3GPP TSG-RAN WG2 #111 Draft R2-2008136

Electronic meeting, 17th – 28th August 2020

**Agenda item:** 7.4.3

**Source:** China Telecom

**Title:** Summary of discussion [AT111-e][206][MOB] UE capability corrections for mobility (China Telecom)

**Document for:**  Discussion and decision

# Introduction

This is the summary of below offline discussion:

* [AT111-e][206][MOB] UE capability corrections for mobility (China Telecom)

Scope:

* + - Collect companies’ feedback for the UE capability contributions under 6.7.4 and 7.4.3 (in case Tue Aug 18th session runs out of time) marked for this email discussion
    - Proponents may provide updated versions (if needed) under this email discussion (Tdoc numbers can be requested for this purpose from the session chair or the RAN2 secretary)

Intended outcome:

* + - Discussion summary in [R2-2008136](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_111-e/Docs/R2-2008136.zip) (by email rapporteur).
    - Email discussion report treated during the 2nd online session, but session chair may propose intermediate conclusions after summary is available

Deadline for providing comments, for rapporteur inputs, conclusions and CR finalization:

* + - Deadline for companies' feedback: Friday 2020-08-21 09:00 UTC
    - Deadline for rapporteur's summary (in [R2-2008136](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_111-e/Docs/R2-2008136.zip)): Monday 2020-08-24 12:00 UTC
    - Deadline for CR finalization (for agreed CRs): Thursday 2020-08-27 07:00 UTC

As indicated by chairman, the following contributions [1]-[4] under AI 6.1.2, [5]-[7] under AI 6.7.4 and [8]-[11] under AI 7.4.3 are handled in this offline discussion for UE capability corrections for NR/LTE mobility.

Proposal 2, 3 and 5 handled here as per main session decisions:

1. [R2-2006936](file:///D:\\Documents\\3GPP\\tsg_ran\\WG2\\TSGR2_111-e\\Docs\\R2-2006936.zip" \o "D:Documents3GPPtsg_ranWG2TSGR2_111-eDocsR2-2006936.zip) Report of email discussion [Post109bis-e][082] UE Capabilties Intel Corporation, NTT DoCoMo discussion Rel-16 NR\_UE\_pow\_sav, NR\_IAB-Core, NR\_eMIMO-Core, NR\_IIOT-Core, NR\_2step\_RACH-Core, 5G\_V2X\_NRSL-Core, NR\_Mob\_enh-Core, NR\_pos-Core, NR\_unlic-Core, LTE\_NR\_DC\_CA\_enh-Core, NR\_SON\_MDT-Core, NR\_CLI\_RIM, NG\_RAN\_PRN-Core, TEI16, NR\_L1enh\_URLLC-Core

Miscellaneous corrections: XDD/FRX differentiation, dependent capabilities:

1. [R2-2007845](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_111-e/Docs/R2-2007845.zip) Miscellaneous corrections for Rel-16 UE capabilities Samsung discussion Rel-16 NR\_Mob\_enh-Core
2. [R2-2007846](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_111-e/Docs/R2-2007846.zip) Miscellaneous corrections for Rel-16 UE capabilities Samsung CR Rel-16 38.331 16.1.0 1927 - F NR\_Mob\_enh-Core
3. [R2-2007847](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_111-e/Docs/R2-2007847.zip) Miscellaneous corrections for Rel-16 UE capabilities Samsung CR Rel-16 38.306 16.1.0 0394 - F NR\_Mob\_enh-Core
4. [R2-2007455](file:///C:\\Users\\terhentt\\Documents\\Tdocs\\RAN2\\RAN2_111-e\\R2-2007455.zip) Discussion on per UE NR mobility capabilities Huawei, HiSilicon discussion Rel-16 NR\_Mob\_enh-Core
5. [R2-2007457](file:///C:\\Users\\terhentt\\Documents\\Tdocs\\RAN2\\RAN2_111-e\\R2-2007457.zip) Correction on TS 38.306 for DAPS Huawei, HiSilicon CR Rel-16 38.306 16.1.0 0380 - F NR\_Mob\_enh-Core

Reverting previous decision on dual-quantity CHO event – only treated if time allows:

1. [R2-2007591](file:///C:\\Users\\terhentt\\Documents\\Tdocs\\RAN2\\RAN2_111-e\\R2-2007591.zip) Multi quantity event for CHO Ericsson discussion NR\_Mob\_enh-Core

Including UE capability aspects of LTE mobility WI.

