Source: **T1**

Title: **CRs to TS 34.123-3 v.3.8.0 (Prose part not Annex A) for approval**

Agenda item: **6.1.3**

Document for: **Approval**

This document contains the CRs to TS 34.123-3 v.3.8.0. These CRs have been agreed by T1 and are put forward to TSG T for approval.

Doc-2nd-Level	*CR*	*Rev*	*Phase*	*Subject*	*Cat*	*Version-Current*	*Version-New*
T1-050201r3	1263	-	Rel-5	Corrections Required for "Combinations on SCCPCH" configurations.	F	3.8.0	5.0.0
T1-050036	1264	-	Rel-5	Introduce ASP for HSDPA	B	3.8.0	5.0.0
T1-050037	1265	-	Rel-5	Introduce ASP for LCR TDD	B	3.8.0	5.0.0
T1-050250	1266	-	Rel-5	Replacement of 34.123-3 Release 99 by a pointer to the newly created Release 5 version	F	3.8.0	5.0.0
T1-050282	1267	-	Rel-5	Corrections of encoding rules and postambles	F	3.8.0	5.0.0
T1-050284	1268	-	Rel-5	Introduce ASP for A-GPS	B	3.8.0	5.0.0

3GPP TSG-T WG1 Meeting #26
Bangalore, India, 31 Jan - 04 Feb 2005

Tdoc ⌘T1-050201r3

CR-Form-v7.1

CHANGE REQUEST

⌘ **34.123-3** **CR** **1263** ⌘ **rev** **-** ⌘ Current version: **5.10.0** ⌘

*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 ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Corrections Required for "Combinations on SCCPCH" configurations.
Source:	⌘	Rohde & Schwarz
Work item code:	⌘	TEI
Date:	⌘	17/0/2005
Category:	⌘	**F**
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:
Ph2 (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)
Rel-7 (Release 7)

Reason for change: ⌘ The AM Mode is always bidirectional, even if there is only DL data to be sent, UE needs the UL to send the AM Status PDUs. DL only for any AM entity is inconsistent with the RLC spec.

The RAB test case 14.4.2.2 is based on the configuration Cell_FACH_3_SCCPCH_4_FACH_Cnfg1 and Cell_FACH_3_SCCPCH_4_FACH_Cnfg2 (8.3.23 and 8.3.24 in TS 34.123-3) which currently configures RB 22 AM RAB for DL only. This RAB is not used to test the pupose of this testcase and therefore we propose to remove the RLC mapping information.

The RAB test case 14.4.2a.2 is based on the configuration Cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1 and Cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg2 (8.3.29 & 8.3.30 in TS 34.123-3)) which currently configures RB 22 & RB 23 AM RAB for DL only These RABs are not used to test the pupose of this testcase and therefore we propose to remove the RLC mapping information.

Summary of change: ⌘ Since there are no equivalent (UL) RACH Configuration to support these additional Radion Beareres in TS 34.108 Section 6.10 we would like to propose to remove the **RLC Configuration and keep the Transport Channel Type.**

- Removed RB22 from Configuration of Cell_FACH_3_SCCPCH_4_FACH_Cnfg1 & Cell_FACH_3_SCCPCH_4_FACH_Cnfg2 (8.3.23 and 8.3.24 in TS 34.123-3).
- Removed RB22 and RB23 from Configuration of Cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1 &

		Cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg2 (8.3.29 & 8.3.30 in TS 34.123-3).
Consequences if not approved:	⌘	Inconsistency with the RLC spec.

Clauses affected:	⌘	8.3.23, 8.3.24, 8.3.29 & 8.3.30			
Other specs affected:	⌘	**Y**	**N**	Other core specifications	⌘
				Test specifications	
				O&M Specifications	
Other comments:	⌘	TC affected 14.4.2.2 and 14.4.2a.2. TTCN changes required.			

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.

8.3.23 Configuration of Cell_FACH_3_SCCPCH_4_FACH_Cnfg1

The configuration is based on 3GPP TS 34.108 [**Error! Reference source not found.**], clause 6.10.2.4.3.2 for downlink and 3GPP TS 34.108 [**Error! Reference source not found.**], clause 6.10.2.4.4.1.1.1 for uplink. The configuration is applied to the RAB tests.

The uplink configuration of Cell_FACH_3_SCCPCH_4_FACH Cnfg1 is the same as the uplink configuration of Cell_FACH.

Table 1: Downlink configuration of Cell_FACH_3_SCCPCH_4_FACH_Cnfg1: 1st & 2nd S-CCPCH

RB Identity	~~tsc_RB22 (22)~~	tsc_RB0 (0)	tsc_RB_BCCH_FACH (-3)	tsc_RB_PCCH (-2)
LogCh Type	~~DTCH~~	CCCH	BCCH	PCCH
LogCh Identity	~~tsc_DL_DTCH1 (7)~~	tsc_DL_CCCH 5 (5)	tsc_BCCH6 (6)	tsc_PCCH1 (1)
RLC mode	~~AM~~	UM	TM	TM
MAC priority	~~1~~	1	6	1
TrCH Type	FACH	FACH		PCH
TrCH identity	tsc_FACH2 (14)	tsc_FACH1 (13)		tsc_PCH1 (12)
PhyCh Type	Secondary CCPCH			Secondary CCPCH
PhyCH identity	tsc_S_CCPCH2 (10)			tsc_S_CCPCH1 (5)

Table 2: Downlink configuration of Cell_FACH_3_SCCPCH_4_FACH_Cnfg1: 3rd S-CCPCH

RB Identity	tsc_RB20 (20)	tsc_RB29 (29)	tsc_RB1 (1)	tsc_RB2 (2)	tsc_RB3 (3)	tsc_RB4 (4)	tsc_RB_BCCH_FACH_RAB (-19)
LogCh Type	DTCH	CCCH	DCCH	DCCH	DCCH	DCCH	BCCH
LogCh Identity	tsc_DL_DTCH1 (7)	tsc_DL_CCCH6 (6)	tsc_DL_DCCH1 (1)	tsc_DL_DCCH2 (2)	tsc_DL_DCCH3 (3)	tsc_DL_DCCH4 (4)	tsc_BCCH7 (7)
RLC mode	AM	UM	UM	AM	AM	AM	TM
MAC priority	1	1	2	3	4	5	6
TrCH Type	FACH	FACH					
TrCH identity	tsc_FACH4 (17)	tsc_FACH3 (16)					
PhyCh Type	Secondary CCPCH						
PhyCH identity	tsc_S_CCPCH3 (13)						

8.3.24 Configuration of Cell_FACH_3_SCCPCH_4_FACH_Cnfg2

The configuration is based on 3GPP TS 34.108 [**Error! Reference source not found.**], clause 6.10.2.4.3.2 for downlink and 3GPP TS 34.108 [**Error! Reference source not found.**], clause 6.10.2.4.4.1.1.1 for uplink. The configuration is applied to the RAB tests.

The uplink configuration of Cell_FACH_3_SCCPCH_4_FACH Cnfg2 is the same as the uplink configuration of Cell_FACH.

Table 3: Downlink configuration of Cell_FACH_3_SCCPCH_4_FACH_Cnfg2: 2nd S-CCPCH

RB Identity	tsc_RB20 (20)	tsc_RB29 (29)	tsc_RB1 (1)	tsc_RB2 (2)	tsc_RB3 (3)	tsc_RB4 (4)	tsc_RB_BCCH_FACH_RAB (-19)
LogCh Type	DTCH	CCCH	DCCH	DCCH	DCCH	DCCH	BCCH
LogCh Identity	tsc_DL_DTCH1 (7)	tsc_DL_CCCH6 (6)	tsc_DL_DCCH1 (1)	tsc_DL_DCCH2 (2)	tsc_DL_DCCH3 (3)	tsc_DL_DCCH4 (4)	tsc_BCCH7 (7)
RLC mode	AM	UM	UM	AM	AM	AM	TM
MAC priority	1	1	2	3	4	5	6
TrCH Type	FACH	FACH					
TrCH identity	tsc_FACH2 (14)	tsc_FACH1 (13)					
PhyCh Type	Secondary CCPCH						
PhyCH identity	tsc_S_CCPCH2 (10)						

Table 4: Downlink configuration of Cell_FACH_3_SCCPCH_4_FACH_Cnfg2: 1st & 3rd S-CCPCH

RB Identity	~~tsc_RB22 (22)~~	tsc_RB0 (0)	tsc_RB_BCCH_FACH (-3)	tsc_RB_PCCH (-2)
LogCh Type	~~DTCH~~	CCCH	BCCH	PCCH
LogCh Identity	~~tsc_DL_DTCH1 (7)~~	tsc_DL_CCCH5 (5)	tsc_BCCH6 (6)	tsc_PCCH1 (1)
RLC mode	~~AM~~	UM	TM	TM
MAC priority	~~1~~	1	6	1
TrCH Type	FACH	FACH		PCH
TrCH identity	tsc_FACH4 (17)	tsc_FACH3 (16)		tsc_PCH1 (12)
PhyCh Type	Secondary CCPCH			Secondary CCPCH
PhyCH identity	tsc_S_CCPCH3 (13)			tsc_S_CCPCH1 (5)

8.3.29 Configuration of Cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1

The configuration is based on 3GPP TS 34.108 [**Error! Reference source not found.**], clause 6.10.2.4.3.2a for downlink and 3GPP TS 34.108 [**Error! Reference source not found.**], clause 6.10.2.4.4.2 for uplink. The configuration is applied to the RAB tests.

The uplink configuration of Cell_FACH_3_SCCPCH_4_FACH Cnfg1 is the same as the uplink configuration of Cell_FACH_2_SCCPCH_StandAlonePCH_2a.

Table 5: Downlink configuration of Cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1: 1st & 2nd S-CCPCH

RB Identity	~~tsc_RB23 (23)~~	~~tsc_RB22 (22)~~	tsc_RB0 (0)	tsc_RB_BCCH_FACH (-3)	tsc_RB_PCCH (-2)
LogCh Type	~~DTCH~~	~~DTCH~~	CCCH	BCCH	PCCH
LogCh Identity	~~tsc_DL_DTCH3 (9)~~	~~tsc_DL_DTCH2 (8)~~	tsc_DL_CCCH5 (5)	tsc_BCCH6 (6)	tsc_PCCH1 (1)
RLC mode	~~AM~~	~~AM~~	UM	TM	TM
MAC priority	~~1~~	~~1~~	1	6	1
TrCH Type	FACH	FACH	FACH		PCH
TrCH identity	tsc_FACH2 (14)		tsc_FACH1 (13)		tsc_PCH1 (12)
PhyCh Type	Secondary CCPCH				Secondary CCPCH
PhyCH identity	tsc_S_CCPCH2 (10)				tsc_S_CCPCH1 (5)

Table 6: Downlink configuration of Cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg1: 3rd S-CCPCH

RB Identity	tsc_RB24 (24)	tsc_RB20 (20)	tsc_RB29 (29)	tsc_RB1 (1)	tsc_RB2 (2)	tsc_RB3 (3)	tsc_RB4 (4)	tsc_RB_BCCH_FACH_RAB (-19)
LogCh Type	DTCH	DTCH	CCCH	DCCH	DCCH	DCCH	DCCH	BCCH
LogCh Identity	tsc_DL_DTCH4 (10)	tsc_DL_DTCH1 (7)	tsc_DL_CCCH6 (6)	tsc_DL_DCCH1 (1)	tsc_DL_DCCH2 (2)	tsc_DL_DCCH3 (3)	tsc_DL_DCCH4 (4)	tsc_BCCH7 (7)
RLC mode	AM	AM	UM	UM	AM	AM	AM	TM
MAC priority	1	1	1	2	3	4	5	6
TrCH Type	FACH		FACH					
TrCH identity	tsc_FACH4 (17)		tsc_FACH3 (16)					
PhyCh Type	Secondary CCPCH							
PhyCH identity	tsc_S_CCPCH3 (13)							

8.3.30 Configuration of Cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg2

The configuration is based on 3GPP TS 34.108 [**Error! Reference source not found.**], clause 6.10.2.4.3.2a for downlink and 3GPP TS 34.108 [**Error! Reference source not found.**], clause 6.10.2.4.4.2 for uplink. The configuration is applied to the RAB tests.

The uplink configuration of Cell_FACH_3_SCCPCH_4_FACH Cnfg2 is the same as the uplink configuration of Cell_FACH_2_SCCPCH_StandAlonePCH_2a.

Table 7: Downlink configuration of Cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg2: 2nd S-CCPCH

RB Identity	tsc_RB21 (24)	tsc_RB20 (20)	tsc_RB29 (29)	tsc_RB1 (1)	tsc_RB2 (2)	tsc_RB3 (3)	tsc_RB4 (4)	tsc_RB_BCCH_FACH_RAB (-19)
LogCh Type	DTCH	DTCH	CCCH	DCCH	DCCH	DCCH	DCCH	BCCH
LogCh Identity	tsc_DL_DTCH2 (10)	tsc_DL_DTCH1 (7)	tsc_DL_CCCH6 (6)	tsc_DL_DCCH1 (1)	tsc_DL_DCCH2 (2)	tsc_DL_DCCH3 (3)	tsc_DL_DCCH4 (4)	tsc_BCCH7 (7)
RLC mode	AM	AM	UM	UM	AM	AM	AM	TM
MAC priority	1	1	1	2	3	4	5	6
TrCH Type	FACH	FACH	FACH					
TrCH identity	tsc_FACH2 (14)		tsc_FACH1 (13)					
PhyCh Type	Secondary CCPCH							
PhyCH identity	tsc_S_CCPCH2 (10)							

Table 8: Downlink configuration of Cell_FACH_3_SCCPCH_4_FACH_2a_Cnfg2: 1st & 3rd S-CCPCH

RB Identity	~~tsc_RB23 (23)~~	~~tsc_RB22 (22)~~	tsc_RB0 (0)	tsc_RB_BCCH_FACH (-3)	tsc_RB_PCCH (-2)
LogCh Type	~~DTCH~~	~~DTCH~~	CCCH	BCCH	PCCH
LogCh Identity	~~tsc_DL_DTCH3 (9)~~	~~tsc_DL_DTCH2 (8)~~	tsc_DL_CCCH5 (5)	tsc_BCCH6 (6)	tsc_PCCH1 (1)
RLC mode	~~AM~~	~~AM~~	UM	TM	TM
MAC priority	~~1~~	~~1~~	1	6	1
TrCH Type	FACH	FACH	FACH		PCH
TrCH identity	tsc_FACH4 (17)		tsc_FACH3 (16)		tsc_PCH1 (12)
PhyCh Type	Secondary CCPCH				Secondary CCPCH
PhyCH identity	tsc_S_CCPCH3 (13)				tsc_S_CCPCH1 (5)

3GPP TSG-T WG1 Meeting #26
Bangalore, 31st Jan – 4th Feb 2005

T1-050036*(rev.T1-041516)*

CR-Form-v7

CHANGE REQUEST

⌘ **34.123-3** **CR** **1264** ⌘ **rev** **-** ⌘ Current version: **3.8.0** ⌘

*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:	⌘	Introduce ASP for HSDPA
Source:	⌘	MCC task 160
Work item code:	⌘	TEI
Date:	⌘	13/01/2005
Category:	⌘	**B**
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:	⌘	New ASPs for HSDPA are required, in order to progress GCF WI-14.
Summary of change:	⌘	1. Introduce a TTCN test model for the ASP definitions in clause 6.12 2. Extend the CPHY_RL_Setup, CPHY_RL_Modify, CMAC_Config definitions for HS-DPCCH and HS-PDCCH. Introduce new ASP CPHY_HS_DPCCH_AckNack, CPHY_HS_DPCCH_DPCCH_CQI, CPHY_HS_DSCH_CRC_Mode, CMAC_MACXhs_TFRCconfire. Extend CRLC_Config to include rel-5 IE 3. New design considerations for HSDPA tests are updated.
Consequences if not approved:	⌘	GCF WI-14 would not be implementable

Clauses affected:	⌘	6.12, 7.3.2.2.9, 7.3.2.2.11, 7.3.2.2.12A, 7.3.2.2.12B, 7.3.2.2.12C, 7.3.2.2.17, 7.3.2.2.17A, 7.3.2.2.24, 8.1, 8.2, 8.2.1, 8.2.2, 8.2.4, 8.2.5, 8.3.32, 8.3.33, 8.12

	Y	N		
Other specs affected: ⌘		X	Other core specifications	⌘
		X	Test specifications	
		X	O&M Specifications	

Other comments:	⌘

6.12 DCH with HS-DSCH model (FDD, later than r4)

The test model illustrates the relationship between various channels from logical channels to physical channels. All DCH are associated with a single HS-DSCH.

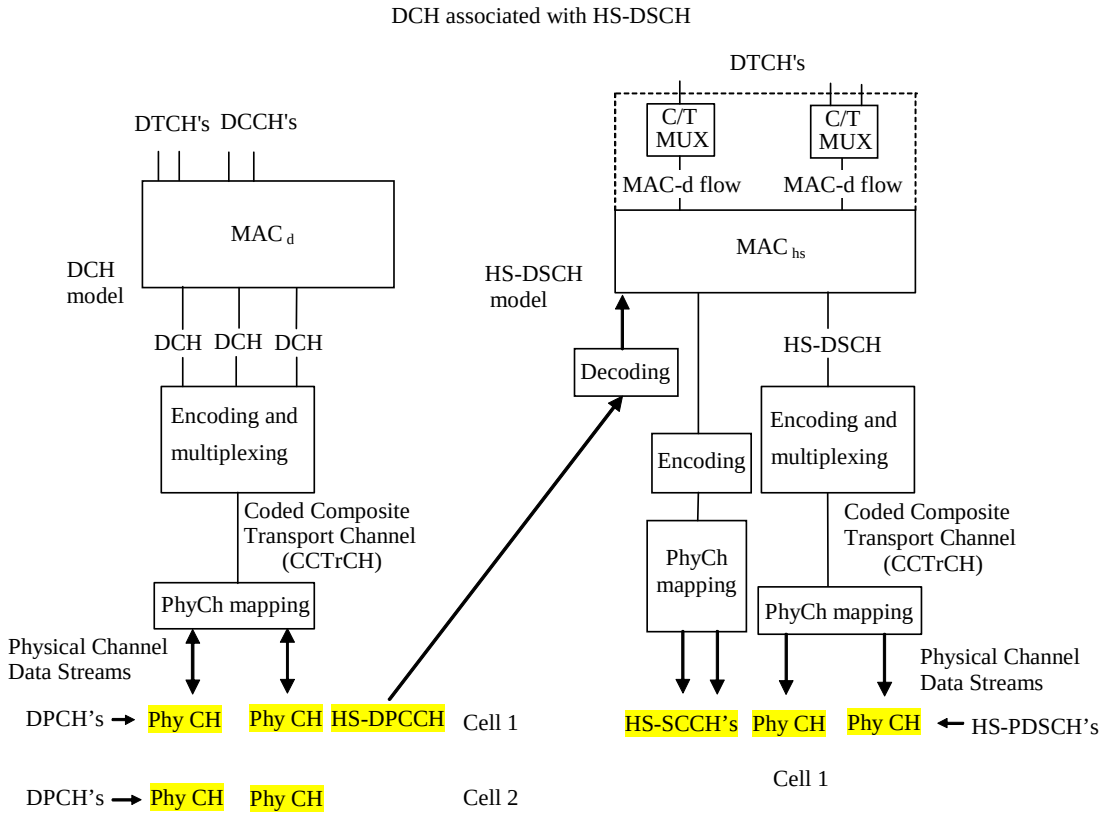


Figure 17: Associated DCH with HS-DSCH model

Associating DCH with HS-DSCH, the model enables in the SS:

- to define MAC-hs and multiplexing of logical channels DTCHs onto MAC-d flows;
- to configure HS-DSCH transport channel and MAC-d flows;
- to configure HS-PDSCHs and HS-SCCHs;
- to define the H-RNTI value.

7.3.2.2.9 CPHY_RL_Modify

ASN.1 ASP Type Definition	
Type Name	CPHY_RL_Modify_CNF
PCO Type	CSAP
Comment	To confirm to modify the Radio Link
Type Definition	

```
SEQUENCE    {
            cellId                  INTEGER(0..63),
            routingInfo             RoutingInfo
}
```

ASN.1 ASP Type Definition	
Type Name	CPHY_RL_Modify_REQ
PCO Type	CSAP
Comment	To request to modify the Radio Link HardHandover (PhysicalChannelReconfig) ChannelizationCodeChange FrequencyChange PhysicalChannelModifyForTrCHReconfig CompressedMode(PhysicalChannelReconfig) Re_Synchronized HardHandover Softhandover

Type Definition

```
SEQUENCE        {
                cellId                  INTEGER(0..63),
                routingInfo             RoutingInfo,
                ratType                 RatType,
                modifyMessage           CphyRlModifyReq
}
```

ASN.1 Type Definition	
Type Name	CphyRlModifyReq
Comment	

Type Definition

```
SEQUENCE    {
        activationTime                  SS_ActivationTime,
        physicalChannelInfo
            CHOICE {
            dpch_CompressedModeStatusInfo       Dpch_CompressedModeStatusInfo,
                secondaryCCPCHInfo          SecondaryCCPCHInfo,
                pRACHInfo                   PRACHInfo,
                dPCHInfo                    DPCHInfo,
                dPCHInfo_r5                 DPCHInfo_r5,    -- later than r4
                hS_PDSCHInfo                HS_PDSCHInfo    -- later than r4
        },
        trchConfigToFollow              BOOLEAN             DEFAULT TRUE

}
```

ASN.1 Type Definition	
Type Name	SS_ActivationTime
Comment	

Type Definition

```
CHOICE {
        activationCFN                   ActivationTime,
        activateNow                     NULL
}
```

7.3.2.2.11 CPHY_RL_Setup

ASN.1 ASP Type Definition	
Type Name	CPHY_RL_Setup_CNF
PCO Type	CSAP
Comment	To confirm to setup the Radio Link

Type Definition

```
SEQUENCE    {
            cellId                  INTEGER(0..63),
            routingInfo             RoutingInfo
}
```

ASN.1 ASP Type Definition	
Type Name	CPHY_RL_Setup_REQ
PCO Type	CSAP
Comment	To request to setup the associated transport channels and the Radio Link itself.

