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European Standard (Telecommunications series)

**Digital Enhanced Cordless Telecommunications (DECT);
Data Services Profile (DSP);
Base standard including interworking to connectionless
networks (service types A and B, class 1)**



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Foreword

This European Standard (Telecommunications series) has been produced by ETSI Project Digital Enhanced Cordless Telecommunications (DECT), and is now submitted for the Public Enquiry phase of the ETSI standards Two-step Approval Procedure.

Proposed national transposition dates	
Date of latest announcement of this EN (doa):	3 months after ETSI publication
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	6 months after doa
Date of withdrawal of any conflicting National Standard (dow):	6 months after doa

1 Scope

The present document defines a profile for Digital Enhanced Cordless Telecommunications (DECT) systems conforming to EN 300 175, parts 1 to 8 [1] to [8]. It is part of a family of profiles that build upon and extend each other, aimed at the general connection of terminals supporting non-voice services to a fixed private and public infrastructure.

The present document specifies a generic frame relay service for use within closed user groups. This service is used by other Data Services Profile standards when providing interworking to levels above the Medium Access Control (MAC) layer of the attached network. Annex B contains interworking conventions to specific attached data networks. This includes interworking to the MAC layer of international standard connectionless Local Area data Networks (LANs).

The present document defines both type A and type B services. Type A is optimized for low power and simplicity, while type B is optimized for high speed and throughput. Both are fully compatible and can interwork with each other.

The present document defines the requirements on the Physical Layer (PHL), MAC layer, Data Link Control (DLC) layer and Network (NWK) layer of DECT.

The present document also specifies Management Entity (ME) requirements and generic interworking conventions that ensure the efficient use of the DECT frequency spectrum.

2 References

References may be made to:

- a) specific versions of publications (identified by date of publication, edition number, version number, etc.), in which case, subsequent revisions to the referenced document do not apply; or
- b) all versions up to and including the identified version (identified by "up to and including" before the version identity); or
- c) all versions subsequent to and including the identified version (identified by "onwards" following the version identity); or
- d) publications without mention of a specific version, in which case the latest version applies.

A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

2.1 Normative references

- [1] EN 300 175-1: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 1: Overview".
- [2] EN 300 175-2: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 2: Physical layer (PHL)".
- [3] EN 300 175-3: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 3: Medium Access Control (MAC) layer".
- [4] EN 300 175-4: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 4: Data Link Control (DLC) layer".
- [5] EN 300 175-5: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 5: Network (NWK) layer".
- [6] EN 300 175-6: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 6: Identities and addressing".
- [7] EN 300 175-7: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 7: Security features".

- [8] EN 300 175-8: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 8: Speech coding and transmission".
- [9] TBR 6: "Digital Enhanced Cordless Telecommunications (DECT); General terminal attachment requirements".
- [10] ISO/IEC 9646-7: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 7: Implementation Conformance Statements".
- [11] ETR 043: "Digital European Cordless Telecommunications (DECT); Common interface; Services and facilities requirements specification".
- [12] ISO 8802-3: "Information technology - Telecommunications and information exchange between systems - Local and metropolitan area networks - Specific requirements - Part 3: Carrier sense multiple access with collision detection (CSMA/CD) access method and physical layer specifications".
- [13] ISO 8802-5: "Information technology - Telecommunications and information exchange between systems - Local and Metropolitan Area Networks - Specific requirements - Part 5: Token ring access method and physical layer specification".
- [14] RFC 791: "Internet protocol; DARPA internet program protocol specification".
- [15] RFC 1661: "The Point-to-Point Protocol".
- [16] RFC 1662: "PPP in HDLC-framing".

2.2 Informative references

- [17] EN 300 176-1: "Digital Enhanced Cordless Telecommunications (DECT); Approval test specification; Part 1: Radio".
- [18] EN 300 176-2: "Digital Enhanced Cordless Telecommunications (DECT); Approval test specification; Part 2: Speech".
- [19] ETR 015: "Digital Enhanced Cordless Telecommunications (DECT); Reference document".
- [20] ETR 042: "Digital Enhanced Cordless Telecommunications (DECT); A Guide to DECT features that influence the traffic capacity and the maintenance of high radio link transmission quality, including the results of simulations".
- [21] ETR 056: "Digital Enhanced Cordless Telecommunications (DECT); System description document".
- [22] CEPT Recommendation T/SGT SF2 (89) 6/0: "Draft Recommendation T/SF Services and Facilities of Digital Enhanced Cordless Telecommunications".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the following definitions apply:

Access Rights Identity (ARI): See EN 300 175-6 [6].

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

multiframe: See EN 300 175-1 [1].

service type A: Low speed frame relay, with a net sustainable throughput of up to 24 kbits/s, optimized for burst 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 burst data. Equipment implementation the Type B profile shall inter-operate with Type A equipment.

Time Division Multiple Access (TDMA) frame: See EN 300 175-1 [1].

3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

AC	Access Control
ARC	Access Rights Class
ARD	Access Rights Details
ARI	Access Rights Identity
ATM	Asynchronous Transfer Mode
C	higher layer control Channel (see C_S and C_F)
C_F	higher layer signalling Channel (fast)
C/L	ConnectionLess
CL	higher layer ConnectionLess channel (protected; see CL_S and CL_F)
CL_F	higher layer ConnectionLess channel (fast)
CL_S	higher layer ConnectionLess channel (slow)
C/O	Connection Oriented
C-plane	Control plane
CRC	Cyclic Redundancy Check
C_S	higher layer signalling Channel (slow)
DA	Destination Address
DECT	Digital Enhanced Cordless Telecommunications
DLC	Data Link Control
ECN	Exchanged Connection Number
EDEL	End delimiter
E/U-MUX	Switch between E-type and U-type Multiplexes
FC	Frame Control
FCS	Frame Check Sequence
FMID	Fixed part MAC Identity
FP	Fixed Part
FR	Frame Relay
FS	Frame Status
FT	Fixed radio Termination
G_F	higher layer information control channel
I	higher layer Information channel (see I_N and I_P)
I_N	higher layer Information channel (unprotected)
I_P	higher layer Information channel (protected)
IP	Internet Protocol

IPUI	International Portable User Identity
ISDN	Integrated Service Digital Network
IWU	Interworking Unit
L	Length
LAN	Local Area data Network
LBN	Logical Bearer Number
LSB	Least Significant Bit
M	MAC control channel
MAC	Medium Access Control
ME	Management Entity
MSB	Most Significant Bit
MUX	time Multiplexors
N	identities channel
P	Paging channel
PAD	Padding
PARI	Primary Access Rights Identity
PDU	Protocol Data Unit
PHL	Physical Layer
PMID	Portable part MAC Identity
PP	Portable Part
PT	Portable radio Termination
Q	system information channel
RFP	Radio Fixed Part
RFPI	Radio Fixed Part Identity
SA	Source Address
SAP	Service Access Point
SARI	Secondary Access Rights Identity
SDEL	Start Delimiter
SDU	Service Data Unit
SFD	Start Frame Delimiter
SI _p	higher layer connectionless channel (protected)
TARI	Tertiary Access Rights Identity
T-MUX	Tail MUX
TDMA	Time Division Multiple Access
TPUI	Temporary Portable User Identity
U-plane	User-plane

3.3 Symbols

For the purposes of the present document, the following symbols apply:

M	for mandatory to support (provision mandatory, process mandatory)
O	for optional to support (provision optional, process mandatory)
I	for out-of-scope (provision optional, process optional) not subject for testing
C	for conditional to support (process mandatory)

Provision mandatory, process mandatory means that the indicated feature, service or procedure shall be implemented as described in the present document, and may be subject to testing.

Provision optional, process mandatory means that the indicated feature, service or procedure may be implemented, and if implemented, the feature, service or procedure shall be implemented as described in the present document, and may be subject to testing.

NOTE: The used notation is based on the notation proposed, see ISO/IEC 9646-7 [10].

4 Description of services

4.1 Typical profile configuration

A typical configuration for this profile is shown in figure 1.

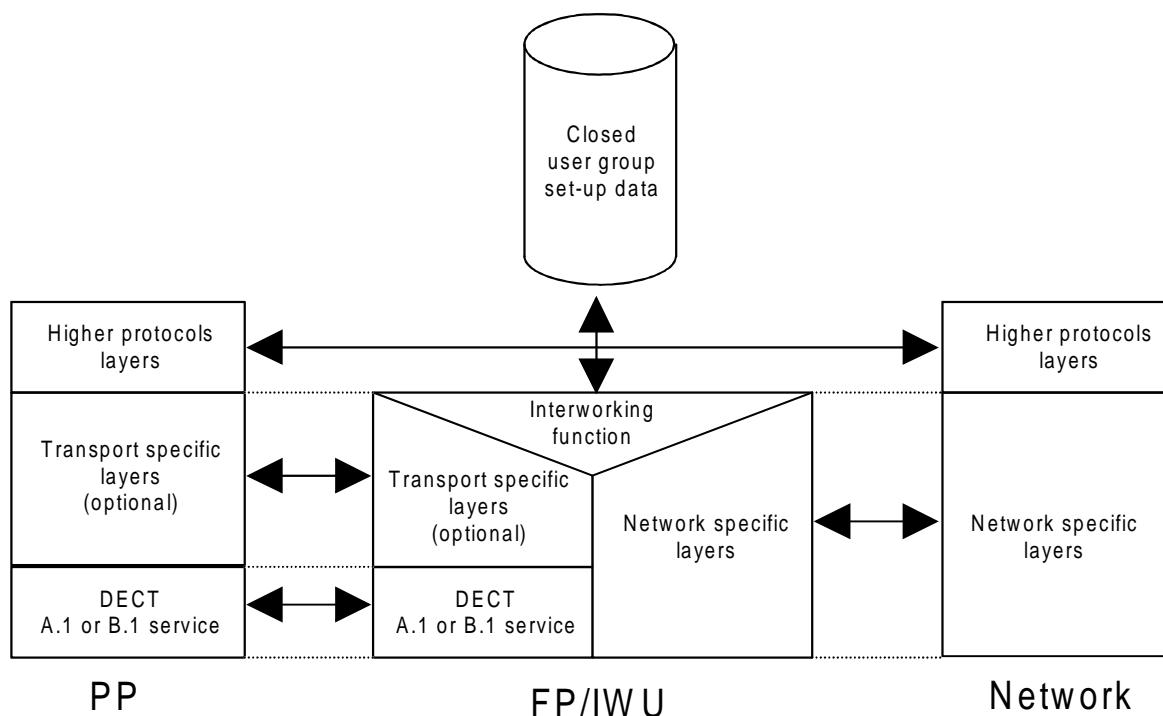


Figure 1: Typical profile configuration showing interworking to a network via the generic frame relay service

This typical profile configuration is based upon the following principles:

- interworking is with an external network via the generic frame relay service (service Type A or B);
- interworking with the end system network layer or above is not a requirement of the present document;
- the set of supported Portable Parts (PPs) shall be statically registered with the Fixed Part (FP).

4.2 Service objectives

The profile has the service objectives given in tables 1 and 2, as outlined in ETR 043 [11].

Table 1

Offered services	Type A	Type B
Point-to-point Service Data Unit (SDU) transfer PP-FP	Yes	Yes
Point-to-point SDU transfer FP-PP	Yes	Yes
Point-to-multipoint SDU transfer FP-PP	Optional	Optional
Encryption	Optional	Optional

Table 2

Performance	Type A	Type B
Maximum sustainable unidirectional throughput	24 kbits/s net	552 kbits/s net
Maximum sustainable full bi-directional throughput	24 kbits/s net	288 kbits/s net
Establishment of PT to FT link (average)	< 50 ms average	< 50 ms average
Establishment of FT to PT link (average)	< 160 ms average	< 50 ms average
Undetected bit error ratio	< 10^{-10}	< 10^{-10}
Uncorrected error ratio	< 10^{-7}	< 10^{-7}
Maximum supported SDU size	greater than or equal to 1 528 octets	greater than or equal to 1 528 octets

4.3 Service definitions

For the purposes of the present document the following service definitions apply.

4.3.1 Physical Layer (PHL) services

See PHL requirements, clause 5.

4.3.2 Medium Access Control (MAC) service definitions

general [M.1]: A set of basic requirements regarding data formats, multiplexing, Cyclic Redundancy Check (CRC) usage, scanning and locking, which are prerequisites to communication between peer MAC entities.

non continuous broadcast [M.2]: A simplex service from FT to PT which allow PTs to acquire more Q-channel information (i.e. TARI) and to request a new dummy bearer.

continuous broadcast [M.3]: A simplex service from FT to PT whereby the FT maintains at least one bearer with continuous transmissions. The PT can use the information carried in this bearer to lock to the FT and to obtain knowledge about the FT.

paging broadcast [M.4]: A service whereby the identities of specific PTs can be broadcast by the FT. This service is normally used by the FT to request a specific PT to set up a link to the FT.

higher layer connectionless U-plane point-to-multipoint service [M.5]: A simplex service from FT to PT whereby the FT transfers a single SDU of U-plane data from one source point to one (or more) destination points. The service uses the higher layer connectionless channel (protected) (SIP) logical channel: the SIP information is protected by MAC layer error detection procedure based on 16 bit CRCs.

advanced single bearer connection [M.6]: A service providing connection between FT and PT consisting of one duplex bearer. Advanced connections have a common connection number, called Exchanged Connection Number (ECN) which is assigned by the ME. Therefore, more than one advanced connection may exist between a PT and one FT. The service includes the means for setting-up and releasing the required bearer.

advanced multibearer connection [M.7]: A service providing connection between FT and PT consisting of one or more duplex bearers. Advanced connections have a common connection number, called ECN which is assigned by the ME. Therefore, more than one advanced connection may exist between a PT and one FT. The service includes the means for setting-up and releasing the required bearer(s).

advanced asymmetric connection [M.8]: A MAC connection that offers an asymmetric I-channel service to the DLC. An asymmetric MAC connection need to establish at least one double simplex bearer.

connection modification [M.9]: A service which allows to change the bandwidth of a connection (i.e. the number of required bearer):therefore a connection modification may switch the transmission direction of a double simplex bearer, a single bearer to a multibearer connection, an asymmetric connection to a symmetric connection and vice versa.

Ip_error_correction service [M.10]: The International Portable User Identity (IP) information is protected by MAC layer procedures based on a modulo 2 retransmission scheme. The DLC layer requests the maximum allowed transmission time. Due to the retransmission mechanism, the effective throughput is variable.

encryption activation [M.11]: A service providing means for enabling the encryption whereby on demand all higher layer data is transferred across the Digital Enhanced Cordless Telecommunications (DECT) air interface in an encrypted form. Always initiated by the PT. A connection release automatically disables ciphering.

encryption deactivation [M.12]: A service providing means for disabling the encryption whereby on demand all higher layer data is transferred across the DECT air interface in an encrypted form. A connection release automatically disables ciphering.

quality control [M.13]: Provides means for monitoring and controlling the radio link quality.

physical channel selection [M.14]: Defines the policy for the dynamic selection of a channel, caused by the fact that an old one has to be changed or a new one is needed. Detection of bad quality on the physical channel in use (i.e. due to weak signals or interference), detection of a Radio Fixed Part (RFP) with a stronger signal than the one of the own RFP, detection of local congestion are all criteria that can be used to select the channel.

fast connection set up [M.15]: A connection set-up initiated by a FT, without a previous paging attempt.

bearer replacement [M.16]: Bearer replacement is defined to be the case where an old bearer is replaced with a new bearer that has a different Logical Bearer Number (LBN). For bearer replacement the new bearer contains independent packet numbering for IP MOD-2 protected data. The data on a new bearer may be different data or may (still) be a duplicate of the data on the old bearer.

4.3.3 DLC service definitions

LU2 Frame RELay service (FREL) [D.1]: A frame relay service accessed through the LU2 Service Access Point (SAP). The LU2 shall operate on a generic field of user data that shall be transferred into and out of the DLC U-plane as a single SDU. This SDU is assumed to contain one external frame, but the operation of LU2 shall be independent of the actual contents of the SDU. LU2 shall provide mechanisms that offer reliable transport of the generic SDUs, and that preserve the SDU boundaries.

FU6a [D.2]: Offers a defined fixed length frame structure and buffering functions for transmission of U-plane data to the MAC layer (at the transmit side) or accepts data from the MAC layer (at the receiving side) on demand and with minimum delay. Frame type FU6a is used for the forward path of unidirectional links.

FU6b [D.3]: Offers a defined fixed length frame structure and buffering functions for transmission of higher layer U-plane control data from the DLC to the MAC layer (at the transmit side) or accepts data from the MAC layer (at the receiving side) on demand and with minimum delay. Used to carry acknowledgements for asymmetric connections. Frame type FU6b is used for the backward (control) path of unidirectional links: it contains a list of receive sequence numbers for the forward link.

5 PHL requirements

The PHL shall conform to EN 300 175-2 [2] and TBR 6 [9], with the following constraints:

- full slots shall be used;
- the Portable radio Termination (PT) shall be capable of operating on any one, and no more than one, physical channel in each time slot;
- all RFPs shall be capable of operating on at least any one physical channel in each time slot;
- use of the Z-field is not required by this profile.

6 MAC layer requirements

The minimum instance shall only require the capability to establish and maintain single-bearer connections. The provisions of EN 300 175-3 [3] shall be implemented with respect to the services, procedures, messages and information elements coding listed in annexes C to F. The provisions of EN 300 175-6 [6] shall be implemented with respect to the structure and use of identities.

If the FP \Rightarrow PP point-to-multipoint service is implemented, the MAC layer shall in addition implement the protected data connectionless downlink service SI_p, as defined in annex A.

