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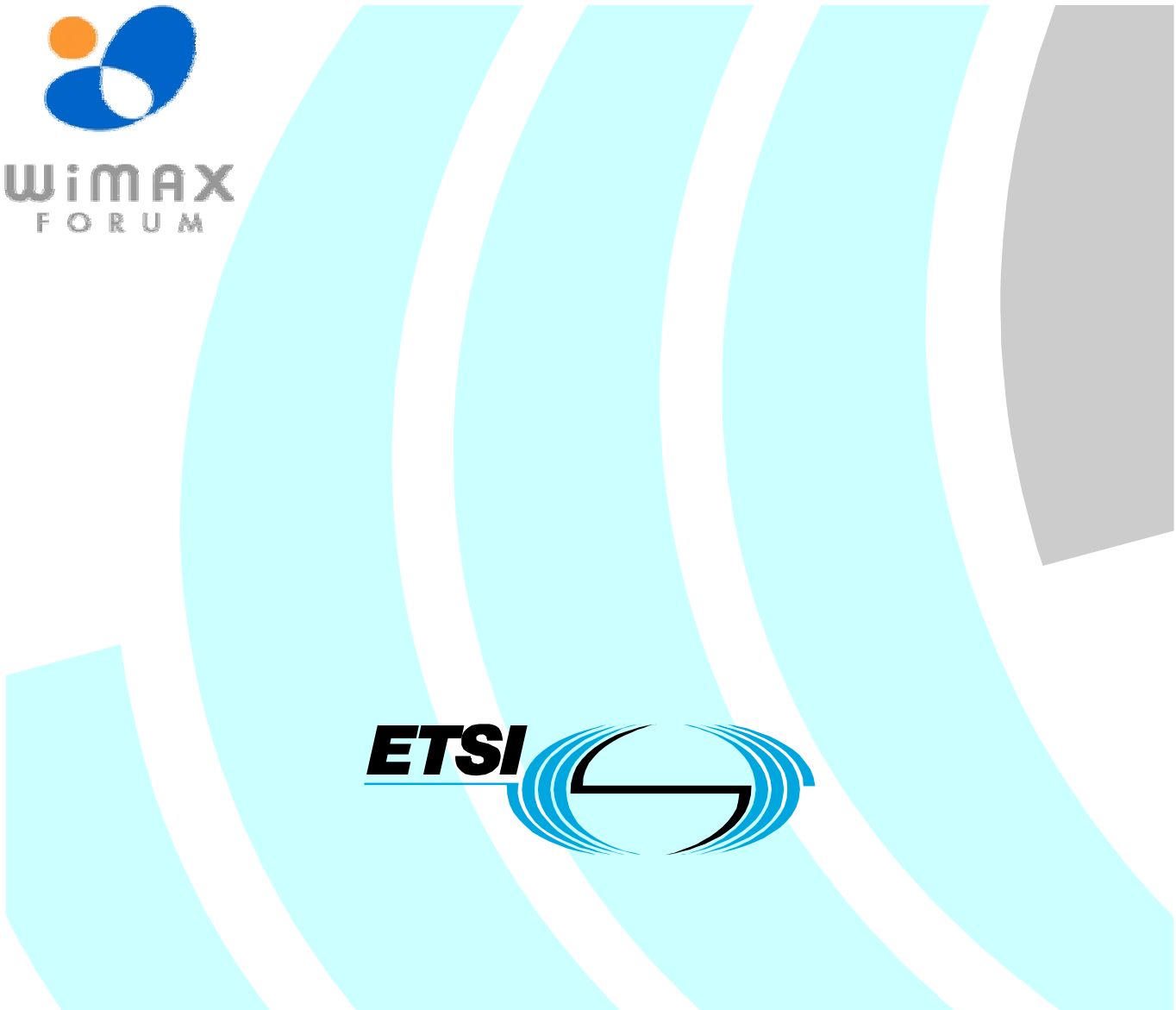
Technical Specification

Broadband Radio Access Networks (BRAN);
HiperMAN/WiMAX;
Conformance testing for the Data Link Control Layer (DLC);
Part 1: Protocol Implementation Conformance Statement (PICS) proforma



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Contents

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Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Broadband Radio Access Networks (BRAN).

The present document specifies the Protocol Implementation Conformance Statement (PICS) for High PERformance Radio Metropolitan Area Network (HiperMAN) and WiMAX, which operates on frequencies between 2 GHz and 11 GHz.

The present document has been developed on the basis of preceding versions of HiperMAN and WiMAX PICS and makes the previous versions obsolete.

The present document is part 1 of a multi-part deliverable covering Broadband Radio Access Networks (BRAN); HiperMAN/WiMAX; Conformance testing for the Data Link Control Layer (DLC), as identified below:

Part 1: "Procotol Implementation Conformance Statement (PICS) proforma";

Part 2: "Test Suite Structure and Test Purposes (TSS&TP) specification";

Part 3: "Abstract Test Suite (ATS)".

1 Scope

The present document specifies the Protocol Implementation Conformance Statement (PICS) for HiperMAN/WiMAX per ISO/IEC 9646-7 [7], ITU-T Recommendation X.296 [8] and ETR 212 [9] for conformance of HiperMAN/WiMAX compliant systems.

Although this PICS refers to IEEE P802.16e-2005 [5], its scope is currently limited to IEEE P802.16-2004 [4] with Corrigendum 1 / D. The items covered by this PICS are also currently restricted to the OFDM + PMP configuration.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication and/or edition number or version number) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.

Referenced documents which are not found to be publicly available in the expected location might be found at http://docbox.etsi.org/Reference.

[1] ETSI TS 102 177: "Broadband Radio Access Networks (BRAN); HiperMAN; Physical (PHY) layer".

[2] ETSI TS 102 178: "Broadband Radio Access Networks (BRAN); HiperMAN; Data Link Control (DLC) layer".

[3] ETSI TS 102 210: "Broadband Radio Access Networks (BRAN); HiperMAN; System profiles".

[4] IEEE 802.16-2004: "IEEE Standard for local and metropolitan area networks - Part 16: Air Interface for Fixed Broadband Wireless Access Systems".

[5] IEEE 802.16e-2005: "IEEE Standard for local and metropolitan area networks - Part 16: Air Interface for Fixed and Mobile Broadband Wireless Access Systems. Amendment 2: Physical and Medium Access Control Layers for Combined Fixed and Mobile Operation in Licensed Bands" and Corrigendum 1.

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

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

[8] ITU-T Recommendation X.296: "OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications - Implementation conformance statements".

[9] ETSI ETR 212: "Methods for Testing and Specification (MTS); Implementation Conformance Statement (ICS) proforma style guide".

[10] IEEE 802.3: "IEEE Standard for 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".

[11] IEEE 802.1Q: "IEEE Standards for local and metropolitan area networks - Virtual Bridged Local Area Networks".

[12] ITU-T Recommendation X.690: "Information technology - ASN.1 encoding rules: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER)".

[13] IETF RFC 2131: "Dynamic Host Configuration Protocol".

[14] IETF RFC 868: "Time Protocol".

[15] IEEE 802.2 (ISO/IEC 8802.2-1998): "Information technology - Telecommunications and information exchange between systems - Local and metropolitan area networks - Specific requirements - Part 2: Logical Link Control".

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in ISO/IEC 9646-1 [6], TS 102 177 [1], TS 102 178 [2], ISO/IEC 9646-7 [7] and IEEE 802.16-2004 [4] as corrected by Corrigendum 1 of IEEE 802.16e-2005 [5] (but not taking into account the Amendment 2) apply.

3.2 Symbols

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

BW	Nominal channel bandwidth (MHz)
m	CID range divider
$P_{TX,max}$	Maximum mean transmit power at the antenna port (dBm)
T_b	Useful OFDM symbol time (s)
T_F	Frame duration (ms)
T_g	OFDM symbol guard time or CP time (s)
T_s	OFDM symbol time (s)

3.3 Abbreviations

For the purposes of the present document, the abbreviations given in TS 102 177 [1], TS 102 178 [2] and ISO/IEC 9646-1 [6] and the following apply:

AAS	Adaptive Antenna System
ARQ	Automatic Repeat Request
BE	Best Effort service
BER	Bit Error Rate
BPSK	Binary Phase Shift Keying
BS	Base Station
BSN	Block Sequence Number
BW	BandWith
CBC	Cipher Block Chaining
CC	Convolutional Coding
CID	Connection IDentifier
CINR	Carrier to noise and INterference Ratio
CRC	Cyclic Redundancy Check
DCD	Downlink Channel Descriptor
DES	Data Encryption Standard
DFS	Dynamic Frequency Selection
DHCP	Dynamic Host Configurtion Protocol
DIUC	Dowlink Interval Usage Code
DL	DownLink

DLFP	DownLink Frame Prefix
DSA	Dynamic Service Addition
DSC	Dynamic Service Change
DSD	Dynamic Service Deletion
EIRP	Effective Isotropic Radiated Power
FC	Fragmentation Control
FEC	Forward Error Correction
FPC	Fast Power Control
FSN	Frequence Sequence Number
HCS	Header Check Sequence
HM	HiperMAN
HMAC	Hashed Message Authentication Code
ID	IDentifier
IE	Information Element
IUT	Implementation Under Test
MAC	Medium Access Control
MeSH(MSH)	network architecture, wherein systems are capable of forwarding traffic from and to multiple other systems
MSB	Most Significant Bit
NRTPS	Non-Real time Polling Service
PDU	Protocol Data Unit
PHY	PHYsical layer
PICS	Protocol Implementation Conformance Statement
PKM	Privacy Key Management
PMP	Point-to-Multipoint
QAM	Quadrature Amplitude Modulation
QPSK	Quadrature Phase Shift Keying
REQ	REQuest
RNG	RaNGing
RS	Reed Solomon
RSP	ReSPonse
RSSI	Received Signal Strength Indicator
RTG	Receive/Transmit transition Gap
RTPS	Real time Polling Service
SA	Security Association
SAID	Security Association IDentifier
SAP	Service Access Point
SI	Slip Indicator
SNMP	Simple Network Management Protocol
SS	Subscriber Station
STC	Space Time Coding
SUT	System Under Test
TC	Transmission Convergence sublayer
TFTP	Trivial File Transfer Protocol
TLV	Type/Length/Value
TTG	Transmit/Receive transition Gap
Tx	Transmitter
UCD	Uplink Channel Descriptor
UGS	Unsolicited Grant Service
UL	UpLink
VLAN	Virtual Local Area Network

4 Conformance to this PICS Proforma Specification

If it claims to conform to the present document, 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 which conforms to the present document shall be a conforming PICS proforma completed in accordance with the guidance for completion given in clause A.1.

Annex A (normative): Protocol ICS (PICS) for HiperMAN/Wimax

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 defined in TS 102 177 [1] and TS 102 178 [2] (which mandates requirements defined in IEEE 802.16-2004 [4]) may provide information about the implementation in a standardized manner. The PICS proforma does not cover every possible compliant HiperMAN/WiMAX implementation, but only those implementations that are compliant with the system profiles as defined in TS 102 210 [3].

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

- guidance for completing the PICS proforma;
- identification and implementation;
- identification of the standard;
- global statement of conformance;
- roles;
- Subscriber Station (SS);
- Base Station (BS).

A.1.2 Abbreviations and Conventions

Item column

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

Capability column

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

Reference column

- The reference column indicates the section of TS 102 177 [1], TS 102 178 [2], EEE 802.16-2004 [4] from which the requirement for the capability is derived. A reference to [4] is to be understood as a reference to IEEE 802.16-2004 as corrected by Corrigendum 1 of IEEE 802.16e-2005 [5], but not taking into account the Amendment 2.

Status column

- The following notations, defined in [6], 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 which 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 which 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 [6] 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).

If this PICS proforma is completed in order to describe a multiple profile implementation, it may be necessary to answer that a capability is supported for one profile and not supported for another. In that case, the supplier shall enter a unique reference to a conditional expression, preceded by "?" (e.g. ?3). This expression shall be given in the space provided for comments at the bottom of the table. It uses the predicates defined in [6], each of which refers to a single profile or a family of profiles and which takes the value TRUE if and only if that profile is to be used.

EXAMPLE: ?3: If profM1 then Y else N.

NOTE: As stated in [6], support for a received PDU requires the ability to parse all valid parameters of that PDU. Supporting a PDU while having no ability to parse a valid parameter is non-conformant. Support for a parameter on a PDU means that the semantics of that parameter are supported.

Values allowed column

- The values allowed column is only used when necessary in a table. It contains the type, the list, the range, or the length of values allowed. 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 allowed 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 which 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 1:	Table A.5/4 is the reference to the answer of item 4 in table A.5.
Example 2:	Table 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 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 clause A.1.2.

However, tables related to Subscriber Station (SS) shall only be completed for Subscriber Station implementations, and tables related to Base Station (BS) shall only be filled in for Base Station implementations.

If necessary, the supplier may provide additional comments in 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 so as to provide as much details 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 (MM/DD/YYYY):	

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 Nr.:	
Fax Nr:	
E-mail address:	
Additional information:	

A.2.5 Client (if different from product supplier)

Name:	
Address:	
Telephone Nr.:	
Fax Nr:	
E-mail address:	
Additional information:	

A.2.6 PICS contact person

(A person to contact if there is any query concerning the content of the PICS.)

Name:	
Address:	
Telephone Nr.:	
Fax Nr:	
E-mail address:	
Additional information:	

A.3 Identification of the standard

This PICS proforma applies to the ETSI HiperMAN/Wimax standard consisting of the following normative references:

- HiperMAN/Wimax Physical Layer: [1]
- HiperMAN/Wimax Data Logical Control Layer: [2] which normatively references [4].

A.4 Global statement of conformance

Are all mandatory capabilities implemented? (Yes/No)	

NOTE: Answering "No" to this question indicates non-conformance to the HiperMAN/Wimax standard. Non-supported mandatory capabilities are to be identified in the PICS, with an explanation of why the implementation is non-conforming, on pages attached to the PICS proforma.

A.5 System profiles

Table A.1: System profiles

Item	Role	Reference	IEEE	HM	WIMAX	Support
1	WirelessMAN-SC	[4] 12.1	Oa.1.1	X	X	
2	WirelessMAN-SCa	[4] 12.2	Oa.1.1	X	X	
3	WirelessMAN-OFDM and WirelessHUMAN-OFDM	[4] 12.3	Oa.1.1	m	m	
4	WirelessMAN-OFDMA and WirelessHUMAN-OFDMA	[4] 12.4	Oa.1.1	X	X	
Oa.1.1: It is mandatory to support at least one of these items.						
Comments: .						

Table A.2: Roles

Item	Role	Reference	IEEE	HM	WIMAX	Support
1	Subscriber Station (SS)	[4]	Oa.2.1	Oa.2.1	Oa.2.1	
2	Base Station (BS)	[4]	Oa.2.1	Oa.2.1	Oa.2.1	
Oa.2.1: It is mandatory to support exactly one of these items.						
NOTE: These Items do not reflect the capability to support the given role as part of the current implementation, but indicates the role of the implementation which is relevant to fill all the items of this PICS proforma.						
Comments:						

A.5.1 WirelessMAN-SC

Void.

A.5.2 WirelessMAN-SCa

Void.

A.5.3 WirelessMAN-OFDM and WirelessHUMAN-OFDM

Table A.3: Network topology

Prerequisite: A.1/3 WirelessMAN-OFDM and WirelessHUMAN-OFDM						
Item	**Role**	**Reference**	**IEEE**	**HM**	**WIMAX**	**Support**
1	profM3_PMP - Basic packet PMP	[4] 6.1	Oa.3	m	m	
2	profM3_Mesh - Basic packet Mesh	[4] 6.2	Oa.3	X	X	
Oa.3: It is mandatory to support at least one of these items.						
Comments:						

Table A.4: Channelization

Prerequisite: A.1/3 WirelessMAN-OFDM and WirelessHUMAN-OFDM				
Item	**Name**	**Reference**	**Status**	**Support**
1	profP3_1.75 - 1,75 MHz channel PHY	[4] 12.3.2.1	Oa.4	
2	profP3_3.5 - 3,5 MHz channel PHY	[4] 12.3.2.2	Oa.4	
3	profP3_7 - 7,0 MHz channel PHY	[4] 12.3.2.3	Oa.4	
4	profP3_3 - 3 MHz channel PHY	[4] 12.3.2.4	Oa.4	
5	profP3_5.5 - 5,5 MHz channel PHY	[4] 12.3.2.5	Oa.4	
6	profP3_10 - 10 MHz channel PHY	[4] 12.3.2.6	Oa.4	
Oa.4: It is mandatory to support at least one of these items.				
Comments:				

Table A.5: Power classes

Prerequisite: A.1/3 WirelessMAN-OFDM and WirelessHUMAN-OFDM				
Item	**Name**	**Reference**	**Status**	**Support**
1	profC3_0 - $P_{TX,max}$ < 14 dBm	[4] 12.3	Oa.5	
2	profC3_14 - 14 dBm < $P_{TX,max}$ < 17 dBm	[4] 12.3	Oa.5	
3	profC3_17 - 17 dBm < $P_{TX,max}$ < 20 dBm	[4] 12.3	Oa.5	
4	profC3_20 - 20 dBm < $P_{TX,max}$ < 23 dBm	[4] 12.3	Oa.5	
5	profC3_23 - $P_{TX,max}$ > 23 dBm	[4] 12.3	Oa.5	
Oa.5: It is mandatory to support at least one of these items.				
Comments:				

Table A.6: Duplexing modes

Prerequisite: A.1/3 WirelessMAN-OFDM and WirelessHUMAN-OFDM				
Item	**Name**	**Reference**	**Status**	**Support**
1	prof_TDD - TDD Time Division Duplexing	[4] 6.3.7.2	Oa.6	
2	prof_FDD - FDD Frequency Division Duplexing	[4] 6.3.7.1	Oa.6	
Oa.6: It is mandatory to support at least one of these items.				
Comments:				

Table A.7: FDD Duplexing modes

Prerequisite: A.6/2 prof_FDD - FDD Frequency Division Duplexing				
Item	**Name**	**Reference**	**Status**	**Support**
1	Supports FDD Frequency Division Duplexing Full Duplex	[4] 6.3.7.1	Ca.7.1	
2	Supports FDD Frequency Division Duplexing Half Duplex (see note)	[4] 6.3.7.1	Ca.7.1	
Oa.7: It is mandatory to support at least one of these items. Ca.7.1: IF A.2/1 THEN Oa.7 ELSE m.				
NOTE: For the Base Station, supporting FDD Half Duplex means "respects Half Duplex Nature of half-duplex FDD SS".				
Comments:				

Table A.8: RF Profiles

Prerequisite: A.1/3 WirelessMAN-OFDM and WirelessHUMAN-OFDM				
Item	**Name**	**Reference**	**Status**	**Support**
1	profR10_1 - RF Profile for 10 MHz Channelization 5000 + n x 5 MHz, *n* {55, 57, 59, 61, 63, 65, 67}	[4] 12.3.3.1.1	Oa.8	
2	profR10_2 - RF Profile for 10 MHz Channelization 5000 + n x 5 MHz, *n* {148, 150, 152, 154, 156, 158, 160, 162, 164, 166}	[4] 12.3.3.1.1	Oa.8	
3	profR10_3 - RF Profile for 10 MHz Channelization 5000 + n x 5 MHz, *n* {147 149 151 153 155 157 159 161 163 165 167}	[4] 12.3.3.1.1	Oa.8	
4	profR3_1 - RF Profile for licensed bands with steps of 250 kHz	[4] 8.3.10.2	Ca.8.1	
Oa.8: IF A.4/6 THEN It is mandatory to support at least one of these items ELSE x. Ca.8.1: IF (A.4/1 OR A.4/2 OR A.4/3 OR A.4/4 OR A.4/5) THEN m ELSE x.				
Comments:				

A.5.3.1 SS in PMP topology

A.5.3.1.1 PHY functions

Table A.9: Frame duration codes for SS

Prerequisite: (A.2/1 and A.3/1) Subscriber Station (SS) and Basic packet PMP				
Item	**Frame Duration in ms**	**Reference**	**Status**	**Support**
1	2.5	[4] 8.3.5.4	m	
2	4	[4] 8.3.5.4	m	
3	5	[4] 8.3.5.4	m	
4	8	[4] 8.3.5.4	m	
5	10	[4] 8.3.5.4	m	
6	12.5	[4] 8.3.5.4	m	
7	20	[4] 8.3.5.4	m	
Comments:				

Table A.10: Cyclic Prefix for SS

Prerequisite: (A.2/1 and A.3/1) Subscriber Station (SS) and Basic packet PMP				
Item	**Cyclic Prefix**	**Reference**	**Status**	**Support**
1	1/4	[4] 8.3.2.4	m	
2	1/8	[4] 8.3.2.4	m	
3	1/16	[4] 8.3.2.4	m	
4	1/32	[4] 8.3.2.4	m	
Comments:				

Table A.11: Modulation for SS

Prerequisite: (A.2/1 and A.3/1) Subscriber Station (SS) and Basic packet PMP				
Item	**Modulation**	**Reference**	**Status**	**Support**
1	BPSK	[4] 8.3.3.4.1	m	
2	QPSK	[4] 8.3.3.4.1	m	
3	16-QAM	[4] 8.3.3.4.1	m	
4	64-QAM	[4] 8.3.3.4.1	Ca.11.1	
Ca.11.1: IF A.4/6 THEN o ELSE m.				
Comments:				

