EUROPEAN TELECOMMUNICATION STANDARD

ETS 300 651

September 1996

Source: ETSI TC-RES

Reference: DE/RES-03036

ICS: 30.020, 30.060.50

Key words: DECT, data, layer 2, mobility, profile, radio

Radio Equipment and Systems (RES); Digital Enhanced Cordless Telecommunications (DECT); Data Services Profile (DSP); Generic data link service; Service type C, class 2

ETSI

European Telecommunications Standards Institute

ETSI Secretariat

Postal address: F-06921 Sophia Antipolis CEDEX - FRANCE
Office address: 650 Route des Lucioles - Sophia Antipolis - Valbonne - FRANCE
X.400: c=fr, a=atlas, p=etsi, s=secretariat - **Internet:** secretariat@etsi.fr

Tel.: +33 92 94 42 00 - Fax: +33 93 65 47 16

Contents

Foreword

This European Telecommunication Standard (ETS) has been produced by the Radio Equipment and Systems (RES) Technical Committee of the European Telecommunications Standards Institute (ETSI).

Transposition dates	
Date of adoption of this ETS:	23 August 1996
Date of latest announcement of this ETS (doa):	31 December 1996
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	30 June 1997
Date of withdrawal of any conflicting National Standard (dow):	30 June 1997

Blank page

1 Scope

This European Telecommunication Standard (ETS) defines a profile for Digital Enhanced Cordless Telecommunications (DECT) systems conforming to ETS 300 175, Parts 1 to 9 [1] to [9]. It is part of a family of profiles which build upon and extend each other, aimed at the general connection of terminals supporting non-voice services to a fixed infra-structure, private and public.

This ETS specifies a Link Access Protocol (LAP) service suitable for non-transparent transfer of character-oriented or bit-oriented data streams and intended for use in private and public roaming applications. It builds upon the generic frame relay service offered by the Data Services Profile (DSP) base standard (Type A and Type B services) and adds full Data Link Control (DLC) functionality to the basic service. Annexes to this ETS contain interworking conventions to specific character orientated services.

This ETS defines the Type C Service, Mobility Class 2. The Type C service is fully compatible with both the Type A and Type B services defined in ETS 300 435 [11].

This ETS defines the additional requirements on the Physical Layer (PHL), Medium Access Control (MAC) layer, DLC layer and Network (NWK) layer of DECT. The standard also specifies Management Entity (ME) requirements and generic Interworking Conventions (IC) which ensure the efficient use of the DECT spectrum.

2 Normative references

This ETS incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to, or revisions of, any of these publications apply to this ETS only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

[1] ETS 300 175-1 (1996): "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Common Interface (CI); Part 1: Overview".

[2] ETS 300 175-2 (1996): "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Common Interface (CI); Part 2: Physical layer".

[3] ETS 300 175-3 (1996): "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Common Interface (CI); Part 3: Medium Access Control (MAC) layer".

[4] ETS 300 175-4 (1996): "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Common Interface (CI); Part 4: Data Link Control (DLC) layer".

[5] ETS 300 175-5 (1996): "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Common Interface (CI); Part 5: Network (NWK) layer".

[6] ETS 300 175-6 (1996): "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Common Interface (CI); Part 6: Identities and addressing".

[7] ETS 300 175-7 (1996): "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Common Interface (CI); Part 7: Security features".

[8] ETS 300 175-8 (1996): "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Common Interface (CI); Part 8: Speech coding and transmission".

[9] ETS 300 175-9 (1996): "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Common Interface (CI); Part 9: Public Access Profile (PAP)".

[10] ETS 300 444: "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Generic Access Profile (GAP)".

[11] ETS 300 435: "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Data Services Profile (DSP); Base standard including inter-Working to connectionless networks (service types A and B, Class 1)".

[12] CCITT Recommendation Q.921 (1988): "Digital subscriber signalling system no. 1 data link layer".

[13] CCITT Recommendation V.42: "Error-correcting procedures for DCEs using asynchronous-to-synchronous conversion".

[14] CCITT Recommendation V.24 (1988): "List of definitions for interchange circuits between data terminal equipment (DTE) and data circuit-terminating equipment (DCE)".

[15] CCITT Recommendation V.25bis (1988): "Automatic calling and/or answering equipment on the general switched telephone network (GSTN) using the 100-series interchange circuits".

[16] CCITT Recommendation V.42bis (1990): "Data compression procedures for data circuit- terminating equipment (DCE) using error correcting procedures".

[17] ETR 043: "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Common interface; Services and facilities requirements specification".

[18] ETS 300 476-2: "Radio Equipment and Systems (RES); Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Protocol Implementation Conformance Statement (PICS) proforma; Part 2: Data Link Control (DLC) layer - Portable radio Termination (PT)".

[19] ETS 300 476-3: "Radio Equipment and Systems (RES); Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Protocol Implementation Conformance Statement (PICS) proforma; Part 3: Medium Access Control (MAC) layer - Portable radio Termination (PT)".

[20] ETS 300 476-4: "Radio Equipment and Systems (RES); Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Protocol Implementation Conformance Statement (PICS) proforma; Part 4: Network (NWK) layer - Fixed radio Termination (FT)".

3 Definitions and abbreviations

3.1 Definitions

For the purpose of this ETS, the following definitions apply:

mobility class 1: Local area applications, for which terminals are pre-registered off-air with one or more specific Fixed Parts (FPs), and establishment of service and user parameters is therefore implicit, according to a profile-defined list.

mobility class 2: Private and public roaming applications for which terminals may move between FPs within a given domain and for which association of service parameters is explicit at the time of service request.

multiframe: A repeating sequence of 16 successive Time Division Multiple Access (TDMA) frames, that allows low rate or sporadic information to be multiplexed (e.g. basic system information or paging).

service type A: Low speed frame relay, with a net sustainable throughput of up to 24 kbits/s, optimized for bursty data, low power consumption and low complexity applications such as hand-portable equipment.

service type B: High performance frame relay, with a net sustainable throughput of up to 552 kbits/s, optimized for high speed and low latency with bursty data. Equipment implementation the Type B profile inter-operates with Type A equipment.

service type C: Non-transparent connection of data streams requiring Link Access Protocol (LAP) services, optimized for high reliability and low additional complexity. This builds upon the services offered by the type A or B profiles.

TDMA frame: A time-division multiplex of 10 ms duration, containing 24 successive full slots. A TDMA frame starts with the first bit period of full slot 0 and ends with the last bit period of full slot 23.

3.2 Abbreviations

For the purpose of this ETS, the following abbreviations apply:

ACK	Acknowledgement
AMCI	Advanced MAC Connection Identifier
BPAD	Bit oriented Packet Assembler/Disassembler
C	higher layer control Channel (see CS and CF)
CC	Call Control. A NWK layer functional grouping
CF	higher layer signalling Channel (Fast)
CISS	Call Independent Supplementary Services
CLMS	Connectionless Message Services
COMS	Connection Oriented Message Services
C-plane	Control plane
CS	higher layer signalling Channel (Slow)
DCE	Data Circuit terminating Equipment
DECT	Digital Enhanced Cordless Telecommunications
DLC	Data Link Control
DTE	Data Terminal Equipment
FP	Fixed Part
FT	Fixed radio Termination
GAP	Generic Access Profile
GSM	Global System for Mobile communication
I	higher layer Information channel (see IP)
IP	higher layer Information channel (Protected)
IPUI	International Portable User Identity
ISDN	Integrated Services Digital Network
IWF	Interworking Functions
IWU	Interworking Unit
LAP-B	Link Access Procedure (Balanced)

LAP-C	Link Access Procedure (Control)
LAP-D	Link Access Procedure (ISDN D-channel)
LAP-U	Link Access Procedure (U-plane)
LCE	Link Control Entity
LLME	Lower Layer Management Entity
LLN	Logical Link Number (DLC layer)
MAC	Medium Access Control
MCI	MAC Connection Identifier
MM	Mobility Management
NLF	New Link Flag
NWK	Network
PAD	Packet Assembler-Disassembler
PARK	Portable Access Rights Key
PDU	Protocol Data Unit
PHL	Physical
PICS	Protocol Implementation Conformance Standard
PP	Portable Part
PT	Portable radio Termination
PUN	Portable User Number
PUT	Portable User Type
Q	system information channel
SAP	Service Access Point
SAPI	Service Access Point Identifier
SDU	Service Data Unit
TAF	Terminal Adaptation Function
TDMA	Time Division Multiple Access
TPUI	Temporary Portable User Identity
U-plane	User plane

4 Description of services

4.1 Reference configuration

The reference configuration for this profile shall be as shown in figure 1.

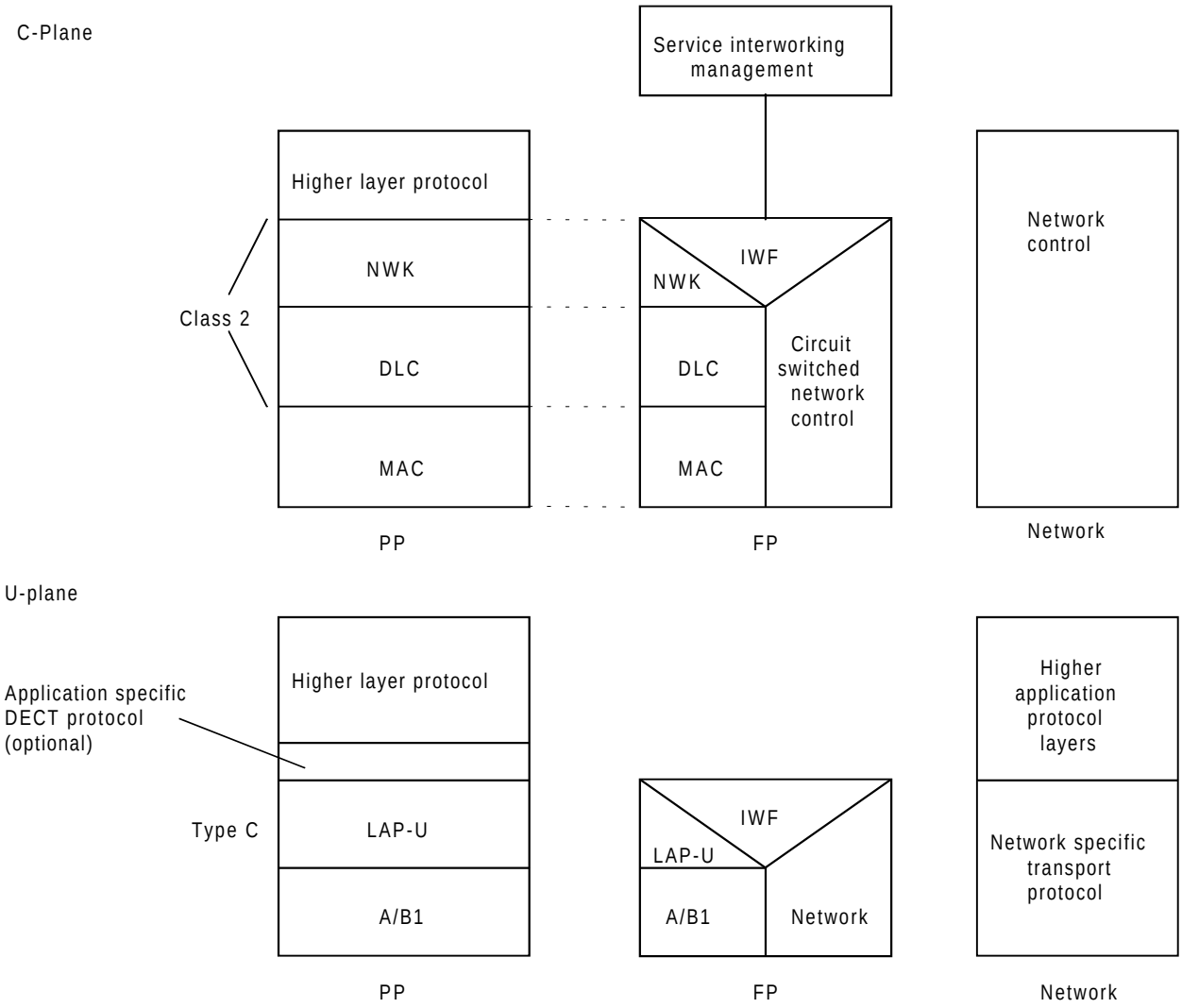


Figure 1: Profile reference configuration showing signalling interworking to connection-oriented networks via the C-plane

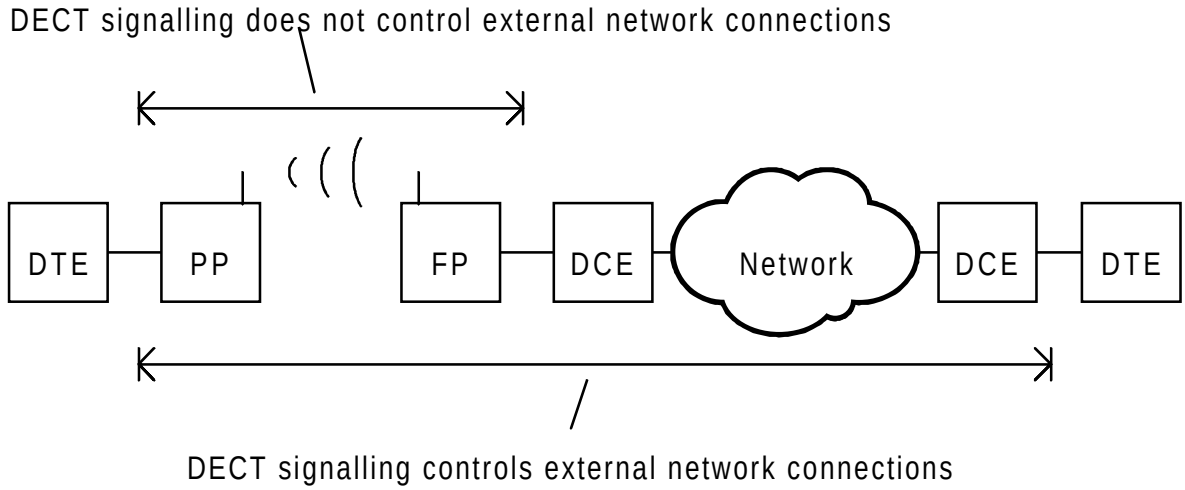


Figure 2: Profile reference configuration (horizontal model)

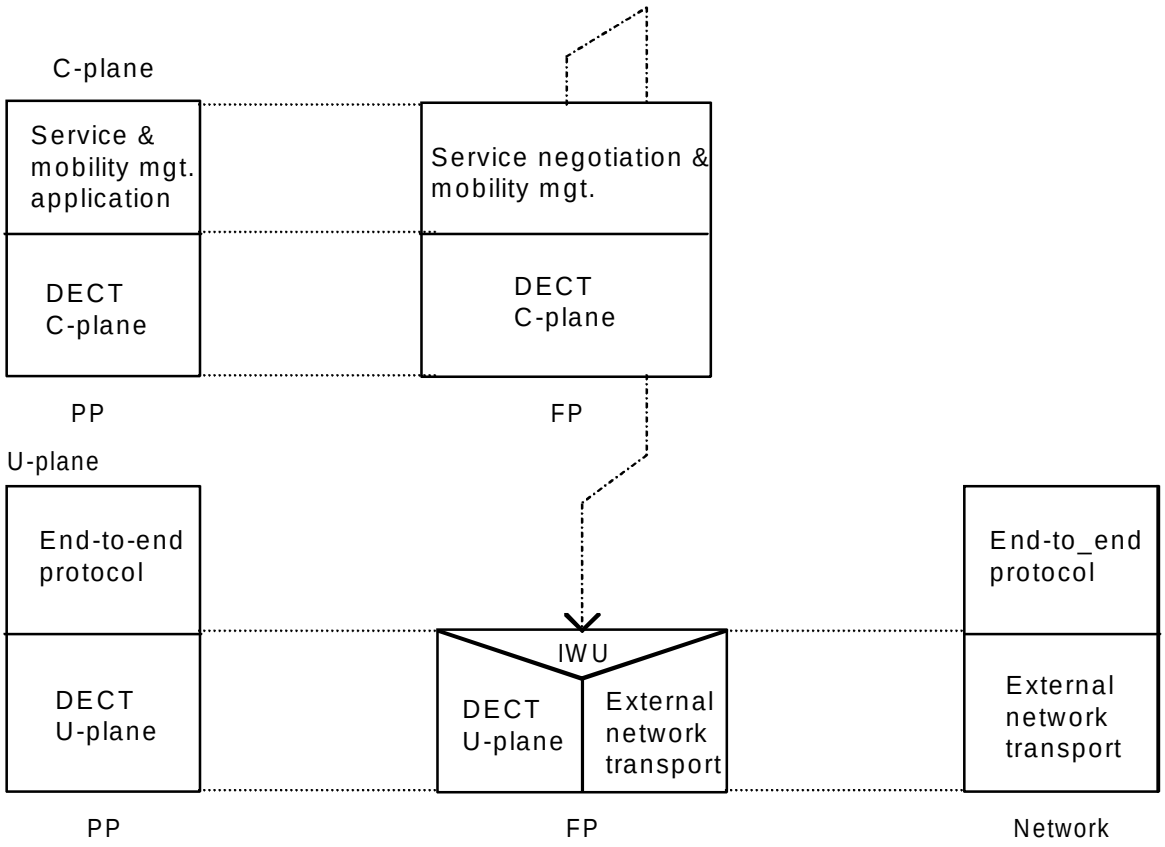


Figure 3: Profile reference configuration showing interworking to permanent virtual circuit via the U-plane

The profile reference configuration is based upon the following principles:

- applications of this profile are treated as requiring one of two classes of service: those which require DECT signalling to control of the connections in the attached external network, and those which do not require DECT signalling to control external network connections;

- connection-oriented applications require that addresses, bearer information and other connection-associated parameters be initialized each time service is requested, because such parameters are required by the external network in order to complete the connection to the other party. Furthermore, in these cases such information is inter-worked to the DECT signalling channel, so that the FP may complete the connection using whatever network resources it has available, as transparently as possible to the PP application;

- applications which do not require DECT-signalling to control external network connections require from DECT a service which is analogous to the Integrated Services Digital Network (ISDN) permanent virtual circuit service: DECT is required to provide an appropriate bearer as far as the inter-working unit, where inter-working is performed with a network that is either connectionless or uses application-based in-band signalling for connection control. In this case, the negotiated characteristics of the DECT connections include the DECT bearer parameters, the choice of inter-working unit, together with mobility aspects such as location and operator choice;

- in both cases, interworking between the DECT U-plane and the external network does not necessarily occur at OSI layer 2. The service provided by LAP-U permits the inter-working unit to exploit DECT services such as flow-control, Packet Assembler-Disassembler (PAD) functions and synchronized transmission of out-of-band control information, but these services may be used for inter-working at any layer in the external network, including the MAC layer, transport layer or session layer.

4.2 Service objectives

The profile has the following service objectives, as outlined in ETR 043 [17]:

Point-to-point data transfer PP-FP	Yes;
Point-to-point data transfer FP-PP	Yes;
Service change and negotiation	Yes;
Data streaming	Optional;
PAD and BPAD support	Optional;
in-band user control signalling	Optional;
Encryption	Optional.

Maximum sustainable throughput	24 kbit/s per bearer;
Establishment of PT to FT link	50 ms;
Establishment of FT to PT link	50 - 160 ms;
Undetected error rate	Less than 10^{-10} per bit;
Services	point-to-point SDU transfer PP-FP; point-to-point SDU transfer FP-PP;
SDU buffer size	≥ 1 500 octets.

BPAD: Bit oriented Packet Assembly/Disassembly
FT: Fixed radio Termination

5 PHL requirements

The requirements of the service types A and B, defined in ETS 300 435 [11] shall apply.

6 MAC layer requirements

The requirements of the Service Types A or B, defined in ETS 300 435 [11] shall apply including those elements described as conditional on the presence of Service Type C2. In addition, the MAC extended fixed part information message shall be used and, therefore, bit a12 of the fixed part information field shall be set to 1.

7 DLC layer requirements

The DLC layer shall contain two independent planes of protocol: the C-plane and the U-plane. All internal DECT protocol control shall be handled by the C-plane. All external user data and control shall be handled by the U-plane.

7.1 C-plane requirements

The DLC C-plane shall provide the data link class A service (LAP-C+Lc) and the broadcast service (Lb), as defined in ETS 300 175 [4]. Annexes D and E of this ETS specify the requirements of this profile.

7.2 U-plane requirements

The U-plane shall provide the LU3 service, defined in annex A. This shall use the LU2 service provided by the type A or B profile, as described in ETS 300 435 [11].

8 NWK layer requirements

The NWK layer provisions shall include the following entities:

- Call Control (CC);
- Link Control Entity (LCE);
- Mobility Management (MM); and
- Call Independent Supplementary Services (CISS).

Portable Part and Fixed Part CC entities will use either packet switched mode or circuit switched mode procedures. For each interworking, the appropriate interworking annex will specify which set of procedures shall be used.

CISSs required for public operations, such as charging, shall optionally be provided.

The MM requirements shall be closely aligned to the requirements of the Generic Access Profile (GAP) ETS 300 444 [10].

The provisions of ETS 300 175-5 [5] shall be implemented with respect to the services, procedures, messages and information elements coding listed in annexes E and F. The provisions of ETS 300 175-6 [6] shall be implemented with respect to the structure and use of identities.

The Extended Higher Layer Fixed Part Information field shall be used with bit a45 set to 1, indicating the support of the C2 profile.

In the case that the FP is capable of supporting encryption, this shall use the DECT standard algorithm and shall be signalled to the PP by the setting of the MAC Q-channel Higher Layer Information message bit a37.

In the case that the PP is capable of supporting fast paging, this shall be signalled to the FP by the appropriate coding of the "Setup Capabilities" information element, which shall be transmitted in the "Location Request" message. In this case the FP shall always use fast paging as well as normal or low-duty cycle paging to page the PP.

The significance of the <<CONNECTION-ATTRIBUTES>> element in the {CC-SETUP} message shall conventionally signify the maximum capabilities of the sender for the requested call, and hence shall be subject to negotiation. The actual values of the connection attributes are continuously negotiated at the MAC layer. For this reason octets 4a and 4c shall not be used. Octets 5, 5a, 6, 6a codings shall be used to indicate transmit and receive capabilities respectively.

The <<IWU-ATTRIBUTES>> element shall be negotiated by the prioritized list procedure and/or the exchanged attribute procedure and/or the peer-determined procedure, as defined in ETS 300 175-5 [5], subclause 15.2. Support for exchanged attribute procedures shall be mandatory and, for each interworking, the appropriate interworking annex will specify which of the other two procedure(s) may be used in addition.

The <<RELEASE-REASON>> element shall always be included in the {CC-RELEASE-COM} message. Only the given codings need be interpreted.

The release of connections according to the management procedure in ETS 300 435 [11], clause 9, and the subsequent re-establishment, shall be implemented by means of the Suspend/Resume procedures (ETS 300 175-5 [5], subclause 9.7.4).

Should there then be an attempt to resume a cancelled transaction, through a {CC-SERVICE-CHANGE} message with the Service Change Info element coded to RESUME and an unrecognized transaction identifier, then the receiving entity shall ignore the message, as specified in ETS 300 175-5 [5], subclause 17.3.2.1.

9 Management entity requirements

In addition to the requirements of the Type A and B services, the management entity shall be responsible for maintenance and updating of the logical associations between NWK, DLC, MAC and U-plane entities and shall contain the following procedure groups defined in ETS 300 175-4 [4]:

- MAC connection management;

- DLC C-plane management;

- DLC U-plane management.

The requirements of mobility class 2 shall be met by the management procedures defined in ETS 300 444 [10].

9.1 Link resource management

The necessity to manage the use of radio resources in the most efficient manner requires the participation of all the entities in the PP and FP. ETS 300 435 [11] defines procedures by which the lower layer resources shall be managed, which are additional to those specified in ETS 300 175, Parts 1 to 9 [1] to [9]. The higher layer entities are responsible for the presence or absence of the valid data at the MAC and LU2 service boundaries upon which such lower layer resource management is based. The management entity shall consider that there is valid user data available to the lower layers if a call transaction identifier exists and the call is active and not suspended, or if there are any valid LAP-C frames to transmit. In all other cases, it shall consider that there is no valid user data available.

The request to suspend the call is issued by the Interworking Functions (IWF) to the DECT network layer through service primitives, but it shall be a management entity decision as to when to suspend or to resume a call.

The management entity shall require the IWF to suspend the call if and only if all the following conditions are satisfied:

- the PAD/BPAD entity in the IWF has not passed a frame for transmission to LAP-U for a period of 5 seconds;

- the PAD/BPAD entity in the IWF contains no pending data in its packet assembly buffers;

- LAP-U is in an idle condition, as defined in annex A, subclause A.6.2.

The management entity shall require the IWF to resume the call immediately if either of the following conditions are met:

- the PAD/BPAD entity in the IWF has a frame of valid data ready to submit to LAP-U;

- an event occurs which causes the IWF to generate data to be submitted to the network layer via a primitive.

10 Generic interworking conventions and procedures

10.1 PAD functionality for character oriented user data

This clause describes the Packet Assembly/Disassembly unit (PAD) functionality for interworking to character oriented (asynchronous) protocols. It is used to pack/unpack the characters to/from LAP-U I-frames, while other IWF functions directly use LAP-U. Figure 3 shows the relationship between the PAD, IWF and LAP-U.

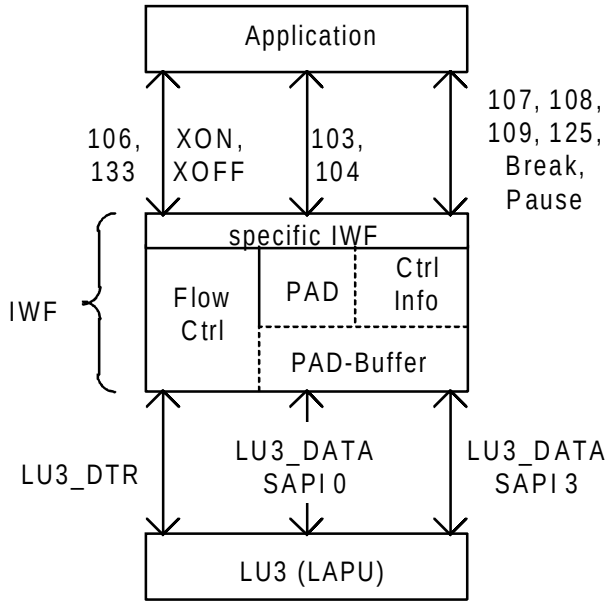


Figure 3

10.1.1 Character formatting

Information is transferred between PAD entities using LAP-U I-frames. The LAP-U I-frame Service Data Unit (SDU) has variable length of n octets. The octets within the LAP-U SDU are numbered 0 to n-1, octet 0 is transmitted first. The bits within the octets are numbered 1 to 8, bit 1 is transmitted first. The PAD functions as follows:

Characters are coded into octets in the following way:

- the first bit of the character received/transmitted over the upper PAD interface corresponds to bit position 1 in the octet. The second bit to bit 2, ... and the eighth bit to bit 8;

- 8 bit characters are transmitted with no padding. Where parity is used it is generated/removed locally;

- 7 bit characters are padded with a "0" in bit position 8. Where parity is used it is inserted in bit position 8;

- 6 bit characters are padded with a "0" in bit positions 7 and 8. Where parity is used it is inserted in bit position 7 and the position 8 is padded with 0;

- 5 bit characters are padded with a "0" in bits positions 6, 7 and 8 if no parity is used. Where parity is used it is inserted in bit position 6 and the positions 7 and 8 are padded with 0s;

- all start/stop bits are generated/removed locally by the PAD;

- the character configuration (length, start, stop and parity, etc.) information is conveyed between PAD entities in the {CC-SETUP} message in the <<IWU-ATTRIBUTES>> information element during the call establishment phase;

- characters are inserted into the PAD-buffer in order of transmission in octets 0 to n-1.

10.1.2 PAD operation

10.1.2.1 Transmission over DECT air interface

10.1.2.1.1 Data forwarding conditions

Characters for transmission over the DECT air interface shall be assembled by the PAD for transmission as a single LAP-U SDU until one or more of the following conditions is met:

- a preset number of characters have been assembled;
- the maximum length of LAP-U SDU is reached;
- the LAP-U service is ready to accept another SDU;
- a timer value expires.

The PAD may buffer the LAP-U SDU before LAP-U transmission of that SDU begins i.e. stream mode operation of the PAD is permitted CCITT Recommendation V.42 [13].

LAP-U SDUs are forwarded to the LAP-U entity via the LAP-U primitive DL-LU3_DATA-req for transmission in a LAP-U I-frame.

10.1.2.1.2 Transmission buffering and flow-control

Data received from an application and packetized by the PAD shall be buffered in the PAD-buffer of the IWF such that if the PT is unable to transfer the data over the DECT radio interface then data shall not be lost.

Where provided, local flow control, i.e. to the application, shall be used to prevent data loss due to PAD-buffer overflow. In addition, upon receiving a DLU-LU3_DTR.ind with the Stop/Go flag set to STOP from LU3, the IWF shall also indicate flow control to the application. However it shall accommodate latency in application recognition of the IWF not-ready indication by accepting several characters after the indication is given. These characters shall be buffered by the IWF in the PAD-buffer until LU3 indicates its ability to receive data again by issuing to the IWF a DLU-LU3_DTR.ind primitive with the Stop/Go flag set to GO. After receiving this indication, the IWF shall clear flow control to the application.

10.1.2.2 Reception over DECT air interface

10.1.2.2.1 Data reception

LAP-U SDUs received from the LAP-U entity via the LAP-U primitive DL-LU3_DATA-ind shall be disassembled by the PAD into characters and forwarded to the application. The characters shall be disassembled using the inverse of the rules in the subclause 10.1.1.

When the PAD has no further characters to communicate to the application it shall send stop bits.

10.1.2.2.2 Receive buffering and flow control

Data for transfer to the application shall be buffered in the PAD such that if the application has enabled flow control then data received from LAP-U is not lost. When an application has invoked flow control the IWF shall complete transmission of any partially-transmitted character and then cease transmitting data. Furthermore, the IWF shall stop LU3 from indicating any more data to it by issuing a DLU-LU3_DTR.req with the Stop/Go flag set to STOP.

When the application clears the not-ready condition, the IWF shall issue a DLU-LU3_DTR.req with the Stop/Go flag set to GO to LU3 and may resume the transmission of data to the application.

10.2 PAD functionality for bit oriented user data

This subclause describes the BPAD unit functionality for bit oriented protocols, such as Link Access Procedure (Balanced) (LAP-B). It is used to pack/unpack bit flow to/from LAP-U I-frames, while other IWF functions directly use LAP-U. Figure 4 shows the relationship between the BPAD, IWF and LAP-U.

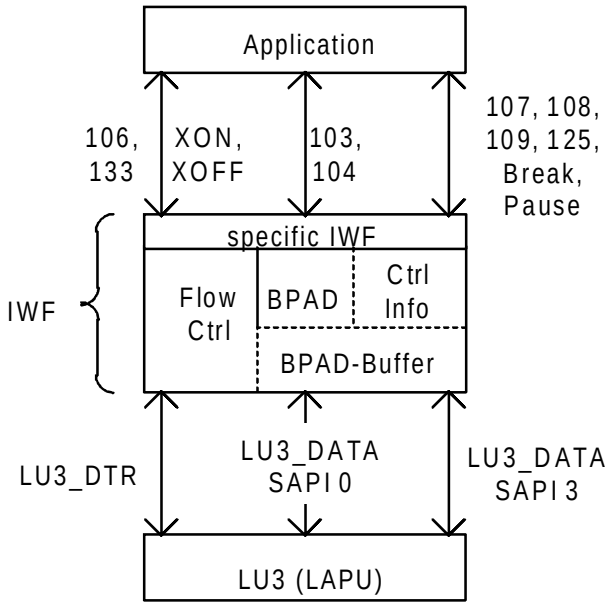


Figure 4

10.2.1 The character formatting

The user information flow is transferred between BPAD entities using LAP-U I-frames. The LAP-U I-frame Service Data Unit (SDU) has variable length of n octets. The octets within the LAP-U SDU are numbered 0 to n-1, octet 0 is transmitted first. The bits within the octets are numbered 1 to 8, bit 1 is transmitted first.

The user information is carried in LAP-U I-frame information octets such that the first user information bit, in any consecutive group of 8, received or transmitted corresponds to bit position 1 in the octet. The second to bit position 2, etc.

Information octets are inserted into the LAP-U I-frame in order of arrival in octets 0 to n-1.

10.2.2 BPAD operation

10.2.2.1 Transmission over DECT air interface

10.2.2.1.1 Data forwarding conditions

Characters for transmission over the DECT air interface shall be assembled by the BPAD for transmission as a single LAP-U SDU until one or more of the following conditions is met:

- a preset number of characters have been assembled;
- the maximum length of LAP-U SDU is reached;
- the LAP-U service is ready to accept another SDU;
- a timer value expires.

The BPAD may buffer the LAP-U SDU before LAP-U transmission of that SDU begins i.e. stream mode operation of the BPAD is permitted CCITT Recommendation V.42 [13].

LAP-U SDUs are forwarded to the LAP-U entity via the LAP-U primitive DL-LU3_DATA-req for transmission in a LAP-U I-frame.

10.2.2.1.2 Transmission buffering and flow-control

Data received from an application and packetized by the BPAD shall be buffered in the PAD buffer of the IWF such that if the PT is unable to transfer the data over the DECT radio interface then data shall not be lost.

Where provided, local flow control, i.e. to the application, shall be used to prevent data loss due to PAD-buffer overflow. In addition, upon receiving a DLU-LU3_DTR.ind with the Stop/Go flag set to STOP from LU3, the IWF shall also indicate flow control to the application. However it shall accommodate latency in application recognition of the IWF not-ready indication by accepting some data after the indication is given. This data shall be buffered by the IWF in the PAD buffer until LU3 indicates its ability to receive data again by issuing to the IWF a DLU-LU3_DTR.ind primitive with the Stop/Go flag set to GO. After receiving this indication, the IWF shall clear flow control to the application.

10.2.2.2 Reception over DECT air interface

10.2.2.2.1 Data reception

LAP-U SDUs received from the LAP-U entity via the LAP-U primitive DL-LU3_DATA-ind shall be disassembled by the BPAD into a bit stream and forwarded to the application. The characters shall be disassembled using the inverse of the rules in the subclause 10.2.1.

When the BPAD has no further data to communicate to the application it shall send idle.

10.2.2.2.2 Receive buffering and flow control

Data for transfer to the application shall be buffered in the BPAD such that if the application has enabled flow control then data received from LAP-U is not lost. When an application has invoked flow control the IWF shall complete transmission of any partially-transmitted data and then cease transmitting. Furthermore, the IWF shall stop LU3 from indicating any more data to it by issuing a DLU-LU3_DTR.req with the Stop/Go flag set to STOP.

When the application clears the not-ready condition, the IWF shall issue a DLU-LU3_DTR.req with the Stop/Go flag set to GO to LU3 and may resume the transmission of data to the application.

10.2.3 Selection of BPAD functionality

If no information for PAD functionality is available or BPAD function is requested as defined in the specification of the interworking unit (see annex C), the BPAD function shall be used.

10.3 Control frame for V.24 interworking

Control frames shall be sent using the SAPI indicating user control signalling data.

For the purpose of transmitting V.24 line state information the following frame format shall be used:

Bit	8	7	6	5	4	3	2	1	Octet
	frame type								1
	0	0	BREAK	PAUSE	RI	DCD	DSR	DTR	2
	BREAK/PAUSE duration								3

frame type coding (octet 1):

Bits 8 7 6 5 4 3 2 1 Meaning;
0 0 0 0 0 0 0 1 V.24 status interworking;
All other values reserved.

DTR coding (octet 2):

Bits 1 Meaning;
0 DTR line OFF;
1 DTR line ON.

DSR coding (octet 2):

Bits	2	Meaning;
	0	DSR line OFF;
	1	DSR line ON.

DCD coding (octet 2):

Bits	3	Meaning;
	0	DCD line OFF;
	1	DCD line ON.

RI coding (octet 2):

Bits	4	Meaning;
	0	RI line OFF;
	1	RI line ON.

PAUSE coding (octet 2):

Bits	5	Meaning;
	0	no PAUSE condition;
	1	PAUSE condition occurred.

NOTE 1: For a detailed description of the PAUSE condition see annex C, subclauses C.3.3.4 and C.3.3.5.

BREAK coding (octet 2):

Bits	6	Meaning;
	0	no BREAK condition;
	1	BREAK condition occurred.

NOTE 2: The BREAK and the PAUSE conditions are mutually exclusive.

BREAK/PAUSE duration (octet 3):

The time duration of a BREAK or PAUSE condition is binary coded (bit 1 being the least significant bit). It defines the time in units of 10 ms. If bits 5 and 6 of octet 2 are both set to "0" (no BREAK or PAUSE condition detected) all bits of octet 3 shall be set to "0".

10.4 Control frame for voice band modem interworking

Control frames shall be sent using the SAPI indicating user control signalling data.

For the purpose of transmitting V.24 line state information the following frame format shall be used:

Bit	8	7	6	5	4	3	2	1	Octet
	frame type								1
	0	0	BREAK	0	0	DCD	DSR	0	2
	BREAK duration								3

frame type coding (octet 1):

Bits 8 7 6 5 4 3 2 1 Meaning;
0 0 0 0 0 0 1 0 Voice band modem status interworking;
All other values reserved.

DSR coding (octet 2):

Bits 2	Meaning;
0	DSR line OFF;
1	DSR line ON.

DCD coding (octet 2):

Bits 3	Meaning;
0	DCD line OFF;
1	DCD line ON.

BREAK coding (octet 2):

Bits 6	Meaning;
0	no BREAK condition;
1	BREAK condition occurred.

NOTE 2: The BREAK and the PAUSE conditions are mutually exclusive.

BREAK duration (octet 3):

The time duration of a BREAK or PAUSE condition is binary coded (bit 1 being the least significant bit). It defines the time in units of 10 ms. If bits 5 and 6 of octet 2 are both set to "0" (no BREAK or PAUSE condition detected) all bits of octet 3 shall be set to "0".

10.5 Data-compression

For data-compression across the DECT air interface V.42bis over LAP-U shall be used with the following modification: Instead of using the XID-mechanism used in [16] the request for compression and the negotiation of the required parameters shall take place during call set-up via an <<IWU-Attributes>>-element utilizing the peer attribute negotiation procedure. This implies that peer-attribute-negotiation has to be implemented if data-compression is required. For interworking to V.24 circuits and voice-band modems the <<IWU-Attributes>>-element-coding defined in annex C shall be used for negotiation of the V.42bis parameters.

10.6 In-call Service Change

10.6.1 Service Change Scope

This profile has optional support to enable In-Call Service Changes. This allows the Connection Attributes and certain aspects of the Interworking Unit (IWU) attributes to be changed during the active state of a call. These service changes are affected through the MNCC-INFO (Service Change) primitives which correspond to the {CC-SERVICE-CHANGE}, {CC-SERVICE-ACCEPT} and {CC-SERVICE-REJECT}.

The In-call Service Change procedures shall be mandatory for the C.4 connection oriented bearer service to allow, in particular, the parity, start/stop bit and number of data bits to be altered (by trial and error if necessary) during a call.

10.6.2 <<CONNECTION-ATTRIBUTES>> Service Change

The Connection Attributes may be changed through the use of the MNCC-INFO(Service Change) primitives with the <<SERVICE-CHANGE-INFO>> IE parameter Change Mode = "Bandwidth Change". These primitives shall be used in accordance with the procedures set out in subclauses 9.6.1 and 9.6.2 of ETS 300 175-5 [5.

10.6.3 <<IWU-ATTRIBUTES>> Service Change

The IWU Attributes may be changed through the use of the MNCC-INFO(Service Change) primitives with the <<SERVICE-CHANGE-INFO>> IE parameter Change Mode = "IWU Attribute Change". These primitives shall be used in accordance with the procedures set out in subclause 9.6.1. of ETS 300 175-5 [5.

The following <<SERVICE-CHANGE-INFO>> IE parameters shall be indicated in the MNCC-INFO(Service Change).req primitive:

Coding Standard = "DECT standard coding";
M (Master) = "Initiating side is master";
A attributes = "Not applicable";
R (Reset) = "Do not reset state variables";
B attributes = "Maintain data transfer".

The MNCC-INFO(Service Change).req primitive shall also contain the requested new <<IWU-ATTRIBUTE>> IE parameters. Of these parameters only those specified in octets 5-7 of the <<IWU-ATTRIBUTE>> IE shall be changed. The Profile & Profile sub-types in octets 3 and 4 shall not be changed for the purposes of this service change. However such Inter-profile and Inter-Sub-profile changes may be permitted by other Service Change procedures. The Negotiation Indicator parameter (octet 4) of <<IWU-ATTRIBUTES>> shall indicate "Negotiation not possible".

Annex A (normative): Implementation of the LU3 service including LAP-U

A.1 U-plane service characteristics

A.1.1 General

The data link service (LAP-U) shall be accessed via the LU3 SAP. A single class of service is defined allowing single or multiple frame acknowledged operation.

Each LAP-U instance shall provide a single data link between one fixed radio termination and one portable radio termination.

LAP-U multiple frame operation shall require both sides to support three phases of procedures:

1) establishment of LAP-U multiframe operation;

2) maintenance of LAP-U multiframe operation (including acknowledged information transfer); and

3) release of LAP-U multiframe operation.

The complete service for one data link shall be provided by a LU3 protocol entity using the lower layer facilities provided by a single instance of the type A or B profile, defined in ETS 300 435 [11].

Each instance in the FT shall be connected to only one peer instance in one PT.

NOTE: A PT may contain multiple instances of LAP-U and A or B. However, in many cases a PT may only require the services of one LAP-U and one A or B instance. These single instances may support more than one user plane higher layer call.

LAP-U shall provide functions for:

- the provision and control of one data link;
- segmentation of long higher layer user information fields;
- error detection (timeout or protocol);
- error recovery; and
- flow control.

LAP-U shall use the functions by LU2 in the type A or B profile for:

- the provision of one or more data link;
- frame delimiting;
- checksum generation/checking;
- segmentation of LU3 frames into Protocol Data Units (PDUs); and
- routeing of frames to/from logical channels.

A.1.2 LAP-U type of operation

The defined class of operation supports the transfer of higher layer information across point-to-point links.

LAP-U acknowledged transfer: information shall be transmitted in numbered frames (I) that shall be acknowledged at the DLC layer. Error recovery based on retransmission of unacknowledged frames shall be defined. Multiple LAP-U links shall be allowed between a PT and a specific FT.

NOTE: LAP-U is based on the multiple frame operation of Link Access Procedure (ISDN D-channel) (LAP-D) in CCITT Recommendation Q.921 [12].

A.1.3 U-plane Link Identifier (ULI)

Every separate instance of a LAP-U entity shall be uniquely identified within one FT by the U-plane Link Identifier. This identifier shall remain constant for the complete duration of the data link.

A.2 Data link service frame structure for LU3

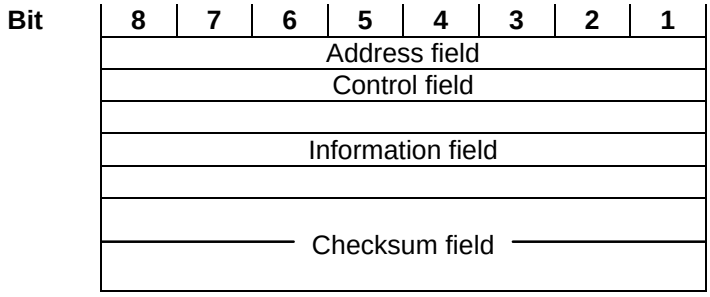


Figure A.1: Frame format type FAU

A.2.1 General frame structure

A type FAU frame shall contain the following fields:

- an address field of 1 octet;
- a control field of 1 octet;
- a variable length information field of 0 to 236 octets (when using Type A lower layer) or 1196 octets (when using Type B lower layer); and
- a checksum field of 2 octets.