1. [R2-2006932](file:///C:\\Users\\terhentt\\Documents\\Tdocs\\RAN2\\RAN2_111-e\\R2-2006932.zip) Correction on LTE MOB capability Intel Corporation, China Telecom, Samsung CR Rel-16 36.331 16.1.1 4362 - F LTE\_feMob-Core
2. [R2-2006933](file:///C:\\Users\\terhentt\\Documents\\Tdocs\\RAN2\\RAN2_111-e\\R2-2006933.zip) Correction on LTE MOB capability Intel Corporation, China Telecom, Samsung CR Rel-16 36.306 16.1.0 1779 - F LTE\_feMob-Core
3. [R2-2007458](file:///C:\\Users\\terhentt\\Documents\\Tdocs\\RAN2\\RAN2_111-e\\R2-2007458.zip) Correction on TS 36.331 for DAPS UE capabilities Huawei, HiSilicon CR Rel-16 36.331 16.1.1 4384 - F LTE\_feMob-Core
4. [R2-2007459](file:///C:\\Users\\terhentt\\Documents\\Tdocs\\RAN2\\RAN2_111-e\\R2-2007459.zip) Correction on TS 36.306 for DAPS Huawei, HiSilicon CR Rel-16 36.306 16.1.0 1781 - F LTE\_feMob-Core

To make it easier to find the correct contact delegate in each company for potential follow-up questions, the rapporteur encourages the delegates who provide input to provide their contact information in this table Delegate contact in section 5.

# Discussion

Some DAPS-related proposals in the references would be covered by [AT111-e][206], including *Proposal#5* in [1], Proposal 1 and Proposal 2 in [2] as below.

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| [R2-2006936](file:///D:\\Documents\\3GPP\\tsg_ran\\WG2\\TSGR2_111-e\\Docs\\R2-2006936.zip" \o "D:Documents3GPPtsg_ranWG2TSGR2_111-eDocsR2-2006936.zip)[1]  *“Proposal#5: Include the following 2 RAN2 agreements on intraFreqDAPS and interFreqDAPS in the LS to RAN1 and 4:*  *4: For inter freq DAPS, the capability inter-FreqDAPS is specified per BC (for intra band, inter band cases). It is put under existing CA bandcombination, and same as CA, the CCs in the bandcombination with UL can all be source or target PCell.*  *7: Per Band per BC capability (intraBandDiffSCS, intraFreq-DAPS) is put in BandParameters.”* |

|  |
| --- |
| [R2-2007845](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_111-e/Docs/R2-2007845.zip)[2]  “Proposal 1: Remove intraFreqDAPS-Parameters-r16 from BandParameters-v1610 and add intraFreqDAPS-Parameters-r16 in the BandNR.  Proposal 2: Remove intraFreqDAPS-r16 from the intraFreqDAPS-Parameters-r16.” |

Besides, for R2-2006936[1], *handoverIntraF-IAB-r16* ofproposal#3 has been discussed in the main session AI 6.1.2. Results of the discussion of proposal#2 and proposal#3(except *handoverIntraF-IAB-r16*) will be informed to RAN1/4 via LS (see main session discussion on R2-2006940), which means the LS will be based on the conclusion of section 2.1 and 2.2.

## CHO, CPC and T312: UE capabilities with XDD/FRX differentiation

[1] [2] [5] discussed XDD/FRX differentiation dependent UE capabilities of CHO, conditional PSCell change and T312, and corresponding CRs were provided respectively as [3][4] with [2] and [6] with [5]. The related proposals in the references are copies as below.