Table A.12: Major PHY functions for SS

Prerequisite: (A.2/1 and A.3/1) Subscriber Station (SS) and Basic packet PMP				
Item	**Name**	**Reference**	**Status**	**Support**
1	AAS (Adaptive Antenna) supported	[4] 6.3.7.6	o	
2	Subchannelization	[4] 8.3.1.1	o	
3	Dynamic Frequency Support (DFS)	[4] 6.3.15	Ca.12.1	
4	Concatenated Reed-Solomon-Convolutional Code (RS-CC)	[4] 8.3.3.2	m	
5	Block Turbo Coding (BTC)	[4] 8.3.3.2	o	
6	Convolutional Turbo Codes (CTC)	[4] 8.3.3.2	o	
7	Randomization	[4] 8.3.3.1	m	
8	Block Interleaving	[4] 8.3.3.3	m	
9	Gray-coded constellation mapping	[4] 8.3.3.4.1	m	
10	Long preamble	[4] 8.3.3.6	m	
11	Short preamble	[4] 8.3.3.6	m	
12	Pilot modulation mapping	[4] 8.3.3.4.2	m	
13	Rate ID decoding	[4] 8.3.3.4.3	m	
14	Subchannelization preamble	[4] 8.3.3.6	Ca.12.2	
15	UL Midambles	[4] 8.3.3.6, 8.3.6.3	m	
16	STC	[4] 8.3.8	o	
17	AAS preamble	[4] 8.3.3.6	Ca.12.3	
18	Full contention BW requesting	[4] 8.3.7.3.2	m	
19	Focused contention BW requesting	[4] 8.3.7.3.3	o	
20	RSSI mean and std measurement	[4] 8.3.9.2	m	
21	CINR mean and std measurement	[4] 8.3.9.3	m	
22	Power control	[4] 8.3.7.4	m	
23	Can detect used cyclic prefix	[4] 8.3.1.1.1	m	
24	TC sublayer support	[4] 8.3.4	o	
25	Preamble cyclic time shift	[4] 8.3.3.6, 8.3.6.2.7, 8.3.6.3.7	Ca.12.4	
Ca.12.1: IF license exempt band THEN m ELSE n/a. Ca.12.2: IF A.12/2 THEN m ELSE i. Ca.12.3: IF A.12/1 THEN m ELSE i. Ca.12.4: IF A.12/1 THEN m ELSE n/a.				
Comments:				

Table A.13: SS Multiplexing and multiple access

Prerequisite: (A.2/1 and A.3/1) Subscriber Station (SS) and Basic packet PMP				
Item	**Name**	**Reference**	**Status**	**Support**
1	Synchronize to long preamble	[4] 8.3.5.1	m	
2	Demodulate bursts	[4] 8.3.5.1	m	
3	Support contention slot for initial ranging	[4] 8.3.5.1	m	
4	Support contention slot for bandwidth request	[4] 8.3.5.1	m	
5	Support for Initial Ranging with a subchannelized ranging burst	[4] 8.3.7.2	m	
Comments:				

Table A.14: SS Radio subsystem control

Prerequisite: (A.2/1 and A.3/1) Subscriber Station (SS) and Basic packet PMP						
Item	**Capability**	**Reference**	**Status**	**Support**	**Values Allowed**	**Values Supported**
1	SS adjusts TX frequency based on frequency offset data from BS (no subchannelization)	[4] 8.3.12	m		Ca.14.1	
2	SS adjusts TX power based on power level data from BS	[4] 8.3.10.1	m		±1,5 dB for step sizes <= 15 dB, ±3 dB for step sizes > 15 dB and <= 30 dB ±5 dB for step sizes > 30 dB	
3	SS TX power control algorithm dynamic range	[4] 8.3.10.1	m		Ca.14.2	
4	SS TX power control algorithm slew rate	[4] 8.3.7.4	m		≥ 30 dB/sec	
5	SS computes full initial ranging TX power based on data from BS and RSSI measurements	[4] 6.3.9.5	m		n/a	
6	SS TX power control algorithm accounts for effects of different burst profiles on RF power amp	[4] 8.3.7.4	m		n/a	
7	SS adjusts Symbol clock based on frequency offset data from BS	[4] 8.3.12	m		<=5 ppm	
8	The power control algorithm shall support power fading depths	[4] 8.3.7.4	m		≥10 dB	
Ca.14.1: IF A.12/2 THEN ≥ ±1 % ELSE ≥ ±2 % of subcarrier spacing, minimum accuracy. Ca.14.2: IF A.12/2 THEN ≥ 50 dB ELSE ≥ 30 dB.						
Comments:						

Table A.15: SS Minimum performance

Prerequisite: (A.2/1 and A.3/1) Subscriber Station (SS) and Basic packet PMP						
Item	**Capability**	**Reference**	**Status**	**Support**	**Values Allowed**	**Values Supported**
1	Tx Power Level minimum adjustment step	[4] 8.3.10.1	m		≤ 1 dB	
2	Tx Power Level minimum relative step accuracy	[4] 8.3.10.1	m		±1,5 dB for step sizes <= 15 dB, ±3 dB for step sizes > 15 dB and <= 30 dB ±5 dB for step sizes > 30 dB	
3	Tx Spectral flatness Absolute difference between adj. carriers	[4] 8.3.10.2	m		≤ 0,1 dB	

Prerequisite: (A.2/1 and A.3/1) Subscriber Station (SS) and Basic packet PMP						
Item	**Capability**	**Reference**	**Status**	**Support**	**Values Allowed**	**Values Supported**
4	Tx Spectral flatness Deviation of average energy in each carrier from the measured energy averaged over all 200 active tones. Carrier -50..-1, 1..50:	[4] 8.3.10.2	m		≤ ±2 dB	
5	Tx Spectral flatness Deviation of average energy in each carrier from the measured energy averaged over all 200 active tones. Carrier -100..-50, 50..100:	[4] 8.3.10.2	m		≤ +2/-4 dB	
6	Tx relative constellation error: BPSK-1/2 QPSK-1/2 QPSK-3/4 16QAM-1/2 16QAM-3/4	[4] 8.3.10.3	m		 ≤ -13 dB ≤ -16 dB ≤ -18,5 dB ≤ -21,5 dB ≤ -25 dB	
7	Tx relative constellation error: 64QAM-2/3 64QAM-3/4	[4] 8.3.10.3	Ca.15.1		 ≤ -29 dB ≤ -30 dB	
8	TX power at spectral line 0	[4] 8.3.10.4	m		≥ -15 dBm relative to total transmitted power	
9	Rx max. input level on-channel reception tolerance	[4] 8.3.11.3	m		≥ -30 dBm	
10	Rx max. input level on-channel damage tolerance	[4] 8.3.11.3	m		≥ 0 dBm	
11	Adjacent channel rejection at BER=10^{-6} for 3 dB degradation C/I 16QAM-3/4	[4] 8.3.11.2	m		- 11 dB	
12	Adjacent channel rejection at BER=10^{-6} for 3 dB degradation C/I 64QAM-3/4	[4] 8.3.11.2	Ca.15.1		- 4 dB	
13	Non-adjacent channel rejection at BER=10^{-6} for 3 dB degradation C/I 16QAM-3/4	[4] 8.34.11.2	m		- 30 dB	
14	Non-adjacent channel rejection at BER=10^{-6} for 3 dB degradation C/I 64QAM-3/4	[4] 8.3.11.2	Ca.15.1		- 23 dB	
15	Reference time tolerance	[4] 12.3.2	m		+/-(Tb/32)/2	
Ca.15.1: IF A.11/4 THEN m ELSE i.						
Comments:						

Table A.16: SS ProfP3_1.75 specific minimum performance

Prerequisite: A.4/1 profP3_1.75 - 1,75 MHz channel PHY						
Item	**Capability**	**Reference**	**Status**	**Support**	**Values Allowed**	**Values Supported**
1	T_b	[4] 12.3.2.1	m		128 µs	
2	BER performance threshold, BER=10^{-6} BPSK-1/2 QPSK-1/2 QPSK-3/4 16QAM-1/2 16QAM-3/4	[4] 12.3.2.1	m		≤ -94 dBm ≤ -91 dBm ≤ -89 dBm ≤ -84 dBm ≤ -82 dBm	
3	BER performance threshold, BER=10^{-6} 64QAM-2/3 64QAM-3/4	[4] 12.3.2.1	Ca.16.1		≤ -77 dBm ≤ -76 dBm	
4	Reference frequency tolerance SS to BS synchronization tolerance	[4] 12.3.2.1	m		Ca.16.2	
Ca.16.1: IF A.11/4 THEN m ELSE i. Ca.16.2: IF A.12/2 THEN ≤ 78,13 Hz ELSE ≤ 156,25 Hz.						
Comments:						

Table A.17: SS ProfP3_3.5 specific minimum performance

Prerequisite: A.4/2 profP3_3.5 - 3,5 MHz channel PHY						
Item	**Capability**	**Reference**	**Status**	**Support**	**Values Allowed**	**Values Supported**
1	T_b	[4] 12.3.2.2	m		64 µs	
2	BER performance threshold, BER=10^{-6} BPSK-1/2 QPSK-1/2 QPSK-3/4 16QAM-1/2 16QAM-3/4	[4] 12.3.2.2	m		≤ -91 dBm ≤ -88 dBm ≤ -86 dBm ≤ -81 dBm ≤ -79 dBm	
3	BER performance threshold, BER=10^{-6} 64QAM-2/3 64QAM-3/4	[4] 12.3.2.2	Ca.17.1		≤ -74 dBm ≤ -73 dBm	
4	Reference frequency tolerance SS to BS synchronization tolerance	[4] 12.3.2.2	m		Ca.17.2	
Ca.17.1: IF A.11/4 THEN m ELSE i. Ca.17.2: IF A.12/2 THEN ≤ 156,25 Hz ELSE ≤ 312,5 Hz.						
Comments:						

Table A.18: SS ProfP3_7.0 specific minimum performance

Prerequisite: A.4/3 profP3_7 - 7,0 MHz channel PHY						
Item	**Capability**	**Reference**	**Status**	**Support**	**Values Allowed**	**Values Supported**
1	T_b	[4] 12.3.2.3	m		32 µs	
2	BER performance threshold, BER=10^{-6} BPSK-1/2 QPSK-1/2 QPSK-3/4 16QAM-1/2 16QAM-3/4	[4] 12.3.2.3	m		≤ -88 dBm ≤ -85 dBm ≤ -83 dBm ≤ -78 dBm ≤ -76 dBm	
3	BER performance threshold, BER=10^{-6} 64QAM-2/3 64QAM-3/4	[4] 12.3.2.3	Ca.18.1		≤ -71 dBm ≤ -70 dBm	
4	Reference frequency tolerance SS to BS synchronization tolerance	[4] 12.3.2.3	m		Ca.18.2	
Ca.18.1: IF A.11/4 THEN m ELSE i. Ca.18.2: IF A.12/2 THEN ≤ 312,5 Hz ELSE ≤ 625 Hz.						
Comments:						

Table A.19: SS ProfP3_3 specific minimum performance

Prerequisite: A.4/4 profP3_3 - 3 MHz channel PHY						
Item	**Capability**	**Reference**	**Status**	**Support**	**Values Allowed**	**Values Supported**
1	T_b	[4] 12.3.2.4	m		74 18/43 µs	
2	BER performance threshold, BER=10^{-6} BPSK-1/2 QPSK-1/2 QPSK-3/4 16QAM-1/2 16QAM-3/4	[4] 12.3.2.4	m		≤ -91 dBm ≤ -88 dBm ≤ -87 dBm ≤ -81 dBm ≤ -80 dBm	
3	BER performance threshold, BER=10^{-6} 64QAM-2/3 64QAM-3/4	[4] 12.3.2.4	Ca.19.1		≤ -75 dBm ≤ -73 dBm	
4	Reference frequency tolerance SS to BS synchronization tolerance	[4] 12.3.2.4	m		Ca.19.2	
Ca.19.1: IF A.11/4 THEN m ELSE i. Ca.19.2: IF A.12/2 THEN ≤ 134,38 Hz ELSE ≤ 268,75 Hz.						
Comments:						

Table A.20: SS ProfP3_5.5 specific minimum performance

Prerequisite: A.4/5 profP3_5.5 - 5,5 MHz channel PHY						
Item	**Capability**	**Reference**	**Status**	**Support**	**Values Allowed**	**Values Supported**
1	T_b	[4] 12.3.2.5	m		40 40/79 µs	
2	BER performance threshold, BER=10^{-6} BPSK-1/2 QPSK-1/2 QPSK-3/4 16QAM-1/2 16QAM-3/4	[4] 12.3.2.5	m		 ≤ -89 dBm ≤ -86 dBm ≤ -84 dBm ≤ -79 dBm ≤ -77 dBm	
3	BER performance threshold, BER=10^{-6} 64QAM-2/3 64QAM-3/4	[4] 12.3.2.5	Ca.20.1		 ≤ -72 dBm ≤ -71 dBm	
4	Reference frequency tolerance SS to BS synchronization tolerance	[4] 12.3.2.5	m		Ca.20.2	
Ca.20.1: IF A.11/4 THEN m ELSE i. Ca.20.2: IF A.12/2 THEN ≤ 246,88 Hz ELSE ≤ 493,75 Hz.						
Comments:						

Table A.21: SS ProfP3_10 specific minimum performance

Prerequisite: A.4/6 profP3_10 - 10 MHz channel PHY						
Item	**Capability**	**Reference**	**Status**	**Support**	**Values Allowed**	**Values Supported**
1	T_b	[4] 12.3.2.6	m		22 2/9 µs	
2	BER performance threshold, BER=10^{-6} BPSK-1/2 QPSK-1/2 QPSK-3/4 16QAM-1/2 16QAM-3/4	[4] 12.3.2.6	m		 ≤ -86 dBm ≤ -83 dBm ≤ -81 dBm ≤ -76 dBm ≤ -74 dBm	
3	BER performance threshold, BER=10^{-6} 64QAM-2/3 64QAM-3/4	[4] 12.3.2.6	Ca.21.1		 ≤ -72 dBm ≤ -71 dBm	
4	Reference frequency tolerance SS to BS synchronization tolerance	[4] 12.3.2.6	m		Ca.21.2	
Ca.21.1: IF A.11/4 THEN m ELSE i. Ca.21.2: IF A.12/2 THEN ≤ 450 Hz ELSE ≤ 900 Hz.						
Comments:						

A.5.3.1.2 Convergence sub layer

Table A.22: SS Convergence Sub layer protocol support

Prerequisite: (A.2/1 and A.3/1) Subscriber Station (SS) and Basic packet PMP				
Item	**Name**	**Reference**	**Status**	**Support**
1	Packet convergence sub layer	[4] 5.2	m	
Comments:				

Table A.23: SS Packet Convergence Sub layer protocol support

Prerequisite: (A.2/1 and A.3/1) Subscriber Station (SS) and Basic packet PMP				
Item	**Name**	**Reference**	**Status**	**Support**
1	Internet Protocol (IPv4)	[4] 5.2.6	o	
2	Internet Protocol (IPv6)	[4] 5.2.6	o	
3	IEEE 802.3 (Ethernet) [10]	[4] 5.2.4	m	
4	IEEE 802.1Q VLAN [11]	[4] 5.2.5	o	
5	IPv4 over 802.3 Ethernet [10]	[4] 5.2.4	m	
6	IPv6 over 802.3 Ethernet [10]	[4] 5.2.4	o	
7	IPv4 over 802.1Q VLAN [11]	[4] 5.2.5	Ca.23.1	
8	IPv6 over 802.1Q VLAN [11]	[4] 5.2.5	Ca.23.1	
9	Payload header suppression (PHS)	[4] 5.2.3	o	
Ca.23.1: IF (A 23/4) THEN o ELSE i.				
Comments:				

Table A.24: SS Major packet classification

Prerequisite: (A.2/1 and A.3/1) Subscriber Station (SS) and Basic packet PMP				
Item	**Name**	**Reference**	**Status**	**Support**
1	IP Classification	[4] 11.13.19.3.4	Ca.24.1	
2	Ethernet classification	[4] 11.13.19.3.4	Ca.24.2	
3	IEEE 802.1Q VLAN classification [11]	[4] 11.13.19.3.4	Ca.24.3	
Ca.24.1: IF (A 23/1 or A 23/2 or A 23/5 or A 23/6 or A 23/7 or A 23/8) THEN m ELSE n/a. Ca.24.2: IF (A 23/3 or A 23/5 or A 23/6 or) THEN m ELSE n/a. Ca.24.3: IF (A 23/4 or A 23/7 or A 23/8) THEN m ELSE n/a.				
Comments:				

Table A.25: IP packet classification in the UL

Prerequisite: (A.2/1 and A.3/1 and A.24/1) Subscriber Station (SS) and Basic packet PMP and IP support						
Item	**Name**	**Reference**	**IEEE**	**HM**	**WiMAX**	**Support**
1	Classification based on DSCP/IP TOS field	[4] 5.2.2, 11.13.19. 3.4.2	Oa.25	m	m	
2	Classification based on IP Protocol/Next Header field	[4] 5.2.2, 11.13.19. 3.4.3	Oa.25	m	m	
3	Classification based on IP masked Source Address	[4] 5.2.2, 11.13.19. 3.4.4	Oa.25	m	m	
4	Classification based on IP Destination Address	[4] 5.2.2, 11.13.19. 3.4.5	Oa.25	m	m	
5	Classification based on protocol source port range	[4] 5.2.2, 11.13.19. 3.4.6	Oa.25	m	m	
6	Classification based on protocol destination port range	[4] 5.2.2, 11.13.19. 3.4.7	Oa.25	m	m	
Oa.25: It is mandatory to support at least one of these items.						
NOTE: The status was made mandatory for HM and WiMAX, because for interoperability issue, the SS should support all the classifiers.						
Comments:						

Table A.26: Ethernet packet classification in the UL

Prerequisite: (A.2/1 and A.3/1 and A.24/2) Subscriber Station (SS) and Basic packet PMP and Ethernet support						
Item	**Name**	**Reference**	**IEEE**	**HM**	**WiMAX**	**Support**
1	Classification based on Destination MAC Address	[4] 5.2.2, 11.13.19. 3.4.8	Oa.26	m	m	
2	Classification based on Source MAC Address	[4] 5.2.2, 11.13.19. 3.4.9	Oa.26	m	m	
3	Classification based on Ethertype/SAP	[4] 5.2.2, 11.13.19. 3.4.10	Oa.26	m	m	
Oa.26: It is mandatory to support at least one of these items.						
NOTE: The status was made mandatory for HM and WiMAX, because for interoperability issue, the SS should support all the classifiers.						
Comments:						

Table A.27: 802.1Q packet classification in the UL

Prerequisite: (A.2/1 and A.3/1 and A.24/3) Subscriber Station (SS) and Basic packet PMP and 802.1Q support						
Item	**Name**	**Reference**	**IEEE**	**HM**	**WiMAX**	**Support**
1	Classification based on 802.1D user priority	[4] 5.2.2, 11.13.19.3.4.11	Oa.27	m	m	
2	Classification based on 802.1Q VLAN ID	[4] 5.2.2, 11.13.19.3.4.12	Oa.27	m	m	
Oa.27: It is mandatory to support at least one of these items.						
NOTE: The status was made mandatory for HM and WiMAX, because for interoperability issue, the SS should support all the classifiers.						
Comments:						

A.5.3.1.3 MAC common part sub layer

Table A.28: Major MAC Common part functionalities for SS

Prerequisite: (A.2/1 and A.3/1) Subscriber Station (SS) and Basic packet PMP				
Item	**Name**	**Reference**	**Status**	**Support**
1	Addressing and connections	[4] 6.3.1	m	
2	Construction of PDUs	[4] 6.3.3	m	
3	ARQ	[4] 6.3.4	o	
4	Uplink scheduling service	[4] 6.3.5	m	
5	Bandwidth allocation and request	[4] 6.3.6	m	
6	Contention resolution	[4] 6.3.8	m	
7	Network entry and initialization	[4] 6.3.9	m	
8	Ranging	[4] 6.3.10	m	
9	Update of UL and DL channel descriptors	[4] 6.3.11	m	
10	Quality of service	[4] 6.3.14	m	
Comments:				

Table A.29: Miscellaneous management functions for SS in PMP

Prerequisite: (A.2/1 and A.3/1) Subscriber Station (SS) and Basic packet PMP				
Item	**Name**	**Reference**	**Status**	**Support**
1	Participation in multicast polling groups	[4] 6.3.12; 12.3.1.1	m	
2	Downlink Burst profile management initiated by SS (DBPC messages)	[4] 6.3.2.3.20 [4] 6.3.2.3.21	m	
3	SS reset initiated by BS (RES-CMD)	[4] 6.3.2.3.22	m	
4	SS network clock comparison initiated by BS (CLK-CMP)	[4] 6.3.2.3.25	Ca.29.3	
5	SS notifies BS of de-registration (DREG-REQ)	[4] 6.3.2.3.43	o	
6	SS forced by BS to change its channel access (DREG-CMD)	[4] 6.3.2.3.26	m	
7	SS receives quick answer from BS to its DSx-REQ (DSX-RVD)	[4] 6.3.2.3.27	Ca.29.4	
8	SS informs BS of reception of Config file (TFTP messages)	[4] 6.3.2.3.28 [4] 6.3.2.3.29	Ca.29.5	
9	SS answers to BS channel management report request (REP-REQ and REP-RSP)	[4] 6.3.2.3.33	Ca.29.1	
10	SS applies the power change requested by the BS (FPC)	[4] 6.3.2.3.34	m	
11	SS answers the AAS feedback message request from the BS (AAS-FBCK messages)	[4] 6.3.2.3.40	Ca.29.2	
12	SS inform the BS of preferred beam direction (AAS-BEAM select message)	[4] 6.3.2.3.41	Ca.29.2	
13	SS answers the AAS beam message request from the BS (AAS-Beam messages)	[4] 6.3.2.3.42	Ca.29.2	
Ca.29.1: IF band below 11 GHz THEN m ELSE n/a. Ca.29.2: IF A.12/1 THEN m ELSE n/a. Ca.29.3: IF A39/1 THEN m ELSE o. Ca.29.4: IF (A 55/2 or A.55/5 or A 55/8) THEN m ELSE n/a. Ca.29.5: IF A.30/1 THEN m ELSE o.				
Comments:				

Table A.30: SS Management capability

Prerequisite: (A.2/1 and A.3/1) Subscriber Station (SS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	SS Management Support	[4] 6.3.9, 11.7.2	o	
2	SS IP Management	[4] 6.3.9, 11.7.3	o	
Comments:				

