3GPP TSG RAN Meeting #17 *RP-020571*
Biarritz, France, 3 – 6, September 2002

Title: **Agreed CRs (R99 and Rel-4/Rel-5 Category A) to TS 25.211 and TS 25.214 on "Reversal of unwanted corrections resulting from CR 25.211-122 & CR 25.214-226"**

Source: **TSG-RAN WG1**

Agenda item: **7.1.3**

No.	Spec	CR	Rev	R1 T-doc	Subject	Phase	Cat	Workitem	V_old	V_new
1	25.211	162	1	R1-02-1097	Reversal of unwanted corrections resulting from CR 25.211-122	R99	F	TEI	3.11.0	3.12.0
2	25.211	163	-	R1-02-1097	Reversal of unwanted corrections resulting from CR 25.211-122	Rel-4	A	TEI	4.5.0	4.6.0
3	25.211	164	-	R1-02-1097	Reversal of unwanted corrections resulting from CR 25.211-122	Rel-5	A	TEI	5.1.0	5.2.0
4	25.214	270	1	R1-02-1097	Reversal of unwanted corrections resulting from CR 25.211-122 & CR 25.214-226	R99	F	TEI	3.10.0	3.11.0
5	25.214	271	-	R1-02-1097	Reversal of unwanted corrections resulting from CR 25.211-122 & CR 25.214-226	Rel-4	A	TEI	4.4.0	4.5.0
6	25.214	272	-	R1-02-1097	Reversal of unwanted corrections resulting from CR 25.211-122 & CR 25.214-226	Rel-5	A	TEI	5.1.0	5.2.0

3GPP TSG RAN Meeting #17
Biarritz, France, 3 – 6, September 2002

R1-02-1097

CR-Form-v7

CHANGE REQUEST

⌘ **25.211** **CR** **162** ⌘ **rev** **1** ⌘ Current version: **3.11.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ [ ] ME [X] Radio Access Network [X] Core Network [ ]

Title:	⌘	Reversal of unwanted corrections resulting from CR 25.211-122
Source:	⌘	TSG RAN WG1
Work item code:	⌘	TEI
Date:	⌘	14/08/2002
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	CR 25.211-122 approved in TSG-RAN #14 introduced changes which have not been identified on the cover sheet and which are not in line with the earlier version of the TS 25.211. Specifically the changes resulting from CR 25.211-122 imply that the UE shall support transmit diversity closed loop mode 1 when the number of of DPCCH pilot bits equal 2 (Npilot=2). This contradicts and adds new requirement (category C CR) relative to version 3.8.0 and earlier version of the specification which specified that the pilot pattern used for closed loop mode 1 was orthogonal (implicitely excluded Npilot=2).
Summary of change:	⌘	- Cancellation of CR 25.211-122 changes relative to orthogonal pilot pattern in conjunction with transmit diversity closed loop mode 1. - Removal of columns irrelevant to closed loop mode 1 in Table 15 (Table 15 was introduced by CR 25.211-122 which duplicated Table 14 used for STTD) - Explicit mention that slot formats with Npilot=2 may not be used together with transmit diversity closed loop mode 1.
Consequences if not approved:	⌘	UE developed based on version 3.8.0 or earlier may have to be re-designed to support the modified functionality introduced by CR 25.211-122.

Clauses affected:	⌘	5.3.2.2				
Other specs affected:	⌘	**Y**	**N**		⌘	
		X		Other core specifications		CR 25.214-270
			X	Test specifications		
			X	O&M Specifications		
Other comments:	⌘	**Impact analysis:**				

	UEs implemented based on version 3.8.0 and earlier or 3.c.0 and later will reject the configuration when operating with network implementation based on version 3.9.0, 3.a.0 & 3.b.0 (as well as corresponding versions in Rel-4 & Rel-5) which select DPCH configurations with slot formats corresponding toNpilot=2 and enable transmit diversity closed loop mode 1. Consequently this CR has an isolated impact.

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

5.3.2.2 Dedicated channel pilots with closed loop mode transmit diversity

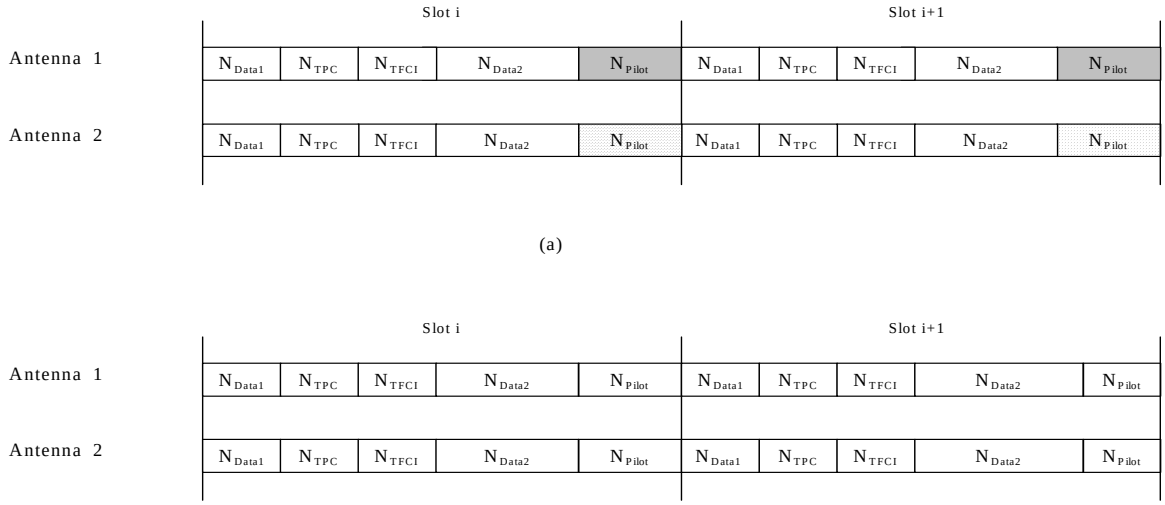
In closed loop mode 1 ~~different~~ orthogonal pilot patterns ~~(orthogonal when N_{pilot} > 2)~~ are used between the transmit antennas. Closed loop mode 1 shall not be used with DPCH slot formats for which N_{pilot}=2. Pilot patterns defined in the table 12 will be used on antenna 1 and pilot patterns defined in the table 15 on antenna 2. This is illustrated in the figure 11 a which indicates the difference in the pilot patterns with different shading.

