IEEE

IEEE Standard for Conformance to IEEE 802.20 Systems—Protocol Implementation Conformance Statement (PICS) Proforma

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IEEE Standard for Conformance to IEEE 802.20 Systems—Protocol Implementation Conformance Statement (PICS) Proforma

Sponsor

LAN/MAN Standards Committee
of the
IEEE Computer Society

Approved 25 March 2010

IEEE-SA Standards Board

Abstract: This standard represents the Protocol Implementation Conformance Statement Proforma, per ISO/IEC 9646-7 and ITU-T X.296, for conformance specification of access nodes and access terminals based on the air interface specified in IEEE Std 802.20.

Keywords: PICS, Protocol Implementation Conformance Statement Proforma

Introduction

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IEEE Standard for Conformance to IEEE 802.20 Systems—Protocol Implementation Conformance Statement (PICS) Proforma

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1. Overview

To evaluate conformance of a particular implementation, it is necessary to have a statement of which capabilities and options have been implemented for a telecommunications specification. Such a statement is called a Protocol Implementation Conformance Statement (PICS).

1.1 Scope

This standard represents the PICS Proforma, per ISO/IEC 9646-7 and ITU-T X.296,[1] for the conformance specification of base stations or access nodes, and access terminals or user terminals, based upon the air interface specified in IEEE Std 802.20™.[2]

1.2 Purpose

This document describes the capabilities and options within the air interface specified in IEEE Std 802.20. It is to be completed by the supplier of a product claiming to implement one or more of the protocol modes.

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[1] ITU-T X.296, OSI Conformance Testing Methodology and Framework for Protocol Recommendations for ITU-T Applications—Implementation Conformance Statements.

[2] Information on references can be found in Clause 2.

It indicates which capabilities and options have been implemented. It allows a user of the product to evaluate its conformance and to determine whether the product meets the user's requirements.

2. Normative references

The following referenced documents are indispensable for the application of this document (i.e., they must be understood and used, so each referenced document is cited in text and its relationship to this document is explained). For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments or corrigenda) applies.

IEEE Std 802.20, IEEE Standard for Mobile Broadband Wireless Access—Air Interface Specification. [3, 4]

ISO/IEC 9646-1, Information technology—Open Systems Interconnection—Conformance testing methodology and framework—Part 1: General concepts.[5]

ISO/IEC 9646-7, Information technology—Open Systems Interconnection—Conformance testing methodology and framework—Part 7: Implementation Conformance Statements.

3. Definitions, acronyms, and abbreviations

For the purposes of this document, the following terms and definitions apply. *The IEEE Standards Dictionary: Glossary of Terms & Definitions* should be referenced for terms not defined in this clause.[6]

3.1 Definitions

This standard uses terms defined in IEEE Std 802.20, ISO/IEC 9646-1, ISO/IEC 9646-7, and ETSI TS 102 385-1.[7]

In particular, the following terms and definitions defined in ISO/IEC 9464-1 apply:

Implementation Conformance Statement (ICS): Statement made by the supplier of an implementation or system claimed to conform to a given specification, stating which capabilities have been implemented. The ICS can take several forms: protocol ICS, profile ICS, profile specific ICS, information object ICS, etc. (ISO/IEC 9464-1)

Implementation Conformance Statement (ICS) proforma: Document, in the form of a questionnaire, which when completed for an implementation or system becomes an ICS. (ISO/IEC 9464-1)

Protocol ICS (PICS): ICS for an implementation or system claimed to conform to a given protocol specification. (ISO/IEC 9464-1)

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[6] *The IEEE Standards Dictionary: Glossary of Terms & Definitions* is available at http://shop.ieee.org/.

[7] ETSI TS 102 385-1, Broadband Radio Access Networks (BRAN); HiperMAN/WiMAX; Conformance testing for the Data Link Control Layer (DLC); Part 1: Protocol Implementation Conformance Statement (PICS) proforma.

