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To : **TSG-T, TSG-RAN**

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Source: **GSM Association - IMT-2000 Steering Group (ISG)**

Title: **GSMA ISG activity on Typical Radio Parameter sets**

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Title GSMA ISG activity on Typical Radio Parameter sets

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Restricted - Members		**X**
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Information Category	

Document History

Revision	Date	Brief Description

Summary

GSMA ISG has produced a "Typical Radio Parameter sets" document, which describes the parameters preferred by operators to ensure interoperability. These parameters are chosen within the range specified in 3GPP specifications and will not give any impact on the 3GPP core specifications but it is strongly recommended that the 3GPP testing specifications will be produced assuming that operators use mainly the parameters in the document.

1.Background

Global terminal roaming and interoperability of mobile handsets are key features for UMTS. The 3GPP specifications, especially in Layer 1, introduce a high degree of flexibility that allows operators to choose parameters and specific transmission techniques within a wide range. The flexibility allows a very high number of possible combinations and terminal configurations. This may introduce some problems in connectivity for roaming, in cases where different operators choose different parameters. Therefore a huge amount of testing would be needed to verify terminal conformance to the specifications and to ensure roaming if exhaustive testing should be performed. The testing time may be unrealistic and this would cause increase in the terminal cost, and delays in terminal availability.

To ensure the interoperability while at the same time reducing the time for testing, the GSM Association IMT2000 Steering Group established an Ad-hoc Group in order to analyse the issue of risk reduction in current standardisation work on UTRA Layer 1, as had been suggested by a proposal supported by different operators in the first ISG meeting, and propose a possible solution to this issue.

2.Objectives and plan of GSMA ISG

The main objective is to ensure that operators will be able to guarantee roaming between IMT-2000 networks from the start-up; to reach this goal it is necessary to define a number of prioritised sets of parameters for layer 1 configurations. The prioritised sets of parameters will be proposed to 3GPP as “first class” requirements for testing IMT-2000 mobile handsets at reasonable cost and complexity and within the needed timeframe. What is expected from standardisation (3GPP) is the definition, with high priority, of the signaling test cases for the typical parameter sets which will be defined by the ISG; it has to be noted that these sets of prioritised parameters are not imposing constraints in the standard, nor removing the flexibility which has been included in the standard as a requirement from the operators, nor will ISG ad hoc define specific essential services for roaming in IMT-2000 networks. Moreover, the identification of typical parameter sets does not prevent operators to exploit full flexibility in their networks by the use of parameter settings which are not mentionned by the ISG ad hoc.

The Ad-hoc Group has produced a document entitled “Typical Radio Interface Parameter Sets”, based on the Radio Access Bearer (RAB) definition given in 3GPP specification TS 23.107 “QoS Concept and Architecture”. The document enumerates a number of combinations of RABs and RBs and a typical parameter set is provided for each of them.

Since 3GPP TSG Terminal is going to approve testing specifications in June 2000, the ISG Ad-hoc group was therefore urged to complete within March 2000. The first version of this document (1.0) which was approved in GSMA ISG on 28-29 Feb,2000 is submitted to 3GPP TSGs#7 for information.

The updated version is expected to be available by the end of March 2000. After the approval in GSMA ISG, the updated version of this document will be sent from GSM-A ISG to the appropriate 3GPP WGs and SWGs, such as T1, T1 SIG, R1, R2, in order to be utilized as soon as possible for making the testing spesifications and the related technical reports in 3GPP.

3.Related 3GPP Technical Specifications and Technical Reports

T1:Protocol conformance testing TS34.123-1,2 and Reference conditions TS34.108

Development of conformance test specifications is under the responsibility of TSG-T1.

Test cases have to be defined both “vertically” (certain configurations through the entire protocol stack) and “horizontally” (certain configurations of individual functions). For the vertical testing a determined set of reference RAB mappings need to be defined.

A set of Reference Radio Bearers including their Layer 1/Layer 2 configuration parameters (RAB mapping) are specified in Common test conditions for UE conformance testing TS34.108. “Typical parameter sets” will be applied to TS34.108 as the reference conditions.

Test cases for protocol signalling are specified in Protocol conformance testing TS34.123-1.

The test conditions are based on TS34.108.

Applicability of conformance tests for a certain UE depends on the supported UE radio access capabilities are stated in Implementation Conformance Statement (ICS) TS 34.123-2

It is needed to align with UE radio access capabilities TR25.926 developed by R2.

Certain combinations of reference RABs in “Typical parameter sets” will be applied as reference.

R2: UE radio access capabilities TR25.926

The latter part of this TR describes the list of reference UE Radio Access capability combinations based on required UE radio access capabilities to support reference RABs. Reference UE radio access capability combinations provide default configurations that should be used as a basis for conformance testing against reference RABs.

In order to make consistency between the 3GPP testing specifications and typical parameter sets, the reference RAB parameters should be chosen from the parameters in the “Typical parameter sets” document and the RAB combinations should be based on the RAB combinations in the “Typical parameter sets” document.

R1: Channel coding examples TR25.944

In order to make the technical report more meaningful, the described coding parameters should align with “Typical parameter sets”.

4.Conclusion and proposal

- GSMA ISG has produced “Typical Radio Parameter sets”. This document describes the parameters that operators will use in actual operations to ensure the interoperability for roaming.

- It is strongly recommended that the 3GPP testing specifications will be produced assuming that operators will use mainly the parameters in the document, i.e. the parameters of test cases should be chosen based on the operators’ typical radio parameter sets.