3GPP TSG CN Plenary Meeting #12 **Tdoc NP-010255**
Stockholm, Sweden, 13th - 15th June 2001

Source: TSG CN WG3

Title: CRs on R99 Work Item CS Data bearers

Agenda item: 7.20

Document for: APPROVAL

Introduction:

This document contains 4 CRs on R99 Work Item ”CS Data Bearers”, that have been agreed by TSG CN WG3, and are forwarded to TSG CN Plenary meeting #12 for approval.

N3-Tdoc	Spec	CR	Rev	Cat	Subject	Phase	Version-Current
N3-010231	23.910	029		F	Connection models for CSD and editorial changes.	R99	3.4.0
N3-010220	23.910	030		A	Connection models for CSD and editorial changes.	Rel-4	4.2.0
N3-010232	27.001	059		F	Corrections of PLMN BC attributes	R99	3.8.0
N3-010233	27.001	060		A	Corrections of PLMN BC attributes	Rel-4	4.3.0

3GPP TSG-CN3 Meeting #17
Puerto Rico, USA, 14-18 May 2001

Tdoc N3-010220

CR-Form-v4

CHANGE REQUEST

⌘ **23.910** **CR** **030** ⌘ rev **-** ⌘ Current version: **4.2.0** ⌘

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Proposed change affects: ⌘ (U)SIM ☐ ME/UE **X** Radio Access Network ☐ Core Network **X**

Title:	⌘	Connection models for CSD and editorial changes.
Source:	⌘	TSG_CN WG3
Work item code:	⌘	CS Data Bearers
Date:	⌘	18-05-2001
Category:	⌘	**A**
Release:	⌘	REL-4

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

Use one of the following releases:

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

Reason for change:	⌘	To specify the connection model for T CS data and NT CS data.
Summary of change:	⌘	All the bits received on the external interface are transported transparently in the RLC SDU for synchronous T CS data. For asynchronous T CS data the RLC SDU consists of the output of the RA0 function.
Consequences if not approved:	⌘	Unspecified CS data services.

Clauses affected:	⌘	2, 4.1, 4.1.1, 4.1.2, 6.2, 10.2.2.2
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	

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

First amended section

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.
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[1] 3GPP TS 43.010: "GSM Public Land Mobile Network (PLMN) connection types".

[2] 3GPP TR 21.905: "3G Vocabulary".

[3] 3GPP TS 22.100: "UMTS Phase 1".

[4] 3GPP TS 22.002: "Bearer Services Supported by a GSM PLMN".

[5] 3GPP TS 22.101: "Service Principles".

[6] 3GPP TS 22.105: "Services and Service Capabilities".

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[8] 3GPP TS 23.034: "High Speed Circuit Switched Data (HSCSD) -Stage 2".

[9] 3GPP TS 23.101: "General UMTS Architecture".

[10] 3GPP TS 23.107: "Quality of Service, Concept and Architecture".

[11] 3GPP TS 24.022: "Radio Link Protocol (RLP) for Data and Telematic Services on the Mobile Station - Base Station System (MS-BSS) Interface and the Base Station System - Moile-services Switching Centre (BSS-MSC) Interface".

[12] 3GPP TS 25.322: "Radio Link Control (RLC) Protocol Specification".

[13] 3GPP TS 25.415: "UTRAN Iu Interface user plane protocols".

[14] 3GPP TS 27.001: "General on Terminal Adaption Functions (TAF) for Mobile Station (MS)".

[15] 3GPP TS 29.007: "General Requirements on Interworking between PLMN and ISDN or PSTN".

[16] ITU-T Recommendation V.90: "A digital modem and analogue modem pair for use on the Public Switched Telephone Network (PSTN) at data signalling rates of up to 56 000 bit/s downstream and up to 33 600 bit/s upstream".

[17] ITU-T Recommendation T.30 "Procedures for document facsimile transmission in the general switched telephone network".

[18] 3GPP TS 44.021: "Digital cellular telecommunications system (Phase 2+); Rate adaption on the Mobile Station - Base Station System (MS - BSS) interface".

[19] 3GPP TS 08.20: "Digital cellular telecommunication system (Phase 2+); Rate adaption on the Base Station System - Mobile-services Switching Centre (BSS - MSC) interface".

[20] ITU-T Recommendation I.366.1: "Segmentation and Reassembly Service Specific Convergence Sublayer for the AAL type 2".

[21] ITU-T Recommendation Q.2630.1: "AAL Type 2 Signalling Protocol (Capability Set 1)".

End of first amended section

Second amended section

4.1 Limited set of UMTS PLMN connection models

4.1.1 Transparent data

Figure 2 shows the connection model for synchronous transparent CS data. In general all the user data bits are conveyed between the MT and the IWF as they are received from the TE. This implies that the RLC SDU/ Iu UP frame is transparent.

Figure 3 shows the connection model for asynchronous transparent CS data. The rate adaptation function RA0 from 3GPP TS 04.21 (adapted to the RLC SDU size) is used for converting between asynchronous data and a synchronous bit stream. End-to-end flow control is not applicable in UMTS, thus no status bits are conveyed over RAN/UTRAN (see 3GPP TS 27.001).

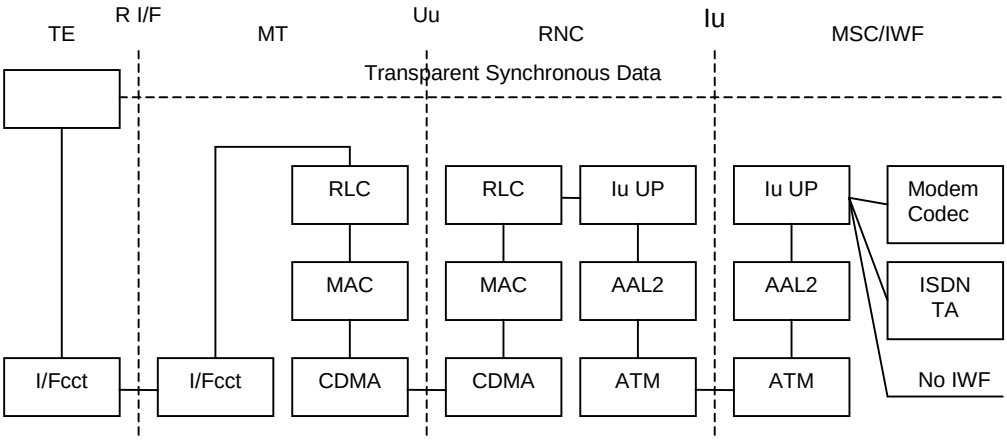

Figure 2 Connection model for Synchronous T CS data

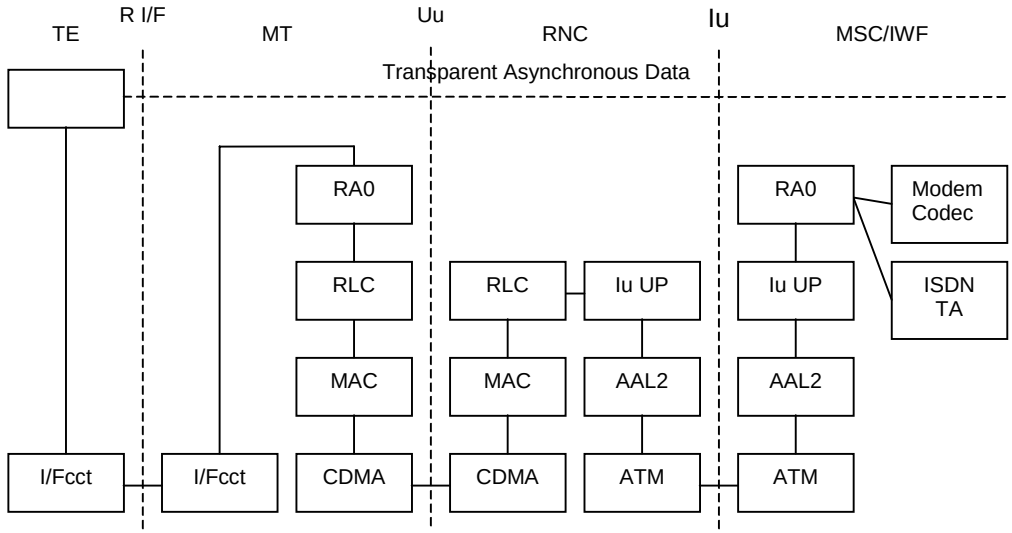

Figure 3 Connection model for Asynchronous T CS data

4.1.2 Non-transparent data

Figure 4 shows the connection model for asynchronous non-transparent CS data.

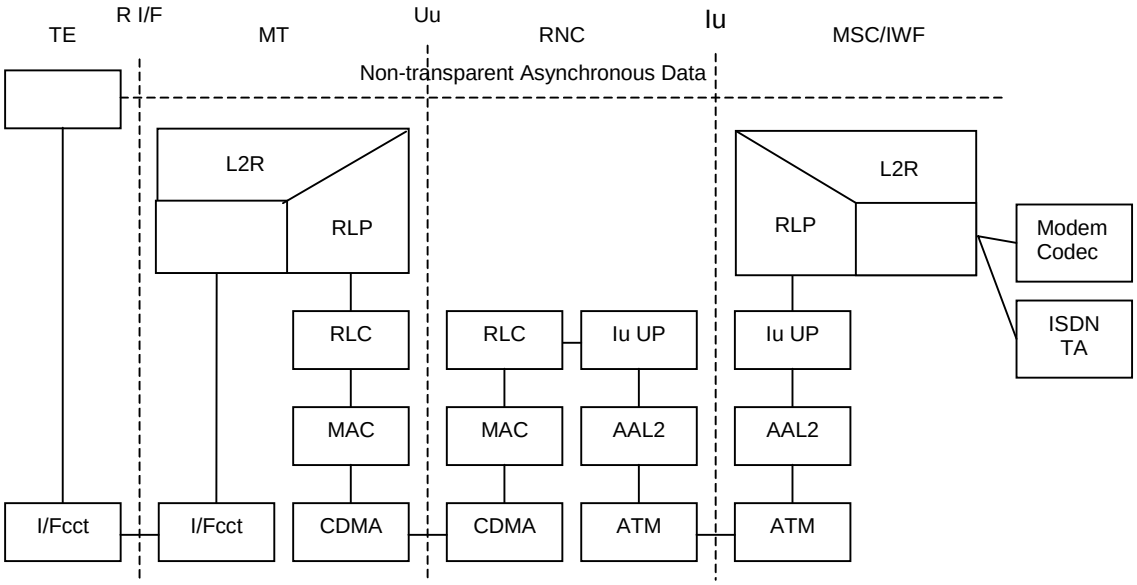

Figure 4 Connection model for Asynchronous NT CS data

End of second amended section

Third amended section

6.2 T services

The Iu UP and Nb UP are used in transparent mode, see 3GPP TS 25.415 and 3GPP TS 29.415. The payload of the Iu and Nb frames will consist of user data bits only for synchronous data, and RA0 synchronous bit streams for asynchronous data.

On the Iu and Nb interfaces, the payload (SDU) size is fixed, determined by the bit rate. Following table shows SDU size defined by GSM Association - IMT-2000 Steering Group (Typical Radio Interface Parameter Sets). AAL2 is used. The AAL2 SSCS layer must be supported for segmentation and re-assembly.