3.2 Acronyms and abbreviations

This standard uses acronyms and abbreviations defined in IEEE Std 802.20. In addition, the following apply:

ATS   abstract test suite

ICS   Implementation Conformance Statement

IUT   Implementation Under Test

PICS   Protocol Implementation Conformance Statement

RCT   radio conformance test

SUT   System Under Test

TP   test purpose

TSS   test suite structure

4. Conformance to this PICS proforma specification

If any implementation or system claims to conform to this standard, the actual PICS proforma to be filled in by a supplier shall be technically equivalent to the text of the PICS proforma given in Annex A and shall preserve the numbering, naming, and ordering of the proforma items.

A PICS that conforms to this standard shall be a conforming PICS proforma completed in accordance with the guidance for completion given in A.1.

Annex A

(normative)

PICS proforma for IEEE 802.20 compliant systems[8]

A.1 Guidance for completing PICS proforma

A.1.1 Purposes and structure

The purpose of this PICS proforma is to provide a mechanism whereby a supplier of an implementation of the requirements for mobile broadband wireless networks defined in IEEE Std 802.20 may provide information about the implementation in a standardized manner.

The PICS proforma is subdivided into subclauses for the following categories of information:

— Guidance for completing the PICS proforma

— Identification of the implementation

— Identification of the standard

— Global statement of conformance

— Roles

— Access Node and Access Terminal in the wideband mode

— Base Station and User Terminal in the 625 K mode

A.1.2 Abbreviations and conventions

Item column

The Item column contains a number that identifies the item in the table.

Capability column

The capability column describes in free text each respective item (e.g., parameters and timers). It implicitly means "Is <capability> supported by the implementation?"

Reference column

The reference column indicates the section(s) of IEEE Std 802.20 from which the requirement for the capability is derived.

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[8] Copyright release for PICS proforma: Users of this standard may freely reproduce the PICS proforma in this annex so that it can be used for its intended purpose and may further publish the completed PICS.

Status column

The following notations, defined in ISO/IEC 9646-7, are used in the status column:

m	Mandatory—the capability is required to be supported.
o	Optional—the capability may be supported or not.
n/a	Not applicable—in the given context, it is impossible to use the capability
x	Prohibited (excluded)—there is a requirement not to use this capability in the given context.
o.i	Qualified option—for mutually exclusive or selectable options from a set. "i" is an integer that identifies a group of related optional items and the logic of their selection, which is defined immediately following the table.
ci	Conditional—the requirement on the capability ("m", "o", "x", or "n/a") depends on the support of other optional or conditional items. "i" is an integer identifying a conditional status expression that is defined immediately following the table.
i	Irrelevant (out of scope)—capability outside the scope of the reference specification. No answer is requested from the supplier.

Support column

The support column shall be filled in by the supplier of the implementation. The following common notations, defined in ISO/IEC 9646-7, are used for the support column:

Y or y	Supported by implementation.
N or n	Not supported by implementation.
N/A, n/a, or –	No answer required (allowed only if the status is n/a either directly or after the evaluation of a conditional status).

Values column

The values column is only used when necessary in a table. It contains the type, the list, the range, or the length of values. The following notations are used:

Range of values: Example:	<min value>...<max value> 5..20
List of values: Example 1: Example 2: Example 3:	<value1>, <value2>, …, <valueN> 2, 4, 6, 8, 9 1101b, 1011b, 1111b 0x0A, 0x34, 0x2F
List of named values: Example:	<name1>(<val1>), <name2>(<val2>), …, <nameN>(<valN>) reject(1), accept(2)
Length: Example:	Size (<min size>...<max size>) Size (1..8)

Values supported column

The values supported column is only present when the values column is present. It shall be filled in by the supplier of the implementation. In this column, the value or the ranges of values supported by the implementation shall be indicated.

Reference to items

For each possible item answer in the support column within the PICS proforma a unique reference exists that may be used, for example, in conditional expressions. It is defined as the table identifier, followed by the "/" character, followed by the item number in the table. If there is more than one support column in a table, the columns are discriminated by letters (a, b, etc.).

Example:	A.5/4 is the reference to the answer of item 4 in Table A.5.
Example:	A.6/3b is the reference to the second answer (i.e., in the second support column) of item 3 in Table A.6.