Table A.31: SS Addressing and Connections — PMP

Prerequisite: (A.2/1 and A.3/1) Subscriber Station (SS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	Globally Unique SS MAC Address	[4] 6.3.1	m	
2	MAC Management messages only applicable on connection types as specified in [4] table 14	[4] 6.3.2.3	m	
3	User data only on transport connections	[4] 6.3.1	m	
4	Data transferred over the secondary management shall be encapsulated in 802.3 Ethernet packets	[4] 6.3.1	Ca.31.2	
5	DHCP for SS IP address establishment and maintenance on the secondary management connection	[4] 6.3.9.10	Ca.31.1	
6	Time protocol on the secondary management connection	[4] 6.3.9.11	Ca.31.1	
7	TFTP during initialization on the secondary management connection	[4] 6.3.9.12	Ca.31.1	
8	SNMP packets used for SS management on the secondary management connection	[4] 6.3.1	Ca.31.1	
Ca.31.1: IF A.30/2 THEN m ELSE n/a. Ca.31.2: IF A.30/1 THEN m ELSE n/a.				
Comments:				

A.5.3.1.4 Construction and Transmission of MAC PDUs

Table A.32: SS Transmission conventions

Prerequisite: (A.2/1 and A.3/1) Subscriber Station (SS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	Fields of MAC messages are transmitted in the same order as they appear in the corresponding tables in the standard	[4] 6.3.3.1	m	
2	Fields of MAC messages and fields of TLVs, which are specified in the standard as binary numbers (including CRC and HCS) are transmitted as a sequence of their binary digits, starting from MSB. Bit masks (for example, in ARQ) are considered numerical fields. For signed numbers MSB is allocated for the sign. Length field in the "definite form" of ITU-T Recommendation X.690 [12] is also considered a numerical field	[4] 6.3.3.1	m	
3	Fields specified as SDUs or SDU fragments (for example, MAC PDU payloads) are transmitted in the same order of bytes as received from upper layers	[4] 6.3.3.1	m	
4	Fields specified as strings are transmitted in the order of symbols in the string. In cases c and d, bits within a byte are transmitted in the order MSB first	[4] 6.3.3.1	m	
Comments:				

Table A.33: SS PDU concatenation

Prerequisite: (A.2/1 and A.3/1) Subscriber Station (SS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	Concatenate Multiple MAC PDUs into a single burst of the allocated length	[4] 6.3.3.2	m	
2	Receive concatenated MAC PDUs and determine disposition via CID	[4] 6.3.3.2	m	
3	Padding of any unused space in the UL Burst	[4] 6.3.3.7	m	
Comments:				

Table A.34: SS SDU Fragmentation

Prerequisite: (A.2/1 and A.3/1) Subscriber Station (SS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	Fragment a MAC SDU into multiple MAC PDUs applicable to Management messages on Primary management connection	[4] 6.3.3.3	m	
2	Add Fragmentation Sub header to the SDU fragment including setting FC according to the Fragmentation rules table	[4] 6.3.3.3	m	
3	Increment the FSN modulo 8 for non-ARQ connections	[4] 6.3.3.3	o	
4	Increment the FSN modulo 2048 for non-ARQ connections	[4] 6.3.3.3	m	
5	Increment the BSN modulo 2048 for ARQ connection	[4] 6.3.3.4.2	Ca.34.1	
6	Do not perform fragmentation of PDUs on Basic and Initial Ranging connections	[4] 6.3.2.3	m	
Ca.34.1: IF A28/3 THEN m ELSE i.				
Comments:				

Table A.35: SS SDU reassembly

Prerequisite: (A.2/1 and A.3/1) Subscriber Station (SS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	Receive and reassemble fragmented SDUs	[4] 6.3.3.3	m	
2	Discard SDUs corrupted due to loss of fragment	[4] 6.3.3.3	m	
Comments:				

Table A.36: SS Packing

Prerequisite: (A.2/1 and A.3/1) Subscriber Station (SS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	Supports Fixed length non-ARQ SDUs in a MAC PDU	[4] 6.3.3.4.1.1	o	
2	Pack Fixed length non-ARQ SDUs in a MAC PDU	[4] 6.3.3.4.1.1	o	
3	Unpack Fixed length non-ARQ SDUs in a MAC PDU	[4] 6.3.3.4.1.1	Ca.36.1	
4	Supports variable length non-ARQ SDUs in a MAC PDU	[4] 6.3.3.4.1.2	m	
5	Pack variable length non-ARQ SDUs in a MAC PDU	[4] 6.3.3.4.1.2	o	
6	Unpack variable length non-ARQ SDUs in a MAC PDU	[4] 6.3.3.4.1.2	m	
7	Pack variable length ARQ-enabled SDUs or SDUs fragments in a MAC PDU	[4] 6.3.3.4.2 [2] 5.1.2	Ca.36.2	
8	Unpack variable length ARQ-enabled SDUs or SDUs fragments in a MAC PDU	[4] 6.3.3.4.2 [2] 5.1.2	Ca.36.2	
9	Do not perform packing of SDUs on Basic, Broadcast and Initial Ranging connections	[4] 6.3.2.3	m	
10	Perform packing of ARQ Feedback Payload	[4] 6.3.3.4.3	Ca.36.3	
11	Extracting ARQ Feedback IEs from received ARQ Feedback Payload	[4] 6.3.3.4.3	Ca.36.3	
Ca.36.1: IF A36/1 THEN m ELSE o. Ca.36.2: IF A28/3 THEN m ELSE i. Ca.36.3: IF (A28/3 And A.36/7) THEN m ELSE i.				
Comments:				

Table A.37: SS CRC

Prerequisite: (A.2/1 and A.3/1) Subscriber Station (SS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	Compute and add CRC	[4] 6.3.3.5	m	
2	Check CRC	[4] 6.3.3.5	m	
Comments:				

Table A.38: SS ARQ

Prerequisite: (A.2/1 and A.3/1 and A.28/3) Subscriber Station (SS) and Basic packet PMP and ARQ supported				
Item	**Capability**	**Reference**	**Status**	**Support**
1	Pack several ARQ feedback information elements in a single ARQ feedback payload	[4] 6.3.4 [2] 5.1.3	m	
2	Insert a single ARQ feedback payload as first packet in a MAC PDU	[4] 6.3.4 [2] 5.1.3	m	
Comments:				

Table A.39: SS Uplink scheduling services

Prerequisite: (A.2/1 and A.3/1) Subscriber Station (SS) and Basic packet PMP				
Item	**Name**	**Reference**	**Status**	**Support**
1	Unsolicited Grant Service (UGS)	[4] 6.3.5.2.1	o	
2	Real time Polling Service (RTPS)	[4] 6.3.5.2.2	o	
3	Non-Real time Polling Service (NRTPS)	[4] 6.3.5.2.3	m	
4	Best Effort service (BE)	[4] 6.3.5.2.4	m	
5	Refrain from issuing requests on UGS connections other than Poll-me bits and Slip indicator	[4] 6.3.5	Ca.39.1	
Ca.39.1: IF A39/1 THEN m ELSE n/a.				
Comments:				

Table A.40: Bandwidth allocation and request for SS

Prerequisite: (A.2/1 and A.3/1) Subscriber Station (SS) and Basic packet PMP				
Item	**Name**	**Reference**	**Status**	**Support**
1	SS requests aggregate bandwidth via Bandwidth Request Header	[4] 6.3.6.1	m	
2	SS requests incremental bandwidth via Bandwidth Request Header	[4] 6.3.6.1	o	
3	SS requests incremental bandwidth via piggyback request	[4] 6.3.6.1	Ca.40.1	
4	SS transmits Bandwidth request during REQ Region Full	[4] 6.3.6.4	m	
5	SS transmits Bandwidth request during Focused Contention IE	[4] 6.3.6.1	o	
6	SS transmits Bandwidth request during Subchannelized Region	[4] 6.3.6.1	Ca.40.2	
7	SS transmits Bandwidth request during any IE having UIUCs in the range of 5-12	[4] 6.3.6.1	m	
8	SS responds to Unicast, or Broadcast polls	[4] 6.3.6.3.2 [4] 6.3.6.3.1	m	
9	SS responds to Multicast polls	[4] 6.3.6.3.2	Ca.40.3	
10	SS uses Poll-me (PM) bit	[4] 6.3.6.3.3	Ca.40.4	
11	SS uses SI	[4] 6.3.5.2.1	Ca.40.4	
12	Receive AAS IE	[4] 6.3.6.1	Ca.40.5	
Ca.40.1: IF A.40/2 THEN m ELSE o. Ca.40.2: IF A.12/2 THEN m, ELSE n/a. Ca.40.3: IF A.29/1 THEN m ELSE n/a. Ca.40.4: IF A.39/1 THEN m ELSE n/a. Ca.40.5: IF A.12/1 THEN m ELSE n/a.				
Comments:				

Table A.41: SS MAP Relevance

Prerequisite: (A.2/1 and A.3/1) Subscriber Station (SS) and Basic packet PMP						
Item	**Capability**	**Reference**	**Status**	**Support**	**Value Allowed**	**Value Supported**
1	Minimum UL MAP Relevance	[4] 6.3.7.5.3	m		>= round trip delay + T_{proc}	
2	Maximum UL-MAP Relevance	[4] 6.3.7.5.3	m		End of following frame	
Comments:						

Table A.42: Contention resolution for SS

Prerequisite: (A.2/1 and A.3/1) Subscriber Station (SS) and Basic packet PMP				
Item	**Name**	**Reference**	**Status**	**Support**
1	The SS supports truncated exponential backoff for initial ranging	[4] 6.3.8	m	
2	The SS supports truncated exponential backoff for bandwidth request contention	[4] 6.3.8	m	
Comments:				

Table A.43: Network entry and initialization for SS in PMP

Item	Role	Reference	IEEE	HM	WIMAX	Support
1	Scanning and synchronization to the downlink	[4] 6.3.9.1	m	m	m	
2	Obtain Downlink Parameters	[4] 6.3.9.2	m	m	m	
3	Obtain Uplink Parameters	[4] 6.3.9.3, 6.3.9.4	m	m	m	
4	Perform Initial Ranging	[4] 6.3.9.5, 6.3.9.6	m	m	m	
5	Inform BS of Basic Capabilities	[4] 6.3.9.7	m	m	m	
6	Perform SS Authorization	[4] 6.3.9.8, 7.2	o	m	m	
7	Perform registration	[4] 6.3.9.9	m	m	m	
8	Request for IP connectivity	[4] 6.3.9.10	Ca.43.1	Ca.43.1	Ca.43.1	
9	Establish Time of day	[4] 6.3.9.11	Ca.43.1	Ca.43.1	Ca.43.1	
10	Transfer operational parameters	[4] 6.3.9.12	Ca.43.1	Ca.43.1	Ca.43.1	
11	Initial ranging with subchannelization	[4] 8.3.7.2	Ca.43.2	Ca.43.2	Ca.43.2	
Ca.43.1: IF A..30/1 THEN m ELSE n/a. Ca.43.2: IF A.12/2 THEN m, ELSE n/a.						
Comments:						

Table A.44: SS Obtain DL Parameters

Prerequisite: (A.2/1 and A.3/1) Subscriber Station (SS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	SS receives DLFP correctly	[4] 8.3.5.1	m	
2	SS receives DL-MAP correctly	[4] 6.3.9.2	m	
3	SS receives DCD correctly	[4] 6.3.9.2	m	
Comments:				

Table A.45: SS Obtain UL Parameters

Prerequisite: (A.2/1 and A.3/1) Subscriber Station (SS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	SS receives UCD correctly	[4] 6.3.9.3, 6.3.9.4	m	
Comments:				

Table A.46: SS Initial ranging

Prerequisite: (A.2/1 and A.3/1) Subscriber Station (SS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	SS receives UL-MAP containing Initial Ranging IE	[4] 6.3.9.5	m	
2	SS sends RNG-REQ in random Transmission Opportunity (TO) within backoff window, using the correct burst profile	[4] 6.3.9.5	m	
3	SS receives RNG-RSP	[4] 6.3.9.5	m	
4	SS establishes Basic and Primary Management connections	[4] 6.3.9.5	m	
5	SS performs timing and power adjustment, and frequency adjustment	[4] 6.3.9.6	m	
6	Use the RNG-REQ message to request a DL burst profile change	[4] 6.3.10.1	o	
7	SS performs network entry and initialization on DL Frequency Override channel, if instructed	[4] 6.3.9.5	m	
Comments:				

Table A.47: SS Negotiate basic capabilities

Prerequisite: (A.2/1 and A.3/1) Subscriber Station (SS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	SS sends SBC-REQ	[4] 6.3.9.7	m	
2	SS receives SBC-RSP	[4] 6.3.9.7	m	
3	SS resends SBC-REQ on timeout	[4] 6.3.9.7	m	
Comments:				

Table A.48: SS Registration

Prerequisite: (A.2/1 and A.3/1) Subscriber Station (SS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	SS sends REG-REQ to register with a BS	[4] 6.3.9.9	m	
2	SS receives REG-RSP	[4] 6.3.9.9	m	
3	SS re-sends REG-REQ upon time out, until REG-RSP is received	[4] 6.3.9.9	m	
4	SS establishes Secondary Management Connection	[4] 6.3.9.9	Ca.48.1	
Ca.48.1: IF A.30/1 THEN m ELSE n/a.				
Comments:				

Table A.49: SS Establish IP connectivity

Prerequisite: (A.2/1 and A.3/1 and A.30/2) Subscriber Station (SS) and Basic packet PMP and SS IP Management				
Item	**Capability**	**Reference**	**Status**	**Support**
1	DHCP mechanisms following the RFC 2131 [13] rules	[4] 6.3.9.10	m	
2	SS sends DHCP discover on Secondary Management Connection	[4] 6.3.9.10	m	
3	SS receives DHCP offer on Secondary Management Connection	[4] 6.3.9.10	m	
4	SS sends DHCP request on Secondary Management Connection	[4] 6.3.9.10	m	
5	SS receives DHCP response on Secondary Management Connection	[4] 6.3.9.10	m	
6	SS sets up IP parameters from DHCP response	[4] 6.3.9.10	m	
Comments: As per item A.21/5 all the DHCP packets mentioned here are intended for SS management.				

Table A.50: SS Establish time of day

Prerequisite: (A.2/1 and A.3/1 and A.30/2) Subscriber Station (SS) and Basic packet PMP and SS IP Management				
Item	**Capability**	**Reference**	**Status**	**Support**
1	Are the protocols for time of day following the RFC 868 [14] rules?	[4] 6.3.9.11	m	
2	SS sends Time of Day request	[4] 6.3.9.11	m	
3	SS receives Time of Day response	[4] 6.3.9.11	m	
4	SS establishes Time of Day	[4] 6.3.9.11	m	
Comments:				

Table A.51: SS Transfer operational parameters

Prerequisite: (A.2/1 and A.3/1) Subscriber Station (SS) and Basic packet PMP and SS IP Management				
Item	**Capability**	**Reference**	**Status**	**Support**
1	SS sends TFTP-CPLT on Secondary management connection, after successful configuration using DHCP protocol	[4] 6.3.9.12	Ca.51.1	
2	SS sends TFTP-CPLT on Primary management connection, for notification	[4] 6.3.9.12	m	
3	SS receives TFTP-RSP as response to TFTP-CPLT	[4] 6.3.9.12	m	
4	SS keeps sending TFTP-CPLT on timeout while waiting for TFTP-RSP	[4] 6.3.9.12	m	
5	Transfer Config File	[4] 6.3.9.12	o	
6	Support Configuration File format	[4] 9.2.1	Ca.51.2	
7	SS MIC Configuration setting	[4] 9.2.3	Ca.51.2	
8	End Configuration Setting	[4] 9.2.3	Ca.51.2	
9	Software Upgrade Filename	[4] 9.2.2	Ca.51.2	
10	Software Server Ip Address	[4] 9.2.2	Ca.51.2	
11	Pad Configuration setting	[4] 9.2.1	Ca.51.2	
12	Vendor specific configuration settings	[4] 9.2.2	o	
Ca.51.1: IF A.43/10 THEN m ELSE x. Ca.51.2: IF A.51/5 THEN m ELSE n/a.				
Comments:				

Table A.52: SS Periodic ranging

Prerequisite: (A.2/1 and A.3/1) Subscriber Station (SS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	Reinitialize after T4 with no periodic ranging opportunity	[4] 6.3.10	m	
2	Adjust PHY parameters in response to RNG-RSP after initial ranging	[4] 6.3.10	m	
3	Use the RNG-REQ message to request a DL burst profile change for a transition to a more robust operational burst profile	[4] 6.3.10	Oa.52.1	
4	Use the DBPC-REQ message to request a DL burst profile change for a transition to a more robust operational burst profile	[4] 6.3.10	Oa.52.1	
5	Use the DBPC-REQ message to request a DL burst profile change for a transition to a less robust operational burst profile	[4] 6.3.10	m	
6	Change DL burst profile based upon RNG-RSP	[4] 6.3.10	Ca.52.1	
7	Change DL burst profile based upon DBPC-RSP	[4] 6.3.10	m	
Oa.52.1: It is mandatory to support at least one of these items. Ca.52.1: IF A.52/3 THEN m ELSE o.				
Comments:				

Table A.53: Update of channel descriptors by SS

Prerequisite: (A.2/1 and A.3/1) Subscriber Station (SS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	SS stores new uplink burst descriptors upon receiving UCD message with incremented Configuration change count (I+1 mod 256)	[4] 6.3.11	m	
2	SS transmits using new generation of burst descriptors defined in UCD after receiving UL-MAP with UCD Count matching the new Configuration Change Count (I+1 mod 256)	[4] 6.3.11	m	
3	SS stores new downlink burst descriptors upon receiving DCD message with incremented Configuration Change Count (I+1 mod 256)	[4] 6.3.11	m	
4	SS receives using new generation of burst descriptors after receiving DL-MAP with DCD Count matching the new Configuration Change Count (I+1 mod 256)	[4] 6.3.11	m	
5	SS Supports two simultaneous sets of burst descriptors	[4] 6.3.11	m	
Comments:				

Table A.54: Assignment of SSs to multicast groups

Prerequisite: (A.2/1 and A.3/1 and A.29/1) Subscriber Station (SS) and Basic packet PMP and MCA_REQ from BS allowed				
Item	**Capability**	**Reference**	**Status**	**Support**
1	SS receives a request for joining or leaving a multicast polling group, using MCA-REQ	[4] 6.3.12	m	
2	SS supports participation in multicast polling group and adds multicast CID to transmission opportunities to join the group	[4] 6.3.12	o	
3	SS supports participation in multicast polling group and delete multicast CID to transmission opportunities to leave the group	[4] 6.3.12	o	
4	SS transmits MCA-RSP to acknowledge the action and indicate status (ok, reject,…)	[4] 6.3.12	m	
Comments:				

Table A.55: SS Service flow operations

Prerequisite: (A.2/1 and A.3/1) Subscriber Station (SS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	SS receives DSA-REQ on pre provisioned service flows, to get encodings	[4] 6.3.14.7.1	m	
2	SS initiates (DSA-REQ) the creation of a Dynamic service flow	[4] 6.3.14.7.2	o	
3	SS answers (DSA-RSP) to the creation of a Dynamic service flow initiated by BS	[4] 6.3.14.7.2	m	
4	SS receives DSC-REQ for modification of existing service flows	[4] 6.3.14.9.4	m	
5	SS initiates (DSC-REQ) the modification of a Dynamic service flow	[4] 6.3.14.9.4	o	
6	SS answers (DSC-RSP) to the modification of a Dynamic service flow initiated by BS	[4] 6.3.14.9.4	m	
7	SS receives DSD-REQ for deletion of existing service flows	[4] 6.3.14.9.5	m	
8	SS initiates (DSD-REQ) the release of a Dynamic service flow	[4] 6.3.14.9.5	o	
9	SS answers (DSD-RSP) to the release of a Dynamic service flow initiated by BS	[4] 6.3.14.9.5	m	
Comments:				

Table A.56: Major Privacy functions for SS in PMP

Prerequisite: (A.2/1 and A.3/1 and A.43/6) Subscriber Station (SS) and Basic packet PMP and Perform SS Authorization				
Item	**Name**	**Reference**	**Status**	**Support**
1	SS provide a manufacturers' X.509 certificate to the BS during Authorization Information message	[4] 7.6.1.4.1	m	
2	SS provide a SS X.509 certificate to the BS during Authorization Information message	[4] 7.6.1.4.2	m	
3	SS send Auth Request (PKM-REQ with *Code=4)*	[4] 7.2	m	
4	AK decryption using RSA with 1024 bit key	[4] 11.1.2	m	
5	SS supports PKM message authentication using HMAC with SHA-1.	[4] 7.5.3	m	
6	SS supports MAC management message authentication using HMAC with SHA-1	[4] 7.5.3	m	
7	SS supports Primary SA	[4] 7.1.3	m	
8	SS supports Static SAs	[4] 7.1.3	o	
9	SS supports Dynamic SAs	[4] 7.3.1	o	
10	SS supports dynamic SA mapping	[4] 7.3.2	Ca.56.1	
11	TEK decryption using 3-DES	[4] 7.5.2.1	m	
12	TEK decryption using RSA with 1024 bit key	[4] 7.5.2.2	o	
13	TEK-128 decryption using AES	[4] 7.5.2.3	Ca.56.2	
14	DES data encryption/decryption on a per SA basis	[4] 7.5.1.1	m	
15	AES data encryption/decryption on a per SA basis	[4] 7.5.1.2	o	
16	Support of no encryption/decryption on a per- SA basis	[4] 7.1.5, 11.9.14	m	
Ca.56.1: IF A.56/9 THEN m ELSE n/a. Ca.56.2: IF A.56/15 THEN m ELSE n/a.				
Comments:				

Table A.57: SS PKM message encodings support

Prerequisite: (A.2/1 and A.3/1 and A.43/6) Subscriber Station (SS) and Basic packet PMP and Perform SS Authorization						
Item	**Capability**	**Reference**	**Status**	**Support**	**Values Allowed**	**Values Supported**
1	Display-string	[4] 11.9.1	o		Bytestring (0<L≤128)	
2	AUTH-Key	[4] 11.9.2	m		Bytestring (L=128)	
3	TEK	[4] 11.9.3	m		Bytestring (L=8)	
4	Key-Lifetime	[4] 11.9.4	m		Integer (L=8)	
5	Key-Sequence-Number	[4] 11.9.5	m		AK:0-15 TEK:0-3	
6	HMAC-Digest	[4] 11.9.6	m		Bytestring (L=20)	
7	SAID	[4] 11.9.7	m		Integer (L=16)	
8	TEK-Parameters	[4] 11.9.8	m		Compound (L=variable)	
9	CBC-IV	[4] 11.9.9	m		String (note 1)	
10	Error-Code	[4] 11.9.10	m		0-6	
11	CA-Certificate (manufacturer certificate)	[4] 11.9.11, 7.6.1.4.1	m		String (L=variable)	
12	SS-Certificate	[4] 11.9.12, 7.6.1.4.2	m		String (L=variable)	
13	Security-Capabilities	[4] 11.9.13	m		Compound (L=variable)	
14	Cryptographic-Suite	[4] 11.9.14	m		See next table	
15	Cryptographic-Suite-List	[4] 11.9.15	m		Compound (L=variable)	
16	Version	[4] 11.9.16	m		1	
17	SA-Descriptor	[4] 11.9.17	m		Compound (L=variable)	
18	SA-Type	[4] 11.9.18	m		0,1,2	
19	PKM Configuration Setting	[4] 11.9.19	m		Compound (L=variable)	
NOTE 1: L = length, for string in bytes, for integer (unsigned) in bits. NOTE 2: L = block length of cipher						
Comments:						

Table A.58: SS Cryptographic suites

Prerequisite: (A.2/1 and A.3/1 and A.43/6) Subscriber Station (SS) and Basic packet PMP and Perform SS Authorization						
Item	**Capability**	**Reference**	**Status**	**Support**	**Value Allowed**	**Value Supported**
1	No data encrypt, no data authent & 3-DES 128	[4] 11.9.14; 12.3.1.1	o		0x000001	
2	CBC-mode 56bit DES, no data authent & 3-DES 128	[4] 11.9.14; 12.3.1.1	m		0x010001	
3	No data encrypt, no data authent & RSA, 1024	[4] 11.9.14; 12.3.1.1	o		0x000002	
4	CBC-mode 56bit DES, no data authent & RSA, 1024	[4] 11.9.14; 12.3.1.1	o		0x010002	
5	CCM-mode AES, no data authentication & AES, 128	[4] 11.9.14; 12.3.1.1	o		0x020003	
Comments:						

A.5.3.2 SS in MESH topology

Void.