Type Definition

```
SEQUENCE     {
            cellId                      INTEGER(0..63),
            routingInfo                 RoutingInfo,
            ratType                     RatType,
            setupMessage                CphyRlSetupReq
}
```

ASN.1 Type Definition	
Type Name	CphyRlSetupReq
Comment	To request to setup the Radio Link

Type Definition

```
SEQUENCE    {
        physicalChannelInfo         CHOICE      {
            primaryCPICHInfo            PrimaryCPICHInfo,
            secondaryCPICHInfo          SecondaryCPICHInfo,
            primarySCHInfo              PrimarySCHInfo,
            secondarySCHInfo            SecondarySCHInfo,
            primaryCCPCHInfo            PrimaryCCPCHInfo,
            secondaryCCPCHInfo          SecondaryCCPCHInfo,
            pRACHInfo                   PRACHInfo,
            pICHInfo                    PICHInfo,
            aICHInfo                    AICHInfo,
            dPCHInfo                    DPCHInfo,
        --  pCPCHInfo                   PCPCHInfo,
        --  aP_ICHInfo                  AP_AICHInfo,
        --  cD_ICHInfo                  CD_ICHInfo,
        --  cD_CA_ichInfo               CD_CA_ICHInfo,
        --  cSICHInfo                   CSICHInfo,
            pDSCHInfo                   PDSCHInfo,
            dPCHInfo_r5                 DPCHInfo_r5,    -- later than r4
            hS_PDSCHInfo                HS_PDSCHInfo    -- later than r4
        --  pUSCHInfo                   PUSCHinfo
    }
}
```

ASN.1 Type Definition	
Type Name	PrimaryCPICHInfo
Comment	

Type Definition

```
SEQUENCE    {
            dl_TxPower_PCPICH           DL_TxPower_PCPICH,
            tx_diversityIndicator       BOOLEAN
}
```

ASN.1 Type Definition	
Type Name	SecondaryCPICHInfo
Comment	

Type Definition

```
SEQUENCE {
            scramblingCode              INTEGER(0..15),
            dl_ChannelizationCode       SF512_AndCodeNumber,
            dl_TxPower                  DL_TxPower
}
```

ASN.1 Type Definition	
Type Name	PrimarySCHInfo
Comment	

Type Definition

```
SEQUENCE {
            tstdIndicator               BOOLEAN,
            dl_TxPower                  DL_TxPower
}
```

ASN.1 Type Definition	
Type Name	SecondarySCHInfo
Comment	

Type Definition

```
SEQUENCE    {
            tstdIndicator               BOOLEAN,
            dl_TxPower                  DL_TxPower
}
```

ASN.1 Type Definition	
Type Name	PrimaryCCPCHInfo
Comment	

Type Definition

```
SEQUENCE    {
            sttd_Indicator              BOOLEAN,
            dl_TxPower                  DL_TxPower
            -- timeSlot                 TimeSlot                OPTIONAL,
            -- burstType                BurstType               OPTIONAL,
            -- offset                   Offset                  OPTIONAL,
            --  repetitionPeriod        RepetitionPeriod        OPTIONAL,
            --  repetitionLength        RepetitionLength        OPTIONAL,
}
```

ASN.1 Type Definition	
Type Name	SecondaryCCPCHInfo
Comment	The range for powerOffsetOfTFCI_PO1 and powerOffsetOfPILOT_PO3 is 0-6 dB, 0.25 dB per step.

Type Definition

```
SEQUENCE {
            scramblingCode              INTEGER(0..15),
            dl_ChannelizationCode       SF256_AndCodeNumber,
            sCCPCHSlotFormat            SCCPCHSlotFormat,
            timingOffset                INTEGER (0..149),
            positionFixedOrFlexible     PositionFixedOrFlexible,
            sttd_Indicator              BOOLEAN,
            dl_TxPower                  DL_TxPower,
            powerOffsetOfTFCI_PO1       INTEGER (0..24),
            powerOffsetOfPILOT_PO3      INTEGER (0..24)
            -- timeSlot                 TimeSlot                OPTIONAL,
            -- burstType                BurstType               OPTIONAL,
            -- midambleShift            MidambleShift           OPTIONAL,
            -- offset                   Offset                  OPTIONAL,
            -- repetitionPeriod         RepetitionPeriod        OPTIONAL,
            -- repetitionLength         RepetitionLength        OPTIONAL,
            -- tFCIPresence             TFCIPresence            OPTIONAL,
}
```

ASN.1 Type Definition	
Type Name	PRACHInfo
Comment	

Type Definition

```
SEQUENCE {
            fdd_tdd                 CHOICE  {
            fdd
                SEQUENCE    {
                    preambleSignature               AvailableSignatures,
                    spreadingFactorForDataPart      SF_PRACH,
                    preambleScramblingCode          PreambleScramblingCodeWordNumber,
                    puncturingLimit                 PuncturingLimit,
                    accessSlot                      AvailableSubChannelNumbers
                },
            tdd
                SEQUENCE    {
                    -- timeSlot                    TimeSlot,
                    -- spreadingCode               SpreadingCode,
                    -- midambleCode                MidambleCode,
                }
            }
}
```

ASN.1 Type Definition	
Type Name	PICHInfo
Comment	

Type Definition

```
SEQUENCE    {
            pichinfo                    PICH_Info,
            dl_TxPower                  PICH_PowerOffset,
            sccpchId_associated         INTEGER (0..31)
}
```

ASN.1 Type Definition	
Type Name	AICHInfo
Comment	

Type Definition

```
SEQUENCE    {
            aichinfo                    AICH_Info,
            dl_TxPower                  AICH_PowerOffset
}
```

ASN.1 Type Definition	
Type Name	DPCHInfo
Comment	At least one of the fields shall be present.

Type Definition

```
SEQUENCE    {
            ul_DPCH_Info        UL_DPCH_Info    OPTIONAL,
            dl_DPCHInfo         DL_DPCHInfo     OPTIONAL
}
```

ASN.1 Type Definition	
Type Name	DL_DPCHInfo
Comment	The range for powerOffsetOfTPC_PO2 and powerOffsetOfTFCI_PO1 and powerOffsetOfPILOT_PO3 is 0 dB to 6 dB, 0,25 dB per step.

Type Definition

```
SEQUENCE    {
            dl_CommonInformation        DL_CommonInformation,
            dl_DPCH_InfoPerRL           DL_DPCH_InfoPerRL,
            powerOffsetOfTFCI_PO1       INTEGER (0..24),
            powerOffsetOfTPC_PO2        INTEGER (0..24),
            powerOffsetOfPILOT_PO3      INTEGER (0..24),
            dl_TxPower                  DL_TxPower,
            dl_TxPowerMax               DL_TxPower,
            dl_TxPowerMin               DL_TxPower
}
```

ASN.1 Type Definition	
Type Name	DPCHInfo_r5
Comment	Applicable later than r4 At least one of the first two fields shall be present. Presence of hs_DPCCHInd (value = truevalue) means that the HS-DPCCH shall be configured in the uplink DPCH. If hs_DPCCHInd is absent no HS-DPCCH shall be configured in the uplink DPCH, or the configured HS-DPCCH shall be removed in the modify ASP. In the active set which has radio links from more than one cell the HS-DPCCH is configured only in the HS-DSCH serving cell. Three combinations are valid: ul_DPCH_Info only, dl_DPCHInfo only and ul_DPCH_Info + hs_DPCCHInd.

Type Definition

```
SEQUENCE    {
            ul_DPCH_Info        UL_DPCH_Info_r5     OPTIONAL,
            dl_DPCHInfo         DL_DPCHInfo_r5      OPTIONAL,
            hs_DPCCHInd         ENUMERATED {truevalue (0)}  OPTIONAL
}
```

ASN.1 Type Definition	
Type Name	DL_DPCHInfo_r5
Comment	Applicable later than r4
Type Definition	

```
SEQUENCE    {
            dl_CommonInformation        DL_CommonInformation_r5,
            dl_DPCH_InfoPerRL           DL_DPCH_InfoPerRL_r5,
            powerOffsetOfTFCI_PO1       INTEGER (0..24),
            powerOffsetOfTPC_PO2        INTEGER (0..24),
            powerOffsetOfPILOT_PO3      INTEGER (0..24),
            dl_TxPower                  DL_TxPower,
            dl_TxPowerMax               DL_TxPower,
            dl_TxPowerMin               DL_TxPower
}
```

ASN.1 Type Definition	
Type Name	HS_PDSCHInfo
Comment	Applicable later than r4 When CHY_RL_Setup_REQ is called with CHOICE of hS_PDSCHInfo HS_PDSCH and HS-SCCH shall be configured in SS. The following HS-DSCH related parameters are passed to the SS implicitly by HSDSCH_physical_layer_category: - Maximum number of HS-DSCH codes can be received by UE, - Minimum inter-TTI interval, - Maximum number of bits of an HS-DSCH transport block within an HS-DSCH TTI - Total number of soft channel bits". HSDSCH_physical_Layer_category is also used for interpretation of the meaning of CQI value.
Type Definition	

```
SEQUENCE    {
    hSDSCHPhysicalLayerCategory     HSDSCH_physical_layer_category,
    h_RNTI                          H_RNTI,
    dlHSPDSCHInformation            DL_HSPDSCH_Information,
    sttd_Indicator                  BOOLEAN,
    hs_SCCH_TxPower                 DL_TxPower  -- offset related to pilot bits
                                                -- on DL-DPCCH (25.433, 9.2.2.18I)
}
```

ASN.1 Type Definition	
Type Name	DL_TxPower_PCPICH
Comment	Absolute Tx Power of PCPICH
Type Definition	

```
INTEGER (-60..-30)
```

ASN.1 Type Definition	
Type Name	DL_TxPower
Comment	Downlink Tx Power relative to PCPICH
Type Definition	

```
INTEGER (-35..+15)
```

ASN.1 Type Definition	
Type Name	SCCPCHSlotFormat
Comment	Reference to 3GPP TS25.211 [**Error! Reference source not found.**]
Type Definition	

```
INTEGER (0..17)
```

ASN.1 Type Definition	
Type Name	PDSCHInfo
Comment	

Type Definition

```
SEQUENCE {
    fdd_tdd          CHOICE  {
            fdd      SEQUENCE    {
                         pdsch_CodeMapping       PDSCH_CodeMapping
                                 },
            tdd      SEQUENCE    {
                         --pdsch_Identity        PDSCH_Identity,
                         --pdsch_Info            PDSCH_Info,
                         --pdsch_PowerControlInfo    PDSCH_PowerControlInfo  OPTIONAL
                                 },
                     },
    dl_TxPower           DL_TxPower
}
```

7.3.2.2.12 CPHY_Sync

ASN.1 ASP Type Definition	
Type Name	CPHY_Sync_IND
PCO Type	CSAP
Comment	To indicate that physical channel synchronization (in FDD mode, sync with DPCCH) has been achieved.

Type Definition

```
SEQUENCE    {
                cellId                      INTEGER(0..63),
                routingInfo                 RoutingInfo
}
```

7.3.2.2.12A CPHY_HS_DPCCH_AckNack (later than r4)

ASN.1 ASP Type Definition	
Type Name	CPHY_HS_DPCCH_AckNack_CNF
PCO Type	CSAP
Comment	Applicable later than r4 To Confirm CPHY_HS_DPCCH_AckNack_REQ

Type Definition

```
SEQUENCE    {
            cellId              INTEGER(0..63)
}
```

ASN.1 ASP Type Definition	
Type Name	CPHY_HS_DPCCH_AckNack_REQ
PCO Type	CSAP
Comment	Applicable later than r4 To request for start or stop reporting Ack/Nack received on the HS-DPCCH for the HARQ process hARQProcessId. At the initialisation the SS is at the “sTOPRep” state without reporting any Ack/Nack

Type Definition

```
SEQUENCE    {
            cellId                  INTEGER(0..63),
            ratType                 RatType,
            ackNackReportReq        AckNackReportReq,
            hARQProcessId           INTEGER(0..7)
}
```

ASN.1 Type Definition	
Type Name	AckNackReportReq
Comment	Applicable later than r4 startRep : The SS shall start reporting the HARQ-ACK information received on HS-DPCCH by primitive CPHY_HS_DPCCH_AckNack_IND on CPHY PCO. stopRep : The SS shall stop reporting.
Type Definition	

ENUMERATED {
startRep (0),
stopRep (1)
}	

ASN.1 ASP Type Definition	
Type Name	CPHY_HS_DPCCH_AckNack_IND
PCO Type	CSAP
Comment	Applicable later than r4 SS reportes the HARQ-ACK information received on HS_DPCCH, each received Ack/Nack generates a CPHY_HS_DPCCH_AckNack_IND
Type Definition	

SEQUENCE {
cellId INTEGER(0..63),
ratType RatType,
hARQ_ACKInfo ENUMERATED {ack(0), nack (1)},
hARQProcessId INTEGER(0..7)
}	

7.3.2.2.12B CPHY_HS_DPCCH_CQI (later than r4)

ASN.1 ASP Type Definition	
Type Name	CPHY_HS_DPCCH_CQI_CNF
PCO Type	CSAP
Comment	Applicable later than r4 To Confirm CPHY_HS_DPCCH_CQI_REQ
Type Definition	

SEQUENCE {
cellId INTEGER(0..63),
}	

ASN.1 ASP Type Definition	
Type Name	CPHY_HS_DPCCH_CQI_REQ
PCO Type	CSAP
Comment	Applicable later than r4 To enable the SS to start reporting N times of the CQI value received on the HS-DPCCH. After N times the SS stops reporting. N is specified in numberOfReports. At the SS initialisation reporting of CQI values is disabled
Type Definition	

SEQUENCE {
cellId INTEGER(0..63),
ratType RatType,
numberOfReports INTEGER(1..32)
}	

ASN.1 ASP Type Definition	
Type Name	CPHY_HS_DPCCH_CQI_IND
PCO Type	CSAP
Comment	Applicable later than r4 SS generates the indication when a CQI value is received on HS_DPCCH after invocation of ASP CPHY_HS_DPCCH_CQI_REQ and before the numberOfReports is reached. This ASP is used for verifying whether the UE has configured the HS-DSCH and starts reception of HS-DSCH. (TS 25.331 cl.8.6.6.34)

Type Definition

```
SEQUENCE    {
            cellId                      INTEGER(0..63),
            ratType                     RatType,
            cqi                         INTEGER (0..30)
}
```

7.3.2.2.12C CPHY_HS_DSCH_CRC_Mode (later than r4)

ASN.1 ASP Type Definition	
Type Name	CPHY_HS_DSCH_CRC_Mode_CNF
PCO Type	CSAP
Comment	Applicable later than r4 Confirm a previous CPHY_HS_DSCH_CRC_Mode_REQ being successful.

Type Definition

```
SEQUENCE {
        cellId              INTEGER(-1..63),
        routingInfo         RoutingInfo
}
```

ASN.1 ASP Type Definition	
Type Name	CPHY_HS_DSCH_CRC_Mode_REQ
PCO Type	CSAP
Comment	Applicable later than r4 To set the CRC calculation mode for HS-DSCH. If mode = normal, the SS generates the correct CRC. If mode = erroneous, the SS generates any wrong CRC value which is different from the correct one on the specified MACdFlow. As default, the normal mode is applied. When the HS-DSCH first configured or reconfigured the SS enters the normal CRC calculation mode.

Type Definition

```
SEQUENCE    {
            cellId              INTEGER(-1..63) ,
            routingInfo         RoutingInfo,
            mac_dFlowId         MAC_d_FlowIdentity,
            mode                ENUMERATED {normal(0), erroneous(1)}
}
```

7.3.2.2.13 CPHY_TrCH_Config

ASN.1 ASP Type Definition	
Type Name	CPHY_TrCH_Config_CNF
PCO Type	CSAP
Comment	To confirm to configure the transport channel

Type Definition

```
SEQUENCE    {
            cellId                          INTEGER(0..63),
            routingInfo                     RoutingInfo
}
```

ASN.1 ASP Type Definition	
Type Name	CPHY_TrCH_Config_REQ
PCO Type	CSAP
Comment	To request to configure the transport channel

Type Definition

```
SEQUENCE    {
            cellId                          INTEGER(0..63),
            routingInfo                     RoutingInfo,
            ratType                         RatType,
            trchConfigType                  TrchConfigType,
            configMessage                   CphyTrchConfigReq
}
```

ASN.1 Type Definition	
Type Name	CphyTrchConfigReq
Comment	To request to configure the transport channel. The same TFCS information should be provided to the PHY and MAC layers at all times. When a CPHY_TrCH_Config_REQ is used to configure the PHY layer, a corresponding CMAC_Config_REQ should be sent to the MAC layer to ensure that the configuration is consistent. For configuring HS-DSCH transport channel, the ulconnectedTrCHList, ulTFCS, dlconnectedTrCHList and dlTFCS shall be omitted.

Type Definition

```
SEQUENCE    {
        activationTime      SS_ActivationTime,
        ulconnectedTrCHList     SEQUENCE (SIZE (0..maxTrCH)) OF SEQUENCE {
                trchid                  TransportChannelIdentity,
                ul_TransportChannelType SS_UL_TransportChannelType,
                transportChannelInfo    CommonOrDedicatedTFS
                                                                }   OPTIONAL,
        ulTFCS              TFCS    OPTIONAL,
        dlconnectedTrCHList     SEQUENCE (SIZE (0..maxTrCH)) OF SEQUENCE {
                trchid                  TransportChannelIdentity,
                dl_TransportChannelType SS_DL_TransportChannelType,
                transportChannelInfo    CommonOrDedicatedTFS
                                                                }   OPTIONAL,
        dlTFCS              TFCS    OPTIONAL,
        hsDSCHMacdFlows     HS_DSCHMACdFlows    OPTIONAL    -- later than r4
}
```

ASN.1 Type Definition	
Type Name	RoutingInfo
Comment	To route between each channels.

Type Definition

```
CHOICE      {
        physicalChannelIdentity         INTEGER                 {0..31},
        transportChannelIdentity        TransportChannelIdentity,
        logicalChannelIdentity          LogicalChannelIdentity,
        rB_Identity                     INTEGER                 {-31..32},
        cn-DomainIdentity               CN-DomainIdentity
}
```

ASN.1 Type Definition	
Type Name	RatType
Comment	To select route between each channels.

Type Definition

```
ENUMERATED  {
            fdd (0), tdd (1)
}
```

ASN.1 Type Definition	
Type Name	CommonOrDedicatedTFS
Comment	Transport Format Set
Type Definition	

```
SEQUENCE {
    tti                                 CHOICE {
        tti10                               CommonOrDedicatedTF_InfoList,
        tti20                               CommonOrDedicatedTF_InfoList,
        tti40                               CommonOrDedicatedTF_InfoList,
        tti80                               CommonOrDedicatedTF_InfoList,
        dynamic                         CommonOrDedicatedTF_InfoList_DynamicTTI
    },
    semistaticTF_Information            SemistaticTF_Information
}
```

ASN.1 Type Definition	
Type Name	CommonOrDedicatedTF_InfoList
Comment	Transport Format Set
Type Definition	

```
SEQUENCE (SIZE (1..maxTF)) OF CommonOrDedicatedTF_Info
```

ASN.1 Type Definition	
Type Name	CommonOrDedicatedTF_Info
Comment	Transport Format Set
Type Definition	

```
SEQUENCE {
    tb_Size                 INTEGER (0..5035),
    numberOfTbSizeList      SEQUENCE (SIZE (1..maxTF)) OF NumberOfTransportBlocks,
    logicalChannelList      LogicalChannelList
}
```

ASN.1 Type Definition	
Type Name	CommonOrDedicatedTF_InfoList_DynamicTTI
Comment	Transport Format Set for TDD mode
Type Definition	

```
SEQUENCE {
    tb_Size                 INTEGER (0..5035),
    numberOfTbSizeList      SEQUENCE (SIZE (1..maxTF)) OF NumberOfTransportBlocks,
    logicalChannelList      LogicalChannelList
}
```

ASN.1 Type Definition	
Type Name	TrchConfigType
Comment	
Type Definition	

```
CHOICE {
                    nonDch                      NULL,
                    dch                         ENUMERATED {normal(0), softHO(1)}}
```

ASN.1 Type Definition	
Type Name	HS_DSCHMACdFlows
Comment	Applicable later than r4 Within the ACK/NACK repetition period indicated by ackNackRepetitionFactor the SS shall not transmit MAC-hs PDU's on HS-PDSCH.
Type Definition	

```
SEQUENCE        {
        harqInfo                    HARQ_Info                   OPTIONAL,
        addOrReconfMACdFlow         SS_AddOrReconfMAC_dFlow     OPTIONAL,
        ackNackRepetitionFactor     ACK_NACK_repetitionFactor   OPTIONAL
}
```

ASN.1 Type Definition	
Type Name	SS_AddOrReconfMAC_dFlow
Comment	Applicable later than r4
Type Definition	

```
SEQUENCE {
    mac_hs_AddReconfQueue_List      SEQUENCE (SIZE(1..maxQueueIDs)) OF  SEQUENCE {
                    mac_hs_AddReconfQueue   SS_MAC_hs_AddReconfQueue}   OPTIONAL,
    mac_hs_DelQueue_List            SEQUENCE (SIZE(1..maxQueueIDs)) OF SEQUENCE {
                    mac_hsQueueId           INTEGER(0..7)}              OPTIONAL
}
```

ASN.1 Type Definition	
Type Name	SS_MAC_hs_AddReconfQueue
Comment	Applicable later than r4 The priority of PriorityQueue shall set acoording to the priority of logical channels which is mapped on to this priority queue. Note: the range of priority of PriorityQueue is from 0 to 7 and 0 is the lowest priority. DiscardTimer defines the time (unit ms) to live for a MAC-hs SDU starting from the instant of its arrival into an HSDPA Priority Queue. The SS shall use this information to discard out-of-data MAC-hs SDUs from the HSDPA Priority Queues.
Type Definition	

```
SEQUENCE {
    mAChsAddReconfQueue             MAC_hs_AddReconfQueue,
    logicalChannelList              SEQUENCE OF LogicalChannelIdentity,
                                    -- logical channels mapping onto the priority queue
                                    -- which is specified in maChsAddReconfQueue
    priority                        INTEGER(0..7),
    discardTimer                    ENUMERATED {
v20(0),v40(1),v60(2),v80(3),v100(4),v120(5),v140(6),v160(7),v180(8),v200(9),
v250(10),v300(11),v400(12),v500(13),v750(14),v1000(15),v1250(16),v1500(17),v1750(18),v20
00(19),v2500(20),v3000(21), v3500(22),v4000(23),v4500(24),v5000(25), v7500(26)
                                                    }   OPTIONAL
    }
```

7.3.2.2.17 CMAC_Config

ASN.1 ASP Type Definition	
Type Name	CMAC_Config_CNF
PCO Type	CSAP
Comment	For MAC emulator to report that a previous attempt to setup, reconfigure or release a logical channel is successful.
Type Definition	

```
SEQUENCE    {
                cellId                  INTEGER(-1..63),
                routingInfo             RoutingInfo
}
```

ASN.1 ASP Type Definition	
Type Name	CMAC_Config_REQ
PCO Type	CSAP
Comment	To request to configure MAC entity. Setup is used for creation of the MAC instances or the MAC resources. Release is used for free the all MAC resources. The reconfiguration is to change the MAC parameters, it is not the MAC modification.
Type Definition	

```
SEQUENCE    {
            cellId                  INTEGER(-1..63),
            routingInfo             RoutingInfo,
            ratType                 RatType,
            configMessage           CHOICE {
                setup                   CmacConfigReq,
                reconfigure             CmacConfigReq,
                release                 NULL
            }
}
```

ASN.1 Type Definition	
Type Name	CmacConfigReq
Comment	To request to configure MAC

Type Definition

```
SEQUENCE    {
            activationTime                      SS_ActivationTime,
            uE_Info                                 UE_Info,
            trCHInfo                                TrCHInfo,
            trCH_LogCHMapping                       TrCH_LogCHMappingList1
            -- RACHTrasmissionCtrolElements     TBD,
            -- CPCHTransmissionControlElements  TBD
}
```

ASN.1 Type Definition	
Type Name	UE_Info
Comment	The value of c_RNTI_DSCH_RNTI is 16 bits, used either for C-RNTI or DSCH-RNTI. DSCH is configured if the physical channel in CMAC_config_REQ is a PDSCH. Otherwise, C-RNTI is applied. At the MAC-hs configuration both u_RNTI and c_RNTI_DSCH_RNTI are omitted.