Table 15: Pilot bit patterns of downlink DPCCH for antenna 2 using closed loop mode 1

	~~N_{pilot} = 2~~	N_{pilot} = 4 (~~*1~~)		N_{pilot} = 8 (*12)				N_{pilot} = 16 (*23)								~~N_{pilot} = 4~~ (~~*4~~)	
Symbol #	~~0~~	0	1	0	1	2	3	0	1	2	3	4	5	6	7	~~0~~	~~1~~
Slot #0	~~01~~	01	10	11	00	00	10	11	00	00	10	11	00	00	10	~~01~~	~~10~~
1	~~10~~	10	10	11	00	00	01	11	00	00	01	11	10	00	10	~~10~~	~~01~~
2	~~11~~	11	10	11	11	00	00	11	11	00	00	11	10	00	11	~~11~~	~~00~~
3	~~10~~	10	10	11	10	00	01	11	10	00	01	11	00	00	00	~~10~~	~~01~~
4	~~00~~	00	10	11	11	00	11	11	11	00	11	11	01	00	10	~~00~~	~~11~~
5	~~01~~	01	10	11	00	00	10	11	00	00	10	11	11	00	00	~~01~~	~~10~~
6	~~01~~	01	10	11	10	00	10	11	10	00	10	11	01	00	11	~~01~~	~~10~~
7	~~00~~	00	10	11	10	00	11	11	10	00	11	11	10	00	11	~~00~~	~~11~~
8	~~11~~	11	10	11	00	00	00	11	00	00	00	11	01	00	01	~~11~~	~~00~~
9	~~01~~	01	10	11	01	00	10	11	01	00	10	11	01	00	01	~~01~~	~~10~~
10	~~11~~	11	10	11	11	00	00	11	11	00	00	11	00	00	10	~~11~~	~~00~~
11	~~00~~	00	10	11	01	00	11	11	01	00	11	11	00	00	01	~~00~~	~~11~~
12	~~00~~	00	10	11	10	00	11	11	10	00	11	11	11	00	00	~~00~~	~~11~~
13	~~10~~	10	10	11	01	00	01	11	01	00	01	11	10	00	01	~~10~~	~~01~~
14	~~10~~	10	10	11	01	00	01	11	01	00	01	11	11	00	11	~~10~~	~~01~~

~~NOTE *1: This pattern is used except slot formats 2B and 3B.~~
NOTE *12: This pattern is used except slot formats 0B, 1B, 4B, 5B, 8B, and 9B.
NOTE *23: This pattern is used except slot formats 6B, 7B, 10B, 11B, 12B, and 13B.
~~NOTE *4: This pattern is used for slot formats 2B and 3B.~~
NOTE: For slot format *n*B where *n* = 0, 1, 4, 5, 6, …, 15, the pilot bit pattern corresponding to N_{pilot}/2 is to be used and symbol repetition shall be applied.

In closed loop mode 2 same pilot pattern is used on both of the antennas (see figure 11 b). The pattern to be used is according to the table 12.



(a)

(b)

Figure 11: Slot structures for downlink dedicated physical channel diversity transmission.
Structure (a) is used in closed loop mode 1.
Structure (b) is used in closed loop mode 2.
Different shading of the pilots indicate orthogonality of the patterns

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R1-02-1097

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CHANGE REQUEST

⌘ **25.211** **CR** **163** ⌘ **rev** **-** ⌘ Current version: **4.5.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ [ ] ME [X] Radio Access Network [X] Core Network [ ]

Title:	⌘	Reversal of unwanted corrections resulting from CR 25.211-122
Source:	⌘	TSG RAN WG1
Work item code:	⌘	TEI
Date:	⌘	14/08/2002
Category:	⌘	**A**
Release:	⌘	Rel-4

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
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Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	CR 25.211-122 approved in TSG-RAN #14 introduced changes which have not been identified on the cover sheet and which are not in line with the earlier version of the TS 25.211. Specifically the changes resulting from CR 25.211-122 imply that the UE shall support transmit diversity closed loop mode 1 when the number of of DPCCH pilot bits equal 2 (Npilot=2). This contradicts and adds new requirement (category C CR) relative to version 3.8.0 and earlier version of the specification which specified that the pilot pattern used for closed loop mode 1 was orthogonal (implicitely excluded Npilot=2).
Summary of change:	⌘	- Cancellation of CR 25.211-122 changes relative to orthogonal pilot pattern in conjunction with transmit diversity closed loop mode 1. - Removal of columns irrelevant to closed loop mode 1 in Table 15 (Table 15 was introduced by CR 25.211-122 which duplicated Table 14 used for STTD) - Explicit mention that slot formats with Npilot=2 may not be used together with transmit diversity closed loop mode 1.
Consequences if not approved:	⌘	UE developed based on version 4.2.0 or earlier may have to be re-designed to support the modified functionality introduced by CR 25.211-122.

