TC].

Implementation Conformance Statement (ICS)

A checklist of the capabilities supported by an NFC Forum Implementation. The ICS provides an overview of the features and options of the Specifications that are implemented, including the modes of operation that the product supports. See [CERPOL]. The ICS is used to select and parameterize test cases and serves as an indicator of basic interoperability between different products; see [NCIRP]. An ICS for a protocol is usually known as a PICS (Protocol Implementation Conformance Statement).

Implementation Under Test (IUT)

Part of the DUT that is used for the NFC Forum Certification Test.

- In digital testing, IUT is the layer that corresponds to the [DIGITAL] and [ACTIVITY] specifications, embedded in an NFC Forum Device provided for [DIGITAL_TC].

- In analog testing, IUT is the layer that corresponds to the [ANALOG] specifications, embedded in an NFC Forum Device provided for [ANALOG_TC].
- In LLCP testing, IUT is the layer that corresponds to the [LLCP] specifications, embedded in an NFC Forum Device provided for [ANALOG_TC].
- In SNEP testing, IUT is the layer that corresponds to the [LLCP] and [SNEP] specifications, embedded in an NFC Forum Device provided for [SNEP_TC].

Initiator

See [GLOSS_TC].

Installation

The process of Technology Detection, Collision Resolution, and Device Activation Activities.

Interoperability Module

An interoperability module provides the basis for communication and interaction between components of the NFC Forum architecture.

Interoperability Testing

Set of tests that are followed in order to determine whether a product interacts successfully with other products to comply with a set of functionalities specified by the NFC Forum.

Interpretation

A decision made by the NFC Forum NCIRP (NFC Forum Issue Resolution Panel) that elaborates or refines the meaning of a device specification in [DEVREQS], of an NFC Forum Specification, or of an external standard referenced by either of them. An Interpretation is one possible outcome of a Problem Report (PR).

ISO-DEP Protocol

See [GLOSS_TC].

IUT Test Plan

The list of parameterized test cases applicable to the IUT. This list is an outcome of the NFC Forum Test Specification, TCCL (Test Case Category List), and the Supplier's ICS documents. Each IUT within an NFC Forum Implementation has its own IUT Test Plan.

LLCP Certification Testing

A defined set of tests that checks the software that is responsible for the data exchange between an NFC Forum Device and another NFC Forum Device. The [LLCP] shall be checked.

LLCP Link

See [GLOSS_TC].

Link MIU

See [GLOSS_TC].

Listen Mode

See [GLOSS_TC].

Listening Device

An NFC Forum Device in Listen Mode.

Local LLC

See [GLOSS_TC].

Logical Data Link

See [GLOSS_TC].

Lower Tester (LT)

The representation of the means of providing, during test execution, indirect control, and observation of the lower service boundary of the IUT via the underlying service-provider (from ISO/IEC 9646).

Maximum Information Unit (MIU)

See [GLOSS_TC].

Modulation Index

See [GLOSS_TC].

Mute

Behavior of a device in Listen Mode not sending a response. If the Listen device is configured to support the ACM Target mode it keeps its Operating Field condition to Operating Field OFF.

Mute ACM

The switch from Operating Field On to Operating Field Off and no frame has been sent during the time the field was On. Applicable timing parameters and associated limits are defined in [ACTIVITY].

NFC Forum Card Emulation Mode

The mode used when an NFC Universal Device is using the part of the NFC Forum Protocol Stack that responds to Master/Slave Communication from a reader/writer terminal. When in NFC Forum Card Emulation Mode, the NFC Universal Device (emulating either an NFC Forum Tag or a contactless card) cannot start communication on its own. The Master/Slave Communication is initiated by a reader/writer terminal. The communication for this mode is abbreviated as CE.

NFC Forum Certification Issue Resolution Panel (NCIRP)

The NFC Forum committee responsible for responding to Problem Reports (PRs) and Notices of Non-compliance.

NFC Forum Component

An element or part of a NFC Forum Implementation (e.g., antenna, protocol stack, etc.).

NFC Forum Device

See [GLOSS_TC].

NFC Forum Device Requirements

The definition of the parts of the NFC Forum Protocol Stack that are REQUIRED to be present in a product for it to be eligible for certification. NFC Forum Device Requirements include separate definitions for Peer Mode, Reader/Writer Mode, and Card Emulation Mode, and defines the Certification Release. It is defined in document [DEVREQS]. See Section 4.1 of [CERPOL].

