



COMMUNICATIONS REGULATORY
AUTHORITY OF THE REPUBLIC OF LITHUANIA

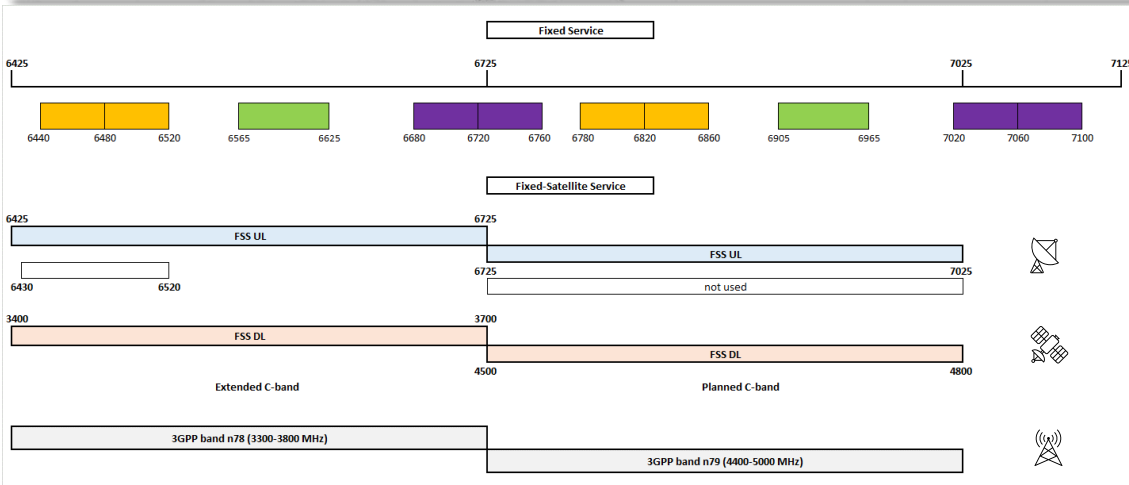
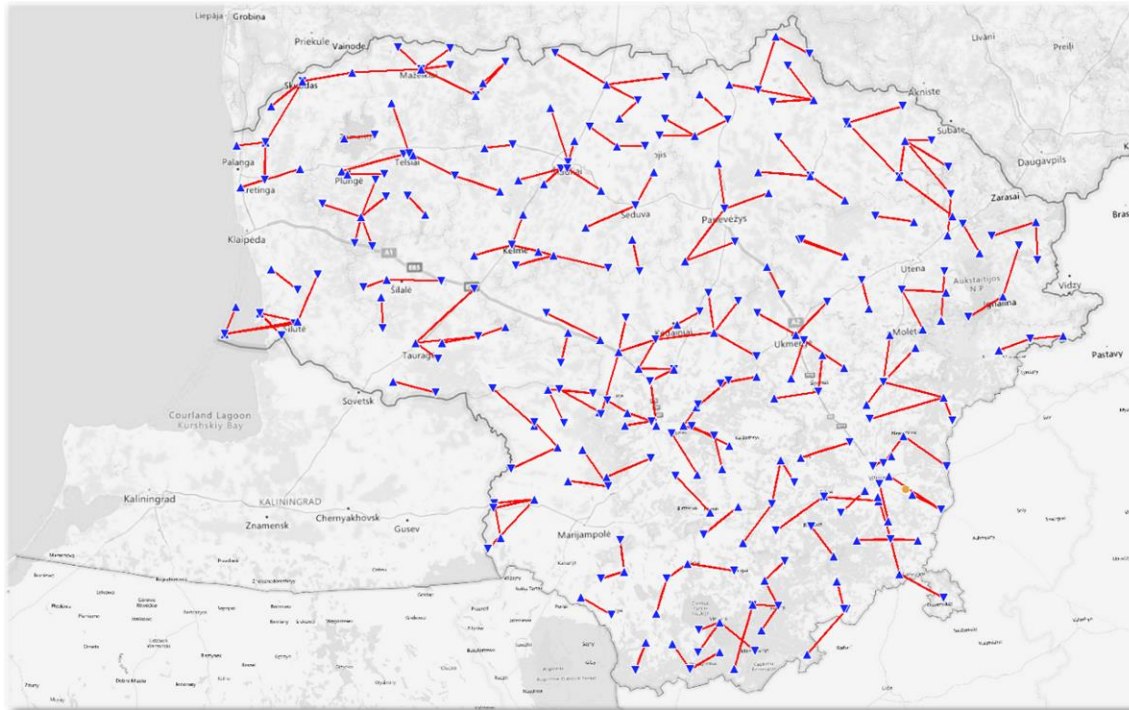
6 GHz Opportunity for 5G: Situation in Lithuania