Clauses affected:	⌘	5.3.2.2				
Other specs affected:	⌘	**Y**	**N**		⌘	
		X		Other core specifications		CR 25.214-271
			X	Test specifications		
			X	O&M Specifications		
Other comments:	⌘	**Impact analysis:**				

	UEs implemented based on version 4.2.0 and earlier or 4.6.0 and later will reject the configuration when operating with network implementation based on version 4.3.0, 4.4.0 & 4.5.0 (as well as corresponding versions in R99 & Rel-5) which select DPCH configurations with slot formats corresponding toNpilot=2 and enable transmit diversity closed loop mode 1. Consequently this CR has an isolated impact.

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3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

5.3.2.2 Dedicated channel pilots with closed loop mode transmit diversity

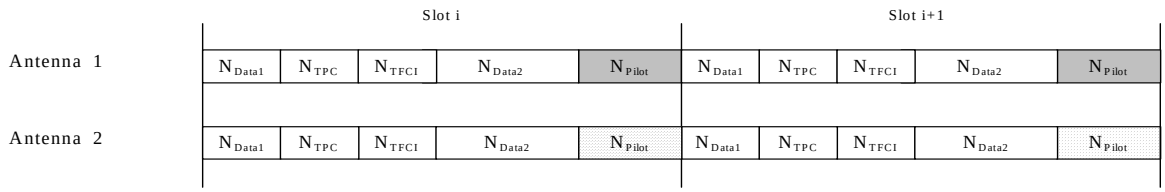
In closed loop mode 1 ~~different~~ orthogonal pilot patterns ~~(orthogonal when N_{pilot} > 2)~~ are used between the transmit antennas. Closed loop mode 1 shall not be used with DPCH slot formats for which N_{pilot}=2. Pilot patterns defined in the table 12 will be used on antenna 1 and pilot patterns defined in the table 15 on antenna 2. This is illustrated in the figure 11 a which indicates the difference in the pilot patterns with different shading.

Table 15: Pilot bit patterns of downlink DPCCH for antenna 2 using closed loop mode 1

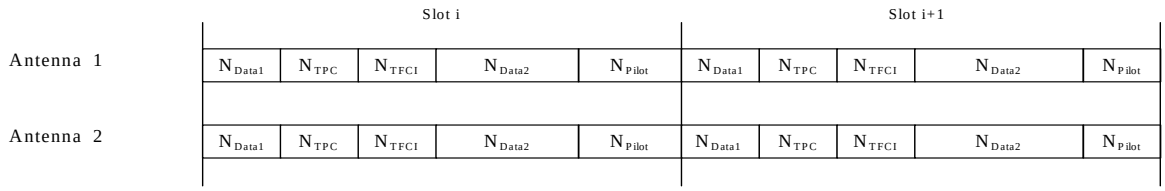
	~~N_{pilot} = 2~~	N_{pilot} = 4 (~~*1~~)		N_{pilot} = 8 (~~*2~~1)				N_{pilot} = 16 (~~*3~~2)								~~N_{pilot} = 4~~ (~~*4~~)	
Symbol #	~~0~~	0	1	0	1	2	3	0	1	2	3	4	5	6	7	~~0~~	~~1~~
Slot #0	~~01~~	01	10	11	00	00	10	11	00	00	10	11	00	00	10	~~01~~	~~10~~
1	~~10~~	10	10	11	00	00	01	11	00	00	01	11	10	00	10	~~10~~	~~01~~
2	~~11~~	11	10	11	11	00	00	11	11	00	00	11	10	00	11	~~11~~	~~00~~
3	~~10~~	10	10	11	10	00	01	11	10	00	01	11	00	00	00	~~10~~	~~01~~
4	~~00~~	00	10	11	11	00	11	11	11	00	11	11	01	00	10	~~00~~	~~11~~
5	~~01~~	01	10	11	00	00	10	11	00	00	10	11	11	00	00	~~01~~	~~10~~
6	~~01~~	01	10	11	10	00	10	11	10	00	10	11	01	00	11	~~01~~	~~10~~
7	~~00~~	00	10	11	10	00	11	11	10	00	11	11	10	00	11	~~00~~	~~11~~
8	~~11~~	11	10	11	00	00	00	11	00	00	00	11	01	00	01	~~11~~	~~00~~
9	~~01~~	01	10	11	01	00	10	11	01	00	10	11	01	00	01	~~01~~	~~10~~
10	~~11~~	11	10	11	11	00	00	11	11	00	00	11	00	00	10	~~11~~	~~00~~
11	~~00~~	00	10	11	01	00	11	11	01	00	11	11	00	00	01	~~00~~	~~11~~
12	~~00~~	00	10	11	10	00	11	11	10	00	11	11	11	00	00	~~00~~	~~11~~
13	~~10~~	10	10	11	01	00	01	11	01	00	01	11	10	00	01	~~10~~	~~01~~
14	~~10~~	10	10	11	01	00	01	11	01	00	01	11	11	00	11	~~10~~	~~01~~

