3GPP TSG_CN#6 **NP-99435**

ETSI SMG3 Plenary Meeting #6,

Nice, France

13th – 15th December 1999

Agenda item: **5.3.3**

Source: **TSG_N WG3**

Title: **CRs to 3G Work Item Real Time Non-transparent fax**

Introduction:

This document contains **"2"** CRs **on Work Item Real Time NT Fax** agreed by **TSG_N WG3** and forwarded to **TSG_N Plenary** meeting #6 for approval.

Tdoc	Spec	CR	Rev	CAT	Rel.	Old Ver	New Ver	Subject
N3-99503	27.001	009		C	R99	3.2.0	3.3.0	BC-IE setting for Real-time non-transparent FAX
N3-99488	27.003	002		F	R99	3.1.0	3.2.0	Introduction of Asynchronous interface for Real-time non-transparent FAX

3GPP TSG-N3 meeting #7
Sophia Antipolis, France, 29th November – 3rd December 1999

Document N3-99503
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

27.001	CR	009	Current Version:	3.2.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to: CN#6 *list expected approval meeting # here ↑*	for approval	X	strategic		*(for SMG use only)*
	for information		non-strategic		

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)* (U)SIM [ ] ME [X] UTRAN / Radio [ ] Core Network [X]

Source: TSG_N3 **Date:** 30/11/99

Subject: BC-IE setting for Real-time non-transparent FAX

Work item: Real-time non-transparent FAX in UMTS

Category: *(only one category shall be marked with an X)*

F	Correction		**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature			Release 97	
C	Functional modification of feature	X		Release 98	
D	Editorial modification			Release 99	X
				Release 00	

Reason for change:
1. Introduction of Asynchronous interface between FA Protocol and TAF
2. Change related to user rate

Clauses affected: See attached pages

Other specs affected:

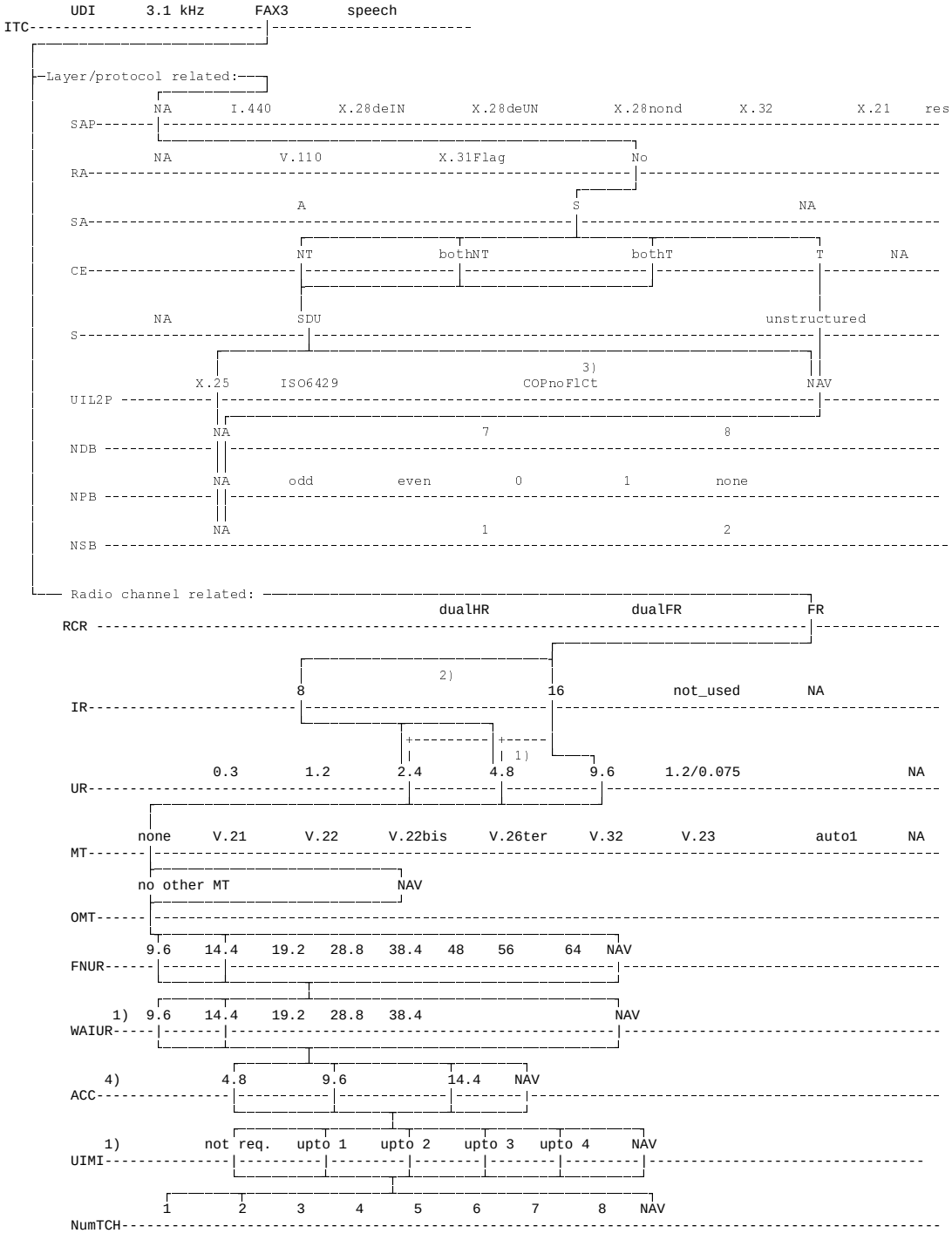
Other 3G core specifications	X	→ List of CRs:	23.146, 27.003
Other GSM core specifications		→ List of CRs:	
MS test specifications		→ List of CRs:	
BSS test specifications		→ List of CRs:	
O&M specifications		→ List of CRs:	

