**3GPP TSG-RAN WG4 Meeting #116 R4-2512558**

**Bangalore, India, August 25th – August 29th, 2025**

**Source: [MediaTek, Huawei,] BT**

**Title: pCR on TR 38.753 Section 6.3 Channel Properties**

**Agenda item: 7.12.2**

**Document for: Endorsement**

1. Introduction

During RAN4#116 the introduction of Section 6.3 to TR 38.753 was agreed. This contribution provides corresponding text proposal.

1. Text Proposal

***<Start of Change 1>***

6.3 Channel Properties

6.3.1 CDL

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* For CDL models, both spatial and temporal properties are drawn from a common ray-based framework that resembles physical environments.
* CDL (link level) models are based on the same paradigm that is extensively used for system-level simulations by RAN1 and regularly used for link-level simulations by RAN1 to develop MIMO related features.
* Each tabulated CDL model corresponds to a single possible physical environment example with static long-term spatial properties, with the realization chosen by RAN1 to match the median of the system level environment distribution.
* In this study item, RAN4 contributors spent considerable effort to clarify and align the understanding of the many practical details of CDL models.

6.3.1.1 Property 1

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6.3.1.2 Property 2

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6.3.2 TDL

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* TDL channel models are very simple and extensively used in RAN4 demodulation and CSI testing.
* Multi-cluster TDL models builds on top of the well-known and well-aligned legacy TDL models.
* Legacy TDL correlation models and related correlation derivation models introduce strong spatial selectivity so that higher transmission ranks are either infeasible or require unreasonably high SNR or low MCS.
* The multi-cluster TDL model reduces the spatial limitations of the underlying spatially correlated legacy TDL model so that higher ranks can be supported.
* The multi-cluster TDL model does not alter the Doppler spread or the frequency selectivity of the underlying legacy TDL model.
* The multi-cluster TDL model can be configured using a limited number of beam-steering parameters to match desired test behaviour. The steered beam directions and the relative beam power offsets are artificially configured.

6.3.2.1 Property 1

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6.3.2.2 Property 2

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***<End of Change 1>***

References

1. tbc.