~~NOTE *1: This pattern is used except slot formats 2B and 3B.~~
NOTE *2~~1~~: This pattern is used except slot formats 0B, 1B, 4B, 5B, 8B, and 9B.
NOTE *3~~2~~: This pattern is used except slot formats 6B, 7B, 10B, 11B, 12B, and 13B.
~~NOTE *4: This pattern is used for slot formats 2B and 3B.~~
NOTE: For slot format *n*B where *n* = 0, 1, 4, 5, 6, …, 15, the pilot bit pattern corresponding to $N_{pilot}/2$ is to be used and symbol repetition shall be applied.

In closed loop mode 2 same pilot pattern is used on both of the antennas (see figure 11 b). The pattern to be used is according to the table 12.



(a)



(b)

Figure 11: Slot structures for downlink dedicated physical channel diversity transmission.
Structure (a) is used in closed loop mode 1.
Structure (b) is used in closed loop mode 2.
Different shading of the pilots indicate orthogonality of the patterns

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R1-02-1097

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CHANGE REQUEST

⌘ **25.211** **CR** **164** ⌘ **rev** **-** ⌘ Current version: **5.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ [ ] ME [X] Radio Access Network [X] Core Network [ ]

Title:	⌘	Reversal of unwanted corrections resulting from CR 25.211-122
Source:	⌘	TSG RAN WG1
Work item code:	⌘	TEI
Date:	⌘	14/08/2002
Category:	⌘	**A**
Release:	⌘	Rel-5

Use one of the following categories:
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Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	CR 25.211-122 approved in TSG-RAN #14 introduced changes which have not been identified on the cover sheet and which are not in line with the earlier version of the TS 25.211. Specifically the changes resulting from CR 25.211-122 imply that the UE shall support transmit diversity closed loop mode 1 when the number of of DPCCH pilot bits equal 2 (Npilot=2). This contradicts and adds new requirement (category C CR) relative to version 3.8.0 and earlier version of the specification which specified that the pilot pattern used for closed loop mode 1 was orthogonal (implicitely excluded Npilot=2).
Summary of change:	⌘	- Cancellation of CR 25.211-122 changes relative to orthogonal pilot pattern in conjunction with transmit diversity closed loop mode 1. - Removal of columns irrelevant to closed loop mode 1 in Table 15 (Table 15 was introduced by CR 25.211-122 which duplicated Table 14 used for STTD) - Explicit mention that slot formats with Npilot=2 may not be used together with transmit diversity closed loop mode 1.
Consequences if not approved:	⌘	UE developed based on version 5.1.0 or earlier may have to be re-designed to support the modified functionality introduced by CR 25.211-122.

Clauses affected:	⌘	5.3.2.2				
Other specs affected:	⌘	**Y**	**N**		⌘	
		X		Other core specifications		CR 25.214-272
			X	Test specifications		
			X	O&M Specifications		
Other comments:	⌘	**Impact analysis:**				

	UEs implemented based on version 5.2.0 and later will reject the configuration when operating with network implementation based on version 5.0.0 and 5.1.0 (as well as versions corresponding to the 2001-09 to 2002-06 issues of R99 and Rel-4) which select DPCH configurations with slot formats corresponding toNpilot=2 and enable transmit diversity closed loop mode 1. Consequently this CR has an isolated impact.

How to create CRs using this form:

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5.3.2.2 Dedicated channel pilots with closed loop mode transmit diversity

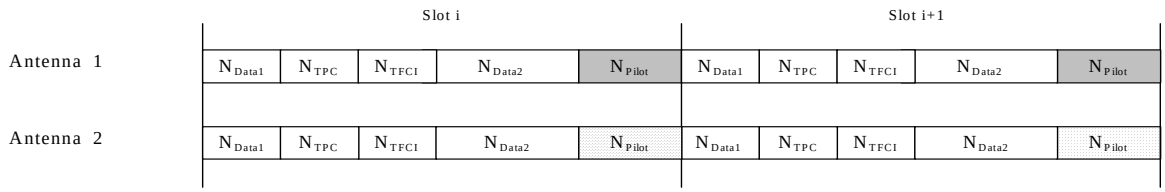
In closed loop mode 1 ~~different~~ orthogonal pilot patterns ~~(orthogonal when N_{pilot} > 2)~~ are used between the transmit antennas. Closed loop mode 1 shall not be used with DPCH slot formats for which N_{pilot}=2. Pilot patterns defined in the table 13 will be used on antenna 1 and pilot patterns defined in the table 16 on antenna 2. This is illustrated in the figure 13 a which indicates the difference in the pilot patterns with different shading.

