3GPP TSG CT Meeting #28 **CP-0500049**
1st – 3rd June 2005. Quebec, CANADA.

Source: **CT3**

Title: **CR to TS27.001 on Work Item TEI-6**

Agenda item: **9.24**

Document for: **APPROVAL**

Introduction:

This document contains 1 CR to Rel-6 on Work Item "TEI6" that have been agreed by TSG CT WG3, and are forwarded to TSG CT Plenary for approval.

WG_tdoc	Spec	CR	R	Cat	Title	Rel	C_Ver	Work Item
C3-050432	27.001	110	3	C	Transparent data call request in dual mode case	Rel-6	6.0.0	TEI6

3GPP TSG-CN3 Meeting #36
Cancun, Mexico, 25th – 29th April 2005.

Tdoc ⌘N3-050432
(revision of C3-050287, 426, 430)

CR-Form-v7.1

CHANGE REQUEST

⌘ **27.001** **CR** **110** ⌘**rev** **3** ⌘ Current version: **6.0.0** ⌘

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

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

Title:	⌘	Transparent data call request in dual mode case
Source:	⌘	Nokia
Work item code:	⌘	TEI6
Date:	⌘	29/04/2005
Category:	⌘	**C**
Release:	⌘	Rel6

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:	⌘	A dual mode UE supporting transparent bearer services, e.g. CS multimedia, in UMTS but not in GSM, attached in a GSM radio network, has no means to indicate to the network that it would like to set up a call in UMTS. Consequently, the network does not know that an intersystem handover should be initiated to make the call setup successful. CN1 handles a CR for TS 24.008 to correct this deficit. The present document is a corresponding alignment for TS 27.001.
Summary of change:	⌘	By setting all Acceptable Channel Codings (ACC) to “None” (all zeros) and the maximum number of traffic channels parameter to the value “One TCH” (zero) in the call setup BCIE, the UE indicates to the network that the UE does not support the requested service in A/Gb or GERAN Iu mode, and a handover to another mode (e.g. UTRAN Iu) is needed before the call setup can proceed. Similarly, while in another mode, the network gets informed that the UE does not support the service in A/G or GERAN Iu mode.
Consequences if not approved:	⌘	Most/many dual mode UEs supporting CS multimedia are not expected to support it in GSM (where ECSD is required for 64 kbit/s). Without a correction in the specifications a multimedia call is not possible, if the UE happens to be attached to a GSM radio network.

Clauses affected:	⌘	8.3.3.3, B.1.1.2, B.1.3.1.3, B.1.3.1.5, B.1.3.1.6, B.1.3.2.3 and B.1.12.1			
Other specs	⌘	Y [X] N [ ]	Other core specifications	⌘	TS 24.008, CR 962 (C1-

affected:			~~050448~~050795[o21])
		X	Test specifications
		X	O&M Specifications
Other comments:	⌘		

How to create CRs using this form:

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

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

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

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

8.3.3.3 Differences in validity of BC parameter values in A/Gb mode, GERAN Iu mode and UTRAN Iu mode

The validity of a BC parameter value, either in the SETUP or CALL CONFIRMED message, may differ from A/Gb mode to GERAN Iu mode and to UTRAN Iu mode. Certain parameters are irrelevant in UTRAN or GERAN Iu mode and any value given is valid and ignored. These parameters may be available in the BC IE. For those parameters that are relevant in UTRAN Iu mode, GERAN Iu mode and A/Gb mode, certain values may be invalid in one of the systems. Invalid parameter values may cause rejection of the BC and subsequent release of the call.

Parameters that are ignored in UTRAN or GERAN Iu mode may be set to default values, or to specific values in view of an eventual handover to A/Gb mode. They may also be set to values that make call setup in current system impossible. This indicates the need for a handover to another radio access technology. Parameter values that are invalid in one system may also result in unsuccessful handover from the other system.

Table B.5a in annex B lists parameters that are ignored in UTRAN or GERAN Iu mode and parameter values which validity is different in A/Gb mode, GERAN Iu mode and UTRAN Iu mode.

