**3GPP TSG-RAN WG2 Meeting#109bis-e R2-200xxxxx**

**Electronic meeting, 20 - 30 April 2020**

**Source: Huawei, HiSilicon**

**Title: Summary of [AT109bis-e][033][DCCA] UE capabilities (Huawei)**

**Agenda item:** **6.10.2**

**Document for:** **Discussion and Decision**

# 1 Introduction

This document summarizes the following email discussion:

**[AT109bis-e][033][DCCA] UE capabilities (Huawei)**

Scope: Treat topics in 6.10.2, based on [R2-2003707](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109bis-e\Docs\R2-2003707.zip) and comments. Discussion on non-controversial issues/proposals that might not need to be treated on-line can start immediately. Others can start after on-line session.

Part 1: Determine which issues that need resolution, find agreeable proposals. Deadline: April 24 0700 UTC (can be extended). Way forward for issues that cannot be resolved at this meeting.

Part 2: Running CRs capturing agreements from this meeting.

# 2 Potential agreements

This section includes proposals which had an obvious majority of companies, or from one company only but that seem non-controversial.

## 2.1 Resume with SCG

During online session, the following agreements were made for resuming with SCells in LTE:

* Split resumeWithSCells -r16 in two separate LTE capabilities:  
  a) not deleting stored MCG SCell configuration when initiating the resume procedure"  
  b) (re-)configuration of MCG SCells in the RRCConnectionResume message",

**Condition: if Ue support a the UE also must support b**

There are FFS for similar questions for resume with SCG.

Since views of various companies were very similar for resuming with SCG, it may be possible to agree the same thing for resuming the SCG in LTE and in NR, i.e. two separate capabilities for not deleting and for (re)-configuration.

For 36.306, this would be:

4.3.15.x3 *resumeWithStoredSCG -r16*

This parameter defines whether the UE supports not deleting the stored SCG configuration when initiating the resume procedure as specified in TS 36.331 [5]. A UE indicating support of *resumeWithStoredSCG -r16* shall also indicate support of *resumeWithSCCG-Config -r16*.

FFS: Split "resume from RRC\_IDLE" and "resume from RRC\_INACTIVE".

4.3.15.x4 *resumeWithSCG-Config -r16*

This parameter defines whether the UE supports (re-)configuration of SCG in the *RRCConnectionResume* message as specified in TS 36.331 [5].

FFS: Split "resume from RRC\_IDLE" and "resume from RRC\_INACTIVE".

and for 38.306

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| ***resumeWithStoredSCG-r16***  Indicates whether the UE supports not deleting the stored SCG configuration when initiating resume. The UE which indicates supports for *resumeWithStoredSCG-r16* shall also indicate support for *resumeWithSCG-Config-r16*. | UE | No | No | No |
| ***resumeWithSCG-Config-r16***  Indicates whether the UE supports (re-)configuration of an SCG during the resume procedure. | UE | No | No | No |

**Q1) Do companies agree to adopt, for NR and for LTE, two capabilities, one to resume with the stored SCG configuration, and another one for (re-)configuration of the SCG during the resume procedure, and the UE which supports resume with the stored SCG configuration also supports (re-)configuration of the SCG during the resume procedure?**

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| **Company** | **Agree/Disagree** | **Additional comments** |
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Another FFS applies for the LTE capabilities resumeWithStoredSCells -r16, resumeWithSCellConfig -r16, resumeWithStoredSCG -r16 and resumeWithSCG-Config -r16.

**Q2) Do companies agree that the 4 above listed LTE capabilities all apply both to resume from RRC\_IDLE and resume from RRC\_INACTIVE?**

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| **Company** | **Agree/Disagree** | **Additional comments** |
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## 2.2 Fast MCG recovery

In 36.306, the capability was defined as:

4.3.15.x3 *mcgRLF-RecoveryViaSCG-r16*

This parameter defines whether the UE supports recovery from MCG RLF via split SRB1 (if supported) and via SRB3 (if supported) as specified in TS 36.331 [5].

TBC: No need to separate split SRB1 from SRB3.

In 38.306, this is the definition:

| ***mcgRLF-RecoveryViaSCG-r16***  Indicates whether the UE supports recovery from MCG RLF via split SRB1 (if supported) and via SRB3 (if supported) as specified in TS 38.331[9].  TBC: No need to separate split SRB1 from SRB3. | UE | No | No | No |
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In the summary, only one company think there should be separate capabilities for split SRB1 and SRB3.

