TSG-RAN Meeting #25 **RP-040327**
Palm Springs, USA, 07-09 April 2004 **Agenda item 7.3.3**

Source: **TSG-RAN WG2.**

Title: **CRs to 25.331 R'99 with linked CRs to Rel-4/Rel-5/Rel-6.**

The following CRs are in RP-040327:

Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Version-New	Workitem	Doc-2nd-Level
25.331	2370	-	R99	TDD misalignment between tabular and ASN.1 definitions of UL Transport channel information common for all transport channels and special burst scheduling	F	3.19.0	3.20.0	TEI	R2-041740
25.331	2371	-	Rel-4	TDD misalignment between tabular and ASN.1 definitions of UL Transport channel information common for all transport channels and special burst scheduling	A	4.14.0	4.15.0	TEI	R2-041741
25.331	2372	-	Rel-5	TDD misalignment between tabular and ASN.1 definitions of UL Transport channel information common for all transport channels and special burst scheduling	A	5.9.0	5.10.0	TEI	R2-041742
25.331	2373	-	Rel-6	TDD misalignment between tabular and ASN.1 definitions of UL Transport channel information common for all transport channels and special burst scheduling	A	6.2.0	6.3.0	TEI	R2-041743
25.331	2374	-	R99	Definition of parameters for UE-assisted A-GPS	F	3.19.0	3.20.0	TEI	R2-041744
25.331	2375	-	Rel-4	Definition of parameters for UE-assisted A-GPS	A	4.14.0	4.15.0	TEI	R2-041745
25.331	2376	-	Rel-5	Definition of parameters for UE-assisted A-GPS	A	5.9.0	5.10.0	TEI	R2-041746
25.331	2377	-	Rel-6	Definition of parameters for UE-assisted A-GPS	A	6.2.0	6.3.0	TEI	R2-041747

3GPP TSG-RAN WG2 Meeting #43 **Tdoc ⌘R2-041740**
Prague, Czech Republic, 16 - 20 August 2004

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **2370** ⌘ **rev** **-** ⌘ Current version: **3.19.0** ⌘

*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:	⌘	TDD misalignment between tabular and ASN.1 definitions of UL Transport channel information common for all transport channels and special burst scheduling.
Source:	⌘	RAN WG2
Work item code:	⌘	TEI
Date:	⌘	16th August 2004
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: ⌘ The tabular definition of the Individual UL CCTrCH information, in UL Transport channel information common for all transport channels (Section 10.3.5.24), indicates that the TFC subset is MD (Mandatory Default) whereas its presence is mandatory in the ASN.1 definition of Section 11.3:

```
IndividualUL-CCTrCH-Info ::=        SEQUENCE {
    ul-TFCS-Identity                    TFCS-Identity,
    ul-TFCS                             TFCS,
    tfc-Subset                          TFC-Subset
}
```

The tabular definition of special burst scheduling (Section 10.3.6.75a) specifies integer (2,4,8,16,32,64,128,256) representing the number of radio frames between special bursts during DTX whereas the ASN specifies integer (0..7). It is proposed to update the tabular and the ASN.1with a note describing the meaning of the signalled values.

The alternative correction, changing the ASN.1 definition (Section 11.3) to align with the tabular definition (Section 10.3.5.24 and 10.3.6.75a), is not proposed since it is assumed that most implementations follow the ASN.1 definition.

Summary of change: ⌘ The definition of Individual UL CCTrCH information in Section 10.3.5.24 is changed to indicate that the TFC subset is MP (Mandatory Present) so that the tabular definition is aligned with the ASN.1 definition.
For Special Burst Scheduling the type values are corrected to match the ASN and a note is added to define the period for each signalled value.

Isolated Impact Analysis:
The changes impact TDD only. UE and RAN implementations are only impacted

		if the tabular definition (Section 10.3.5.24 and 10.3.6.75a) has been followed instead of the ASN.1 definition (Section 11.3).
Consequences if not approved:	⌘	-For TDD, the tabular definition of the Individual UL CCTrCH information and special burst scheduling will not be aligned with the ASN.1 definition and this may result in incorrect implementation.

Clauses affected:	⌘	10.3.5.24, 10.3.6.75a, 11.3			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

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

---------- 1st Change ----------

10.3.5.24 UL Transport channel information common for all transport channels

Information Element/Group name	Need	Multi	Type and reference	Semantics description
PRACH TFCS	OP		Transport format combination set 10.3.5.20	This IE should not be included in this version of the protocol.
CHOICE *mode*	OP			
>FDD				
>>TFC subset	MD		Transport Format Combination Subset 10.3.5.22	Default value is the complete existing set of transport format combinations
>>UL DCH TFCS	MP		Transport formation combination set 10.3.5.20	
>TDD				
>>Individual UL CCTrCH information	OP	1 to <maxCCTrCH>		
>>>UL TFCS Identity	MP		Transport format combination set identity 10.3.5.21	Identifies a special CCTrCH for shared or dedicated channels.
>>>UL TFCS	MP		Transport format combination set 10.3.5.20	
>>>TFC subset	M~~D~~P		Transport Format Combination Subset 10.3.5.22	~~Default value is the complete existing set of transport format combinations~~

NOTE: This information element is included within IE "Predefined TrCh configuration".

---------- 2nd Change ----------

10.3.6.75a Special Burst Scheduling

NOTE: Only for TDD.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Special Burst Generation Period	MP		Integer (0..7~~2, 4, 8, 16, 32, 64, 128, 256~~)	Value represents number of~~in~~ radio frames: 0 = 2 frames, 1 = 4 frames, 2 = 8 frames, 3 = 16 frames, 4 = 32 frames, 5 = 64 frames, 6 = 128 frames, 7 =256 frames

---------- 3rd Change ----------

```
-- SF512-AndPilot encodes both "Spreading factor" and "Number of bits for Pilot bits"
SF512-AndPilot ::=                  CHOICE {
```

```
    sfd4                                NULL,
    sfd8                                NULL,
    sfd16                               NULL,
    sfd32                               NULL,
    sfd64                               NULL,
    sfd128                              PilotBits128,
    sfd256                              PilotBits256,
    sfd512                              NULL
}
SF-PDSCH ::=                        ENUMERATED {
                                        sfp4, sfp8, sfp16, sfp32,
                                        sfp64, sfp128, sfp256 }

SF-PRACH ::=                        ENUMERATED {
                                        sfpr32, sfpr64, sfpr128, sfpr256 }

SFN-TimeInfo ::=                    SEQUENCE {
    activationTimeSFN                   INTEGER (0..4095),
    physChDuration                  DurationTimeInfo
}

-- actual scheduling value = 2^(signalled value +1) and is the periodicity of sending special burst frames

SpecialBurstScheduling ::=              INTEGER (0..7)


SpreadingFactor::=                  ENUMERATED {
                                        sf4, sf8, sf16, sf32,
                                        sf64, sf128, sf256 }

SRB-delay ::=                       INTEGER (0..7)

SSDT-CellIdentity ::=               ENUMERATED {
                                        ssdt-id-a, ssdt-id-b, ssdt-id-c,
                                        ssdt-id-d, ssdt-id-e, ssdt-id-f,
                                        ssdt-id-g, ssdt-id-h }

SSDT-Information ::=                SEQUENCE {
    s-Field                             S-Field,
    codeWordSet                         CodeWordSet
}

TDD-PICH-CCode ::=                  ENUMERATED {
                                        cc16-1, cc16-2, cc16-3, cc16-4,
                                        cc16-5, cc16-6, cc16-7, cc16-8,
                                        cc16-9, cc16-10, cc16-11, cc16-12,
                                        cc16-13, cc16-14, cc16-15, cc16-16 }

TDD-PRACH-CCode8 ::=                ENUMERATED {
                                        cc8-1, cc8-2, cc8-3, cc8-4,
                                        cc8-5, cc8-6, cc8-7, cc8-8 }

TDD-PRACH-CCode16 ::=               ENUMERATED {
                                        cc16-1, cc16-2, cc16-3, cc16-4,
                                        cc16-5, cc16-6, cc16-7, cc16-8,
                                        cc16-9, cc16-10, cc16-11, cc16-12,
                                        cc16-13, cc16-14, cc16-15, cc16-16 }

TDD-PRACH-CCodeList ::=         CHOICE {
    sf8                                 SEQUENCE (SIZE (1..8)) OF
                                            TDD-PRACH-CCode8,
-- Channelisation codes cc16-9, cc16-10, cc16-11, cc16-12, cc16-13, cc16-14,
-- cc16-15 and cc16-16 shall not be used
    sf16                                SEQUENCE (SIZE (1..8)) OF
                                            TDD-PRACH-CCode16
}
```