A.5.3.3 BS in PMP topology

A.5.3.3.1 PHY functions

Table A.59: Frame duration codes for BS

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PMP				
Item	**Frame Duration in ms**	**Reference**	**Status**	**Support**
1	2.5	[4] 8.3.5.4	Oa.59	
2	4	[4] 8.3.5.4	Oa.59	
3	5	[4] 8.3.5.4	Oa.59	
4	8	[4] 8.3.5.4	Oa.59	
5	10	[4] 8.3.5.4	Oa.59	
6	12.5	[4] 8.3.5.4	Oa.59	
7	20	[4] 8.3.5.4	Oa.59	
Oa.59: It is mandatory to support at least one of these items.				
Comments:				

Table A.60: Cyclic Prefix for BS

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PMP				
Item	**Cyclic Prefix**	**Reference**	**Status**	**Support**
1	1/4	[4] 8.3.2.4	Oa.60	
2	1/8	[4] 8.3.2.4	Oa.60	
3	1/16	[4] 8.3.2.4	Oa.60	
4	1/32	[4] 8.3.2.4	Oa.60	
Oa.60: It is mandatory to support at least one of these items.				
Comments:				

Table A.61: Modulation for BS

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PMP				
Item	**Modulation**	**Reference**	**Status**	**Support**
1	BPSK	[4] 8.3.3.4.1	m	
2	QPSK	[4] 8.3.3.4.1	m	
3	16-QAM	[4] 8.3.3.4.1	m	
4	64-QAM	[4] 8.3.3.4.1	Ca.61.1	
Ca.61.1: IF A.4/6 THEN o ELSE m.				
Comments:				

Table A.62: Major PHY functions for BS

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PMP				
Item	**Name**	**Reference**	**Status**	**Support**
1	AAS (Adaptive Antenna) supported	[4] 6.3.7.6	o	
2	Subchannelization	[4] 8.3.1.1	o	
3	Dynamic Frequency Support (DFS)	[4] 6.3.15	Ca.62.1	
4	Concatenated Reed-Solomon-convolutional code (RS-CC)	[4] 8.3.3.2	m	
5	Block Turbo Coding (BTC)	[4] 8.3.3.2	o	
6	Convolutional Turbo Codes	[4] 8.3.3.2	o	
7	Randomization	[4] 8.3.3.1	m	
8	Block Interleaving	[4] 8.3.3.3	m	
9	Gray-coded constellation mapping	[4] 8.3.3.4.1	m	
10	Long preamble	[4] 8.3.3.6	m	
11	DL Short preamble	[4] 8.3.3.6	o	
12	Subchannelization preamble - Rx	[4] 8.3.3.6	Ca. 62.2	
13	UL Midambles - Rx	[4] 8.3.3.6, 8.3.6.3	o	
14	STC	[4] 8.3.8	o	
15	AAS preamble - Rx	[4] 8.3.3.6	Ca. 62.3	
16	Full contention BW requesting	[4] 8.3.7.3.2	m	
17	Focused Contention BW requesting	[4] 8.3.7.3.3	o	
18	Power control	[4] 8.3.7.4	m	
19	DLFP encoding	[4] 8.3.5.1	m	
20	Network Synchronization to external 1 pps	[4] 8.3.7.1.1	o	
21	Preamble cyclic time shift	[4] 8.3.3.6, 8.3.6.2.7, 8.3.6.3.7	Ca. 62.4	
Ca.62.1: IF license exempt band THEN m ELSE n/a. Ca. 62.2: IF A. 62/2 THEN m ELSE x. Ca. 62.3: IF A. 62/1 THEN m ELSE x. Ca. 62.4: IF A. 62/1 THEN m ELSE n/a.				
Comments:				

Table A.63: BS Multiplexing and multiple access

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PMP				
Item	**Name**	**Reference**	**Status**	**Support**
1	Synchronize to short UL preamble	[4] 8.3.5.1	m	
2	Synchronize to long UL preamble	[4] 8.3.5.1	m	
3	Demodulate bursts	[4] 8.3.5.1	m	
4	Support contention slot for initial ranging	[4] 8.3.5.1	m	
5	Support contention slot for bandwidth request	[4] 8.3.5.1	m	
6	TC sublayer support	[4] 8.3.4	o	
Comments:				

Table A.64: BS Radio Subsystem Control

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	BS measures uplink burst timing and commands SS TX adjustments as needed	[4] 6.3.10.2	m	
2	The BS measures receiver power sufficiently often to handle the fading requirements of 10 dB/s	[4] 8.3.7.4	m	
Comments:				

Table A.65: BS Minimum performance

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PMP						
Item	**Capability**	**Reference**	**Status**	**Support**	**Values Allowed**	**Values Supported**
1	Tx Dynamic range BS	[4] 12.3.2	m		≥ 10 dB	
2	Tx Spectral flatness Absolute difference between adj. carriers	[4] 12.3.2	m		≤ 0,1 dB	
3	Tx Spectral flatness Deviation of average energy in each carrier from the measured energy averaged over all 200 active tones. Carrier -50..-1, 1..50:	[4] 12.3.2	m		≤ ±2 dB	
4	Tx Spectral flatness Deviation of average energy in each carrier from the measured energy averaged over all 200 active tones. Carrier -100..-50, 50..100:	[4] 12.3.2	m		≤ +2/-4 dB	
5	Tx relative constellation error: BPSK-1/2 QPSK-1/2 QPSK-3/4 16QAM-1/2 16QAM-3/4	[4] 12.3.2	m		 ≤ -13 dB ≤ -16 dB ≤ -18,5 dB ≤ -21,5 dB ≤ -25 dB	
6	Tx relative constellation error: 64QAM-2/3 64QAM-3/4	[4] 12.3.2	Ca.65.1		 ≤ -29 dB ≤ -31 dB	
7	Rx max. input level on-channel reception tolerance	[4] 12.3.2	m		≥ -30 dBm	
8	Rx max. input level on-channel damage tolerance	[4] 12.3.2	m		≥ 0 dBm	
9	Adjacent channel rejection at BER=10^{-6} for 3 dB degradation C/I 16QAM-3/4	[4] 12.3.2	m		- 11 dB	
10	Adjacent channel rejection at BER=10^{-6} for 3 dB degradation C/I 64QAM-3/4	[4] 12.3.2	Ca.65.1		- 4 dB	
11	Non-adjacent channel rejection at BER=10^{-6} for 3 dB degradation C/I 16QAM-3/4	[4] 12.3.2	m		- 30 dB	

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PMP						
Item	**Capability**	**Reference**	**Status**	**Support**	**Values Allowed**	**Values Supported**
12	Non-adjacent channel rejection at BER=10^{-6} for 3 dB degradation C/I 64QAM-3/4	[4] 12.3.2	Ca.65.1		- 23 dB	
13	Reference frequency tolerance	[4] 12.3.2	m		≤ ± 8 ppm up to 10 years after the date of equipment manufacture	
14	Network Synchronization to external 1pps	[4] 8.3.7.1.1	Ca.65.2		Start of Frame <± 2 us from 1 pps	
Ca.65.1: IF A.61/4 THEN m ELSE i. Ca.65.2: IF A.62/20 THEN m ELSE n/a.						
Comments:						

Table A.66: BS ProfP3_1.75 specific minimum performance

Prerequisite: A.4/1 profP3_1.75 - 1,75 MHz channel PHY						
Item	**Capability**	**Reference**	**Status**	**Support**	**Values Allowed**	**Values Supported**
1	T_b	[4] 12.3.2.1	m		128 µs	
2	BER performance threshold, BER=10-6 BPSK-1/2 QPSK-1/2 QPSK-3/4 16QAM-1/2 16QAM-3/4	[4] 12.3.2.1	m		 ≤ -94 dBm ≤ -91 dBm ≤ -89 dBm ≤ -84 dBm ≤ -82 dBm	
3	BER performance threshold, BER=10^{-6} 64QAM-2/3 64QAM-3/4	[4] 12.3.2.1	Ca.66.1		 ≤ -77 dBm ≤ -76 dBm	
Ca.66.1: IF A.11/4 THEN m ELSE i.						
Comments:						

Table A.67: BS ProfP3_3.5 specific minimum performance

Prerequisite: A.4/2 profP3_3.5 - 3,5 MHz channel PHY						
Item	**Capability**	**Reference**	**Status**	**Support**	**Values Allowed**	**Values Supported**
1	T_b	[4] 12.3.2.2	m		64 µs	
2	BER performance threshold, BER=10^{-6} BPSK-1/2 QPSK-1/2 QPSK-3/4 16QAM-1/2 16QAM-3/4	[4] 12.3.2.2	m		≤ -91 dBm ≤ -88 dBm ≤ -86 dBm ≤ -81 dBm ≤ -79 dBm	
3	BER performance threshold, BER=10^{-6} 64QAM-2/3 64QAM-3/4	[4] 12.3.2.2	Ca.67.1		≤ -74 dBm ≤ -73 dBm	
Ca.67.1: IF A.11/4 THEN m ELSE i.						
Comments:						

Table A.68: BS ProfP3_7.0 specific minimum performance

Prerequisite: A.4/3 profP3_7 - 7,0 MHz channel PHY						
Item	**Capability**	**Reference**	**Status**	**Support**	**Values Allowed**	**Values Supported**
1	T_b	[4] 12.3.2.3	m		32 µs	
2	BER performance threshold, BER=10^{-6} BPSK-1/2 QPSK-1/2 QPSK-3/4 16QAM-1/2 16QAM-3/4	[4] 12.3.2.3	m		≤ -88 dBm ≤ -85 dBm ≤ -83 dBm ≤ -78 dBm ≤ -76 dBm	
3	BER performance threshold, BER=10^{-6} 64QAM-2/3 64QAM-3/4	[4] 12.3.2.3	Ca.68.1		≤ -71 dBm ≤ -70 dBm	
Ca.68.1: IF A.11/4 THEN m ELSE i.						
Comments:						

Table A.69: BS ProfP3_3 specific minimum performance

Prerequisite: A.4/4 profP3_3 - 3 MHz channel PHY						
Item	**Capability**	**Reference**	**Status**	**Support**	**Values Allowed**	**Values Supported**
1	T_b	[4] 12.3.2.4	m		74 18/43 µs	
2	BER performance threshold, BER=10^{-6} BPSK-1/2 QPSK-1/2 QPSK-3/4 16QAM-1/2 16QAM-3/4	[4] 12.3.2.4	m		 ≤ -91 dBm ≤ -88 dBm ≤ -87 dBm ≤ -81 dBm ≤ -80 dBm	
3	BER performance threshold, BER=10^{-6} 64QAM-2/3 64QAM-3/4	[4] 12.3.2.4	Ca.69.1		 ≤ -75 dBm ≤ -73 dBm	
Ca.69.1: IF A.11/4 THEN m ELSE i.						
Comments:						

Table A.70: BS ProfP3_5.5 specific minimum performance

Prerequisite: A.4/5 profP3_5.5 - 5,5 MHz channel PHY						
Item	**Capability**	**Reference**	**Status**	**Support**	**Values Allowed**	**Values Supported**
1	T_b	[4] 12.3.2.5	m		40 40/79 µs	
2	BER performance threshold, BER=10^{-6} BPSK-1/2 QPSK-1/2 QPSK-3/4 16QAM-1/2 16QAM-3/4	[4] 12.3.2.5	m		 ≤ -89 dBm ≤ -86 dBm ≤ -84 dBm ≤ -79 dBm ≤ -77 dBm	
3	BER performance threshold, BER=10^{-6} 64QAM-2/3 64QAM-3/4	[4] 12.3.2.5	Ca.70.1		 ≤ -72 dBm ≤ -71 dBm	
Ca.70.1: IF A.11/4 THEN m ELSE i.						
Comments:						

Table A.71: BS ProfP3_10 specific minimum performance

Prerequisite: A.4/6 profP3_10 - 10 MHz channel PHY						
Item	**Capability**	**Reference**	**Status**	**Support**	**Values Allowed**	**Values Supported**
1	T_b	[4] 12.3.2.6	m		22 2/9 µs	
2	BER performance threshold, BER=10^{-6} BPSK-1/2 QPSK-1/2 QPSK-3/4 16QAM-1/2 16QAM-3/4	[4] 12.3.2.6	m		 ≤ -86 dBm ≤ -83 dBm ≤ -81 dBm ≤ -76 dBm ≤ -74 dBm	
3	BER performance threshold, BER=10^{-6} 64QAM-2/3 64QAM-3/4	[4] 12.3.2.6	Ca.71.1		 ≤ -72 dBm ≤ -71 dBm	
Ca.71.1: IF A.11/4 THEN m ELSE i.						
Comments:						

A.5.3.3.2 Convergence sub layer

Table A.72: BS Convergence Sub layer protocol support

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PMP				
Item	**Name**	**Reference**	**Status**	**Support**
1	Packet convergence sub layer	[4] 5.2	m	
Comments:				

Table A.73: BS Packet Convergence Sub layer protocol support

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PMP				
Item	**Name**	**Reference**	**Status**	**Support**
1	Internet Protocol (IPv4)	[4] 5.2.6	o	
2	Internet Protocol (IPv6)	[4] 5.2.6	o	
3	IEEE 802.3 (Ethernet) [10]	[4] 5.2.4	m	
4	IEEE 802.1Q VLAN [11]	[4] 5.2.5	o	
5	IPv4 over 802.3 Ethernet [10]	[4] 5.2.4	m	
6	IPv6 over 802.3 Ethernet [10]	[4] 5.2.4	o	
7	IPv4 over 802.1Q VLAN [11]	[4] 5.2.5	Ca.73.1	
8	IPv6 over 802.1Q VLAN [11]	[4] 5.2.5	Ca.73.1	
9	Payload header suppression (PHS)	[4] 5.2.3	o	
Ca.73.1: IF (A 73/4) THEN o ELSE i.				
Comments:				

Table A.74: BS Major packet classification

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PMP				
Item	**Name**	**Reference**	**Status**	**Support**
1	IP Classification	[4] 11.13.19.3.4	Ca.24.1	
2	Ethernet classification	[4] 11.13.19.3.4	Ca.24.2	
3	IEEE 802.1Q VLAN classification [11]	[4] 11.13.19.3.4	Ca.24.3	
Ca.74.1: IF (A 73/1 or A 73/2 or A 73/5 or A 73/6 or A 73/7 or A 73/8) THEN m ELSE n/a. Ca.74.2: IF (A 73/3 or A 73/5 or A 73/6 or) THEN m ELSE n/a. Ca.74.3: IF (A 73/4 or A 73/7 or A 73/8) THEN m ELSE n/a.				
Comments:				

Table A.75: IP packet classification in the DL

Prerequisite: (A.2/2 and A.3/1 and A.74/1) Basis Station (BS) and Basic packet PMP and IP support				
Item	**Name**	**Reference**	**Status**	**Support**
1	Classification based on DSCP/IP TOS field	[4] 11.13.19.3.4.2	Oa.54	
2	Classification based on IP Protocol/Next Header field	[4] 11.13.19.3.4.3	Oa.54	
3	Classification based on IP masked Source Address	[4] 11.13.19.3.4.4	Oa.54	
4	Classification based on IP Destination Address	[4] 11.13.19.3.4.5	Oa.54	
5	Classification based on protocol source port range	[4] 11.13.19.3.4.6	Oa.54	
6	Classification based on protocol destination port range	[4] 11.13.19.3.4.7	Oa.54	
Oa.75: It is mandatory to support at least one of these items.				
Comments:				

Table A.76: Ethernet packet classification in the DL

Prerequisite: (A.2/2 and A.3/1 and A. 74/2)Basis Station (BS) and Basic packet PMP and Ethernet support				
Item	**Name**	**Reference**	**Status**	**Support**
1	Classification based on Destination MAC Address	[4] 11.13.19.3.4.8	Oa.55	
2	Classification based on Source MAC Address	[4] 11.13.19.3.4.9	Oa.55	
3	Classification based on Ethertype/SAP	[4] 11.13.19.3.4.10	Oa.55	
Oa.76: It is mandatory to support at least one of these items.				
Comments:				

Table A.77: 802.1Q packet classification in the DL

Prerequisite: (A.2/2 and A.3/1 and A. 74/3)Basis Station (BS) and Basic packet PMP and 802.1Q support				
Item	**Name**	**Reference**	**Status**	**Support**
1	Classification based on 802.1D user priority	[4] 11.13.19.3.4.11	Oa.56	
2	Classification based on 802.1Q VLAN ID	[4] 11.13.19.3.4.12	Oa.56	
Oa.77: It is mandatory to support at least one of these items.				
Comments:				

A.5.3.3.3 MAC common part sub layer

Table A.78: Major MAC Common part functionalities for BS

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PMP				
Item	**Name**	**Reference**	**Status**	**Support**
1	Addressing and connections	[4] 6.3.1	m	
2	Construction of PDUs	[4] 6.3.3	m	
3	ARQ	[4] 6.3.4	o	
4	Uplink scheduling service	[4] 6.3.5	m	
5	Bandwidth allocation and request	[4] 6.3.6	m	
6	Contention resolution	[4] 6.3.8	m	
7	Network entry and initialization	[4] 6.3.9	m	
8	Ranging	[4] 6.3.10	m	
9	Update of UL and DL channel descriptors	[4] 6.3.11	m	
10	Quality of service	[4] 6.3.14	m	
Comments:				

Table A.79: Miscellaneous management functions for BS in PMP

Prerequisite: (A. 2/2) Basis Station (BS)				
Item	**Name**	**Reference**	**Status**	**Support**
1	Assignment of SSs to multicast polling groups	[4] 6.3.12; 12.3.1.1	m	
2	Change of Downlink Burst profile (DBPC-REQ or RNG-REQ messages initiated by SS)	[4] 6.3.2.3.20 [4] 6.3.2.3.21	m	
3	BS initiates SS reset (RES-CMD)	[4] 6.3.2.3.22	m	
4	BS initiates SS network clock comparison (CLK-CMP) (see Note 2)	[4] 6.3.2.3.25	o	
5	BS notified by SS of SS de-registration (DREG-REQ)	[4] 6.3.2.3.43	m	
6	BS forces SS to change its channel access (DREG-CMD)	[4] 6.3.2.3.26	m	
7	BS sends quick answer to DSx-REQ sent by SS (DSX-RVD) (see Note 1)	[4] 6.3.2.3.27	m	
8	BS receives confirmation of reception of Config file (TFTP messages)	[4] 6.3.2.3.28 [4] 6.3.2.3.29	m	
9	BS sends channel management report request (REP-REQ)	[4] 6.3.2.3.33	Ca.79.1	
10	BS requests the power change (FPC)	[4] 6.3.2.3.34	o	
11	BS sends AAS feedback message request (AAS-FBCK messages)	[4] 6.3.2.3.40	Ca.79.2	
12	BS is informed of preferred beam direction (AAS-BEAM select message)	[4] 6.3.2.3.41	Ca.79.2	
13	BS sends AAS beam message request (AAS-Beam messages)	[4] 6.3.2.3.42	Ca.79.2	
Ca.79.1: IF band below 11 GHz THEN m ELSE n/a. Ca.79.2: IF A62./1 THEN m ELSE n/a. C				
NOTE 1: This item represents the capability of the BS to use sometime, but not everytime, DSX-RVD instead of DSX-RSP to in form the SS in a more timely manner. NOTE 2: CLK-CMP messages shall be periodically broadcast by the BS in network systems with service flows carrying information that requires the SSs to reconstruct their network clock signal.				
Comments:				

