TSG-T1 Conformance Test Specifications Status Report to T#15 in Korea

Bjarke Nielsen, Qualcomm CDMA Technologies

T1 Chairman

March 6th, 2002

Document TP-020035

1

Latest Meeting

- **T1#14 was held in Sophia Antipolis, France and was hosted by ETSI.**

- **48 delegates**

- **175 input documents**

- **109 CRs**

The minutes can be found in TP-020036

Overview of presentation(1/2)

- ## RF test status
  - General status of RRM test cases
  - Main RF test issues
  - Status of 34.121
  - Status of 34.122

- ## Signaling test status
  - Status of 34.123-1 Prose test cases
  - Status of 34.123-2 Application table
  - Status of 34.123-3 TTCN
  - Prioritisation of test cases for implementation
  - Locking of prose / TTCN to a specific version of the core specifications
  - TTCN verification

Overview of presentation(2/2)

- ## General test issues

  - Status of 34.108
  - Introduction of Reference Access Bearers in to 34.108.
  - Status of 34.910
  - Revised Work Plan, including a new WI for a feasibility study regarding MExE testing.
  - Re-organization of T1 meeting concept
  - T1 summary
  - Meeting schedule
  - Submitted documents

RF test status

- General status of RRM test cases
- Main RF test issues
- Status of 34.121
- Status of 34.122

Document TP-020035

General status of RRM tests

The numbers below are provided to help estimating completeness of RRM tests in TS34.121 and TS34.122. Test case availabilities are compared between the latest version of core specifications available and new version of test specification.

Availability of test cases FDD RRM
* TS25.133 (core spec)   97.8 %
* TS34.121 (test spec)   43.2 %

5 new test cases introduced this time (19/44)

Availability of test cases TDD RRM
* TS25.123 (core spec)   81.8 %
* TS34.122 (test spec)   22.2 %

4 new test cases introduced this time (4/18)

T1-020169 contains detailed information on areas currently covered by testing. More contributions required.

Main RF status

Maintenance of R99: Power definitions, corrections, alignment between TDD and FDD format, LS to RAN1 on reconsideration of the deletion of TPC algorithm 2 what will have big impact on test cases.

Total Tests Time optimisation: Now changed to release independent. Work just starting. Limited number of contributors.

UMTS 1800 / 1900: One CR agreed for the inclusion of new bands in 34.121. Release independent WI - Careful merger needed from both R99 and R5 core specification.

TDD specification aligned to FDD.

Status of 34.121

Terminal Conformance Specification, Radio Transmission and Reception (FDD)

Estimated Completeness R99

Section	Completeness of TS34.121	Completeness of core specs
Transmitter	100%	100%
Receiver	100%	100%
Performance	95% ? 100%	100%
Support of RRM	30%? 43%	90%? 98%
Annex	100%	

CRs for 34.121, presented in TP-020039 for approval.

Status of 34.122

Terminal Conformance Specification, Radio Transmission and Reception (TDD)

Estimated Completeness R99

Section	Completeness(34.122)	Completeness(core spec)
Transmitter	95% ? 100%	100%
Receiver	100%	100%
Performance	95% ? 100%	90%
Support of RRM	0% ? 22%	82%
Annex	100%	

Limited number of contributors – no progress on LCR TDD.

CRs for 34.122, presented in TP-020040 for approval.

Signaling test status

- Status of 34.123-1 Prose test cases
- Status of 341.23-2 Application table
- Status of 34.123-3 TTCN
- Prioritisation of test cases for implementation
- Locking of prose / TTCN to a specific version of the core specifications
- TTCN verification

Status of 34.123-1

User Equipment (UE) Conformance Specification, Part 1 – Conformance specification

Contains a text description of the protocol test cases.

Main issues and CRs:
- Large number of CRs to common spec areas required face to face time for authors to resolve merge problems.
- No contributions to maintain the CC tests for some time. Nokia have volunteered to take over responsibility for this section.
- Additional CRs to SM and the TDD content

Specific issues discussed later!

A number of CRs are presented in TP-020041 and TP-020042 for approval!