Other comments:


help.doc

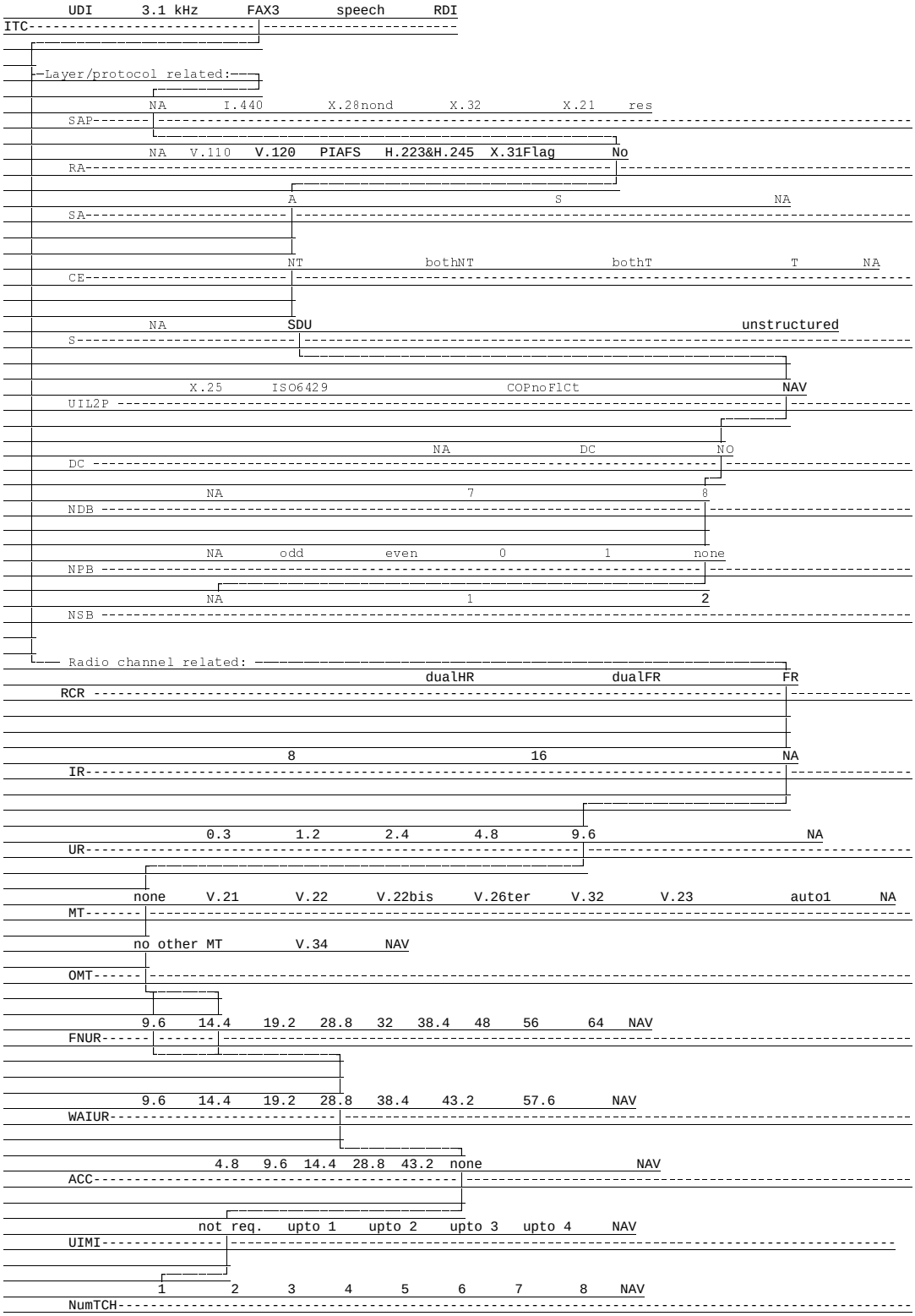
<--------- double-click here for help and instructions on how to create a CR.

