**Third Generation Partnership Project (3GPP™)**

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for  
TSG RAN WG4  
meeting: 98bis-e**

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### 5.1 NR-based access to unlicensed spectrum

#### 5.1.1 BS conformance testing

##### 5.1.1.1 General

**R4-2105972 Email discussion summary for [98-bis-e][301] NR\_unlic\_BS\_Conformance**

*Type: other For: Information  
 Source: Moderator (ZTE)*

**Abstract:**

**Discussion:**

**Decision: Revised to R4-2106132 (from R4-2105972).**

**R4-2106132 Email discussion summary for [98-bis-e][301] NR\_unlic\_BS\_Conformance**

*Type: other For: Information  
 Source: Moderator (ZTE)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106005 WF on NR-U BS wideband operation testing**

*Type: other For: Approval  
 Source: Nokia*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106308 Discussion on test configurations for wideband NR-U operation**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this contribution we provide our considerations and proposal on TC for WB NR-U operation.

**Decision: Noted.**

**R4-2106311 Draft CR to TS 38.141-1 – Test configurations for NR-U BS conformance tests**

*Type: draftCR For: Endorsement  
 38.141-1 v16.7.0 CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This draft CR introduces updates for NR-U wideband operation test configurations for BS conformance tests.

**Decision: Merged (with R4-2106605).**

**R4-2106312 Draft CR to TS 38.141-2 – Test configurations for NR-U BS conformance tests**

*Type: draftCR For: Endorsement  
 38.141-2 v16.7.0 CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This draft CR introduces updates for NR-U wideband operation test configurations for BS conformance tests.

**Decision: Merged (with R4-2104653).**

**R4-2106474 NR-U measurement uncertainty for BS**

*Type: discussion For: Agreement  
 Source: Keysight Technologies UK Ltd*

**Decision: Noted.**

**R4-2106477 MU for unlicensed band n46 and n96**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

**R4-2106605 Draft CR to TS 38.141-1: introduction of NR-U BS**

*Type: draftCR For: Endorsement  
 38.141-1 v16.7.0 CR- rev Cat: B (Rel-16)  
  
 Source: ZTE Corporation*

**Decision: Revised to R4-2106002 (from R4-2106605).**

**R4-2106002 Draft CR to TS 38.141-1: introduction of NR-U BS**

*Type: draftCR For: Endorsement  
 38.141-1 v16.7.0 CR- rev Cat: B (Rel-16)  
  
 Source: ZTE Corporation*

**Decision: Return to.**

**R4-2106606 Draft CR to TS 36.141: introduction of NR-U BS**

*Type: draftCR For: Endorsement  
 36.141 v16.9.0 CR- rev Cat: B (Rel-16)  
  
 Source: ZTE Corporation*

**Decision: Return to.**

**R4-2107037 Draft CR to 37.141: Introduction of NR-U co-existence requirements**

*Type: draftCR For: Endorsement  
 37.141 v16.9.0 CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Return to.**

##### 5.1.1.2 Transmitter characteristics

**R4-2104464 TS 37.145-2: Tx spurious limits for co-existence and co-location with of NR-based access to unlicensed spectrum (NR-U)**

*Type: CR For: Endorsement  
 37.145-2 v16.7.0 CR-0293 rev Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Introduction of tx spurious emission limits for co-existence and co-location with NR-U in bands n46 and n96

**Decision:** The document was **withdrawn**.

**R4-2104465 TS 37.145-2: Tx spurious limits for co-existence and co-location with of NR-based access to unlicensed spectrum (NR-U)**

*Type: CR For: Endorsement  
 37.145-2 v17.1.0 CR-0294 rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Introduction of tx spurious emission limits for co-existence and co-location with NR-U in bands n46 and n96

**Decision:** The document was **withdrawn**.

**R4-2104466 TS 38.141-2: Tx spurious limits for co-existence and co-location with of NR-based access to unlicensed spectrum (NR-U)**

*Type: CR For: Endorsement  
 38.141-2 v16.7.0 CR-0315 rev Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Introduction of tx spurious emission limits for co-existence and co-location with NR-U in bands n46 and n96

**Decision:** The document was **withdrawn**.

**R4-2104467 TS 38.141-2: Tx spurious limits for co-existence and co-location with of NR-based access to unlicensed spectrum (NR-U)**

*Type: CR For: Endorsement  
 38.141-2 v17.1.0 CR-0316 rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Introduction of tx spurious emission limits for co-existence and co-location with NR-U in bands n46 and n96

**Decision:** The document was **withdrawn**.

**R4-2104468 TS 37.145-2: Rx blocking limits for co-existence and co-location with of NR-based access to unlicensed spectrum (NR-U)**

*Type: CR For: Endorsement  
 37.145-2 v16.7.0 CR-0295 rev Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Introduction of rx blocking limits for co-existence and co-location with NR-U in bands n46 and n96

**Decision:** The document was **withdrawn**.

**R4-2104469 TS 37.145-2: RX blocking limits for co-existence and co-location with of NR-based access to unlicensed spectrum (NR-U)**

*Type: CR For: Approval  
 37.145-2 v17.1.0 CR-0296 rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Introduction of rx blocking limits for co-existence and co-location with NR-U in bands n46 and n96

**Decision:** The document was **withdrawn**.

**R4-2104652 TS 37.145-2: Tx spurious limits for co-existence and co-location with of NR-based access to unlicensed spectrum (NR-U)**

*Type: draftCR For: Endorsement  
 37.145-2 v16.7.0 CR- rev Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Introduction of tx spurious emission limits for co-existence and co-location with NR-U in bands n46 and n96

**Decision: Revised to R4-2106004 (from R4-2104652).**

**R4-2106004 TS 37.145-2: Tx spurious limits for co-existence and co-location with of NR-based access to unlicensed spectrum (NR-U)**

*Type: draftCR For: Endorsement  
 37.145-2 v16.7.0 CR- rev Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Introduction of tx spurious emission limits for co-existence and co-location with NR-U in bands n46 and n96

**Decision: Return to.**

**R4-2104653 TS 38.141-2: Tx spurious limits for co-existence and co-location with of NR-based access to unlicensed spectrum (NR-U)**

*Type: draftCR For: Endorsement  
 38.141-2 v16.7.0 CR- rev Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Introduction of tx spurious emission limits for co-existence and co-location with NR-U in bands n46 and n96

**Decision: Revised to R4-2106003 (from R4-2104653).**

**R4-2106003 TS 38.141-2: Tx spurious limits for co-existence and co-location with of NR-based access to unlicensed spectrum (NR-U)**

*Type: draftCR For: Endorsement  
 38.141-2 v16.7.0 CR- rev Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Introduction of tx spurious emission limits for co-existence and co-location with NR-U in bands n46 and n96

**Decision: Return to.**

**R4-2104654 TS 37.145-2: Rx blocking limits for co-existence and co-location with of NR-based access to unlicensed spectrum (NR-U)**

*Type: draftCR For: Endorsement  
 37.145-2 v16.7.0 CR- rev Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Introduction of rx blocking limits for co-existence and co-location with NR-U in bands n46 and n96

**Decision: Merged (with R4-2104652).**

**R4-2106310 Draft CR to TS 37.107 With NR-U intorduction for performance part**

*Type: draftCR For: Endorsement  
 37.107 v16.2.0 CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This is draft CR to TS 37.107 with updates related to NR-U introduction for perfromance part.

**Decision: Return to.**

**R4-2106478 draft CR to 38.141-1 TX test system uncertainty**

*Type: draftCR For: Endorsement  
 38.141-1 v16.7.0 CR- rev Cat: (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Merged (with R4-2106605).**

##### 5.1.1.3 Receiver characteristics

**R4-2106320 On NR-U MUs and TTs for band n46 and n96**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this contribution we present our view on NR-U measurement uncertainties and test tolerances for BS conformance tests.

**Decision: Noted.**

**R4-2106479 draft CR to 38.141-1 RX test system uncertainty**

*Type: draftCR For: Endorsement  
 38.141-1 v16.7.0 CR- rev Cat: (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Merged (with R4-2106605).**

#### 5.1.4 Demodulation and CSI requirements (38.101-4/38.104)

##### 5.1.4.1 General

**R4-2105986 Email discussion summary for [98-bis-e][315] NR\_unlic\_Demod\_UE**

*Type: other For: Information  
 Source: Moderator (Qualcomm)*

**Abstract:**

**Discussion:**

**Decision: Revised to R4-2106133 (from R4-2105986).**

**R4-2106133 Email discussion summary for [98-bis-e][315] NR\_unlic\_Demod\_UE**

*Type: other For: Information  
 Source: Moderator (Qualcomm)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106007 Way Forward on NR-U UE demodulation requirements**

*Type: other For: Approval  
 Source: Qualcomm*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2105987 Email discussion summary for [98-bis-e][316] NR\_unlic\_Demod\_BS**

*Type: other For: Information  
 Source: Moderator (Huawei)*

**Abstract:**

**Discussion:**

**Decision: Revised to R4-2106134 (from R4-2105987).**

**R4-2106134 Email discussion summary for [98-bis-e][316] NR\_unlic\_Demod\_BS**

*Type: other For: Information  
 Source: Moderator (Huawei)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106010 WF on NR-U BS demodulation requirements**

*Type: other For: Approval  
 Source: Huawei*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2104544 Discussion on NR-U general issue for UE and CSI demodulation**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

discussion on general open issues for NR-U demodulation

**Decision: Noted.**

**R4-2106469 Updated Work Plan for NR-U Demod**

*Type: Work Plan For: Approval  
 Source: Qualcomm Incorporated*

**Abstract:**

The last RAN Plenary meeting agreed [2] to postpone by 6 months the completion date planned for NR-U [1] Performance part.

This contribution will update the previously agreed Work Plan [3] to reflect the new timeline.

**Decision: Revised to R4-2106008 (from R4-2106469).**

**R4-2106008 Updated Work Plan for NR-U Demod**

*Type: Work Plan For: Approval  
 Source: Qualcomm Incorporated*

**Abstract:**

The last RAN Plenary meeting agreed [2] to postpone by 6 months the completion date planned for NR-U [1] Performance part.

This contribution will update the previously agreed Work Plan [3] to reflect the new timeline.

**Decision: Return to.**

**R4-2106470 Discussion on NR-U UE Demodulation Requirements**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

**Abstract:**

During the previous RAN4 meeting, various agreements [3] have been reached regarding the design of PDSCH Demod Performance tests for NR-U.

This paper will present our views on the points still under discussion related to the general setup of NR-U UE Demo

**Decision: Noted.**

##### 5.1.4.2 UE demodulation requirements

**R4-2104545 Discussion on NR-U UE demodulation**

*Type: discussion For: Approval  
 Source: Ericsson*

**Abstract:**

proposal for NR-U PDSCH demodulation open issues

**Decision: Noted.**

**R4-2104546 Simulation result for NR-U PDSCH demodulation**

*Type: discussion For: Information  
 Source: Ericsson*

**Abstract:**

NR-U PDSCH simulation results

**Decision: Noted.**

**R4-2104838 Discussion on UE demodulation requirements in NR-U**

*Type: discussion For: Discussion  
 Source: Apple*

**Decision: Noted.**

**R4-2104839 Simulation results for PDSCH demodulation requirements in NR-U**

*Type: discussion For: Discussion  
 Source: Apple*

**Decision: Noted.**

**R4-2104840 Summary of simulation results for NR-U UE Demod**

*Type: discussion For: Discussion  
 Source: Apple*

**Decision: Return to.**

**R4-2106471 Simulation Results for NR-U PDSCH UE Demodulation Tests**

*Type: discussion For: Information  
 Source: Qualcomm Incorporated*

**Abstract:**

In the last meeting a set of baseline simulation assumptions were agreed as listed in the WF [1]. This paper will present our simulation results separately for the various options proposed.

**Decision: Noted.**

**R4-2106507 NR-U PDSCH simulation results**

*Type: other For: Information  
 Source: Intel Corporation*

**Decision: Noted.**

**R4-2106783 Simulation results on NR-U PDSCH requirements**

*Type: other For: Information  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

**R4-2106784 Discussion on UE performance requirements for Rel-16 NR-U**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

**R4-2107091 Discussion on PDSCH requirements for NR-U**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

**Decision: Noted.**

##### 5.1.4.3 CSI requirements

**R4-2104547 Discussion on NR-U CSI demodulation**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

discussion on NR-U CQI report demodulation issues

**Decision: Noted.**

**R4-2104841 On CQI reporting requirements in NR-U**

*Type: discussion For: Discussion  
 Source: Apple*

**Decision: Noted.**

**R4-2106472 Discussion on NR-U CQI Performance Tests**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

**Abstract:**

During the previous RAN4 meeting it was agreed [3] to introduce CQI Reporting Performance tests for NR-U UE.

This paper will present our views on the points still under discussion.

**Decision: Noted.**

**R4-2106785 Discussions on NR-U CQI requirements**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

**R4-2107090 Discussion on CQI requirements for NR-U**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

**Decision: Noted.**

##### 5.1.4.4 BS demodulation requirements

###### 5.1.4.4.1 General

**R4-2104619 DraftCR on NR-U BS-demod applicability rules (38.141-1)**

*Type: draftCR For: Endorsement  
 38.141-1 v16.7.0 CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Revised to R4-2106011 (from R4-2104619).**

**R4-2106011 DraftCR on NR-U BS-demod applicability rules (38.141-1)**

*Type: draftCR For: Endorsement  
 38.141-1 v16.7.0 CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Return to.**

**R4-2104620 DraftCR on NR-U BS-demod applicability rules (38.141-2)**

*Type: draftCR For: Endorsement  
 38.141-2 v16.7.0 CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Revised to R4-2106012 (from R4-2104620).**

**R4-2106012 DraftCR on NR-U BS-demod applicability rules (38.141-2)**

*Type: draftCR For: Endorsement  
 38.141-2 v16.7.0 CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Return to.**

**R4-2106786 Summary of simulation results for NR-U BS performance requirements**

*Type: other For: Information  
 Source: Huawei, HiSilicon*

**Decision: Return to.**

###### 5.1.4.4.2 PUSCH requirements

**R4-2104548 Discussion on NR-U PUSCH demodulation**

*Type: discussion For: Approval  
 Source: Ericsson*

**Abstract:**

proposal for remain open issues in NR-U PUSCH

**Decision: Noted.**

**R4-2104549 Simulation result for NR-U PUSCH demodulation**

*Type: discussion For: Information  
 Source: Ericsson*

**Abstract:**

NR-U PUSCH simulation results

**Decision: Noted.**

**R4-2104621 PUSCH Demodulation performance requirements for operation in unlicensed bands**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

**R4-2104622 NR-U PUSCH simulation results**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

**R4-2106508 NR-U PUSCH simulation results**

*Type: other For: Information  
 Source: Intel Corporation*

**Decision: Noted.**

**R4-2106787 Simulation results on NR-U PUSCH performance requirements**

*Type: other For: Information  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

**R4-2106788 Discussions on NR-U PUSCH performance requirements**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

**R4-2106789 Draft CR: Introduction of conducted and radiated performance requrements for PUSCH with interlace allocation in TS 38.104**

*Type: draftCR For: Endorsement  
 38.104 v16.7.0 CR- rev Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Revised to R4-2106013 (from R4-2106789).**

**R4-2106013 Draft CR: Introduction of conducted and radiated performance requrements for PUSCH with interlace allocation in TS 38.104**

*Type: draftCR For: Endorsement  
 38.104 v16.7.0 CR- rev Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Return to.**

**R4-2106790 Draft CR: Introduction of FRC tables for PUSCH performance requirements with interlace allocation in TS 38.104**

*Type: draftCR For: Endorsement  
 38.104 v16.7.0 CR- rev Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Revised to R4-2106014 (from R4-2106790).**

**R4-2106014 Draft CR: Introduction of FRC tables for PUSCH performance requirements with interlace allocation in TS 38.104**

*Type: draftCR For: Endorsement  
 38.104 v16.7.0 CR- rev Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Return to.**

**R4-2106791 Draft CR: Introduction of conducted conformance testing for PUSCH with interlace allocation in TS 38.141-1**

*Type: draftCR For: Endorsement  
 38.141-1 v16.7.0 CR- rev Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Revised to R4-2106015 (from R4-2106791).**

