December 1st, 2022

Future Spectrum Policy Summit

Qualcomm

Upper mid-band for 6G

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Spectrum is critical for the success of wireless systems

6G

Exclusively licensed spectrum

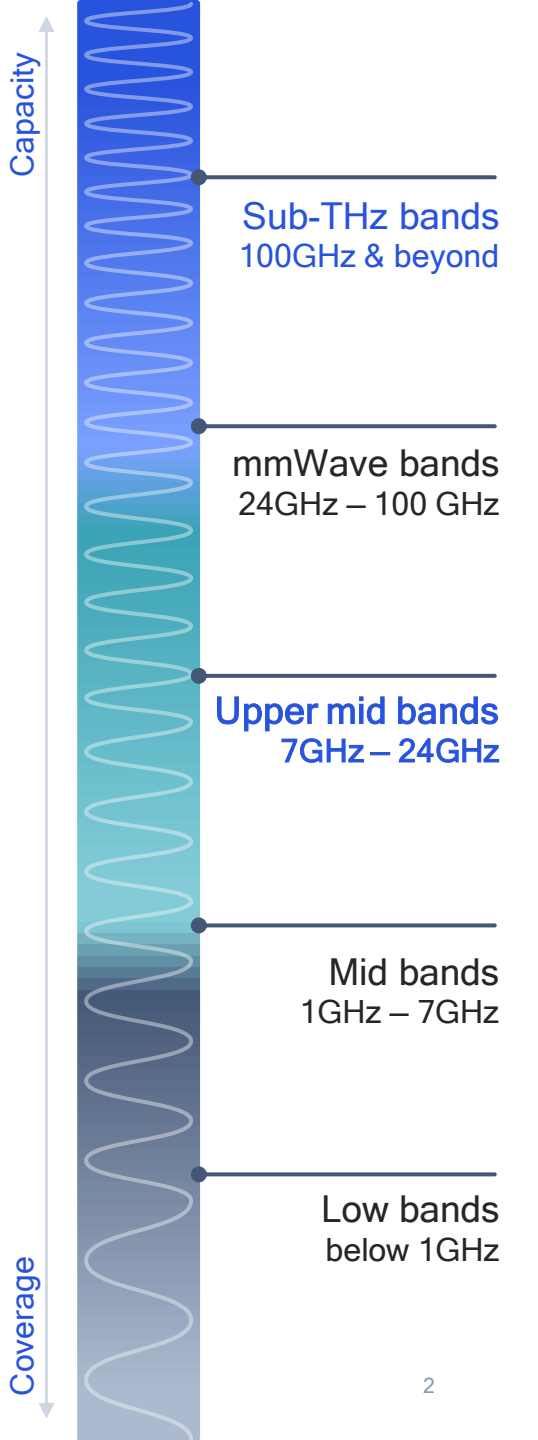
Industry's top priority

Unlicensed spectrum

Specialized use cases

Shared spectrum

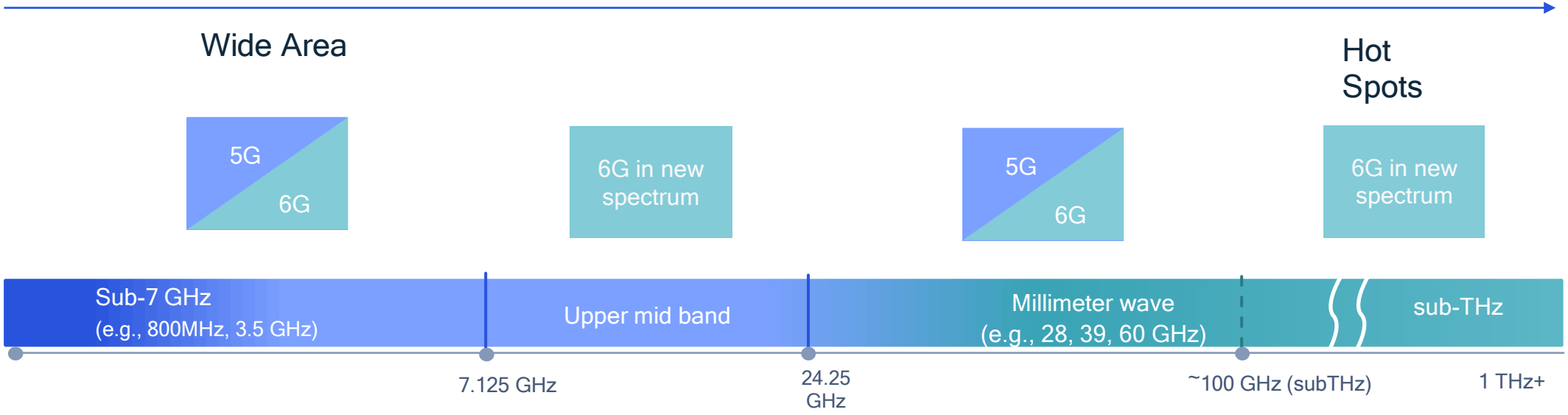
Advanced spectrum sharing techniques for new opportunities



6G in upper mid bands

Expansion to upper mid-bands for wide area coverage

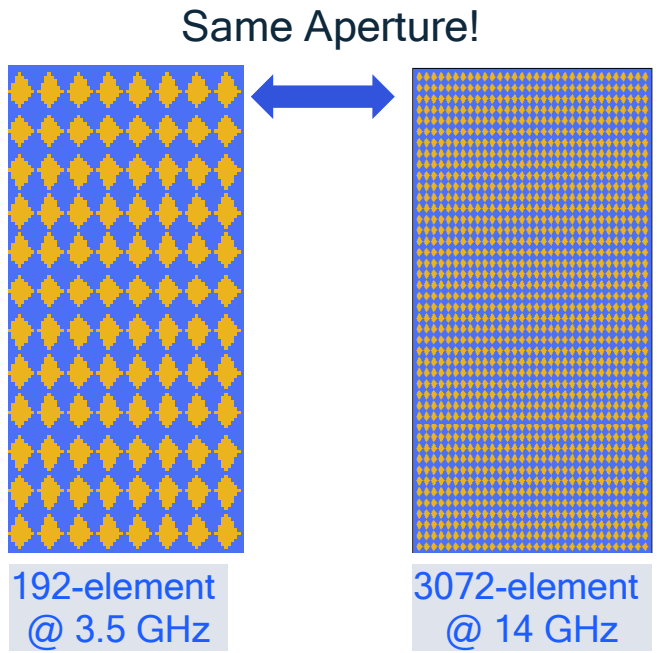
- Upper mid bands (7-24 GHz) range is optimal for wide area coverage
  - Will meet 6G performance requirements
  - New technology is necessary to ensure coverage is comparable with existing 5G spectrum deployments
- Presence of incumbent services (e.g., satellite, radars) not harmonized across regions may require new advanced spectrum sharing techniques



G-MIMO for upper mid bands

Best of mmW (wide bandwidth …) & best of sub6 (coverage …)

- Offers good capacity-coverage tradeoff suitable for wide-area deployments
  - Shorter wavelength at upper mid-bands (for example,14 GHz) allows for packing 16x antenna elements within the same aperture size as in 3.5 GHz band
  - Challenges associated with the increased propagation losses can be addressed with cost effective hybrid analog/digital beamforming technology
    - Good balance between high spatial multiplexing capability and sufficient pathloss compensation



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Thank you

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