3GPP TSG RAN Meeting #95-e

Electronic Meeting, March 17th - 23rd, 2022

Agenda Item 9.1.4.2

RP-220538

Qualcomm

Views on FR2 RF enhancements

Qualcomm Incorporated

Requirements for Simultaneous Reception in FR2

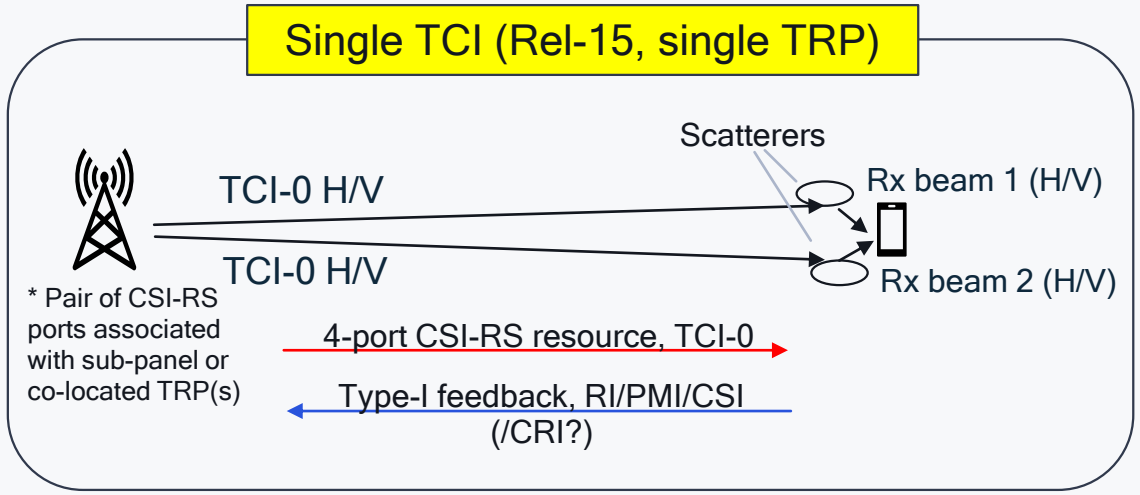
Expanding high-end device capabilities in FR2

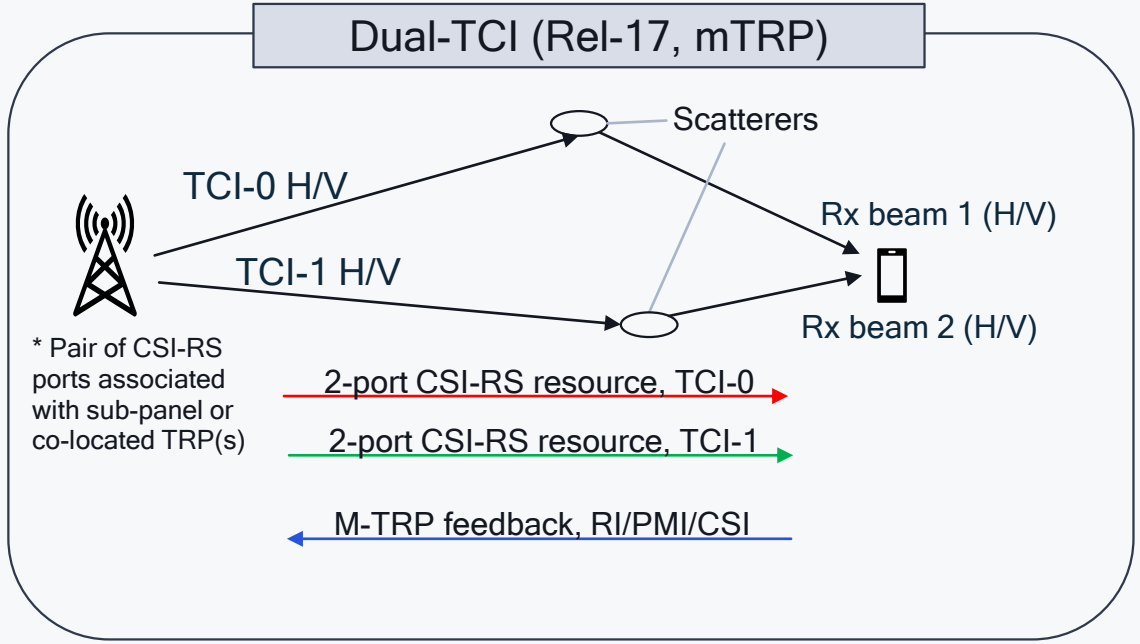
- MIMO enhancements in previous releases introduced several features with simultaneous reception(“multi-panel) from different directions in FR2
- No RAN4 requirements for these advanced features have been defined so far in RAN4
- In order to enable the implementation and deployment of advanced MIMO features, RAN4 should define the corresponding requirements
- Also, this will enable 4 layer UE reception in FR2 which would further enhance the peak throughput and network capacity

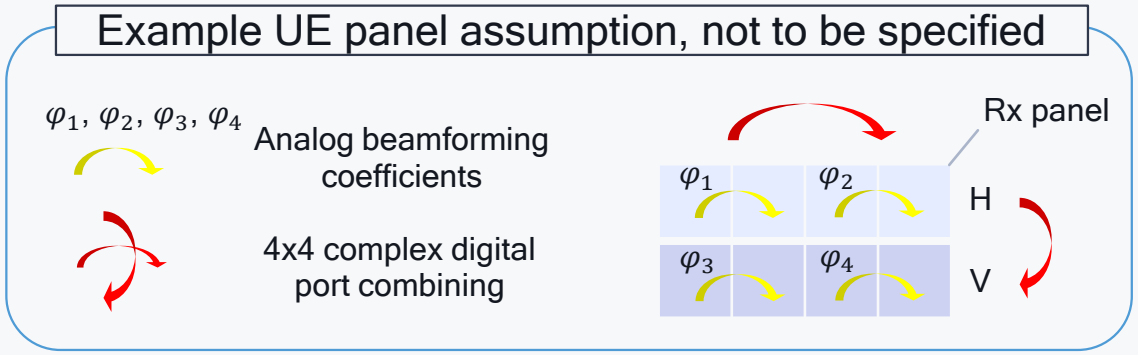
Requirements for 4-Layer DL in FR2

Expanding high-end device capabilities in FR2

- Define requirements <u>at least for the dual TCI option</u> shown below







Identify minimum m-TRP feature subset to enable 4L MIMO

Requirements for 4-Layer DL in FR2

- Introduce RAN4 requirements for multipanel with multi TRP Dual TCI
  - Feature was introduced in Rel.17 FeMIMO
  - RAN4 has not defined requirements in Rel.17 for this feature
  - Many MIMO enhancements involve simultaneous Rx/Tx, RAN4 requirements are needed to enable further MIMO evolution
- Work will span RF, RRM and demod
  - RF requirements for 2AoAs and 4 layers
  - RRM requirements/tests for beam management with dual TCI
  - Demod tests with 2AoAs and 4 layers
- Besides new requirements, a new test setup with 2AoAs will be needed
  - We are proposing to start studying OTA testing for multi panel UEs in the dynamic OTA testing study (RP-220542)

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Thank you

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