3GPP TSG RAN Meeting #72
Busan, Korea, June 13 - 16, 2016
RP-161005

Source: Huawei, HiSilicon
Title: Motivation for New Study Item proposal: Multi-node tests for LAA
Document for: Discussion
Agenda Item: 10.1.4

BUILDING A BETTER CONNECTED WORLD

www.huawei.com

HUAWEI

Motivation

- Licensed assist access (LAA) in unlicensed spectrum was introduced in Rel-13 as a complementary tool to augment operators' service offering and solutions. Given the widespread deployment and usage of other technologies in unlicensed spectrum, it is necessary that LAA coexists with existing and future technologies targeted for unlicensed spectrum. Therefore, LBT mechanism was introduced for LAA to coexist with other wireless systems, e.g. Wi-Fi as well as with other LAA systems. As part of the R13 WI, functionality tests for LBT mechanism have been specified for LAA to verify that the LAA Base Stations (BS) have implemented LBT as it is specified in 3GPP specifications

- Meanwhile, there has been request to conduct multi-node tests where two wireless systems share the same unlicensed spectrum and their system performance is to be ensured, e.g. between two LAA systems or between LAA and other wireless systems, e.g. Wi-Fi.

- To this end, multi-node tests have been discussed in RAN4 for several meeting cycles. RAN4 agreed that a new TR can be defined to document the multi-node tests for Rel-13 LAA operation as shown in the LS to RAN (R4-163134). It is also agreed in general that a SI should be created to accommodate such work.

New SID: Multi-node tests for LAA

- **Objectives:**
  - Investigate how to conduct multi-node tests involving two Rel-13 LAA BSs or one Rel-13 LAA BS and one other wireless system, e.g. Wi-Fi system to make sure that the two systems can coexist in the same unlicensed spectrum. In particular, the following goals shall be met by the multi-node testing
    - The tests shall be designed in a way that cross technology coexistence can be achieved. More specifically, the impact for both LAA to other systems, e.g. Wi-Fi and other systems e.g. Wi-Fi to LAA should be tested.
    - The testing complexity should be kept as low as possible so it can be easily performed by the operators who have different systems deployed in the same area.
    - The tests shall be easily extended to include future systems such as eLAA in Rel-14.

  - A TR will be created to capture the agreed multi-node tests
  - If needed, the TR created in this SI can be used to capture new multi-node tests in Rel-14.

Thank you !