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Purpose	Clarifications to permutations based on IDCell parameter
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Clarifications to permutations based on IDCell parameter

1 Statement of the problem

In sections 8.4.6.1.2.1.1 and 8.4.9.4.1 the IDcell parameter is used for several different permutations, which are not connected or dependent on each other. In addition, the IDcell parameter may sometime be defined by the frame preamble, and some other times by the TD_Zone_IE().

2 Proposed solution

Clarify for each permutation what is the correct IDCell to use, and at one instance change the parameter name to reduce some of the overloading it carries.

3 Specific text changes

[1. On page 526, line 12, modify the text as follows:]

Syntax	**Size**	**Notes**
TD_ZONE_IE() {		
Extended DIUC	4 bits	TD/ZONE_SWITCH = 0x01
Length	4 bits	Length = 0x02
OFDMA symbol offset	8 bits	Denotes the start of the zone (counting from the frame preamble and starting from 0)
Permutation	2 bits	0b00 = PUSC permutation 0b01 = FUSC permutation 0b10 = Optional FUSC permutation 0b11 = Adjcent subcarrier permutation
Use All SC indicator	1 bits	0 = Do not use all subchannels 1 = Use all subchannels
Transmit Diversity	2 bits	0b00 = No transmit diversity 0b01 = STC using 2 antennas 0b10 = STC using 4 antennas 0b11 = FHDC using 2 antennas
Matrix Indicator	2 bits	Antenna STC/FHDC matrix (see 8.4.8) 0b00 = Matrix A 0b01 = Matrix B 0b10 = Matrix C (applicable to 4 antennas only) 0b11 = *Reserved*
~~IDcell~~DL_PermBase	~~6~~5 bits	
PRBS_ID	2 bits	Refer to 8.4.9.4.1
AMC type	2 bits	Indicates the AMC type in case permutation type = 0b11, otherwise shall be set to 0. AMC type (NxM = N bins by M symbols): 0b00 – 1x6 0b01 – 2x3 0b10 – 3x2 0b11 – reserved
Broadcast/Multicast/Soft-Handoff Zone indicator	1 bits	Shall be set to zero
Reserved	~~2~~7~~8~~9 bits	Shall be set to zero
}		

Broadcast/Multicast/Soft-Handoff Zone indicator *– indicates that in this zone a transmission from several sources (using same information) is performed.*

Note: When the 'Use All SC indicator' is set to 0, and the TD_ZONE_IE() indicates switch to a PUSC zone, the major groups used are as indicated in the FCH.

[1. On page 619, line 52, modify the text as follows:]

"b10..b6 = Five least significant bits of IDcell as indicated by the frame preamble in the first downlink zone, ~~or~~ and DL_PermBase following TD_Zone_IE() ~~, except for zones marked by 'Use all SC indicator=1', where these bits shall be set to 1,~~ in the downlink. Five least significant bits of UL_IDcell in the uplink.

b5..b4 = Set to the segment number + 1 as indicated by the frame preamble in the first downlink zone, and ~~or~~ the ~~3~~ 2~~LS~~ bits of ~~IDCell~~ **PRBS_ID** as indicated by the TD_Zone_IE() in the downlink, ~~except for zones marked by 'Use all SC indicator=1', where these bits shall be set to 1.~~ ~~Three~~ Two ~~least~~ most significant bits of UL_IDcell in the uplink~~-~~"

b3..b0 = In the downlink ~~F~~four least significant bits of symbol offset from the ~~first data~~ preamble symbol in the frame (i.e. ~~the symbol in the frame in which the DL-MAP starts~~ first PUSC symbol after the preamble is indexed 1). In the uplink set to the result of XOR (bit wise) operation between the four least significant bits of symbol offset from the ~~first data~~ preamble symbol in the frame (i.e. ~~the symbol in the frame in which the DL-MAP starts~~ first PUSC symbol after the preamble is indexed 1) and the four least significant bits of the Frame Number.

[2. On page 567, line 26, modify the text as follows:]

"2) Renumbering the physical clusters into logical clusters using the following formula: LogicalCluster = RenumberingSequence((PhysicalCluster+13*~~IDcellPUSCIDcell~~ DL_PermBase ~~-PERM_BASE~~) mod 120). ~~In the first PUSC zone of the downlink (first downlink zone) or when the 'Use all SC indicator=0' in the TD_Zone_IE(), the default used IDcellPUSC_PERM_BASE is 0, otherwise, it is equal to the IDCell parameter in the TD_Zone_IE()."~~ In the first PUSC zone of the downlink (first downlink zone) the default used ~~IDcell~~ DL_PermBase is 0. When the 'Use all SC indicator=0' in the TD_Zone_IE(), DL_PermBase is replaced with 0. For All other cases DL_PermBase parameter in the TD_Zone_IE() shall be used."

[3. On page 567, line 36, modify the text as follows:]

"4) Allocating carriers to subchannel in each major group is performed by first allocating the pilot carriers within each cluster, and then taking all remaining data carriers within the symbol and using the same procedure described in 8.4.6.1.2.2.2 (with the parameters from Table 308, using the PermutationBase appropriate for each major group, PermutationBase12 for even numbered major groups and PermutationBase8 for odd numbered major groups) to partition the subcarriers into subchannels containing 24 data subcarriers in each symbol. Note that IDcell used for the first PUSC zone is ~~0~~ the preamble IDcell, otherwise a PUSC zone shall use the ~~IDCell~~ DL_PermBase parameter in the TD_Zone_IE()."

[4. On page 505, line 42, modify the text as follows:]

"After decoding the DL_Frame_Prefix message within the FCH, the SS has the knowledge of how many and which subchannels are allocated to the PUSC segment. In order to observe the allocation of the subchannels in the downlink as a contiguous allocation block, the subchannels shall be renumbered, the renumbering, for the first PUSC zone, shall start from the FCH subchannels (renumbered to values 0…11), then continue numbering the subchannels in a cyclic manner to the last allocated subchannel and from the first allocated subchannel to the

FCH Subchannels. Figure 221 gives an example of such renumbering for segment 1. (for other PUSC sones, renumbering shall be performed as for a segment indicated by the PRBS_ID value specified in the TD_Zone_IE).