

Model Standardization: Propagation Case Study of Challenges of development of 5G models in the ITU

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Background: academic research

- Design and realisation of radio channel sounders, and measurements for propagation models from HF (3-30 MHz) to mm wave
- Contributions to ITU Study Group 3

Propagation of radio waves in **ionized and non ionized** media and the characteristics of radio noise, for the purpose of improving radiocommunication systems

Frequency bands

WRC15 Band (GHz)	Bandwidth (GHz)
24.25-27.5	3.25
31.8-33.4	1.6
37-43.5	6.5
45.5-50.2	4.7
50.4-52.6	2.4
66-76	10
81-86	5

Use Scenarios: outdoor/indoor

ITU-R P.1411 and P.1238



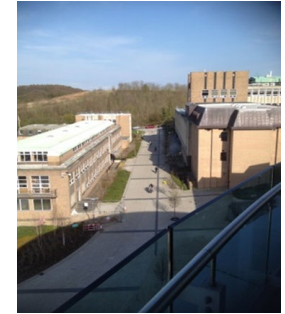
Street canyon



Open square



Residential



Suburban



Shopping mall



Exhibition



Conference room



Factory

Outdoor to indoor: ITU-R P.2109

Traditional



Victorian House



80s build



Üserhuus



Weinerberger-E4

Building Research Establishment (BRE) in Watford, UK

Fixed links: ITU-R P.530

