



Fukuoka, Japan, 3 - 6 March 2014

Document for: Discussion

Agenda Item: 14.1.1

STUDY ON LICENSED-ASSISTED ACCESS USING LTE

MOTIVATION

Ericsson, Qualcomm, Huawei

BACKGROUND

Licensed spectrum is superior...

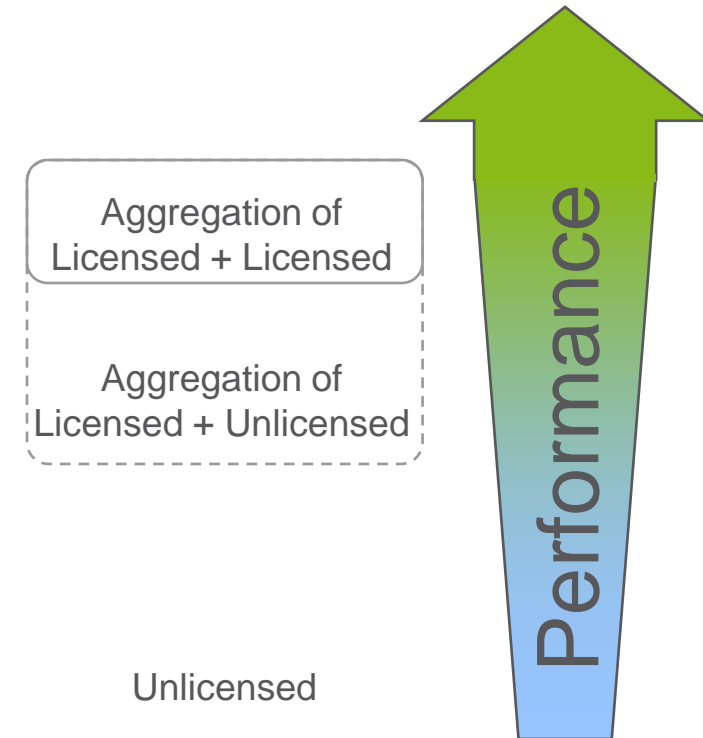
- Reliability, quality, ...

...but existing unlicensed spectrum can further boost performance

- Fundamentally not new – WiFi offloading common today
- LTE-based access can provide benefits