Table B.5a: Differences in parameter value validity in A/Gb mode and UTRAN Iu mode

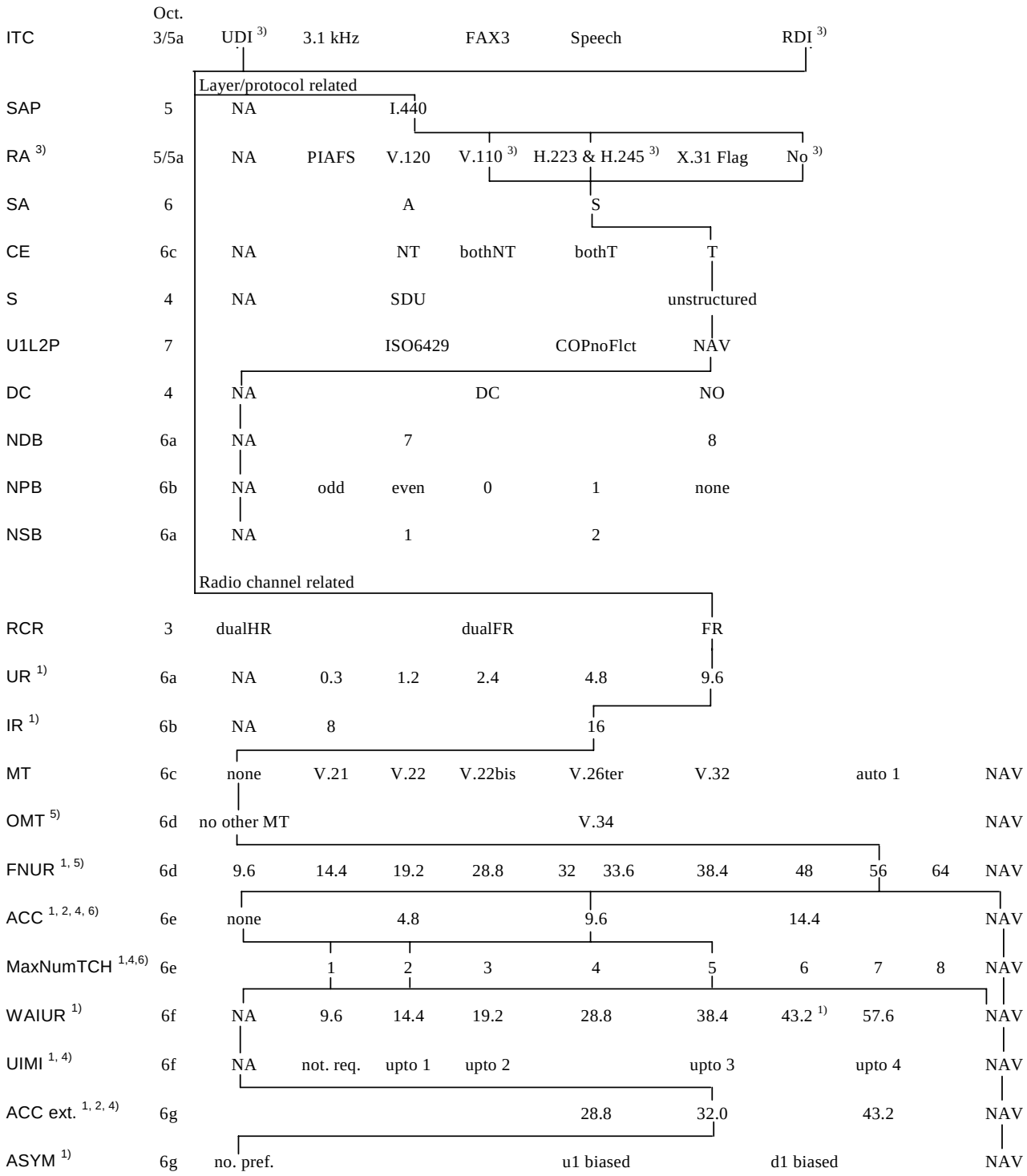
Parameter / *value*	A/Gb mode	GERAN Iu mode	UTRAN Iu mode
Radio Channel Requirements / *any*	valid	valid	ignored
User rate / *any*	valid	ignored	ignored
Intermediate Rate / *any*	valid	valid	ignored
NIC on transmission / *any*	valid	ignored	ignored
NIC on reception / *any*	valid	ignored	ignored
Negotiation of IR requested / *any*	valid	ignored	ignored
Acceptable Channel Codings / *any*	valid (note 2)	valid (note 2)	ignored
Maximum number of traffic channels / *any*	Valid (note 2)	Valid (note 2)	ignored (Note 1)
User initiated modification indication / *any*	valid	valid	ignored (Note 1)
Asymmetry preference indication/ *any*	valid	valid	ignored
Modem type /			
V.21, V.22, V.22bis, V.26ter	valid	invalid	invalid
V.32	valid	valid	invalid for CE=T
Fixed Network User Rate /			
32 kbit/s	Invalid for CE = NT	Invalid for CE = NT	valid
33.6 kbit/s	invalid	invalid	valid
9.6, 14.4, 19.2, 38.4, 48.0	valid	invalid for CE=T	invalid for CE=T
28.8	valid	invalid for CE=T in the case of ITC=UDI	invalid for CE=T in the case of ITC=UDI
Other Rate adaptation /			
PIAFS	invalid	invalid	valid

