**3GPP TSG-RAN WG5 Meeting # 103 *R5-243463***

**Fukuoka City, Fukuoka, Japan, May 20 – 24, 2024**

**3GPP TSG RAN Meeting #104 *RP-24xxxx***

**Shanghai, China, Sep 17-20, 2024**

**Source: ZTE, China Telecom**

**Title: New WID on UE Conformance – 4Rx for NR bands for FWA (Fixed Wireless Access) UEs (<2.6GHz) and handheld UEs (1GHz to 2.6GHz)**

**Document for: Endorsement**

**Agenda Item: 4.1**

3GPP™ Work Item Description

Information on Work Items can be found at <http://www.3gpp.org/Work-Items>   
See also the [3GPP Working Procedures](http://www.3gpp.org/specifications-groups/working-procedures), article 39 and the TSG Working Methods in [3GPP TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm)

# Title: UE Conformance – 4Rx for NR bands for FWA (Fixed Wireless Access) UEs (<2.6GHz) and handheld UEs (1GHz to 2.6GHz)

## Acronym: 4Rx\_NR\_bands\_R18-UEConTest

## Unique identifier:

|  |  |  |
| --- | --- | --- |
| **This WID includes a Testing part** | | **X** |
| **and it addresses the following 3GPP work area:** | **Radio Access** | **X** |
| **Core Network** |  |
| **Services** |  |

Potential target Release: Rel-18

## 1 Impacts

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Affects:** | UICC apps | ME | AN | CN | Others (specify) |
| **Yes** |  |  |  |  |  |
| **No** | X | X | X | X | X |
| **Don't know** |  |  |  |  |  |

## 2 Classification of the Work Item and linked work items

### 2.1 Primary classification

This description is a

|  |  |
| --- | --- |
| Normative Work Item:  *tick applicable boxes below* | |
|  | Stage 1 |
|  | Stage 2 |
|  | Stage 3 |
| X | Other (e.g. testing) |

### 2.2 Parent Work Item

For a brand-new topic, use “N/A” in the table below. Otherwise indicate the parent Work Item.

|  |  |  |  |
| --- | --- | --- | --- |
| Parent Work / Study Items | | | |
| Acronym | Working Group | Unique ID | Title (as in 3GPP Work Plan) |
| 4Rx\_NR\_bands\_R18 |  | 981042 | Rel-18 4Rx for NR bands for FWA (Fixed Wireless Access) UEs (<2.6GHz) and handheld UEs (1GHz to 2.6GHz) |
| 4Rx\_NR\_bands\_R18-Core | R4 | 981142 | Core part: Rel-18 4Rx for NR bands for FWA (Fixed Wireless Access) UEs (<2.6GHz) and handheld UEs (1GHz to 2.6GHz) |

### 2.3 Other related Work Items and dependencies

|  |  |  |  |
| --- | --- | --- | --- |
| Other related Work/Study Items (if any) | | | |
| **Acronym** | Unique ID | Title | Nature of relationship |
|  |  |  | *{optional free text}* |

## 3 Justification

3GPP TSG RAN WG4 has created the WID for Rel-18 4Rx for NR bands for FWA (Fixed Wireless Access) UEs (<2.6GHz) and handheld UEs (1GHz to 2.6GHz). The WID is to provide higher throughput and better coverage with the introduction of 4Rx UE requirements based on the operator and market demand. Following requirements are introduced under this WI:

* Specify the 4Rx REFSENS requirement for NR FR1 bands
  + Support of 4Rx for the bands <2.6GHz added in this WI is optional
  + Note 1: for operating frequency less than 1GHz, only FWA is considered.

The WID was completed with 100% completion level in last RAN plenary. It’s time for 3GPP TSG RAN WG5 to start working on the corresponding conformance testing part to meet the industry interest.

## 4 Objective

### 4.1 Objective of SI or Core part WI or Testing part WI

The objective of this work item is to develop RF test cases for Rel-18 4Rx for NR bands for FWA (Fixed Wireless Access) UEs (<2.6GHz) and handheld UEs (1GHz to 2.6GHz). For the enhancements for 4Rx FWA (<2.6GHz) and handheld UEs (1GHz to 2.6GHz), example bands considered in core WI are n5, n13, n25, n26 and n85.

|  |  |  |
| --- | --- | --- |
| **Band** | **Additional information** | **status** |
|  | *Note: any specific technical challenge should be triggered and highlighted here* |  |
| n5 | 4 Rx operation is targeted for FWA form factor | Completed |
| n25 |  | Completed |
| n85 | 4 Rx operation is targeted for FWA form factor | Completed |
| n26 | 4 Rx operation is targeted for FWA form factor | Completed |
| n13 | 4 Rx operation is targeted for FWA form factor | Completed |

In the conformance test WI, example bands would be selected from the above list based on the industry interest to complete the new RF test cases.

## 5 Expected Output and Time scale

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **New specifications** | | | | | |
| Type | TS/TR number | Title | For info  at TSG# | For approval at TSG# | Remarks |
|  |  |  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Impacted existing TS/TR** | | | |
| TS/TR No. | Description of change | Target completion plenary# | Remarks |
| TS 38.508-1 | Definition of common test environment for 4Rx for NR bands for FWA (Fixed Wireless Access) UEs (<2.6GHz) and handheld UEs (1GHz to 2.6GHz) | TSG RAN#108 (Jun-25) |  |
| TS 38.508-2 | Introduction of common implementation conformance statement (ICS) for 4Rx for NR bands for FWA (Fixed Wireless Access) UEs (<2.6GHz) and handheld UEs (1GHz to 2.6GHz) | TSG RAN#108 (Jun-25) |  |
| TS 38.521-1 | Introduction of test aspect of RF requirements for 4Rx handheld UE for 4Rx for NR bands for FWA (Fixed Wireless Access) UEs (<2.6GHz) and handheld UEs (1GHz to 2.6GHz) | TSG RAN#108 (Jun-25) |  |
| TS 38.522 | Applicability statements of 4Rx for NR bands for FWA (Fixed Wireless Access) UEs (<2.6GHz) and handheld UEs (1GHz to 2.6GHz) | TSG RAN#108 (Jun-25) |  |
| TR 38.905 | Documentation of test points for 4Rx for NR bands for FWA (Fixed Wireless Access) UEs (<2.6GHz) and handheld UEs (1GHz to 2.6GHz) | TSG RAN#108 (Jun-25) |  |

## 6 Work item Rapporteur(s)

Zhifeng MA (ZTE Corporation)

ma.zhifeng@zte.com.cn

Zhengyang LIU (China Telecom)

liuzy18@chinatelecom.cn

## 7 Work item leadership

RAN5

## 8 Aspects that involve other WGs

None

## 9 Supporting Individual Members

|  |
| --- |
| Supporting IM name |
| ZTE Corporation |
| China Telecom |
| China Unicom |
| Huawei |
| HiSilicon |
| MediaTek |
| Samsung |
| Sanechips |
| Orange |
| Verizon |
| Ericsson |
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