Prerequisite line

A prerequisite line takes the following form:

Prerequisite: <predicate>

A prerequisite line after a clause or table title indicates that the entire clause or the entire table is not required to be completed if the predicate is FALSE.

A.1.3 Instructions for completing the PICS proforma

The supplier of the implementation shall complete the PICS proforma in each of the spaces provided. In particular, an explicit answer shall be entered in the support or values supported column boxes provided, using the notation described in A.1.2. However, tables specific for access nodes (AN) shall only be completed for AN implementations, and tables specific to access terminals (AT) shall only be completed for AT implementations.

If necessary, the supplier may provide additional comments in the space at the bottom of the tables or separately.

A.2 Identification of the implementation

Identification of the Implementation Under Test (IUT) and the system in which it resides [the System Under Test (SUT)] should be filled in to provide as much detail as possible regarding version numbers and configuration options.

The product supplier and client information should both be filled in if they are different.

A person who can answer queries regarding information supplied in the PICS should be named as the contact person.

A.2.1 Date of statement

Date of Statement:

A.2.2 Implementation Under Test (IUT) identification

IUT name:
IUT version:

A.2.3 System Under Test (SUT) identification

SUT name:
Hardware configuration:
Operating system:

A.2.4 Product supplier

Name:
Address:
Telephone number:
Facsimile number:
E-mail address:
Additional information:

A.2.5 Client (if different from product supplier)

Name:
Address:
Telephone number:
Facsimile number:
E-mail address:
Additional information:

A.2.6 PICS contact person

(This is a person to contact if there are any queries concerning the content of the PICS.)

Name:
Telephone number:
Facsimile number:
E-mail address:
Additional information:

A.3 Identification of the standard

This PICS proforma applies to IEEE Std 802.20.

A.4 Global statement of conformance

Are all mandatory capabilities implemented? (Yes/No)

NOTE—Answering "No" to this question indicates non-conformance to IEEE Std 802.20. Non-supported mandatory capabilities are to be identified in the PICS, with an explanation of why the implementation is nonconforming, on pages attached to the PICS proforma.[9]

A.5 Profiles

Item	Profiles	Reference	Status	Support
1	Wideband Mode	5.4	o.1	
2	625k-MC Mode	5.5	o.1	

o.1: It is mandatory to support at least one of these items.

A.5.1 Roles

Item	Role	Reference	Status	Support
1	Access Node (AN) / Base Station (BS)	5.1	o.2	
2	Access Terminal (AT) / User Terminal (UT)	5.1	o.2	

o.2: It is mandatory to support at least one of these items.

A.5.2 PICS for AN in Wideband Mode

A.5.2.1 Duplexing Mode

Item	Name	Reference	Status	Support
1	TDD	5.4	o.3	
2	FDD	5.4	o.3	

o.3: It is mandatory to support at least one of these items.

A.5.2.2 Services sublayer

Item	Name	Reference	Status	Support
1	Signaling protocol	6.2	m	
2	Inter-route tunneling protocol	6.3	m	
3	ROHC support protocol	6.4	m	
4	EAP support protocol	6.5	m	

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[9] Notes in text, tables, and figures are given for information only and do not contain requirements needed to implement the standard.

A.5.2.3 RadioLink sublayer

Item	Name	Reference	Status	Support
1	QOS Management protocol	7.2	m	
2	Radio Link protocol	7.3	m	
3	Stream protocol	7.4	m	
4	Route protocol	7.5	m	

A.5.2.4 Lower MAC sublayer

Item	Name	Reference	Status	Support
1	Packet Consolidation protocol	8.2	m	
2	Superframe Preamble MAC protocol	8.3	m	
3	Access Channel MAC protocol	8.4	m	
4	FLCS MAC protocol	8.5	m	
5	FTC MAC protocol	8.6	m	
6	RCC MAC protocol	8.7	m	
7	RTC MAC protocol	8.8	m	