NOTE: Although a parameter value is marked as "valid", the validity may be restricted by rules given elsewhere in the present document.

NOTE 1: This parameter is relevant in UTRAN Iu mode for NT calls, in conjunction with WAIUR, for deciding which RLP version to negotiate in order to avoid renegotiation of RLP version in case of handover, see 3GPP TS 24.022 [9]. It is otherwise irrelevant for specifying the UTRAN Iu mode radio access bearer.

NOTE 2: The MS may indicate that the current service is not supported in A/Gb or GERAN Iu mode and a handover to another (e.g. UTRAN Iu) mode is needed before the call setup can proceed, by setting all Acceptable Channel Codings to “none” (all zeros) and the Maximum Number of Traffic Channels parameter to the value “one TCH” (zero). Similarly, while in another mode, the MS may inform the network that the MS does not support the requested service in A/Gb or GERAN Iu mode.

B.1.3.1.3 Transparent FNUR=56 kbit/s, including 3G-H.324/M, (TCH/F9.6, TCH/F32.0, UTRAN Iu mode)



1) IR and UR are overridden by FNUR, ACC and MaxNumTCH. IR and UR are not applicable to UTRAN Iu mode.

2) ACC may have several values simultaneously (bit map coding). However, handover to/from UTRAN is not possible if the network assigns other traffic channels than TCH/F9.6 or TCH/F32.0.

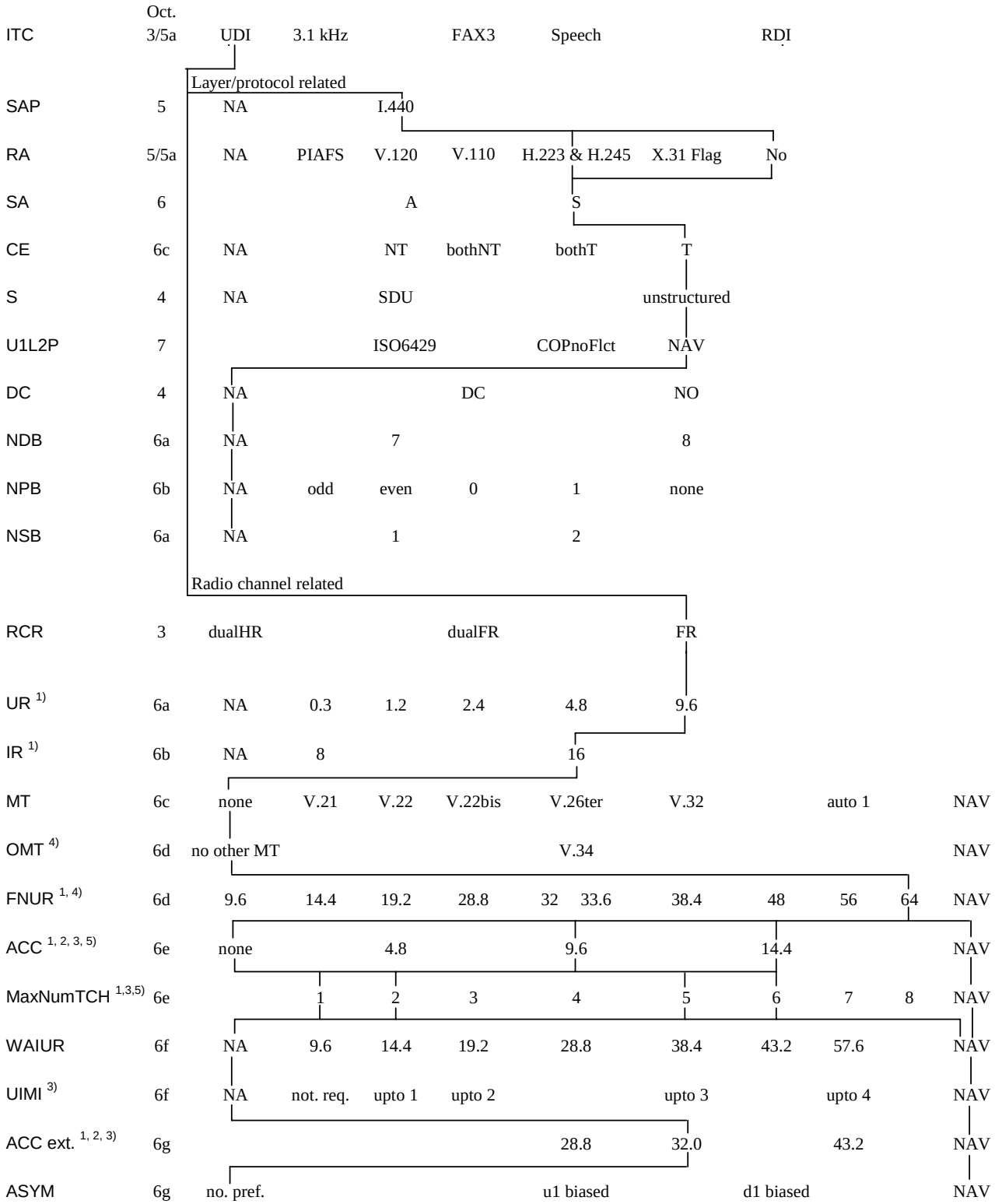
3) In case ITC=UDI, RA shall be set to V.110. In case ITC=RDI, RA shall be set to H.223 & H.245 or No.