Bit rate	SDU size (= RLC PDU payload size)
28.8 kbit/s	576 bits
33.6 kbit/s	[Editor's note] Waiting for decision by GSM Association
32 kbit/s	640 bits
56/64 kbit/s	640 bits

The primitive Iu-UP or Nb-_UNIT-DATA-REQUEST is invoked at regular intervals in order to have a constant bit rate (every SDU).

If TDM is not used, then between the IWF and the fixed network (ISDN or PSTN), the Nb UP protocol is applied in support mode and the SDU size is 320 bits, transmitted every 5 ms. PDU type 0 is used.

End of third amended section

Forth amended section

10.2.2.2 A-TRAU' frame format

One A-TRAU' frame consists of two consecutive A-TRAU frames. The following figure shows the format of one A-TRAU frame.

Octet number	bit number 0	1	2	3	4	5	6	7	
0	0	0	0	0	0	0	0	0	
1	0	0	0	0	0	0	0	0	
2	1	**C1**	**C2**	**C3**	**C4**	**C5**	**M1**	**M2**	
3	**Z1**	D1	D2	D3	D4	D5	D6	D7	
4	D8	D9	D10	D11	D12	D13	D14	D15	36 bit data field 1
5	D16	D17	D18	D19	D20	D21	D22	D23	
6	D24	D25	D26	D27	D28	D29	D30	D31	
7	D32	D33	D34	D35	D36	**Z2**	D1	D2	
8	D3	D4	D5	D6	D7	D8	D9	D10	
9	D11	D12	D13	D14	D15	D16	D17	D18	36 bit data field 2
10	D19	D20	D21	D22	D23	D24	D25	D26	
11	D27	D28	D29	D30	D31	D32	D33	D34	
12	D35	D36	**Z3**	D1	D2	D3	D4	D5	
13	D6	D7	D8	D9	D10	D11	D12	D13	
14	D14	D15	D16	D17	D18	D19	D20	D21	36 bit data field 3
15	D22	D23	D24	D25	D26	D27	D28	D29	
16	D30	D31	D32	D33	D34	D35	D36	**Z4**	
17	D1	D2	D3	D4	D5	D6	D7	D8	
18	D9	D10	D11	D12	D13	D14	D15	D16	36 bit data field 4
19	D17	D18	D19	D20	D21	D22	D23	D24	
20	D25	D26	D27	D28	D29	D30	D31	D32	
21	D33	D34	D35	D36	**Z5**	D1	D2	D3	
22	D4	D5	D6	D7	D8	D9	D10	D11	
23	D12	D13	D14	D15	D16	D17	D18	D19	36 bit data field 5
24	D20	D21	D22	D23	D24	D25	D26	D27	
25	D28	D29	D30	D31	D32	D33	D34	D35	
26	D36	**Z6**	D1	D2	D3	D4	D5	D6	
27	D7	D8	D9	D10	D11	D12	D13	D14	
28	D15	D16	D17	D18	D19	D20	D21	D22	36 bit data field 6
29	D23	D24	D25	D26	D27	D28	D29	D30	
30	D31	D32	D33	D34	D35	D36	**Z7**	D1	
31	D2	D3	D4	D5	D6	D7	D8	D9	
32	D10	D11	D12	D13	D14	D15	D16	D17	
33	D18	D19	D20	D21	D22	D23	D24	D25	36 bit data field 7
34	D26	D27	D28	D29	D30	D31	D32	D33	
35	D34	D35	D36	**Z8**	D1	D2	D3	D4	
36	D5	D6	D7	D8	D9	D10	D11	D12	
37	D13	D14	D15	D16	D17	D18	D19	D20	36 bit data field 8
38	D21	D22	D23	D24	D25	D26	D27	D28	
39	D29	D30	D31	D32	D33	D34	D35	D36	

Figure 5: A-TRAU 320 bit frame

Data Bits (Dxx):

The 288 data bits of an A-TRAU frame are divided in eight fields of 36 bits.

Control bits (C Bits):

C1 to C4:

The Control bits C1 to C4 define the used data rate. C1 to C4 in the first A-TRAU frame indicate the data rate in send direction.

C1 to C4 in the second A-TRAU frame indicate the used data rate in backward direction. This is required for Rate Control that is required in uplink direction. For details on rate control see 3GPP TS 25.415 [13].

C1	C2	C3	C4	Radio Interface User Rate
1	0	1	1	57,6 kbit/s
1	0	1	0	33,6 kbit/s
1	0	0	0	28,8 kbit/s
0	1	1	1	14,4 kbit/s

C5:

C5 is not used, it is set to binary '1'.

Bit M1:

An A-TRAU' frame is made of two consecutive A-TRAU which build the transport container for 576 data bits. Bit M1 is used to determine the order of the A-TRAU frames within an A-TRAU' frame.

The two M1 bits are referred to as the Frame Start Identifier. The FSI value is 01. These values are assigned to the M1 bit as shown below:

	M1 bit
First A-TRAU frame	0
Second A-TRAU frame	1

Bit M2:

The M2 bit is used to indicate 'valid' A-TRAU' frames. The M2 bit in both of the two consecutive A-TRAU frames relating to an A-TRAU' frame shall have the same value.

Transparent mode:

In transparent mode M2 is clamped to binary '0'.

The 3G MSC (uplink direction) sets M2 to binary '1' until it receives valid SDUs. When receiving valid SDUs M2 is set to binary '0'.

Non-transparent mode:

In non-transparent mode M2 is used for DTX. If DTX is applied, M2 is set to binary '1'. If DTX is not to be applied, M2 bit is set to binary '0'. The DTX handling is used in both directions for rate adaptation purpose. This means that the sending entity will insert 'fill RLP-frames' with DTX set to binary '1' in case no RLP-frame is available.

Fill frames are also sent in order to adapt the RLP transmission frequency to the AIUR. The ratio between RLP frames and 'fill' RLP frames is defined in the following table:

AIUR	Ratio between RLP and 'fill' RLP frames
57.6 kbit/s	Only valid frames
28.8 kbit/s	1 valid frame followed by 1 'fill' frame
14.4 kbit/s	1 valid frame followed by 3 'fill' frames

Z bits:

The bits Zi are used for Framing Pattern Substitution mechanism. This mechanism is defined in 3GPP TS 08.20 [19].

Mapping of A-TRAU' frames to PCM time slots:

A-TRAU' frames shall be mapped octet aligned to PCM time slots. I.e. bit number 0 to 7 of each octet of an A-TRAU' frame shall be mapped to bit number 0 to 7 of the PCM time slot.

End of forth amended section

3GPP TSG-CN3 Meeting #17
Puerto Rico, USA, 14-18 May 2001

Tdoc N3-010231

CR-Form-v4

CHANGE REQUEST

⌘ **23.910** **CR** **029** ⌘ rev **-** ⌘ Current version: **3.4.0** ⌘

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Proposed change affects: ⌘ (U)SIM ☐ ME/UE **X** Radio Access Network ☐ Core Network **X**

Title:	⌘	Connection models for CSD and editorial changes.
Source:	⌘	TSG_CN WG3
Work item code:	⌘	CS Data Bearers
Date:	⌘	18-05-2001
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
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REL-5	*(Release 5)*

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Summary of change:	⌘	All the bits received on the external interface are transported transparently in the RLC SDU for synchronous T CS data. For asynchronous T CS data the RLC SDU consists of the output of the RA0 function.
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Clauses affected:	⌘	2, 4.1, 4.1.1, 4.1.2, 5, 6.2, 10.2.2.2
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[1] 3GPP TS 03.10: "GSM Public Land Mobile Network (PLMN) connection types".

[2] 3GPP TR 21.905: "3G Vocabulary".

[3] 3GPP TS 22.100: "UMTS Phase 1".

[4] 3GPP TS 22.002: "Bearer Services Supported by a GSM PLMN".

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[17] VOID.

[18] 3GPP TS 04.21: "Digital cellular telecommunications system (Phase 2+); Rate adaption on the Mobile Station - Base Station System (MS - BSS) interface".

[19] 3GPP TS 08.20: "Digital cellular telecommunication system (Phase 2+); Rate adaption on the Base Station System - Mobile-services Switching Centre (BSS - MSC) interface".

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[21] ITU-T Recommendation Q.2630.1: "AAL Type 2 Signalling Protocol (Capability Set 1)".

End of first amended section

Second amended section

4.1 Limited set of UMTS PLMN connection models

4.1.1 Transparent data

Figure 2 shows the connection model for synchronous transparent CS data. In general all the user data bits are conveyed between the MT and the IWF as they are received from the TE. This implies that the RLC SDU/ Iu UP frame is transparent.

Figure 3 shows the connection model for asynchronous transparent CS data. The rate adaptation function RA0 from 3GPP TS 04.21 (adapted to the RLC SDU size) is used for converting between asynchronous data and a synchronous bit stream. End-to-end flow control is not applicable in UMTS, thus no status bits are conveyed over RAN/UTRAN (see 3GPP TS 27.001).

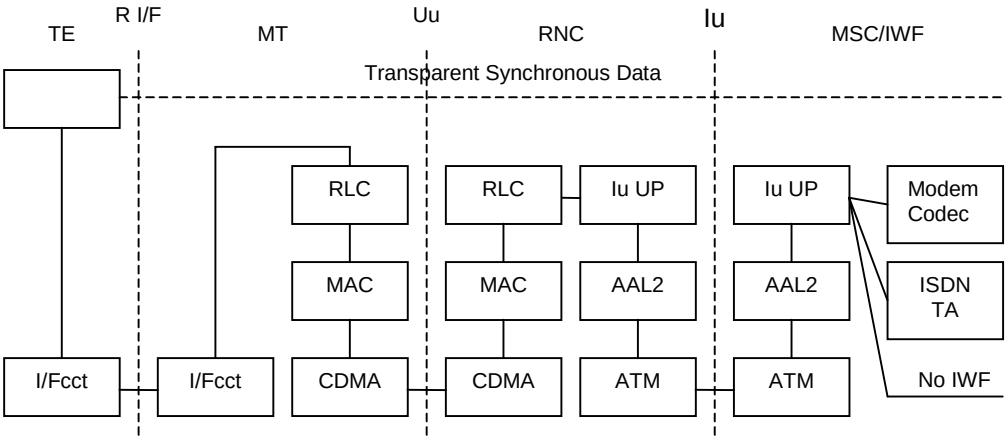


Figure 2 Connection model for Synchronous T CS data

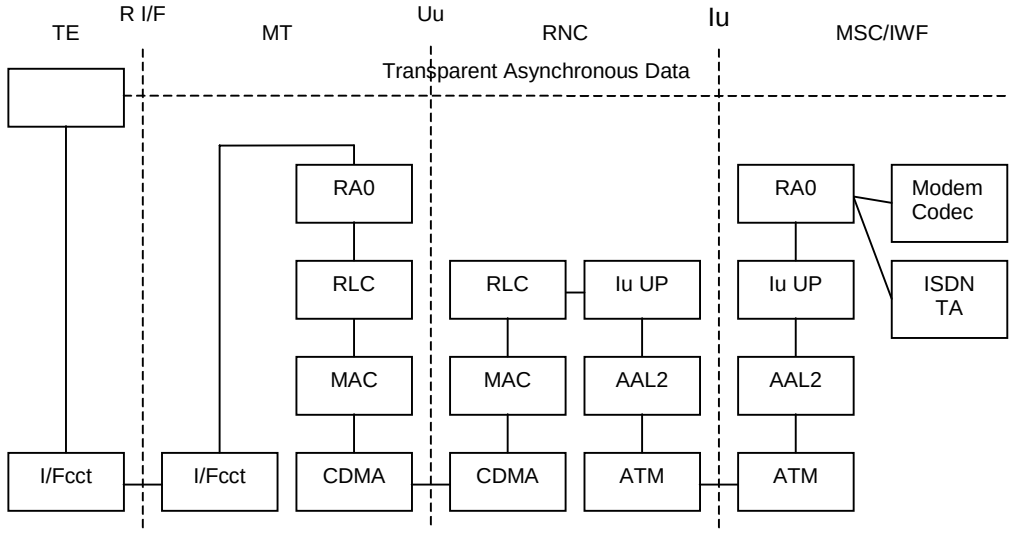


Figure 3 Connection model for Asynchronous T CS data

4.1.2 Non-transparent data

Figure 4 shows the connection model for asynchronous non-transparent CS data.