NFC Forum Functionality

A set of features defined in the NFC Forum Specifications.

NFC Forum Implementation

The combination of hardware, software and mechanical components that together deliver NFC Forum Functionality and that meets the requirements defined in [DEVREQS].

NFC Forum Issue Resolution Chair (NIRC)

An independent third party responsible for chairing the NCIRP and managing all related activities.

NFC Universal Device

See [GLOSS_TC].

NFC Forum Peer Mode

The mode used when an NFC Forum Device is using the part of the NFC Forum Protocol Stack that enables Peer-to-Peer Communication with another NFC Forum Device using this same mode. The initiator starts the communication and the target responds to it. Both NFC Forum Devices have the capability to be either initiator or target. This mode uses the NFC-DEP Protocol as described in [DIGITAL]. The communication for this mode is abbreviated as P2P.

NFC Forum Reader/Writer Mode

The mode used when an NFC Forum Device is using the part of the NFC Forum Protocol Stack that enables Master/Slave Communication with NFC Forum tags or contactless cards. The NFC Forum Device starts the Master/Slave Communication and sends commands to an NFC Forum tag or contactless card. The communication for this mode is abbreviated as RW.

NFC Reader Device

See [GLOSS_TC].

NFC Tag Device

See [GLOSS_TC]

NFC Forum Test Specification

The set of tests and testing-related information that the NFC Forum uses to confirm the compliance of an Implementation Under Test (IUT) to the corresponding NFC Forum Specifications.

NFC-A

See *Technology* in [GLOSS_TC].

NFC-B

See *Technology* in [GLOSS_TC].

NFC-DEP Protocol

See [GLOSS_TC].

NFC-F

See *Technology* in [GLOSS_TC].

NFC-V

See *Technology* in [GLOSS_TC].

NFCID0

See *NFCIDx* in [GLOSS_TC].

NFCID1

See *NFCIDx* in [GLOSS_TC].

NFCID1 CL_n

See [GLOSS_TC].

NFCID2

See *NFCIDx* in [GLOSS_TC].

NFCID3

See *NFCIDx* in [GLOSS_TC].

«noise» error

Transmission error in a Response that is encapsulated in a frame of at least 4 characters, encapsulated in a frame with residual bits (i.e., the number of data bits is not a multiple of 8).

Notice of Non-compliance

A formal notice to the NFC Forum that the NFC Forum in its sole judgment finds to be credible, indicating that a Certified Implementation is not compliant for any reason.

Operating Field

See [GLOSS_TC].

Operating Volume

See [GLOSS_TC].

Passive Communication

See [GLOSS_TC].

Poll Command

- See [GLOSS_TC].

Poll Mode

See [GLOSS_TC].

Polling Device

An NFC Forum Device in Poll Mode.

Problem Report (PR)

A description of a question about clarification, intent, or correctness related to a specification or a test case. If a PR is accepted by the NCIRP, the PR will be resolved into an Interpretation or a Test Case Deficiency (TCD).

Protocol Data Unit (PDU)

The sequence of contiguous octets delivered as a unit to the adjacent lower layer or received as a unit from the adjacent lower layer.

Profile

See [GLOSS_TC].

Reader/Writer

See [GLOSS_TC].

Record Type Definition (RTD)

An NFC Forum RTD defines NDEF payload data formats and their associated type names. The generic RTD guidelines are defined in [RTD].

Remote LLC

See [GLOSS_TC].

Reset

See [GLOSS_TC].

Response

See [GLOSS_TC].

 $\Delta SFGT_{T4AT}$

Start-up Frame Guard Time. Minimum Frame Delay Time after an Answer To Select, NFC-A (ATS) for a Type 4A Tag platform.

 $\Delta SFGT_B$

Start-up Frame Guard Time. Minimum Frame Delay Time after an ATTRIB response for a Type 4B Tag platform.

Service [LLCP]

See [GLOSS_TC].

Service Discovery Protocol (SDP)

See [GLOSS_TC].

Smart Card (SC)

A contactless tag or smart card based on one of the technologies (ISO/IEC_14443A, ISO/IEC_14443B, or JIS_X_6319-4) compatible with those defined by the NFC Forum (NFC-A, NFC-B, or NFC-F).

Specifications

The detailed technical documents that are published by the NFC Forum and that define the radio frequency and protocol capabilities and behaviors that deliver NFC functionality. The Specifications MAY include, by reference, specifications and standards published by other organizations.

State

See [GLOSS_TC].

Sub-cases

A set of scenarios within a test case.