Table 16: Pilot bit patterns of downlink DPCCH for antenna 2 using closed loop mode 1

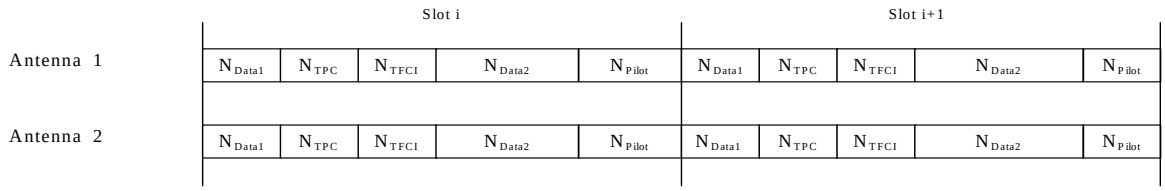
	~~N_{pilot} = 2~~	N_{pilot} = 4 (~~*1~~)		N_{pilot} = 8 (~~*2~~1)				N_{pilot} = 16 (~~*3~~2)								~~N_{pilot} = 4~~ (~~*4~~)	
Symbol #	~~0~~	0	1	0	1	2	3	0	1	2	3	4	5	6	7	~~0~~	~~1~~
Slot #0	~~01~~	01	10	11	00	00	10	11	00	00	10	11	00	00	10	~~01~~	~~10~~
1	~~10~~	10	10	11	00	00	01	11	00	00	01	11	10	00	10	~~10~~	~~01~~
2	~~11~~	11	10	11	11	00	00	11	11	00	00	11	10	00	11	~~11~~	~~00~~
3	~~10~~	10	10	11	10	00	01	11	10	00	01	11	00	00	00	~~10~~	~~01~~
4	~~00~~	00	10	11	11	00	11	11	11	00	11	11	01	00	10	~~00~~	~~11~~
5	~~01~~	01	10	11	00	00	10	11	00	00	10	11	11	00	00	~~01~~	~~10~~
6	~~01~~	01	10	11	10	00	10	11	10	00	10	11	01	00	11	~~01~~	~~10~~
7	~~00~~	00	10	11	10	00	11	11	10	00	11	11	10	00	11	~~00~~	~~11~~
8	~~11~~	11	10	11	00	00	00	11	00	00	00	11	01	00	01	~~11~~	~~00~~
9	~~01~~	01	10	11	01	00	10	11	01	00	10	11	01	00	01	~~01~~	~~10~~
10	~~11~~	11	10	11	11	00	00	11	11	00	00	11	00	00	10	~~11~~	~~00~~
11	~~00~~	00	10	11	01	00	11	11	01	00	11	11	00	00	01	~~00~~	~~11~~
12	~~00~~	00	10	11	10	00	11	11	10	00	11	11	11	00	00	~~00~~	~~11~~
13	~~10~~	10	10	11	01	00	01	11	01	00	01	11	10	00	01	~~10~~	~~01~~
14	~~10~~	10	10	11	01	00	01	11	01	00	01	11	11	00	11	~~10~~	~~01~~

~~NOTE *1: This pattern is used except slot formats 2B and 3B.~~
NOTE *~~2~~1: This pattern is used except slot formats 0B, 1B, 4B, 5B, 8B, and 9B.
NOTE *~~3~~2: This pattern is used except slot formats 6B, 7B, 10B, 11B, 12B, and 13B.
~~NOTE *4: This pattern is used for slot formats 2B and 3B.~~
NOTE: For slot format *n*B where *n* = 0, 1, 4, 5, 6, …, 15, the pilot bit pattern corresponding to $N_{pilot}/2$ is to be used and symbol repetition shall be applied.

In closed loop mode 2 same pilot pattern is used on both of the antennas (see figure 13 b). The pattern to be used is according to the table 13.



(a)



(b)

Figure 13: Slot structures for downlink dedicated physical channel diversity transmission.
Structure (a) is used in closed loop mode 1.
Structure (b) is used in closed loop mode 2.
Different shading of the pilots indicate orthogonality of the patterns

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R1-02-1097

CR-Form-v7

CHANGE REQUEST

⌘ **25.214** **CR** **270** ⌘ **rev** **1** ⌘ Current version: **3.10.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ [ ] ME [X] Radio Access Network [X] Core Network [ ]

Title:	⌘	Reversal of unwanted corrections resulting from CR 25.211-122 & CR 25.214-226
Source:	⌘	TSG RAN WG1
Work item code:	⌘	TEI
Date:	⌘	14/08/2002
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	CR 25.211-122 approved in TSG-RAN #14 introduced changes which have not been identified on the cover sheet and which are not in line with the earlier version of the TS 25.211. Specifically the changes resulting from CR 25.211-122 imply that the UE shall support transmit diversity closed loop mode 1 when the number of of DPCCH pilot bits equal 2 (Npilot=2). This contradicts and adds new requirement (category C CR) relative to version 3.8.0 and earlier version of the specification which specified that the pilot pattern used for closed loop mode 1 was orthogonal (implicitly excluded Npilot=2). Subsequently CR 25.214-226 was approved in TSG RAN # 15 to align TS 25.214 with TS 25.211 text resulting from CR 25.211-122.
Summary of change:	⌘	Cancellation of CR 25.214-226 relative to orthogonal pilot pattern in conjunction with transmit diversity closed loop mode 1. CR 25.211-162 presented together with this CR, cancels the category C changes introduced by CR 25.211-122. This CR cancels the associated changes introduced by CR25.214-226 for consistency.
Consequences if not approved:	⌘	Assuming CR 25.211-162 is approved, the text in 25.214 would not be consistent with 25.211 and may imply that transmit diversity closed loop mode 1 shall be supported in conjunction with DPCH slot formats for which Npilot=2.