**R4-2106015 Draft CR: Introduction of conducted conformance testing for PUSCH with interlace allocation in TS 38.141-1**

*Type: draftCR For: Endorsement  
 38.141-1 v16.7.0 CR- rev Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Return to.**

**R4-2106792 Draft CR: Introduction of FRC tables for conducted conformance testing for PUSCH with interlace allocation in TS 38.141-1**

*Type: draftCR For: Endorsement  
 38.141-1 v16.7.0 CR- rev Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Revised to R4-2106016 (from R4-2106792).**

**R4-2106016 Draft CR: Introduction of FRC tables for conducted conformance testing for PUSCH with interlace allocation in TS 38.141-1**

*Type: draftCR For: Endorsement  
 38.141-1 v16.7.0 CR- rev Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Return to.**

**R4-2106793 Draft CR: Introduction of radiated conformance testing for PUSCH with interlace allocation in TS 38.141-2**

*Type: draftCR For: Endorsement  
 38.141-2 v16.7.0 CR- rev Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Revised to R4-2106017 (from R4-2106793).**

**R4-2106017 Draft CR: Introduction of radiated conformance testing for PUSCH with interlace allocation in TS 38.141-2**

*Type: draftCR For: Endorsement  
 38.141-2 v16.7.0 CR- rev Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Return to.**

**R4-2106794 Draft CR: Introduction of FRC tables for radiated conformance testing for PUSCH with interlace allocation in TS 38.141-2**

*Type: draftCR For: Endorsement  
 38.141-2 v16.7.0 CR- rev Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Revised to R4-2106018 (from R4-2106794).**

**R4-2106018 Draft CR: Introduction of FRC tables for radiated conformance testing for PUSCH with interlace allocation in TS 38.141-2**

*Type: draftCR For: Endorsement  
 38.141-2 v16.7.0 CR- rev Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Return to.**

###### 5.1.4.4.3 PUCCH requirements

**R4-2104550 Discussion on NR-U PUCCH demodulation**

*Type: discussion For: Approval  
 Source: Ericsson*

**Abstract:**

proposal for remain open issues in NR-U PUCCH

**Decision: Noted.**

**R4-2104551 Simulation result for NR-U PUCCH demodulation**

*Type: discussion For: Information  
 Source: Ericsson*

**Abstract:**

NR-U PUCCH simulation results

**Decision: Noted.**

**R4-2104554 draft CR for TS38.104 adding NR-U PUCCH ePF0 and ePF1 requirements**

*Type: draftCR For: Endorsement  
 38.104 v16.7.0 CR- rev Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

introduction of interlacing PUCCH format 0 and format 1 requirement

**Decision: Revised to R4-2106019 (from R4-2104554).**

**R4-2106019 draft CR for TS38.104 adding NR-U PUCCH ePF0 and ePF1 requirements**

*Type: draftCR For: Endorsement  
 38.104 v16.7.0 CR- rev Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

introduction of interlacing PUCCH format 0 and format 1 requirement

**Decision: Return to.**

**R4-2104555 draft CR for TS38.141-1 adding NR-U PUCCH ePF0 and ePF1 requirements**

*Type: draftCR For: Endorsement  
 38.141-1 v16.7.0 CR- rev Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

introduction of interlacing PUCCH format 0 and format 1 requirement

**Decision: Revised to R4-2106020 (from R4-2104555).**

**R4-2106020 draft CR for TS38.141-1 adding NR-U PUCCH ePF0 and ePF1 requirements**

*Type: draftCR For: Endorsement  
 38.141-1 v16.7.0 CR- rev Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

introduction of interlacing PUCCH format 0 and format 1 requirement

**Decision: Return to.**

**R4-2104556 draft CR for TS38.141-2 adding NR-U PUCCH ePF0 and ePF1 requirements**

*Type: draftCR For: Endorsement  
 38.141-2 v16.7.0 CR- rev Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

introduction of interlacing PUCCH format 0 and format 1 requirement

**Decision: Revised to R4-2106021 (from R4-2104556).**

**R4-2106021 draft CR for TS38.141-2 adding NR-U PUCCH ePF0 and ePF1 requirements**

*Type: draftCR For: Endorsement  
 38.141-2 v16.7.0 CR- rev Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

introduction of interlacing PUCCH format 0 and format 1 requirement

**Decision: Return to.**

**R4-2104623 PUCCH Demodulation performance requirements for operation in unlicensed bands**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

**R4-2104624 NR-U PUCCH simulation results**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

**R4-2105032 draft CR on interlaced PUCCH performance requirement for TS 38.104**

*Type: draftCR For: Endorsement  
 38.104 v16.7.0 CR- rev Cat: B (Rel-16)  
  
 Source: Samsung*

**Decision: Revised to R4-2106022 (from R4-2105032).**

**R4-2106022 draft CR on interlaced PUCCH performance requirement for TS 38.104**

*Type: draftCR For: Endorsement  
 38.104 v16.7.0 CR- rev Cat: B (Rel-16)  
  
 Source: Samsung*

**Decision: Return to.**

**R4-2105033 draft CR on interlaced PUCCH performance requirement for TS 38.141-1**

*Type: draftCR For: Endorsement  
 38.141-1 v16.7.0 CR- rev Cat: B (Rel-16)  
  
 Source: Samsung*

**Decision: Revised to R4-2106023 (from R4-2105033).**

**R4-2106023 draft CR on interlaced PUCCH performance requirement for TS 38.141-1**

*Type: draftCR For: Endorsement  
 38.141-1 v16.7.0 CR- rev Cat: B (Rel-16)  
  
 Source: Samsung*

**Decision: Return to.**

**R4-2105034 draft CR on interlaced PUCCH performance requirement for TS 38.141-2**

*Type: draftCR For: Endorsement  
 38.141-2 v16.7.0 CR- rev Cat: B (Rel-16)  
  
 Source: Samsung*

**Decision: Revised to R4-2106024 (from R4-2105034).**

**R4-2106024 draft CR on interlaced PUCCH performance requirement for TS 38.141-2**

*Type: draftCR For: Endorsement  
 38.141-2 v16.7.0 CR- rev Cat: B (Rel-16)  
  
 Source: Samsung*

**Decision: Return to.**

**R4-2106795 Simulation results on NR-U PUCCH performance requirements**

*Type: other For: Information  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

###### 5.1.4.4.4 PRACH requirements

**R4-2104552 Discussion on NR-U PRACH demodulation**

*Type: discussion For: Approval  
 Source: Ericsson*

**Abstract:**

proposal for remain open issues in NR-U PRACH

**Decision: Noted.**

**R4-2104553 Simulation result for NR-U PRACH demodulation**

*Type: discussion For: Information  
 Source: Ericsson*

**Abstract:**

NR-U PRACH simulation results

**Decision: Noted.**

**R4-2104625 PRACH Demodulation performance requirements for operation in unlicensed bands**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

**R4-2104626 NR-U PRACH simulation results**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

**R4-2104627 DraftCR NR-U BS demod PRACH performance requirements 38.104**

*Type: draftCR For: Endorsement  
 38.104 v16.7.0 CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Revised to R4-2106025 (from R4-2104627).**

**R4-2106025 DraftCR NR-U BS demod PRACH performance requirements 38.104**

*Type: draftCR For: Endorsement  
 38.104 v16.7.0 CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Return to.**

**R4-2104628 DraftCR NR-U BS demod PRACH conducted performance requirements 38.141-1**

*Type: draftCR For: Endorsement  
 38.141-1 v16.7.0 CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Revised to R4-2106026 (from R4-2104628).**

**R4-2106026 DraftCR NR-U BS demod PRACH conducted performance requirements 38.141-1**

*Type: draftCR For: Endorsement  
 38.141-1 v16.7.0 CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Return to.**

**R4-2104629 DraftCR NR-U BS demod PRACH radiated performance requirements 38.141-2**

*Type: draftCR For: Endorsement  
 38.141-2 v16.7.0 CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Revised to R4-2106027 (from R4-2104629).**

**R4-2106027 DraftCR NR-U BS demod PRACH radiated performance requirements 38.141-2**

*Type: draftCR For: Endorsement  
 38.141-2 v16.7.0 CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Return to.**

**R4-2106509 NR-U PRACH simulation results**

*Type: other For: Information  
 Source: Intel Corporation*

**Decision: Noted.**

**R4-2106796 Simulation results on NR-U PRACH performance requirements**

*Type: other For: Information  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

### 5.2 5G V2X with NR sidelink

#### 5.2.1 Demodulation requirements (38.101-4)

##### 5.2.1.1 General

**R4-2104999 Summary of simulation results for V2X demodulation requirements**

*Type: other For: Information  
 Source: LG Electronics Inc.*

**Decision: Return to.**

**R4-2105002 Discussion on contents and table format for V2X demodulation specification**

*Type: discussion For: Discussion  
 Source: LG Electronics Inc.*

**Decision: Noted.**

**R4-2106415 Discussion on NR V2X requirements structure**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision: Noted.**

**R4-2106416 Draft CR on General section of NR V2X requirements**

*Type: draftCR For: Endorsement  
 38.101-4 v16.4.0 CR- rev Cat: (Rel-16)  
  
 Source: Intel Corporation*

**Decision: Revised to R4-2106030 (from R4-2106416).**

**R4-2106030 Draft CR on General section of NR V2X requirements**

*Type: draftCR For: Endorsement  
 38.101-4 v16.4.0 CR- rev Cat: (Rel-16)  
  
 Source: Intel Corporation*

**Decision: Return to.**

##### 5.2.1.2 Single link test

**R4-2105988 Email discussion summary for [98-bis-e][317] V2X\_Demod\_Part1**

*Type: other For: Information  
 Source: Moderator (LGE)*

**Abstract:**

**Discussion:**

**Decision: Revised to R4-2106135 (from R4-2105988).**

**R4-2106135 Email discussion summary for [98-bis-e][317] V2X\_Demod\_Part1**

*Type: other For: Information  
 Source: Moderator (LGE)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106028 WF on remaining issues for single link tests for NR V2X demodulation performance**

*Type: other For: Approval  
 Source: LGE*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106029 Draft CR for 38.101-4: Introduce PSBCH performance requirements for NR V2X**

*Type: draftCR For: Endorsement  
 38.101-4 v16.4.0 CR- rev Cat: (Rel-16)  
  
 Source: CATT, GOHIGH*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2104992 Simulation results for NR V2X single link tests**

*Type: discussion For: Discussion  
 Source: LG Electronics Inc.*

**Decision: Noted.**

**R4-2107219 PSBCH simulation results discussion**

*Type: discussion For: Discussion  
 Source: Qualcomm, Inc.*

**Decision: Noted.**

###### 5.2.1.2.1 PSSCH demodulation test

**R4-2104573 Simulation results for NR V2X PSSCH test case**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

**Decision: Noted.**

**R4-2104773 Simulation results of NR V2X single link demodulation test**

*Type: discussion For: Discussion  
 Source: CATT*

**Decision: Noted.**

**R4-2104995 Draft CR for PSSCH demodulation requirements for NR V2X**

*Type: draftCR For: Endorsement  
 38.101-4 v16.4.0 CR- rev Cat: (Rel-16)  
  
 Source: LG Electronics Inc.*

**Decision: Revised to R4-2106031 (from R4-2104995).**

**R4-2106031 Draft CR for PSSCH demodulation requirements for NR V2X**

*Type: draftCR For: Endorsement  
 38.101-4 v16.4.0 CR- rev Cat: (Rel-16)  
  
 Source: LG Electronics Inc.*

**Decision: Return to.**

**R4-2106417 Simulation results for NR V2X Single Link PSSCH requirements**

*Type: other For: Information  
 Source: Intel Corporation*

**Decision: Noted.**

**R4-2106797 Simulation results on PSSCH requirements**

*Type: other For: Information  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

###### 5.2.1.2.2 PSCCH demodulation test

**R4-2104574 Simulation results for NR V2X PSCCH test case**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

**Decision: Noted.**

**R4-2106418 Simulation results for NR V2X Single Link PSCCH requirements**

*Type: other For: Information  
 Source: Intel Corporation*

**Decision: Noted.**

**R4-2106419 Draft CR on NR V2X Single Link PSCCH requirements**

*Type: draftCR For: Endorsement  
 38.101-4 v16.4.0 CR- rev Cat: (Rel-16)  
  
 Source: Intel Corporation*

**Decision: Revised to R4-2106032 (from R4-2106419).**

**R4-2106032 Draft CR on NR V2X Single Link PSCCH requirements**

*Type: draftCR For: Endorsement  
 38.101-4 v16.4.0 CR- rev Cat: (Rel-16)  
  
 Source: Intel Corporation*

**Decision: Return to.**

**R4-2106798 Simulation results on PSCCH requirements**

*Type: other For: Information  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

###### 5.2.1.2.3 PSBCH demodulation test

**R4-2104575 Simulation results for NR V2X PSBCH test case**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

**Decision: Noted.**

**R4-2106420 Simulation results for NR V2X Single Link PSBCH requirements**

*Type: other For: Information  
 Source: Intel Corporation*

**Decision: Noted.**

**R4-2106799 Simulation results on PSBCH requirements**

*Type: other For: Information  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

###### 5.2.1.2.4 PSFCH demodulation test

**R4-2104576 CR on NR V2X PSFCH demodulation requirements**

*Type: draftCR For: Endorsement  
 38.101-4 v16.4.0 CR- rev Cat: B (Rel-16)  
  
 Source: MediaTek inc.*

**Decision: Revised to R4-2106033 (from R4-2104576).**

**R4-2106033 CR on NR V2X PSFCH demodulation requirements**

*Type: draftCR For: Endorsement  
 38.101-4 v16.4.0 CR- rev Cat: B (Rel-16)  
  
 Source: MediaTek inc.*

**Decision: Return to.**

**R4-2106421 Simulation results for NR V2X Single Link PSFCH requirements**

*Type: other For: Information  
 Source: Intel Corporation*

**Decision: Noted.**

**R4-2106800 Simulation results on PSFCH requirements**

*Type: other For: Information  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

##### 5.2.1.3 Multiple link test

**R4-2105989 Email discussion summary for [98-bis-e][318] V2X\_Demod\_Part2**

*Type: other For: Information  
 Source: Moderator (Intel)*

**Abstract:**

**Discussion:**

**Decision: Revised to R4-2106136 (from R4-2105989).**

**R4-2106136 Email discussion summary for [98-bis-e][318] V2X\_Demod\_Part2**

*Type: other For: Information  
 Source: Moderator (Intel)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106034 WF on multiple link tests for NR V2X demodulation performance**

*Type: other For: Approval  
 Source: Intel*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106035 Updated simulation assumptions for NR V2X multiple link test case**

*Type: other For: Approval  
 Source: Huawei*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2104902 V2X multiple link demod discussion**

*Type: discussion For: Discussion  
 Source: Qualcomm, Inc.*

**Decision: Noted.**

**R4-2104998 Simulation results for NR V2X multiple link tests**

*Type: discussion For: Discussion  
 Source: LG Electronics Inc.*

**Decision: Noted.**

**R4-2106425 Summary of NR V2X Multiple link simulation results**

*Type: other For: Information  
 Source: Intel Corporation*

**Decision: Return to.**

###### 5.2.1.3.1 Power imbalance requirement

**R4-2104774 Simulation results of NR V2X multiple link demodulation test**

*Type: discussion For: Discussion  
 Source: CATT*

**Decision: Noted.**

**R4-2106422 Simulation results for NR V2X Multiple Link Power Imbalance requirements**

*Type: other For: Information  
 Source: Intel Corporation*

**Decision: Noted.**

**R4-2106801 Simulation results on NR V2X power imbalance test**

*Type: other For: Information  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

**R4-2106802 CR for 38.101-4: Introduction of power imbalance requirements for NR V2X.**

*Type: CR For: Agreement  
 38.101-4 v16.4.0 CR-0173 rev Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Revised to R4-2106036 (from R4-2106802).**

**R4-2106036 CR for 38.101-4: Introduction of power imbalance requirements for NR V2X.**

*Type: CR For: Agreement  
 38.101-4 v16.4.0 CR-0173 rev Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Return to.**

###### 5.2.1.3.2 HARQ soft buffer combing test

**R4-2104903 CR: HARQ buffer TC**

*Type: draftCR For: Endorsement  
 38.101-4 v16.4.0 CR- rev Cat: B (Rel-16)  
  