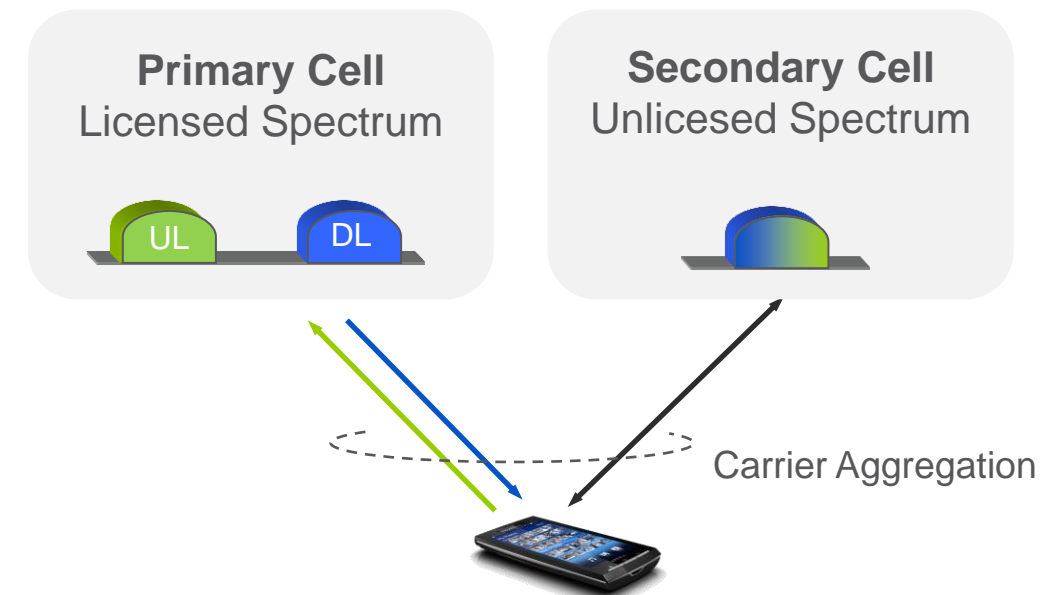
Licensed-Assisted Access



LICENSED-ASSISTED ACCESS



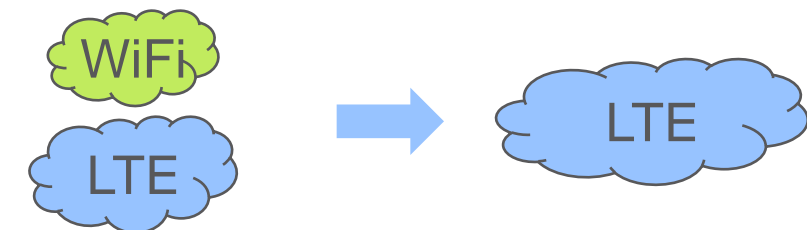
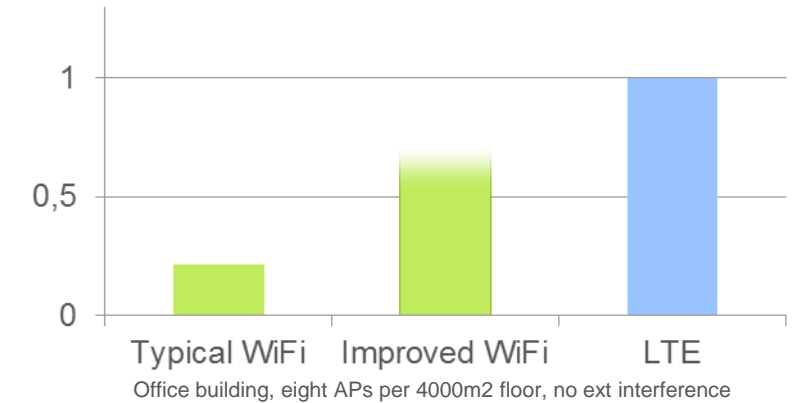
- › Unlicensed spectrum used as *performance booster* in *operator-deployed small cells*
 - Always accompanied by a licensed carrier – no focus on stand-alone operation
- › Primary carrier uses *licensed* spectrum (FDD or TDD)
 - Control signaling, mobility, user data
- › Secondary carrier(s) use *unlicensed* spectrum
 - Best-effort user data (DL and potentially UL)



BENEFITS



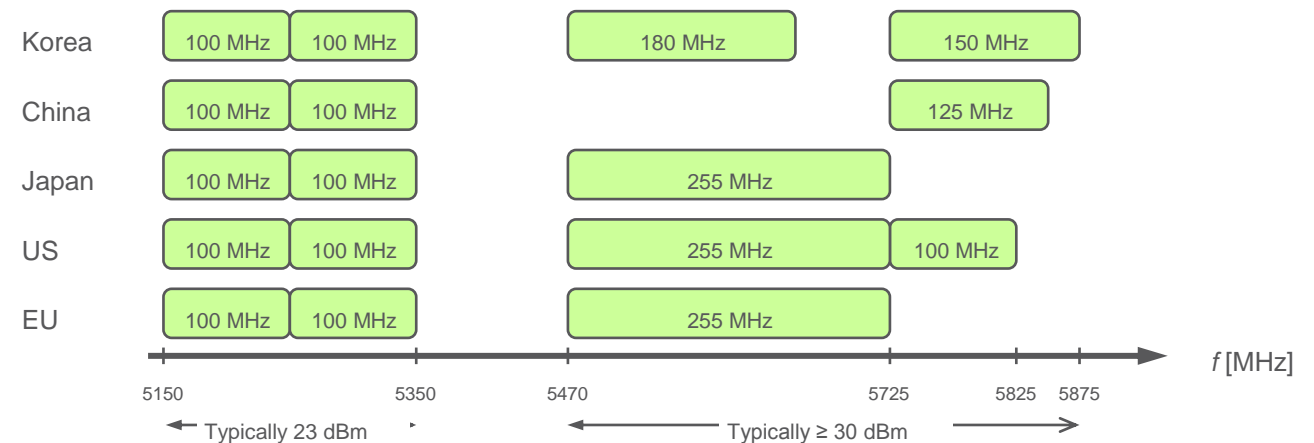
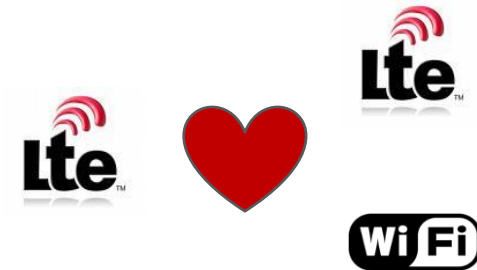
- › Spectral efficiency and data rates
 - LTE can provide higher spectral efficiency than WiFi
- › Reliability and Quality
 - Mobility, QoS, robust fallback etc as in existing LTE
- › Network management
 - Management of *one* network