Type Definition

```
SEQUENCE {
            u_RNTI                          U_RNTI      OPTIONAL,
            c_RNTI_DSCH_RNTI                C_RNTI      OPTIONAL
}
```

ASN.1 Type Definition	
Type Name	TrCH_LogCHMappingList1
Comment	maxulTrCH = maxdlTrCH = 16

Type Definition

```
SEQUENCE    {
        ulconnectedTrCHList     SEQUENCE (SIZE (1..maxulTrCH)) OF SEQUENCE {
                trchid                  TransportChannelIdentity,
                trCH_LogCHMappingList   TrCH_LogCHMappingList
                                                        },  OPTIONAL,
        dlconnectedTrCHList     SEQUENCE (SIZE (1..maxdlTrCH)) OF SEQUENCE {
                trchid                  TransportChannelIdentity,
                trCH_LogCHMappingList   TrCH_LogCHMappingList
                                                        },  OPTIONAL,
        dlconnectedMACdFlows    SEQUENCE (SIZE (1..8)) OF SEQUENCE {
                mac_dFlowId                 MAC_d_FlowIdentity,
                trCH_LogCHMappingList       TrCH_LogCHMappingList
                                                        }   OPTIONAL
                                    -- later than r4
}
```

ASN.1 Type Definition	
Type Name	TrCH_LogCHMappingList
Comment	maxLogCHperTrCH = 15

Type Definition

```
SEQUENCE (SIZE (1..maxLogCHperTrCH)) OF     TrCH_LogicalChannelMapping
```

ASN.1 Type Definition	
Type Name	TrCHInfo
Comment	The same TFCS information should be provided to the PHY and MAC layers at all times. When a CMAC_Config_REQ is used to configure the MAC layer, a corresponding CPHY_TrCH_Config_REQ should be sent to the PHY layer to ensure that the configuration is consistent. For MAC-hs configuration: When ulconnectedTrCHList, ulTFCS, dlconnectedTrCHList and dlTFCS are omitted this ASP configures an MAC-hs entity.

Type Definition

```
SEQUENCE    {
        ulconnectedTrCHList     SEQUENCE (SIZE (1..maxulTrCH)) OF SEQUENCE {
                trchid                  TransportChannelIdentity,
                transportChannelInfo    CommonOrDedicatedTFS
                                                                }   OPTIONAL,
        ulTFCS              TFCS    OPTIONAL,
        dlconnectedTrCHList     SEQUENCE (SIZE (1..maxdlTrCH)) OF SEQUENCE {
                trchid                  TransportChannelIdentity,
        transportChannelInfo    CommonOrDedicatedTFS
                                                                }   OPTIONAL,
        dlTFCS              TFCS    OPTIONAL,
        hsDSCHMacdFlows     HS_DSCHMACdFlows    OPTIONAL    -- later than r4
}
```

ASN.1 Type Definition	
Type Name	TrCH_LogicalChannelMapping
Comment	When used for logical channel to MAC_d flow mapping dl_LogicalChannelMapping shall be chosen,

Type Definition

```
SEQUENCE    {
    logicalChannel_Mapping      CHOICE  {
                ul_LogicalChannelMapping            SS_UL_LogicalChannelMapping,
                dl_LogicalChannelMapping            SS_DL_LogicalChannelMapping
                    },
            rB_Identity                 INTEGER     {-(-31..32})    OPTIONAL,
            cn-DomainIdentity           CN-DomainIdentity       OPTIONAL
}
```

ASN.1 Type Definition	
Type Name	SS_UL_LogicalChannelMapping
Comment	If the macHeaderManipulation field is 'NormalMacHeader', then data received on the transport channel supporting this logical channel shall have it's MAC header inspected to determine the appropriate routing, and removed as normal. The MAC SDU shall be passed to the appropriate logical channel. If the macHeaderManipulation field field is 'OmitMacHeader', then data received on the transport channel supporting this logical channel shall have it's MAC header inspected to determine the appropriate routing, but the MAC layer shall not remove the MAC header. Thus the entire MAC PDU shall be passed to the appropriate logical channel, and the MAC header can be checked by the TTCN.

Type Definition

```
SEQUENCE {
    macHeaderManipulation               MAC_HeaderManipulation,
    ul_TransportChannelType             SS_UL_TransportChannelType,
    logicalChannelIdentity              LogicalChannelIdentity,
    logicalChannelType                  LogicalChannelType
}
```

ASN.1 Type Definition	
Type Name	SS_DL_LogicalChannelMapping
Comment	If the macHeaderManipulation field is 'NormalMacHeader', then data transmitted on this logical channel shall have an appropriate MAC header added before it is sent to lower layers for transmission. If the macHeaderManipulation field is 'OmitMacHeader', then data transmitted on this logical channel shall not have any MAC header information added, even if the logical channel type and mapping indicates that there should be a MAC header present. This allows the entire MAC PDU to be specified in the TTCN, so individual fields in the MAC header can be modified. When used for DTCH mapping to MAC_d flow, rlc_SizeList shall choose "configured" according to the configured mAChsAddReconfQueue valules.

Type Definition

```
SEQUENCE {
    macHeaderManipulation               MAC_HeaderManipulation,
    dlTransportChannelType              SS_DL_TransportChannelType,
    logicalChannelIdentity              LogicalChannelIdentity,
    logicalChannelType                  LogicalChannelType,
    rlc_SizeList                        CHOICE {
            allSizes                            NULL,
            configured                          NULL,
            explicitList                        RLC_SizeExplicitList},
    mac_LogicalChannelPriority          MAC_LogicalChannelPriority  OPTIONAL
}
```

ASN.1 Type Definition	
Type Name	SS_UL_TransportChannelType
Comment	

Type Definition

```
ENUMERATED {
    dch (0),
    rach (1),
    cpch (2),
    usch (3)
}
```

ASN.1 Type Definition	
Type Name	MAC_LogicalChannelPriority
Comment	

Type Definition

```
INTEGER (1..8)
```

ASN.1 Type Definition	
Type Name	SS_DL_TransportChannelType
Comment	

Type Definition

```
ENUMERATED {
    dch     (0),
    fach    (1),
    bch     (2),
    pch     (3),
    dsch    (4),
    hsdsch  (5)     -- later than r4
}
```

ASN.1 Type Definition	
Type Name	LogicalChannelType
Comment	
Type Definition	

```
ENUMERATED {
    bCCH    (0),
    pCCH    (1),
    cCCH    (2),
    cTCH    (3),
    dCCH    (4),
    dTCH    (5),
    sHCCH   (6)
}
```

ASN.1 Type Definition	
Type Name	MAC_HeaderManipulation
Comment	
Type Definition	

```
ENUMERATED  {
            normalMacHeader (0),
            omitMacHeader   (1)
}
```

7.3.2.2.17A CMAC_MAChs_TFRCconfigure (later than r4)

ASN.1 ASP Type Definition	
Type Name	CMAC_MAChs_TFRCconfigure_CNF
PCO Type	CSAP
Comment	Applicable later than r4 Confirm a previous CMAC_MAChs_TFRCconfigure_REQ being successful.
Type Definition	

```
SEQUENCE {
        cellId              INTEGER(-1..63)
}
```

ASN.1 ASP Type Definition	
Type Name	CMAC_MAChs_TFRCconfigure_REQ
PCO Type	CSAP
Comment	Applicable later than r4 To configure the TFRC selection in the MAC-hs entity, channelisationCodeOffset + noOfChannelisationCodes shall not be great than 15. If explicit is selected in `tfrcConfigMode`, the SS shall use all the parameter values specified to configure a correct transport format and radio resources. If sS_Configured is selected, the parameter value range is specified. SS shall dynamically select the suitable values for the parameters “modulationScheme”, “channelisationCodeOffset”, “noOfChannelisatonCodes “, tbSizeIndexOnHS_SCCH”, “redundancyVersion” and “hs_PDSCH_TxPower” according to UE’s capability category and CQI information reported by the UE.

Type Definition

```
SEQUENCE    {
    cellId              INTEGER(-1..63),
    tfrcConfigMode      CHOICE {
        explicit            SEQUENCE {
            modulationScheme                ENUMERATED {qpsk (0), qam16 (1)},
            channelisationCodeOffset        INTEGER (1..14),
            noOfChannelisatonCodes          INTEGER (1..15),
            tbSizeIndexOnHS_SCCH            INTEGER (0..63),
            minimumInterTTIinterval         INTEGER (1..3),
            redundancyVersion               INTEGER (0..7),
            hs_PDSCH_TxPower                DL_TxPower  -- default offset related
                                                        -- to p-CPICH or s-CPICH
                                    },
        sS_Configured       SEQUENCE {
            minChannelisationCodeOffset     INTEGER (1..14),
            maxNoOfChannelisatonCodes       INTEGER (1..15),
            iniHS_PDSCH_TxPower             DL_TxPower  -- default offset related
                                                        -- to p-CPICH or s-CPICH
                                    }
}
}
```

ASN.1 ASP Type Definition	
Type Name	CMAC_MAChs_HARQprocAsign_CNF
PCO Type	CSAP
Comment	Applicable later than r4 Confirm a previous CMAC_MAChs_HARQprocAsign_REQ being successful.

Type Definition

```
SEQUENCE {
        cellId              INTEGER(-1..63)
}
```

ASN.1 ASP Type Definition	
Type Name	CMAC_MAChs_HARQprocAsign_REQ
PCO Type	CSAP
Comment	Applicable later than r4 To assign a HARQ process handling the next MAC-hs PDU transmission. This ASP provides TTCN the ability to select an HARQ process serving the next MAC-hs PDU which follows the ASP. After successful transmission the MAC-hs returns back to normal operation. In the normal operation a suitable HARQ process is selected by HARQ entity in the MAC-hs to serve the MAC-hs PDU without TTCN intervening.

Type Definition

```
SEQUENCE    {
            cellId              INTEGER(-1..63),
            harqProcessId       INTEGER(0..7)
}
```

ASN.1 ASP Type Definition	
Type Name	CMAC_MAChs_Reset_CNF
PCO Type	CSAP
Comment	Applicable later than r4 Confirm a previous CMAC_MAChs_Reset_REQ being successful.
Type Definition	

```
SEQUENCE {
        cellId              INTEGER(-1..63)
}
```

ASN.1 ASP Type Definition	
Type Name	CMAC_MAChs_Reset_REQ
PCO Type	CSAP
Comment	Applicable later than r4 To reset the MAC-hs entity.
Type Definition	

```
SEQUENCE    {
            cellId              INTEGER(-1..63)
}
```

7.3.2.2.24 CRLC_Config

ASN.1 ASP Type Definition	
Type Name	CRLC_Config_CNF
PCO Type	CSAP
Comment	For RLC emulator to confirm that a previous attempt to establish, re_configure or release a radio bearer has been successful.
Type Definition	

```
SEQUENCE  {
            cellId                  INTEGER(-1..63),
            routingInfo             RoutingInfo
}
```

ASN.1 ASP Type Definition	
Type Name	CRLC_Config_REQ
PCO Type	CSAP
Comment	To request to setup, reconfigure or release RLC entity
Type Definition	

```
SEQUENCE    {
            cellId                  INTEGER(-1..63),
            routingInfo             RoutingInfo,
            ratType                 RatType,
            configMessage           CrlcConfigReq
}
```

ASN.1 Type Definition	
Type Name	CrlcConfigReq
Comment	To request to setup, re_configure release RLC entity The Stop parameter indicates that the RLC entity shall not transmit or receive RLC PDUs. The Continue parameter indicates that the RLC entity shall continue transmission and reception of RLC PDUs. When the RLC entity is stopped, the all protocol parameters, such as the protocol variables, RLC timers and status are not affected. Triggered polls and status transmissions are delayed until the RLC entity is continued.
Type Definition	

```
CHOICE  {
        setup                   RBInfo,
        reconfigure             RBInfo,
        release                 NULL,
        sS_stop                 NULL,
        sS_continue             NULL
}
```

ASN.1 Type Definition	
Type Name	RBInfo
Comment	

Type Definition

```
SEQUENCE {
            sS_rlc_Info                 SS_RLC_Info         OPTIONAL,
            rB_LogCH_Mapping            RB_LogCH_Mapping
}
```

ASN.1 Type Definition	
Type Name	RB_LogCH_Mapping
Comment	Provide mapping information between RB, logical channel and CN domain.

Type Definition

```
SEQUENCE {
    uLlogicalChannelIdentity                LogicalChannelIdentity  OPTIONAL,
    dLlogicalChannelIdentity                LogicalChannelIdentity  OPTIONAL,
    logicalChannelType                      LogicalChannelType      OPTIONAL,
    cn-DomainIdentity                       CN-DomainIdentity       OPTIONAL
}
```

ASN.1 Type Definition	
Type Name	SS_RLC_Info
Comment	UL and DL have been swapped intentionally in this type definition. This is to maximize re-use of the type definitions in 3GPP TS 25.331 [**Error! Reference source not found.**] which are intended to configure a UE, where UL is transmission, and DL is reception. For the SS, UL is reception, and DL is transmission. For example, consider configuring a DL AM RLC entity (transmitter) in the SS. The transmission parameters to be configured include PollingInformation, Transmission-RLC-Discard etc. If the DL-AM-RLC-Mode type definition is used to configure this entity, it is only possible to configure reception parameters such as StatusInformation, and receiving window size. By swapping UL and DL, it is possible to configure the DL AM RLC entity using the existing type definition UL-AM-RLC-Info, which contains all of the required transmission parameters. Either sS_ul_RLC_Mode for R99 or sS_ul_RLC_Mode_r5 for Rel-5 is chosen at the RLC configuration.

Type Definition

```
SEQUENCE {
            sS_ul_RLC_Mode          DL_RLC_Mode             OPTIONAL,
            sS_dl_RLC_Mode          SS_DL_RLC_Mode          OPTIONAL,
            sS_ul_RLC_Mode_r5       DL_RLC_Mode_r5          OPTIONAL    -- later than r4
}
```

ASN.1 Type Definition	
Type Name	SS_DL_RLC_Mode
Comment	

Type Definition

```
SEQUENCE    {
            dl_PayloadSize              PayloadSize     OPTIONAL,
            dl_RLCModeInfo              UL_RLC_Mode
}
```

ASN.1 Type Definition	
Type Name	PayloadSize
Comment	

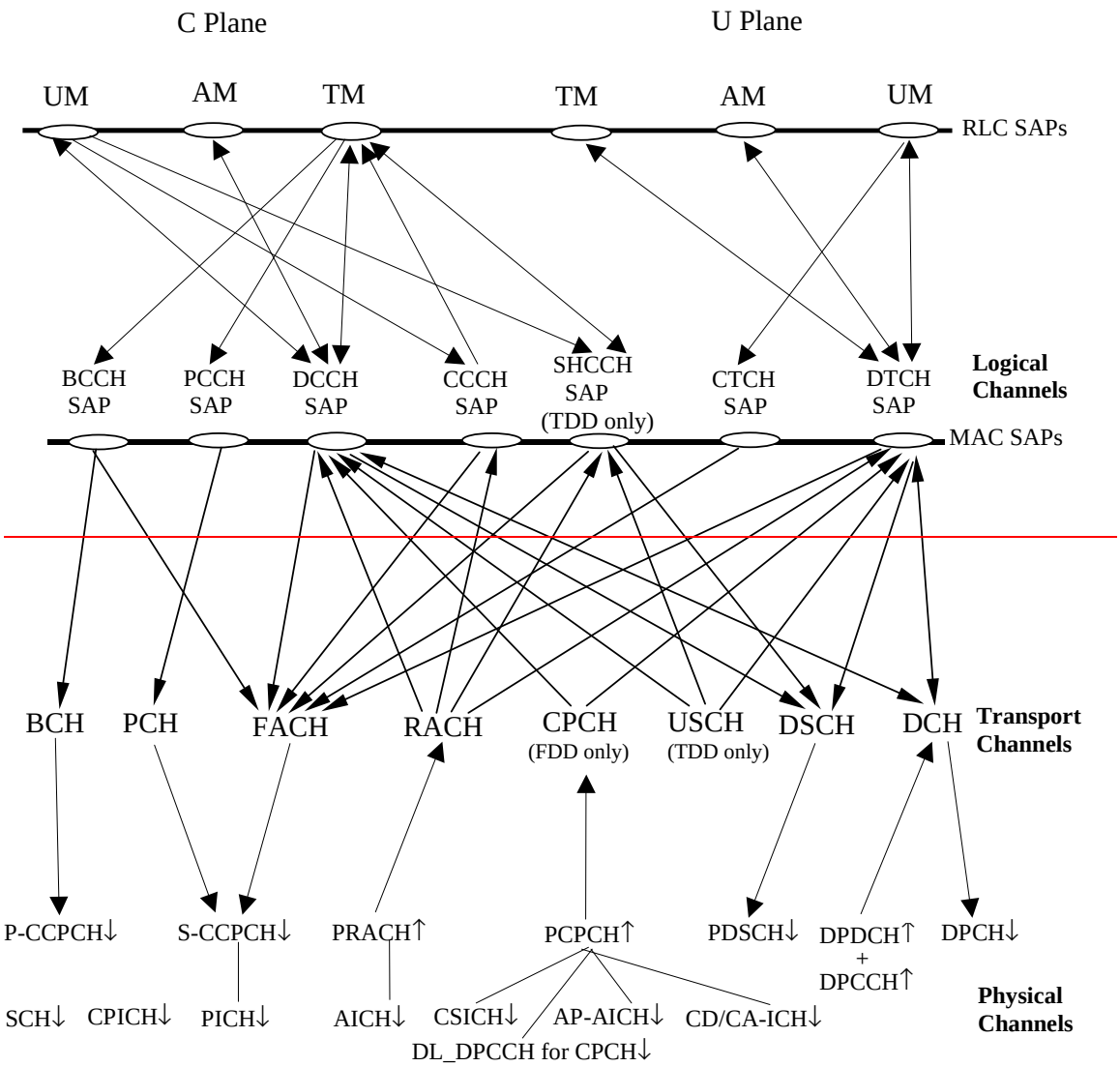
Type Definition

```
INTEGER (0..4992)
```

8 Design Considerations

8.1 Channel mapping

Figure 1 shows the channel type mapping that is used for the configuration of the SS.