 Source: Qualcomm, Inc.*

**Decision: Revised to R4-2106037 (from R4-2104903).**

**R4-2106037 CR: HARQ buffer TC**

*Type: draftCR For: Endorsement  
 38.101-4 v16.4.0 CR- rev Cat: B (Rel-16)  
  
 Source: Qualcomm, Inc.*

**Decision: Return to.**

**R4-2106423 Discussion on NR V2X Multiple Link HARQ soft buffer combing requirements**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision: Noted.**

**R4-2106803 Discussions and simulation results for NR V2X soft buffer combing test**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

###### 5.2.1.3.3 PSFCH decoding capability test

**R4-2106804 Discussion on NR V2X PSFCH decoding capability test**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

**R4-2106805 CR for 38.101-4: Introduction of PSFCH decoding capability test for NR V2X.**

*Type: CR For: Agreement  
 38.101-4 v16.4.0 CR-0174 rev Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Revised to R4-2106038 (from R4-2106805).**

**R4-2106038 CR for 38.101-4: Introduction of PSFCH decoding capability test for NR V2X.**

*Type: CR For: Agreement  
 38.101-4 v16.4.0 CR-0174 rev Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Return to.**

###### 5.2.1.3.4 PSCCH/PSSCH decoding capability

**R4-2104996 Discussion on remaining isseu for PSCCH/PSSCH multiple link test**

*Type: discussion For: Discussion  
 Source: LG Electronics Inc.*

**Decision: Noted.**

**R4-2106424 Discussion on NR V2X Multiple Link PSCCH/PSSCH decoding capability requirements**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision: Noted.**

**R4-2106806 Discussion on NR V2X PSCCH/PSSCH decoding capability test**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

**R4-2106807 CR for 38.101-4: Introduction of PSCCH/PSSCH capability test for NR V2X.**

*Type: CR For: Agreement  
 38.101-4 v16.4.0 CR-0175 rev Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Revised to R4-2106039 (from R4-2106807).**

**R4-2106039 CR for 38.101-4: Introduction of PSCCH/PSSCH capability test for NR V2X.**

*Type: CR For: Agreement  
 38.101-4 v16.4.0 CR-0175 rev Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Return to.**

### 5.3 Integrated Access and Backhaul for NR

#### 5.3.1 RF requirements Maintenance

**R4-2105974 Email discussion summary for [98-bis-e][303] NR\_IAB\_RF\_Maintenance**

*Type: other For: Information  
 Source: Moderator (CATT)*

**Abstract:**

**Discussion:**

**Decision: Revised to R4-2106137 (from R4-2105974).**

**R4-2106137 Email discussion summary for [98-bis-e][303] NR\_IAB\_RF\_Maintenance**

*Type: other For: Information  
 Source: Moderator (CATT)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

##### 5.3.1.1 Transmitter requirements

###### 5.3.1.1.1 EVM procedure

**R4-2104781 Discussion on open issues of IAB-MT EVM measurement**

*Type: other For: Approval  
 Source: CATT*

**Decision: Noted.**

**R4-2104782 Draft CR for TS 38.174: IAB-MT EVM measurement**

*Type: draftCR For: Endorsement  
 38.174 v16.2.0 CR- rev Cat: F (Rel-16)  
  
 Source: CATT*

**Decision: Revised to R4-2106040 (from R4-2104782).**

**R4-2106040 Draft CR for TS 38.174: IAB-MT EVM measurement**

*Type: draftCR For: Endorsement  
 38.174 v16.2.0 CR- rev Cat: F (Rel-16)  
  
 Source: CATT*

**Decision: Return to.**

**R4-2104783 Draft CR for TR 38.809: IAB-MT EVM measurement**

*Type: draftCR For: Endorsement  
 38.809 v16.2.0 CR- rev Cat: F (Rel-16)  
  
 Source: CATT*

**Decision: Revised to R4-2106041 (from R4-2104783).**

**R4-2106041 Draft CR for TR 38.809: IAB-MT EVM measurement**

*Type: draftCR For: Endorsement  
 38.809 v16.2.0 CR- rev Cat: F (Rel-16)  
  
 Source: CATT*

**Decision: Return to.**

**R4-2106667 EVM measurement procedure considerations**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

**R4-2107046 IAB-MT conformance Test about EVM Equalizer**

*Type: discussion For: Agreement  
 Source: Keysight Technologies UK Ltd*

**Decision: Noted.**

**R4-2107225 IAB-MT EVM procedure**

*Type: discussion For: Approval  
 Source: Ericsson*

**Abstract:**

In this paper, we present our view on the EVM procedure which should be captured in the TS 38.174

**Decision: Noted.**

**R4-2107226 CR on Tx signal quality requirements**

*Type: draftCR For: Endorsement  
 38.174 v16.2.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

CR to add EVM detailed procedure is in Annex D and E

**Decision: Merged (with R4-2104782).**

###### 5.3.1.1.2 Others

**R4-2104784 Draft CR for TS 38.174: Correction of IAB-DU class definition**

*Type: draftCR For: Endorsement  
 38.174 v16.2.0 CR- rev Cat: F (Rel-16)  
  
 Source: CATT*

**Decision: Not pursued.**

**R4-2106306 Draft CR to TS 38.174 – corrections to general and transmitter part**

*Type: draftCR For: Endorsement  
 38.174 v16.2.0 CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This draft CR introduces respective corrections to general and transmitter part of TS 38.174.

**Decision: Revised to R4-2106042 (from R4-2106306).**

**R4-2106042 Draft CR to TS 38.174 – corrections to general and transmitter part**

*Type: draftCR For: Endorsement  
 38.174 v16.2.0 CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This draft CR introduces respective corrections to general and transmitter part of TS 38.174.

**Decision: Return to.**

**R4-2107227 CR on Tx Power related requirements**

*Type: draftCR For: Endorsement  
 38.174 v16.2.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

CR to modify IAB-MT total TX power dyanmic

**Decision: Not pursued.**

##### 5.3.1.2 Receiver requirements

**R4-2106307 Draft CR to TS 38.174 – corrections to receiver part**

*Type: draftCR For: Endorsement  
 38.174 v16.2.0 CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This draft CR introduces respective corrections to receiver part of TS 38.174.

**Decision: Revised to R4-2106043 (from R4-2106307).**

**R4-2106043 Draft CR to TS 38.174 – corrections to receiver part**

*Type: draftCR For: Endorsement  
 38.174 v16.2.0 CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This draft CR introduces respective corrections to receiver part of TS 38.174.

**Decision: Return to.**

**R4-2107228 CR on Rx Charateristic other related requirements**

*Type: draftCR For: Endorsement  
 38.174 v16.2.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

CR to clear up for reference to the Annex F

**Decision: Endorsed.**

#### 5.3.2 RF conformance testing

##### 5.3.2.1 General and work plan

**R4-2105975 Email discussion summary for [98-bis-e][304] NR\_IAB\_Conformance\_Part1**

*Type: other For: Information  
 Source: Moderator (Huawei)*

**Abstract:**

**Discussion:**

**Decision: Revised to R4-2106138 (from R4-2105975).**

**R4-2106138 Email discussion summary for [98-bis-e][304] NR\_IAB\_Conformance\_Part1**

*Type: other For: Information  
 Source: Moderator (Huawei)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106044 WF on Test models**

*Type: other For: Approval  
 Source: Nokia*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106045 WF on Test configurations**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106046 WF on MU value tables**

*Type: other For: Approval  
 Source: Huawei*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106047 WF on Test point reduction for shared IAB-DU and IAB-MT hardware -** *Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2105976 Email discussion summary for [98-bis-e][305] NR\_IAB\_Conformance\_Part2**

*Type: other For: Information  
 Source: Moderator (Nokia)*

**Abstract:**

**Discussion:**

**Decision: Revised to R4-2106139 (from R4-2105976).**

**R4-2106139 Email discussion summary for [98-bis-e][305] NR\_IAB\_Conformance\_Part2**

*Type: other For: Information  
 Source: Moderator (Nokia)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106313 Proposal on the skeleton of TS38.176-2**

*Type: draft TS For: Approval  
 38.176-2 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

The proposed skeleton of radiated TS 38.176-2 is proposed.

**Decision: Approved.**

**R4-2107095 IAB conducted conformance specification skeleton**

*Type: pCR For: Approval  
 38.176-1 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Huawei*

**Abstract:**

provide skeleton (as editor)

Session Chair Note: Move this AI from 5.3.2.3

**Decision: Revised to R4-2106058 (from R4-2107095).**

**R4-2106058 IAB conducted conformance specification skeleton**

*Type: pCR For: Approval  
 38.176-1 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Huawei*

**Abstract:**

provide skeleton (as editor)

**Decision: Return to.**

**R4-2106668 IAB RF conformance testing coverage considerations**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

**R4-2107233 TP for Annex E for conducted IAB test specification**

*Type: pCR For: Approval  
 38.176-1 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

In this paper, we propose the TP for Annex E for conducted IAB test specification.

**Decision: Revised to R4-2106050 (from R4-2107233).**

**R4-2106050 TP for Annex E for conducted IAB test specification**

*Type: pCR For: Approval  
 38.176-1 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

In this paper, we propose the TP for Annex E for conducted IAB test specification.

**Decision: Return to.**

**R4-2107234 TP for Annex G and H for OTA IAB test specification**

*Type: pCR For: Approval  
 38.176-2 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

In this paper, we propose the TP for Annex G and H for OTA IAB test specification.

**Decision: Revised to R4-2106051 (from R4-2107234).**

**R4-2106051 TP for Annex G and H for OTA IAB test specification**

*Type: pCR For: Approval  
 38.176-2 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

In this paper, we propose the TP for Annex G and H for OTA IAB test specification.

**Decision: Return to.**

##### 5.3.2.2 Common test issues for conducted and radiated conformance testing

###### 5.3.2.2.1 Test configurations

**R4-2104785 TP for TS 38.176-1: Test configurations and applicability of requirements**

*Type: other For: Endorsement  
 38.176-1 v CR- rev Cat: (Rel-16)  
  
 Source: CATT*

**Decision: Revised to R4-2106048 (from R4-2104785).**

**R4-2106048 TP for TS 38.176-1: Test configurations and applicability of requirements**

*Type: other For: Endorsement  
 38.176-1 v CR- rev Cat: (Rel-16)  
  
 Source: CATT*

**Decision: Return to.**

**R4-2104786 TP for TS 38.176-2: Test configurations and applicability of requirements**

*Type: other For: Endorsement  
 38.176-2 v CR- rev Cat: (Rel-16)  
  
 Source: CATT*

**Decision: Revised to R4-2106049 (from R4-2104786).**

**R4-2106049 TP for TS 38.176-2: Test configurations and applicability of requirements**

*Type: other For: Endorsement  
 38.176-2 v CR- rev Cat: (Rel-16)  
  
 Source: CATT*

**Decision: Return to.**

**R4-2106321 Further considerations on IAB test configurations with TP to 38.176-1 and 38.176-2.**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this contribution we provide disucssion on IAB test configurations. We also provide TP to IAB test specifications TS 38.176-1 and TS 38.176-2 with sections related to test configurations, based on proposals from this contribution.

**Decision: Noted.**

###### 5.3.2.2.2 Test models

**R4-2106322 Further considerations on TDD pattern for IAB test models**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this contribution we present some further considerations on TDD pattern for TM.

**Decision: Noted.**

**R4-2107229 IAB Common test issue on test model-Conducted**

*Type: pCR For: Approval  
 38.176-1 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

In this paper, we present our investigation on how the IAB-MT conducted test model should be defined.

**Decision: Revised to R4-2106052 (from R4-2107229).**

**R4-2106052 IAB Common test issue on test model-Conducted**

*Type: pCR For: Approval  
 38.176-1 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

In this paper, we present our investigation on how the IAB-MT conducted test model should be defined.

**Decision: Return to.**

**R4-2107230 IAB Common test issue on test model-OTA**

*Type: pCR For: Approval  
 38.176-2 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

In this paper, we present our investigation on how the IAB-MT OTA test model should be defined.

**Decision: Revised to R4-2106053 (from R4-2107230).**

**R4-2106053 IAB Common test issue on test model-OTA**

*Type: pCR For: Approval  
 38.176-2 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

In this paper, we present our investigation on how the IAB-MT OTA test model should be defined.

**Decision: Return to.**

###### 5.3.2.2.3 Others

**R4-2105036 TP to TS38.176-1 on subclause 4.10 -5**

*Type: other For: Approval  
 38.176-1 v CR- rev Cat: (Rel-16)  
  
 Source: Samsung*

**Decision: Revised to R4-2106054 (from R4-2105036).**

**R4-2106054 TP to TS38.176-1 on subclause 4.10 -5**

*Type: other For: Approval  
 38.176-1 v CR- rev Cat: (Rel-16)  
  
 Source: Samsung*

**Decision: Return to.**

**R4-2105037 TP to TS38.176-2 on subclause 4.10 -5**

*Type: other For: Approval  
 38.176-2 v CR- rev Cat: (Rel-16)  
  
 Source: Samsung*

**Decision: Revised to R4-2106055 (from R4-2105037).**

**R4-2106055 TP to TS38.176-2 on subclause 4.10 -5**

*Type: other For: Approval  
 38.176-2 v CR- rev Cat: (Rel-16)  
  
 Source: Samsung*

**Decision: Return to.**

**R4-2106595 TP to TS 38.xxx-1: Section 4.2~4.5**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Revised to R4-2106056 (from R4-2106595).**

**R4-2106056 TP to TS 38.xxx-1: Section 4.2~4.5**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Return to.**

**R4-2106596 TP to TS 38.xxx-2: Section 4.2~4.5**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Revised to R4-2106057 (from R4-2106596).**

**R4-2106057 TP to TS 38.xxx-2: Section 4.2~4.5**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Return to.**

**R4-2106669 Remaining test setup considerations**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

**R4-2107050 IAB-MT conformance Test setup MU**

*Type: discussion For: Agreement  
 Source: Keysight Technologies UK Ltd*

**Decision: Noted.**

**R4-2107096 IAB - discussion on MU values**

*Type: discussion For: Discussion  
 Source: Huawei*

**Abstract:**

Compare BS and UE MU values for each of the conducted and radiated tests. Suggest correct MU to use for IAB nodes.

**Decision: Noted.**

**R4-2107097 TP to TS 38.176-1 -Clause 4.1**

*Type: pCR For: Approval  
 38.176-1 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Huawei*

**Abstract:**

Content for the MU clause in the conducted requirement (as allocated author)

Session chair note: Move to this AI from AI 5.3.2.3.3

**Decision: Revised to R4-2106131 (from R4-2107097).**

**R4-2106131 TP to TS 38.176-1 -Clause 4.1**

*Type: pCR For: Approval  
 38.176-1 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Huawei*

**Abstract:**

Content for the MU clause in the conducted requirement (as allocated author)

**Decision: Return to.**

**R4-2104789 TP for TS 38.176-1: Annex B and C**

*Type: other For: Endorsement  
 38.176-1 v CR- rev Cat: (Rel-16)  
  
 Source: CATT*

Session chair note: Move to this AI from AI 5.3.2.3.3

**Decision: Not pursued.**

**R4-2107104 TP to TS 38.176-1 - Annex D**

*Type: pCR For: Approval  
 38.176-1 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Huawei*

**Abstract:**

Content for the Annex A in the conducted requirement (as allocated author)

**Decision: Revised to R4-2106059 (from R4-2107104).**

**R4-2106059 TP to TS 38.176-1 - Annex D**

*Type: pCR For: Approval  
 38.176-1 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Huawei*

**Abstract:**

Content for the Annex A in the conducted requirement (as allocated author)

**Decision: Return to.**

**R4-2107237 On IAB test case reduction for IAB Conducted conformance test**

*Type: pCR For: Approval  
 38.176-1 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

In this paper, we present our view on conducted test reduction..

**Decision: Noted.**

**R4-2107238 On IAB test case reduction for IAB OTA conformance test.**

*Type: pCR For: Approval  
 38.176-2 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

In this paper, we present our view on OTA test reduction..

