3GPP TSG-RAN WG4 Meeting # 102-e R4-220xxxx

Electronic Meeting, Feb 26 – Mar 3 2022

**Agenda Item:** **x.x.3**

**Source: ZTE**

**Title:** **WF on NTN UE RF requirements**

**Document for:** **Approval**

1. **Way forward**

**NTN UE Tx requirement:**

**Issue 1-1-1:** where to capture isolation region (1.5km) information

Agreement:

To capture the descriptions on the assumption of 1.5km isolation region just in TR 38.863. A clarification that TN UEs not deploying in isolation region is for simplifying the simulation

**Issue 1-2-1:** minimum output power

Agreement:

Option 2: reuse the TN minimum output power requirements for NTN UE

**Issue 1-3-1:** UE coexistence requirement

**Agreement: Option 1 (-50dBm/MHz), exception for specific bands need to be further discussed and decided.**

**Issue 1-3-2:**  protected TN bands for UE co-existence n255/n256

* + Option 1: all TN bands with some exceptional bands

Agreement: Option 1

**Issue 1-3-4:**  exceptional TN bands for UE co-existence n255

Agreement: No need exception on band n24.

**Issue 1-4-1: MPR**

* Proposals
  + Option 1: to reuse TN MPR requirement

Agreement: Option 1

Note that MPR may be revisited in the future based on NTN UE ACLR/SEM requirement.

**Issue 1-4-2:** A-MPR for n256

Agreement:

NS\_01, NS\_24 and NS\_100 for n256

FFS for how to protect n2, n25, n70 and whether A-MPR required

**NTN UE Rx requirement:**

**Issue 2-1-1:** Duplexer for n256

* + Option 1: dedicated 30MHz [QC, CATT, Ericsson, ZTE, Huawei]
  + Option 2: reusing n65 [ Xiaomi,Skyworks, Hughes/EchoStar, Omnispace, MTK,Intelsat, THALES]

Agreement:

Keep UE implementation freedom for both options and define RAN4 RF requirements compatible with above options.

For REFSENS, choosing the minimum requirements among option 1 and option 2.

**Issue 2-1-2:** maximum input power

* Proposals
  + Option 1: relaxed by 15dB from TN UE

Agreement: Option 1

**Issue 2-1-3:** ACS requirement in case 2

Agreement: ACS requirements in case 2 can be specified based on the agreed maximum input level if needed.

1. **Open issues**

**NTN UE Tx requirement:**

**Issue 1-3-3:**  exceptional TN bands for UE co-existence n256

Agreement:

Tentative agreement: no need for exception on band n65 (pending on further check by EchoStar)

FFS: For the exceptions on TN band protection for n256, a critical one is band 34 as it is adjacent.

**Issue 1-4-3:** A-MPR for n255

Agreement:

Further check the regulatory requirements on band n255 and confirm whether A-MPR required and whether new NS needed

*Recommendations for 2nd round:*

**Issue 2-1-1:** Duplexer for n256

**NTN UE Rx requirement:**

| Operating band / SCS / Channel bandwidth | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Operating Band | SCS kHz | 5  MHz (dBm) | 10  MHz (dBm) | 15  MHz (dBm) | 20  MHz (dBm) | 25  MHz (dBm) | 30 MHz (dBm) | 35 MHz (dBm) | 40  MHz (dBm) | 45 MHz (dBm) | 50  MHz (dBm) |
| n256 | 15 | -99.5 | -96.3 | -94.5 | -93.3 |  |  |  |  |  |  |
| 30 |  | -96.6 | -94.6 | -93.5 |  |  |  |  |  |  |
| 60 |  | -97.0 | -94.9 | -93.7 |  |  |  |  |  |  |

*If both option 1 and option 2 is supported, how to define in-band blocking and out of band blocking requirement for option 1 with 30MHz dedicated filter needs further discussions.*