Clauses affected:	⌘	7

		Y	N			
Other specs affected:	⌘	X		Other core specifications	⌘	CR 25.211-162
			X	Test specifications		
			X	O&M Specifications		

Other comments:	⌘	**Impact analysis:** The impact of CR 25.211-162 is listed in the related cover sheet. This CR is for consistency with CR 25.211-162 and has no impact in itself.

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

7 Closed loop mode transmit diversity

The general transmitter structure to support closed loop mode transmit diversity for DPCH transmission is shown in figure 3. Channel coding, interleaving and spreading are done as in non-diversity mode. The spread complex valued signal is fed to both TX antenna branches, and weighted with antenna specific weight factors w_1 and w_2. The weight factors are complex valued signals (i.e., $w_i = a_i + jb_i$), in general.

The weight factors (actually the corresponding phase adjustments in closed loop mode 1 and phase/amplitude adjustments in closed loop mode 2) are determined by the UE, and signalled to the UTRAN access point (=cell transceiver) using the D sub-field of the FBI field of uplink DPCCH.

For the closed loop mode 1 different ~~(~~orthogonal ~~when $N_{pilot} > 2$)~~ dedicated pilot symbols in the DPCCH are sent on the 2 different antennas. For closed loop mode 2 the same dedicated pilot symbols in the DPCCH are sent on both antennas.

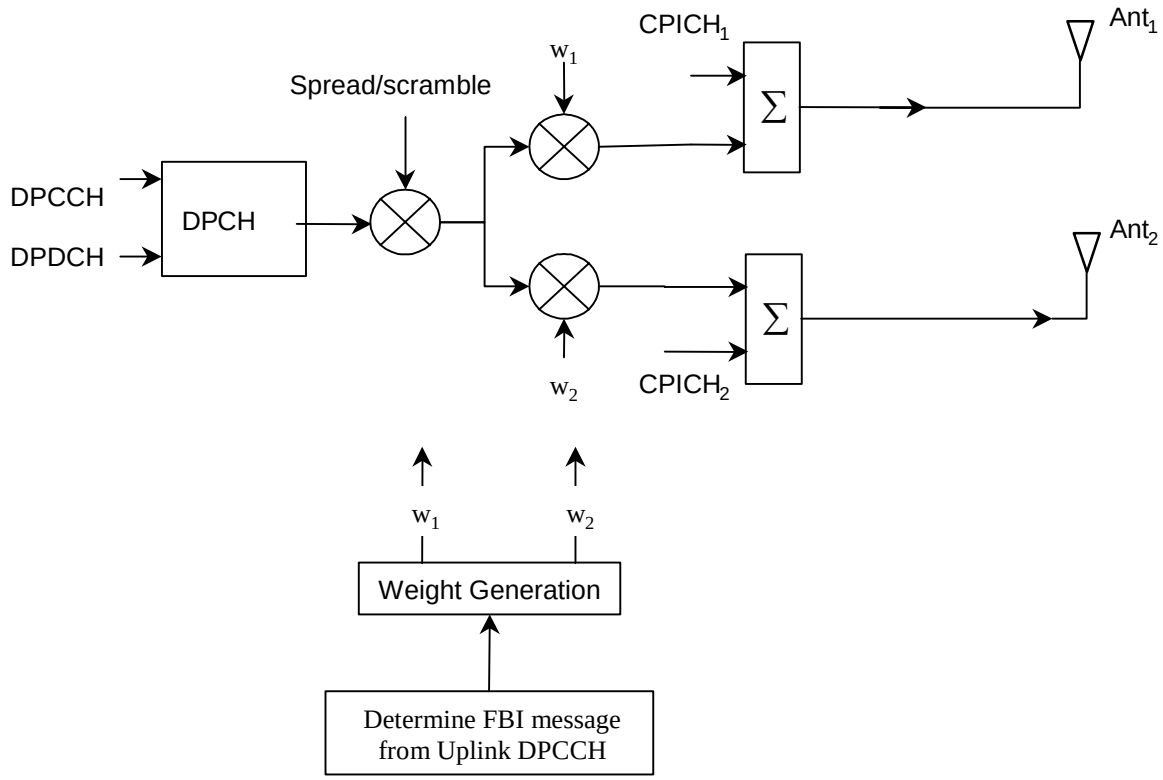

Figure 3: The generic downlink transmitter structure to support closed loop mode transmit diversity for DPCH transmission

There are two closed loop modes whose characteristics are summarised in the table 8. The use of the modes is controlled via higher layer signalling.