---------- End of Changes ----------

3GPP TSG-RAN WG2 Meeting #43 **Tdoc ⌘R2-041742**
Prague, Czech Republic, 16 - 20 August 2004

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **2372** ⌘ **rev** **-** ⌘ Current version: **5.9.0** ⌘

*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:	⌘	TDD misalignment between tabular and ASN.1 definitions of UL Transport channel information common for all transport channels and special burst scheduling.
Source:	⌘	RAN WG2
Work item code:	⌘	TEI
Date:	⌘	16th August 2004
Category:	⌘	**A**
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
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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: ⌘ The tabular definition of the Individual UL CCTrCH information, in UL Transport channel information common for all transport channels (Section 10.3.5.24), indicates that the TFC subset is MD (Mandatory Default) whereas its presence is mandatory in the ASN.1 definition of Section 11.3:

```
IndividualUL-CCTrCH-Info ::=        SEQUENCE {
    ul-TFCS-Identity                    TFCS-Identity,
    ul-TFCS                             TFCS,
    tfc-Subset                          TFC-Subset
}
```

The tabular definition of special burst scheduling (Section 10.3.6.75a) specifies integer (2,4,8,16,32,64,128,256) representing the number of radio frames between special bursts during DTX whereas the ASN specifies integer (0..7). It is proposed to update the tabular and the ASN.1with a note describing the meaning of the signalled values.

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Summary of change: ⌘ The definition of Individual UL CCTrCH information in Section 10.3.5.24 is changed to indicate that the TFC subset is MP (Mandatory Present) so that the tabular definition is aligned with the ASN.1 definition.
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Consequences if not approved:	⌘	-For TDD, the tabular definition of the Individual UL CCTrCH information and special burst scheduling will not be aligned with the ASN.1 definition and this may result in incorrect implementation.

Clauses affected:	⌘	10.3.5.24, 10.3.6.75a, 11.3			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

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---------- 1st Change ----------

10.3.5.24 UL Transport channel information common for all transport channels

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
PRACH TFCS	OP		Transport format combination set 10.3.5.20	This IE should not be included in this version of the protocol.	
CHOICE *mode*	OP				
>FDD					
>>TFC subset	MD		Transport Format Combination Subset 10.3.5.22	Default value is the complete existing set of transport format combinations	
>>UL DCH TFCS	MP		Transport formation combination set 10.3.5.20		
>TDD					
>>Individual UL CCTrCH information	OP	1 to <maxCCTrCH>			
>>>UL TFCS Identity	MP		Transport format combination set identity 10.3.5.21	Identifies a special CCTrCH for shared or dedicated channels.	
>>>UL TFCS	MP		Transport format combination set 10.3.5.20		
>>>TFC subset	MD		Transport Format Combination Subset 10.3.5.22	Default value is the complete existing set of transport format combinations	
TFC subset list	OP	1 to <maxTFCsub>			REL-4
>CHOICE *mode*	MP				REL-4
>>FDD				(no data)	REL-4
>>TDD					REL-4
>>>TFCS Id	OP		Transport Format Combination Set Identity 10.3.5.21		REL-4
>TFC subset	MD~~P~~		Transport Format Combination Subset 10.3.5.22		REL-4

NOTE: This information element is included within IE "Predefined TrCh configuration".

---------- 2nd Change ----------

10.3.6.75a Special Burst Scheduling

NOTE: Only for TDD.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Special Burst Generation Period	MP		Integer (0..72, 4, 8, 16, 32, 64, 128, 256)	Value represents number of in radio frames 0 = 2 frames, 1 = 4 frames, 2 = 8 frames, 3 = 16 frames, 4 = 32 frames, 5 = 64 frames, 6 = 128 frames, 7 =256 frames

---------- 3rd Change ----------

```
-- SF512-AndPilot encodes both "Spreading factor" and "Number of bits for Pilot bits"
SF512-AndPilot ::=                  CHOICE {
    sfd4                                NULL,
    sfd8                                NULL,
    sfd16                               NULL,
    sfd32                               NULL,
    sfd64                               NULL,
    sfd128                              PilotBits128,
    sfd256                              PilotBits256,
    sfd512                              NULL
}
SF-PDSCH ::=                        ENUMERATED {
                                        sfp4, sfp8, sfp16, sfp32,
                                        sfp64, sfp128, sfp256 }

SF-PRACH ::=                        ENUMERATED {
                                        sfpr32, sfpr64, sfpr128, sfpr256 }

SFN-TimeInfo ::=                    SEQUENCE {
    activationTimeSFN                   INTEGER (0..4095),
    physChDuration                  DurationTimeInfo
}

-- actual scheduling value = 2^(signalled value +1) and is the periodicity of sending special burst frames

SpecialBurstScheduling ::=              INTEGER (0..7)

SpreadingFactor ::=                 ENUMERATED {
                                        sf4, sf8, sf16, sf32,
                                        sf64, sf128, sf256 }

SRB-delay ::=                       INTEGER (0..7)

SSDT-CellIdentity ::=               ENUMERATED {
                                        ssdt-id-a, ssdt-id-b, ssdt-id-c,
                                        ssdt-id-d, ssdt-id-e, ssdt-id-f,
                                        ssdt-id-g, ssdt-id-h }

SSDT-Information ::=                SEQUENCE {
    s-Field                             S-Field,
    codeWordSet                         CodeWordSet
}

SSDT-Information-r4 ::=             SEQUENCE {
    s-Field                             S-Field,
    codeWordSet                         CodeWordSet,
    ssdt-UL-r4                          SSDT-UL                                 OPTIONAL
}

SSDT-UL ::=                         ENUMERATED {
                                        ul, ul-AndDL }

SynchronisationParameters-r4 ::=    SEQUENCE {
    sync-UL-CodesBitmap                 BIT STRING {
                                            code7(0),
                                            code6(1),
                                            code5(2),
                                            code4(3),
                                            code3(4),
                                            code2(5),
                                            code1(6),
                                            code0(7)
```

```
                                        } (SIZE (8)),
    fpach-Info                          FPACH-Info-r4,
    -- Actual value prxUpPCHdes = IE value - 120
    prxUpPCHdes                         INTEGER (0..62),
    sync-UL-Procedure                   SYNC-UL-Procedure-r4                    OPTIONAL
}

SYNC-UL-Procedure-r4 ::=            SEQUENCE {
    max-SYNC-UL-Transmissions           ENUMERATED { tr1, tr2, tr4, tr8 },
    powerRampStep                       INTEGER (0..3)
}

SYNC-UL-Info-r4 ::=                 SEQUENCE {
    sync-UL-Codes-Bitmap                BIT STRING {
                                            code7(0),
                                            code6(1),
                                            code5(2),
                                            code4(3),
                                            code3(4),
                                            code2(5),
                                            code1(6),
                                            code0(7)
                                            } ( SIZE (8)),
    -- Actual value prxUpPCHdes = IE value - 120
    prxUpPCHdes                         INTEGER (0..62),
    powerRampStep                       INTEGER (0..3),
    max-SYNC-UL-Transmissions           ENUMERATED { tr1, tr2, tr4, tr8 } ,
    mmax                                INTEGER(1..32)
}

TDD-FPACH-CCode16-r4 ::=            ENUMERATED {
                                        cc16-1, cc16-2, cc16-3, cc16-4,
                                        cc16-5, cc16-6, cc16-7, cc16-8,
                                        cc16-9, cc16-10, cc16-11, cc16-12,
                                        cc16-13, cc16-14, cc16-15, cc16-16 }

TDD-UL-Interference ::=             INTEGER (-110..-52)

TDD-PICH-CCode ::=                  ENUMERATED {
                                        cc16-1, cc16-2, cc16-3, cc16-4,
                                        cc16-5, cc16-6, cc16-7, cc16-8,
                                        cc16-9, cc16-10, cc16-11, cc16-12,
                                        cc16-13, cc16-14, cc16-15, cc16-16 }

TDD-PRACH-CCode8 ::=                ENUMERATED {
                                        cc8-1, cc8-2, cc8-3, cc8-4,
                                        cc8-5, cc8-6, cc8-7, cc8-8 }

TDD-PRACH-CCode16 ::=               ENUMERATED {
                                        cc16-1, cc16-2, cc16-3, cc16-4,
                                        cc16-5, cc16-6, cc16-7, cc16-8,
                                        cc16-9, cc16-10, cc16-11, cc16-12,
                                        cc16-13, cc16-14, cc16-15, cc16-16 }

TDD-PRACH-CCode-LCR-r4 ::=          ENUMERATED {
                                        cc4-1, cc4-2, cc4-3, cc4-4,
                                        cc8-1, cc8-2, cc8-3, cc8-4,
                                        cc8-5, cc8-6, cc8-7, cc8-8,
                                        cc16-1, cc16-2, cc16-3, cc16-4,
                                        cc16-5, cc16-6, cc16-7, cc16-8,
                                        cc16-9, cc16-10, cc16-11, cc16-12,
                                        cc16-13, cc16-14, cc16-15, cc16-16 }

TDD-PRACH-CCodeList ::=             CHOICE {
    sf8                                 SEQUENCE (SIZE (1..8)) OF
                                            TDD-PRACH-CCode8,
-- Channelisation codes cc16-9, cc16-10, cc16-11, cc16-12, cc16-13, cc16-14,
-- cc16-15 and cc16-16 shall not be used
    sf16                                SEQUENCE (SIZE (1..8)) OF
                                            TDD-PRACH-CCode16
}
```