A.5.2.5 Physical Layer Protocol

Item	Name	Reference	Status	Support
1	Physical Layer Protocol	9.1	m	

A.5.2.5.1 Synchronization Mode

Item	Name	Reference	Status	Support
1	Synchronous Mode Timing Stability	9.2.2.1.1	m	
2	Asynchronous Mode Timing Stability	9.2.2.1.1	m	

A.5.2.5.2 Sector identifiers

Item	Name	Reference	Status	Support
1	Sector Identifier formats	9.2.2.2	m	

A.5.2.5.3 FFT size

Item	Name	Reference	Status	Support
1	FFT Size = 512	9.2.7.1.2	o.8	
2	FFT Size = 1024	9.2.7.1.2	o.8	
3	FFT Size = 2048	9.2.7.1.2	o.8	

o.8: It is mandatory to support at least one of these items.

A.5.2.5.4 Duplexing Mode

Item	Name	Reference	Status	Support
1	FDD	9.2.2.4	o.4	
2	TDD44	9.2.2.4	o.4	
3	TDD63	9.2.2.4	o.4	

o.4: It is mandatory to support at least one of these items.

A.5.2.5.4.1 Half Duplexing within FDD

Item	Name	Reference	Status	Support
1	Half Duplex Mode	9.2.2.4	o.7	

o.7: This is an optional feature if FDD is chosen as o.4 in A5.2.5.2 as Duplexing Mode

A.5.2.5.5 Coding schemes

Item	Name	Reference	Status	Support
1	Rate 1/3 Convolutional Encoding	9.2.6.3.1	m	
2	Rate 1/3 Concatenated Encoding	9.2.6.3.2	m	
4	Rate 1/5 Turbo Encoding	9.2.6.3.3	m	
5	Low Density Parity Check Encoding	9.2.6.3.4	o	

A.5.2.5.6 Transmission features in the Physical Layer

Item	Name	Reference	Status	Support
1	Precoding – Knockdown Codebook	9.2.8.2.2.1	m	
2	Precoding – Readymade Codebook	9.2.8.2.2.2	m	
3	Precoding – Downloadable Codebook	9.2.8.2.3	m	
4	Precoding – Random Orthonormal Ensemble	9.2.8.2.4	m	
5	Rotational OFDM	9.2.9	o	

A.5.2.6 Security functions

Item	Name	Reference	Status	Support
1	AES Ciphering protocol	10.2	m	
2	Message Integrity protocol	10.3	m	
3	Key Exchange protocol	10.4	m	

A.5.2.7 Connection Control sublayer

Item	Name	Reference	Status	Support
1	Air Link Management protocol	11.2	m	
2	Initialization State protocol	11.3	m	
3	Idle State protocol	11.4	m	
4	Connected State protocol	11.5	m	
5	Overhead Messages protocol	11.6	m	
6	Active Set Management protocol	11.7	m	

A.5.2.8 Session Control Plane

Item	Name	Reference	Status	Support
1	Session Control protocol	12.2	m	

A.5.2.9 Route Control Plane

Item	Name	Reference	Status	Support
1	Route Control protocol	13.2	m	

A.5.2.10 Broadcast Support

Broadcast Support is optional. If it is supported, we have:

Item	Name	Reference	Status	Support
1	Broadcast Control protocol	14.2.2	m	
2	Broadcast Packet Consolidation protocol	14.2.3	m	
3	Broadcast Security protocol	14.2.4	m	
4	Broadcast Inter-Route Tunneling protocol	14.2.5	m	
5	Broadcast MAC protocol	14.2.6	m	

A.5.3 PICS for AT in Wideband Mode

A.5.3.1 Duplexing Mode

Item	Name	Reference	Status	Support
1	TDD	5.4	o.5	
2	FDD	5.5	o.5	

o.5: It is mandatory to support at least one of these items.