Status of 34.123-2

User Equipment(UE) Conformance Specification, Part 2 – ICS Implementation Conformance Statement

Maps protocol test cases to the relevant UE capabilities.

CRs introduced to reflect changes in part 1

CRs to 34.123-2 presented in TP-020043 for approval!

Status of 34.123-3

User Equipment (UE) Conformance Specification, Part 3 – Abstract test suites

TTCN test specifications for the test cases described in part 1.

Specific issues and status report discussed later!

600 TTCN test cases can be downloaded from the server (v1.2.0). 400 of them are verifiable.

Prioritisation of test cases for implementation(1 of 2)

T1 accepted a GCF input document as basis for prioritisation of the implementation of test cases (prose and TTCN). Input from other sources will be accepted, but T1 currently prefers the industry consensus building taking place outside T1.

The target of T1 is to implement the test cases of package 1 in time for the industry to verify and port them onto commercially available test equipment by Nov 2002. This means that T1 must have all prose and TTCN by the T1 meeting in May.

All input on prioritisation of test cases will be accumulated in 34.910 by T1. GCF will update their input document, when new requirements are identified and when new test cases are introduced by T1.

T1 needs TSG-T′s advice on / endorsement of this strategy!

March 6th, 2002

Document TP-020035

Prioritisation of test cases for implementation(2 of 2)

Package	Category	Description	# of TCs in category	Total # in Package
1	A	Idle mode – basic, pure 3G	3	107
	B	Essential procedures (AS + NAS) and reference RABs for single service - MO call - MT call - PS data (UL&DL <= 64 kbps) - CS data UL&DL= 64kbps - Speech + PS data 64kbps	23	
	C	RLC, MAC toolbox	40	
	D	RRC success cases (including Active Set Update, required measurements for Soft Handover and a minimal number of Mobility tests, but excluding re-configuration, cell reselection and hard & inter-RAT HO).	41	
2	E	RRC success cases for re-configuration, cell reselection and handover inter-RAT), and measurement control (complete, i.e.tests which are not covered by category D).	48	95
	F	Idle Mode – Inter-RAT 2G/3G	8	
	G	HO Inter-RAT 3G/2G	4	
	H	PS data (UL<=64kbps, DL<=128 kbps)	4	
	L	PS data (UL<=64kbps, DL<=384 kbps)	3	
	I	Simultaneous services, Speech + PS (one additional combination to category B)	1	
	J	All Mobility tests	27	
3	K	Idle mode - increased coverage, pure 3G	6	116
	M	Simultaneous services, Speech + PS (all combinations)	1	
	N	CS data	7	
	O	Increased coverage of NAS procedures	38	
	P	Failure cases	64	
			Total # of High-Prio test cases:	**318**

Locking of prose / TTCN to a specific version of the core specifications

The verification and implementation of test cases onto test equipment is a long process. Initially, not every version of a release can expect to be testable via commercially available test equipment.

To optimise the test coverage of the initial test roll-out, T1 has decided, as well, to tune its implementation efforts to the version, which can be implemented by the test equipment industry.

Concentrating and aligning test efforts this way, should allow T1 and the test equipment industry to provide a 'verified' implementation for the 'highest priority' 100 test cases by Oct-Nov 2002.

T1 and the test equipment industry is asking TSG-T to decide which version of release'99 should be testable by Oct-Nov 2002. LS presented in TP-020055 for approval of strategy!

Verification of TTCN

As discussed at previous meetings, the industry is undertaking the verification of the TTCN TCs.

TSG-T is asked to emphasize to relevant companies the importance of reporting all observations connected to the use of the TTCN to the neutral database of ETSI. This is the only way of reaching a 'verified TTCN' in time for initial terminal approval phase.

For practical arrangements regarding the reporting of observations, companies should contact the chair of the T1-SIG SWG, Dan Fox.

The detailed MCC report of the status of the TTCN project team(160) and of the implementation of the TTCN can be found in TP-020037 and is for approval by TSG-T.