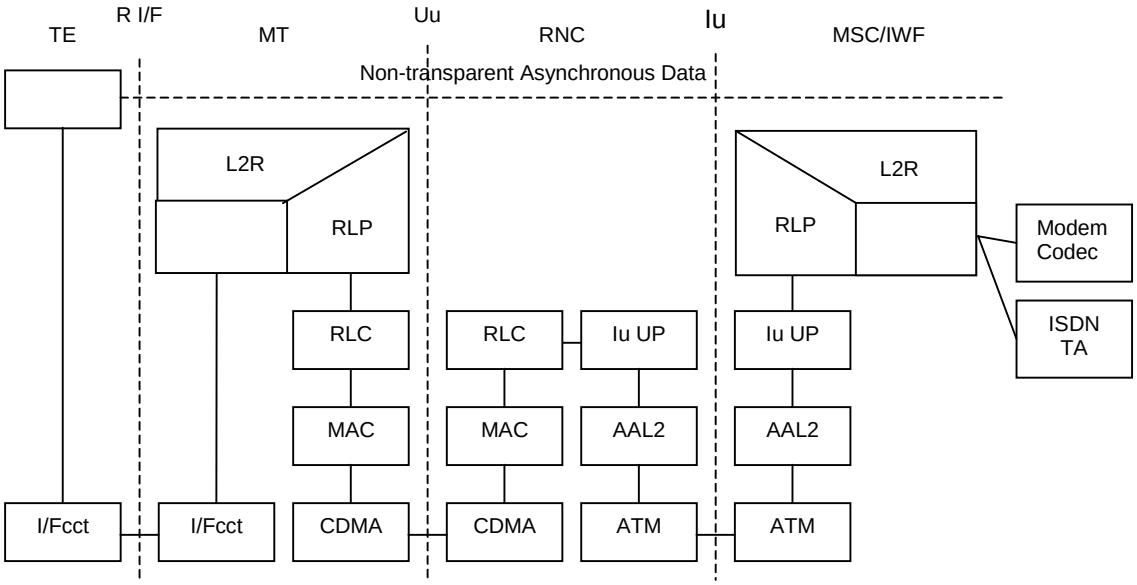


Figure 4 Connection model for Asynchronous NT CS data

End of second amended section

Third amended section

5 UMTS Bearer Services

The UMTS bearer services are described by the UMTS BC-IE. Four services (or services categories) are currently distinguishable from the UMTS BC-IE:

- Speech.
- Transparent Data for support of Multimedia.
- Transparent Data.
- Non-transparent data.

Speech is currently not in the scope of the present document.

Each UMTS bearer service is supported by a Radio Access Bearers (RAB). The RABs in turn are described by the QoS parameters. There may be one or several RAB candidates for supporting a UMTS bearer service. The possible candidates are described by a mapping of the BC-IE to RAB QoS described in subclause 5.2.

End of third amended section

Fourth amended section

6.2 T services

The Iu UP is used in transparent mode, see 3GPP TS 25.415. The payload of the Iu frame will consist of user data bits only for synchronous data, and RA0 synchronous bit streams for asynchronous data.

The payload (SDU) size is fixed, determined by the bit rate. Following table shows SDU size defined by GSM Association - IMT-2000 Steering Group (Typical Radio Interface Parameter Sets). AAL2 is used. The AAL2 SSCS layer must be supported for segmentation and re-assembly.

Bit rate	SDU size (= RLC PDU payload size)
28.8 kbit/s	576 bits
33.6 kbit/s	[Editor's note] Waiting for decision by GSM Association
32 kbit/s	640 bits
56/64 kbit/s	640 bits

The primitive Iu-UP_UNIT-DATA-REQUEST is invoked at regular intervals in order to have a constant bit rate (every SDU).

End of fourth amended section

Fifth amended section

10.2.2.2 A-TRAU' frame format

One A-TRAU' frame consists of two consecutive A-TRAU frames. The following figure shows the format of one A-TRAU frame.

Octet number	bit number 0	1	2	3	4	5	6	7	
0	0	0	0	0	0	0	0	0	
1	0	0	0	0	0	0	0	0	
2	1	**C1**	**C2**	**C3**	**C4**	**C5**	**M1**	**M2**	
3	**Z1**	D1	D2	D3	D4	D5	D6	D7	
4	D8	D9	D10	D11	D12	D13	D14	D15	36 bit data field 1
5	D16	D17	D18	D19	D20	D21	D22	D23	
6	D24	D25	D26	D27	D28	D29	D30	D31	
7	D32	D33	D34	D35	D36	**Z2**	D1	D2	
8	D3	D4	D5	D6	D7	D8	D9	D10	
9	D11	D12	D13	D14	D15	D16	D17	D18	36 bit data field 2
10	D19	D20	D21	D22	D23	D24	D25	D26	
11	D27	D28	D29	D30	D31	D32	D33	D34	
12	D35	D36	**Z3**	D1	D2	D3	D4	D5	
13	D6	D7	D8	D9	D10	D11	D12	D13	
14	D14	D15	D16	D17	D18	D19	D20	D21	36 bit data field 3
15	D22	D23	D24	D25	D26	D27	D28	D29	
16	D30	D31	D32	D33	D34	D35	D36	**Z4**	
17	D1	D2	D3	D4	D5	D6	D7	D8	
18	D9	D10	D11	D12	D13	D14	D15	D16	36 bit data field 4
19	D17	D18	D19	D20	D21	D22	D23	D24	
20	D25	D26	D27	D28	D29	D30	D31	D32	
21	D33	D34	D35	D36	**Z5**	D1	D2	D3	
22	D4	D5	D6	D7	D8	D9	D10	D11	
23	D12	D13	D14	D15	D16	D17	D18	D19	36 bit data field 5
24	D20	D21	D22	D23	D24	D25	D26	D27	
25	D28	D29	D30	D31	D32	D33	D34	D35	
26	D36	**Z6**	D1	D2	D3	D4	D5	D6	
27	D7	D8	D9	D10	D11	D12	D13	D14	
28	D15	D16	D17	D18	D19	D20	D21	D22	36 bit data field 6
29	D23	D24	D25	D26	D27	D28	D29	D30	
30	D31	D32	D33	D34	D35	D36	**Z7**	D1	
31	D2	D3	D4	D5	D6	D7	D8	D9	
32	D10	D11	D12	D13	D14	D15	D16	D17	
33	D18	D19	D20	D21	D22	D23	D24	D25	36 bit data field 7
34	D26	D27	D28	D29	D30	D31	D32	D33	
35	D34	D35	D36	**Z8**	D1	D2	D3	D4	
36	D5	D6	D7	D8	D9	D10	D11	D12	
37	D13	D14	D15	D16	D17	D18	D19	D20	36 bit data field 8
38	D21	D22	D23	D24	D25	D26	D27	D28	
39	D29	D30	D31	D32	D33	D34	D35	D36	

Figure 5: A-TRAU 320 bit frame

Data Bits (Dxx):

The 288 data bits of an A-TRAU frame are divided in eight fields of 36 bits.

Control bits (C Bits):

C1 to C4:

The Control bits C1 to C4 define the used data rate. C1 to C4 in the first A-TRAU frame indicate the data rate in send direction.

C1 to C4 in the second A-TRAU frame indicate the used data rate in backward direction. This is required for Rate Control that is required in uplink direction. For details on rate control see 3GPP TS 25.415 [13].

C1	C2	C3	C4	Radio Interface User Rate
1	0	1	1	57,6 kbit/s
1	0	1	0	33,6 kbit/s
1	0	0	0	28,8 kbit/s
0	1	1	1	14,4 kbit/s

C5:

C5 is not used, it is set to binary '1'.

Bit M1:

An A-TRAU' frame is made of two consecutive A-TRAU which build the transport container for 576 data bits. Bit M1 is used to determine the order of the A-TRAU frames within an A-TRAU' frame.

The two M1 bits are referred to as the Frame Start Identifier. The FSI value is 01. These values are assigned to the M1 bit as shown below:

	M1 bit
First A-TRAU frame	0
Second A-TRAU frame	1

Bit M2:

The M2 bit is used to indicate 'valid' A-TRAU' frames. The M2 bit in both of the two consecutive A-TRAU frames relating to an A-TRAU' frame shall have the same value.

Transparent mode:

In transparent mode M2 is clamped to binary '0'.

The 3G MSC (uplink direction) sets M2 to binary '1' until it receives valid SDUs. When receiving valid SDUs M2 is set to binary '0'.

Non-transparent mode:

In non-transparent mode M2 is used for DTX. If DTX is applied, M2 is set to binary '1'. If DTX is not to be applied, M2 bit is set to binary '0'. The DTX handling is used in both directions for rate adaptation purpose. This means that the sending entity will insert 'fill RLP-frames' with DTX set to binary '1' in case no RLP-frame is available.

Fill frames are also sent in order to adapt the RLP transmission frequency to the AIUR. The ratio between RLP frames and 'fill' RLP frames is defined in the following table:

AIUR	Ratio between RLP and 'fill' RLP frames
57.6 kbit/s	Only valid frames
28.8 kbit/s	1 valid frame followed by 1 'fill' frame
14.4 kbit/s	1 valid frame followed by 3 'fill' frames

Z bits:

The bits Zi are used for Framing Pattern Substitution mechanism. This mechanism is defined in 3GPP TS 08.20 [19] .

Mapping of A-TRAU' frames to PCM time slots:

A-TRAU' frames shall be mapped octet aligned to PCM time slots. I.e. bit number 0 to 7 of each octet of an A-TRAU' frame shall be mapped to bit number 0 to 7 of the PCM time slot.

End of Fifth amended section

3GPP TSG CN WG3 Meeting #17 **Tdoc N3-010232**

Puerto Rico, 14th - 18th May 2001

CR-Form-v4

CHANGE REQUEST

⌘ **27.001** **CR** **059** ⌘ **rev** **-** ⌘ **Current vers** **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: ⌘ (U)SIM ☐ ME/UE ☒ Radio Access Network ☐ Core Network ☒

Title:	⌘	Corrections of PLMN BC attributes
Source:	⌘	TSG_CN WG3
Work item code:	⌘	CS Data Bearers
Date:	⌘	2001-05-14
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)*

Reason for change:	⌘	Removal of several errors found in specification.
Summary of change:	⌘	Deleted reference to Fax in UMTS release 99, corrected a wrong reference for a flow diagram, inserted missing reference to a note and corrected wrong combinations of PLMN BC attributes.
Consequences if not approved:	⌘	Wrong and/or misleading information may cause confusion. Information not in line with 3GPP TS 22.002.