Table A.80: BS Addressing and Connections — PMP

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	Globally Unique 48 bits MAC Address, making up three 16 bits CID	[4] 6.3.1	m	
2	Time urgent MAC Management messages on basic connection	[4] 6.3.1	m	
3	Delay tolerant MAC Management messages on primary management connection	[4] 6.3.1	m	
4	SNMP packets used for SS management on the secondary management connection	[4] 6.3.1	m	
Comments:				

A.5.3.3.4 Construction and Transmission of MAC PDUs

Table A.81: BS Transmission conventions

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	Transmit messages most significant byte first	[4] 6.3.3.1	m	
2	Transmit bytes most significant bit first	[4] 6.3.3.1	m	
Comments:				

Table A.82: BS PDU concatenation

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	Concatenate Multiple MAC PDUs into a single burst	[4] 6.3.3.2	m	
2	Receive concatenated MAC PDUs and determine disposition via CID	[4] 6.3.3.2	m	
3	Padding of any unused space in the DL Burst	[4] 6.3.3.7	m	
Comments:				

Table A.83: BS SDU Fragmentation

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	Fragment a MAC SDU into multiple MAC PDUs applicable to Management messages on Primary management connection	[4] 6.3.3.3	m	
2	Correctly set the Fragmentation Control (FC) bits	[4] 6.3.3.3	m	
3	Increment the FSN modulo 8 for non-ARQ connections	[4] 6.3.3.3	o	
4	Increment the FSN modulo 2048 for non-ARQ connections	[4] 6.3.3.3	m	
5	Increment the BSN modulo 2048 for ARQ connection	[4] 6.3.3.4.2	Ca.83.1	
6	Do not perform fragmentation of PDUs on Basic, Broadcast and Initial Ranging connections	[4] 6.3.2.3	m	
Ca.83.1: IF A78/3 THEN m ELSE i.				
Comments:				

Table A.84: BS SDU reassembly

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	Receive and reassemble fragmented SDUs	[4] 6.3.3.3	m	
2	Discard SDUs corrupted due to loss of fragment	[4] 6.3.3.3	m	
Comments:				

Table A.85: BS Packing

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	Supports Fixed length non-ARQ SDUs in a MAC PDU	[4] 6.3.3.4.1.1	o	
2	Pack Fixed length non-ARQ SDUs in a MAC PDU	[4] 6.3.3.4.1.1	o	
3	Unpack Fixed length non-ARQ SDUs in a MAC PDU	[4] 6.3.3.4.1.1	Ca.85.1	
4	Supports variable length non-ARQ SDUs in a MAC PDU	[4] 6.3.3.4.1.2	m	
5	Pack variable length non-ARQ SDUs in a MAC PDU	[4] 6.3.3.4.1.2	o	
6	Unpack variable length non-ARQ SDUs in a MAC PDU	[4] 6.3.3.4.1.2	m	
7	Pack variable length ARQ-enabled SDUs or SDUs fragments in a MAC PDU	[4] 6.3.3.4.2 [2] 5.1.2	Ca.85.2	
8	Unpack variable length ARQ-enabled SDUs or SDUs fragments in a MAC PDU	[4] 6.3.3.4.2 [2] 5.1.2	m	
9	Do not perform packing of SDUs on Basic, Broadcast and Initial Ranging connections	[4] 6.3.2.3	m	
10	Perform packing of ARQ Feedback Payload	[4] 6.3.3.4.3	Ca.85.3	
11	Extracting ARQ Feedback IEs from received ARQ Feedback Payload	[4] 6.3.3.4.3	Ca.85.3	
Ca.85.1: IF A.85/1 THEN m ELSE 0. Ca.85.2: IF A78/3 THEN m ELSE i. Ca.85.3: IF (A78/3 And A.85/7) THEN m ELSE i.				
Comments:				

Table A.86: BS CRC

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	Compute and add CRC	[4] 6.3.3.5	m	
2	Check CRC	[4] 6.3.3.5	m	
Comments:				

Table A.87: BS ARQ

Prerequisite: (A.2/2 and A.3/1 and A.78/3) Basis Station (BS) and Basic packet PMP and ARQ supported				
Item	**Capability**	**Reference**	**Status**	**Support**
1	Pack several ARQ feedback information elements in a single ARQ feedback payload	[4] 6.3.4 [2] 5.1.3	m	
2	Insert a single ARQ feedback payload as first packet in a MAC PDU	[4] 6.3.4 [2] 5.1.3	m	
Comments:				

Table A.88: BS Uplink scheduling services

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PM				
Item	**Capability**	**Reference**	**Status**	**Support**
1	Unsolicited grant service (UGS)	[4] 6.3.5.2.1, 12.1.2	o	
2	Real time polling service (rtPS)	[4] 6.3.5.2.2, 12.1.2	o	
3	Non-Real time polling service (nrtPS)	[4] 6.3.5.2.3	m	
4	Best effort service (BE)	[4] 6.3.5.2.4	m	
Comments:				

Table A.89: Bandwidth allocation and request

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PMP				
Item	**Name**	**Reference**	**Status**	**Support**
1	BS receives request for aggregate bandwidth via Bandwidth Request Header	[4] 6.3.6.1	m	
2	BS receives request for incremental bandwidth via Bandwidth Request Header	[4] 6.3.6.1	m	
3	BS receives request for incremental bandwidth via piggyback request	[4] 6.3.6.1	m	
4	BS receives Bandwidth request during REQ Region Full.	[4] 6.3.6.4	m	
5	BS receives Bandwidth request during Focused Contention IE.	[4] 6.3.6.1	o	
6	BS receives Bandwidth request during Subchannelized Region	[4] 6.3.6.1	Ca.89.1	
7	BS receives Bandwidth request during any IE having UIUCs in the range of 5-12	[4] 6.3.6.1	m	
8	BS sends Unicast, or Broadcast polls	[4] 6.3.6.3.2 [4] 6.3.6.3.1	m	
9	BS sends Multicast polls	[4] 6.3.6.3.2	Ca. 89.2	
10	BS accepts Poll-me (PM) bit	[4] 6.3.6.3.3	Ca. 89.3	
11	BS accepts SI	[4] 6.3.5.2.1	Ca. 89.3	
12	BS accepts AAS IE	[4] 6.3.6.1	Ca. 89.4	
Ca.89.1: IF A.62/2 THEN m, ELSE o. Ca. 89.2: IF A.79/1 THEN m ELSE n/a. Ca. 89.3: IF A.88/**1** THEN m ELSE n/a. Ca. 89.4: IF A.62/1 THEN m ELSE n/a.				
Comments:				

Table A.90: BS MAP Relevance

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PMP						
Item	**Capability**	**Reference**	**Status**	**Support**	**Value Allowed**	**Value Supported**
1	Minimum UL MAP Relevance	[4] 6.3.7.5.3	m		Ca.90.1	
2	Maximum UL-MAP Relevance	[4] 6.3.7.5.3	m		End of following frame	
Ca.90.1: IF A.6/2: THEN round trip delay + Tproc ELSE ATDD split.						
Comments:						

Table A.91: Contention resolution

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PMP				
Item	**Name**	**Reference**	**Status**	**Support**
1	BS sets truncated exponential backoff for initial ranging	[4] 6.3.8	m	
2	BS sets truncated exponential backoff for bandwidth request contention	[4] 6.3.8	m	
Comments:				

Table A.92: Network entry and initialization for BS in PMP

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PMP						
Item	**Name**	**Reference**	**IEEE**	**HM**	**WiMAX**	**Support**
1	Send Downlink Parameters via DCD periodic PDUs	[4] 6.3.9.2	m	m	m	
2	Send Uplink Parameters via UCD periodic PDUs	[4] 6.3.9.3, 6.3.9.4	m	m	m	
3	Allocate an Initial Ranging interval	[4] 6.3.9.5, 6.3.9.6	m	m	m	
4	Allocate an Initial Ranging interval with Subchannelization	[4] 6.3.9.5, 6.3.9.6	Ca.92.1	Ca.92.1	Ca.92.1	
5	Negotiate Basic Capabilities (SBC-RSP)	[4] 6.3.9.7	m	m	m	
6	Perform authorization and key exchange	[4] 6.3.9.8, 7.2	o	m	m	
7	Accept registration to allow SS in network	[4] 6.3.9.9	m	m	m	
8	Establish IP connectivity and forward IP address	[4] 6.3.9.10	m	m	m	
9	Establish Time of day	[4] 6.3.9.11	m	m	m	
10	Receives operational parameters from SS	[4] 6.3.9.12	m	m	m	
Ca.92.1: IF A.62/2 THEN m, ELSE n/a.						
Comments:						

Table A.93: Obtain DL Parameters

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	BS sends DL-MAP correctly	[4] 6.3.9.2	m	
2	BS sends DCD correctly	[4] 6.3.9.2	m	
3	BS sends DLFP correctly	[4] 8.3.5.1	m	
Comments:				

Table A.94: Obtain UL Parameters

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	BS sends UCD correctly	[4] 6.3.9.3, 6.3.9.4	m	
Comments:				

Table A.95: BS Initial ranging

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	BS allocates Initial Ranging IE	[4] 6.3.9.5	m	
2	BS assigns Basic and Primary Management CIDs	[4] 6.3.9.5	m	
3	BS sends RNG-RSP, declared successful when it includes its MAC address	[4] 6.3.9.5	m	
4	BS performs final tuning using RNG-REQ and RNG-RSP	[4] 6.3.9.5	m	
Comments:				

Table A.96: BS Negotiate basic capabilities

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	BS receives SBC-REQ	[4] 6.3.9.7	m	
2	BS sends SBC-RSP	[4] 6.3.9.7	m	
Comments:				

Table A.97: BS Registration

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	BS assigns Secondary Management Connection	[4] 6.3.9.9	m	
Comments:				

Table A.98: BS Establish IP connectivity

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	DHCP mechanisms following the RFC 2131 [13] rules	[4] 6.3.9.10	m	
2	BS receives DHCP discover on Secondary Management Connection	[4] 6.3.9.10	m	
3	BS sends DHCP offer on Secondary Management Connection	[4] 6.3.9.10	m	
4	BS receives DHCP request on Secondary Management Connection	[4] 6.3.9.10	m	
5	BS sends DHCP response on Secondary Management Connection	[4] 6.3.9.10	m	
Comments: All the DHCP packets mentioned here are intended for SS management.				

Table A.99: BS Establish time of day

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	Are the protocols for time of day following the RFC 868 [14] rules?	[4] 6.3.9.11	m	
2	BS receives Time of Day request	[4] 6.3.9.11	m	
3	BS processes the request and sends Time of Day response	[4] 6.3.9.11	m	
Comments:				

Table A.100: BS Transfer operational parameters

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	BS is informed of completion of successful configuration using DHCP protocol, when receiving TFTP-CPLT on Primary management connection, for notification	[4] 6.3.9.12	m	
2	BS sends TFTP-RSP as response to TFTP-CPLT	[4] 6.3.9.12	m	
Comments:				

Table A.101: BS Periodic ranging

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	Provide periodic ranging opportunities sufficiently often	[4] 6.3.10	m	
2	Command SS to adjust timing, power, and frequency parameters	[4] 6.3.10	m	
3	Use the RNG-RSP message to command an unsolicited DL burst profile change	[4] 6.3.10	Ca.101.1	
4	Use the DBPC-RSP message to command an unsolicited DL burst profile change	[4] 6.3.10	Ca.101.1	
5	Use the RNG-RSP message to command a DL burst profile change in response to a RNG-REQ message	[4] 6.3.10	m	
6	Use the DBPC-RSP message to command a DL burst profile change in response to a DBPC-REQ message	[4] 6.3.10	m	
Ca.101.1: It is mandatory to support at least one of these Items.				
Comments:				

Table A.102: Update of channel descriptors by BS

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	Support of two simultaneous sets of burst descriptors	[4] 6.3.11	m	
2	BS sends UL channel descriptors at regular intervals using UCD message with identical Configuration change count	[4] 6.3.11	m	
3	BS sends new UL burst descriptors using UCD message with incremented Configuration change count (I+1 mod 256)	[4] 6.3.11	m	
4	BS sends DL channel descriptors at regular intervals using DCD message with identical Configuration change count	[4] 6.3.11	m	
5	BS sends new DL burst descriptors using DCD message with incremented Configuration change count (I+1 mod 256)	[4] 6.3.11	m	
6	Receive with the new uplink parameters starting from the first PS that the UL-MAP with UCD Count matching the new Configuration Change Count covers	[4] 6.3.11	m	
7	Transmit with the new downlink parameters starting from the frame with the first DL-MAP with a DCD Count matching the new Configuration Change Count	[4] 6.3.11	m	
Comments:				

Table A.103: BS Assignment of SSs to multicast groups

Prerequisite: (A.2/2 and A.3/1 and A.79/1) Basis Station (BS) and Basic packet PMP and MCA_REQ from BS allowed				
Item	**Capability**	**Reference**	**Status**	**Support**
1	BS supports multicast polling groups	[4] 6.3.12	m	
2	BS adds or removes an SS to a multicast polling group, using MCA-REQ	[4] 6.3.12	m	
3	BS waits for MCA-RSP that acknowledges the action and indicate status (ok, reject, etc.)	[4] 6.3.12	m	
Comments:				

Table A.104: BS Service flow operations

Prerequisite: (A.2/2 and A.3/1) Basis Station (BS) and Basic packet PMP				
Item	**Capability**	**Reference**	**Status**	**Support**
1	BS issues DSA-REQ on preprovisioned service flows, to pass encodings	[4] 6.3.14.7.1	m	
2	BS initiates (DSA-REQ) the creation of a Dynamic service flow	[4] 6.3.14.7.2	m	
3	BS answers (DSA-RSP) to the creation of a Dynamic service flow initiated by SS	[4] 6.3.14.7.1	m	
4	BS initiates (DSC-REQ) the modification of a Dynamic service flow	[4] 6.3.14.9.4	m	
5	BS answers (DSC-RSP) to the modification of a Dynamic service flow initiated by SS	[4] 6.3.14.9.4	m	
6	BS initiates (DSD-REQ) the release of a Dynamic service flow	[4] 6.3.14.9.5	m	
7	BS answers (DSD-RSP) to the release of a Dynamic service flow initiated by SS	[4] 6.3.14.9.5	m	
Comments:				

Table A.105: Major Privacy functions for BS in PMP

Prerequisite: (A.2/2 and A.3/1 and A.92/6) Basis Station (BS) and Basic packet PMP and Perform SS Authorization				
Item	**Name**	**Reference**	**Status**	**Support**
1	Does the BS support Authorization Information messages?	[4] 7.2	o	
2	Does the BS support receipt of Auth Request (PKM-REQ with *Code=4)*	[4] 7.2	m	
3	Does the BS validate the manufacturers' X.509 certificate received from the SS during the Authorization Request?	[4] 7.2	m	
4	Does the BS check the SS cryptographic suite identifiers against those supported by BS?	[4] 7.2	m	
5	Does the BS verify that the SS provides its Basic CID as part of the Authorization Request?	[4] 7.2	m	
6	Does the BS support generation of Auth Reply (PKM-RSP with *Code=5)?*	[4] 7.2	m	
7	Does the BS support two simultaneously active AKs?	[4] 7.2	m	
8	BS supports AK generation	[4] 7.5.4	m	
9	AK encryption using RSA with 1024 bit key	[4] 7.5.5, 7.5.6	m	
10	BS supports PKM message authentication using HMAC with SHA-1	[4] 11.1.2	m	
11	BS supports MAC management message authentication using HMAC with SHA-1	[4] 7.5.3	m	
12	BS supports Primary SA	[4] 7.1.3	m	
13	BS supports Static Sas	[4] 7.1.3	o	
14	BS supports Dynamic SAs	[4] 7.3.1	o	
15	BS supports dynamic SA mapping	[4] 7.3.2	Ca.105.1	
16	TEK encryption using 3-DES	[4] 7.5.2.1	m	
17	TEK encryption using RSA with 1024 bit key	[4] 7.5.2.2	o	
18	TEK-128 encryption using AES	[4] 7.5.2.3	Ca.105.2	
19	DES data encryption/decryption on a per SA basis	[4] 7.5.1.1	m	
20	AES data encryption/decryption on a per SA basis	[4] 7.5.1.1	o	
21	Support of no encryption/decryption on a per- SA basis	[4] 6.3.2.1	m	
Ca.105.1: IF table A.105/14 THEN m, ELSE n/a. Ca.105.2: IF table A.105/20 THEN m, ELSE n/a.				
Comments:				

Table A.106: BS PKM message encodings support

Prerequisite: (A.2/2 and A.3/1 and A.92/6) Basis Station (BS) and Basic packet PMP and Perform BS Authorization						
Item	**Capability**	**Reference**	**Status**	**Support**	**Values Allowed**	**Values Supported**
1	Display-string	[4] 11.9.1	o		Bytestring (0<L≤128)	
2	AUTH-Key	[4] 11.9.2	m		Bytestring (L=128)	
3	TEK	[4] 11.9.3	m		Bytestring (L=8)	
4	Key-Lifetime	[4] 11.9.4	m		Integer (L=8)	
5	Key-Sequence-Number	[4] 11.9.5	m		AK:0-15 TEK:0-3	
6	HMAC-Digest	[4] 11.9.6	m		Bytestring (L=20)	
7	SAID	[4] 11.9.7	m		Integer (L=16)	
8	TEK-Parameters	[4] 11.9.8	m		Compound (L=variable)	
9	CBC-IV	[4] 11.9.9	m		String (note 1)	
10	Error-Code	[4] 11.9.10	m		0-6	
11	CA-Certificate (manufacturer certificate)	[4] 11.9.11, 7.6.1.4.1	m		String (L=variable)	
12	SS-Certificate	[4] 11.9.12, 7.6.1.4.2	m		String (L=variable)	
13	Security-Capabilities	[4] 11.9.13	m		Compound (L=variable)	
14	Cryptographic-Suite	[4] 11.9.14	m		See next table	
15	Cryptographic-Suite-List	[4] 11.9.15	m		Compound (L=variable)	
16	Version	[4] 11.9.16	m		1	
17	SA-Descriptor	[4] 11.9.17	m		Compound (L=variable)	
18	SA-Type	[4] 11.9.18	m		0,1,2	
19	PKM Configuration Setting	[4] 11.9.19	m		Compound (L=variable)	
Comments:						

Table A.107: BS Cryptographic suites

Prerequisite: (A.2/2 and A.3/1 and A. 92/6) Basis Station (BS) and Basic packet PMP and Perform BS Authorization						
Item	**Capability**	**Reference**	**Status**	**Support**	**Value Allowed**	**Value Supported**
1	No data encrypt, no data authent & 3-DES 128	[4] 11.9.14; 12.3.1.1	o		0x000001	
2	CBC-mode 56bit DES, no data authent & 3-DES 128	[4] 11.9.14; 12.3.1.1	m		0x010001	
3	No data encrypt, no data authent & RSA, 1024	[4] 11.9.14; 12.3.1.1	o		0x000002	
4	CBC-mode 56bit DES, no data authent & RSA, 1024	[4] 11.9.14; 12.3.1.1	o		0x010002	
5	CCM-mode AES, no data authentication & AES, 128	[4] 11.9.14; 12.3.1.1	o		0x020003	
Comments:						

A.5.3.4 BS in MESH topology

Void.

A.5.4 WirelessMAN-OFDMA and WirelessHUMAN-OFDMA

Void.

A.6 List of PDUs and their directions

In the following PDU tables, statuses with values are the only valid cases, according to the direction of the PDU. When not applicable to a given direction, status **not applicable** (**n/a**) is defined.

