**3GPP TSG-RAN WG4 Meeting # 107 R4-23XXXXX**

**Incheon, KR, May 22nd – May 26th , 2023**

**Agenda item:** 9.4.5

**Source:** Moderator (Qualcomm Incorporated)

**Title:** Topic summary for [107][121] LTE\_NR\_US\_900MHz

**Document for:** Information

# Introduction

This document is a summary of contributions submitted to agenda item 9.4. Topics include UE coexistence emissions to protect Band n5/n26 and agreement of CR’s for the UE and the basestation.

As a reminder, the work item for LTE (RP-230722) is scheduled to complete in June at RAN#100 while the work item for NR (RP-230723) is scheduled to complete in December at RAN#102. Hence, this meeting RAN4 #107 is the last working group meeting to finalize the technical work to define the LTE band.

# Topic #1: UE

*Main technical topic overview. The structure can be done based on sub-agenda basis.*

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| [**R4-2307132**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_107/Docs/R4-2307132.zip) | Nokia Corporation | Observation 1: A-MPR is required for 3 MHz channel in order to protect band 5 with -35 dBm@1MHz. |
| **R4-2307634** | Anterix | Our conclusion is that the -30 dBm coexistence specification proposed and supported by multiple companies is the best solution to enable the band 106 market. |
| [**R4-2307838**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_107/Docs/R4-2307838.zip) | ZTE Corporation | CR to TS36.101: the introduction of 900 MHz LTE new band  Includes note on EARFCN restriction for 3 MHz.  UE coexistence to Band 5/26 is [-30] dBm/MHz with a note that it is applicable for 3 MHz channels centered at 899 MHz. No requirement for other bands to protect Band 106. |
| [**R4-2307930**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_107/Docs/R4-2307930.zip) | ZTE Corporation | CR to TS 36.133: Introduction of 900 MHz LTE Band in the US  Add band 106 to the relevant band group in the band groups table. Because the reference sensitivity of band 106 reuse the value of band 8, the band group of band 106 should be consistent with that of band 8. DraftCR (R4-2305121) has been endorsed at the 106bis-e meeting. |

## Open issues summary

The open issue is the UE coexistence protection limit from Band n106 to Band 5 and the A-MPR to meet this limit. On the emission limit, it was proposed at the last meeting to specify a requirement of -30 dBm/MHz without any A-MPR allowance. Both contributions at this meeting seem to confirm -30 dBm/MHz could be met without A-MPR. Anterix also showed in drive tests that there is a wider frequency separation in practice available so the interference is not a problem. If needed, higher levels of protection, such as -35 dBm/MHz would require A-MPR according to simulation results from Nokia in R4-2307132 while measurements from R4-2307634 show no A-MPR is needed for -35 dBm/MHz.

### Sub-topic 1-1: UE coexistence and A-MPR

*Sub-topic description:*

*Open issues and candidate options before meeting:*

**Issue 1-1: UE coexistence and A-MPR**

* Proposals
  + Option 1: -30 dBm/MHz and no A-MPR
  + Option 2: -35 dBm/MHz and up to 3.7 dB A-MPR
  + Option 3: Higher protection level and more A-MPR
* Recommended WF
  + Decide among the options. Once decided, a CR for 36.101 (R4-2307838 can be revised as needed) can be agreed to be able to close the work item on time.

# Topic #2: Basestation

*Main technical topic overview. The structure can be done based on sub-agenda basis.*

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| [**R4-2307839**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_107/Docs/R4-2307839.zip) | ZTE Corporation, Nokia, Nokia Shanghai Bell | CR to TS37.141: the introduction of 900 MHz LTE new band  Resubmit the endorsed CR in last meeting |
| [**R4-2307840**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_107/Docs/R4-2307840.zip) | ZTE Corporation | CR to TS37.145-1: the introduction of 900 MHz LTE new band  Resubmit the endorsed CR in last meeting |
| [**R4-2307841**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_107/Docs/R4-2307841.zip) | ZTE Corporation | CR to TS37.145-2: the introduction of 900 MHz LTE new band  Resubmit the endorsed CR in last meeting |
| [**R4-2309233**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_107/Docs/R4-2309233.zip) | Nokia, Nokia Shanghai Bell | CR to 36.104 on introduction of Band 106 |
| [**R4-2309234**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_107/Docs/R4-2309234.zip) | Nokia, Nokia Shanghai Bell, ZTE Corporation | CR to 36.141 on introduction of Band 106 |
| [**R4-2309235**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_107/Docs/R4-2309235.zip) | Nokia, Nokia Shanghai Bell | CR to 37.104 on introduction of Band 106 |
| R4-2309236 | Nokia, Nokia Shanghai Bell | CR to 37.141 on introduction of Band 106 |
| [**R4-2309237**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_107/Docs/R4-2309237.zip) | Nokia, Nokia Shanghai Bell | CR to 38.104 on introduction of Band 106 |
| [**R4-2309238**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_107/Docs/R4-2309238.zip) | Nokia, Nokia Shanghai Bell, ZTE Corporation | CR to 38.141-1 on introduction of Band 106 |
| [**R4-2309239**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_107/Docs/R4-2309239.zip) | Nokia, Nokia Shanghai Bell | CR to 38.141-2 on introduction of Band 106 |

## Open issues summary

Basestation CR’s appear to be agreeable. Most of the issues were resolved at the last meeting.

### Sub-topic 2-1

*Sub-topic description:*

*Open issues and candidate options before meeting:*

**Issue 2-1: Basestation CR’s**

* Proposals
  + Option 1: Agree to the basestation CR’s at least for LTE. CR’s for NR are related to coexistence with the LTE band so also can be agreed at this time. There may be further CR’s in the future when the NR work item is finished.
  + Option 2: Other
* Recommended WF
  + Option 1