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

Electronic meeting, February 21-March 3, 2022

**Source:** Ericsson

**Title:** WF on on system parameters for the 6 GHz licensed band

**Agenda item:** 9.3.2

**Document for:** Approval

# System parameters

## Channel bandwidths and SCS

Agreement:

Following channel bandwidths and SCS shall be supported for the new 6GHz licensed band:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **NR band** | **SCS**  **(kHz)** | **channel bandwidth (MHz)** | | | | | | | | | | | | | | |
| **5** | **10** | **15** | **20** | **25** | **30** | **35** | **40** | **45** | **50** | **60** | **70** | **80** | **90** | **100** |
| [n104] | 15 |  |  |  | 20 |  | 30 |  | 40 |  | 50 |  |  |  |  |  |
|  | 30 |  |  |  | 20 |  | 30 |  | 40 |  | 50 | 60 | 70 | 80 | 90 | 100 |
|  | 60 |  |  |  | 20 |  | 30 |  | 40 |  | 50 | 60 | 70 | 80 | 90 | 100 |

## Spectrum utilization

Agreement:

Reuse the existing FR1 spectral utilization for 6425-7125MHz.

## Channel raster and sync raster

Way Forward:

Companies are encouraged to further investigated the following 3 options, comparing pros and cons:

* Option 1:
  + Channel raster:
    - Legacy approach based on 15/30 kHz SCS:

|  |  |  |  |
| --- | --- | --- | --- |
| **NR *operating band*** | **ΔFRaster**  **(kHz)** | **Uplink**  **range of NREF**  **(First – <Step size> – Last)** | **Downlink**  **range of NREF**  **(First – <Step size> – Last)** |
| [n104] | 15 | 828334 – <1> –875000 | 828334 – <1> –875000 |
|  | 30 | 828334 – <2> –875000 | 828334 – <2> –875000 |

* + Sync raster
    - SS block: 30kHz SCS– Case C pattern
    - Step size value from [1 to 7] (companies are also encouraged to indicate their preferred value, higher value than 7 is not precluded if justified).
* Option 2:
  + Channel raster:
    - 5 MHz resolution:

|  |  |  |  |
| --- | --- | --- | --- |
| **NR operating band** | **ΔFRaster**  **(kHz)** | **Uplink**  **Range of NREF**  **(First – <Step size> – Last)** | **Downlink**  **Range of NREF**  **(First – <Step size> – Last)** |
| [n104] | 15 | 828667 – <333, 334> – 874667 | 828667 – <333, 334> – 874667 |

The ARFCN available for this band as follows

ARFCN0 = 828667

ARFCNn+1 = ARFCNn + 333 if n mod 3 ≠ 0

ARFCNn+1 = ARFCNn + 334 if n mod 3 = 0

ARFCN138 = 8874667

where n = {0, 1, 2, … 138}.

* + Sync raster
    - SS block: 30kHz SCS– Case C pattern
    - based on ~ 5MHz channel raster and the raster entries are FFS
* Option 3:
  + Channel raster:
    - 5 MHz resolution:

|  |  |  |  |
| --- | --- | --- | --- |
| **NR operating band** | **ΔFRaster**  **(kHz)** | **Uplink**  **Range of NREF**  **(First – <Step size> – Last)** | **Downlink**  **Range of NREF**  **(First – <Step size> – Last)** |
| [n104] | 15 | 828667 – <333, 334> – 874667 | 828667 – <333, 334> – 874667 |

The ARFCN available for this band as follows

ARFCN0 = 828667

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ARFCNn+1 = ARFCNn + 334 if n mod 3 = 0

ARFCN138 = 8874667

where n = {0, 1, 2, … 138}.

* + Sync raster
    - SS block: 30kHz SCS– Case C pattern
    - Step size value from [1 to 7] (companies are also encouraged to indicate their preferred value, higher value than 7 is not precluded if justified).

# References

1. R4-2203919, System parameters for 6GHz licensed band, CATT
2. R4-2204565, Discussion on system parameters for 6GHz licensed spectrum, CMCC
3. R4-2205120, Discussion the remaining issues on system parameters for 6G license band, Xiaomi
4. R4-2205145, System parameters for 6GHz NR licensed band, Huawei, HiSilicon, China Unicom
5. R4-2205453, Discussion on system parameters for 6425-7125MHz, ZTE Corporation
6. R4-2206102, Channel raster and sync raster for the 6 GHz licensed band, Qualcomm Incorporated
7. R4-2206127, 6GHz licensed band system parameters, MediaTek (Chengdu) Inc.