Clauses affected:	⌘	8.5.2, B.1.3.1.3, B.1.3.1.4, B.1.3.1.5, B.1.3.1.7 and B.1.13.1
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	New Excel diagrams highlighted with Green colour. Deleted diagrams are highlighted with Light Blue colour.

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.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://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 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.

First amended section

8.5 Alternate speech/facsimile group 3

8.5.1 In case of GSM

This alternate service may be initiated by a manual procedure where CT106, CT107, CT108.2 and CT109 are set in the OFF condition.

Selection of the data phase (from the speech phase) will be by manual intervention via the MS causing ICM by means of CT108.2 going to ON condition, refer to 3GPP TS 03.45. The ensuing data phase shall follow all the operational procedures as described in 3GPP 27-series.

Selection of the speech phase (from the data phase) will be by manual intervention via the MS causing ICM (phone off-hook condition at the MT and data call end condition at the TE).

During the ensuing speech phases, CT107, CT106 and CT109 will be maintained in the OFF condition.

Subsequent re-selection of the data phase will be by manual intervention via the MS causing CT108.2 going to ON condition initiating ICM. At this point, re-synchronization will take place as described in subclause 8.1 above.

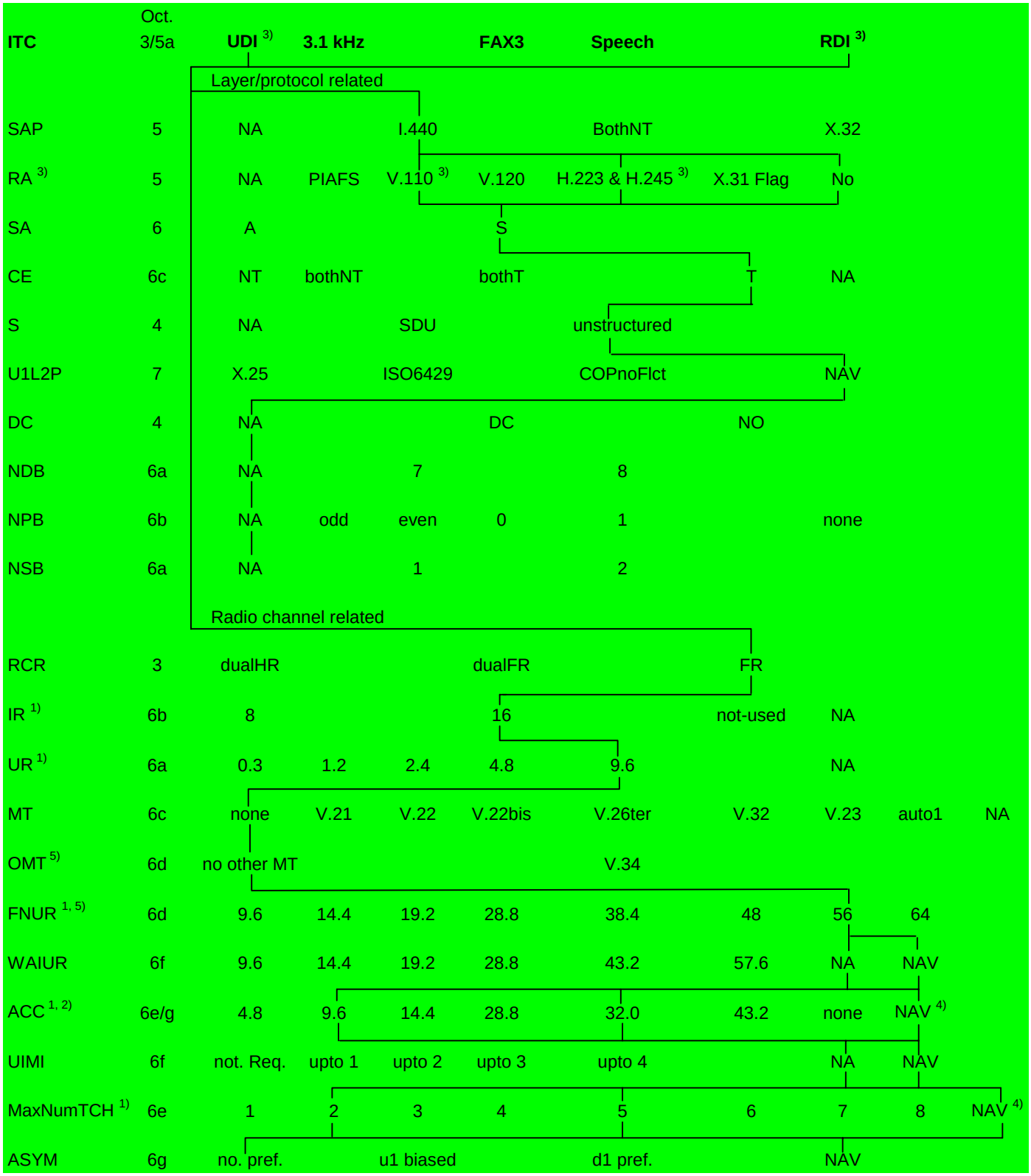
8.5.2 In case of UMTS

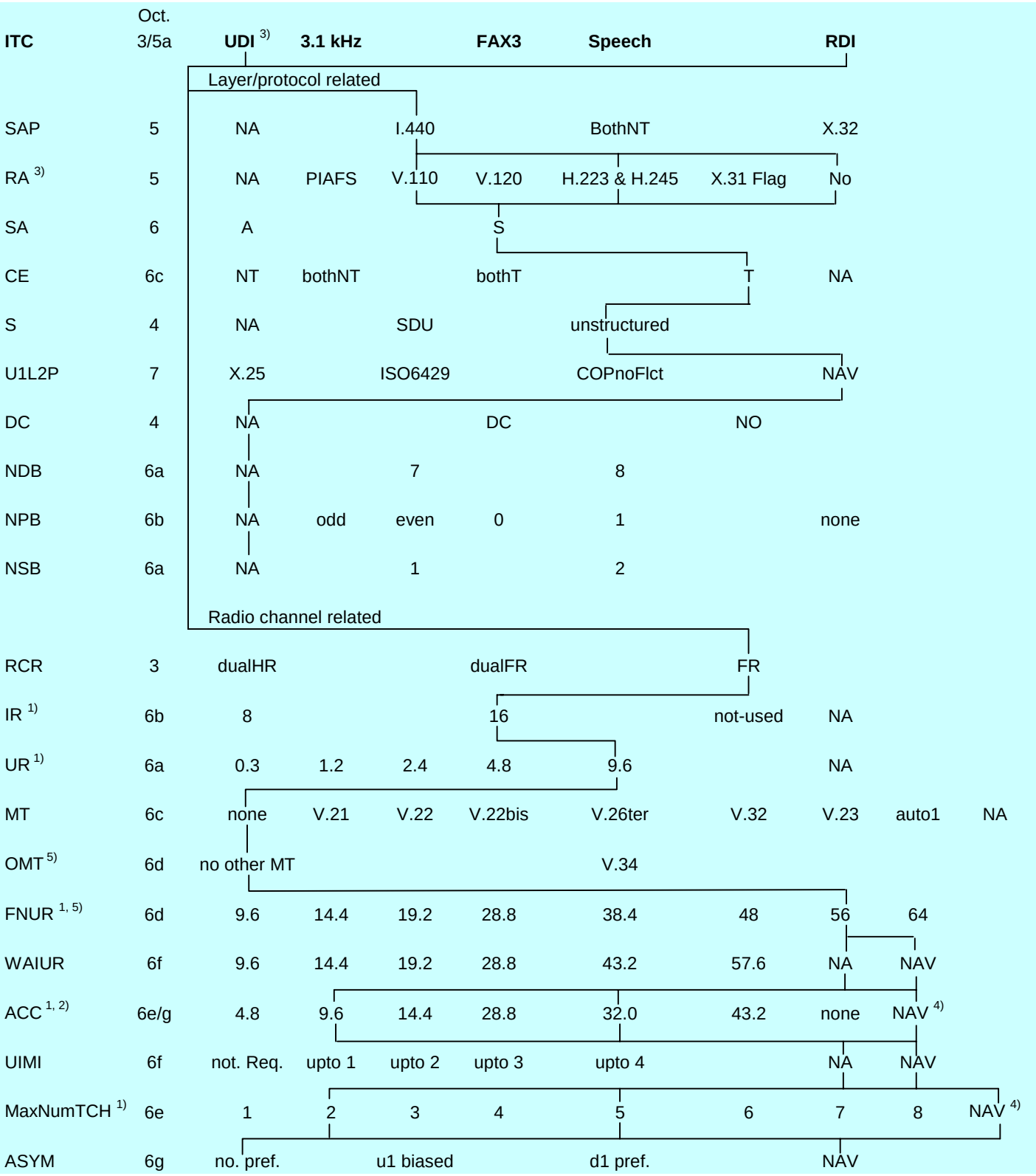
Void.

End of first amended section

Next amended section

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


ITC
Oct. 3/5a
UDI 3)
3.1 kHz
FAX3
Speech
RDI 3)
Layer/protocol related
SAP 5 NA I.440 BothNT X.32
RA 3) 5 NA PIAFS V.110 3) V.120 H.223 & H.245 3) X.31 Flag No
SA 6 A S
CE 6c NT bothNT bothT T NA
S 4 NA SDU unstructured
U1L2P 7 X.25 ISO6429 COPnoFlct NAV
DC 4 NA DC NO
NDB 6a NA 7 8
NPB 6b NA odd even 0 1 none
NSB 6a NA 1 2
Radio channel related
RCR 3 dualHR dualFR FR
IR 1) 6b 8 16 not-used NA
UR 1) 6a 0.3 1.2 2.4 4.8 9.6 NA
MT 6c none V.21 V.22 V.22bis V.26ter V.32 V.23 auto1 NA
OMT 5) 6d no other MT V.34
FNUR 1, 5) 6d 9.6 14.4 19.2 28.8 38.4 48 56 64
WAIUR 6f 9.6 14.4 19.2 28.8 43.2 57.6 NA NAV
ACC 1, 2) 6e/g 4.8 9.6 14.4 28.8 32.0 43.2 none NAV 4)
UIMI 6f not. Req. upto 1 upto 2 upto 3 upto 4 NA NAV
MaxNumTCH 1) 6e 1 2 3 4 5 6 7 8 NAV 4)
ASYM 6g no. pref. u1 biased d1 pref. NAV