**Decision: Noted.**

##### 5.3.2.3 Conducted conformance testing

###### 5.3.2.3.1 Transmitter characteristics

**R4-2104787 TP for TS 38.176-1: Transmit ON/OFF power**

*Type: other For: Endorsement  
 38.176-1 v CR- rev Cat: (Rel-16)  
  
 Source: CATT*

**Decision: Revised to R4-2106062 (from R4-2104787).**

**R4-2106062 TP for TS 38.176-1: Transmit ON/OFF power**

*Type: other For: Endorsement  
 38.176-1 v CR- rev Cat: (Rel-16)  
  
 Source: CATT*

**Decision: Return to.**

**R4-2104788 TP for TS 38.176-1: Transmitted signal quality**

*Type: discussion For: Discussion  
 38.176-1 v CR- rev Cat: (Rel-16)  
  
 Source: CATT*

**Decision: Revised to R4-2106063 (from R4-2104788).**

**R4-2106063 TP for TS 38.176-1: Transmitted signal quality**

*Type: discussion For: Discussion  
 38.176-1 v CR- rev Cat: (Rel-16)  
  
 Source: CATT*

**Decision: Return to.**

**R4-2105038 View on Local Area IAB-MT power control testing**

*Type: other For: Discussion  
 Source: Samsung*

**Decision: Noted.**

**R4-2106315 TP to TS 38.176-1: Output power and Unwanted emission**

*Type: pCR For: Approval  
 38.176-1 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this contribution, we provide text proposal to Clause 6.2 IAB Output power, and clause 6.6 unwanted Emissions for IAB conducted test specification.

**Decision: Revised to R4-2106064 (from R4-2106315).**

**R4-2106064 TP to TS 38.176-1: Output power and Unwanted emission**

*Type: pCR For: Approval  
 38.176-1 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this contribution, we provide text proposal to Clause 6.2 IAB Output power, and clause 6.6 unwanted Emissions for IAB conducted test specification.

**Decision: Return to.**

**R4-2106597 TP to TS 38.xxx-1: TX IMD requirements**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Revised to R4-2106065 (from R4-2106597).**

**R4-2106065 TP to TS 38.xxx-1: TX IMD requirements**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Return to.**

**R4-2107098 TP to TS 38.176-1 - Tx dynamic range, clause 6.3**

*Type: pCR For: Approval  
 38.176-1 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Huawei*

**Abstract:**

Content for the TX dynamic range clause in the conducted requirement (as allocated author)

**Decision: Revised to R4-2106060 (from R4-2107098).**

**R4-2106060 TP to TS 38.176-1 - Tx dynamic range, clause 6.3**

*Type: pCR For: Approval  
 38.176-1 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Huawei*

**Abstract:**

Content for the TX dynamic range clause in the conducted requirement (as allocated author)

**Decision: Return to.**

**R4-2107231 On IAB-MT dynamic range and power control test for conduct test**

*Type: pCR For: Approval  
 38.176-1 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

In this paper, we present out views on the power control conducted test and relation to the Tx dynamic range test.

**Decision: Not pursued.**

###### 5.3.2.3.2 Receiver characteristics

**R4-2106316 TP to TS 38.176-1 Annex A for IAB conducted test specification**

*Type: pCR For: Approval  
 38.176-1 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this contribution, we provide text proposal to Annex A for IAB conducted test specification.

**Decision: Revised to R4-2106066 (from R4-2106316).**

**R4-2106066 TP to TS 38.176-1 Annex A for IAB conducted test specification**

*Type: pCR For: Approval  
 38.176-1 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this contribution, we provide text proposal to Annex A for IAB conducted test specification.

**Decision: Return to.**

**R4-2106599 TP to TS 38.xxx-1: RX IMD requirements**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Revised to R4-2106067 (from R4-2106599).**

**R4-2106067 TP to TS 38.xxx-1: RX IMD requirements**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Return to.**

**R4-2106601 TP to TS 38.xxx-1: RX ICS requirements**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Revised to R4-2106068 (from R4-2106601).**

**R4-2106068 TP to TS 38.xxx-1: RX ICS requirements**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Return to.**

**R4-2107100 TP toTS 38.176-1 - Sensitivity, clause 7.2**

*Type: pCR For: Approval  
 38.176-1 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Huawei*

**Abstract:**

Content for the sensitivity clause in the conducted requirement (as allocated author)

**Decision: Revised to R4-2106069 (from R4-2107100).**

**R4-2106069 TP toTS 38.176-1 - Sensitivity, clause 7.2**

*Type: pCR For: Approval  
 38.176-1 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Huawei*

**Abstract:**

Content for the sensitivity clause in the conducted requirement (as allocated author)

**Decision: Return to.**

**R4-2107102 TP to TS 38.176-1 - Rx dynamic range, clause 7.3**

*Type: pCR For: Approval  
 38.176-1 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Huawei*

**Abstract:**

Content for the RX dynamic range clause in the conducted requirement (as allocated author)

**Decision: Revised to R4-2106070 (from R4-2107102).**

**R4-2106070 TP to TS 38.176-1 - Rx dynamic range, clause 7.3**

*Type: pCR For: Approval  
 38.176-1 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Huawei*

**Abstract:**

Content for the RX dynamic range clause in the conducted requirement (as allocated author)

**Decision: Return to.**

**R4-2107235 TP for IBB, OBB and RX spurious of conducted receiver test**

*Type: pCR For: Approval  
 38.176-1 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

In this paper, we propose the TP for IBB, OBB and RX spurious for conducted receiver conformance test.

**Decision: Revised to R4-2106071 (from R4-2107235).**

**R4-2106071 TP for IBB, OBB and RX spurious of conducted receiver test**

*Type: pCR For: Approval  
 38.176-1 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

In this paper, we propose the TP for IBB, OBB and RX spurious for conducted receiver conformance test.

**Decision: Return to.**

###### 5.3.2.3.3 Other test issues

**R4-2106314 TP to TS 38.176-1 Clause 4.6 Declarations for IAB conducted test specification**

*Type: pCR For: Approval  
 38.176-1 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this contribution, we provide text proposal to clause 4.6: Declarations for IAB conducted test specification.

**Decision: Revised to R4-2106072 (from R4-2106314).**

**R4-2106072 TP to TS 38.176-1 Clause 4.6 Declarations for IAB conducted test specification**

*Type: pCR For: Approval  
 38.176-1 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this contribution, we provide text proposal to clause 4.6: Declarations for IAB conducted test specification.

**Decision: Return to.**

##### 5.3.2.4 Radiated conformance testing

###### 5.3.2.4.1 Transmitter characteristics

**R4-2104790 TP for TS 38.176-2: OTA transmit ON/OFF power**

*Type: other For: Endorsement  
 38.176-2 v CR- rev Cat: (Rel-16)  
  
 Source: CATT*

**Decision: Revised to R4-2106073 (from R4-2104790).**

**R4-2106073 TP for TS 38.176-2: OTA transmit ON/OFF power**

*Type: other For: Endorsement  
 38.176-2 v CR- rev Cat: (Rel-16)  
  
 Source: CATT*

**Decision: Return to.**

**R4-2104791 TP for TS 38.176-2: OTA transmitted signal quality**

*Type: discussion For: Discussion  
 38.176-2 v CR- rev Cat: (Rel-16)  
  
 Source: CATT*

**Decision: Revised to R4-2106074 (from R4-2104791).**

**R4-2106074 TP for TS 38.176-2: OTA transmitted signal quality**

*Type: discussion For: Discussion  
 38.176-2 v CR- rev Cat: (Rel-16)  
  
 Source: CATT*

**Decision: Return to.**

**R4-2106319 TP to TS 38.176-2: Output power and Unwanted emission**

*Type: pCR For: Approval  
 38.176-2 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this contribution, we provide text proposal to Clause 6.2 IAB Output power, and clause 6.6 unwanted Emissions for IAB OTA test specification

**Decision: Revised to R4-2106075 (from R4-2106319).**

**R4-2106075 TP to TS 38.176-2: Output power and Unwanted emission**

*Type: pCR For: Approval  
 38.176-2 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this contribution, we provide text proposal to Clause 6.2 IAB Output power, and clause 6.6 unwanted Emissions for IAB OTA test specification

**Decision: Return to.**

**R4-2106598 TP to TS 38.xxx-2: TX IMD requirements**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Revised to R4-2106076 (from R4-2106598).**

**R4-2106076 TP to TS 38.xxx-2: TX IMD requirements**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Return to.**

**R4-2107099 TP to TS 38.176-2 - OTA Tx dynamic range, clause 6.3**

*Type: pCR For: Approval  
 38.176-2 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Huawei*

**Abstract:**

Content for the TX dynamic range clause in the OTA requirement (as allocated author)

**Decision: Revised to R4-2106061 (from R4-2107099).**

**R4-2106061 TP to TS 38.176-2 - OTA Tx dynamic range, clause 6.3**

*Type: pCR For: Approval  
 38.176-2 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Huawei*

**Abstract:**

Content for the TX dynamic range clause in the OTA requirement (as allocated author)

**Decision: Return to.**

**R4-2107232 On IAB-MT dynamic range and power control test for OTA test**

*Type: pCR For: Approval  
 38.176-2 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

In this paper, we present out views on the power control OTA test and relation to the Tx dynamic range test.

**Decision: Not pursued.**

###### 5.3.2.4.2 Receiver characteristics

**R4-2106317 TP to TS 38.176-2 Annex A for IAB OTA test specification**

*Type: pCR For: Approval  
 38.176-2 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this contribution, we provide text proposal to Annex A for IAB radiated test specification

**Decision: Revised to R4-2106077 (from R4-2106317).**

**R4-2106077 TP to TS 38.176-2 Annex A for IAB OTA test specification**

*Type: pCR For: Approval  
 38.176-2 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this contribution, we provide text proposal to Annex A for IAB radiated test specification

**Decision: Return to.**

**R4-2106600 TP to TS 38.xxx-2: RX IMD requirements**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Revised to R4-2106078 (from R4-2106600).**

**R4-2106078 TP to TS 38.xxx-2: RX IMD requirements**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Return to.**

**R4-2106602 TP to TS 38.xxx-2: RX ICS requirements**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Revised to R4-2106079 (from R4-2106602).**

**R4-2106079 TP to TS 38.xxx-2: RX ICS requirements**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Return to.**

**R4-2107101 TP to TS 38.176-2 - OTA Sensitivity, clause 7.2, 7.3**

*Type: pCR For: Approval  
 38.176-2 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Huawei*

**Abstract:**

Content for the sensitivity clause in the OTA requirement (as allocated author)

**Decision: Revised to R4-2106080 (from R4-2107101).**

**R4-2106080 TP to TS 38.176-2 - OTA Sensitivity, clause 7.2, 7.3**

*Type: pCR For: Approval  
 38.176-2 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Huawei*

**Abstract:**

Content for the sensitivity clause in the OTA requirement (as allocated author)

**Decision: Return to.**

**R4-2107103 TP to TS 38.176-2 - OTA Rx dynamic range, clause 7.3**

*Type: pCR For: Approval  
 38.176-2 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Huawei*

**Abstract:**

Content for the RX dynamic range clause in the OTA requirement (as allocated author)

**Decision: Revised to R4-2106081 (from R4-2107103).**

**R4-2106081 TP to TS 38.176-2 - OTA Rx dynamic range, clause 7.3**

*Type: pCR For: Approval  
 38.176-2 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Huawei*

**Abstract:**

Content for the RX dynamic range clause in the OTA requirement (as allocated author)

**Decision: Return to.**

**R4-2107236 TP on IBB, OBB and RX spurious for OTA receiver characteristic test**

*Type: pCR For: Approval  
 38.176-2 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

In this paper, we propose the TP for IBB, OBB and RX spurious for OTA receiver conformance test.

**Decision: Revised to R4-2106082 (from R4-2107236).**

**R4-2106082 TP on IBB, OBB and RX spurious for OTA receiver characteristic test**

*Type: pCR For: Approval  
 38.176-2 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

In this paper, we propose the TP for IBB, OBB and RX spurious for OTA receiver conformance test.

**Decision: Return to.**

###### 5.3.2.4.3 Other test issues

**R4-2104792 TP for TS 38.176-2: Annex B and C**

*Type: other For: Endorsement  
 38.176-2 v CR- rev Cat: (Rel-16)  
  
 Source: CATT*

**Decision: Not pursued.**

**R4-2106318 TP to TS 38.146-2 Clause 4.6 Declarations for IAB radiated test specification**

*Type: pCR For: Approval  
 38.176-2 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this contribution, we provide text proposal to clause 4.6: Declarations for IAB radiated test specification

**Decision: Revised to R4-2106083 (from R4-2106318).**

**R4-2106083 TP to TS 38.146-2 Clause 4.6 Declarations for IAB radiated test specification**

*Type: pCR For: Approval  
 38.176-2 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this contribution, we provide text proposal to clause 4.6: Declarations for IAB radiated test specification

**Decision: Return to.**

**R4-2107105 TP to TS 38.176-2 - Annex D&E**

*Type: pCR For: Approval  
 38.176-2 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Huawei*

**Abstract:**

Content for Annex D and E, in the OTA requirement (as allocated author)

**Decision: Revised to R4-2106084 (from R4-2107105).**

**R4-2106084 TP to TS 38.176-2 - Annex D&E**

*Type: pCR For: Approval  
 38.176-2 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Huawei*

**Abstract:**

Content for Annex D and E, in the OTA requirement (as allocated author)

**Decision: Return to.**

#### 5.3.4 EMC performance requirements

**R4-2105973 Email discussion summary for [98-bis-e][302] NR\_EMC**

*Type: other For: Information  
 Source: Moderator (ZTE)*

**Abstract:**

**Discussion:**

**Decision: Revised to R4-2106140 (from R4-2105973).**

**R4-2106140 Email discussion summary for [98-bis-e][302] NR\_EMC**

*Type: other For: Information  
 Source: Moderator (ZTE)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106085 WF on IAB EMC spatial exclusion**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2104960 Further discussion on IAB RI testing with spatial exclusions**

*Type: discussion For: Discussion  
 38.175 v CR- rev Cat: (Rel-16)  
  
 Source: ZTE Corporation*

**Abstract:**

In this contribution, we further discuss IAB RI testing with spatial exclusions.

