

ACHIEVING THE FIRST CONFORMANCE CERTIFICATION FOR THE FIRST FREQUENTIS MCX CLIENT PLATFORM

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Achieving the First Conformance Certification for the Frequentis MCX Client Platform

Rohde & Schwarz – Mobile Test Summit 24

500+
customers

150
countries

>90% of our customers are
government agencies



45,000+
working positions using
Frequentis solutions



33%
of the world safer with
Frequentis networks



95% of all air traffic is
safely managed by our
technology

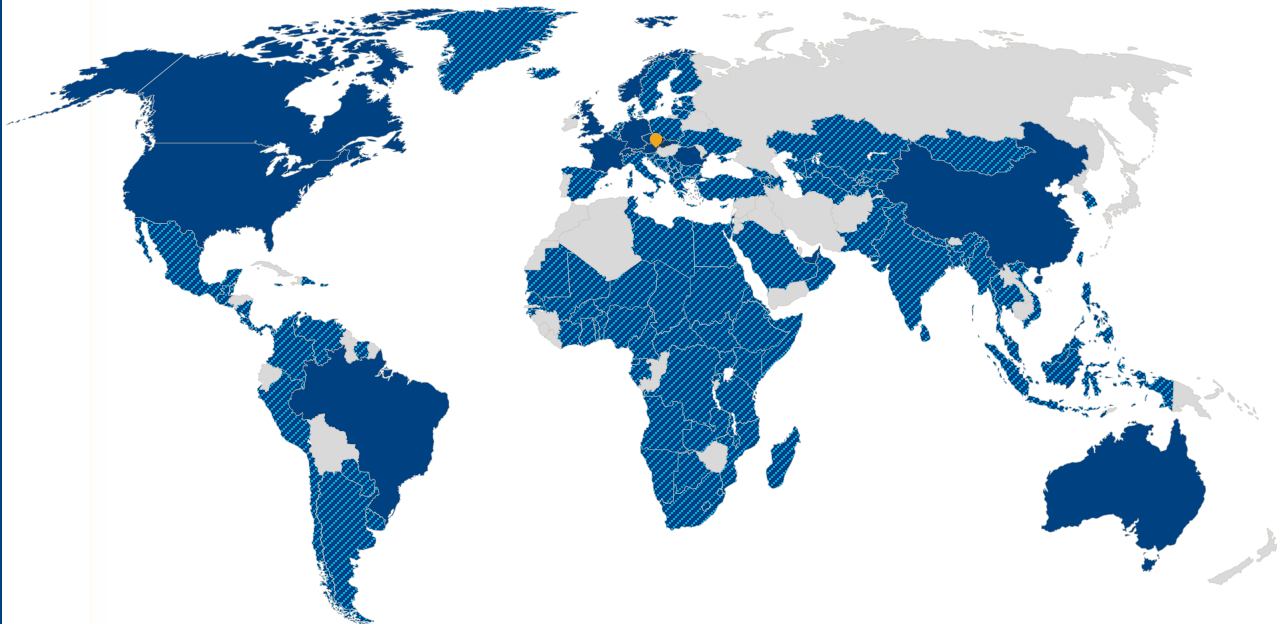


#1 in GSM-R
dispatcher terminals



240,000 km
largest maritime coastline
protected

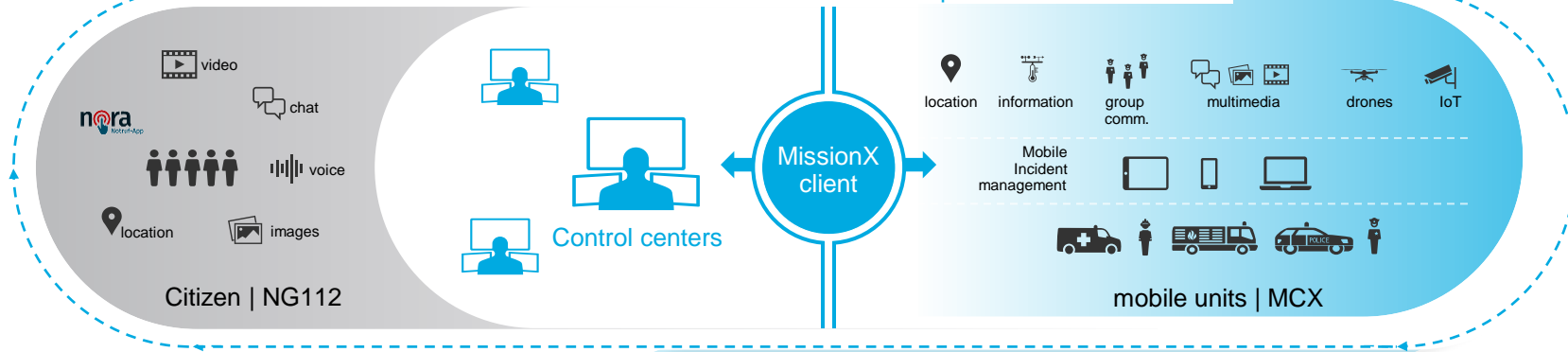
A strong network around the world



■ Regional offices ■ Sales representatives ● Frequentis HQs

Transforming a broadband communication client network into mission critical solution

