

Agenda Item: 8.7, 8.8

Source: Rohde & Schwarz, Siemens AG

Title: Proposal for a common structure of the test descriptions in the Technical Specifications on conformance testing

Document for: Decision

1 Background

3GPP intends to produce 4 Technical Specifications (TSs) on conformance testing for radio transmission and reception, comprising specifications for base stations and terminals and covering FDD as well as TDD modes of operation. Within this paper, these specifications will be referenced as follows:

Ref [1]: TS 25.141 Base station conformance testing (FDD)

Ref [2]: TS 25.142 Base station conformance testing (TDD)

Ref [3]: TS 34.121 Terminal Conformance Specification, Radio Transmission and Reception (FDD)

Ref [4]: TS 34.122 Terminal Conformance Specification, Radio Transmission and Reception (TDD)

The main part in each of these TSs is the description of conformance tests for all the relevant parameters specified to define the transmitter characteristics, the receiver characteristics and the system performance. In most of the TSs, each test is defined by using a fixed sequence of subclauses; e.g. Ref [2] uses the following sequence of subclauses

1. Test purpose → 2. Test case → 3. Conformance requirements

At present, this sequence of subclauses varies from TS to TS, although some elements may be common. We strongly believe, however, that the use of a common structure in all of these TSs may be of great benefit: A common structure would improve the readability of the TSs, and even more, it would be much easier to recognize commonalities and also differences between the tests described in the various TSs. Therefore, we looked at the TSs given as references above and compared the structures used for the test description. As a result, we came to the conclusion that the structure used in Ref [3] is the most appropriate one: The subclause titles are very clear and self-explanatory, and the structure seems to be the most complete one. Therefore, we propose to adopt this structure for all other TSs on conformance testing, especially for those under the responsibility of RAN WG4 (Ref [1] and Ref [2]).

2 Proposal

As already explained in clause 1 of this paper, we propose that each test description in the TSs on base station conformance testing for both FDD and TDD, see Ref [1] and Ref [2] should adopt the structure used in Ref [3]. This would result in the following standard format for each test description:

X	Title
X.1	Definition and applicability
X.2	Conformance requirements
X.3	Test purpose
X.4	Method of test
X.4.1	Initial conditions
X.4.2	Procedure
X.5	Test requirements

The clauses and subclauses given above should have the following content:

X Title

The title gives the name of the parameter to be tested.

X.1 Definition and applicability

This subclause gives the general definition of the parameter under consideration and specifies whether the test is applicable to all equipment or only to a certain subset.

X.2 Conformance requirements

This subclause describes the requirements the equipment under test has to fulfil to ensure compliance with the relevant specification.

In addition, this subclause contains the reference to the subclause to the 3GPP reference (or core) specification from which the conformance requirements are derived.

X.3 Test purpose

This subclause defines the purpose of the test.

X.4 Method of test

X.4.1 Initial conditions

This subclause defines the initial conditions for each test, including the basic measurement setup.

X.4.2 Procedure

This subclause describes the steps necessary to perform the test and provides further details of the test definition like point of access (e.g. antenna port), domain (e.g. frequency-span), range, weighting (e.g. bandwidth), and algorithms (e.g. averaging).

X.5 Test requirements

This subclause defines the pass/fail criteria for the equipment under test.