**Decision: Noted.**

**R4-2106510 Discussion on Performance criteria for transient phenomena for IAB**

*Type: other For: Discussion  
 Source: Ericsson*

**Abstract:**

Discussion on Performance criteria for transient phenomena for IAB

**Decision: Noted.**

**R4-2106511 Draft CR to TS 38.175 on IAB EMC test configurations and performance requirements**

*Type: draftCR For: Agreement  
 38.175 v16.1.0 CR- rev Cat: B (Rel-16)  
  
 Source: Ericsson, ZTE*

**Abstract:**

Draft CR on IAB EMC Performance requirements

**Decision: Revised to R4-2106086 (from R4-2106511).**

**R4-2106086 Draft CR to TS 38.175 on IAB EMC test configurations and performance requirements**

*Type: draftCR For: Agreement  
 38.175 v16.1.0 CR- rev Cat: B (Rel-16)  
  
 Source: Ericsson, ZTE*

**Abstract:**

Draft CR on IAB EMC Performance requirements

**Decision: Return to.**

**R4-2106512 Discussion on Spatial Exclusion for IAB EMC RI test**

*Type: other For: Discussion  
 Source: Ericsson*

**Abstract:**

Discussion paper on Spatial Exclusion for IAB EMC Radiated Immunity Testing

**Decision: Noted.**

**R4-2106513 Draft CR to TS 38.175 on Spatial Exclusion for IAB EMC Radiated Immunity test**

*Type: draftCR For: Agreement  
 38.175 v16.1.0 CR- rev Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Draft CR on spatial exclusion for IAB EMC Radiated Immunity testing

**Decision: Not pursued.**

#### 5.3.5 Demodulation and CSI requirements

##### 5.3.5.1 General

**R4-2105990 Email discussion summary for [98-bis-e][319] NR\_IAB\_Demod**

*Type: other For: Information  
 Source: Moderator (Nokia)*

**Abstract:**

**Discussion:**

**Decision: Revised to R4-2106141 (from R4-2105990).**

**R4-2106141 Email discussion summary for [98-bis-e][319] NR\_IAB\_Demod**

*Type: other For: Information  
 Source: Moderator (Nokia)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106088 WF on Rel-16 NR IAB demodulation requirements**

*Type: other For: Approval  
 Source: Nokia*

**Abstract:**

**Discussion:**

**R4-2106089 WF on Rel-16 NR IAB specification editorial issues**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2104660 pCR to 38.176-1: Introduction of annexes on test tolerance, test setup and propagation conditions for performance requirements**

*Type: pCR For: Approval  
 38.176-1 v0.0.0 CR- rev Cat: (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

draft CR as per work split

**Decision: Postponed.**

**R4-2104661 Draft CR to 38.174: FRCs and PRACH preambles**

*Type: draftCR For: Approval  
 38.174 v16.2.0 CR- rev Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

draft CR as per work split

**Decision: Postponed.**

**R4-2106438 draftCR to 38.174: IAB-MT and IAB-DU performance requirements**

*Type: draftCR For: Endorsement  
 38.174 v16.2.0 CR- rev Cat: (Rel-16)  
  
 Source: Intel Corporation*

**Decision: Postponed.**

**R4-2106439 TP to TS 38.176-1: FRC and PRACH test preambles**

*Type: pCR For: Approval  
 38.176-1 v0.0.0 CR- rev Cat: (Rel-16)  
  
 Source: Intel Corporation*

**Decision: Postponed.**

**R4-2106440 TP to TS 38.176-2: Demodulation manufacturer declarations**

*Type: pCR For: Approval  
 38.176-2 v0.0.0 CR- rev Cat: (Rel-16)  
  
 Source: Intel Corporation*

**Decision: Postponed.**

**R4-2106441 Big TP to TS 38.176-1: IAB demodulation performance requirements**

*Type: pCR For: Approval  
 38.176-1 v0.0.0 CR- rev Cat: (Rel-16)  
  
 Source: Intel Corporation*

**Decision:** For email approval

**R4-2106778 draftTP to TS 38.176-2 IAB-DU performance requirements and parts of DU and MT appendix**

*Type: pCR For: Approval  
 38.176-2 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this contribution, we present a first TP draft on how to include IAB-DU performance requirements and parts of DU and MT appendix in the newly created TS 38.176-2. Given that the current meeting is a “bis” meeting, we understand the TPs given in the fol

**Decision: Postponed.**

**R4-2106817 Big CR on IAB-MT demodulation in TS 38.174**

*Type: draftCR For: Endorsement  
 38.174 v16.2.0 CR- rev Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision:** For email approval

**R4-2106819 pCR on IAB conducted conformance testing (Manufacturer declarations) to TS 38.176-1**

*Type: pCR For: Approval  
 38.176-1 v0.0.0 CR- rev Cat: (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Postponed.**

**R4-2106822 pCR on IAB radiated conformance testing (FRCs and PRACH test preambles) to TS 38.176-2**

*Type: pCR For: Approval  
 38.176-2 v0.0.0 CR- rev Cat: (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Postponed.**

**R4-2107094 bigTP draft to TS 38.176-2 Demodulation performance**

*Type: pCR For: Agreement  
 38.176-2 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Following the agreed work split [R4-2103994], we reserve this draft bigTP to collect and aggregate contributions during RAN4#98bis-e for email approval after the meeting.

**Decision:** For email approval

##### 5.3.5.2 IAB-DU performance requirements

**R4-2104659 Draft CR to 38.174: Introduction of IAB-DU performance requirements**

*Type: draftCR For: Approval  
 38.174 v16.2.0 CR- rev Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

draft CR as per work split

**Decision: Postponed.**

**R4-2104664 IAB-DU remaining issues**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

Proposals for remaining open issues

**Decision: Noted.**

**R4-2106433 Views on IAB-DU demodulation performance requirements**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision: Noted.**

**R4-2106777 On IAB-DU demodulation requirements**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this contribution we further clarify our view on the applicability rules and discuss the detailed scope of IAB-DU performance requirements, especially concerning PUCCH (multi-slot and applicability rules) and PRACH (formats to include and applicability

**Decision: Noted.**

**R4-2106812 Discussion on NR IAB-DU demodulation performance requirements**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

**R4-2107251 draftTP to TS 38.176-1 IAB-DU performance requirements**

*Type: pCR For: Approval  
 38.176-1 v0.0.1 CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this contribution, we present a first TP draft on how to include IAB-DU conducted performance requirements in the newly created TS 38.176-1. Given that the current meeting is a “bis” meeting, we understand the TPs are early drafts, meant to be indicati

**Decision: Postponed.**

##### 5.3.5.3 IAB-MT performance requirements

**R4-2104662 pCR to 38.176-2: Introduction of CSI-RS performance tests and requirements**

*Type: pCR For: Approval  
 38.176-2 v0.0.0 CR- rev Cat: (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

draft CR as per work split

**Decision: Postponed.**

**R4-2104663 pCR to 38.176-1: IAB-MT performance tests**

*Type: pCR For: Approval  
 38.176-1 v0.0.0 CR- rev Cat: (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

draft CR as per work split

**Decision: Postponed.**

**R4-2104665 IAB-MT remaining issues**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

Proposals for remaining open issues

**Decision: Noted.**

**R4-2104666 IAB-MT simulation results**

*Type: other For: Information  
 Source: Ericsson*

**Abstract:**

Additional simulation results for IAB-MT

**Decision: Noted.**

**R4-2106434 Views on IAB-MT demodulation performance requirements**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision: Noted.**

**R4-2106571 On IAB-MT demodulation requirements**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

We are clarifying our view on the following open issues:

- Fine synchronization in the conformance testing setup

- Specification of configurations for SSB, TRS and CSI-RS

- Down-scoping and change of propagation conditions for PDSCH and PDCCH tests

- CIS

**Decision: Noted.**

**R4-2106779 draftCR to TS 38.174 CSI reporting radiated performance requirements**

*Type: draftCR For: Endorsement  
 38.174 v16.2.0 CR- rev Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Added the first version of IAB-MT CSI reporting radiated performance requirements, i.e., the sections of General, CQI, PMI, RI, as per agreed worksplit [R4-2103994].

We understand the current version to be an early draft that is very susceptible to addit

**Decision: Postponed.**

**R4-2106813 Discussion on NR IAB-MT demodulation performance requirements**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

**R4-2106814 Simulation results for NR IAB-MT demodulation performance requirements**

*Type: other For: Information  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

**R4-2106815 Updated simulation assumptions for NR IAB-MT demodulation requirements**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

**R4-2106816 Summary of simulation results for NR IAB-MT demodulation requirements**

*Type: other For: Information  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

**R4-2106818 Draft CR on IAB-MT conducted performance requirements (General and Demodulation) in TS 38.174**

*Type: draftCR For: Endorsement  
 38.174 v16.2.0 CR- rev Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Postponed.**

**R4-2106820 pCR on IAB-MT conducted conformance testing (CSI reporting and Interworking) to TS 38.176-1**

*Type: pCR For: Approval  
 38.176-1 v0.0.0 CR- rev Cat: (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Postponed.**

**R4-2106821 pCR on IAB-MT radiated conformance testing (General and Demodulation) to TS 38.176-2**

*Type: pCR For: Approval  
 38.176-2 v0.0.0 CR- rev Cat: (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Postponed.**

## 6 Rel-16 UE feature list

## 7 Rel-17 spectrum related Work Items for NR

### 7.25 Introduction of channel bandwidths 35MHz and 45MHz for NR

#### 7.25.6 UE Demod

**R4-2105991 Email discussion summary for [98-bis-e][320] NR\_R17\_SpectrumWI\_Demod\_NWM**

*Type: other For: Information  
 Source: Moderator (Ericsson)*

**Abstract:**

**Discussion:**

**Decision: Revised to R4-2106142 (from R4-2105991).**

**R4-2106142 Email discussion summary for [98-bis-e][320] NR\_R17\_SpectrumWI\_Demod\_NWM**

*Type: other For: Information  
 Source: Moderator (Ericsson)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106090 Way forward on UE demodulation and CQI reporting for channel bandwidths 35MHz and 45MHz for NR FR1**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2104601 Discussion on impact of 35MHz and 45MHz introduction on demodulation test cases**

*Type: discussion For: Discussion  
 Source: CMCC*

**Decision: Noted.**

**R4-2106832 Discussion on NR UE demodulation for 35MHz and 45MHz bandwidth**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

**R4-2106872 UE demodulation requirements for CBW 35MHz/45MHz**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

This contribution discusses the impact to UE demodulation performance due to the introduction of 35MHz/45MHz in FR1

**Decision: Noted.**

### 7.27 Introduction of NR 47 GHz band

#### 7.27.2 BS RF (38.104)

#### 7.27.4 Others

##### 7.27.4.1 BS conformance (38.141)

**R4-2105977 Email discussion summary for [98-bis-e][306] NR\_47GHz\_Band\_BSRF\_NWM**

*Type: other For: Information  
 Source: Moderator (Nokia)*

**Abstract:**

**Discussion:**

**Decision: Revised to R4-2106143 (from R4-2105977).**

**R4-2106143 Email discussion summary for [98-bis-e][306] NR\_47GHz\_Band\_BSRF\_NWM**

*Type: other For: Information  
 Source: Moderator (Nokia)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106890 47GHz band - Measurement uncertainties for BS requirements**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

This contribution discusses the measurement uncertainties for BS requirements at 47GHz

**Decision: Noted.**

**R4-2107038 TP to TR 38.847: BS conformance aspects**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Approved.**

**R4-2107039 Draft CR to 38.141-2: Introduction of n262**

*Type: draftCR For: Endorsement  
 38.141-2 v17.1.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Endorsed.**

**R4-2107077 47 GHz band TT for NR BS RF requirement**

*Type: discussion For: Agreement  
 Source: Keysight Technologies UK Ltd*

**Decision: Noted.**

##### 7.27.4.2 UE Demod (38.101-4)

**R4-2106091 Way forward on UE/BS demodulation on NR 47GHz band**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2104843 On UE Demodulation requirements for band n262**

*Type: discussion For: Discussion  
 Source: Apple*

**Decision: Noted.**

**R4-2106468 Discussion on PDSCH Demodulation Requirements for 47 GHz band**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

**Abstract:**

During the last RAN4 meeting companies agreed to verify whether the existing UE demodulation performance requirements can be extended to the 47GHz band according to the WID in [1]. This paper presents the simulation results based on the simulation assumpt

**Decision: Noted.**

**R4-2106823 Discussion on NR UE demodulation for 47GHz band**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

**R4-2106859 Applicability of FR2 UE demodulation requirements for NR 47GHz band**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

This contribution discusses the applicability of the existing FR2 UE demodulation requirements to NR 47GHz band (n262).

**Decision: Noted.**

**R4-2106860 pCR to 38.847: UE performance requirements**

*Type: pCR For: Endorsement  
 38.847 v0.1.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Captures information and rationale behind decision for demodulation requirements

**Decision: Postponed.**

**R4-2106861 draft CR: TS 38.101-4: n262 demodulation requirements**

*Type: draftCR For: Endorsement  
 38.101-4 v17.0.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

CR to introduce demodulation requirements for n262

**Decision: Postponed.**

##### 7.27.4.3 BS Demod (38.104)

**R4-2104682 pCR to TR 38.847: BS demodulation requirements**

*Type: pCR For: Approval  
 38.847 v0.1.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

pCR on link budget

**Decision: Approved.**

**R4-2106781 On 47GHz OTA demodulation testing**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this contribution we have provided our views on various open 47GHz BS demodulation performance issues. In particular, the applicability of current FR2 requirements to 47GHz, the test feasibility with respect to link budget, and the test validity with r

**Decision: Noted.**

**R4-2106824 Discussion on NR BS demodulation for 47GHz band**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

## 8 Rel-17 non-spectrum related work items for NR

### 8.1 Multiple Input Multiple Output (MIMO) Over-the-Air (OTA) requirements for NR UEs

#### 8.1.1 General

**R4-2105997 Email discussion summary for [98-bis-e][326] NR\_MIMO\_OTA**

*Type: other For: Information  
 Source: Moderator (CAICT)*

**Abstract:**

**Discussion:**

**Decision: Revised to R4-2106144 (from R4-2105997).**

**R4-2106144 Email discussion summary for [98-bis-e][326] NR\_MIMO\_OTA**

*Type: other For: Information  
 Source: Moderator (CAICT)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106092 WF on NR MIMO OTA**

*Type: other For: Approval  
 Source: vivo,CAICT*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106093 TP to TS38.151: revision on MIMO Average Spherical Coverage**

*Type: pCR For: (not specified)  
 38.151 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source:* Qualcomm Incorporated, Huawei, HiSilicon , CAICT, vivo, OPPO

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2104512 3GPP TS 38.151 v0.3.0**

*Type: draft TS For: Approval  
 38.151 v0.3.0 CR- rev Cat: (Rel-17)  
  
 Source: vivo*

**Decision: Return to.**

**R4-2104515 Updated workplan of MIMO OTA WI**

*Type: Work Plan For: Approval  
 Source: vivo, CAICT, OPPO*

**Decision: Revised to R4-2106096 (from R4-2104515).**

**R4-2106096 Updated workplan of MIMO OTA WI**

*Type: Work Plan For: Approval  
 Source: vivo, CAICT, OPPO*

**Decision: Return to.**

**R4-2107126 On Blocking MU for FR2 MIMO OTA**

*Type: other For: Approval  
 Source: Keysight Technologies UK Ltd*

**Decision: Noted.**

#### 8.1.2 Performance Requirements

##### 8.1.2.1 Performance Requirements for FR1

##### 8.1.2.2 Performance Requirements for FR2

**R4-2104513 Discussions on FR2 FoM**

*Type: discussion For: Approval  
 Source: vivo*

**Decision: Noted.**

**R4-2106272 Views on how to treat the missing points for FR2 FoM**

*Type: discussion For: Approval  
 Source: CAICT*

**Decision: Noted.**

**R4-2106568 FoM for FR2**

*Type: discussion For: Approval  
 Source: OPPO*

**Decision: Noted.**

**R4-2107116 Discussion on FR2 MIMO OTA performance requirements**

*Type: discussion For: (not specified)  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

**R4-2107117 TP to TS38.151: revision on definaiton fo MASC**

*Type: pCR For: (not specified)  
 38.151 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Qualcomm Incorporated*

**Decision:** The document was **withdrawn**.

**R4-2107294 Discussion on FR2 MIMO OTA simulation**

*Type: other For: Approval  
 Source: HiSilicon Technologies Co. Ltd*

**Decision: Noted.**

**R4-2107295 TP to 38.151 on MIMO Average Spherical Coverage**

*Type: pCR For: Approval  
 38.151 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: HiSilicon Technologies Co. Ltd*

**Decision: Not pursued.**

**R4-2107363 TP to TS38.151: revision on definition for MASC**

*Type: pCR For: (not specified)  
 38.151 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Qualcomm Incorporated*

**Decision: Not pursued.**

#### 8.1.3 Testing methodologies

##### 8.1.3.1 Testing parameters for Performance

**R4-2104514 Discussion on Power Validation procedure and compensation process**

*Type: discussion For: Approval  
 Source: vivo*

**Decision: Noted.**

**R4-2105041 Discussion on channel model and downlink power configuration**

*Type: discussion For: Discussion  
 Source: Samsung*

**Decision: Noted.**

**R4-2105169 Testing parameters for Performance: "On remaining open issues of testing parameters for performance"**

*Type: discussion For: Approval  
 Source: Huawei,HiSilicon*

**Decision: Noted.**

**R4-2107293 on channel bandwidth for NR FR2 MIMO OTA RMC**

*Type: other For: Approval  
 Source: HiSilicon Technologies Co. Ltd*

**Decision: Noted.**

##### 8.1.3.2 Optimization of test methodologies

**R4-2104511 TP to TS38.151 v0.2.0 on calibration and test procedure**

*Type: pCR For: Approval  
 38.151 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: vivo, CAICT*

**Decision: Revised to R4-2106095 (from R4-2104511).**

**R4-2106095 TP to TS38.151 v0.2.0 on calibration and test procedure**

*Type: pCR For: Approval  
 38.151 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: vivo, CAICT*

**Decision: Return to.**

**R4-2105170 Optimization of test methodologies: "On Channel model for FR1 2x2 MIMO OTA requirements"**

*Type: discussion For: Approval  
 Source: Huawei,HiSilicon*

**Decision: Noted.**

**R4-2106569 Views on FR2 blocking issue**

*Type: discussion For: Approval  
 Source: OPPO*

**Decision: Noted.**

**R4-2107174 Views on MU evaluation of FR2 blocking issue**

*Type: discussion For: Approval  
 Source: CAICT*

**Decision: Noted.**

##### 8.1.3.3 Channel model validation

**R4-2104510 TP to TS38.151 v0.2.0 on FR1 Channel model**

*Type: pCR For: Approval  
 38.151 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: vivo, CAICT*

**Decision: Revised to R4-2106094 (from R4-2104510).**

**R4-2106094 TP to TS38.151 v0.2.0 on FR1 Channel model**

*Type: pCR For: Approval  
 38.151 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: vivo, CAICT*

**Decision: Return to.**

**R4-2105020 NR FR1 MIMO OTA Reference Spatial Correlation Curves based on Different Optimization Algorithm**

*Type: discussion For: Approval  
 Source: CMCC*

**Decision: Noted.**

**R4-2106567 Consideration on Spatial Correlation with combined beam**

*Type: discussion For: Approval  
 Source: OPPO*

**Decision: Noted.**

**R4-2106902 Spatial Channel Model Validation Targets**

*Type: other For: Approval  
 Source: Spirent Communications*

**Abstract:**

In this contribution spatial channel model validation targets for FR1 and FR2 are proposed.