B.1.10.2 Teleservice 61, Facsimile group 3 in GSM



1) for CE:NT or "both";
2) for CE:T only;
3) for MTC in the SETUP message only;
4) ACC may have several values simultaneously (bit map coding).

B.1.10.3 Teleservice 61, Facsimile group 3 in UMTS



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Document N3-99488
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

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27.003	CR	002	Current Version:	3.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	CN#6	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic		

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)* (U)SIM [ ] ME [X] UTRAN / Radio [ ] Core Network [X]

Source: TSG_N3 **Date:** 30/11/99

Subject: Introduction of Asynchronous interface for Real-time non-transparent FAX

Work item: Real-time non-transparent FAX in UMTS

Category: *(only one category shall be marked with an X)*

F	Correction	X
A	Corresponds to a correction in an earlier release	
B	Addition of feature	
C	Functional modification of feature	
D	Editorial modification	

Release:

Phase 2	
Release 96	
Release 97	
Release 98	
Release 99	X
Release 00	

Reason for change: Introduction of Asynchronous interface between FA Protocol and TAF

Clauses affected: See attached pages

Other specs affected:

Other 3G core specifications	X	→ List of CRs:	23.~~046~~146, 27.001
Other GSM core specifications		→ List of CRs:	
MS test specifications		→ List of CRs:	
BSS test specifications		→ List of CRs:	
O&M specifications		→ List of CRs:	

Other comments:


help.doc

<--------- double-click here for help and instructions on how to create a CR.

4.2 Interchange Circuit Signalling Mapping

4.2.1 V-series interchange circuit mapping

The interchange circuit signalling mapping at the interface between the TE2 and the MT shall conform to CCITT recommendation V.24; while the signal levels at the interface shall conform either to CCITT recommendation V.28, or to IrDA IrPHY Physical signalling standard specification, or to PCMCIA 2.1, or to PC-Card 3.0 electrical specifications or to later revisions.

The signals required at this interface are shown in table 2.

Specification 04.21 refers to the frame structure and identifies the use of status bits for the carriage of signalling information.

Status bits

The bits S and X are used to convey channel status information associated with the data bits in the data transfer stage as shown below. The S-bits are put into two groups SA and SB to carry the condition of two interchange circuits. The X-bit is used to control the condition of circuit 106.