A.6.1 Void

A.6.2 PDUs for MAC layer

A.6.2.1 PDUs for MAC layer in PMP topology

A.6.2.1.1 PDUs for network entry and initialization in PMP

Table A.108: BS sending MAC PDUs for network entry and initialization in PMP

Prerequisite: A.3/1 Basic packet PMP				
Item	**PDU**	**Reference**	**Status**	**Support**
1	DL-MAP	[4] 6.3.9.2	m	
2	DCD	[4] 6.3.9.2	m	
3	UL-MAP	[4] 6.3.9.3	m	
4	UCD	[4] 6.3.9.3	m	
5	RNG-REQ	-	n/a	
6	RNG-RSP	[4] 6.3.9.5	m	
7	SBC-REQ	-	n/a	
8	SBC-RSP	[4] 6.3.9.7	m	
9	PKM-REQ	-	n/a	
10	PKM-RSP	[4] 6.3.9.8	m	
11	REG-REQ	-	n/a	
12	REG-RSP	[4] 6.3.9.9	m	
13	DHCP discover	-	n/a	
14	DHCP offer	[4] 6.3.9.10	m	
15	DHCP request	-	n/a	
16	DHCP response	[4] 6.3.9.10	m	
17	Time of day request	-	n/a	
18	Time of day response	[4] 6.3.9.11	m	
Comments:				

Table A.109: SS sending MAC PDUs for network entry and initialization in PMP

Prerequisite: A.3/1 Basic packet PMP				
Item	**PDU**	**Reference**	**Status**	**Support**
1	DL-MAP	-	n/a	
2	DCD	-	n/a	
3	UL-MAP	-	n/a	
4	UCD	-	n/a	
5	RNG-REQ	[4] 6.3.9.5	m	
6	RNG-RSP	-	n/a	
7	SBC-REQ	[4] 6.3.9.7	m	
8	SBC-RSP	-	n/a	
9	PKM-REQ	[4] 6.3.9.8	m	
10	PKM-RSP	-	n/a	
11	REG-REQ	[4] 6.3.9.9	m	
12	REG-RSP	-	n/a	
13	DHCP discover	[4] 6.3.9.10	Ca.109.1	
14	DHCP offer	-	n/a	
15	DHCP request	[4] 6.3.9.10	Ca.109.1	
16	DHCP response	-	n/a	
17	Time of day request	[4] 6.3.9.11	Ca.109.1	
18	Time of day response	-	n/a	
Ca.109.1: IF A.30/1 THEN m ELSE n/a.				
Comments:				

A.6.2.1.2 PDUs for service flows in PMP

Table A.110: BS sending PDUs for service flows in PMP

Prerequisite: A.3/1 Basic packet PMP				
Item	**PDU**	**Reference**	**Status**	**Support**
1	DSA-REQ (create)	[4] 6.3.2.3.10	m	
2	DSA-RSP	[4] 6.3.2.3.11	m	
3	DSA-ACK	[4] 6.3.2.3.12	m	
4	DSC-REQ (change)	[4] 6.3.2.3.13	m	
5	DSC-RSP	[4] 6.3.2.3.14	m	
6	DSC-ACK	[4] 6.3.2.3.15	m	
7	DSD-REQ (delete)	[4] 6.3.2.3.16	m	
8	DSD-RSP	[4] 6.3.2.3.17	m	
Comments:				

Table A.111: SS sending PDUs for service flows in PMP

Prerequisite: A.3/1 Basic packet PMP				
Item	**PDU**	**Reference**	**Status**	**Support**
1	DSA-REQ (create)	[4] 6.3.2.3.10	Ca.111.1	
2	DSA-RSP	[4] 6.3.2.3.11	m	
3	DSA-ACK	[4] 6.3.2.3.12	Ca.111.1	
4	DSC-REQ (change)	[4] 6.3.2.3.13	Ca.111.2	
5	DSC-RSP	[4] 6.3.2.3.14	m	
6	DSC-ACK	[4] 6.3.2.3.15	Ca.111.2	
7	DSD-REQ (delete)	[4] 6.3.2.3.16	Ca.111.3	
8	DSD-RSP	[4] 6.3.2.3.17	m	
Ca.111.1: IF A 55/2 THEN m ELSE n/a. Ca.111.2: IF A.55/5 THEN m ELSE n/a. Ca.111.3: IF A 55/8 THEN m ELSE n/a.				
Comments:				

A.6.2.1.3 PDUs for ARQ in PMP

Table A.112: BS sending PDUs for ARQ in PMP

Prerequisite: (A.3/1 and A. 78/**3**) Basic packet PMP and SS supports ARQ procedure				
Item	**PDU**	**Reference**	**Status**	**Support**
1	ARQ-feedback	[4] 6.3.4	Ca.112.1	
2	ARQ-discard	[4] 6.3.4	Ca.112.1	
3	ARQ-reset	[4] 6.3.4	Ca.112.1	
Ca.112.1: IF A.78/3 THEN m ELSE n/a.				
Comments:				

Table A.113: SS sending PDUs for ARQ in PMP

Prerequisite: (A.3/1 and A.28/3) Basic packet PMP and SS supports ARQ procedure				
Item	**PDU**	**Reference**	**Status**	**Support**
1	ARQ-feedback	[4] 6.3.4	Ca.113.1	
2	ARQ-discard	[4] 6.3.4	Ca.113.1	
3	ARQ-reset	[4] 6.3.4	Ca.113.1	
Ca.113.1: IF A.28/3 THEN m ELSE n/a.				
Comments:				

A.6.2.1.4 PDUs for miscellaneous capabilities in PMP

Table A.114: BS sending MAC PDUs for miscellaneous capabilities in PMP

Prerequisite: A.3/1 Basic packet PMP				
Item	**PDU**	**Reference**	**Status**	**Support**
1	MCA-REQ	[4] 6.3.2.3.18	m	
2	MCA-RSP	[4] 6.3.2.3.19	n/a	
3	DBPC-REQ	[4] 6.3.2.3.20	n/a	
4	DBPC-RSP	[4] 6.3.2.3.21	m	
5	RES-CMD	[4] 6.3.2.3.22	m	
6	CLK-CMP	[4] 6.3.2.3.25	Ca.114.1	
7	DREG-CMD	[4] 6.3.2.3.26	m	
8	DSX-RVD	[4] 6.3.2.3.27	m	
9	TFTP-CPLT	[4] 6.3.2.3.28	n/a	
10	TFTP-RSP	[4] 6.3.2.3.29	m	
11	REP-REQ	[4] 6.3.2.3.33	m	
12	REP-RSP	[4] 6.3.2.3.33	n/a	
13	FPC	[4] 6.3.2.3.34	Ca.114.2	
14	AAS-FBCK-REQ	[4] 6.3.2.3.40	Ca.114.3	
15	AAS-FBCK-RSP	[4] 6.3.2.3.40	Ca.114.3	
16	AAS-BEAM-select	[4] 6.3.2.3.41	n/a	
17	AAS-BEAM-REQ	[4] 8.3.6.5	Ca.114.3	
18	AAS-BEAM-RSP	[4] 8.3.6.5	Ca.114.3	
Ca.114.1: IF A.79/4 THEN m ELSE n/a. Ca.114.2: IF A.79/10 THEN m ELSE n/a. Ca.114.3: IF A.62/1 THEN m ELSE n/a..				
Comments:				

Table A.115: SS sending MAC PDUs for miscellaneous capabilities in PMP

Prerequisite: A.3/1 Basic packet PMP				
Item	**PDU**	**Reference**	**Status**	**Support**
1	MCA-REQ	-	n/a	
2	MCA-RSP	[4] 6.3.12; 12.3.1.1	m	
3	DBPC-REQ	[4] 6.3.2.3.20	m	
4	DBPC-RSP	-	n/a	
5	RES-CMD	-	n/a	
6	CLK-CMP	-	n/a	
7	DREG-REQ	[4] 6.3.2.3.43	o	
8	DREG-CMD	-	n/a	
9	DSX-RVD	-	n/a	
10	TFTP-CPLT	[4] 6.3.2.3.28	Ca.115.2	
11	TFTP-RSP	-	n/a	
12	REP-REQ	-	n/a	
13	REP-RSP	[4] 6.3.2.3.33	m	
14	FPC	-	n/a	
15	AAS-FBCK-REQ	-	n/a	
16	AAS-FBCK-RSP	-	n/a	
17	AAS-BEAM-select	[4] 6.3.2.3.41	Ca.115.1	
18	AAS-BEAM-REQ	-	n/a	
19	AAS-BEAM-RSP	-	n/a	
Ca.115.1: IF A.12/1 THEN (IF A.6/2or A.7/2 THEN m ELSE o) ELSE n/a. Ca.115.2: IF A.30/1 THEN m ELSE o.				
Comments:				

A.6.2.1.5 PDUs for privacy in PMP

Table A.116: BS sending MAC Privacy PDUs in PMP

Prerequisite: A.3/1 Basic packet PMP				
Item	**PDU**	**Reference**	**Status**	**Support**
1	PKM-RSP SA Add (Code 3)	[4] 6.3.2.3.9	Ca.116.1	
2	PKM-REQ Auth Request (Code 4)		n/a	
3	PKM-RSP Auth Reply (Code 5)	[4] 6.3.2.3.9	m	
4	PKM-RSP Auth Reject (Code 6)	[4] 6.3.2.3.9	m	
5	PKM-REQ Key Request (Code 7)		n/a	
6	PKM-RSP Key Reply (Code 8)	[4] 6.3.2.3.9	m	
7	PKM-RSP Key Reject (Code 9)	[4] 6.3.2.3.9	m	
8	PKM-RSP Auth Invalid (Code 10)	[4] 6.3.2.3.9	m	
9	PKM-RSP TEK Invalid (Code 11)	[4] 6.3.2.3.9	m	
10	PKM-REQ Authent Info (Code 12)		n/a	
Ca.116.1: IF table A.105/14 THEN m, ELSE n/a.				
Comments:				

Table A.117: SS sending MAC Privacy PDUs in PMP

Prerequisite: A.3/1 Basic packet PMP				
Item	**PDU**	**Reference**	**Status**	**Support**
1	PKM-RSP SA Add (Code 3)	-	n/a	
2	PKM-REQ Auth Request (Code 4)	[4] 6.3.2.3.9	m	
3	PKM-RSP Auth Reply (Code 5)	-	n/a	
4	PKM-RSP Auth Reject (Code 6)	-	n/a	
5	PKM-REQ Key Request (Code 7)	[4] 6.3.2.3.9	m	
6	PKM-RSP Key Reply (Code 8)	-	n/a	
7	PKM-RSP Key Reject (Code 9)	-	n/a	
8	PKM-RSP Auth Invalid (Code 10)	-	n/a	
9	PKM-RSP TEK Invalid (Code 11)	-	n/a	
10	PKM-REQ Authent Info (Code 12)	[4] 6.3.2.3.9	m	
Comments:				

A.6.2.2 PDUs for MAC layer in MESH topology

Void.

A.7 PDU fields

The following items apply according to the status of the corresponding PDU, as stated in the above tables of the previous clause 6.2. The status column represents the presence or absence of the field in the message to be transmitted.

All items in this clause concern only the status of the fields of PDU transmitted by the IUT. For PDU received by the IUT all the fields are supposed to have been received. So for the received PDU, all fields, which are sent by the sender side are mandatory.

To know which fields of a PDU received by the IUT are mandatory, please refer to the status of the transmitted PDU fields for the opposite side. Fields that are either mandatory or optional for the transmitter, become mandatory for the receiver.

A.7.1 Fields of PDUs for MAC layer

A.7.1.1 PDUs fields for MAC in PMP topology

A.7.1.1.1 DL-MAP

Table A.118: PDU: DL-MAP

Item	**Parameter**	**Reference**	**Status**	**Support**
1	Management Message type=2	[4] 6.3.2.3.2	m	
2	DCD count	[4] 6.3.2.3.2	m	
3	Base station ID	[4] 6.3.2.3.2	m	
4	DL_MAP Information Element(s) See next DL-MAP Information Element	[4] 6.3.2.3.2	m	
Comments:				

Table A.119: PDU: DL-MAP Information Element

Item	Parameter	Reference	Status	Support
1	CID	[4] 8.3.6.2	m	
2	DIUC	[4] 8.3.6.2	m	
3	Preamble Present	[4] 8.3.6.2	m	
4	Start Time	[4] 8.3.6.2	m	
5	Extended DIUC dependent IE Only if DIUC=15	[4] 8.3.6.2	o	
Comments:				

Table A.120: PDU: Extended DIUC dependent IE

Item	Parameter	Reference	Status	Support
1	Extended DIUC	[4] 8.3.6.2.2	m	
2	Length	[4] 8.3.6.2.2	m	
3	Unspecified data	[4] 8.3.6.2.2	m	
Comments:				

A.7.1.1.2 DCD

Table A.121: PDU: DCD

Item	Parameter	Reference	Status	Support
1	Management Message type=1	[4] 6.3.2.3.1	m	
2	Reserved (see note)	[4] 6.3.2.3.1	m	
3	Configuration Change count	[4] 6.3.2.3.1	m	
4	TLV Encoded information see next DCD TLV table	[4] 6.3.2.3.1	m	
5	Downlink burst profile(s) see next DCD DL burst profile table	[4] 6.3.2.3.1; 8.1.4.1.2.5	m	
NOTE: Shall be set to zero.				
Comments:				

Table A.122: DCD TLV

Item	Parameter	Reference	Status	Support
1	Channel Number	[4]]11.4.1	Ca.122.1	
2	Channel Switch Frame Number	[4] 11.4.1	Ca.122.1	
3	Frequency	[4] 11.4.1	m	
4	BS Id	[4] 11.4.1	m	
5	Frame Duration Code	[4] 11.4.1	m	
6	Frame Number	[4] 11.4.1	m	
7	MAC version	[4] 11.4.1	m	
8	BS EIRP	[2] 4.3.2; [4] 11.4.1	m	
9	TTG	[2] 4.3.2; [4] 11.4.1	n/a	
10	RTG	[2] 4.3.2; [4] 11.4.1	n/a	
11	$EIRxP_{IR,max}$	[2] 4.3.2; [4] 11.4.1	m	
Ca.122.1: IF A. license exempt band THEN m ELSE n/a.				
Comments:				

Table A.123: DCD DL Burst Profile

Item	Capability	Reference	Status	Support
1	Type=1	[2] 4.3.2; [4] 8.1.4.1.2.5; 11.4.2	m	
2	Length	[2] 4.3.2; [4] 8.1.4.1.2.5; 11.4.2	m	
3	Reserved (see note)	[2] 4.3.2; [4] 8.1.4.1.2.5; 11.4.2	m	
4	DIUC	[2] 4.3.2; [4] 8.1.4.1.2.5; 11.4.2	m	
5	FEC Code Type	[2] 4.3.2; [4] 8.1.4.1.2.5; 11.4.2	m	
6	TCS_Enable	[2] 4.3.2; [4] 8.1.4.1.2.5; 11.4.2	o	
NOTE: Shall be set to zero.				
Comments:				

A.7.1.1.3 UCD

Table A.124: PDU: UCD

Item	Parameter	Reference	Status	Support
1	Management Message type=0	[4] 6.3.2.3.3	m	
2	Configuration Change count	[4] 6.3.2.3.3	m	
3	Ranging backoff start	[4] 6.3.2.3.3	m	
4	Ranging backoff End	[4] 6.3.2.3.3	m	
5	Request backoff start	[4] 6.3.2.3.3	m	
6	Request backoff End	[4] 6.3.2.3.3	m	
7	TLV Encoded information see next UCD TLV table	[4] 6.3.2.3.3	m	
8	Uplink burst profile(s) see next UCD UL burst profile table for encodings	[4] 8.3.5.5	m	
Comments:				

Table A.125: UCD TLV

Item	Parameter	Reference	Status	Support
1	Frequency	[2] 4.3.2; [4] 11.3.1	m	
2	Contention-based Reservation Timeout	[2] 4.3.2; [4] 11.3.1	m	
3	Contention ranging request opportunity size	[4] 11.3.1	m	
4	Contention ranging request burst size	[4] 11.3.1	m	
5	Subchannelization REQ Region-Full Parameters	[2] 4.3.2; [4] 11.3.1	Ca.125.1	
6	Subchannelization focused contention codes	[2] 4.3.2; [4] 11.3.1	Ca.125.1	
7	Subchannelized Initial Ranging capable BS	[2] 4.3.2; [4] 11.3.1	m	
Ca.125.1: IF A.12/2 THEN m ELSE n/a.				
Comments:				

Table A.126: UCD UL Burst Profile

Item	Capability	Reference	Status	Support
1	Type=1	[4] 8.3.5.5	m	
2	Length	[4] 8.3.5.5	m	
3	UIUC	[4] 8.3.5.5	m	
4	Reserved (see note)	[4] 8.3.5.5	m	
5	FEC Code Type	[2] 4.3.2; [4] 11.3.1.1	m	
6	Focused contention power boost	[2] 4.3.2; [4] 11.3.1.1	Ca.126.1	
7	TCS enable	[4] 11.3.1.1	o	
Ca.126.1: IF Focused Contention BW requesting THEN m ELSE o.				
NOTE: This field shall be set to zero.				
Comments:				

A.7.1.1.4 UL-MAP

Table A.127: PDU: UL-MAP

Item	Parameter	Reference	Status	Support
1	Management Message type=3	[4] 6.3.2.3.4	m	
2	Reserved (see note)	[4] 6.3.2.3.4	m	
3	UCD count	[4] 6.3.2.3.4	m	
4	Allocation start time	[4] 6.3.2.3.4	m	
5	UL_MAP Information Element(s), see next table	[4] 6.3.2.3.4	m	
NOTE: Shall be set to zero.				
Comments:				

Table A.128: UL-MAP Information Element(s)

Item	Parameter	Reference	Status	Support
1	CID	[4] 8.3.6.3	m	
2	Start Time	[4] 8.3.6.3	m	
3	Subchannel index	[4] 8.3.6.3	m	
4	UUIC	[4] 8.3.6.3	m	
5	Duration	[4] 8.3.6.3	m	
6	Midamble repetition interval	[4] 8.3.6.3	m	
7	Extended UUIC dependent IE (See next table)	[4] 8.3.6.3	o	
8	Padding nibble, if needed	[4] 8.3.6.3	o	
Comments:				

Table A.129: Extended UIUC dependent IE

Item	Parameter	Reference	Status	Support
1	Extended UIUC	[4] 8.3.6.3.4	m	
2	Length	[4] 8.3.6.3.4	m	
3	Unspecified data	[4] 8.3.6.3.4	m	
Comments:				

A.7.1.1.5 RNG-REQ and RNG-RSP

Table A.130: PDU: RNG-REQ

Item	Parameter	Reference	Status	Support
1	Management Message type=4	[4] 6.3.2.3.5	m	
2	Reserved (see note)	[4] 6.3.2.3.5	m	
3	TLV Encoded information see next RNG-REQ TLV table	[4] 6.3.2.3.5	m	
NOTE: Shall be set to zero.				
Comments:				

Table A.131: RNG-REQ TLV

Item	Parameter	Reference	Status	Support
1	Requested Downlink Burst profile – when SS is attempting to join the network.	[4] 6.3.2.3.5	m	
2	Requested Downlink Burst profile – when SS is not attempting to join the network.	[4] 6.3.2.3.5	m	
3	SS MAC address – when SS is attempting to join the network.	[4] 6.3.2.3.5	m	
4	SS MAC address – when SS is not attempting to join the network.	[4] 6.3.2.3.5	m	
5	Ranging anomalies	[4] 6.3.2.3.5	o	
6	MAC version – during Initial Ranging	[4] 6.3.2.3.5	m	
7	MAC version – during Periodic Ranging	[4] 6.3.2.3.5	m	
8	AAS broadcast capability	[4] 6.3.2.3.5	Ca.131.1	
Ca.131.1: IF A12/1 THEN o ELSE n/a.				
Comments:				

Table A.132: PDU: RNG-RSP

Item	Parameter	Reference	Status	Support
1	Management Message type=5	[4] 6.3.2.3.6	m	
2	Reserved (see note)	[4] 6.3.2.3.6	m	
3	TLV Encoded information see next RNG-RSP TLV table	[4] 6.3.2.3.6	m	
NOTE: Shall be set to zero.				
Comments:				

Table A.133: RNG-RSP TLV

Item	Parameter	Reference	Status	Support
1	Timing Adjust Information	[4] 6.3.2.3.6	o	
2	Power Adjust Information	[4] 6.3.2.3.6	o	
3	Ranging Status	[4] 6.3.2.3.6	m	
4	DL Frequency Override	[4] 6.3.2.3.6	o	
5	UL Channel ID Override	[4] 6.3.2.3.6	o	
6	DL Operational Burst Profile	[4] 6.3.2.3.6	o	
7	Basic CID	[4] 6.3.2.3.6	Ca.133.3	
8	Primary Management CID	[4] 6.3.2.3.6	Ca.133.3	
9	SS MAC Address	[4] 6.3.2.3.6	Ca.133.3	
10	Frequency Adjust Information	[4] 6.3.2.3.6	o	
11	AAS broadcast permission	[4] 6.3.2.3.6	Ca.133.1	
12	Frame Number	[4] 6.3.2.3.6	o	
13	Initial ranging opportunity Number	[4] 6.3.2.3.6	o	
14	ranging sub channel	[4] 6.3.2.3.6	Ca.133.2	
Ca.133.1: IF A.12/1 THEN o ELSE n/a. Ca.133.2: IF A.12/2THEN o ELSE n/a. Ca.133.3: IF on initial ranging CID THEN m ELSE o.				
Comments:				

A.7.1.1.6 SBC-REQ and SBC-RSP

Table A.134: PDU: SBC-REQ

Item	Parameter	Reference	Status	Support
1	Management Message type=26	[4] 6.3.2.3.23	m	
2	TLV Encoded information see next SBC-REQ TLV table	[4] 6.3.2.3.23	m	
Comments:				

Table A.135: SBC-REQ TLV

Item	Parameter	Reference	Status	Support
1	Physical Parameters supported (see table A.136)	[4] 6.3.2.3.23	m	
2	Bandwidth Allocation Support	[4] 6.3.2.3.23	m	
3	Capabilities for construction and transmission of MAC PDUs	[4] 6.3.2.3.23	o	
4	PKM Flow control	[4] 6.3.2.3.23	o	
5	Authorization policy support	[4] 6.3.2.3.23	o	
6	Maximum number of supported security association	[4] 6.3.2.3.23	o	
Comments:				

Table A.136: Physical Parameters Supported fields for SBC-REQ

Item	Parameter	Reference	Status	Support
1	Subscriber transition gap	[4] 11.8.3	m	
2	Maximum transmit power	[4] 11.8.3	m	
3	Current transmit power	[4] 11.8.3	m	
4	SS FFT sizes	[4] 11.8.3	m	
5	SS demodulator	[4] 11.8.3	m	
6	SS modulator	[4] 11.8.3	m	
7	SS TC sublayer support	[4] 11.8.3	o	
Comments:				

Table A.137: PDU: SBC-RSP

Item	Parameter	Reference	Status	Support
1	Management Message type=27	[4] 6.3.2.3.24	m	
2	TLV Encoded information see next SBC-RSP TLV table	[4] 6.3.2.3.24	m	
Comments:				

Table A.138: SBC-RSP TLV

Item	Parameter	Reference	Status	Support
1	Physical Parameters supported (see table A.139)	[4] 6.3.2.3.24	Ca.138.1	
2	Bandwidth Allocation Support	[4] 6.3.2.3.24	Ca.138.1	
3	Capabilities for Construction and Transmission of MAC PDUs	[4] 6.3.2.3.23	Ca.138.1	
4	PKM Flow control	[4] 6.3.2.3.23	Ca.138.1	
5	Authorization Policy Support	[4] 6.3.2.3.23	Ca.138.1	
6	Maximum number of supported security association	[4] 6.3.2.3.23	Ca.138.1	
Ca.138.1: IF (parameter included in the SBC-REQ message) THEN m ELSE o.				
Comments:				

Table A.139: Physical Parameters Supported fields for SBC-RSP

Item	Parameter	Reference	Status	Support
1	Subscriber transition gap	[4] 11.8.3	m	
2	SS FFT sizes	[4] 11.8.3	m	
3	SS demodulator	[4] 11.8.3	m	
4	SS modulator	[4] 11.8.3	m	
5	SS TC sublayer support	[4] 11.8.3	o	
Comments:				

A.7.1.1.7 DHCP messages

Comments on Establish IP connectivity PDUs: **DHCP discover, DHCP offer, DHCP request** and **DHCP response** are defined by RFC 2131 [13].