6.1 MAC services for service type A

Table 3: MAC services status, service type A

Service supported				
Item no.	Name of service	Ref.	Status	
			PT	FT
M.1	General	4.3.2	M	M
M.2	Non continuous broadcast	4.3.2	O	O
M.3	Continuous broadcast	4.3.2	M	M
M.4	Paging broadcast	4.3.2	M	M
M.5	Higher layer connectionless U-plane point-to-multipoint service	4.3.2	O	O
M.6	Advanced single bearer connections	4.3.2	M	M
M.7	Advanced multibearer connections	4.3.2	I	I
M.8	Advanced asymmetric connections	4.3.2	I	I
M.9	Connection modification	4.3.2	I	I
M.10	Ip_error_correction service	4.3.2	M	M
M.11	Encryption activation	4.3.2	O	O
M.12	Encryption deactivation	4.3.2	O	O
M.13	Quality control	4.3.2	M	M
M.14	Physical channel selection	4.3.2	M	M
M.15	Fast connection set up	4.3.2	O	M
M.16	Bearer replacement	4.3.2	I	I

6.2 MAC services for service type B

Table 4: MAC services status, service type B

Service supported				
Item no.	Name of service	Ref.	Status	
			PT	FT
M.1	General	4.3.2	M	M
M.2	Non continuous broadcast	4.3.2	O	O
M.3	Continuous broadcast	4.3.2	M	M
M.4	Paging broadcast	4.3.2	M	M
M.5	Higher layer connectionless U-plane point-to-multipoint service	4.3.2	O	O
M.6	Advanced single bearer connections	4.3.2	M	M
M.7	Advanced multibearer connections	4.3.2	M	M
M.8	Advanced asymmetric connections	4.3.2	O	O
M.9	Connection modification	4.3.2	M	M
M.10	Ip_error_correction service	4.3.2	M	M
M.11	Encryption activation	4.3.2	O	O
M.12	Encryption deactivation	4.3.2	O	O
M.13	Quality control	4.3.2	M	M
M.14	Physical channel selection	4.3.2	M	M
M.15	Fast connection set up	4.3.2	O	M
M.16	Bearer replacement	4.3.2	M	M

6.3 MAC service to procedure mapping

Table 5: MAC service to procedure mapping

Service/Procedure mapping			Status	
Service	Procedure	Ref.	PT	FT
M.1 General				
	Bit MAPPings (MAP)	6.2.1	M	M
	Time multiplexers	6.2.2	M	M
	Scrambling	6.2.4	M	M
	Error control	6.2.5	M	M
	PP states and state transitions	11.3	M	M
	RFP idle receiver scan sequence	11.8	M	M
M.2 Non continuous broadcast				
	Request for specific Q-channel information	9.3.1.2	O	O
	Request for a new dummy	9.3.2	O	O
	Non continuous broadcast	9.3	M	M
	Extended system information	11.2	M	M
M.3 Continuous broadcast				
	Downlink broadcast	9.1.1	M	M
M.4 Paging broadcast				
	Low duty cycle paging		O	O
	Normal paging	9.1.3	M	M
	Fast paging	9.1.3	O	M
M.5 Higher layer connectionless U-plane point-to-multipoint service				
	Downlink connectionless	9.1.2	M	M
M.6 Advanced single bearer connections				
	C/O connection set-up	10.2	M	M
	C/O connection release	10.4	M	M
	C/O bearer set-up	10.5	M	M
	C/O bearer release	10.7	M	M
M.7 Advanced multibearer connections				
	C/O connection set-up	10.2	M	M
	C/O connection release	10.4	M	M
	C/O bearer set-up	10.5	M	M
	C/O bearer release	10.7	M	M
M.8 Advanced asymmetric connections				
	C/O connection set-up	10.2	M	M
	C/O connection release	10.4	M	M
	C/O bearer set-up	10.5	M	M
	C/O bearer release	10.7	M	M
M.9 Connection modification				
	Connection modification	10.3	M	M
M.10 Ip_error_correction service				
	MOD-2 protected I-channel operation (Ip)	10.8.2	M	M

(continued)

Table 5 (concluded): MAC service to procedure mapping

Service/Procedure mapping				
Service	Procedure	Ref.	Status	
			PT	FT
M.11 Encryption activation				
	Encryption process - initialization and synchronization	EN 300 175-7 [7], 6.4.5	M	M
		EN 300 175-7 [7], 6.4.4		
	Encryption mode control	EN 300 175-7 [7], 6.4.6	M	M
	Encryption (features 33 and 34)	G.3	M	M
	Encryption mode control	EN 300 175-7 [7], 6.4.6	M	M
M.12 Encryption deactivation				
	Encryption process - initialization and synchronization	EN 300 175-7 [7], 6.4.5	M	M
		EN 300 175-7 [7], 6.4.4		
	Encryption mode control	EN 300 175-7 [7], 6.4.6	M	M
	Encryption (features 33 and 34)	G.3	M	M
	Encryption mode control	EN 300 175-7 [7], 6.4.6	M	M
M.13 Quality control				
	RFPI handshake	11.5.1	M	M
	PT frequency correction procedure	11.5.2.2	O	O
	Bearer and connection quality control	7.3.5.2	O	O
M.14 Physical channel selection			M	M
	Physical channel selection	11.4	M	M
M.15 Fast connection set-up				
	C/O connection set-up	10.2	M	M
	C/O connection release	10.4	M	M
	C/O bearer set-up	10.5	M	M
	C/O bearer release	10.7	M	M
	PT fast set-up receiver scan sequence	11.9	M	M
M.16 Bearer replacement				
	Bearer replacement	10.8.2.5.1	M	M

NOTE: Except when stated otherwise, the reference column refers to the relevant subclause in EN 300 175-3 [3].

7 DLC layer requirements

The DLC U-plane shall be LU2 (Class 1), FU6, (see EN 300 175-4 [4]). No Control plane (C-plane) functionality is required for the service types A and B, mobility class 1.

If the FP \Rightarrow PP point-to-multipoint service is provided, the DLC layer shall transmit and receive all FP \Rightarrow PP point-to-multipoint SDUs via LU2 (Class 1) and FU6a framing and segmentation and the PPs shall not send the FU6b acknowledge frames. In this case the FU6a frames shall be transferred via the SI_p service.

Bi-directional links shall be composed of two unidirectional links in opposite directions on the same MAC connection.

7.1 DLC services for service type A

Table 6: DLC services status, service type A

Service supported				
Item no.	Name of service	Ref.	Status	
			PT	FT
D.1	LU2 Frame RELay service (FREL)	4.3.3	M	M
D.2	FU6a	4.3.3	M	M
D.3	FU6b	4.3.3	M	M

7.2 DLC services for service type B

The services listed in subclause 7.1 shall apply.

7.3 DLC service to procedure mapping

Table 7: DLC service to procedure mapping

Service/Procedure mapping				
Service	Procedure	Ref.	Status	
			PT	FT
D.1 LU2 Frame RELay service (FREL)				
	U-plane Class 1	14.3.3	M	M
D.2 FU6a				
	FU6a frame operation	12.7	M	M
D.3 FU6b				
	FU6b frame operation	12.7	M	M

NOTE: Except when stated otherwise, the reference column refers to the relevant subclause in EN 300 175-4 [4].

8 NWK layer requirements

Inter-operability between units shall be independent of NWK layer functionality. No DECT NWK layer services are required for service types A and B, mobility class 1.

9 Management entity requirements

The ME in the FP shall ensure that a connection is always released, together with all its bearers, if for a consecutive period of at most $5/n$ seconds, where n = the number of duplex plus double simplex bearers ($1 \leq n \leq 12$), no DLC-PDU has been received or sent successfully over it.

The PP or FP shall not establish a connection unless one or more DLC-PDU's are available for point-to-point transfer. The connection establishment from the FP to the PP goes as follows:

- the FP shall try to establish the connection using the fast set-up procedure if the PP is known to support fast set-up;
- the fast set-up procedure should result in at least one set-up attempt;
- if the PP is known not to support the fast set-up procedure, then the fast set-up is not required;
- if the fast set-up fails or if the PP does not support fast set-up then;
- the FP shall try to establish the connection using a fast page, if the PP is known to support fast page;
- the paging should result in at least one paging attempt;
- if the fast paging fails or if the PP does not support fast paging then;
- the FP tries to establish a connection with normal paging.

In cases where both the PP and the FP are capable of diversity switching, the default operation in the absence of other user intervention shall be for the FP diversity to remain in operation and for the PP to disable its diversity function.

Paging shall be initiated by the ME if needed, by issuing a MAC_Page-req primitive. The SDU passed with the primitive shall be such that the contents of the paging message is as defined in EN 300 175-5 [5], subclause 8.2.1, short format message, using default TPUI, with the following exception:

- the LCE header field shall have the value 111 (Ip-error-correct). Receipt of a paging message with a mobility class 1 Temporary Portable User Identity (TPUI) indicates that the paging message should be handled by the ME.
- upon receipt of a MAC-Page-ind primitive with the TPUI of the PP as parameter, the ME shall issue a MAC-CON-req primitive.

10 Generic frame relay service interworking conventions

All data frames shall always be transmitted as DECT DLC layer SDUs, with the earliest bits transferred first in the earliest octet of the earliest U-plane segment.

The DECT equipment shall be capable of supporting SDU frames of at least 1528 octets. The equipment may optionally support larger SDUs.

Where SDU sizes larger than 1528 octets are supported by either the FT or the PT the smaller value shall be used in communications, or if this is not possible, the FT equipment shall not allow PT equipment to be registered.

All point-to-multipoint packets shall be transmitted by the FP over the connectionless downlink, and may also be transmitted over previously established connections.

11 Configuration capabilities

In order to assure reliable interworking between devices complying with this profile in mobility Class 1, it shall be possible to install the following parameters in the FPs and/or PPs of the system. The values of parameters referring to the PP shall be clearly indicated in the documentation of the PP, and means shall be provided in FPs for such values to be registered. The values of parameters referring to the FP shall be clearly indicated in the documentation of the FP, and means shall be provided in PP for such values to be registered.

Table 8

Variable parameter	Value	Fixed(F)/Portable(P)
Service associated with identity	Type A or B	F, P
Data frames	Selected from annex B	F, P
IPUI	Unique value within local environment	P
ARI	Unique value within local environment	F
Maximum supported SDU size	Number of octets	F, P
Multi-bearer capability	1-23	F, P
Asymmetric capability	Yes/No	F, P
Diversity capability	Yes/No	F, P
Fast paging available	Yes/No	F, P
Fast set-up available	Yes/No	P
Connectionless downlink supported	Yes/No	F, P
Encryption capability	Yes/No	F, P
Static cipher key	64 bits	F, P

A given set of values for the parameters shall be unique for the IPUI with which they are associated.

The same International Portable User Identity (IPUI) type shall be used within a given local environment. The Portable part MAC Identity (PMID) shall use the assigned PMID structure as defined in subclause 9.1.2 of EN 300 175-6 [6]. Further the PMID shall be based upon the default value of the TPUI (see subclause 6.3.1, EN 300 175-6 [6]) which is derived from the IPUI and is always available (subclause 6.3.2, EN 300 175-6 [6]).

All IPUI's within one FP shall be assigned in such a way that the last 16 bits (which are used in the default TPUI) of the IPUI are unique.

Annex A (normative): Usage of the SI_P protected data connectionless downlink service

The SI_P protected data connectionless downlink service is used by the FP-PP point-to-multipoint service to transfer the data frames after the LU2 (class 1) framing and FU6a segmentation functions have been performed on the point-to-multipoint SDU (see clause 7).

The FP shall only transmit SI_P data starting at the start of a paging cycle. A PP shall understand the presence of SI_P data to be indicated by the coding BA = SI_N and the P_T MAC layer information = Dummy or (Connection Less) C/L bearer. The TDMA frame immediately following the frame in which SI_P data was received shall also be monitored to find out whether it contains SI_P data. In this way SI_P data shall be understood to be present in each subsequent TDMA frame until the BA and MAC layer information codings indicate that the SI_P data field is no longer present. No further SI_P information shall then be available until the start of the next paging cycle.

The start of a paging cycle in this context shall be that time-slot in frame 0 of a multiframe that is carrying the start of a paging message. When paging repetition is supported by the fixed part, the number of this multiframe shall be 0 modulo 4.

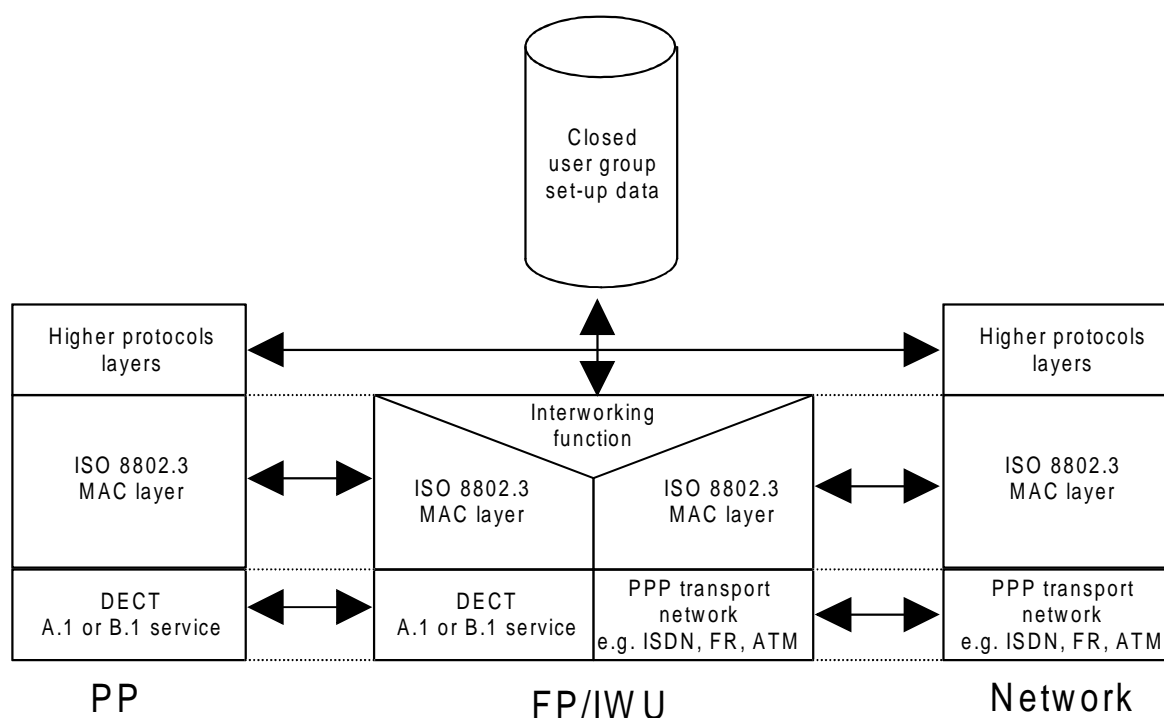
Annex B (normative): Interworking conventions to specific services

B.1 ISO 8802-3 (Ethernet)

This clause specifies data encapsulation conventions that shall apply to transport ISO 8802-3 [12] (Ethernet LANs) frames.

B.1.1 Typical configuration

A typical configuration for this interworking is shown in figure B.1a).



ATM: Asynchronous Transfer Mode
ISDN: Integrated Service Digital Network

FR: Frame Relay

Figure B.1a): A typical reference configuration showing interworking to ISO 8802-3 [12] type LANs

A typical configuration for this interworking is based upon the principles stated in subclause 4.1 and the following:

- Interworking is a bridging function with a network conforming to the ISO 8802-3 [12] standard.

B.1.2 Specific interworking conventions

The conditions of clause 10 shall be adhered to in addition to the following:

- the ISO 8802-3 [12] MAC frame shall be transmitted as a single DECT DLC layer SDU beginning with the ISO 8802-3 [12] MAC Destination Address and ending with the MAC Information field;
- for MAC frames which are less than 64 octets in length, the PADDING (PAD) field shall not be transmitted. This mapping is shown in figure B.1b);
- IPUIs of type O shall be used;
- the full ISO 8802-3 [12] MAC address shall be mapped into the type O IPUI with the Least Significant Bit (LSB) of the ISO 8802-3 [12] MAC address corresponding to the LSB of the IPUI.

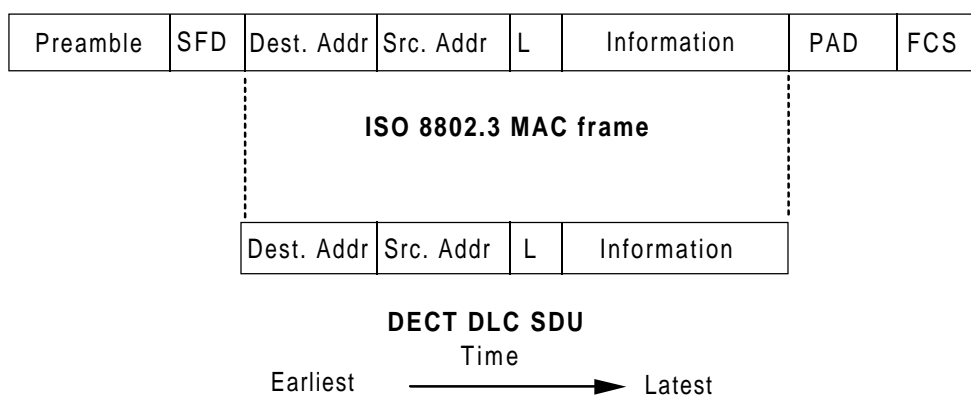


Figure B.1b): Mapping of ISO 8802-3 [12] MAC frames into DECT DLC SDU

When point-to-multipoint ethernet packets, carrying the destination broadcast ethernet address, have to be conveyed from FP to PPs, they shall be transmitted by the FP over the connectionless downlink channel, using the SIp service as specified in annex A. In this case support of the SIp service shall be mandatory.

B.2 ISO 8802-5 (Token ring)

This clause specifies data encapsulation conventions that shall apply to transport ISO 8802-5 [13] (Token ring LANs) frames.