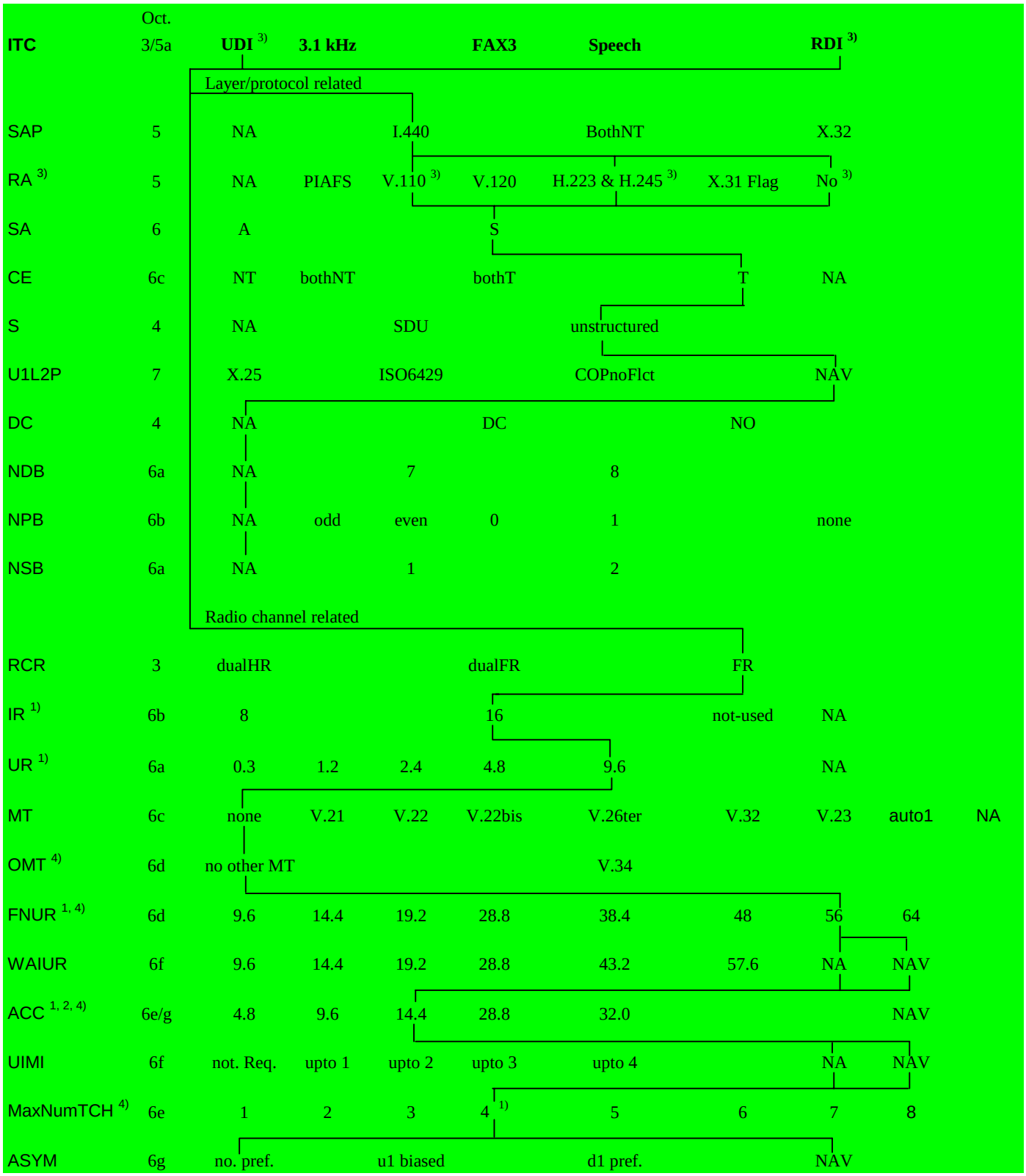
1) IR and UR are overridden by FNUR, ACC and MaxNumTCH. IR and UR are not applicable to UMTS.
2) ACC may have several values simultaneously (bit map coding). However, handover to/from UTRAN is not possible if the network assigns other traffic channels than TCH/F9.6 or TCH/F32.0.
3) In case ITC=UDI, RA shall be set to V.110 . In case ITC=RDI, RA shall be set to H.223&H245 or No.
4) In case ACC and MaxNumTCH are not available operation is restricted to UTRAN.
5) The parameters FNUR and OMT are mandatory for this service.

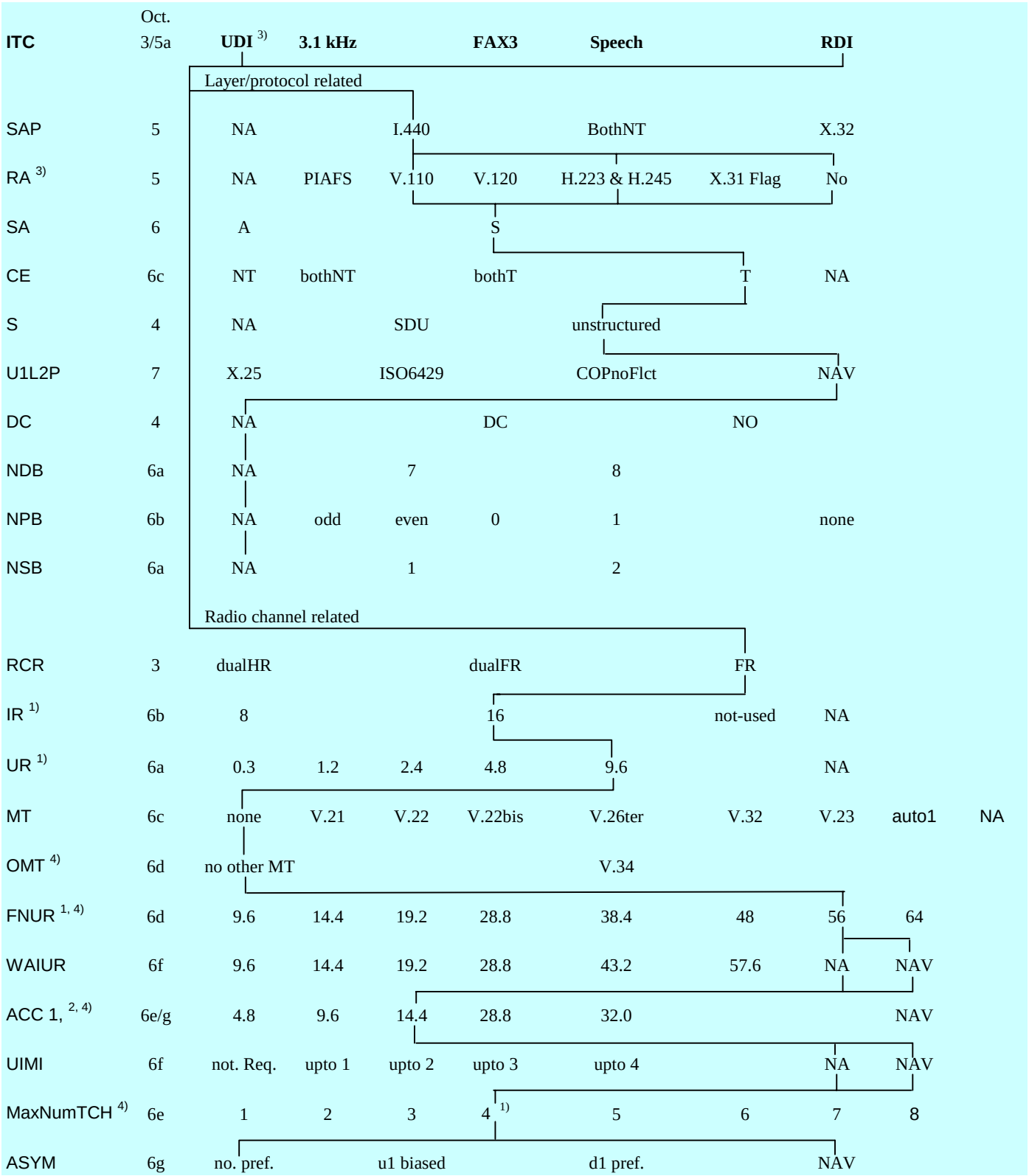
End of second amended section

Next amended section

B.1.3.1.4 Transparent FNUR=56 kbit/s, including 3G-H.324M (TCH/F14.4)

Applies to GSM/GERAN only, no HO to/from UTRAN


ITC
Oct. 3/5a
UDI 3)
3.1 kHz
FAX3
Speech
RDI 3)
Layer/protocol related
SAP 5 NA I.440 BothNT X.32
RA 3) 5 NA PIAFS V.110 3) V.120 H.223 & H.245 3) X.31 Flag No 3)
SA 6 A S
CE 6c NT bothNT bothT T NA
S 4 NA SDU unstructured
U1L2P 7 X.25 ISO6429 COPnoFlct NAV
DC 4 NA DC NO
NDB 6a NA 7 8
NPB 6b NA odd even 0 1 none
NSB 6a NA 1 2
Radio channel related
RCR 3 dualHR dualFR FR
IR 1) 6b 8 16 not-used NA
UR 1) 6a 0.3 1.2 2.4 4.8 9.6 NA
MT 6c none V.21 V.22 V.22bis V.26ter V.32 V.23 auto1 NA
OMT 4) 6d no other MT V.34
FNUR 1, 4) 6d 9.6 14.4 19.2 28.8 38.4 48 56 64
WAIUR 6f 9.6 14.4 19.2 28.8 43.2 57.6 NA NAV
ACC 1, 2, 4) 6e/g 4.8 9.6 14.4 28.8 32.0 NAV
UIMI 6f not. Req. upto 1 upto 2 upto 3 upto 4 NA NAV
MaxNumTCH 4) 6e 1 2 3 4 1) 5 6 7 8
ASYM 6g no. pref. u1 biased d1 pref. NAV



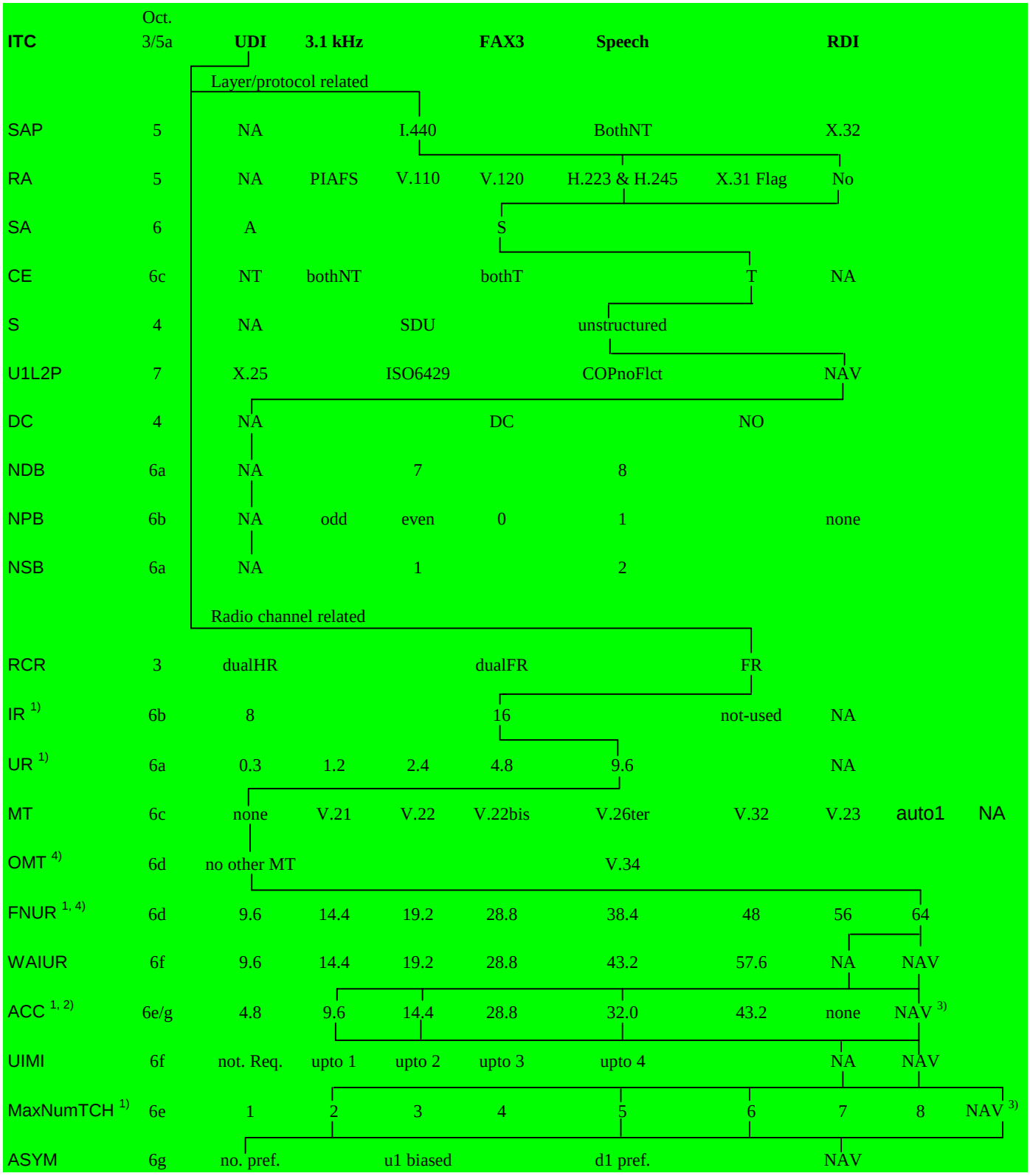
1) IR and UR are overridden by FNUR, ACC and MaxNumTCH.
2) ACC may have several values simultaneously (bit map coding).
3) In case ITC=UDI, RA shall be set to V.110 . In case ITC=RDI, RA shall be set to H.223 & H245 or No.