A.5.3.2 Services sublayer

Item	Name	Reference	Status	Support
1	Signaling protocol	6.2	m	
2	Inter-route tunneling protocol	6.3	m	
3	ROHC support protocol	6.4	m	
4	EAP support protocol	6.5	m	

A.5.3.3 RadioLink sublayer

Item	Name	Reference	Status	Support
1	QOS Management protocol	7.2	m	
2	Radio Link protocol	7.3	m	
3	Stream protocol	7.4	m	
4	Route protocol	7.5	m	

A.5.3.4 Lower MAC sublayer

Item	Name	Reference	Status	Support
1	Packet Consolidation protocol	8.2	m	
2	Superframe Preamble MAC protocol	8.3	m	
3	Access Channel MAC protocol	8.4	m	
4	FLCS MAC protocol	8.5	m	
5	FTC MAC protocol	8.6	m	
6	RCC MAC protocol	8.7	m	
7	RTC MAC protocol	8.8	m	

A.5.3.5 Physical Layer Protocol

Item	Name	Reference	Status	Support
1	Physical Layer Protocol	9.1	m	

A.5.3.5.1 FFT Size

Item	Name	Reference	Status	Support
1	FFT Size = 512	9.2.7.1.2	o.9	
2	FFT Size = 1024	9.2.7.1.2	o.9	
3	FFT Size = 2048	9.2.7.1.2	o.9	

o.9: It is mandatory to support at least one of these items.

A.5.3.5.2 Duplexing Mode

Item	Name	Reference	Status	Support
1	FDD	9.2.2.4	o.6	
2	TDD44	9.2.2.4	o.6	
3	TDD63	9.2.2.4	o.6	

o.6: It is mandatory to support at least one of these items.

A.5.3.5.2.1 Half Duplexing within FDD

Item	Name	Reference	Status	Support
1	Half Duplex Mode	9.2.2.4	o.10	

o.10: This is an optional feature if FDD is chosen as o.6 in A5.3.5.2 as Duplexing Mode

A.5.3.5.3 Coding schemes

Item	Name	Reference	Status	Support
1	Rate 1/3 Convolutional Encoding	9.2.6.3.1	m	
2	Rate 1/3 Concatenated Encoding	9.2.6.3.2	m	
4	Rate 1/5 Turbo Encoding	9.2.6.3.3	m	
5	Low Density Parity Check Encoding	9.2.6.3.4	o	

A.5.3.5.4 Transmission features in the Physical Layer

Item	Name	Reference	Status	Support
1	Precoding – Knockdown Codebook	9.2.8.2.2.1	m	
2	Precoding – Readymade Codebook	9.2.8.2.2.2	m	
3	Precoding – Downloadable Codebook	9.2.8.2.3	m	
4	Precoding – Random Orthonormal Ensemble	9.2.8.2.4	m	
5	Rotational OFDM	9.2.9	o	

A.5.3.6 Security functions

Item	Name	Reference	Status	Support
1	AES Ciphering protocol	10.2	m	
2	Message Integrity protocol	10.3	m	
3	Key Exchange protocol	10.4	m	

A.5.3.7 Connection Control sublayer

Item	Name	Reference	Status	Support
1	Air Link Management protocol	11.2	m	
2	Initialization State protocol	11.3	m	
3	Idle State protocol	11.4	m	
4	Connected State protocol	11.5	m	
5	Overhead Messages protocol	11.6	m	
6	Active Set Management protocol	11.7	m	

A.5.3.8 Session Control Plane

Item	Name	Reference	Status	Support
1	Session Control protocol	12.2	m	

A.5.3.9 Route Control Plane

Item	Name	Reference	Status	Support
1	Route Control protocol	13.2	m	

A.5.3.10 Broadcast Support

Broadcast Support is optional. If it is supported, we have:

Item	Name	Reference	Status	Support
1	Broadcast Control protocol	14.2.2	m	
2	Broadcast Packet Consolidation protocol	14.2.3	m	
3	Broadcast Security protocol	14.2.4	m	
4	Broadcast Inter-Route Tunneling protocol	14.2.5	m	
5	Broadcast MAC protocol	14.2.6	m	

A.5.4 PICS for BS in 625k-MC Mode

A.5.4.1 Slot and frame structure

Item	Name	Reference	Status	Support
1	RF channel and frame structure	19.2	m	
2	Burst formats	19.3	m	
3	Frequency synchronization	19.3.1	m	
4	Timing synchronization	19.3.2	m	
5	Broadcast burst	19.3.3	m	
6	Page burst	19.3.4	m	
7	Configuration request burst	19.3.5	m	
8	Standard Uplink Burst	19.3.6	m	
9	Standard Downlink Burst	19.3.7	m	

