

**Agenda Item: 6.6.6 Terminal Power Saving Features (WG1)****Source: Rapporteur****Title: Status Report for the Rel-4 Work Item  
“Terminal Power Saving Features”****Document for: Information**

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This is the rapporteur's report on the progress made so far in RAN WG 1/2/3/4 on this Work Item (WI) “Terminal Power Saving Features” since TSG-RAN #10 meeting. TR 25.840 includes the requirements and detailed description of the gated DPCCH transmission (hereafter, “gating” is used interchangeably) to support terminal power saving features.

- RAN WG1

RAN WG1 leads this WI. In RAN WG1 meetings #18 and #19 held after TSG RAN #10 meeting, there have been discussions for refinement of gating based on the conceptual agreement on gating. TR 25.840 was revised to version 2.1.0 in RAN WG1 #18 meeting. During RAN WG1 meeting #19, TR 25.840 has been revised to v2.2.0 and then revised to v2.3.0 (R1-01-0428). The major changes since last presentation to RAN meeting #10 are as follows:

- Outer loop power control based on CRC attached to zero length transport block was included and power control parameters were refined regarding outer loop power control.
- Description of the impact on RAN WG4 specification TS 25.101 was included.
- To increase the benefit of gating through better utilization of gating, proposal for coexistence of gating and compressed mode has been included. WG1 agrees on the simultaneous use of compressed mode and gating, with some compressed mode patterns there are no frames which can be gated.
- Terminology was refined for the better understanding of the TR 25.840.

TR 25.840 v2.3.0 will be presented during this RAN meeting (RAN #11) for approval as version 4.0.0.

In addition to above changes in the TR 25.840, during WG1 #19 meeting in Las Vegas, there were some discussions on UE capability regarding gating, coexistence of gating and SSdT, and clarification on outer-loop power control during gating.

- UE capability regarding gating

In the past there has been view in WG1 that gating is fully optional, but it's understood that the situation needs to be revisited once all the details and impacts to capacity etc. are finalised

- Coexistence of gating and SSdT

A method for coexistence of gating and SSdT was proposed to enlarge usage of gating. However, no agreement was made on this proposal because of the comments on complexity. In TR 25.840 v2.3.0, it is stated that a method for coexistence of gating and SSdT is being studied, and the related contribution Tdoc R1-01-0349 is referred.

- Outer-loop power control during gating

There were discussions about further clarification of outer-loop power control during gating, especially addressing the multiplexing chain during basic gating period. However, there was no agreement on this issue because of the comments on complexity.

Some working CRs for RAN WG1 specifications were prepared based on the stable parts of TR 25.840 in the last RAN WG1 meeting in Las Vegas. However, those CRs were not discussed because, in TR 25.840, section for describing the impact on RAN WG2 specifications has not been filled.

- RAN WG2

During the last two RAN WG2 meetings there have been discussions on Gating, including the comparison of terminal power saving between Gating and CELL\_FACH. It was recognised that gains of Gating over moving to CELL\_FACH could be from the point of signalling load and delay aspects rather than terminal power saving. However, RAN2 believed that it is beyond RAN2 scope to confirm the gains of Gating from the above point. Therefore LS on delay times in the control plane (R2-010752) was sent to RAN WG3, copied to RAN WG1. There has been no reply from RAN3 yet. RAN2 agreed that it is necessary for WI "Terminal Power Saving Features" to be discussed by May as Release 4 work item.

- RAN WG3

TR 25.938 "Terminal Power Saving Features (Iur/Iub Aspects)" aimed to the discussion on the WI "Terminal Power Saving Features" in RAN WG3 was presented at RAN#9 meeting as version 0.1.0. RAN WG3#17 meeting has updated TR 25.938 as version 0.1.1 with text proposal containing requirements and signaling in Iur and Iub, and TR 25.938 v0.1.1 was presented to RAN#10 meeting for information.

At the previous RAN WG3#18, TR 25.938 was approved as version v0.2.0 and additional text proposal was approved to be added in the TR.

At the RAN3#19 meeting, TR25.938 was finally approved as version v2.0.0 to be raised to v4.0.0 at RAN#11 meeting.

Gating has been proposed as a solution of this WI and the RNSAP and NBAP signalling support has been discussed and finally approved at RAN3#19 meeting.

Output documents of TSG-RAN WG3#19 meeting,

Approved TR:

R3-011047: TR 25.938 v2.0.0

It will be presented for approval as v4.0.0 at TSG RAN#11

Approved CRs:

R3-010943: CR375R1/25.433      The impacts on TS25.433 for gating operation

R3-010944: CR324R1/25.423      The impacts on TS25.423 for gating operation

- RAN WG4

Currently, there is consensus that gating impacts transmission on/off time mask and minimum performance requirement of TS 25.101 and may impact measurement part of TS 25.133

It was agreed that the gated DPCCH transmission is added to possible cases of transmission time on/off mask during RAN WG4 meeting #15 (R4-01-0010). In RAN WG4 meeting #16, CR for TS 25.101 reflecting R4-01-0010 was prepared. However, the presentation of that CR was postponed since other documents regarding

minimum performance requirement for gating and clarification of impact of gating on RRM measurement could not be submitted. The reason is as follows:

- At that time, some RAN WG1 parameters related to performance requirement for gating and RAN WG1 issues related to measurements during gating were not yet determined because these would be discussed at WG 1 #19 meeting next to WG 4 #16 meeting.

■ Contact Points



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