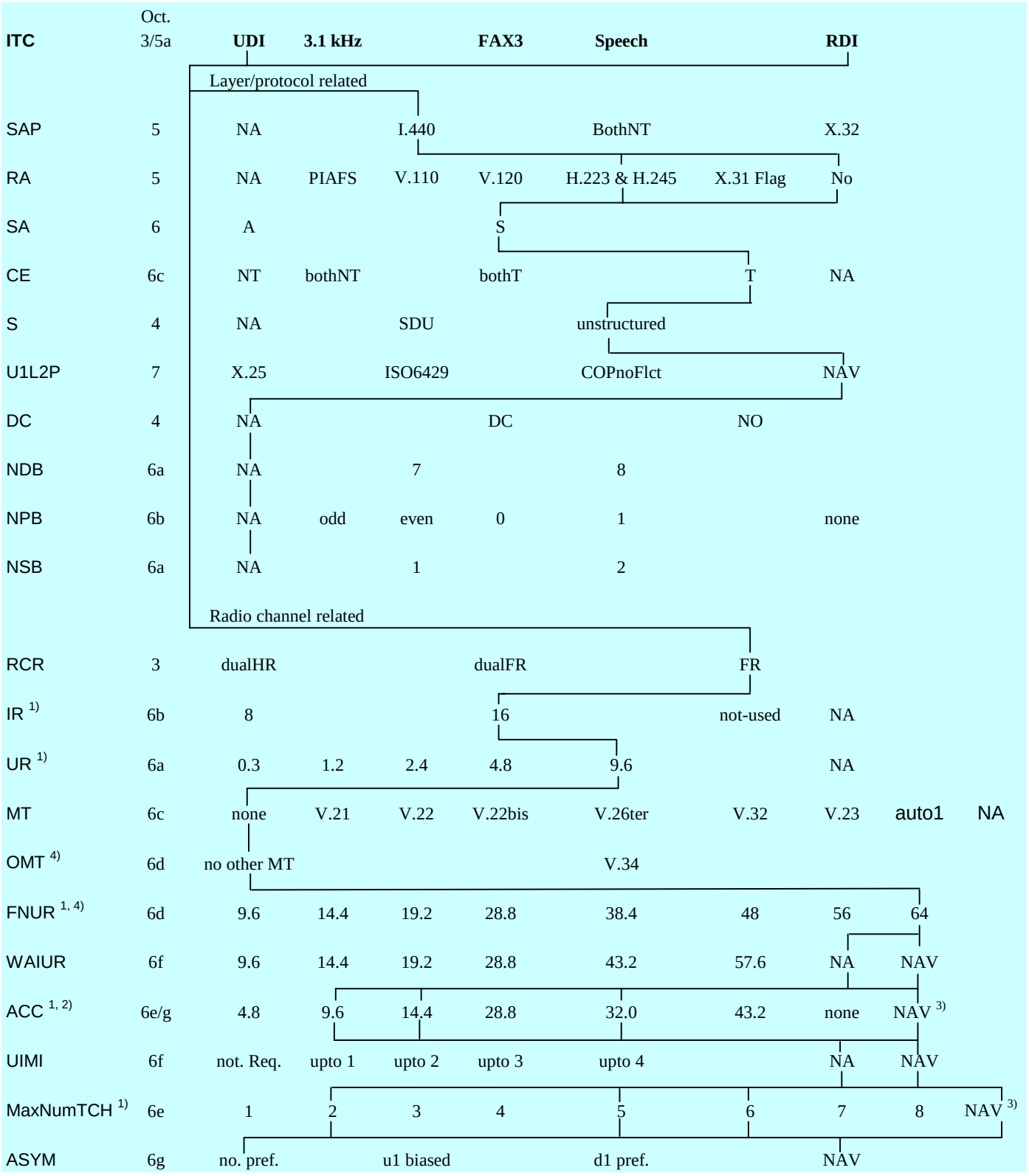
4) The parameters FNUR, OMT, ACC and MaxNumTCH are mandatory for this service.

End of third amended section

Next amended section

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





1) IR and UR are overridden by FNUR, ACC and MaxNumTCH. IR and UR are not applicable to UMTS.
2) ACC may have several values simultaneously (bit map coding).
3) If ACC and MaxNumTCH are not available operation is restricted to UTRAN.
4) The parameters FNUR and OMT are mandatory for this service.

End of fourth amended section

Next amended section

B.1.3.1.7 Synchronous transparent 56 kbit/s (RDI) and 64kbit/s (UDI) (UTRAN)

See B.1.3.1.3 and B.1.3.1.5

End of fifth amended section

Next amended section

B.1.13 Assignment of radio access bearer parameters depending on FNUR and WAIUR

B.1.13.1 Transparent Services

Depending on the FNUR negotiated between the network and the MS, the network is allowed to assign any radio resources with a radio access bearer parameter indicating a Quality of Service specifying

QoS Parameter	Value	Comments
Traffic Class	Conversational	Subject to operator tuning
RAB Asymmetry Indicator	Symmetric	
Maximum bit rate	= guaranteed bit rate	
Guaranteed bit rate	FNUR = 64 .. 28,8 kbit/s	GBR for FNUR=56 kbit/s is 64 kbit/s (Note 1)
Delivery Order	Yes	
Maximum SDU size	640 bits for FNUR = 32, 56 and 64 kbit/s 576 bits for FNUR = 28.8 kbit/s	Note 2
Transfer Delay	< 200 ms	Subject to operator tuning
Traffic Handling Priority	-	Not applicable for the conversational traffic class
Source statistics descriptor	Unknown	
SDU Parameters		
SDU error ratio	-	Not applicable
Residual bit error ratio	10^{-4}	Subject to operator tuning according to 3GPP TS 23.107. Operator may also choose different value for Multimedia and other transparent data services.
Delivery of erroneous SDUs	-	No error detection in the core network

Note 1: In case the FNUR = 56 kbit/s, the GBR is set to 64 kbit/s. Last bit in each data octet is set to 1

Note 2: The maximum SDU size for bit rate 33.6 kbit/s is still under discussion.

The final decision about the radio interface configuration is taken by the RNC during the Assignment procedure.

End of sixth and last amended section

3GPP TSG CN WG3 Meeting #17 **Tdoc N3-010233**

Puerto Rico, 14th - 18th May 2001

CR-Form-v4

CHANGE REQUEST

⌘ **27.001** **CR** **060** ⌘ **rev** **-** ⌘ **Current vers** **4.3.0** ⌘

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

Proposed change affects: ⌘ (U)SIM [ ] ME/UE [X] Radio Access Network [ ] Core Network [X]

Title:	⌘	Corrections of PLMN BC attributes
Source:	⌘	TSG_CN WG3
Work item code:	⌘	CS Data Bearers
Date:	⌘	2001-05-14
Category:	⌘	**A**
Release:	⌘	REL-4

Use one of the following categories:
- ***F*** *(correction)*
- ***A*** *(corresponds to a correction in an earlier release)*
- ***B*** *(Addition of feature),*
- ***C*** *(Functional modification of feature)*
- ***D*** *(Editorial modification)*

Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

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

Reason for change:	⌘	Removal of several errors found in specification.
Summary of change:	⌘	Corrected a wrong reference for a flowdiagram and corrected wrong combinations of PLMN BC attributes.
Consequences if not approved:	⌘	Wrong and/or misleading information may cause confusion. Information not in line with 3GPP TS 22.002.

Clauses affected:	⌘	B.1.3.1.3, B.1.3.1.4, B.1.3.1.5 and B.1.3.1.7
Other specs affected:	⌘	[ ] Other core specifications ⌘ [ ] Test specifications [ ] O&M Specifications
Other comments:	⌘	New Excel diagrams highlighted with Green colour. Deleted diagrams are highlighted with Light Blue colour.