A.5.4.2 625k-MC modulation and channel coding

Item	Name	Reference	Status	Support
1	Standard modulation and coding	20.2	o.11	
2	Encryption	20.2.1	o.11	
3	Cyclic redundancy check	20.2.2	o.11	
4	Multiplexing	20.2.3	o.11	
5	Tail append	20.2.4	o.11	
6	Convolutional encoding	20.2.5	o.11	
7	Puncturing and repeating	20.2.6	o.11	
8	Block coding	20.2.7	o.11	
9	Extended Hamming code	20.2.7.1	o.11	
10	Parity check code	20.2.7.2	o.11	
11	Block shaper	20.2.8	o.11	
12	Symbol mapping	20.2.9	o.11	
13	Interleaving	20.2.10	o.11	
14	Scrambling	20.2.11	o.11	
15	$\pi/2$ Rotation and Scaling	20.2.12	o.11	

o.11: At least ModClass 0 and 1shall be supported.

A.5.4.3 Broadcast channel modulation and coding

Item	Name	Reference	Status	Support
1	Broadcast channel modulation and coding	20.3	m	

A.5.4.4 625k-MC base station radio transmission and reception

Item	Name	Reference	Status	Support
1	625k-MC base station radio transmission and reception	22	m	
2	625k-MC base station transmitter modulation accuracy	22.1	m	
3	625k-MC base station receiver reference sensitivity level	22.2	m	
4	625k-MC BS receiver SINR estimation accuracy	22.3	m	

A.5.4.5 625k-MC L2 MAC Protocol Sublayer Specification

Item	Name	Reference	Status	Support
1	625k-MC L2 MAC Protocol Sublayer Specification	23	m	
2	Logical channels	23.1	m	
3	Short Message Broadcast (SMB)	23.1.1	m	
4	Fast Associated Control Channel (FACCH)	23.1.2	m	
5	625k-MC minimized RMU header	23.2	m	

A.5.4.6 625k-MC L2 RLC Protocol Sublayer Specification

Item	Name	Reference	Status	Support
1	625k-MC L2 RLC Protocol Sublayer Specification	24	m	
2	625k-MC AM RMU	24.1	m	
3	625k-MC transmit procedure	24.2	m	
4	Receive procedure	24.3	m	

A.5.4.7 625k-MC L3 Protocol specification

Item	Name	Reference	Status	Support
1	625k-MC L3 Protocol Specification	25	m	

A.5.4.8 625k-MC QoS enhancements

Item	Name	Reference	Status	Support
1	Classes of services	27.1	m	
2	Session QoS information exchange procedures	27.2	m	
3	QoS priority	26.3	m	

A.5.4.9 625k-MC Broadcast and Multicast Service (BCMCS) Support Enhancement

Item	Name	Reference	Status	Support
1	Broadcast service	28.2	o.12	
2	Multicast service	28.3	o.13	

o.12 and o.13 are optional services.

A.5.4.10 625k-MC Privacy and Authentication Enhancement

Item	Name	Reference	Status	Support
1	625k-MC Handshake and BS Authentication Protocol, i-HAP	29.2	m	
2	625k-MC Terminal Authentication Protocol, i-TAP	29.3	m	
3	625k-MC Secure Communications Protocol, i-SEC • Stream Cipher	29.4 29.4.2	o.14	
4	625k-MC Secure Communications Protocol, i-SEC • AES Cipher	29.4 29.4.3	o.14	

o.14: At least one encryption: Stream Cipher (Item 3) or AES (Item 4) Cipher shall be supported.

A.5.4.11 625k-MC Sleep Mode Control Protocol

Item	Name	Reference	Status	Support
1	625k-MC Sleep Mode Control Protocol	29	o.15	

o.15: Optional.