C Plane
U Plane
UM
AM
TM
TM
AM
UM
RLC SAPs
BCCH SAP
PCCH SAP
DCCH SAP
CCCH SAP
SHCCH SAP (TDD only)
CTCH SAP
DTCH SAP
Logical Channels
MAC SAPs
BCH
PCH
FACH
RACH
CPCH (FDD only)
USCH (TDD only)
DSCH
DCH
Transport Channels
P-CCPCH↓
S-CCPCH↓
PRACH↑
PCPCH↑
PDSCH↓
DPDCH↑ + DPCCH↑
DPCH↓
SCH↓
CPICH↓
PICH↓
AICH↓
CSICH↓
AP-AICH↓
CD/CA-ICH↓
DL_DPCCH for CPCH↓
Physical Channels

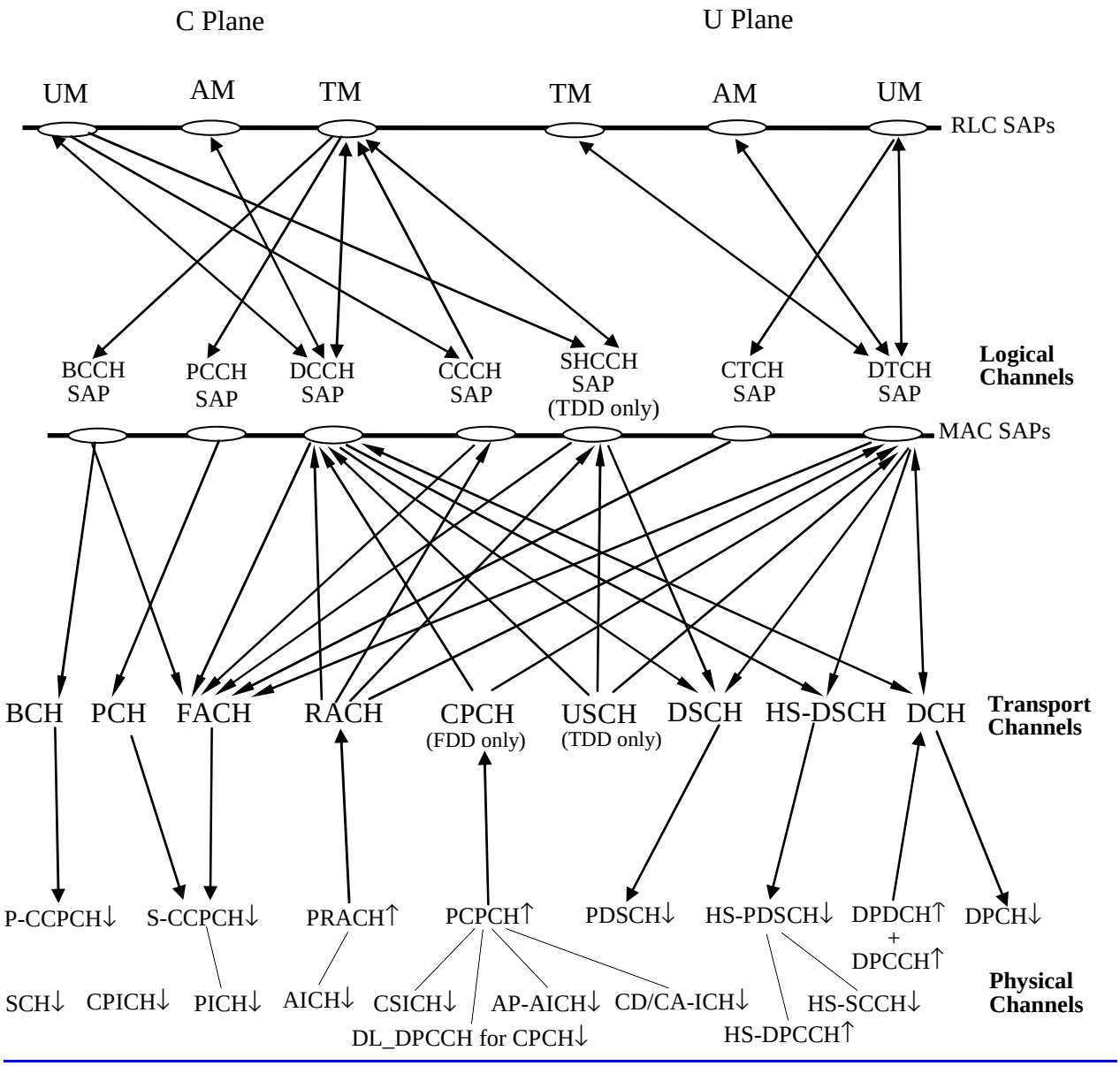


Figure 1: Channel mapping in SS

8.2 Channel and RB identity

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Table 1: Primitives and the associated channel identity type

Primitive name	Channel Idientity	Releases
ASN.1 Primitives		
CPHY_AICH_AckModeSet_CNF	Physical Channel Identity	
CPHY_AICH_AckModeSet_REQ	Physical Channel Identity	
CPHY_Cell_Config_CNF	No Routing Info Field Present	
CPHY_Cell_Config_REQ	No Routing Info Field Present	
CPHY_Cell_Ini_CNF	No Routing Info Field Present	
CPHY_Cell_Ini_REQ	No Routing Info Field Present	
CPHY_Cell_TxPower_Modify_CNF	No Routing Info Field Present	
CPHY_Cell_TxPower_Modify_REQ	No Routing Info Field Present	
CPHY_Commit_CNF	Physical Channel Identity	
CPHY_Commit_REQ	Physical Channel Identity	

Primitive name	Channel Idientity	Releases
CPHY_Frame_Number_CNF	Physical Channel Identity	
CPHY_Frame_Number_REQ	Physical Channel Identity	
CPHY_Out_of_Sync_IND	Physical Channel Identity	
CPHY_PRACH_Measurement_CNF	Physical Channel Identity	
CPHY_PRACH_Measurement_REQ	Physical Channel Identity	
CPHY_RL_Modify_CNF	Physical Channel Identity	
CPHY_RL_Modify_REQ	Physical Channel Identity	
CPHY_RL_Release_CNF	Physical Channel Identity	
CPHY_RL_Release_REQ	Physical Channel Identity	
CPHY_RL_Setup_CNF	Physical Channel Identity	
CPHY_RL_Setup_REQ	PhysicalChannelIdentity	
CPHY_Sync_IND	Physical Channel Identity	
CPHY_TrCH_Config_CNF	Physical Channel Identity	
CPHY_TrCH_Config_REQ	PhysicalChannelIdentity	
CPHY_TrCH_Release_CNF	Physical Channel Identity	
CPHY_TrCH_Release_REQ	Physical Channel Identity	
CPHY_HS_DPCCH_AckNack_CNF	No Routing Info Field Present	Later than r4
CPHY_HS_DPCCH_AckNack_REQ	No Routing Info Field Present	Later than r4
CPHY_HS_DPCCH_AckNack_IND	No Routing Info Field Present	Later than r4
CPHY_HS_DPCCH_CQI_CNF	No Routing Info Field Present	Later than r4
CPHY_HS_DPCCH_CQI_REQ	No Routing Info Field Present	Later than r4
CPHY_HS_DPCCH_CQI_IND	No Routing Info Field Present	Later than r4
CPHY_HS_DSCH_CRC_Mode_CNF	Physical Channel Identity	Later than r4
CPHY_HS_DSCH_CRC_Mode_REQ	Physical Channel Identity	Later than r4
CMAC_BMC_Scheduling_CNF	Physical Channel Identity	
CMAC_BMC_Scheduling_REQ	Physical Channel Identity	
CMAC_Ciphering_Activate_CNF	Physical Channel Identity of DPCH	
CMAC_Ciphering_Activate_REQ	Physical Channel Identity of DPCH	
CMAC_Config_CNF	Physical Channel Identity	
CMAC_Config_REQ	PhysicalChannelIdentity	
CMAC_PAGING_Config_CNF	Physical Channel Identity	
CMAC_PAGING_Config_REQ	Physical Channel Identity	
CMAC_Restriction_CNF	PhysicalChannelIdentity	
CMAC_Restriction_REQ	PhysicalChannelIdentity	
CMAC_SecurityMode_Config_CNF	No Routing Info Field Present (applies to all RB Ids)	
CMAC_Sequence_Number_CNF	Physical Channel Identity	
CMAC_SequenceNumber_REQ	Physical Channel Identity	
CMAC_SYSINFO_Config_CNF	RB Identity	
CMAC_SYSINFO_Config_REQ	RB Identity	
CMAC_MAChs_Reset_CNF	No Routing Info Field Present	Later than r4
CMAC_MAChs_Reset_REQ	No Routing Info Field Present	Later than r4
CMAC_MAChs_HARQprocAsign_CNF	No Routing Info Field Present	Later than r4
CMAC_MAChs_HARQprocAsign_REQ	No Routing Info Field Present	Later than r4
CMAC_MAChs_TFRCconfigre_CNF	No Routing Info Field Present	Later than r4
CMAC_MAChs_TFRCconfigre_REQ	No Routing Info Field Present	Later than r4
CRLC_Ciphering_Activate_CNF	No Routing Info Field Present (applies to all RB Ids)	
CRLC_Ciphering_Activate_REQ	No Routing Info Field Present (applies to all RB Ids)	
CRLC_Config_CNF	RB Identity	
CRLC_Config_REQ	RB_Identity	
CRLC_Integrity_Activate_CNF	No Routing Info Field Present (applies to all RB Ids)	
CRLC_Integrity_Activate_REQ	No Routing Info Field Present (applies to all RB Ids)	
CRLC_Integrity_Failure_IND	RB Identity	
CRLC_Resume_CNF	RB Identity (applies to all suspended RB Ids)	
CRLC_Resume_REQ	RB Identity (applies to all suspended RB Ids)	
CRLC_SecurityMode_Config_CNF	No Routing Info Field Present (applies to all RB Ids)	
CRLC_SecurityMode_Config_REQ	No Routing Info Field Present (applies to all RB Ids)	
CRLC_SequenceNumber_CNF	RB Identity	
CRLC_SequenceNumber_REQ	RB Identity	
CRLC_Status_Ind	RB Identity	
CRLC_Suspend_CNF	RB Identity	
CRLC_Suspend_REQ	RB Identity	
CBMC_Config_CNF	RB Identity	

Primitive name	Channel Idientity	Releases
CBMC_Config_REQ	RB Identity	
RLC_AM_DATA_CNF	RB Identity	
RLC_AM_DATA_IND	RB Identity	
RLC_AM_DATA_REQ	RB Identity	
RLC_TR_DATA_IND	RB Identity	
RLC_TR_DATA_REQ	RB Identity	
RLC_UM_DATA_IND	RB Identity	
RLC_UM_DATA_REQ	RB Identity	
TTCN Primitives		
RLC_AM_TestDataInd	RB Identity	
RLC_AM_TestDataReq	RB Identity	
RLC_TR_TestDataInd	RB Identity	
RLC_TR_TestDataReq	RB Identity	
RLC_UM_TestDataInd	RB Identity	
RLC_UM_TestDataReq	RB Identity	
BMC_DataReq	RB Identity	

8.2.1 Physical channels

Table 2: Physical channel identities

Type	Min. No.	Current Config.	Identities (value assigned)	Direction	Comment
P-CCPCH	1	1	tsc_P_CCPCH (4)	downlink	Primary Common Control Physical Channel. For Broadcasting System Information messages, using the Primary Scrambling Code for the Cell.
P-CPICH	1	1	tsc_P_CPICH (0)	downlink	Primary Common Pilot Channel using the Primary Scrambling Code for the Cell.
S-CPICH	1	FFS	tsc_S_CPICH (3)	downlink	Secondary Common Pilot Channel, used as the phase reference for some RF tests.
P-SCH	1	1	tsc_P_SCH (1)	downlink	Primary Synchronization Channel
S-SCH	1	1	tsc_S_SCH (2)	downlink	Secondary Synchronization Channel
S-CCPCH	2	1	tsc_S_CCPCH1 (5) tsc_S_CCPCH2 (10)	downlink	Secondary Common Control Physical Channel.
PICH	1	1	tsc_PICH1 (6) tsc_PICH2 (11)	downlink	To identify whether the UE should access the PCCH for Paging Messages.
AICH	1	1	tsc_AICH1 (7) tsc_AICH2 (12)	downlink	General Acquisition Indicator Channel, can be used for: - Aquisition Indicator Channel, for PRACH - Access Preamble Acquisition Indicator Channel (AP-ICH), for PCPCH - Collision-Detection/Channel-Assignment Indicator Channel (CD/CA-ICH), for PCPCH
DPCH	3	1	tsc_DL_DPCH1 (26) tsc_DL_DPCH2 (27)	downlink	Downlink Physical Data Channel. Layer 1 signalling is transmitted only on the first DPCH. This number is for the First Cell. Additional Cells may define a lower number which should be at least 1.
DPDCH	1	1	tsc_UL_DPCH1 (20) tsc_UL_DPCH2 (21)	uplink	Uplink Dedicated Physical Channel. A single DPCCH associated with all the DPDCHs used for Layer 1 signalling.

Type	Min. No.	Current Config.	Identities (value assigned)	Direction	Comment
PDSCH	1	1	tsc_DL_PDSCH1 (16)	downlink	Physical Downlink Shared Channel.
PRACH	2	1	tsc_PRACH1 (8) tsc_PRACH2 (9)	uplink	Physical Random Access Channel.
PCPCH	1	FFS		uplink	Physical Common Packet Channel.
CSICH	1	FFS		downlink	CPCH Status Indicator Channel
HS-PDSCH	1		tsc_HSPDSCH(18)	downlink	Later than r4 High speed physical downlink shared channel

The Physical Channel values 20 to 25 are assigned to uplink DPCHs and the values 26 to 31 are assigned to downlink DPCHs.

8.2.2 Transport channels

Table 3: Transport channel identities

Type	Min. No.	Current Config.	Identities (value assigned)	Direction	Comments
BCH	1	1	tsc_BCH1 (11)	downlink	
FACH	1	1	tsc_FACH1 (13) tsc_FACH2 (14) tsc_FACH3 (16) tsc_FACH4 (17)	downlink	
PCH	1	1	tsc_PCH1 (12) tsc_PCH2 (30)	downlink	
DCH	n	4	tsc_UL_DCH1 (1) tsc_UL_DCH2 (2) tsc_UL_DCH3 (3) tsc_UL_DCH4 (4) tsc_UL_DCH5 (5)	uplink	tsc_UL_DCH1 for RAB1-1 or RAB1, tsc_UL_DCH2 for RAB1-2 or RAB2, tsc_UL_DCH3 for RAB1-3, tsc_UL_DCH4 RAB2, tsc_UL_DCH5 for SRB.
DCH	n	4	tsc_DL_DCH1 (6) tsc_DL_DCH2 (7) tsc_DL_DCH3 (8) tsc_DL_DCH4 (9) tsc_DL_DCH5 (10)	downlink	tsc_DL_DCH1 for RAB1-1 or RAB1, tsc_DL_DCH2 for RAB1-2 or RAB2, tsc_DL_DCH3 for RAB1-3, tsc_DL_DCH4 for RAB2, tsc_DL_DCH5 for SRB.
USCH	1	N/A	tsc_USCH1(20)	uplink	TDD only
DSCH	1	N/A	tsc_DSCH (19)	downlink	
RACH	2	1	tsc_RACH1 (15) tsc_RACH2 (31)	uplink	
CPCH	1	N/A	tsc_CPCH1(32)	uplink	
FAUSCH	N/A	N/A	tsc_FAUSCH1(18)	uplink	Not in Release 99
HSDSCH	1	1	N/A	downlink	Later than r4

The TrCH values 20 to 29 are assigned to the TDD TrCH.

8.2.4 Radio bearers

Table 4: Radio bearer identities

Identities (value assigned)	Direction	Type	RLC mode	Service domain	Comments
tsc_RB_BCCH (-1)	downlink		TM	NA	BCCH-BCH
tsc_RB_PCCH (-2)	downlink		TM	NA	PCCH PCH
tsc_RB_BCCH_FACH (-3)	downlink		TM	NA	BCCH FACH
tsc_RB_2ndPCCH (-4)	downlink		TM	NA	Second PCCH PCH SCPCCH
tsc_RB_2ndCCCH (-5)	uplink		TM	NA	Second CCCH RACH PRACH
tsc_RB_UM_7_RLC (-10)	downlink	RAB	TM	CS	For UM RLC tests using 7 bit LIs
tsc_RB_UM_7_RLC (-10)	uplink	RAB	TM	CS	For UM RLC tests using 7 bit LIs
tsc_RB_UM_15_RLC (-11)	downlink	RAB	TM	CS	For UM RLC tests using 15 bit LIs
tsc_RB_UM_15_RLC (-11)	uplink	RAB	TM	CS	For UM RLC tests using 15 bit LIs

Identities (value assigned)	Direction	Type	RLC mode	Service domain	Comments
tsc_RB_AM_7_RLC (-12)	downlink	RAB	TM	CS	For AM RLC tests using 15 bit LIs
tsc_RB_AM_7_RLC (-12)	uplink	RAB	TM	CS	For AM RLC tests using 7 bit LIs
tsc_RB_AM_15_RLC (-13)	downlink	RAB	TM	CS	For AM RLC tests using 15 bit LIs
tsc_RB_AM_15_RLC (-13)	uplink	RAB	TM	CS	For AM RLC tests using 15 bit LIs
tsc_RB_DCCH_FACH_MAC (-14)	downlink	SRB3	TM	CS	For MAC tests using DCCH mapped to FACH
tsc_RB_DCCH_FACH_MAC (-14)	uplink	SRB3	TM	CS	For MAC tests using DCCH mapped to FACH
tsc_RB_DCCH_DCH_MAC (-15)	downlink	SRB3	TM	CS	For MAC tests using DCCH mapped to DCH
tsc_RB_DCCH_FACH_MAC (-15)	uplink	SRB3	TM	CS	For MAC tests using DCCH mapped to DCH
tsc_RB3_DCCH_RRC_(-16)	uplink	SRB3	AM	CS or PS	For RRC test cases to route UL NAS messages
tsc_RB_CCCH_FACH_MAC (-18)	downlink	SRB0	TM	CS or PS	For MAC test using donwlink SRB0 on TM
tsc_RB_BCCH_FACH_RAB (-19)	downlink		TM	NA	BCCH FACH
tsc_RB0 (0)	uplink	SRB0	TM	CS or PS	The service domain for which the most recent security negotiation took place. CCCH
tsc_RB0 (0)	downlink	SRB0	UM	CS or PS	CCCH
tsc_RB1 (1)	uplink	SRB1	UM	CS or PS	DCCH
tsc_RB1 (1)	downlink	SRB1	UM	CS or PS	DCCH
tsc_RB2 (2)	uplink	SRB2	AM	CS or PS	DCCH
tsc_RB2 (2)	downlink	SRB2	AM	CS or PS	DCCH
tsc_RB3 (3)	uplink	SRB3	AM	CS or PS	DCCH
tsc_RB3 (3)	downlink	SRB3	AM	CS or PS	DCCH
tsc_RB4 (4)	uplink	SRB4	AM	CS or PS	DCCH
tsc_RB4 (4)	downlink	SRB4	AM	CS or PS	DCCH
tsc_RB5 (5)	uplink		TM		DCCH
tsc_RB5 (5)	downlink		TM		DCCH
tsc_RB10 (10)	uplink	RAB#1-1	TM	CS	or RAB1
tsc_RB10 (10)	downlink	RAB#1-1	TM	CS	or RAB1
tsc_RB11 (11)	uplink	RAB#1-2	TM	CS	or RAB2
tsc_RB11 (11)	downlink	RAB#1-2	TM	CS	or RAB2
tsc_RB12 (12)	uplink	RAB#1-3	TM	CS	
tsc_RB12 (12)	downlink	RAB#1-3	TM	CS	
tsc_RB13 (13)	uplink	RAB#2	TM	CS	
tsc_RB13 (13)	downlink	RAB#2	TM	CS	
tsc_RB20 (20)	uplink	RAB#1	AM	PS	
tsc_RB20 (20)	downlink	RAB#1	AM	PS	
tsc_RB21 (21)	uplink	RAB#2	UM	PS	
tsc_RB21 (21)	downlink	RAB#2	UM	PS	
tsc_RB22 (22)	uplink	RAB#2	AM	PS	
tsc_RB22 (22)	downlink	RAB#2	AM	PS	
tsc_RB23 (23)	uplink	RAB#2	AM	PS	2nd AM RAB for PS
tsc_RB23 (23)	downlink	RAB#2	AM	PS	2nd AM RAB for PS
tsc_RB24 (24)	uplink	RAB#2	AM	PS	2nd AM RAB for PS
tsc_RB24 (24)	downlink	RAB#2	AM	PS	2nd AM RAB for PS
tsc_RB25 (25)	uplink	RAB#1	AM	PS	Later than r4 DTCH on DPCH associated HS-DSCH
tsc_RB25 (25)	downlink	RAB#1	AM	PS	Later than r4 DTCH on HS-DSCH
tsc_RB29 (29)	downlink	SRB0	AM	PS	RB Id for Radio bearer that carries the 2nd CCCH in the DL
tsc_RB30 (30)	downlink		UM		CTCH FACH
tsc_RB31 (31)	downlink		UM		Second CTCH FACH

The RB values 0 to 5 are used for the signalling bearers. The values 10 to 15 are assigned to the CS RAB sub-flows. The values 20 to 25 are assigned to the PS RAB sub-flows. The value 30 is assigned to the CBSMS/BMC service.

Table 5: RB identities mapping between 34.123-1 & 34.123-3

RAB Combinations	34.123-1	34.123-3
Single CS RAB	RB5	tsc_RB10
	RB6	tsc_RB11
	RB7	tsc_RB12
Single PS RAB	RB5	tsc_RB20
	RB7	tsc_RB20
	RB8	tsc_RB20
CS+PS Multi RABs	RB5	tsc_RB10
	RB6	tsc_RB11, tsc_RB20
	RB7	tsc_RB12
	RB8	tsc_RB20
	RB9	tsc_RB22
CS+CS Multi RABs	RB5	tsc_RB10
	RB6	tsc_RB11
	RB7	tsc_RB12
	RB8	tsc_RB13
PS+PS Multi RABs	RB5	tsc_RB20
	RB6	tsc_RB22
	RB7	tsc_RB20
	RB8	tsc_RB24

8.2.5 Scrambling and channelization codes

Table 6 shows the primary/secondary scrambling codes and the channelization codes for downlink channels.

