



# IRACON

## **COST Action CA15104** **Deliverable 9** **IRACON concerted radio channel** **models for 5G and beyond**

COST Action CA15104 (IRACON) aims to achieve scientific networking and cooperation in novel design and analysis methods for 5G, and beyond-5G, radio communication networks.

This Deliverable summarizes novel radio channel models discussed in Working Group 1 (WG1) on radio channel in IRACON, focusing on new and important application scenarios and radio wave propagation behaviours pertaining to 5G and beyond.

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## List of acronyms

AP	Access point
BAN	Body area networks
BEL	Building entry loss
CDF	Cumulative distribution function
CL	Clutter loss
EIRP	Equivalent isotropic radiated power
GSCM	Geometry based stochastic channel model
LOS	Line-of-sight
MIMO	Multiple-Input Multiple-Output
MPC	Multipath components
MPL	Mean path loss
NLOS	Non-line-of-sight
OLOS	Obstructed line of sight
PDP	Power delay profile
PCB	Printed circuit board
THz	Terahertz
V2V	Vehicle-to-vehicle
WRC	World radiocommunication conference
WSS	Wide-sense stationary

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## 1. Executive summary

Several frequency bands and system architectures are proposed for 5G and beyond to meet the higher data rates for point-to-point communication and point-to-area coverage. In the appendix, which we published as the following scientific paper, we present radio propagation studies and models developed in typical scenarios for massive antenna deployment and body area networks, in frequency bands below 6 GHz, building entry loss and clutter loss and vehicular communication, in the millimeter wave bands, and models in the Terahertz for 5G and beyond.

- Sana Salous, Fredrik Tufvesson, Kenan Turbic, Luis M. Correia, Thomas Kürner, Diego Dupleich, Christian Schneider, Daniel Czaniera and Belen Montenegro Villacieros, “IRACON PROPAGATION MEASUREMENTS AND CHANNEL MODELS FOR 5G AND BEYOND,” ITU Journal: ICT Discoveries, Vol. 2(1), 12 November 2019.

## 2. Appendix

The paper starts from the next page.