REQUIREMENTS



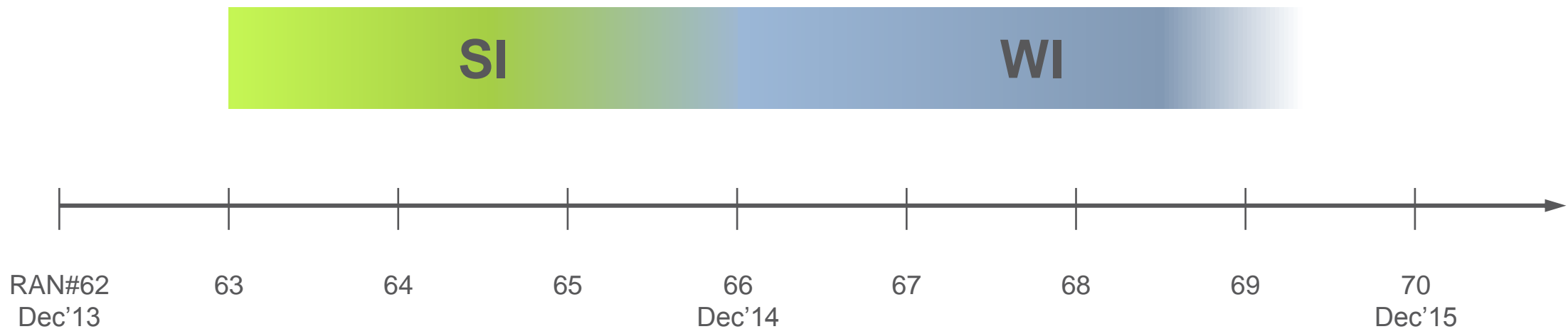
- › Friendly and fair coexistence
 - With other technologies
 - With other operators
- › Fulfill regulatory requirements
 - may differ between regions and bands



POSSIBLE 3GPP TIMELINE



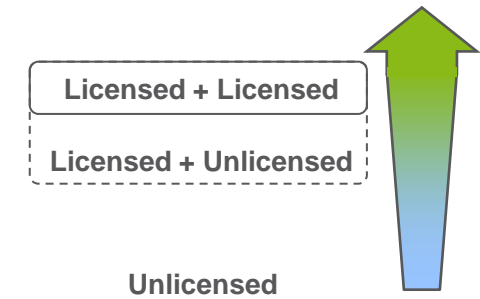
- › Complete solution addressing global situation in Rel-13



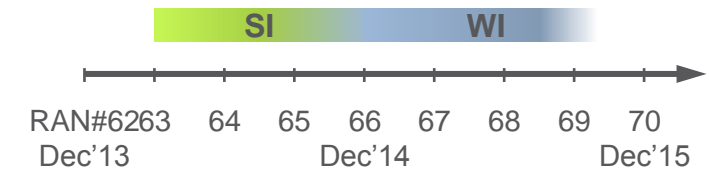
SUMMARY



- › Licensed-Assisted Access
 - Unlicensed spectrum can further boost LTE performance



- › 3GPP to study potential and define solutions
 - Complete global solution in Rel-13





ERICSSON