Unified & continuous mission critical operational communication



Application layer

Network layer

Mission Critical Services according to 3GPP / ETSI

MissionX Platform



Data transfer Rate, Priorities & Resilience

Mobile core network
Dedicated / Public / Hybrid



Network coverage

Radio access networks
Dedicated / Public / Hybrid



Europe

Frequentis' drivers – Why Certification is important

Fully standard implementations.
Shed off vendor-lock for good



Consider the full range of end-users

Conformance Certification by Global Certification Forum



Interoperability

Design a healthy ecosystem with interchangeable parts



Unique domain know-how
(PT, PS, MAR, DEF)



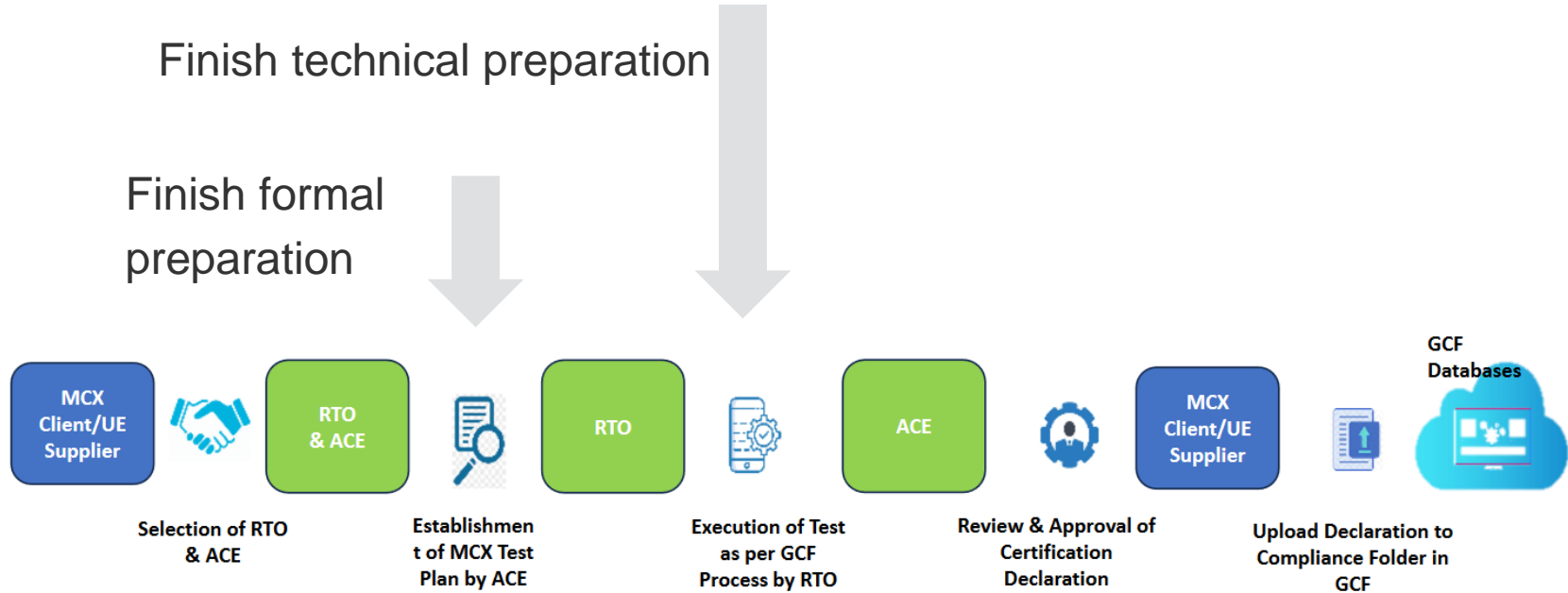
Any UE application

Any CC application

Standard interfaces

Interworking with legacy

GCF Process

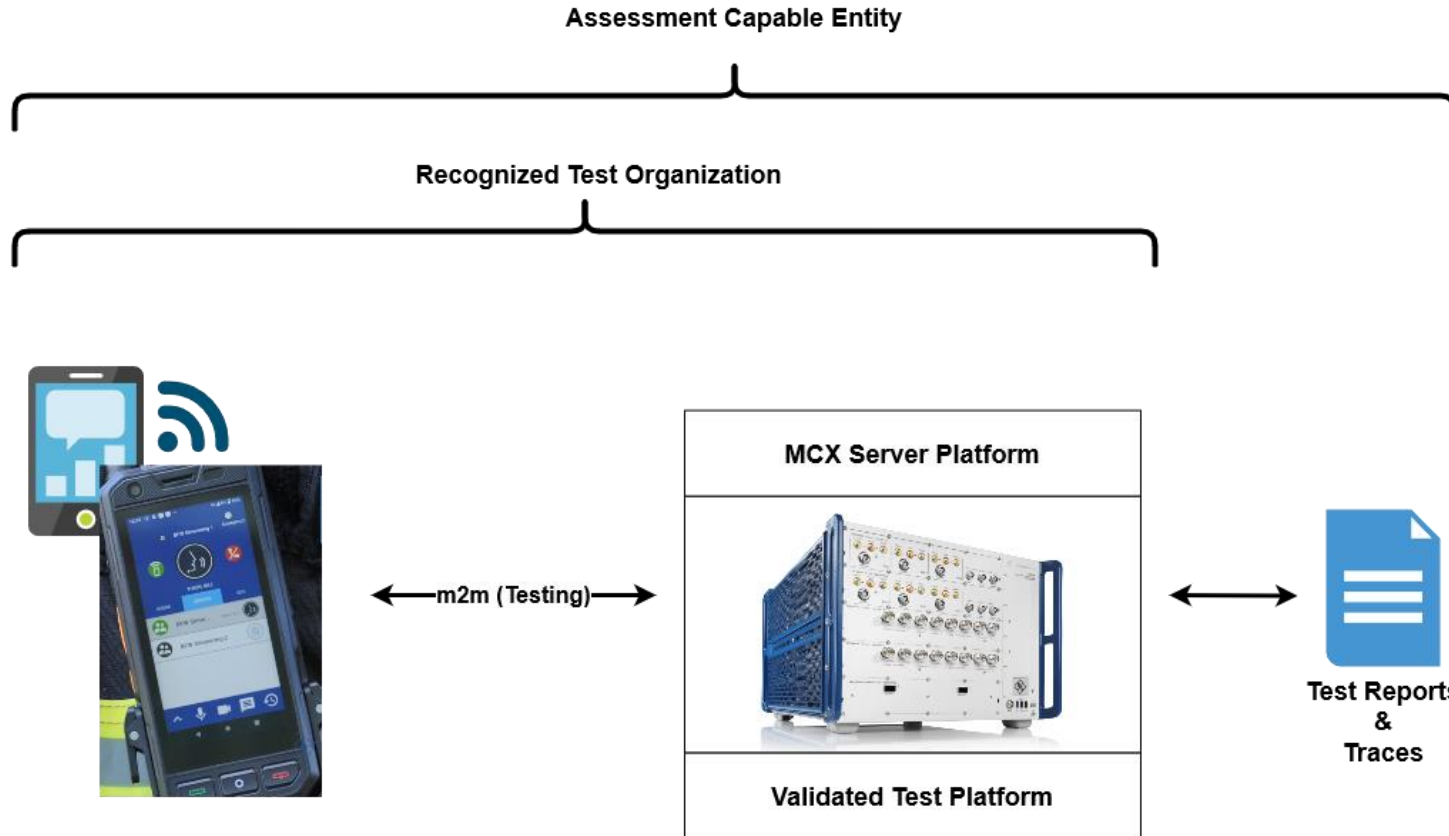


MCX SDK and User Interface



- Test artefact is the Frequentis MissionX Android SDK 3.0.0
- SDK needs a Basic UI to verify MCX functionality.
- Integrated with machine-to-machine interface.
- Optional: Manual testing possible.