---------- End of Changes ----------

3GPP TSG-RAN WG2 Meeting #43 **Tdoc ⌘R2-041743**
Prague, Czech Republic, 16 - 20 August 2004

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **2373** ⌘ **rev** **-** ⌘ Current version: **6.2.0** ⌘

*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:	⌘	TDD misalignment between tabular and ASN.1 definitions of UL Transport channel information common for all transport channels and special burst scheduling.
Source:	⌘	RAN WG2
Work item code:	⌘	TEI
Date:	⌘	16th August 2004
Category:	⌘	**A**
Release:	⌘	Rel-6

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
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R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change: ⌘ The tabular definition of the Individual UL CCTrCH information, in UL Transport channel information common for all transport channels (Section 10.3.5.24), indicates that the TFC subset is MD (Mandatory Default) whereas its presence is mandatory in the ASN.1 definition of Section 11.3:

```
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    ul-TFCS-Identity                    TFCS-Identity,
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}
```

The tabular definition of special burst scheduling (Section 10.3.6.75a) specifies integer (2,4,8,16,32,64,128,256) representing the number of radio frames between special bursts during DTX whereas the ASN specifies integer (0..7). It is proposed to update the tabular and the ASN.1with a note describing the meaning of the signalled values.

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		if the tabular definition (Section 10.3.5.24 and 10.3.6.75a) has been followed instead of the ASN.1 definition (Section 11.3).
Consequences if not approved:	⌘	-For TDD, the tabular definition of the Individual UL CCTrCH information and special burst scheduling will not be aligned with the ASN.1 definition and this may result in incorrect implementation.

Clauses affected:	⌘	10.3.5.24, 10.3.6.75a, 11.3			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

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---------- 1st Change ----------

10.3.5.24 UL Transport channel information common for all transport channels

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
PRACH TFCS	OP		Transport format combination set 10.3.5.20	This IE should not be included in this version of the protocol.	
CHOICE *mode*	OP				
>FDD					
>>TFC subset	MD		Transport Format Combination Subset 10.3.5.22	Default value is the complete existing set of transport format combinations	
>>UL DCH TFCS	MP		Transport formation combination set 10.3.5.20		
>TDD					
>>Individual UL CCTrCH information	OP	1 to <maxCCTrCH>			
>>>UL TFCS Identity	MP		Transport format combination set identity 10.3.5.21	Identifies a special CCTrCH for shared or dedicated channels.	
>>>UL TFCS	MP		Transport format combination set 10.3.5.20		
>>>TFC subset	MD		Transport Format Combination Subset 10.3.5.22	Default value is the complete existing set of transport format combinations	
TFC subset list	OP	1 to <maxTFCsub>			REL-4
>CHOICE *mode*	MP				REL-4
>>FDD				(no data)	REL-4
>>TDD					REL-4
>>>TFCS Id	OP		Transport Format Combination Set Identity 10.3.5.21		REL-4
>TFC subset	MD~~P~~		Transport Format Combination Subset 10.3.5.22		REL-4

NOTE: This information element is included within IE "Predefined TrCh configuration".

---------- 2nd Change ----------

10.3.6.75a Special Burst Scheduling

NOTE: Only for TDD.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Special Burst Generation Period	MP		Integer (0..72~~, 4, 8, 16, 32, 64, 128, 256~~)	Value represents number of ~~in~~ radio frames 0 = 2 frames, 1 = 4 frames, 2 = 8 frames, 3 = 16 frames, 4 = 32 frames, 5 = 64 frames, 6 = 128 frames, 7 =256 frames

---------- 3rd Change ----------

```
-- SF512-AndPilot encodes both "Spreading factor" and "Number of bits for Pilot bits"
SF512-AndPilot ::=                  CHOICE {
    sfd4                                NULL,
    sfd8                                NULL,
    sfd16                               NULL,
    sfd32                               NULL,
    sfd64                               NULL,
    sfd128                              PilotBits128,
    sfd256                              PilotBits256,
    sfd512                              NULL
}
SF-PDSCH ::=                        ENUMERATED {
                                        sfp4, sfp8, sfp16, sfp32,
                                        sfp64, sfp128, sfp256 }

SF-PRACH ::=                        ENUMERATED {
                                        sfpr32, sfpr64, sfpr128, sfpr256 }

SFN-TimeInfo ::=                    SEQUENCE {
    activationTimeSFN                   INTEGER (0..4095),
    physChDuration                  DurationTimeInfo
}

-- actual scheduling value = 2^(signalled value +1) and is the periodicity of sending special burst frames

SpecialBurstScheduling ::=              INTEGER (0..7)

SpreadingFactor ::=                 ENUMERATED {
                                        sf4, sf8, sf16, sf32,
                                        sf64, sf128, sf256 }

SRB-delay ::=                       INTEGER (0..7)

SSDT-CellIdentity ::=               ENUMERATED {
                                        ssdt-id-a, ssdt-id-b, ssdt-id-c,
                                        ssdt-id-d, ssdt-id-e, ssdt-id-f,
                                        ssdt-id-g, ssdt-id-h }

SSDT-Information ::=                SEQUENCE {
    s-Field                             S-Field,
    codeWordSet                         CodeWordSet
}

SSDT-Information-r4 ::=             SEQUENCE {
    s-Field                             S-Field,
    codeWordSet                         CodeWordSet,
    ssdt-UL-r4                          SSDT-UL                                 OPTIONAL
}

SSDT-UL ::=                         ENUMERATED {
                                        ul, ul-AndDL }

SynchronisationParameters-r4 ::=    SEQUENCE {
    sync-UL-CodesBitmap                 BIT STRING {
                                            code7(0),
                                            code6(1),
                                            code5(2),
                                            code4(3),
                                            code3(4),
                                            code2(5),
                                            code1(6),
                                            code0(7)
```

```
                                        } (SIZE (8)),
    fpach-Info                          FPACH-Info-r4,
    -- Actual value prxUpPCHdes = IE value - 120
    prxUpPCHdes                         INTEGER (0..62),
    sync-UL-Procedure                   SYNC-UL-Procedure-r4                    OPTIONAL
}

SYNC-UL-Procedure-r4 ::=            SEQUENCE {
    max-SYNC-UL-Transmissions           ENUMERATED { tr1, tr2, tr4, tr8 },
    powerRampStep                       INTEGER (0..3)
}

SYNC-UL-Info-r4 ::=                 SEQUENCE {
    sync-UL-Codes-Bitmap                BIT STRING {
                                            code7(0),
                                            code6(1),
                                            code5(2),
                                            code4(3),
                                            code3(4),
                                            code2(5),
                                            code1(6),
                                            code0(7)
                                            } ( SIZE (8)),
    -- Actual value prxUpPCHdes = IE value - 120
    prxUpPCHdes                         INTEGER (0..62),
    powerRampStep                       INTEGER (0..3),
    max-SYNC-UL-Transmissions           ENUMERATED { tr1, tr2, tr4, tr8 } ,
    mmax                                INTEGER(1..32)
}

TDD-FPACH-CCode16-r4 ::=            ENUMERATED {
                                        cc16-1, cc16-2, cc16-3, cc16-4,
                                        cc16-5, cc16-6, cc16-7, cc16-8,
                                        cc16-9, cc16-10, cc16-11, cc16-12,
                                        cc16-13, cc16-14, cc16-15, cc16-16 }

TDD-UL-Interference ::=             INTEGER (-110..-52)

TDD-PICH-CCode ::=                  ENUMERATED {
                                        cc16-1, cc16-2, cc16-3, cc16-4,
                                        cc16-5, cc16-6, cc16-7, cc16-8,
                                        cc16-9, cc16-10, cc16-11, cc16-12,
                                        cc16-13, cc16-14, cc16-15, cc16-16 }

TDD-PRACH-CCode8 ::=                ENUMERATED {
                                        cc8-1, cc8-2, cc8-3, cc8-4,
                                        cc8-5, cc8-6, cc8-7, cc8-8 }

TDD-PRACH-CCode16 ::=               ENUMERATED {
                                        cc16-1, cc16-2, cc16-3, cc16-4,
                                        cc16-5, cc16-6, cc16-7, cc16-8,
                                        cc16-9, cc16-10, cc16-11, cc16-12,
                                        cc16-13, cc16-14, cc16-15, cc16-16 }

TDD-PRACH-CCode-LCR-r4 ::=          ENUMERATED {
                                        cc4-1, cc4-2, cc4-3, cc4-4,
                                        cc8-1, cc8-2, cc8-3, cc8-4,
                                        cc8-5, cc8-6, cc8-7, cc8-8,
                                        cc16-1, cc16-2, cc16-3, cc16-4,
                                        cc16-5, cc16-6, cc16-7, cc16-8,
                                        cc16-9, cc16-10, cc16-11, cc16-12,
                                        cc16-13, cc16-14, cc16-15, cc16-16 }

TDD-PRACH-CCodeList ::=             CHOICE {
    sf8                                 SEQUENCE (SIZE (1..8)) OF
                                            TDD-PRACH-CCode8,
-- Channelisation codes cc16-9, cc16-10, cc16-11, cc16-12, cc16-13, cc16-14,
-- cc16-15 and cc16-16 shall not be used
    sf16                                SEQUENCE (SIZE (1..8)) OF
                                            TDD-PRACH-CCode16
}
```