4) An MS not supporting GERAN A/Gb and GERAN Iu mode sets ACC to "none" and MaxNumTCH is set to "1 TCH". An MS not supporting GERAN A/Gb and GERAN Iu mode also sets ACCext (i.e. the extension bits of ACC parameter, see 3GPP TS 24.008 for its definition and values) and UIMI to zero if they are included in the PLMN BC-IE, i.e. UIMI is set to "NA" and the ACC parameter (including the ACCext bits) is set to the value "none" (all zeros).

5) The parameters FNUR and OMT are mandatory for this service.

6) If the call setup is started in A/Gb or GERAN Iu mode, the MS may indicate a need for a handover to another (e.g. UTRAN Iu) mode by setting all ACC fields to “none” (all zeros) and MaxNumTCH parameter to the value “one TCH” (zero). Similarly, while in another mode, the MS may inform the network that the MS does not support the requested service in A/Gb or GERAN Iu mode.

B.1.3.1.5 Transparent FNUR = 64kbit/s, including 3G-H.324/M (TCH/F9.6, TCH/F14.4, TCH/F32.0, UTRAN Iu mode))



1) IR and UR are overridden by FNUR, ACC and MaxNumTCH. IR and UR are not applicable to UTRAN Iu mode.

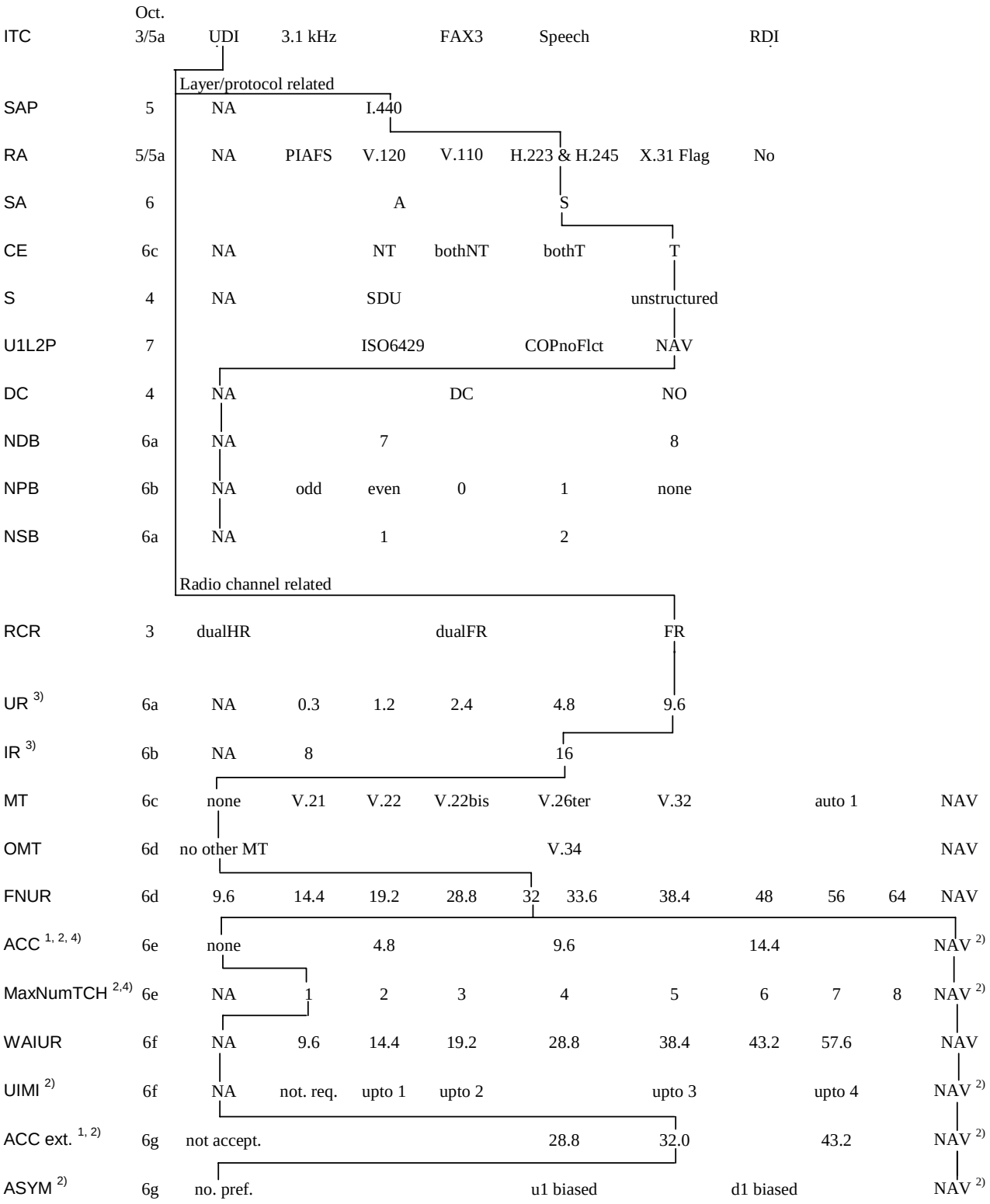
2) ACC may have several values simultaneously (bit map coding).

3) An MS not supporting GERAN A/Gb and GERAN Iu mode sets ACC to "none" and MaxNumTCH is set to "1 TCH". An MS not supporting GERAN A/Gb and GERAN Iu mode also sets ACCext (i.e. the extension bits of ACC parameter, see 3GPP TS 24.008 for its definition and values) and UIMI to zero if they are included in the PLMN BC-IE, i.e. UIMI is set to "NA" and the ACC parameter (including the ACCext bits) is set to the value "none" (all zeros).

4) The parameters FNUR and OMT are mandatory for this service.

5) If the call setup is started in A/Gb or GERAN Iu mode, the MS may indicate a need for a handover to another (e.g. UTRAN Iu) mode by setting all ACC fields to “none” (all zeros) and MaxNumTCH parameter to the value “one TCH” (zero). Similarly, while in another mode, the MS may inform the network that the MS does not support the requested service in A/Gb or GERAN Iu mode.

B.1.3.1.6 3G-H.324/M, FNUR=32.0 kbit/s (TCH/F32.0, UTRAN Iu mode)