A.7.1.1.8 Time of day messages

Comments on Establish Time of day PDUs: **Time of day request** and **Time of day response** are defined by RFC 868 [14].

A.7.1.1.9 ARQ messages

Table A.140: PDU: ARQ feedback message

Item	Parameter	Reference	Status	Support
1	Management Message type=33	[4] 6.3.2.3.30	m	
2	ARQ feedback payload: one or several ARQ feedback IE(s) see next ARQ feedback IE table	[4] 6.3.2.3.30	m	
Comments:				

Table A.141: ARQ Feedback Information Elements

Item	Parameter	Reference	Status	Support
1	CID	[4] 6.3.4.2	m	
2	last	[4] 6.3.4.2	m	
3	ACK type	[4] 6.3.4.2	m	
4	BSN	[4] 6.3.4.2	m	
5	Number of ACK maps	[4] 6.3.4.2	m	
6	ACK MAP(s)	[4] 6.3.4.2	m	
Comments:				

Table A.142: PDU: ARQ Discard message

Item	Parameter	Reference	Status	Support
1	Management Message type=34	[4] 6.3.2.3.31	m	
2	Connection ID	[4] 6.3.2.3.31	m	
3	Fragmentation Sequence Number	[4] 6.3.2.3.31	m	
Comments:				

Table A.143: PDU: ARQ Reset message

Item	Parameter	Reference	Status	Support
1	Management Message type=35	[4] 6.3.2.3.32	m	
2	Connection ID	[4] 6.3.2.3.32	m	
3	Type	[4] 6.3.2.3.32	m	
Comments:				

A.7.1.1.10 MCA-REQ and MCA-RSP

Table A.144: PDU: MCA-REQ

Item	Parameter	Reference	Status	Support
1	Management Message type=21	[4] 6.3.2.3.18	m	
2	Transaction ID	[4] 6.3.2.3.18	m	
3	TLV encoded information	[4] 6.3.2.3.18	m	
Comments:				

Table A.145: MCA-REQ TLV

Item	Parameter	Reference	Status	Support
1	Transaction ID	[4] 6.3.2.3.18	m	
2	Multicast CID	[4] 6.3.2.3.18	m	
3	Assignment	[4] 6.3.2.3.18	m	
4	Multicast Group Type	[4] 11.10	o	
5	Periodic Allocations	[4] 11.10	m	
Comments:				

Table A.146: PDU: MCA-RSP

Item	Parameter	Reference	Status	Support
1	Management Message type=22	[4] 6.3.2.3.19	m	
2	Transaction ID	[4] 6.3.2.3.19	m	
3	Confirmation Code	[4] 6.3.2.3.19	m	
Comments:				

A.7.1.1.11 DBPC-REQ and DBPC-RSP

Table A.147: PDU: DBPC-REQ

Item	Parameter	Reference	Status	Support
1	Management Message type=23	[4] 6.3.2.3.20	m	
2	Reserved (see note)	[4] 6.3.2.3.20	m	
3	DIUC	[4] 6.3.2.3.20	m	
4	DL configuration change count	[4] 6.3.2.3.20	m	
NOTE: Shall be set to zero.				
Comments:				

Table A.148: PDU: DBPC-RSP

Item	Parameter	Reference	Status	Support
1	Management Message type=24	[4] 6.3.2.3.21	m	
2	Reserved (see note)	[4] 6.3.2.3.21	m	
3	DIUC	[4] 6.3.2.3.21	m	
4	DL configuration change count	[4] 6.3.2.3.21	m	
NOTE: Shall be set to zero.				
Comments:				

A.7.1.1.12 RES-CMD

Table A.149: PDU: RES-CMD

Item	Parameter	Reference	Status	Support
1	Management Message type=25	[4] 6.3.2.3.22	m	
2	TLV encoded information	[4] 6.3.2.3.22	m	
Comments:				

Table A.150: RES-CMD TLV

Item	Parameter	Reference	Status	Support
1	HMAC tuple	[4] 6.3.2.3.22	m	
Comments:				

A.7.1.1.13 CLK-CMP

Table A.151: PDU: CLK-CMP

Item	Parameter	Reference	Status	Support
1	Management Message type=28	[4] 6.3.2.3.25	m	
2	Clock count	[4] 6.3.2.3.25	m	
3	Clock Id	[4] 6.3.2.3.25	m	
4	Sequence number	[4] 6.3.2.3.25	m	
5	Clock comparison value	[4] 6.3.2.3.25	m	
Comments:				

A.7.1.1.14 DREG-REQ and DREG-CMD

Table A.152: PDU: DREG-REQ

Item	Parameter	Reference	Status	Support
1	Management Message type=49	[4] 6.3.2.3.42	m	
2	De-registration request code	[4] 6.3.2.3.42	m	
3	TLV encoded information	[4] 6.3.2.3.42	m	
Comments:				

Table A.153: DREG-REQ TLV

Item	Parameter	Reference	Status	Support
1	HMAC tuple	[4] 6.3.2.3.42	m	
Comments:				

Table A.154: PDU: DREG-CMD

Item	Parameter	Reference	Status	Support
1	Management Message type=29	[4] 6.3.2.3.26	m	
2	action code	[4] 6.3.2.3.26	m	
3	TLV encoded information	[4] 6.3.2.3.26	m	
Comments:				

Table A.155: DREG-CMD TLV

Item	Parameter	Reference	Status	Support
1	HMAC tuple	[4] 6.3.2.3.26	m	
Comments:				

A.7.1.1.15 DSX-RVD

Table A.156: PDU: DSX-RVD

Item	Parameter	Reference	Status	Support
1	Management Message type=30	[4] 6.3.2.3.27	m	
2	Transaction ID	[4] 6.3.2.3.27	m	
3	Confirmation Code	[4] 6.3.2.3.27	m	
Comments:				

A.7.1.1.16 TFTP-CPLT and TFTP-RSP

Table A.157: PDU: TFTP-CPLT

Item	Parameter	Reference	Status	Support
1	Management Message type=31	[4] 6.3.2.3.28	m	
2	TLV encoded information	[4] 6.3.2.3.28	m	
Comments:				

Table A.158: TFTP-CPLT TLV

Item	Parameter	Reference	Status	Support
1	HMAC tuple	[4] 6.3.2.3.28	m	
Comments:				

Table A.159: PDU: TFTP-RSP

Item	Parameter	Reference	Status	Support
1	Management Message type=32	[4] 6.3.2.3.29	m	
2	Response	[4] 6.3.2.3.29	m	
Comments:				

A.7.1.1.17 REP-REQ and REP-RSP

Table A.160: PDU: REP-REQ

Item	Parameter	Reference	Status	Support
1	Management Message type=36	[4] 6.3.2.3.33	m	
2	Report request TLVs	[4] 6.3.2.3.33	m	
Comments:				

Table A.161: REP-REQ TLV for report request

Item	Parameter	Reference	Status	Support
1	Report type	[4] 11.11	m	
2	Channel number	[4] 11.11	o	
Comments:				

Table A.162: PDU: REP-RSP

Item	Parameter	Reference	Status	Support
1	Management Message type=37	[4] 6.3.2.3.33	m	
2	Report response TLVs	[4] 6.3.2.3.33	m	
Comments:				

Table A.163: REP-RSP TLV for report

Item	Parameter	Reference	Status	Support
1	Channel number	[4] 11.12	o	
2	Start frame	[4] 11.12	o	
3	duration	[4] 11.12	o	
4	Basic report	[4] 11.12	o	
5	CINR report	[4] 11.12	o	
6	RSSI report	[4] 11.12	o	
7	Current Transmit Power	[4] 11.12	m	
Comments:				

A.7.1.1.18 AAS-FBCK-REQ and AAS-FBCK-RSP

Table A.164: PDU: AAS-FBCK-REQ

Item	Parameter	Reference	Status	Support
1	Management Message type=44	[4] 6.3.2.3.40	m	
2	Frame number	[4] 6.3.2.3.40	m	
3	Number of frames	[4] 6.3.2.3.40	m	
4	Measurement data type	[4] 6.3.2.3.40	m	
5	Feedback request counter	[4] 6.3.2.3.40	m	
6	Frequency measurement resolution	[4] 6.3.2.3.40	m	
Comments:				

Table A.165: PDU: AAS-FBCK-RSP

Item	Parameter	Reference	Status	Support
1	Management Message type=45	[4] 6.3.2.3.40	m	
2	Feedback request number	[4] 6.3.2.3.40	m	
3	Real (Frequency value)	[4] 6.3.2.3.40	m	
4	Imaginary (Frequency value)	[4] 6.3.2.3.40	m	
Comments: Set of Real and Imaginary Frequency values for each frequency defined.				

A.7.1.1.19 AAS-BEAM messages

Table A.166: PDU: AAS-Beam-Select

Item	Parameter	Reference	Status	Support
1	Management Message type=46	[4] 6.3.2.3.41	m	
2	AAS beam direction index	[4] 6.3.2.3.41	m	
Comments:				

Table A.167: PDU: AAS-BEAM-REQ

Item	Parameter	Reference	Status	Support
1	Management Message type=47	[4] 8.3.6.5	m	
2	Frame number	[4] 8.3.6.5	m	
3	Feedback request number	[4] 8.3.6.5	m	
4	Measurement report type	[4] 8.3.6.5	m	
5	Resolution parameter	[4] 8.3.6.5	m	
6	Beam bit mask	[4] 8.3.6.5	m	
Comments:				

Table A.168: PDU: AAS-BEAM-RSP

Item	Parameter	Reference	Status	Support
1	Management Message type=48	[4] 8.3.6.5	m	
2	Frame number	[4] 8.3.6.5	m	
3	Feedback request number	[4] 8.3.6.5	m	
4	Measurement report type	[4] 8.3.6.5	m	
5	Resolution parameter	[4] 8.3.6.5	m	
6	Beam bit mask	[4] 8.3.6.5	m	
7	AAS_BEAM_REP_IE	[4] 8.3.6.5	m	
8	RSSI mean value	[4] 8.3.6.5	m	
9	CINR mean value	[4] 8.3.6.5	m	
Comments:				

A.7.1.1.20 FPC

Table A.169: PDU: FPC

Item	Parameter	Reference	Status	Support
1	Management Message type=38	[4] 6.3.2.3.34	m	
2	Number of stations	[4] 6.3.2.3.34	m	
3	Basic CID	[4] 6.3.2.3.34	m	
4	Power adjust	[4] 6.3.2.3.34	m	
Comments: Set of Basic CID and Power adjust values for each station defined.				

A.7.1.1.21 REG-REQ and REG-RSP

Table A.170: PDU: Registration Request (REG-REQ)

Item	Parameter	Reference	Status	Support
1	Management Message type=6	[4] 6.3.2.3.7	m	
2	TLV Encoded Information (See next table REG-REQ TLV)	[4] 6.3.2.3.7	m	
Comments:				

Table A.171: PDU: REG-REQ TLV (PMP)

Item	Parameter	Reference	Status	Support
1	IP version	[4] 11.7.4	o	
2	Vendor ID Encoding	[4] 11.1.5	o	
3	Vendor specific information	[4] 11.1.6	o	
4	SS Capabilities Encodings	[4] 11.7.8	o	
5	Convergence Sub layer Capabilities	[4] 11.7.7	o	
6	ARQ parameters	[4] 11.7.1	o	
7	Number of UL transport CIDs supported	[4] 11.7.6.1	m	
8	Number of DL transport CIDs supported	[4] 11.7.6.2	m	
9	SS management Support	[4] 11.7.2	m	
10	IP management mode	[4] 11.7.3	m	
11	HMAC Tuple	[4] 6.3.2.3.7	m	
Comments:				

Table A.172: SS Capabilities encoding and values

Item	SS Capability	Reference	Status	Support	Value	
					Allowed range	Supported
1	ARQ support	[4] 11.7.8.1	o		0-1	
2	DSx flow control	[4] 11.7.8.2	o		0-255	
3	MCA flow control	[4] 11.7.8.4	o		0-255	
4	Multicast polling group	[4] 11.7.8.5	o		0-255	
Comments:						

Table A.173: Convergence Sub layer Capabilities

Item	Convergence Sub layer Capabilities	Reference	Status	Support
1	Convergence sub layer support Tx	[4] 11.7.7.1	o	
2	Max. number of classifiers Tx	[4] 11.7.7.2	o	
3	Payload header suppression support Tx	[4] 11.7.7.3	o	
Comments:				

Table A.174: PDU: Registration Response (REG-RSP)

Item	Parameter	Reference	Status	Support
1	Management Message type=7	[4] 6.3.2.3.8	m	
2	Response	[4] 6.3.2.3.8	m	
3	TLV Encoded Information see next table REG-RSP TLV	[4] 6.3.2.3.8	m	
Comments:				

Table A.175: PDU: REG-RSP TLV (PMP)

Item	Parameter	Reference	Status	Support
1	Secondary Management CID	[4] 11.7.5	Ca.175.1	
2	SS Capabilities Encodings See table A.172	[4] 11.7.8	Ca.175.2	
3	IP version	[4] 11.7.4	o	
4	Vendor ID Encoding	[4] 11.1.5	o	
5	Vendor-specific information	[4] 11.1.6	o	
6	ARQ parameters	[4] 11.7.1	Ca.175.3	
7	IP management mode	[4] 11.7.3	m	
8	SS management support	[4] 6.3.2.3.8	Ca.175.3	
9	Traffic priority	[4] 11.13.5	Ca.175.4	
10	Maximum sustained traffic rate	[4] 11.13.6	Ca.175.4	
11	Minimum reserved traffic rate	[4] 11.13.8	Ca.175.4	
12	Maximum latency	[4] 11.13.14	Ca.175.4	
13	Uplink transport CIDs supported	[4] 11.7.6.1	m	
14	Downlink transport CIDs supported	[4] 11.7.6.2	m	
15	Convergence Sublayer Capabilities	[4] 11.7.7	Ca.175.2	
16	HMAC Tuple	[4] 11.1.2	m	
Ca.175.1: IF A.30/1 THEN m ELSE n/a. Ca.175.2: IF found in the REG-REQ or IF the BS requires the use of a non-default value. Ca.175.3: IF found in the REG-REQ. Ca.175.4: IF A175./1 THEN o ELSE n/a.				
Comments:				

A.7.1.1.22 PKM-REQ and PKM-RSP Messages

Table A.176: PDU: PKM Request (PKM-REQ)

Item	Parameter	Reference	Status	Support
1	Management Message type=9	[4] 6.3.2.3.9	m	
2	Code	[4] 6.3.2.3.9	m	
3	PKM Identifier	[4] 6.3.2.3.9	m	
4	TLV Encoded Attributes	[4] 6.3.2.3.9	m	
Comments:				

Table A.177: PDU: PKM Reply (PKM-RSP)

Item	Parameter	Reference	Status	Support
1	Management Message type=10	[4] 6.3.2.3.9	m	
2	Code	[4] 6.3.2.3.9	m	
3	PKM Identifier	[4] 6.3.2.3.9	m	
4	TLV Encoded Attributes	[4] 6.3.2.3.9	m	
Comments:				

Table A.178: PDU: TLV Attributes (SA Add)

Item	Parameter	Reference	Status	Support
1	Key Sequence Number	[4] 6.3.2.3.9.1	m	
2	SA Descriptors	[4] 6.3.2.3.9.1	m	
3	HMAC digest	[4] 6.3.2.3.9.1	m	
Comments:				

Table A.179: PDU: TLV Attributes (Auth Request)

Item	Parameter	Reference	Status	Support
1	SS-Certificate	[4] 6.3.2.3.9.2	m	
2	Security Capabilities	[4] 6.3.2.3.9.2	m	
3	SAID	[4] 6.3.2.3.9.2	m	
Comments:				

Table A.180: PDU: TLV Attributes (Auth Reply)

Item	Parameter	Reference	Status	Support
1	AUTH-Key	[4] 6.3.2.3.9.3	m	
2	Key-Lifetime	[4] 6.3.2.3.9.3	m	
3	Key-Sequence-Number	[4] 6.3.2.3.9.3	m	
4	SA Descriptor	[4] 6.3.2.3.9.3	m	
5	PKM configuration	[4] 6.3.2.3.9.3	o	
Comments:				

Table A.181: PDU: TLV Attributes (Auth Reject)

Item	Parameter	Reference	Status	Support
1	Error code	[4] 6.3.2.3.9.4	m	
2	Display-String	[4] 6.3.2.3.9.4	o	
Comments:				

Table A.182: PDU: TLV Attributes (Key Request)

Item	Parameter	Reference	Status	Support
1	Key-Sequence-Number	[4] 6.3.2.3.9.5	m	
2	HMAC-Digest	[4] 6.3.2.3.9.5	m	
3	SAID	[4] 6.3.2.3.9.5	m	
Comments:				

Table A.183: PDU: TLV Attributes (Key Reply)

Item	Parameter	Reference	Status	Support
1	Key-Sequence-number	[4] 6.3.2.3.9.6	m	
2	HMAC-Digest	[4] 6.3.2.3.9.6	m	
3	SAID	[4] 6.3.2.3.9.6	m	
4	TEK-Parameters	[4] 6.3.2.3.9.6	m	
Comments:				

Table A.184: PDU: TLV Attributes (Key Reject)

Item	Parameter	Reference	Status	Support
1	Key-Sequence-number	[4] 6.3.2.3.9.7	m	
2	HMAC-Digest	[4] 6.3.2.3.9.7	m	
3	SAID	[4] 6.3.2.3.9.7	m	
4	Error-code	[4] 6.3.2.3.9.7	m	
5	Display-String - Tx	[4] 6.3.2.3.9.7	m	
Comments:				

Table A.185: PDU: TLV Attributes (Auth Invalid)

Item	Parameter	Reference	Status	Support
1	Error-code	[4] 6.3.2.3.9.8	m	
2	Display-String	[4] 6.3.2.3.9.8	m	
Comments:				

Table A.186: PDU: TLV Attributes (TEK Invalid)

Item	Parameter	Reference	Status	Support
1	Key-Sequence-number	[4] 6.3.2.3.9.9	m	
2	HMAC-Digest	[4] 6.3.2.3.9.9	m	
3	SAID	[4] 6.3.2.3.9.9	m	
4	Error-code	[4] 6.3.2.3.9.9	m	
5	Display-String	[4] 6.3.2.3.9.9	m	
Comments:				

Table A.187: PDU: TLV Attributes (Authentication Information)

Item	Parameter	Reference	Status	Support
1	CA-Certificate	[4] 6.3.2.3.9.10	m	
Comments:				

A.7.1.1.23 DSA-REQ, DSA-RSP and DSA-ACK messages

Table A.188: PDU: DSA-REQ

Item	Parameter	Reference	Status	Support
1	Management Message type=11	[4] 6.3.2.3.10	m	
2	Transaction ID	[4] 6.3.2.3.10	m	
3	TLV Encoded Information see next table: DSA-REQ TLV	[4] 6.3.2.3.10	m	
Comments:				

Table A.189: DSA-REQ parameter families

Item	Parameter	Reference	Status	Support
1	Service flow parameters See table A.190	[4] 6.3.2.3.10; 11.13	m	
2	Convergence sublayer parameter encodings See table A.191	[4] 6.3.2.3.10; 11.13.19	m	
3	HMAC tuple	[4] 6.3.2.3.10	m	
Comments:				

Table A.190: DSA-REQ TLV for Service flow parameters

Item	Parameter	Reference	Status	Support
1	Service flow identifier - SFID	[4] 11.13.1	Ca.190.1	
2	CID	[4] 11.13.2	Ca.190.1	
3	Service class name	[4] 11.13.3	o	
4	QOS parameter set type	[4] 11.13.4	m	
5	Traffic priority	[4] 11.13.5	Ca.190.2	
6	Maximum sustained traffic rate	[4] 11.13.6	m	
7	Maximum traffic burst	[4] 11.13.7	o	
8	Minimum reserved traffic rate	[4] 11.13.8	Ca.190.3	
9	Minimum tolerable traffic rate	[4] 11.13.9	o	
10	Vendor specific QOS parameters	[4] 11.13.10	o	
11	Uplink Grant scheduling type	[4] 11.13.11	Ca.190.4	
12	Request/transmission policy	[4] 11.13.12	m	
13	Tolerated jitter	[4] 11.13.13	Ca.190.5	
14	Maximum latency	[4] 11.13.14	Ca.190.6	
15	Fixed length versus variable length SDU indicator	[4] 11.13.15	m	
16	SDU size	[4] 11.13.16	Ca.190.7	
17	Target SAID	[4] 11.13.17	m	
18	ARQ enable	[4] 11.13.18.1	m	
19	ARQ_WINDOW_SIZE	[4] 11.13.18.2	Ca.190.8	
20	ARQ_TX_delay	[4] 11.13.18.3	Ca.190.8	
21	ARQ_RX_delay	[4] 11.13.18.3	Ca.190.8	
22	ARQ_BLOCK_LIFETIME	[4] 11.13.18.4	Ca.190.8	
23	ARQ_SYNC_LOSS_TIMEOUT	[4] 11.13.18.5	Ca.190.8	
24	ARQ_DELIVER_IN_ORDER	[4] 11.13.18.6	Ca.190.8	
25	ARQ_RX_PURGE_TIMEOUT	[4] 11.13.18.7	Ca.190.8	
26	ARQ_BLOCK_SIZE	[4] 11.13.18.8	Ca.190.8	
27	Unsolicited Grant Interval	[4] 11.13.20	Ca.190.9	
28	Unsolicited Polling Interval	[4] 11.13.21	Ca.190.10	
29	FSN size	[4] 11.13.22	o	
30	CS specification	[4] 11.13.19.1	m	

Ca.190.1: IF A.2/2 THEN m ELSE x.
Ca.190.2: IF (A.39/3 or A.39/4) THEN m ELSE n/a.
Ca.190.3: IF (A.39/2 OR A.39/3) THEN m ELSE o.
Ca.190.4: IF ("UL service request") THEN m else n/a.
Ca.190.5: IF A.39/1 THEN m ELSE n/a.
Ca.190.6: IF (A.39/1 or A.39/2) THEN m ELSE n/a.
Ca.190.7: IF (A.190/15=1) THEN o.
Ca.190.8: IF A.28/3 THEN m ELSE n/a.
Ca.190.9: IF (A.39/1 AND "UL service request") THEN m else n/a (UGS supported).
Ca.190.10: IF (A.39/2 AND "UL service request") THEN m else n/a (rtPS supported).

