# Frequency Dependency of Channel Parameters in Urban Scenarios for mm-Wave Communications

**Author(s) - Institution(s):**
Pekka Kyösti, Anite
Ines Carton, AAU
Wei Fan, AAU

**Corresponding author email:** pekka.kyosti@anite.com

**Corresponding WG group:** TWGU, WG1, SWG 1.2

**Abstract:**

This paper discusses a radio channel model for evaluation of coming 5G techniques and systems, emphasizing the expected utilization of higher frequency bands. The METIS map-based model utilizing ray tracing principles, which is suitable for modeling 5G radio channels, is firstly described. To investigate frequency dependency of channel parameters for millimeter wave communications, simulations with the described METIS map-based model in six different frequencies between 2 and 60 GHz are performed in a representative urban micro-cellular LOS propagation scenario. Frequency dependency of channel parameters like path loss, shadowing, delay spread, and angular spreads are evaluated. A sub -set of simulated statistics is compared to measurement results reported in the literature.