Proposal 1: Adopt spatial channel model validation targets as presented.

**Decision: Noted.**

**R4-2107127 Reference Channel Emulation Curves**

*Type: other For: Approval  
 Source: Keysight Technologies UK Ltd*

**Decision: Revised to R4-2106097 (from R4-2107127).**

**R4-2106097 Reference Channel Emulation Curves**

*Type: other For: Approval  
 Source: Keysight Technologies UK Ltd*

**Decision: Return to.**

### 8.6 Enhancement for NR high speed train scenario in FR1

#### 8.6.1 General and work plan

**R4-2104946 Updated work plan for enhancement for NR high speed train scenario in FR1**

*Type: Work Plan For: Approval  
 Source: CMCC*

**Decision:** The demod part of work plan R4-2104946 is agreeable.

Session Chair Note: Work plan for demod part handled in this session.

#### 8.6.3 UE demodulation requirements (38.101-4)

##### 8.6.3.1 General

**R4-2105992 Email discussion summary for [98-bis-e][321] NR\_HST\_FR1\_Demod**

*Type: other For: Information  
 Source: Moderator (CMCC)*

**Abstract:**

**Discussion:**

**Decision: Revised to R4-2106145 (from R4-2105992).**

**R4-2106145 Email discussion summary for [98-bis-e][321] NR\_HST\_FR1\_Demod**

*Type: other For: Information  
 Source: Moderator (CMCC)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106098 WF on FR1 HST demodulation**

*Type: other For: Approval  
 Source: CMCC*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106099 Summary for FR1 HST demodulation results**

*Type: other For: Information  
 Source: Ericsson*

**Abstract:**

**Discussion:**

**Decision: Return to.**

##### 8.6.3.2 PDSCH requirements for CA scenarios

**R4-2104844 On PDSCH CA Requirements in HST**

*Type: discussion For: Discussion  
 Source: Apple*

**Decision: Revised to R4-2106001 (from R4-2104844).**

**R4-2106001 On PDSCH CA Requirements in HST**

*Type: discussion For: Discussion  
 Source: Apple*

**Decision: Noted.**

**R4-2104939 Simulation results for HST-SFN joint transmission for CA scenario**

*Type: discussion For: Information  
 Source: CMCC*

**Decision: Noted.**

**R4-2104948 Discussion on FR1 HST UE demodulation for CA scenario**

*Type: discussion For: Discussion  
 Source: CMCC*

**Decision: Noted.**

**R4-2104976 Views on HST CA tests for FR1**

*Type: discussion For: Discussion  
 Source: NTT DOCOMO, INC.*

**Decision: Noted.**

**R4-2106431 Views on HST CA PDSCH performance requirements**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision: Noted.**

**R4-2106808 Discussion on PDSCH CA scenarios for NR UE HST FR1 performance requirements**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

**R4-2106809 Simulation results for PDSCH CA scenarios for NR UE HST FR1 performance requirements**

*Type: other For: Information  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

**R4-2106862 Initial simulation result of PDSCH for CA in HST**

*Type: other For: Information  
 Source: Ericsson*

**Abstract:**

This contribution shows our initial simulation results of CA PDSCH for HST scenario.

**Decision: Noted.**

**R4-2106863 PDSCH demodulation requirements for CA with HST-SFN scenario**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

This contribution discusses the open issues of the PDSCH demodulation requirements for CA with HST-SFN scenario.

**Decision: Noted.**

**R4-2107041 Views on FR1 HST PDSCH CA Tests**

*Type: discussion For: (not specified)  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

**R4-2104923 Discussion on PDSCH requirements for CA in FR1 HST**

*Type: discussion For: Discussion  
 Source: ZTE Corporation*

Session chair Note: Moved to this AI from AI 8.7.3.2

**Decision: Noted.**

##### 8.6.3.3 Enhanced transmission schemes

**R4-2104845 On Enhanced transmission schemes for HST**

*Type: discussion For: Discussion  
 Source: Apple*

**Decision: Noted.**

**R4-2106432 Views on HST PDSCH performance requirements for multi-DCI based Tx scheme**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision: Noted.**

**R4-2106810 Discussion on enhanced transmission schemes for NR UE HST FR1 performance requirements**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

**R4-2106811 Simulation results for evaluations of enhanced transmission schemes for NR UE HST FR1 performance requirements**

*Type: other For: Information  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

**R4-2106864 PDSCH demodulation requirements with enhanced transmission schemes in HST scenario**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

This contribution shows our view on the PDSCH demodulation requirements with enhanced transmission schemes in HST scenario.

**Decision: Noted.**

**R4-2107043 Views on FR1 HST Enhanced Transmission Schemes**

*Type: discussion For: (not specified)  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

**R4-2107092 Discussion on multi-DCI transmission scheme for FR1 HST**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

**Decision: Noted.**

### 8.7 NR support for high speed train scenario in FR2

#### 8.7.1 General and work plan

**R4-2106825 Discussion on general issues for NR FR2 HST deployment scenario**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

#### 8.7.2 High speed train deployment scenario in FR2

**R4-2105993 Email discussion summary for [98-bis-e][322] NR\_HST\_FR2\_Scenarios\_Demod**

*Type: other For: Information  
 Source: Moderator (Samsung)*

**Abstract:**

**Discussion:**

**Decision: Revised to R4-2106146 (from R4-2105993).**

**R4-2106146 Email discussion summary for [98-bis-e][322] NR\_HST\_FR2\_Scenarios\_Demod**

*Type: other For: Information  
 Source: Moderator (Samsung)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106100 WF on FR2 HST Deployment Scenario Analysis**

*Type: other For: Approval  
 Source: Samsung*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106101 WF on Channel Modeling for FR2 HST**

*Type: other For: Approval  
 Source: Nokia*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106102 WF on Demodulation requirement for FR2 HST**

*Type: other For: Approval  
 Source: Samsung*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2104905 FR2 HST deployment scenario discussion**

*Type: discussion For: Discussion  
 Source: Qualcomm, Inc.*

**Decision: Noted.**

##### 8.7.2.1 Deployment Scenario-A

**R4-2104679 On HST deployment aspects in scenario A**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Discussion on scenario A

**Decision: Noted.**

**R4-2104924 NR support for high speed train scenario in FR2 - Deployment Scenario-A**

*Type: discussion For: Discussion  
 Source: ZTE Corporation*

**Decision: Noted.**

**R4-2105023 Discussion on FR2 HST Deployment Scenario-A**

*Type: discussion For: Discussion  
 Source: Samsung*

**Decision: Noted.**

**R4-2106503 Discussion on FR2 HST deployment aspects**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision: Noted.**

**R4-2106693 On HST FR2 Deployment Scenario A**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

**R4-2106826 Discussion on NR FR2 HST deployment Scenario-A**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

##### 8.7.2.2 Deployment Scenario-B

**R4-2104680 On HST deployment aspects in Scenario B**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Discussion on scenario B

**Decision: Noted.**

**R4-2104926 NR support for high speed train scenario in FR2 - Deployment Scenario-B**

*Type: discussion For: Discussion  
 Source: ZTE Corporation*

**Decision: Noted.**

**R4-2105024 Discussion on FR2 HST Deployment Scenario-B**

*Type: discussion For: Discussion  
 Source: Samsung*

**Decision: Noted.**

**R4-2106694 On HST FR2 Deployment Scenario B**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

**R4-2106827 Discussion on NR FR2 HST deployment Scenario-B**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

##### 8.7.2.3 Channel modeling

**R4-2104678 Channel model for FR2 HST scenario**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Discussion on channel model assumptions

**Decision: Noted.**

**R4-2105025 Channel modeling for FR2 HST and TP to TR 38.854**

*Type: pCR For: Approval  
 38.854 v0.0.2 CR- rev Cat: (Rel-17)  
  
 Source: Samsung*

**Decision: Approved.**

**R4-2106828 Discussion on channel modeling for NR FR2 HST**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

**R4-2106911 On HST FR2 Channel Modelling**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

##### 8.7.2.4 Others

**R4-2104677 On available capacity and the number of UE per train**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Discussion on multi UE per train

**Decision: Noted.**

**R4-2104925 Other considerations for HST\_FR2**

*Type: discussion For: Discussion  
 Source: ZTE Corporation*

**Decision: Noted.**

#### 8.7.5 Demodulation requirements

##### 8.7.5.1 General

**R4-2105028 Maximum Supported Speed from Demod perspective for FR2 HST**

*Type: discussion For: Discussion  
 Source: Samsung*

**Decision: Noted.**

**R4-2106435 Analysis on max supported speed for HST FR2 demodulation requirements**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision: Noted.**

**R4-2106473 Preliminary observations on FR2 HST UE Demod Performance Test**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

**Abstract:**

The WID for FR2 HST [1] introduces the new scenario of high speed train for FR2.

This contribution proposes some points to start the discussion in RAN4 focused on UE Demodulation Performance tests for this scenario.

**Decision: Noted.**

**R4-2106829 Discussion on general issues for NR FR2 HST demodulation requirements**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

**R4-2106865 HST single tap channel profile for unidirectional deployment**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

This contribution proposes the HST single tap assuming unidirectional deployment.

**Decision: Noted.**

**R4-2106916 On HST FR2 Maximum Supported Speed from Demodulation Perspective**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

##### 8.7.5.2 UE demodulation requirements

**R4-2105029 View on UE demodulation requirement for Rel-17 FR2 HST**

*Type: discussion For: Discussion  
 Source: Samsung*

**Decision: Noted.**

**R4-2106436 View on UE demodulation requirements for HST FR2**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision: Noted.**

**R4-2106830 Discussion on UE demodulation requirements for FR2 HST**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

**R4-2106866 UE demodulation requirements for HST FR2**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

This contribution discusses the UE demodulation requirements for HST FR2.

**Decision: Noted.**

##### 8.7.5.3 BS demodulation requirements

**R4-2104681 HST FR2 BS demodulation aspects**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Discussion on BS demod

**Decision: Noted.**

**R4-2105030 View on BS demodulation requirement for Rel-17 FR2 HST**

*Type: discussion For: Discussion  
 Source: Samsung*

**Decision: Noted.**

**R4-2106437 View on BS demodulation requirements for HST FR2**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision: Noted.**

**R4-2106780 On FR2 HST BS demodulation requirements**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this contribution we will express our initial views concerning HST BS demodulation performance in FR2

**Decision: Noted.**

**R4-2106831 Discussion on BS demodulation requirements for FR2 HST**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

### 8.8 Solutions for NR to support non-terrestrial networks (NTN)

#### 8.8.1 General and work plan

**R4-2105978 Email discussion summary for [98-bis-e][307] NTN\_Solutions\_Part1**

*Type: other For: Information  
 Source: Moderator (Thales)*

**Abstract:**

**Discussion:**

**Decision: Revised to R4-2106147 (from R4-2105978).**

**R4-2106147 Email discussion summary for [98-bis-e][307] NTN\_Solutions\_Part1**

*Type: other For: Information  
 Source: Moderator (Thales)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106103 WF on [307] NTN\_Solutions\_Part1**

*Type: other For: Approval  
 Source: Thales*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2104879 NR\_NTN\_solutions work plan**

*Type: Work Plan For: Endorsement  
 Source: THALES*

**Decision: Approved.**

**R4-2107217 On the FR2 NTN coexistence scenarios**

*Type: discussion For: Discussion  
 Source: Hughes/EchoStar, Inmarsat, Thales, ESA, Intelsat*

**Decision: Noted.**

##### 8.8.1.1 System parameters

**R4-2106607 Discussion on system parameters for NTN**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

**R4-2106899 Reference points and reference model for NTN**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

This contribution is discussing reference points and reference models for NTN

**Decision: Noted.**

**R4-2107193 On NTN System parameters**

*Type: discussion For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

##### 8.8.1.2 NTN architecture

**R4-2104808 on NTN architecture and RF requirements**

*Type: discussion For: Discussion  
 Source: CATT*

**Decision: Noted.**

**R4-2106545 Discussion on RF interfaces for NR to support non-terrestrial networks**

*Type: other For: Approval  
 Source: Xiaomi*

**Decision: Noted.**

**R4-2106608 Discussion on NTN architecture**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

**R4-2106686 Further discussion on Network architecture on NTN system**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

**R4-2107263 NTN Architecture Aspects**

*Type: discussion For: Discussion  
 Source: THALES*

**Abstract:**

The goal of this document is to clarify the assumptions to be used by NTN RAN4 work with respect to NTN architecture by selecting the appropriate candidate option and address the remaining issue FFS whether RAN4 shall define RF requirements for the linkag

**Decision: Noted.**

##### 8.8.1.3 Regulatory information

**R4-2106897 NTN - Regulatory and spectrum aspects**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

Based on Radio Regulations analysis, this contribution is discussing NTN spectrum aspects and outcomes of last RAN#91-e meeting

**Decision: Noted.**

##### 8.8.1.4 Others

#### 8.8.2 Coexistence aspects

**R4-2105979 Email discussion summary for [98-bis-e][308] NTN\_Solutions\_Part2**

*Type: other For: Information  
 Source: Moderator (Samsung)*

**Abstract:**

**Discussion:**

**Decision: Revised to R4-2106148 (from R4-2105979).**

**R4-2106148 Email discussion summary for [98-bis-e][308] NTN\_Solutions\_Part2**

*Type: other For: Information  
 Source: Moderator (Samsung)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106104 WF on [308] NTN\_Solutions\_Part2**

*Type: other For: Approval  
 Source: Samsung*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106105 Simulation assumptions for NTN co-existence**

*Type: other For: Approval  
 Source: Samsung, CATT*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106106 Simulation assumptions for HAPS co-existence**

*Type: other For: Approval  
 Source: Nokia*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2105045 Simulation assumptions for FR1 coexistence study**

*Type: discussion For: Approval  
 Source: Samsung*

**Decision: Noted.**

**R4-2105046 Initial simulation results of some NR-NTN co-ex scenarios**

*Type: discussion For: Discussion  
 Source: Samsung*

**Decision: Noted.**

**R4-2107270 On the S-band NTN coexistence scenarios and simulation parameters**

*Type: discussion For: Discussion  
 Source: THALES*

**Abstract:**

The goal of this contribution is to further clarify coexistence scenarios and simulation parameters for S-band in FR1.

