[94e-36-pi/2-BPSK] - Version 0.0.2
RAN

3GPP TSG RAN Meeting #94-e **RP-213613**

Electronic Meeting, December 6 - 17, 2021

Agenda Item: 9.2.8

Source: Moderator (Qualcomm)

Title: Moderator's summary of discussion [94e-36-pi/2-BPSK]

Document for: Report

1 Introduction

3GPP has discussed proposals in the past on Pi/2-BPSK specification updates to enable the merger of 5Gi into 3GPP [1][2]. The WF in [2] was submitted to RAN#94e and triggered offline discussions which led to the contribution in [3] where the co-sourcing companies put forth a Way Forward to facilitate the merger of 5Gi into 3GPP.

The WF in [3] consists of the following steps:

Table 1:

1. At RAN#94e, discuss an agreeable set of specification changes (a proposal is given in the Annex) and adjustments of the ongoing Rel-17 RAN4-led SI on *Optimisations of Pi/2 BPSK UL Power in NR* (a proposal is given in section 3.4) that are seen facilitating the 5Gi merge into 3GPP, develop the corresponding set of CRs for Rel-17 and approve the RAN4 project scope adjustments.
2. Technically endorse the Rel-17 CRs and postpone the final approval and implementation of these CRs until a written commitment is received from TSDSI (via LS to RAN PCG, TEC, and ITU-R) on the merger of 5Gi into 3GPP and a committed roadmap of pursuing merged 3GPP 5G specifications in India with no further 5Gi updates in ITU-R.
3. Final approval of the Rel-17 CRs at the RAN Plenary where such communication is received, ideally by RAN#95e and no later than RAN#96/RAN#96e. 3GPP will, at this time, communicate the merger to ITU-R as part of periodic update.
4. Do not hold up completion of 3GPP Rel-17 specification while the CRs are on hold.
5. If the above steps are agreed, capture that fact in the RAN#94e meeting summary, including a statement that this merger will effectively allow 3GPP to better support the market in India with a global cost-effective solution.

The recommended CRs have been prepared in [4] for 38.211 and in [5] for 38.306.

The updates to the ongoing Rel-17 RAN4-led SI on *Optimisations of Pi/2 BPSK UL Power in NR* are in the form of a revised SID in [6] and a Draft LS to RAN4 in [7] amending a related RAN4 WF in accordance with the proposals in [3].

This NWM intends to answer any questions or clarifications on the topic.

2 Initial Round

2.1 General Inputs on WF in [3]

Companies' questions or inputs to the WF in [3]. Note that companies are also welcome to express their support for this WF:

Feedback Form 1: General inputs on WF in [3]

1 – Spreadtrum Communications We support the WF. We also think it is the right direction to merge 5Gi specification into 3GPP, keep the consistence, and to better support the market in India with a global cost-effective solution.
2 – VODAFONE Group Plc We support the Way Forward.

3 – vivo Communication Technology We support the way forward.
4 – NEC Corporation we support the Way Forward.

2.2 Inputs on Rel-17 CRs [4][5]

Companies' questions or inputs to the CRs in [4] and [5] associated with the WF in [3]:

Feedback Form 2: Questions or comments to CRs in [4][5]

2.3 Inputs on updates to FS_NR_Opt_pi2BPSK [6][7]

Companies' questions or inputs to the updates to the on-going RAN4-led Rel-17 SI on *Optimisations of Pi/2 BPSK UL Power in NR* in [6] and [7] associated with the WF in [3]:

Feedback Form 3: Questions or comments to updates to FS_NR_Opt_pi2BPSK in [6][7]

3 Conclusion

Thank you to all who participated in this NWM discussion.

No clarifications were requested for the WF in [3] and no comments were received for either of the proposed CRs for 38.211 [4] and 38.306 [5], or the amendment of the on-going Rel-17 SI on FS_NR_Opt_pi2BPSK (revised SID [6] and LS to RAN4 [7].

Four additional companies expressed their support for the WF on the merger of 5Gi into 3GPP.

As a result, the Moderator proposed conclusion follows:

Table 2: Proposed conclusion from the NWM discussion

Endorse the WF in RP-213532 along with 1. Technically endorsing the companion CRs in RP-213533 and RP-213534 pending commitment from TSDSI as laid out in the WF. 2. Agree on the amendment of the on-going RAN4-led SI for FS_NR_Opt_pi2BPSK through the approvals of revised SID in RP-213535 and the Draft LS to RAN4 in RP-213644.

4 References

[1] RP-211761, “Way forward on pi/2 BPSK”, IITH, CEWiT, IITM, Tejas Networks, Reliance Jio.

[2] RP-212808, “Way forward on pi/2 BPSK”, IITH, CEWiT, IITM, Tejas Networks, Reliance Jio.

[3] RP-213532, “Way forward on merger of 5Gi into 3GPP”, Qualcomm, IITH, IITM, CEWiT, Bharti Airtel, Reliance Jio, Vodafone Idea, Tejas Networks, Ericsson, Nokia, NSB, Samsung, Apple, MediaTek, ZTE, Intel, Huawei, HiSilicon.

[4] RP-213533, 38.211 CR “Pi/2-BPSK specification updates for the merger of 5Gi into 3GPP”, Ericsson, IITH, IITM, CEWiT, Bharti Airtel, Reliance Jio, Vodafone Idea, Tejas Networks, Nokia, NSB, Samsung, Apple, MediaTek, ZTE, Intel, Huawei, HiSilicon, Qualcomm.

[5] RP-213534, 38.306 CR “Pi/2-BPSK specification updates for the merger of 5Gi into 3GPP”, Qualcomm, IITH, IITM, CEWiT, Bharti Airtel, Reliance Jio, Vodafone Idea, Tejas Networks, Ericsson, Nokia, NSB, Samsung, Apple, MediaTek, ZTE, Intel, Huawei, HiSilicon.

[6] RP-213535, “Revised SID: Study on optimizations of pi/2 BPSK uplink power in NR”, Nokia.

[7] RP-213644, “Draft LS on updates to study on optimizations of pi/2 BPSK uplink power in NR (to: RAN4; cc: -; contact: Nokia)”, Nokia, Nokia Shanghai Bell, IITH, IITM, CEWiT, Bharti Airtel, Reliance Jio, Vodafone Idea, Tejas Networks, Ericsson, , Samsung, Apple, MediaTek, ZTE, Intel, Huawei, HiSilicon, Qualcomm.