

3GPP TSG RAN 93-e

September 13th – September 17th 2021

RWS-212325

Agenda Item 9.0.1

NTN – TN Spectrum Re-use

MediaTek Inc.

NTN – TN Spectrum Re-use

3GPP TUs (Total w/ 9 meetings)			
RAN1	RAN2	RAN3	RAN4
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SA/CT Dependency: No

Enabling controlled re-use of TN/NTN spectrum to address location-specific connectivity demand

Motivation

- Acute shortage of FR1 spectrum for both TN and NTN, esp. in low bands.
- Opportunity for operators to provide global service across TN/NTN with multimode devices

Observation: Complementary demand for TN/NTN spectrum across geographic locations

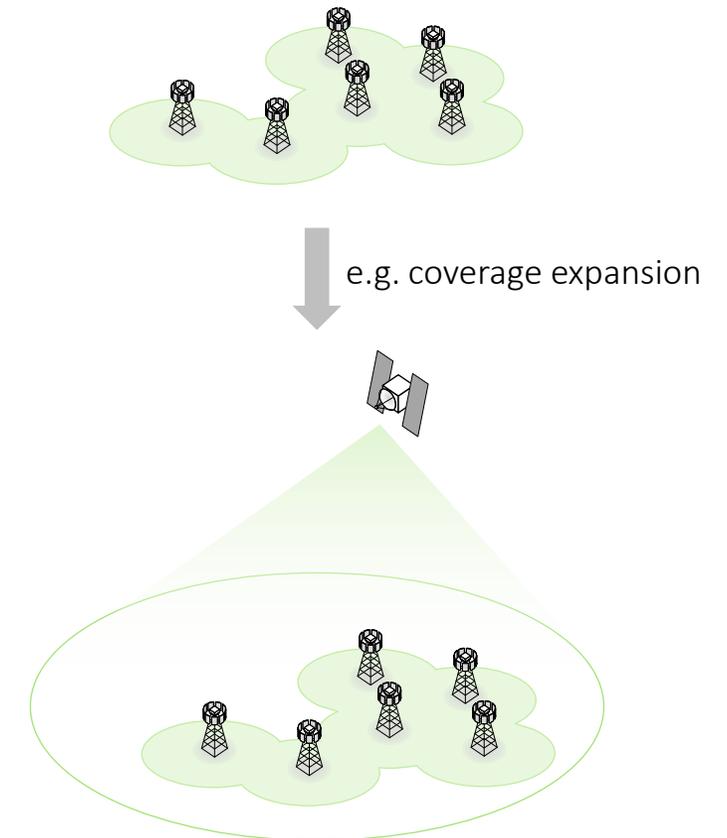
- Populated areas: acute TN spectrum demand, poorly utilized NTN spectrum
- Remote areas: no TN coverage – TN spectrum unused, acute NTN spectrum shortage

Objective: Study NTN – TN spectrum reuse scenario [RAN]

- Explore benefits of network integration between TN/NTN networks to maximize spectrum utilization
 1. NTN spectrum used by TN networks in densely populated areas
 2. TN spectrum used by NTN in remote areas with no TN coverage
- Multimode TN/NTN UEs can roam between NTN/TN depending on location
- Identify target spectrum and regulation status
- Scope RAN and core architecture impact
- Scope required NTN/TN co-existence effort

3GPP - best place to trigger cross-ecosystem discussion

- 3GPP is the only standards body where NTN and TN co-exist under the same system framework
- All ecosystem key players can contribute to balanced 3GPP consensus view for regulators to consider



Thank You!