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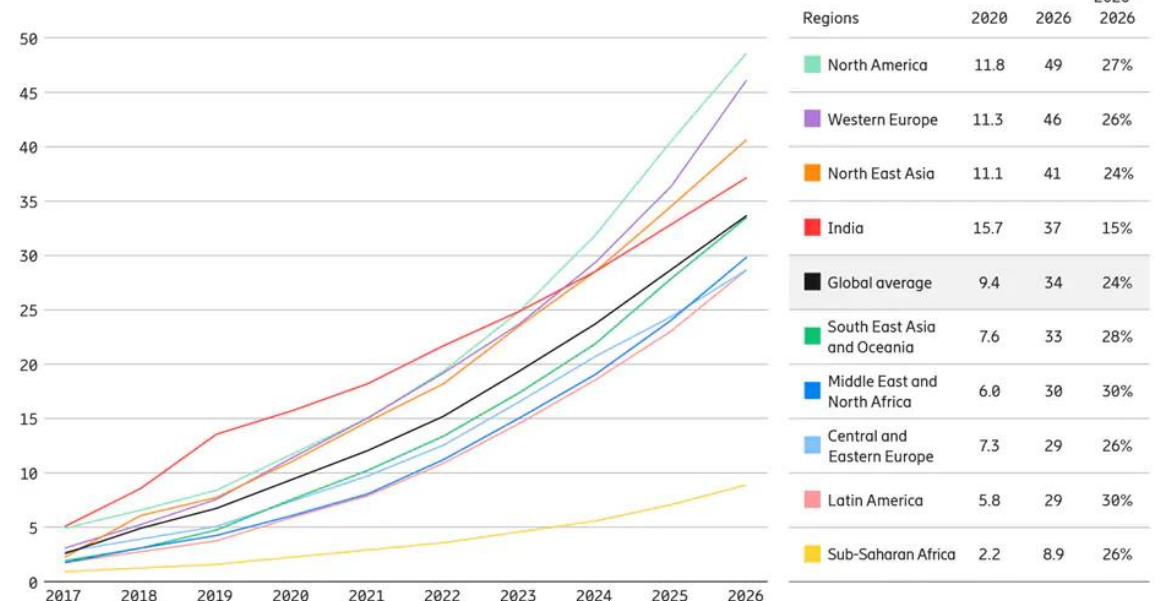


6425-7125 MHz frequency band in Lithuania



- FS (201 MW links)
- FSS (1 Earth station (E-s)), allotment and Plan of 6725-7025 MHz not used, no information on Earth stations (s-E) in 6700-7075 MHz)
- Licenses up till 2031
- Coexistence
 - Fixed service (e.g. possible migration)
 - Fixed-Satellite service (uplink)

Mobile data traffic per smartphone (GB per month)



Source: Ericsson Mobility Report data and forecasts
<https://www.ericsson.com/en/mobility-report/dataforecasts>

Compatibility studies (long-term interference criteria)

Randomly placed 20 typical fixed stations (10 locations, different azimuths)
 LTE-2100 network used for IMT (frequency changed to 6 GHz)

FX parameters (based on [ECC Report 302](#)):