B.2.1 Typical configuration

A typical configuration for this interworking is shown in figure B.2a)

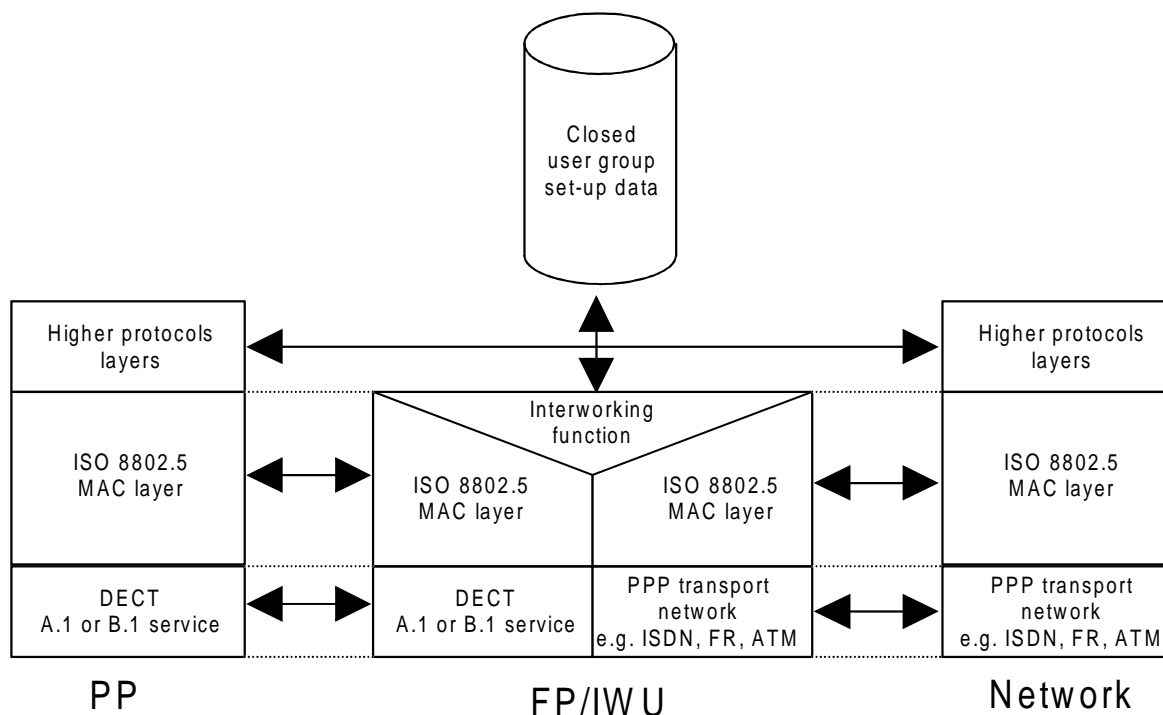


Figure B.2a): A typical reference configuration showing interworking to ISO 8802-5 [13] type LANs

B.2.2 Specific interworking conventions

The conditions of clause 10 shall be adhered to in addition to the following:

- the ISO 8802-5 [13] MAC frame shall be transmitted as a single DECT DLC layer SDU beginning with the ISO 8802-5 [13] MAC Frame Control (FC) field and ending with the MAC Information field;
- the FP shall not send the token ring MAC Control frames as identified by the FC byte and it shall not send the Frame Status (FS) byte. It shall be the responsibility of the FP to interwork these to the token ring network. This mapping is shown in figure B.2.2;
- IPUIs of type O shall be used;
- the full ISO 8802-5 [13] MAC address shall be mapped into the type O IPUI with the LSB of the ISO 8802-5 [13] MAC address corresponding to the LSB of the IPUI.

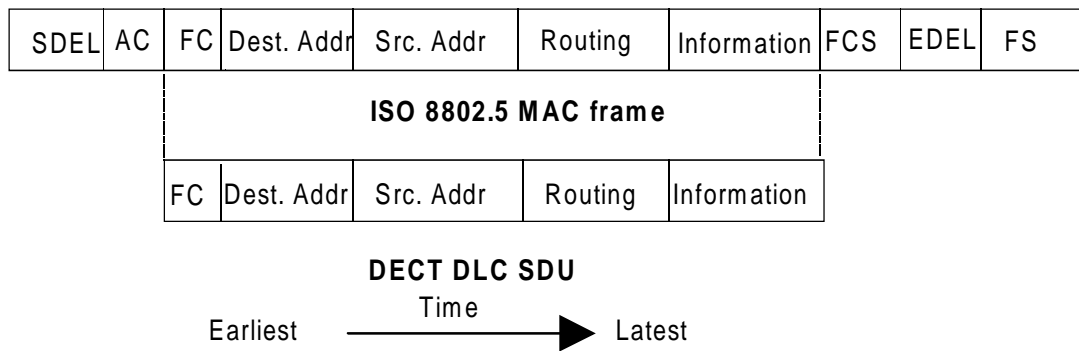


Figure B.2b): Mapping of ISO 8802-5 [13] MAC frames into DECT DLC SDU

B.3 IP transport service

The provisions of this clause shall apply to transport routed Internet Protocol (IP) frames, version 4 (RFC 791 [14]) or higher.

B.3.1 Typical configuration

A typical configuration for this specific service is shown in figure B.3.

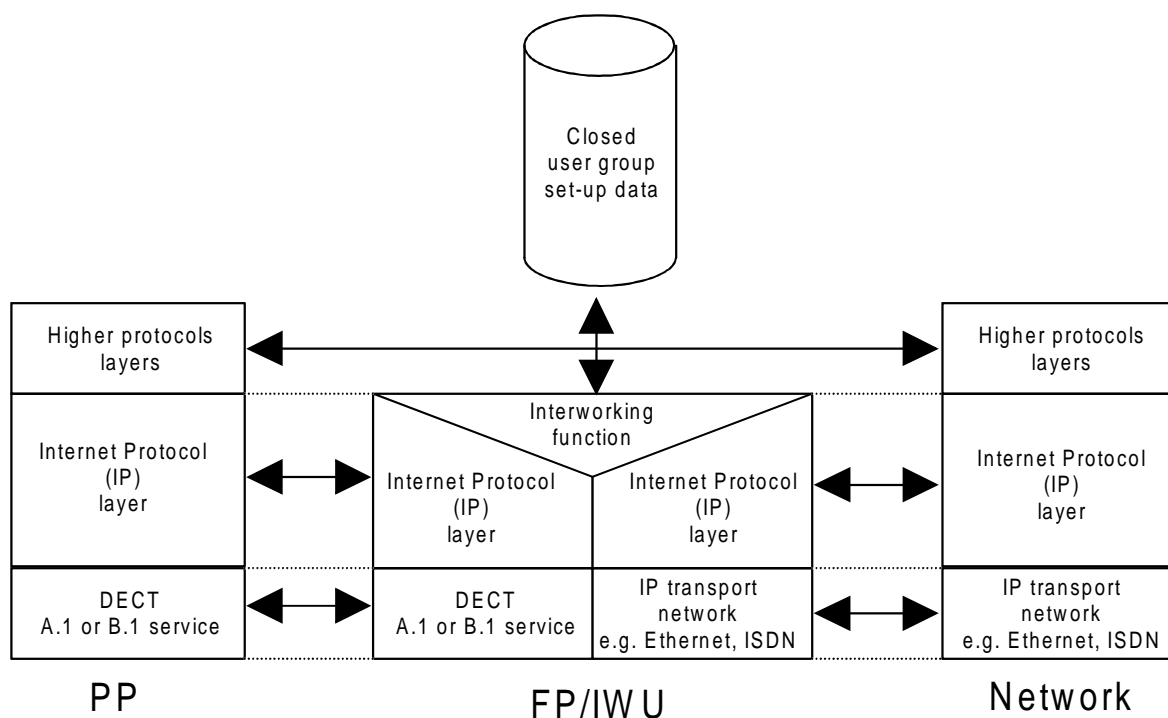


Figure B.3: Profile reference configuration for IP transport service

A typical profile configuration is based upon the principles stated in subclause 4.1 and the following:

- FP interworking is a IP datagram/packet routing function conforming to RFC 791 [14], version 4 or higher;
- it shall use the ME requirements and the Generic interworking conventions and procedures described in clauses 9 and 10 of this profile;
- the implementation of the IP transport network is out of the scope of this profile.

B.3.2 Specific interworking conventions

The conditions of clause 10 shall be adhered to in addition to the following:

- IP datagrams shall be transmitted directly as a single U-plane DLC layer LU2 SDU, as specified in clause 7 of this profile. The SDU contains the IP header followed immediately by the IP data. Since these LU2 SDUs can be an arbitrarily short length there are no requirements for adding fill fields or padding before transmission of IP packets as LU2 SDUs;
- the broadcast Internet address (the address on that network with a host part of all binary ones) (point-to-multipoint packets) shall be transmitted by the FP over the connectionless downlink, and may also be transmitted over previously established connections, as specified in clause 10 of this profile;
- the IP datagram/packet is transmitted over the DECT air interface as a series of 8-bit octets. The Most Significant Bit (MSB) of each octet shall be transmitted first and the LSB last;
- IPUIs of type O shall be used.

B.4 Point-to-Point Protocol (PPP)

The provisions of this clause shall apply to transport data encapsulated using the PPP, as defined in RFC 1661 [15].

B.4.1 Typical configuration

A typical configuration for this specific service is shown in figure B.4.

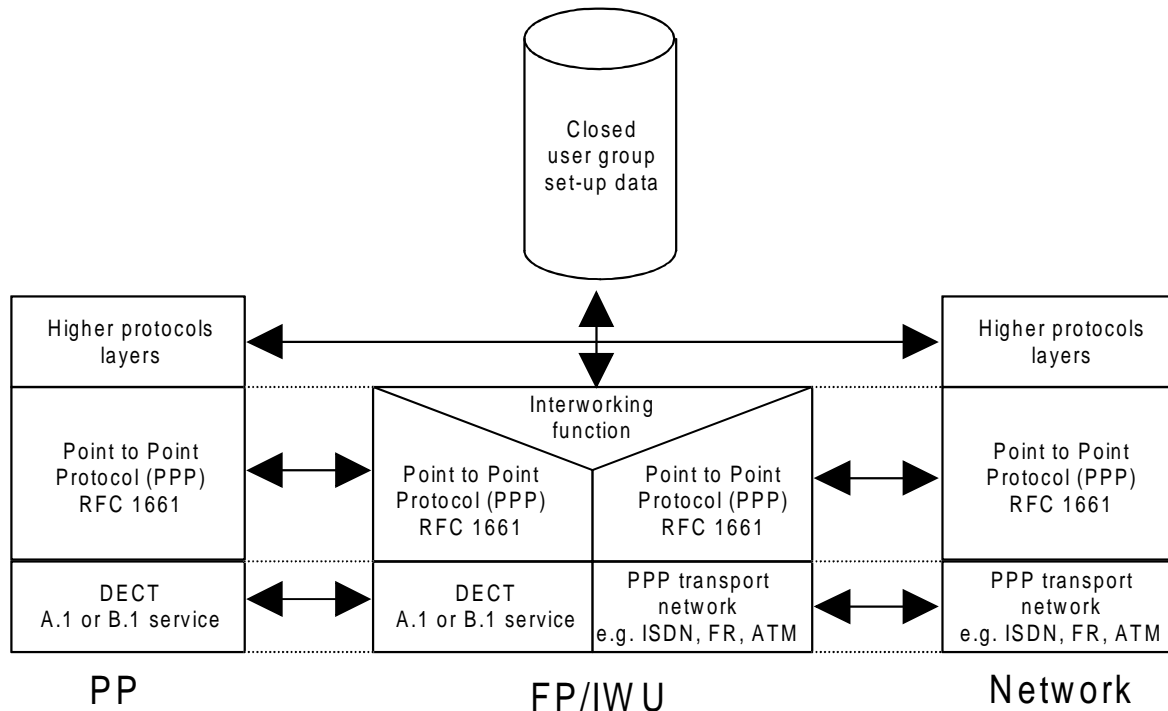


Figure B.4: Typical profile configuration for Point-to-Point Protocol service

A typical configuration is based upon the principles stated in subclause 4.1 and the following:

- the FP Interworking function, as shown in figure B.4 shall transparently map any PPP packet coming from a given DECT air interface packet-mode connection to a fixed virtual circuit at the network interface;
- the ME requirements and the generic interworking conventions and procedures described in clauses 9 and 10 of the present document shall be used;
- the implementation of the PPP transport network is out of scope for this profile reference configuration.

B.4.2 Specific interworking conventions

The conditions of clause 10 shall be adhered to in addition to the following:

- the PPP packets, as defined in RFC 1661 [15] shall be transmitted directly as a single U-plane DLC layer LU2 SDU. The SDU contains the PPP "protocol field" header followed by the PPP data. The PPP framing, if used (e.g. the one defined in RFC 1662 [16] or other), shall be not transmitted over the DECT air interface;
- the Maximum PPP packet size shall be 1528 octets, including PPP protocol field;
- the PPP packet is transmitted over the DECT air interface as a series of 8-bit octets. The MSB of each octet shall be transmitted first and the LSB last;
- IPUIs of type O shall be used.

Annex C (normative): Service A: FT Profile ICS proforma

Notwithstanding the provisions of the copyright clause related to the text of the present document, ETSI grants that users of the present document may freely reproduce the Profile ICS proforma in this annex so that it can be used for its intended purposes and may further publish the completed Profile ICS.
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C.1 Standardized symbols for the status column

The standardized symbols for the status column are as follows:

- m or M for mandatory;
- o or O for optional (Boolean);
- x or X for prohibited use;
- n/a, N/A or - (dash) for not applicable;
- cn or Cn for conditional on the implementation of service n;
- i or I for out of scope (the capability is allowed to be implemented but is not called upon by the profile functionality).

Where reception of a message is marked as "O", this shall be understood to mean that correct understanding and processing of that message is optional.

C1m: IF M.2 supported THEN M ELSE I.

C1o: IF M.2 supported THEN O ELSE I.

C2: IF M.5 supported THEN M ELSE I.

C3: IF M.8 supported THEN M ELSE I.

C4: IF M.11 supported THEN M ELSE I.

C5: IF M.12 supported THEN M ELSE I.

C6: IF M.15 supported THEN M ELSE I.

Except when stated otherwise, the reference column refers to the relevant subclause in EN 300 175-3 [3].

C.2 Capabilities

C.2.1 Services

Q.9 Service support

Service supported				
Item no.	Name of service	Ref.	Status	Support
1	Type 1f I _N minimum delay	5.6.2.1	I	
2	Type 2f I _N normal delay	5.6.2.1	I	
3	Type 3f I _P error detection	5.6.2.1	I	
4	Type 4f I _P error correction	5.6.2.1	M	
5	Type 5 I _N normal delay	5.6.2.2	I	
6	Type 6 I _P error detection	5.6.2.2	I	
7	Type 7f I _P error correction	5.6.2.2	I	
8	Type 1h I _N minimum delay	5.6.2.1	I	
9	Type 2h I _N normal delay	5.6.2.1	I	
10	Type 3h I _P error detection	5.6.2.1	I	
11	Type 4h I _P error correction	5.6.2.1	I	
12	C _S duplex	5.3.1.1	I	
13	C _F duplex	5.3.1.1	I	
14	Downlink C _L _S only	5.7.2.1	I	
15	Downlink C _L _F + C _L _S	5.7.2.1	I	
16	Downlink S _I _P	5.7.2.1	C2	
17	Uplink C _L _F only	5.7.2.2	I	
18	Uplink C _L _S only	5.7.2.2	I	
19	Uplink without SDU	5.7.2.2	I	
20	G _F simplex	5.3.1.3	M	
21	Fast paging	11.3.3.1	M	
22	Normal paging	11.3.3.1	M	
23	Low duty cycle paging	11.3.3.1	O	
24	System identities	11.3.2	M	
25	System information	11.3.2	M	
26	Encryption activation	6.2.3	C4	
27	Encryption deactivation	6.2.3	C5	
28	Fast set-up	11.3.3.2	M	

C.2.2 Service parameters

Q.10 Service parameters

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	No. of bearers in T2f service	5.6.2.1	I			
2	No. of bearers in T3f service	5.6.2.1	I			
3	No. of bearers in T4f service	5.6.2.1	M		1	
4	Forward bearer no. in T5 service	5.6.2.2	I			
5	Special bearer no. in T5 service	5.6.2.2	I			
6	Forward bearer no. in T6 service	5.6.2.2	I			
7	Special bearer no. in T6 service	5.6.2.2	I			
8	Forward bearer no. in T7 service	5.6.2.2	I			
9	Special bearer no. in T7 service	5.6.2.2	I			

C.2.3 Protocol parameters

Q.11 Protocol parameters

Protocol parameters supported						
Item no.	Name	Ref.	Status	Support	Value	
					Allowed	Supported
1	N200	10.2	M		10	
2	N201	10.6	I			
3	N202	11.4	M		10	
4	N203	9.2	I			

C.2.4 Messages

Q.12 Messages in A_tail

Supported messages						
Item no.	Name	Ref.	Sending		Receipt	
			Status	Support	Status	Support
1	TA code: CT data packet number 0	7.1.2	I		I	
2	TA code: CT data packet number 1	7.1.2	I		I	
3	TA code: identities information on connectionless bearer	7.1.2	C2		N/A	
4	TA code: identities information	7.1.2	M		M	
5	TA code: multiframe sync. and system information	7.1.2	M		N/A	
6	TA code: main escape	7.1.2	X		I	
7	TA code: MAC layer control	7.1.2	M		M	
8	TA code: paging/first PT transmission	7.1.2	M		M	
9	BA code: U-type, IN, SIN or IP packet number 0	7.1.4	M		M	
10	BA code: U-type, IP error detect or IP packet number 1	7.1.4	M		M	
11	BA code: E-type, all C _F or CL _F , packet number 0	7.1.4	I		I	
12	BA code: E-type, all C _F , packet number 1	7.1.4	I		I	
13	BA code: E-type, not all C _F or CL _F ; C _F packet number 0	7.1.4	I		I	
14	BA code: E-type, not all C _F ; C _F packet number 1	7.1.4	I		I	
15	BA code: E-type, all MAC control	7.1.4	M		M	
16	BA code: no B_field	7.1.4	M		N/A	
17	NT information	7.2.2	M		M	
18	Static system information	7.2.3.2	M		N/A	
19	Extended RF carrier information	7.2.3.3	I		N/A	
20	Fixed part capabilities	7.2.3.4	M		N/A	
21	Extended fixed part capabilities	7.2.3.5	I		N/A	
22	SARI message	7.2.3.6	O		N/A	
23	Multi-frame number	7.2.3.7	C4		N/A	
24	Q-channel escape	7.2.3.8	I		N/A	
25	Zero length page indication	7.2.4.2.3	M		N/A	
26	Short page indication	7.2.4.2.3	M		N/A	
27	Full page indication	7.2.4.2.3	I		N/A	
28	Not the last 36 bits of a long page indication	7.2.4.2.3	I		N/A	
29	The first 36 bits of a long page indication	7.2.4.2.3	I		N/A	
30	The last 36 bits of a long page indication	7.2.4.2.3	I		N/A	
31	All of a long page indication	7.2.4.2.3	I		N/A	
32	PT header extend flag	7.2.4.2.2	M		N/A	
33	PT MAC information: fill	7.2.4.3.2	O		N/A	
34	PT MAC information: blind full slot	7.2.4.3.3	M		N/A	
35	PT MAC information: other bearer	7.2.4.3.4	O		N/A	
36	PT MAC information: recommended other bearer	7.2.4.3.4	O		N/A	
37	PT MAC information: good RFP bearer	7.2.4.3.4	O		N/A	
38	PT MAC information: dummy or C/L bearer position	7.2.4.3.4	M		N/A	
39	PT MAC information: RFP identity	7.2.4.3.5	I		N/A	
40	PT MAC information: dummy or C/L bearer marker	7.2.4.3.7	C2		N/A	
41	PT MAC information: escape	7.2.4.3.6	I		N/A	
42	PT MAC information: bearer handover type 0000	7.2.4.3.8	I		N/A	
43	PT MAC information: bearer handover type 0001	7.2.4.3.8	I		N/A	
44	PT MAC information: bearer handover type 0010	7.2.4.3.8	I		N/A	
45	PT MAC information: bearer handover type 0011	7.2.4.3.8	I		N/A	
46	Basic access request	7.2.5.2	N/A		I	
47	Basic bearer handover request	7.2.5.2	N/A		I	
48	Basic connection handover request	7.2.5.2	N/A		I	
49	Basic unconfirmed access request	7.2.5.2	N/A		I	
50	Basic bearer confirm	7.2.5.2	I		N/A	