Table 6: Primary/secondary scrambling codes and channelization codes for downlink channels

Type	Identities (value assigned)	Primary scrambling code	Secondary scrambling code	Channelization Code
P-CCPCH	tsc_P_CCPCH (4)	(px_PrimaryScramblingCode + 50 × (cell No -1)) mod 512	NA	tsc_P_CCPCH_ChC (256:1)
P-CPICH	tsc_P_CPICH (0)	(px_PrimaryScramblingCode + 50 × (cell No -1)) mod 512	NA	tsc_P_CPICH_ChC (256:0)
S-CCPCH	tsc_S_CCPCH1 (5)	(px_PrimaryScramblingCode + 50 × (cell No -1)) mod 512	NA (carrying PCH)	tsc_S_CCPCH1_ChC (64:1)
	tsc_S_CCPCH2 (10)	(px_PrimaryScramblingCode + 50 × (cell No -1)) mod 512	NA (carrying PCH)	tsc_S_CCPCH2_ChC (64:2)
PICH	tsc_PICH1 (6)	(px_PrimaryScramblingCode + 50 × (cell No -1)) mod 512	NA	tsc_PICH1_ChC (256:2)
	tsc_PICH2 (11)	(px_PrimaryScramblingCode + 50 × (cell No -1)) mod 512	NA	tsc_PICH2_ChC (256:12)
AICH	tsc_AICH1 (7)	(px_PrimaryScramblingCode + 50 × (cell No -1)) mod 512	NA	tsc_AICH1_ChC (256:3)
	tsc_AICH2 (12)	(px_PrimaryScramblingCode + 50 × (cell No -1)) mod 512	NA	tsc_AICH2_ChC (256:13)
DPCH	tsc_DL_DPCH1 (26)	(px_PrimaryScramblingCode + 50 × (cell No -1)) mod 512	tsc_DL_DPCH1_2ndScrC (1) This value is related to the primary scrambling code of the cell	Depending on the configuration: tsc_DL_DPCH1_ChC_SRB (128:9) tsc_DL_DPCH1_ChC_Speech (128:0) tsc_DL_DPCH1_ChC_Streaming (32:0) tsc_DL_DPCH1_ChC_64k_CS (32:0) tsc_DL_DPCH1_ChC_64k_PS (32:0)
	tsc_DL_DPCH2 (27)	(px_PrimaryScramblingCode + 50 × (cell No -1)) mod 512	tsc_DL_DPCH2_2ndScrC (1) This value is related to the primary scrambling code of the cell	Depending on the configuration: tsc_DL_DPCH2_ChC_SRB (256:1) tsc_DL_DPCH2_ChC_Speech (128:1) tsc_DL_DPCH2_ChC_Streaming (32:1) tsc_DL_DPCH2_ChC_64k_CS (32:1) tsc_DL_DPCH2_ChC_64k_PS (32:1)
HS-PDSCH	tsc_HSPDSCH(18)	Same as HS-SCCH	Same as HS-SCCH	Later than r4 SF= 16 Number of codes depending on the configuration, at most 15 codes
HS-SCCH	NA	(px_PrimaryScramblingCode + 50 × (cell No -1)) mod 512	tsc_DL_DPCH2_2ndScrC (1) This value is related to the primary scrambling code of the cell	Later than r4 SF =128 Number of codes depending on the configuration, at most 4 codes

Table 7 shows the scrambling codes, the signatures and the spreading factors for uplink channels.

Table 7: Scrambling codes, signatures and spreading factor for uplink channels

Type	Identities (value assigned)	Scrambling code	Signature	Spreading factor
DPDCH	tsc_UL_DPCH1 (20)	(px_UL_ScramblingCode + 1000*(cell No -1)) MOD 16777216	NA	If only one DPDCH and depending on the configuration tsc_UL_DPDCH_SF_SRB (64) tsc_UL_DPDCH_SF_Speech (64) tsc_UL_DPDCH_SF_Streaming (16) tsc_UL_DPDCH_SF_64k_CS (16) tsc_UL_DPDCH_SF_64k_PS (16) If more than one DPDCH tsc_UL_DPDCH_SF_4 (4:1)
	tsc_UL_DPCH2 (21)	(px_UL_ScramblingCode + 1 000 × (cell No -1)) MOD 16 777 216	NA	If only one DPDCH and depending on the configuration tsc_UL_DPDCH_SF_SRB (64) tsc_UL_DPDCH_SF_Speech (64) tsc_UL_DPDCH_SF_Streaming (16) tsc_UL_DPDCH_SF_64k_CS (16) tsc_UL_DPDCH_SF_64k_PS (16) If more than one DPDCH tsc_UL_DPDCH_SF_4 (4:1)
PRACH	tsc_PRACH1 (8)	tsc_PRACH1_ScrC (0)	tsc_PRACH1_Signatures ('0000000011111111'B)	tsc_PRACH1_SF (64)
	tsc_PRACH2 (9)	tsc_PRACH2_ScrC (1)	tsc_PRACH2_Signatures ('0000000011111111'B)	tsc_PRACH2_SF (64)
HS-DPCCH	NA	Same as DPDCH	NA	Later than r4 Depending on the number of DPDCHs: If only one DPDCH: $C_{256,64}$; If 2 or 4 or 6 DPDCHs: $C_{256,1}$; If 3 or 5 DPDCHs: $C_{256,32}$.

8.3.32 Configuration of PS Cell_DCH_HS-DSCH_64kPS_RAB (later than r4)

The configuration is based on 3GPP TS 34.108 [3], clause 6.10.2.4.5.1. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.4.1.1.1. The configuration is applied to those RAB signaling tests where a PS RAB on DTCH is setup for the interactive or background service class is mapped on to HS-DSCH.

The uplink configuration is same in clause 8.3.8 except a HS-DPCCH shall be included in the UL_DPCH.

Table xx: Downlink configuration of PS Cell_DCH_HS-DSCH_PS_RAB

RB Identity	tsc_RB25 (25)	Same as downlink configuration of Cell_DCH_StandAloneSRB on DPCH	Same as downlink configuration of Cell_DCH_StandAloneSRB on sCCPCH
LogCh Type	DTCH		
LogCh Identity	tsc_DL_DTCH1 (7)		
RLC mode	AM		
MAC priority	1		
TrCH Type	HS_DSCH		
TrCH identity	N/A		
PhyCh Type	HS-PDSCH	DPCH	Secondary CCPCH
PhyCH identity	tsc_HSPDSCH (18)	tsc_DL_DPCH1 (26)	tsc_S_CCPCH1 (5)

8.3.33 Configuration of PS Cell_DCH_HS-DSCH_384kPS_RAB (later than r4)

The configuration is based on 3GPP TS 34.108 [3], clause 6.10.2.4.5.2. The RB0/UM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.3.2.1.2 and RB0/TM-CCCH is referred to 3GPP TS 34.108 [3], clause 6.10.2.4.4.1.1.1. The configuration is applied to those RAB signaling tests where a PS RAB on DTCH is setup for the interactive or background service class is mapped on to HS-DSCH.

The uplink configuration is same in clause 8.3.8 except a HS-DPCCH shall be included in the UL_DPCH..

Table xx: Downlink configuration of PS Cell_DCH_HS-DSCH_PS_RAB

RB Identity	tsc_RB25 (25)	Same as downlink configuration of Cell_DCH_StandAloneSRB on DPCH	Same as downlink configuration of Cell_DCH_StandAloneSRB on sCCPCH
LogCh Type	DTCH		
LogCh Identity	tsc_DL_DTCH1 (7)		
RLC mode	AM		
MAC priority	1		
TrCH Type	HS_DSCH		
TrCH identity	N/A		
PhyCh Type	HS-PDSCH	DPCH	Secondary CCPCH
PhyCH identity	tsc_HSPDSCH (18)	tsc_DL_DPCH1 (26)	tsc_S_CCPCH1 (5)

8.12 DCH with HS-DSCH Configurations (later than r4)

1. Configure DPCH physical channel

```
    CPHY_RL_Setup_REQ(
        physicalChannelIdentity,
        dPCHInfo_r5)
-- hs_DPCCHInd is present in the dPCHInfo ( only for HS-DSCH serving cell)
-- set up the DPCH associated with HS-PDSCH
-- set up the HS-DPCCH which is associated with the HS-PDSCH (this is done only for HS-DSCH serving
-- cell).
```

2. Configure DCH transport channels

```
    CPHY_TrCH_Config_REQ(
        physicalChannelIdentity,
        dlconnectedTrCHList,
        dlTFCS)
-- set up TFS for each DCH carried by the DPCH defined in step 5 and TFCS for the CCTrCH consisting
 of all DCH's mapped on the DPCH.
```

3. Configure MAC entity for DCH

```
    CMAC_Config_REQ(
        physicalChannelIdentity,
        dlconnectedTrCHList,
        dlTFCS)
-- set up TFS and TFCS for DCH's, and map logical channel to DCH transport channel.
```

4. Configure RLC for DCCH

```
    CRLC_Config_REQ(
        rB_Identity,
        rBInfo)
-- set up RLC entity on top of  DCCH logical channels which are mapped onto DCH
```

5. Configure HS-PDSCH physical channel

```
    CPHY_RL_Setup_REQ(
        physicalChannelIdentity,
        hs_PDSCHInfo)
-- set up the HS-PDSCH identified by PhysicalChannelIdentity
--   for the HS-PDSCH the configurable parameters are: the scrambling code, and
-- set up the HS-SCCH which is associated with the HS-PDSCH without physicalChannelIdentity
--   for the HS-SCCH the configurable parameters are: channelisation code set and H-RNTI
        hSDSCHPhysicalLayerCategory     HSDSCH_physical_layer_category,
        h_RNTI                          H_RNTI,
        dlHSPDSCHInformation            DL_HSPDSCH_Information,
        ackNackRepetitionFactor         ACK_NACK_repetitionFactor,
        sttd_Indicator                  BOOLEAN
```

6. Configure HS-DSCH transport channels

```
    CPHY_TrCH_Config_REQ(
        physicalChannelIdentity,
        hsDSCHMacdFlows)
-- set up the HS-DSCH tramsport channel which carries MAC_d flows identified by Mac_dFlowId
   in the hsDSCHMacdFlows.
--   for each MAC_d flow the number of process queues of the MAC-d flow and their queue identities
     are configurable;
--   for each MAChsQueue the configurable parameters are: machsQueueId; priority;
     mac_hsPduSizeInfoList; reorderingReleaseTimer, discardTimer and the MAC-dFlow identity to which
     this MAChsQueue belongs.
```

7. Configure MAC_hs entity for HS-DSCH

```
    CMAC_MAChs_TFRCconfigre_REQ(
        explicit TRFC config mode with:
            modulationScheme,
            channelisationCodeOffset,
            noOfChannelisatonCodes,
            tbSizeIndexOnHS_SCCH,
```

```
            minimumInterTTIinterval,
            redundancyVersion,
            hs_PDSCH_TxPower)

    CMAC_Config_REQ(
        physicalChannelIdentity,
        uE_Info,
        hsDSCHMacdFlows)
-- the hsDSCHMacdFlows shall be same as that used in CPHY_TrCH_Config_REQ.
-- set up MAC_d flows identified by Mac_dFlowId in the hsDSCHMacdFlows.
--   for each MAC_d flow the number of process queues of the MAC-d flow and their queue identities
     are configurable;
--   for each MAChsQueue the configurable parameters are: machsQueueId; priority;
     mac_hsPduSizeInfoList; reorderingReleaseTimer, discardTimer and the MAC-dFlow identity to which
     this MAChsQueue belongs.
-- set up the mapping between each MAC_d flow and the logical channels which mapped on the flow.
```

8. Configure RLC entity for DTCHs which is mapped on HS-DSCH

```
    CRLC_Config_REQ(
        rB_Identity,
        rBInfo)
-- set up RLC entity on top of  DTCH logical channel which is mapped onto MAC_d flow
```

9. MAC-hs reset, release of SS resources for HSDPA

```
    MAC-hs reset:
        CMAC_MAChs_Reset_REQ(
            cellId)

    RL release:
        CPHY_RL_Release_REQ(
            cellId, phyChId)
-- phyChid is the identity of HS-PDSCH physical channel or the associated DPCH channel
-- the HS-SSCH physical channel shall be also released when HS-PDSCH is released
-- the HS-DPCCH physical channel shall be released when the associated DPCH is released

    TrCH release:
        CPHY_TrCH_Release_REQ(
            cellId, phyChId)
-- phyChid is the identity of HS-PDSCH physical channel

    MAChs release:
        CMAC_Config_REQ(
            cellId, phyChId)
-- phyChid is the identity of HS-PDSCH physical channel

    RLC release:
        CRLC_Config_REQ(
            cellId, rbId)
-- rbid is the identity of the radio bearer providing HSDPA service
```

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CR-Form-v7

CHANGE REQUEST

⌘ **34.123-3** **CR** **1265** ⌘ **rev** **-** ⌘ Current version: **3.8.0** ⌘

*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:	⌘	Introduce ASP for LCR TDD
Source:	⌘	MCC task 160
Work item code:	⌘	TEI
Date:	⌘	18/1/2005
Category:	⌘	**B**
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:	⌘	1. New ASPs for LCR TDD have been used for draft LCR TDD since one year. These ASPs need to be documented for the implementation in SS. 2. The LCR TDD SIB scheduling is slightly different from FDD and needs to be documented. **3.**
Summary of change:	⌘	1. A new clause 7.3.2.3 is created to contains all specific IE type definitions applied to ASPs for LCR TDD. 2. The SIB scheduling for LCR TDD is replenished. 3. A few LCR TDD specific PIXIT parameters are added in B.1.1.
Consequences if not approved:	⌘	LCR TDD test cases would not be implementable.

Clauses affected:	⌘	7.3.2.3, 8.4.1, 8.4.2, 8.4.3.1, B.1.1
Other specs affected:	⌘	Y: ; N: X — Other core specifications Y: ; N: X — Test specifications Y: ; N: X — O&M Specifications
Other comments:	⌘	

7.3.2.2 Specific ASP and IE definitions for 1.28 Mcps TDD (later than R99)

The ASP definitions in 7.3.2.1 are applied to 1.28 Mcps TDD with the exceptions.

1. The ASP definition CPHY_AICH_AckModeSet is not applied.

2. Specifici IE definitions in this clause replace the definitions in 7.3.2.1.

7.3.2.2.1 Specific ASP definitions

ASN.1 ASP Type Definition	
Type Name	CPHY_Cell_Config_REQ
PCO Type	CSAP
Comment	Applicable later than r3 To request to setup the cell parameter. The unit of tcell is chip; the unit of sfnOffset is frame number; the primary scambling code number of the cell is 16*primaryScramblingCode_SS; the unit of dLTxAttenuationLevel is dB.

Type Definition

```
SEQUENCE {
    cellId                              INTEGER (0..63),
    sfnOffset                           INTEGER (0 .. 4095),
    frequencyInfo                       FrequencyInfo,
    cellTxPowerLevel                    CellTxPowerLevel,
    dLTxAttenuationLevel                INTEGER(0..30),
    cellParametersID                    CellParametersID,
    timeSlotConfigurationList_LCR       TimeSlotConfigurationList_LCR,
    dwPCHInfo                           DwPCHInfo,
    transmissionDiversityApplied        ENUMERATED {NotApplied(0),Applied(1)}   OPTIONAL
}
```

7.3.2.2.2 Specific IE definitions

ASN.1 Type Definition	
Type Name	CphyRlModifyReq
Comment	Applicable later than r3 for LCR TDD

Type Definition

```
SEQUENCE    {
        activationTime                  SS_ActivationTime,
        physicalChannelInfo             CHOICE {
                secondaryCCPCHInfo          SecondaryCCPCHInfo,
                pRACHInfo                   PRACHInfo,
                dPCHInfo                    DPCHInfo
                                                }
}
```

ASN.1 Type Definition	
Type Name	CphyRlSetupReq
Comment	Applicable later than r3 for LCR TDD To request to setup the Radio Link for LCR TDD

Type Definition

```
SEQUENCE {
    physicalChannelInfo     CHOICE {
        primaryCCPCHInfo        PrimaryCCPCHInfo,
        secondaryCCPCHInfo      SecondaryCCPCHInfo,
        pRACHInfo               PRACHInfo,
        pICHInfo                PICHInfo,
        dPCHInfo                DPCHInfo,
        pDSCHInfo               PDSCHInfo,
        pUSCHInfo               PUSCHInfo
                                    }
}
```

ASN.1 Type Definition	
Type Name	PrimaryCCPCHInfo
Comment	Applicable later than r3 for LCR TDD

Type Definition

```
SEQUENCE {
    sctd_Indicator          ENUMERATED {NotApplied(0), Applied(1)},
    tstd_Indicator          ENUMERATED {NotApplied(0), Applied(1)},
    commonTimeSlotInfo      CommonTimeslotInfo,
    dL_TxPower_PCCPCH       DL_TxPower_PCCPCH
}
```

ASN.1 Type Definition	
Type Name	SecondaryCCPCHInfo
Comment	Applicable later than r3 for LCR TDD The range for powerOffsetOfTFCI_PO1 and powerOffsetOfPILOT_PO3 is 0-6 dB, 0.25 dB per step.

Type Definition

```
SEQUENCE {
    tstd_Indicator          ENUMERATED {NotApplied(0), Applied(1)},
    sctd_Indicator          ENUMERATED {NotApplied(0), Applied(1)},
    dl_TxPower              DL_TxPower,
    commonTimeSlotInfo      CommonTimeslotInfoSCCPCH,
    channelisationCode      SCCPCH_ChannelisationCodeList,
    individualTimeslotInfo  IndividualTimeslotInfo_LCR_r4,
    powerOffsetOfTFCI_PO1   INTEGER (0..24) OPTIONAL
}
```

ASN.1 Type Definition	
Type Name	PRACHInfo
Comment	Applicable later than r3 for LCR TDD

Type Definition

```
SEQUENCE {
    pRACH_RACH_Info_LCR_r4          PRACH_RACH_Info_LCR_r4,
    accessServiceClass_TDD_LCR      AccessServiceClass_TDD_LCR_r4,
    fPACH_Power                     DL_TxPower
}
```

ASN.1 Type Definition	
Type Name	DL_DPCHInfo
Comment	Applicable later than r3 for LCR TDD The range for powerOffsetOfTPC_PO2 and powerOffsetOfTFCI_PO1 and powerOffsetOfPILOT_PO3 is 0 dB to 6 dB, 0,25 dB per step.

Type Definition

```
SEQUENCE {
    dl_CommonInformation            DL_CommonInformation_r4,
    dl_DPCH_InfoPerRL               DL_DPCH_InfoPerRL_r4,
    powerOffsetOfTFCI_PO1           INTEGER (0..24),
    powerOffsetOfTPC_PO2            INTEGER (0..24),
    dl_TxPower                      DL_TxPower,
    dl_TxPowerMax                   DL_TxPower,
    dl_TxPowerMin                   DL_TxPower,
    dL_TimeslotISCPInfoLCR          TimeslotListWithISCP
}
```

ASN.1 Type Definition	
Type Name	PDSCHInfo
Comment	Applicable later than r3 for LCR TDD

Type Definition

```
SEQUENCE {
    pdsch_Identity          PDSCH_Identity,
    pdsch_Info              PDSCH_Info_r4,
    pdsch_PowerControlInfo  PDSCH_PowerControlInfo  OPTIONAL,
    dl_TxPower              DL_TxPower
}
```

8.4 System information blocks scheduling

All SIBs specified in 3GPP TS 34.108 [**Error! Reference source not found.**] are broadcast for all test cases in the present document. The repeat period of broadcasting of a complete SIB configuration is 64 frames (0,64 s) as the default configuration.

Except MIB and SB1, they have the highest scheduling rates, SIB 7 has also a higher scheduling rate.

According to the default SIB contents in 3GPP TS 34.108 [**Error! Reference source not found.**], SIB 11 and SIB12 have 3 segments. SIB 5 ~~and~~has 4 segments for FDD and 5 segments for 1.28 Mcps TDD. SIB 6 has~~ve~~ 4 segments. MIB, SB1, SIB1, SIB 2, SIB 3, SIB 4, SIB 7 and SIB18 are not segmented, i.e. one segment for each. For the PDCP tests, SIB16 has 7 segments.

Use CMAC_SYSINFO_CONFIG_REQ, CMAC_SYSINFO_CONFIG_CNF and RLC_TR_DATA_REQ as interface to SS for broadcasting.

Two TSOs are defined, one for PER encoding function, the other for segmentation function. The TSOs shall be implemented in the tester.

8.4.1 Grouping SIBs for testing

Table 1

Mandatory in 3GPP TS 34.108 [Error! Reference source not found.**]**	**Used in Idle Mode**	MIB, SB1, (SB2), SIB1, SIB2, SIB3, SIB5, SIB7, SIB11
	Used in Connected Mode	SIB4, SIB6, SIB12
Mandatory for FDD CPCH		SIB8, SIB9
Mandatory for FDD DRAC		SIB10
Mandatory for TDD		SIB14 (for 3.84 Mcps TDD), SIB17
Mandatory for LCS		SIB15, SIB15.1, SIB15.2, SIB15.3
Mandatory for ANSI-41 system		SIB13, SIB13.1, SIB13.2, SIB13.3, SIB13.4
Mandatory for InterSys HO		SIB16
Mandatory for Cell reselection		SIB18

8.4.2 SIB configurations

Currently the ATS contains three SIB configurations, Configuration 1 is default ~~for both UTRAN/FDD SYSTEM and UTRAN/FDD~~. Configuration 2 is for test cases which need two S_CCPCH or two PRACH. Configuration 3 is for inter-RAT handover test cases.