---------- End of Changes ----------

3GPP TSG-RAN WG2 Meeting #43 **Tdoc ⌘R2-041744**
Prague, Czech Republic, 16 - 20 August 2004

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **2374** ⌘ **rev** **-** ⌘ Current version: **3.19.0** ⌘

*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:	⌘	Definition of parameters for UE-assisted A-GPS	
Source:	⌘	RAN WG2	
Work item code:	⌘	TEI	***Date:*** ⌘ 16/08/2004
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: ⌘

The parameters “code phase”, “code phase search window” and “Doppler uncertainty” are not unambiguously defined in the IE’s “UE positioning GPS acquisition assistance” and “UE positioning GPS measured results”, respectively. In addition, the usage of Azimuth/Elevation parameters in the “UE positioning GPS acquisition assistance” to cover the complete azimuth and elevation ranges of 0-360 and 0-90 degrees, respectively, is not stated.

In GERAN, CR’s A092, A094 and A104 to Release 98 of RRLP specification 04.31 have been aproved to unambiguously define these parameters.

The same definitions of these parameters are proposed in this CR.

Summary of change: ⌘

1.) Code-phase is defined in the sense that increasing values of the code-phase signify increasing measured/predicted pseudoranges.

2.) Uncertainties (for code-phase and Doppler) are defined as single-sided uncertainties, meaning that the expected value is withing +/- the uncertainty value.

3.) The value for Azimuth and Elevation are clarified that an angle of x degrees means that the satellite azimuth/elevation y is in the range $x \leq y < x+11.25$ degrees.

4.) Mapping of “Satellite ID” to “SV No” has also been included in UE positioning GPS measured results.

5.) Unit of Doppler 1st order term included and wrong scaling factor deleted.

		Isolated Impact Analysis Functionality corrected: UP measurements - UE assisted A-GPS Isolated impact statement: Correction to a function where specification was not sufficiently explicit. Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.
Consequences if not approved:	⌘	Different interpretations of the acquisition assistance / UE measurement parameters would be possible which will lead to incompatible UTRAN and UE interworking resulting in an inability to reliably use UE-assisted A-GPS positioning method.

Clauses affected:	⌘	10.3.7.88, 10.3.7.93			
Other specs affected:	⌘	**Y**	**N**		
			X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

How to create CRs using this form:

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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.

10.3.7.88 UE positioning GPS acquisition assistance

This IE contains parameters that enable fast acquisition of the GPS signals in UE-assisted GPS positioning.

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
GPS TOW msec	MP		Integer(0..6.048*10^8-1)	GPS Time of Week in milliseconds rounded down to the nearest millisecond unit. It is also the time when satellite information is valid.
UTRAN GPS reference time	OP			
>UTRAN GPS timing of cell frames	MP		Integer(0 ... 2322431999999)	GPS timing of cell frames in steps of 1 chip.
>CHOICE *mode*	OP			
>>FDD				
>>>Primary CPICH Info	MP		Primary CPICH Info 10.3.6.60	Identifies the reference cell for the GPS TOW-SFN relationship
>>TDD				
>>>cell parameters id	MP		Cell parameters id 10.3.6.9	Identifies the reference cell for the GPS TOW-SFN relationship
>SFN	MP		Integer(0..4095)	The SFN which the UTRAN GPS timing of cell frames time stamps.
Satellite information	MP	1 to <maxSat>		
>SatID	MP		Integer (0..63)	Identifies the satellite and is equal to (SV ID No - 1) where SV ID No is defined in [12].
>Doppler (0th order term)	MP		Real(-5120..5117.5 by step of 2.5)	Hz
>Extra Doppler	OP			
>>Doppler (1st order term)	MP		Real (-0.966..0.483 by step of 0.023)	Hz/s ~~Scaling factor 1/42~~
>>Doppler Uncertainty	MP		Enumerated (12.5,25,50, 100,200)	Hz. Three spare values are needed. The Doppler experienced by a stationary UE is in the range "Doppler – Doppler Uncertainty" to "Doppler + Doppler Uncertainty".
>Code Phase	MP		Integer(0..1022)	GPS c~~C~~hips~~, specifies the centre of the search window~~ Increasing binary values of the field signify increasing predicted pseudoranges.
>Integer Code Phase	MP		Integer(0..19)	~~1023 chip segments~~ Number of code periods that have elapsed since the latest GPS bit boundary, in units of C/A code period.
>GPS Bit number	MP		Integer(0..3)	Specifies GPS bit number modulo 4 ~~(20 1023 chip segments)~~
>Code Phase Search Window	MP		Integer(1023,1,2,3,4,6,8,12,16,24,32,4	~~Specifies the width of the search window.~~ Expected code-phase is in the

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
			8,64,96,128, 192)	range "Code Phase – Code Phase Search Window" to "Code Phase + Code Phase Search Window".
>Azimuth and Elevation	OP			
>>Azimuth	MP		Real(0..348.75 by step of 11.25)	Degrees An angle of x degrees means the satellite azimuth a is in the range x ≤ a < x+11.25 degrees.
>>Elevation	MP		Real(0..78.75 by step of 11.25)	Degrees An angle of y degrees means the satellite elevation e is in the range y ≤ e < y+11.25 degrees except for y=78.75 where the range is extended to include 90 degrees.

10.3.7.93 UE positioning GPS measured results

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
CHOICE *Reference Time*	MP			
>UTRAN reference time				
>>UE GPS timing of cell frames	MP		Integer(0..37158911999999)	GPS Time of Week in units of 1/16th UMTS chips according to [19]. 33209832177664 spare values are needed.
>>CHOICE *mode*	MP			
>>>FDD				
>>>>Primary CPICH Info	MP		Primary CPICH Info 10.3.6.60	Identifies the reference cell for the GPS TOW-SFN relationship.
>>>TDD				
>>>>cell parameters id	MP		Cell parameters id 10.3.6.9	Identifies the reference cell for the GPS TOW-SFN relationship.
>>Reference SFN	MP		Integer(0..4095)	The SFN for which the location is valid. This IE indicates the SFN at which the UE timing of cell frames is captured.
>GPS reference time only				
>>GPS TOW msec	MP		Integer(0..6.048*10^8-1)	GPS Time of Week in milliseconds (rounded down to the nearest millisecond unit). This time is the GPS TOW measured by the UE.
Measurement Parameters	MP	1 to <maxSat>		
>Satellite ID	MP		Enumerated(0..63)	Identifies the satellite and is equal to (SV ID No - 1) where SV ID No is defined in [12].
>C/N$_o$	MP		Integer(0..63)	the estimate of the carrier-to-noise ratio of the received signal from the particular satellite used in the measurement. It is given in units of dB-Hz (typical levels will be in the range of 20 – 50 dB-Hz).

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
>Doppler	MP		Integer(-32768..32768)	Hz, scale factor 0.2.
>Whole GPS Chips	MP		Integer(0..1022)	Unit in GPS chips. Whole value of the UE GPS code-phase measurement, where increasing binary values of the field signify increasing measured pseudoranges.The UE GPS code-phase measurement is divided into the fields "Whole GPS Chips" and "Fractional GPS Chips".
>Fractional GPS Chips	MP		Integer(0..(2^{10}-1))	Scale factor 2^{-10} Fractional value of the UE GPS code-phase measurement.
>Multipath Indicator	MP		Enumerated(NM, low, medium, high)	Note 1.
>Pseudorange RMS Error	MP		Enumerated(range index 0..range index 63)	Note 2.