(continued)

Q.12 Messages in A_tail (concluded)

Supported messages						
Item no.	Name	Ref.	Sending		Receipt	
			Status	Support	Status	Support
51	Basic wait	7.2.5.2.3	I		I	
52	Basic bearer release	7.2.5.2	I		I	
53	Advanced access request	7.2.5.3.2	I		I	
54	Advanced bearer handover request	7.2.5.3.3	I		I	
55	Advanced connection handover request	7.2.5.3.4	I		I	
56	Advanced bearer confirm	7.2.5.3.6	I		I	
57	Advanced unconfirmed access request	7.2.5.3.5	I		I	
58	Advanced wait	7.2.5.3.7	I		I	
59	Advanced attributes-T request	7.2.5.3.8	I		I	
60	Advanced attributes-T confirm	7.2.5.3.8	I		I	
61	Advanced bandwidth-T request	7.2.5.3.9	I		I	
62	Advanced bandwidth-T confirm	7.2.5.3.9	I		I	
63	Advanced channel list	7.2.5.3.10	I		I	
64	Advanced unconfirmed dummy	7.2.5.3.11	I		I	
65	Advanced unconfirmed handover	7.2.5.3.12	I		I	
66	Advanced bearer release	7.2.5.3.13	I		I	
67	Transmit on the specified slot/frequency test message	7.2.5.4.2	N/A		N/A	
68	Loopback B_field test message	7.2.5.4.3	N/A		M	
69	Defeat antenna diversity test message	7.2.5.4.4	N/A		M	
70	Force bearer handover test message	7.2.5.4.5	N/A		I	
71	Clear test mode test message	7.2.5.4.6	N/A		M	
72	Single bearer antenna switch QC message	7.2.5.5	O		O	
73	All bearer antenna switch QC message	7.2.5.5	O		O	
74	Bearer handover QC message	7.2.5.5	I		I	
75	Connection handover QC message	7.2.5.5	I		I	
76	Single bearer frequency control QC message	7.2.5.5	O		O	
77	All bearer frequency control QC message	7.2.5.5	O		O	
78	C/L single transmission with 1 CL _F segment	7.2.5.6	I		I	
79	C/L single transmission with 2 CL _F segments	7.2.5.6	I		I	
80	C/L single transmission with 3 CL _F segments	7.2.5.6	I		I	
81	C/L single transmission with 4 CL _F segments	7.2.5.6	I		I	
82	1st C/L half slot transmission with 1 CL _F segment	7.2.5.6	I		I	
83	1st C/L full slot transmission with 4 CL _F segment	7.2.5.6	I		I	
84	2nd C/L transmission with 1 CL _F segment	7.2.5.6	I		I	
85	2nd C/L transmission with 2 CL _F segment	7.2.5.6	I		I	
86	2nd C/L transmission with 3 CL _F segment	7.2.5.6	I		I	
87	2nd C/L transmission with 4 CL _F segment	7.2.5.6	I		I	
88	C/L single transmission without CL _F segment	7.2.5.6	I		I	
89	1st C/L transmission without CL _F segment (CL _S service)	7.2.5.6	I		I	
90	Change dummy position	7.2.5.6	C1o		C1o	
91	Extended system information	7.2.5.6	O		O	
92	Start encryption: request	7.2.5.7	N/A		C4	
93	Start encryption: confirm	7.2.5.7	C4		N/A	
94	Start encryption: grant	7.2.5.7	N/A		C4	
95	Stop encryption: request t	7.2.5.7	N/A		C5	
96	Stop encryption: confirm	7.2.5.7	C5		N/A	
97	Stop encryption: grant	7.2.5.7	N/A		C5	
98	First transmission for B_field set-up	7.2.5.8	N/A		M	
99	M-channel escape	7.2.5.9	I		I	

Q.13 Messages in B_field

Supported messages						
Item no.	Name	Ref.	Sending		Receipt	
			Status	Support	Status	Support
1	B_field access request	7.3.3.2	M		M	
2	B_field bearer handover request	7.3.3.2	N/A		I	
3	B_field connection handover request	7.3.3.2	N/A		I	
4	B_field unconfirmed access request	7.3.3.2	I		I	
5	B_field bearer confirm	7.3.3.3	M		M	
6	B_field wait	7.3.3.4	M		M	
7	B_field attributes-B request	7.3.3.5	I		I	
8	B_field attributes-B confirm	7.3.3.5	I		I	
9	B_field bandwidth-B request	7.3.3.6	I		I	
10	B_field bandwidth-B confirm	7.3.3.6	I		I	
11	B_field channel list	7.3.3.7	I		I	
12	B_field unconfirmed dummy	7.3.3.8	I		I	
13	B_field unconfirmed handover	7.3.3.9	I		I	
14	B_field bearer release	7.3.3.10	M		M	
15	B_field null message	7.3.4	M		M	
16	B_field single bearer antenna switch QC message	7.3.5.2	O		O	
17	B_field all bearer antenna switch QC message	7.3.5.2	O		O	
18	B_field bearer handover QC message	7.3.5.2	I		I	
19	B_field connection handover QC message	7.3.5.2	I		I	
20	B_field single bearer frequency control QC message	7.3.5.2	O		O	
21	B_field all bearer frequency control QC message	7.3.5.2	O		O	
22	B-field reset request	7.3.5.3	M		M	
23	B_field reset confirm	7.3.5.3	M		M	
24	MAC-MOD2-ACK message	7.3.5.4	I		I	
25	B_field TARI message	7.3.6.2	C1o		N/A	
26	B_field G _F data	7.3.7	M		M	
27	B_field M-channel escape	7.3.8	O		O	

C.2.5 Message parameters

Q.14 Parameters of static system information message

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	Normal-reverse	7.2.3.2.2	M		0	
2	Slot number	7.2.3.2.3	M		0 - 11	
3	Start position	7.2.3.2.4	M		0	
4	Escape	7.2.3.2.5	M		0 - 1	
5	Number of transceivers	7.2.3.2.6	M		0 - 3	
6	Extended RF carrier flag	7.2.3.2.7	M		0	
7	RF carriers available	7.2.3.2.8	M		1 - 1 023	
8	Spare	7.2.3.2.11	M		0	
9	Carrier number	7.2.3.2.10	M		0 - 9	
10	Spare	7.2.3.2.11	M		0	
11	Primary receiver scan number	7.2.3.2.12	M		0 - 9	

Q.15 Parameters of Fixed Part Capabilities Message

Encryption capability						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	Extended FP information	7.2.3.4.2	M		0, 1	
2	Full slot	7.2.3.4.2	M		1	
3	Frequency control	7.2.3.4.2	M		0, 1	
4	Page repetition	7.2.3.4.2	M		0, 1	
5	C/O set-up on dummy allowed	7.2.3.4.2	M		C2 = 0	
6	C/L uplink	7.2.3.4.2	M		0, 1	
7	C/L downlink	7.2.3.4.2	M		C2 = 1	
8	Basic A_field set-up	7.2.3.4.2	M		0	
9	Advanced A_field set-up	7.2.3.4.2	M		0	
10	B_field set-up	7.2.3.4.2	M		1	
11	C _F messages	7.2.3.4.2	M		0	
12	I _N _minimum_delay	7.2.3.4.2	M		0	
13	I _N _normal_delay	7.2.3.4.2	M		0	
14	I _P _error_detection	7.2.3.4.2	M		0	
15	I _P _error_correction	7.2.3.4.2	M		1	
16	Multibearer connection	7.2.3.4.2	M		0	

The higher layer information field of the FP capabilities message is out of scope for mobility class 1 applications of this profile.

Q.20 Parameters of B_field access request message

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	IBCN	7.3.3.2	M		0	
2	Exchanged connection number	8.1.1	M		0 - 15	
3	Logical bearer number	10.2.4	M		0 - 15	
4	Connection type	7.3.3.2	M		3	
5	Service type	7.3.3.2	M		3	
6	Maximum life	7.3.3.2	M		0 - 7	
7	Slot type	7.3.3.2	M		0	

Q.24 Parameters of B_field bearer confirm message

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	Exchanged connection number	8.1.1	M		0 - 15	
2	Logical bearer number	10.2.4	M		0 - 15	
3	Connection type	7.3.3.3	M		3	
4	Service type	7.3.3.3	M		3	
5	Maximum life	7.3.3.3	M		0 - 7	
6	Slot type	7.3.3.3	M		0	

Q.32 Parameters of B_field bearer release message

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	Reason for release	7.3.3.10	M		0-3, 6-10 and 12-13	

Q.33 Parameters of B_field null message

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	C _F data indication	7.3.4	M		0	

C.2.6 Functions implemented

Q.34 Function implemented

Supported functions				
Item no.	Function name	Ref.	Status	Support
1	B_field data scrambling	6.2.4	M	
2	B_field data unscrambling	6.2.4	M	
3	R-CRC generation	6.2.5.2	M	
4	R-CRC checking	6.2.5.2	M	
5	X-CRC generation	6.2.5.4	M	
6	X-CRC checking	6.2.5.4	M	
7	Z-FIELD generation	EN 300 175-2 [2] subclause 4.8	I	
8	Z-FIELD checking	EN 300 175-2 [2] subclause 4.8	I	
9	D-MAP D80 field mapping	6.2.1.1	I	
10	D-MAP D32 field mapping	6.2.1.1	M	
11	D-MAP D08 field mapping	6.2.1.1	I	
12	D-MAP D00 field mapping	6.2.1.1	M	
13	A-MAP A_field mapping	6.2.1.2	M	
14	E/U-MUX E80 type multiplex	6.2.2.2	I	
15	E/U-MUX E32 type multiplex	6.2.2.2	M	
16	E/U-MUX E08 type multiplex	6.2.2.2	I	
17	E/U-MUX U80a type multiplex	6.2.2.2	I	
18	E/U-MUX U80b type multiplex	6.2.2.2	I	
19	E/U-MUX U32a type multiplex	6.2.2.2	I	
20	E/U-MUX U32b type multiplex	6.2.2.2	M	
21	E/U-MUX U08a type multiplex	6.2.2.2	I	
22	E/U-MUX U08b type multiplex	6.2.2.2	I	
23	C-MUX B_field full slot mode 0 multiplex	6.2.2.3.1	I	
24	C-MUX B_field full slot mode 1 multiplex	6.2.2.3.1	I	
25	C-MUX B_field full slot mode 2 multiplex	6.2.2.3.1	I	
26	C-MUX B_field full slot mode 3 multiplex	6.2.2.3.1	I	
27	C-MUX B_field full slot mode 4 multiplex	6.2.2.3.1	M	
28	C-MUX B_field half slot mode 0 multiplex	6.2.2.3.2	I	
29	C-MUX B_field half slot mode 1 multiplex	6.2.2.3.2	I	
30	T-MUX Tail multiplex	6.2.2.1	M	
31	Frequency correction function	11.5.2.2	O	

C.2.7 Timer support

Q.35 Timer support

Timer supported						
Item no.	Name	Ref.	Status	Support	Values	
					Allowed	Supported
1	T200	10.2	M		3 seconds	
2	T201	11.5	M		5 seconds	
3	T202	10.6	I		3 seconds	
4	T203	10.6	I		16 frames	
5	T204	9.1	M		6 multiframe	
6	T205	9.1	M		10 seconds	
7	T206	11.2	C1o		10 frames	
8	T207	11.3	M		5 seconds	
9	T208	11.3	M		20 seconds	
10	T209	11.4	M		30 seconds	
11	T210	11.4	M		2 seconds	
12	T211	10.3	I		3 seconds	
13	T212	10.5	I		20 frames	
14	T213	10.7	I		20 frames	
15	T214	9.2	I		20 frames	
16	T215	9.2	I		6 multiframe	

C.2.8 Procedure support

Q.36 Procedure support

Procedures supported				
Item no.	Name of procedure	Ref.	Status	Support
1	Downlink connectionless procedure	9.1.2	C2	
2	Downlink broadcast procedure	9.1.1	M	
3	Uplink connectionless procedure	9.2.3	I	
4	Request for specific Q-channel information, B-field procedure	9.3.1.2	C1o	
5	Request for a new dummy procedure	9.3.2	C1o	
6	Basic set-up procedure for single bearer basic connection of known service	10.2.4.2	I	
7	Normal set-up procedure for single bearer advanced connection of known service	10.2.4.2	M	
8	Fast set-up procedure for single bearer advanced connection of known service	10.2.4.2	M	
9	Normal set-up procedure multi-bearer symmetric connection	10.2.4.3.1	I	
10	Fast set-up procedure for multi-bearer symmetric connection	10.2.4.3.1	I	
11	Normal set-up procedure for asymmetric downlink connection	10.2.4.3.3	I	
12	Fast set-up procedure for asymmetric downlink connection	10.2.4.3.3	I	
13	Normal set-up procedure for asymmetric uplink connection	10.2.4.3.2	I	
14	Fast set-up procedure for asymmetric uplink connection	10.2.4.3.2	I	
15	Set-up procedure for connection with unknown service	10.2.4.3	I	
16	Connection modification procedure	10.3	I	
17	Connection release procedure	10.4	M	
18	Basic single bearer set-up procedure	10.5.1.1	I	
19	A_field advanced single bearer set-up procedure	10.5.1.2	I	
20	B_field single bearer normal set-up procedure	10.5.1.3.1	M	
21	B_field single bearer fast set-up procedure	10.5.1.3.2	M	
22	Double simplex bearer indirect set-up procedure	10.5.1.4	I	
23	Double simplex bearer direct set-up procedure	10.5.1.4	I	
24	Duplex bearer handover procedure	10.6.2	I	
25	Double simplex bearer handover procedure	10.6.3	I	
26	Unacknowledged bearer release procedure	10.7.2.1	M	
27	Acknowledged bearer release procedure	10.7.2.2	I	
28	Fast bearer release procedure	10.7.2.3	I	
29	Q1 and Q2 bits setting procedure for C-channel data	10.8.1	I	
30	Q1 and Q2 bits setting procedure for I _N and I _{P_error_detection} data	10.8.1.3	I	
31	BCK and Q2 bits setting for I _{P_error_correction} data in symmetric connection	10.8.2.4	M	
32	BCK and ACK bit setting for I _{P_error_correction} data in asymmetric connection	10.8.2.4	I	
33	Bearer replacement procedure	10.8.2.5.1	I	
34	MAC I _P bearer reset	10.8.2.5.2	M	
35	Unilateral jump procedure	10.8.2.5.2	M	
36	Idle_locked state entering procedure	11.3.2	N/A	
37	Idle_locked state maintaining procedure	11.3.3	N/A	
38	Duplex bearer channel selection procedure	11.4.1	M	
39	Double simplex bearer channel selection procedure	11.4.1	I	
40	Simplex bearer channel selection procedure	11.4.1	M	
41	Uplink connectionless channel selection	9.2.2	I	
42	RFPI handshaking procedure	11.5.1	M	
43	PT frequency correction procedure	11.5.2.2	O	
44	MAC layer test message procedure	12.2	M	
45	RFP Idle receiver scan sequence	11.9	M	
46	PT fast set up receiver scan sequence	11.9	N/A	
47	PP paging procedure	9.1.3.2	M	
48	Channel list procedure	10.5.2	I	

Q.37 Parameters of channel selection procedure (duplex/double/simplex bearer)

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	Lowest boundary of channel list	11.4.1	M		< = - 93 dBm	
2	Band resolution	11.4.1	M		< = 6 dB	
3	RSSI variation between checking	11.4.1	M		< = 12 dB	

Annex D (normative): Service A: PT Profile ICS proforma

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D.1 Standardized symbols for the status column

The standardized symbols for the status column are as follows:

- m or M for mandatory;
- o or O for optional (Boolean);
- x or X for prohibited use;
- n/a, N/A or - (dash) for not applicable;
- cn or Cn for conditional on the implementation of service n;
- i or I for out of scope (the capability is allowed to be implemented but is not called upon by the profile functionality).

Where reception of a message is marked as "O", this shall be understood to mean that correct understanding and processing of that message is optional.

C1m: IF M.2 supported THEN M ELSE I.

C1o: IF M.2 supported THEN O ELSE I.

C2: IF M.5 supported THEN M ELSE I.

C3: IF M.8 supported THEN M ELSE I.

C4: IF M.11 supported THEN M ELSE I.

C5: IF M.12 supported THEN M ELSE I.

C6: IF M.15 supported THEN M ELSE I.

Except when stated otherwise, the reference column refers to the relevant subclause in EN 300 175-3 [3].