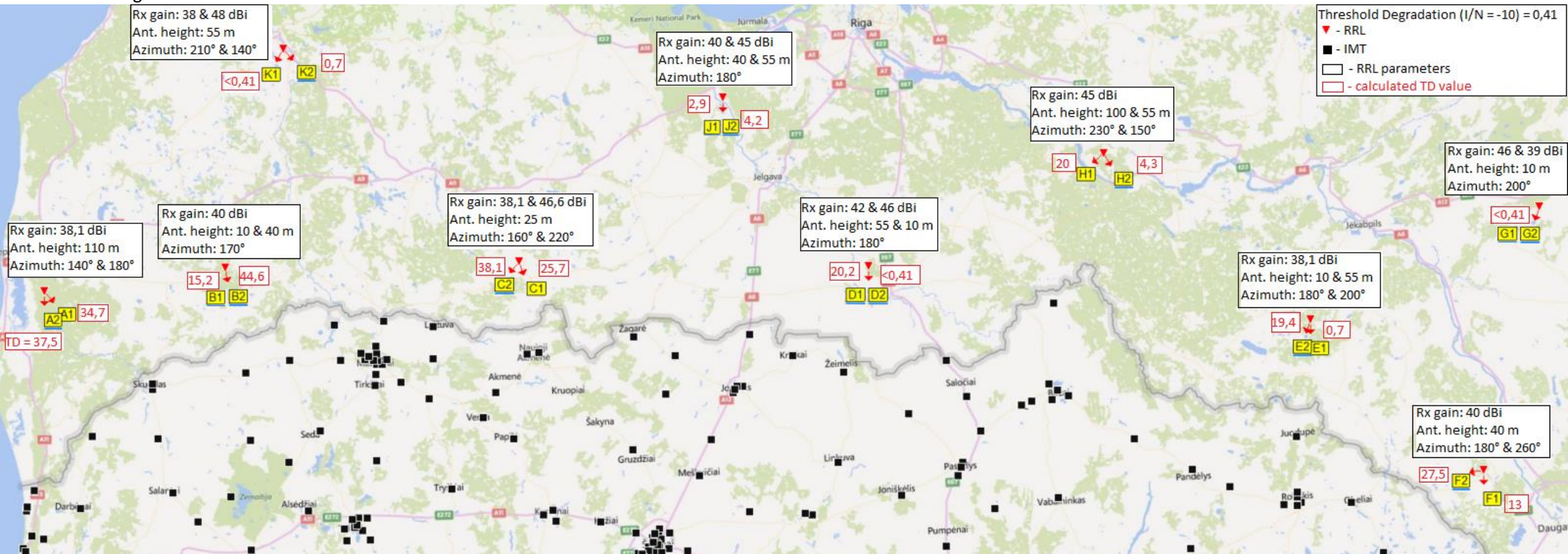
Pattern: Rec. ITU-R F.1245
 Antenna height: 10-110 m
 Rx ant. gain: 38.1-46.6 dBi

IMT parameters:

Antenna height: 40 m
 EIRP: 70 dBm/100 MHz
 Electrical tilt: -6°

Propagation model:

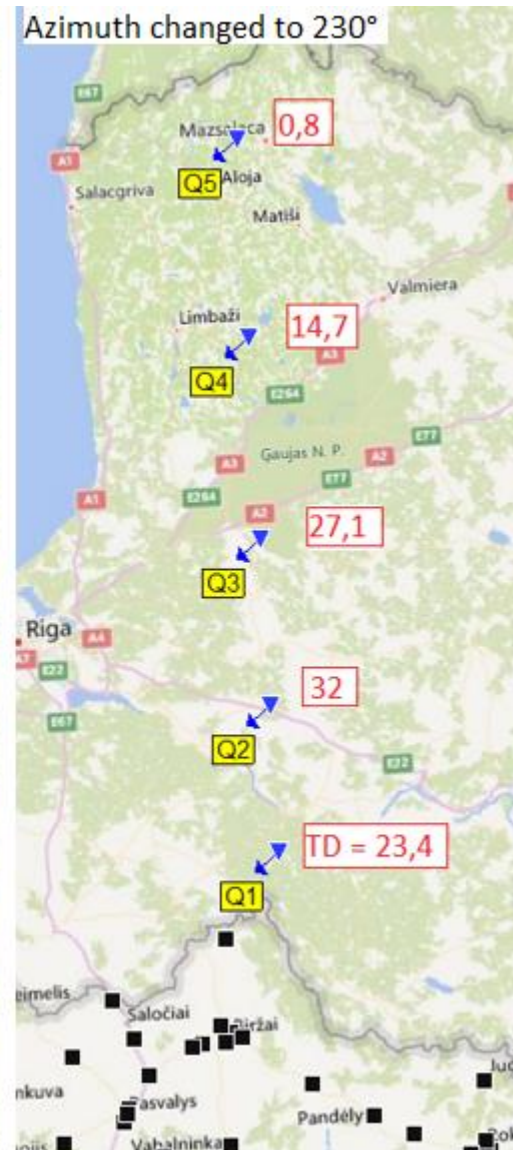
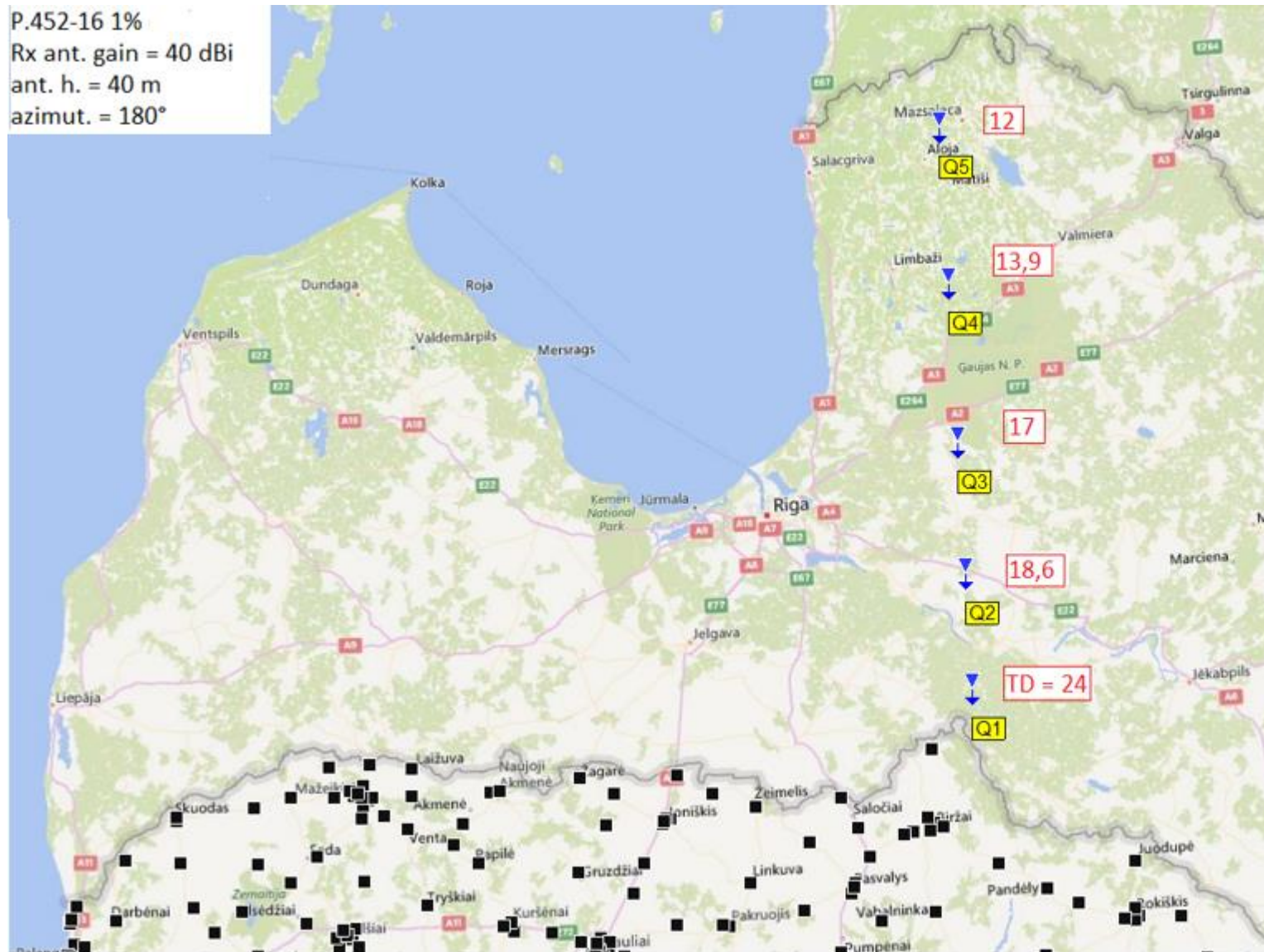
Rec. ITU-R P.452-16, 20%
 $TD = 10 \times \log(1 + 10^{(I-N)/10})$



80-90 km distance needed to reach compatibility using long-term interference criteria (20% of the time)

Compatibility studies (short-term interference criteria)

P.452-16 1%
Rx ant. gain = 40 dBi
ant. h. = 40 m
azimut. = 180°



Highly unlikely to reach compatibility using short-term interference criteria (1% of the time)

Summary



- Initial compatibility analysis
 - 80-90 km distance needed using long-term interference criteria
 - highly unlikely using short-term interference criteria
- Harmonisation across CEPT essential
- Time for RRL migration needed (probably until 2030)

THANK YOU!