|  |
| --- |
| [R2-2006936](file:///D:\\Documents\\3GPP\\tsg_ran\\WG2\\TSGR2_111-e\\Docs\\R2-2006936.zip" \o "D:Documents3GPPtsg_ranWG2TSGR2_111-eDocsR2-2006936.zip)[1]  *“Proposal#2: Discuss how to handle the CHO capabilities (i.e. condHandoverFailure-r16 and condHandoverTwoTriggerEvents-r16) requiring both xDD Diff and FRx-Diff. If any change is made on CHO, the corresponding CPC capabilities need to change as well.”* |

|  |
| --- |
| [R2-2007845](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_111-e/Docs/R2-2007845.zip)[2]  “Proposal 5: To define condHandoverParameters (i.e. condHandover-r16, condHandoverFailure-r16 and condHandoverTwoTriggerEvents-r16), pcellT312-r16 and interFrequencyMeas-Nogap-r16 under bandNR and remove from the current places.  Proposal 6: To define condPSCellChangeParameters (i.e. condPSCellChange-r16, condPSCellChangeTwoTriggerEvents-r16) and pscellT312-r16 under bandNR and remove from the current places.” |

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| [R2-2007455](file:///C:\\Users\\terhentt\\Documents\\Tdocs\\RAN2\\RAN2_111-e\\R2-2007455.zip)[5]  “Proposal 1: RAN2 confirm that no FRX and XDD differentiation is needed for TwoTriggerEvents and T312 related UE capabilities.” |

Roughly, there are two ways to handle the CHO UE capabilities with XDD/FRX differentiation, conditional PSCell change and T312: to change the type to per band, or to confirm that no FRX and XDD differentiation is needed for them.

**Option1: keep FRX-Diff and XDD-Diff and change the type to per band**

**Option2: remove FRX-Diff and XDD-Diff and keep the type as per UE**

The capabilities discussed in the references are not exactly the same. So we list these capabilities separately in Q1-1.

**Q1-1: which option do companies prefer for the capabilities(option1/2)? Please fill the following table with the preferred option number and comments if any.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Company name | Preferred option for  *condHandover-r16,*  *condPSCellChange-r16* | Preferred option for  *condHandoverFailure-r16* | Preferred option for  *condHandoverTwoTriggerEvents-r16,*  *condPSCellChangeTwoTriggerEvents-r16* | Preferred option for  *pcellT312-r16,*  *pscellT312-r16* |
| Intel | Option1 | Option1 | Option1 | Option1 |
| Samsung | Option1 | Option1 | Option1 | Option2 |
| Ericsson | Option2 | Option2 | Option2 | Option2 |
| LG | Option1 | Option2 | Option2 | Option2 |
| Huawei, HiSilicon | Option1 | Option1 | Option2  Comments:  These capabilities are only related to high layer, if we put it per band it just leads to more unnecessary signaling overhead. | Option2 |
| ITRI | Option1 | Option1 | Option2 | Option2 |
| vivo | Option1 | Option1 | Option1 | Option1 |
| QC | Option 1 | Option 1 | Option 1 | Option 2 |
| ZTE | Option 1 | Option 2 | Option 2 | Option 2 |

Based on the conclusion of Q1-1, we would figure out for the UE capabilities that are changed from per UE requiring xDD-Diff and FRx-Diff to per band, companies’ understanding of *Proposal#3* of [1].

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| --- |
| [R2-2006936](file:///D:\\Documents\\3GPP\\tsg_ran\\WG2\\TSGR2_111-e\\Docs\\R2-2006936.zip" \o "D:Documents3GPPtsg_ranWG2TSGR2_111-eDocsR2-2006936.zip)[1]  *“Proposal#3: For UE capabilities that are changed from per UE requiring xDD-Diff and FRx-Diff to per band, a new condition needs to be added (i.e. UE shall set the capability value consistently for all FDD-FR1 bands, all TDD-FR1 bands and all TDD-FR2 bands respectively). This will apply to (parameters so far implemented for Rel-16 that have both xDD-DIFF and FRx-DIFF):*  *MeasAndMobParameters:*  *• condHandover-r16*  *• pcellT312-r16*  *• handoverIntraF-IAB-r16*  *MeasAndMobParametersMRDC:*  *• condPScellChange-r16*  *• pcellT312-r16”* |

The discussion on this proposal is copied from main session:

- Oppo wonder what the word “consistently” means, the new condition, think this is not needed.

