



Unlocking Spectrum above 6 GHz for 5G Mobile Communications

Panel

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5G PPP mmMAGIC Project

Unlocking Spectrum above 6 GHz for 5G Mobile Communications, IEEE DySPAN 2015 Panel



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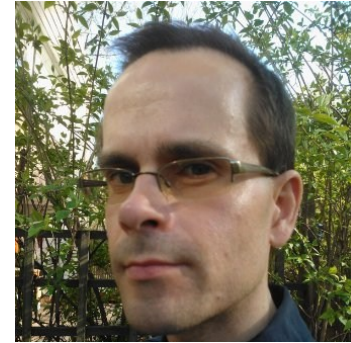
Barry Lewis
Samsung



Reza Karimi
Huawei



Gösta Lemne
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Mikko Uusitalo
Nokia

Moderators:

Maziar Nekovee, Samsung (mmMAGIC Coordinator)

Peter von Wrycza, Ericsson (mmMAGIC Technical Manager)

5G PPP mmMAGIC

Co-funded by the EC under the Horizon 2020 5G PPP - Research and Innovation Framework Programme

Duratin : July 2015 – July 2017 + 6 pro-bono months, 19 Partners

Project coordinator: Samsung

Technical manager: Ericsson

Vendors: Samsung, Ericsson, Alcatel-Lucent, Huawei, Intel, Nokia

Operators: Orange, Telefonica

Leading research institutions: CEA-LETI, Fraunhofer HHI, IMDEA Networks

Universities: Aalto University, University of Bristol, Chalmers University of Technology, TU Dresden

SME: Qamcom

Test equipment manufacturers: Keysight Technologies, Rohde & Schwarz

Advisory board: ANFR (FR), BNetZa (DE), FICORA (FI), PTS (SWE), OFCOM (UK)

Objectives and key research areas

- ◆ To develop concepts and key components for a **new 5G mobile radio access technology** which is expected to operate in a range of frequency ranges between 6 and 100 GHz, including mm-Wave.
- ◆ Supporting 5G's extreme mobile broadband service which will require very high (up to 10 Gbps) data rates, and in some scenarios, also very low end-to-end latencies (less than 5 ms).
- ◆ mmMAGIC is developing novel waveform, frame structure and numerology, novel adaptive and cooperative beam-forming and tracking techniques to address the specific challenges of millimetre wave mobile propagation. This new RAT is envisaged as a key component in the overall 5G multi-RAT ecosystem.
- ◆ mmMAGIC is undertaking extensive radio channel measurements in the 6-100 GHz range at multiple locations in Europe, and will develop advanced channel models that will be used for rigorous validation and feasibility analysis of the proposed concepts and system, as well as for usage in regulatory and standards fora.
- ◆ The ambition of mmMAGIC is to pave the way for a European head start in 5G standards (3GPP) and to be a focal point for European and global consensus building on 5G systems operating above 6 GHz.

THANK YOU!

Find out more at <https://5g-mmmagic.eu>
<https://5g-ppp.eu/news-from-mmmagic/>

Some questions for the panel

- ◆ What are the main drivers for the use of higher frequency bands for 5G, and what technology options are available?
- ◆ What are the expected timelines and current/ongoing regulatory status (country, regional, globally)?
- ◆ What are the main factors, from regulatory, technology and commercial perspective to be considered in identification of suitable frequency ranges above 6 GHz for 5G?
- ◆ What role do you see for Dynamic Spectrum Access in 5G?
- ◆ How do you see the role of 5G PPP research projects, and specifically mmMAGIC in helping clarifying the above questions?