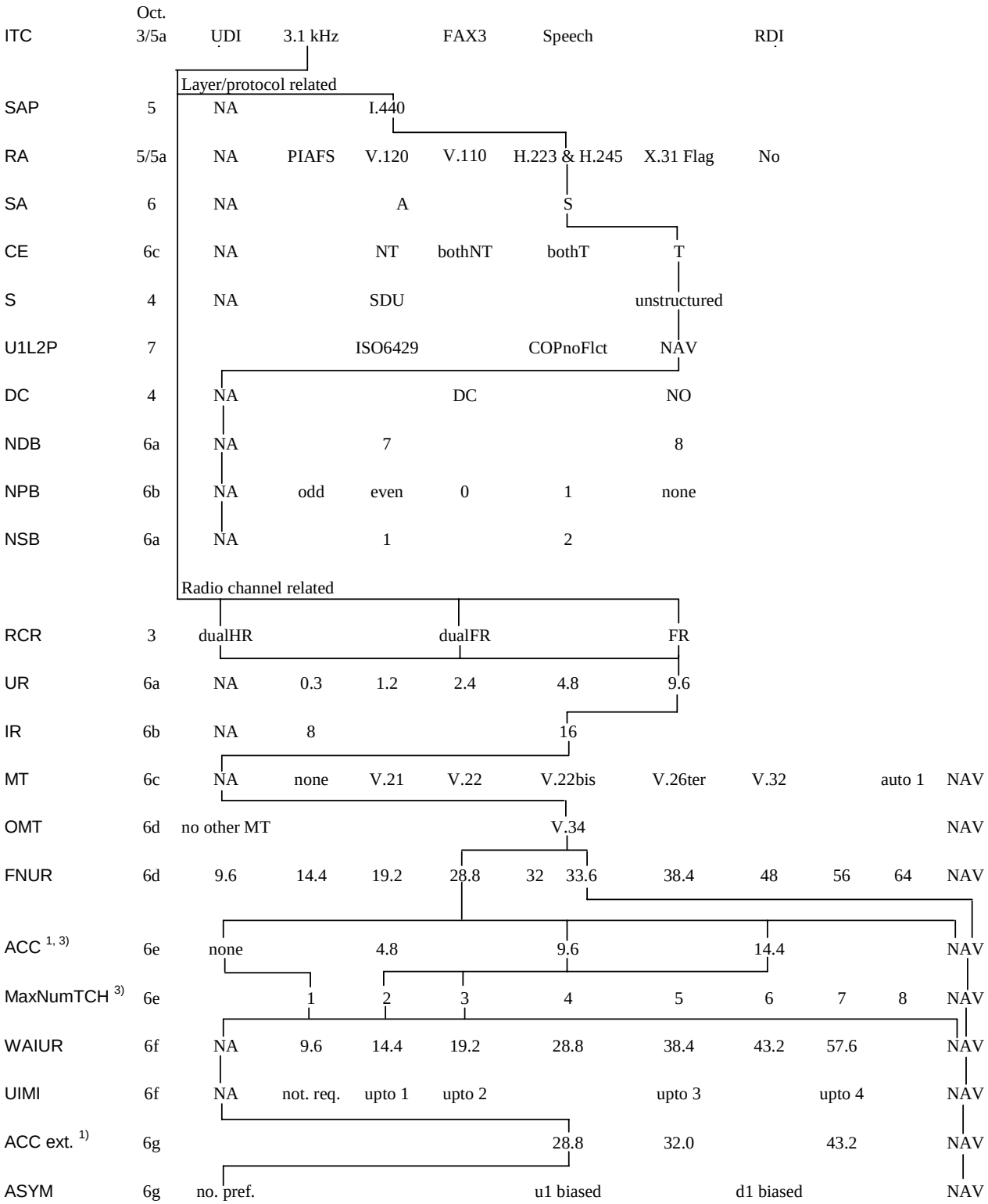
1) ACC may have several values simultaneously (bit map coding).

2) If ACC, UIMI, MaxNumTCH and ASYM are not available operation is restricted to UTRAN.

3) IR and UR are overridden by FNUR, ACC and MaxNumTCH. IR and UR are not applicable to UTRAN Iu mode.

4) If the call setup is started in A/Gb or GERAN Iu mode, the MS may indicate a need for a handover to another (e.g. UTRAN Iu) mode by setting all ACC fields to “none” (all zeros) and MaxNumTCH parameter to the value “one TCH” (zero). Similarly, while in another mode, the MS may inform the network that the MS does not support the requested service in A/Gb or GERAN Iu mode.

B.1.3.2.3 3G-H.324/M Case



1) ACC may have several values simultaneously (bit map coding).

2) FNUR 33.6 kbit/s applies to UTRAN Iu mode only.