Comments: n/a status means here: not used.

Table A.191: DSA-REQ and DSA-RSP TLV for Packet Convergence sublayer: packet classification rule parameter

Item	Parameter	Reference	Status	Support
1	Packet Classification Rule	[4] 11.13.19.3.4	Ca.191,6	
2	Classifier Rule Priority	[4] 11.13.19.3.4.1	Ca.191,6	
3	IP Type of Service/DSCP	[4] 11.13.19.3.4.2	Ca.191,1,	
4	Protocol	[4] 11.13.19.3.4.3	Ca.191,1	
5	IP Masked Source Address	[4] 11.13.19.3.4.4	Ca.191,1	
6	IP Masked Destination Address	[4] 11.13.19.3.4.5	Ca.191,1	
7	Protocol Source Port Range	[4] 11.13.19.3.4.6	Ca.191,1	
8	Protocol destination Port Range	[4] 11.13.19.3.4.7	Ca.191,1	
9	Ethernet Destination MAC Address	[4] 11.13.19.3.4.8	Ca.191,2	
10	Ethernet Source MAC Address	[4] 11.13.19.3.4.9	Ca.191,2	
11	Ethertype/IEEE 802.2 SAP [15]	[4] 11.13.19.3.4.10	Ca.191,2	
12	IEEE 802.1D User_Priority	[4] 11.13.19.3.4.11	Ca.191,3	
13	IEEE 802.1Q VLAN_ID [11]	[4] 11.13.19.3.4.12	Ca.191,3	
14	Associated Payload Header Suppression Index	[4] 11.13.19.3.4.13	Ca.191,5	
15	Vendor Specific Classifier Parameters	[4] 11.13.19.3.4.15	o	
16	Payload Header Suppression Rule	[4] 11.13.19.3.7	Ca.191,4	
17	Payload Header Suppression Index	[4] 11.13.19.3.7.1	Ca.191,4	
18	Payload Header Suppression Field	[4] 11.13.19.3.7.2	Ca.191,4	
19	Payload Header Suppression Mask	[4] 11.13.19.3.7.3	Ca.191,4	
20	Payload Header Suppression Size	[4] 11.13.19.3.7.4	Ca.191,4	
21	Payload Header Suppression Verification	[4] 11.13.19.3.7.5	Ca.191,4	
22	Vendor Specific PHS Parameters	[4] 11.13.19.3.7.6	Ca.191,5	
23	Packet classification rule index	[4] 11.13.19.3.4.14	Ca.191,6	
24	HMAC tuple	[4] 6.3.2.3.10	m	
Ca.191,1: IF A.23/1 or A.23/2 or A.23/5 or A.23/6 or A.23/7 or A.23/8 THEN (o) ELSE n/a. Ca.191,2: IF A.23/3 THEN (o) ELSE n/a. Ca.191,3: IF A.23/4 THEN (o) ELSE n/a. Ca.191,4: IF A.173/3 THEN (o) ELSE n/a. Ca.191,5: IF A. 173/3 THEN o ELSE n/a. Ca.191,6: IF uplink service flow THEN m ELSE o.				
Comments:				

Table A.192: PDU: DSA-RSP

Item	Parameter	Reference	Status	Support
1	Management Message type=12	[4] 6.3.2.3.11	m	
2	Transaction ID	[4] 6.3.2.3.11	m	
3	Confirmation code	[4] 6.3.2.3.11	m	
4	TLV Encoded Information see next table: DSA-RSP TLV	[4] 6.3.2.3.11	o	
Ca.192.1 IF (A.28/3 or A.78/3)THEN m ELSE n/a.				
Comments:				

Table A.193: DSA-RSP parameter families

Item	Parameter	Reference	Status	Support
1	Service flow parameters See table A.194	[4] 6.3.2.3.11 [4] 11.13	m	
2	Convergence sub layer parameter encodings See table A.191	[4] 6.3.2.3.11 [4] 11.13.21	m	
Comments:				

Table A.194: DSA-RSP TLV for Service flow parameters

Item	Parameter	Reference	Status	Support
1	Service flow identifier - SFID	[4] 11.13.1	m	
2	CID	[4] 11.13.2	m	
3	Service class name	[4] 11.13.3	o	
4	QOS parameter set type	[4] 11.13.4	m	
5	Traffic priority	[4] 11.13.5	Ca.194.1	
6	Maximum sustained traffic rate	[4] 11.13.6	m	
7	Maximum traffic burst	[4] 11.13.7	o	
8	Minimum reserved traffic rate	[4] 11.13.8	Ca.194.2	
9	Minimum tolerable traffic rate	[4] 11.13.9	o	
10	Vendor specific QOS parameters	[4] 11.13.10	o	
11	Uplink Grant scheduling type	[4] 11.13.11	Ca.194.3	
12	Request/transmission policy	[4] 11.13.12	m	
13	Tolerated jitter	[4] 11.13.13	Ca.194.4	
14	Maximum latency	[4] 11.13.14	Ca.194.5	
15	Fixed length versus variable length SDU indicator	[4] 11.13.15	m	
16	SDU size	[4] 11.13.16	Ca.194.6	
17	Target SAID	[4] 11.13.17	m	
18	ARQ enable	[4] 11.13.18.1	m	
19	ARQ_WINDOW_SIZE	[4] 11.13.18.2	Ca.194.7	
20	ARQ_TX_delay	[4] 11.13.18.3	Ca.194.7	
21	ARQ_RX_delay	[4] 11.13.18.3	Ca.194.7	
22	ARQ_BLOCK_LIFETIME	[4] 11.13.18.4	Ca.194.7	
23	ARQ_SYNC_LOSS_TIMEOUT	[4] 11.13.18.5	Ca.194.7	
24	ARQ_DELIVER_IN_ORDER	[4] 11.13.18.6	Ca.194.7	
25	ARQ_RX_PURGE_TIMEOUT	[4] 11.13.18.7	Ca.194.7	
26	ARQ_BLOCK_SIZE	[4] 11.13.18.8	Ca.194.7	
27	Unsolicited Grant Interval	[4] 11.13.20	Ca.194.8	
28	Unsolicited Polling Interval	[4] 11.13.21	Ca.194.9	
29	FSN size	[4] 11.13.22	o	
30	CS specification	[4] 11.13.19.1	m	

Ca.194.1: IF (A.39/3 or A.39/4) THEN m ELSE n/a.
Ca.194.2: IF (A.39/2 OR A.39/3) THEN m ELSE o.
Ca.194.3: IF ("UL service request") THEN m else n/a.
Ca.194.4: IF A.39/1 THEN m ELSE n/a.
Ca.194.5: IF (A.39/1 or A.39/2) THEN m ELSE n/a.
Ca.194.6: IF (A.190/15=1) THEN o.
Ca.194.7: IF A.28/3 THEN m ELSE n/a.
Ca.194.8: IF (A.39/1 AND "UL service request") THEN m else n/a (UGS supported).
Ca.194.9: IF (A.39/2 AND "UL service request") THEN m else n/a (rtPS supported).

Comments: n/a status means here: not used.

Table A.195: DSA-RSP TLV for Service flow parameters

Item	Parameter	Reference	Status	Support
1	HMAC tuple	[4] 6.3.2.3.11	m	

Comments:

Table A.196: PDU: DSA-ACK

Item	Parameter	Reference	Status	Support
1	Management Message type=13	[4] 6.3.2.3.12	m	
2	Transaction ID	[4] 6.3.2.3.12	m	
3	Confirmation code	[4] 6.3.2.3.12	m	
4	TLV Encoded Information see next table: DSA-ACK TLV	[4] 6.3.2.3.12	m	
Comments:				

Table A.197: DSA-ACK TLV

Item	Parameter	Reference	Status	Support
1	HMAC tuple	[4] 6.3.2.3.12	m	
Comments:				

A.7.1.1.24 DSC-REQ, DSC-RSP and DSC-ACK messages

Table A.198: PDU: DSC-REQ

Item	Parameter	Reference	Status	Support
1	Management Message type=14	[4] 6.3.2.3.13	m	
2	Transaction ID	[4] 6.3.2.3.13	m	
3	TLV Encoded Information see next table: DSC-REQ TLV	[4] 6.3.2.3.13	m	
Comments:				

Table A.199: DSC-REQ parameter families

Item	Parameter	Reference	Status	Support
1	Service flow parameters See table A.200	[4] 6.3.2.3.13 [4] 11.13	m	
2	Classifier DSC action	[4] 11.13.19.3.2		
3	Convergence sublayer parameter encodings See table A.191	[4] 11.13.19		
4	HMAC tuple	[4] 6.3.2.3.13	m	
Comments:				

Table A.200: DSC-REQ TLV for Service flow parameters

Item	Parameter	Reference	Status	Support
1	Service flow identifier - SFID	[4] 11.13.1	m	
2	CID	[4] 11.13.2	Ca.200.1	
3	Service class name	[4] 11.13.3	o	
4	QOS parameter set type	[4] 11.13.4	m	
5	Traffic priority	[4] 11.13.5	Ca.200.2	
6	Maximum sustained traffic rate	[4] 11.13.6	m	
7	Maximum traffic burst	[4] 11.13.7	o	
8	Minimum reserved traffic rate	[4] 11.13.8	Ca.200.3	
9	Minimum tolerable traffic rate	[4] 11.13.9	o	
10	Vendor specific QOS parameters	[4] 11.13.10	o	
11	Uplink Grant scheduling type	[4] 11.13.11	X	
12	Request/transmission policy	[4] 11.13.12	X	
13	Tolerated jitter	[4] 11.13.13	Ca.200.4	
14	Maximum latency	[4] 11.13.14	Ca.200.5	
15	Fixed length versus variable length SDU indicator	[4] 11.13.15	X	
16	SDU size	[4] 11.13.16	X	
17	Target SAID	[4] 11.13.17	m	
18	ARQ enable	[4] 11.13.18.1	X	
19	ARQ_WINDOW_SIZE	[4] 11.13.18.2	Ca.200.6	
20	ARQ_TX_delay	[4] 11.13.18.3	X	
21	ARQ_RX_delay	[4] 11.13.18.3	X	
22	ARQ_BLOCK_LIFETIME	[4] 11.13.18.4	X	
23	ARQ_SYNC_LOSS_TIMEOUT	[4] 11.13.18.5	X	
24	ARQ_DELIVER_IN_ORDER	[4] 11.13.18.6	X	
25	ARQ_PURGE_TIMEOUT	[4] 11.13.18.7	X	
26	ARQ_BLOCK_SIZE	[4] 11.13.18.8	X	
27	Unsolicited Grant Interval	[4] 11.13.20	Ca.200.7	
28	Unsolicited Polling Interval	[4] 11.13.21	Ca.200.8	
29	CS specification	[4] 11.13.19.1	x	
Ca.200.1: IF A.2/2 THEN m ELSE x. Ca.200.2: IF (A.39/3 OR A.39/4) THEN m ELSE n/a. Ca.200.3: IF (A.39/2 OR A.39/3) THEN o ELSE m. Ca.200.4 IF A.39/1 THEN m ELSE n/a. Ca.200.5: IF (A.39/1 or A.39/2) THEN m ELSE n/a. Ca.200.6: IF A.28/3 THEN m ELSE n/a. Ca.200.7: IF (A.39/1 AND "UL service request") THEN m else n/a (UGS supported). Ca.200.8: IF (A.39/2 AND "UL service request") THEN m else n/a (rtPS supported).				
Comments:				

Table A.201: PDU: DSC-RSP

Item	Parameter	Reference	Status	Support
1	Management Message type=15	[4] 6.3.2.3.14	m	
2	Transaction ID	[4] 6.3.2.3.14	m	
3	Confirmation code	[4] 6.3.2.3.14	m	
4	TLV Encoded Information see next table: DSC-RSP TLV	[4] 6.3.2.3.14	m	
Comments:				

Table A.202: DSC-RSP parameter families

Item	Parameter	Reference	Status	Support
1	Service flow parameters. See table A.203	[4] 6.3.2.3.14; 11.13	o	
2	Convergence sublayer parameter encodings	[4] 6.3.2.3.14; 11.13.21	o	
Comments:				

Table A.203: DSC-RSP TLV for Service flow parameters

Item	Parameter	Reference	Status	Support
1	Service flow identifier - SFID	[4] 11.13.1	m	
2	CID	[4] 11.13.2	m	
3	Service class name	[4] 11.13.3	o	
4	QOS parameter set type	[4] 11.13.4	m	
5	Traffic priority	[4] 11.13.5	Ca.200.1	
6	Maximum sustained traffic rate	[4] 11.13.6	m	
7	Maximum traffic burst	[4] 11.13.7	o	
8	Minimum reserved traffic rate	[4] 11.13.8	Ca.200.2	
9	Minimum tolerable traffic rate	[4] 11.13.9	o	
10	Vendor specific QOS parameters	[4] 11.13.10	o	
11	Uplink Grant scheduling type	[4] 11.13.11	X	
12	Request/transmission policy	[4] 11.13.12	X	
13	Tolerated jitter	[4] 11.13.13	Ca.200.3	
14	Maximum latency	[4] 11.13.14	Ca.200.4	
15	Fixed length versus variable length SDU indicator	[4] 11.13.15	X	
16	SDU size	[4] 11.13.16	X	
17	Target SAID	[4] 11.13.17	m	
18	ARQ enable	[4] 11.13.18.1	X	
19	ARQ_WINDOW_SIZE	[4] 11.13.18.2	Ca.200.5	
20	ARQ_TX_delay	[4] 11.13.18.3	X	
21	ARQ_RX_delay	[4] 11.13.18.3	X	
22	ARQ_BLOCK_LIFETIME	[4] 11.13.18.4	X	
23	ARQ_SYNC_LOSS_TIMEOUT	[4] 11.13.18.5	X	
24	ARQ_DELIVER_IN_ORDER	[4] 11.13.18.6	X	
25	ARQ_PURGE_TIMEOUT	[4] 11.13.18.7	X	
26	ARQ_BLOCK_SIZE	[4] 11.13.18.8	X	
27	Unsolicited Grant Interval	[4] 11.13.20	Ca.200.6	
28	Unsolicited Polling Interval	[4] 11.13.21	Ca.200.7	
29	CS specification	[4] 11.13.19.1	x	
Ca.200.1: IF (A.39/3 OR A.39/4) THEN m ELSE n/a. Ca.200.2: IF (55/2 AND (A.39/2 OR A.39/3)) THEN o ELSE m. Ca.200.3: IF A.39/1 THEN m ELSE n/a. Ca.200.4: IF (A.39/1 or A.39/2) THEN m ELSE n/a. Ca.200.5: IF A.28/3 THEN m ELSE n/a. Ca.200.6: IF (A.39/1 AND "UL service request") THEN m else n/a (UGS supported). Ca.200.7: IF (A.39/2 AND "UL service request") THEN m else n/a (rtPS supported).				
Comments:				

Table A.204: DSC-RSP TLV

Item	Parameter	Reference	Status	Support
1	HMAC tuple	[4] 6.3.2.3.14	m	
Comments:				

Table A.205: PDU: DSC-ACK

Item	Parameter	Reference	Status	Support
1	Management Message type=16	[4] 6.3.2.3.15	m	
2	Transaction ID	[4] 6.3.2.3.15	m	
3	Confirmation code	[4] 6.3.2.3.15	m	
4	TLV Encoded Information see next table: DSC-ACK TLV	[4] 6.3.2.3.15	m	
Comments:				

Table A.206: DSC-ACK TLV

Item	Parameter	Reference	Status	Support
1	HMAC tuple	[4] 6.3.2.3.15	m	
Comments:				

A.7.1.1.25 DSD-REQ and DSD-RSP messages

Table A.207: PDU: DSD-REQ

Item	Parameter	Reference	Status	Support
1	Management Message type=17	[4] 6.3.2.3.16	m	
2	Transaction ID	[4] 6.3.2.3.16	m	
3	Service flow ID	[4] 6.3.2.3.16	m	
4	TLV Encoded Information see next table: DSD-REQ TLV	[4] 6.3.2.3.16	m	
Comments:				

Table A.208: DSD-REQ TLV

Item	Parameter	Reference	Status	Support
1	HMAC tuple	[4] 6.3.2.3.16	m	
Comments:				

Table A.209: PDU: DSD-RSP

Item	Parameter	Reference	Status	Support
1	Management Message type=18	[4] 6.3.2.3.17	m	
2	Transaction ID	[4] 6.3.2.3.17	m	
3	Confirmation code	[4] 6.3.2.3.17	m	
4	Service flow ID	[4] 6.3.2.3.17	m	
5	TLV Encoded Information see next table: DSD-RSP TLV	[4] 6.3.2.3.17	m	
Comments:				

Table A.210: DSD-RSP TLV

Item	Parameter	Reference	Status	Support
1	HMAC tuple	[4] 6.3.2.3.17	m	
Comments:				

A.7.1.2 Additional fields of MAC PDUs in MESH topology

Void.

A.8 Parameters and timers

Table A.211: SS Timers MAC layer - PMP

Item	Timer name MAC layer	Reference	Status	Support	Value	
					Allowed range	Supported
1	T1	[4] 10.1	m		< 5 DCD interval	
2	T2	[4] 10.1	m		< 5 ranging interval	
3	T3	[4] 10.1	m		< 200 ms	
4	T4	[4] 10.1	m		< 35 s	
5	T6	[4] 10.1	m		< 3 s	
6	T7	[4] 10.1	m		< 1 s	
7	T8	[4] 10.1	m		< 300 ms	
8	T10	[4] 10.1	m		< 3 s	
9	T12	[4] 10.1	m		< 5 UCD interval	
10	T14	[4] 10.1	Ca.211.2		< 200 ms	
11	T18	[4] 10.1	m		< 300 ms or T9	
12	T20	[4] 10.1	m		> 2 ms	
13	T21	[4] 10.1	m		< 11 s	
14	T22	[4] 10.1	Ca.211.1		< 500 ms	
15	T26	[4] 10.1	m		10 ms-200 ms	
16	T28	[4] 10.1	m		200 ms-1 min	
17	T29	[4] 10.1	m		200 ms-30 s	
18	T30	[4] 10.1	m		200 ms-200 ms	
Ca.211.1: IF A.28/3 THEN m ELSE n/a. Ca.211.2: IF (A.55/2 or A.55/5) THEN m ELSE n/a.						
Comments:						

Table A.212: Privacy (PKM) Related Timers

Item	Timer name	Reference	Status	Support	Value	
					Allowed range	Supported
1	AK Lifetime (PKM)	[4] 10.2; [4] 10.2	m		Ca.212.1	
2	TEK Lifetime (PKM)	[4] 10.2; [4] 10.2	m		Ca.212.2	
3	Authorize Wait Timeout (PKM)	[4] 10.2	m		2-30 s	
4	Reauthorize Wait Timeout (PKM)	[4] 10.2	m		2-30 s	
5	Authorization Grace Time (PKM)	[4] 10.2	m		Ca.212.3	
6	Operational Wait Timeout (PKM)	[4] 10.2	m		1-10 s	
7	Rekey Wait Timeout (PKM)	[4] 10.2	m		1-10 s	
8	TEK Grace Time (PKM)	[4] 10.2	m		Ca.212.4	
9	Authorize Reject Wait Timeout (PKM)	[4] 10.2	m		10-600 s	
Ca.212.1: IF (test mode) THEN 5 mn ELSE 1 day..70 days. Ca.212.2: IF (test mode) THEN 3 mn ELSE 30 mn..7 days. Ca.212.3: IF (test mode) THEN 60 s ELSE 5 mn..35 days. Ca.212.4: IF (test mode) THEN 60 s ELSE 5 mn..3,5 days.						
Comments: The TEK Grace Time shall be less than half the TEK Lifetime.						

Table A.213: Counters

Item	Timer name	Reference	Status	Support	Value			
					Min.	Default	Max.	Supported
1	Contention Ranging Retries	[4] 10.1	Ca.213.1		16	-	-	
2	Invited Ranging Retries	[4] 10.1	m		16	-	-	
3	Request Retries	[4] 10.1	Ca.213.1		16	-	-	
4	Registration Request Retries	[4] 10.1	Ca.213.1		3	-	-	
5	DSx Request Retries	[4] 10.1	m		-	3	-	
6	DSx Response Retries	[4] 10.1	m		-	3	-	
7	TFTP Request Retries	[4] 10.1	Ca.213.1		3	-	-	
8	TFTP Download Retries	[4] 10.1	Ca.213.1		3	-	-	
9	Time of Day Retries	[4] 10.1	Ca.213.1		3	-	-	
10	Ranging Correction Retries	[4] 10.1	Ca.213.2		-	16	-	
11	SBC Request Retries	[4] 10.1	Ca.213.1		3	3	16	
12	TFTP-CLPT Retries	[4] 10.1	Ca.213.1		3	3	16	
Ca.213.1: IF A.2/1 THEN m ELSE n/a. Ca.213.2: IF A.2/2 THEN m ELSE n/a.								
Comments:								

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