NOTE 1: The following table gives the mapping of the multipath indicator field.

Value	Multipath Indication
NM	Not measured
Low	MP error < 5m
Medium	5m < MP error < 43m
High	MP error > 43m

NOTE 2: The following table gives the bitmapping of the Pseudorange RMS Error field.

Range Index	Mantissa	Exponent	Floating-Point value, x_i	Pseudorange value, P
0	000	000	0.5	P < 0.5
1	001	000	0.5625	0.5 <= P < 0.5625
I	X	Y	$0.5 * (1 + x/8) * 2^y$	x_{i-1} <= P < x_i
62	110	111	112	104 <= P < 112
63	111	111	--	112 <= P

3GPP TSG-RAN WG2 Meeting #43 **Tdoc ⌘R2-041745**
Prague, Czech Republic, 16 - 20 August 2004

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **2375** ⌘ **rev** **-** ⌘ Current version: **4.14.0** ⌘

*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:	⌘	Definition of parameters for UE-assisted A-GPS
Source:	⌘	RAN WG2
Work item code:	⌘	TEI
Date:	⌘	16/08/2004
Category:	⌘	**A**
Release:	⌘	Rel-4

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Reason for change: ⌘

The parameters “code phase”, “code phase search window” and “Doppler uncertainty” are not unambiguously defined in the IE’s “UE positioning GPS acquisition assistance” and “UE positioning GPS measured results”, respectively. In addition, the usage of Azimuth/Elevation parameters in the “UE positioning GPS acquisition assistance” to cover the complete azimuth and elevation ranges of 0-360 and 0-90 degrees, respectively, is not stated.

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Summary of change: ⌘

1.) Code-phase is defined in the sense that increasing values of the code-phase signify increasing measured/predicted pseudoranges.

2.) Uncertainties (for code-phase and Doppler) are defined as single-sided uncertainties, meaning that the expected value is withing +/- the uncertainty value.

3.) The value for Azimuth and Elevation are clarified that an angle of x degrees means that the satellite azimuth/elevation y is in the range $x \leq y < x+11.25$ degrees.

4.) Mapping of “Satellite ID” to “SV No” has also been included in UE positioning GPS measured results.

5.) Unit of Doppler 1st order term included and wrong scaling factor deleted.

		Isolated Impact Analysis Functionality corrected: UP measurements - UE assisted A-GPS Isolated impact statement: Correction to a function where specification was not sufficiently explicit. Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.
Consequences if not approved:	⌘	Different interpretations of the acquisition assistance / UE measurement parameters would be possible which will lead to incompatible UTRAN and UE interworking resulting in an inability to reliably use UE-assisted A-GPS positioning method.

Clauses affected:	⌘	10.3.7.88, 10.3.7.93			
Other specs affected:	⌘	**Y**	**N**		
			X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

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10.3.7.88 UE positioning GPS acquisition assistance

This IE contains parameters that enable fast acquisition of the GPS signals in UE-assisted GPS positioning.

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
GPS TOW msec	MP		Integer(0..6.048*10^8-1)	GPS Time of Week in milliseconds rounded down to the nearest millisecond unit. It is also the time when satellite information is valid.
UTRAN GPS reference time	OP			
>UTRAN GPS timing of cell frames	MP		Integer(0 ... 2322431999999)	GPS timing of cell frames in steps of 1 chip.
>CHOICE *mode*	OP			
>>FDD				
>>>Primary CPICH Info	MP		Primary CPICH Info 10.3.6.60	Identifies the reference cell for the GPS TOW-SFN relationship
>>TDD				
>>>cell parameters id	MP		Cell parameters id 10.3.6.9	Identifies the reference cell for the GPS TOW-SFN relationship
>SFN	MP		Integer(0..4095)	The SFN which the UTRAN GPS timing of cell frames time stamps.
Satellite information	MP	1 to <maxSat>		
>SatID	MP		Integer (0..63)	Identifies the satellite and is equal to (SV ID No - 1) where SV ID No is defined in [12].
>Doppler (0th order term)	MP		Real(-5120..5117.5 by step of 2.5)	Hz
>Extra Doppler	OP			
>>Doppler (1st order term)	MP		Real (-0.966..0.483 by step of 0.023)	Hz/s ~~Scaling factor 1/42~~
>>Doppler Uncertainty	MP		Enumerated (12.5,25,50, 100,200)	Hz. Three spare values are needed. The Doppler experienced by a stationary UE is in the range "Doppler – Doppler Uncertainty" to "Doppler + Doppler Uncertainty".
>Code Phase	MP		Integer(0..1022)	GPS c~~C~~hips~~, specifies the centre of the search window~~ Increasing binary values of the field signify increasing predicted pseudoranges.
>Integer Code Phase	MP		Integer(0..19)	~~1023 chip segments~~ Number of code periods that have elapsed since the latest GPS bit boundary, in units of C/A code period.
>GPS Bit number	MP		Integer(0..3)	Specifies GPS bit number modulo 4 ~~(20 1023 chip segments)~~
>Code Phase Search Window	MP		Integer(1023,1,2,3,4,6,8,12,16,24,32,4	~~Specifies the width of the search window.~~ Expected code-phase is in the

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
			8,64,96,128, 192)	range "Code Phase – Code Phase Search Window" to "Code Phase + Code Phase Search Window".
>Azimuth and Elevation	OP			
>>Azimuth	MP		Real(0..348. 75 by step of 11.25)	Degrees An angle of x degrees means the satellite azimuth a is in the range x ≤ a < x+11.25 degrees.
>>Elevation	MP		Real(0..78.7 5 by step of 11.25)	Degrees An angle of y degrees means the satellite elevation e is in the range y ≤ e < y+11.25 degrees except for y=78.75 where the range is extended to include 90 degrees.

10.3.7.93 UE positioning GPS measured results

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
CHOICE *Reference Time*	MP			
>UTRAN reference time				
>>UE GPS timing of cell frames	MP		Integer(0.. 3715891199 9999	GPS Time of Week in units of 1/16th UMTS chips according to [19]. 33209832177664 spare values are needed.
>>CHOICE *mode*	MP			
>>>FDD				
>>>>Primary CPICH Info	MP		Primary CPICH Info 10.3.6.60	Identifies the reference cell for the GPS TOW-SFN relationship.
>>>TDD				
>>>>cell parameters id	MP		Cell parameters id 10.3.6.9	Identifies the reference cell for the GPS TOW-SFN relationship.
>>Reference SFN	MP		Integer(0..40 95)	The SFN for which the location is valid. This IE indicates the SFN at which the UE timing of cell frames is captured.
>GPS reference time only				
>>GPS TOW msec	MP		Integer(0..6. 048*10^8-1)	GPS Time of Week in milliseconds (rounded down to the nearest millisecond unit). This time is the GPS TOW measured by the UE.
Measurement Parameters	MP	1 to <maxSat>		
>Satellite ID	MP		Enumerated(0..63)	Identifies the satellite and is equal to (SV ID No - 1) where SV ID No is defined in [12].
>C/N_o	MP		Integer(0..63)	the estimate of the carrier-to-noise ratio of the received signal from the particular satellite used in the measurement. It is given in units of dB-Hz (typical levels will be in the range of 20 – 50 dB-Hz).

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
>Doppler	MP		Integer(-32768..32768)	Hz, scale factor 0.2.
>Whole GPS Chips	MP		Integer(0..1022)	Unit in GPS chips. Whole value of the UE GPS code-phase measurement, where increasing binary values of the field signify increasing measured pseudoranges.The UE GPS code-phase measurement is divided into the fields "Whole GPS Chips" and "Fractional GPS Chips".
>Fractional GPS Chips	MP		Integer(0..(2^{10}-1))	Scale factor 2^{-10} Fractional value of the UE GPS code-phase measurement.
>Multipath Indicator	MP		Enumerated(NM, low, medium, high)	Note 1.
>Pseudorange RMS Error	MP		Enumerated(range index 0..range index 63)	Note 2.

NOTE 1: The following table gives the mapping of the multipath indicator field.

Value	Multipath Indication
NM	Not measured
Low	MP error < 5m
Medium	5m < MP error < 43m
High	MP error > 43m

NOTE 2: The following table gives the bitmapping of the Pseudorange RMS Error field.

