**3GPP TSG RAN WG1 #105-e R1-210xxxx**

**e-Meeting, May 10th – 27th, 2021**

**Source: Moderator (ZTE)**

**Title: Summary of Email Discussion [105-e-LTE-6.1CRs-01]**

**Agenda item: 6.1**

**Document for:** **Discussion/Decision**

# Introduction

Per Chairman’s guidance, the following email discussion is allocated to discuss LTE Rel-14 CR R1-2104575. This summary is generated to collect companies’ views.

 [105-e-LTE-6.1CRs-01] Email discussion/approval on R1-2104575 by May 24 - Xingguang (ZTE)

# Discussion

**SCS = 15 KHz**

In LTE spec, for the SCS=15 KHz, the following equations are applied.

|  |
| --- |
| where |

The $m^{'}$can be derived by



, where $N\_{SC}^{RB}=12$ represents the number of sub-carriers per RB for SCS=15 KHz. The “2” in $\frac{N\_{SC}^{RB}}{2}$ is derived by k=2m or k=2m+1 as shown above.

**SCS = 1.25 KHz**

The **existing** spec is as below.

|  |
| --- |
| where  |

While for the SCS = 1.25 KHz case, the $m^{'}$can be derived by



, where  represents the number of sub-carriers per RB for SCS=1.25 KHz. The “6” in $\frac{N\_{SC}^{RB}}{6}$ is derived by k=6m or k=6m+3 as shown above.

**Thus, our CR tries to correct the equation for** $m^{'}$ **for SCS= 1.25 KHz case. In summary we change  to  for SCS=1.25 KHz case.**

The **updated** spec in R1-2104575 is as below.

|  |
| --- |
| 6.10.2.2.2 Mapping to resource elements for 1.25 kHzThe reference-signal sequence  in OFDM symbol  shall be mapped to complex-valued modulation symbols  with  according to where  |

## Question#1

Question#1: Do you think the CR in R1-2104575 is needed or not? Any views on how to correct the equation for $m^{'}$ for SCS = 1.25 KHz case?

|  |  |
| --- | --- |
| **Company** | **View** |
| Qualcomm | Although we agree the number (following the same approach as legacy) should be 12 and not 3, we think the current equation works and prefer to not correct the spec.Note that what the equation does is it creates a 110RB long sequence, and then (for legacy) it picks the center N\_RB for the sequence. The equation as it is today would just introduce an offset on how this sequence is picked, but the spec still works. |
|  |  |
|  |  |

# Conclusion

# Reference

1. R1-2104575, Correction for MBSFN reference signal mapping to resource elements for 1.25 kHz, ZTE, RAN1#105-e meeting.