**3GPP TSG-RAN WG2 Meeting #109-eR2-200xxxx**

**Online, 24th Feb - 6th Mar, 2020**

**Title:** [Draft] LS on DCP

**Response to:**

**Release:** Release 16

**Work Item:** NR\_UE\_pow\_sav-Core

**Source:** Huawei [to be RAN2]

**To:** RAN1

**Cc:**

**Contact Person:**

#### Name: Baokun Shan

#### E-mail Address: baokun.shan@huawei.com

**Send any reply LS to: 3GPP Liaisons Coordinator,** [**mailto:3GPPLiaison@etsi.org**](mailto:3GPPLiaison@etsi.org)

**Attachments:**

**1. Overall Description:**

In RAN2#109-e, RAN2 discussed the MAC-PHY interactions for DCP (DCI with CRC scrambled by PS-RNTI) monitoring and the start of drx-onDurationTimer. The following understanding regarding how to capture DCP between MAC and PHY was agreed from RAN2 point of view:

**MAC specification:**

1. MAC specifies the start of drx-onDurationTimer and Active Time, including:

* MAC should start drx-onDurationTimer according to indication provided by PHY
* MAC should start drx-onDurationTimer in case DCP is overlapped with Active time, measurement gap and BWP switching period
* MAC should start drx-onDurationTimer in case ps-Wakeup is set to true and no DCP indication is received by PHY

**PHY specification:**

1. PHY specifies DCP monitoring, including:

* When to start the monitoring (ps\_offset) and stop the monitoring (minimum gap based on UE capability)
* In case DCP is considered invalid from PHY perspective (scenarios FFS in RAN1), PHY should not monitor DCP and indicates to MAC to start the drx-onDurationTimer for the next DRX cycle

1. PHY indicates to MAC whether a received DCP indicates to start the drx-onDurationTimer for the next DRX cycle or not.
2. PHY should not specify the start of drx-onDurationTimer and Active Time.

The RAN1 LS (R1 -1913480) on CSI/SRS reporting has also been discussed in RAN2#109-e. RAN2 understands the intention to control L1-RSRP reporting separately when drx-onDurationTimer is not running due to DCP. There are two options to interpret the two flags for CSI/SRS reporting in RAN1 LS:

**Option 1:**

ps-TransmitPeriodicCSI = TRUE: Report all types of periodic CSI, including L1-RSRP (i.e. cri-RSRP and ssb-Index-RSRP)

ps-TransmitPeriodicL1-RSRP = TRUE: Only report L1-RSRP (i.e. cri-RSRP and ssb-Index-RSRP)

In this option, the two flags cannot both be set to TRUE and it is not possible to control the UE only to report periodic CSI apart from L1-RSRP.

**Option 2:**

ps-TransmitPeriodicCSI = TRUE: Report all types of periodic CSI apart from L1-RSRP (i.e. cri-RSRP and ssb-Index-RSRP)

ps-TransmitPeriodicL1-RSRP = TRUE: Only report L1-RSRP (i.e. cri-RSRP and ssb-Index-RSRP)

In this option, the two flags are independent and it is not possible to control the UE only to report periodic CSI apart from L1-RSRP.

**2. Actions:**

**To RAN1:**

RAN2 respectfully asks RAN1 to:

* Take above MAC-PHY interactions for DCP into account and update 38.213 running CR accordingly.
* Provide feedback on the preference of the two options for CSI reporting.

**3. Date of Next TSG-RAN WG2 Meetings:**

3GPP RAN2#109bis TBD TBD

3GPP RAN2#110 25 - 29 May, 2020 Athens, Greece