**Q3) Do companies agree to have a single LTE and a single NR capability for MCG RLF recovery which covers both recovery via split SRB1 and via SRB3?**

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| **Company** | **Agree/Disagree** | **Additional comments** |
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## 2.3 Direct SCell activation

It was observed that the support of direct SCG SCell activation in NR depends on the support of resume with SCG. This could mean the following update:

| **Definitions for parameters** | **Per** | **M** | **FDD-TDD DIFF** | **FR1-FR2 DIFF** |
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| ***directSCellActivation-r16***  Indicates whether the UE supports direct MCG SCell activation upon SCell addition, upon reconfigurationWithSync and upon resume.  If the UE supports *resumeWithSCG-Config*, this field also indicates whether the UE supports direct SCG SCell activation upon SCell addition, upon reconfigurationWithSync and upon resume.FFS: Separate capabilities for resume? | UE | No | No | FFS |

**Q4) Do companies agree with the above update for the NR capability directSCellActivation-r16?**

**In LTE, the capability was not considering the case of SCG SCells for NE-DC, but this case should probably be also covered.**

4.3.19.x *directSCellActivationResume-r16*

This field defines whether the UE supports having an MCG SCell configured in activated SCell state in the *RRCConnectionResume* message, as defined in TS 36.321 [4] and TS 36.331 [5]. If the UE supports NE-DC, this capability also defines whether the UE supports having an SCG SCell configured in activated SCell state in the *RRCConnectionResume* message, as defined in TS 36.321 [4] and TS 36.331 [5].

If the UE indicates support of *directSCellActivationResume-r16*, the UE shall also indicate support of *resumeWithSCellConfig-r16*.

**Q5) Do companies agree with the above update for the LTE capability directSCellActivation-r16?**

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| **Company** | **Agree/Disagree** | **Additional comments** |
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## 2.4 Fast recovery

In 36.306, the capability was defined as:

4.3.15.x3 *mcgRLF-RecoveryViaSCG-r16*

This parameter defines whether the UE supports recovery from MCG RLF via split SRB1 (if supported) and via SRB3 (if supported) as specified in TS 36.331 [5].

TBC: No need to separate split SRB1 from SRB3.

In 38.306, this is the definition:

| ***mcgRLF-RecoveryViaSCG-r16***  Indicates whether the UE supports recovery from MCG RLF via split SRB1 (if supported) and via SRB3 (if supported) as specified in TS 38.331[9].  TBC: No need to separate split SRB1 from SRB3. | UE | No | No | No |
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**Q6) Do companies agree to have a single capability covering both split SRB1 and SRB3, as above, for LTE and for NR (i.e. remove the TBC)**

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| **Company** | **Agree/Disagree** | **Additional comments** |
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# 3 Updated 36.306 and 38.306 CRs

Draft updates are provided in the draft folder.

There are some updates:

- highlighted in green: agreements made this meeting

- highlighed in yellow: potential agreements as in section 2

**Q7) Do companies agree with the updated CRs? (yellow highlighted parts may be changed if the potential agreements in section 2 above cannot be agreed)**

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| **Company** | **Agree/Disagree** | **Additional comments** |
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# 4 More controversial

The following points are more controversial:

- **direct SCell activation in NR**

1) introduce separate capability for resume

2) introduce FR1/FR2 separation

- **NR measurements in LTE idle/inactive**

3) introduce separate capabilities for NR FR1 and NR FR2 measurements

- **NR measurements in NR idle/inactive**

4) set FR1/FR2 separation to "Yes": i.e. separate support for NR FR1 measurements and NR FR2 measurements

**Q8) What are company preferences on the above 4 points (Separate/Not separate), please provide view one by one, e.g. 1: separate, 2: not separate, 3: not separate, 4: not separate?**

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| **Company** | **Agree/Disagree** | **Additional comments** |
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**Q9) Do companies prefer to send LS to RAN4 or to wait?**

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| **Company** | **Wait/LS** | **Additional comments** |
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# 5 Conclusion

# 6 References

1. R2-2003707 Summary for UE capabilities Huawei, HiSilicon