Table 2

Configuration 1	MIB, SB1, SIB1, SIB2, SIB3, SIB4, SIB5, SIB6, SIB7, SIB11, SIB12, SIB18
Configuration 2	MIB, SB1, SIB1, SIB2, SIB3, SIB4, SIB5, SIB7, SIB11, SIB12, SIB18
Configuration 3	MIB, SB1, SIB1, SIB2, SIB3, SIB4, SIB5, SIB7, SIB11, SIB16, SIB18

8.4.3 Test SIB default schedule

Table 3

Frame No.	0	2	4	6	8	10	12	14
REP-POS	0	1	2	3	4	5	6	7
Block Type	MIB	SB1	SIB7	SIB6	MIB	SIB6	SIB6	SIB6

Frame No.	16	18	20	22	24	26	28	30
REP-POS	8	9	10	11	12	13	14	15
Block Type	MIB	SB1	SIB7/SIB3	SIB1/SIB 2	MIB	SIB12	SIB12	SIB12

Frame No.	32	34	36	38	40	42	44	46
REP-POS	16	17	18	19	20	21	22	23
Block Type	MIB	SB1	SIB7/SIB1 8	SIB5	MIB	SIB5	SIB5	SIB5

Frame No.	48	50	52	54	56	58	60	62
REP-POS	24	25	26	27	28	29	30	31
Block Type	MIB	SB1	SIB7/SIB4	- (FDD) SIB5(LCR TDD)	MIB	SIB11	SIB11	SIB11

SIB-repeat period (in frame)

Table 4

Block Type	MIB	SB1	SIB1	SIB2	SIB3	SIB4	SIB5	SIB6	SIB7	SIB11	SIB12	SIB18
SIB Rep	8	16	64	64	64	64	64	64	16	64	64	64
Max. No of seg.	1	1	1	1	1	1	4(FDD) 5(LCR TDD)	4	1	3	3	1

8.4.3.1 Test SIB schedule for idle mode and measurment

Table 5

Frame No.	0	2	4	6	8	10	12	14
REP-POS	0	1	2	3	4	5	6	7
Block Type	MIB	SB1	SIB6	SIB6	MIB	SIB6	SIB6	SIB7/SIB 3

Frame No.	16	18	20	22	24	26	28	30
REP-POS	8	9	10	11	12	13	14	15
Block Type	MIB	SB1	SIB1/SIB2	SIB12	MIB	SIB12	SIB12	SIB7/SIB 12

Frame No.	32	34	36	38	40	42	44	46
REP-POS	16	17	18	19	20	21	22	23
Block Type	MIB	SB1	SIB5	SIB5	MIB	SIB5	SIB5	SIB7/SIB 18

Frame No.	48	50	52	54	56	58	60	62
REP-POS	24	25	26	27	28	29	30	31
Block Type	MIB	SB1	SIB11	SIB11	MIB	SIB11	SIB11	SIB7/SIB 4

SIB-repeat period (in frame)

Table 6

Block Type	MIB	SB1	SIB1	SIB2	SIB3	SIB4	SIB5	SIB6	SIB7	SIB11	SIB12	SIB18
SIB Rep	8	16	64	64	64	64	64	64	16	64	64	64
Max. No of seg.	1	1	1	1	1	1	4(FDD) 5(LCR TDD)	4(FDD) 3(LCR TDD)	1	4	4	1

B.1.1 BasicM test suite parameter declarations

The following parameters are common to all ATSs.

Table B.1: BasicM PIXIT

Parameter name	Description	Type	Default value	Supported value
px_AuthAMF	Authentication Management Field (16 bits). The value shall be different from '1111 1111 1111 1111'B (AMFresynch).	BITSTRING	See note 2	
px_AuthK	Authentication Key (128 bits)	BITSTRING	'0101111001001 0101011001101 0110001001000 1001101110101 1101001010101 1101110100000 0100101110011 0011111000011 0000100110100 11000101001'B	
px_AuthN	Value of n to initialize tcv_Auth_n (length of extended response) min 31, max 127 (3GPP TS 34.108 [**Error! Reference source not found.**] clause 8.1.2)	INTEGER	127	
px_AuthRAND	Random Challenge (128 bits)	BITSTRING	'01010101…01'B	
px_CipheringOnOff	Security mode - TRUE if ciphering is applicable	BOOLEAN	TRUE	
px_CN_DomainTested	CN domain to be tested. This parameter is used in test cases that handle both PS and CS domains.	CN_DomainIdentity	cs_domain	
~~px_FDD_OperationBand~~	~~Operation band of test~~	~~INTEGER~~	~~1~~	
px_FRESH	Value for FRESH	Fresh	See note 1	
px_FDD_OperationBand	Applicable for FDD The operation band under test as defined in 34.108 clause 5.1.1	INTEGER	1, see note 3	Band 1 ~~Band 2~~ ~~Band 3~~ ~~6~~ – Band 6 All other values are not defined.
px_IMSI_Def	Default IMSI value	HEXSTRING	'001010123456063'H	
px_PriScrmCode	Applicable for FDD Primary scrambling code	PrimaryScramblingCode	100	
px_MS_ClsmkESIND	default Early Sending Indication	B1	'0'B	
px_MS_ClsmkRevLvl	default Revision Level	B2	'10'B	
px_MS_ClsmkRF_PwrCap	default RF Power Capability	B3	'000'B	
px_PTMSI_Def	default PTMSI	OCTETSTRING	'12345678'O	
px_PTMSI_SigDef	default PTMSI signature (3 octets, 3GPP 24.008 [**Error! Reference source not found.**], clause 10.5.5.8).	OCTETSTRING	'AB1234'O	

Parameter name	Description	Type	Default value	Supported value
px_RAT	Applicable for FDD This parameter is used to specify which radio access technology is being used for the current test execution. Valid values: fdd and tdd	RatType	fdd	
px_RRC_CS_ServTested	CS service to be tested for RRC test cases.	RRC_ServTested	Speech	
px_RRC_PS_ServTested	PS service to be tested for RRC test cases.	RRC_ServTested	Speech	
px_SRNC_Id	SRNC Id	SRNC_Identity	'0000 0000 0001'B	
px_SRNTI	S RNTI	S_RNTI	'0000 0000 0000 0000 0001'B	
px_TCellA	TCell value for cell A	Tcell	0	
px_TCellB	TCell value for cell B	Tcell	512	
px_TCellC	TCell value for cell C	Tcell	1536	
px_TCellD	TCell value for cell D	Tcell	321	
px_TCellE	TCell value for cell E	Tcell	833	
px_TCellF	TCell value for cell F	Tcell	6577	
px_TCellG	TCell value for cell G	Tcell	7253	
px_TCellH	TCell value for cell H	Tcell	4351	
px_TMSI_Def	Default TMSI	OCTETSTRING	'12345678'O	
px_UARFCN_High	Applicable for LCR TDD High range UARFCN value.	INTEGER	9596	The value shall be set within the operation band supported
px_UARFCN_Low	Applicable for LCR TDD Low range UARFCN value.	INTEGER	9504	The value shall be set within the operation band supported
px_UARFCN_Mid	Applicable for LCR TDD Middle range UARFCN value	INTEGER	9550	The value shall be set within the operation band supported
px_UARFCN_D_Mid	Applicable for FDD Mid Range downlink UARFCN value	INTEGER	10700	
px_UARFCN_D_Low	Applicable for FDD Low Range downlink UARFCN value	INTEGER	10563	
px_UARFCN_D_High	Applicable for FDD High Range downlink UARFCN value	INTEGER	10837	
px_UARFCN_U_High	Applicable for FDD High Range uplink UARFCN value. This value shall be set based on the operation band supported.	INTEGER	9887	
px_UARFCN_U_Low	Applicable for FDD Low Range uplink UARFCN value. This value shall be set based on the operation band supported.	INTEGER	9613	
px_UARFCN_U_Mid	Applicable for FDD Mid Range uplink UARFCN value. This value shall be set based on the operation band supported.	INTEGER	9750	
px_UE_OpModeDef	Default UE operation mode (either opModeA or opModeC). (For most UEs this corresponds class-A or class-C, and can not be changed by the user)	UE_OperationMode	opModeA	
px_UL_ScramblingCode	Applicable for FDD UL scrambling code value to be used by UE.	UL_ScramblingCode	0	
px_UTRAN_GERAN	This parameter is used to specify for which environment region the system information blocks are broadcast in the test execution. Valid values: "UTRAN	Region	"UTRAN and GERAN"	

Parameter name	Description	Type	Default value	Supported value
	only" and "UTRAN and GERAN".			
NOTE 1: No default value can be proposed (Manufacturer defined value). NOTE 2: No default value can be proposed, because not enough information is available in 3GPP TS 34.109 [**Error! Reference source not found.**] clause 8.1.2. NOTE 3: This value shall be set in synchronisation with the values that are being set for the 6 other pixits viz: px_UARFCN_D_High,px_UARFCN_U_High, px_UARFCN_D_Mid,px_UARFCN_L_Mid, px_UARFCN_D_Low, px_UARFCN_U_Low				

3GPP TSG-T WG1 Meeting #26 ***T1-050250***
Bengalore, India, 31 January – 4 February 2005

CR-Form-v7

CHANGE REQUEST

⌘ **34.123-3** **CR** **1266** ⌘ **rev** **-** ⌘ Current version: **3.8.0** ⌘

*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:	⌘	Replacement of 34.123-3 Release 99 by a pointer to the newly created Release 5 version
Source:	⌘	MCC
Work item code:	⌘	TEI
Date:	⌘	25/01/2005
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:	⌘	To avoid redundancy in delegates' and MCC's work, it is proposed to maintain one single version of 34.123-3, i.e. the Release 5 version. Consequently, all the ccontent of the Release 99 version has to be deleted and replaced by a pointer to the Release 5 version.
Summary of change:	⌘	The technical content of 34.123-3 Release 99 is deleted and replaced by a pointer to newly created Release 5 version.
Consequences if not approved:	⌘	ETSI/MCC will have to maintain in parallel several almost-identical versions of 34.123-3, T1 delegates will have to write CRs against three versions instead of one.

Clauses affected:	⌘	All
Other specs affected:	⌘	Y / N ☐ / X Other core specifications ☐ / X Test specifications ☐ / X O&M Specifications ⌘
Other comments:	⌘	With the approval of this CR, a version 5.0.0 will be created with all the technical content of v.3.8.0 plus the CRs agreed at T1#26. A version 4.0.0 will be created with no technical content but simply a pointer to the Release 5 version. This CR has no impact on TTCN.

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.

Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

- x the first digit:
  - 1 presented to TSG for information;
  - 2 presented to TSG for approval;
  - 3 or greater indicates TSG approved document under change control.
- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

Introduction

The present document is 3rd part of a multi-part conformance test specification for UE. The specification contains a TTCN design frame work and the detailed test specifications in TTCN for UE at the Uu interface.

3GPP TS 34.123-1 ~~[1]~~ contains a conformance test description in prose for UE at the Uu interface.

3GPP TS 34.123-2 ~~[2]~~ contains a pro-forma for the UE Implementation Conformance Statement (ICS).

1 Scope

The present document specifies the protocol conformance testing in TTCN for the 3GPP User Equipment (UE) at the Uu interface.

The present document is the 3rd part of a multi-part test specification, 3GPP TS 34.123. The following TTCN test specification and design considerations can be found in the present document:

- the overall test suite structure;
- the testing architecture;
- the test methods and PCO definitions;
- the test configurations;
- the design principles, assumptions, and used interfaces to the TTCN tester (System Simulator);
- TTCN styles and conventions;
- the partial PIXIT proforma;
- the TTCN.MP and TTCN.GR forms for the mentioned protocols tests.

The Abstract Test Suites designed in the document are based on the test cases specified in prose (3GPP TS 34.123-1 ~~[1]~~).

2 References and all following clauses

See latest version of 3GPP TS 34.123-3 Release 5 (version 5.x.y).

3GPP TSG-T WG1 Meeting #26
Bangalore, India, 31 Jan – 04 Feb 2005

T1-050282*(rev.050038)*

CR-Form-v7

CHANGE REQUEST

⌘ **34.123-3** **CR** **1267** ⌘ **rev** **-** ⌘ Current version: **3.8.0** ⌘

*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:	⌘	Corrections of encoding rules and postambles
Source:	⌘	MCC task 160
Work item code:	⌘	TEI
Date:	⌘	19/01/2005
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: ⌘

1. **Existing GSM encoding rules cannot be used for DL SACCH messages**

GSM DL messages sent on SACCH have different lengths: System Information messages have a maximum length of 19 octets and Measurement Information messages have a maximum length of 21 octets. The encoding rules currently defined relate to messages sent on other channels which have a different maximum length, and therefore cannot be used for SACCH messages. (ref. 44.006, 8.8.3).

2. **Pre- & postambles for GERAN to UTRAN tests**
UTRAN security procedures should be activated for the current cn domain. Note, this is a specific case where the SGSN sends an SMC to UTRAN without the AKA. The UTRAN PS key is derived from the GPRS key.

3. Inconsistency of RB Id allocation for the 2nd PCCH on SCCPCH
The approved TC 14.4.2.2 (WI-10, P2) and 14.4.4.2a.2 (WI-10, P4) the RB identity for the 2nd PCCH are allocated as -4 according to 34.123-3, 8.2.4. The RB id may have been associated with the codec in the SS. However, the inconsistency exists in two places where -19 was allocated to PCCH2. The errors should be corrected (on Anritsu comment).

4. Correctly use USIM field "HPLMN with Access Technology"
Currently it is specified in some of the idle mode test cases using the USIM field "HPLMN with Access Technology". However, in 23.122 clause 4.4.3 it is stated:

"The MS shall not use the PLMN codes contained in the "HPLMN Selector with Access Technology" data field.

Summary of change: ⌘

1.TTCN Encoding rules 4 and 5 introduced

2. for GERAN to UTRAN handover in CS, integrity is enabled first in the CS domain,

	during the ongoing CS call and then in the PS domain, during Routing Area Updating 3. In 8.3.20 and 8.3.28 RBid for PCCH2 is changed from -19 to -4. 4. "HPLMN with Access Technology" specified in 8.5.5.1 is removed for those TCs where the HPLMN code in the IMSI is applied. Note: the introduced changes are alined with the the similar changes in T1-050050.
Consequences if not approved:	⌘ TTCN coding errors may occur if author must count bits of DL SACCH messages. Four P4 GERAN to UTRAN test cases would not be verifiable if UTRAN security procedures were incorrect.

Clauses affected:	⌘	6.10.2.9, 8.3.20, 8.3.28, 8.5.5.1, 8.12			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘	The proposed changes have no impact on the approved TTCN test cases.			

6.10.2.9 L|H bits convention and bit padding in DL

6.10.2.9.1 GERAN DL RLC/MAC message bit padding

The length of a GPRS RLC/MAC control messages is an integer number of RLC/MAC control blocks. Padding bits are necessary to fill the message up to the desired length. The padding bits may be the 'null' string. Otherwise, the padding bits starts with bit '0', followed by 'spare padding'. The padding sequence used for 'spare padding' in this specification, is a repetition of octet '00101011', starting on an octet boundary.

< padding bits > ::= { null | 0 < spare padding >

“<spare padding> ::= <spare L> {null | < spare padding>}”

In the TTCN a specific encoding variation – encoding rule 1 - is defined according to the rules described above. This shall be used in the definition of the message itself. No ‘padding bits’ field will be defined in the TTCN. The implementation shall ensure that after encoding the message contents defined in the TTCN, the remainder of the message shall be filled with ‘padding bits’.

6.10.2.9.2 GSM DL message spare padding

A number of GPRS information elements are defined in the rest octets of certain GSM DL messages, for instance, IA Rest Octets, SI 2quater Rest Octets, SI 3 Rest Octets, SI 4 Rest Octets, SI 13 Rest Octets, etc. These rest octets were filled in a repetition of bit padding '00101011' or '2B'O, starting on an octet boundary to a certain length.

In the TTCN, a second encoding variation – encoding rule 2 – shall be used in the definition of the message itself, which shall be of a fixed length (always 23 octets). No ‘spare padding’ field will be defined in the TTCN. The implementation shall ensure that after encoding the message contents defined in the TTCN, the remainder of the message, up to the defined fixed length, shall be filled with ‘spare padding’.

6.10.2.9.3 L | H convention in rest octets of GSM DL messages

A number of GPRS information elements are defined in the rest octets of certain GSM DL messages. The special notations "L" and "H" are used to denote respectively the bit’s logical value corresponding to the padding spare bit for that position, and the other value. The actual value of the bit transmitted by SS therefore depends upon its position within the octet – this involves counting bits.

In the TTCN a third encoding variation - encoding rule 3 - is defined for this purpose. This encoding veriation is applied to those specific TTCN Rest Octets definitions which contain the L|H convention.

6.10.2.9.4 Spare Bits

Where the IE definition of RLC/MAC blocks contains bits defined to be 'spare bits', these bits shall set to the value '0' by the TTCN writers, according to the defined length indicator.

6.10.2.9.5 GSM System Information messages on SACCH

Certain GSM System Information messages, for instance, SI 5 and SI 6 are sent as a B4 frame on the SACCH. These messages are defined in 3GPP 44.006, clause 8.8.3 to have a maximum of 19 octets.

In the TTCN a fourth encoding variation – encoding rule 4 – shall be used in the definition of the message itself. The implementation shall ensure that after encoding the message contents defined in the TTCN, the remainder of the message, up to the fixed length of 19 octets, shall be filled with ‘spare padding’.

6.10.2.9.6 GSM Measurement Information messages on SACCH

The GSM Measurement Information message is sent as a Bter UI frame on the SACCH. This messages is defined in 3GPP 44.006, clause 8.8.3 to have a maximum of 21 octets.

In the TTCN a fifth encoding variation – encoding rule 5 – shall be used in the definition of the message itself. The implementation shall ensure that after encoding the message contents defined in the TTCN, the remainder of the message, up to the fixed length of 21 octets, shall be filled with ‘spare padding’.

8.3.20 Configuration of Cell_FACH_2_SCCPCH_StandAlonePCH

The configuration is based on 3GPP TS 34.108 [**Error! Reference source not found.**], clause 6.10.2.4.3.2.1.2 for downlink and 3GPP TS 34.108 [**Error! Reference source not found.**] except the mapping of PCH, clause 6.10.2.4.4.1.1.1 for uplink.

The configuration is applied to the RAB tests.

The uplink configuration of Cell_FACH_2_SCCPCH_StandAlonePCH is the same as the uplink configuration of Cell_FACH.

Table 1: Downlink configuration of Cell_FACH_2_SCCPCH_StandAlonePCH

RB Identity	tsc_RB20 (20)	tsc_RB0 (0)	tsc_RB1 (1)	tsc_RB2 (2)	tsc_RB3 (3)	tsc_RB4 (4)	tsc_RB_BCCH_FACH (-3)	tsc_RB_PCCH2 (-~~19~~4)
LogCh Type	DTCH	CCCH	DCCH	DCCH	DCCH	DCCH	BCCH	PCCH
LogCh Identity	tsc_DL_DTCH1 (6)	tsc_DL_CCCH5 (5)	tsc_DL_DCCH1 (1)	tsc_DL_DCCH2 (2)	tsc_DL_DCCH3 (3)	tsc_DL_DCCH4 (4)	tsc_BCCH6 (6)	tsc_PCCH1 (1)
RLC mode	AM	UM	UM	AM	AM	AM	TM	TM
MAC priority	1	1	2	3	4	5	6	1
TrCH Type	FACH	FACH						PCH
TrCH identity	tsc_FACH2 (14)	tsc_FACH1 (13)						tsc_PCH1 (12)
PhyCh Type	Secondary CCPCH							Secondary CCPCH
PhyCH identity	tsc_S_CCPCH2 (10)							tsc_S_CCPCH1 (5)

8.3.28 Configuration of Cell_FACH_2_SCCPCH_StandAlonePCH_2a

The configuration is based on 3GPP TS 34.108 [**Error! Reference source not found.**], clause 6.10.2.4.3.2a for downlink and 3GPP TS 34.108 [**Error! Reference source not found.**] except the mapping of PCH, clause 6.10.2.4.4.2 for uplink. The configuration is applied to the RAB tests.

Table 2: Uplink configuration of Configuration of Configuration of Cell_FACH_2_SCCPCH_StandAlonePCH_2a

tsc_RB24 (24)	tsc_RB20 (20)	tsc_RB0 (0)	tsc_RB1 (1)	tsc_RB2 (2)	tsc_RB3 (3)	
DTCH	DTCH	CCCH	DCCH	DCCH	DCCH	
Tsc_UL_DTCH4 (10)	Tsc_UL_DTCH1 (7)	tsc_UL_CCCH5 (5)	tsc_UL_DCCH1 (1)	tsc_UL_DCCH2 (2)	tsc_UL_DCCH3 (3)	tsc_
AM	AM	TM	UM	AM	AM	
RACH						
tsc_RACH1 (15)						
PRACH						
tsc_PRACH1 (8)						

Table 3: Downlink configuration of Cell_FACH_2_SCCPCH_StandAlonePCH_2a

tity	tsc_RB20 (20)	tsc_RB24 (24)	tsc_RB0 (0)	tsc_RB1 (1)	tsc_RB2 (2)	tsc_RB3 (3)	tsc_RB4 (4)	tsc_RB_BCCH_FACH (-3)	tsc_RB_ (-~~1~~
ype	DTCH	DTCH	CCCH	DCCH	DCCH	DCCH	DCCH	BCCH	PC
ntity	tsc_DL_DT CH1 (7)	tsc_DL_DTC H4 (10)	tsc_DL_CC CH5 (5)	tsc_DL_DC CH1 (1)	tsc_DL_DC CH2 (2)	tsc_DL_DC CH3 (3)	tsc_DL_DC CH4 (4)	tsc_BCCH6 (6)	tsc_PC
de	AM	AM	UM	UM	AM	AM	AM	TM	T
rity	1	1	1	2	3	4	5	6	1
pe	FACH	FACH	FACH						PC
ntity	tsc_FACH2 (14)		tsc_FACH1(13)						tsc_PC
ype	Secondary CCPCH								Secondar
ntity	tsc_S_CCPCH2 (10)								tsc_S_CC

8.5.5.1 Test USIM for Idle mode tests

The PLMN 1-12 identities used below have been defined in 3GPP TS 34.123-1 [**Error! Reference source not found.**], table 6.2. Clause numbers refer to 3GPP TS 34.123-1 [**Error! Reference source not found.**].

Test USIM is configured as bellow for PLMN selection of RPLMN, HPLMN, UPLMN and OPLMN in TC_6_1_1_1 and TC_6_1_1_4.

Table 4

USIM field	Priority	PLMN	Access Technology Identifier
EF_{LOCI}		PLMN 1	
~~$EF_{HPLMNwAcT}$~~	~~1st~~	~~PLMN 2~~	~~UTRAN~~
$EF_{PLMNwAcT}$	1st	PLMN 3	UTRAN
	2nd	PLMN 4	UTRAN
$EF_{OPLMNwAcT}$	1st	PLMN 5	UTRAN
	2nd	PLMN 6	UTRAN
EF_{FPLMN}	PLMN 3		

Test USIM is configured as bellow for PLMN selection of PLMN selection of other PLMN with access technology combinations in TC_6_1_1_2 and TC_6_1_1_5.

Table 5

USIM field	Priority	PLMN	Access Technology Identifier
EF_{LOCI}		PLMN 1	
$EF_{HPLMNwAcT}$	1st	PLMN 2	UTRAN
$EF_{PLMNwAcT}$	1st	PLMN 3	UTRAN
	2nd	PLMN 4	UTRAN
$EF_{OPLMNwAcT}$	1st	PLMN 5	UTRAN
	2nd	PLMN 6	UTRAN
EF_{FPLMN}	PLMN 10		

Test USIM is configured as bellow for manual PLMN selection independent of RF level and preferred PLMN in TC_6_1_1_3.

