

Source: KT Corp.
Title: Channel modeling methodology on > 6GHz
Agenda Item: 7.3.5.2
Document for: Discussion and Decision

1. Introduction

In the 69th RAN plenary meeting, the above 6 GHz channel modeling was approved[1]. After then, various parts such as scenarios, interest frequency bands, and modeling methodologies have been discussed on email. This document mainly introduces the channel modeling methodology to prefer of KT cooperation.

2. Discussion

During the email discussion, many companies introduced their interested channel modeling methodologies. All of them were briefly divided into three categories such as stochastic modeling approach, map-based modeling approach, and hybrid modeling approach. This SID is the first step to develop a 5G new RAT system. Therefore the time unit in order to finish this SID should be very tight. With the limitation of time, this SID might take into account to focus how to reduce the complexity of channel modeling methodology on above 6GHz. Furthermore, low complexity channel modeling methodology could help to reduce spending time for simulation when operators make cell planning.

In general, the stochastic modeling approach is well known about relatively low complexity and it has been successfully used for many years in the industry. The 3D SCM model 36.873 has been developed based on the stochastic modeling approach. Many companies have made simulation tools utilizing stochastic modeling approach for cell planning. And stochastic modeling approach has been supported by numerous measurement campaigns.

Considering above situation, the possible and simple way to develop new channel model might not be making new methodologies including map-based or hybrid modeling but extend from existing 3D SCM model. It could be consistent with below 6GHz and be possible to shorten the time unit.

3. Conclusions

Based on the discussions in clause 2, KT proposes followings.

Proposal 1: The new channel model shall be based on the stochastic modeling methodology that is used for the 3D SCM of TR 36.873.

Proposal 2: Other channel modeling methodologies including map-based and hybrid modeling approach should be developed optionally.

Proposal 3: Considering limitation of developing time unit, additional features should be developed optionally.

4. References

- [1] 3GPP, RP-151606, Samsung and Nokia Networks, “New SID Proposal: Study on channel model for frequency spectrum above 6 GHz,” Sep. 2015.