A.5.5 PICS for UT in 625k-MC mode

A.5.5.1 Slot and frame structure

Item	Name	Reference	Status	Support
1	RF channel and frame structure	19.2	m	
2	Burst formats	19.3	m	
3	Frequency synchronization	19.3.1	m	
4	Timing synchronization	19.3.2	m	
5	Broadcast burst	19.3.3	m	
6	Page burst	19.3.4	m	
7	Configuration request burst	19.3.5	m	
8	Standard Uplink Burst	19.3.6	m	
9	Standard Downlink Burst	19.3.7	m	

A.5.5.2 625k-MC modulation and channel coding

Item	Name	Reference	Status	Support
1	Standard modulation and coding	20.2	o.16	
2	Encryption	20.2.1	o.16	
3	Cyclic redundancy check	20.2.2	o.16	
4	Multiplexing	20.2.3	o.16	
5	Tail append	20.2.4	o.16	
6	Convolutional encoding	20.2.5	o.16	
7	Puncturing and repeating	20.2.6	o.16	
8	Block coding	20.2.7	o.16	
9	Extended Hamming code	20.2.7.1	o.16	
10	Parity check code	20.2.7.2	o.16	
11	Block shaper	20.2.8	o.16	
12	Symbol mapping	20.2.9	o.16	
13	Interleaving	20.2.10	o.16	
14	Scrambling	20.2.11	o.16	
15	$\pi/2$ Rotation and scaling	20.2.12	o.16	

o.16: At least ModClass 0 and 1shall be supported.

A.5.5.3 Broadcast channel modulation and coding

Item	Name	Reference	Status	Support
1	Broadcast channel modulation and coding	20.3	m	

A.5.5.4 625k-MC user terminal radio transmission and reception

Item	Name	Reference	Status	Support
1	625k-MC user terminal radio transmission and reception	21	m	
2	625k-MC user terminal nominal output power for modulation formats	21.1	m	
3	625k-MC UT modulation accuracy for modulation formats	21.2	m	

A.5.5.5 625k-MC L2 MAC Protocol Sublayer Specification

Item	Name	Reference	Status	Support
1	625k-MC L2 MAC Protocol Sublayer Specification	23	m	
2	Logical channels	23.1	m	
3	Short Message Broadcast (SMB)	23.1.1	m	
4	Fast Associated Control Channel (FACCH)	23.1.2	m	
5	625k-MC minimized RMU header	23.2	m	

A.5.5.6 625k-MC L2 RLC Protocol Sublayer Specification

Item	Name	Reference	Status	Support
1	625k-MC L2 RLC Protocol Sublayer Specification	24	m	
2	625k-MC AM RMU	24.1	m	
3	625k-MC transmit procedure	24.2	m	
4	Receive procedure	24.3	m	

A.5.5.7 625k-MC L3 Protocol Specification

Item	Name	Reference	Status	Support
1	625k-MC L3 Protocol Specification	25	m	

A.5.5.8 625k-MC QoS Enhancements

Item	Name	Reference	Status	Support
1	Classes of services	27.1	m	
2	Session QoS information exchange procedures	27.2	m	
3	QoS priority	26.3	m	

A.5.5.9 625k-MC Broadcast and Multicast Service (BCMCS) Support Enhancement

Item	Name	Reference	Status	Support
1	Broadcast service	28.2	o.17	
2	Multicast service	28.3	o.18	

o.17 and o.18 are optional.

A.5.5.10 625k-MC Privacy and Authentication Enhancement

Item	Name	Reference	Status	Support
1	625k-MC Handshake and BS Authentication Protocol, i-HAP	29.2	m	
2	625k-MC Terminal Authentication Protocol, i-TAP	29.3	m	
3	625k-MC Secure Communications Protocol, i-SEC • Stream Cipher • AES Cipher	29.4 29.4.2 29.4.3	o.19	

o.19: At least one encryption— Stream Cipher or AES cipher shall be supported.

A.5.5.11 625k-MC Sleep Mode Control Protocol

Item	Name	Reference	Status	Support
1	625k-MC Sleep Mode Control Protocol	29	o.20	

o.20: Optional power-saving mode.