

Agenda Item: 7

Source: CWTS WG1

Title: The Framework for TDD low chip rate option in Release 2000

Document for: Approval

1. Introduction

Among the Recommendations approved at the Heidelberg meeting [3], the OHG considered the harmonization of the CDMA TDD proposals. The OHG recommends: the chip rate of 3.84Mcps for CDMA TDD mode is required; and the only lower chip rate of 1.28Mcps for CDMA TDD is an option to enable services flexibility through beamforming techniques and DCA. Among the outputs of ITU-R TG8/1 meeting [1][2], the new ITU-R Recommendation [IMT.RSPC] is drafted. In the section of CDMA TDD, two TDD subsections (UTRA TDD and TD-SCDMA) share the same higher layer (L2 and L3) but actually with different physical layer specifications. And also in the output of the 3GPP TSG-RAN meeting #5 [4], the proposed structure for IMT.RSPC reflects the same status.

Following the requirements by operators, ITU and other standard organization, CWTS propose the following framework for achieving a single IMT-2000 CDMA TDD mode. The outcome of the work should retain the advantages of two options to meet operator's requirements.

2. Achievements before RAN#6

The harmonization process for TD-SCDMA and UTRA-TDD has already harmonized many essential parameters (a number of TDD harmonization meetings in Beijing, OHG, 3GPP and ITU) in physical layer. Many parameters of TD-SCDMA has been changed to be the same as UTRA TDD or similar. There are still some differences in physical layer due to the different schemes in two TDD options in TSG RAN#5 and TG8/1 18th meeting. It was also agreed two TDD options use same system architecture and common L2 and L3 protocol.

3. Proposed framework

The goal is to enable the full integration of the low chip rate TDD option and its specific properties that lead to the high performance and flexibility into the Release 2000 specifications of 3GPP. This is shown in Figure 1.

In order to achieve this goal, it is intended to provide all the necessary inputs to facilitate the technical discussion in different working groups of 3GPP and also plentiful and active reviewing and discussions should be done. It is expected that some extensions are necessary in the higher layers' specifications. For the physical layer specifications, the specific properties of low chip rate option have to be respected.

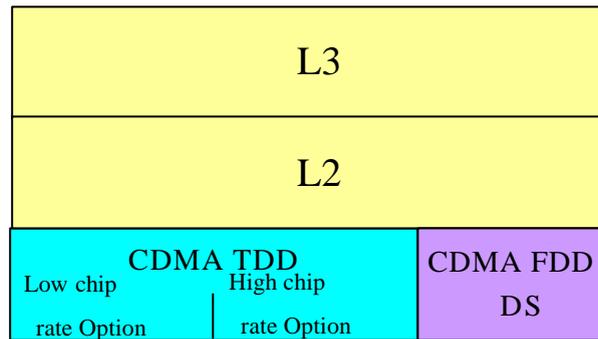


Figure 1. The proposed CDMA TDD integration

3. Conclusion

The goal is to enable the full integration of the low chip rate TDD option and its specific properties into the Release 2000 specifications of 3GPP. Therefore we propose to approve that the integration work should be included in the work-plan of 3GPP RAN for Release 2000. This involves discussion on the specific properties of the low chip rate option in order to enable the features that lead to high performance and flexibility of low chip rate option.

Reference

- [1] ITU R8-1/244E, 'Liaison Statement to ITU-R Study Group 8 regarding RECOMMEN-
DATION ITU-R [IMT.RSPC]
- [2] ITU R8-1/275E, 'Draft New Recommendation ITU-R[IMT.RSPC] – Detailed Specifications
of the Radio Interfaces of IMT-2000'
- [3] ITU R8-1/439E, 'OHG Response to ITU-R TG8/1 Liaison Statement'
- [4] ITU R8-1/463E, 'contribution on section 5.x.2 (TDD component)'