- QC support the proposal, and the consistency is there already in the current agreement. Huawei has the same understanding as QC.

- Oppo wonder if this is a general principle. Intel think yes. Huawei think this is only when diff for both xDD and FRx.

- Huawei think HO capabilities are particularly complex

**Q1-2: for the per band CHO UE capabilities requiring xDD-Diff and FRx-Diff, what do companies consider on that UE shall set the capability value consistently for all FDD-FR1 bands, all TDD-FR1 bands and all TDD-FR2 bands respectively? Is the table in the Annex of R2-2006936[1] sufficient on how the FDD-FR1 bands, TDD-FR1 bands and TDD-FR2 bands work with *condHandoverFDD-TDD-r16* and *condHandoverFR1-FR2-r16*? Any comments?**

|  |  |
| --- | --- |
| **Company** | **comments** |
| Intel | As QC mentioned during online discussion, RAN2 already agreed to set same value across bands for same mode, e.g. same value for bands in FDD FR1, same value for bands in TDD FR1 and same value for bands in TDD FR2. |
| Samsung | UE should set these capabilities consistently in the certain type of bands (i.e. TDD, FDD, FR1, FR2). For example, it is not required that UE report “support” for some TDD band but not for other TDD bands. |
| Ericsson | As indicated in Q1, our preference is actually to make those capabilities per UE, since the current structure as e.g. depicted in the table in the Annex of R2-2006936[1] results in many flavors on how this capability can be signaled which may lead to confusion as for the case of FRX/XDD diff that we recently had to address for Rel-15. In case those capabilities are changed to per Band, we agree the setting of the values should be consistent as explained above in the question, |
| LG | Same value should be set for all bands within each xDD-FRx combination for those per-band capabilities requiring both xDD and FRx differentiations.  The table in the Annex of R2-2006936 does not address CPC cases. The table may needs to be updated to reflect CPC. |
| Huawei, HiSilicon | We hope to clarify if UE set same value across bands for same mode, does it mean the CHO is supported within all bands (including intra-band and inter-band) for same mode? Then how to indicate CHO capability between different modes? Any new UE parameters for that? |
| QC | As we commented during online session, RAN2 already agreed to set same value across bands for same mode, e.g. same value for bands in FDD FR1, same value for bands in TDD FR1 and same value for bands in TDD FR2. |
| ZTE | Agree with QC. |

## CHO: monitoring of the two triggering quantities RSRP and RSRQ in one event

In RAN2#110e the following agreement was made to support two trigger events for the same execution condition:

**Agreements**

1 the CHO capable UE must support maximum 8 candidate cells;

4 the CPC capable UE must support maximum 8 candidate cells;

2 For CHO, introduce additional IOT bit (i.e. mandatory with capability) on the support of 2 trigger events for same execution condition. This feature is mandatory for UEs supporting CHO (as per definition of IOT bits).

5 For CPC, introduce additional IOT bit (i.e. mandatory with capability) on the support of 2 trigger events for same execution condition. This feature is mandatory for UEs supporting CPC (as per definition of IOT bits).

3 Introduce capability bit (e.g. cpc-r16) to indicate the support of CPC;

6 For CHO/CPC, introduce separate capabilities FDD-to-TDD (and vice versa) CHO/CPC and FR1-to-FR2 (and vice versa) CHO/CPC;

[7] proposed to support monitoring of the two triggering quantities RSRP and RSRQ in one event as part of the overall CHO UE capability, as a compromised solution to reduce complexity.

**Q2: do companies agree to support monitoring of the two triggering quantities RSRP and RSRQ in one event as part of the overall CHO UE capability?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **comments** |
| Intel | No | Current agreements is compromised results. Do not see the reason why we need to discuss this again. |
| Samsung | No | The principle is that there is a one triggering condition per event and we prefer to maintain that. If the network requires the UE to have a more reliable measurement of candidate cell before conditional reconfiguration execution, then the network can configure 2 events of the same type (e.g. 2 condEventA3), one with trigger condition as RSRP and other with trigger condition as RSRQ. |
| Ericsson | Yes (Proponent) | The agreement is not really a compromise as the IOT bit makes it optional. From the beginning the agreement was to have it mandatory as no optionality was part of the first agreement. Two triggering quantities would be a compromise, i.e. something between the two different agreements. |
| LG | No | In my understanding, RAN2 already discussed this option when discussing multiple conditions, and the option was not agreed. We do not need to discuss this again. |
| Huawei, HiSilicon | No | Prefer to stick to current agreement, no need to change. |
| ITRI | No | Same view as LG. We need not discuss this again. |
| vivo | No | Agree with Intel and LG. |
| QC | No | Agree with Intel and Samsung comments. |
| ZTE | No | Prefer to stick to current agreement, no need to change. |