D.2 Capabilities

D.2.1 Services

Q.9 Service support

Service supported				
Item no.	Name of service	Ref.	Status	Support
1	Type 1f I _N minimum delay	5.6.2.1	I	
2	Type 2f I _N normal delay	5.6.2.1	I	
3	Type 3f I _P error detection	5.6.2.1	I	
4	Type 4f I _P error correction	5.6.2.1	M	
5	Type 5 I _N normal delay	5.6.2.2	I	
6	Type 6 I _P error detection	5.6.2.2	I	
7	Type 7f I _P error correction	5.6.2.2	I	
8	Type 1h I _N minimum delay	5.6.2.1	I	
9	Type 2h I _N normal delay	5.6.2.1	I	
10	Type 3h I _P error detection	5.6.2.1	I	
11	Type 4h I _P error correction	5.6.2.1	I	
12	C _S duplex	5.3.1.1	I	
13	C _F duplex	5.3.1.1	I	
14	Downlink C _{L_S} only	5.7.2.1	I	
15	Downlink C _{L_F} + C _{L_S}	5.7.2.1	I	
16	Downlink S _{I_P}	5.7.2.1	C2	
17	Uplink C _{L_F} only	5.7.2.2	I	
18	Uplink C _{L_S} only	5.7.2.2	I	
19	Uplink without SDU	5.7.2.2	I	
20	G _F simplex	5.3.1.3	M	
21	Fast paging	11.3.3.1	O	
22	Normal paging	11.3.3.1	M	
23	Low duty cycle paging	11.3.3.1	O	
24	System identities	11.3.2	M	
25	System information	11.3.2	M	
26	Encryption activation	6.2.3	C4	
27	Encryption deactivation	6.2.3	C5	
28	Fast set-up	11.3.3.2	C6	

D.2.2 Service parameters

Q.10 Service parameters

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	No. of bearers in T2f service	5.6.2.1	I			
2	No. of bearers in T3f service	5.6.2.1	I			
3	No. of bearers in T4f service	5.6.2.1	M		1	
4	Forward bearer no. in T5 service	5.6.2.2	I			
5	Special bearer no. in T5 service	5.6.2.2	I			
6	Forward bearer no. in T6 service	5.6.2.2	I			
7	Special bearer no. in T6 service	5.6.2.2	I			
8	Forward bearer no. in T7 service	5.6.2.2	I			
9	Special bearer no. in T7 service	5.6.2.2	I			

D.2.3 Protocol parameters

Q.11 Protocol parameters

Protocol parameters supported						
Item no.	Name	Ref.	Status	Support	Value	
					Allowed	Supported
1	N200	10.2	M		10	
2	N201	10.6	I			
3	N202	11.4	M		10	
4	N203	9.2	I			

D.2.4 Messages

Q.12 Messages in A_tail

Supported messages						
Item no.	Name	Ref.	Sending		Receipt	
			Status	Support	Status	Support
1	TA code: CT data packet number 0	7.1.2	I		I	
2	TA code: CT data packet number 1	7.1.2	I		I	
3	TA code: identities information on connectionless bearer	7.1.2	N/A		C2	
4	TA code: identities information	7.1.2	M		M	
5	TA code: multiframe sync. and system information	7.1.2	N/A		M	
6	TA code: main escape	7.1.2	X		I	
7	TA code: MAC layer control	7.1.2	M		M	
8	TA code: paging/first PT transmission	7.1.2	M		M	
9	BA code: U-type, I _N , S _{I_N} or I _P packet number 0	7.1.4	M		M	
10	BA code: U-type, I _P error detect or I _P packet number 1	7.1.4	M		M	
11	BA code: E-type, all C _F or CL _F , packet number 0	7.1.4	I		I	
12	BA code: E-type, all C _F , packet number 1	7.1.4	I		I	
13	BA code: E-type, not all C _F or CL _F ; C _F packet number 0	7.1.4	I		I	
14	BA code: E-type, not all C _F ; C _F packet number 1	7.1.4	I		I	
15	BA code: E-type, all MAC control	7.1.4	M		M	
16	BA code: no B_field	7.1.4	N/A		M	
17	NT information	7.2.2	M		M	
18	Static system information	7.2.3.2	N/A		M	
19	Extended RF carrier information	7.2.3.3	N/A		I	
20	Fixed part capabilities	7.2.3.4	N/A		M	
21	Extended fixed part capabilities	7.2.3.5	N/A		I	
22	SARI message	7.2.3.6	N/A		O	
23	Multi-frame number	7.2.3.7	N/A		C4	
24	Q-channel escape	7.2.3.8	N/A		I	
25	Zero length page indication	7.2.4.2.3	N/A		M	
26	Short page indication	7.2.4.2.3	N/A		M	
27	Full page indication	7.2.4.2.3	N/A		O	
28	Not the last 36 bits of a long page indication	7.2.4.2.3	N/A		I	
29	The first 36 bits of a long page indication	7.2.4.2.3	N/A		I	
30	The last 36 bits of a long page indication	7.2.4.2.3	N/A		I	
31	All of a long page indication	7.2.4.2.3	N/A		I	
32	PT header extend flag	7.2.4.2.2	N/A		M	
33	PT MAC information: fill	7.2.4.3.2	N/A		M	
34	PT MAC information: blind full slot	7.2.4.3.3	N/A		M	
35	PT MAC information: other bearer	7.2.4.3.4	N/A		O	
36	PT MAC information: recommended other bearer	7.2.4.3.4	N/A		O	
37	PT MAC information: good RFP bearer	7.2.4.3.4	N/A		O	
38	PT MAC information: dummy or C/L bearer position	7.2.4.3.4	N/A		M	
39	PT MAC information: RFP identity	7.2.4.3.5	N/A		I	
40	PT MAC information: dummy or C/L bearer marker	7.2.4.3.7	N/A		C2	
41	PT MAC information: escape	7.2.4.3.6	N/A		I	
42	PT MAC information: bearer handover type 0000	7.2.4.3.8	N/A		I	
43	PT MAC information: bearer handover type 0001	7.2.4.3.8	N/A		I	
44	PT MAC information: bearer handover type 0010	7.2.4.3.8	N/A		I	
45	PT MAC information: bearer handover type 0011	7.2.4.3.8	N/A		I	
46	Basic access request	7.2.5.2	I		N/A	
47	Basic bearer handover request	7.2.5.2	I		N/A	
48	Basic connection handover request	7.2.5.2	I		N/A	
49	Basic unconfirmed access request	7.2.5.2	I		N/A	
50	Basic bearer confirm	7.2.5.2	N/A		I	

(continued)

Q.12 Messages in A_tail (concluded)

Supported messages						
Item no.	Name	Ref.	Sending		Receipt	
			Status	Support	Status	Support
51	Basic wait	7.2.5.2.3	I		I	
52	Basic bearer release	7.2.5.2	I		I	
53	Advanced access request	7.2.5.3.2	I		I	
54	Advanced bearer handover request	7.2.5.3.3	I		I	
55	Advanced connection handover request	7.2.5.3.4	I		I	
56	Advanced bearer confirm	7.2.5.3.6	I		I	
57	Advanced unconfirmed access request	7.2.5.3.5	I		I	
58	Advanced wait	7.2.5.3.7	I		I	
59	Advanced attributes-T request	7.2.5.3.8	I		I	
60	Advanced attributes-T confirm	7.2.5.3.8	I		I	
61	Advanced bandwidth-T request	7.2.5.3.9	I		I	
62	Advanced bandwidth-T confirm	7.2.5.3.9	I		I	
63	Advanced channel list	7.2.5.3.10	I		I	
64	Advanced unconfirmed dummy	7.2.5.3.11	I		I	
65	Advanced unconfirmed handover	7.2.5.3.12	I		I	
66	Advanced bearer release	7.2.5.3.13	I		I	
67	Transmit on the specified slot/frequency test message	7.2.5.4.2	N/A		M	
68	Loopback B_field test message	7.2.5.4.3	N/A		M	
69	Defeat antenna diversity test message	7.2.5.4.4	N/A		M	
70	Force bearer handover test message	7.2.5.4.5	N/A		I	
71	Clear test mode test message	7.2.5.4.6	N/A		M	
72	Single bearer antenna switch QC message	7.2.5.5	O		O	
73	All bearer antenna switch QC message	7.2.5.5	O		O	
74	Bearer handover QC message	7.2.5.5	I		I	
75	Connection handover QC message	7.2.5.5	I		I	
76	Single bearer frequency control QC message	7.2.5.5	O		O	
77	All bearer frequency control QC message	7.2.5.5	O		O	
78	C/L single transmission with 1 CL _F segment	7.2.5.6	I		I	
79	C/L single transmission with 2 CL _F segments	7.2.5.6	I		I	
80	C/L single transmission with 3 CL _F segments	7.2.5.6	I		I	
81	C/L single transmission with 4 CL _F segments	7.2.5.6	I		I	
82	1st C/L half slot transmission with 1 CL _F segment	7.2.5.6	I		I	
83	1st C/L full slot transmission with 4 CL _F segment	7.2.5.6	I		I	
84	2nd C/L transmission with 1 CL _F segment	7.2.5.6	I		I	
85	2nd C/L transmission with 2 CL _F segment	7.2.5.6	I		I	
86	2nd C/L transmission with 3 CL _F segment	7.2.5.6	I		I	
87	2nd C/L transmission with 4 CL _F segment	7.2.5.6	I		I	
88	C/L single transmission without CL _F segment	7.2.5.6	I		I	
89	1st C/L transmission without CL _F segment (CL _S service)	7.2.5.6	I		I	
90	Change dummy position	7.2.5.6	C1o		C1o	
91	Extended system information	7.2.5.6	O		O	
92	Start encryption: request	7.2.5.7	C4		N/A	
93	Start encryption: confirm	7.2.5.7	N/A		C4	
94	Start encryption: grant	7.2.5.7	C4		N/A	
95	Stop encryption: request	7.2.5.7	C5		N/A	
96	Stop encryption: confirm	7.2.5.7	N/A		C5	
97	Stop encryption: grant	7.2.5.7	C5		N/A	
98	First transmission for B_field set-up	7.2.5.8	M		N/A	
99	M-channel escape	7.2.5.9	I		I	

Q.13 Messages in B_field

Supported messages						
Item no.	Name	Ref.	Sending		Receipt	
			Status	Support	Status	Support
1	B_field access request	7.3.3.2	M		C4	
2	B_field bearer handover request	7.3.3.2	I		N/A	
3	B_field connection handover request	7.3.3.2	I		N/A	
4	B_field unconfirmed access request	7.3.3.2	I		I	
5	B_field bearer confirm	7.3.3.3	C4		M	
6	B_field wait	7.3.3.4	M		M	
7	B_field attributes-B request	7.3.3.5	I		I	
8	B_field attributes-B confirm	7.3.3.5	I		I	
9	B_field bandwidth-B request	7.3.3.6	I		I	
10	B_field bandwidth-B confirm	7.3.3.6	I		I	
11	B_field channel list	7.3.3.7	I		I	
12	B_field unconfirmed dummy	7.3.3.8	I		I	
13	B_field unconfirmed handover	7.3.3.9	I		I	
14	B_field bearer release	7.3.3.10	M		M	
15	B_field null message	7.3.4	M		M	
16	B_field single bearer antenna switch QC message	7.3.5.2	O		O	
17	B_field all bearer antenna switch QC message	7.3.5.2	O		O	
18	B_field bearer handover QC message	7.3.5.2	I		I	
19	B_field connection handover QC message	7.3.5.2	I		I	
20	B_field single bearer frequency control QC message	7.3.5.2	O		O	
21	B_field all bearer frequency control QC message	7.3.5.2	O		O	
22	B-field reset request	7.3.5.3	M		M	
23	B_field reset confirm	7.3.5.3	M		M	
24	MAC-MOD2-ACK message	7.3.5.4	I		I	
25	B_field TARI message	7.3.6.2	N/A		C1o	
26	B_field G _F data	7.3.7	M		M	
27	B_field M-channel escape	7.3.8	O		O	

D.2.5 Message parameters

Q.14 Parameters of static system information message

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	Normal-reverse	7.2.3.2.2	M		0 - 1	
2	Slot number	7.2.3.2.3	M		0 - 11	
3	Start position	7.2.3.2.4	M		0	
4	Escape	7.2.3.2.5	M		0 - 1	
5	Number of transceivers	7.2.3.2.6	M		0 - 3	
6	Extended RF carrier flag	7.2.3.2.7	M		0	
7	RF carriers available	7.2.3.2.8	M		1 - 1 023	
8	Spare	7.2.3.2.11	M		0	
9	Carrier number	7.2.3.2.10	M		0 - 9	
10	Spare	7.2.3.2.11	M		0	
11	Primary receiver scan number	7.2.3.2.12	M		0 - 9	

Q.15 Parameters of FP capabilities message

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	Extended FP information	7.2.3.4.2	M		0, 1	
2	Full slot	7.2.3.4.2	M		1	
3	Frequency control	7.2.3.4.2	M		0, 1	
4	Page repetition	7.2.3.4.2	M		0, 1	
5	C/O set-up on dummy allowed	7.2.3.4.2	M		C2 = 0	
6	C/L uplink	7.2.3.4.2	M		0, 1	
7	C/L downlink	7.2.3.4.2	M		C2 = 1	
8	Basic A_field set-up	7.2.3.4.2	M		0	
9	Advanced A_field set-up	7.2.3.4.2	M		0	
10	B_field set-up	7.2.3.4.2	M		1	
11	C _F messages	7.2.3.4.2	M		0	
12	I _N _minimum_delay	7.2.3.4.2	M		0	
13	I _N _normal_delay	7.2.3.4.2	M		0	
14	I _P _error_detection	7.2.3.4.2	M		0	
15	I _P _error_correction	7.2.3.4.2	M		1	
16	Multibearer connection	7.2.3.4.2	M		0, 1	

The higher layer information field of the FP capabilities message is out of scope for mobility class 1 applications of this profile.

Q.20 Parameters of B_field access request message

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	IBCN	7.3.3.2	M		0	
2	Exchanged connection number	8.1.1	M		0 - 15	
3	Logical bearer number	10.2.4	M		0 - 15	
4	Connection type	7.3.3.2	M		3	
5	Service type	7.3.3.2	M		3	
6	Maximum life	7.3.3.2	M		0 - 7	
7	Slot type	7.3.3.2	M		0	

Q.24 Parameters of B_field bearer confirm message

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	Exchanged connection number	8.1.1	M		0 - 15	
2	Logical bearer number	10.2.4	M		0 - 15	
3	Connection type	7.3.3.3	M		3	
4	Service type	7.3.3.3	M		3	
5	Maximum life	7.3.3.3	M		0 - 7	
6	Slot type	7.3.3.3	M		0	

Q.32 Parameters of B_field bearer release message

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	Reason for release	7.3.3.10	M		0-3, 6-10 and 12-13	

Q.33 Parameters of B_field null message

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	C _F data indication	7.3.4	I		0	

D.2.6 Functions implemented**Q.34 Function implemented**

Item no.	Function name	Ref.	Status	Support
1	B_field data scrambling	6.2.4	M	
2	B_field data unscrambling	6.2.4	M	
3	R-CRC generation	6.2.5.2	M	
4	R-CRC checking	6.2.5.2	M	
5	X-CRC generation	6.2.5.4	M	
6	X-CRC checking	6.2.5.4	M	
7		EN 300 175-2 [2] subclause 4.8		
8	Z-FIELD checking	EN 300 175-2 [2] subclause 4.8	I	
9	D-MAP D80 field mapping	6.2.1.1	I	
10	D-MAP D32 field mapping	6.2.1.1	M	
11	D-MAP D08 field mapping	6.2.1.1	I	
12	D-MAP D00 field mapping	6.2.1.1	M	
13	A-MAP A_field mapping	6.2.1.2	M	
14	E/U-MUX E80 type multiplex	6.2.2.2	I	
15	E/U-MUX E32 type multiplex	6.2.2.2	M	
16	E/U-MUX E08 type multiplex	6.2.2.2	I	
17	E/U-MUX U80a type multiplex	6.2.2.2	I	
18	E/U-MUX U80b type multiplex	6.2.2.2	I	
19	E/U-MUX U32a type multiplex	6.2.2.2	I	
20	E/U-MUX U32b type multiplex	6.2.2.2	M	
21	E/U-MUX U08a type multiplex	6.2.2.2	I	
22	E/U-MUX U08b type multiplex	6.2.2.2	I	
23	C-MUX B_field full slot mode 0 multiplex	6.2.2.3.1	I	
24	C-MUX B_field full slot mode 1 multiplex	6.2.2.3.1	I	
25	C-MUX B_field full slot mode 2 multiplex	6.2.2.3.1	I	
26	C-MUX B_field full slot mode 3 multiplex	6.2.2.3.1	I	
27	C-MUX B_field full slot mode 4 multiplex	6.2.2.3.1	M	
28	C-MUX B_field half slot mode 0 multiplex	6.2.2.3.2	I	
29	C-MUX B_field half slot mode 1 multiplex	6.2.2.3.2	I	
30	T-MUX Tail multiplex	6.2.2.1	M	
31	Frequency correction function	11.5.2.2	O	

D.2.7 Timer support

Q.35 Timer support

Timer supported						
Item no.	Name	Ref.	Status	Support	Values	
					Allowed	Supported
1	T200	10.2	M		3 seconds	
2	T201	11.5	M		5 seconds	
3	T202	10.6	I		3 seconds	
4	T203	10.6	I		16 frames	
5	T204	9.1	M		6 multiframe	
6	T205	9.1	M		10 seconds	
7	T206	11.2	C1o		10 frames	
8	T207	11.3	M		5 seconds	
9	T208	11.3	M		20 seconds	
10	T209	11.4	M		30 seconds	
11	T210	11.4	M		2 seconds	
12	T211	10.3	I		3 seconds	
13	T212	10.5	I		20 frames	
14	T213	10.7	I		20 frames	
15	T214	9.2	I		20 frames	
16	T215	9.2	I		6 multiframe	

D.2.8 Procedure support

Q.36 Procedure support

Procedures supported				
Item no.	Name of procedure	Ref.	Status	Support
1	Downlink connectionless procedure	9.1.2	C2	
2	Downlink broadcast procedure	9.1.1	M	
3	Uplink connectionless procedure	9.2.3	I	
4	Request for specific Q-channel information, B-field procedure	9.3.1.2	C1o	
5	Request for a new dummy procedure	9.3.2	C1o	
6	Basic set-up procedure for single bearer basic connection of known service	10.2.4.2	I	
7	Normal set-up procedure for single bearer advanced connection of known service	10.2.4.2	M	
8	Fast set-up procedure for single bearer advanced connection of known service	10.2.4.2	C4	
9	Normal set-up procedure for multi-bearer symmetric connection	10.2.4.3.1	I	
10	Fast set-up procedure for multi-bearer symmetric connection	10.2.4.3.1	I	
11	Normal set-up procedure for asymmetric downlink connection	10.2.4.3.3	I	
12	Fast set-up procedure for asymmetric downlink connection	10.2.4.3.3	I	
13	Normal set-up procedure for asymmetric uplink connection	10.2.4.3.2	I	
14	Fast set-up procedure for asymmetric uplink connection	10.2.4.3.2	I	
15	Set-up procedure for connection with unknown service	10.2.4.3	I	
16	Connection modification procedure	10.3	I	
17	Connection release procedure	10.4	M	
18	Basic single bearer set-up procedure	10.5.1.1	I	
19	A field advanced single bearer set-up procedure	10.5.1.2	I	
20	B field single bearer normal set-up procedure	10.5.1.3.1	M	
21	B field single bearer fast set-up procedure	10.5.1.3.2	C4	
22	Double simplex bearer indirect set-up procedure	10.5.1.4	I	
23	Double simplex bearer direct set-up procedure	10.5.1.4	I	
24	Duplex bearer handover procedure	10.6.2	I	
25	Double simplex bearer handover procedure	10.6.3	I	
26	Unacknowledged bearer release procedure	10.7.2.1	M	
27	Acknowledged bearer release procedure	10.7.2.2	I	
28	Fast bearer release procedure	10.7.2.3	I	
29	Q1 and Q2 bits setting procedure for C-channel data	10.8.1	I	
30	Q1 and Q2 bits setting procedure for I _N and I _{P_error_detection} data	10.8.1.3	I	
31	BCK and Q2 bits setting for I _{P_error_correction} data in symmetric connection	10.8.2.4	M	
32	BCK and ACK bit setting for I _{P_error_correction} data in asymmetric connection	10.8.2.4	I	
33	Bearer replacement procedure	10.8.2.5.1	I	
34	MAC IP bearer reset	10.8.2.5.2	M	
35	Unilateral jump procedure	10.8.2.5.2	M	
36	Idle_locked state entering procedure	11.3.2	M	
37	Idle_locked state maintaining procedure	11.3.3	M	
38	Duplex bearer channel selection procedure	11.4.1	M	
39	Double simplex bearer channel selection procedure	11.4.1	I	
40	Simplex bearer channel selection procedure	11.4.1	I	
41	Uplink connectionless channel selection	9.2.2	I	
42	RFPI handshaking procedure	11.5.1	M	
43	PT frequency correction procedure	11.5.2.2	O	
44	MAC layer test message procedure	12.2	M	
45	RFP Idle receiver scan sequence Receiver scanning procedure	11.9	M	
46	PT fast set up receiver scan sequence	11.9	C.4	
47	PP paging procedure	9.1.3.2	M	
48	Channel list procedure	10.5.2	I	

Q.37 Parameters of channel selection procedure (duplex/double/simplex bearer)

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	Lowest boundary of channel list	11.4.1	M		< = - 93 dBm	
2	Band resolution	11.4.1	M		<= 6 dB	
3	RSSI variation between checking	11.4.1	M		< = 12 dB	

Annex E (normative): Service B: FT profile ICS proforma

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E.1 Standardized symbols for the status column

The standardized symbols for the status column are as follows:

- m or M for mandatory;
- o or O for optional (Boolean);
- x or X for prohibited use;
- n/a, N/A or - (dash) for not applicable;
- cn or Cn for conditional on the implementation of service n;
- i or I for out of scope (the capability is allowed to be implemented but is not called upon by the profile functionality).