Range Index	Mantissa	Exponent	Floating-Point value, x_i	Pseudorange value, P
0	000	000	0.5	P < 0.5
1	001	000	0.5625	0.5 <= P < 0.5625
I	X	Y	$0.5 * (1 + x/8) * 2^y$	x_{i-1} <= P < x_i
62	110	111	112	104 <= P < 112
63	111	111	--	112 <= P

3GPP TSG-RAN WG2 Meeting #43 **Tdoc ⌘R2-041746**
Prague, Czech Republic, 16 - 20 August 2004

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **2376** ⌘ **rev** **-** ⌘ Current version: **5.9.0** ⌘

*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:	⌘	Definition of parameters for UE-assisted A-GPS		
Source:	⌘	RAN WG2		
Work item code:	⌘	TEI	***Date:*** ⌘	16/08/2004
Category:	⌘	**A**	***Release:*** ⌘	Rel-5

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: ⌘

The parameters “code phase”, “code phase search window” and “Doppler uncertainty” are not unambiguously defined in the IE’s “UE positioning GPS acquisition assistance” and “UE positioning GPS measured results”, respectively. In addition, the usage of Azimuth/Elevation parameters in the “UE positioning GPS acquisition assistance” to cover the complete azimuth and elevation ranges of 0-360 and 0-90 degrees, respectively, is not stated.

In GERAN, CR’s A092, A094 and A104 to Release 98 of RRLP specification 04.31 have been aproved to unambiguously define these parameters.

The same definitions of these parameters are proposed in this CR.

Summary of change: ⌘

1.) Code-phase is defined in the sense that increasing values of the code-phase signify increasing measured/predicted pseudoranges.

2.) Uncertainties (for code-phase and Doppler) are defined as single-sided uncertainties, meaning that the expected value is withing +/- the uncertainty value.

3.) The value for Azimuth and Elevation are clarified that an angle of x degrees means that the satellite azimuth/elevation y is in the range $x \leq y < x+11.25$ degrees.

4.) Mapping of “Satellite ID” to “SV No” has also been included in UE positioning GPS measured results.

5.) Unit of Doppler 1st order term included and wrong scaling factor deleted.

		Isolated Impact Analysis Functionality corrected: UP measurements - UE assisted A-GPS Isolated impact statement: Correction to a function where specification was not sufficiently explicit. Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.
Consequences if not approved:	⌘	Different interpretations of the acquisition assistance / UE measurement parameters would be possible which will lead to incompatible UTRAN and UE interworking resulting in an inability to reliably use UE-assisted A-GPS positioning method.

Clauses affected:	⌘	10.3.7.88, 10.3.7.93			
Other specs affected:	⌘	**Y**	**N**		
			X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

How to create CRs using this form:

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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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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.

10.3.7.88 UE positioning GPS acquisition assistance

This IE contains parameters that enable fast acquisition of the GPS signals in UE-assisted GPS positioning.

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
GPS TOW msec	MP		Integer(0..6.048*10^8-1)	GPS Time of Week in milliseconds rounded down to the nearest millisecond unit. It is also the time when satellite information is valid.
UTRAN GPS reference time	OP			
>UTRAN GPS timing of cell frames	MP		Integer(0 ... 2322431999999)	GPS timing of cell frames in steps of 1 chip.
>CHOICE *mode*	OP			
>>FDD				
>>>Primary CPICH Info	MP		Primary CPICH Info 10.3.6.60	Identifies the reference cell for the GPS TOW-SFN relationship
>>TDD				
>>>cell parameters id	MP		Cell parameters id 10.3.6.9	Identifies the reference cell for the GPS TOW-SFN relationship
>SFN	MP		Integer(0..4095)	The SFN which the UTRAN GPS timing of cell frames time stamps.
Satellite information	MP	1 to <maxSat>		
>SatID	MP		Integer (0..63)	Identifies the satellite and is equal to (SV ID No - 1) where SV ID No is defined in [12].
>Doppler (0th order term)	MP		Real(-5120..5117.5 by step of 2.5)	Hz
>Extra Doppler	OP			
>>Doppler (1st order term)	MP		Real (-0.966..0.483 by step of 0.023)	Hz/s ~~Scaling factor 1/42~~
>>Doppler Uncertainty	MP		Enumerated (12.5,25,50, 100,200)	Hz. Three spare values are needed. The Doppler experienced by a stationary UE is in the range "Doppler – Doppler Uncertainty" to "Doppler + Doppler Uncertainty".
>Code Phase	MP		Integer(0..1022)	GPS c~~C~~hips~~, specifies the centre of the search window~~ Increasing binary values of the field signify increasing predicted pseudoranges.
>Integer Code Phase	MP		Integer(0..19)	~~1023 chip segments~~ Number of code periods that have elapsed since the latest GPS bit boundary, in units of C/A code period.
>GPS Bit number	MP		Integer(0..3)	Specifies GPS bit number modulo 4 ~~(20 1023 chip segments)~~
>Code Phase Search Window	MP		Integer(1023,1,2,3,4,6,8,12,16,24,32,4	~~Specifies the width of the search window.~~ Expected code-phase is in the

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
			8,64,96,128, 192)	range "Code Phase – Code Phase Search Window" to "Code Phase + Code Phase Search Window".
>Azimuth and Elevation	OP			
>>Azimuth	MP		Real(0..348. 75 by step of 11.25)	Degrees An angle of x degrees means the satellite azimuth a is in the range x ≤ a < x+11.25 degrees.
>>Elevation	MP		Real(0..78.7 5 by step of 11.25)	Degrees An angle of y degrees means the satellite elevation e is in the range y ≤ e < y+11.25 degrees except for y=78.75 where the range is extended to include 90 degrees.

10.3.7.93 UE positioning GPS measured results

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
CHOICE *Reference Time*	MP			
>UTRAN reference time				
>>UE GPS timing of cell frames	MP		Integer(0.. 3715891199 9999	GPS Time of Week in units of 1/16th UMTS chips according to [19]. 33209832177664 spare values are needed.
>>CHOICE *mode*	MP			
>>>FDD				
>>>>Primary CPICH Info	MP		Primary CPICH Info 10.3.6.60	Identifies the reference cell for the GPS TOW-SFN relationship.
>>>TDD				
>>>>cell parameters id	MP		Cell parameters id 10.3.6.9	Identifies the reference cell for the GPS TOW-SFN relationship.
>>Reference SFN	MP		Integer(0..40 95)	The SFN for which the location is valid. This IE indicates the SFN at which the UE timing of cell frames is captured.
>GPS reference time only				
>>GPS TOW msec	MP		Integer(0..6. 048*10^8-1)	GPS Time of Week in milliseconds (rounded down to the nearest millisecond unit). This time is the GPS TOW measured by the UE.
Measurement Parameters	MP	1 to <maxSat>		
>Satellite ID	MP		Enumerated(0..63)	Identifies the satellite and is equal to (SV ID No - 1) where SV ID No is defined in [12].
>C/N_o	MP		Integer(0..63)	the estimate of the carrier-to-noise ratio of the received signal from the particular satellite used in the measurement. It is given in units of dB-Hz (typical levels will be in the range of 20 – 50 dB-Hz).

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
>Doppler	MP		Integer(-32768..32768)	Hz, scale factor 0.2.
>Whole GPS Chips	MP		Integer(0..1022)	Unit in GPS chips. Whole value of the UE GPS code-phase measurement, where increasing binary values of the field signify increasing measured pseudoranges.The UE GPS code-phase measurement is divided into the fields "Whole GPS Chips" and "Fractional GPS Chips".
>Fractional GPS Chips	MP		Integer(0..(2^{10}-1))	Scale factor 2^{-10} Fractional value of the UE GPS code-phase measurement.
>Multipath Indicator	MP		Enumerated(NM, low, medium, high)	Note 1.
>Pseudorange RMS Error	MP		Enumerated(range index 0..range index 63)	Note 2.

NOTE 1: The following table gives the mapping of the multipath indicator field.

Value	Multipath Indication
NM	Not measured
Low	MP error < 5m
Medium	5m < MP error < 43m
High	MP error > 43m

NOTE 2: The following table gives the bitmapping of the Pseudorange RMS Error field.

Range Index	Mantissa	Exponent	Floating-Point value, x_i	Pseudorange value, P
0	000	000	0.5	P < 0.5
1	001	000	0.5625	0.5 <= P < 0.5625
I	X	Y	$0.5 * (1 + x/8) * 2^y$	x_{i-1} <= P < x_i
62	110	111	112	104 <= P < 112
63	111	111	--	112 <= P

3GPP TSG-RAN WG2 Meeting #43 **Tdoc ⌘R2-041747**
Prague, Czech Republic, 16 - 20 August 2004

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **2377** ⌘ **rev** **-** ⌘ Current version: **6.2.0** ⌘

*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:	⌘	Definition of parameters for UE-assisted A-GPS		
Source:	⌘	RAN WG2		
Work item code:	⌘	TEI	***Date:*** ⌘	16/08/2004
Category:	⌘	**A**	***Release:*** ⌘	Rel-6

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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R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*

Reason for change: ⌘

The parameters “code phase”, “code phase search window” and “Doppler uncertainty” are not unambiguously defined in the IE’s “UE positioning GPS acquisition assistance” and “UE positioning GPS measured results”, respectively. In addition, the usage of Azimuth/Elevation parameters in the “UE positioning GPS acquisition assistance” to cover the complete azimuth and elevation ranges of 0-360 and 0-90 degrees, respectively, is not stated.