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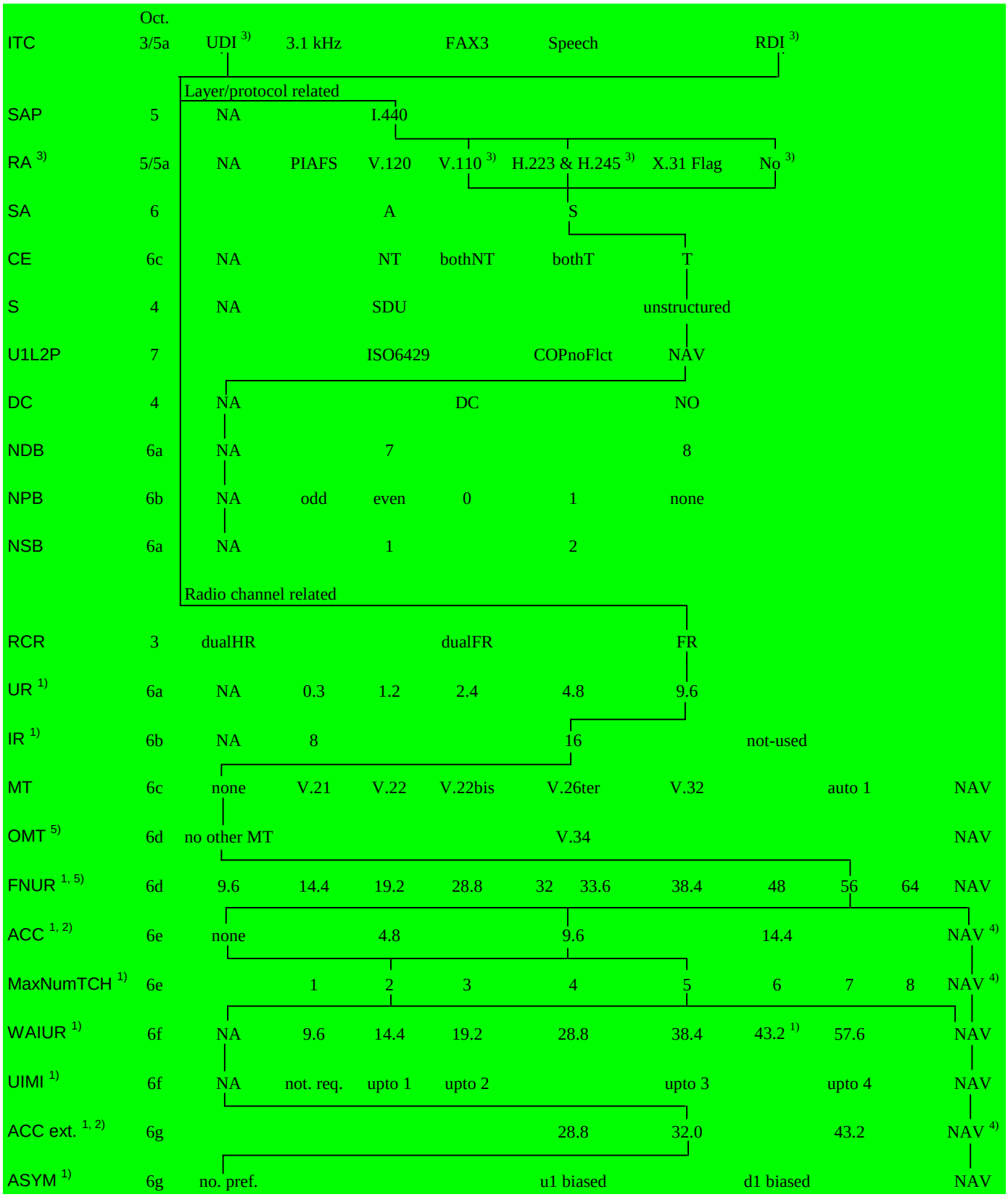
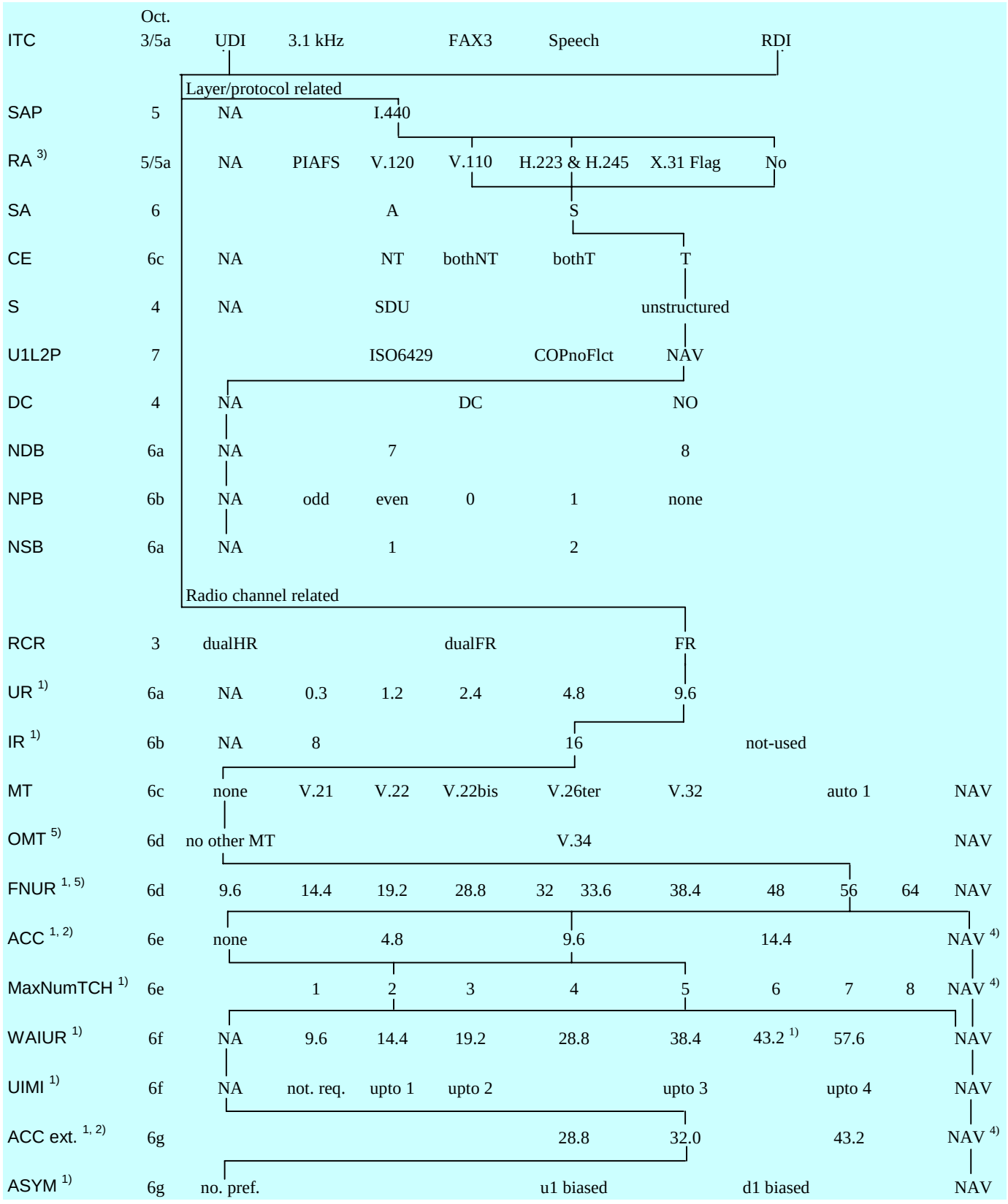
3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

First amended section

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


Oct.
ITC 3/5a UDI 3) 3.1 kHz FAX3 Speech RDI 3)
Layer/protocol related
SAP 5 NA I.440
RA 3) 5/5a NA PIAFS V.120 V.110 3) H.223 & H.245 3) X.31 Flag No 3)
SA 6 A S
CE 6c NA NT bothNT bothT T
S 4 NA SDU unstructured
U1L2P 7 ISO6429 COPnoFlct NAV
DC 4 NA DC NO
NDB 6a NA 7 8
NPB 6b NA odd even 0 1 none
NSB 6a NA 1 2
Radio channel related
RCR 3 dualHR dualFR FR
UR 1) 6a NA 0.3 1.2 2.4 4.8 9.6
IR 1) 6b NA 8 16 not-used
MT 6c none V.21 V.22 V.22bis V.26ter V.32 auto 1 NAV
OMT 5) 6d no other MT V.34 NAV
FNUR 1, 5) 6d 9.6 14.4 19.2 28.8 32 33.6 38.4 48 56 64 NAV
ACC 1, 2) 6e none 4.8 9.6 14.4 NAV 4)
MaxNumTCH 1) 6e 1 2 3 4 5 6 7 8 NAV 4)
WAIUR 1) 6f NA 9.6 14.4 19.2 28.8 38.4 43.2 1) 57.6 NAV
UIMI 1) 6f NA not. req. upto 1 upto 2 upto 3 upto 4 NAV
ACC ext. 1, 2) 6g 28.8 32.0 43.2 NAV 4)
ASYM 1) 6g no. pref. u1 biased d1 biased NAV



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

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) In case ACC and MaxNumTCH are not available operation is restricted to UTRAN.

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

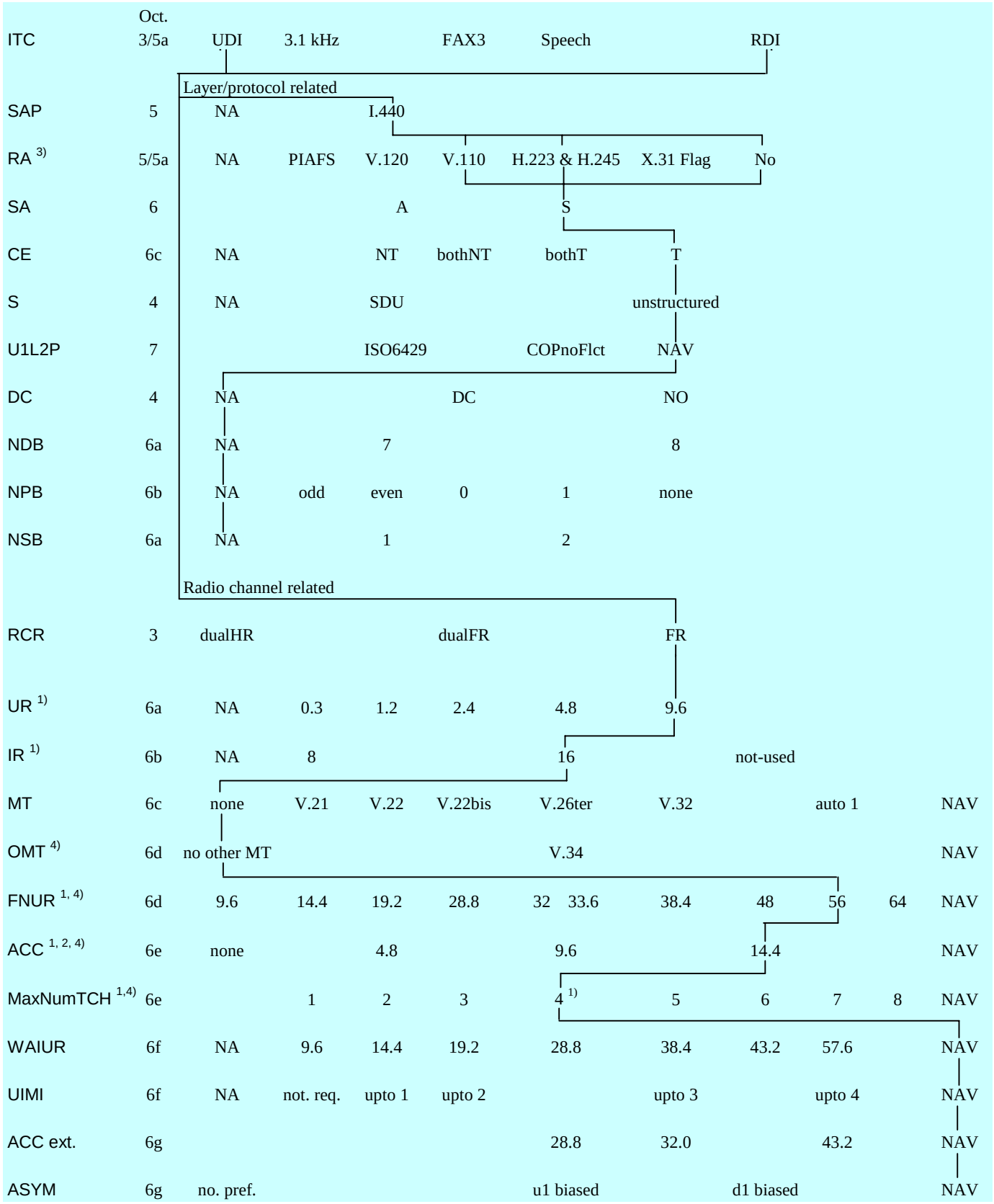
End of first amended section

Next amended section

B.1.3.1.4 Transparent FNUR = 56kbit/s, including 3G-H.324/M (TCH/F14.4)