Where reception of a message is marked as "O", this shall be understood to mean that correct understanding and processing of that message is optional.

C1m: IF M.2 supported THEN M ELSE I.

C1o: IF M.2 supported THEN O ELSE I.

C2: IF M.5 supported THEN M ELSE I.

C3: IF M.8 supported THEN M ELSE I.

C4: IF M.11 supported THEN M ELSE I.

C5: IF M.12 supported THEN M ELSE I.

C6: IF M.15 supported THEN M ELSE I.

Except when stated otherwise, the reference column refers to the relevant subclause in EN 300 175-3 [3].

E.2 Capabilities

E.2.1 Services

Q.9 Service support

Service supported				
Item no.	Name of service	Ref.	Status	Support
1	Type 1f I _N minimum delay	5.6.2.1	I	
2	Type 2f I _N normal delay	5.6.2.1	I	
3	Type 3f I _P error detection	5.6.2.1	I	
4	Type 4f I _P error correction	5.6.2.1	M	
5	Type 5 I _N normal delay	5.6.2.2	I	
6	Type 6 I _P error detection	5.6.2.2	I	
7	Type 7f I _P error correction	5.6.2.2	M	
8	Type 1h I _N minimum delay	5.6.2.1	I	
9	Type 2h I _N normal delay	5.6.2.1	I	
10	Type 3h I _P error detection	5.6.2.1	I	
11	Type 4h I _P error correction	5.6.2.1	I	
12	C _S duplex	5.3.1.1	I	
13	C _F duplex	5.3.1.1	I	
14	Downlink C _{L_S} only	5.7.2.1	I	
15	Downlink C _{L_F} + C _{L_S}	5.7.2.1	I	
16	Downlink S _{I_P}	5.7.2.1	C2	
17	Uplink C _{L_F} only	5.7.2.2	I	
18	Uplink C _{L_S} only	5.7.2.2	I	
19	Uplink without SDU	5.7.2.2	I	
20	G _F simplex	5.3.1.3	M	
21	Fast paging	11.3.3.1	O	
22	Normal paging	11.3.3.1	M	
23	Low duty cycle paging	11.3.3.1	O	
24	System identities	11.3.2	M	
25	System information	11.3.2	M	
26	Encryption activation	6.2.3	C4	
27	Encryption activation	6.2.3	C5	
28	Fast set-up	11.3.3.2	M	

E.2.2 Service parameters

Q.10 Service parameters

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	No. of bearers in T2f service	5.6.2.1	I			
2	No. of bearers in T3f service	5.6.2.1	I			
3	No. of bearers in T4f service	5.6.2.1	M		1 - 12	
4	Forward bearer no. in T5 service	5.6.2.2	I			
5	Special bearer no. in T5 service	5.6.2.2	I			
6	Forward bearer no. in T6 service	5.6.2.2	I			
7	Special bearer no. in T6 service	5.6.2.2	I			
8	Forward bearer no. in T7 service	5.6.2.2	M		1 - 23	
9	Special bearer no. in T7 service	5.6.2.2	M		1	

E.2.3 Protocol parameters

Q.11 Protocol parameters

Protocol parameters supported						
Item no.	Name	Ref.	Status	Support	Value	
					Allowed	Supported
1	N200	10.2	M		10	
2	N201	10.6	I			
3	N202	11.4	M		10	
4	N203	9.2	I			

E.2.4 Messages

Q.12 Messages in A_tail

Supported messages						
Item no.	Name	Ref.	Sending		Receipt	
			Status	Support	Status	Support
1	TA code: CT data packet number 0	7.1.2	I		I	
2	TA code: CT data packet number 1	7.1.2	I		I	
3	TA code: identities information on connectionless bearer	7.1.2	C2		N/A	
4	TA code: identities information	7.1.2	M		M	
5	TA code: multiframe sync. and system information	7.1.2	M		N/A	
6	TA code: main escape	7.1.2	X		I	
7	TA code: MAC layer control	7.1.2	M		M	
8	TA code: paging/first PT transmission	7.1.2	M		M	
9	BA code: U-type, I _N , SI _N or I _P packet number 0	7.1.4	M		M	
10	BA code: U-type, I _P error detect or I _P packet number 1	7.1.4	M		M	
11	BA code: E-type, all C _F or CL _F , packet number 0	7.1.4	I		I	
12	BA code: E-type, all C _F , packet number 1	7.1.4	I		I	
13	BA code: E-type, not all C _F or CL _F ; C _F packet number 0	7.1.4	I		I	
14	BA code: E-type, not all C _F ; C _F packet number 1	7.1.4	I		I	
15	BA code: E-type, all MAC control	7.1.4	M		M	
16	BA code: no B_field	7.1.4	M		N/A	
17	NT information	7.2.2	M		M	
18	Static system information	7.2.3.2	M		N/A	
19	Extended RF carrier information	7.2.3.3	I		N/A	
20	Fixed part capabilities	7.2.3.4	M		N/A	
21	Extended fixed part capabilities	7.2.3.5	I		N/A	
22	SARI message	7.2.3.6	O		N/A	
23	Multi-frame number	7.2.3.7	C4		N/A	
24	Q-channel escape	7.2.3.8	I		N/A	
25	Zero length page indication	7.2.4.2.3	M		N/A	
26	Short page indication	7.2.4.2.3	M		N/A	
27	Full page indication	7.2.4.2.3	I		N/A	
28	Not the last 36 bits of a long page indication	7.2.4.2.3	I		N/A	
29	The first 36 bits of a long page indication	7.2.4.2.3	I		N/A	
30	The last 36 bits of a long page indication	7.2.4.2.3	I		N/A	
31	All of a long page indication	7.2.4.2.3	I		N/A	
32	PT header extend flag	7.2.4.2.2	M		N/A	
33	PT MAC information: fill	7.2.4.3.2	O		N/A	
34	PT MAC information: blind full slot	7.2.4.3.3	M		N/A	
35	PT MAC information: other bearer	7.2.4.3.4	O		N/A	
36	PT MAC information: recommended other bearer	7.2.4.3.4	O		N/A	
37	PT MAC information: good RFP bearer	7.2.4.3.4	O		N/A	
38	PT MAC information: dummy or C/L bearer position	7.2.4.3.4	M		N/A	
39	PT MAC information: RFP identity	7.2.4.3.5	I		N/A	
40	PT MAC information: dummy or C/L bearer marker	7.2.4.3.7	C2		N/A	
41	PT MAC information: escape	7.2.4.3.6	I		N/A	
42	PT MAC information: bearer handover type 0000	7.2.4.3.8	I		N/A	
44	PT MAC information: bearer handover type 0010	7.2.4.3.8	I		N/A	
45	PT MAC information: bearer handover type 0011	7.2.4.3.8	I		N/A	
46	Basic access request	7.2.5.2	N/A		I	
47	Basic bearer handover request	7.2.5.2	N/A		I	
48	Basic connection handover request	7.2.5.2	N/A		I	
49	Basic unconfirmed access request	7.2.5.2	N/A		I	
50	Basic bearer confirm	7.2.5.2	I		N/A	
51	Basic wait	7.2.5.2.3	I		I	
52	Basic bearer release	7.2.5.2	I		I	
53	Advanced access request	7.2.5.3.2	I		I	

(continued)

Q.12 Messages in A_tail (concluded)

Supported messages						
Item no.	Name	Ref.	Sending		Receipt	
54	Advanced bearer handover request	7.2.5.3.3				
55	Advanced connection handover request	7.2.5.3.4				
56	Advanced bearer confirm	7.2.5.3.6				
57	Advanced unconfirmed access request	7.2.5.3.5				
58	Advanced wait	7.2.5.3.7				
59	Advanced attributes-T request	7.2.5.3.8				
60	Advanced attributes-T confirm	7.2.5.3.8				
61	Advanced bandwidth-T request	7.2.5.3.9				
62	Advanced bandwidth-T confirm	7.2.5.3.9				
63	Advanced channel list	7.2.5.3.10				
64	Advanced unconfirmed dummy	7.2.5.3.11				
65	Advanced unconfirmed handover	7.2.5.3.12				
66	Advanced bearer release	7.2.5.3.13				
67	Transmit on the specified slot/frequency test message	7.2.5.4.2	N/A		N/A	
68	Loopback B_field test message	7.2.5.4.3	N/A		M	
69	Defeat antenna diversity test message	7.2.5.4.4	N/A		M	
70	Force bearer handover test message	7.2.5.4.5	N/A			
71	Clear test mode test message	7.2.5.4.6	N/A		M	
72	Single bearer antenna switch QC message	7.2.5.5	O		O	
73	All bearer antenna switch QC message	7.2.5.5	O		O	
74	Bearer handover QC message	7.2.5.5				
75	Connection handover QC message	7.2.5.5				
76	Single bearer frequency control QC message	7.2.5.5	O		O	
77	All bearer frequency control QC message	7.2.5.5	O		O	
78	C/L single transmission with 1 CL _F segment	7.2.5.6				
79	C/L single transmission with 2 CL _F segments	7.2.5.6				
80	C/L single transmission with 3 CL _F segments	7.2.5.6				
81	C/L single transmission with 4 CL _F segments	7.2.5.6				
82	1st C/L half slot transmission with 1 CL _F segment	7.2.5.6				
83	1st C/L full slot transmission with 4 CL _F segment	7.2.5.6				
84	2nd C/L transmission with 1 CL _F segment	7.2.5.6				
85	2nd C/L transmission with 2 CL _F segment	7.2.5.6				
86	2nd C/L transmission with 3 CL _F segment	7.2.5.6				
87	2nd C/L transmission with 4 CL _F segment	7.2.5.6				
88	C/L single transmission without CL _F segment	7.2.5.6				
89	1st C/L transmission without CL _F segment (CL _S service)	7.2.5.6				
90	Change dummy position	7.2.5.6	C1o		C1o	
91	Extended system information	7.2.5.6	O		O	
92	Start encryption: request	7.2.5.7	N/A		C4	
93	Start encryption: confirm	7.2.5.7	C4		N/A	
94	Start encryption: grant	7.2.5.7	N/A		C4	
95	Stop encryption: request	7.2.5.7	N/A		C5	
96	Stop encryption: confirm	7.2.5.7	C5		N/A	
97	Stop encryption: grant	7.2.5.7	N/A		C5	
98	First transmission for B_field set-up	7.2.5.8	N/A		M	
99	M-channel escape	7.2.5.9				

Q.13 Messages in B_field

Supported messages						
Item no.	Name	Ref.	Sending		Receipt	
			Status	Support	Status	Support
1	B_field access request	7.3.3.2	M		M	
2	B_field bearer handover request	7.3.3.2	N/A		I	
3	B_field connection handover request	7.3.3.2	N/A		I	
4	B_field unconfirmed access request	7.3.3.2	M		M	
5	B_field bearer confirm	7.3.3.3	M		M	
6	B_field wait	7.3.3.4	M		M	
7	B_field attributes-B request	7.3.3.5	I		I	
8	B_field attributes-B confirm	7.3.3.5	I		I	
9	B_field bandwidth-B request	7.3.3.6	M		M	
10	B_field bandwidth-B confirm	7.3.3.6	M		M	
11	B_field channel list	7.3.3.7	M		M	
12	B_field unconfirmed dummy	7.3.3.8	M		M	
13	B_field unconfirmed handover	7.3.3.9	I		I	
14	B_field bearer release	7.3.3.10	M		M	
15	B_field null message	7.3.4	M		M	
16	B_field single bearer antenna switch QC message	7.3.5.2	O		O	
17	B_field all bearer antenna switch QC message	7.3.5.2	O		O	
18	B_field bearer handover QC message	7.3.5.2	I		I	
19	B_field connection handover QC message	7.3.5.2	I		I	
20	B_field single bearer frequency control QC message	7.3.5.2	O		O	
21	B_field all bearer frequency control QC message	7.3.5.2	O		O	
22	B-field reset request	7.3.5.3	M		M	
23	B_field reset confirm	7.3.5.3	M		M	
24	MAC-MOD2-ACK message	7.3.5.4	M		M	
25	B_field TARI message	7.3.6.2	C1o		N/A	
26	B_field G _F data	7.3.7	M		M	
27	B_field M-channel escape	7.3.8	O		O	

E.2.5 Message parameters

Q.14 Parameters of static system information message

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	Normal-reverse	7.2.3.2.2	M		0 - 1	
2	Slot number	7.2.3.2.3	M		0 - 11	
3	Start position	7.2.3.2.4	M		0	
4	Escape	7.2.3.2.5	M		0 - 1	
5	Number of transceivers	7.2.3.2.6	M		0 - 3	
6	Extended RF carrier flag	7.2.3.2.7	M		0	
7	RF carriers available	7.2.3.2.8	M		1 - 1 023	
8	Spare	7.2.3.2.11	M		0	
9	Carrier number	7.2.3.2.10	M		0 - 9	
10	Spare	7.2.3.2.11	M		0	
11	Primary receiver scan number	7.2.3.2.12	M		0 - 9	

Q.15 Parameters of FP capabilities message

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	Extended FP information	7.2.3.4.2	M		0, 1	
2	Full slot	7.2.3.4.2	M		1	
3	Frequency control	7.2.3.4.2	M		0, 1	
4	Page repetition	7.2.3.4.2	M		0, 1	
5	C/O set-up on dummy allowed	7.2.3.4.2	M		C2 = 0	
6	C/L uplink	7.2.3.4.2	M		0, 1	
7	C/L downlink	7.2.3.4.2	M		C2 = 1	
8	Basic A_field set-up	7.2.3.4.2	M		0, 1	
9	Advanced A_field set-up	7.2.3.4.2	M		0,	
10	B_field set-up	7.2.3.4.2	M		1	
11	C _F messages	7.2.3.4.2	M		0	
12	I _N _minimum_delay	7.2.3.4.2	M		0	
13	I _N _normal_delay	7.2.3.4.2	M		0	
14	I _P _error_detection	7.2.3.4.2	M		0	
15	I _P _error_correction	7.2.3.4.2	M		1	
16	Multibearer connection	7.2.3.4.2	M		1	

The higher layer information field of the FP capabilities message is out of scope for mobility class 1 applications of this profile.