## 2.3 UE capability CRs for NR\_Mob

There are some other corrections for NR\_Mob were discussed in [2] and the corresponding changes on the specs are offered in [3][4].

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| --- |
| [R2-2007845](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_111-e/Docs/R2-2007845.zip)[2]  “Proposal 3: Change the type of column of “Per” for both intraFreqSemiStaticPowerSharingDAPS-Mode1-r16 and intraFreqSemiStaticPowerSharingDAPS-Mode2-r16 to the “Band” instead of “BC”.  Proposal 4: Introduce the capability for asynchronous NR-DC support under CA-ParameterNRDC-v1610..” |

**Q3: do companies agree proposal3 in R2-2007845 and related corrections in R2-2007846 and R2-2007847? Any comments?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/yes,but…/No** | **comments** |
| Intel |  | It is related to the offline discussion 214, i.e. whether it is per band, per band per band combination, or separate FS. If we follow existing RRC, the descriptions in TS38.306 on all intraFreqDAPS related capabilities shall be moved to BandCombinationList since they are put under BandParameters. |
| Samsung |  | We should wait RAN1/4 LS. |
| Ericsson |  | DAPS parameters part of R2-2007846 and R2-2007847 should not be agreed as it is discussed in 214. |
| Huawei, HiSilicon |  | We can discuss it in offline-214. |
| vivo |  | Agree with Huawei and Intel. |
| QC |  | Wait for the conclusion of offline discussion 214 which can result in changing the DAPS capability structure completely |
| ZTE |  | Agree with Intel. |

**Q4: do companies agree proposal4 in R2-2007845 and related corrections in R2-2007846 and R2-2007847? Any comments?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/yes,but…/No** | **comments** |
| Intel |  | P4 is unrelated to MOB discussion, and should not be discussed in this email discussion. |
| Samsung | Yes | It seems that there is no UE capability field related with asynchronous NR-DC support in the current specification. |
| Ericsson |  | Agree with Intel. |
| LG |  | We wonder if this information is related to Mobility enhancement functions. |
| Huawei, HiSilicon |  | Agree with Intel, P4 should be discussed in other session. |
| ITRI |  | Agree with Intel. |
| vivo |  | Agree with Intel |
| QC |  | For P4: It is not related to mobility topic and It has to be discussed together with proposals in R2-2006558. |
| ZTE |  | Agree with Intel. |

## 2.4 UE capability CRs for LTE\_feMob

[8]-[11] are corrections on LTE MOB UE capability.

The summary of changes in [R2-2006932](file:///C:\\Users\\terhentt\\Documents\\Tdocs\\RAN2\\RAN2_111-e\\R2-2006932.zip) [8] and [R2-2006933](file:///C:\\Users\\terhentt\\Documents\\Tdocs\\RAN2\\RAN2_111-e\\R2-2006933.zip) [9] is:

1 Move *ul-TransCancellationDAPS-r16* from “*PhyLayerParameters*”to “*daps-Parameters-r16*

2 clarify, *multipleTimingAdvance* is mandatory for interFreqDAPS capble UE.