Applies to GSM/GERAN only, no HO to/from UTRAN

	Oct.										
ITC	3/5a	UDI [3]	3.1 kHz		FAX3	Speech					RDI [3]
		Layer/protocol related									
SAP	5	NA		I.440							
RA [3]	5/5a	NA	PIAFS	V.120	V.110 [3]	H.223 & H.245 [3]	X.31 Flag				No [3]
SA	6			A		S					
CE	6c	NA		NT	bothNT	bothT	T				
S	4	NA		SDU			unstructured				
U1L2P	7			ISO6429		COPnoFlct	NAV				
DC	4	NA			DC		NO				
NDB	6a	NA		7			8				
NPB	6b	NA	odd	even	0	1	none				
NSB	6a	NA		1		2					
		Radio channel related									
RCR	3	dualHR			dualFR		FR				
UR [1]	6a	NA	0.3	1.2	2.4	4.8	9.6				
IR [1]	6b	NA	8			16		not-used			
MT	6c	none	V.21	V.22	V.22bis	V.26ter	V.32		auto 1		NAV
OMT [4]	6d	no other MT				V.34					NAV
FNUR [1, 4]	6d	9.6	14.4	19.2	28.8	32	33.6	38.4	48	56	64 NAV
ACC [1, 2, 4]	6e	none		4.8		9.6			14.4		NAV
MaxNumTCH [1,4]	6e		1	2	3	4 [1]	5	6	7	8	NAV
WAIUR	6f	NA	9.6	14.4	19.2	28.8	38.4	43.2	57.6		NAV
UIMI	6f	NA	not. req.	upto 1	upto 2		upto 3		upto 4		NAV
ACC ext.	6g					28.8	32.0		43.2		NAV
ASYM	6g	no. pref.				u1 biased		d1 biased			NAV



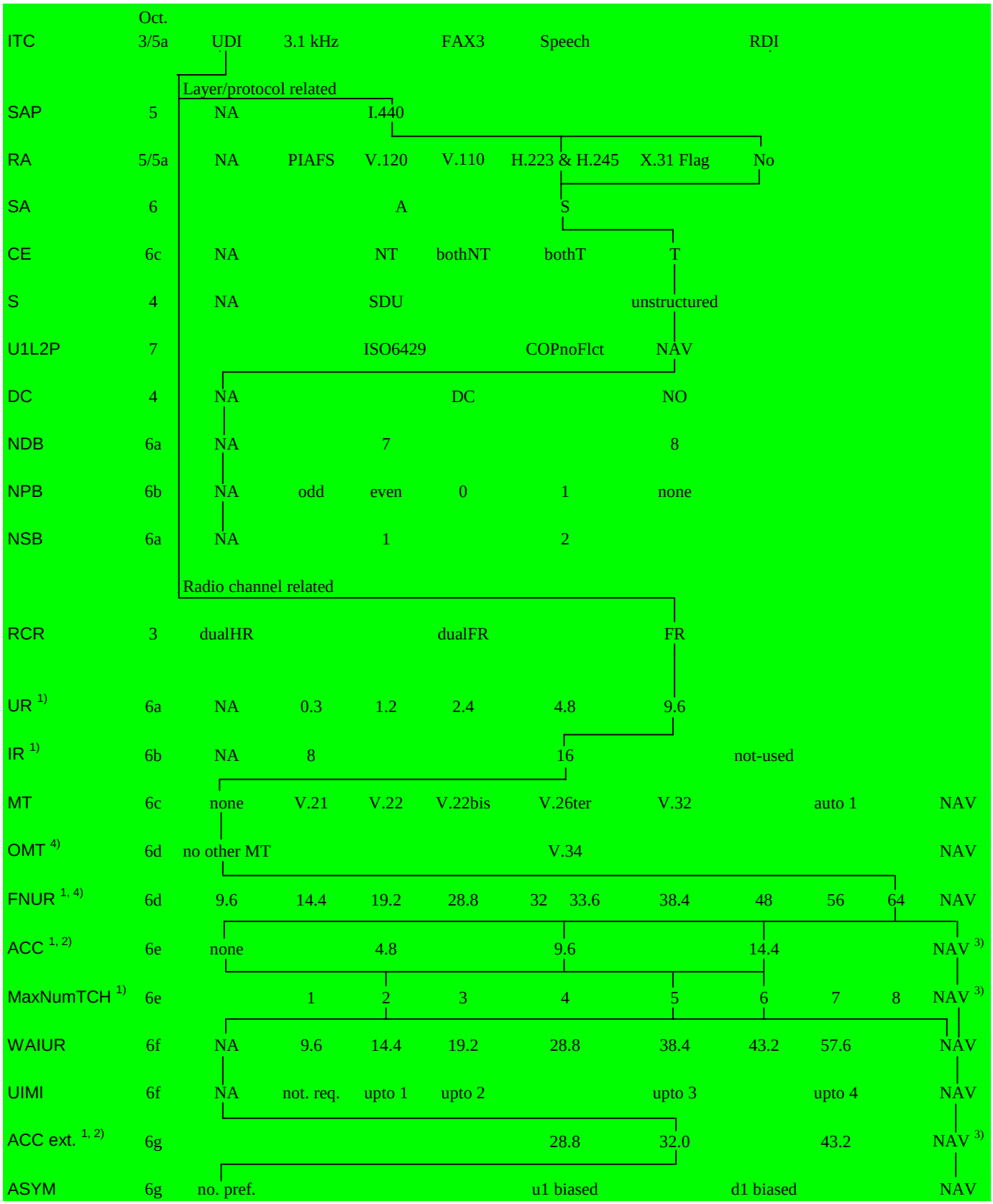
1) IR and UR are overridden by FNUR, ACC and MaxNumTCH.
2) ACC may have several values simultaneously (bit map coding).
3) In case ITC=UDI, RA shall be set to V.110 . In case ITC=RDI, RA shall be set to H.223 & H.245 or No.

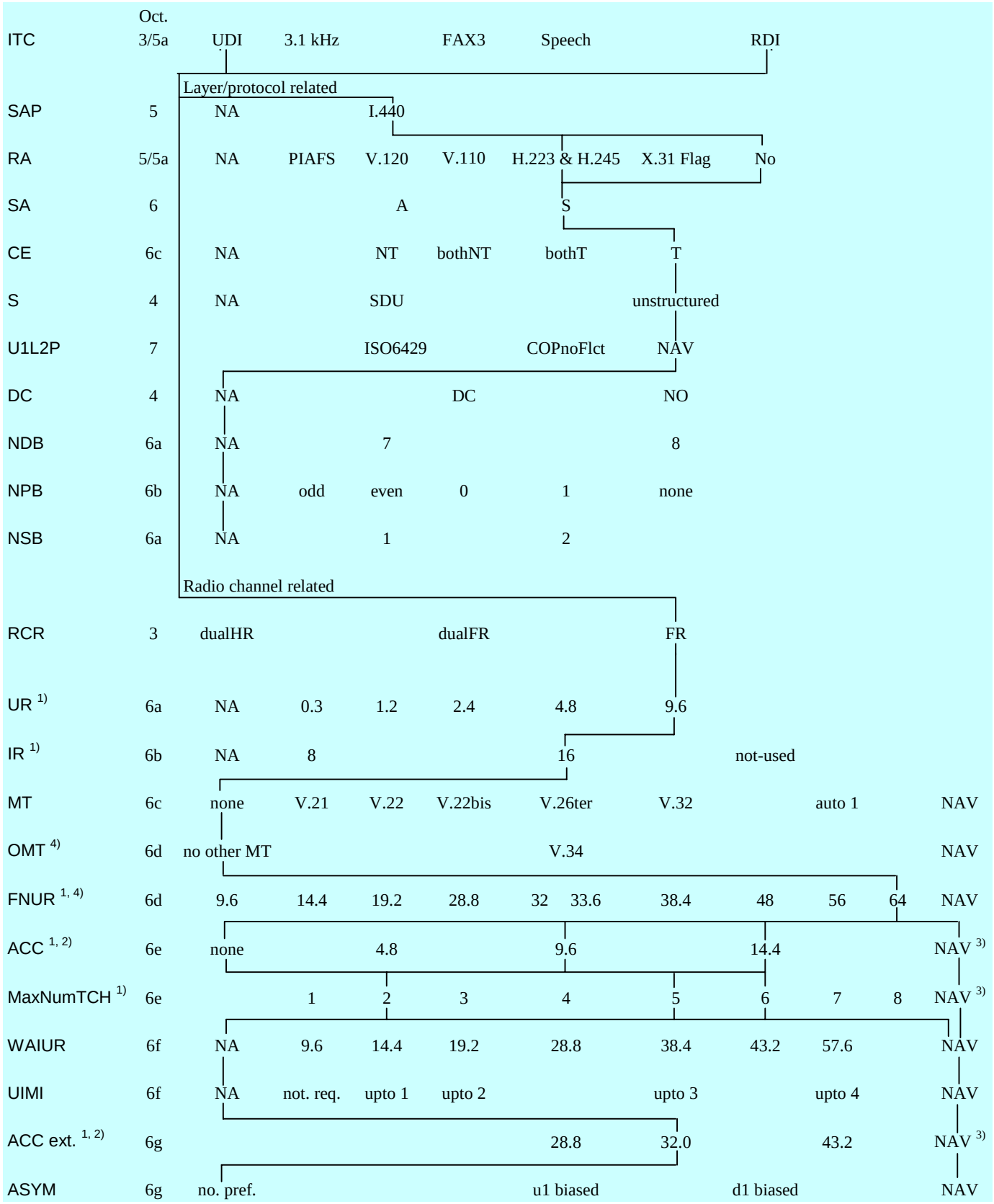
4) The parameters FNUR, OMT, ACC and MaxNumTCH are mandatory for this service.

End of second amended section

Next amended section

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


Oct.
ITC 3/5a UDI 3.1 kHz FAX3 Speech RDI
Layer/protocol related
SAP 5 NA I.440
RA 5/5a NA PIAFS V.120 V.110 H.223 & H.245 X.31 Flag No
SA 6 A S
CE 6c NA NT bothNT bothT T
S 4 NA SDU unstructured
U1L2P 7 ISO6429 COPnoFlct NAV
DC 4 NA DC NO
NDB 6a NA 7 8
NPB 6b NA odd even 0 1 none
NSB 6a NA 1 2
Radio channel related
RCR 3 dualHR dualFR FR
UR 1) 6a NA 0.3 1.2 2.4 4.8 9.6
IR 1) 6b NA 8 16 not-used
MT 6c none V.21 V.22 V.22bis V.26ter V.32 auto 1 NAV
OMT 4) 6d no other MT V.34 NAV
FNUR 1, 4) 6d 9.6 14.4 19.2 28.8 32 33.6 38.4 48 56 64 NAV
ACC 1, 2) 6e none 4.8 9.6 14.4 NAV 3)
MaxNumTCH 1) 6e 1 2 3 4 5 6 7 8 NAV 3)
WAIUR 6f NA 9.6 14.4 19.2 28.8 38.4 43.2 57.6 NAV
UIMI 6f NA not. req. upto 1 upto 2 upto 3 upto 4 NAV
ACC ext. 1, 2) 6g 28.8 32.0 43.2 NAV 3)
ASYM 6g no. pref. u1 biased d1 biased NAV



1) IR and UR are overridden by FNUR, ACC and MaxNumTCH. IR and UR are not applicable to UMTS.
2) ACC may have several values simultaneously (bit map coding).
3) If ACC and MaxNumTCH are not available operation is restricted to UTRAN.
4) The parameters FNUR and OMT are mandatory for this service.

End of third amended section

Next amended section

B.1.3.1.7 Synchronous transparent 56 kbit/s (RDI) and 64kbit/s (UDI) (UTRAN)

See B.1.3.1.3 and B.1.3.15.

End of fourth and last amended section