Q.20 Parameters of B_field access request message

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	IBCN	7.3.3.2	M		0, 3	
2	Exchanged connection number	8.1.1	M		0 - 15	
3	Logical bearer number	10.2.4	M		0 - 15	
4	Connection type	7.3.3.2	M		0 - 3	
5	Service type	7.3.3.2	M		3	
6	Maximum life	7.3.3.2	M		0 - 7	
7	Slot type	7.3.3.2	M		0	

Q.24 Parameters of B_field bearer confirm message

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	Exchanged connection number	8.1.1	M		0 - 15	
2	Logical bearer number	10.2.4	M		0 - 15	
3	Connection type	7.3.3.3	M		0 - 3	
4	Service type	7.3.3.3	M		3	
5	Maximum life	7.3.3.3	M		0 - 7	
6	Slot type	7.3.3.3	M		0	

Q.27 Parameters of B_field Bandwidth-B Request Message

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	Minimum number of uplink bearers	7.3.3.6	M		1 - 23	
2	Target number of uplink bearers	7.3.3.6	M		1 - 23	
3	Minimum number of downlink bearers	7.3.3.6	M		1 - 23	
4	Target number of downlink bearers	7.3.3.6	M		1 - 23	

Q.28 Parameters of B_field bandwidth-B confirm message

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	Minimum number of uplink bearers	7.3.3.6	M		1 - 23	
2	Target number of uplink bearers	7.3.3.6	M		1 - 23	
3	Minimum number of downlink bearers	7.3.3.6	M		1 - 23	
4	Target number of downlink bearers	7.3.3.6	M		1 - 23	

Q.29 Parameters of B_field channel list message

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	First message type	7.3.3.7	M		0 - 7	
2	Second message type	7.3.3.7	M		0 - 7	
3	Third message type	7.3.3.7	M		0 - 7	

Q.32 Parameters of B_field bearer release message

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	Reason for release	7.3.3.10	M		0-3 and 6-13	

Q.33 Parameters of B_field null message

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	C _F data indication	7.3.4	I		0	

E.2.6 Functions implemented**Q.34 Function implemented**

Supported functions					
Item no.	Function name	Ref.	Status	Support	
1	B_field data scrambling	6.2.4	M		
2	B_field data unscrambling	6.2.4	M		
3	R-CRC generation	6.2.5.2	M		
4	R-CRC checking	6.2.5.2	M		
5	X-CRC generation	6.2.5.4	M		
6	X-CRC checking	6.2.5.4	M		
7	Z-FIELD generation	EN 300 175-2 [2] subclause 4.8	I		
8	Z-FIELD checking	EN 300 175-2 [2] subclause 4.8	I		
9	D-MAP D80 field mapping	6.2.1.1	I		
10	D-MAP D32 field mapping	6.2.1.1	M		
11	D-MAP D08 field mapping	6.2.1.1	I		
12	D-MAP D00 field mapping	6.2.1.1	M		
13	A-MAP A_field mapping	6.2.1.2	M		
14	E/U-MUX E80 type multiplex	6.2.2.2	I		
15	E/U-MUX E32 type multiplex	6.2.2.2	M		
16	E/U-MUX E08 type multiplex	6.2.2.2	I		
17	E/U-MUX U80a type multiplex	6.2.2.2	I		
18	E/U-MUX U80b type multiplex	6.2.2.2	I		
19	E/U-MUX U32a type multiplex	6.2.2.2	I		
20	E/U-MUX U32b type multiplex	6.2.2.2	M		
21	E/U-MUX U08a type multiplex	6.2.2.2	I		
22	E/U-MUX U08b type multiplex	6.2.2.2	I		
23	C-MUX B_field full slot mode 0 multiplex	6.2.2.3.1	I		
24	C-MUX B_field full slot mode 1 multiplex	6.2.2.3.1	I		
25	C-MUX B_field full slot mode 2 multiplex	6.2.2.3.1	I		
26	C-MUX B_field full slot mode 3 multiplex	6.2.2.3.1	I		
27	C-MUX B_field full slot mode 4 multiplex	6.2.2.3.1	M		
28	C-MUX B_field half slot mode 0 multiplex	6.2.2.3.2	I		
29	C-MUX B_field half slot mode 1 multiplex	6.2.2.3.2	I		
30	T-MUX Tail multiplex	6.2.2.1	M		
31	Frequency correction function	11.5.2.2	O		

E.2.7 Timer support

Q.35 Timer support

Timer supported						
Item no.	Name	Ref.	Status	Support	Values	
					Allowed	Supported
1	T200	10.2	M		3 seconds	
2	T201	11.5	M		5 seconds	
3	T202	10.6	I		3 seconds	
4	T203	10.6	I		16 frames	
5	T204	9.1	M		6 multiframe	
6	T205	9.1	M		10 seconds	
7	T206	11.2	C1o		10 frames	
8	T207	11.3	M		5 seconds	
9	T208	11.3	M		20 seconds	
10	T209	11.4	M		30 seconds	
11	T210	11.4	M		2 seconds	
12	T211	10.3	M		3 seconds	
13	T212	10.5	M		20 frames	
14	T213	10.7	M		20 frames	
15	T214	9.2	I		20 frames	
16	T215	9.2	I		6 multiframe	

E.2.8 Procedure support

Q.36 Procedure support

Procedures supported				
Item no.	Name of procedure	Ref.	Status	Support
1	Downlink connectionless procedure	9.1.2	C2	
2	Downlink broadcast procedure	9.1.1	M	
3	Uplink connectionless procedure	9.2.3	I	
4	Request for specific Q-channel information, B-field procedure	9.3.1.2	C1o	
5	Request for a new dummy procedure	9.3.2	C1o	
6	Basic set-up procedure for single bearer basic connection of known service	10.2.4.2	I	
7	Normal set-up procedure for single bearer advanced connection of known service	10.2.4.2	M	
8	Fast set-up procedure for single bearer advanced connection of known service	10.2.4.2	M	
9	Normal set-up procedure for multi-bearer symmetric connection	10.2.4.3.1	M	
10	Fast set-up procedure for multi-bearer symmetric connection	10.2.4.3.1	M	
11	Normal set-up procedure for asymmetric downlink connection	10.2.4.3.3	C3	
12	Fast set-up procedure for asymmetric downlink connection	10.2.4.3.3	C3	
13	Normal set-up procedure for asymmetric uplink connection	10.2.4.3.2	C3	
14	Fast set-up procedure for asymmetric uplink connection	10.2.4.3.2	C3	
15	Set-up procedure for connection with unknown service	10.2.4.3	I	
16	Connection modification procedure	10.3	M	
17	Connection release procedure	10.4	M	
18	Basic single bearer set-up procedure	10.5.1.1	I	
19	A field advanced single bearer set-up procedure	10.5.1.2	I	
20	B field single bearer normal set-up procedure	10.5.1.3.1	M	
21	B field single bearer fast set-up procedure	10.5.1.3.2	M	
22	Double simplex bearer indirect set-up procedure	10.5.1.4	C3	
23	Double simplex bearer direct set-up procedure	10.5.1.4	C3	

(continued)

Q.36 Procedure support (concluded)

Procedures supported				
Item no.	Name of procedure	Ref.	Status	Support
24	Duplex bearer handover procedure	10.6.2	I	
25	Double simplex bearer handover procedure	10.6.3	I	
26	Unacknowledged bearer release procedure	10.7.2.1	M	
27	Acknowledged bearer release procedure	10.7.2.2	C3	
28	Fast bearer release procedure	10.7.2.3	C3	
29	Q1 and Q2 bits setting procedure for C-channel data	10.8.1	I	
30	Q1 and Q2 bits setting procedure for I _N and I _{P_error_detection} data	10.8.1.3	I	
31	BCK and Q2 bits setting for I _{P_error_correction} data in symmetric connection	10.8.2.4	M	
32	BCK and ACK bit setting for I _{P_error_correction} data in asymmetric connection	10.8.2.4	M	
33	Bearer replacement procedure	10.8.2.5.1	M	
34	MAC IP bearer reset	10.8.2.5.2	M	
35	Unilateral jump procedure	10.8.2.5.2	M	
36	Idle_locked state entering procedure	11.3.2	N/A	
37	Idle_locked state maintaining procedure	11.3.3	N/A	
38	Duplex bearer channel selection procedure	11.4.1	M	
39	Double simplex bearer channel selection procedure	11.4.1	C3	
40	Simplex bearer channel selection procedure	11.4.1	M	
41	Uplink connectionless channel selection	9.2.2	I	
42	RFPI handshaking procedure	11.5.1	M	
43	PT frequency correction procedure	11.5.2.2	O	
44	MAC layer test message procedure	12.2	M	
45	RFP Idle receiver scan sequence	11.9	M	
46	PT fast set up receiver scan sequence	11.9	N/A	
47	PP paging procedure	9.1.3.2	M	
48	Channel list procedure	10.5.2	M	

Q.37 Parameters of channel selection procedure (duplex/double/simplex bearer)

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	Lowest boundary of channel list	11.4.1	M		< = - 93 dBm	
2	Band resolution	11.4.1	M		< = 6 dB	
3	RSSI variation between checking	11.4.1	M		< = 12 dB	

Annex F (normative): Service B: PT Profile ICS proforma

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F.1 Standardized symbols for the status column

The standardized symbols for the status column are as follows:

- m or M for mandatory;
- o or O for optional (Boolean);
- x or X for prohibited use;
- n/a, N/A or - (dash) for not applicable;
- cn or Cn for conditional on the implementation of service n;
- i or I for out of scope (the capability is allowed to be implemented but is not called upon by the profile functionality).

Where reception of a message is marked as "O", this shall be understood to mean that correct understanding and processing of that message is optional.

C1m: IF M.2 supported THEN M ELSE I.

C1o: IF M.2 supported THEN O ELSE I.

C2: IF M.5 supported THEN M ELSE I.

C3: IF M.8 supported THEN M ELSE I.

C4: IF M.11 supported THEN M ELSE I.

C5: IF M.12 supported THEN M ELSE I.

C6: IF M.15 supported THEN M ELSE I.

Except when stated otherwise, the reference column refers to the relevant subclause in EN 300 175-3 [3].

F.2 Capabilities

F.2.1 Services

Q.9 Service support

Service supported				
Item no.	Name of service	Ref.	Status	Support
1	Type 1f I _N minimum delay	5.6.2.1	I	
2	Type 2f I _N normal delay	5.6.2.1	I	
3	Type 3f I _P error detection	5.6.2.1	I	
4	Type 4f I _P error correction	5.6.2.1	M	
5	Type 5 I _N normal delay	5.6.2.2	I	
6	Type 6 I _P error detection	5.6.2.2	I	
7	Type 7f I _P error correction	5.6.2.2	M	
8	Type 1h I _N minimum delay	5.6.2.1	I	
9	Type 2h I _N normal delay	5.6.2.1	I	
10	Type 3h I _P error detection	5.6.2.1	I	
11	Type 4h I _P error correction	5.6.2.1	I	
12	C _S duplex	5.3.1.1	I	
13	C _F duplex	5.3.1.1	I	
14	Downlink C _L _S only	5.7.2.1	I	
15	Downlink C _L _F + C _L _S	5.7.2.1	I	
16	Downlink S _I _P	5.7.2.1	C2	
17	Uplink C _L _F only	5.7.2.2	I	
18	Uplink C _L _S only	5.7.2.2	I	
19	Uplink without SDU	5.7.2.2	I	
20	G _F simplex	5.3.1.3	M	
21	Fast paging	11.3.3.1	O	
22	Normal paging	11.3.3.1	M	
23	Low duty cycle paging	11.3.3.1	O	
24	System iENTities	11.3.2	M	
25	System information	11.3.2	M	
26	Encryption activation	6.2.3	C4	
27	Encryption deactivation	6.2.3	C51	
28	Fast set-up	11.3.3.2	C6	

F.2.2 Service parameters

Q.10 Service parameters

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	No. of bearers in T2f service	5.6.2.1	I			
2	No. of bearers in T3f service	5.6.2.1	I			
3	No. of bearers in T4f service	5.6.2.1	M		1 - 12	
4	Forward bearer no. in T5 service	5.6.2.2	I			
5	Special bearer no. in T5 service	5.6.2.2	I			
6	Forward bearer no. in T6 service	5.6.2.2	I			
7	Special bearer no. in T6 service	5.6.2.2	I			
8	Forward bearer no. in T7 service	5.6.2.2	M		1 - 23	
9	Special bearer no. in T7 service	5.6.2.2	M		1	

F.2.3 Protocol parameters

Q.11 Protocol parameters

Protocol parameters supported						
Item no.	Name	Ref.	Status	Support	Value	
					Allowed	Supported
1	N200	10.2	M		10	
2	N201	10.6	I			
3	N202	11.4	M		10	
4	N203	9.2	I			

F.2.4 Messages

Q.12 Messages in A_tail

Supported messages						
Item no.	Name	Ref.	Sending		Receipt	
			Status	Support	Status	Support
1	TA code: CT data packet number 0	7.1.2	I		I	
2	TA code: CT data packet number 1	7.1.2	I		I	
3	TA code: identities information on connectionless bearer	7.1.2	N/A		C2	
4	TA code: identities information	7.1.2	M		M	
5	TA code: multiframe sync. and system information	7.1.2	N/A		M	
6	TA code: main escape	7.1.2	X		I	
7	TA code: MAC layer control	7.1.2	M		M	
8	TA code: paging/first PT transmission	7.1.2	M		M	
9	BA code: U-type, I _N , S _{I_N} or I _P packet number 0	7.1.4	M		M	
10	BA code: U-type, I _P error detect or I _P packet number 1	7.1.4	M		M	
11	BA code: E-type, all C _F or CL _F , packet number 0	7.1.4	I		I	
12	BA code: E-type, all C _F , packet number 1	7.1.4	I		I	
13	BA code: E-type, not all C _F or CL _F ; C _F packet number 0	7.1.4	I		I	
14	BA code: E-type, not all C _F ; C _F packet number 1	7.1.4	I		I	
15	BA code: E-type, all MAC control	7.1.4	M		M	
16	BA code: no B _{field}	7.1.4	N/A		M	
17	NT information	7.2.2	M		M	
18	Static system information	7.2.3.2	N/A		M	
19	Extended RF carrier information	7.2.3.3	N/A		I	
20	Fixed part capabilities	7.2.3.4	N/A		M	
21	Extended fixed part capabilities	7.2.3.5	N/A		I	
22	SARI message	7.2.3.6	N/A		O	
23	Multi-frame number	7.2.3.7	N/A		C4	
24	Q-channel escape	7.2.3.8	N/A		I	
25	Zero length page indication	7.2.4.2.3	N/A		M	
26	Short page indication	7.2.4.2.3	N/A		M	
27	Full page indication	7.2.4.2.3	N/A		O	
28	Not the last 36 bits of a long page indication	7.2.4.2.3	N/A		I	
29	The first 36 bits of a long page indication	7.2.4.2.3	N/A		I	
30	The last 36 bits of a long page indication	7.2.4.2.3	N/A		I	
31	All of a long page indication	7.2.4.2.3	N/A		I	
32	PT header extend flag	7.2.4.2.2	N/A		M	
33	PT MAC information: fill	7.2.4.3.2	N/A		M	
34	PT MAC information: blind full slot	7.2.4.3.3	N/A		M	
35	PT MAC information: other bearer	7.2.4.3.4	N/A		O	
36	PT MAC information: recommended other bearer	7.2.4.3.4	N/A		O	

(continued)

Q.12 Messages in A_tail (continued)

Supported messages						
Item no.	Name	Ref.	Sending		Receipt	
37	PT MAC information: good RFP bearer	7.2.4.3.4	N/A		O	
38	PT MAC information: dummy or C/L bearer position	7.2.4.3.4	N/A		M	
39	PT MAC information: RFP identity	7.2.4.3.5	N/A		I	
40	PT MAC information: dummy or C/L bearer marker	7.2.4.3.7	N/A		C2	
41	PT MAC information: escape	7.2.4.3.6	N/A		I	
42	PT MAC information: bearer handover type 0000	7.2.4.3.8	N/A		I	
43	PT MAC information: bearer handover type 0001	7.2.4.3.8	N/A		I	
44	PT MAC information: bearer handover type 0010	7.2.4.3.8	N/A		I	
45	PT MAC information: bearer handover type 0011	7.2.4.3.8	N/A			
46	Basic access request	7.2.5.2	I		N/A	
47	Basic bearer handover request	7.2.5.2	I		N/A	
48	Basic connection handover request	7.2.5.2	I		N/A	
49	Basic unconfirmed access request	7.2.5.2	I		N/A	
50	Basic bearer confirm	7.2.5.2	N/A		I	
51	Basic wait	7.2.5.2.3	I		I	
52	Basic bearer release	7.2.5.2	I		I	
53	Advanced access request	7.2.5.3.2	I		I	
54	Advanced bearer handover request	7.2.5.3.3	I		I	
55	Advanced connection handover request	7.2.5.3.4	I		I	
56	Advanced bearer confirm	7.2.5.3.6	I		I	
57	Advanced unconfirmed access request	7.2.5.3.5	I		I	
58	Advanced wait	7.2.5.3.7	I		I	
59	Advanced attributes-T request	7.2.5.3.8	I		I	
60	Advanced attributes-T confirm	7.2.5.3.8	I		I	
61	Advanced bandwidth-T request	7.2.5.3.9	I		I	
62	Advanced bandwidth-T confirm	7.2.5.3.9	I		I	
63	Advanced channel list	7.2.5.3.10	I		I	
64	Advanced unconfirmed dummy	7.2.5.3.11	I		I	
65	Advanced unconfirmed handover	7.2.5.3.12	I		I	
66	Advanced bearer release	7.2.5.3.13	I		I	
67	Transmit on the specified slot/frequency test message	7.2.5.4.2	N/A		M	
68	Loopback B_field test message	7.2.5.4.3	N/A		M	
69	Defeat antenna diversity test message	7.2.5.4.4	N/A		M	
70	Force bearer handover test message	7.2.5.4.5	N/A		I	
71	Clear test mode test message	7.2.5.4.6	N/A		M	
72	Single bearer antenna switch QC message	7.2.5.5	O		O	
73	All bearer antenna switch QC message	7.2.5.5	O		O	
74	Bearer handover QC message	7.2.5.5	I		I	
75	Connection handover QC message	7.2.5.5	I		I	
76	Single bearer frequency control QC message	7.2.5.5	O		O	
77	All bearer frequency control QC message	7.2.5.5	O		O	
78	C/L single transmission with 1 CL _F segment	7.2.5.6	I		I	
79	C/L single transmission with 2 CL _F segments	7.2.5.6	I		I	
80	C/L single transmission with 3 CL _F segments	7.2.5.6	I		I	
81	C/L single transmission with 4 CL _F segments	7.2.5.6	I		I	
82	1st C/L half slot transmission with 1 CL _F segment	7.2.5.6	I		I	
83	1st C/L full slot transmission with 4 CL _F segment	7.2.5.6	I		I	
84	2nd C/L transmission with 1 CL _F segment	7.2.5.6	I		I	
85	2nd C/L transmission with 2 CL _F segment	7.2.5.6	I		I	
86	2nd C/L transmission with 3 CL _F segment	7.2.5.6	I		I	
87	2nd C/L transmission with 4 CL _F segment	7.2.5.6	I		I	
88	C/L single transmission without CL _F segment	7.2.5.6	I		I	

(continued)

Q.12 Messages in A_tail (concluded)

Supported messages						
Item no.	Name	Ref.	Sending		Receipt	
89	1st C/L transmission without CL _F segment (CL _S service)	7.2.5.6	I		I	
90	Change dummy position	7.2.5.6	C1o		C1o	
91	Extended system information	7.2.5.6	O		O	
92	Start encryption: request	7.2.5.7	C4		N/A	
93	Start encryption: confirm	7.2.5.7	N/A		C4	
94	Start encryption: grant	7.2.5.7	C4		N/A	
95	Stop encryption: request	7.2.5.7	C5		N/A	
96	Stop encryption: confirm	7.2.5.7	N/A		C5	
97	Stop encryption: grant	7.2.5.7	C5		N/A	
98	First transmission for B _{field} set-up	7.2.5.8	M		N/A	
99	M-channel escape	7.2.5.9	I		I	

