

3GPP TR 38.849 V0.0.0 (2021-01)

Technical Report

3rd Generation Partnership Project; Technical Specification Group Radio Access Networks; Introduction of lower 6GHz NR unlicensed operation for Europe (Release 17)



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Foreword

This Technical Report has been produced by the 3rd 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

where:

- x the first digit:
 - 1 presented to TSG for information;
 - 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.

In the present document, modal verbs have the following meanings:

- | | |
|------------------|---|
| shall | indicates a mandatory requirement to do something |
| shall not | indicates an interdiction (prohibition) to do something |

The constructions "shall" and "shall not" are confined to the context of normative provisions, and do not appear in Technical Reports.

The constructions "must" and "must not" are not used as substitutes for "shall" and "shall not". Their use is avoided insofar as possible, and they are not used in a normative context except in a direct citation from an external, referenced, non-3GPP document, or so as to maintain continuity of style when extending or modifying the provisions of such a referenced document.

- | | |
|-------------------|--|
| should | indicates a recommendation to do something |
| should not | indicates a recommendation not to do something |
| may | indicates permission to do something |
| need not | indicates permission not to do something |

The construction "may not" is ambiguous and is not used in normative elements. The unambiguous constructions "might not" or "shall not" are used instead, depending upon the meaning intended.

- | | |
|---------------|--|
| can | indicates that something is possible |
| cannot | indicates that something is impossible |

The constructions "can" and "cannot" are not substitutes for "may" and "need not".

- | | |
|-----------------|--|
| will | indicates that something is certain or expected to happen as a result of action taken by an agency the behaviour of which is outside the scope of the present document |
| will not | indicates that something is certain or expected not to happen as a result of action taken by an agency the behaviour of which is outside the scope of the present document |
| might | indicates a likelihood that something will happen as a result of action taken by some agency the behaviour of which is outside the scope of the present document |

might not indicates a likelihood that something will not happen as a result of action taken by some agency the behaviour of which is outside the scope of the present document

In addition:

is (or any other verb in the indicative mood) indicates a statement of fact

is not (or any other negative verb in the indicative mood) indicates a statement of fact

The constructions "is" and "is not" do not indicate requirements.

1 Scope

The present document is a technical report for Work Item on New Radio (NR) Access Technology, covering introduction of lower 6GHz NR unlicensed operation for Europe (NR_6GHz_unlic_EU).

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 TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TR 37.890: Feasibility Study on 6 GHz for LTE and NR in Licensed and Unlicensed Operations

...

[x] <doctype> <#>[([up to and including]{yyyy[-mm]}V<a[b.c]>}{onwards}]]: "<Title>".

It is preferred that the reference to 21.905 be the first in the list.

3 Definitions of terms, symbols and abbreviations

This clause and its three subclauses are mandatory. The contents shall be shown as "void" if the TS/TR does not define any terms, symbols, or abbreviations.

3.1 Terms

For the purposes of the present document, the terms given in 3GPP TR 21.905 [1] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in 3GPP TR 21.905 [1].

Definition format (Normal)

<defined term>: <definition>.

example: text used to clarify abstract rules by applying them literally.

3.2 Symbols

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

Symbol format (EW)

<symbol> <Explanation>

3.3 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TR 21.905 [1] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in 3GPP TR 21.905 [1].

Abbreviation format (EW)

<ABBREVIATION>	<Expansion>
ACLR	Adjacent Channel Leakage Ratio
ACS	Adjacent Channel Selectivity
BS	Base Station
BW	Bandwidth
EIRP	Effective Isotropic Radiated Power
FR	Frequency Range
GSCN	Global Synchronization Channel Number
ICS	In-Channel Selectivity
ITU-R	Radiocommunication Sector of the International Telecommunication Union
NR	New Radio
NR-ARFCN	NR Absolute Radio Frequency Channel Number
OTA	Over The Air
RF	Radio Frequency
RX	Receiver
SCS	Sub-Carrier Spacing
TDD	Time division Duplex

4 Background

Administrations in Europe have had unlicensed operation in the range 5925 to 6425 MHz for consultation. The result of this consultation is that at the November 2020 meeting the ECC with ECC Decision (20)01 “on the harmonised use of the frequency bands 5945 to 6425 MHz for the implementation of Wireless Access Systems including Radio Local Area Networks (WAS/RLANs)” approved unlicensed operation in the range 5945 to 6425 MHz.

NR-Unlicensed is standardized in Rel-16 with the definition of band n96 covering the spectrum range 5925-7125 MHz which is currently applicable in the USA only subject to FCC Report and Order FCC 20-51. For Rel-17 3GPP WG4 is tasked to also enable unlicensed operation in the range 5945 to 6425 MHz for European deployments.

Regulatory information is maintained in [2].

5 NR Frequency band definition

6 RF requirements

6.1 UE specific

6.1.1 Transmitter characteristics

6.1.2 Receiver characteristics

6.2 BS specific

6.2.1 Transmitter characteristics

6.2.2 Receiver characteristics

7 RRM

7.1 Frequency bands grouping

Annex [A]: Change history

Change history							
Date	Meeting	TDoc	CR	Rev	Cat	Subject/Comment	New version
2021-01	RAN4-98e	R4-2101927				TR Skeleton	0.0.0