Table 8: Summary of number of feedback information bits per slot, N_{FBD}, feedback command length in slots, N_W, feedback command rate, feedback bit rate, number of phase bits, N_{ph}, per signalling word, number of amplitude bits, N_{po}, per signalling word and amount of constellation rotation at UE for the two closed loop modes

Closed loop mode	N_{FBD}	N_W	Update rate	Feedback bit rate	N_{po}	N_{ph}	Constellation rotation
1	1	1	1500 Hz	1500 bps	0	1	$\pi/2$
2	1	4	1500 Hz	1500 bps	1	3	N/A

3GPP TSG RAN Meeting #17
Biarritz, France, 3 – 6, September 2002

R1-02-1097

CR-Form-v7

CHANGE REQUEST

⌘ **25.214** **CR** **271** ⌘ **rev** **-** ⌘ Current version: **4.4.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☒ Radio Access Network ☒ Core Network ☐

Title:	⌘	Reversal of unwanted corrections resulting from CR 25.211-122 & CR 25.214-226
Source:	⌘	TSG RAN WG1
Work item code:	⌘	TEI
Date:	⌘	14/08/2002
Category:	⌘	**A**
Release:	⌘	Rel-4

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	CR 25.211-122 approved in TSG-RAN #14 introduced changes which have not been identified on the cover sheet and which are not in line with the earlier version of the TS 25.211. Specifically the changes resulting from CR 25.211-122 imply that the UE shall support transmit diversity closed loop mode 1 when the number of of DPCCH pilot bits equal 2 (Npilot=2). This contradicts and adds new requirement (category C CR) relative to version 3.8.0 and earlier version of the specification which specified that the pilot pattern used for closed loop mode 1 was orthogonal (implicitly excluded Npilot=2). Subsequently CR 25.214-226 was approved in TSG RAN # 15 to align TS 25.214 with TS 25.211 text resulting from CR 25.211-122.
Summary of change:	⌘	Cancellation of CR 25.214-226 relative to orthogonal pilot pattern in conjunction with transmit diversity closed loop mode 1. CR 25.211-163 presented together with this CR, cancels the category C changes introduced by CR 25.211-122. This CR cancels the associated changes introduced by CR25.214-226 for consistency.
Consequences if not approved:	⌘	Assuming CR 25.211-163 is approved, the text in 25.214 would not be consistent with 25.211 and may imply that transmit diversity closed loop mode 1 shall be supported in conjunction with DPCH slot formats for which Npilot=2.

Clauses affected:	⌘	7

		Y	N			
Other specs affected:	⌘	X		Other core specifications	⌘	CR 25.211-163
			X	Test specifications		
			X	O&M Specifications		

Other comments:	⌘	**Impact analysis:** The impact of CR 25.211-163 is listed in the related cover sheet. This CR is for consistency with CR 25.211-163 and has not impact in itself.

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

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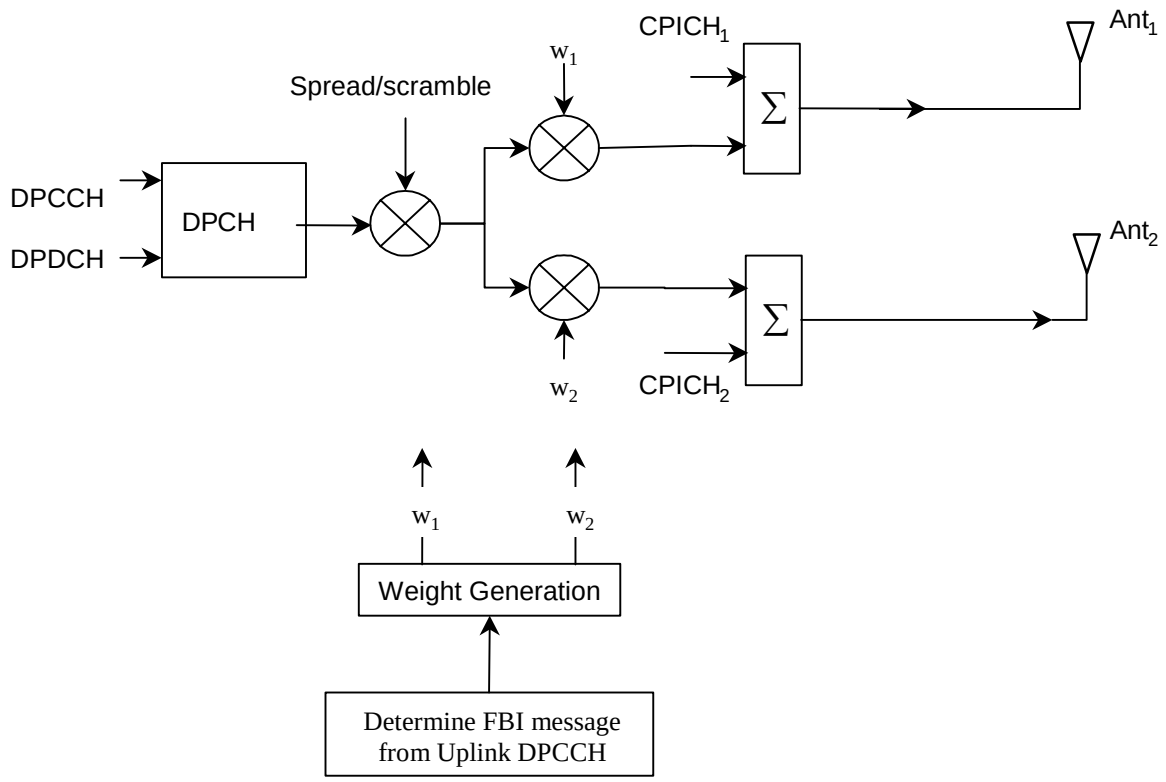

Figure 3: The generic downlink transmitter structure to support closed loop mode transmit diversity for DPCH transmission

There are two closed loop modes whose characteristics are summarised in the table 8. The use of the modes is controlled via higher layer signalling.