Document TP-020035

General test issues

- Status of 34.108
- Introduction of Reference Access Bearers into 34.108.
- Status of 34.910
- Revised Work Plan, including a new WI for a feasibility study regarding MExE testing.
- Re-organization of T1 meeting concept
- T1 summary
- Meeting schedule
- Submitted documents

Status of 34.108

Common test Conditions for User Equipment (UE) Conformance Testing

CRs approved concerning the following issues:

- CRs for introduction of new RABs from R1 and R2
- Improving accuracy of reference configurations
- Update of TDD

CRs to 34.108 presented in detail in TP-020038 for Approval.

Introduction of Reference Access Bearers in to 34.108.

T1 agreed to formalise a procedure for introducing new RABs in to 34.108.

o   RAN1/RAN2 will propose new RABs. If new RABs are proposed directly into T1, T1 will send the proposals to R1`/R2 for sanity check.

o   T1/SIG will add RAB to 34.108 only if at least one company will commit to add a prose test case

o   T1/SIG will remove RAB from 34.108 if no commitment to provide TTCN test case received within 6 months of prose

Only one test case needs to be implemented for each RAB, but this test case may have many parts depending on its complexity. The prose test cases shall be provided within 6 months and there must be a commitment for the TTCN within the 6 month from the inclusion of the test cases into 34.123-1. Currently RABs (already included in the spec) either have existing test cases or a commitment for prose test case and they all have commitment for TTCN.

LS to RAN1 & 2 presented in TP-020056 for information!

Status of 34.910

Identification of Test requirements for regulatory purposes in different regions/countries

Based on inputs from different organizations, TSG-T1 has decided to expand the scope of this document to list all requests for priority of test cases (approved at last TSG-T meeting!).

The document will thus not only carry information on the priorities due to regulatory requirements, but also include sorted information on interoperability and other requirements. If approved, the input on priorities of test cases from GCF will go to this document. Format to be defined for next meeting.

Revised Work Plan.

Contains general updates and a new WI for Testing of MExE

Contains the WI for a feasibility study on how to test MExE. The draft of this was agreed with T2 and presented to TSG-T at last meeting for information. TP-020044 presented for approval!

Re-organization of T1 meeting concept

- Monday morning: T1 plenary - administrative issues
- Monday afternoon to Thursday noon: T1 SWG
- Thursday afternoon and Friday: T1 plenary

Summary of T1 status:

Type Approval:

T1 estimates that all test cases (RF tests) required for TA in Japan and in Europe are stable from T1 side.

Test case prioritisation:

High/low priority of existing TCs defined - and 3 'packages' defined for the high priority TCs. Prose and TTCN Test cases for 'package 1' should be stabilized by T1 in May and working in commercially available in test equipment by Oct-Nov. Package 2 & 3 TBD.

Holes in test coverage are being identified and CRs prepared.

Current TTCN status:

- More than 600 TCs can be downloaded from server
- More than 400 TCs are marked green for verification
- More than available for GSM/GPRS – T1 estimates.
- Almost full coverage of currently implemented prose test cases

T1 decision to focus test coverage to one version of rel'99.

TSG-T1 Meeting schedule for 2002

3GPPT1#15-/RF/SIG   20 –24 May   Sweden, Ericsson

3GPPT1#16-/RF/SIG   29 July - 2 Aug   Japan, Anite/NTT Docomo

3GPPT1#17-/RF/SIG   4-8 Nov   UK, Anritsu

Input documents to TSG-T :

T1 Status report (this report)	TP-020035 Presentation
T1 minutes of T1 meeting#14	TP-020036 Information
Status of TTCN Project team(160)	TP-020037 Approval
CRs to 34.108	TP-020038 Approval
CRs to 34.121	TP-020039 Approval
CRs to 34.122	TP-020040 Approval
CRs to 34.123-1 - corrections	TP-020041 Approval
CRs to 34.123-1 – new tests	TP-020042 Approval
CRs to 34.123-2	TP-020043 Approval
Revision of T1 WIs – MExE WI	TP-020044 Approval
LS on unlocking current prose/TTCN	TP-020045 Decision
LS regarding introduction of RABs	TP-020056 Information

March 6th, 2002

Document TP-020035