**Decision: Noted.**

##### 8.8.2.1 Coexistence scenarios and Simulation assumptions

**R4-2106476 Simulation assumptions for NTN co-existence**

*Type: discussion For: Approval  
 Source: CATT*

**Decision: Noted.**

**R4-2106609 Further discussion on simulation assumptions for NTN**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

**R4-2106684 Further discussion on NTN simulation assumptions**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

**R4-2106898 NTN Simulations assumptions**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

This contribution further discusses simulations assumptions, focusing on deployment models

**Decision: Noted.**

**R4-2107120 Simulation assumptions for NR NTN co-existence study**

*Type: discussion For: (not specified)  
 Source: Qualcomm Incorporated*

**Decision: Revised to R4-2106000 (from R4-2107120).**

**R R4-2106000 Simulation assumptions for NR NTN co-existence study**

*Type: discussion For: (not specified)  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

**R 4-2107194 HAPS simulation assumptions for coexistence study**

*Type: discussion For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

##### 8.8.2.2 Simulation results

**R4-2106544 Preminary simulation result for coexistence study on NR to support non-terrestrial networks**

*Type: discussion For: Discussion  
 Source: Xiaomi*

**Decision: Noted.**

**R4-2106685 Initial analysis and results about the NTN simulation**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

**R4-2106901 NTN - simulation results for alignment**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

This contribution provides out initial simulation results based on the agreed assumptions for alignment

**Decision: Noted.**

**R4-2107121 Simulation restuls for NTN co-existence calibtartion**

*Type: discussion For: (not specified)  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

**R4-2107195 HAPS adjacent channel coexistence simulation results**

*Type: discussion For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

#### 8.8.3 RF requirements

**R4-2105980 Email discussion summary for [98-bis-e][309] NTN\_Solutions\_Part3**

*Type: other For: Information  
 Source: Moderator (CATT)*

**Abstract:**

**Discussion:**

**Decision: Revised to R4-2106149 (from R4-2105980).**

**R4-2106149 Email discussion summary for [98-bis-e][309] NTN\_Solutions\_Part3**

*Type: other For: Information  
 Source: Moderator (CATT)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2104764 draft LS reply on NTN UL time and frequency synchronization requirements**

*Type: LS out For: Approval  
 to RAN1  
 Source: CATT*

**Abstract:**

This contribution is also related to both email discussions of [98bis-e][309] NTN\_Solutions\_Part3; [98bis-e][223] NR\_NTN\_solutions\_RRM\_2

**Decision: Revised to R4-2106107 (from R4-2104764).**

**R4-2106107 draft LS reply on NTN UL time and frequency synchronization requirements**

*Type: LS out For: Approval  
 to RAN1  
 Source: CATT*

**Abstract:**

This contribution is also related to both email discussions of [98bis-e][309] NTN\_Solutions\_Part3; [98bis-e][223] NR\_NTN\_solutions\_RRM\_2

**Decision: Return to.**

**R4-2107275 NTN UL frequency synchronization requirement**

*Type: discussion For: Discussion  
 Source: THALES*

**Abstract:**

The goal of this document is to propose NTN UL frequency synchronization requirements to be considered by NTN RAN4 work.

**Decision: Noted.**

##### 8.8.3.1 Network side requirements

**R4-2104761 Initial consideration on NTN-BS requirements**

*Type: discussion For: Discussion  
 Source: CATT*

**Decision: Noted.**

**R4-2106610 Discussion on RF requirements from satellite network perspective**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

##### 8.8.3.2 UE requirements

**R4-2104762 Discussion on RF requirements for NTN UE**

*Type: discussion For: Discussion  
 Source: CATT*

**Decision: Noted.**

**R4-2106361 Discussion on UE UL frequency synchronization requirements in NTN**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

**Decision: Noted.**

**R4-2106900 Reply LS to RAN4 on NTN UL time and frequency synchronization requirements (frequency)**

*Type: LS out For: Approval  
 to RAN1  
 Source: Ericsson*

**Abstract:**

This contribution is discussing the UL frequency synchronization and propose a LS Reply to R1-2102263

**Decision: Noted.**

**R4-2107122 Frequency synchronization requirements in NTN**

*Type: discussion For: (not specified)  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

### 8.11 NR repeater

#### 8.11.1 General and work plan

**R4-2105981 Email discussion summary for [98-bis-e][310] NR\_Repeater\_General**

*Type: other For: Information  
 Source: Moderator (Qualcomm)*

**Abstract:**

**Discussion:**

**Decision: Revised to R4-2106150 (from R4-2105981).**

**R4-2106150 Email discussion summary for [98-bis-e][310] NR\_Repeater\_General**

*Type: other For: Information  
 Source: Moderator (Qualcomm)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106108 WF on General issues for repeaters**

*Type: other For: Approval  
 Source: Qualcomm*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106109 WF on Repeater Classes and Types**

*Type: other For: Approval  
 Source: CMCC*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106110 WF on TDD Repeaters**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2105982 Email discussion summary for [98-bis-e][310] NR\_Repeater\_RF**

*Type: other For: Information  
 Source: Moderator (CMCC)*

**Abstract:**

**Discussion:**

**Decision: Revised to R4-2106151 (from R4-2105982).**

**R4-2106151 Email discussion summary for [98-bis-e][310] NR\_Repeater\_RF**

*Type: other For: Information  
 Source: Moderator (CMCC)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106112 WF on RF requirements for NR repeater**

*Type: other For: Approval  
 Source: CMCC*

**Abstract:**

**Discussion:**

**Decision: Return to.**

##### 8.11.1.1 System parameters

**R4-2104614 discussion on system parameters for NR repeater**

*Type: discussion For: Discussion  
 Source: CMCC*

**Decision: Noted.**

**R4-2104667 Bandwidth definitions and system parameters for repeaters**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Discussion on system parameters

**Decision: Noted.**

**R4-2106323 System parameters for NR repeaters**

*Type: other For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this contribution, we discuss on the system parameters for NR repeaters.

**Decision: Noted.**

**R4-2106348 Views on NR repeater multi-band supporting**

*Type: other For: Approval  
 Source: NTT DOCOMO, INC.*

**Decision: Noted.**

##### 8.11.1.2 Repeater Class/Type

**R4-2104611 discussion on repeater class**

*Type: discussion For: Discussion  
 Source: CMCC*

**Decision: Noted.**

**R4-2104668 Repeaters and classes**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Discussion on classes and the need for them

**Decision: Noted.**

**R4-2104793 Discussion on repeater class and type**

*Type: other For: Approval  
 Source: CATT*

**Decision: Noted.**

**R4-2104987 Discussion on NR repeater deployment scenario and repeater class**

*Type: discussion For: Approval  
 Source: NEC*

**Abstract:**

We propose to define two classes for repeater requirements and not to distinguish DL and UL for repeater class definition.

**Decision: Noted.**

**R4-2106324 Identifying classes/types for NR-Repeaters**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this TDoc, we further analyze and investigate the feasibility of applying the existing class definitions on NR repeaters (for access and backhaul links).

**Decision: Noted.**

##### 8.11.1.3 TDD repeater synchronization assumption

**R4-2104616 Discussion on TDD synchronization related requirements for repeater**

*Type: discussion For: Discussion  
 Source: CMCC*

**Decision: Noted.**

**R4-2104676 Repeaters TDD requirements**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Discussion on TDD issues

**Decision: Noted.**

**R4-2104700 Considerations on TDD repeater synchronization assumption**

*Type: other For: Approval  
 Source: Sony*

**Decision: Noted.**

**R4-2104704 Repeaters in TDD**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

**R4-2104794 Discussion on TDD repeater related requirements**

*Type: other For: Approval  
 Source: CATT*

**Decision: Noted.**

**R4-2106325 TDD repeater synchronization assumptions**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this contribution we discuss the FFS points and provide proposals how to address these in RAN4.

**Decision: Noted.**

**R4-2106349 Views on TDD repeater synchronization assumption**

*Type: other For: Approval  
 Source: NTT DOCOMO, INC.*

**Decision: Noted.**

**R4-2106603 Discussion on sync issues for TDD repeater**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

**R4-2107107 Discussion on TDD synchronisation**

*Type: discussion For: Discussion  
 Source: Huawei*

**Abstract:**

Discussion on synchronization.

**Decision: Noted.**

##### 8.11.1.4 Others

**R4-2104596 Discussion on NR repeater core specification structure**

*Type: discussion For: Discussion  
 Source: CMCC*

**Decision: Noted.**

**R4-2104597 Skeleton TS 38.106 NR Repeater radio transmission and reception v0.0.1**

*Type: draft TS For: Approval  
 38.106 v0.0.1 CR- rev Cat: (Rel-17)  
  
 Source: CMCC*

**Decision: Noted.**

**R4-2104673 On OTA and test issues**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Discussion on OTA for FR1 and other test issues

**Decision: Noted.**

**R4-2106326 NR repeater deployment/implementation related issues**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this TDoc, we discuss the possible impacts of the repeater implementation on supporting repeater deployment options.

**Decision: Noted.**

**R4-2106920 Configurable Bandwidths for Repeaters**

*Type: other For: Discussion  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

**R4-2107212 NR repeater modified work plan**

*Type: discussion For: Approval  
 Source: Qualcomm Incorporated*

**Abstract:**

Updated work plan based on the last RAN4 meeting

**Decision: Revised to R4-2106111 (from R4-2107212).**

**RR4-2106111 NR repeater modified work plan**

*Type: discussion For: Approval  
 Source: Qualcomm Incorporated*

**Abstract:**

Updated work plan based on the last RAN4 meeting

**Decision: Return to.**

**R4-2107213 NR repeater TS skeleton**

*Type: discussion For: Approval  
 Source: Qualcomm Incorporated*

**Abstract:**

Starting point largely based on 36.106

**Decision: Noted.**

#### 8.11.2 Conductive RF core requirements

**R4-2107106 Discussion on RF paramters to be specified**

*Type: discussion For: Discussion  
 Source: Huawei*

**Abstract:**

Response to the RF parameters WF from last meeting

**Decision: Noted.**

##### 8.11.2.1 Transmitted power related requirements

**R4-2104612 Discussion on transmitter power related conducted requirements**

*Type: discussion For: Discussion  
 Source: CMCC*

**Decision: Noted.**

**R4-2104671 Conducted TX power requirements for repeaters**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Discussion on FR1 TX power

**Decision: Noted.**

**R4-2104795 Discussion on NR repeater conducted output power**

*Type: other For: Approval  
 Source: CATT*

**Decision: Noted.**

**R4-2104988 Discussion on NR repeater FR1 maximum output power and ALC/AGC**

*Type: discussion For: Approval  
 Source: NEC*

**Abstract:**

We propose not differentiate DL and UL with separate approaches to set maximum output power limits, not to limit the UL power not exceeding any UE power class defined in the band, to reuse BS-like approach of constraining the maximum output power, to spec

**Decision: Noted.**

**R4-2106327 Conducted power related requirements consideration for NR-Repeaters**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this contribution, we provide further insights into conducted power control related details for NR repeater.

**Decision: Noted.**

**R4-2106350 Views on transmitted power related requirements for FR1 NR repeater**

*Type: other For: Approval  
 Source: NTT DOCOMO, INC.*

**Decision: Noted.**

##### 8.11.2.2 Emission requirements

**R4-2104617 Discussion on emission related conducted requirements**

*Type: discussion For: Discussion  
 Source: CMCC*

**Decision: Noted.**

**R4-2104669 Conducted unwanted emissions requirements for repeaters**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Discussion on cnoducted UEM

**Decision: Noted.**

**R4-2104796 Discussion on NR repeater conducted emission requirement**

*Type: other For: Approval  
 Source: CATT*

**Decision: Noted.**

**R4-2106328 Conductive emission requirement consideration for NR-Repeaters**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this contribution, we provide our insights of using the ACLR metric to measure the out-of-band emissions in NR repeaters.

**Decision: Noted.**

**R4-2106351 Views on emission requirements for FR1 NR repeater**

*Type: other For: Approval  
 Source: NTT DOCOMO, INC.*

**Decision: Noted.**

##### 8.11.2.3 Others

**R4-2104670 NR repeaters conducted other requirements**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Discussion on other requirements for FR1

**Decision: Noted.**

**R4-2104797 Discussion on NR repeater conducted other requirements**

*Type: other For: Approval  
 Source: CATT*

**Decision: Noted.**

**R4-2106329 Repeater timing**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this contribution we elaborate the timing issues related to TDD operation of a NR repeater.

**Decision: Noted.**

**R4-2104615 Discussion on signal quality related requirements for NR repeater**

*Type: discussion For: Discussion  
 Source: CMCC*

Session Chair Note: Move to this AI from AI 8.11.1.4

**Decision: Noted.**

#### 8.11.3 Radiated RF core requirements

##### 8.11.3.1 Transmitted power related requirements

**R4-2104613 Discussion on transmitter power related FR2 radiated requirements**

*Type: discussion For: Discussion  
 Source: CMCC*

**Decision: Noted.**

**R4-2104674 Radiated TX power for repeaters**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Discussion on FR2 TX power

**Decision: Noted.**

**R4-2104798 Discussion on power requirement for FR2 NR repeater**

*Type: other For: Approval  
 Source: CATT*

**Decision: Noted.**

**R4-2106330 Radiated power related requirements consideration for NR-Repeaters**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this contribution, we provide further insights into radiated power control related details for NR repeater.

**Decision: Noted.**

**R4-2106352 Views on transmitted power related requirements for FR2 NR repeater**

*Type: other For: Approval  
 Source: NTT DOCOMO, INC.*

**Decision: Noted.**

##### 8.11.3.2 Emission requirements

**R4-2104618 Discussion on transmitter emission related radiated requirements**

*Type: discussion For: Discussion  
 Source: CMCC*

**Decision: Noted.**

**R4-2104672 Radiated emissions requirements**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Discussion on FR2 UEM

**Decision: Noted.**

**R4-2104799 Discussion on emission requirements for FR2 NR repeater**

*Type: other For: Approval  
 Source: CATT*

**Decision: Noted.**

**R4-2106331 Radiated emission requirement consideration for NR-Repeaters**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this contribution, we provide our insights of using the ACLR metric to measure the out-of-band emissions in NR repeaters.

**Decision: Noted.**

**R4-2106353 Views on emission requirements for FR2 NR repeater**

*Type: other For: Approval  
 Source: NTT DOCOMO, INC.*

**Decision: Noted.**

##### 8.11.3.3 Others

**R4-2104675 Other radiated repeater requirements**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Discussion on FR2 other requirements

**Decision: Noted.**

**R4-2104800 Discussion on other requirements for FR2 NR repeater**

*Type: other For: Approval  
 Source: CATT*

**Decision: Noted.**

**R4-2106332 Frequency error considerations for FR2 NR-Repeaters**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this contribution, we provide our insights on frequency errors of FR2 NR repeaters.

**Decision: Noted.**

#### 8.11.4 EMC core requirements

**R4-2106087 WF on NR repeaters EMC requirements**

*Type: other For: Approval  
 Source: ZTE*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2104961 Skeleton TS 38.114V 0.0.1 “NR; Repeaters ElectroMagnetic Compatibility (EMC)”**

*Type: other For: Approval  
 38.114 v CR- rev Cat: (Rel-17)  
  
 Source: ZTE Corporation*

**Abstract:**

Skeleton of TS 38.114V0.0.1 “NR; Repeaters ElectroMagnetic Compatibility (EMC)”

**Decision: Return to.**

**R4-2106514 Discussion on EMC requirements for NR Repeater**

*Type: other For: Discussion  
 Source: Ericsson*

**Abstract:**

Discussion paper on EMC requirements for NR Repeater

**Decision: Noted.**

**R4-2107252 Discussion on NR repeater EMC**

*Type: other For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

The document has discussed and addressed the EMC open issues associated with NR repeaters

**Decision: Noted.**

### 8.12 Extending current NR operation to 71GHz

#### 8.12.5 BS RF requirements

**R4-2105983 Email discussion summary for [98-bis-e][312] NR\_exto71GHz\_BSRF**

*Type: other For: Information  
 Source: Moderator (Nokia)*

**Abstract:**

**Discussion:**

**Decision: Revised to R4-2106152 (from R4-2105983).**

**R4-2106152 Email discussion summary for [98-bis-e][312] NR\_exto71GHz\_BSRF**

*Type: other For: Information  
 Source: Moderator (Nokia)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106113 WF on BS RF TX requirements for 52.6 – 71 GHz**

*Type: other For: Approval  
 Source: Nokia*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106114 WF on BS RF RX requirements for 52.6 – 71 GHz**

*Type: other For: Information  
 Source: Ericsson*

**Abstract:**

**Discussion:**

**Decision: Return to.**

##### 8.12.5.1 TX requirements

**R4-2104456 Proposals on BS transmitter requirements for extending current NR operation to 71 GHz**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This contribution provides proposals on BS transmitter requirements for extending current NR operation to 71 GHz according to the findings in the corresponding study item as recorded in TR 38.808.

