

ETSI TS 136 461 V18.0.0 (2024-05)



TECHNICAL SPECIFICATION

**LTE;  
Evolved Universal Terrestrial  
Radio Access Network (E-UTRAN) and Wireless LAN (WLAN);  
Xw layer 1  
(3GPP TS 36.461 version 18.0.0 Release 18)**



A GLOBAL INITIATIVE

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**Reference**

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# Foreword

This Technical Specification has been produced by the 3<sup>rd</sup> Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

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  - 2 presented to TSG for approval;
  - 3 or greater indicates TSG approved document under change control.
- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

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# 1 Scope

The present document specifies the standards allowed to implement Layer 1 on the Xw interface.

The specification of transmission delay requirements and O&M requirements are not in the scope of the present document.

In the following 'Layer 1' and 'Physical Layer' are assumed to be synonymous.

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# 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, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TS 36.411: "Evolved Universal Terrestrial Radio Access Network (E-UTRAN); S1 layer 1".

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# 3 Definitions, symbols and abbreviations

## 3.1 Definitions

For the purposes of the present document, the definitions given in TS 36.411 [1] apply.

## 3.2 Symbols

For the purposes of the present document, the symbols given in TS 36.411 [1] apply.

## 3.3 Abbreviations

For the purposes of the present document, the abbreviations given in TS 36.411 [1] apply.

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# 4 Introduction

The Xw Layer 1 shall comply with the requirements of clauses 4 through 6 in TS 36.411 [1].

## Annex A (informative): Change history

Change history							
Date	Meeting	TDoc	CR	Rev	Cat	Subject/Comment	New version
2015-08	RAN3#89	R3-151685				Initial Skeleton	0.0.1
2015-10	RAN3#89bis	R3-152200				Initial Skeleton update	0.0.2
2015-10	RAN3#89bis	R3-152192				Layer 1 aspects of the Xw interface	0.1.0
2015-11	RAN3#90	R3-152416				Clean up	0.2.0
2015-12	RAN#70	RP-151742				Submitted for information	1.0.0
2016-01	RAN3#AH	RP-160003				Cover sheet update	1.1.0
2016-02	RAN3#91	RP-160154				Editorials	1.2.0
2016-03	RAN#71	RP-160224				Submitted for approval	2.0.0
2016-03	RAN#71					Upgraded to Rel-13 and placed under change control	13.0.0
2017-03	SA#75					Promotion to Release 14 without technical change	14.0.0
2018-06	SA#80	-	-	-	-	Promotion to Release 15 without technical change	15.0.0
2020-07	SA#88-e	-	-	-	-	Update to Rel-16 version (MCC)	16.0.0
2022-03	SA#95-e					Promotion to Release 17 without technical change	17.0.0
2024-03	SA#103	-	-	-	-	Update to Rel-18 version (MCC)	18.0.0

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# History

<b>Document history</b>		
V18.0.0	May 2024	Publication