3) If the call setup is started in A/Gb or GERAN Iu mode, the MS may indicate a need for a handover to another (e.g. UTRAN Iu) mode by setting all ACC fields to “none” (all zeros) and MaxNumTCH parameter to the value “one TCH” (zero). Similarly, while in another mode, the MS may inform the network that the MS does not support the requested service in A/Gb or GERAN Iu mode.

B.1.12.1 Transparent Services

The MS is allowed to signal any combination of FNUR, ACC and mTCH compliant to the following table. The network is allowed to assign any Channel Mode compliant to the following table.

FNUR	mTCH (Note 7, 9)	ACC (Note 1,6,9)					Channel Mode (Note 4,5)				
		TCH/F4.8	TCH/F9.6	TCH/F14.4	TCH/F28.8	TCH/F32.0	TCH/F4.8	TCH/F9.6	TCH/F14.4	TCH/F28.8	TCH/F32.0
9.6 kbit/s	1	*	+	*	*	*	-	1	-	-	-
	2	+	*	*	*	*	2	1	-	-	-
14.4 kbit/s	1	*	*	+	*	*	-	-	1	-	-
	2	*	+	*	*	*	-	2 (N2)	1	-	-
	3	+	*	*	*	*	3	2 (N2)	1	-	-
19.2 kbit/s	2	*	+	*	*	*	-	2	-	-	-
	4	+	*	*	*	*	4	2	-	-	-
28.8 kbit/s	1	*	*	*	+	*	-	-	-	1	-
	2	*	*	+	*	*	-	-	2	1	-
	3	*	+	*	*	*	-	3	2	1	-
32.0 kbit/s	1	*	*	*	*	+	-	-	-	-	1
38.4 kbit/s	3	*	*	+	*	*	-	-	3 (N2)	-	-
	4	*	+	*	*	*	-	4	3 (N2)	-	-
48.0 kbit/s	4	*	*	+	*	*	-	-	4 (N2)	-	-
	5	*	+	*	*	*	-	5	4 (N2)	-	-
56.0 kbit/s	2	*	*	*	*	+	-	-	-	-	2(N8)
	4	*	*	+	*	*	-	-	4 (N2)	-	2(N8)
	5	*	+	*	*	*	-	5 (N3)	4 (N2)	-	2(N8)
64.0 kbit/s	2	*	*	*	*	+	-	-	-	-	2(N8)
	5	*	*	+	*	*	-	-	5 (N2)	-	2(N8)
	6	*	+	*	*	*	-	6 (N2,3)	5 (N2)	-	2(N8)

NB: **N in the table stands for NOTE.**

NOTE 1: A '+' indicates that a certain channel coding shall be included in the ACC and a '*' indicates that it may or may not be included.

NOTE 2: Padding Required, ref 3GPP TS 44.021.

NOTE 3: Air interface user rate 11,2 kbit/s, ref. 3GPP TS 44.021.

NOTE 4: A '-' indicates that this channel coding cannot be assigned for this FNUR.

NOTE 5: A certain channel coding may only be assigned if indicated as acceptable in the ACC.

NOTE 6: In case the MS signals an ACC containing TCH/F4.8 only and the network does not support TCH/F4.8 channel coding, then the network may act as if TCH/F9.6 were included in the ACC.

NOTE 7: The MS is allowed to signal higher values for mTCH than indicated in the table for the signalled FNUR and ACC. Before initiating the assignment procedure, the MSC, if necessary, shall lower the value of the mTCH to the highest value applicable for the signalled FNUR and ACC.

NOTE 8: Can only be used for bit transparent 56 (RDI) and 64 (UDI) kbit/s connections in 56 kbit/s and 64 kbit/s environments, respectively.

NOTE 9: The MS may request a transparent data call with all ACC bits set to “none” (all zeros) and MaxNumTCH parameter to the value “one TCH” (zero), to indicate to the MSC that an intersystem handover from A/Gb or GERAN Iu mode to another (e.g. UTRAN Iu) mode is required before the call setup is completed. Similarly, while in another mode, the MS may inform the network that the MS does not support the requested service in A/Gb or GERAN Iu mode.

The final decision about the radio interface configuration is taken by the BSS during the Assignment procedure subject to the restrictions that the number of assigned TCH/F may not exceed the mTCH, that the channel coding is among the ACC and that the AIUR equals the FNUR.

The radio interface configuration may be changed by the BSS during the call as long as the channel coding used is among the ACC, the mTCH is not exceeded and the AIUR is kept constant (ref. 3GPP TS 22.034).