**Q5: Do companies agree the corrections in R2-2006932 and R2-2006933? Any comments?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/yes,but…/No** | **comments** |
| Intel | Yes |  |
| Samsung | Yes | This changes are needed to correct errors. |
| Ericsson | No | **There are two changes:**  *1 ul-TransCancellationDAPS-r16* is put under “*PhyLayerParameters*”, but in RAN1 table, it is per BC parameter, and therefore should be put under “*daps-Parameters-r16*  Ericsson: Disagree - Judging from what this feature seem to do, it does not have a relation to frequencies or band combinations. Is there a good reason for having this per BC rather than per UE?  2 *multipleTimingAdvance* It is mandatory for UEs to support 2 TAGs for DAPS handover. However, the UE may only support intraFreqDAPS, and does not need to support *multipleTimingAdvance*.  Ericsson: Disagree - The UE would indeed need to maintain two TAs for DAPS, one for source and one for target. We don’t see how it can work if the UE does not support multiple TA for any DAPS scenario. Just cause the source and target is on the same frequency does not mean the TA vales are the same. TA values are about propagation delay, which for a UE in general is different for different nodes. |
| LG | Yes |  |
| Huawei, HiSilicon | Yes | For the first change, we are fine to keep it under “*PhyLayerParameters*”. As in RAN1 spec (38.213), it is not related to specific BC but a general UE behaviour. |
| ITRI | Yes |  |
| vivo | Yes |  |
| QC | Yes | 1st change :We are OK to change to per BC as well.  We think 2nd change is intended to add clarification only. As we have specified separate capabilities for intra freq and inter freq cases. For both cases multiTAG is essential to support.  Same TAG means, same TA is used and UL transmissions timing if fully synchronized. In case of intra Freq DAPS, source and target cells may not be fully synchronized, UL timings are not perfectly aligned and in UL path different cells radio components may have different delays. Source and target cells provide their own independent TA commands to UE during DAPS HO. In order for UE to be able to handle different TAs from 2 intra freq HO cells, UE is required to support 2 TAGs.  ***intraFreqTwoTAGs-DAPS***  Indicates whether the UE supports different timing advance groups in source PCell and intra-frequency target PCell. It is mandatory for *intraFreqDAPS* capable UE.  ***multipleTimingAdvance***  Indicates whether the UE supports multiple timing advances for each band combination listed in *supportedBandCombination*. If the band combination comprised of more than one band entry (i.e., inter-band or intra-band non-contiguous band combination), the field indicates that the same or different timing advances on different band entries are supported. If the band combination comprised of one band entry (i.e., intra-band contiguous band combination), the field indicates that the same or different timing advances across component carriers of the band entry are supported. It is mandatory for UEs to support 2 TAGs for inter frequency DAPS handover. |
| ZTE | Yes but | For the first change, we have some sympathy with Ericsson and Huawei. We are also fine to keep it under “*PhyLayerParameters*”. |

The summary of changes in [R2-2007458](file:///C:\\Users\\terhentt\\Documents\\Tdocs\\RAN2\\RAN2_111-e\\R2-2007458.zip) [10] and [R2-2007459](file:///C:\\Users\\terhentt\\Documents\\Tdocs\\RAN2\\RAN2_111-e\\R2-2007459.zip) [11] is:

for ***intraFreqDAPS-r16,*** add the following sentences to reflect RAN2 agreements: A UE indicating this capability shall also support synchronous DAPS handover, and single UL transmission for intra-frequency DAPS handover.

for ***interFreqDAPS-r16***, remove “syncnronous” and add the following sentences to reflect RAN2 agreements: A UE indicating this capability shall also support synchronous DAPS handover, and single UL transmission for inter-frequency DAPS handover.

For 36.306, make some editorial changes to align the descriptions.

**Q6: do companies agree the corrections in R2-2007458 and R2-2007459? Any comments?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/yes,but…/No** | **comments** |
| Intel | Yes |  |
| Samsung | Yes but | We think single UL capability is a basic UE capability, and does not really need to be specified. Therefore, the changes don’t seem essential.  However, the CR seems nice to have and we are fine to support this if majority think it is needed. |
| Ericsson | No | There are two changes:  1)  The CR first removes “synchronous” with the yellow change. But then adds it back with the blue change.   * This is unnecessary.   2)  The pink seem to not add anything since a UE which does not support multiple UL (by indicating ***interFreqMultiUL-TransmissionDAPS***) would only support single UL.   * This is also unnecessary.   interFreqDAPS  Indicates whether the UE supports ~~syncnronous~~ DAPS handover in source PCell and inter-frequency target PCell, i.e. support of simultaneous DL reception of PDCCH and PDSCH from source and target cell. A UE indicating this capability shall also support synchronous DAPS handover, and single UL transmission for inter-frequency DAPS handover. |
| LG | Yes |  |
| Huawei, HiSilicon | Yes |  |
| ITRI | Yes |  |
| vivo | Yes |  |
| QC | Yes | Same view as Samsung |
| ZTE | Yes |  |