Test Setup – Collaboration of Test Artifact, Test Platform, RTO & ACE



Frequentis Steps towards Conformance Certification

9 Forward documents to ACE for verification	10 Publish Conformance Certification
7 Test Execution by RTO	8 Prepare mandatory documents
5 Pre-Tests Hosted MCX Platform	6 Delivery of MCX Client Platform
3 Test Case Evaluation	4 Pre-conditions RTO
1 GCF Membership	2 Select RTO & ACE



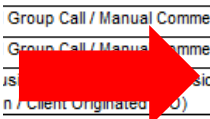
Test Cases

TEST RESULTS								
WI	Specification	Test Case	TC Description	Type of Test	Band	Category	Result	
WI-288-IPCAN	36.579-2	5.1	Configuration / Authentication / User Authorisation / UE Configuration / User Profile / Key Generation	Protocol	BL_IPCAN	B	Pass	
WI-288-IPCAN	36.579-2	5.2	Configuration / Group Creation / Group Regroup Creation / Group Regroup Teardown	Protocol	BL_IPCAN	P	n/a	
WI-288-IPCAN	36.579-2	5.3	Configuration / Group Affiliation / Remote change / De-affiliation / Home MCPTT system	Protocol	BL_IPCAN	B	Pass	
WI-288-IPCAN	36.579-2	5.4	Configuration / Pre-established Session Establishment / Pre-established Session Modification / Pre-established Session Release	Protocol	BL_IPCAN	B	Pass	
WI-288-IPCAN	36.579-2	5.5	Configuration / Determination of MCPTT Service Settings / Current Active MCPTT Settings / De-subscribe	Protocol	BL_IPCAN	P	n/a	
WI-288-IPCAN	36.579-2	6.1.1.1	On-network / On-demand Pre-arranged Group Call / Automatic Commencement Mode / End-to-end communication security / Floor Control / Upgrade to Emergency Group Call / Cancel Emergency State / Upgrade to Imminent Peril Group Call / Cancel Imminent Peril State / Client Originated (CO)	Protocol	BL_IPCAN	B	Pass	
WI-288-IPCAN	36.579-2	6.1.1.2	On-network / On-demand Pre-arranged Group Call / Automatic Commencement Mode / Floor Control / Upgrade to Emergency Group Call / Cancel Emergency State / Upgrade to Imminent Peril Group Call / Cancel Imminent Peril State /	Protocol	BL_IPCAN	B	Pass	
WI-288-IPCAN			Group Call / Manual Commencement Mode / Client Originated (CO)				Pass	
WI-288-IPCAN			Group Call / Manual Commencement Mode / Client Originated (CO)				Pass	
WI-288-IPCAN			using pre-established session / Client Originated (CO)				Pass	
WI-288-IPCAN			using pre-established session / Client Terminated (CT)				Pass	
WI-288-IPCAN	36.579-2	6.1.1.7	using pre-established session / Manual Commencement Mode / Client Terminated (CT)	Protocol	BL_IPCAN	P	n/a	
WI-288-IPCAN	36.579-2	6.1.1.8	On-network / Pre-arranged Broadcast Group Call / Client Originated (CO)	Protocol	BL_IPCAN	B	Pass	
WI-288-IPCAN	36.579-2	6.1.1.9	On-network / Pre-arranged Broadcast Group Call / Client Terminated (CT)	Protocol	BL_IPCAN	B	Pass	
WI-288-IPCAN	36.579-2	6.1.1.10	On-network / Broadcast Group Call with Temporary Group / Client Originated (CO)	Protocol	BL_IPCAN	P	n/a	
WI-288-IPCAN	36.579-2	6.1.1.11	On-network / Pre-arranged Emergency Group Call / Client Originated (CO)	Protocol	BL_IPCAN	B	Pass	
WI-288-IPCAN	36.579-2	6.1.1.12	On-network / Pre-arranged Emergency Group Call / Client Terminated (CT)	Protocol	BL_IPCAN	B	Pass	
WI-288-IPCAN	36.579-2	6.1.1.13	On-network / Pre-Arranged Imminent Peril Group Call / Client Originated (CO)	Protocol	BL_IPCAN	B	Pass	
WI-288-IPCAN	36.579-2	6.1.1.14	On-network / Pre-Arranged Imminent Peril Group Call / Client Terminated (CT)	Protocol	BL_IPCAN	B	Pass	

3GPP Requirements

3GPP Architecture

3GPP Protocol Definition



3GPP RAN5 Test Cases

TS 36.579-2 MCPTT Client Side

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OVERVIEW REPORT

OVERVIEW OF 43 REPORTS

Count: 43

Start: 2024-06-04 11:39:09

End: 2024-06-04 13:40:14

Duration: 0.01:59:53.9

36 Pass (84%)

Outlook of Frequentis activities towards Certification

- Providing the Mission SDK MCS Client platform to device vendors for MCS client certification
- Supporting MCX Client Platforms with new releases
 - Android SDK Platform
 - Linux SDK Platform (without mobile device)
- Support of Interoperability Testing
- Support process of creating MCX Server Conformance Testing → Conformance Certification of MCX Server once the process is ready



FREQUENTIS

FOR A SAFER WORLD



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Test. Measure. Innovate

THANK YOU
VERY MUCH

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