**3GPP TSG RAN WG1 #114** **R1-230xxxx**

**Toulouse, France, August 21st – 25th, 2023**

**Agenda item:** 9.17

**Source:** Samsung

**Title:** Summary of email discussions [114-R18-38.213-NR\_pos\_enh2]

**Document for:** Discussion and decision

# Introduction

The purpose of this document is to collect inputs/comments on the draft CR for TS 38.213 [draftCR\_38213 Positioning](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_114/Inbox/drafts/9.17%28Other%29/%5B38.213%20draft%20CRs%5D/NR_pos_enh2/R1-230xxxx%20draftCR_38213%20Positioning.docx) on the introduction of expanded and improved NR positioning. If a comment on a particular aspect has been made by another company, please do not repeat it until, if needed, after a response.

The first checkpoint is on September 5, UTC 13:00.

# First Round Discussion

Please provide your comments on the draft CR for TS 38.213 [draftCR\_38213 Positioning](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_114/Inbox/drafts/9.17%28Other%29/%5B38.213%20draft%20CRs%5D/NR_pos_enh2/R1-230xxxx%20draftCR_38213%20Positioning.docx).

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| Company | Comments |
| OPPO | 1. Following changes are proposed according to the agreement.* if the resource pool is common for PSSCH and SL PRS transmissions, the priority level is same for PSSCH and SL PRS; else, if the resource pool is dedicated for SL PRS transmissions, the priority level is the priority level for SL PRS.

 AgreementFor a slot, a single priority value is provided by higher layers to the physical layer and is used at least to determine the PSSCH and/or SL-PRS transmission power via the value of $P\_{MAX,CBR}$.* For dedicated resource pool, this corresponds to the priority level of SL PRS.
* Send an LS to RAN2 requesting them to take the above into consideration when defining priority levels for SL PRS and PSSCH that are multiplexed in the same slot of a shared resource pool.
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| Huawei, HiSilicon | **Comment 1:**On the following change in 16.2.3A* if the resource pool is common for PSSCH and SL PRS transmissions, the priority level is same for PSSCH and SL PRS and is the priority level for SL PRS

we prefer to remove “and it the priority level for SL PRS”. It should be a common one provided by higher layers, which is applicable for both PSCCH and SL-PRS power control when determining the CBR.In addition, we prefer to add another bullet for dedicated resource pool.So it could read as* if the resource pool is common for PSSCH and SL PRS transmissions, the priority level is same for PSSCH and SL PRS
* if the resource pool is dedicated for SL PRS transmission, the priority level is for SL PRS.

**Comment 2:**On the changes in 16.2.2, we prefer to change the description similar to the procedure of PSCCH as communication so that they appear as two branches for determining the PSCCH transmission power for communication/shared RP and dedicated RP, respectively.For example:A UE determines a power $P\_{PSCCH}(i)$ for a PSCCH transmission on a resource pool dedicated for SL PRS transmissions, the same as a power of SL PRS transmission by the UE in the slot. The UE determines the power as described in Clause 16.2.3A. **Comment 3:**We prefer to capture the following agreement with regards to PSCCH transmission in dedicated resource pool in e.g. a new clause of 16.4A.AgreementFor dedicated resource pool, with regards to the SL-PRS configuration and/or SL-PRS time assignment information, support Alt. 3.1, i.e.* support a one-to-one mapping relationship between a PSCCH resource and an associated SL-PRS resource in the same slot.
	+ Note: In this case, there is no need of an explicit signaling of which SL PRS resource for the same slot
	+ Note: Same number of PSCCH resource(s) and SL-PRS resource(s)

For example16.4A UE procedure for transmitting PSCCH in dedicated resource poolFor SL PRS transmission in the dedicated resource pool, a UE can be provided a number of symbols in a resource pool, by *sl-TimeResourcePSCCH*, starting from a second symbol that is available for SL transmissions in a slot, a number of PRBs in the resource pool, by *sl-FreqResourcePSCCH*, for a PSCCH transmission with a SCI format 1-B.A UE that transmits a PSCCH with SCI format 1-B using SL PRS resource allocation scheme 2 [6, TS 38.214] sets - "Resource reservation period" as an index in *sl-ResourceReservePeriodList* corresponding to a reservation period provided by higher layers [11, TS 38.321], if the UE is provided *sl-MultiReserveResource*- the values of the time resource assignment field and SL PRS resource indication field as described in [6, TS 38.214] to indicate $N$ resources from a set $\left\{R\_{y}\right\}$ of resources selected by higher layers as described in [11, TS 38.321] with $N$ smallest slot indices $y\_{i}$ for $0\leq i\leq N-1$ such that $y\_{0}<y\_{1}<…<y\_{N-1}\leq y\_{0}+31$, where:- $N=min\left(N\_{selected}, N\_{max\\_reserve}\right)$, where $N\_{selected}$ is a number of resources in the set $\left\{R\_{y}\right\}$ with slot indices $y\_{j}$, $0\leq j\leq N\_{selected}-1$, such that $y\_{0}<y\_{1}<…<y\_{N\_{selected}-1}\leq y\_{0}+31$, and $N\_{max\\_reserve}$ is provided by *sl-MaxNumPerReserve*- each resource, from the set of $\left\{R\_{y}\right\}$ resources, corresponds to a SL PRS resource and a slot in a set of slots $\{t'\_{y}^{SL}\}$- $\left(t'\_{0}^{SL},t'\_{1}^{SL},t'\_{2}^{SL},...\right)$ is a set of slots in a sidelink resource pool [6, TS 38.214]- $y\_{0}$ is an index of a slot where the PSCCH with SCI format 1-B is transmitted.A UE that transmits a PSCCH with SCI format 1-B using SL PRS resource allocation scheme 1 [6, TS 38.214] sets- the values of the SL PRS resource indication field and the time resource assignment field for the SCI format 1-B transmitted in the $m$-th resource for SL PRS transmission provided by a dynamic grant or by a SL configured grant, where $m= \left\{1,…,M\right\}$ and M is the total number of resources for SL PRS transmission provided by a dynamic grant or the number of resources for SL PRS transmission in a period provided by a SL configured grant type 1 or SL configured grant type 2, as follows:- the SL PRS resource indication field and time resource assignment field indicate the $m$-th to $M$-th resources as described in [6, TS 38.214].For decoding of a SCI format 1-B, a UE may assume that a number of bits provided by *sl*-*NumReservedBits* can have any value as described in [4, TS 38.212].  |
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