# Summary

# Reference

1. [R2-2006936](file:///D:\\Documents\\3GPP\\tsg_ran\\WG2\\TSGR2_111-e\\Docs\\R2-2006936.zip" \o "D:Documents3GPPtsg_ranWG2TSGR2_111-eDocsR2-2006936.zip) Report of email discussion [Post109bis-e][082] UE Capabilties Intel Corporation, NTT DoCoMo discussion Rel-16 NR\_UE\_pow\_sav, NR\_IAB-Core, NR\_eMIMO-Core, NR\_IIOT-Core, NR\_2step\_RACH-Core, 5G\_V2X\_NRSL-Core, NR\_Mob\_enh-Core, NR\_pos-Core, NR\_unlic-Core, LTE\_NR\_DC\_CA\_enh-Core, NR\_SON\_MDT-Core, NR\_CLI\_RIM, NG\_RAN\_PRN-Core, TEI16, NR\_L1enh\_URLLC-Core
2. [R2-2007845](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_111-e/Docs/R2-2007845.zip) Miscellaneous corrections for Rel-16 UE capabilities Samsung discussion Rel-16 NR\_Mob\_enh-Core
3. [R2-2007846](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_111-e/Docs/R2-2007846.zip) Miscellaneous corrections for Rel-16 UE capabilities Samsung CR Rel-16 38.331 16.1.0 1927 - F NR\_Mob\_enh-Core
4. [R2-2007847](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_111-e/Docs/R2-2007847.zip) Miscellaneous corrections for Rel-16 UE capabilities Samsung CR Rel-16 38.306 16.1.0 0394 - F NR\_Mob\_enh-Core
5. [R2-2007455](file:///C:\\Users\\terhentt\\Documents\\Tdocs\\RAN2\\RAN2_111-e\\R2-2007455.zip) Discussion on per UE NR mobility capabilities Huawei, HiSilicon discussion Rel-16 NR\_Mob\_enh-Core
6. [R2-2007457](file:///C:\\Users\\terhentt\\Documents\\Tdocs\\RAN2\\RAN2_111-e\\R2-2007457.zip) Correction on TS 38.306 for DAPS Huawei, HiSilicon CR Rel-16 38.306 16.1.0 0380 - F NR\_Mob\_enh-Core
7. [R2-2007591](file:///C:\\Users\\terhentt\\Documents\\Tdocs\\RAN2\\RAN2_111-e\\R2-2007591.zip) Multi quantity event for CHO Ericsson discussion NR\_Mob\_enh-Core
8. [R2-2006932](file:///C:\\Users\\terhentt\\Documents\\Tdocs\\RAN2\\RAN2_111-e\\R2-2006932.zip) Correction on LTE MOB capability Intel Corporation, China Telecom, Samsung CR Rel-16 36.331 16.1.1 4362 - F LTE\_feMob-Core
9. [R2-2006933](file:///C:\\Users\\terhentt\\Documents\\Tdocs\\RAN2\\RAN2_111-e\\R2-2006933.zip) Correction on LTE MOB capability Intel Corporation, China Telecom, Samsung CR Rel-16 36.306 16.1.0 1779 - F LTE\_feMob-Core
10. [R2-2007458](file:///C:\\Users\\terhentt\\Documents\\Tdocs\\RAN2\\RAN2_111-e\\R2-2007458.zip) Correction on TS 36.331 for DAPS UE capabilities Huawei, HiSilicon CR Rel-16 36.331 16.1.1 4384 - F LTE\_feMob-Core
11. [R2-2007459](file:///C:\\Users\\terhentt\\Documents\\Tdocs\\RAN2\\RAN2_111-e\\R2-2007459.zip) Correction on TS 36.306 for DAPS Huawei, HiSilicon CR Rel-16 36.306 16.1.0 1781 - F LTE\_feMob-Core

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