NOTE: During idle periods, the LAP-U should not generate null frames (i.e. frames with no control purpose and with zero length information fields). This avoids causing the MAC layer to waste connection resources.

A.2.2 LU2 frame delimiting and transparency

Frame delimiting shall be provided by a combination of the MAC layer and the DLC layer LU2/FU6 entity. The MAC layer shall always align LU2 PDUs to physical slot boundaries. This is described in ETS 300 175-2 [2], and this timing shall always be preserved. The LU2 shall additionally insert a send sequence number into each PDU. This number shall be incremented modulo 128 in successive PDUs and shall be independent of the higher layer frame boundaries.

A LAP-U frame shall only start on a PDU boundary. The end of a multi-PDU frame should be identified by examining the FU6a length indicator octet, including the more data bit. Therefore the LU2 should process all frames in the order dictated by their send sequence numbers.

NOTE: The MAC layer is expected to provide a reliable connection-orientated service, with a residual PDU error rate better than 10^{-4}.

A.2.3 Transmission order

The physical transmission order shall be controlled by the MAC layer as defined in ETS 300 175-3 [3]. This MAC layer ordering shall use the octet numbering and bit numbering shown above.

NOTE: The use of multibearer MAC connections will mean that PDUs will not necessarily be received in the order they were sent.

A.2.4 Invalid frames

An invalid data link frame shall be a frame that contains one or more of the following faults:

- contains a checksum error; or
- contains an undefined control field (subclause A.3.6 of this annex).

Invalid frames shall be discarded without notification to the sender. No other action shall be taken as a result of these frames.

A.3 Elements of procedures and formats of fields for U-plane peer to peer communication

A.3.1 General

The "elements of procedure" define the commands and responses that shall be used to provide a single U-plane data link. Multiple instances of U-plane data links may exist at the same time, but these instances shall operate independently. The elements of procedure (and the related procedures described in subclause A.5 of this annex) shall only consider the operation of a single data link instance.

The "formats of fields" define the detailed coding of bits within each field of a type FAU frame. Unless otherwise stated, all fields shall be coded according to the natural binary code. The resulting value shall be arranged with the most significant bit (msb) in the highest numbered bit position:

A.3.2 Address field formats

Bit:	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**
	NLF	Spare		M	SAPI		C/R	RES

Figure A.2: Address field format

where:

C/R: Command/Response bit;
SAPI: Service Access Point Identifier;
NLF: New Link Flag;
M: More;
RES: REServed.

A.3.3 Address field parameters

A.3.3.1 Reserved bit (RES)

This bit shall be set to "1".

NOTE: This bit shall be reserved for possible use as an extended address bit. Refer to CCITT Recommendation Q.921 [12].

A.3.3.2 Command Response bit (C/R)

The C/R bit shall identify a frame as either a command or a response. The PT side shall send commands with C/R set to "0" and responses with C/R set to "1". The FT side shall do the opposite. Refer to CCITT Recommendation Q.921 [12].

A.3.3.3 SAPI field

The SAPI shall identify the higher layer SAP that is associated with each frame. There shall be a 1 to 1 correspondence between the SAP identities at both ends of the link for each peer-to-peer data link:

SAPI = "0": connection oriented user data;

SAPI = "3": user control signalling data;

All other values reserved.

A.3.3.4 New Link Flag bit (NLF)

In both directions this bit shall have the same meaning:

NLF = "1": Flag set;

NLF = "0": Flag cleared.

A.3.3.5 More data bit; M

The more data bit, M, shall be used to indicate segmentation of higher layer user data messages into DLC frames.

M = "1" shall indicate that the information field only contains part of a higher layer user message - there is more to follow.

M = "0" shall indicate one of two things:

- that the information field contains a complete higher layer user message, provided that the M bit of the previous numbered information (I) frame was also set to "0";
- that the information field contains the last segment of a higher layer user message, provided that the M bit of the previous numbered information (I) frame was set to "1".

When the M bit is set to "1", the information field should contain the maximum number of octets.

NOTE: This rule only recommends that each frame contains the maximum amount of layer 3 information.

In all frames other than numbered information frames the M bit shall be set to "0".

A.3.3.6 U-plane Link Identifiers

U-plane Link Identifier (ULI): the U-plane Link Identifier shall uniquely identify each LAP-U instance within the FT and within the PT. For LAP-U, the ULI shall be identical to the Advanced MAC Connection Identifier (AMCI).

U-plane Link MAC Endpoint Identifier (ULMEI): the U-plane link MAC endpoint identifier (ULMEI) shall uniquely identify the endpoint within one of the MAC layer MC-SAPs. This shall be a local matter, and different ULMEIs may be used in the PT and the FT. The ULMEI should be formed by the combination of two components:

ULMEI = SAPI + AMCI;

where:

MCI: MAC Connection Identifier (ETS 300 175-4 [4] subclause 10.2.4);
SAPI: SAP Identifier (subclause A.3.3.3 of this annex).

NOTE 1: The U-plane SAPI does not necessarily have the same value as the C-plane SAPI.

NOTE 2: The ULI and ULMEI should not be confused with the ULEI, which is assigned and used by the interworking unit. See subclause 8.4.1 of ETS 300 175-4 [4].

A.3.4 Control field formats

The control field formats shall be identical to those defined for the C-plane (see subclauses 7.4 and 7.5 of ETS 300 175-4 [4]). The P/F bit shall be used. The modulus of the frame sequence equals 8 and the window size is negotiated to a value from 1 to 7.

A.3.5 Checksum field parameters

The checksum shall be set by the LU2 entity and shall therefore be identical to that used in the C-plane (see subclauses 7.9 and 7.10 of ETS 300 175-4 [4]).

A.3.6 Commands and responses

The following commands and responses declared here shall be supported by each user data link. For each command and response, the definition below shall apply.

Table 1: LAP-U specific commands and responses

Format	Command	Response	8	7	6	5	4	3	2	1
I	I Numbered Information		N(R)			P	N(S)			0
S	RR Receive Ready	RR Receive Ready	N(R)			P/F	0	0	0	1
	RNR Receive Not Ready	RNR Receive Not Ready	N(R)			P/F	0	1	0	1
	REJ Reject	REJ Reject	N(R)			P/F	1	0	0	1
U	SABM Set Async Bal Mode		0	0	1	P	1	1	1	1
		UA Unnumbered ACK	0	1	1	F	0	0	1	1

NOTE: Any undefined encodings of the S bits and the U bits are "invalid" and shall be handled using the procedures defined in subclause A.5.2.6 of this annex.

A.3.6.1 Information (I) command

The information (I) command shall be used to transfer sequentially numbered frames, that contain layer 3 information fields, across one DLC LAP-U link.

The I command shall also be used to:

a) acknowledge previously received I-frames up to and including N(R)-1, as defined in clause A.5.

A.3.6.2 Receive Ready (RR) command/response

The Receive Ready (RR) frame shall be used by a LAP-U entity to:

a) indicate it is ready to receive an I-frame;

b) acknowledge previously received I-frames up to and including N(R)-1, as defined in clause A.5;

c) clear a possible busy condition that was indicated by an earlier RNR frame between the same LAP-U entities.

In addition to indicating the status of a LAP-U entity, the RR command may be used by a LAP-U entity to ask for the status of its peer entity by setting the P bit to "1".

A.3.6.3 Receive Not Ready (RNR) command/response

The receive not ready frame shall be used by a LAP-U entity to:

a) indicate a busy condition, that is, a temporary inability to accept additional I-frames;

b) acknowledge previously received I-frames up to and including N(R)-1, as defined in clause A.5.

In addition to indicating the status of a LAP-U entity, the RNR command may be used by a LAP-U entity to ask for the status of its peer entity by setting the P bit to "1".

A.3.6.4 REJect (REJ) command/response

The reject (REJ) frame shall be used by a LAP-U entity to set an exception condition that requests retransmission of I-frames starting with the frame numbered N(R). The REJ frame shall acknowledge I-frames numbered up to and including N(R)-1. The retransmitted frames shall be transmitted before any new I-frames (I-frames pending initial transmission) are transmitted.

Only one REJ exception condition shall be established at a time for a given direction of information transfer. A REJ exception condition shall be cleared upon receipt of an I-frame with an N(S) equal to the N(R) of the REJ frame.

The transmission of an REJ frame shall also indicate the clearance of any busy condition in the sending LAP-U entity that was reported by the earlier transmission of an RNR frame by the same LAP-U entity.

In addition to indicating the status of a LAP-U entity, the REJ command may be used by a LAP-U entity to ask for the status of its peer entity by setting the P bit to "1".

No information field shall be permitted in a REJ frame.

A.3.6.5 Set Asynchronous Balanced Mode (SABM) command

The set asynchronous balanced mode command shall be used to re-establish class B multiple frame acknowledged operation.

The receiving LAP-U entity shall confirm acceptance of the SABM command by transmitting a UA response at the first opportunity. Upon accepting the SABM command, the entity shall set the variables V(S), V(A), V(R) and the retransmission counter to 0.

Transmission of a SABM command shall indicate the clearance of a busy condition that was reported by the earlier transmission of an RNR frame by that same LAP-U entity.

Previously transmitted I-frames that are unacknowledged when the SABM command is actioned shall remain unacknowledged, and shall be discarded. It is the responsibility of the higher layer (layer 3) or the management entity to recover from this possible loss of I-frames.

No information field shall be allowed as part of a SABM frame.

A.3.6.6 Unnumbered Acknowledgement (UA) response

The unnumbered acknowledgement response shall be used by a DLC entity to acknowledge the receipt and acceptance of the mode setting command, SABM. This command received shall not be actioned until the UA response is transmitted.

The transmission of a UA response shall also indicates the clearance of a busy condition that was reported by the earlier transmission of an RNR frame by that same LAP-U entity.

No information field shall be permitted in a UA response.

A.4 Primitives for the LU3 service

The following primitives have been declared for LU3 operation:

NOTE: These primitives are defined only for the purpose of describing layer-to-layer interactions. The primitives are defined as an abstract list of parameters, and their concrete realization may vary between implementations. No formal testing of primitives is intended.

DLU-LU3_DTR{req,ind}

Parameter	REQ	CFM	IND	RES
U-plane Link Endpoint Identifier (ULEI)	A		A	
Stop/Go flag	A		A	
A: Always; O: Optional; N: Not allowed.				

DLU-LU3_DATA{req,ind}

Parameter	REQ	CFM	IND	RES
U-plane Link Endpoint Identifier (ULEI)	A		A	
Message unit	A		A	
Message unit length	A		A	
A: Always; O: Optional; N: Not allowed.				

A.5 U-plane peer to peer procedures

A.5.1 General

The elements of procedure which shall apply are:

SABM command;
UA response;
RR command or response;
RNR command or response;
REJ command or response;
I command.

LAP-U acknowledged transfer is the operating class for U-plane connection oriented links. This class shall be immediately supported whenever a connection oriented link is instanced. LAP-U supports both single and multiple frame operation.

A.5.2 Point to point acknowledged operation

A.5.2.1 Procedure for the use of the P/F bit in LAP-U acknowledged information transfer

A LAP-U entity receiving a SABM, RR, RNR, REJ or I-frame with the P bit set to "1" shall set the F bit to "1" in the next response frame that it transmits, as defined below.

Table 2: Immediate response operation of P/F bit

Command received with P bit = "1"	response transmitted with F bit = "1"
SABM	UA
I, RR, RNR, REJ	RR, RNR, REJ

A.5.2.2 Establishing LAP-U multiple frame operation

A.5.2.2.1 Overview

Only one FT initiated LAP-U establishment procedure shall be active to one specific PT at any one time.

This subclause describes the LU3 establishment procedures, whereby a single point-to-point LAP-U link suitable for LAP-U multiple frame operation is established between two peer entities.

NOTE 1: Refer to ETS 300 175-4 [4] subclause 7.5.2 for definitions of multiple frame variables and sequence numbers.

NOTE 2: The sequence numbers defined for LU3 are unrelated to those used by LU2.

During establishment of LAP-U multiple frame operation, the maximum number of outstanding I-frames (the window size) shall be set to "1" for both directions. Once in the "active" state, the maximum number of outstanding I-frames (k) shall be set either to the value negotiated by network layer CC set up procedures or to the lower of the values contained in fixed and portable part configuration tables.

All Lower Layer Management Entity (LLME) initiated establishment procedures also imply the discarding of all outstanding DLU-LU3-DATA-req primitives and all queued I-frames.

A subsequent LAP-U re-establishment procedure is allowed at any time using a SABM frame that has the NLF bit set. Successful re-establishment causes the sequence numbers to be re-initialized at both ends. This procedure is described in subclause A.5.2.5 of this annex.

A.5.2.2.2 LAP-U multiple frame establishment procedures

Normal establishment is initiated by a LAP-U entity, upon an LLME procedure requesting a LAP-U operation. This LLME operation shall define the ULMEI to be used.

The LAP-U entity shall respond to the initiation by setting the sequence variables V(S) V(R) and V(A) to "0" and transmitting an I-command frame, with the P bit set to "1".

All existing exception conditions shall be cleared, the retransmission counter shall be reset and timer <DLU.02> shall be started.

If the responding LAP-U entity is able to accept the request, it shall:

- set the sequence variables V(S) and V(A) to "0";
- set the sequence variable V(R) to "1"; and
- transmit a RR response frame with the F bit set to the same binary value as the P bit in the I-frame.

It shall clear all existing exception conditions, and the retransmission counter shall be reset. It shall then enter the "active" state.

Upon receipt of the RR response with the F bit set to "1", the originator of the I command shall:

- reset timer <DLU.02>;
- enter the "active" state; and

  inform the LLME of establishment success.

An RR response with the F bit set to "0" shall be ignored.

If timer <DLU.02> expires before a RR response with the F bit set to "1" is received, the LAP-U entity shall:

- if the value of the retransmission counter is less than N250:
  - retransmit the I command as above;
  - add one to the retransmission counter; and
  - restart timer <DLU.02>.
- if the value of the retransmission counter is equal to N250:
  - report establishment failure to the LLME;
  - discard all outstanding I-frames, and
  - remain in the "establish" state.

A.5.2.3 Link maintenance and information transfer in LAP-U multiple frame operation

When a LAP-U entity has entered the "active" state, as a result of successful LAP-U establishment, I-frames and S-frames may be transmitted according to the procedures described in this subclause.

NOTE: If a LAP-U link re-establishment occurs, this may cause duplication or loss of layer 3 messages, since the procedure ignores the possible existence of unacknowledged I-frames.

If the LAP-U has previously issued a DLU-LU3-DTR-ind primitive with the stop/go flag set to GO then the IWF may transfer data to the LAP-U. The LAP-U may halt this process at any time by issuing a DLU-LU3-DTR-ind primitive with the stop/go flag set to STOP.

NOTE: The arrival of a DLU-LU3-DTR-ind primitive shall cause all previous DLU-LU3-DTR-ind primitives to be discarded.

Information received by the LAP-U entity from layer 3 by means of DLU-LU3-DATA-req primitive shall be segmented (if necessary) and the resulting segments shall be transmitted in a series of one or more I-frames.

At the destination LAP-U entity, a complete message shall be reassembled from a series of received I-frames, and the complete message shall be delivered to the network layer in DLU-LU3-DATA-ind primitive provided that the IWF has previously issued a DLU-LU3-DTR-req primitive with the stop/go flag set to "go". The IWF may halt the transfer of data at any time by issuing DLU-LU3-DTR-req with the stop/go flag set to STOP.

NOTE: The arrival of a DLU-LU3-DTR-req primitive shall cause all previous DLU-LU3-DTR-req primitives to be discarded.

The procedures which apply to the transmission and reception of each I-frame are defined below.

NOTE: The term "transmission of an I-frame" refers to the delivery of a complete I-frame to the MAC layer. The term "reception of an I-frame" refers to the receipt of an I-frame by the LAP-U from the MAC layer.

A.5.2.3.1 Transmitting I-frames

For each I-frame, the control field parameters N(S) and N(R) shall be assigned the values of V(S) and V(R), respectively. V(S) shall be incremented by 1 at the end of the transmission of the I-frame.

If timer <DLU.04> is not running at the time of transmission of an I-frame, it shall be started. If timer <DLU.04> expires, the procedures defined in subclause A.5.2.3.7 of this annex shall be followed.

If V(S) is equal to V(A) plus k (where k is the maximum number of outstanding I-frames - see subclause A.5.2.2.1 of this annex), the LAP-U entity shall not transmit any new I-frames, but may retransmit an I-frame as a result of the error recovery procedures as described in subclauses A.5.2.3.4 and A.5.2.3.7 of this annex.

When the network side or user side is in the own receiver busy condition, it may still transmit I-frames, provided that a peer receiver busy condition does not exist.

NOTE: Any DLU-LU3-DATA-req primitives received whilst in the timer recovery condition shall be queued.

A.5.2.3.2 Receiving I-frames

Independent of a timer recovery condition, when a LAP-U entity is not in an own receiver busy condition and receives a valid I-frame whose N(S) is equal to the current V(R), the LAP-U entity shall:

- append the information field of the frame to any existing unfinished message (segment assembly);
- if the More bit value is "0" (indicating that this is the last segment of a message) it shall pass the complete message to the higher layer using the DLU-LU3-DATA-ind primitive; and
- increment by 1 its V(R) and act as indicated below.

A.5.2.3.2.1 P bit set to 1

If the P bit of the received I-frame was set to 1, the LAP-U entity shall respond to its peer in one of the following ways:

- if the LAP-U entity receiving the I-frame is still not in an own receiver busy condition, it shall send an RR response with the F bit set to 1;
- if the LAP-U entity receiving the I-frame enters the own receiver busy condition upon receipt of the I-frame, it shall send an RNR response with the F bit set to 1.

A.5.2.3.2.2 P bit set to 0

If the P bit of the received I-frame was set to 0 and:

- if the LAP-U entity is still not in an own receiver busy condition:
  - if no I-frame is available for transmission or if an I-frame is available for transmission but a peer receiver busy condition exists, the LAP-U entity shall transmit an RR response with the F bit set to 0; or
  - if an I-frame is available for transmission and no peer receiver busy condition exists, the LAP-U entity shall transmit the I-frame with the value of N(R) set to the current value of V(R) as defined in subclause A.5.2.3.1 of this annex.
- if, on receipt of this I-frame, the LAP-U entity is now in an own receiver busy condition it shall:
  - transmit an RNR response with the F bit set to 0.

When the data link entity is in an own receiver busy condition, it shall process any received I-frame according to subclause A.5.2.3.6 of this annex.

A.5.2.3.3 Sending and receiving acknowledgements

A.5.2.3.3.1 Sending acknowledgements

Whenever a LAP-U entity transmits an I-frame or a supervisory frame, N(R) shall be set equal to V(R).

A.5.2.3.3.2 Receiving acknowledgements

On receipt of a valid I-frame or supervisory frame (RR, RNR or REJ), even if in the own receiver busy or timer recovery conditions, the LAP-U entity shall treat the N(R) contained in this frame as an acknowledgement for all the I-frames it has transmitted with an N(S) up to and including the received N(R)-1. V(A) shall be set to N(R). The LAP-U entity shall reset the timer <DLU.04> on receipt of a valid I-frame or supervisory frame with the N(R) higher than V(A) (i.e. when the N(R) actually acknowledges some I-frames), or an REJ-frame with an N(R) equal to V(A).

NOTE 1: If a supervisory frame with the P bit set to 1 has been transmitted and not acknowledged, timer <DLU.04> shall not be reset.

NOTE 2: Upon receipt of a valid I-frame, timer <DLU.04> shall not be reset if the data link entity is in the peer receiver busy condition.

If timer <DLU.04> has been reset by the receipt of an I, RR or RNR-frame, and if there are outstanding I-frames still unacknowledged, the LAP-U entity shall restart timer <DLU.04>. If timer <DLU.04> then expires, the LAP-U entity shall follow the recovery procedure as defined in subclause A.5.2.3.7 of this annex with respect to the unacknowledged I-frames.

If timer <DLU.04> has been reset by the receipt of an REJ-frame, the LAP-U entity shall follow the retransmission procedures in subclause A.5.2.3.4 of this annex.

A.5.2.3.4 Receiving REJ-frames

On receipt of a valid REJ-frame, the LAP-U entity shall act as follows:

- if it is not in the timer recovery condition:
  - clear any existing peer receiver busy condition;
  - set its V(S) and its V(A) to the value of the N(R) contained in the REJ-frame control field;
  - stop timer <DLU.04>;
  - if it was an REJ-command frame with the P bit set to 1, transmit an appropriate supervisory response frame (see note 2, subclause A.5.2.3.5 of this annex) with the F bit set to 1;
  - transmit the corresponding I-frame as soon as possible, as defined in subclause A.5.2.3.1 of this annex, taking into account the items 1) to 3) below and the paragraph following items 1) to 3); and
  - notify a protocol violation to the Lower Layer Management Entity (LLME) if it was an REJ-response frame with the F bit set to 1.
- if it is in the timer recovery condition and it was an REJ-response frame with the F bit set to 1:
  - clear an existing peer receiving busy condition;
  - set its V(S) and it V(A) to the value N(R) contained in the REJ-frame control field;
  - stop timer <DLU.04>; and
  - transmit the corresponding I-frame as soon as possible, as defined in subclause A.5.2.3.1 of this annex, taking into account the items 1) to 3) below and the paragraph following items 1) to 3).

- if it is in the timer recovery condition and it was an REJ-frame other than an REJ-response frame with the F bit set to 1:

  - clear an existing peer receiver busy condition;

  - set its V(A) to the value of the N(R) contained in the REJ-frame control field; and

  - if it was an REJ-command frame with the P bit set to 1, transmit an appropriate supervisory response frame with the F bit set to 1 (see note 2 in subclause A.5.2.3.5 of this annex).

Transmission of I-frames shall take account of the following:

1) if the LAP-U entity is transmitting a supervisory frame when it receives the REJ-frame, it shall complete that transmission before commencing transmission of the requested I-frame;

2) if the LAP-U entity is transmitting a SABM command or a UA response when it receives the REJ-frame, it shall ignore the request for retransmission; and

3) if the LAP-U entity is not transmitting a frame when the REJ is received, it shall immediately commence (re)transmission of the requested I-frame.

All outstanding unacknowledged I-frames, commencing with the I-frame identified in the received REJ-frame, shall be retransmitted. Other I-frames not yet transmitted may be transmitted following these retransmitted I-frames.

A.5.2.3.5 Receiving RNR-frames

After receiving a valid RNR command or response, if the LAP-U entity is not engaged in a mode-setting operation, it shall set a peer receiver busy condition and indicate this to the IWF by the DLU-LU3_DTR.ind primitive with the parameter set to STOP and then:

- if it was an RNR command with the P bit set to 1, it shall respond with either an RR response with the F bit set to 1 (if the LAP-U entity is not in an own receiver busy condition) or shall respond with an RNR response with the F bit set to 1 (if the LAP-U entity is in an own receiver busy condition); and

- if it was an RNR response with the F bit set to 1, any existing timer recovery condition shall be cleared and the N(R) contained in this RNR response shall be used to update V(S).

The LAP-U entity shall take note of the peer receiver busy condition and not transmit any I-frames to the peer which has indicated the busy condition.

NOTE 1: The N(R) in any RR- or RNR-command frame (irrespective of the setting of the P bit) will not be used to update the V(S).

The LAP-U entity shall then:

- treat the N(R) contained in the received RNR-frame as an acknowledgement for all the I-frames that have been (re)transmitted with an N(S) up to and including N(R)-1, and set its V(A) to the value of the N(R) contained in the RNR-frame; and

- restart timer <DLU.04> unless a supervisory response frame with the F bit set to 1 is still expected.

If timer <DLU.04> expires, the LAP-U entity shall:

- if it is not yet in a timer recovery condition, enter the timer recovery condition and reset the retransmission count variable; or

- if it is already in a timer recovery condition, add one to its retransmission count variable.

The LAP-U entity shall then:

- if the value of the retransmission count variable is less than N250:

  - transmit an appropriate supervisory command (see note 2) with a P bit set to 1;

  - restart timer <DLU.04>.

b) if the value of the retransmission count variable is equal to N250:

  - initiate a re-establishment procedure as defined in subclause A.5.2.5 of this annex, and indicate this to the Lower Layer Management Entity (LLME).

The LAP-U entity receiving the supervisory frame with the P bit set to 1 shall respond, at the earliest opportunity, with a supervisory response frame (see note 2) with the F bit set to 1, to indicate whether or not its own receiver busy condition still exists.

Upon receipt of the supervisory response with the F bit set to 1, the LAP-U entity shall reset timer <DLU.04>, and:

- if the response is an RR or REJ response, the peer receiver busy condition is cleared and this shall be indicated to the IWF by the DLU-LU3_DTR.ind primitive with the parameter set to GO and the LAP-U entity may transmit new I-frames or retransmit I-frames as defined in subclauses A.5.2.3.1 or A.5.2.3.4 of this annex, respectively; or

- if the response is an RNR response, the LAP-U entity receiving the response shall proceed according to the first paragraph of this subclause.

If a supervisory command (RR, RNR or REJ) with the P bit set to 0 or 1, or a supervisory response frame (RR, RNR or REJ) with the F bit set to 0 is received during the enquiry process, the LAP-U entity shall:

- if the supervisory frame is an RR- or REJ-command frame or an RR- or REJ-response frame with the F bit set to 0, clear the peer receiver busy condition, indicate this to the IWF by the DLU-LU3_DTR.ind primitive with the parameter set to GO and if the supervisory frame received was a command with the P bit set to 1, transmit the appropriate supervisory response frame (see note 2) with the F bit set to 1. However, the transmission or retransmission of I-frames shall not be undertaken until the appropriate supervisory response frame with the F bit set to 1 is received or until expiry of timer <DLU.04>; or

- if the supervisory frame is an RNR command frame or an RNR-response frame with the F bit set to 0, retain the peer receiver busy condition and if the supervisory frame received was an RNR command with P bit set to 1, transmit the appropriate supervisory response frame (see note below) with the F bit set to 1.

Upon receipt of an SABM command, the LAP-U entity shall clear the peer receiver busy condition.

NOTE 2: If the LAP-U entity is not in an own receiver busy condition and is in a Reject exception condition (that is, an N(S) sequence error has been received and an REJ-frame has been transmitted, but the requested I-frame has not been received), the appropriate supervisory frame is the RR-frame.

If the LAP-U entity is not in an own receiver busy condition but is in an N(S) sequence error exception condition (that is, an N(S) sequence error has been received but an REJ-frame has not been transmitted), the appropriate supervisory frame is the REJ-frame.

If the LAP-U entity is in its own receiver busy condition, the appropriate supervisory frame is the RNR-frame.

Otherwise, the appropriate supervisory frame is the RR-frame.

A.5.2.3.6 LAP-U own receiver busy condition

When a LAP-U entity receives a DLU-LU3_DTR.req primitive with the parameter set to STOP it shall enter an own receiver busy condition and it shall transmit an RNR-frame at the earliest opportunity. The RNR-frame may be either:

- an RNR response with the F bit set to 0; or

- if this condition is entered on receiving a command frame with the P bit set to 1, an RNR response with the F bit set to 1; or

- if this condition is entered on expiring of timer <DLU.04>, an RNR command with the P bit set to 1.

All received I-frames with the P bit set to 0 shall be discarded, after updating V(A).

All received supervisory frames with the P/F bit set to 0 shall be processed, including updating V(A).

All received I-frames with the P bit set to 1 shall be discarded, after updating V(A). However, an RNR-response frame with the F bit set to 1 shall be transmitted.

All received supervisory frames with the P bit set to 1 shall be processed including updating V(A). An RNR response with the F bit set to 1 shall be transmitted.

When a LAP-U entity receives a DLU-LU3_DTR.req primitive with the parameter set to START it shall indicate to its peer LAP-U entity the clearance of the own receiver busy condition by transmitting an RR-frame or, if a previously detected N(S) sequence error has not yet been reported, an REJ-frame with the N(R) set to the current value of V(R).

The transmission of an SABM command or a UA response (in reply to an SABM command) also indicates to the peer LAP-U entity the clearance of the own receiver busy condition.

A.5.2.3.7 Waiting acknowledgement

The LAP-U entity shall maintain an internal retransmission count variable. If timer <DLU.04> expires, the LAP-U entity shall:

- if it is not yet in the timer recovery condition, enter the timer recovery condition and reset the retransmission count variable; or

- if it is already in the timer recovery condition, add one to its retransmission count variable.

The LAP-U entity shall then:

- if the value of the retransmission count variable is less than N250:

    - restart timer <DLU.04>; and either

    - transmit an appropriate supervisory command (see note 2 of subclause A.5.2.3.5 of this annex) with the P bit set to 1; or

    - retransmit the last transmitted I-frame (V(S)-1) with the P bit set to 1; or

- if the value of the retransmission count variable is equal to N250:

    - initiate a re-establishment procedure as defined in subclause A.5.2.5 of this annex and indicate this to the Lower Layer Management Entity (LLME).

The timer recovery condition is cleared when the LAP-U entity receives a valid supervisory frame response with the F bit set to 1. If the received supervisory frame N(R) is within the range from its current V(A) to its current V(S) inclusive, it shall set its V(S) to the value of the received N(R). Timer <DLU.04> shall be reset if the received supervisory frame response is an RR or REJ response, and then the LAP-U entity shall resume with I-frame transmission or retransmission, as appropriate. Timer <DLU.04> shall be reset and restarted if the received supervisory response is an RNR response, to proceed with the enquiry process according to subclause A.5.2.3.5 of this annex.

A.5.2.4 Release of LAP-U multiple frame operation

Release of LAP-U operation involves the release of all the LAP-U resources. LAP-U multiple frame operation is released in response to a request from the LLME (see subclause A.6.2 of this annex).

If the LLME indicates the release mode as "normal" the LAP-U entity shall first attempt to complete transmission of all outstanding I-frames and of all outstanding DLU-LU3-DATA-req primitives before releasing the link. The LAP-U shall only initiate link release if all of this outstanding data has been successfully acknowledged.

When there is no outstanding data, the LAP-U shall initiate a link release. In this event the LAP-U entity shall return confirmation to the LLME and shall then cease operation. All further frames shall be ignored.

If the LLME indicates "abnormal" release mode, the LAP-U entity shall initiate an immediate release. All outstanding DLU-LU3-DATA-req primitives and all queued I-frames shall be discarded. Confirmation shall then be sent to the LLME. This confirmation shall indicate to the LLME whether any DLU-LU3-DATA-req primitives or I-frames were discarded or were unacknowledged.

A.5.2.5 Re-establishment of LAP-U multiframe operation

A.5.2.5.1 Criteria for re-establishment

The normal criteria for re-establishing the multiple frame mode of operation are defined in this subclause by the following conditions:

- the receipt, while in the LAP-U multiple-frame mode of operation, of a SABM-frame;
- the occurrence of N250 retransmission failures while in the timer-recovery condition (see subclause A.5.2.3.7 of this annex);
- the receipt of a N(R) sequence error (see subclause A.5.2.6.2.2 of this annex).

A.5.2.5.2 Re-establishment procedure

In all re-establishment situations, the LAP-U entity shall follow the procedures defined below. All locally generated conditions for re-establishment will cause the transmission of the SABM.

The initiating LAP-U shall transmit a SABM-command frame, with the P bit set to "1". All existing exception conditions shall be cleared, the retransmission counter shall be reset and timer <DLU.02> shall be started. The NLF bit shall be set in this SABM-command frame.

The responding LAP-U entity shall respond to the receipt of the SABM-frame by informing the LLME. It shall then transmit a UA-response frame with the F bit set to the same binary value as the P bit in the SABM-frame. It shall clear all existing exception conditions, and the retransmission counter shall be reset. The NLF bit shall be set in this UA-response frame. The NLF bit shall then be cleared in all subsequent frames.

Upon receipt of the UA response with the F bit set to "1", the originator of the SABM command shall:

- reset timer <DLU.02>;
- set the sequence variables V(S) V(R) and V(A) to "0";
- (re)enter the "active" state; and
- inform the LLME.

In the case of LAP-U and peer initiated re-establishment, the initiating LAP-U entity shall also:

- issue an indication to the lower layer management entity (LLME); and
- if V(S) > V(A) prior to re-establishment, inform the LLME and discard all I queues.

A.5.2.6 Exception handling

A.5.2.6.1 General

All unexpected or unknown frames shall be discarded. The meaning of "unknown frames" depends on the PT (or FT) capability. The relevant frames for LAP-U are defined in subclause A.3.6 of this annex.

A.5.2.6.2 LAP-U exception condition reporting and recovery

Exception conditions may occur as the result of MAC layer errors or LAP-U procedural errors. The following error recovery procedures are available to effect recovery following the detection of an exception condition at LAP-U.

A.5.2.6.2.1 N(S) sequence error

An N(S) sequence error exception condition occurs in the receiver when a valid I-frame is received which contains an N(S) value which is not equal to the V(R) at the receiver. The information field of all I-frames whose N(S) does not equal V(R) shall be discarded.

NOTE: The receiver shall not acknowledge (nor increment its V(R)) as a result of the I-frame causing the sequence error, nor any I-frames which may follow, until an I-frame with the correct N(S) is received.

A LAP-U entity which receives one or more I-frames having sequence errors but otherwise error-free, or subsequent supervisory frames (RR, RNR and REJ), shall use the control field information contained in the N(R) field and the P or F bit to perform LAP-U control functions, for example, to receive acknowledgement of previously transmitted I-frames and to cause the LAP-U entity to respond if the P bit is set to 1. Therefore, the retransmitted I-frame may contain an N(R) field value and P bit that are updated from and therefore different from, the ones contained in the originally transmitted I-frame.

The REJ-frame is used by a receiving LAP-U entity to initiate an exception condition recovery (retransmission) following the detection of an N(S) sequence error.

Only one REJ exception condition for a given direction of information transfer shall be established at a time.

A LAP-U entity receiving an REJ-command or response shall initiate sequential transmission (retransmission) of I-frames starting with the I-frame indicated by the N(R) contained in the REJ-frame.

An REJ exception condition is cleared when the requested I-frame is received or when a SABM command is received.

A.5.2.6.2.2 N(R) sequence error

An N(R) sequence error exception condition occurs in the transmitter when a valid supervisory frame or I-frame is received which contains an invalid N(R) value. A valid N(R) is one that is in the range $V(A) \leq N(R) \leq V(S)$.

Upon detection of an N(R) sequence error, the LAP-U entity shall immediately initiate the link re-establishment procedures according to subclause A.5.2.5 of this annex.

The information field contained in an I-frame which is correct in both sequence and format may still be delivered to layer 3 by means of the DLU-LU3-DATA-ind primitive.

A.5.2.6.2.3 Timer recovery condition

If a DLC entity, due to a transmission error, does not receive a single I-frame or the last I-frame(s) in a sequence of I-frames, it will not detect an out-of-sequence exception condition and therefore will not transmit an REJ-frame.

The LAP-U entity which transmitted the unacknowledged I-frame(s) shall take appropriate recovery action as defined in subclause A.5.2.3.7 of this annex to determine at which I-frame retransmission must begin.

A.6 Management procedures for LAP-U

The LLME shall be responsible for the establishment, initialization and release of LU3 entities in response to service demands either from the network layer LLME or from the inter-working function and MAC LLME, according to the mobility class support provided.

A.6.1 LU3 establishment

When class 2 mobility functions are used, the LLME shall invoke an instance of LU3 in accordance with service demands from the network layer LLME.

When class 1 mobility functions are used, the LLME shall invoke an instance of LU3 in response to the arrival of data from the inter-working function or in response to a connection set up indication from the MAC.

In all cases the LLME shall perform the association of the LU3 entity with an instance of LU2, which, in turn, shall be associated with a suitable open MAC advanced connection. Following a successful association, the relevant AMCI shall be reported to the LLME.

A.6.2 LU3 release

When class 2 mobility functions are used, the LLME shall instruct the LU3 instance to perform a release in accordance with service demands from the network layer LLME.

When class 1 mobility functions are used, the LLME shall instruct an instance of LU3 to perform a release when the inter-working function indicates that the LAP-U is no longer required or in response to a connection release indication from the MAC.

If the LAP-U is idle, that is, it is currently not transferring data and all associated buffers are empty, then it shall release immediately. If the LAP-U is busy, that is, it is currently transferring data and/or one or more buffers contain pending data, then the LAP-U will normally attempt to complete transmission of all data prior to releasing. The LLME can force the LAP-U to release immediately, if necessary, by indicating "abnormal" release. See subclause A.5.2.4 of this annex.

In all cases, when the LLME receives confirmation of release, it shall remove all associations to LU2 links and invoke release of the lower layers.

Annex B (normative): LU3 parameters

B.1 LAP-U timer values

<DLU.00> Link release timer:

FT value:	2 seconds;
PT value:	2 seconds;
Start:	DISC command frame is transmitted;
Stop:	UA response frame is received.

<DLU.02> LAP-U establish timer:

FT value:	2 seconds;
PT value:	2 seconds;
Start:	Class B request frame is transmitted;
Stop:	Class B accept or reject frame is received.

<DLU.04> Retransmission timer:

	Type A routed frames	Type B routed frames
FT value:	2,0 seconds;	1,0 seconds;
PT value:	2,0 seconds;	1,0 seconds;
Start:	an I-frame is transmitted;	
Stop:	an acknowledgement is received for that frame.	

B.2 Constants

The constants defined in ETS 300 175-4 [4], clause A.3 shall be used where appropriate.

Annex C (normative): Specific interworking conventions

C.1 Scope of this annex

This annex defines Terminal Adaptation-Functions (TAF) and Interworking-Functions (IWF) for use in Portable Parts (PP) and Fixed Parts (FP) in order to enable transmission of character oriented or bit oriented data streams.

The underlying reference configuration is depicted in figure C.1:

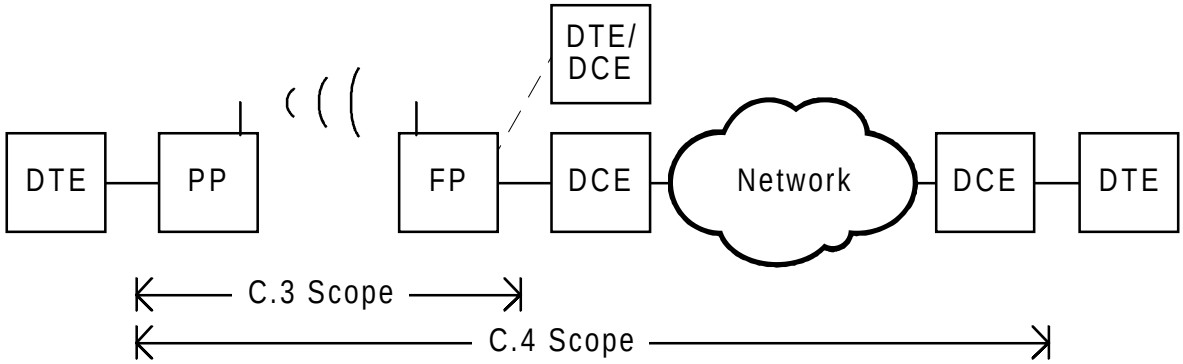


Figure C.1: Overall profile reference configuration (horizontal model) for annex C

Two different applications are described:

The first one is the interworking to the V.24 physical layer, which provides a transparent, wireless V.24 link between two pieces of DECT equipment within one DECT-system . Devices of arbitrary type (computers, modems, printers ...) with V.24 interface could be connected in this way.

The second one provides connections between a DECT PP and a Data Terminal Equipment (DTE) connected to a telecommunication network (e.g. a computer) by interworking to a voice band modem (see figure C.1).

Although in principle it is possible to achieve a similar configuration with the first application by inserting a modem between one end of the virtual V.24 connection and the external network, the user of this connection has to know about that Data Circuit terminating Equipment (DCE) and how to configure it. In contrast the second application makes this DCE invisible to the user by interworking some higher level commands (e.g. V.25bis, see subclause C.4.5 of this annex) to the DECT C-plane on both sides of the DECT-connection.

C.2 Interworking specific codings

C.2.1 IWU-Attribute coding

Devices implementing the Interworking Units described in this annex shall use the following IWU-Attribute coding:

Bit:	8	7	6	5	4	3	2	1	Octet:
	0	<< IWU-ATTRIBUTES >>							1
	Length of Contents (L)								2
	1	CodeStd		Profile					3
		0	1	0	0	0	0	1	
	1	Negotiation indicator		Profile subtype					4
	0/1	Stop bits		Data bits		Parity			5
	0/1	Data Rate							5a
	1	Dup	Modem type						5b
	0/1	Maximum string length							6
	0	Number of codewords (Most significant 7 bits)							6a
	1	Number of codewords (Least significant 7 bits)							6b
	1	EUC	EEC	FBK	RES	reserved			7 (note 1)

NOTE 1: Octet 7 is optional and may be omitted if indicated by the L field.

Negotiation indicator (octet 4):

Bits	7 6 5	Meaning
	0 0 0	Negotiation not possible
	0 1 0	Peer attribute negotiation
	1 0 0	Exchanged attribute negotiation
	1 1 0	Exchanged attribute negotiation and Peer attribute negotiation
	All other values are reserved	

Profile subtype (octet 4):

Bits	4 3 2 1	Meaning
	0 0 0 0	Interworking to V.24 circuits (annex C.3)
	0 0 0 1	Interworking to voice band modem services (annex C.4)
	0 0 1 0	Interworking to combined voice/voice band modem services
	All other values are reserved	

Stop bits coding (octet 5):

Bits	7 6	Meaning
	0 0	Not used
	0 1	1 bit
	1 0	1,5 bits
	1 1	2 bits

Data bits coding (octet 5):

Bits	5 4	Meaning
	0 0	6 bits
	0 1	5 bits
	1 0	7 bits
	1 1	8 bits

Parity coding (octet 5):

Bits	3 2 1	Meaning
	0 0 0	Odd
	0 1 0	Even
	0 1 1	None
	1 0 0	Forced to 0
	1 0 1	Forced to 1
	1 1 1	BPAD operation

All other values reserved.

Data Rate (octet 5a):

Bits	7 6 5 4 3 2 1	Meaning	
	0 0 0 0 0 0 0	unspecified	
	0 0 0 0 1 x x	(xx+1) * 50 bit/s. (50 - 200 bit/s.)	
	0 0 0 1 x x x	(xxx+1) * 300 bit/s. (300 - 2400 bit/s.)	
	0 0 1 x x x x	(xxxx+2) * 2400 bit/s. (4,8 - 40,8 kbit/s.)	
	0 1 x x x x x	(xxxxx+1) * 8000 bit/s. (8 - 256 kbit/s.)	(note 3)
	1 0 x x x x x	(xxxxx+6) * 9600 bit/s. (57,6 - 355,2 kbits/s.)	(note 3)
	1 1 0 x x x x	(xxxx+11) * 24000 bit/s. (264 - 624 kbits/s.)	(note 3)
	1 1 1 0 0 0 0	75 bit/s.	
	1 1 1 0 0 0 1	110 bit/s.	
	1 1 1 0 0 1 0	134,5 bit/s.	
	1 1 1 0 0 1 1	75/1200 bit/s (note 2)	
	1 1 1 0 1 0 0	1200/75 bit/s (note 2)	

All other values reserved.

