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| **3GPP TSG-RAN4 Meeting #113 *R4-2419806***  Orlando, US, 18th – 22nd November, 2024   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | *CR-Form-v12.3* | | | | | | | | | **CHANGE REQUEST** | | | | | | | | |  | | | | | | | | |  | **38.870** | **CR** | Draft | **rev** | **-** | **Current version:** | 18.3.0 |  | |  | | | | | | | | | *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | | |  | | | | | | | | |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **Proposed change affects:** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | | | | | | | | | | | | | ***Title:*** | Draft Rel-19 CR for 38.870 on XR OTA alternative test method | | | | | | | | | | |  |  | | | | | | | | | | | ***Source to WG:*** | vivo, Apple | | | | | | | | | | | ***Source to TSG:*** | R4 | | | | | | | | | | |  |  | | | | | | | | | | | ***Work item code:*** | TRP\_TRS\_MIMO\_OTA\_Ph3-Core | | | | |  | ***Date:*** | | | 2024-11-7 | |  |  | | | |  | |  | | |  | | ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-19 | |  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19) Rel-20 (Release 20)* | | |  |  | | | | | | | | | | | | ***Reason for change:*** | | The draft CR provides content to accommodate agreed alternative test methods for XR devices. | | | | | | | | | |  | |  | | | | | | | | | | ***Summary of change:*** | | The agreed low UL power method is added into spec. | | | | | | | | | |  | |  | | | | | | | | | | ***Consequences if not approved:*** | | The spec is not appicable for XR UE testing by alternative test method. | | | | | | | | | |  | |  | | | | | | | | | | | ***Clauses affected:*** | | 10 | | | | | | | | | |  | |  | | | | | | | | | |  | | **Y** | **N** |  | | | |  | | | | ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | | | ***affected:*** | | **X** |  | Test specifications | | | | TS/TR ... CR ... | | | | ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | | |  | |  | | | | | | | | | | ***Other comments:*** | |  | | | | | | | | | |  | |  | | | | | | | | | | | ***This CR's revision history:*** | |  | | | | | | | | | |

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**<<< START OF CHANGES >>>**

# 10 Alternative methodologies to resolve battery issue

## 10.1 General

This Clause define alternative test methodologies to resolve the battery issue of devices during TRP/TRS testing.

## 10.2 Low UL power solution

The low UL power solution for XR device is a Single Point Offset Test (SPOT) approach for TRS measurements. To reduce the power battery issue of XR devices under maximum transmission condition, SPOT with maximum transmit power can be performed and the end of the measurement to scale the TRS result measured under low UL power. The low transmit power is set as 10 dBm. The final TRS is achieved by offsetting the TRS from the delta at Peak EIS, using both maximum output power (single point EIS) and low transmit power (full EIS).

The detailed test procedure is as following:

1) Step 1: perform the TRS measurement based on the procedure defined in clause 7.5, with one exception that the UL power of DUT is configured as 10dBm. TRS value is calculated using the equation and integration approaches outlined in TS 38.1.6.1 Clause A.3.5.2. This TRS is called **TRSlow\_power**.

2) Step 2: determine the peak EIS direction from step 1. The EIS obtained at the peak positionis called **EISlow\_power**. Configure the UE to transmit at full power to measure the **EISmax\_power** at the same peak position determine from Step 2.

3) Step 3: calculate the delta value at peak EIS direction with **delta**= **EISlow\_power -EISmax\_power.** then get the final TRS at maximum output power based on the equation **TRSMax\_power = TRSlow\_power - delta.**

FFS whether above test procedure can also be applied to Wearable Redcap UE.

**<<< END OF CHANGES >>>**