

Agenda Item: AH08
Source: Alcatel
Title: CR 25.215-045: Outer-loop power control in compressed mode
Document for: Decision

Introduction

As stated in [1], it is desirable that when several compressed mode patterns are used at the same time, the patterns which use compressed mode by puncturing occur in such a way that within the same max TTI interval in the CCTrCH, there are transmission gaps only from one such pattern. Otherwise, the setting of DeltaSIR and DeltaSIRafter values for outer-loop power control could become very complicate.

On the contrary, gaps from other patterns, using SF/2 method, can be scheduled within the same max TTI, as where pattern using puncturing creates a gap, since it does not affect the puncturing rate.

The CR included in [1] also proposes some additional restrictions. However, these restrictions can be avoided using the algorithm proposed in [2]. Therefore, if this algorithm is accepted, we propose to only have restrictions previously mentioned and included in the attached CR.

References

- [1] R1-00-0086, "CR25.215-023rev1: Compressed mode by puncturing issues (revision)", Nokia
- [2] R1-00-0262, "Outer-loop power control in compressed mode", Alcatel

CHANGE REQUEST		Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.
25.215	CR	045
GSM (AA.BB) or 3G (AA.BBB) specification number ↑		↑ CR number as allocated by MCC support team
For submission to: TSG-RAN #7	for approval <input checked="" type="checkbox"/>	Current Version: 3.1.1
List expected approval meeting # here ↑	for information <input type="checkbox"/>	strategic <input type="checkbox"/> (for SMG use only)
		non-strategic <input type="checkbox"/>

Form: CR cover sheet, version 2 for 3GPP and SMG The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc

Proposed change affects: (U)SIM ME UTRAN / Radio Core Network
(at least one should be marked with an X)

Source: Alcatel **Date:** 2000-02-28

Subject: Parameterisation of the compressed mode

Work item: Outer-loop power control

Category:	F Correction <input type="checkbox"/> A Corresponds to a correction in an earlier release <input type="checkbox"/> B Addition of feature <input type="checkbox"/> C Functional modification of feature <input checked="" type="checkbox"/> D Editorial modification <input type="checkbox"/>	Release:	Phase 2 <input type="checkbox"/> Release 96 <input type="checkbox"/> Release 97 <input type="checkbox"/> Release 98 <input type="checkbox"/> Release 99 <input checked="" type="checkbox"/> Release 00 <input type="checkbox"/>
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(only one category Shall be marked With an X)

Reason for change: Restrictions are needed for simultaneous compressed mode patterns when one of the patterns uses puncturing method.

Clauses affected: 6.1.1.2 (Parameterisation of the compressed mode)

Other specs affected:	Other 3G core specifications <input type="checkbox"/> Other GSM core specifications <input type="checkbox"/> MS test specifications <input type="checkbox"/> BSS test specifications <input type="checkbox"/> O&M specifications <input type="checkbox"/>	→ List of CRs: → List of CRs: → List of CRs: → List of CRs: → List of CRs:	
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Other comments:



<----- double-click here for help and instructions on how to create a CR

6.1.1.2 Parameterisation of the compressed mode

In response to a request from upper layers, the UTRAN shall signal to the UE the compressed mode parameters.

The following parameters characterize a transmission gap :

- TGL : Transmission Gap Length is the duration of no transmission, expressed in number of slots (e.g. used for switching frequency, monitoring).
- SFN : The system frame number when the transmission gap starts
- SN : The slot number when the transmission gap starts

With this definition, it is possible to have a flexible position of the transmission gap in the frame, as defined in [2].

The following parameters characterize a compressed mode pattern :

- TGP : Transmission Gap Period is the period of repetition of a set of consecutive frames containing up to 2 transmission gaps (*).
- TGL : As defined above
- TGD : Transmission Gap Distance is the duration of transmission between two consecutive transmission gaps within a transmission gap period, expressed in number of frames. In case there is only one transmission gap in the transmission gap period, this parameter shall be set to zero.
- PD: Pattern duration is the total time of all TGPs expressed in number of frames.
- SFN : The system frame number when the first transmission gap starts
- PCM: Power Control Mode specifies the uplink power control algorithm applied during recovery period after each transmission gap in compressed mode. PCM can take 2 values (0 or 1). The different power control modes are described in TS 25.214.

In a compressed mode pattern, the first transmission gap starts in the first frame of the pattern. The gaps have a fixed position in the frames, and start in the slot position defined in [2].

(*) : Optionally, the set of parameters may contain 2 values TGP1 and TGP2, where TGP1 is used for the 1st and the consecutive odd gap periods and TGP2 is used for the even ones. Note if TGP1=TGP2 this is equivalent to using only one TGP value.

In all cases, upper layers has control of individual UE parameters. The repetition of any pattern can be stopped on upper layers command.

If several simultaneous patterns use compressed mode method by puncturing, upper layers shall ensure that transmission gaps from these different patterns are not scheduled within the same maximum time interval, i.e. shall ensure that the difference between SFN values of a transmission gap from a first pattern and a transmission gap from a second pattern be always larger than E_{max} , where E_{max} denotes the number of radio frames in the maximum TTI length.

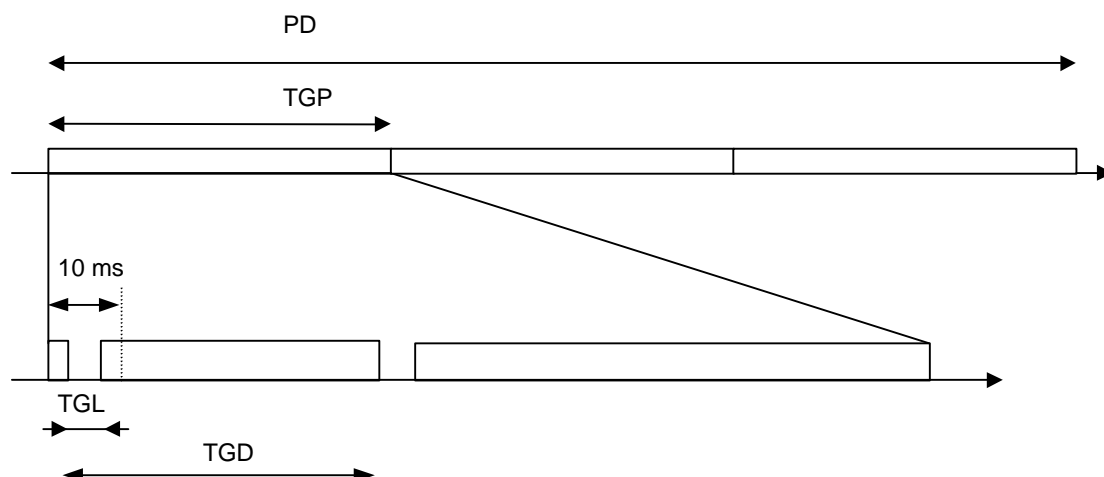


Figure 1 : illustration of compressed mode pattern parameters