NOTE 2: The first rate is the transmit rate in forward direction of the call. The second rate is the transmit rate in backward direction of the call.

NOTE 3: Some bitrates (24, 96, 144, 192, 240, 288, and 336 kbit/s.) are codeable in several different ways. These codings are all valid.

Examples:

Bits	7 6 5 4 3 2 1	Meaning	
	0 0 0 0 1 0 0	50 bit/s	(V.6 and X.1)
	0 0 0 0 1 0 1	100 bit/s	(V.6 and X.1)
	0 0 0 0 1 1 0	150 bit/s	(V.6 and X.1)
	0 0 0 0 1 1 1	200 bit/s	(V.6 and X.1)
	0 0 0 1 0 0 0	300 bit/s	(V.6 and X.1)
	0 0 0 1 0 0 1	600 bit/s	(V.6 and X.1)
	0 0 0 1 0 1 1	1 200 bit/s	(V.6)
	0 0 0 1 1 1 1	2 400 bit/s	(V.6 and X.1)
	0 0 1 0 0 0 0	4 800 bit/s	(V.6 and X.1)
	0 1 0 0 0 0 0	8 000 bit/s	(I.460)
	0 0 1 0 0 1 0	9 600 bit/s	(V.6, X.1, GSM HSCSD)
	0 0 1 0 0 1 1	12 000 bit/s	(V.6)
	0 0 1 0 1 0 0	14 400 bit/s	(V.6, GSM HSCSD)
	0 1 0 0 0 0 1	16 000 bit/s	(I.460)
	0 0 1 0 1 1 0	19 200 bit/s	(V.6, GSM HSCSD)
	0 0 1 1 0 0 0	24 000 bit/s	(1 C2-Bearer)
	0 0 1 1 0 1 0	28 800 bit/s	(V.34, GSM HSCSD)
	0 1 0 0 0 1 1	32 000 bit/s	(I.460, GSM HSCSD)

0 0 1 1 1 1 0	38 400 bit/s	(GSM HSCSD)
0 1 0 0 1 0 1	48 000 bit/s	(V.6, X.1, 2 C2-Bearers, GSM HSCSD)
0 1 0 0 1 1 0	56 000 bit/s	(V.6)
1 0 0 0 0 0 0	57 600 bit/s	(GSM HSCSD)
0 1 0 0 1 1 1	64 000 bit/s	(X.1, 1 ISDN B-Channel, GSM HSCSD)
1 0 0 0 0 0 1	67 200 bit/s	(GSM HSCSD)
1 0 0 0 0 1 0	76 800 bit/s	(GSM HSCSD)
0 1 0 1 0 0 0	72 000 bit/s	(3 C2-Bearers)
0 1 0 1 0 1 1	96 000 bit/s	(4 C2-Bearers, GSM HSCSD)
1 0 0 0 1 1 0	115 200 bit/s	(RS232 Data Rate)
0 1 0 1 1 1 0	120 000 bit/s	(5 C2-Bearers)
0 1 0 1 1 1 1	128 000 bit/s	(2 ISDN B-Channels)
1 0 0 1 0 0 1	144 000 bit/s	(6 C2-Bearers)
1 1 0 1 0 1 0	552 000 bit/s	(23 C2-Bearers)

Modem Type (octet 5b):

Bits 6 5 4 3 2 1	Meaning
0 0 0 0 0 0	reserved
0 0 0 0 0 1	V.21
0 0 0 0 1 0	V.22
0 0 0 0 1 1	V.22 bis
0 0 0 1 0 0	V.23
0 0 0 1 0 1	V.26
0 0 0 1 1 0	V.26 bis
0 0 0 1 1 1	V.26 ter
0 0 1 0 0 0	V.27
0 0 1 0 0 1	V.27 bis
0 0 1 0 1 0	V.27 ter
0 0 1 0 1 1	V.29
0 0 1 1 0 0	V.32
0 0 1 1 0 1	V.35
0 0 1 1 1 0	V.32 bis
0 0 1 1 1 1	V.34
0 1 1 0 0 0	V.110
0 1 1 0 0 1	V.120
1 0 0 0 0 0 to	} Reserved for national use
1 1 1 1 1 1	}

Duplex mode (Dup) (octet 5b):

Bits 7	Meaning
0	Half duplex
1	Full duplex

Maximum string length (octet 6):

This 7 bit word represents the natural binary coding of the maximum string length used for data compression, with the least significant bit in position 1 (see CCITT Recommendation V.42bis [16] annex A, parameter P2). It shall be coded with 0 when compression is not requested.

Number of codewords (octet 6a and octet 6b):

These two 7 bit words together represent the natural binary coding of the number of codewords used for data compression, with the least significant bit in position 1 of octet 6b. (see CCITT Recommendation V.42bis [16] annex A, parameter P1)

End user compression (EUC) (octet 7):

Bits 7	Meaning
0	Do not use data compression via external network
1	Use default data compression via external network (default if octet is not present)

End user error correction (EEC) (octet 7):

Bits	6	Meaning
	0	Do not use error correction via external network
	1	Use default error correction via external network (default if octet is not present)

Fall back (FBK) (octet 7):

Bits	5	Meaning
	0	Do not use bit rate fall back during parameter negotiation via external network
	1	Use default bit rate fall back during parameter negotiation via external network (default if octet is not present)

Reserved for Voice/Data switching (RES) (octet 7):

This bit is reserved for the exclusive use with profile subtype 2 and shall be ignored when used with profile subtype 0 and 1.

C.2.2 IWU attributes implemented

Table C.1

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of IWU attributes of variable length	note 1	M		18	
2	Length of Contents (L)	note 2	M		0-255	5-9
3	Coding standard	note 2	M		1	
3	Profile	note 2	M		0-3,8-12	1
4	Negotiation indicator	note 2	M		0,2,4,5	
4	Profile subtype	note 2	M		0-7	0,1
5	Stop bits coding	C.2.1	I	M	0-3	
5	Data bits coding	C.2.1	I	M	0-3	
5	Parity coding	C.2.1	I	M	0,2,3,4,5,7	
5a	Data Rate	C.2.1	I	O	4-116	
5b	Duplex Mode	C.2.1	I	O	0,1	
5b	Modem Type	C.2.1	I	O	0-15,32-63	
6	Maximum string length	C.2.1	I	M	0-127	
6a,6b	Number of codewords	C.2.1	I	O	0-16383	
7	End user compression	C.2.1	I	O	0,1	
7	End user error correction	C.2.1	I	O	0,1	
7	Fall back	C.2.1	I	O	0,1	

NOTE 1: See ETS 300 175-5 [5], subclause 7.7.1.

NOTE 2: See ETS 300 175-5 [5], subclause 7.7.21.

C.3 Interworking to V.24 circuits

C.3.1 Reference configuration

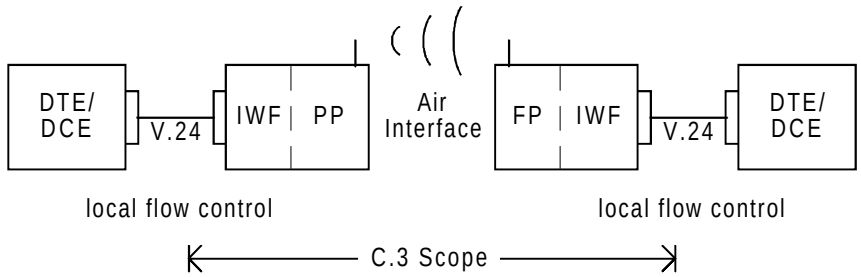


Figure C.2: Profile reference configuration showing the interworking to a V.24 DCE/DTE

The DTE-DCE connection shall support the functionality of CCITT Recommendation V.24 [14] link for the following V.24 lines:

circuit 103 (TXD);
circuit 104 (RXD);
circuit 106 (CTS);
circuit 107 (DSR);
circuit 108 (DTR);
circuit 109 (DCD);
circuit 125 (RI);
circuit 133 (RTR).

C.3.2 Global assumptions

In this application, the packet mode procedures PICS conditional C.7 (see ETS 300 175-5 [5], subclause 9.7, option B) shall be applied in their entirety. No other establishment or release procedures shall be used. Access shall be provided on a demand-assigned access basis (see ETS 300 175-5 [5], subclause 9.7.1, option B).

The called party number is of local significance and shall define the identity of the logical port to which the PP requests to connect.

The data stop and parity bits of the FP-side-IWF shall be set according to the information elements <<data bits coding>>, <<parity coding>> and <<stop bits coding>>, respectively, of the <<IWU-ATTRIBUTES>> element in the {CC-SETUP} message. If the FP-side-IWF cannot comply with the required coding, the connection is released with release reason 05 "Incompatible service".

The DTE/DTE-side-IWF connection and the DCE-side-IWF/DCE connection may work at different data transmission speeds.

The configuration of a PP or an FP to interwork with a DTE or a DCE shall be a local matter. All data received by the PP or the FP from LU3 shall be transferred to the RXD line when interworking with a DTE or to the TXD line when interworking to a DCE. Information regarding the status of DCD and RI lines received by a DCE-side-IWF from LU3 shall be ignored. Information regarding the status of the DSR line received by a DCE-side interworking unit from LU3 shall be interworked to the DTR line. Information regarding the status of the DTR line received by a DTE-side-IWF from LU3 shall be interworked to the DSR line.

For negotiation of the service parameters, the IWU-Attributes as defined in annex C.2 shall be used. The profile subtype in octet 3 shall indicate "Interworking to V.24 circuits". Octet 5 shall describe the desired character format at the far end IWU-interface whereby the "BPAD-operation" coding of the parity-subfield is not allowed. The data rate across the V.24-interface of the far end IWU shall be coded in octet 5a. The following octet (5b) shall not be used.

If data compression across the DECT-air-interface is to be used, the requested parameters shall be coded in octets 6 to 6b (see subclause 10.5). Otherwise the octets 6a and 6b shall be omitted and octet 6 shall be filled with a value of 0, which indicates to the receiver that no compression is requested. Octet 7 is of no use for this annex and shall therefor be omitted.

C.3.3 Interworking procedures and conventions

C.3.3.1 Procedures at the DTE-side-IWF

The interworking function shall emulate a DCE. Data is packed/unpacked for LAP-U using the PAD function described in subclause 10.2. Data received from the PAD shall be forwarded via the RXD line to the DTE and data shall be received via the TXD line from the DTE.

C.3.3.1.1 DTE-Initiated link establishment

If no V.24 link is established (the "No Link" state), then the IWF shall monitor the value of the DTR line. If this goes ON, then the IWF shall monitor the activity of the TXD line. If data is detected on the TXD line, then the IWF shall issue an MNCC_SETUP.req primitive and shall enter the "V.24 Link Requested" state. Furthermore, the state of the DTR line shall be submitted to the PAD buffer prior to submitting the received character to it.

In the "V.24 Link Requested" state, if the IWF receives a MNCC_REJECT.ind primitive or a MNCC_RELEASE.ind primitive, it shall clear the PAD buffer and shall return to the "No Link" state. Its subsequent action shall be locally determined on the basis of the release reason contained in the primitive.

In the "V.24 Link Requested" state, if the IWF receives an MNCC_CONNECT.ind primitive it shall enter a "Link Active" state. Once in this state, it shall set the values of the DSR line, RI line and DCD line to the values communicated to it by LU3.

C.3.3.1.2 DCE-Initiated link establishment

Upon the receipt of a MNCC_SETUP.ind primitive, the IWF shall determine that the service requested may be offered, and if so it will issue a MNCC_CONNECT.ind primitive and enter the "Link Active" state. Once in this state, it shall set the values of the DSR line, RI line and DCD line to the values communicated to it by LU3. If the service cannot be supported, it will issue a MNCC_REJECT.req, indicating a release reason, and will return to the "No Link" state.

C.3.3.1.3 DTE-Initiated link suspension

If the management entity requires a link suspension, the IWF shall issue a MNCC_MODIFY.req primitive specifying a suspension and shall await a MNCC_MODIFY.cfm primitive. If this primitive notifies failure, it need not take any action. If this primitive notifies success, it shall enter the "Link Suspended" state.

C.3.3.1.4 DCE-Initiated link suspension

If the IWF receives a MNCC_MODIFY.ind primitive, it shall wait until it has ceased to receive data from the U-plane and shall then enter the "Link Suspended" state.

C.3.3.1.5 DTE-Initiated link resume

If the management entity requires a link resumption, the IWF shall issue an MNCC_MODIFY.req primitive, specifying link resumption, and shall await a MNCC_MODIFY.cfm primitive. If this primitive notifies failure, it shall enter the "No Link" state and turn the DSR line OFF. If the primitive notifies success, then it shall enter the "Link Active" state and transmit the buffered data according to the PAD procedures.

C.3.3.1.6 DCE-Initiated link resume

If the IWF receives a MNCC_MODIFY.ind primitive, it shall enter the "Link Active" state.

C.3.3.1.7 DTE-Initiated link release

The IWF may choose at any time to release the link for implementation-specific reasons. In any case, the IWF shall release the link if:

- the DTR line goes OFF for more than five seconds; and

- the IWF has been in "Link Active" state for more than five seconds.

To release the link, the IWF shall issue a MNCC_RELEASE.req primitive, shall clear the PAD buffer and shall then enter the "No Link" state, turning the DSR line, RI line and DCD line OFF.

C.3.3.1.8 DCE-Initiated link release

If the IWF receives a MNCC_RELEASE.ind primitive, it shall enter the "No Link" state, shall clear the PAD buffer and turn the DSR line, RI line and DCD line OFF.

C.3.3.2 Procedures at the DCE-side-IWF

The interworking function shall emulate a DTE. Data is packed/unpacked for LAP-U using the PAD function described in subclause 10.2. Data received from the PAD shall be forwarded via the TXD line to the DCE and data shall be received via the RXD line from the DCE.

C.3.3.2.1 DCE-Initiated link establishment

If no V.24 link is established, then the IWF shall monitor the value of the DSR line and the RI line. If the DSR line goes ON, then the IWF shall monitor the activity of the RXD line. If data is then detected on the RXD line, or if at any time the RI line goes ON irrespective of the state of the DSR line, then the IWF shall issue an MNCC_SETUP.req primitive and shall enter the "V.24 Link Requested" state. Furthermore, the state of the DSR, DCD, and RI lines shall be submitted to the PAD buffer prior to submitting any received characters to it.

In this state, if the IWF receives a MNCC_REJECT.ind primitive or a MNCC_RELEASE.ind primitive, it shall clear the PAD buffer and shall return to the "No Link" state. Its subsequent action shall be locally determined on the basis of the release reason contained in the primitive.

In the "V.24 Link Requested" state, if the IWF receives an MNCC_CONNECT.ind primitive it shall enter a "Link Active" state. Once in this state, it shall set the value of the DTR line to the value communicated to it by LU3.

C.3.3.2.2 DTE-Initiated link establishment

Upon the receipt of a MNCC_SETUP.ind primitive, the IWF shall determine that the service requested may be offered, and if so it will issue a MNCC_CONNECT.ind primitive and enter the "Link Active" state. Once in this state, it shall set the value of the DTR line to the value communicated to it by LU3. If the service cannot be supported, it will issue a MNCC_REJECT.req, indicating a release reason, and will return to the "No Link" state.

C.3.3.2.3 DCE-Initiated link suspension

If the management entity requires a link suspension, the IWF shall issue a MNCC_MODIFY.req primitive specifying a suspension and shall await a MNCC_MODIFY.cfm primitive. If this primitive notifies failure, it need not take any action. If this primitive notifies success, it shall enter the "Link Suspended" state.

C.3.3.2.4 DTE-Initiated link suspension

If the IWF receives a MNCC_MODIFY.ind primitive, it shall wait until it has ceased to receive data from the U-plane and shall then enter the "Link Suspended" state.

C.3.3.2.5 DCE-Initiated link resume

If the management entity requires a link resumption, the IWF shall issue an MNCC_MODIFY.req primitive, specifying link resumption, and shall await a MNCC_MODIFY.cfm primitive. If this primitive notifies failure, it shall enter the "No Link" state and turn the DTR line OFF. If the primitive notifies success, then it shall enter the "Link Active" state and transmit the buffered data according to the PAD procedures.

C.3.3.2.6 DTE-Initiated link resume

If the IWF receives a MNCC_MODIFY.ind primitive, it shall enter the "Link Active" state.

C.3.3.2.7 DCE-Initiated link release

The IWF may choose at any time to release the link for implementation-specific reasons. In any case, the IWF shall release the link if:

- the DSR line goes OFF for more than five seconds; and

- the IWF has been in "Link Active" state for more than five seconds.

To release the link, the IWF shall issue a MNCC_RELEASE.req primitive, shall clear the PAD buffer and shall then enter the "No Link" state, turning the DTR line OFF.

C.3.3.2.8 DTE-Initiated link release

If the IWF receives a MNCC_RELEASE.ind primitive, it shall enter the "No Link" state, shall clear the PAD buffer and turn the DTR line OFF.

C.3.3.3 PAD

The PAD-function as defined in subclause 10.1 shall be used.

C.3.3.4 Timing conventions

PAUSE conditions, that means consecutive stop bits send by the DTE for a time greater than 100 ms, shall be interworked by the DTE-side-IWF. PAUSE-conditions shall be transmitted to the DCE-side-IWF at the termination of the condition, together with information regarding the length (see subclause C.3.3.5). Upon receiving a PAUSE-condition, the DCE-side-IWF shall ensure that a PAUSE of at least the specified length is asserted on the link to the DCE between the character received immediately before reception of the PAUSE condition and the character received immediately after it.

C.3.3.5 Interworking of modem status lines, BREAK condition and PAUSE condition

On any change of one or more V.24 status lines or on the detection of the BREAK condition or PAUSE condition, the current line status values and the BREAK condition or PAUSE condition respectively shall be submitted to the PAD buffer. Such information shall be passed in sequence from the PAD buffer to the user control signalling data SAP, and transmitted in an I-frame.

If such information is passed to the signalling SAP, the current I-frame shall be closed and transmitted immediately. The next I-frame to be sent shall be an I-frame with the SAPI indicating user control signalling data and with the data field containing the actual state of all listed V.24 lines and the condition which occurred. This I-frame shall be formatted as defined in subclause 10.3 of this ETS.

C.3.3.5.1 BREAK condition

The measurement of the duration of a BREAK condition shall begin immediately upon its assertion on the TXD line at the DTE-side-IWF or the RXD line at the DCE-side-IWF. Once the BREAK condition has been terminated, the total duration of assertion measured shall be coded and transmitted as specified. The duration of the BREAK condition shall be measured for a maximum duration of 2,55 seconds, after which the BREAK condition and duration shall be coded and submitted in any case. It shall not be permitted to transmit two consecutive notifications of the BREAK condition, and the persistence of the BREAK condition beyond 2,55 seconds shall not be coded or notified to the PAD.

C.3.3.5.2 PAUSE condition

The measurement of the duration of a PAUSE condition shall begin 100 ms after its assertion on the TXD line at the DTE-side-IWF or the RXD line at the DCE-side-IWF. Once the PAUSE condition has been terminated by any occurrence, the total duration of assertion, including the 100 ms detection interval, shall be coded and submitted as specified. The duration of the PAUSE condition shall be measured for a maximum duration of 2,55 seconds, after which the PAUSE condition and duration shall be coded and submitted in any case. It shall not be permitted to transmit two consecutive notifications of the PAUSE condition, and the persistence of the PAUSE condition beyond 2,55 seconds shall not be coded or notified to the PAD.

At the receiver, upon reception of the PAUSE command, the time for which the RXD line at the DTE-side-IWF or the TXD line at the DCE-side-IWF have been in the PAUSE condition shall be determined and if the time is less than the value indicated in the PAUSE command the PAUSE condition shall be prolonged until it is equal to the coded value. Once this value has been reached the contents of the subsequent I-frames shall be transferred to the V.24 lines.

C.3.3.6 Interworking of flow control

C.3.3.6.1 Flow control across the DTE/DTE-side-IWF interface

The IWF shall follow the flow control procedure which is described in subclause 10.1 of this ETS.

The flow control indication should be performed using circuits 133 (RTR) and 106 (CTS), in which case:

- a DTE-side-IWF not-ready condition shall be indicated by turning circuit 106 OFF and shall be cleared by turning circuit 106 ON; and

- a DTE not-ready condition shall be recognized by an ON-to-OFF transition and cleared by an OFF-to-ON transition of circuit 133.

C.3.3.6.2 Flow control across the DCE-side-IWF/DCE interface

The IWF shall follow the flow control procedure described in subclause 10.1.

The flow control indication should be performed using circuits 133 (RTR) and 106 (CTS), in which case:

- a DCE-side-IWF not-ready condition shall be indicated by turning circuit 133 OFF and cleared by turning circuit 133 ON; and

- a DCE not-ready condition shall be recognized by an ON-to-OFF transition and cleared by an OFF-to-ON transition of circuit 106.

Flow control is handled locally between DTE/DCE and the IWF on both sides of a connection. The chained flow control mechanisms between DTE/DCE and the IWF on one side, the two IWFs, and the IWF and DCE/DTE on the other side respectively result in end-to-end flow control across the whole connection. Another possibility is to use DC1 and DC3 characters (XON and XOFF) for end to end flow-control. However, since the system may contain considerable buffer space and because the transmission speeds at both sides of the connection do not necessarily match, this method will work reliably only in conditions of a fully planned, co-ordinated and configured system. For applications of this profile, it is therefore strongly discouraged to work without hardware flow-control at the DTE and DCE.

C.4 Interworking to connection-oriented bearer services

C.4.1 Scope

The provisions of this clause shall apply if interworking to public connection-oriented network services. It is recommended for use with connection-oriented data transmission services in general.

The physical implementation of this service and the use of the interworking functions to other networks (if present) are abstracted from the user. The PP user sees a standardized wireless service which is functionally equivalent to interfacing to an auto-calling/answering DCE accessing a connection-oriented bearer service (such as modem). In addition the service can also provide the added security (authentication and encryption), call charging, flexible throughput (up to 552 kbit/s), high reliability and error correction and other features of DECT, thus making it suitable for public wireless data services.

This clause defines the Terminal Adaptation Functions (TAF) integral to a Portable Part (PP) and the Interworking Functions (IWF) integral to a Fixed Part (FP) which enable the attachment of asynchronous or synchronous serial data applications to a PP and attachment of connection-oriented asynchronous or synchronous serial data transmission network services to an FP. The application may be a software application or a terminal, however this annex does not mandate the implementation of a specific interface between the PP and the terminal and the FP and the service/network, but specifies the air interface requirements in order to facilitate interoperability between equipment of different origin. The functions defined in this annex are applicable to both asynchronous and synchronous processes unless stated otherwise. The last part of this annex specifies interworking conventions for DTE-to-PP interfaces based on V.24[14] and V.25bis [15], and for corresponding conventions for FP IWUs with a nominal internal V.24 interface.

C.4.2 Reference configuration

The reference configuration for U-plane and C-plane operation is shown in figures C.3 and C.4, respectively. This specification refers to Portable Parts (PPs) and Fixed Parts (FPs) which support applications with asynchronous or synchronous serial data transmission capabilities. The TAF is functionally a part of a PP and the IWF is functionally part of FP with an integral asynchronous or synchronous data capability of the DECT C.2 profile.

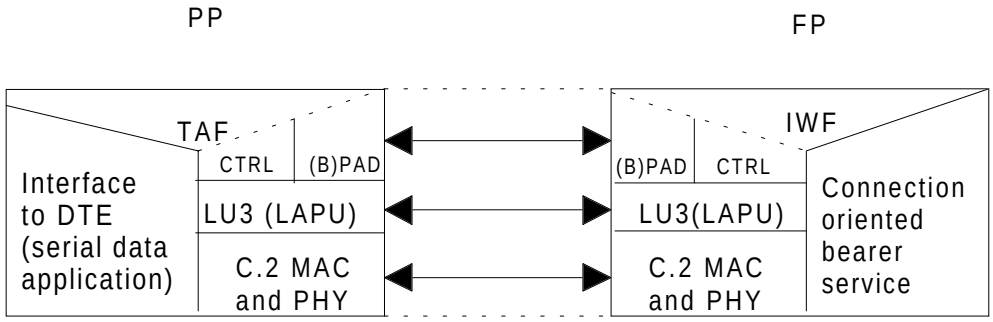


Figure C.3: Profile reference U- plane configuration showing the interworking to a connection-oriented bearer service

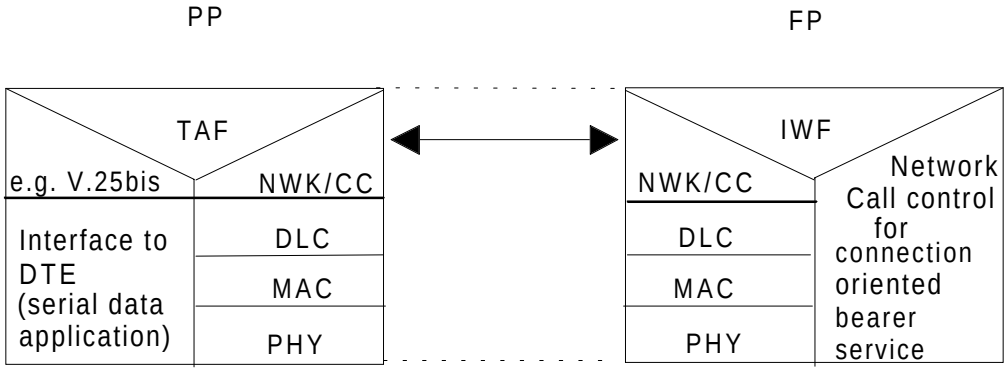


Figure C.4: Profile reference C- plane configuration showing the interworking to the connection-oriented bearer service which supports auto-calling/answering

The serial data application may implement any proprietary TAF-interface solution using the services provided by the TAF in order to facilitate application/terminal connection (such as V.24 or X.21). The serial data transmission service contains a network specific interworking unit using the IWF services to provide interconnection to outside networks such as PSTN, ISDN or Global System for Mobile communication (GSM). This subclause defines the TAF/IWF for a V.24/V.25bis modem service as an example in subclause C.4.5. This subclause also defines functions to support autocalling and autoanswering specified in accordance with CCITT Rec. V.25bis [15] (although other autocalling/autoanswering procedures may also be used provided that mapping in a functionally equivalent way to DECT call control is also provided).

C.4.2.1 PP TAF

The following functions are included in the PP TAF:

C-plane:

- CC procedures including service negotiation;
- MM;

U - plane:

- Flow control;
- PAD function for asynchronous operation;
- BPAD function for synchronous operation;
- Control information handling.

C.4.2.2 FP IWF

The following functions are included in the FP IWF:

C-plane:

- CC procedures including service negotiation;
- MM;

U - plane:

- Flow control;
- PAD function for asynchronous operation;
- BPAD function for synchronous operation;
- Control information handling.

C.4.2.3 General Configuration

For negotiation of the service parameters the IWU-Attributes as defined in annex C.2 shall be used. The profile subtype in octet 3 shall indicate "Interworking to voice band modem services". The requested character format and data rate for the modem in the IWU as well as the requested modulation scheme and duplex mode shall be coded in octets 5 to 5b. If the IWU is allowed to negotiate lower data-rates with the far end modem this shall be indicated in bit 5 of octet 7. If data compression across the DECT-air-interface is to be used, the requested parameters shall be coded in octets 6 to 6b (see subclause 10.5). Otherwise the octets 6a and 6b shall be omitted and octet 6 shall be filled with a value of 0, which indicates to the receiver that no compression is requested. Bit 7 and 6 of octet 7 shall be used to switch usage of error-correction and data compression across the external network. If these bits are set to [1] or octet 7 is left out error correction and data compression shall be used if implemented in the IWU.

C.4.3 PP Procedures

C.4.3.1 C-plane procedures

The C-plane procedures are based on those of a GAP telephone with additional mandatory Call Control elements to cover data specific aspects of the call setup. The detailed specification of these procedures is given in annex G.

The service specific configuration information is carried in the <<iwu-attributes>> information element of the {CC-SETUP} message. The values in the information elements will contain the service requirements set by the user. The called user number is conveyed in <<Multi keypad>> information element of the {CC-INFO} message.

In addition, where service parameter negotiation is provided, the TAF shall be responsible for negotiating the service parameters. Service parameter negotiation is only supported during the call establishment phase. This is implemented by reflecting a modified set of service parameters to the call initiator in the {CC-RELEASE-COM} message. The initiator of the {CC-SETUP} message may then establish a new call using the modified parameters in a new {CC-SETUP} message.

C.4.3.1.1 Suspend and resume procedures

The suspension and resumption of a call shall be a management entity decision according to the conditions described in subclause 9.1.

If the management entity requires a link suspension, the TAF shall issue a MNCC_MODIFY.req primitive specifying a suspension and shall await a MNCC_MODIFY.cfm primitive. If this primitive notifies failure, it need not take any action. If this primitive notifies success, it shall enter the "Link Suspended" state.

If the TAF receives a MNCC_MODIFY.ind primitive, it shall wait until it has ceased to receive data from the U-plane and shall then enter the "Link Suspended" state.

If the management entity requires a link resumption, the TAF shall issue an MNCC_MODIFY.req primitive, specifying link resumption, and shall await a MNCC_MODIFY.cfm primitive. If this primitive notifies failure, it shall enter the "No Link" state and turn the DSR line OFF. If the primitive notifies success, then it shall enter the "Link Active" state and transmit the buffered data according to the PAD procedures.

If the TAF receives a MNCC_MODIFY.ind primitive, it shall enter the "Link Active" state.

C.4.4 FP procedures

C.4.4.1 C-plane

The C-plane procedures are based on those of a GAP telephone with additional mandatory elements to cover data specific aspects of the call setup. The detailed specification of these procedures is given in annex G.

The service specific configuration information is carried in the <<iwu-attributes>> information element of the {CC-SETUP} message. The values in the information elements will contain the service requirements set by the user. The called user number is conveyed in << Multi-keypad>> information element of {CC-INFO} message.

Specific functionality is required of the IWF depending on the service which is being requested to be supported. The selection of the appropriate Interworking Unit (IWU) will be determined by the FP/IWF on the basis of information contained in the <<iwu-attributes>> information element signalled in the {CC-SETUP} request message.

In addition where service parameter negotiation is provided, the IWU shall be responsible for interworking the negotiation between the PP and the FP and between the FP and the attached network. Service parameter negotiation is only supported during the call establishment phase. This is implemented by reflecting a modified set of service parameters to the call initiator in the {CC-RELEASE-COM} message. The initiator of the {CC-SETUP} message may then establish a new call using the modified parameters in a new {CC-SETUP} message. In the case of an outgoing call the FP shall also release the associated call into the network if this is already established. In the case of incoming call the IWF shall upon receipt of an {RELEASE-COM} message either:

- attempt another {CC-SETUP} for the same incoming call provided the RELEASE-COM message contained an acceptable set of modified service parameters; or

- notify the network of the {CC-SETUP} failure giving the release reason specified in the {RELEASE-COM} message.

C.4.4.1.1 Suspend and resume procedures

The suspension and resumption of a call shall be a management entity decision according to the conditions described in subclause 9.1.

If the management entity requires a link suspension, the IWF shall issue a MNCC_MODIFY.req primitive specifying a suspension and shall await a MNCC_MODIFY.cfm primitive. If this primitive notifies failure, it need not take any action. If this primitive notifies success, it shall enter the "Link Suspended" state.

If the IWF receives a MNCC_MODIFY.ind primitive, it shall wait until it has ceased to receive data from the U-plane and shall then enter the "Link Suspended" state.

If the management entity requires a link resumption, the IWF shall issue an MNCC_MODIFY.req primitive, specifying link resumption, and shall await a MNCC_MODIFY.cfm primitive. If this primitive notifies failure, it shall enter the "No Link" state and turn the DTR line OFF. If the primitive notifies success, then it shall enter the "Link Active" state and transmit the buffered data according to the PAD procedures.

If the IWF receives a MNCC_MODIFY.ind primitive, it shall enter the "Link Active" state.

C.4.5 Network modem interworking service using V.24 connection

C.4.5.1 General

This subclause specifies the interworking of the DECT C.2 services with DTE connected by V.24 to the PP. It also specifies the functionality of the corresponding IWU in the FP by means of a nominal, reference V.24 interface to CCITT-specified DCE. This subclause will describe how CCITT Recommendation V.24 [14] signalling should take place in the TAF and IWU. The V.24 modem service TAF or IWU may be used independently of each other i.e. the TAF may be used in conjunction with other IWU descriptions and the IWU with other TAF descriptions, respectively.

C.4.5.2 Reference configuration

The reference configuration is illustrated in figure C.5.

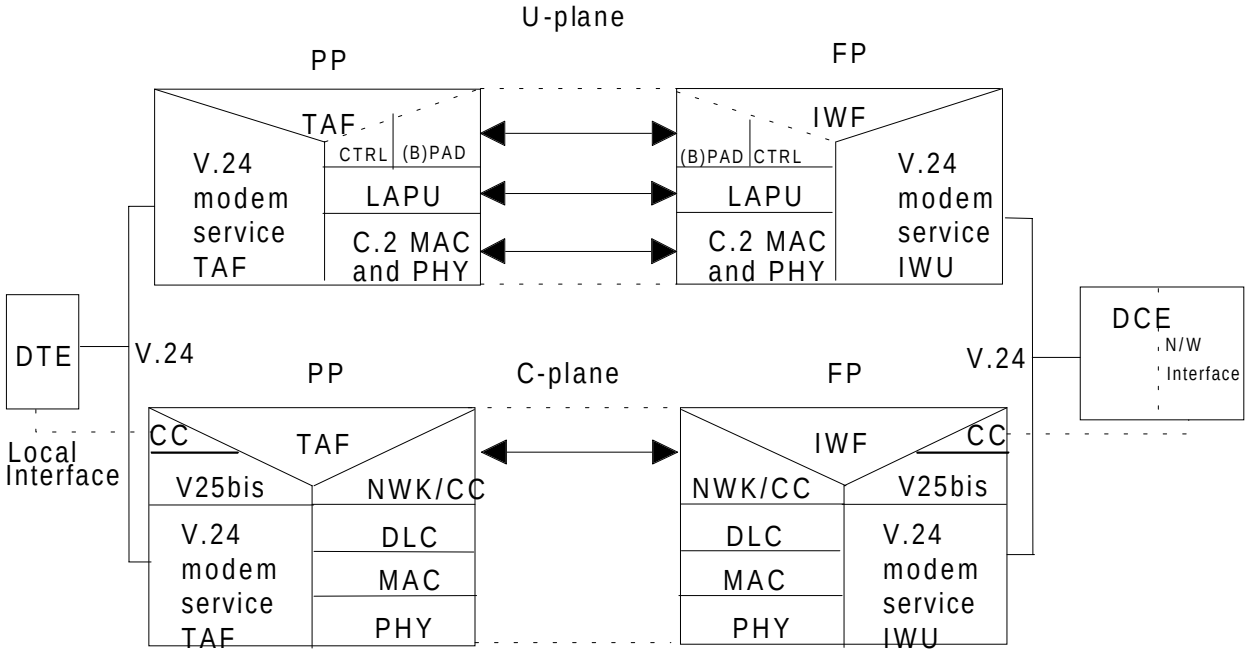


Figure C.5: The reference configuration

C.4.5.3 TAF Interworking to V.24/V25bis

C.4.5.3.1 General

The V.24 TAF emulates DCE towards the DTE while interworking the V.24 and V.25bis status to the CC and DL primitives. The implementation of the V.24 interface is not mandatory in the context of this interworking annex, but if the V.24 interface is implemented physically or logically in the TAF then the provisions of this subclause are mandatory. The rules are applicable for both manual and automatic calling. The autocall/autoanswer functionality of CCITT Recommendation V.25bis [15] is described in subclause C.4.5.5.

C.4.5.3.2 V.24 interchange circuit handling rules

The circuit 108/2 (DTR) is required to be in the on state before the PT/TAF may initiate call establishment (manual or automatic). The circuit 108/2 (DTR) may be used to indicate with on state to the PT/TAF that the DTE is ready to accept an incoming call.

In the active state, the 108/2 (DTR) transition from on to off state shall cause the TAF to release the connection, after an implementation-specific timeout by issuing an MNCC-RELEASE-req primitive with Release Reason "User Detached".

If 108/2(DTR) is off, the TAF shall respond to an incoming call with a MNCC-ALERT-req primitive and shall turn on circuit 125 (RI). If circuit 108/2(DTR) goes on in this condition, the TAF shall issue an MNCC-CONNECT-req primitive. It shall be an implementation-specific feature for the TAF to time-out if circuit 108/2(DTR) does not go on in this condition, in which case it shall issue an MNCC-RELEASE-req primitive. The TAF may also issue an MNCC-RELEASE-req. primitive independently of the state of circuit 108/2 (DTR), for implementation-specific reasons.

The status change of circuit 107 (DSR) from off to on by PT/TAF shall indicate to the DTE that network call establishment has been successful, that a far-end modem has been detected and that negotiation to establish a carrier has begun.

The status change of 107 (DSR) from on to off by PT/TAF shall indicate to the DTE that the call has been released. Circuit 107 (DSR) shall be turned off when the PT/TAF receives MNCC-REJECT-ind primitive.

Circuit 109 (DCD) may be turned on by the PT/TAF only when the LAP-U link is established. Circuit 109 (DCD) turning on during the call establishment shall indicate to the DTE the successful establishment of a data carrier to the far-end modem, and the availability of service for end-to-end data transfer. PT/TAF shall turn off circuit 109 (DCD) if the value of this circuit as transferred by the LAP-U control frame is set to off, or if the call is released. PT/TAF shall be responsible for turning circuit 109 (DCD) off before circuit 107 (DSR) is turned off if it is not already off. The status of circuits 105 (RTS) and 106 (CTS) shall not be conveyed across the radio interface. The TAF shall respond to the on condition of the circuit 105 (RTS) with on condition of 106 (CTS) if no flow control is activated and the LAP-U U plane connection is present.

C.4.5.3.3 Call establishment signalling handling

The TAF shall control call establishment by means of the relevant MNCC primitives, in accordance with the procedures of the GAP. Functions to support autocalling and autoanswering are specified in accordance with CCITT Recommendation V.25bis [15] (although the use of other autocalling/autoanswering procedures are not prohibited provided that mapping in a functionally equivalent way to DECT call control is also provided). The procedures are defined in the subclause C.4.7.5. Information about the state of call establishment which is additional to that conveyed by V.25bis or similar protocols may be transferred by the TAF to the DTE using locally defined means. Such information is expected to include notification of the MNCC-CALL_PROC.ind, MNCC-ALERT.ind and MNCC-CONNECT.ind primitives. In particular, the TAF shall include means to provide notification to the DTE or the user of the MNCC-CONNECT.ind primitive.

C.4.5.3.4 V.25bis interworking to DECT CC primitives

This subclause shall applies when V.25bis is implemented on the DTE-TAF interface. The use of V.25bis is not mandatory and there is no restriction on the use of alternative call-control protocols on this interface (e.g. AT command set), for which interworking shall be carried out in an analogous manner.

The following general rules shall apply:

a) Auto Calling:

- this procedure is provided according to CCITT Recommendation V.25bis [15];
- a subset of CCITT Recommendation V.25bis is shown in table C.2. This subset gives minimum level of control and indication;
- during the call establishment phase, i.e. after signalling, call tone according to CCITT Recommendation V.25bis shall be generated in the TAF.

b) Auto Answer:

- this procedure is provided according to CCITT Recommendation V.25bis [15].

CCITT Recommendation V.25bis [15] indications generated by the TAF shall be even parity, even if the parity condition for the user's application is different.

Table C.2: Minimum set of call set-up commands and indications

	Description	IA5 Characters
Commands from Application	Call Request with Number provided 0,1..9,*,#,A,B,C,D	CRN
	Connect Incoming Call	CIC
	Disregard Incoming Call	DIC
Indications to Application	Call Failure Indication XX = CB,AB,NT,FC (see note)	CFI XX
	INcoming Call	INC
	VALid	VAL
	INValid	INV

NOTE: CB = Local MT busy;
AB = Abort call;
NT = No answer;
FC = Forbidden call. Forbidden call indication results from contravention of rules for repeat call attempts as defined by the appropriate national approvals administration. It is recommended that this is the responsibility of the PP, not the DTE.

Only those elements and messages that are of particular relevance are considered. The signalling charts have been illustrated in figures C.7 and C.8. It should be noted that not all possible signalling has been illustrated i.e. other C-plane signalling related to the CC machine requirements may take place between PP and FP during different phases of the call.

C.4.5.3.4.1 PP originated calls

C.4.5.3.4.1.1 Call establishment

Upon receipt of V25bis {CRN}, {CRI} or {CRS} commands from the DTE the PP/TAF shall issue MNCC-SETUP-req primitive to the DECT NWK C-plane. The called party number (as derived from the {CRN}, {CRI} or {CRS} command) shall be conveyed in a single <<Multi-keypad>> information element parameter of the MNCC-INFO.ind primitive, in conformance with the GAP procedures. If the V.25bis command is invalid the TAF shall respond with {INV} and shall not proceed with call establishment. The acceptance of the command is acknowledged with {VAL}.

C.4.5.3.4.1.2 Call release

If the call was not accepted or in the case of establishment failure to the fixed network, the fixed network connection equipment may issue a Error Code. These error codes may be mapped to a CC-RELEASE-COM message reason code. Upon receipt of MNCC-REJECT-ind, the PP TAF may issue to the DTE the V.25bis {CFI} message with the error code information mapped from the MNCC-REJECT.ind primitive <<reason code>> information element before turning off 106 (CTS) and 107 (DSR).

C.4.5.3.4.2 PP terminated calls

C.4.5.3.4.2.1 Call establishment

Upon receipt of MNCC-SETUP-ind primitive V.25bis {INC} indication shall be sent and circuit 125 (RI) shall be turned on by the PP TAF towards the DTE.

The DTE may answer either with {DIC} (Disregard Incoming Call) or {CIC} (Connect Incoming Call) to the call indication. With the {DIC} command the call is rejected and MNCC-REJECT-req shall be issued with hex 15 "User rejection" <<Release reason>> code as a response to the MNCC-SETUP-ind primitive. With the {CIC} answer the TAF shall clear circuits 106 and 125 (RI) and issue MNCC-CONNECT-req.

C.4.5.3.4.2.2 Call release

If the call is to be disconnected by the network side the PP CC machine issues an MNCC-RELEASE.ind primitive, optionally carrying the release reason code. Upon the receipt of the MNCC-RELEASE.ind primitive the PP TAF sends the {CIF} V.25bis message. The error code of the V.25bis message may optionally contain a mapping of the <<release reason>> parameter.

C.4.5.3.5 Flow control

Flow control shall be performed as described in subclause 10. If the 133(105)/106 flow control is supported then the status of the 133 (105)/106 shall be interworked with the PAD/BPAD flow control, described in subclauses 10.1 and 10.2.

The flow control indication should be performed using circuits 133 (RTR) and 106 (CTS), in which case:

- a TAF not-ready condition shall be indicated by turning circuit 106 OFF and shall be cleared by turning circuit 106 ON; and

- a DTE not-ready condition shall be recognized by an ON-to-OFF transition and cleared by an OFF-to-ON transition of circuit 133.

C.4.5.3.6 Break signalling procedures

The "BREAK" condition from the DTE shall be recognized by the TAF function and interworked to the DECT link according to the procedures in subclause 10.4.

The measurement of the duration of a BREAK condition shall begin immediately upon its assertion on circuit 103 (TXD) at the PT/TAF. Once the BREAK condition has been terminated, the total duration of assertion measured shall be coded and transmitted as specified. The duration of the BREAK condition shall be measured for a maximum duration of 2,55 seconds, after which the BREAK condition and duration shall be coded and submitted in any case. It shall not be permitted to transmit two consecutive notifications of the BREAK condition, and the persistence of the BREAK condition beyond 2,55 seconds shall not be coded or notified to the PAD.