In GERAN, CR’s A092, A094 and A104 to Release 98 of RRLP specification 04.31 have been aproved to unambiguously define these parameters.

The same definitions of these parameters are proposed in this CR.

Summary of change: ⌘

1.) Code-phase is defined in the sense that increasing values of the code-phase signify increasing measured/predicted pseudoranges.

2.) Uncertainties (for code-phase and Doppler) are defined as single-sided uncertainties, meaning that the expected value is withing +/- the uncertainty value.

3.) The value for Azimuth and Elevation are clarified that an angle of x degrees means that the satellite azimuth/elevation y is in the range $x \leq y < x+11.25$ degrees.

4.) Mapping of “Satellite ID” to “SV No” has also been included in UE positioning GPS measured results.

5.) Unit of Doppler 1st order term included and wrong scaling factor deleted.

		Isolated Impact Analysis Functionality corrected: UP measurements - UE assisted A-GPS Isolated impact statement: Correction to a function where specification was not sufficiently explicit. Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.
Consequences if not approved:	⌘	Different interpretations of the acquisition assistance / UE measurement parameters would be possible which will lead to incompatible UTRAN and UE interworking resulting in an inability to reliably use UE-assisted A-GPS positioning method.

Clauses affected:	⌘	10.3.7.88, 10.3.7.93			
Other specs affected:	⌘	**Y**	**N**		
			X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

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10.3.7.88 UE positioning GPS acquisition assistance

This IE contains parameters that enable fast acquisition of the GPS signals in UE-assisted GPS positioning.

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
GPS TOW msec	MP		Integer(0..6.048*10^8-1)	GPS Time of Week in milliseconds rounded down to the nearest millisecond unit. It is also the time when satellite information is valid.
UTRAN GPS reference time	OP			
>UTRAN GPS timing of cell frames	MP		Integer(0 ... 2322431999999)	GPS timing of cell frames in steps of 1 chip.
>CHOICE *mode*	OP			
>>FDD				
>>>Primary CPICH Info	MP		Primary CPICH Info 10.3.6.60	Identifies the reference cell for the GPS TOW-SFN relationship
>>TDD				
>>>cell parameters id	MP		Cell parameters id 10.3.6.9	Identifies the reference cell for the GPS TOW-SFN relationship
>SFN	MP		Integer(0..4095)	The SFN which the UTRAN GPS timing of cell frames time stamps.
Satellite information	MP	1 to <maxSat>		
>SatID	MP		Integer (0..63)	Identifies the satellite and is equal to (SV ID No - 1) where SV ID No is defined in [12].
>Doppler (0th order term)	MP		Real(-5120..5117.5 by step of 2.5)	Hz
>Extra Doppler	OP			
>>Doppler (1st order term)	MP		Real (-0.966..0.483 by step of 0.023)	Hz/s ~~Scaling factor 1/42~~
>>Doppler Uncertainty	MP		Enumerated (12.5,25,50, 100,200)	Hz. Three spare values are needed. The Doppler experienced by a stationary UE is in the range "Doppler – Doppler Uncertainty" to "Doppler + Doppler Uncertainty".
>Code Phase	MP		Integer(0..1022)	GPS c~~C~~hips~~, specifies the centre of the search window~~ Increasing binary values of the field signify increasing predicted pseudoranges.
>Integer Code Phase	MP		Integer(0..19)	~~1023 chip segments~~ Number of code periods that have elapsed since the latest GPS bit boundary, in units of C/A code period.
>GPS Bit number	MP		Integer(0..3)	Specifies GPS bit number modulo 4 ~~(20 1023 chip segments)~~
>Code Phase Search Window	MP		Integer(1023,1,2,3,4,6,8,12,16,24,32,4	~~Specifies the width of the search window.~~ Expected code-phase is in the

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
			8,64,96,128, 192)	range "Code Phase – Code Phase Search Window" to "Code Phase + Code Phase Search Window".
>Azimuth and Elevation	OP			
>>Azimuth	MP		Real(0..348. 75 by step of 11.25)	Degrees An angle of x degrees means the satellite azimuth a is in the range x ≤ a < x+11.25 degrees.
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10.3.7.93 UE positioning GPS measured results

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
CHOICE *Reference Time*	MP			
>UTRAN reference time				
>>UE GPS timing of cell frames	MP		Integer(0.. 3715891199 9999	GPS Time of Week in units of 1/16th UMTS chips according to [19]. 33209832177664 spare values are needed.
>>CHOICE *mode*	MP			
>>>FDD				
>>>>Primary CPICH Info	MP		Primary CPICH Info 10.3.6.60	Identifies the reference cell for the GPS TOW-SFN relationship.
>>>TDD				
>>>>cell parameters id	MP		Cell parameters id 10.3.6.9	Identifies the reference cell for the GPS TOW-SFN relationship.
>>Reference SFN	MP		Integer(0..40 95)	The SFN for which the location is valid. This IE indicates the SFN at which the UE timing of cell frames is captured.
>GPS reference time only				
>>GPS TOW msec	MP		Integer(0..6. 048*10^8-1)	GPS Time of Week in milliseconds (rounded down to the nearest millisecond unit). This time is the GPS TOW measured by the UE.
Measurement Parameters	MP	1 to <maxSat>		
>Satellite ID	MP		Enumerated(0..63)	Identifies the satellite and is equal to (SV ID No - 1) where SV ID No is defined in [12].
>C/N_o	MP		Integer(0..63)	the estimate of the carrier-to-noise ratio of the received signal from the particular satellite used in the measurement. It is given in units of dB-Hz (typical levels will be in the range of 20 – 50 dB-Hz).

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
>Doppler	MP		Integer(-32768..32768)	Hz, scale factor 0.2.
>Whole GPS Chips	MP		Integer(0..1022)	Unit in GPS chips. Whole value of the UE GPS code-phase measurement, where increasing binary values of the field signify increasing measured pseudoranges.The UE GPS code-phase measurement is divided into the fields "Whole GPS Chips" and "Fractional GPS Chips".
>Fractional GPS Chips	MP		Integer(0..(2^{10}-1))	Scale factor 2^{-10} Fractional value of the UE GPS code-phase measurement.
>Multipath Indicator	MP		Enumerated(NM, low, medium, high)	Note 1.
>Pseudorange RMS Error	MP		Enumerated(range index 0..range index 63)	Note 2.

NOTE 1: The following table gives the mapping of the multipath indicator field.

Value	Multipath Indication
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Range Index	Mantissa	Exponent	Floating-Point value, x_i	Pseudorange value, P
0	000	000	0.5	P < 0.5
1	001	000	0.5625	0.5 <= P < 0.5625
I	X	Y	$0.5 * (1 + x/8) * 2^y$	x_{i-1} <= P < x_i
62	110	111	112	104 <= P < 112
63	111	111	--	112 <= P

3GPP TSG-RAN WG2 Meeting #43 **Tdoc ⌘R2-041741**
Prague, Czech Republic, 16 - 20 August 2004

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **2371** ⌘ **rev** **-** ⌘ Current version: **4.14.0** ⌘

*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:	⌘	TDD misalignment between tabular and ASN.1 definitions of UL Transport channel information common for all transport channels and special burst scheduling.
Source:	⌘	RAN WG2
Work item code:	⌘	TEI
Date:	⌘	16th August 2004
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: ⌘ The tabular definition of the Individual UL CCTrCH information, in UL Transport channel information common for all transport channels (Section 10.3.5.24), indicates that the TFC subset is MD (Mandatory Default) whereas its presence is mandatory in the ASN.1 definition of Section 11.3:

```
IndividualUL-CCTrCH-Info ::=        SEQUENCE {
    ul-TFCS-Identity                    TFCS-Identity,
    ul-TFCS                             TFCS,
    tfc-Subset                          TFC-Subset
}
```

The tabular definition of special burst scheduling (Section 10.3.6.75a) specifies integer (2,4,8,16,32,64,128,256) representing the number of radio frames between special bursts during DTX whereas the ASN specifies integer (0..7). It is proposed to update the tabular and the ASN.1with a note describing the meaning of the signalled values.