Supplier

A product vendor who is interested in or applying for certification, or has certified a product in the NFC Forum Certification Program.

 $T_{A,nn}$

Minimum time period during which the NFC Forum Listen Device NFC-A is not allowed to produce any detectable disturbance before it sends its response.

 $T_{B,nn}$

Minimum time period during which the NFC Forum Listen Device NFC-B is not allowed to produce any detectable disturbance before it sends its response.

Target

See [GLOSS_TC].

Technology

See [GLOSS_TC].

Technology Subset

See [GLOSS_TC].

Test Case

A description of the testing of one or more requirements derived from a specification.

Test Case Categories List (TCCL)

A list of test cases categorized in terms of the conditions under which they are to be used in Certification Testing. See Section 8.3.1 of [CERPOL].

Test Case Mapping Table (TCMT)

TCMT provides required test cases based on IUT's ICS values.

Test Environment

Test environment required to perform NFC Forum Certification Testing. It includes the Device Test Application, Implementation Under Test, and the Lower Tester.

Test Functionalities

Functionalities to be implemented by the vendor following the requirements specified in this document, and to be implemented in the Device Test Application to allow the Test Laboratory to proceed to NFC Forum Certification Testing.

Test Group

A set of test cases grouped together by the NFC Forum to be the smallest set available for inheritance of test results.

Test Laboratory

A facility approved by the NFC Forum to perform NFC Forum Certification Testing.

Test Plan

A collection of Test Cases in one document.

Test Release

The NFC Forum MAY publish new versions of its Test Specifications and, when they are published, will collect the new versions into consistent sets to aid product certification and testing. Each such set is called a Test Release.

Test Script

The implementation of a Test Case into a specific test tool using a scripting language. Depending on the test tool, the Test Script can be contained in a single file, distributed over several files, or be parameter driven, or it can be in text form, giving the operator test instructions.

Test Track

A test track involves conformance testing, interoperability testing, or a combination of the two.

Test Case Deficiency (TCD)

An error in an NFC Forum test case that is agreed by the NCIRP to be causing an IUT to produce an incorrect result that impacts the IUT's certification. A Test Case Deficiency is one possible outcome of a Problem Report.

Test Case Categories List (TCCL)

A list of test cases categorized in terms of the conditions under which they are to be used in Certification Testing. See Section 8.3.1 of [CERPOL].

Tool Validation Administrator (TVA)

Someone appointed by the NFC Forum to manage the test tool validation process through approval of the test tool for certification testing.

Tool Validation Review Committee (TVRC)

A group of at least three subject matter experts providing technical and process support to the TVA in matters relating to the test tool validation process.

Type X Tag

A contactless tag or smart card supporting NDEF, which can be accessed by a device implementing the tag operation defined in the specifications.

NOTE "X" must be replaced by "1", "2", "3", "4", "4A", "4B" or "5".

Type Y Tag Platform

The command set and underlying communication protocol of a Type Y Tag according to [DIGITAL].

NOTE When used in a document, “Y” must be replaced by “3”, “4A” or “4B”.

Type-Length-Value (TLV)

See [GLOSS_TC].

Validation House

An independent third-party test laboratory selected by the NFC Forum for conducting the test tool validation process.

Vendor

The entity that submits the NFC Forum Device for NFC Forum Certification Testing.

Waiver

Expressed or implied voluntary and intentional relinquishment or abandonment of a requirement.

Waiver Request

A request through a Problem Report to get a waiver for business reasons.

A. Revision History

Table 1 outlines the revision history of Compliance Committee Glossary.

Table 1: Revision History

Document Name	Revision and Release Date	Status	Change Notice	Supersedes
Compliance Committee Glossary	1.0 Initial Version 28 Sept 2016	Approved	Approved by the CC	
Compliance Committee Glossary	1.0.02 30 Apr 2017	Approved	Additions per MloI WG, [DEVREQS]; approved by CPWG; added audit related documents; final edit.	1.0 Initial Version
Compliance Committee Glossary	1.0.03 2018-04-19	Final	Referring to GLOSS_TC were possible instead of having own definitions	1.0.02 30 Apr 2017
Compliance Committee Glossary	1.0.04 2019-10	Approved	Added “Type X Tag”, “Type Y Tag Platform” and editorial updates	1.0.03 2018-04-19
Compliance Committee Glossary	1.0.05 2020-11	Approved	Added “Mute” and “Mute ACM” definitions	1.0.04 2019-10