The TAF shall generate a "BREAK" condition towards the DTE on receipt of a BREAK condition indication from the LAP-U SAPI 3 as indicated by the coding of subclause 10.4.

C.4.5.3.7 PAUSE condition

The "PAUSE" condition from the DTE shall be recognized by the TAF function and interworked to the DECT link according to the procedures in subclause 10.4.

The measurement of the duration of a PAUSE condition shall begin 100 ms after its assertion on circuit 103 (TXD) of a DTE connected to the TAF or on circuit 104 (RXD) of a DCE connected to the TAF. Once the PAUSE condition has been terminated by any occurrence, the total duration of assertion, including the 100 ms detection interval, shall be coded and submitted as specified. The duration of the PAUSE condition shall be measured for a maximum duration of 2,55 seconds, after which the PAUSE condition and duration shall be coded and submitted in any case. It shall not be permitted to transmit two consecutive notifications of the PAUSE condition, and the persistence of the PAUSE condition beyond 2,55 seconds shall not be coded or notified to the PAD.

Upon reception of a PAUSE command, the time for which circuit 104 (RXD) of a DTE connected to the TAF or circuit 103 (TXD) of a DCE connected to the TAF have been in the PAUSE condition shall be determined and if the time is less than the value indicated in the PAUSE command the PAUSE condition shall be prolonged until it is equal to the coded value. Once this value has been reached the contents of the subsequent I-frames shall be transferred to the V.24 lines.

C.4.5.3.8 Data coding selection

The means of configuring in the TAF the use of an asynchronous or synchronous interface, and hence the use of the PAD or BPAD respectively, and where appropriate of the values of the data, stop and parity bits, shall be a local matter. These values shall be coded into the "BPAD/Parity coding", "data bits coding", "Stop bits coding" and "BPAD/Parity coding" fields respectively in the <<IWU-ATTRIBUTES>> parameter of the MNCC-SETUP, MNCC-SETUP-ACK, MNCC-CALL-PROC, MNCC-ALERT, MNCC-CONNECT or MNCC-INFO-(service change) primitives. For a PP-initiated call, these values shall be transferred from the TAF in a .req primitive, and for a PP-terminated call they shall be transferred to the TAF in a .ind primitive. These parameters shall be subject to exchanged attribute negotiation, and optionally to prioritized list negotiation and peer attribute negotiation, as specified in subclause 10.

C.4.5.3.9 Data transmission

The data is interworked for LAP-U in the PP as described in subclause 10.1 using the PAD or BPAD functions. The connection over the LAP-U link is always a duplex service.

C.4.5.4 DECT FP Interworking procedures

C.4.5.4.1 General

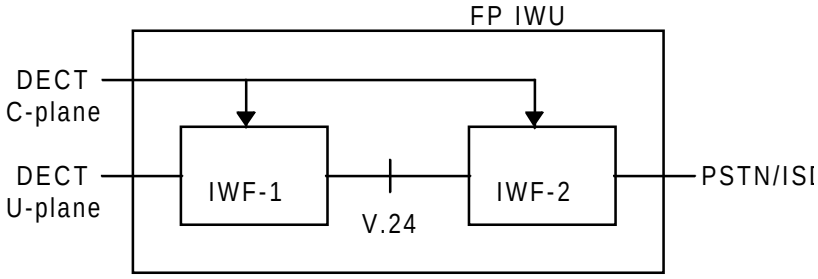


Figure C.6: FP IWU reference configuration

This subclause specifies the interworking procedures for the IWU of the PSTN/ISDN modem service. This IWU is split into 2 sub-functions called IWF-1 and IWF-2 as shown in figure C.6. IWF-2 is the only function which is attached to the local fixed network. From the perspective of this network this shall function exactly like an ITU V.series voice-band modem or an ITU V.110/120 ISDN termination.

Establishment and release of the PSTN/ISDN calls by IWF-2 shall be controlled on the DECT side by the GAP procedures. The call control primitive parameters have been extended to support the non-voice services standardized herein.

The FP IWU reference configuration defines a logical V.24 reference point between IWF-1 and IWF-2. This is used to simplify the specification of the interworking of the U-plane data to the modem data since the ITU V.series modems (incl. V.110/120) are specified with respect to the V.24 interface. This shall not in any way restrict the implementation of the FP IWU.

C.4.5.4.2 Call establishment signalling handling

The modem call establishment is directly signalled to IWF-2 via the DECT network layer primitives and procedures standardized herein using the GAP interworking procedures.

If the selected modem service is an ITU V.series voice-band modem the signalling to the local fixed network shall be identical to a standard 3.1 kHz audio call establishment up to the point where the FP CC enters the active state. At this point the behaviour of IWF-2 towards the network shall be in accordance with the ITU V.series modem selected by the <Modem-Type>, <Data-Rate> and octet 7 parameters in the <<IWU-ATTRIBUTES>> IE.

If the selected modem service is an ITU Recommendation V.110/120 ISDN modem the signalling to the local fixed network shall follow the standard ISDN call setup procedures for the V.110 or V.120 service. The V.110/120 call setup parameters for the ISDN call shall use the appropriate parameters from octets 5, 5a and 5b of the <<IWU-ATTRIBUTES>> IE, and shall allocate the remaining V.110/120 parameters according to the capabilities of IWF-2.

The "Answer" indication from the local fixed network shall be understood when one or more of the following has been detected:

1) off-hook for the called party has been detected;
2) charging for this call has started;
3) a CONNECT message has been received (e.g. from an ISDN network);
4) the 2 100 Hz modem tone has been detected.

Depending on the attached local fixed network and the called party it may not be possible to detect any of the above. Under such circumstances the FP IWU is permitted to issue a MNCC-RELEASE-req primitive following a timeout period indicating release reason "timer expired".

C.4.5.4.3 V.24 Interchange circuit handling rules

Circuit 107 (DSR) is required to be in the on state before the IWF-1 may transmit data on circuit 103 (TXD).

The state of circuit 125 (RI) shall be ignored by IWF-1, since the presence of an incoming call shall be interworked to the DECT network by the IWF-2. The IWF-1 shall transfer the value of circuit 109 (DCD) and circuit 107 (DSR) in DLU-LU3_DATA.ind primitives using the codings defined in subclause 10.4.

Data received via DLU-LU3_DATA.ind primitives shall be interworked to circuit 103 (TXD) using the PAD or BPAD functions specified in subclause 10. Data received on circuit 104 (RXD) shall be interworked to DLU-LU3_DATA.req primitives using the same PAD or BPAD functions. The selection of which PAD function and, if appropriate, the asynchronous PAD parameters - data length, stop bits and parity - shall be negotiated by the IWF-1 using the respective coding values in the <<IWU-ATTRIBUTES>> parameter of the MNCC-SETUP, MNCC-SETUP-ACK, MNCC-CALL-PROC, MNCC-ALERT, MNCC-CONNECT or MNCC-INFO-(service change) primitives during call setup.

The status of circuits 105 (RTS) and 106 (CTS) shall not be conveyed across the radio interface. The IWF-1 shall respond to the on condition of the circuit 106 (CTS) with on condition of 105 (RTS) if no flow control is activated and if the LAP-U U plane connection is present.

C.4.5.4.4 Flow control

If the 133(105)/106 flow control is used the status of the 106 (CTS) is interworked into the PAD/BPAD flow control, described in subclauses 10.1 and 10.2.

The flow-control indication should be performed using circuits 133 (RTR) and 106 (CTS), in which case:

- a IWF-1 side not-ready condition shall be indicated by turning circuit 133 OFF and cleared by turning circuit 133 ON; and
- a IWF-2 not ready condition shall be recognized by an ON-to-OFF transition and cleared by an OFF-to-ON transition of circuit 106.

C.4.5.4.5 Break signalling procedures

The "BREAK" condition from IWF-2 shall be recognized by the IWF-1 and passed to the LAP-U using procedures described in subclause 10.3. The IWF-1 will generate a "BREAK" condition towards the IWF-2 on receipt of a BREAK condition indication from the LAP-U.

C.4.5.4.6 PAUSE condition

The measurement of the duration of a PAUSE condition shall begin 100 ms after its assertion on the circuit 104 (RXD) by IWF-2. Once the PAUSE condition has been terminated by any occurrence, the total duration of assertion, including the 100 ms detection interval, shall be coded and submitted as specified. The duration of the PAUSE condition shall be measured for a maximum duration of 2,55 seconds, after which the PAUSE condition and duration shall be coded and submitted in any case. It shall not be permitted to transmit two consecutive notifications of the PAUSE condition, and the persistence of the PAUSE condition beyond 2,55 seconds shall not be coded or notified to the PAD.

Upon reception of a PAUSE command, the time for which the TXD of IWF-1 has been in the PAUSE condition shall be determined and if the time is less than the value indicated in the PAUSE command the PAUSE condition shall be prolonged until it is equal to the coded value. Once this value has been reached the contents of the subsequent I-frames shall be transferred to the V.24 lines.

C.4.5.4.7 Modem selection

For an outgoing call, the modem type in IWF-2 is selected according to the "modem type" coding of the <<IWU-ATTRIBUTES>> parameter in the MNCC-SETUP.ind primitive. If this value is not supported by IWF-2, the supported service negotiation procedures shall be invoked by the IWU. If no acceptable modem can be negotiated, the call is rejected with an MNCC-RELEASE-COM.req primitive with release reason (hex) 05 "Incompatible service".

For an incoming call, a locally determined value of the modem type shall be used by the IWU in the MNCC-SETUP.req primitive. A PP-initiated peer attribute negotiation may be used to modify this value, otherwise the IWF-2 may locally determine a new value after it has received the MNCC-CONNECT.ind primitive and has consequently responded to the incoming call and has agreed the modem type to be used. It shall then communicate this in an MNCC-CONNECT_ACK.req primitive.

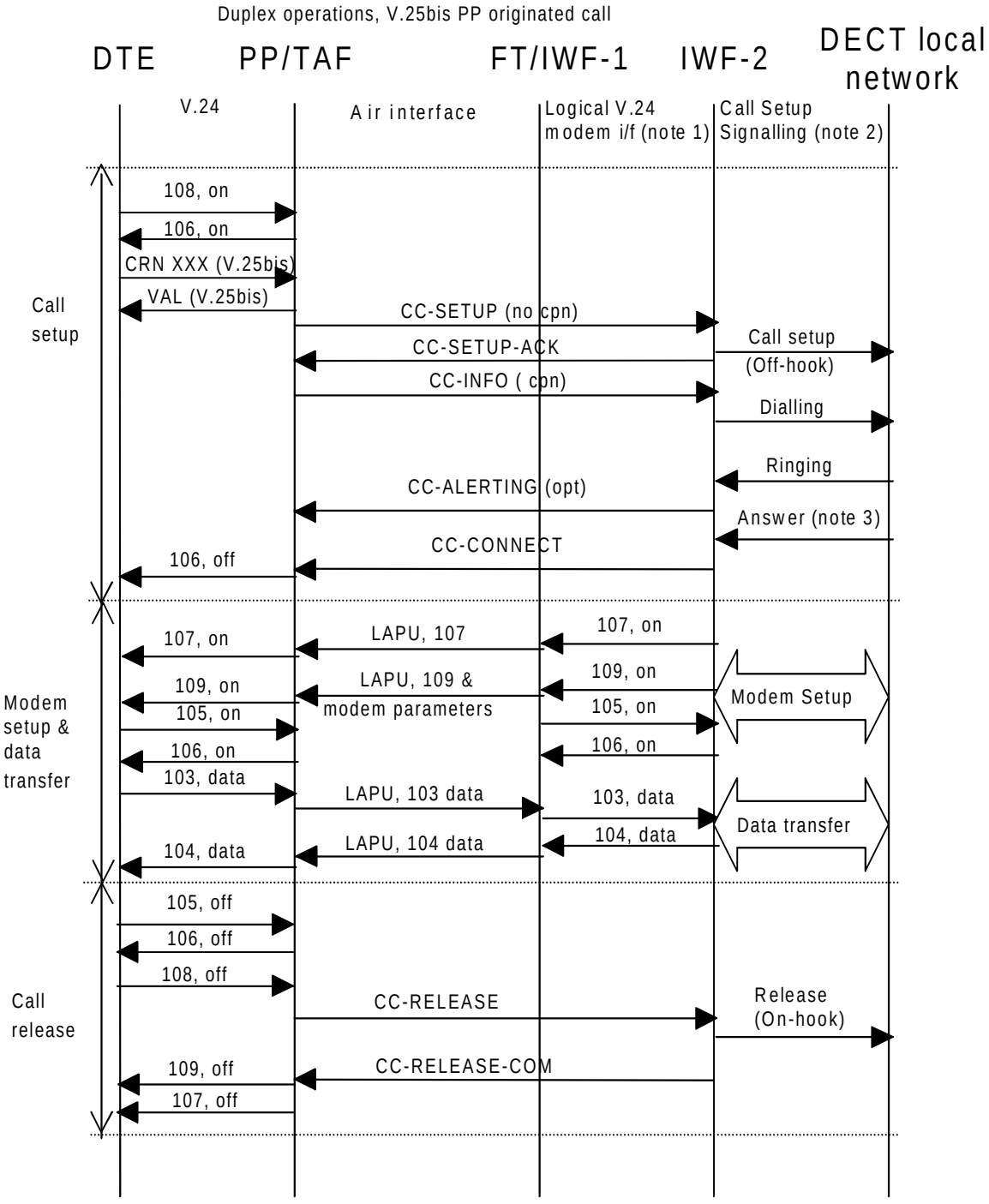
C.4.5.4.8 Data coding selection

For an outgoing (PP-initiated) call, the use of an asynchronous or synchronous interface, and hence the use of the PAD or BPAD respectively, and where appropriate of the values of the data, stop and parity bits, shall be selected according to the values coded in the "BPAD/Parity coding", "data bits coding", "Stop bits coding" and "BPAD/Parity coding" fields respectively in the <<IWU-ATTRIBUTES>> parameter of the MNCC-SETUP.ind primitive. If this set of values is not supported by the IWU, the supported service negotiation procedures shall be invoked by the IWU. If no acceptable service parameter set can be negotiated, the call shall be rejected with an MNCC-RELEASE-COM.req primitive with release reason (hex) 05 " incompatible service".

For an incoming call, a locally determined value for these parameters shall be used by the IWU in the MNCC-SETUP.req primitive. If this set of values is not acceptable to the PP, the supported service negotiation procedures shall be invoked by the PP. If no acceptable parameter set can be negotiated, the call shall be rejected with an MCC-RELEASE-COM.req primitive with release reason (hex) 05 "incompatible service".

C.4.5.4.9 Data transmission

The data is formed for the LAP-U by the IWF as described in the subclause 10.1, using the PAD or B-PAD functions. The connection over the LAP-U link is always duplex service.

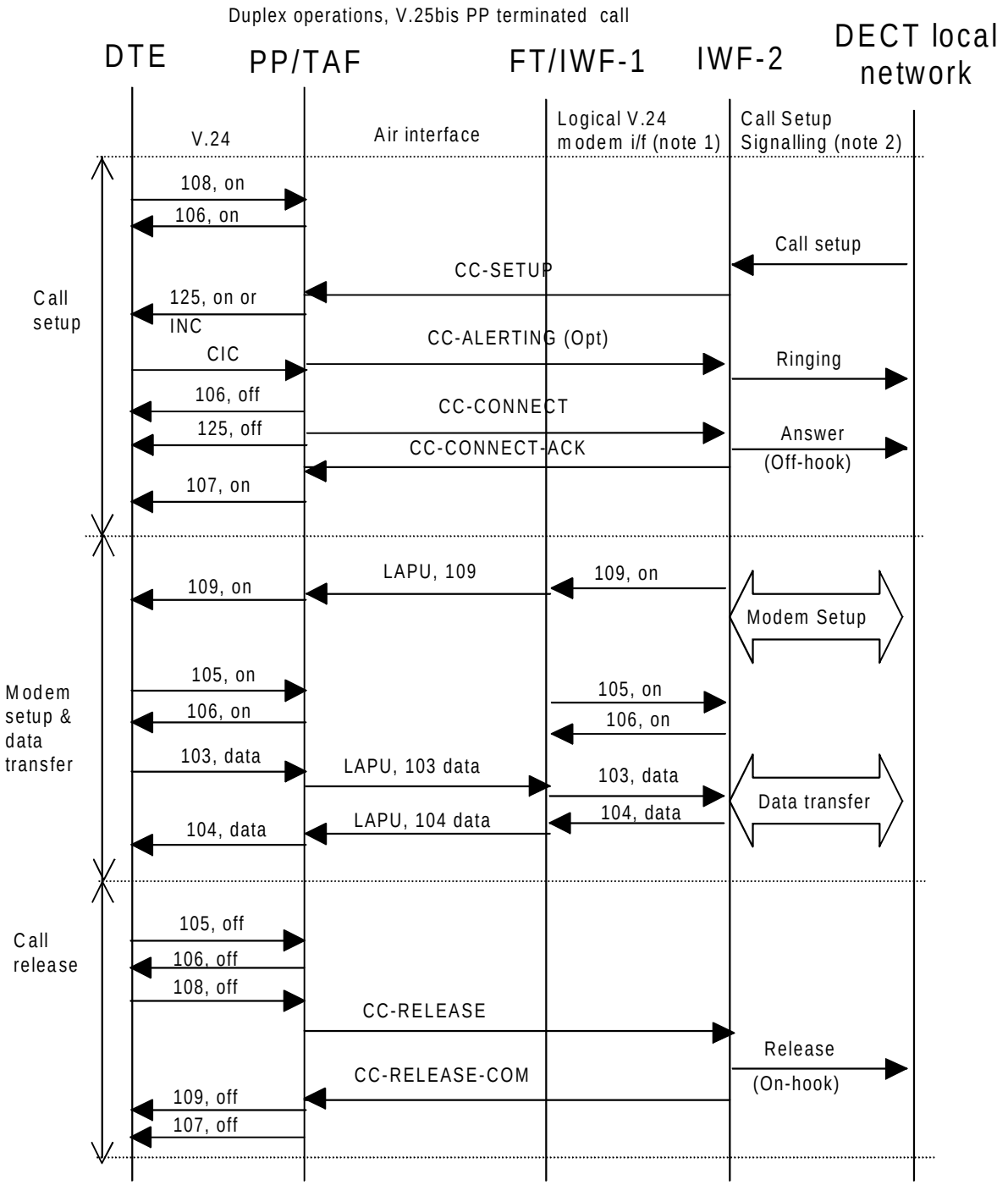


NOTE 1: The logical V.24 interface corresponds to the R reference point in the Referenence Configuration shown in figure C.6. This shall result in transmission and reception of the appropriate voice-band modems tones in accordance with the relevent ITU V.series modem recommendation as selected and instantiated during the DECT call setup procedures.

NOTE 2: The call setup sequence shown here is for illustrative purposes only. The actual signalling towards the network will depend on the DECT network and it interaction with the DECT signalling shall be inaccordance with subclause C.4.5.4.2.

NOTE 3: The "Answer" indication is specified in subclause C.4.5.4.2.

Figure C.7



NOTE 1: The logical V.24 interface corresponds to the R reference point in the Referenence Configuration shown in figure C.6. This shall result in transmission and reception of the appropriate voice-band modems tones in accordance with the relevent ITU V.series modem recommendation as selected and instantiated during the DECT call setup procedures.

NOTE 2: The call setup sequence shown here is for illustrative purposes only. The actual signalling towards the network will depend on the DECT network and it interaction with the DECT signalling shall be inaccordance with subclause C.4.5.4.2.

Figure C.8

Annex D (normative): Service C2: Fixed radio Termination (FT) DLC PICS proforma

The references given in the tables of this annex refer to clauses and subclauses of ETS 300 175-4 [4].

D.1 Standardized symbols for the status column

The standardized symbols for the status column are as follows:

- m or M for mandatory (the capability is required to be implemented);
- o or O for optional (Boolean) (the capability may be implemented);
- x or X for prohibited or excluded use (the capability may not be used in a given context);
- n/a, N/A or - (dash) for not applicable (the capability is not allowed because the underlying DECT layers (service provider) cannot handle it or the requirement belongs to an application i.e. does not belong to the data link control layer);
- c or C for conditional (the capability depends on the selection of other optional or/and conditional items);
- i or I for out of scope (the capability is allowed to be implemented but is not called upon by the profile functionality).

If appropriate, a "C" followed by an integer is placed in the status column, providing a reference to a conditional status expression defined elsewhere in the PICS proforma. The following conditions are applicable throughout the entire document:

Condition identifier	Condition definition
C1	IF Q.9/2 THEN M ELSE X
C2	IF Q.9/3 THEN M ELSE X (only used for values)
C2m	IF Q.9/3 THEN M ELSE X
C2o	IF Q.9/3 THEN O ELSE X
C3	IF Q.40 THEN M ELSE X
C4	IF applied for speech transmission THEN M
C5	The definitive specification of this service is for further study
C6	IF Q.28/1 THEN O ELSE X
C7	IF Q.18/5 THEN O ELSE X
C8m	IF Q.32/5 THEN M ELSE X

D.2 Capabilities

D.2.1 Major capabilities

D.2.1.1 C-plane capabilities

D.2.1.1.1 C-plane services

Q.9: C-plane data link services

Supported services				
Item No	**C-plane services**	**Reference**	**Status**	**Support**
1	Class U service	5.1	M	
2	Class A service	5.1	M	
3	Class B service	5.1	O	

Q.10: C-plane broadcast service

Supported services				
Item No	**C-plane services**	**Reference**	**Status**	**Support**
1	Broadcast service	5.2, 9.4	M	

D.2.1.1.2 C-plane procedures

D.2.1.1.2.1 Point-to-point acknowledged operation

####### D.2.1.1.2.1.1 Class A procedures

Q.11: Class A procedures

Supported procedures				
Item No	**Operation - General procedures**	**Reference**	**Status**	**Support**
1	Class A link establishment	9.2.3.1	M	
2	Class A acknowledged information transfer	9.2.3.2	M	
3	Class A link release	9.2.3.7	M	
4	Class A link re-establishment	9.2.3.8	M	
5	Class A connection handover	9.2.7.3.1	O	

Q.12: Class A features

Supported features				
Item No	**Operation - General feature**	**Reference**	**Status**	**Support**
1	Segmentation of NWK information	5.1.1, 7.7	M	
2	CS channel fragmentation and recombination	6.1.2, 6.1.3, 6.1.4, 6.1.4.2	M	
3	CF channel fragmentation and recombination	6.1.2, 6.1.3, 6.1.4, 6.1.4.1	O	

Q.13: Class A parameter values

Supported parameter values				
Item No	**Parameter**	**Reference**	**Status**	**Support**
1	Fixed window size of 1 ?	9.2.3.2, 7.5.2.2	M	
2	Modulus 2 ?	9.2.3.2, 7.5.2.1	M	

D.2.1.1.2.1.2 Class B procedures

Q.14: Class B procedures

Supported procedures				
Item No	**Operation - General procedures**	**Reference**	**Status**	**Support**
1	Class B multiple frame establishment	9.2.4	C2m	
2	Class B information transfer	9.2.5	C2m	
3	Class B link release	9.2.6	C2m	
4	Class B link suspension and resumption	9.2.7	C2m	
5	Class B connection handover	9.2.7.3.2	C2o	

Q.15: Class B features

Supported features				
Item No	**Operation - General feature**	**Reference**	**Status**	**Support**
1	Segmentation of NWK information	5.1.1, 7.7	C2m	
2	CS channel fragmentation and recombination	6.1.2, 6.1.3, 6.1.4, 6.1.4.2	C2m	
3	CF channel fragmentation and recombination	6.1.2, 6.1.3, 6.1.4, 6.1.4.1	C2o	

Q.16: Class B parameter values

Supported parameter values				
Item No	**Parameter**	**Reference**	**Status**	**Support**
1	Fixed window size of 3 ?	9.2.4.2, 7.5.2.2	C2m	
2	Modulus 1 in ULI state ?	9.2.4.2	C2m	
3	Modulus 8 in ASM state ?	9.2.4.2, 7.5.2.1	C2m	

D.2.1.1.2.2 Unacknowledged operation

Q.17: Class U procedures

Supported procedures				
Item No	**Operation - General procedures**	**Reference**	**Status**	**Support**
1	Class U link establishment	9.3.2	M	
2	Class U information transfer	9.3.3	M	
3	Class U link release	9.3.4	M	

D.2.1.1.2.3 Broadcast operation

Q.17.1: Broadcast procedures

Supported procedures				
Item No	**Operation - General procedures**	**Reference**	**Status**	**Support**
1	Normal operation	9.4.1	M	
2	Expedited operation	9.4.2	M	

D.2.1.2 U-plane capabilities

D.2.1.2.1 U-plane services

Q.18: U-plane services

Supported services				
Item No	**U plane Services**	**Reference**	**Status**	**Support**
1	LU1 - Transparent Unprotected service (TRUP)	11.2	I	
2	LU2 - Frame Relay service (FREL)	11.3	M	
3	LU3 - Frame Switching service (FSWI)	11.4	M	
4	LU4 - Forward error correction service (FEC)	11.5	I	
5	LU5 - Basic Rate Adaptation service (BRAT)	11.6	I	
6	LU6 - Secondary Rate Adaptation service (SRAT)	11.7	I	
7	LU16 - Escape for non-standard family (ESC)	11.8	I	

D.2.1.2.2 U-plane procedures

The mandatory status (M) used in this subclause (applies to all U-plane related definitions) shall only be considered as status M if the definition related service in Q.18 is supported, else the status is X.

The optional status (O) used in this subclause (applies to all U-plane related definitions) shall only be considered as status O if the definition related service in Q.18 is supported, else the status is X.

D.2.1.2.2.1 LU2 Frame relay services

Q.24: LU2 procedures

Supported procedures				
Item No	**Procedures**	**Reference**	**Status**	**Support**
1	Checksum operation	11.3.2	M	
2	Segmentation	11.3.3	M	
3	Data transmission	11.3.4	M	
4	FBP buffering procedure	12.5.2, 12.6.2, 12.7.2	M	
5	Connection handover	12.5.3, 12.6.3, 12.7.3	O	

Q.25: LU2 Frame types

Supported frame types				
Item No	**Frame type**	**Reference**	**Status**	**Support**
1	FU4 frame structure	11.3.3	I	
2	FU5 frame structure	11.3.3	I	
3	FU6 frame structure	11.3.3	M	

O.1: Depending on the transmission class (table 8), it is mandatory to support at least one of these options.

Q.26: LU2 Connection types

Supported Connection types				
Item No	**Connection types**	**Reference**	**Status**	**Support**
1	IP / error-detect- Half slot (08 octets)	11.3, 12.5.1, 12.6.1, 12.7.1	I	
2	IP / error-correct- Half slot (08 octets)	11.3, 12.5.1, 12.6.1, 12.7.1	I	
3	IP / error-detect- Full slot (32 octets)	11.3, 12.5.1, 12.6.1, 12.7.1	I	
4	IP / error-correct- Full slot (32 octets)	11.3, 12.5.1, 12.6.1, 12.7.1	M	
5	IP / error-detect- Double slot (80 octets)	11.3, 12.5.1, 12.6.1, 12.7.1	I	
6	IP / error-correct- Double slot (80 octets)	11.3, 12.5.1, 12.6.1, 12.7.1	I	

Q.27: LU2 Transmission classes

Supported Transmission classes				
Item No	**Transmission classes**	**Reference**	**Status**	**Support**
1	class 0 / bi- or unidirectional	11.3.3	I	
2	class 0 / bidirectional	11.3.3	I	
3	class 0 / unidirectional	11.3.3	I	
4	class 1 / bi- or unidirectional	11.3.3	I	
5	class 1 / bidirectional	11.3.3	I	
6	class 1 / unidirectional	11.3.3	M	
7	class 2 / bi- or unidirectional	11.3.3	I	
8	class 2 / bidirectional	11.3.3	I	
9	class 2 / unidirectional	11.3.3	I	

D.2.1.3 Management procedures

Q.32: Management procedures

Supported procedures				
Item No	**General procedures**	**Reference**	**Status**	**Support**
1	MAC connection management	10.2	M	
2	DLC C-plane management	10.3	M	
3	DLC U-plane management	10.4	M	
4	Connection handover management	10.5	O	
5	Connection ciphering management	10.6	C8	

Q.33: MAC connection management procedures

Supported procedures				
Item No	**Procedures**	**Reference**	**Status**	**Support**
1	MAC connection set-up	10.2.1	M	
2	MAC connection release	10.2.2	M	
3	MAC connection modification	10.2.3	M	
4	MAC connection identification	10.2.4	M	
5	Selection of logical channels (CS or CF)	10.2.5	M	

Q.34: DLC C-plane management procedures

Supported procedures				
Item No	**Procedures**	**Reference**	**Status**	**Support**
1	Provision of link signature	10.3.1	M	
2	Routeing of connection oriented links	10.3.2	M	
3	Routeing of connectionless links	10.3.3	M	

Q.35: DLC U-plane management procedures

Supported procedures				
Item No	**Procedures**	**Reference**	**Status**	**Support**
1	U-plane establishment	10.4.1	M	
2	U-plane release	10.4.2	M	
3	U-plane suspend and resume	10.4.3	M	

Q.36: Connection ciphering management procedures

Supported procedures				
Item No	**Procedures**	**Reference**	**Status**	**Support**
1	Providing a key to the MAC layer	10.6.1	C8	
2	Starting and stopping the ciphering	10.6.2	C8	
3	Connection handover	10.6.3	C8	

D.2.2 PDUs

D.2.2.1 C-plane PDUs

D.2.2.1.1 C-plane frame structure

Q.37: Frame structures

Supported frames structures								
Item No	Frame Structures	Reference	Sending			Receiving		
			Status	Support		Status	Support	
				Yes	No		Yes	No
1	Frame structure of format type FA.	6.1	M			M		
2	Broadcast service frame structure	6.2	M			N/A		

Q.38: Frame format type FA

Item No	Frame elements	Reference	Sending			Receiving		
			Status	Support		Status	Support	
				Yes	No		Yes	No
1	Address field	6.1	M			M		
2	Control field	6.1	M			M		
3	Length indicator field	6.1	C3			C3		
4	Information field	6.1	C3			C3		
5	Fill field	6.1	C3			C3		
6	Checksum field	6.1	M			M		

Q.38.1: Broadcast service frame structure

Supported frame structures								
Item No	Frame elements	Reference	Sending			Receiving		
			Status	Support		Status	Support	
				Yes	No		Yes	No
1	Short frame format (3 octets)	6.2.1	M			N/A		
2	Long frame format (5 octets)	6.2.1	M			N/A		

D.2.2.1.2 C-plane messages

Q.39: Message support

Supported messages						
Item No	Message elements	Reference	Sending (P to F)		Receipt (F to P)	
			Status	Support	Status	Support
1	I-command	7.11	M		M	
2	RR-command/response	7.11	M		M	
3	RNR-command/response	7.11	C2m		C2m	
4	REJ-command/response	7.11	C2m		C2m	
5	SABM-command	7.11	C2m		C2m	
6	DM-response	7.11	C2m		C2m	
7	UI-command	7.11	M		M	
8	DISC-command	7.11	C2m		C2m	
9	UA-response	7.11	C2m		C2m	

Q.40: I-command (Numbered Information)

Item no.	Name of information element and field element	Reference	Sending				Receipt			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Address field	7.2	M				M			
1.1	RES	7.3.1	M		1		M		1	
1.2	C/R	7.3.2	M		1		M		0	
1.3	SAPI	7.3.3	M		0		M		0	
1.4	Logical Link Number (LLN)	7.3.5	M		1 C1 2-6 C2		M		1 C1 2-6 C2	
1.5	NLF	7.3.4, 9.2.2.1	M		0-1		M		0-1	
2	Control field	7.4	M				M			
2.1	N(S)	7.5.2.4	M		0-1 C1 0-7 C2		M		0-1 C1 0-7 C2	
2.2	P	7.5.1 9.2.1	M		0 C1 0-1 C2		M		0 C1 0-1 C2	
2.3	N(R)	7.5.2.6	M		0-1 C1 0-7 C2		M		0-1 C1 0-7 C2	
3	Length indicator field	7.6	M				M			
4	Information field	7.8	M				M			
5	Checksum field	7.10	M				M			

Q.41: RR-command/response (Receive ready)

Item no.	Name of information element and field element	Reference	Sending				Receipt			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Address field	7.2	M				M			
1.1	RES	7.3.1	M		1		M		1	
1.2	C/R	7.3.2	M		0-1		M		0-1	
1.3	SAPI	7.3.3	M		0		M		0	
1.4	LLN	7.3.5	M		1 C1 2-7 C2		M		1 C1 2-7 C2	
1.5	NLF	7.3.4, 9.2.2.1	M		0-1		M		0-1	
2	Control field	7.4	M				M			
2.1	S (Supervisory function bits)	7.5.2.4	M		0		M		0	
2.2	P/F	7.5.1, 9.2.1	M		0 C1 0-1 C2		M		0 C1 0-1 C2	
2.3	N(R)	7.5.2.6	M		0-1 C1 0-7 C2		M		0-1 C1 0-7 C2	
3	Checksum field	7.10	M				M			

Q.42: RNR-command/response (Receive not ready)

Item no.	Name of information element and field element	Reference	Sending				Receipt			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Address field	7.2	M				M			
1.1	RES	7.3.1	M		1		M		1	
1.2	C/R	7.3.2	M		0-1		M		0-1	
1.3	SAPI	7.3.3	M		0		M		0	
1.4	LLN	7.3.5	M		2-6		M		2-6	
1.5	NLF	7.3.4, 9.2.2.1	M		0-1		M		0-1	
2	Control field	7.4	M				M			
2.1	S (Supervisory function bits)	7.5.2.4	M		1		M		1	
2.2	P/F	7.5.1, 9.2.1	M		0-1		M		0-1	
2.3	N(R)	7.5.2.6	M		0-7		M		0-7	
3	Checksum field	7.10	M				M			

Q.43: REJ-command/response (Reject)

Item no.	Name of information element and field element	Reference	Sending (P to F)				Receipt (F to P)			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Address field	7.2	M				M			
1.1	RES	7.3.1	M		1		M		1	
1.2	C/R	7.3.2	M		0-1		M		0-1	
1.3	SAPI	7.3.3	M		0		M		0	
1.4	LLN	7.3.5	M		1 C1 2-7 C2		M		1 C1 2-7 C2	
1.5	NLF	7.3.4, 9.2.2.1	M		0-1		M		0-1	
2	Control field	7.4	M				M			
2.1	S (Supervisory function bits)	7.5.2.4	M		2		M		2	
2.2	P/F	7.5.1, 9.2.1	M		0 C1 0-1 C2		M		0 C1 0-1 C2	
2.3	N(R)	7.5.2.6	M		0-1 C1 0-7 C2		M		0-1 C1 0-7 C2	
3	Checksum field	7.10	M				M			

Q.44: SABM-command (Set Asynchronous Balanced Mode)

Item no.	Name of information element and field element	Reference	Sending (P to F)				Receipt (F to P)			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Address field	7.2	M				M			
1.1	RES	7.3.1	M		1		M		1	
1.2	C/R	7.3.2	M		1		M		0	
1.3	SAPI	7.3.3	M		0		M		0	
1.4	LLN	7.3.5	M		1 C1 2-7 C2		M		1 C1 2-7 C2	
1.5	NLF	7.3.4, 9.2.2.1	M		0-1		M		0-1	
2	Control field	7.4	M				M			
2.1	U (Unnumbered function bits) length: 5 BIT (2+3)	7.5.2.4	M		7		M		7	
2.2	P	7.5.1, 9.2.1	M		0 C1 1 C2		M		0 C1 1 C2	
3	Checksum field	7.10	M				M			

Q.45: DM-response (Disconnect Mode)

Item no.	Name of information element and field element	Reference	Sending (P to F)				Receipt (F to P)			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Address field	7.2	M				M			
1.1	RES	7.3.1	M		1		M		1	
1.2	C/R	7.3.2	M		0		M		1	
1.3	SAPI	7.3.3	M		0		M		0	
1.4	LLN	7.3.5	M		1 C1 2-7 C2		M		1 C1 2-7 C2	
1.5	NLF	7.3.4, 9.2.2.1	M		0-1		M		0-1	
2	Control field	7.4	M				M			
2.1	U (Unnumbered function bits) length: 5 BIT (2+3)	7.5.2.4	M		3		M		3	
2.2	F	7.5.1, 9.2.1	M		0 C1 0-1 C2		M		0 C1 0-1 C2	
3	Checksum field	7.10	M				M			

Q.46: UI-command (Unnumbered Information)

Item no.	Name of information element and field element	Reference	Sending				Receipt			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Address field	7.2	M				M			
1.1	RES	7.3.1	M		1		M		1	
1.2	C/R	7.3.2	M		1		M		0	
1.3	SAPI	7.3.3	M		0		M		0	
1.4	LLN	7.3.5	M		1 C1 2-7 C2		M		1 C1 2-7 C2	
1.5	NLF	7.3.4, 9.2.2.1	M		0-1		M		0-1	
2	Control field	7.4	M				M			
2.1	U (Unnumbered function bits) length: 5 BIT (2+3)	7.5.2.4	M		0		M		0	
2.2	P	7.5.1, 9.2.1	M		0 C1 0-1 C2		M		0 C1 0-1 C2	
3	Checksum field	7.10	M				M			

Q.47: DISC-command (Disconnect)

Item no.	Name of information element and field element	Reference	Sending (P to F)				Receipt (F to P)			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Address field	7.2	M				M			
1.1	RES	7.3.1	M		1		M		1	
1.2	C/R	7.3.2	M		1		M		0	
1.3	SAPI	7.3.3	M		0		M		0	
1.4	LLN	7.3.5	M		1 C1 2-7 C2		M		1 C1 2-7 C2	
1.5	NLF	7.3.4, 9.2.2.1	M		0-1		M		0-1	
2	Control field	7.4	M				M			
2.1	U (Unnumbered function bits) length: 5 BIT (2+3)	7.5.2.4	M		8		M		8	
2.2	P	7.5.1, 9.2.1	M		0 C1 0-1 C2		M		0 C1 0-1 C2	
3	Checksum field	7.10	M				M			

Q.48: UA response (Unnumbered Acknowledgement)

Item no.	Name of information element and field element	Reference	Sending (P to F)				Receipt (F to P)			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Address field	7.2	M				M			
1.1	RES	7.3.1	M		1		M		1	
1.2	C/R	7.3.2	M		0		M		1	
1.3	SAPI	7.3.3	M		0		M		0	
1.4	LLN	7.3.5	M		1 C1 2-7 C2		M		1 C1 2-7 C2	
1.5	NLF	7.3.4, 9.2.2.1	M		0-1		M		0-1	
2	Control field	7.4	M				M			
2.1	U (Unnumbered function bits) length: 5 BIT (2+3)	7.5.2.4	M		12		M		12	
2.2	F	7.5.1, 9.2.1	M		0 C1 0-1C2		M		0 C1 0-1C2	
3	Checksum field	7.10	M				M			

D.2.2.2 U-plane PDUs

D.2.2.2.1 U-plane frame types

Q.49: Frame types

Supported frame types				
Item No	Frame types	Reference	Status	Support
1	FU1	12.2	I	
2	FU2	12.3	I	
3	FU3	12.4	I	
4	FU4	12.5	I	
5	FU5	12.6	I	
6	FU6	12.7	M	

D.5.2.2.2 U-plane frame structures

Q.55: FU6a frame structure

Item no.	Name of information element and field element	Reference	Sending (P to F)				Receipt (F to P)			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Length indicator field	12.7.1, 13.3.2	M				M			
2	Send sequence number	12.7.1, 13.4.1	M				M			
3	Information field	12.7.1, 13.5	M				M			

Q.56: FU6b frame structure

Item no.	Name of information element and field element	Reference	Sending (P to F)				Receipt (F to P)			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	#1 Receive sequence number	12.7.1, 13.4.3	M				M			
2	#2 Receive sequence number	12.7.1, 13.4.3	M				M			
...	#n Receive sequence number	12.7.1, 13.4.3	M				M			
7	#7 Receive sequence number	12.7.1, 13.4.3	M				M			

D.2.2.2.3 U-plane frame elements

Q.58: Length indicator field

Item no.	Name of information element and field element	Reference	Sending (P to F)				Receipt (F to P)			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	M (more data bit)	13.3.2	M		0-1		M		0-1	
2	Length of information field	13.3.2, 13.5	M				M			

Q.59: Send sequence number

Item no.	Name of information element and field element	Reference	Sending (P to F)				Receipt (F to P)			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Receive sequence number value	13.4.1 13.4.2, 14.2 14.3	M				M			
2	I/R bit	13.4.1 13.4.2	M				M			

Q.60: Receive sequence number

Item no.	Name of information element and field element	Reference	Sending (P to F)				Receipt (F to P)			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Receive sequence number value	13.4.3 13.4.4, 14.2 14.3	M				M			
2	A/N bit	13.4.3 13.4.4	M				M			

D.2.3 Timers

D.2.3.1 C-plane timers

Q.61: C-plane timers

Supported timers						
Item no.	**Timer**	**Reference**	**Status**	**Support**	**Value**	
					Allowed	**Supported**
1	DL.00	A.1	M		2 s	
2	DL.01	A.1	M		2 s	
3	DL.02	A.1	M		2 s	
4	DL.03	A.1	M		2 s	
5	DL.04 (CF routed frames)	A.1	M		1 s	
6	DL.04 (CS routed frames)	A.1	M		2 s	
7	DL.05	A.1	M		10 s	
8	DL.06	A.1	M		4 s	
7	DL.07	A.1	M		2 s	

D.2.3.2 U-plane timers

Q.62: U-plane timers

Supported timers						
Item no.	**Timer**	**Reference**	**Status**	**Support**	**Value**	
					Allowed	**Supported**
1	DLU.01	A.1	M		2 s	

D.2.4 Protocol error handling

D.2.4.1 C-plane protocol error handling

Q.63: General error handling

Supported procedures				
Item No	**Operation - General procedures**	**Reference**	**Status**	**Support**
1	Invalid frames are discarded	9.2.9.1	M	

Q.64: Class A error recovery

Supported procedures				
Item No	**Operation - General procedures**	**Reference**	**Status**	**Support**
1	Waiting for acknowledgement, timer DL.04 expiry	9.2.3.6	C1	

Q.65: Class B error handling and recovery

Supported procedures				
Item No	**Operation - General procedures**	**Reference**	**Status**	**Support**
1	N(S) sequence error	9.2.9.2.1	C2m	
2	N(R) sequence error	9.2.9.2.2	C2m	
3	Timer recovery condition	9.2.9.2.3	C2m	

Q.66: Unknown or invalid frames (which provoke error handling as requested in Q.63)

Supported frames				
Item No	**Frame types**	**Reference**	**Status**	**Support**
1	Unknown frames	9.2.9.1, 7.11	M	
2	Invalid frames	6.1.5	M	

D.2.4.2 U-plane protocol error handling

No particular error handling procedures for the U-plane are defined.

Annex E (normative): Service C2: Portable radio Termination (PT) DLC PICS proforma

The references given in the tables of this annex refer to clauses and subclauses of ETS 300 175-4 [4].

