Agenda item:	9
Source:	AH26
Title:	AH26 report to RAN WG1 meeting #14
Document for:	Approval

Summary:

Five different contributions were handled in the AH26 meeting #2. Four of them [1, 2, 4, 5] were presented for information and no conclusions were yet drawn. The simulation assumptions contribution [3] was approved by AH26. A technical report will be made to be approved in the next R1 meeting. The report will provide the R1 conclusions on the Tx diversity solutions for more than two antennas proposed for possible inclusion to Rel.-00. The editor of the report will be Mr. Sung Jin Kim (email: dcsjkim@sait.samsung.co.kr) from Samsung.

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1. INTRODUCTION

Five contributions on simulation assumptions, open loop and closed loop Tx diversity solutions for more than 2 antennas were received [1, 2, 3, 4, 5].

2. INPUT DOCUMENTS TO THE MEETING

In R1-00-0852 a STTD encoding method for 3-4 Tx antennas was proposed for indicator channels [1]. It was pointed out that when applied only to indicator channels the gain from system point of view will be small. In addition, how to specify e.g. the PICH so that also Rel.-99 UEs can be supported. The paper was presented for information and no conclusions needed to be made. More results are expected in the next meeting.

In [4] the solution for closed loop mode 2 modified for more than two antennas was described in more details. It was pointed out that the complexity analysis should also take into account the complexity increase in general due to increased number of Tx antennas. The contribution was presented for information and no conclusions was yet made. More results are expected in the next meeting.

In [5] simulation results in multipath channels were presented for the proposed closed loop scheme based on existing mode 1. In addition, results for verification bounds were presented indicating that some kind of verification algorithm will be needed. The contribution was presented for information and no conclusions were drawn.

In [2] a downlink eigenbeamformer concept was proposed. It was commented that one reference case should be (adaptive) beamforming solution based on Rel.-99 specification. It was pointed out that the concept may be sensitive to uplink signaling errors. Therefore, it is important to take those errors into account in further simulations. The document was presented for information and no conclusions were made.

In [3] simulation assumptions discussed over the reflector were presented. AH26 recommends that the document will be approved. It was noted that the new concept based on beamforming will require some changes to channel models. Therefore, proposals for channel models to be used in beamforming simulations are expected.

3. FURTHER STUDIES AND TECHNICAL REPORT

The technical report that is supposed to be approved in the next R1 meeting was discussed about. It was pointed out that it should include also other aspects than just link level simulation results and descriptions of the concepts. That was acknowledged. Chairman promised to produce the first draft (outline) of the report already during the on-going R1#14 meeting. Mr. Sung Jin Kim (email: dcsjkim@sait.samsung.co.kr) from Samsung will be the editor of the report. Possible issue that should be dealt with in the report include:

- Descriptions of the concepts
- Link level simulation results
- Complexity impacts to UE

- Complexity impacts to BTS

- Backwards compatibility

- Impacts to initial synchronization and neighbor cell measurements

- Mandatory/optional support by UEs

- Common pilot solution and related backwards compatibility

- Deployment scenarios

It was pointed out by the chairman that the eventual contents of the report will depend on the contributions by the companies.

4. CONCLUSIONS

Five different contributions were handled in the AH26 meeting #2. Four of them [1, 2, 4, 5] were presented for information and no conclusions were yet drawn. The simulation assumptions contribution [3] was approved by AH26. A technical report will be made to be approved in the next R1 meeting. The report will provide the R1 conclusions on the Tx diversity solutions for more than two antennas proposed for possible inclusion to Rel.-00. The editor of the report will be Mr. Sung Jin Kim (email: dcsjkim@sait.samsung.co.kr) from Samsung.

REFERENCES

[1]   Siemens. STTD coding method using up to four antennas to improve the performance of Indicator Channels (PICH). TSG-R WG1 document, TSGR1#14(00)0852, 4-7th, July, 2000, Oulu, Finland, 2 pp.

[2]   Siemens. Advanced closed loop Tx diversity concept (eigenbeamformer). TSG-R WG1 document, TSGR1#14(00)0853, 4-7th, July, 2000, Oulu, Finland, 12 pp.

[3]   Nokia. Recommended simulation parameters for Tx diversity simulations. TSG-R WG1 document, TSGR1#14(00)0867, 4-7th, July, 2000, Oulu, Finland, 5 pp.

[4]   Samsung and Seoul National University. Preliminary version of algorithm and Simulation results for Tx Diversity with more than 2 Tx Antennas. TSG-R WG1 document, TSGR1#14(00)0882, 4-7th, July, 2000, Oulu, Finland, 4 pp.

[5]   Nokia. Multipath Tx diversity simulation results for closed loop mode 1 extended for multiple antennas. TSG-R WG1 document, TSGR1#14(00)0914, 4-7th, July, 2000, Oulu, Finland, 9 pp.