Q.13 Messages in B_{field}

Supported messages						
Item no.	Name	Ref.	Sending		Receipt	
			Status	Support	Status	Support
1	B _{field} access request	7.3.3.2	M		C6	
2	B _{field} bearer handover request	7.3.3.2	I		N/A	
3	B _{field} connection handover request	7.3.3.2	I		N/A	
4	B _{field} unconfirmed access request	7.3.3.2	M		M	
5	B _{field} bearer confirm	7.3.3.3	C6		M	
6	B _{field} wait	7.3.3.4	M		M	
7	B _{field} attributes-B request	7.3.3.5	I		I	
8	B _{field} attributes-B confirm	7.3.3.5	I		I	
9	B _{field} bandwidth-B request	7.3.3.6	M		M	
10	B _{field} bandwidth-B confirm	7.3.3.6	M		M	
11	B _{field} channel list	7.3.3.7	M		M	
12	B _{field} unconfirmed dummy	7.3.3.8	M		M	
13	B _{field} unconfirmed handover	7.3.3.9	I		I	
14	B _{field} bearer release	7.3.3.10	M		M	
15	B _{field} null message	7.3.4	M		M	
16	B _{field} single bearer antenna switch QC message	7.3.5.2	O		O	
17	B _{field} all bearer antenna switch QC message	7.3.5.2	O		O	
18	B _{field} bearer handover QC message	7.3.5.2	I		I	
19	B _{field} connection handover QC message	7.3.5.2	I		I	
20	B _{field} single bearer frequency control QC message	7.3.5.2	O		O	
21	B _{field} all bearer frequency control QC message	7.3.5.2	O		O	
22	B _{field} reset request	7.3.5.3	M		M	
23	B _{field} reset confirm	7.3.5.3	M		M	
24	MAC-MOD2-ACK message	7.3.5.4	M		M	
25	B _{field} TARI message	7.3.6.2	N/A		C1o	
26	B _{field} G _F data	7.3.7	M		M	
27	B _{field} M-channel escape	7.3.8	O		O	

F.2.5 Message parameters

Q.14 Parameters of static system information message

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	Normal-reverse	7.2.3.2.2	M		0 - 1	
2	Slot number	7.2.3.2.3	M		0 - 11	
3	Start position	7.2.3.2.4	M		0	
4	Escape	7.2.3.2.5	M		0 - 1	
5	Number of transceivers	7.2.3.2.6	M		0 - 3	
6	Extended RF carrier flag	7.2.3.2.7	M		0	
7	RF carriers available	7.2.3.2.8	M		1 - 1 023	
8	Spare	7.2.3.2.11	M		0	
9	Carrier number	7.2.3.2.10	M		0 - 9	
10	Spare	7.2.3.2.11	M		0	
11	Primary receiver scan number	7.2.3.2.12	M		0 - 9	

Q.15 Parameters of FP capabilities message

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	Extended FP information	7.2.3.4.2	M		0, 1	
2	Full slot	7.2.3.4.2	M		1	
3	Frequency control	7.2.3.4.2	M		0, 1	
4	Page repetition	7.2.3.4.2	M		0, 1	
5	C/O set-up on dummy allowed	7.2.3.4.2	M		C2 = 0	
6	C/L uplink	7.2.3.4.2	M		0, 1	
7	C/L downlink	7.2.3.4.2	M		C2 = 1	
8	Basic A_field set-up	7.2.3.4.2	M		0	
9	Advanced A_field set-up	7.2.3.4.2	M		0,	
10	B_field set-up	7.2.3.4.2	M		1	
11	C _F messages	7.2.3.4.2	M		0	
12	I _N _minimum_delay	7.2.3.4.2	M		0	
13	I _N _normal_delay	7.2.3.4.2	M		0	
14	I _P _error_detection	7.2.3.4.2	M		0	
15	I _P _error_correction	7.2.3.4.2	M		1	
16	Multibearer connection	7.2.3.4.2	M		0, 1	

The higher layer information field of the FP capabilities message is out of scope for mobility class 1 applications of this profile.

Q.20 Parameters of B_field access request message

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	IBCN	7.3.3.2	M		0, 3	
2	Exchanged connection number	8.1.1	M		0 - 15	
3	Logical bearer number	10.2.4	M		0 - 15	
4	Connection type	7.3.3.2	M		0 - 3	
5	Service type	7.3.3.2	M		3	
6	Maximum life	7.3.3.2	M		0 - 7	
7	Slot type	7.3.3.2	M		0	

Q.24 Parameters of B_field bearer confirm message

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	Exchanged connection number	8.1.1	M		0 - 15	
2	Logical bearer number	10.2.4	M		0 - 15	
3	Connection type	7.3.3.3	M		0 - 3	
4	Service type	7.3.3.3	M		3	
5	Maximum life	7.3.3.3	M		0 - 7	
6	Slot type	7.3.3.3	M		0	

Q.27 Parameters of B_field Bandwidth-B Request Message

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	Minimum number of uplink bearers	7.3.3.6	M		1 - 23	
2	Target number of uplink bearers	7.3.3.6	M		1 - 23	
3	Minimum number of downlink bearers	7.3.3.6	M		1 - 23	
4	Target number of downlink bearers	7.3.3.6	M		1 - 23	

Q.28 Parameters of B_field bandwidth-B confirm message

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	Minimum number of uplink bearers	7.3.3.6	M		1 - 23	
2	Target number of uplink bearers	7.3.3.6	M		1 - 23	
3	Minimum number of downlink bearers	7.3.3.6	M		1 - 23	
4	Target number of downlink bearers	7.3.3.6	M		1 - 23	

Q.29 Parameters of B_field channel list message

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	First message type	7.3.3.7	M		0 - 7	
2	Second message type	7.3.3.7	M		0 - 7	
3	Third message type	7.3.3.7	M		0 - 7	

Q.32 Parameters of B_field bearer release message

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	Reason for release	7.3.3.10	M		0-3 and 6-13	

Q.33 Parameters of B_field null message

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	C _F data indication	7.3.4	I		0	

F.2.6 Functions implemented**Q.34 Function implemented**

Supported functions					
Item no.	Function name	Ref.	Status	Support	
1	B_field data scrambling	6.2.4	M		
2	B_field data unscrambling	6.2.4	M		
3	R-CRC generation	6.2.5.2	M		
4	R-CRC checking	6.2.5.2	M		
5	X-CRC generation	6.2.5.4	M		
6	X-CRC checking	6.2.5.4	M		
7	Z-FIELDgeneration	EN 300 175-2 [2] subclause 4.8	I		
8	Z-FIELD checking	EN 300 175-2 [2] subclause 4.8	I		
9	D-MAP D80 field mapping	6.2.1.1	I		
10	D-MAP D32 field mapping	6.2.1.1	M		
11	D-MAP D08 field mapping	6.2.1.1	I		
12	D-MAP D00 field mapping	6.2.1.1	M		
13	A-MAP A_field mapping	6.2.1.2	M		
14	E/U-MUX E80 type multiplex	6.2.2.2	I		
15	E/U-MUX E32 type multiplex	6.2.2.2	M		
16	E/U-MUX E08 type multiplex	6.2.2.2	I		
17	E/U-MUX U80a type multiplex	6.2.2.2	I		
18	E/U-MUX U80b type multiplex	6.2.2.2	I		
19	E/U-MUX U32a type multiplex	6.2.2.2	I		
20	E/U-MUX U32b type multiplex	6.2.2.2	M		
21	E/U-MUX U08a type multiplex	6.2.2.2	I		
22	E/U-MUX U08b type multiplex	6.2.2.2	I		
23	C-MUX B_field full slot mode 0 multiplex	6.2.2.3.1	I		
24	C-MUX B_field full slot mode 1 multiplex	6.2.2.3.1	I		
25	C-MUX B_field full slot mode 2 multiplex	6.2.2.3.1	I		
26	C-MUX B_field full slot mode 3 multiplex	6.2.2.3.1	I		
27	C-MUX B_field full slot mode 4 multiplex	6.2.2.3.1	M		
28	C-MUX B_field half slot mode 0 multiplex	6.2.2.3.2	I		
29	C-MUX B_field half slot mode 1 multiplex	6.2.2.3.2	I		
30	T-MUX Tail multiplex	6.2.2.1	M		
31	Frequency correction function	11.5.2.2	O		

F.2.7 Timer support

Q.35 Timer support

Timer supported						
Item no.	Name	Ref.	Status	Support	Values	
					Allowed	Supported
1	T200	10.2	M		3 seconds	
2	T201	11.5	M		5 seconds	
3	T202	10.6	I		3 seconds	
4	T203	10.6	I		16 frames	
5	T204	9.1	M		6 multiframe	
6	T205	9.1	M		10 seconds	
7	T206	11.2	C1o		10 frames	
8	T207	11.3	M		5 seconds	
9	T208	11.3	M		20 seconds	
10	T209	11.4	M		30 seconds	
11	T210	11.4	M		2 seconds	
12	T211	10.3	M		3 seconds	
13	T212	10.5	M		20 frames	
14	T213	10.7	M		20 frames	
15	T214	9.2	I		20 frames	
16	T215	9.2	I		6 multiframe	

F.2.8 Procedure support

Q.36 Procedure support

Procedures supported				
Item no.	Name of procedure	Ref.	Status	Support
1	Downlink connectionless procedure	9.1.2	C2	
2	Downlink broadcast procedure	9.1.1	M	
3	Uplink connectionless procedure	9.2.3	I	
4	Request for specific Q-channel information,B-field procedure	9.3.1.2	C1o	
5	Request for a new dummy procedure	9.3.2	C1o	
6	Basic set-up procedure for single bearer basic connection of known service	10.2.4.2	I	
7	Normal set-up procedure for single bearer advanced connection of known service	10.2.4.2	M	
8	Fast set-up procedure for single bearer advanced connection of known service	10.2.4.2	C6	
9	Normal set-up procedure for multi-bearer symmetric connection	10.2.4.3.1	M	
10	Fast set-up procedure for multi-bearer symmetric connection	10.2.4.3.1	C6	
11	Normal set-up procedure for asymmetric downlink connection	10.2.4.3.3	C3	
12	Fast set-up procedure for asymmetric downlink connection	10.2.4.3.3	C6	
13	Normal set-up procedure for asymmetric uplink connection	10.2.4.3.2	C3	
14	Fast set-up procedure for asymmetric uplink connection	10.2.4.3.2	C3	
15	Set-up procedure for connection with unknown service	10.2.4.3	I	
16	Connection modification procedure	10.3	M	
17	Connection release procedure	10.4	M	
18	Basic single bearer set-up procedure	10.5.1.1	I	
19	A field advanced single bearer set-up procedure	10.5.1.2	I	
20	B field single bearer normal set-up procedure	10.5.1.3.1	M	
21	B field single bearer fast set-up procedure	10.5.1.3.2	C6	
22	Double simplex bearer indirect set-up procedure	10.5.1.4	C3	
23	Double simplex bearer direct set-up procedure	10.5.1.4	C3	

(continued)

Q.36 Procedure support (concluded)

Procedures supported				
Item no.	Name of procedure	Ref.	Status	Support
24	Duplex bearer handover procedure	10.6.2	I	
25	Double simplex bearer handover procedure	10.6.3	I	
26	Unacknowledged bearer release procedure	10.7.2.1	M	
27	Acknowledged bearer release procedure	10.7.2.2	C3	
28	Fast bearer release procedure	10.7.2.3	C3	
29	Q1 and Q2 bits setting procedure for C-channel data	10.8.1	I	
30	Q1 and Q2 bits setting procedure for I _N and I _{P_error_detection} data	10.8.1.3	I	
31	BCK and Q2 bits setting for I _{P_error_correction} data in symmetric connection	10.8.2.4	M	
32	BCK and ACK bit setting for I _{P_error_correction} data in asymmetric connection	10.8.2.4	C3	
33	Bearer replacement procedure	10.8.2.5.1	M	
34	MAC IP bearer reset	10.8.2.5.2	M	
35	Unilateral jump procedure	10.8.2.5.2	M	
36	Idle_locked state entering procedure	11.3.2	M	
37	Idle_locked state maintaining procedure	11.3.3	M	
38	Duplex bearer channel selection procedure	11.4.1	M	
39	Double simplex bearer channel selection procedure	11.4.1	C3	
40	Simplex bearer channel selection procedure	11.4.1	M	
41	Uplink connectionless channel selection	9.2.2	I	
42	RFPI handshaking procedure	11.5.1	M	
43	PT frequency correction procedure	11.5.2.2	O	
44	MAC layer test message procedure	12.2	M	
45	RFP Idle receiver scan sequence	11.9	M	
46	PT fast set up receiver scan sequence	11.9	M	
47	PP paging procedure	9.1.3.2	M	
48	Channel list procedure	10.5.2	M	

Q.37 Parameters of channel selection procedure (duplex/double/simplex bearer)

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	Lowest boundary of channel list	11.4.1	M		< = - 93 dBm	
2	Band resolution	11.4.1	M		<= 6 dB	
3	RSSI variation between checking	11.4.1	M		< = 12 dB	

Annex G (informative): Bearer replacement

The maintenance of quality of service of the A/B.1 profile is accomplished by bearer replacement. Thus, bearers surplus to instantaneous bandwidth demands or which are suffering from poor quality are released using the B-field bearer release procedure specified in EN 300 175-3 [3], subclause 10.2. New bearers required to enable increase in bandwidth are set up using the B-field bearer set up procedures specified in EN 300 175-3 [3], subclause 10.4.

The bearer handover procedure is out of scope in this profile because there is not a service requirement to provide seamless handover. In addition, intercell bearer handover cannot be performed with the bearer handover procedure simultaneously for all the bearers if more than six are active.

The bandwidth of a connection is bound in both uplink and downlink directions by the minimum acceptable number of bearers and target number of bearers, values for which are delivered with the MAC_MOD-req primitive.

For the A profile, both are set to 1. For the B profile, both must be greater than zero and the target should be greater than the minimum.

If the current number of bearers falls below the minimum then the connection, the MAC connection must be released, as indicated in EN 300 175-3 [3], subclause 10.4.1, condition e):

- due to a bearer release, the MBC cannot maintain the minimum acceptable service.

For A profile equipment, this situation violates also the condition d) of the same clause:

- as a result of a bearer release, no TBC controlling a duplex bearer exists.

However, to avoid as much as possible a throughput degradation, the ME may manage opportunely the previous exceptional situation (i.e. the actual number of bearers falls down the minimum value), generated by bearer failure and/or bearer replacement.

Three main cases are considered:

1) intracell operations:

- for B profile equipment only, the ME, on the basis of an opportune monitoring of the radio quality of the active bearers, could decide to perform a connection modification, as described in EN 300 175-3 [3], subclause 10.3, before the actual number of active bearers falls down the minimum value. In fact, the connection modification procedure allows to change the bandwidth of the connection (i.e. the number of the required bearers), re-negotiating the minimum and target values;
- for A profile, the connection modification procedure is out of scope.

2) intercell, intracluster operations:

- in this case, the connection modification procedure cannot be invoked because it is necessary for the PT to release all the bearers on the old RFP before setting up bearers on the new RFP. This is because there cannot be more than one Fixed part MAC Identity (FMID) associated with a connection. So, again, this situation implies violations to the conditions d) and e) of EN 300 175-3 [3], subclause 10.4.1, requiring a connection release.

3) intercluster operations:

new connection set up at the new cluster using the normal connection set up procedures should follow.

For all the cases (case 1, case 2. and case 3.), the ME may deliver on the new connection the remaining part (if any) of the SDU partly transmitted on the old connection. To permit the recognition of this situation by the MEs both sides (PT and FT), it is recommended that the ECN of the old and of the new connection be the same.

Annex H (normative): Additional MAC requirements for the Class 2 mobility

The following modifications of the A/B.1 Profile ICS tables shall apply if Class 2 Mobility is required to be supported. The same requirements shall apply for the PT and the FT, in service A as in service B.

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H.1 Standardized symbols for the status column

The standardized symbols for the status column are as follows:

- m or M for mandatory;
- o or O for optional (Boolean);
- x or X for prohibited use;
- n/a, N/A or - (dash) for not applicable;
- i or I for out of scope (the capability is allowed to be implemented but is not called upon by the profile functionality).

Where reception of a message is marked as "O", this shall be understood to mean that correct understanding and processing of that message is optional.

Except when stated otherwise, the reference column refers to the relevant subclause in EN 300 175-3 [3].

H.2 Capabilities

H.2.1 Services

Q.9 Service support

Service supported				
Item no.	Name of service	Ref.	Status	Support
12	C _S duplex	5.3.1.1	M	
13	C _F duplex	5.3.1.1	O	

H.2.2 Messages

Q.12 Messages in A_tail

Supported messages						
Item no.	Name	Ref.	Sending		Receipt	
			Status	Support	Status	Support
1	TA code: CT data packet number 0	7.1.2	M		M	
2	TA code: CT data packet number 1	7.1.2	M		M	
11	BA code: E-type, all C _F or CL _F , packet number 0	7.1.4	O		O	
12	BA code: E-type, all C _F , packet number 1	7.1.4	O		O	
13	BA code: E-type, not all C _F or CL _F ; C _F packet number 0	7.1.4	O		O	
14	BA code: E-type, not all C _F ; C _F packet number 1	7.1.4	O		O	

Q.13 Messages in B_tail

Supported messages						
Item no.	Name	Ref.	Sending		Receipt	
			Status	Support	Status	Support
1	B_field connection handover request	7.1.2	see NOTE 1		see NOTE 2	

NOTE 1: The item is M (mandatory) in PT, N/A in FT.
NOTE 2: The item is O (optional) in FT, N/A in PT.

H.2.3 Message parameters**Q.15 Parameters of FP capabilities message**

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
11	C _F messages	7.2.3.4.2	M		0-1	

Q.33 Parameters of B_field null message

Supported parameters						
Item no.	Parameter	Ref.	Status	Support	Values	
					Allowed	Supported
1	C _F data indication	7.3.4	M		0-3	

H.2.4 Functions implemented**Q.34 Function implemented**

Item no.	Function name	Ref.	Status	Support
23	C-MUX B_field full slot mode 0 multiplex	6.2.2.3.1	M	
24	C-MUX B_field full slot mode 1 multiplex	6.2.2.3.1	M	
25	C-MUX B_field full slot mode 2 multiplex	6.2.2.3.1	M	
26	C-MUX B_field full slot mode 3 multiplex	6.2.2.3.1	M	
27	C-MUX B_field full slot mode 4 multiplex	6.2.2.3.1	M	

H.2.5 Procedure support**Q.36 Procedure support**

Procedures supported				
29	Q1 and Q2 bits setting procedure for C-channel data	10.8.1	M	

History

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