The mechanism for proper assignment of the control information from the transmitting signal rate adapter interface via these bits to the receiving signal rate adapter interface is shown below in table 1.

For the S and X bits, a ZERO corresponds to the ON condition, a ONE to the OFF condition.

General mapping scheme

Table 1: General mapping scheme for V-series interchange circuits

Table 2: Minimum set of V-series interchange circuits

Circuit Number	Circuit Name	Ground	Data		Control	
			to TE2	from TE2	to TE2	from TE2
CT102	Common Return	X				
CT103	Transmitted data			X		
CT104	Received data		X			
CT105	Request to send					X
CT106	Ready for sending				X	
CT107	Data set ready				X	
CT108.2	Data terminal ready					X
CT109	Data channel received line signal detector				X	
CT114	Transmitter signal element timing				X	
CT115	Receiver signal element timing				X	
CT125	Calling in-dicator (note)				X	

NOTE: CT125 is used with the AUTO ANSWER function of the TAF.

Use of Network Independent Clocking:

Network Independent Clocking is only applicable to calls using ITC value "3.1 kHz audio ex PLMN".

Within the GSM network the coding of the values for bits associated with NIC is specified in GSM specifications GSM 04.21 [6]/GSM 08.20 [9]. In the forward (transmitting) direction the multiframes shall be coded in exact accordance with that specified in those specifications. Bit E6 is set to "1" in alternate modified V.110 frames at the transmitter. However, the use of this bit at the receiver for monitoring frame Synchronization, or any other purpose, is not specified and is left to the discretion of the implementor.

A "perfect linear block Code" is used in C1-C5, whose error correction properties may be utilized in the receiver, in order to ensure reliable operation of NIC.

The NIC sending function has to recognize when the difference between the applicable clock speed of the GSM network and the interface speed generates a positive or negative whole bit requirement. When this positive or negative condition occurs, the NIC codewords specified in specification GSM 04.21 [6] are used to transport this condition to the receiving NIC function. Transmission of the codeword shall clear the positive or negative condition related to that codeword at the sending function. The sending function shall not send more than one positive or negative compensations within a contiguous period of time corresponding to 10 000 user data bits minus the number of user data bits necessary to make up an even number of V.110 frames between compensations (NIC compensation is coded in two V.110 frames). This results from the requirements to compensate for maximum clock differences of ± 100 parts per million. If the receiving

function receives NIC compensations more often than a contiguous period of time corresponding to 10 000 user data bits, there is no guarantee that data will not be lost.

The NIC receiving function has to provide the capability to support the compensation requirements of the sending function. This compensation is managed by manipulating the clock speed of the interface, within the standard constraints of that interface.

Overall, the compensation functions have to be capable of managing clock tolerances of ± 100 parts per million.

The NIC function has to recognize and manage the conversion of the NIC information received incoming from an ISDN terminal Interface. The conversion has to be made to the NIC format used within the GSM System as defined in specifications 04.21/08.20. The NIC function has to manage the conversion of the GSM NIC format into that used within the ISDN in the traffic direction towards the ISDN terminal interface.

Due to the incompatibility between the ISDN and the GSM requirements NIC interworking is nor provided between these two formats. as such no NIC function is required in providing interworking to the ISDN for unrestricted digital.

Action on loss of synchronization:

If five consecutive NIC multiframes have incorrect framing bit values in E7, the receiver shall stop applying clocking compensation to the received data. Resynchronization will be attempted and compensation will resume when synchronization is achieved.

Signal element timing:

Receiver signal element timing (CT115) is generated by MT2. In the transparent case, this shall be synchronized to the output of RA1' function. In the non transparent case it is output from the L2R on the basis of the current user data rate. A transition from ON to OFF condition shall nominally indicate the centre of each signal element on CT104.

Transmitter signal element timing is generated by MT2 (CT114), this may be synchronized to CT115.

In the case of alternate Speech/Group 3 Facsimile in GSM, there may be a Channel Mode Modify during the course of the facsimile portion of the call. If this occurs in GSM, the user data rate changes and this is reflected to the V.24 interface as a change in the clock speed on CT 114 and CT 115.