3GPP TSG-RAN WG2 #113e Tdoc R2-20xxxxx

Electronic meeting, Jan 25th – Feb 5th, 2021

Agenda Item: 8.11.2.2

Source: Ericsson

Title: Text Proposal for on-demand PRS

Document for: Discussion, Decision

# 1 Text Proposal

## 10.2 On-demand transmission and reception of DL PRS

From a physical layer perspective, on-demand transmission and reception of DL PRS, which includes at least the following is recommended

* UE-initiated request of on-demand DL PRS transmission
* LMF (network)-initiated request of on-demand DL PRS transmission
* Above enhancements are recommended for both DL and DL+UL positioning methods and both UE-based and UE-assisted positioning solutions.

From upper layers perspective, on-demand DL PRS functionality is deemed beneficial primarily for below reasons:

Efficiency: On-demand DL-PRS avoids unnecessary overhead, waste of energy, etc. in the case that no UE positioning is required during a particular time or in a particular area of a network. In case of beamformed DL-PRS, DL-PRS transmission in all beam sweeping directions may result in an unnecessary transmission of DL-PRSs.

Latency: The current DL-PRS configuration may not be sufficient to meet the response time requirements of the LCS client; e.g., may have a too large periodicity.

Accuracy: The current DL-PRS configuration may not be sufficient to meet the accuracy requirements of the LCS client; e.g., may have a too small bandwidth, too few repetitions, etc.

It should be also noted that accuracy and latency are however tradeoffs of efficiency.

From Upper layers perspective the below conclusions have been made for on demand PRS functionality.

* UE-initiated request of on-demand DL-PRS transmission is recommended for normative work; the details will be decided during WI phase.
* LMF Initiated on-demand control of DL-PRS transmission is recommended for normative work; the details will be decided during WI phase.
* The exact parameters that can be dynamically changed and necessary measurement and/or assistance information for LMF/UE initiated on demand PRS are expected to be decided by RAN1 and RAN2 during WI phase.