E.1 Standardized symbols for the status column

The standardized symbols for the status column are as follows:

- m or M for mandatory (the capability is required to be implemented);
- o or O for optional (Boolean) (the capability may be implemented);
- x or X for prohibited or excluded use (the capability may not be used in a given context);
- n/a, N/A or - (dash) for not applicable (the capability is not allowed because the underlying DECT layers (service provider) cannot handle it or the requirement belongs to an application i.e. does not belong to the data link control layer);
- c or C for conditional (the capability depends on the selection of other optional or/and conditional items);
- i or I for out of scope (the capability is allowed to be implemented but is not called upon by the profile functionality).

If appropriate, a "C" followed by an integer is placed in the status column, providing a reference to a conditional status expression defined elsewhere in the PICS proforma. The following conditions are applicable throughout the entire document:

Condition identifier	Condition definition
C1	IF Q.9/2 THEN M ELSE X
C2	IF Q.9/3 THEN M ELSE X (only used for values)
C2m	IF Q.9/3 THEN M ELSE X
C2o	IF Q.9/3 THEN O ELSE X
C3	IF Q.40 THEN M ELSE X
C4	IF applied for speech transmission THEN M
C5	The definitive specification of this service is for further study
C6	IF Q.28/1 THEN O ELSE X
C7	IF Q.18/5 THEN O ELSE X
C8m	IF Q.32/5 THEN M ELSE X

E.2 Capabilities

E.2.1 Major capabilities

E.2.1.1 C-plane capabilities

E.2.1.1.1 C-plane services

Q.9: C-plane data link services

Supported services				
Item No	**C-plane services**	**Reference**	**Status**	**Support**
1	Class U service	5.1	M	
2	Class A service	5.1	M	
3	Class B service	5.1	M	

Q.10: C-plane broadcast service

Supported services				
Item No	**C-plane services**	**Reference**	**Status**	**Support**
1	Broadcast service	5.2, 9.4	M	

E.2.1.1.2 C-plane procedures

E.2.1.1.2.1 Point to point acknowledged operation

####### E.2.1.1.2.1.1 Class A procedures

Q.11: Class A procedures

Supported procedures				
Item No	**Operation - General procedures**	**Reference**	**Status**	**Support**
1	Class A link establishment	9.2.3.1	M	
2	Class A acknowledged information transfer	9.2.3.2	M	
3	Class A link release	9.2.3.7	M	
4	Class A link re-establishment	9.2.3.8	M	
5	Class A connection handover	9.2.7.3.1	M	

Q.12: Class A features

Supported features				
Item No	**Operation - General feature**	**Reference**	**Status**	**Support**
1	Segmentation of NWK information	5.1.1, 7.7	M	
2	CS channel fragmentation and recombination	6.1.2, 6.1.3, 6.1.4, 6.1.4.2	M	
3	CF channel fragmentation and recombination	6.1.2, 6.1.3, 6.1.4, 6.1.4.1	O	

Q.13: Class A parameter values

Supported parameter values				
Item No	**Parameter**	**Reference**	**Status**	**Support**
1	Fixed window size of 1 ?	9.2.3.2, 7.5.2.2	M	
2	Modulus 2 ?	9.2.3.2, 7.5.2.1	M	

E.2.1.1.2.1.2 Class B procedures

Q.14: Class B procedures

Supported procedures				
Item No	**Operation - General procedures**	**Reference**	**Status**	**Support**
1	Class B multiple frame establishment	9.2.4	M	
2	Class B information transfer	9.2.5	M	
3	Class B link release	9.2.6	M	
4	Class B link suspension and resumption	9.2.7	M	
5	Class B connection handover	9.2.7.3.2	M	

Q.15: Class B features

Supported features				
Item No	**Operation - General feature**	**Reference**	**Status**	**Support**
1	Segmentation of NWK information	5.1.1, 7.7	M	
2	CS channel fragmentation and recombination	6.1.2, 6.1.3, 6.1.4, 6.1.4.2	M	
3	CF channel fragmentation and recombination	6.1.2, 6.1.3, 6.1.4, 6.1.4.1	O	

Q.16: Class B parameter values

Supported parameter values				
Item No	**Parameter**	**Reference**	**Status**	**Support**
1	Fixed window size of 3 ?	9.2.4.2, 7.5.2.2	M	
2	Modulus 1 in ULI state ?	9.2.4.2	M	
3	Modulus 8 in ASM state ?	9.2.4.2, 7.5.2.1	M	

E.2.1.1.2.2 Unacknowledged operation

Q.17: Class U procedures

Supported procedures				
Item No	**Operation - General procedures**	**Reference**	**Status**	**Support**
1	Class U link establishment	9.3.2	M	
2	Class U information transfer	9.3.3	M	
3	Class U link release	9.3.4	M	

E.2.1.1.2.3 Broadcast operation

Q.17.1: Broadcast procedures

Supported procedures				
Item No	**Operation - General procedures**	**Reference**	**Status**	**Support**
1	Normal operation	9.4.1	M	
2	Expedited operation	9.4.2	M	

E.2.1.2 U-plane capabilities

E.2.1.2.1 U-plane services

Q.18: U-plane services

Supported services				
Item No	**U plane Services**	**Reference**	**Status**	**Support**
1	LU1 - Transparent Unprotected service (TRUP)	11.2	I	
2	LU2 - Frame Relay service (FREL)	11.3	M	
3	LU3 - Frame Switching service (FSWI)	11.4	M	
4	LU4 - Forward error correction service (FEC)	11.5	I	
5	LU5 - Basic Rate Adaptation service (BRAT)	11.6	I	
6	LU6 - Secondary Rate Adaptation service (SRAT)	11.7	I	
7	LU16 - Escape for non-standard family (ESC)	11.8	I	

E.2.1.2.2 U-plane procedures

The mandatory status (M) used in this subclause (applies to all U-plane related definitions) shall only be considered as status M if the definition related service in Q.18 is supported, else the status is X.

The optional status (O) used in this subclause (applies to all U-plane related definitions) shall only be considered as status O if the definition related service in Q.18 is supported, else the status is X.

E.2.1.2.2.1 LU2 Frame relay services

Q.24: LU2 procedures

Supported procedures				
Item No	**Procedures**	**Reference**	**Status**	**Support**
1	Checksum operation	11.3.2	M	
2	Segmentation	11.3.3	M	
3	Data transmission	11.3.4	M	
4	FBP buffering procedure	12.5.2, 12.6.2, 12.7.2	M	
5	Connection handover	12.5.3, 12.6.3, 12.7.3	M	

Q.25: LU2 Frame types

Supported frame types				
Item No	**Frame type**	**Reference**	**Status**	**Support**
1	FU4 frame structure	11.3.3	I	
2	FU5 frame structure	11.3.3	I	
3	FU6 frame structure	11.3.3	M	

Q.26: LU2 Connection types

Supported Connection types				
Item No	**Connection types**	**Reference**	**Status**	**Support**
1	IP / error-detect- Half slot (08 octets)	11.3, 12.5.1, 12.6.1, 12.7.1	I	
2	IP / error-correct- Half slot (08 octets)	11.3, 12.5.1, 12.6.1, 12.7.1	I	
3	IP / error-detect- Full slot (32 octets)	11.3, 12.5.1, 12.6.1, 12.7.1	I	
4	IP / error-correct- Full slot (32 octets)	11.3, 12.5.1, 12.6.1, 12.7.1	M	
5	IP / error-detect- Double slot (80 octets)	11.3, 12.5.1, 12.6.1, 12.7.1	I	
6	IP / error-correct- Double slot (80 octets)	11.3, 12.5.1, 12.6.1, 12.7.1	I	

Q.27: LU2 Transmission classes

Supported Transmission classes				
Item No	**Transmission classes**	**Reference**	**Status**	**Support**
1	class 0 / bi- or unidirectional	11.3.3	I	
2	class 0 / bidirectional	11.3.3	I	
3	class 0 / unidirectional	11.3.3	I	
4	class 1 / bi- or unidirectional	11.3.3	I	
5	class 1 / bidirectional	11.3.3	I	
6	class 1 / unidirectional	11.3.3	M	
7	class 2 / bi- or unidirectional	11.3.3	I	
8	class 2 / bidirectional	11.3.3	I	
9	class 2 / unidirectional	11.3.3	I	

E.2.1.3 Management procedures

Q.32: Management procedures

Supported procedures				
Item No	**General procedures**	**Reference**	**Status**	**Support**
1	MAC connection management	10.2	M	
2	DLC C-plane management	10.3	M	
3	DLC U-plane management	10.4	M	
4	Connection handover management	10.5	M	
5	Connection ciphering management	10.6	C8	

Q.33: MAC connection management procedures

Supported procedures				
Item No	**Procedures**	**Reference**	**Status**	**Support**
1	MAC connection set-up	10.2.1	M	
2	MAC connection release	10.2.2	M	
3	MAC connection modification	10.2.3	M	
4	MAC connection identification	10.2.4	M	
5	Selection of logical channels (CS or CF)	10.2.5	M	

Q.34: DLC C-plane management procedures

Supported procedures				
Item No	**Procedures**	**Reference**	**Status**	**Support**
1	Provision of link signature	10.3.1	M	
2	Routeing of connection oriented links	10.3.2	M	
3	Routeing of connectionless links	10.3.3	M	

Q.35: DLC U-plane management procedures

Supported procedures				
Item No	**Procedures**	**Reference**	**Status**	**Support**
1	U-plane establishment	10.4.1	M	
2	U-plane release	10.4.2	M	
3	U-plane suspend and resume	10.4.3	M	

Q.36: Connection ciphering management procedures

Supported procedures				
Item No	**Procedures**	**Reference**	**Status**	**Support**
1	Providing a key to the MAC layer	10.6.1	C8	
2	Starting and stopping the ciphering	10.6.2	C8	
3	Connection handover	10.6.3	C8	

E.2.2 PDUs

E.2.2.1 C-plane PDUs

E.2.2.1.1 C-plane frame structure

Q.37: Frame structures

Supported frames structures								
Item No	**Frame Structures**	**Reference**	**Sending**			**Receiving**		
			Status	**Support**		**Status**	**Support**	
				Yes	**No**		**Yes**	**No**
1	Frame structure of format type FA	6.1	M			M		
2	Broadcast service frame structure	6.2	N/A			M		

Q.38: Frame format type FA

Item No	**Frame elements**	**Reference**	**Sending**			**Receiving**		
			Status	**Support**		**Status**	**Support**	
				Yes	**No**		**Yes**	**No**
1	Address field	6.1	M			M		
2	Control field	6.1	M			M		
3	Length indicator field	6.1	C3			C3		
4	Information field	6.1	C3			C3		
5	Fill field	6.1	C3			C3		
6	Checksum field	6.1	M			M		

Q.38.1: Broadcast service frame structure

Supported frame structures								
Item No	**Frame elements**	**Reference**	**Sending**			**Receiving**		
			Status	**Support**		**Status**	**Support**	
				Yes	**No**		**Yes**	**No**
1	Short frame format (3 octets)	6.2.1	N/A			M		
2	Long frame format (5 octets)	6.2.1	N/A			O		

E.2.2.1.2 C-plane messages

Q.39: Message support

Supported messages						
Item No	**Message elements**	**Reference**	**Sending**		**Receipt**	
			Status	**Support**	**Status**	**Support**
1	I-command	7.11	M		M	
2	RR-command/response	7.11	M		M	
3	RNR-command/response	7.11	C2m		C2m	
4	REJ-command/response	7.11	C2m		C2m	
5	SABM-command	7.11	C2m		C2m	
6	DM-response	7.11	C2m		C2m	
7	UI-command	7.11	M		M	
8	DISC-command	7.11	C2m		C2m	
9	UA-response	7.11	C2m		C2m	

Q.40: I-command (Numbered Information)

Item no.	Name of information element and field element	Reference	Sending				Receipt			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Address field	7.2	M				M			
1.1	RES	7.3.1	M		1		M		1	
1.2	C/R	7.3.2	M		1		M		0	
1.3	SAPI	7.3.3	M		0		M		0	
1.4	LLN	7.3.5	M		1 C1 2-6 C2		M		1 C1 2-6 C2	
1.5	NLF	7.3.4, 9.2.2.1	M		0-1		M		0-1	
2	Control field	7.4	M				M			
2.1	N(S)	7.5.2.4	M		0-1 C1 0-7 C2		M		0-1 C1 0-7 C2	
2.2	P	7.5.1 9.2.1	M		0 C1 0-1 C2		M		0 C1 0-1 C2	
2.3	N(R)	7.5.2.6	M		0-1 C1 0-7 C2		M		0-1 C1 0-7 C2	
3	Length indicator field	7.6	M				M			
4	Information field	7.8	M				M			
5	Checksum field	7.10	M				M			

Q.41: RR-command/response (Receive ready)

Item no.	Name of information element and field element	Reference	Sending				Receipt			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Address field	7.2	M				M			
1.1	RES	7.3.1	M		1		M		1	
1.2	C/R	7.3.2	M		0-1		M		0-1	
1.3	SAPI	7.3.3	M		0		M		0	
1.4	LLN	7.3.5	M		1 C1 2-7 C2		M		1 C1 2-7 C2	
1.5	NLF	7.3.4, 9.2.2.1	M		0-1		M		0-1	
2	Control field	7.4	M				M			
2.1	S (Supervisory function bits)	7.5.2.4	M		0		M		0	
2.2	P/F	7.5.1, 9.2.1	M		0 C1 0-1 C2		M		0 C1 0-1 C2	
2.3	N(R)	7.5.2.6	M		0-1 C1 0-7 C2		M		0-1 C1 0-7 C2	
3	Checksum field	7.10	M				M			

Q.42: RNR-command/response (Receive not ready)

Item no.	Name of information element and field element	Reference	Sending				Receipt			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Address field	7.2	M				M			
1.1	RES	7.3.1	M		1		M		1	
1.2	C/R	7.3.2	M		0-1		M		0-1	
1.3	SAPI	7.3.3	M		0		M		0	
1.4	LLN	7.3.5	M		2-6		M		2-6	
1.5	NLF	7.3.4, 9.2.2.1	M		0-1		M		0-1	
2	Control field	7.4	M				M			
2.1	S (Supervisory function bits)	7.5.2.4	M		1		M		1	
2.2	P/F	7.5.1, 9.2.1	M		0-1		M		0-1	
2.3	N(R)	7.5.2.6	M		0-7		M		0-7	
3	Checksum field	7.10	M				M			

Q.43: REJ-command/response (Reject)

Item no.	Name of information element and field element	Reference	Sending (P to F)				Receipt (F to P)			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Address field	7.2	M				M			
1.1	RES	7.3.1	M		1		M		1	
1.2	C/R	7.3.2	M		0-1		M		0-1	
1.3	SAPI	7.3.3	M		0		M		0	
1.4	LLN	7.3.5	M		1 C1 2-7 C2		M		1 C1 2-7 C2	
1.5	NLF	7.3.4, 9.2.2.1	M		0-1		M		0-1	
2	Control field	7.4	M				M			
2.1	S (Supervisory function bits)	7.5.2.4	M		2		M		2	
2.2	P/F	7.5.1, 9.2.1	M		0 C1 0-1 C2		M		0 C1 0-1 C2	
2.3	N(R)	7.5.2.6	M		0-1 C1 0-7 C2		M		0-1 C1 0-7 C2	
3	Checksum field	7.10	M				M			

Q.44: SABM-command (Set Asynchronous Balanced Mode)

Item no.	Name of information element and field element	Reference	Sending (P to F)				Receipt (F to P)			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Address field	7.2	M				M			
1.1	RES	7.3.1	M		1		M		1	
1.2	C/R	7.3.2	M		1		M		0	
1.3	SAPI	7.3.3	M		0		M		0	
1.4	LLN	7.3.5	M		1 C1 2-7 C2		M		1 C1 2-7 C2	
1.5	NLF	7.3.4, 9.2.2.1	M		0-1		M		0-1	
2	Control field	7.4	M				M			
2.1	U (Unnumbered function bits) length: 5 BIT (2+3)	7.5.2.4	M		7		M		7	
2.2	P	7.5.1, 9.2.1	M		0 C1 1 C2		M		0 C1 1 C2	
3	Checksum field	7.10	M				M			

Q.45: DM-response (Disconnect Mode)

Item no.	Name of information element and field element	Reference	Sending (P to F)				Receipt (F to P)			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Address field	7.2	M				M			
1.1	RES	7.3.1	M		1		M		1	
1.2	C/R	7.3.2	M		0		M		1	
1.3	SAPI	7.3.3	M		0		M		0	
1.4	LLN	7.3.5	M		1 C1 2-7 C2		M		1 C1 2-7 C2	
1.5	NLF	7.3.4, 9.2.2.1	M		0-1		M		0-1	
2	Control field	7.4	M				M			
2.1	U (Unnumbered function bits) length: 5 BIT (2+3)	7.5.2.4	M		3		M		3	
2.2	F	7.5.1, 9.2.1	M		0 C1 0-1 C2		M		0 C1 0-1 C2	
3	Checksum field	7.10	M				M			

Q.46: UI-command (Unnumbered Information)

Item no.	Name of information element and field element	Reference	Sending				Receipt			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Address field	7.2	M				M			
1.1	RES	7.3.1	M		1		M		1	
1.2	C/R	7.3.2	M		1		M		0	
1.3	SAPI	7.3.3	M		0		M		0	
1.4	LLN	7.3.5	M		1 C1 2-7 C2		M		1 C1 2-7 C2	
1.5	NLF	7.3.4, 9.2.2.1	M		0-1		M		0-1	
2	Control field	7.4	M				M			
2.1	U (Unnumbered function bits) length: 5 BIT (2+3)	7.5.2.4	M		0		M		0	
2.2	P	7.5.1, 9.2.1	M		0 C1 0-1 C2		M		0 C1 0-1 C2	
3	Checksum field	7.10	M				M			

Q.47: DISC-command (Disconnect)

Item no.	Name of information element and field element	Reference	Sending (P to F)				Receipt (F to P)			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Address field	7.2	M				M			
1.1	RES	7.3.1	M		1		M		1	
1.2	C/R	7.3.2	M		1		M		0	
1.3	SAPI	7.3.3	M		0		M		0	
1.4	LLN	7.3.5	M		1 C1 2-7 C2		M		1 C1 2-7 C2	
1.5	NLF	7.3.4, 9.2.2.1	M		0-1		M		0-1	
2	Control field	7.4	M				M			
2.1	U (Unnumbered function bits) length: 5 BIT (2+3)	7.5.2.4	M		8		M		8	
2.2	P	7.5.1, 9.2.1	M		0 C1 0-1 C2		M		0 C1 0-1 C2	
3	Checksum field	7.10	M				M			

Q.48: UA response (Unnumbered Acknowledgement)

Item no.	Name of information element and field element	Reference	Sending (P to F)				Receipt (F to P)			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Address field	7.2	M				M			
1.1	RES	7.3.1	M		1		M		1	
1.2	C/R	7.3.2	M		0		M		1	
1.3	SAPI	7.3.3	M		0		M		0	
1.4	LLN	7.3.5	M		1 C1 2-7 C2		M		1 C1 2-7 C2	
1.5	NLF	7.3.4, 9.2.2.1	M		0-1		M		0-1	
2	Control field	7.4	M				M			
2.1	U (Unnumbered function bits) length: 5 BIT (2+3)	7.5.2.4	M		12		M		12	
2.2	F	7.5.1, 9.2.1	M		0 C1 0-1C2		M		0 C1 0-1C2	
3	Checksum field	7.10	M				M			

E.2.2.2 U-plane PDUs

E.2.2.2.1 U-plane frame types

Q.49: Frame types

Supported frame types				
Item No	Frame types	Reference	Status	Support
1	FU1	12.2	I	
2	FU2	12.3	I	
3	FU3	12.4	I	
4	FU4	12.5	I	
5	FU5	12.6	I	
6	FU6	12.7	M	

E.5.2.2.2 U-plane frame structures

Q.55: FU6a frame structure

Item no.	Name of information element and field element	Reference	Sending (P to F)				Receipt (F to P)			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Length indicator field	12.7.1, 13.3.2	M				M			
2	Send sequence number	12.7.1, 13.4.1	M				M			
3	Information field	12.7.1, 13.5	M				M			

Q.56: FU6b frame structure

Item no.	Name of information element and field element	Reference	Sending (P to F)				Receipt (F to P)			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	#1 Receive sequence number	12.7.1, 13.4.3	M				M			
2	#2 Receive sequence number	12.7.1, 13.4.3	M				M			
...	#n Receive sequence number	12.7.1, 13.4.3	M				M			
7	#7 Receive sequence number	12.7.1, 13.4.3	M				M			

E.2.2.2.3 U-plane frame elements

Q.58: Length indicator field

Item no.	Name of information element and field element	Reference	Sending (P to F)				Receipt (F to P)			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	M (more data bit)	13.3.2	M		0-1		M		0-1	
2	Length of information field	13.3.2, 13.5	M				M			

Q.59: Send sequence number

Item no.	Name of information element and field element	Reference	Sending (P to F)				Receipt (F to P)			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Receive sequence number value	13.4.1 13.4.2, 14.2 14.3	M				M			
2	I/R bit	13.4.1 13.4.2	M				M			

Q.60: Receive sequence number

Item no.	Name of information element and field element	Reference	Sending (P to F)				Receipt (F to P)			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Receive sequence number value	13.4.3 13.4.4, 14.2 14.3	M				M			
2	A/N bit	13.4.3 13.4.4	M				M			

E.2.3 Timers

E.2.3.1 C-plane timers

Q.61: C-plane timers

Supported timers						
Item no.	**Timer**	**Reference**	**Status**	**Support**	**Value**	
					Allowed	**Supported**
1	DL.00	A.1	M		2 s	
2	DL.01	A.1	M		2 s	
3	DL.02	A.1	M		2 s	
4	DL.03	A.1	M		2 s	
5	DL.04 (CF routed frames)	A.1	M		1 s	
6	DL.04 (CS routed frames)	A.1	M		2 s	
7	DL.05	A.1	M		10 s	
8	DL.06	A.1	M		4 s	
7	DL.07	A.1	M		2 s	

E.2.3.2 U-plane timers

Q.62: U-plane timers

Supported timers						
Item no.	**Timer**	**Reference**	**Status**	**Support**	**Value**	
					Allowed	**Supported**
1	DLU.01	A.1	M		2 s	

E.2.4 Protocol error handling

E.2.4.1 C-plane protocol error handling

Q.63: General error handling

Supported procedures				
Item No	**Operation - General procedures**	**Reference**	**Status**	**Support**
1	Invalid frames are discarded	9.2.9.1	M	

Q.64: Class A error recovery

Supported procedures				
Item No	**Operation - General procedures**	**Reference**	**Status**	**Support**
1	Waiting for acknowledgement, timer DL.04 expiry	9.2.3.6	C1	

Q.65: Class B error handling and recovery

Supported procedures				
Item No	**Operation - General procedures**	**Reference**	**Status**	**Support**
1	N(S) sequence error	9.2.9.2.1	C2m	
2	N(R) sequence error	9.2.9.2.2	C2m	
3	Timer recovery condition	9.2.9.2.3	C2m	

Q.66: Unknown or invalid frames (which provoke error handling as requested in Q.63)

Supported frames				
Item No	**Frame types**	**Reference**	**Status**	**Support**
1	Unknown frames	9.2.9.1, 7.11	M	
2	Invalid frames	6.1.5	M	

E.2.4.2 U-plane protocol error handling

No particular error handling procedures for the U-plane are defined.

Annex F (normative): Service C2: Fixed radio Termination (FT) NWK PICS proforma

The references given in the tables of this annex refer to clauses and subclauses of ETS 300 175-5 [5].

F.1 Standardized symbols for the status column

The standardized symbols for the status column are as follows:

- m or M for mandatory (the capability is required to be implemented);
- o or O for optional (Boolean) (the capability may be implemented);
- x or X for prohibited or excluded use (the capability may not be used in a given context);
- n/a, N/A or - (dash) for not applicable (the capability is not allowed because the underlying DECT layers (service provider) cannot handle it or the requirement belongs to an application i.e. does not belong to the network layer);
- c or C for conditional (the capability depends on the selection of other optional or/and conditional items);
- i or I for out of scope (the capability is allowed to be implemented but is not called upon by the profile functionality).

If appropriate, a "C" followed by an integer is placed in the status column, providing a reference to a conditional status expression defined elsewhere in the PICS proforma. The following conditions are applicable throughout the entire document:

Cciss: IF Q9.1/2 THEN M ELSE O;
Ccoms: IF Q9.1/3 THEN M ELSE O;
Cclms: IF Q9.1/4 THEN M ELSE O;
ComsORclms: IF (Q9.1/3 OR Q9.1/4) THEN M ELSE O;
Ccc3: IF Q9.2/3 THEN M ELSE O;
Ccc4: IF Q9.2/4 THEN M ELSE O;
Ccc11: IF Q9.2/11 THEN M ELSE O;
Ccc15: IF Q9.2/15 THEN M ELSE O;
Ccc17: IF Q9.2/17 THEN M ELSE O;
Ccc18: IF Q9.2/18 THEN M ELSE O;
Ccc21: IF Q9.2/21 THEN M ELSE O;
Ccc22: IF Q9.2/22 THEN M ELSE O;
Ccc28: IF Q9.2/28 THEN M ELSE O;
Ccc29: IF Q9.2/29 THEN M ELSE O;
Ccc30: IF Q9.2/30 THEN M ELSE O;
Ccc28ORcc29ORcc30: IF (Q9.2/28 OR Q9.2/29 OR Q9.2/30)THEN M ELSE O;
Ccc31: IF Q9.2/31 THEN M ELSE O;
Ccc32: IF Q9.2/32 THEN M ELSE O;
Ccc33: IF Q9.2/33 THEN M ELSE O;
Ccc34: IF Q9.2/34 THEN M ELSE O;
Css1: IF Q9.3/1 THEN M ELSE O;
Css2: IF Q9.3/2 THEN M ELSE O;
Css3: IF Q9.3/3 THEN M ELSE O;
Css4: IF Q9.3/4 THEN M ELSE O;
Css5: IF Q9.3/5 THEN M ELSE O;
Css6: IF Q9.3/6 THEN M ELSE O;
Css7: IF Q9.3/7 THEN M ELSE O;
Css8: IF Q9.3/8 THEN M ELSE O;
Css9: IF Q9.3/8 THEN M ELSE O;

Css10: IF Q9.3/10 THEN M ELSE O;
Css11: IF Q9.3/11 THEN M ELSE O;
Css12: IF Q9.3/12 THEN M ELSE O;
Css13: IF Q9.3/13 THEN M ELSE O;
Css14: IF Q9.3/14 THEN M ELSE O;
Ccoms1: IF Q9.4/1 THEN M ELSE O;
Ccoms2: IF Q9.4/2 THEN M ELSE O;
Ccoms3: IF Q9.4/3 THEN M ELSE O;
Ccoms4: IF Q9.4/4 THEN M ELSE O;
Ccoms5: IF Q9.4/5 THEN M ELSE O;
Ccoms6: IF Q9.4/6 THEN M ELSE O;
Ccoms7: IF Q9.4/7 THEN M ELSE O;
Ccoms8: IF Q9.4/8 THEN M ELSE O;
Cclms1 IF Q9.5/1 THEN M ELSE O;
Cclms2: IF Q9.5/2 THEN M ELSE O;
Clce3: IF Q9.7/3 THEN M ELSE O;
Clce5: IF Q9.7/5 THEN M ELSE O;
Clce6: IF Q9.7/6 THEN M ELSE O;
Clce5ORlce6: IF (Q9.7/5 OR Q9.7/6)THEN M ELSE O;
Clce8: IF Q9.7/8 THEN M ELSE O;
Clce9: IF Q9.7/9 THEN M ELSE O;
Clce10: IF Q9.7/10 THEN M ELSE O;
Cmgt1: IF Q9.8/1 THEN M ELSE O;
Cmgt2: IF Q9.8/2 THEN M ELSE O;
Cmgt3: IF Q9.8/3 THEN M ELSE O;
Cmgt4: IF Q9.8/4 THEN M ELSE O;
Cmgt6: IF Q9.8/6 THEN M ELSE O;
Cmgt7: IF Q9.8/7 THEN M ELSE O;
Cmgt8: IF Q9.8/8 THEN M ELSE O;
Cmgt9: IF Q9.8/9 THEN M ELSE O;
Cmgt10: IF Q9.8/10 THEN M ELSE O;
C1m: IF "GAP CC procedures supported" then M ELSE I;
C1o: IF "GAP CC procedures supported" then O ELSE I;
C2: IF "Support for asymmetric bearers" then M ELSE I;
C3: IF "Support for fast setup" then M ELSE I;
C4: IF "Ciphering PT initiated is supported" then M ELSE O;
C5m: IF "Prioritized list negotiation supported" then M ELSE I;
C5o: IF "Prioritized list negotiation supported" then O ELSE I;
C6: IF "multibearer supported" then M ELSE I;
C7: IF "Packet mode CC procedures supported" then M ELSE I;
C8: IF "Cost information exchanged supported" then M ELSE I;
C9: IF "Ciphering FT initiated is supported" then M ELSE O.
C10m: IF "Peer attribute negotiation supported" then M ELSE I;
C10o: IF "Peer attribute negotiation supported" then O ELSE I;
C11m: IF " In call parameter change" then M else I;
C11o: IF " In call parameter change" then O else I;
C12: IF "service suspension and resumption" then M else I.

F.2 Capabilities

F.2.1 Major capabilities

F.2.1.1 Services

The supplier of the implementation shall state the support of the implementation for each of the following services, in the table below.

Q.9.1: Services supported

Services supported				
Item no.	**Name of service**	**Reference**	**Protocol Status**	**Profile Support**
1	Call control (CC)	5.2	O	M
2	Call Independent Supplementary Services (CISS)	5.3	O	I
3	Connection Oriented Message Services (COMS)	5.4	O	I
4	Connectionless Message Services (CLMS)	5.5	O	I
5	Mobility management (MM)	5.6	O	M
6	Link control entity (LCE)	5.7	O	M
7	Management	15	O	M
8	Error handling	17	O	M

F.2.1.2 Procedures

The supplier of the implementation shall state the support of the implementation for each of the following procedures, in the tables below.

Q.9.2: CC procedure support

Procedures supported				
Item no.	**Name of procedure**	**Reference**	**Protocol Status**	**Profile Support**
1	cc_outgoing_normal_call_request	9.3.1.1	O	M
2	cc_outgoing_emergency_call_request	9.3.1.1	O	I
3	cc_outgoing_external_handover_request	9.3.1.1	O	I
4	cc_outgoing_selection_of_lower_layer_resources	9.3.1.3	O	M
5	cc_outgoing_connection_of_U_plane	9.3.1.4	O	M
6	cc_outgoing_overlap_sending	9.3.1.5	O	C1m
7	cc_outgoing_call_proceeding	9.3.1.6	O	C1m
8	cc_outgoing_call_confirmation	9.3.1.7	O	C1m
9	cc_outgoing_call_connection	9.3.1.8	O	M
10	cc_expiry_of_timer_P<cc.03>	9.3.1.2	O	M
11	cc_expiry_of_timer_P<cc.04>	9.3.1.9	O	I
12	cc_incoming_call_request	9.3.2.1	O	M
13	cc_incoming_call_accept	9.3.2.2	O	M
14	cc_incoming_call_reject	9.3.2.2	O	M
15	cc_incoming_selection_of_lower_layer_resources	9.3.2.3	O	M
16	cc_incoming_connection_of_U_plane	9.3.2.4	O	M
17	cc_incoming_overlap_receiving	9.3.2.5	O	I
18	cc_incoming_call_proceeding	9.3.2.6	O	C1o
19	cc_incoming_call_confirmation	9.3.2.7	O	C1m

(continued)

Q.9.2: CC procedure support (concluded)

Procedures supported				
Item no.	**Name of procedure**	**Reference**	**Protocol Status**	**Profile Support**
20	cc_incoming_call_connection	9.3.2.8	O	M
21	cc_incoming_pt_sending_terminal_capability	9.3.2.9	O	I
22	cc_outgoing_pt_sending_terminal_capability	9.3.1.1	O	I
23	cc_call_information	9.4	O	M
24	cc_starting_side_normal_call_release	9.5.1	O	M
25	cc_accepting_side_normal_call_release	9.5.1	O	M
26	cc_abnormal_call_release	9.5.2	O	M
27	cc_release_collisions	9.5.3	O	M
28	cc_bandwidth_changes	9.6.2	O	C6
29	cc_service_re-routing	9.6.3	O	C2
30	cc_service_suspension_&_resumption	9.6.4	O	C7 OR C12
31	cc_packet_mode_pt_init_access	9.7.2	O	C7
32	cc_packet_mode_ft_init_access	9.7.3	O	C7
33	cc_packet_mode_c_plane_suspend_&_resume	9.7.4.2	O	C7 OR C12
34	cc_packet_mode_u_plane_suspend_&_resume	9.7.4.3	O	C7 OR C12

Q.9.3: SS (CRSS & CISS) procedure support

Procedures supported				
Item no.	**Name of procedure**	**Reference**	**Protocol Status**	**Profile Support**
1	crss_keypad_protocol	10.2	O	I
2	crss_feature_key_mgt	10.3	O	I
3	crss_hold	10.4.1	O	I
4	crss_retrieve	10.4.1	O	I
5	crss_facility	10.4.2	O	I
6	ciss_keypad_protocol	10.2	O	I
7	ciss_feature_key_mgt	10.3	O	I
8	ciss_facility	10.4.2	O	I
9	crss_queue_mgt	10.6.2.1	O	I
10	crss_indication_of_subscriber_number	10.6.2.2	O	I
11	ciss_indication_of_subscriber_number	10.6.2.2	O	I
12	crss_control_of_echo_control_functions	10.6.2.3	O	I
13	crss_cost_information	10.6.2.4	O	C8
14	ciss_cost_information	10.6.2.4	O	I

Q.9.6: MM procedure support

Procedures supported				
Item no.	**Name of procedure**	**Reference**	**Protocol Status**	**Profile Support**
1	mm_identification_of_pt	13.2.1	O	O
3	mm_authentication_of_pt	13.3.1	O	M
4	mm_authentication_of_user	13.3.2	O	O
5	mm_authentication_of_ft	13.3.3	O	O
6	mm_location_registration	13.4.1	O	M
7	mm_detach	13.4.2	O	I
8	mm_location_update	13.4.3	O	O
9	mm_obtain_access_rights	13.5.1	O	M
10	mm_pt_init_terminate_access_rights	13.5.2	O	I
11	mm_ft_init_terminate_access_rights	13.5.2	O	O
12	mm_key_allocation	13.6	O	O
13	mm_pt_init_parameter_retrieval	13.7	O	I
14	mm_ft_init_parameter_retrieval	13.7	O	M
15	mm_pt_init_cipher_switching	13.8	O	C4
16	mm_ft_init_cipher_switching	13.8	O	C9

Q.9.7: LCE procedure support

Procedures supported				
Item no.	**Name of procedure**	**Reference**	**Protocol Status**	**Profile Support**
1	lce_direct_pt_init_link_establishment	14.2.2	O	M
2	lce_indirect_ft_init_link_establishment	14.2.3	O	M
3	lce_direct_ft_init_link_establishment	14.2.4	O	C3
4	lce_link_maintenance	14.2.5	O	M
5	lce_link_suspend	14.2.6.1	O	I
6	lce_link_resume	14.2.6.2	O	I
7	lce_link_release	14.2.7	O	M
8	lce_link_partial_release	14.2.7	O	M
9	lce_cl_message_routing	14.3.1	O	I
10	lce_cl_broadcast_announce	14.3.2	O	I

Q.9.8: Management procedure support

The table contents are given in annex H.

F.2.2 Protocol parameters

F.2.2.1 Timer support

The supplier of the implementation shall provide information about the timers specified in the ETS 300 175-5 [5].

Q.10.1: Timer support

Timer supported						
Item no.	**Name**	**Reference**	**Protocol Status**	**Profile Support**	**Values**	
					Allowed	**Supported**
1	CC.01	A.1	O	C1m	20 seconds	
2	CC.02	A.1	O	M	30 seconds	
3	CC.03	A.1	O	M	20 seconds	
4	CC.04	A.1	O	I	100 seconds	
5	CC.05	A.1				
6	COMS.00	A.3	Ccoms	I	5 seconds	
7	COMS.01	A.3	Ccoms	I	2 seconds	
8	COMS.02	A.3	Ccoms	I	10 seconds	
9	COMS.03	A.3	Ccoms	I	10 seconds	
10	CLMS.00	A.4	Cclms	I	5 seconds	
11	MM_access.1	A.5	X		60 seconds	
12	MM_access.2	A.5	O	M	20 seconds	
13	MM_auth.1	A.5	O	M	10 seconds	
14	MM_auth.2	A.5	O	M	100 seconds	
15	MM_cipher.1	A.5	O	C9		
16	MM_cipher.2	A.5	O	M	10 seconds	
17	MM_ident.1	A.5	X			
18	MM_ident.2	A.5	O	O		
19	MM_key.1	A.5	O	O		
20	MM_locate.1	A.5	X		20 seconds	
21	MM_wait	A.5	O	I	5 minutes	
22	LCE.01	A.6	O	M	5 seconds	
23	LCE.02	A.6	Clce8	M	10 seconds	
24	LCE.03	A.6	O	M	3 seconds	
25	LCE.04	A.6	Clce5ORIce6	I	5 seconds	
26	T601	part 6: B	O		5 minutes	
27	T602	part 6: B	O	M	5 minutes	

F.2.2.2 System wide parameters

System wide parameters have a single specification applicable for all network messages in which they occur and the corresponding tables in which they occur contain reference to the following declarations.

The supplier of the implementation shall state whether or not the following parameters specified by ETS 300 175-5 [5] are supported and their type, value(s) and range(s), in the table below. The supplier shall indicate the status of support for sending and receiving each parameter.

Q.10.2: Protocol parameters

Protocol parameters supported						
Item no.	**Name**	**Reference**	**Protocol Status**	**Profile Support**	**Values**	
					Allowed	**Supported**
1	N300	A.7	X			

F.2.2.3 Other parameters

Some parameters only occur in a limited number of network messages. Declaration of the support these parameters shall be specified in the tables in which they occur.

F.2.3 Messages

The supplier of the implementation shall state whether or not the messages specified by ETS 300 175-5 [5] are supported, in the tables below. The supplier shall indicate the status of support for sending and receiving each message.

F.2.3.1 CC messages

Q.11: CC message support

Supported messages						
Item no.	**Name**	**Reference**	**Sending (F to P)**		**Receipt (P to F)**	
			Status	**Support**	**Status**	**Support**
1	CC-SETUP	6.3.2.1	O	M	O	M
2	CC-INFOmation	6.3.2.2	O	C8	O	C1m OR C8
3	CC-SETUP-ACKnowledge	6.3.2.3	O	C1o	Ccc17	I
4	CC-CALL-PROCeeding	6.3.2.4	O	C1o	Ccc18	I
5	CC-ALERTING	6.3.2.5	O	C1o	O	M
6	CC-CONNECT	6.3.2.6	O	M	O	M
7	CC-CONNECT-ACKnowledge	6.3.2.7	O	M	X	
8	CC-RELEASE	6.3.2.8	O	M	O	M
9	CC-RELEASE-COMplete	6.3.2.9	O	M	O	M
10	CC-SERVICE-CHANGE	6.3.2.10	Ccc28ORcc29ORcc30		Ccc28ORcc29ORcc30	
11	CC-SERVICE-ACCEPT	6.3.2.11	Ccc28ORcc29ORcc30		Ccc28ORcc29ORcc30	
12	CC-SERVICE-REJECT	6.3.2.12	Ccc28ORcc29ORcc30		Ccc28ORcc29ORcc30	
13	CC-NOTIFY	6.3.2.13	O	M	X	
14	IWU-INFOrmation	6.3.2.14	O	I	O	I

Q.11.1: CC-SETUP

The table contents are given in annex H.

Q.11.2: CC-INFO

Item no.	Name of information element	Reference	Sending (F to P)				Receipt (P to F)			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Protocol Discriminator (PD)	7.2	M		3		M		3	
2	Transaction Identifier (TI)	7.3	M		0-6,8-14,ext		M		0-6,8-14,ext	
3	Message Type (MI)	7.4.1	M		123		M		123	
4	Location area	7.7.25	X				O	I	<Q.53>	
5	NWK assigned identity	7.7.28	X				O	I	<Q.56>	
6	Facility	7.7.15	O	I	<Q.43>		O	I	<Q.43>	
7	Progress Indicator	7.7.31	O	I	<Q.59>		X			
8	Display	7.5.5	O	I	<Q.23> or<Q.54>		X			
9	Keypad	7.5.5	X				O	C1m	<Q.24> or <Q.55>	
10	Signal	7.6.8	O		<Q.26>		X			
11	Feature activate	7.7.16	X				O	C8	<Q.44>	
12	Feature indicate	7.7.17	O	C8	<Q.45>		X			
13	Network parameter	7.7.29	X				O	I	<Q.57>	
14	Called party number	7.7.7	O	I	<Q.35>		O	I	<Q.35>	
15	Called party subaddress	7.7.8	O	I	<Q.36>		O	I	<Q.36>	
16	Sending complete	7.6.2	O	I	<Q.20.1>		O	I	<Q.20.1>	
17	Test hook control	7.6.10	O	I	<Q.28>		X			
18	IWU-to-IWU	7.7.23	O	I	<Q.51>		O	I	<Q.51>	
19	IWU-packet	7.7.22	O	I	<Q.50>		O		<Q.50>	

Q.11.3: CC-SETUP-ACKnowledge

The table contents are given in annex H.

Q.11.4: CC-CALL-PROCeeding

The table contents are given in annex H.

Q.11.5: CC-ALERTING

The table contents are given in annex H.

Q.11.6: CC-CONNECT

The table contents are given in annex H.

Q.11.7: CC-CONNECT-ACKnowledge

Item no.	Name of information element	Reference	Sending (F to P)				Receipt (P to F)			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Protocol Discriminator (PD)	7.2	M		3		X			
2	Transaction Identifier (TI)	7.3	M		0-6,ext		X			
3	Message Type (MI)	7.4.1	M		15		X			
4	Display	7.5.5	O	I	<Q.23> or <Q.54>		X			
5	Feature indicate	7.7.17	O	C8	<Q.45>		X			
6	IWU-to-IWU	7.7.23	O	I	<Q.51>		X			
7	IWU-PACKET	7.7.22	O	I	<Q.50>		X			

Q.11.8: CC-RELEASE

Item no.	Name of information element	Reference	Sending (F to P)				Receipt (P to F)			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Protocol Discriminator (PD)	7.2	M		3		M		3	
2	Transaction Identifier (TI)	7.3	M		0-6,8-14,ext		M		0-6,8-14,ext	
3	Message Type (MI)	7.4.1	M		77		M		77	
4	Release reason	7.6.7	O		<Q.25>		M		<Q.25>	
5	Facility	7.7.15	O	I	<Q.43>		X			
6	Display	7.5.5	O	I	<Q.23> or <Q.54>		X			
7	Feature indicate	7.7.17	O	C8	<Q.45>		X			
8	IWU-to-IWU	7.7.23	O	I	<Q.51>		O	I	<Q.51>	
9	IWU-PACKET	7.7.22	O	I	<Q.50>		O	I	<Q.50>	

Q.11.9: CC-RELEASE-COMplete

Item no.	Name of information element	Reference	Sending (F to P)				Receipt (P to F)			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Protocol Discriminator (PD)	7.2	M		3		M		3	
2	Transaction Identifier (TI)	7.3	M		0-6, 8-14,ext		M		0-6, 8-14,ext	
3	Message Type (MI)	7.4.1	M		90		M		90	
4	Release reason	7.6.7	O	M	<Q.25>		M		<Q.25>	
5	Identity type	7.7.19	O	I	<Q.47>		X			
6	Location area	7.7.25	O	I	<Q.53>		X			
7	IWU attributes	7.7.21	O		<Q.49>		O	M	<Q.49>	
8	Facility	7.7.15	O	I	<Q.43>		X			
9	Display	7.5.5	O	I	<Q.23> or <Q.54>		X			
10	Feature indicate	7.7.17	O	C8	<Q.45>		X			
11	Network parameter	7.7.29	O	I	<Q.57>		X			
12	IWU-to-IWU	7.7.23	O	I	<Q.51>		O	I	<Q.51>	
13	IWU-PACKET	7.7.22	O	I	<Q.50>		O	I	<Q.50>	

Q.11.10: CC-SERVICE-CHANGE

The table contents are given in annex H.

