

TSG-RAN Working Group 1 meeting #15
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Agenda item:

Source: NEC

Title: CR 25.214-121r1: Clarification of SSDT ID code bit transmission order

Document for: Approval

The attached is the first revision of CR 25.214-121 in Tdoc R1-00-0991. In this revision, the SSDT ID code transmission in uplink compressed frames is clarified. In addition, the wording has been revised.

5.2.1.4 Site selection diversity transmit power control

5.2.1.4.1 General

Site selection diversity transmit power control (SSDT) is an optional macro diversity method in soft handover mode.

Operation is summarised as follows. The UE selects one of the cells from its active set to be 'primary', all other cells are classed as 'non primary'. The main objective is to transmit on the downlink from the primary cell, thus reducing the interference caused by multiple transmissions in a soft handover mode. A second objective is to achieve fast site selection without network intervention, thus maintaining the advantage of the soft handover. In order to select a primary cell, each cell is assigned a temporary identification (ID) and UE periodically informs a primary cell ID to the connecting cells. The non-primary cells selected by UE switch off the transmission power. The primary cell ID is delivered by UE to the active cells via uplink FBI field. SSDT activation, SSDT termination and ID assignment are all carried out by higher layer signalling.

5.2.1.4.1.1 Definition of temporary cell identification

Each cell is given a temporary ID during SSDT and the ID is utilised as site selection signal. The ID is given a binary bit sequence. There are three different lengths of coded ID available denoted as "long", "medium" and "short". The network decides which length of coded ID is used. Settings of ID codes for 1-bit and 2-bit FBI are exhibited in table 3 and table 4, respectively.

Table 3: Settings of ID codes for 1 bit FBI

ID label	ID code		
	"long"	"medium"	"short"
a	0000000000000000	(0)0000000	00000
b	101010101010101	(0)1010101	01001
c	011001100110011	(0)0110011	11011
d	110011001100110	(0)1100110	10010
e	000111100001111	(0)0001111	00111
f	101101001011010	(0)1011010	01110
g	011110000111100	(0)0111100	11100
h	110100101101001	(0)1101001	10101

Table 4: Settings of ID codes for 2 bit FBI

ID label	ID code (Column and Row denote slot position and FBI-bit position.)		
	"long"	"medium"	"short"
a	(0)0000000	(0)000	000
	(0)0000000	(0)000	000
b	(0)0000000	(0)000	000
	(1)1111111	(1)111	111
c	(0)1010101	(0)101	101
	(0)1010101	(0)101	101
d	(0)1010101	(0)101	101
	(1)0101010	(1)010	010
e	(0)0110011	(0)011	011
	(0)0110011	(0)011	011
f	(0)0110011	(0)011	011
	(1)1001100	(1)100	100
g	(0)1100110	(0)110	110
	(0)1100110	(0)110	110
h	(0)1100110	(0)110	110
	(1)0011001	(1)001	001

The ID code bits shown in table 3 and table 4 are transmitted from left to right. The ID code(s) are transmitted aligned to the radio frame structure (i.e. ID codes must shall be terminated within a frame). If FBI space for sending a given the last ID code within a frame cannot be obtained within a frame, hence if the entire ID is not transmitted within a frame

~~but must be split over two frames,~~ the first bit(s) ~~offrom~~ theat ID code is(are) punctured. The ~~relating~~ bit(s) to be punctured are shown within brackets in table 3 and table 4.

The alignment of the ID codes to the radio frame structure is not affected by transmission gaps resulting from uplink compressed mode.