Table 8: Summary of number of feedback information bits per slot, N_{FBD}, feedback command length in slots, N_W, feedback command rate, feedback bit rate, number of phase bits, N_{ph}, per signalling word, number of amplitude bits, N_{po}, per signalling word and amount of constellation rotation at UE for the two closed loop modes

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R1-02-1097

CR-Form-v7

CHANGE REQUEST

⌘ **25.214** **CR** **272** ⌘ **rev** **-** ⌘ Current version: **5.1.0** ⌘

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Proposed change affects: UICC apps⌘ ☐ ME ☒ Radio Access Network ☒ Core Network ☐

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Source:	⌘	TSG RAN WG1
Work item code:	⌘	TEI
Date:	⌘	14/08/2002
Category:	⌘	**A**
Release:	⌘	Rel-5

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Rel-6 *(Release 6)*

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Summary of change:	⌘	Cancellation of CR 25.214-226 relative to orthogonal pilot pattern in conjunction with transmit diversity closed loop mode 1. CR 25.211-162 presented together with this CR, cancels the category C changes introduced by CR 25.211-122. This CR cancels the associated changes introduced by CR25.214-226 for consistency.
Consequences if not approved:	⌘	Assuming CR 25.211-164 is approved, the text in 25.214 would not be consistent with 25.211 and may imply that transmit diversity closed loop mode 1 shall be supported in conjunction with DPCH slot formats for which Npilot=2.

Clauses affected:	⌘	8

		Y	N			
Other specs affected:	⌘	X		Other core specifications	⌘	CR 25.211-164
			X	Test specifications		
			X	O&M Specifications		

Other comments:	⌘	**Impact analysis:** The impact of CR 25.211-164 is listed in the related cover sheet. This CR is for consistency with CR 25.211-164 and has no impact in itself.

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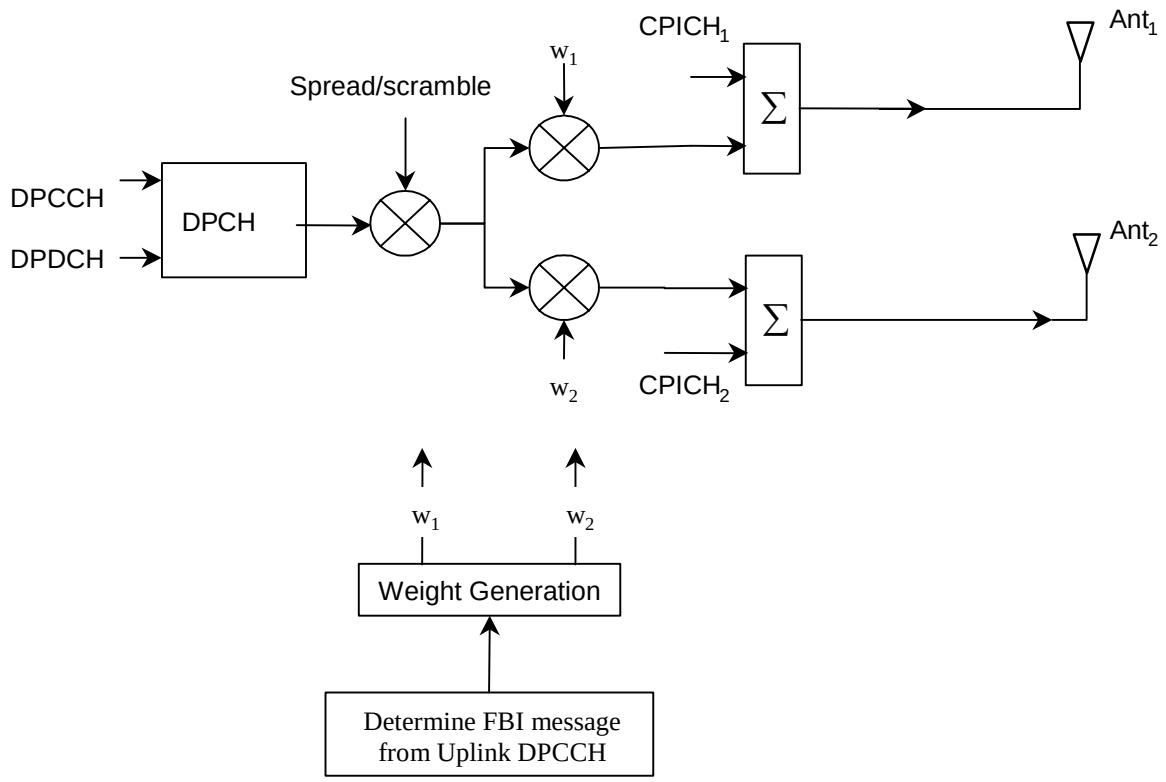

Figure 3: The generic downlink transmitter structure to support closed loop mode transmit diversity for DPCH transmission

There are two closed loop modes whose characteristics are summarised in the table 12. The use of the modes is controlled via higher layer signalling.

Table 12: Summary of number of feedback information bits per slot, N_{FBD}, feedback command length in slots, N_W, feedback command rate, feedback bit rate, number of phase bits, N_{ph}, per signalling word, number of amplitude bits, N_{po}, per signalling word and amount of constellation rotation at UE for the two closed loop modes

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2	1	4	1500 Hz	1500 bps	1	3	N/A