Q.11.11: CC-SERVICE-ACCEPT

The table contents are given in annex H.

Q.11.12: CC-SERVICE-REJECT

The table contents are given in annex H.

Q.11.13: CC-NOTIFY

Item no.	Name of information element	Reference	Sending (F to P)				Receipt (P to F)			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Protocol Discriminator (PD)	7.2	M		3		X			
2	Transaction Identifier (TI)	7.3	M		0-6, 8-14,ext		X			
3	Message Type (MI)	7.4.1	M		110		X			
4	Timer restart	7.6.9	O	M	<Q.27>		X			

F.2.3.2 Mobility management messages

Q.15: MM message support

Supported messages						
Item no.	**Name**	**Reference**	**Sending (F to P)**		**Receipt (P to F)**	
			Protocol Status	**Profile Status**	**Protocol Status**	**Profile Status**
1	ACCESS-RIGHTS-ACCEPT	6.3.6.1	O	M	X	
2	ACCESS-RIGHTS-REJECT	6.3.6.2	O	M	X	
3	ACCESS-RIGHTS-REQUEST	6.3.6.3	X		O	M
4	ACCESS-RIGHTS-TERMINATE-ACCEPT	6.3.6.4	X		O	O
5	ACCESS-RIGHTS-TERMINATE-REJECT	6.3.6.5	X		O	O
6	ACCESS-RIGHTS-TERMINATE-REQUEST	6.3.6.6	O	O	X	
7	AUTHentication-REJECT	6.3.6.7	O	O	M	
8	AUTHentication-REPLY	6.3.6.8	O	O	M	
9	AUTHentication-REQUEST	6.3.6.9	M		O	O
10	CIPHER-REJECT	6.3.6.10	O	C4	O	C9
11	CIPHER-REQUEST	6.3.6.11	O	C9	X	
12	CIPHER-SUGGEST	6.3.6.12	X		O	C4
13	DETACH	6.3.6.13	X		O	I
14	IDENTITY-REPLY	6.3.6.14	X		O	O
15	IDENTITY-REQUEST	6.3.6.15	O	O	X	
16	KEY-ALLOCATE	6.3.6.16	O	O	X	
17	LOCATE-ACCEPT	6.3.6.17	O	M	X	
18	LOCATE-REJECT	6.3.6.18	O	M	X	
19	LOCATE-REQUEST	6.3.6.19	X		O	M
20	MM-INFO-ACCEPT	6.3.6.20	O	I	X	
21	MM-INFO-REJECT	6.3.6.21	O	I	X	
22	MM-INFO-REQUEST	6.3.6.22	X		O	I
23	MM-INFO-SUGGEST	6.3.6.23	O	O	X	
24	TEMPORARY-IDENTITY-ASSIGN	6.3.6.24	O	M	X	
25	TEMPORARY-IDENTITY-ASSIGN-ACKnowledge	6.3.6.25	X		O	M
26	TEMPORARY-IDENTITY-ASSIGN-REject	6.3.6.26	X		O	M

Q.15.1: ACCESS-RIGHTS-ACCEPT

Item no.	Name of information element	Reference	Sending (F to P)				Receipt (P to F)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	M		5		X			
2	Transaction Identifier (TI)	7.3	M		8		X			
3	Message Type (MI)	7.4.5	M		69		X			
4	Portable identity	7.7.30	M		<Q.58>	<Q.58.1> - <Q.58.8>	X			
5	Repeat indicator	7.6.3	O	I	<Q.21.1>		X			
6	Fixed identity (Portable Access Rights Key (PARK))	7.7.18	M		<Q.46.9> - <Q.46.12>		X			
7	Location area	7.7.25	O	I	<Q.53>		X			
8	Auth-type	7.7.4	O	I	<Q.32.1>		X			
9	Cipher-info	7.7.10	O	I	<Q.38.1>		X			
10	ZAP field	7.7.44	O	O	<Q.72>		X			
11	Service class	7.7.39	O	O C1m	<Q.67>		X			
12	IWU-to-IWU	7.7.23	O	I	<Q.51>		X			

Q.15.2: ACCESS-RIGHTS-REJECT

Item no.	Name of information element	Reference	Sending (F to P)				Receipt (P to F)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	M		5		X			
2	Transaction Identifier (TI)	7.3	M		8		X			
3	Message Type (MI)	7.4.5	M		71		X			
4	Reject reason	7.7.34	O	I	<Q.62>		X			
5	Duration	7.7.13	O	I	<Q.41>		X			

Q.15.3: ACCESS-RIGHTS-REQUEST

Item no.	Name of information element	Reference	Sending (F to P)				Receipt (P to F)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	X				M		5	
2	Transaction Identifier (TI)	7.3	X				M		0	
3	Message Type (MI)	7.4.5	X				M		68	
4	Portable identity	7.7.30	X				M		<Q.58.1>	<Q.58.1> - <Q.58.8>
5	Auth-type	7.7.4	X				M		<Q.32.1>	<Q.32.1>
6	Cipher-info	7.7.10	X				O	I	<Q.38.1>	
7	Terminal Capability	7.7.41	X				O	M	<Q.69>	
8	IWU-to-IWU	7.7.23	X				O	I	<Q.51>	

Q.15.4: ACCESS-RIGHTS-TERMINATE-ACCEPT

Item no.	Name of information element	Reference	Sending (F to P)				Receipt (P to F)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	X		5		M	I	5	
2	Transaction Identifier (TI)	7.3	X		8		M	I	8	
3	Message Type (MI)	7.4.5	X		73		M	I	73	

Q.15.5: ACCESS-RIGHTS-TERMINATE-REJECT

Item no.	Name of information element	Reference	Sending (F to P)				Receipt (P to F)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	X		5		M		5	
2	Transaction Identifier (TI)	7.3	X		8		M		8	
3	Message Type (MI)	7.4.5	X		75		M		75	
4	Reject reason	7.7.34	X		<Q.62>		O	I	<Q.62>	
5	Duration	7.7.13	X		<Q.41>		X			

Q.15.6: ACCESS-RIGHTS-TERMINATE-REQUEST

Item no.	Name of information element	Reference	Sending (F to P)				Receipt (P to F)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	M		5		X		5	
2	Transaction Identifier (TI)	7.3	M		0		X		0	
3	Message Type (MI)	7.4.5	M		72		X		72	
4	Portable identity	7.7.30	M		<Q.58>	<Q.58.1> - <Q.58.8>	X		<Q.58>	
5	Repeat indicator	7.6.3	O	I	<Q.21.1>		X		<Q.21.1>	
6	Fixed identity (PARKs)	7.7.18	O	M	<Q.46.9 - Q.46.12>		X		<Q.46.9- Q.46.12>	
7	IWU-to-IWU	7.7.23	O	I	<Q.51>		X		<Q.51>	

Q.15.7: AUTHentication-REJECT

Item no.	Name of information element	Reference	Sending (F to P)				Receipt (P to F)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	M		5		M		5	
2	Transaction Identifier (TI)	7.3	M		8		M		8	
3	Message Type (MI)	7.4.5	M		67		M		67	
4	Repeat indicator	7.6.3	O	I	<Q.21.2>		O	I	<Q.21.2>	
5	Auth-type	7.7.4	O	I	<Q.32.2>		O	I	<Q.32.2>	
6	Reject reason	7.7.34	O	I	<Q.62>		O	I	<Q.62>	

Q.15.8: AUTHentication-REPLY

Item no.	Name of information element	Reference	Sending (F to P)				Receipt (P to F)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	M		5		M		5	
2	Transaction Identifier (TI)	7.3	M		8		M		8	
3	Message Type (MI)	7.4.5	M		65		M		65	
4	RES	7.7.35	M		<Q.63>		M		<Q.63>	
5	RS	7.7.36	O	M	<Q.64>		X			
6	ZAP field	7.7.44	X				O	M	<Q.72>	
7	Service class	7.7.39	X				O	M	<Q.67>	
8	Key	7.7.24	X				O	I	<Q.52>	
9	IWU-to-IWU	7.7.23	O	I	<Q.51>		O	I	<Q.51>	

Q.15.9: AUTHentication-REQUEST

Item no.	Name of information element	Reference	Sending (F to P)				Receipt (P to F)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	M		5		M		5	
2	Transaction Identifier (TI)	7.3	M		0		M		0	
3	Message Type (MI)	7.4.5	M		64		M		64	
4	Auth-type	7.7.4	M		<Q.32.1>		M		<Q.32.1>	
5	RAND	7.7.32	M		<Q.60>		M		<Q.60>	
6	RES	7.7.35	X				O	I	<Q.63>	
7	RS	7.7.36	O	M	<Q.62>		X			
8	Cipher info	7.7.10	O	I	<Q.38.1>		O	I	<Q.38.1>	
9	IWU-to-IWU	7.7.23	O	I	<Q.51>		O	I	<Q.51>	

Q.15.10: CIPHER-REJECT

Item no.	Name of information element	Reference	Sending (F to P)				Receipt (P to F)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	M		5		M		5	
2	Transaction Identifier (TI)	7.3	M		8		M		8	
3	Message Type (MI)	7.4.5	M		79		M		79	
4	Repeat indicator	7.6.3	O	I	<Q.21.2>		O	I	<Q.21.2>	
5	Cipher info	7.7.10	O	I	<Q.38.2>		O	I	<Q.38.2>	
6	Reject reason	7.7.34	O	I	<Q.62>		O	I	<Q.62>	

Q.15.11: CIPHER-REQUEST

Item no.	Name of information element	Reference	Sending (F to P)				Receipt (P to F)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	M		5		X			
2	Transaction Identifier (TI)	7.3	M		0		X			
3	Message Type (MI)	7.4.5	M		76		X			
4	Cipher info	7.7.10	M		<Q.38.1>		X			
5	Call identity	7.7.6	O	I	<Q.34>		X			
6	Connection identity	7.7.12	O	I	<Q.40>		X			
7	IWU-to-IWU	7.7.23	O	I	<Q.51>		X			

Q.15.12: CIPHER-SUGGEST

Item no.	Name of information element	Reference	Sending (F to P)				Receipt (P to F)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	X				M		5	
2	Transaction Identifier (TI)	7.3	X				M		0	
3	Message Type (MI)	7.4.5	X				M		78	
4	Cipher info	7.7.10	X				M		<Q.38.1>	
5	Call identity	7.7.6	X				O	I	<Q.34>	
6	Connection identity	7.7.12	X				O	I	<Q.40>	
7	IWU-to-IWU	7.7.23	X				O	I	<Q.51>	

Q.15.14: IDENTITY-REPLY

Item no.	Name of information element	Reference	Sending (F to P)				Receipt (P to F)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	X				M		5	
2	Transaction Identifier (TI)	7.3	X				M		8	
3	Message Type (MI)	7.4.5	X				M		89	
4	Repeat Indicator	7.6.3	X				O	O	<Q.21.1>	
5	Portable identity	7.7.30	X				O	M	<Q.58>	
6	Repeat Indicator	7.6.3	X				O	I	<Q.21.1>	
7	Fixed identity	7.7.18	X				O	M	<Q.46>	
8	Repeat Indicator	7.6.3	X				O	I	<Q.21.1>	
9	NWK assigned identity	7.7.28	X				O	I	<Q.56>	
10	IWU-to-IWU	7.7.23	X				O	I	<Q.51>	

Q.15.15: IDENTITY-REQUEST

Item no.	Name of information element	Reference	Sending (F to P)				Receipt (P to F)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	M		5		X			
2	Transaction Identifier (TI)	7.3	M		0		X			
3	Message Type (MI)	7.4.5	M		88		X			
4	Repeat indicator	7.6.3	O	I	<Q.21.1>		X			
5	Identity type	7.7.19	M		<Q.47>		X			
6	IWU-to-IWU	7.7.23	O	I	<Q.51>		X			

Q.15.16: KEY-ALLOCATE

Item no.	Name of information element	Reference	Sending (F to P)				Receipt (P to F)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	M		5		X			
2	Transaction Identifier (TI)	7.3	M		0		X			
3	Message Type (MI)	7.4.5	M		66		X			
4	Allocation type	7.7.2	M		<Q.30>		X			
5	Rand	7.7.32	M		<Q.60>		X			
6	RS	7.7.36	M		<Q.64>		X			

Q.15.17: LOCATE-ACCEPT

Item no.	Name of information element	Reference	Sending (F to P)				Receipt (P to F)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	M		5		X			
2	Transaction Identifier (TI)	7.3	M		8		X			
3	Message Type (MI)	7.4.5	M		85		X			
4	Portable identity	7.7.30	M		<Q.58>	<Q.58.9> - <Q.58.12>	X			
5	Location area	7.7.25	M		<Q.53>		X			
6	NWK assigned identity	7.7.28	O	I	<Q.56>		X			
7	Duration	7.7.13	O	I	<Q.41>		X			
8	IWU-to-IWU	7.7.23	O	I	<Q.51>		X			

Q.15.18: LOCATE-REJECT

Item no.	Name of information element	Reference	Sending (F to P)				Receipt (P to F)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	M		5		X			
2	Transaction Identifier (TI)	7.3	M		8		X			
3	Message Type (MI)	7.4.5	M		87		X			
4	Reject reason	7.7.34	O	I	<Q.62>		X			
5	Duration	7.7.13	O	I	<Q.41>		X			

Q.15.19: LOCATE-REQUEST

Item no.	Name of information element	Reference	Sending (F to P)				Receipt (P to F)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	X				M		5	
2	Transaction Identifier (TI)	7.3	X				M		0	
3	Message Type (MI)	7.4.5	X				M		84	
4	Portable identity	7.7.30	X				M		<Q.58>	<Q.58.1>-<Q.58.8>
5	Fixed identity	7.7.18	X				O	M	<Q.46>	<Q.46.5> - <Q.46.8>
6	Location area	7.7.25	X				O	M	<Q.53>	
7	NWK assigned identity	7.7.28	X				O	I	<Q.56>	
8	Cipher info	7.7.10	X				O	I	<Q.38.1>	
9	Setup capability	7.7.40	X				O	I	<Q.68>	
10	Terminal capability	7.7.41	X				O	C1m	<Q.69>	
11	IWU-to-IWU	7.7.23	X				O	I	<Q.51>	

Q.15.23: MM-INFO-SUGGEST

Item no.	Name of information element	Reference	Sending (F to P)				Receipt (P to F)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	M		5		X			
2	Transaction Identifier (TI)	7.3	M		0		X			
3	Message Type (MI)	7.4.5	M		82		X			
4	Info type	7.7.20	M		<Q.48>		X			
5	Fixed identity	7.7.18	O	I	<Q.46>		X			
6	Location area	7.7.25	O	I	<Q.53>		X			
7	NWK assigned identity	7.7.28	O	I	<Q.56>		X			
8	Network parameter	7.7.29	O	I	<Q.57>		X			
9	IWU-to-IWU	7.7.23	O	I	<Q.51>		X			

Q.15.25: TEMPORARY-IDENTITY-ASSIGN-ACKnowledge

Item no.	Name of information element	Reference	Sending (F to P)				Receipt (P to F)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	X				M		5	
2	Transaction Identifier (TI)	7.3	X				M		0,8	
3	Message Type (MI)	7.4.5	X				M		93	

F.2.3.3 Link control entity messages

Q.16: LCE message support

Supported messages						
Item no.	**Name**	**Reference**	**Sending (F to P)**		**Receipt (P to F)**	
			Status	**Support**	**Status**	**Support**
1	LCE-PAGE-RESPONSE	6.3.7.1	X		M	
2	LCE-PAGE-REJECT	6.3.7.2	M		X	
3	LCE-REQUEST-PAGE-B-format	6.4.2	M		X	

Q.16.1: LCE-PAGE-RESPONSE

Item no.	**Name of information element**	**Reference**	**Sending (F to P)**				**Receipt (P to F)**			
			Status	**Support**	**Value**		**Status**	**Support**	**Value**	
					Allowed	**Supported**			**Allowed**	**Supported**
1	Protocol Discriminator (PD)	7.2	X				M		0	
2	Transaction Identifier (TI)	7.3	X				M		0	
3	Message Type (MI)	7.4.6	X				M		113	
4	Portable identity	7.7.30	X				M		<Q.58>	
5	Fixed identity	7.7.18	X				O	M	<Q.46>	
6	NWK assigned identity	7.7.28	X				O	I	<Q.56>	
7	Cipher info	7.7.10	X				O	I	<Q.51>	

Q.16.2: LCE-PAGE-REJECT

Item no.	**Name of information element**	**Reference**	**Sending (F to P)**				**Receipt (P to F)**			
			Status	**Support**	**Value**		**Status**	**Support**	**Value**	
					Allowed	**Supported**			**Allowed**	**Supported**
1	Protocol Discriminator (PD)	7.2	M		0		X			
2	Transaction Identifier (TI)	7.3	M		8		X			
3	Message Type (MI)	7.4.5	M		114		X			
4	Portable identity	7.7.30	M		<Q.58.1-8>		X			
6	Fixed identity	7.7.18	O	I	<Q.46>		X			
7	Reject reason	7.7.34	O	I	<Q.62>		X			

Q.16.3: LCE-REQUEST-PAGE-B-format

Item no.	Name of information element	Reference	Sending (F to P)				Receipt (P to F)			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	LCE header	8.2.1	M		0,3-7		X			
2	Long address	8.2	M		<Q.58>		X			
3	Short address	8.2	M		<Q.58.9-12>		X			

F.2.4 Information elements

The supplier of the implementation shall state whether or not each information element for each message specified by ETS 300 175-5 [5] are supported. The supplier shall indicate the type, value(s) and range(s), of each information element. The supplier shall indicate the status of support for sending and receiving each information element in each message.

Q.17: Information element support

Supported information elements						
Item no.	**Name**	**Reference**	**Sending (F to P)**		**Receipt (P to F)**	
			Status	**Support**	**Status**	**Support**
0	Codeset shift	7.5.3-4	O	I	O	I
1	Sending complete	7.6.2	O	I	O	I
2	Delimiter request	7.6.2	O		X	
3	Repeat indicator (non prioritized)	7.6.3	O		O	
4	Repeat indicator (prioritized)	7.6.3	O	C5m	O	C5m
5	Basic service	7.6.4	O	M	O	M
6	Single-display	7.6.5	O	I	X	
7	Single-keypad	7.6.6	X		O	
8	Release-reason	7.6.7	O	M	O	M
9	Signal	7.6.8	O	C1m	X	
10	Timer restart	7.6.9	M		X	
11	Test Hook Control	7.6.10	O	I	X	
12	Allocation type	7.7.2	M		X	
13	Alphanumeric	7.7.3	O	I	O	I
14	Auth-type	7.7.4	M		M	
15	Call attributes	7.7.5	O		O	
16	Call identity	7.7.6	O	I	O	I
17	Called party number	7.7.7	O	I	O	C7o
18	Called party subaddress	7.7.8	O	I	O	I
19	Calling party number	7.7.9	O	I	O	I
20	Cipher info	7.7.10	O	C4 OR C9	O	C4 OR C9
21	Connection attributes	7.7.11	O	M	O	M
22	Connection identity	7.7.12	O	M	O	M
23	Duration	7.7.13	O	I	X	
24	End-to-end compatibility	7.7.14	O	I	O	I
25	Facility	7.7.15	O	I	O	I
26	Feature activate	7.7.16	X		O	C8
27	Feature indicate	7.7.17	O	C8	X	
28	Fixed identity	7.7.18	M		M	
29	Identity type	7.7.19	M		X	
30	Info type	7.7.20	O	I	O	I
31	IWU attributes	7.7.21	O	M	O	M
32	IWU PACKET	7.7.22	O	I	O	I
33	IWU to IWU	7.7.23	O	I	O	I
34	Key	7.7.24	X		O	C4
35	Location area	7.7.25	O	M	O	I
36	Multi-display	7.7.26	O	I	X	
37	Multi-keypad	7.7.27	X		O	C1m
38	Network assigned identity	7.7.28	O	I	O	I
39	Network parameter	7.7.29	O	I	O	I
40	Portable identity	7.7.30	M		M	
41	Progress indicator	7.7.31	O	I	X	

(continued)

Q.17: Information element support (concluded)

Supported information elements						
Item no.	**Name**	**Reference**	**Sending (F to P)**		**Receipt (P to F)**	
			Status	**Support**	**Status**	**Support**
42	Rand	7.7.32	M		M	
43	Rate Parameters	7.7.33	O	I	O	I
44	Reject reason	7.7.34	O	I	O	I
45	RES	7.7.35	M		M	
46	RS	7.7.36	M		X	
47	Segmented info	7.7.37	O	I	O	I
48	Service change info	7.7.38	O	M	O	M
49	Service class	7.7.39	O	I	O	I
50	Setup capability	7.7.40	X		O	I
51	Terminal capability	7.7.41	X		O	M
52	Transit delay	7.7.42	O	I	O	I
53	Window size	7.7.43	O	M	O	M
54	ZAP field	7.7.44	O	M	O	M

Q.18: Escape support

Supported escape elements						
Item no.	**Name**	**Reference**	**Sending (F to P)**		**Receipt (P to F)**	
			Status	**Support**	**Status**	**Support**
1	Escape for non-standard codeset	7.5.2-3	O	I	O	I
2	Escape (fixed length)	7.6.1	-		-	
3	Escape to proprietary (variable length)	7.7.1	O	I	O	I
4	Escape for extension (variable length)	7.7.1	O	I	O	I

F.2.4.1 Fixed length information element support

Q.21.1: Repeat indicator (non prioritized list) implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	Identifier of repeat indicator	7.6.1	M		5	
2	Repeat indicator	7.6.3	M		1	

Q.21.2: Repeat indicator (prioritized list) implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	Identifier of repeat indicator	7.6.1	M		5	
2	Repeat indicator	7.6.3	M		2	

Q.22: Basic service implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	Identifier for double octet	7.6.1	M		6	
2	2nd-ID of basic service of fixed length	7.6.1	M		0	
3	Call class	7.6.4	M		0,2,4	0
4	Basic service	7.6.4	M		0,15	15

Q.25: Release-reason implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	Identifier for double octet	7.6.1	M		6	
2	2nd-ID of release reason	7.6.1	M		2	
3	Release reason code	7.6.7	M		00-09,0D-0F, 10-15, 21-23, 31-34(Hex)	0X-3X

Q.27: Timer restart implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	Identifier for double octet	7.6.1	M		6	
2	2nd-ID of timer restart of fixed length	7.6.1	M		5	
3	Restart value	7.6.9	M		0	

F.2.4.2 Variable length information element support

Q.30: Allocation type implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of allocation type	7.7.1	M		11	
2	Length of Contents (L)	7.7.2	M		2	
3	Authentication algorithm identifier	7.7.2	M		1	
4	User Authentication Key (UAK) number	7.7.2	M		0-15	
5	Authentication Code (AC) number	7.7.2	M		0-15	

Q.32: General Auth-type implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol status**	**Profile status**	**Values**	
					Protocol allowed	**Profile allowed**
1	ID of Auth-type	7.7.1	M		10	
2	Length of Contents (L)	7.7.4	M		3-4	
3	Authentication algorithm identifier	7.7.4	M		1,64,172	1
4	Proprietary algorithm identifier	7.7.4	O	I	0-255	
5	Authentication key type	7.7.4	M		1,3,4	
6	Authentication key number	7.7.4	M		0-15	8
7	INCrement bit	7.7.4	M		0,1	
8	TXC bit	7.7.4	M		0,1	0
9	UPC bit	7.7.4	M		0,1	
10	Cipher key number	7.7.4	O		0-15	0,8

Q.35: Called party number implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of called party number	7.7.1	M		112	
2	Length of Contents (L)	7.7.7	M		2-255	
3	Number type	7.7.7	M		0-4,6	
4	Numbering plan identification	7.7.7	M		0,1,3,8,9	
5	Called party address(the first DECT character)	7.7.7	M		00,02,03,05-0F ,11-14,16, 19-1B,20-7F (HEX)	
6	Called party address(list of the rest DECT character)	7.7.7	M		00,02,03,05-0F ,11-14,16, 19-1B,20-7F (HEX)	

Q.38: Cipher info implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of cipher info of variable length	7.7.1	M		25	
2	Length of Contents (L)	7.7.10	M		2-3	
3	Enable ciphering	7.7.10	M		0,1	
4	Cipher algorithm identifier	7.7.10	M		1,127	1
5	Proprietary algorithm identifier	7.7.10	O	I	0-255	
6	Cipher key type	7.7.10	M		9,10	9
7	Cipher key number	7.7.10	M		0-15	8

Q.39: Connection attributes implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of connection attributes	7.7.1	M		23	
2	Length of Contents (L)	7.7.11	M		4-9	
3	Symmetry	7.7.11	M		1,4-7	
4	Connection identity	7.7.11	M		0,8-15	8-15
5	Target bearers (P => F direction)	7.7.11	M		0,1-31	1-23
6	Minimum bearers (P => F direction)	7.7.11	O	O	0,1-31	1-23
7	Target bearers (F => P direction)	7.7.11	O	C2	0,1-31	1-23
8	Minimum bearers (F => P direction)	7.7.11	O	C2	0,1-31	1-23
9	MAC slot size	7.7.11	M		0,4,5	4
10	MAC service (P => F direction)	7.7.11	M		0-3	3
11	MAC service (F => P direction)	7.7.11	O	C2	0-3	3
12	CF channel attributes (P => F direction)	7.7.11	M		0,2-5	2
13	MAC packet life time (P =>F direction)	7.7.11	M		0,8-15	8-15
14	CF channel attributes (F => P direction)	7.7.11	O	C2	0,2-5	2
15	MAC packet life time (F =>P direction)	7.7.11	O	C2	0,8-15	8-15

Q.45: Feature indicate implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of feature indicate	7.7.1	M		57	
2	Length of Contents (L)	7.7.17	M		2-255	
3	Feature	7.7.17	M		1,15,32,48,66, 68,71,72,96	60
4	Parameter	7.7.17	O	M	0-127	
5	Protocol Status indicator	7.7.17	M		128,129,131,1 32,134	
6	Component	7.7.17	O		0-255	
7	Component	7.7.17	O		0-255	

Q.45.3: Feature - cost information indicate implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of feature indicate of variable length	7.7.1	M		57	
2	Length of Contents (L)	7.7.17	M		4-255	
3	Feature	7.7.17	M		96	
4	Parameter_1 for cost information	7.7.17	M		1,3	
5	Parameter_2 for cost information	7.7.17	M		0-2	
6	Protocol Status indicator	7.7.17	M		128,129,131,132,134	
7	Charging component	7.7.17	M		1-14,16-23	
8	Length	7.7.17	M		1-7	
9	Value	7.7.17	M		0-127	
10	Charging component	7.7.17	O	O	1-14,16-23	
11	Length	7.7.17	O	O	1-7	
12	Value	7.7.17	O	O	0-127	

Q.47: Identity type implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of identity type	7.7.1	M		2	
2	Length of Contents (L)	7.7.19	M		2	
3	Identity group	7.7.19	M		0,1,4,15	
4	Type	7.7.19	M		0,1,16,32,116,127	

Q.47.1: Identity type (portable identity) implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of identity type	7.7.1	M		2	
2	Length of Contents (L)	7.7.19	M		2	
3	Identity group	7.7.19	M		0	
4	Type	7.7.19	M		0,16,32	

Q.47.2: Identity type (fixed identity & PARK) implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of identity type	7.7.1	M		2	
2	Length of Contents (L)	7.7.19	M		2	
3	Identity group	7.7.19	M		4	
4	Type	7.7.19	M		0,1,32	

Q.47.3: Identity type (network assigned identity) implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of identity type	7.7.1	M		2	
2	Length of Contents (L)	7.7.19	M		2	
3	Identity group	7.7.19	M		1	
4	Type	7.7.19	M		116,127	

Q.49: IWU attributes implemented

The table contents are given in annex H.

Q.53: Location area implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol status**	**Profile status**	**Values**	
					Protocol allowed	**Profile allowed**
1	ID of location area of variable length	7.7.1	M		7	
2	Length of Contents (L)	7.7.25	M		1,2,8	
3	Location Information (LI) type	7.7.25	M		1-3	1
4	Location area level	7.7.25	M		1-39	0-39
5	Extended Location Information (ELI)	7.7.25	O		7,15	
6	GSM MCC	7.7.25	O		3 BCD digits	
7	GSM MNC	7.7.25	O		1-2 BCD digits	
8	GSM Location Area Code (LAC)	7.7.25	O		0 - 65 535	
9	GSM Cell Identity (CI)	7.7.25	O		0 - 65 535	

Q.58: Portable identity implemented

Identity types supported				
Item no.	**Type of portable identity**	**Reference**	**Protocol Status**	**Profile Support**
1	International Portable User Identity (IPUI) type N	part 6:6.2.1	M	
2	International Portable User Identity (IPUI) type M	part 6:6.2.3	M	
3	International Portable User Identity (IPUI) type P	part 6:6.2.5	M	
4	International Portable User Identity (IPUI) type Q	part 6:6.2.6	M	
5	International Portable User Identity (IPUI) type R	part 6:6.2.8	M	
6	International Portable User Identity (IPUI) type S	part 6:6.2.2	M	
7	International Portable User Identity (IPUI) type T	part 6:6.2.4	M	
8	International Portable User Identity (IPUI) type U	part 6:6.2.7	M	
9	International Portable Part Equipment Identity (IPEI)	part 6:10	M	
10	Default individual Temporary Portable part User Identity (TPUI)	part 6:6.3	M	
11	Assigned individual TPUI	part 6:6.3	M	
12	Connectionless group TPUI	part 6:6.3	M	
13	Call group TPUI	part 6:6.3	M	

Q.58.1: Portable identity - types of IPUI-N & IPEI

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of portable identity of variable length	7.7.1	M		5	
2	Length of contents (L)	7.5.1	M		7	
3	Type	7.7.30	M		0,16	
4	Length of identity value	7.7.30	M		40	
5	Portable User Type (PUT)	part 6:6.2.1	M		0	
6	PUN- EMC	part 6:10	M		1-65 535	
7	PUN-PSN	part 6:10	M		0-1048575	

Q.58.2: Portable identity - type of IPUI-M

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of portable identity of variable length	7.7.1	M		5	
2	Length of contents (L)	7.5.1	M		3-10	
3	Type	7.7.30	M		0	
4	Length of identity value	7.7.30	M		8-64,(mod 4)	
5	Portable User Type (PUT)	part 6:7.3	M		1	
6	Portable User Number (PUN)	part 6:6.2.3	M		0 - ((2**60)-1)	

Q.58.3: Portable identity - type of IPUI-P

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of portable identity of variable length	7.7.1	M		5	
2	Length of contents (L)	7.5.1	M		5-15	
3	Type	7.7.30	M		0	
4	Length of identity value	7.7.30	M		24-100	
5	Portable User Type (PUT)	part 6:7.3	M		2	
6	PUN-Public Operator Code	part 6:6.2.5	M		1 - 65 535	
7	PUN-ACCount number	part 6:6.2.5	M		0 - ((2**80)-1)	

Q.58.4: Portable identity - type IPUI-Q

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of portable identity of variable length	7.7.1	M		5	
2	Length of contents (L)	7.5.1	M		3-13	
3	Type	7.7.30	M		0	
4	Length of identity value	7.7.30	M		8-84	
5	Portable User Type (PUT)	part 6:7.3	M		3	
6	PUN-BACN	part 6:6.2.6	M		0 - 20 BCD digits	

Q.58.5: Portable identity - type of IPUI-R

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of portable identity of variable length	7.7.1	M		5	
2	Length of contents (L)	7.5.1	M		3-10	
3	Type	7.7.30	M		0	
4	Length of identity value	7.7.30	M		8-64, (mod 4)	
5	Portable User Type (PUT)	part 6:7.3	M		4	
7	PUN-IMSI	part 6:6.2.7	M		0 - 15 BCD digits	

Q.58.6: Portable identity - type IPUI-S

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of portable identity of variable length	7.7.1	M		5	
2	Length of contents (L)	7.5.1	M		3-10	
3	Type	7.7.30	M		0	
4	Length of identity value	7.7.30	M		8-64, (mod 4)	
5	Portable User Type (PUT)	part 6:7.3	M		5	
6	PUN-ISDN/PSTN number	part 6:6.2.2	M		0 - 15 BCD digits	

Q.58.7: Portable identity - type of IPUI-T

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of portable identity of variable length	7.7.1	M		5	
2	Length of contents (L)	7.5.1	M		5-10	
3	Type	7.7.30	M		0	
4	Length of identity value	7.7.30	M		24-64, (mod 4)	
5	PUT	part 6:7.3	M		6	
6	PUN-EIC	part 6:6.2.4	M		1-65 535	
7	PUN	part 6:6.2.4	M		0 - 11 BCD digits	

Q.58.8 Portable identity - type IPUI-U

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of portable identity of variable length	7.7.1	M		5	
2	Length of contents (L)	7.5.1	M		3-13	
3	Type	7.7.30	M		0	
4	Length of identity value	7.7.30	M		84	
5	Portable User Type (PUT)	part 6:7.3	M		7	
6	PUN-CACN	part 6:6.2.7	M		0 - 20 BCD digits	

Q.58.9: Portable identity - type default individual TPUI

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of portable identity of variable length	7.7.1	M		5	
2	Length of contents (L)	7.5.1	M		5	
3	Type	7.7.30	M		32	
4	Length of identity value	7.7.30	M		20	
5	First 4 bit	part 6:6.3	M		E (Hex)	
6	Last 16 bits of the least significant portion of IPUI	part 6:6.3	M		0-65535 or 4 BCD digits	

Q.58.10: Portable identity - type assigned individual TPUI

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of portable identity of variable length	7.7.1	M		5	
2	Length of contents (L)	7.5.1	M		5	
3	Type	7.7.30	M		32	
4	Length of identity value	7.7.30	M		20	
5	First 4 bit	part 6:6.3	M		0-B (Hex)	
6	Second 4 bit	part 6:6.3	M		0-B (Hex)	
7	Last 12 bit	part 6:6.3	M		0-4095	

Q.58.11: Portable identity - type connectionless group TPUI

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of portable identity of variable length	7.7.1	M		5	
2	Length of contents (L)	7.5.1	M		5	
3	Type	7.7.30	M		32	
4	Length of identity value	7.7.30	M		20	
5	First 4 bit	part 6:6.3	M		C (Hex)	
6	Second 4 bit	part 6:6.3	M		C (Hex)	
7	Last 12 bit	part 6:6.3	M		0-4095	

Q.58.12: Portable identity - type call group TPUI

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of portable identity of variable length	7.7.1	M		5	
2	Length of contents (L)	7.5.1	M		5	
3	Type	7.7.30	M		32	
4	Length of identity value	7.7.30	M		20	
5	First 4 bit	part 6:6.3	M		D (Hex)	
6	Second 4 bit	part 6:6.3	M		D (Hex)	
7	Last 12 bit	part 6:6.3	M		0-4095	

Q.60: Rand implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of Rand	7.7.1	M		12	
2	Length of contents (L)	7.7.32	M		8 - 255	
3	Rand value	7.7.32	M		0 - ((2** 64))-1)	
4	Rand value	7.7.32	O		0 - ((2** 64))-1)	

Q.61: Rate parameters implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of rate parameters	7.7.1	M		101	
2	Length of contents (L)	7.7.33	M		2-7	
3	Symmetry	7.7.33	M		0,2	
4	Interleaving	7.7.33	M		0,1	
5	Class of service	7.7.33	M		0,2,4-7	
6	Channel_1 rate (P => F)	7.7.33	M		0-4	
7	Channel_1 arrangement (P => F)	7.7.33	M		0-2,8	
8	Channel_1 rate (F => P)	7.7.33	M		0-4	
9	Channel_1 arrangement (F => P)	7.7.33	M		0-2,8	
10	Channel_2 rate (P => F)	7.7.33	M		0-4	
11	Channel_2 arrangement (P => F)	7.7.33	M		0-4	
12	Channel_2 rate (F => P)	7.7.33	M		0-2,8	
13	Channel_2 arrangement (F => P)	7.7.33	M		0-4	
14	Channel_3 rate (P => F)	7.7.33	M		0-2,8	
15	Channel_3 arrangement (P => F)	7.7.33	M		0-4	
16	Channel_3 rate (F => P)	7.7.33	M		0-4	
17	Channel_3 arrangement (F => P)	7.7.33	M		0-2,8	

Q.63: RES implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of RES	7.7.1	M		13	
2	Length of contents (L)	7.7.35	M		1-255	
3	RES value	7.7.35	M		0 - ((2**32)-1)	
4	RES value	7.7.35	O		0 - ((2**32)-1)	

Q.64: RS implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of RS	7.7.1	M		14	
2	Length of contents (L)	7.7.36	M		1-255	
3	RS value	7.7.36	M		0 - ((2**64)-1)	
4	RS value	7.7.36	O		0 - ((2**64)-1)	

Q.66: Service change info implemented

The table contents are given in annex H.

Q.72: ZAP field implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of ZAP field	7.7.1	M		82	
2	Length of contents (L)	7.7.44	M		1	
3	ZAP value	7.7.44	M		0-15	

F.2.4.3 B-Format message structure support

Q.75: Short TPUI address of LCE-request paging message implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	W-bit	8.2.1	M		0,1	
2	LCE header	8.2.1	M		0,3-7	
3	TPUI address (lowest 16 bits)	part 6:6.3.1	M		0-65 535	

Q.76: Long TPUI address of LCE-request paging message implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	W-bit	8.2.1	M		1	
2	LCE header	8.2.1	M		0,3-7	
3	Attributes	8.2.2	M		0,4,5, 9,12-15	
4	TPUI address (complete 20 bits)	part 6:6.3.1	M		(0 - (2**20)-1)	
5	Target bearers	8.2.2	M		0,1-15	
6	MAC packet life	8.2.2	M		0,8-15	

Q.77: Long IPUI address of LCE-request paging message implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	W-bit	8.2.1	M		0	
2	LCE header	8.2.1	M		0,3-7	
3	IPUI class (PUT)	part 6:6.2.1	M		0-7	
4	IPUI address (PUN lowest 28 bits)	8.2.1	M		7 BCD dig. or (0 - (2**28)-1)	

F.2.5 Protocol error handling

The supplier of the implementation shall state the support of the implementation for each of the following protocol error and exception handling procedures, in the table below.

Q.80: Error & exception handling procedure support

Item no.	Name of procedure	Reference	Protocol Status	Profile Support
1	eeh_protocol_discriminator_error	17.1	M	
2	eeh_message_too_short	17.2	M	
3	eeh_unsupported_transaction_identity_error	17.3.1	M	
4	eeh_unknown_active_cc_call	17.3.2.1	M	
5	eeh_unknown_active_ciss_call	17.3.2.2	Cciss	I
6	eeh_unknown_active_coms_call	17.3.2.3	Ccoms	I
7	eeh_unknown_active_clms_call	17.3.2.4	Cclms	I
8	eeh_unknown_active_mm_transaction	17.3.2.5	M	
9	eeh_cc_message_error	17.4.1	M	
10	eeh_ciss_message_error	17.4.2	Cciss	I
11	eeh_coms_&_clms_message_error	17.4.3	CcomsORclms	I
12	eeh_mm_message_error	17.4.4	M	
13	eeh_info_element_out_of_sequence	17.5.1	M	
14	eeh_duplicated_info_elements	17.5.2	M	
15	eeh_mandatory_info_element_missing_in_cc_message	17.6.1	M	
16	eeh_mandatory_info_element_content_error_in_cc_message	17.6.2	M	
17	eeh_mandatory_info_element_missing_in_coms_&_clms_message	17.6.3	CcomsORclms	I
18	eeh_mandatory_info_element_missing_in_mm_message	17.6.4	M	
19	eeh_unrecognized_info_element	17.7.1	M	
20	eeh_non-mandatory_info_element_content_error	17.7.2	M	
21	eeh_data_link_reset	17.8	M	
22	eeh_data_link_failure	17.9	M	

F.2.6 Negotiation capabilities

The supplier of the implementation shall provide information to describe the negotiation options available in the protocol, and indicate which have been implemented, in the tables below.

Q.81: Negotiation capabilities

The table contents are given in annex H.

F.2.7 Multi-layer dependencies

The supplier of the implementation shall provide information to identify the implementation support for specific requirements on the underlying layers, not made mandatory by the underlying layer protocol specifications, in the table below. Where appropriate, the supplier shall provide an external reference to the completed PICS for the layer standard.

Q.82: Multi-layer dependencies

Profile Support for specific requirements on underlying layers			
Item no.	**Layer**	**Protocol version support**	**PICS Reference**
1	DLC	ETS 300 175-4 [4]	ETS 300 476-2 [18]
2	MAC	ETS 300 175-3 [3]	ETS 300 476-3 [19]
3	PHL	ETS 300 175-2 [2]	ETS 300 476-4 [20]

Annex G (normative): Service C2: Portable radio Termination (PT) NWK PICS proforma

The references given in the tables of this annex refer to clauses and subclauses of ETS 300 175-5 [5].

G.1 Standardized symbols for the status column

The standardized symbols for the status column are as follows:

- m or M for mandatory (the capability is required to be implemented);
- o or O for optional (Boolean) (the capability may be implemented);
- x or X for prohibited or excluded use (the capability may not be used in a given context);
- n/a, N/A or - (dash) for not applicable (the capability is not allowed because the underlying DECT layers (service provider) cannot handle it or the requirement belongs to an application i.e. does not belong to the network layer);
- c or C for conditional (the capability depends on the selection of other optional or/and conditional items);
- i or I for out of scope (the capability is allowed to be implemented but is not called upon by the profile functionality).