Table 6

USIM field	Priority	PLMN	Access Technology Identifier
EF_{LOCI}			
~~$EF_{HPLMNwAcT}$~~	~~1st~~	~~PLMN 1~~	~~UTRAN~~
$EF_{PLMNwAcT}$	1st	PLMN 3	UTRAN

Test USIM for emergency calls requires that all the BCCH cells belong to the same PLMN, which is not the UE's home PLMN and is in the USIM's forbidden PLMN's list. This specific USIM requirement applies to TC_6_1_2_6.

Test USIMs are configured as bellow for Selection of the correct PLMN and associated RAT in TC_6_2_1_1. Two test USIMs are needed for the test.

Table 7: USIM A

USIM field	Priority	PLMN	Access Technology Identifier
EF_{LOCI}			
$EF_{HPLMNwAcT}$	1st	~~PLMN 1~~	GSM
$EF_{HPLMNwAcT}$	2nd		UTRAN

Table 8: USIM B

USIM field	Priority	PLMN	Access Technology Identifier
EF_{LOCI}			
$EF_{HPLMNwAcT}$	1st	~~PLMN 2~~	UTRAN
	2nd		GSM

Test USIMs are configured as bellow for Selection of RAT for HPLMN in TC_6_2_1_2 ~~and TC_6_2_1_6~~. Two test USIMs are needed for the test.

Table 9: USIM A

USIM field	Priority	PLMN	Access Technology Identifier
EF_{LOCI}		PLMN 1	
$EF_{HPLMNwAcT}$	1st	~~PLMN 2~~	UTRAN
	2nd		GSM

Table 10: USIM B

USIM field	Priority	PLMN	Access Technology Identifier
EF_{LOCI}		PLMN 1	
$EF_{HPLMNwAcT}$	1st	~~PLMN 2~~	UTRAN
	2nd		

Test USIMs are configured as bellow for Selection of RAT for HPLMN in TC_6_2_1_6. Two test USIMs are needed for the test.

Table 11: USIM A

USIM field	Priority	PLMN	Access Technology Identifier
EF_{LOCI}		PLMN 1	
$EF_{HPLMNwAcT}$	1st		UTRAN
	2nd		GSM
$EF_{PLMNwAcT}$	1st	PLMN3	UTRAN

Table 12: USIM B

USIM field	Priority	PLMN	Access Technology Identifier
EF_{LOCI}		PLMN 1	
$EF_{HPLMNwAcT}$	1st		UTRAN
	2nd		
$EF_{PLMNwAcT}$	1st	PLMN3	UTRAN

Test USIM for Selection of RAT for UPLMN or OPLMN in TC_6_2_1_3, TC_6_2_1_4, TC_6_2_1_7, TC_6_2_1_8 and for Selection of Other PLMN with access technology combinations"; Automatic mode in TC_6_2_1_9.

Table 13

USIM field	Priority	PLMN	Access Technology Identifier
EF_{LOCI}		PLMN 1	
$EF_{HPLMNwAcT}$	1st	~~PLMN 2~~	UTRAN
	2nd		GSM
$EF_{PLMNwAcT}$	1st	PLMN 3	UTRAN
	2nd	PLMN 4	GSM
$EF_{OPLMNwAcT}$	1st	PLMN 5	UTRAN
	2nd	PLMN 6	GSM

Test USIM are configured as bellow for manual selection of other PLMN with access technology combinations in TC_6_2_1_5.

Table 14

USIM field	Priority	PLMN	Access Technology Identifier
EF_{LOCI}		PLMN 1	
$EF_{HPLMNwAcT}$	1st	PLMN 2	UTRAN
	2nd		GSM
$EF_{PLMNwAcT}$	1st	PLMN 3	UTRAN
	2nd	PLMN 4	GSM
$EF_{OPLMNwAcT}$	1st	PLMN 5	UTRAN
	2nd	PLMN 6	GSM
EF_{FPLMN}	PLMN 7		
	PLMN 12		

Test USIM for cell reselection if cell becomes barred or for cell reselection timings requires that the USIM does not contain any preferred RAT. This specific test USIM applies to TC_6_2_2_1, TC_6_2_2_2 and TC_6_2_2_3.

8.12 Pre- & postambles for GERAN to UTRAN tests

8.12.1 Preamble for GERAN to UTRAN tests

Before running inter-RAT test cases, radio conditions should be such that the mobile has to select the cell of the intended original RAT. The following steps should be used before running GERAN to UTRAN test cases.

1. UTRAN cell is powered OFF. The default radio conditions for a suitable GERAN cell are used for the serving cell, as defined in 34.108 clause 6.1.7. This step is performed while the UE is still switched OFF.
2. UE is switched ON and performs registration and attach.
3. The UTRAN cell is powered ON with an RF level such that the cell is a suitable neighbour cell, using the RF conditions defined in 34.108 clause 6.1.5, so that the UE will not re-select the UTRAN cell.

8.12.2 Postamble for GERAN to UTRAN tests

The following procedure is used after inter-RAT handover or cell change order test cases in case the test needs to be performed multiple times in a loop.

8.12.2.1 GERAN to UTRAN handover in CS

The test cases are defined in 51.010-1 clause 60.

Expected sequence

- PLMN identity	Not present
- CN domain related information	

Step	Direction		Message	Comments
	UE	SS		
1		<--	SECURITY MODE COMMAND	Integrity protection is activated. UTRAN security keys in CPS domain derived from GERAN
2		-->	SECURITY MODE COMPLETE	
3		<--	UTRAN MOBILITY INFORMATION	RRC
4		-->	UTRAN MOBILITY INFORMATION CONFIRM	RRC
5		-->	ROUTING AREA UPDATE REQUEST	GMM - Update type = 'RA updating'. Not performed by CS only mobile.
5a	<--		SECURITY MODE COMMAND	Integrity protection is activated. UTRAN security keys in PS domain derived from GERAN
5b	-->		SECURITY MODE COMPLETE	
6		<--	ROUTING AREA UPDATE ACCEPT	GMM - P-TMSI is included
7		-->	ROUTING AREA UPDATE COMPLETE	
8				The call is terminated. SS releases the RRC connection.
9		-->	RRC CONNECTION REQUEST	RRC – establishment cause = 'registration'
10		<--	RRC CONNECTION SETUP	RRC
11		-->	RRC CONNECTION SETUP COMPLETE	RRC
12		-->	ROUTING AREA UPDATE REQUEST	CS/PS mobiles: GMM – Update type" = 'combined RA/LA updating' or 'combined RA/LA updating with ISMI Attach' Note: CS only mobiles will perform a normal LAU
13		<--	SECURITY MODE COMMAND	Integrity protection is activated.
14		-->	SECURITY MODE COMPLETE	
15		<--	ROUTING AREA UPDATE ACCEPT	P-TMSI is included
16		-->	ROUTING AREA UPDATE COMPLETE	
17				The SS releases the RRC connection.
18				UE is powered OFF

Specific message contents

UTRAN MOBILITY INFORMATION message:

Use the same message sub-type found in TS 34.108, clause 9, with the following exceptions:

Information Element	Value/remark
CN information info	

SECURITY MODE COMMAND message:

Use the same message sub-type found in TS 34.108, clause 9, with the following exceptions:

Information Element	Value/remark
Ciphering mode info	Not present

All remaining Specific message contents shall be referred to 34.108 clause 9 "Default Message Contents of Layer3 Messages for Layer 3 Testing".

3GPP TSG-T WG1 Meeting #26
Bangalore, 31Jan – 4 Feb 2005

T1-050284*(revT1-050035,.T1-041542)*

CR-Form-v7

CHANGE REQUEST

⌘ **34.123-3** **CR** **1268** ⌘ **rev** **-** ⌘ Current version: **3.8.0** ⌘

*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:	⌘	Introduce ASP for A-GPS
Source:	⌘	MCC task 160
Work item code:	⌘	TEI
Date:	⌘	13/01/2005
Category:	⌘	**B**
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:	⌘	1. In order to start the TTCN development for the A-GPS, a set of ASP and the PCO should be defined. **2.** A-GPS in turn uses Supplementary Service as well as TCAP definition for Remote Operations. The concerned ASN.1 definitions are spread in several 3GPP, and ITU-T standards. For the documentation purpose, a compact extraction of ASN.1 module for A-GPS TTCN needs to be introduced in annex H. These standard references need also to be added at clause 2.
Summary of change:	⌘	1. Introduce a new clause 7.3.5 for the PCO and ASP definitions in respect of A-GPS. 2. An informative annex H for A-GPS ASN.1 definition is added. The references are added in clause 2.
Consequences if not approved:	⌘	A-GPS TTCN test cases in GCF WI-15 could not be developed.

Clauses affected:	⌘	2, 7.3.5, annex H

		Y	N		
Other specs affected:	⌘		X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	

Other comments:	⌘

2 References

The following documents contain provisions, which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TS 34.123-1: "User Equipment (UE) conformance specification; Part 1: Protocol conformance specification".

[2] 3GPP TS 34.123-2: "User Equipment (UE) conformance specification; Part 2: Implementation Conformance Statement (ICS) proforma specification".

[3] 3GPP TS 34.108: "Common test environments for User Equipment (UE) conformance testing".

[4] 3GPP TS 34.109: "Terminal logical test interface; Special conformance testing functions".

[5] 3GPP TR 21.905: "Vocabulary for 3GPP specifications".

[6] 3GPP TS 23.003: "Numbering, addressing and identification".

[7] 3GPP TS 23.101: "General UMTS architecture".

[8] 3GPP TS 24.007: "Mobile radio interface signalling layer 3; General aspects".

[9] 3GPP TS 24.008: "Mobile radio interface layer 3 specification; Core network protocols; Stage 3".

[10] 3GPP TS 24.011: "Point-to-Point (PP) Short Message Service (SMS) support on mobile radio interface".

[11] 3GPP TS 24.012: "Short Message Service Cell Broadcast (SMSCB) support on the mobile radio interface".

[12] 3GPP TS 25.214: "Physical layer procedures (FDD)".

[13] 3GPP TS 25.224: "Physical layer procedures (TDD)".

[14] 3GPP TS 25.301: "Radio interface protocol architecture".

[15] 3GPP TS 25.303: "Interlayer procedures in connected mode".

[16] 3GPP TS 25.304: "User Equipment (UE) procedures in idle mode and procedures for cell reselection in connected mode".

[17] 3GPP TS 25.321: "Medium Access Control (MAC) protocol specification".

[18] 3GPP TS 25.322: "Radio Link Control (RLC) protocol specification".

[19] 3GPP TS 25.323: "Packet Data Convergence Protocol (PDCP) specification".

[20] 3GPP TS 25.324: "Broadcast/Multicast Control (BMC)".

[21] 3GPP TS 25.331: "Radio Resource Control (RRC) protocol specification".

[22] 3GPP TS 27.005: "Use of Data Terminal Equipment - Data Circuit terminating Equipment (DTE-DCE) interface for Short Message Service (SMS) and Cell Broadcast Service (CBS)".

[23] 3GPP TS 27.007: "AT command set for 3G User Equipment (UE)".

[24] 3GPP TS 27.060: "Packet domain; Mobile Station (MS) supporting Packet Switched services".

[25] 3GPP TS 33.102: "3G security; Security architecture".

[26] 3GPP TS 51.010-1: "Mobile Station (MS) conformance specification; Part 1: Conformance specification".

[27] ETSI TR 101 666 (V1.0.0): "Information technology; Open Systems Interconnection Conformance testing methodology and framework; The Tree and Tabular Combined Notation (TTCN) (Ed. 2++)".

[28] ITU-T Recommendation X.691 (1997) "Information technology - ASN.1 encoding rules: Specification of Packed Encoding Rules (PER)".

[29] ISO/IEC 8824 (all parts): "Information technology - Abstract Syntax Notation One (ASN.1)".

[30] IETF RFC 2507: "IP Header Compression".

[31] 3GPP TS 45.002: "Multiplexing and multiple access on the radio path".
3GPP TS 05.02: "Digital cellular telecommunications system (Phase 2+); Multiplexing and multiple access on the radio path".

[32] 3GPP TS 44.060: "General Packet Radio Service (GPRS); Mobile Station (MS) - Base Station System (BSS) interface; Radio Link Control/Medium Access Control (RLC/MAC) protocol".
3GPP TS 04.60: "Digital cellular telecommunications system (Phase 2+); General Packet Radio Service (GPRS); Mobile Station (MS) - Base Station System (BSS) interface; Radio Link Control/Medium Access Control (RLC/MAC) protocol".

[33] 3GPP TS 44.064: "Mobile Station - Serving GPRS Support Node (MS-SGSN) Logical Link Control (LLC) layer specification".

[34] 3GPP TS 23.038: "Alphabets and language-specific information".

[35] 3GPP TS 23.040: "Technical realization of Short Message Service (SMS)".

[36] 3GPP TS 23.041: "Technical realization of Cell Broadcast Service (CBS)".

[37] ETSI ETR 141: "Methods for Testing and Specification (MTS); Protocol and profile conformance testing specifications; The Tree and Tabular Combined Notation (TTCN) style guide".

[38] ETSI TR 101 101: "Methods for Testing and Specification (MTS); TTCN interim version including ASN.1 1994 support [ISO/IEC 9646-3] (Second Edition Mock-up for JTC1/SC21 Review)".

[39] ITU-T Recommendation X.680: "Information technology - Abstract Syntax Notation One (ASN.1): Specification of basic notation".

[40] 3GPP TS 25.211: "Physical channels and mapping of transport channels onto physical channels (FDD)".

[41] ISO/IEC 9646 (all parts): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework".

[42] 3GPP TS 44.006: "Mobile Station - Base Stations System (MS - BSS) Interface Data Link (DL) layer specification".

[43] 3GPP TS 44.018: "Mobile radio interface layer 3 specification; Radio Resource Control (RRC) protocol".
3GPP TS 04.18: "Digital cellular telecommunications system (Phase 2+); Mobile radio interface layer 3 specification; Radio Resource Control (RRC) protocol".

[44] 3GPP TR 25.925: "Radio interface for Broadcast/Multicast Services".

[45] ITU-T Recommendation O.153: "Basic parameters for the measurement of error performance at bit rates below the primary rate".

[46] IETF RFC 1144: "Compressing TCP/IP headers for low-speed serial links".

[47] ITU-T Recommendation V.42bis: "Data compression procedures for data circuit-terminating equipment (DCE) using error correction procedures".

[48] ITU-T Recommendation V.44: "Data compression procedures".

[49] 3GPP TS 44.008: "Mobile radio interface layer 3 specification".
3GPP TS 04.08: "Digital cellular telecommunications system (Phase 2+); Mobile radio interface layer 3 specification".

[50] 3GPP TS 24.080: "Mobile radio interface layer 3 supplementary services specification; Formats and coding"

[51] 3GPP TS 29.002: "Mobile Application Part (MAP) specification"

[52] ITU-T Recommendation Q.773: "Signalling System No. 7 - Transaction Capabilities Formats and Encoding"

[53] ITU-T Recommendation X.880: "Information Technology - Remote Operations: Concepts, Model and Notation"

7.3.5 A-GPS Upper tester, PCO and ASP definitions

7.3.5.1 Upper tester

In order to perform A-GPS test, an Upper Tester is defined to have two basic functional unites:

- Satellite simulator generating and broadcasting satellite signals,
- Assistance data source storeging the data simulating a number of pre-defined GPS test scenarios.

Under the TTCN command, the upper tester loads a pre-defined or re-loads another pre-defined GPS test scenario to the satellite simulator. The generated satellite signals shall simulate a sufficient number satellites. The signal shall be sufficiently strong, in order to enable the UE to do the positioning measurement.

The SS also sends the GPS assistance data to the UE through RRC signalling to facilitate the UE acquiring and tracking satellites. Such assistance data shall be consistent to within +/- 2 seconds with the satellite signals generated.

The assistance data source shall provide the assistance data consistent to + 1 /- 0 second with the GPS test scenario currently running in the satellite simulator (i.e. the data shall be up to 1 second in advance of the scenario); this allows for a further 2 seconds of latency in the SS.

7.3.5.2 SV PCO

The upper tester has an ASP interface through a PCO in type of SatS PCO defined in the table.

PCO Type Declarations	
PCO Type	SatS
Role	UT
Comments	PCO type used for the Satellite Simulator and the assistance data source in the upper tester

PCO Declarations	
PCO Name	SV
PCO Type	SatS
Role	UT
Comments	Carry control, configuration and GPS assistance data to/from satellite simulator and assistance data source in the upper tester

7.3.5.3 A-GPS Primitives

The primitives at SV PCO are used to

- load a pre-defined GPS test scenario into the satellite simulator,
- start or stop generating and broadcasting satellite signals from the satellite simulator
- retrieve the GPS assistance data from assistance data source, the table below is the summary of these primitives.

Primitive	Parameters	Use
Satellite_StartStop_REQ	Mode: start or stop	Start or stop generating satellite signals in the satellite simulator.
Satellite_StartStop_CNF	Null	Confirm the Satellite_StartStop_Req.
Load_GPS_Scenario_REQ	GPS test scenario number	Requests to load a pre-defined GPS test scenario into the satellite simulator
Load_GPS_Scenario_CNF	Null	Confirm the load_GPS_Scenario_Req
Retri_GPS_AssistanceData_REQ	Indication of which assistance data elements to be retrieved	Request the assistance data source to provide the next (in time) valid GPS assistance data elements.
Retri_GPS_AssistanceData_CNF	GPS assistance data elements	Return the GPS assistance data retrieved

7.3.5.3.1 Control ASP Type Definition

ASN.1 ASP Type Definition	
Type Name	Satellite_StartStop_CNF
PCO Type	SatS
Comment	To confirm successful of Satellite_StartStop_REQ
Type Definition	
SEQUENCE {	
confirm NULL	
}	

ASN.1 ASP Type Definition	
Type Name	Satellite_StartStop_REQ
PCO Type	SatS
Comment	To start or stop generating satellite signals in the satellite simulator "start" starts broadcasting satellite signals; "stop" stops broadcasting satellite signals If used for start (0), this ASP shall be called 2 s. after the ASP Load_GPS_Scenario_REQ for loading or reloading a pre-defined GPS test scenario.
Type Definition	
SEQUENCE {	
satelliteSignals ENUMERATED {startSatSignal (0), stopSatSignal (1)}	
}	

7.3.5.3.2 Data ASP Type Definition

ASN.1 ASP Type Definition	
Type Name	Load_GPS_Scenario_CNF
PCO Type	SatS
Comment	To confirm the Load_GPS_Scenario_REQ
Type Definition	
SEQUENCE {	
dummy NULL	
}	

ASN.1 ASP Type Definition	
Type Name	Load_GPS_Scenario_REQ
PCO Type	SatS
Comment	To request the upper tester to load the required pre-defined GPS test scenario.
Type Definition	
SEQUENCE { gps_Scenario INTEGER(0..31)}	

ASN.1 ASP Type Definition	
Type Name	Retri_GPS_AssistanceData_CNF
PCO Type	SatS
Comment	To return the next valid GPS assistance data elements as requested in the Retri_GPS_AssistanceData_REQ. The returned GPS assistance data (all or part) will be used as assistance data sent to UE in RRC messages for A-GPS positioning.
Type Definition	
SEQUENCE { assistanceData UE_Positioning_GPS_AssistanceData }	

ASN.1 ASP Type Definition	
Type Name	Retri_GPS_AssistanceData_REQ
PCO Type	SatS
Comment	To request the GPS assistance data source to provide the next valid GPS assistance data elements, consistent with the running GPS test scenario. The parameter navModelAddDataRequest in the assistanceDataReq shall be omitted. Another three parameters, utcModelRequest, dgpsCorrectionsRequest and realTimeIntegrityRequest in the assistanceDataReq are not applicable and shall be set to "FALSE".
Type Definition	
SEQUENCE { assistanceDataReq UE_Positioning_GPS_AdditionalAssistanceDataRequest }	