The alternative correction, changing the ASN.1 definition (Section 11.3) to align with the tabular definition (Section 10.3.5.24 and 10.3.6.75a), is not proposed since it is assumed that most implementations follow the ASN.1 definition.

Summary of change: ⌘ The definition of Individual UL CCTrCH information in Section 10.3.5.24 is changed to indicate that the TFC subset is MP (Mandatory Present) so that the tabular definition is aligned with the ASN.1 definition.
For Special Burst Scheduling the type values are corrected to match the ASN and a note is added to define the period for each signalled value.

Isolated Impact Analysis:
The changes impact TDD only. UE and RAN implementations are only impacted

		if the tabular definition (Section 10.3.5.24 and 10.3.6.75a) has been followed instead of the ASN.1 definition (Section 11.3).
Consequences if not approved:	⌘	-For TDD, the tabular definition of the Individual UL CCTrCH information and special burst scheduling will not be aligned with the ASN.1 definition and this may result in incorrect implementation.

Clauses affected:	⌘	10.3.5.24, 10.3.6.75a, 11.3			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

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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

---------- 1st Change ----------

10.3.5.24 UL Transport channel information common for all transport channels

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
PRACH TFCS	OP		Transport format combination set 10.3.5.20	This IE should not be included in this version of the protocol.	
CHOICE *mode*	OP				
>FDD					
>>TFC subset	MD		Transport Format Combination Subset 10.3.5.22	Default value is the complete existing set of transport format combinations	
>>UL DCH TFCS	MP		Transport formation combination set 10.3.5.20		
>TDD					
>>Individual UL CCTrCH information	OP	1 to <maxCCTrCH>			
>>>UL TFCS Identity	MP		Transport format combination set identity 10.3.5.21	Identifies a special CCTrCH for shared or dedicated channels.	
>>>UL TFCS	MP		Transport format combination set 10.3.5.20		
>>>TFC subset	MD		Transport Format Combination Subset 10.3.5.22	Default value is the complete existing set of transport format combinations	
TFC subset list	OP	1 to <maxTFCsub>			REL-4
>CHOICE *mode*	MP				REL-4
>>FDD				(no data)	REL-4
>>TDD					REL-4
>>>TFCS Id	OP		Transport Format Combination Set Identity 10.3.5.21		REL-4
>TFC subset	MD~~P~~		Transport Format Combination Subset 10.3.5.22		REL-4

NOTE: This information element is included within IE "Predefined TrCh configuration".

---------- 2nd Change ----------

10.3.6.75a Special Burst Scheduling

NOTE: Only for TDD.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Special Burst Generation Period	MP		Integer (0..7~~2, 4, 8, 16, 32, 64, 128, 256~~)	Value represents number of ~~in~~ radio frames 0 = 2 frames, 1 = 4 frames, 2 = 8 frames, 3 = 16 frames, 4 = 32 frames, 5 = 64 frames, 6 = 128 frames, 7 =256 frames

---------- 3rd Change ----------

```
-- SF512-AndPilot encodes both "Spreading factor" and "Number of bits for Pilot bits"
SF512-AndPilot ::=                  CHOICE {
    sfd4                                NULL,
    sfd8                                NULL,
    sfd16                               NULL,
    sfd32                               NULL,
    sfd64                               NULL,
    sfd128                              PilotBits128,
    sfd256                              PilotBits256,
    sfd512                              NULL
}
SF-PDSCH ::=                        ENUMERATED {
                                        sfp4, sfp8, sfp16, sfp32,
                                        sfp64, sfp128, sfp256 }

SF-PRACH ::=                        ENUMERATED {
                                        sfpr32, sfpr64, sfpr128, sfpr256 }

SFN-TimeInfo ::=                    SEQUENCE {
    activationTimeSFN                   INTEGER (0..4095),
    physChDuration                  DurationTimeInfo
}

-- actual scheduling value = 2^(signalled value +1) and is the periodicity of sending special burst frames

SpecialBurstScheduling ::=              INTEGER (0..7)

SpreadingFactor::=                  ENUMERATED {
                                        sf4, sf8, sf16, sf32,
                                        sf64, sf128, sf256 }

SRB-delay ::=                       INTEGER (0..7)

SSDT-CellIdentity ::=               ENUMERATED {
                                        ssdt-id-a, ssdt-id-b, ssdt-id-c,
                                        ssdt-id-d, ssdt-id-e, ssdt-id-f,
                                        ssdt-id-g, ssdt-id-h }

SSDT-Information ::=                SEQUENCE {
    s-Field                             S-Field,
    codeWordSet                         CodeWordSet
}

SSDT-Information-r4 ::=             SEQUENCE {
    s-Field                             S-Field,
    codeWordSet                         CodeWordSet,
    ssdt-UL-r4                          SSDT-UL                                 OPTIONAL
}

SSDT-UL ::=                         ENUMERATED {
                                        ul, ul-AndDL }

SynchronisationParameters-r4 ::=    SEQUENCE {
    sync-UL-CodesBitmap                 BIT STRING {
                                            code7(0),
                                            code6(1),
                                            code5(2),
```

```
                                        code4(3),
                                        code3(4),
                                        code2(5),
                                        code1(6),
                                        code0(7)
                                        } (SIZE (8)),
    fpach-Info                          FPACH-Info-r4,
    -- Actual value prxUpPCHdes = IE value – 120
    prxUpPCHdes                         INTEGER (0..62),
    sync-UL-Procedure                   SYNC-UL-Procedure-r4                    OPTIONAL
}

SYNC-UL-Procedure-r4 ::=            SEQUENCE {
    max-SYNC-UL-Transmissions           ENUMERATED { tr1, tr2, tr4, tr8 },
    powerRampStep                       INTEGER (0..3)
}

SYNC-UL-Info-r4 ::=                 SEQUENCE {
    sync-UL-Codes-Bitmap                BIT STRING {
                                        code7(0),
                                        code6(1),
                                        code5(2),
                                        code4(3),
                                        code3(4),
                                        code2(5),
                                        code1(6),
                                        code0(7)
                                        } ( SIZE (8)),
    -- Actual value prxUpPCHdes = IE value - 120
    prxUpPCHdes                         INTEGER (0..62),
    powerRampStep                       INTEGER (0..3),
    max-SYNC-UL-Transmissions           ENUMERATED { tr1, tr2, tr4, tr8 } ,
    mmax                                INTEGER(1..32)
}

TDD-FPACH-CCode16-r4 ::=            ENUMERATED {
                                        cc16-1, cc16-2, cc16-3, cc16-4,
                                        cc16-5, cc16-6, cc16-7, cc16-8,
                                        cc16-9, cc16-10, cc16-11, cc16-12,
                                        cc16-13, cc16-14, cc16-15, cc16-16 }

TDD-UL-Interference ::=             INTEGER (-110..-52)

TDD-PICH-CCode ::=                  ENUMERATED {
                                        cc16-1, cc16-2, cc16-3, cc16-4,
                                        cc16-5, cc16-6, cc16-7, cc16-8,
                                        cc16-9, cc16-10, cc16-11, cc16-12,
                                        cc16-13, cc16-14, cc16-15, cc16-16 }

TDD-PRACH-CCode8 ::=                ENUMERATED {
                                        cc8-1, cc8-2, cc8-3, cc8-4,
                                        cc8-5, cc8-6, cc8-7, cc8-8 }

TDD-PRACH-CCode16 ::=               ENUMERATED {
                                        cc16-1, cc16-2, cc16-3, cc16-4,
                                        cc16-5, cc16-6, cc16-7, cc16-8,
                                        cc16-9, cc16-10, cc16-11, cc16-12,
                                        cc16-13, cc16-14, cc16-15, cc16-16 }

TDD-PRACH-CCode-LCR-r4 ::=          ENUMERATED {
                                        cc4-1, cc4-2, cc4-3, cc4-4,
                                        cc8-1, cc8-2, cc8-3, cc8-4,
                                        cc8-5, cc8-6, cc8-7, cc8-8,
                                        cc16-1, cc16-2, cc16-3, cc16-4,
                                        cc16-5, cc16-6, cc16-7, cc16-8,
                                        cc16-9, cc16-10, cc16-11, cc16-12,
                                        cc16-13, cc16-14, cc16-15, cc16-16 }

TDD-PRACH-CCodeList ::=             CHOICE {
    sf8                                 SEQUENCE (SIZE (1..8)) OF
                                            TDD-PRACH-CCode8,
-- Channelisation codes cc16-9, cc16-10, cc16-11, cc16-12, cc16-13, cc16-14,
-- cc16-15 and cc16-16 shall not be used
    sf16                                SEQUENCE (SIZE (1..8)) OF
                                            TDD-PRACH-CCode16
}
```

---------- End of Changes ----------