If appropriate, a "C" followed by an integer is placed in the status column, providing a reference to a conditional status expression defined elsewhere in the PICS proforma. The following conditions are applicable throughout this annex:

Cciss: IF Q9.1/2 THEN M ELSE O;
Ccoms: IF Q9.1/3 THEN M ELSE O;
Cclms: IF Q9.1/4 THEN M ELSE O;
ComsORclms: IF (Q9.1/3 OR Q9.1/4) THEN M ELSE O;
Ccc3: IF Q9.2/3 THEN M ELSE O;
Ccc4: IF Q9.2/4 THEN M ELSE O;
Ccc11: IF Q9.2/11 THEN M ELSE O;
Ccc15: IF Q9.2/15 THEN M ELSE O;
Ccc17: IF Q9.2/17 THEN M ELSE O;
Ccc18: IF Q9.2/18 THEN M ELSE O;
Ccc21: IF Q9.2/21 THEN M ELSE O;
Ccc22: IF Q9.2/22 THEN M ELSE O;
Ccc28: IF Q9.2/28 THEN M ELSE O;
Ccc29: IF Q9.2/29 THEN M ELSE O;
Ccc30: IF Q9.2/30 THEN M ELSE O;
Ccc28ORcc29ORcc30: IF (Q9.2/28 OR Q9.2/29 OR Q9.2/30)THEN M ELSE O;
Ccc31: IF Q9.2/31 THEN M ELSE O;
Ccc32: IF Q9.2/32 THEN M ELSE O;
Ccc33: IF Q9.2/33 THEN M ELSE O;
Ccc34: IF Q9.2/34 THEN M ELSE O;
Css1: IF Q9.3/1 THEN M ELSE O;
Css2: IF Q9.3/2 THEN M ELSE O;
Css3: IF Q9.3/3 THEN M ELSE O;
Css4: IF Q9.3/4 THEN M ELSE O;
Css5: IF Q9.3/5 THEN M ELSE O;
Css6: IF Q9.3/6 THEN M ELSE O;
Css7: IF Q9.3/7 THEN M ELSE O;
Css8: IF Q9.3/8 THEN M ELSE O;
Css9: IF Q9.3/8 THEN M ELSE O;

Css10: IF Q9.3/10 THEN M ELSE O;
Css11: IF Q9.3/11 THEN M ELSE O;
Css12: IF Q9.3/12 THEN M ELSE O;
Css13: IF Q9.3/13 THEN M ELSE O;
Css14: IF Q9.3/14 THEN M ELSE O;
Ccoms1: IF Q9.4/1 THEN M ELSE O;
Ccoms2: IF Q9.4/2 THEN M ELSE O;
Ccoms3: IF Q9.4/3 THEN M ELSE O;
Ccoms4: IF Q9.4/4 THEN M ELSE O;
Ccoms5: IF Q9.4/5 THEN M ELSE O;
Ccoms6: IF Q9.4/6 THEN M ELSE O;
Ccoms7: IF Q9.4/7 THEN M ELSE O;
Ccoms8: IF Q9.4/8 THEN M ELSE O;
Cclms1 IF Q9.5/1 THEN M ELSE O;
Cclms2: IF Q9.5/2 THEN M ELSE O;
Clce3: IF Q9.7/3 THEN M ELSE O;
Clce5: IF Q9.7/5 THEN M ELSE O;
Clce6: IF Q9.7/6 THEN M ELSE O;
Clce5ORlce6: IF (Q9.7/5 OR Q9.7/6)THEN M ELSE O;
Clce8: IF Q9.7/8 THEN M ELSE O;
Clce9: IF Q9.7/9 THEN M ELSE O;
Clce10: IF Q9.7/10 THEN M ELSE O;
Cmgt1: IF Q9.8/1 THEN M ELSE O;
Cmgt2: IF Q9.8/2 THEN M ELSE O;
Cmgt3: IF Q9.8/3 THEN M ELSE O;
Cmgt4: IF Q9.8/4 THEN M ELSE O;
Cmgt6: IF Q9.8/6 THEN M ELSE O;
Cmgt7: IF Q9.8/7 THEN M ELSE O;
Cmgt8: IF Q9.8/8 THEN M ELSE O;
Cmgt9: IF Q9.8/9 THEN M ELSE O;
Cmgt10: IF Q9.8/10 THEN M ELSE O;
C1m: IF "GAP CC procedures supported" then M ELSE I;
C1o: IF " GAP CC procedures supported " then O ELSE I;
C2: IF "Support for asymmetric bearers" then M ELSE I;
C3: IF "Support for fast setup" then M ELSE I;
C4: IF "Ciphering PT initiated is supported" then M ELSE O;
C5m: IF "Prioritized list negotiation supported" then M ELSE I;
C5o: IF "Prioritized list negotiation supported" then O ELSE I;
C6 IF "Multibeares supported" then M ELSE I;
C7: IF "Packet mode CC procedures supported" then M ELSE I;
C8: IF "Cost information exchange supported" then M ELSE I;
C9: IF "ciphering FT initiated is supported" then M ELSE O.
C10m: IF "Peer attribute negotiation supported" then M ELSE I;
C10o: IF "Peer attribute negotiation supported" then O ELSE I;
C11m: IF " In call parameter change" then M else I;
C11o: IF " In call parameter change" then O else I;
C12: IF "service suspension and resumption" then M else I

G.2 Capabilities

G.2.1 Major capabilities

G.2.1.1 Services

The supplier of the implementation shall state the support of the implementation for each of the following services, in the table below.

Q.9.1: Services supported

Services supported				
Item no.	**Name of service**	**Reference**	**Protocol Status**	**Profile Support**
1	Call control (CC)	5.2	O	M
2	Call independent supplementary services (CISS)	5.3	O	I
3	Connection oriented message services (COMS)	5.4	O	I
4	Connectionless message services (CLMS)	5.5	O	I
5	Mobility management (MM)	5.6	O	M
6	Link control entity (LCE)	5.7	O	M
7	Management	15	O	M
8	Error handling	17	O	M

G.2.1.2 Procedures

The supplier of the implementation shall state the support of the implementation for each of the following procedures, in the tables below.

Q.9.2: CC procedure support

Procedures supported				
Item no.	**Name of procedure**	**Reference**	**Protocol Status**	**Profile Support**
1	cc_outgoing_normal_call_request	9.3.1.1	O	M
2	cc_outgoing_emergency_call_request	9.3.1.1	O	I
3	cc_outgoing_external_handover_request	9.3.1.1	O	I
4	cc_outgoing_selection_of_lower_layer_resources	9.3.1.3	O	M
5	cc_outgoing_connection_of_U_plane	9.3.1.4	O	M
6	cc_outgoing_overlap_sending	9.3.1.5	O	C1m
7	cc_outgoing_call_proceeding	9.3.1.6	O	C1m
8	cc_outgoing_call_confirmation	9.3.1.7	O	C1m
9	cc_outgoing_call_connection	9.3.1.8	O	M
10	cc_expiry_of_timer_P<cc.03>	9.3.1.2	O	M
11	cc_expiry_of_timer_P<cc.04>	9.3.1.9	O	I
12	cc_incoming_call_request	9.3.2.1	O	M
13	cc_incoming_call_accept	9.3.2.2	O	M
14	cc_incoming_call_reject	9.3.2.2	O	M
15	cc_incoming_selection_of_lower_layer_resources	9.3.2.3	O	M
16	cc_incoming_connection_of_U_plane	9.3.2.4	O	M
17	cc_incoming_overlap_receiving	9.3.2.5	O	I
18	cc_incoming_call_proceeding	9.3.2.6	O	C1o
19	cc_incoming_call_confirmation	9.3.2.7	O	C1m

(continued)

Q.9.2: CC procedure support (concluded)

Procedures supported				
Item no.	**Name of procedure**	**Reference**	**Protocol Status**	**Profile Support**
20	cc_incoming_call_connection	9.3.2.8	O	M
21	cc_incoming_pt_sending_terminal_capability	9.3.2.9	O	
22	cc_outgoing_pt_sending_terminal_capability	9.3.1.1	O	
23	cc_call_information	9.4	O	M
24	cc_starting_side_normal_call_release	9.5.1	O	M
25	cc_accepting_side_normal_call_release	9.5.1	O	M
26	cc_abnormal_call_release	9.5.2	O	M
27	cc_release_collisions	9.5.3	O	M
28	cc_bandwidth_changes	9.6.2	O	C6
29	cc_service_re-routing	9.6.3	O	C2
30	cc_service_suspension_&_resumption	9.6.4	O	C7 OR C12
31	cc_packet_mode_pt_init_access	9.7.2	O	C7
32	cc_packet_mode_ft_init_access	9.7.3	O	C7
33	cc_packet_mode_c_plane_suspend_&_resume	9.7.4.2	O	C7 OR C12
34	cc_packet_mode_u_plane_suspend_&_resume	9.7.4.3	O	C7 OR C12

Q.9.3: SS (CRSS & CISS) procedure support

Procedures supported				
Item no.	**Name of procedure**	**Reference**	**Protocol Status**	**Profile Support**
1	crss_keypad_protocol	10.2	O	I
2	crss_feature_key_mgt	10.3	O	I
3	crss_hold	10.4.1	O	I
4	crss_retrieve	10.4.1	O	I
5	crss_facility	10.4.2	O	I
6	ciss_keypad_protocol	10.2	O	I
7	ciss_feature_key_mgt	10.3	O	I
8	ciss_facility	10.4.2	O	I
9	crss_queue_mgt	10.6.2.1	O	I
10	crss_indication_of_subscriber_number	10.6.2.2	O	I
11	ciss_indication_of_subscriber_number	10.6.2.2	O	I
12	crss_control_of_echo_control_functions	10.6.2.3	O	I
13	crss_cost_information	10.6.2.4	O	C8
14	ciss_cost_information	10.6.2.4	O	I

Q.9.6: MM procedure support

Procedures supported				
Item no.	**Name of procedure**	**Reference**	**Protocol Status**	**Profile Support**
1	mm_identification_of_pt	13.2.1	O	M
3	mm_authentication_of_pt	13.3.1	O	M
4	mm_authentication_of_user	13.3.2	O	M
5	mm_authentication_of_ft	13.3.3	O	O
6	mm_location_registration	13.4.1	O	M
7	mm_detach	13.4.2	O	I
8	mm_location_update	13.4.3	O	M
9	mm_obtain_access_rights	13.5.1	O	M
10	mm_pt_init_terminate_access_rights	13.5.2	O	I
11	mm_ft_init_terminate_access_rights	13.5.2	O	M
12	mm_key_allocation	13.6	O	M
13	mm_pt_init_parameter_retrieval	13.7	O	I
14	mm_ft_init_parameter_retrieval	13.7	O	I
15	mm_pt_init_cipher_switching	13.8	O	C4
16	mm_ft_init_cipher_switching	13.8	O	C9

C9.61: IF (Q9.6/7 OR Q9.6/8) THEN M ELSE O.

Q.9.7: LCE procedure support

Procedures supported				
Item no.	**Name of procedure**	**Reference**	**Protocol Status**	**Profile Support**
1	lce_direct_pt_init_link_establishment	14.2.2	O	M
2	lce_indirect_ft_init_link_establishment	14.2.3	O	M
3	lce_direct_ft_init_link_establishment	14.2.4	O	C3
4	lce_link_maintenance	14.2.5	O	M
5	lce_link_suspend	14.2.6.1	O	I
6	lce_link_resume	14.2.6.2	O	I
7	lce_link_release	14.2.7	O	M
8	lce_link_partial_release	14.2.7	O	M
9	lce_cl_message_routing	14.3.1	O	I
10	lce_cl_broadcast_announce	14.3.2	O	I

Q.9.8: Management procedure support

The table contents are given in annex I.

G.2.2 Protocol parameters

G.2.2.1 Timer support

The supplier of the implementation shall provide information about the timers specified in ETS 300 175-5 [5].

Q.10.1: Timer support

Timer supported						
Item no.	**Name**	**Reference**	**Protocol Status**	**Profile Support**	**Values**	
					Allowed	**Supported**
1	CC.01	A.1	O	C1m	20 seconds	
2	CC.02	A.1	O	M	30 seconds	
3	CC.03	A.1	O	M	20 seconds	
4	CC.04	A.1	O	I	100 second	
5	CC.05	A.1	X			
6	COMS.00	A.3	O	I	5 seconds	
7	COMS.01	A.3	O	I	2 seconds	
8	COMS.02	A.3	O	I	10 seconds	
9	COMS.03	A.3	O	I	10 seconds	
10	CLMS.00	A.4	O	I	5 seconds	
11	MM_access.1	A.5	O	M	60 seconds	
12	MM_access.2	A.5	O	X	20 seconds	
13	MM_auth.1	A.5	O	X	10 seconds	
14	MM_auth.2	A.5	O	X	100 seconds	
15	MM_cipher.1	A.5	X			
16	MM_cipher.2	A.5	O	C4	10 seconds	
17	MM_ident.1	A.5	X			
18	MM_ident.2	A.5	X			
19	MM_key.1	A.5	X			
20	MM_locate.1	A.5	O	M	20 seconds	
21	MM_wait	A.5	O	I	5 minutes	
22	LCE.01	A.6	O	M	5 seconds	
23	LCE.02	A.6	O	M	10 seconds	
24	LCE.03	A.6	O	M	3 seconds	
25	LCE.04	A.6	O	I	5 seconds	
26	T601	part 6: B	O		5 minutes	
27	T602	part 6: B	O	M	5 minutes	

G.2.2.2 System wide parameters

System wide parameters have a single specification applicable for all network messages in which they occur and the corresponding tables in which they occur contain reference to the following declarations.

The supplier of the implementation shall state whether or not the following parameters specified by ETS 300 175-5 [5] are supported and their type, value(s) and range(s), in the table below. The supplier shall indicate the status of support for sending and receiving each parameter.

Q.10.2: Protocol parameters

Protocol parameters supported						
Item no.	**Name**	**Reference**	**Protocol Status**	**Profile Support**	**Values**	
					Allowed	**Supported**
1	N300	A.7	X			

G.2.2.3 Other parameters

Some parameters only occur in a limited number of network messages. Declaration of the support these parameters shall be specified in the tables in which they occur.

G.2.3 Messages

The supplier of the implementation shall state whether or not the messages specified by ETS 300 175-5 [5] are supported, in the tables below. The supplier shall indicate the status of support for sending and receiving each message.

G.2.3.1 CC messages

Q.11: CC Message support

Supported messages						
Item no.	**Name**	**Reference**	**Sending (P to F)**		**Receipt (F to P)**	
			Protocol Status	**Profile Support**	**Protocol Status**	**Profile Support**
1	CC-SETUP	6.3.2.1	O	M	O	M
2	CC-INFOmation	6.3.2.2	O	C1m OR C8	O	C8
3	CC-SETUP-ACKnowledge	6.3.2.3	Ccc17	I	O	C1m
4	CC-CALL-PROCeeding	6.3.2.4	Ccc18	I	O	C1m
5	CC-ALERTING	6.3.2.5	O	C1m OR O	O	C1m
6	CC-CONNECT	6.3.2.6	O	M	O	M
7	CC-CONNECT-ACKnowledge	6.3.2.7	X		O	M
8	CC-RELEASE	6.3.2.8	O	M	O	M
9	CC-RELEASE-COMplete	6.3.2.9	O	M	O	M
10	CC-SERVICE-CHANGE	6.3.2.10	Ccc28ORcc29ORcc30		Ccc28ORcc29ORcc30	
11	CC-SERVICE-ACCEPT	6.3.2.11	Ccc28ORcc29ORcc30		Ccc28ORcc29ORcc30	
12	CC-SERVICE-REJECT	6.3.2.12	Ccc28ORcc29ORcc30		Ccc28ORcc29ORcc30	
13	CC-NOTIFY	6.3.2.13	X		O	M
14	IWU-INFOrmation	6.3.2.14	O	I	O	I

Q.11.1: CC-SETUP

The table contents are given in annex I.

Q.11.2: CC-INFO

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Support	Value		Protocol Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Protocol Discriminator (PD)	7.2	M		3		M		3	
2	Transaction Identifier (TI)	7.3	M		0-6,8-14,ext		M		0-6,8-14,ext	
3	Message Type (MI)	7.4.1	M		123		M		123	
4	Location area	7.7.25	O	I	<Q.53>		X			
5	NWK assigned identity	7.7.28	O	I	<Q.56>		X			
6	Facility	7.7.15	O	I	<Q.43>		O	I	<Q.43>	
7	Progress Indicator	7.7.31	X				O	I	<Q.59>	
8	Display	7.5.5	X				O	I	<Q.23> or<Q.54>	
9	Keypad	7.5.5	O	C1m	<Q.24> or <Q.55>		X			
10	Signal	7.6.8	X				O	C1m	<Q.26>	
11	Feature activate	7.7.16	O	C8	<Q.44>		X			
12	Feature indicate	7.7.17	X				O	C8	<Q.45>	
13	Network parameter	7.7.29	O	I	<Q.57>		X			
14	Called party number	7.7.7	O	I	<Q.35>		O	I	<Q.35>	
15	Called party subaddress	7.7.8	O	O	<Q.36>		O	I	<Q.36>	
16	Sending complete	7.6.2	O	I	<Q.20.1>		O	I	<Q.20.1>	
17	Test hook control	7.6.10	X				O	I	<Q.28>	
18	IWU-to-IWU	7.7.23	O	I	<Q.51>		O	I	<Q.51>	
19	IWU-packet	7.7.22	O	I	<Q.50>		O	I	<Q.50>	

Q.11.3: CC-SETUP-ACKnowledge

The table contents are given in annex I.

Q.11.4: CC-CALL-PROCeeding

The table contents are given in annex I.

Q.11.5: CC-ALERTING

The table contents are given in annex I.

Q.11.6: CC-CONNECT

The table contents are given in annex I.

Q.11.7: CC-CONNECT-ACKnowledge

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Support	Value		Protocol Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Protocol Discriminator (PD)	7.2	X				M		3	
2	Transaction Identifier (TI)	7.3	X				M		0-6,ext	
3	Message Type (MI)	7.4.1	X				M		15	
4	Display	7.5.5	X				O	I	<Q.23> or <Q.54>	
5	Feature indicate	7.7.17	X				O	C8	<Q.45>	
6	IWU-to-IWU	7.7.23	X				O	I	<Q.51>	
7	IWU-PACKET	7.7.22	X				O	I	<Q.50>	

Q.11.8: CC-RELEASE

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Support	Value		Protocol Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Protocol Discriminator (PD)	7.2	M		3		M		3	
2	Transaction Identifier (TI)	7.3	M		0-6,8-14,ext		M		0-6,8-14,ext	
3	Message Type (MI)	7.4.1	M		77		M		77	
4	Release reason	7.6.7	M		<Q.25>		O		<Q.25>	
5	Facility	7.7.15	X				O	I	<Q.43>	
6	Display	7.5.5	X				O	I	<Q.23> or <Q.54>	
7	Feature indicate	7.7.17	X				O	C8	<Q.45>	
8	IWU-to-IWU	7.7.23	O	I	<Q.51>		O	I	<Q.51>	
9	IWU-PACKET	7.7.22	O	I	<Q.50>		O	I	<Q.50>	

Q.11.9: CC-RELEASE-COMplete

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Support	Value		Protocol Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Protocol Discriminator (PD)	7.2	M		3		M		3	
2	Transaction Identifier (TI)	7.3	M		0-6, 8-14,ext		M		0-6, 8-14,ext	
3	Message Type (MI)	7.4.1	M		90		M		90	
4	Release reason	7.6.7	M		<Q.25>		O	M	<Q.25>	
5	Identity type	7.7.19	X				O	I	<Q.47>	
6	Location area	7.7.25	X				O	I	<Q.53>	
7	IWU attributes	7.7.21	O	M	<Q.49>		O		<Q.49>	
8	Facility	7.7.15	X				O	I	<Q.43>	
9	Display	7.5.5	X				O	I	<Q.23> or <Q.54>	
10	Feature indicate	7.7.17	X				O	C8	<Q.45>	
11	Network parameter	7.7.29	X				O	I	<Q.57>	
12	IWU-to-IWU	7.7.23	O	I	<Q.51>		O	I	<Q.51>	
13	IWU-PACKET	7.7.22	O	I	<Q.50>		O	I	<Q.50>	

Q.11.10: CC-SERVICE-CHANGE

The table contents are given in annex I.

Q.11.11: CC-SERVICE-ACCEPT

The table contents are given in annex I.

Q.11.12: CC-SERVICE-REJECT

The table contents are given in annex I.

Q.11.13: CC-NOTIFY

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Support	Value		Protocol Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Protocol Discriminator (PD)	7.2	X				M		3	
2	Transaction Identifier (TI)	7.3	X				M		0-6, 8-14,ext	
3	Message Type (MI)	7.4.1	X				M		110	
4	Timer restart	7.6.9	X				O	M	<Q.27>	

G.2.3.2 Mobility management messages

Q.15: MM message support

Supported messages						
Item no.	**Name**	**Reference**	**Sending (P to F)**		**Receipt (F to P)**	
			Protocol Status	**Profile Status**	**Protocol Status**	**Profile Status**
1	ACCESS-RIGHTS-ACCEPT	6.3.6.1	X		O	M
2	ACCESS-RIGHTS-REJECT	6.3.6.2	X		O	M
3	ACCESS-RIGHTS-REQUEST	6.3.6.3	O	M	X	
4	ACCESS-RIGHTS-TERMINATE-ACCEPT	6.3.6.4	O	M	X	
5	ACCESS-RIGHTS-TERMINATE-REJECT	6.3.6.5	O	M	X	
6	ACCESS-RIGHTS-TERMINATE-REQUEST	6.3.6.6	X		O	M
7	AUTHentication-REJECT	6.3.6.7	M		O	O
8	AUTHentication-REPLY	6.3.6.8	M		O	O
9	AUTHentication-REQUEST	6.3.6.9	O	O	M	
10	CIPHER-REJECT	6.3.6.10	O	C9	O	C4
11	CIPHER-REQUEST	6.3.6.11	X		O	C9
12	CIPHER-SUGGEST	6.3.6.12	O	C4	X	
13	DETACH	6.3.6.13	O	I	X	
14	IDENTITY-REPLY	6.3.6.14	O	M	X	
15	IDENTITY-REQUEST	6.3.6.15	X		O	M
16	KEY-ALLOCATE	6.3.6.16	X		O	M
17	LOCATE-ACCEPT	6.3.6.17	X		O	M
18	LOCATE-REJECT	6.3.6.18	X		O	M
19	LOCATE-REQUEST	6.3.6.19	O	M	X	
20	MM-INFO-ACCEPT	6.3.6.20	X		O	I
21	MM-INFO-REJECT	6.3.6.21	X		O	I
22	MM-INFO-REQUEST	6.3.6.22	O	I	X	
23	MM-INFO-SUGGEST	6.3.6.23	X		O	M
24	TEMPORARY-IDENTITY-ASSIGN	6.3.6.24	X		O	M
25	TEMPORARY-IDENTITY-ASSIGN-ACKnowledge	6.3.6.25	O	M	X	
26	TEMPORARY-IDENTITY-ASSIGN-REject	6.3.6.26	O	M	X	

Q.15.1: ACCESS-RIGHTS-ACCEPT

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	X				M		5	
2	Transaction Identifier (TI)	7.3	X				M		8	
3	Message Type (MI)	7.4.5	X				M		69	
4	Portable identity	7.7.30	X				M		<Q.58>	<Q.58.1> - <Q.58.8>
5	Repeat indicator	7.6.3	X				O	I	<Q.21.1>	
6	Fixed identity (PARK)	7.7.18	X				M		<Q.46.9> - <Q.46.12>	
7	Location area	7.7.25	X				O	I	<Q.53>	
8	Auth-type	7.7.4	X				O	I	<Q.32.1>	
9	Cipher-info	7.7.10	X				O	I	<Q.38.1>	
10	ZAP field	7.7.44	X				O	O	<Q.72>	
11	Service class	7.7.39	X				O	O	<Q.67>	
12	IWU-to-IWU	7.7.23	X				O	I	<Q.51>	

Q.15.2: ACCESS-RIGHTS-REJECT

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	X				M		5	
2	Transaction Identifier (TI)	7.3	X				M		8	
3	Message Type (MI)	7.4.5	X				M		71	
4	Reject reason	7.7.34	X				O	I	<Q.62>	
5	Duration	7.7.13	X				O	I	<Q.41>	

Q.15.3: ACCESS-RIGHTS-REQUEST

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	M		5		X			
2	Transaction Identifier (TI)	7.3	M		0		X			
3	Message Type (MI)	7.4.5	M		68		X			
4	Portable identity	7.7.30	M		<Q.58.1>	<Q.58.1> - <Q.58.8>	X			
5	Auth-type	7.7.4	M		<Q.32.1>	<Q.32.1>	X			
6	Cipher-info	7.7.10	O	I	<Q.38.1>		X			
7	Terminal Capability	7.7.41	O	M	<Q.69>		X			
8	IWU-to-IWU	7.7.23	O	I	<Q.51>		X			

Q.15.4: ACCESS-RIGHTS-TERMINATE-ACCEPT

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	M		5		M	I	5	
2	Transaction Identifier (TI)	7.3	M		8		M	I	8	
3	Message Type (MI)	7.4.5	M		73		M	I	73	

Q.15.5: ACCESS-RIGHTS-TERMINATE-REJECT

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	M		5		M	I	5	
2	Transaction Identifier (TI)	7.3	M		8		M	I	8	
3	Message Type (MI)	7.4.5	M		75		M	I	75	
4	Reject reason	7.7.34	O	I	<Q.62>		O	I	<Q.62>	
5	Duration	7.7.13	X				O	I	<Q.41>	

Q.15.6: ACCESS-RIGHTS-TERMINATE-REQUEST

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	M	I	5		M		5	
2	Transaction Identifier (TI)	7.3	M	I	0		M		0	
3	Message Type (MI)	7.4.5	M	I	72		M		72	
4	Portable identity	7.7.30	M	I	<Q.58>		M		<Q.58>	<Q.58.1> - <Q.58.8>
5	Repeat indicator	7.6.3	O	I	<Q.21.1>		O	I	<Q.21.1>	
6	Fixed identity (PARKs)	7.7.18	M	I	<Q.46.9-Q.46.12>		O	M	<Q.46.9 - Q.46.12>	
7	IWU-to-IWU	7.7.23	M	I	<Q.51>		O	I	<Q.51>	

Q.15.7: AUTHentication-REJECT

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	M		5		M		5	
2	Transaction Identifier (TI)	7.3	M		8		M		8	
3	Message Type (MI)	7.4.5	M		67		M		67	
4	Repeat indicator	7.6.3	O	I	<Q.21.2>		O	I	<Q.21.2>	
5	Auth-type	7.7.4	O	I	<Q.32.2>		O	I	<Q.32.2>	
6	Reject reason	7.7.34	O	I	<Q.62>		O	I	<Q.62>	

Q.15.8: AUTHentication-REPLY

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	M		5		M		5	
2	Transaction Identifier (TI)	7.3	M		8		M		8	
3	Message Type (MI)	7.4.5	M		65		M		65	
4	RES	7.7.35	M		<Q.63>		M		<Q.63>	
5	RS	7.7.36	X				O	M	<Q.64>	
6	ZAP field	7.7.44	O	M	<Q.72>		X			
7	Service class	7.7.39	O	M	<Q.67>		X			
8	Key	7.7.24	O	I	<Q.52>		X			
9	IWU-to-IWU	7.7.23	O	I	<Q.51>		O	I	<Q.51>	

Q.15.9: AUTHentication-REQUEST

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	M		5		M		5	
2	Transaction Identifier (TI)	7.3	M		0		M		0	
3	Message Type (MI)	7.4.5	M		64		M		64	
4	Auth-type	7.7.4	M		<Q.32.1>		M		<Q.32.1>	
5	RAND	7.7.32	M		<Q.60>		M		<Q.60>	
6	RES	7.7.35	O	I	<Q.63>		X			
7	RS	7.7.36	X				O	M	<Q.62>	
8	Cipher info	7.7.10	O	I	<Q.38.1>		O	I	<Q.38.1>	
9	IWU-to-IWU	7.7.23	O	I	<Q.51>		O	I	<Q.51>	

Q.15.10: CIPHER-REJECT

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	M		5		M		5	
2	Transaction Identifier (TI)	7.3	M		8		M		8	
3	Message Type (MI)	7.4.5	M		79		M		79	
4	Repeat indicator	7.6.3	O	I	<Q.21.2>		O	I	<Q.21.2>	
5	Cipher info	7.7.10	O	I	<Q.38.2>		O	I	<Q.38.2>	
6	Reject reason	7.7.34	O	I	<Q.62>		O	I	<Q.62>	

Q.15.11: CIPHER-REQUEST

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	X				M		5	
2	Transaction Identifier (TI)	7.3	X				M		0	
3	Message Type (MI)	7.4.5	X				M		76	
4	Cipher info	7.7.10	X				M		<Q.38.1>	
5	Call identity	7.7.6	X				O	I	<Q.34>	
6	Connection identity	7.7.12	X				O	I	<Q.40>	
7	IWU-to-IWU	7.7.23	X				O	I	<Q.51>	

Q.15.12: CIPHER-SUGGEST

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	M		5		X			
2	Transaction Identifier (TI)	7.3	M		0		X			
3	Message Type (MI)	7.4.5	M		78		X			
4	Cipher info	7.7.10	M		<Q.38.1>		X			
5	Call identity	7.7.6	O	I	<Q.34>		X			
6	Connection identity	7.7.12	O	I	<Q.40>		X			
7	IWU-to-IWU	7.7.23	O	I	<Q.51>		X			

Q.15.14: IDENTITY-REPLY

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	M		5		X			
2	Transaction Identifier (TI)	7.3	M		8		X			
3	Message Type (MI)	7.4.5	M		89		X			
4	Repeat Indicator	7.6.3	O	O	<Q.21.1>		X			
5	Portable identity	7.7.30	O	M	<Q.58>		X			
6	Repeat Indicator	7.6.3	O	I	<Q.21.1>		X			
7	Fixed identity	7.7.18	O	M	<Q.46>		X			
8	Repeat Indicator	7.6.3	O	I	<Q.21.1>		X			
9	NWK assigned identity	7.7.28	O	I	<Q.56>		X			
10	IWU-to-IWU	7.7.23	O	I	<Q.51>		X			

Q.15.15: IDENTITY-REQUEST

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	X				M		5	
2	Transaction Identifier (TI)	7.3	X				M		0	
3	Message Type (MI)	7.4.5	X				M		88	
4	Repeat indicator	7.6.3	X				O	I	<Q.21.1>	
5	Identity type	7.7.19	X				M		<Q.47>	
6	IWU-to-IWU	7.7.23	X				O	I	<Q.51>	

Q.15.16: KEY-ALLOCATE

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	X				M		5	
2	Transaction Identifier (TI)	7.3	X				M		0	
3	Message Type (MI)	7.4.5	X				M		66	
4	Allocation type	7.7.2	X				M		<Q.30>	
5	Rand	7.7.32	X				M		<Q.60>	
6	RS	7.7.36	X				M		<Q.64>	

Q.15.17: LOCATE-ACCEPT

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	X				M		5	
2	Transaction Identifier (TI)	7.3	X				M		8	
3	Message Type (MI)	7.4.5	X				M		85	
4	Portable identity	7.7.30	X				M		<Q.58>	<Q.58.9> - <Q.58.12>
5	Location area	7.7.25	X				M		<Q.53>	
6	NWK assigned identity	7.7.28	X				O	I	<Q.56>	
7	Duration	7.7.13	X				O	I	<Q.41>	
8	IWU-to-IWU	7.7.23	X				O	I	<Q.51>	

Q.15.18: LOCATE-REJECT

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	X				M		5	
2	Transaction Identifier (TI)	7.3	X				M		8	
3	Message Type (MI)	7.4.5	X				M		87	
4	Reject reason	7.7.34	X				O	I	<Q.62>	
5	Duration	7.7.13	X				O	I	<Q.41>	

Q.15.19: LOCATE-REQUEST

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	M		5		X			
2	Transaction Identifier (TI)	7.3	M		0		X			
3	Message Type (MI)	7.4.5	M		84		X			
4	Portable identity	7.7.30	M		<Q.58>	<Q.58.1>-<Q.58.8>	X			
5	Fixed identity	7.7.18	O	M	<Q.46>	<Q.46.5> - <Q.46.8>	X			
6	Location area	7.7.25	O	M	<Q.53>		X			
7	NWK assigned identity	7.7.28	O	I	<Q.56>		X			
8	Cipher info	7.7.10	O	I	<Q.38.1>		X			
9	Setup capability	7.7.40	O	I	<Q.68>		X			
10	Terminal capability	7.7.41	O	M	<Q.69>		X			
11	IWU-to-IWU	7.7.23	O	I	<Q.51>		X			

Q.15.23: MM-INFO-SUGGEST

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	X				M		5	
2	Transaction Identifier (TI)	7.3	X				M		0	
3	Message Type (MI)	7.4.5	X				M		82	
4	Info type	7.7.20	X				M		<Q.48>	
5	Fixed identity	7.7.18	X				O	I	<Q.46>	
6	Location area	7.7.25	X				O	I	<Q.53>	
7	NWK assigned identity	7.7.28	X				O	I	<Q.56>	
8	Network parameter	7.7.29	X				O	I	<Q.57>	
9	IWU-to-IWU	7.7.23	X				O	I	<Q.51>	

Q.15.25: TEMPORARY-IDENTITY-ASSIGN-ACKnowledge

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Profile Status	Value		Protocol Status	Profile Status	Value	
					Protocol Allowed	Profile Allowed			Protocol Allowed	Profile Allowed
1	Protocol Discriminator (PD)	7.2	M		5		X			
2	Transaction Identifier (TI)	7.3	M		0,8		X			
3	Message Type (MI)	7.4.5	M		93		X			

G.2.3.3 Link control entity messages

Q.16: LCE message support

Supported messages						
Item no.	**Name**	**Reference**	**Sending (P to F)**		**Receipt (F to P)**	
			Protocol Status	**Profile Support**	**Protocol Status**	**Profile Support**
1	LCE-PAGE-RESPONSE	6.3.7.1	M		X	
2	LCE-PAGE-REJECT	6.3.7.2	X		M	
3	LCE-REQUEST-PAGE-B-format	6.4.2	X		M	

Q.16.1: LCE-PAGE-RESPONSE

Item no.	**Name of information element**	**Reference**	**Sending (P to F)**				**Receipt (F to P)**			
			Protocol Status	**Support**	**Value**		**Protocol Status**	**Support**	**Value**	
					Allowed	**Supported**			**Allowed**	**Supported**
1	Protocol Discriminator (PD)	7.2	M		0		X			
2	Transaction Identifier (TI)	7.3	M		0		X			
3	Message Type (MI)	7.4.6	M		113		X			
4	Portable identity	7.7.30	M		<Q.58>		X			
5	Fixed identity	7.7.18	O	M	<Q.46>		X			
6	NWK assigned identity	7.7.28	O	I	<Q.56>		X			
7	Cipher info	7.7.10	O	I	<Q.51>		X			

Q.16.2: LCE-PAGE-REJECT

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Support	Value		Protocol Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Protocol Discriminator (PD)	7.2	X				M		0	
2	Transaction Identifier (TI)	7.3	X				M		8	
3	Message Type (MI)	7.4.5	X				M		114	
4	Portable identity	7.7.30	X				M		<Q.58.1-8>	
6	Fixed identity	7.7.18	X				O	I	<Q.46>	
7	Reject reason	7.7.34	X				O	I	<Q.62>	

Q.16.3: LCE-REQUEST-PAGE-B-format

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Support	Value		Protocol Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	LCE header	8.2.1	X				M		0,3-7	
2	Long address	8.2	X				M		<Q.58>	
3	Short address	8.2	X				M		<Q.58.9-12>	

G.2.4 Information elements

The supplier of the implementation shall state whether or not each information element for each message specified by ETS 300 175-5 [5] are supported. The supplier shall indicate the type, value(s) and range(s), of each information element. The supplier shall indicate the status of support for sending and receiving each information element in each message.

Q.17: Information element support

Supported information elements						
Item no.	**Name**	**Reference**	**Sending (P to F)**		**Receipt (F to P)**	
			Protocol Status	**Profile Support**	**Protocol Status**	**Profile Support**
0	Codeset shift	7.5.3-4	O	I	O	I
1	Sending complete	7.6.2	O	I	O	I
2	Delimiter request	7.6.2	X		O	
3	Repeat indicator (non prioritized)	7.6.3	O		O	
4	Repeat indicator (prioritized)	7.6.3	O	C5m	O	C5m
5	Basic service	7.6.4	O	M	O	M
6	Single-display	7.6.5	X		O	I
7	Single-keypad	7.6.6	O	C1m	X	
8	Release-reason	7.6.7	O	M	O	M
9	Signal	7.6.8	X		O	C1m
10	Timer restart	7.6.9	X		M	
11	Test Hook Control	7.6.10	X		O	I
12	Allocation type	7.7.2	X		M	
13	Alphanumeric	7.7.3	O	I	O	I
14	Auth-type	7.7.4	M		M	
15	Call attributes	7.7.5	O	M	O	M
16	Call identity	7.7.6	O	I	O	I
17	Called party number	7.7.7	O	C7o	O	I
18	Called party subaddress	7.7.8	O	I	O	I
19	Calling party number	7.7.9	O	I	O	I
20	Cipher info	7.7.10	O	C4 OR C9	O	C4 OR C9
21	Connection attributes	7.7.11	O	I	O	I
22	Connection identity	7.7.12	O	M	O	M
23	Duration	7.7.13	X		O	I
24	End-to-end compatibility	7.7.14	O	I	O	I
25	Facility	7.7.15	O	I	O	I
26	Feature activate	7.7.16	O	C8	X	
27	Feature indicate	7.7.17	X		O	C8
28	Fixed identity	7.7.18	M		M	
29	Identity type	7.7.19	X		M	
30	Info type	7.7.20	O	I	O	I
31	IWU attributes	7.7.21	O	M	O	M
32	IWU PACKET	7.7.22	O	I	O	I
33	IWU to IWU	7.7.23	O	I	O	I
34	Key	7.7.24	O	C4	X	
35	Location area	7.7.25	O	I	O	M
36	Multi-display	7.7.26	X		O	I
37	Multi-keypad	7.7.27	O	C1m	X	
38	Network assigned identity	7.7.28	O	I	O	I
39	Network parameter	7.7.29	O	I	O	I
40	Portable identity	7.7.30	M		M	
41	Progress indicator	7.7.31	X		O	I
42	Rand	7.7.32	M		M	
43	Rate Parameters	7.7.33	O	I	O	I
44	Reject reason	7.7.34	O	I	O	I

(continued)

Q.17: Information element support (concluded)

Supported information elements						
Item no.	**Name**	**Reference**	**Sending (P to F)**		**Receipt (F to P)**	
			Protocol Status	**Profile Support**	**Protocol Status**	**Profile Support**
45	RES	7.7.35	M		M	
46	RS	7.7.36	X		M	
47	Segmented info	7.7.37	O	I	O	I
48	Service change info	7.7.38	O	M	O	M
49	Service class	7.7.39	O	I	O	I
50	Setup capability	7.7.40	O	I	X	
51	Terminal capability	7.7.41	O	M	X	
52	Transit delay	7.7.42	O	I	O	I
53	Window size	7.7.43	O	M	O	M
54	ZAP field	7.7.44	O	M	O	M

Q.18: Escape support

Supported escape elements						
Item no.	**Name**	**Reference**	**Sending (P to F)**		**Receipt (F to P)**	
			Protocol Status	**Profile Support**	**Protocol Status**	**Profile Support**
1	Escape for non-standard codeset	7.5.2-3	O	I	O	I
2	Escape (fixed length)	7.6.1	-	I	-	I
3	Escape to proprietary (variable length)	7.7.1	O	I	O	I
4	Escape for extension (variable length)	7.7.1	O	I	O	I

G.2.4.1 Fixed length information element support

Q.21.1: Repeat indicator (non prioritized list) implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	Identifier of repeat indicator	7.6.1	M		5	
2	Repeat indicator	7.6.3	M		1	

Q.21.2: Repeat indicator (prioritized list) implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	Identifier of repeat indicator	7.6.1	M		5	
2	Repeat indicator	7.6.3	M		2	

Q.22: Basic service implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	Identifier for double octet	7.6.1	M		6	
2	2nd-ID of basic service of fixed length	7.6.1	M		0	
3	Call class	7.6.4	M		0,2,4	0
4	Basic service	7.6.4	M		0,15	15

Q.25: Release-reason implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	Identifier for double octet	7.6.1	M		6	
2	2nd-ID of release reason	7.6.1	M		2	
3	Release reason code	7.6.7	M		00-09,0D-0F, 10-15, 21-23, 31-34(Hex)	0X-3X

Q.27: Timer restart implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	Identifier for double octet	7.6.1	M		6	
2	2nd-ID of timer restart of fixed length	7.6.1	M		5	
3	Restart value	7.6.9	M		0	

G.2.4.2 Variable length information element support

Q.30: Allocation type implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of allocation type	7.7.1	M		11	
2	Length of Contents (L)	7.7.2	M		2	
3	Authentication algorithm identifier	7.7.2	M		1	
4	User Authentication Key (UAK) number	7.7.2	M		0-15	
5	Authentication Code (AC) number	7.7.2	M		0-15	

Q.32: General Auth-type implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol status**	**Profile status**	**Values**	
					Protocol allowed	**Profile allowed**
1	ID of Auth-type	7.7.1	M		10	
2	Length of Contents (L)	7.7.4	M		3-4	
3	Authentication algorithm identifier	7.7.4	M		1,64,172	1
4	Proprietary algorithm identifier	7.7.4	O	I	0-255	
5	Authentication key type	7.7.4	M		1,3,4	
6	Authentication key number	7.7.4	M		0-15	8
7	INCrement bit	7.7.4	M		0,1	
8	TXC bit	7.7.4	M		0,1	0
9	UPC bit	7.7.4	M		0,1	
10	Cipher key number	7.7.4	O		0-15	0,8

Q.35: Called party number implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of called party number	7.7.1	M		112	
2	Length of Contents (L)	7.7.7	M		2-255	
3	Number type	7.7.7	M		0-4,6	
4	Numbering plan identification	7.7.7	M		0,1,3,8,9	
5	Called party address(the first DECT character)	7.7.7	M		00,02,03,05-0F ,11-14,16, 19-1B,20-7F (HEX)	
6	Called party address(list of the rest DECT character)	7.7.7	M		00,02,03,05-0F ,11-14,16, 19-1B,20-7F (HEX)	

Q.38: Cipher info implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of cipher info of variable length	7.7.1	M		25	
2	Length of Contents (L)	7.7.10	M		2-3	
3	Enable ciphering	7.7.10	M		0,1	
4	Cipher algorithm identifier	7.7.10	M		1,127	1
5	Proprietary algorithm identifier	7.7.10	O	I	0-255	
6	Cipher key type	7.7.10	M		9,10	9
7	Cipher key number	7.7.10	M		0-15	8

Q.39: Connection attributes implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of connection attributes	7.7.1	M		23	
2	Length of Contents (L)	7.7.11	M		4-9	
3	Symmetry	7.7.11	M		1,4-7	
4	Connection identity	7.7.11	M		0,8-15	8-15
5	Target bearers (P => F direction)	7.7.11	M		0,1-31	1-23
6	Minimum bearers (P => F direction)	7.7.11	O	O	0,1-31	1-23
7	Target bearers (F => P direction)	7.7.11	O	C2	0,1-31	1-23
8	Minimum bearers (F => P direction)	7.7.11	O	C2	0,1-31	1-23
9	MAC slot size	7.7.11	M		0,4,5	4
10	MAC service (P => F direction)	7.7.11	M		0-3	3
11	MAC service (F => P direction)	7.7.11	O	C2	0-3	3
12	CF channel attributes (P => F direction)	7.7.11	M		0,2-5	2
13	MAC packet life time (P =>F direction)	7.7.11	M		0,8-15	8-15
14	CF channel attributes (F => P direction)	7.7.11	O	C2	0,2-5	2
15	MAC packet life time (F =>P direction)	7.7.11	O	C2	0,8-15	8-15

Q.45: Feature indicate implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of feature indicate	7.7.1	M		57	
2	Length of Contents (L)	7.7.17	M		2-255	
3	Feature	7.7.17	M		1,15,32,48,66, 68,71,72,96	60
4	Parameter	7.7.17	O	M	0-127	
5	Protocol Status indicator	7.7.17	M		128,129,131,1 32,134	
6	Component	7.7.17	O		0-255	
7	Component	7.7.17	O		0-255	

Q.45.3: Feature - cost information indicate implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of feature indicate of variable length	7.7.1	M		57	
2	Length of Contents (L)	7.7.17	M		4-255	
3	Feature	7.7.17	M		96	
4	Parameter_1 for cost information	7.7.17	M		1,3	
5	Parameter_2 for cost information	7.7.17	M		0-2	
6	Protocol Status indicator	7.7.17	M		128,129,131, 132,134	
7	Charging component	7.7.17	M		1-14,16-23	
8	Length	7.7.17	M		1-7	
9	Value	7.7.17	M		0-127	
10	Charging component	7.7.17	O	O	1-14,16-23	
11	Length	7.7.17	O	O	1-7	
12	Value	7.7.17	O	O	0-127	

Q.47: Identity type implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of identity type	7.7.1	M		2	
2	Length of Contents (L)	7.7.19	M		2	
3	Identity group	7.7.19	M		0,1,4,15	
4	Type	7.7.19	M		0,1,16,32,116, 127	

Q.47.1: Identity type (portable identity) implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of identity type	7.7.1	M		2	
2	Length of Contents (L)	7.7.19	M		2	
3	Identity group	7.7.19	M		0	
4	Type	7.7.19	M		0,16,32	

Q.47.2: Identity type (fixed identity & PARK) implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of identity type	7.7.1	M		2	
2	Length of Contents (L)	7.7.19	M		2	
3	Identity group	7.7.19	M		4	
4	Type	7.7.19	M		0,1,32	

Q.47.3: Identity type (network assigned identity) implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of identity type	7.7.1	M		2	
2	Length of Contents (L)	7.7.19	M		2	
3	Identity group	7.7.19	M		1	
4	Type	7.7.19	M		116,127	

Q.49: IWU attributes implemented

The table contents are given in annex I.