Annex H (informative): A-GPS ASN.1 module

```
Lcs-Definitions DEFINITIONS  ::=

BEGIN

--****************************************************
-- From ITU-T Rec. X.880 (July/1994)
--****************************************************



Code ::= CHOICE {
     local  INTEGER,
     global OBJECT IDENTIFIER
     }

-----

--****************************************************
-- From 3GPP TS 29.002
--****************************************************


NotificationToMSUser ::= ENUMERATED {
```

```
   notifyLocationAllowed (0),
   notifyAndVerify-LocationAllowedIfNoResponse (1),
   notifyAndVerify-LocationNotAllowedIfNoResponse (2),
   ...,
   locationNotAllowed (3) }
    -- exception handling:
    -- At reception of any other value than the ones listed the receiver shall
ignore
    -- NotificationToMSUser.

LocationType ::= SEQUENCE {
   locationEstimateType      [0] IMPLICIT LocationEstimateType,
   ...,
   deferredLocationEventType [1] IMPLICIT DeferredLocationEventType  OPTIONAL }

LocationEstimateType ::= ENUMERATED {
   currentLocation (0),
   currentOrLastKnownLocation (1),
   initialLocation (2),
   ...,
   activateDeferredLocation (3),
   cancelDeferredLocation (4) }
    -- exception handling:
    -- a ProvideSubscriberLocation-Arg containing an unrecognized
LocationEstimateType
    -- shall be rejected by the receiver with a return error cause of unexpected
data value

DeferredLocationEventType ::= BIT STRING {
   msAvailable (0) } (SIZE (1..16))
    -- exception handling
    -- a ProvideSubscriberLocation-Arg containing other values than listed above
in
    -- DeferredLocationEventType shall be rejected by the receiver with a return
error cause of
    -- unexpected data value.


LCSClientExternalID ::= SEQUENCE {
   externalAddress    [0] IMPLICIT ISDN-AddressString  OPTIONAL,
   extensionContainer [1] IMPLICIT ExtensionContainer  OPTIONAL,
   ...
   }

LCSClientName ::= SEQUENCE {
   dataCodingScheme [0] IMPLICIT USSD-DataCodingScheme,
   nameString       [2] IMPLICIT NameString,
   ...
   }

    -- The USSD-DataCodingScheme shall indicate use of the default alphabet
through the following encoding
    --  bit  7 6 5 4 3 2 1 0
    --       0 0 0 0 1 1 1 1

NameString ::= USSD-String (SIZE (1..maxNameStringLength))

maxNameStringLength  INTEGER ::= 63

USSD-DataCodingScheme ::= OCTET STRING (SIZE (1))
   -- The structure of the USSD-DataCodingScheme is defined by the Cell
   -- Broadcast Data Coding Scheme as described in TS 3GPP TS 23.038 [54]
```

```
LCSRequestorID ::= SEQUENCE {
   dataCodingScheme    [0] IMPLICIT USSD-DataCodingScheme,
   requestorIDString   [1] IMPLICIT RequestorIDString,
   ...
   }

RequestorIDString ::= USSD-String (SIZE (1..maxRequestorIDStringLength))

maxRequestorIDStringLength  INTEGER ::= 63


LCSCodeword ::= SEQUENCE {
   dataCodingScheme    [0] IMPLICIT USSD-DataCodingScheme,
   lcsCodewordString   [1] IMPLICIT LCSCodewordString,
   ...
   }

LCSCodewordString ::= USSD-String (SIZE (1..maxLCSCodewordStringLength))

maxLCSCodewordStringLength  INTEGER ::= 20

LCSServiceTypeID ::= INTEGER (0..127)
   -- the integer values 0-63 are reserved for Standard LCS service types
   -- the integer values 64-127 are reserved for Non Standard LCS service types


USSD-String ::= OCTET STRING (SIZE (1..maxUSSD-StringLength))
   -- The structure of the contents of the USSD-String is dependent
   -- on the USSD-DataCodingScheme as described in TS 3GPP TS 23.038 [25].

maxUSSD-StringLength  INTEGER ::= 160


ISDN-AddressString ::= AddressString (SIZE (1..maxISDN-AddressLength))
   -- This type is used to represent ISDN numbers.

maxISDN-AddressLength  INTEGER ::= 9


AddressString ::= OCTET STRING (SIZE (1..maxAddressLength))
   -- This type is used to represent a number for addressing purposes. It is
   -- composed of
   -- a) one octet for nature of address, and numbering plan indicator.
   -- b) digits of an address encoded as TBCD-String.

   -- a)  The first octet includes a one bit extension indicator, a
   --   3 bits nature of address indicator and a 4 bits numbering
   --   plan indicator, encoded as follows:

   -- bit 8: 1  (no extension)

   -- bits   765: nature of address indicator
   --        000  unknown
   --        001  international number
   --        010  national significant number
   --        011  network specific number
   --        100  subscriber number
   --        101  reserved
   --        110  abbreviated number
   --        111  reserved for extension
```

```
   -- bits   4321: numbering plan indicator
   --        0000   unknown
   --        0001   ISDN/Telephony Numbering Plan (Rec ITU-T E.164)
   --        0010   spare
   --        0011   data numbering plan (ITU-T Rec X.121)
   --        0100   telex numbering plan (ITU-T Rec F.69)
   --        0101   spare
   --        0110   land mobile numbering plan (ITU-T Rec E.212)
   --        0111   spare
   --        1000   national numbering plan
   --        1001   private numbering plan
   --        1111   reserved for extension

   --all other values are reserved.

   -- b)  The following octets representing digits of an address
   --   encoded as a TBCD-STRING.

maxAddressLength  INTEGER ::= 20


LCS-QoS ::= SEQUENCE {
   horizontal-accuracy       [0] IMPLICIT Horizontal-Accuracy OPTIONAL,
   verticalCoordinateRequest [1] IMPLICIT NULL    OPTIONAL,
   vertical-accuracy         [2] IMPLICIT Vertical-Accuracy OPTIONAL,
   responseTime              [3] IMPLICIT ResponseTime OPTIONAL,
   extensionContainer        [4] IMPLICIT ExtensionContainer  OPTIONAL,
   ...
   }

Horizontal-Accuracy ::= OCTET STRING (SIZE (1))
   -- bit 8 = 0
   -- bits 7-1 = 7 bit Uncertainty Code defined in 3GPP TS 23.032. The
horizontal location
   -- error should be less than the error indicated by the uncertainty code with
67%
   -- confidence.

Vertical-Accuracy ::= OCTET STRING (SIZE (1))
   -- bit 8 = 0
   -- bits 7-1 = 7 bit Vertical Uncertainty Code defined in 3GPP TS 23.032.
   -- The vertical location error should be less than the error indicated
   -- by the uncertainty code with 67% confidence.

ResponseTime ::= SEQUENCE {
   responseTimeCategory    ResponseTimeCategory,
   ...
   }
    -- note: an expandable SEQUENCE simplifies later addition of a numeric
response time.

ResponseTimeCategory ::= ENUMERATED {
   lowdelay (0),
   delaytolerant (1),
   ...
   }
    -- exception handling:
    -- an unrecognized value shall be treated the same as value 1
(delaytolerant)


SupportedGADShapes ::= BIT STRING {
   ellipsoidPoint (0),
```

```
   ellipsoidPointWithUncertaintyCircle (1),
   ellipsoidPointWithUncertaintyEllipse (2),
   polygon (3),
   ellipsoidPointWithAltitude (4),
   ellipsoidPointWithAltitudeAndUncertaintyElipsoid (5),
   ellipsoidArc (6) } (SIZE (7..16))
    -- A node shall mark in the BIT STRING all Shapes defined in 3GPP TS 23.032
it supports.
    -- exception handling: bits 7 to 15 shall be ignored if received.


Ext-GeographicalInformation ::= OCTET STRING (SIZE (1..maxExt-
GeographicalInformation))
   -- Refers to geographical Information defined in 3GPP TS 23.032.
   -- This is composed of 1 or more octets with an internal structure according
to
   -- 3GPP TS 23.032
   -- Octet 1: Type of shape, only the following shapes in 3GPP TS 23.032 are
allowed:
   --   (a) Ellipsoid point with uncertainty circle
   --   (b) Ellipsoid point with uncertainty ellipse
   --   (c) Ellipsoid point with altitude and uncertainty ellipsoid
   --   (d) Ellipsoid Arc
   --   (e) Ellipsoid Point
   -- Any other value in octet 1 shall be treated as invalid
   -- Octets 2 to 8 for case (a)  Ellipsoid point with uncertainty circle
   --   Degrees of Latitude          3 octets
   --   Degrees of Longitude         3 octets
   --   Uncertainty code        1 octet
   -- Octets 2 to 11 for case (b)  Ellipsoid point with uncertainty ellipse:
   --   Degrees of Latitude          3 octets
   --   Degrees of Longitude         3 octets
   --   Uncertainty semi-major axis         1 octet
   --   Uncertainty semi-minor axis         1 octet
   --   Angle of major axis          1 octet
   --   Confidence          1 octet
   -- Octets 2 to 14 for case (c)  Ellipsoid point with altitude and uncertainty
ellipsoid
   --   Degrees of Latitude          3 octets
   --   Degrees of Longitude         3 octets
   --   Altitude         2 octets
   --   Uncertainty semi-major axis         1 octet
   --   Uncertainty semi-minor axis         1 octet
   --   Angle of major axis          1 octet
   --   Uncertainty altitude         1 octet
   --   Confidence          1 octet
   -- Octets 2 to 13 for case (d)  Ellipsoid Arc
   --   Degrees of Latitude          3 octets
   --   Degrees of Longitude         3 octets
   --   Inner radius          2 octets
   --   Uncertainty radius         1 octet
   --   Offset angle          1 octet
   --   Included angle        1 octet
   --   Confidence          1 octet
   -- Octets 2 to 7 for case (e)  Ellipsoid Point
   --   Degrees of Latitude          3 octets
   --   Degrees of Longitude         3 octets

   --
   -- An Ext-GeographicalInformation parameter comprising more than one octet
and
   -- containing any other shape or an incorrect number of octets or coding
according
```

```
   -- to 3GPP TS 23.032 shall be treated as invalid data by a receiver.
   --
   -- An Ext-GeographicalInformation parameter comprising one octet shall be
discarded
   -- by the receiver if an Add-GeographicalInformation parameter is received
   -- in the same message.
   --
   -- An Ext-GeographicalInformation parameter comprising one octet shall be
treated as
   -- invalid data by the receiver if an Add-GeographicalInformation parameter
is not
   -- received in the same message.

maxExt-GeographicalInformation  INTEGER ::= 20
   -- the maximum length allows for further shapes in 3GPP TS 23.032 to be
included in later
   -- versions of 3GPP TS 29.002


Add-GeographicalInformation ::= OCTET STRING (SIZE (1..maxAdd-
GeographicalInformation))
   -- Refers to geographical Information defined in 3GPP TS 23.032.
   -- This is composed of 1 or more octets with an internal structure according
to
   -- 3GPP TS 23.032
   -- Octet 1: Type of shape, all the shapes defined in 3GPP TS 23.032 are
allowed:
   -- Octets 2 to n (where n is the total number of octets necessary to encode
the shape
   -- according to 3GPP TS 23.032) are used to encode the shape itself in
accordance with the
   -- encoding defined in 3GPP TS 23.032
   --
   -- An Add-GeographicalInformation parameter, whether valid or invalid,
received
   -- together with a valid Ext-GeographicalInformation parameter in the same
message
   -- shall be discarded.
   --
   -- An Add-GeographicalInformation parameter containing any shape not defined
in
   -- 3GPP TS 23.032 or an incorrect number of octets or coding according to
   -- 3GPP TS 23.032 shall be treated as invalid data by a receiver if not
received
   -- together with a valid Ext-GeographicalInformation parameter in the same
message.

maxAdd-GeographicalInformation  INTEGER ::= 91
   -- the maximum length allows support for all the shapes currently defined in
3GPP TS 23.032



--****************************************************
-- Derived from ITU-T Rec. Q.773 (June/1997)
--****************************************************

Component ::= CHOICE {
       invoke      [1] IMPLICIT Invoke,
       returnResultLast [2] IMPLICIT ReturnResult,
       returnError    [3] IMPLICIT ReturnError,
       reject      [4] IMPLICIT Reject
       }
```

```
-- The used part of Q.773 is almost the same as the component portion of TC
messages. The only
-- difference is that returnResultNotLast is not used. (see 24.080, clause
3.6.1)

Invoke ::=  SEQUENCE {
       invokeID    InvokeIdType,
       linkedID    [0] IMPLICIT InvokeIdType OPTIONAL,
       operationCode    Code,
              -- local:116 for lcsNotification
              -- local:115 for lcs-MOLR

       parameter   InvokeArgument OPTIONAL
       }


ReturnResult ::= SEQUENCE {
       invokeID    InvokeIdType,
       result      SEQUENCE {
         operationCode    Code,
                -- local:116 for lcsNotification
                -- local:115 for lcs-MOLR

         parameter        ReturnRes
                            } OPTIONAL
       }


ReturnError ::=  SEQUENCE {
       invokeID    InvokeIdType,
       errorCode   Code,
                -- local:34 for SystemFailure
                -- local:36 for UnexpectedDataValue
                -- local:35 for DataMissing
                -- local:21 for FacilityNotSupported
                -- local:19 for SS-SubscriptionViolation
                -- local:54 for PositionMethodFailure

       parameter   ReturnErrPara OPTIONAL
       }


Reject ::= SEQUENCE {
       invokeID CHOICE {
         derivable        InvokeIdType,
         not-derivable    NULL },
       problem CHOICE {
         generalProblem       [0] IMPLICIT GeneralProblem,
         invokeProblem        [1] IMPLICIT InvokeProblem,
         returnResultProblem  [2] IMPLICIT ReturnResultProblem,
         returnErrorProblem   [3] IMPLICIT ReturnErrorProblem }
         }

InvokeIdType ::= INTEGER (-128..127)



GeneralProblem ::= INTEGER {
            unrecognizedComponent (0),
            mistypedComponent (1),
            badlyStructuredComponent (2) }

InvokeProblem ::=  INTEGER {duplicateInvokeID (0),
```

```
            unrecognizedOperation (1),
            mistypedParameter (2),
            resourceLimitation (3),
            initiatingRelease (4),
            unrecognizedLinkedID (5),
            linkedResponseUnexpected (6),
            unexpectedLinkedOperation (7) }

ReturnResultProblem ::= INTEGER {unrecognizedInvokeID (0),
          returnResultUnexpected (1),
          mistypedParameter (2) }

ReturnErrorProblem ::=  INTEGER {unrecognizedInvokeID (0),
          returnErrorUnexpected (1),
          unrecognizedError (2),
          unexpectedError (3),
          mistypedParameter (4) }


--**************************************************
--Derived from SS-DataTypes in 3GPP TS 24.080 ver.540
--**************************************************

Components  ::= SET OF Component


InvokeArgument  ::= CHOICE {
                  lcsNotification  LocationNotificationArg,
                  lcs-MOLR         LCS-MOLRArg
                                }


ReturnRes   ::= CHOICE {
                  lcsNotifficationRes   LocationNotificationRes,
                  lcsMOLRRes            LCS-MOLRRes
                          }


ReturnErrPara ::= CHOICE {
            lcsNotifficationErrPara   LcsNotificationErrPara,
             lcs-MOLR-ResErrPara      Lcs-MOLR-ErrPara
                          }



LocationNotificationArg ::= SEQUENCE {
   notificationType     [0] IMPLICIT NotificationToMSUser,
   locationType         [1] IMPLICIT LocationType,
   lcsClientExternalID  [2] IMPLICIT LCSClientExternalID OPTIONAL,
   lcsClientName        [3] IMPLICIT LCSClientName   OPTIONAL,
   ...,
   lcsRequestorID       [4] IMPLICIT LCSRequestorID    OPTIONAL,
   lcsCodeword          [5] IMPLICIT LCSCodeword       OPTIONAL,
   lcsServiceTypeID     [6] IMPLICIT LCSServiceTypeID  OPTIONAL
   }
    -- exception handling:
    -- At reception of an unrecognised notificationType value the receiver shall
reject the
    -- operation with a return error cause of unexpected data value.
    -- At reception of an unrecognised locationType value the receiver shall
reject the
    -- operation with a return error cause of unexpected data value.
```

```
LocationNotificationRes  ::= SEQUENCE {
       verificationResponse [0] IMPLICIT VerificationResponse OPTIONAL,
...
                                        }

VerificationResponse::= ENUMERATED {
   permissionDenied (0),
   permissionGranted (1),
   ... }

    -- exception handling:
    -- an unrecognized value shall be treated the same as value 0
(permissionDenied)


LcsNotificationErrPara    ::= CHOICE {
                    systemFailure         SystemFailureParam,
                    unexpectedDataValue   UnexpectedDataParam
                                        }
    -- This is derived from information object "lcs-LocationNotification"


LCS-MOLRArg ::= SEQUENCE {
            molr-Type             [0] IMPLICIT  MOLR-Type,
            locationMethod        [1] IMPLICIT  LocationMethod     OPTIONAL,
            lcs-QoS               [2] IMPLICIT  LCS-QoS       OPTIONAL,
            lcsClientExternalID   [3] IMPLICIT  LCSClientExternalID     OPTIONAL,
            mlc-Number            [4] IMPLICIT  ISDN-AddressString    OPTIONAL,
            gpsAssistanceData     [5] IMPLICIT  GPSAssistanceData     OPTIONAL,
   ...,
            supportedGADShapes    [6] IMPLICIT  SupportedGADShapes    OPTIONAL
   }
    -- The parameter locationMethod shall be included if and only if the
    -- molr-Type is set to value deCipheringKeys or assistanceData.
    -- The parameter gpsAssistanceData shall be included if and only if the
    -- molr-Type is set to value assistanceData and
    -- locationMethod is set to value assistedGPS.

MOLR-Type ::= ENUMERATED {
   locationEstimate (0), assistanceData (1), deCipheringKeys (2),
   ...
   }
    -- exception handling:
    -- an unrecognized value shall be rejected by the receiver with a return
error cause of
    -- unexpected data value.

LocationMethod ::= ENUMERATED {
   msBasedEOTD (0), msAssistedEOTD (1), assistedGPS  (2),
   ...,
   msBasedOTDOA  (3)
   }
    -- exception handling:
    -- When this parameter is received with value msBasedEOTD or msAssistedEOTD
and the MS
    -- is camped on an UMTS Service Area then the receiver shall reject it
    -- with a return error cause of unexpected data value.
    -- When this parameter is received with value msBasedOTDOA and the MS
    -- is camped on a GSM Cell then the receiver shall reject it with
    -- a return error cause of unexpected data value.
```

```
    -- an unrecognized value shall be rejected by the receiver with
    -- a return error cause of unexpected data value.


GPSAssistanceData ::= OCTET STRING (SIZE (1..38))

    -- Octets 1 to 38 are coded in the same way as the octets 3 to 7+2n
    -- of Requested GPS Data IE in 3GPP TS 49.031.



LCS-MOLRRes ::= SEQUENCE {
   locationEstimate     [0] IMPLICIT Ext-GeographicalInformation OPTIONAL,
   decipheringKeys      [1] IMPLICIT DecipheringKeys     OPTIONAL,
   ...,
   add-LocationEstimate [2] IMPLICIT Add-GeographicalInformation   OPTIONAL
   }

    -- Parameters locationEstimate or add-LocationEstimate (one but not both)
    -- shall be included if and only if the
    -- molr-Type in LocationRequestArg was set to value locationEstimate.
    -- Parameter add-LocationEstimate shall not be included
    -- if the supportedGADShapes parameter was not received in the LCS-MOLRArg.
    -- The locationEstimate and the add-locationEstimate parameters shall not be
    -- sent if the supportedGADShapes parameter has been received in LCS-MOLRArg
    -- and the shape encoded in locationEstimate or add-LocationEstimate
    -- is not marked as supported in supportedGADShapes.
    -- In such a case LCS-MOLRArg shall be rejected with error
    -- FacilityNotSupported with additional indication
    -- shapeOfLocationEstimateNotSupported.
    -- Parameter decipheringKeys shall be included if and only if the molr-Type
    -- in LocationRequestArg was set to value deCipheringKeys.



DecipheringKeys ::= OCTET STRING (SIZE (15))

    -- Octets in DecipheringKeys are coded in the same way as the octets 3 to 17
    -- of Deciphering Key IE in 3GPP TS 49.031. I.e. these octets contain
    -- Current Deciphering Key, Next Deciphering Key and Ciphering Key Flag.



Lcs-MOLR-ErrPara ::= CHOICE {
          systemFailure              SystemFailureParam,
          unexpectedDataValue        UnexpectedDataParam,
          dataMissing                DataMissingParam,
          facilityNotSupported       FacilityNotSupParam,
          ss-SubscriptionViolation   SS-SubscriptionViolationParam,
          positionMethodFailure      PositionMethodFailure-Param
          }
    -- This is derived from information object "lcs-MOLR"



--*****************************************************
-- Derived from MAP-Errors 3GPP 29.002
--*****************************************************



SystemFailureParam ::= CHOICE {
       networkResource                NetworkResource,
```

```
        -- networkResource must not be used in version 3
        extensibleSystemFailureParam   ExtensibleSystemFailureParam
        -- extensibleSystemFailureParam must not be used in version <3
    }

NetworkResource ::= ENUMERATED {
    plmn (0),
    hlr (1),
    vlr (2),
    pvlr (3),
    controllingMSC (4),
    vmsc (5),
    eir (6),
    rss (7)}


ExtensibleSystemFailureParam ::= SEQUENCE {
        networkResource       NetworkResource    OPTIONAL,
        extensionContainer    ExtensionContainer OPTIONAL
                                        }


UnexpectedDataParam ::= SEQUENCE {
        extensionContainer    ExtensionContainer OPTIONAL
                        }


DataMissingParam ::= SEQUENCE {
        extensionContainer    ExtensionContainer OPTIONAL
            }


FacilityNotSupParam ::= SEQUENCE {
    extensionContainer                          ExtensionContainer OPTIONAL,
    ...,
    shapeOfLocationEstimateNotSupported             [0] IMPLICIT NULL  OPTIONAL,
    neededLcsCapabilityNotSupportedInServingNode    [1] IMPLICIT NULL  OPTIONAL
                                }


SS-SubscriptionViolationParam ::= SEQUENCE {
        extensionContainer    ExtensionContainer OPTIONAL
            }


PositionMethodFailure-Param ::= SEQUENCE {
    positionMethodFailure-Diagnostic [0] IMPLICIT PositionMethodFailure-
Diagnostic  OPTIONAL,
    extensionContainer      [1] IMPLICIT ExtensionContainer       OPTIONAL,
    ...
                            }

PositionMethodFailure-Diagnostic ::= ENUMERATED {
    congestion (0),
    insufficientResources (1),
    insufficientMeasurementData (2),
    inconsistentMeasurementData (3),
    locationProcedureNotCompleted (4),
    locationProcedureNotSupportedByTargetMS (5),
    qoSNotAttainable (6),
    positionMethodNotAvailableInNetwork (7),
    positionMethodNotAvailableInLocationArea (8),
```

```
   ...
   }
   -- exception handling:
   -- any unrecognized value shall be ignored


ExtensionContainer ::= SEQUENCE {
   privateExtensionList  [0] IMPLICIT PrivateExtensionListOPTIONAL,
   pcs-Extensions        [1] IMPLICIT PCS-Extensions    OPTIONAL,
   ...
      }

PrivateExtensionList ::= SEQUENCE SIZE (1..maxNumOfPrivateExtensions) OF
          PrivateExtension

PrivateExtension ::= SEQUENCE {
   extId     OBJECT IDENTIFIER,
   extType   OCTET STRING   OPTIONAL}



maxNumOfPrivateExtensions  INTEGER ::= 10



PCS-Extensions ::= SEQUENCE {...}



END
```

Annex ~~H~~ I (informative): Change history

Meet-ing	TSG doc	CR	Rev	Subject	Cat	Old vers	New vers	WG doc
TP-18	TP-020301			Approval of the specification		2.0.0	3.0.0	
TP-19	TP-030051	001	-	Change to test case 9.2.3 required for approval	F	3.0.0	3.1.0	T1-030120

.....