Q.52: Key implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of Key	7.7.1	M		86	
2	Length of Contents (L)	7.7.24	M		2-255	
3	Key type	7.7.24	M		144	
4	Key data	7.7.24	M		0-(2**((254*8)-1)	

Q.53: Location area implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol status**	**Profile status**	**Values**	
					Protocol allowed	**Profile allowed**
1	ID of location area of variable length	7.7.1	M		7	
2	Length of Contents (L)	7.7.25	M		1,2,8	
3	Location Information (LI) type	7.7.25	M		1-3	1
4	Location area level	7.7.25	M		1-39	0-39
5	Extended Location Information (ELI)	7.7.25	O		7,15	
6	GSM MCC	7.7.25	O		3 BCD digits	
7	GSM MNC	7.7.25	O		1-2 BCD digits	
8	GSM Location Area Code (LAC)	7.7.25	O		0 - 65 535	
9	GSM Cell Identity (CI)	7.7.25	O		0 - 65 535	

Q.58: Portable identity implemented

Identity types supported				
Item no.	**Type of portable identity**	**Reference**	**Protocol Status**	**Profile Support**
1	International Portable User Identity (IPUI) type N	part 6:6.2.1	M	
2	International Portable User Identity (IPUI) type M	part 6:6.2.3	M	
3	International Portable User Identity (IPUI) type P	part 6:6.2.5	M	
4	International Portable User Identity (IPUI) type Q	part 6:6.2.6	M	
5	International Portable User Identity (IPUI) type R	part 6:6.2.8	M	
6	International Portable User Identity (IPUI) type S	part 6:6.2.2	M	
7	International Portable User Identity (IPUI) type T	part 6:6.2.4	M	
8	International Portable User Identity (IPUI) type U	part 6:6.2.7	M	
9	International Portable Part Equipment Identity (IPEI)	part 6:10	M	
10	Default individual Temporary Portable part User Identity (TPUI)	part 6:6.3	M	
11	Assigned individual TPUI	part 6:6.3	M	
12	Connectionless group TPUI	part 6:6.3	M	
13	Call group TPUI	part 6:6.3	M	

Q.58.1: Portable identity - types of IPUI-N & IPEI

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of portable identity of variable length	7.7.1	M		5	
2	Length of contents (L)	7.5.1	M		7	
3	Type	7.7.30	M		0,16	
4	Length of identity value	7.7.30	M		40	
5	Portable User Type (PUT)	part 6:6.2.1	M		0	
6	PUN- EMC	part 6:10	M		1-65 535	
7	PUN-PSN	part 6:10	M		0-1048575	

Q.58.2: Portable identity - type of IPUI-M

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of portable identity of variable length	7.7.1	M		5	
2	Length of contents (L)	7.5.1	M		3-10	
3	Type	7.7.30	M		0	
4	Length of identity value	7.7.30	M		8-64,(mod 4)	
5	Portable User Type (PUT)	part 6:7.3	M		1	
6	Portable User Number (PUN)	part 6:6.2.3	M		0 - ((2**60)-1)	

Q.58.3: Portable identity - type of IPUI-P

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of portable identity of variable length	7.7.1	M		5	
2	Length of contents (L)	7.5.1	M		5-15	
3	Type	7.7.30	M		0	
4	Length of identity value	7.7.30	M		24-100	
5	Portable User Type (PUT)	part 6:7.3	M		2	
6	PUN-Public Operator Code	part 6:6.2.5	M		1 - 65 535	
7	PUN-ACCount number	part 6:6.2.5	M		0 - ((2**80)-1)	

Q.58.4: Portable identity - type IPUI-Q

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of portable identity of variable length	7.7.1	M		5	
2	Length of contents (L)	7.5.1	M		3-13	
3	Type	7.7.30	M		0	
4	Length of identity value	7.7.30	M		8-84	
5	Portable User Type (PUT)	part 6:7.3	M		3	
6	PUN-BACN	part 6:6.2.6	M		0 - 20 BCD digits	

Q.58.5: Portable identity - type of IPUI-R

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of portable identity of variable length	7.7.1	M		5	
2	Length of contents (L)	7.5.1	M		3-10	
3	Type	7.7.30	M		0	
4	Length of identity value	7.7.30	M		8-64, (mod 4)	
5	Portable User Type (PUT)	part 6:7.3	M		4	
7	PUN-IMSI	part 6:6.2.7	M		0 - 15 BCD digits	

Q.58.6: Portable identity - type IPUI-S

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of portable identity of variable length	7.7.1	M		5	
2	Length of contents (L)	7.5.1	M		3-10	
3	Type	7.7.30	M		0	
4	Length of identity value	7.7.30	M		8-64, (mod 4)	
5	Portable User Type (PUT)	part 6:7.3	M		5	
6	PUN-ISDN/PSTN number	part 6:6.2.2	M		0 - 15 BCD digits	

Q.58.7: Portable identity - type of IPUI-T

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of portable identity of variable length	7.7.1	M		5	
2	Length of contents (L)	7.5.1	M		5-10	
3	Type	7.7.30	M		0	
4	Length of identity value	7.7.30	M		24-64, (mod 4)	
5	PUT	part 6:7.3	M		6	
6	PUN-EIC	part 6:6.2.4	M		1-65 535	
7	PUN	part 6:6.2.4	M		0 - 11 BCD digits	

Q.58.8: Portable identity - type IPUI-U

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of portable identity of variable length	7.7.1	M		5	
2	Length of contents (L)	7.5.1	M		3-13	
3	Type	7.7.30	M		0	
4	Length of identity value	7.7.30	M		84	
5	Portable User Type (PUT)	part 6:7.3	M		7	
6	PUN-CACN	part 6:6.2.7	M		0 - 20 BCD digits	

Q.58.9: Portable identity - type default individual TPUI

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of portable identity of variable length	7.7.1	M		5	
2	Length of contents (L)	7.5.1	M		5	
3	Type	7.7.30	M		32	
4	Length of identity value	7.7.30	M		20	
5	First 4 bit	part 6:6.3	M		E (Hex)	
6	Last 16 bits of the least significant portion of IPUI	part 6:6.3	M		0-65535 or 4 BCD digits	

Q.58.10: Portable identity - type assigned individual TPUI

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of portable identity of variable length	7.7.1	M		5	
2	Length of contents (L)	7.5.1	M		5	
3	Type	7.7.30	M		32	
4	Length of identity value	7.7.30	M		20	
5	First 4 bit	part 6:6.3	M		0-B (Hex)	
6	Second 4 bit	part 6:6.3	M		0-B (Hex)	
7	Last 12 bit	part 6:6.3	M		0-4095	

Q.58.11: Portable identity - type connectionless group TPUI

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of portable identity of variable length	7.7.1	M		5	
2	Length of contents (L)	7.5.1	M		5	
3	Type	7.7.30	M		32	
4	Length of identity value	7.7.30	M		20	
5	First 4 bit	part 6:6.3	M		C (Hex)	
6	Second 4 bit	part 6:6.3	M		C (Hex)	
7	Last 12 bit	part 6:6.3	M		0-4095	

Q.58.12: Portable identity - type call group TPUI

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of portable identity of variable length	7.7.1	M		5	
2	Length of contents (L)	7.5.1	M		5	
3	Type	7.7.30	M		32	
4	Length of identity value	7.7.30	M		20	
5	First 4 bit	part 6:6.3	M		D (Hex)	
6	Second 4 bit	part 6:6.3	M		D (Hex)	
7	Last 12 bit	part 6:6.3	M		0-4095	

Q.60: Rand implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of Rand	7.7.1	M		12	
2	Length of contents (L)	7.7.32	M		8 - 255	
3	Rand value	7.7.32	M		0 - ((2** 64))-1)	
4	Rand value	7.7.32	O		0 - ((2** 64))-1)	

Q.61: Rate parameters implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of rate parameters	7.7.1	M		101	
2	Length of contents (L)	7.7.33	M		2-7	
3	Symmetry	7.7.33	M		0,2	
4	Interleaving	7.7.33	M		0,1	
5	Class of service	7.7.33	M		0,2,4-7	
6	Channel_1 rate (P => F)	7.7.33	M		0-4	
7	Channel_1 arrangement (P => F)	7.7.33	M		0-2,8	
8	Channel_1 rate (F => P)	7.7.33	M		0-4	
9	Channel_1 arrangement (F => P)	7.7.33	M		0-2,8	
10	Channel_2 rate (P => F)	7.7.33	M		0-4	
11	Channel_2 arrangement (P => F)	7.7.33	M		0-4	
12	Channel_2 rate (F => P)	7.7.33	M		0-2,8	
13	Channel_2 arrangement (F => P)	7.7.33	M		0-4	
14	Channel_3 rate (P => F)	7.7.33	M		0-2,8	
15	Channel_3 arrangement (P => F)	7.7.33	M		0-4	
16	Channel_3 rate (F => P)	7.7.33	M		0-4	
17	Channel_3 arrangement (F => P)	7.7.33	M		0-2,8	

Q.63: RES implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of RES	7.7.1	M		13	
2	Length of contents (L)	7.7.35	M		1-255	
3	RES value	7.7.35	M		0 - ((2**32)-1)	
4	RES value	7.7.35	O		0 - ((2**32)-1)	

Q.64: RS implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of RS	7.7.1	M		14	
2	Length of contents (L)	7.7.36	M		1-255	
3	RS value	7.7.36	M		0 - ((2**64)-1)	
4	RS value	7.7.36	O		0 - ((2**64)-1)	

Q.66: Service change info implemented

The table contents are given in annex I.

Q.72: ZAP field implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of ZAP field	7.7.1	M		82	
2	Length of contents (L)	7.7.44	M		1	
3	ZAP value	7.7.44	M		0-15	

G.2.4.3 B-Format message structure support

Q.75: Short TPUI address of LCE-request paging message implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	W-bit	8.2.1	M		0,1	
2	LCE header	8.2.1	M		0,3-7	
3	TPUI address (lowest 16 bits)	part 6:6.3.1	M		0-65 535	

Q.76: Long TPUI address of LCE-request paging message implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	W-bit	8.2.1	M		1	
2	LCE header	8.2.1	M		0,3-7	
3	Attributes	8.2.2	M		0,4,5, 9,12-15	
4	TPUI address (complete 20 bits)	part 6:6.3.1	M		(0 - (2**20)-1)	
5	Target bearers	8.2.2	M		0,1-15	
6	MAC packet life	8.2.2	M		0,8-15	

Q.77: Long IPUI address of LCE-request paging message implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	W-bit	8.2.1	M		0	
2	LCE header	8.2.1	M		0,3-7	
3	IPUI class (PUT)	part 6:6.2.1	M		0-7	
4	IPUI address (PUN lowest 28 bits)	8.2.1	M		7 BCD dig. or (0 - (2**28)-1)	

G.2.5 Protocol error handling

The supplier of the implementation shall state the support of the implementation for each of the following protocol error and exception handling procedures, in the table below.

Q.80: Error & exception handling procedure support

Item no.	Name of procedure	Reference	Protocol Status	Profile Support
1	eeh_protocol_discriminator_error	17.1	M	
2	eeh_message_too_short	17.2	M	
3	eeh_unsupported_transaction_identity_error	17.3.1	M	
4	eeh_unknown_active_cc_call	17.3.2.1	M	
5	eeh_unknown_active_ciss_call	17.3.2.2	Cciss	I
6	eeh_unknown_active_coms_call	17.3.2.3	Ccoms	I
7	eeh_unknown_active_clms_call	17.3.2.4	Cclms	I
8	eeh_unknown_active_mm_transaction	17.3.2.5	M	
9	eeh_cc_message_error	17.4.1	M	
10	eeh_ciss_message_error	17.4.2	Cciss	I
11	eeh_coms_&_clms_message_error	17.4.3	CcomsORclms	I
12	eeh_mm_message_error	17.4.4	M	
13	eeh_info_element_out_of_sequence	17.5.1	M	
14	eeh_duplicated_info_elements	17.5.2	M	
15	eeh_mandatory_info_element_missing_in_cc_message	17.6.1	M	
16	eeh_mandatory_info_element_content_error_in_cc_message	17.6.2	M	
17	eeh_mandatory_info_element_missing_in_coms_&_clms_message	17.6.3	CcomsORclms	I
18	eeh_mandatory_info_element_missing_in_mm_message	17.6.4	M	
19	eeh_unrecognized_info_element	17.7.1	M	
20	eeh_non-mandatory_info_element_content_error	17.7.2	M	
21	eeh_data_link_reset	17.8	M	
22	eeh_data_link_failure	17.9	M	

G.2.6 Negotiation capabilities

The supplier of the implementation shall provide information to describe the negotiation options available in the protocol, and indicate which have been implemented, in the table below.

Q.81: Negotiation capabilities

The table contents are given in annex I

G.2.7 Multi-layer dependencies

The supplier of the implementation shall provide information to identify the implementation support for specific requirements on the underlying layers, not made mandatory by the underlying layer protocol specifications, in the table below. Where appropriate, the supplier shall provide an external reference to the completed PICS for the layer standard.

Q.82: Multi-layer dependencies

Profile Support for specific requirements on underlying layers			
Item no.	**Layer**	**Protocol version support**	**PICS Reference**
1	DLC	ETS 300 175-4 [4]	ETS 300 476-2 [18]
2	MAC	ETS 300 175-3 [3]	ETS 300 476-3 [19]
3	PHL	ETS 300 175-2 [2]	ETS 300 476-4 [20]

Annex H (normative): Service C2: Fixed radio Termination (FT): provisions from ETS 300 175-5 (2nd edition) specifically required by this profile

Any provisions of ETS 300 175-5 [5] not specifically listed in this annex shall not be used.

Q.9.8: Management procedure support

Procedures supported				
Item no.	**Name of procedure**	**Reference**	**Protocol Status**	**Profile Support**
1	mgt_prioritized_list_negotiation	15.2.2	O	C5m
2	mgt_exchanged_attribute_negotiation	15.2.3	O	M
3	mgt_operating_parameter_negotiation	15.2.4	O	M
4	mgt_peer _attribute_negotiation	15.2.5	O	C10m
5	mgt_service_modification	15.3	O	C2 OR C6 OR C7 OR C12
6	mgt_mm_procedures_mgt	15.5	O	M
7	mgt_call_ciphering_mgt	15.6	Cmm15ORmm16	C4 OR C9
8	mgt_external_handover	15.7	O	I
9	mgt_test_call_back	15.8.1	O	I
10	mgt_test_hook_control	15.8.2	O	I
11	mgt_upper_tester	15.8.3	O	I

Q.11.1: CC-SETUP

Item no.	Name of information element	Reference	Sending (F to P)				Receipt (P to F)			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Protocol Discriminator (PD)	7.2	M		3		M		3	
2	Transaction Identifier (TI)	7.3	M		0-6,ext		M		0-6,ext	
3	Message Type (MI)	7.4.1	M		5		M		5	
4	Portable identity	7.7.30	M		<Q.58>		M		<Q.58>	
5	Fixed identity	7.7.18	M		<Q.46>		M		<Q.46>	
6	Basic service	7.6.4	M		<Q.22>		M		<Q.22>	
6a	Repeat indicator	7.6.3	O	C5o	<Q.21.2>		O	C5o	<Q.21.2>	
7	IWU attributes	7.7.21	O	M	<Q.49>		O	M	<Q.49>	
8	Repeat indicator	7.6.3	O	C5o	<Q.21.2>		O	C5o	<Q.21.2>	
9	Call attributes	7.7.5	O		<Q.33>		O		<Q.33>	
10	Repeat indicator	7.6.3	O	I	<Q21.1>		O	I	<Q21.1>	
11	Connection attributes	7.7.11	O	M	<Q.39>		O	M	<Q.39>	
12	Cipher info	7.7.10	O	I	<Q.38>		O	I	<Q.38>	
13	Connection identity	7.7.12	O	I	<Q.40>		O	I	<Q.40>	
14	Facility	7.7.15	O	I	<Q.43>		O	I	<Q.43>	
15	Progress Indicator	7.7.31	O		<Q.59>		X			
16	Display	7.5.5	O	I	<Q.23 or <Q.54>		X			
17	Keypad	7.5.5	X				O		<Q24> or <Q55>	
18	Signal	7.6.8	O		<Q.26>		X			
19	Feature Activate	7.7.16	X		<Q.44>		O	C8	<Q.44>	
20	Feature Indicate	7.7.17	O	C8	<Q.45>		X			
21	Network parameter	7.7.29	X				O		<Q.57>	
22	Terminal capability	7.7.41	X				O	I	<Q.69>	
23	End-to-end compatibility	7.7.14	O	I	<Q.42>		O	I	<Q.42>	
24	Rate parameters	7.7.33	O	I	<Q.61>		O	I	<Q.61>	
25	Transit delay	7.7.42	O	I	<Q.70>		O	I	<Q.70>	
26	Window size	7.7.43	O	M	<Q.71>		O	M	<Q.71>	
27	Calling party number	7.7.9	O	I	<Q.37>		O	I	<Q.37>	
28	Called party number	7.7.7	O	I	<Q.35>		O	O	<Q.35>	
29	Called party subaddress	7.7.8	O	I	<Q.36>		O	I	<Q.36>	
30	Sending complete	7.6.2	O	I	<Q.20.1>		O	I	<Q.20.1>	
31	IWU-to-IWU	7.7.23	O	I	<Q.51>		O	I	<Q.51>	
32	IWU-PACKET	7.7.22	O	I	<Q.50>		O	I	<Q.50>	

Q.11.3: CC-SETUP-ACKnowledge

Item no.	Name of information element	Reference	Sending (F to P)				Receipt (P to F)			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Protocol Discriminator (PD)	7.2	M		3		X			
2	Transaction Identifier (TI)	7.3	M		8-14,ext		X			
3	Message Type (MI)	7.4.1	M		13		X			
4	Info type	7.7.20	O	I	<Q.48>		X			
5	Portable identity	7.7.30	O	I	<Q.58>		X			
6	Fixed identity	7.7.18	O	I	<Q.46>		X			
7	Location area	7.7.25	O	I	<Q.53>		X			
7a	IWU attributes	7.7.21	O	O	<Q.49>		X			
8	Call attributes	7.7.5	O	I	<Q.33>		X			
9	Connection attributes	7.7.11	O	O	<Q.39>		X			
10	Connection identity	7.7.12	O	I	<Q.40>		X			
11	Facility	7.7.15	O	I	<Q.43>		X			
12	Progress indicator	7.7.31	O	C1o	<Q.59>		X			
13	Display	7.5.5	O	I	<Q.23> or <Q.54>		X			
14	Signal	7.6.8	O	I	<Q.26>		X			
15	Feature indicate	7.7.17	O	C8	<Q.45>		X			
16	Transit delay	7.7.42	O	I	<Q.70>		X			
17	Window size	7.7.43	O	M	<Q.71>		X			
18	Delimiter request	7.6.2	O	I	<Q.20.2>		X			
19	IWU-to-IWU	7.7.23	O	I	<Q.51>		X			
20	IWU-packet	7.7.22	O	I	<Q.50>		X			

Q.11.4: CC-CALL-PROCeeding

Item no.	Name of information element	Reference	Sending (F to P)				Receipt (P to F)			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Protocol Discriminator (PD)	7.2	M		3		X			
2	Transaction Identifier (TI)	7.3	M		8-14,ext		X			
3	Message Type (MI)	7.4.1	M		2		X			
3a	IWU attributes	7.7.21	O	O	<Q.49>		X			
4	Call attributes	7.7.5	O		<Q.33>		X			
5	Connection attributes	7.7.11	O	O	<Q.39>		X			
6	Connection identity	7.7.12	O	I	<Q.40>		X			
7	Facility	7.7.15	O	I	<Q.43>		X			
8	Progress indicator	7.7.31	O	C1o	<Q.59>		X			
9	Display	7.5.5	O	I	<Q.23> or <Q.54>		X			
10	Signal	7.6.8	O	I	<Q.26>		X			
11	Feature indicate	7.7.17	O	C8	<Q.45>		X			
12	Transit delay	7.7.42	O	I	<Q.70>		X			
13	Window size	7.7.43	O	I	<Q.71>		X			
14	IWU-to-IWU	7.7.23	O	I	<Q.51>		X			
15	IWU-PACKET	7.7.22	O	I	<Q.50>		X			

Q.11.5: CC-ALERTING

Item no.	Name of information element	Reference	Sending (F to P)				Receipt (P to F)			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Protocol Discriminator (PD)	7.2	M		3		M		3	
2	Transaction Identifier (TI)	7.3	M		8-14,ext		M		8-14,ext	
3	Message Type (MI)	7.4.1	M		1		M		1	
3a	IWU attributes	7.7.21	O	O	<Q.49>		O	O	<Q.49>	
4	Call attributes	7.7.5	O	I	<Q.33>		O	X	<Q.33>	
5	Connection attributes	7.7.11	O	O	<Q.39>		O	O	<Q.39>	
6	Connection identity	7.7.12	O	I	<Q.40>		O	I	<Q.40>	
7	Facility	7.7.15	O	I	<Q.43>		X			
8	Progress Indicator	7.7.31	O	C1o	<Q.59>		X			
9	Display	7.5.5	O	I	<Q.23> or <Q.54>		X			
10	Signal	7.6.8	O	I	<Q.26>		X			
11	Feature indicate	7.7.17	O	C8	<Q.45>		X			
12	Terminal capability	7.7.41	X				O	I	<Q.69>	
13	Transit delay	7.7.42	O	I	<Q.70>		O	I	<Q.70>	
14	Window size	7.7.43	O	I	<Q.71>		O	I	<Q.71>	
15	IWU-to-IWU	7.7.23	O	I	<Q.51>		O	I	<Q.51>	
16	IWU-PACKET	7.7.22	O	I	<Q.50>		O	I	<Q.50>	

Q.11.6: CC-CONNECT

Item no.	Name of information element	Reference	Sending (F to P)				Receipt (P to F)			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Protocol Discriminator (PD)	7.2	M		3		M		3	
2	Transaction Identifier (TI)	7.3	M		8-14,ext		M		8-14,ext	
3	Message Type (MI)	7.4.1	M		7		M		7	
3a	IWU attributes	7.7.21	O	O	<Q.49>		O	O	<Q.49>	
4	Call attributes	7.7.5	O	I	<Q.33>		O	I	<Q.33>	
5	Connection attributes	7.7.11	O	O	<Q.39>		O	O	<Q.39>	
6	Connection identity	7.7.12	O	I	<Q.40>		O	I	<Q.40>	
7	Facility	7.7.15	O	I	<Q.43>		O	I	<Q.43>	
8	Progress indicator	7.7.31	O		<Q.59>		X			
9	Display	7.5.5	O	I	<Q.23> or <Q.54>		X			
10	Signal	7.6.8	O	I	<Q.26>		X			
11	Feature indicate	7.7.17	O	C8	<Q.45>		X			
12	Terminal capability	7.7.41	X				O	I	<Q.69>	
13	Transit delay	7.7.42	O	I	<Q.70>		O	I	<Q.70>	
14	Window size	7.7.43	O	M	<Q.71>		O	M	<Q.71>	
15	IWU-to-IWU	7.7.23	O	I	<Q.51>		O	I	<Q.51>	
16	IWU-PACKET	7.7.22	O	I	<Q.50>		O	I	<Q.50>	

Q.11.10: CC-SERVICE-CHANGE

Item no.	Name of information element	Reference	Sending (F to P)				Receipt (P to F)			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Protocol Discriminator (PD)	7.2	M		3		M		3	
2	Transaction Identifier (TI)	7.3	M		0-6,8-14,ext		M		0-6,8-14,ext	
3	Message Type (MI)	7.4.1	M		32		M		32	
3a	IWU attributes	7.7.21	O	C11o	<Q.49>		O	C11m	<Q.49>	
4	Portable identity	7.7.30	M		<Q.58>		M		<Q.58>	
5	Service change Info	7.7.38	M		<Q.66>		M		<Q.66>	
6	Repeat indicator	7.6.3	O	I	<Q.21.1>		O	I	<Q.21.1>	
7	Connection attributes	7.7.11	O	O	<Q.39>		O	O	<Q.39>	
8	Connection identity	7.7.12	O	I	<Q.40>		O	I	<Q.40>	

Q.11.11: CC-SERVICE-ACCEPT

Item no.	Name of information element	Reference	Sending (F to P)				Receipt (P to F)			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Protocol Discriminator (PD)	7.2	M		3		M		3	
2	Transaction Identifier (TI)	7.3	M		0-6,8-14,ext		M		0-6,8-14,ext	
3	Message Type (MI)	7.4.1	M		33		M		33	
3a	IWU attributes	7.7.21	O	C11o	<Q.49>		O	C11m	<Q.49>	
4	Connection identity	7.7.12	O	I	<Q.40>		O	I	<Q.40>	

Q.11.12: CC-SERVICE-REJECT

Item no.	Name of information element	Reference	Sending (F to P)				Receipt (P to F)			
			Status	Support	Value		Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Protocol Discriminator (PD)	7.2	M		3		M		3	
2	Transaction Identifier (TI)	7.3	M		0-6,8-14,ext		M		0-6,8-14,ext	
3	Message Type (MI)	7.4.1	M		35		M		35	
4	Release reason	7.6.7	O		<Q.25>		M		<Q.25>	
4a	IWU attributes	7.7.21	O	C11o	<Q.49>		O	C11m	<Q.49>	
5	Connection attributes	7.7.11	O		<Q.39>		O		<Q.39>	

Q.49: IWU attributes implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of IWU attributes of variable length	7.7.1	M		18	
2	Length of Contents (L)	7.7.21	M		4-	
3	Coding standard	7.7.21	M		0,1	
4	Profile	7.7.21	M		0,1,2,3,4,8,9, 10,11,12	1
5	Negotiation indicator	7.7.21	M		0,2,4,6	
6	Profile subtype	7.7.21	M		note 1	
7	IWU attributes information	7.7.21	O		note 1	

NOTE 1: The codings of the interworking service dependent fields shall be given in the interworking annexes.

Q.66: Service change info implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of service change info	7.7.1	M		22	
2	Length of contents (L)	7.7.38	M		2-3	
3	Coding standard	7.7.38	M		0	
4	Master (M)	7.7.38	M		0,1	
5	Change mode	7.7.38	M		0,12,4,6,8,9,10 ,11,12,13,15	0,1,2,4,5,8,9, 12
6	Extended change mode	7.7.38	O	I		
7	A attributes	7.7.38	M		0,2,3	
8	Reset (R)	7.7.38	M		0,1	
9	B attributes	7.7.38	M		0,2,3	

Q.81: Negotiation capabilities

Item no.	Negotiation capabilities	Involved messages	Negotiation Info Element	Sending (P to F)		Receipt (F to P)	
				Protocol Status	Profile Support	Protocol Status	Profile Support
1	Prioritized list negotiation, max. 3 values for the repeated info element	CC-SETUP	Call attributes, Connection attributes, IWU attributes	O O O	C5o C5o C5o	O O O	C5m C5m C5m
2	Prioritized list negotiation, max. 3 values for the repeated info element	MM-AUTH-REJECT	Auth-type	O	C5o	O	C5m
3	Prioritized list negotiation, max. 3 values for the repeated info element	MM-CIPHER-REJECT	Cipher info	O	C5o	X	
4	Exchanged attribute negotiation	CC-RELEASE-COM	IWU attributes	O	M	O	M
5	Operating parameter negotiation	CC-SETUP-ACK,CC-ALERTING, CC-CALL-PROC,CC-CONNECT	Window size, Transit delay	O O	M I	O O	M I
6	Peer attribute parameter negotiation	CC-SETUP,CC-SETUP-ACK,CC-ALERTING, CC-CALL-PROC,CC-CONNECT	IWU attributes	O	C10o	O	C10m

Annex I (normative): Service C2: Portable radio Termination (PT): provisions from ETS 300 175-5 (2nd edition) specifically required by this profile

Any provisions of ETS 300 175-5 [5] not specifically listed in this annex shall not be used.

Q.9.8: Management procedure support

Procedures supported				
Item no.	**Name of procedure**	**Reference**	**Protocol Status**	**Profile Support**
1	mgt_prioritized_list_negotiation	15.2.2	O	C5m
2	mgt_exchanged_attribute_negotiation	15.2.3	O	M
3	mgt_operating_parameter_negotiation	15.2.4	O	M
4	mgt_peer _attribute_negotiation	15.2.5	O	C10m
5	mgt_service_modification	15.3	O	M
6	mgt_mm_procedures_mgt	15.5	O	M
7	mgt_call_ciphering_mgt	15.6	Cmm15ORmm16	C4
8	mgt_external_handover	15.7	O	I
9	mgt_test_call_back	15.8.1	O	I
10	mgt_test_hook_control	15.8.2	O	I
11	mgt_upper_tester	15.8.3	O	I

Q.11.1: CC-SETUP

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Support	Value		Protocol Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Protocol Discriminator (PD)	7.2	M		3		M		3	
2	Transaction Identifier (TI)	7.3	M		0-6,ext		M		0-6,ext	
3	Message Type (MI)	7.4.1	M		5		M		5	
4	Portable identity	7.7.30	M		<Q.58>		M		<Q.58>	
5	Fixed identity	7.7.18	M		<Q.46>		M		<Q.46>	
6	Basic service	7.6.4	M		<Q.22>		M		<Q.22>	
6a	Repeat indicator	7.6.3	O	C5o	<Q.21.2>		O	C5o	<Q.21.2>	
7	IWU attributes	7.7.21	O	M	<Q.49>		O	M	<Q.49>	
8	Repeat indicator	7.6.3	O	C5o	<Q.21.2>		O	C5o	<Q.21.2>	
9	Call attributes	7.7.5	O		<Q.33>		O		<Q.33>	
10	Repeat indicator	7.6.3	O	I	<Q21.1>		O	I	<Q21.1>	
11	Connection attributes	7.7.11	O	M	<Q.39>		O	M	<Q.39>	
12	Cipher info	7.7.10	O	I	<Q.38>		O	I	<Q.38>	
13	Connection identity	7.7.12	O	I	<Q.40>		O	I	<Q.40>	
14	Facility	7.7.15	O	I	<Q.43>		O	I	<Q.43>	
15	Progress Indicator	7.7.31	X				O		<Q.59>	
16	Display	7.5.5	X				O	I	<Q.23 or <Q.54>	
17	Keypad	7.5.5	O		<Q24> or <Q55>		X			
18	Signal	7.6.8	X				O	C1m	<Q.26>	
19	Feature Activate	7.7.16	O	C8	<Q.44>		X		<Q.44>	
20	Feature Indicate	7.7.17	X				O	C8	<Q.45>	

(continued)

Q.11.1: CC-SETUP (concluded)

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Support	Value		Protocol Status	Support	Value	
					Allowed	Supported			Allowed	Supported
21	Network parameter	7.7.29	O		<Q.57>		X			
22	Terminal capability	7.7.41	O	I	<Q.69>		X			
23	End-to-end compatibility	7.7.14	O	I	<Q.42>		O	I	<Q.42>	
24	Rate parameters	7.7.33	O	I	<Q.61>		O	I	<Q.61>	
25	Transit delay	7.7.42	O	I	<Q.70>		O	I	<Q.70>	
26	Window size	7.7.43	O	M	<Q.71>		O	M	<Q.71>	
27	Calling party number	7.7.9	O	I	<Q.37>		O	I	<Q.37>	
28	Called party number	7.7.7	O	O	<Q.35>		O	I	<Q.35>	
29	Called party subaddress	7.7.8	O	I	<Q.36>		O	I	<Q.36>	
30	Sending complete	7.6.2	O	I	<Q.20.1>		O	I	<Q.20.1>	
31	IWU-to-IWU	7.7.23	O	I	<Q.51>		O	I	<Q.51>	
32	IWU-PACKET	7.7.22	O	I	<Q.50>		O	I	<Q.50>	

Q.11.3: CC-SETUP-ACKnowledge

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Support	Value		Protocol Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Protocol Discriminator (PD)	7.2	X				M		3	
2	Transaction Identifier (TI)	7.3	X				M		8-14,ext	
3	Message Type (MI)	7.4.1	X				M		13	
4	Info type	7.7.20	X				O	I	<Q.48>	
5	Portable identity	7.7.30	X				O	I	<Q.58>	
6	Fixed identity	7.7.18	X				O	I	<Q.46>	
7	Location area	7.7.25	X				O	I	<Q.53>	
8	IWU attributes	7.7.21	X				O	O	<Q.49>	
9	Call attributes	7.7.5	X				O	I	<Q.33>	
10	Connection attributes	7.7.11	X				O	O	<Q.39>	
11	Connection identity	7.7.12	X				O	I	<Q.40>	
12	Facility	7.7.15	X				O	I	<Q.43>	
13	Progress indicator	7.7.31	X				O	C1m	<Q.59>	
14	Display	7.5.5	X				O	I	<Q.23> or <Q.54>	
15	Signal	7.6.8	X				O	I	<Q.26>	
16	Feature indicate	7.7.17	X				O	C8	<Q.45>	
17	Transit delay	7.7.42	X				O	I	<Q.70>	
18	Window size	7.7.43	X				O	M	<Q.71>	
19	Delimiter request	7.6.2	X				O		<Q.20.2>	
20	IWU-to-IWU	7.7.23	X				O	I	<Q.51>	
21	IWU-packet	7.7.22	X				O	I	<Q.50>	

Q.11.4: CC-CALL-PROCeeding

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Support	Value		Protocol Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Protocol Discriminator (PD)	7.2	X				M		3	
2	Transaction Identifier (TI)	7.3	X				M		8-14,ext	
3	Message Type (MI)	7.4.1	X				M		2	
4	IWU attributes	7.7.21	X				O	O	<Q.49>	
5	Call attributes	7.7.5	X				O		<Q.33>	
6	Connection attributes	7.7.11	X				O	O	<Q.39>	
7	Connection identity	7.7.12	X				O	I	<Q.40>	
8	Facility	7.7.15	X				O	I	<Q.43>	
9	Progress indicator	7.7.31	X				O	C1m	<Q.59>	
10	Display	7.5.5	X				O	I	<Q.23> or <Q.54>	
11	Signal	7.6.8	X				O	I	<Q.26>	
12	Feature indicate	7.7.17	X				O	C8	<Q.45>	
13	Transit delay	7.7.42	X				O	I	<Q.70>	
14	Window size	7.7.43	X				O	I	<Q.71>	
15	IWU-to-IWU	7.7.23	X				O	I	<Q.51>	
16	IWU-PACKET	7.7.22	X				O	I	<Q.50>	

Q.11.5: CC-ALERTING

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Support	Value		Protocol Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Protocol Discriminator (PD)	7.2	M		3		M		3	
2	Transaction Identifier (TI)	7.3	M		8-14,ext		M		8-14,ext	
3	Message Type (MI)	7.4.1	M		1		M		1	
7	IWU attributes	7.7.21	O	O	<Q.49>		O	O	<Q.49>	
4	Call attributes	7.7.5	O		<Q.33>		O	I	<Q.33>	
5	Connection attributes	7.7.11	O	O	<Q.39>		O	O	<Q.39>	
6	Connection identity	7.7.12	O	I	<Q.40>		O	I	<Q.40>	
7	Facility	7.7.15	X				O	I	<Q.43>	
8	Progress Indicator	7.7.31	X				O	C1m	<Q.59>	
9	Display	7.5.5	X				O	I	<Q.23> or <Q.54>	
10	Signal	7.6.8	X				O	I	<Q.26>	
11	Feature indicate	7.7.17	X				O	C8	<Q.45>	
12	Terminal capability	7.7.41	O	I	<Q.69>		X			
13	Transit delay	7.7.42	O	I	<Q.70>		O	I	<Q.70>	
14	Window size	7.7.43	O	I	<Q.71>		O	I	<Q.71>	
15	IWU-to-IWU	7.7.23	O	I	<Q.51>		O	I	<Q.51>	
16	IWU-PACKET	7.7.22	O	I	<Q.50>		O	I	<Q.50>	

Q.11.6: CC-CONNECT

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Support	Value		Protocol Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Protocol Discriminator (PD)	7.2	M		3		M		3	
2	Transaction Identifier (TI)	7.3	M		8-14,ext		M		8-14,ext	
3	Message Type (MI)	7.4.1	M		7		M		7	
3a	IWU attributes	7.7.21	O	O	<Q.49>		O	O	<Q.49>	
4	Call attributes	7.7.5	O	I	<Q.33>		O	I	<Q.33>	
5	Connection attributes	7.7.11	O	O	<Q.39>		O	O	<Q.39>	
6	Connection identity	7.7.12	O	I	<Q.40>		O	I	<Q.40>	
7	Facility	7.7.15	O	I	<Q.43>		O	I	<Q.43>	
8	Progress indicator	7.7.31	X				O		<Q.59>	
9	Display	7.5.5	X				O	I	<Q.23> or <Q.54>	
10	Signal	7.6.8	X				O	I	<Q.26>	
11	Feature indicate	7.7.17	X				O	C8	<Q.45>	
12	Terminal capability	7.7.41	O	I	<Q.69>		X			
13	Transit delay	7.7.42	O	I	<Q.70>		O	I	<Q.70>	
14	Window size	7.7.43	O	M	<Q.71>		O	M	<Q.71>	
15	IWU-to-IWU	7.7.23	O	I	<Q.51>		O	I	<Q.51>	
16	IWU-PACKET	7.7.22	O	I	<Q.50>		O	I	<Q.50>	

Q.11.10: CC-SERVICE-CHANGE

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Support	Value		Protocol Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Protocol Discriminator (PD)	7.2	M		3		M		3	
2	Transaction Identifier (TI)	7.3	M		0-6,8-14,ext		M		0-6,8-14,ext	
3	Message Type (MI)	7.4.1	M		32		M		32	
3a	IWU attributes	7.7.21	O	C11o	<Q.49>		O	C11m	<Q.49>	
4	Portable identity	7.7.30	M		<Q.58>		M		<Q.58>	
5	Service change Info	7.7.38	M		<Q.66>		M		<Q.66>	
6	Repeat indicator	7.6.3	O	I	<Q.21.1>		O	I	<Q.21.1>	
7	Connection attributes	7.7.11	O	O	<Q.39>		O	O	<Q.39>	
8	Connection identity	7.7.12	O	I	<Q.40>		O	I	<Q.40>	

Q.11.11: CC-SERVICE-ACCEPT

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Support	Value		Protocol Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Protocol Discriminator (PD)	7.2	M		3		M		3	
2	Transaction Identifier (TI)	7.3	M		0-6,8-14,ext		M		0-6,8-14,ext	
3	Message Type (MI)	7.4.1	M		33		M		33	
3a	IWU attributes	7.7.21	O	C11o	<Q.49>		O	C11m	<Q.49>	
4	Connection identity	7.7.12	O		<Q.40>		O		<Q.40>	

Q.11.12: CC-SERVICE-REJECT

Item no.	Name of information element	Reference	Sending (P to F)				Receipt (F to P)			
			Protocol Status	Support	Value		Protocol Status	Support	Value	
					Allowed	Supported			Allowed	Supported
1	Protocol Discriminator (PD)	7.2	M		3		M		3	
2	Transaction Identifier (TI)	7.3	M		0-6,8-14,ext		M		0-6,8-14,ext	
3	Message Type (MI)	7.4.1	M		35		M		35	
4	Release reason	7.6.7	O		<Q.25>		M		<Q.25>	
5	IWU attributes	7.7.21	O	C11o	<Q.49>		O	C11m	<Q.49>	
6	Connection attributes	7.7.11	O		<Q.39>		O		<Q.39>	

Q.49: IWU attributes implemented

Supported parameters						
Field no.	Name of fields	Reference	Protocol Status	Supp	Values	
					Allowed	Supported
1	ID of IWU attributes of variable length	7.7.1	M		18	
2	Length of Contents (L)	7.7.21	M		4-	
3	Coding standard	7.7.21	M		0,1	
4	Profile	7.7.21	M		0,1,2,3,4,8,9, 10,11,12	1
5	Negotiation indicator	7.7.21	M		0,2,4,6	
6	Profile subtype	7.7.21	M		note 1	
7	IWU attributes information	7.7.21	O		note 1	
NOTE 1: The codings of the interworking service dependent fields shall be given in the interworking annexes.						

Q.66: Service change info implemented

Supported parameters						
Field no.	**Name of fields**	**Reference**	**Protocol Status**	**Supp**	**Values**	
					Allowed	**Supported**
1	ID of service change info	7.7.1	M		22	
2	Length of contents (L)	7.7.38	M		2-3	
3	Coding standard	7.7.38	M		0	
4	Master (M)	7.7.38	M		0,1	
5	Change mode	7.7.38	M		0,1,2,4,6,8,9,10,11,12,13,15	0,1,2,4,5,8,9,12
6	Extended change mode	7.7.38	O	X		
7	A attributes	7.7.38	M		0,2,3	
8	Reset (R)	7.7.38	M		0,1	
9	B attributes	7.7.38	M		0,2,3	?

Q.81: Negotiation capabilities

Item no.	**Negotiation capabilities**	**Involved messages**	**Negotiation Info Element**	**Sending (P to F)**		**Receipt (F to P)**	
				Protocol Status	**Profile Support**	**Protocol Status**	**Profile Support**
1	Prioritized list negotiation, max. 3 values for the repeated info element	CC-SETUP	Call attributes, Connection attributes, IWU attributes	O O O	C5o C5o C5o	O O O	C5m C5m C5m
2	Prioritized list negotiation, max. 3 values for the repeated info element	MM-AUTH-REJECT	Auth-type	O	C5o	O	C5m
3	Prioritized list negotiation, max. 3 values for the repeated info element	MM-CIPHER-REJECT	Cipher info	O	C5o	X	
4	Exchanged attribute negotiation	CC-RELEASE-COM	IWU attributes	O	M	O	M
5	Operating parameter negotiation	CC-SETUP-ACK,CC-ALERTING, CC-CALL-PROC,CC-CONNECT	Window size, Transit delay	O O	M I	O O	M I
6	Peer attribute negotiation	CC-SETUP,CC-SETUP-ACK,CC-ALERTING, CC-CALL-PROC,CC-CONNECT	IWU attributes	O	C10o	O	C10m

History

Document history			
September 1995	Public Enquiry	PE 92:	1995-09-25 to 1996-01-19
June 1996	Vote	V 105:	1996-06-10 to 1996-08-16
September 1996	First Edition		

ISBN 2-7437-0912-X
Dépôt légal : Septembre 1996