**Decision: Noted.**

**R4-2104731 Discussion on BS TX RF requirements for 52.6-71GHz**

*Type: other For: Approval  
 Source: CATT*

**Decision: Noted.**

**R4-2106355 On BS transmitter aspects extending NR to 71 GHz**

*Type: discussion For: Approval  
 Source: Ericsson*

**Abstract:**

In this contribution additional aspects related to the base station transmitter characteristics required to develop RF core requirements are discussed. The contribution is presented for approval since it presents some general proposals with the intension

**Decision: Noted.**

**R4-2106589 Discussion on BS Tx requirements for 52.6-71GHz**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

##### 8.12.5.2 RX requirements

**R4-2104457 Proposals on BS receiver requirements for extending current NR operation to 71 GHz**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This contribution provides proposals on BS receiver requirements for extending current NR operation to 71 GHz according to the findings in the corresponding study item as recorded in TR 38.808.

**Decision: Noted.**

**R4-2104683 On BS receiver requirements for 52-71 GHz**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Discussion on BS RX issues

**Decision: Noted.**

**R4-2104732 Discussion on BS RX RF requirements for 52.6-71GHz**

*Type: other For: Approval  
 Source: CATT*

**Decision: Noted.**

**R4-2106590 Discussion on BS Rx requirements for 52.6-71GHz**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

### 8.13 Enhancements to Integrated Access and Backhaul (IAB) for NR

#### 8.13.1 General and work plan

**R4-2105984 Email discussion summary for [98-bis-e][313] NR\_eIAB**

*Type: other For: Information  
 Source: Moderator (Samsung)*

**Abstract:**

**Discussion:**

**Decision: Revised to R4-2106153 (from R4-2105984).**

**R4-2106153 Email discussion summary for [98-bis-e][313] NR\_eIAB**

*Type: other For: Information  
 Source: Moderator (Samsung)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106115 WF on Rel-17 eIAB RAN4 scope**

*Type: other For: Approval  
 Source: Samsung*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2105039 Rel-17 IAB: updated work plan**

*Type: other For: Information  
 Source: Samsung, Qualcomm*

**Decision: Noted.**

**R4-2105040 Overview on NR Rel-17 eIAB**

*Type: other For: Discussion  
 Source: Samsung*

**Decision: Noted.**

**R4-2106662 IAB Rel.17 – General considerations**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

**R4-2107239 RF impact analysis for IAB R17 scope**

*Type: discussion For: Approval  
 Source: Ericsson*

**Abstract:**

In this paper, we present our view on generic RAN4 work relating to the objectives focusing the RF aspect.

**Decision: Noted.**

#### 8.13.2 RF requirements

**R4-2106663 IAB Rel.17 – RF requirements**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

**R4-2107240 IAB MT /DU case 6/7 timing**

*Type: discussion For: Approval  
 Source: Ericsson*

**Abstract:**

In this paper, we present our view on generic RAN4 work relating to the objectives focusing the timing aspect.

**Decision: Noted.**

#### 8.13.3 Others

**R4-2106664 IAB Rel.17 – CLI in FDM and SDM operation**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

### 8.14 Further enhancement on NR demodulation performance

#### 8.14.1 General and work plan

**R4-2105994 Email discussion summary for [98-bis-e][323] NR\_perf\_enh2\_Demod\_Part1**

*Type: other For: Information  
 Source: Moderator (China Telecomm)*

**Abstract:**

**Discussion:**

**Decision: Revised to R4-2106154 (from R4-2105994).**

**R4-2106154 Email discussion summary for [98-bis-e][323] NR\_perf\_enh2\_Demod\_Part1**

*Type: other For: Information  
 Source: Moderator (China Telecomm)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106116 WF on general and PDSCH demodulation requirements for inter-cell interference MMSE-IRC**

*Type: other For: Approval  
 Source: Intel*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106117 WF on CQI reporting requirements for inter-cell interference MMSE-IRC**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106118 WF on MMSE-IRC receiver for intra-cell inter-user interference**

*Type: other For: Approval  
 Source: Huawei*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2105995 Email discussion summary for [98-bis-e][324] NR\_perf\_enh2\_Demod\_Part2\_NWM**

*Type: other For: Information  
 Source: Moderator (Huawei)*

**Abstract:**

**Discussion:**

**Decision: Revised to R4-2106155 (from R4-2105995).**

**R4-2106155 Email discussion summary for [98-bis-e][324] NR\_perf\_enh2\_Demod\_Part2\_NWM**

*Type: other For: Information  
 Source: Moderator (Huawei)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106120 Way forward for FR1 PUSCH 256QAM performance requirements**

*Type: other For: Approval  
 Source: Huawei*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2104951 Work plan for Further enhancement on NR demodulation performance WI**

*Type: Work Plan For: Approval  
 Source: China Telecom*

**Decision: Revised to R4-2106119 (from R4-2104951).**

**R4-2106119 Work plan for Further enhancement on NR demodulation performance WI**

*Type: Work Plan For: Approval  
 Source: China Telecom*

**Decision: Return to.**

**R4-2104952 TR skeleton (V0.0.1) for Inter-user interference suppression for NR Multiple-User Multiple-Input Multiple-Output (MU-MIMO)**

*Type: other For: Approval  
 Source: China Telecom*

**Decision: Approved.**

#### 8.14.2 UE demodulation and CSI requirements

##### 8.14.2.1 MMSE-IRC receiver for inter-cell interference

**R4-2104606 Discussion on demodulation enhancement for inter-cell interference suppressing**

*Type: discussion For: Discussion  
 Source: CMCC*

**Decision: Noted.**

**R4-2104846 On PDSCH requirements in intercell interference scenarios**

*Type: discussion For: Discussion  
 Source: Apple*

**Decision: Noted.**

**R4-2104953 On UE MMSE-IRC receiver for inter-cell interference suppression**

*Type: discussion For: Discussion  
 Source: China Telecom*

**Decision: Noted.**

**R4-2104977 Views on MMSE-IRC receiver for inter-cell interference test**

*Type: discussion For: Discussion  
 Source: NTT DOCOMO, INC.*

**Decision: Noted.**

**R4-2106426 Discussion on MMSE-IRC requirements for scenario with inter-cell interference**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision: Noted.**

**R4-2106833 Discsussion on MMSE-IRC receiver for inter-cell interference**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

**R4-2106867 Discussion on MMSE-IRC receiver for inter-cell interference**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

This contribution shows our view on the UE demodulation requirements with inter-cell interference.

**Decision: Noted.**

**R4-2107093 Views on MMSE-IRC receiver for inter-cell interference**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

**Decision: Noted.**

##### 8.14.2.2 MMSE-IRC receiver for intra-cell inter-user interference

**R4-2104607 Discussion on NR demodulation enhancement for intra-cell inter-user interference suppressing**

*Type: discussion For: Discussion  
 Source: CMCC*

**Decision: Noted.**

**R4-2104847 On PDSCH requirements in MU-MIMO scenarios**

*Type: discussion For: Discussion  
 Source: Apple*

**Decision: Noted.**

**R4-2104954 On UE MMSE-IRC receiver for intra-cell inter-user interference suppression**

*Type: discussion For: Discussion  
 Source: China Telecom*

**Decision: Noted.**

**R4-2106427 Discussion on MMSE-IRC requirements for scenario with intra-cell inter-user interference**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision: Noted.**

**R4-2106834 Discussion on MMSE-IRC receiver for intra-cell inter-user interference**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

**R4-2106868 Disucsson on MMSE-IRC receiver for intra-cell inter-user interference**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

This contribution shows our view on the UE demodulation requirements with intra-cell inter-user interference.

**Decision: Noted.**

#### 8.14.3 BS demodulation requirements

##### 8.14.3.1 PUSCH demodulation requirements for FR1 256QAM

**R4-2104483 Views on PUSCH FR1 256QAM demodulation requirements**

*Type: discussion For: Discussion  
 Source: China Telecommunications*

**Decision: Noted.**

**R4-2104557 Discussion on FR1 PUSCH 256QAM demodulation requirement**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

FR1 PUSCH 256QAM requirement discussion

**Decision: Noted.**

**R4-2104608 Discussion on BS demodulation enhancement for FR1 256QAM**

*Type: discussion For: Discussion  
 Source: CMCC*

**Decision: Noted.**

**R4-2104730 Discussion on PUSCH demodulation requirements for FR1 256QAM**

*Type: other For: Approval  
 Source: CATT*

**Decision: Noted.**

**R4-2105031 View on PUSCH demodulation requirement with FR1 256QAM**

*Type: discussion For: Discussion  
 Source: Samsung*

**Decision: Noted.**

**R4-2106347 Views on FR1 PUSCH 256QAM**

*Type: other For: Approval  
 Source: NTT DOCOMO, INC.*

**Decision: Noted.**

**R4-2106428 Discussion on PUSCH requirements for FR1 256QAM**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision: Noted.**

**R4-2106782 On PUSCH demodulation requirements for FR1 256QAM**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this contribution we have provided our views on 256QAM deployment scenarios and requirement test configurations in FR1.

**Decision: Noted.**

**R4-2106835 Discussion on PUSCH demodulation requirements for FR1 256QAM**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

### 8.15 Introduction of DL 1024QAM for NR FR1

#### 8.15.1 General and work plan

**R4-2105985 Email discussion summary for [98-bis-e][314] NR\_DL1024QAM\_BSRF**

*Type: other For: Information  
 Source: Moderator (Ericsson)*

**Abstract:**

**Discussion:**

**Decision: Revised to R4-2106156 (from R4-2105985).**

**R4-2106156 Email discussion summary for [98-bis-e][314] NR\_DL1024QAM\_BSRF**

*Type: other For: Information  
 Source: Moderator (Ericsson)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106121 WF on BS RF requirements for 1024QAM**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106487 Scenarios for support of 1024QAM**

*Type: other For: Approval  
 Source: Huawei, HiSilicon, CMCC, China Unicom*

**Decision: Noted.**

#### 8.15.2 BS TX RF requirements

**R4-2104728 Discussion on BS TX RF requirements for 1024QAM for NR FR1**

*Type: other For: Approval  
 Source: CATT*

**Decision: Noted.**

**R4-2104989 Discussion on BS TX RF requirements for NR FR1 DL 1024QAM**

*Type: discussion For: Approval  
 Source: NEC*

**Abstract:**

BS RF requirements for NR FR1 DL 1024QAM should be placed on EVM requirements and the required EVM value should be 2.5 %.

**Decision: Noted.**

**R4-2106309 Considerations on BS RF transmitter requirements for 1024QAM for FR1**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this contribution we provide considerations on BS RF transmitter requirements for 1024QAM for NR FR1.

**Decision: Noted.**

**R4-2106475 BS test requirements for 1024QAM for NR FR1**

*Type: other For: Approval  
 Source: CATT*

**Decision: Noted.**

**R4-2106488 BS RF requirements for support of 1024QAM**

*Type: other For: Approval  
 Source: Huawei, HiSilicon, CMCC, China Unicom*

**Decision: Noted.**

**R4-2106594 Discussion on BS requirements for 1024QAM**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

**R4-2106687 BS Requirement Overview and Impact for 1024 QAM**

*Type: discussion For: Approval  
 Source: Ericsson*

**Abstract:**

In this contribution the affected RF requirements for BS are described. Possible work split for impacted specifications also described.

**Decision: Noted.**

## 9 Rel-17 Study Items for NR

### 9.1 Study on enhanced test methods for FR2 in NR

#### 9.1.1 General

**R4-2105998 Email discussion summary for [98-bis-e][327] FR2\_enhTestMethods**

*Type: other For: Information  
 Source: Moderator (Apple)*

**Abstract:**

**Discussion:**

**Decision: Revised to R4-2106157 (from R4-2105998).**

**R4-2106157 Email discussion summary for [98-bis-e][327] FR2\_enhTestMethods**

*Type: other For: Information  
 Source: Moderator (Apple)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106127 WF on agreements and remaining issues with FR2 test method enhancements**

*Type: other For: Approval  
 Source: Apple*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2104523 TP to TR38.884 v0.2.0 on MU Annex**

*Type: pCR For: Approval  
 38.884 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: vivo*

**Decision: Approved.**

**R4-2104897 Rapporteur input to TR38.884**

*Type: other For: Approval  
 Source: Apple, vivo*

**Decision: Approved.**

**R4-2104898 TR38.884 work split**

*Type: other For: Approval  
 Source: Apple, vivo*

**Decision: Approved.**

#### 9.1.2 Test methodology for high DL power and low UL power test cases

**R4-2104522 Discussions on test procedure of FR2 enhanced test methods**

*Type: discussion For: Approval  
 Source: vivo*

**Decision: Noted.**

**R4-2104684 On black box test**

*Type: discussion For: Discussion  
 Source: Huawei Tech.(UK) Co.. Ltd*

**Abstract:**

This contribution highlights the possibility to determine device antenna positions using a commercially available scanning method to enable white box tests with the aim to reduce uplink pathloss.

**Decision: Noted.**

**R4-2106695 DNF Method – EIRP and TRP accuracy**

*Type: other For: Approval  
 Source: MVG Industries, Sony*

**Abstract:**

During RAN4#e-98, a WF was agreed [1] for enhanced test methods for NR FR2. Specifically, “The applicability of the low UL power/high DL power EIRP/EIS test cases in the known BP direction and with the black&white-box approach is FFS”. This contribution a

**Decision: Noted.**

**R4-2107130 On CFFNF and CFFDNF test methodologies for high DL power and low UL power test cases**

*Type: other For: Approval  
 Source: Keysight Technologies UK Ltd*

**Decision: Revised to R4-2106130 (from R4-2107130).**

**R4-2106130 On CFFNF and CFFDNF test methodologies for high DL power and low UL power test cases**

*Type: other For: Approval  
 Source: Keysight Technologies UK Ltd*

**Decision: Return to.**

**R4-2107187 Analysis of NF based solutions**

*Type: discussion For: Approval  
 38.884 v CR- rev Cat: (Rel-17)  
  
 Source: ROHDE & SCHWARZ*

**Decision: Noted.**

#### 9.1.3 Polarization basis mismatch

**R4-2104489 Transmit signal quality measurements by TE with dual pol Rx**

*Type: other For: Agreement  
 Source: Qualcomm Incorporated*

**Abstract:**

Existing verification methods for Tx signal quality are derived from conducted domain testing and do not provide for coherent combining with dual pol Rx. In this contribution we propose the demodulation strategy for the enhanced TE architecture that woul

**Decision: Noted.**

**R4-2104558 TPMI, 2-port CSI-RS, and EVM issues about polarization basis mismatch**

*Type: discussion For: Approval  
 Source: MediaTek Beijing Inc.*

**Abstract:**

Proposal 1: Define option-2 “Optimal TPMI index”.

Proposal 2: Define 2-port CSI-RS configuration as below:

• Repetition = ON

• Repetition number = 8

• Density = 2

Proposal 3: RAN4 shall define solution(s) for EVM issue due to polarization basis mismatch.

**Decision: Noted.**

**R4-2104569 Considerations on test with TPMI method**

*Type: discussion For: Approval  
 Source: Anritsu Corporation*

**Abstract:**

We made a brief study with the action items on TPMI method and would like to clarify multiple points with one of options in the WF.

**Decision: Noted.**

**R4-2104701 Views on solutions to minimize the impact of polarization basis mismatch**

*Type: other For: Approval  
 Source: Sony, Ericsson*

**Decision: Noted.**

**R4-2105043 Discussion on TPMI configuration in EIRP measurement**

*Type: discussion For: Discussion  
 Source: Samsung*

**Decision: Noted.**

**R4-2106570 Solution to minimize the impact of polarization basis mismatch**

*Type: discussion For: Approval  
 Source: OPPO*

**Decision: Noted.**

**R4-2107111 Text proposal to TR38.884: FR2 UL EVM measurements**

*Type: discussion For: Approval  
 Source: Rohde & Schwarz*

**Decision: Return to.**

#### 9.1.4 Extreme temperature conditions

**R4-2104958 TP to TR 38.884 on Inter-band DL CA in FR2**

*Type: pCR For: Approval  
 38.884 v0.1.0 CR- rev Cat: (Rel-17)  
  
 Source: Anritsu Corporation*

**Abstract:**

In this contribution we pick out some points from the previously provided analyses with regards to the design of the FR2 OTA test system with an offset test antenna for the inter-band CA, then try to summarize them in TR 38.884 with some additional consid

**Decision: Approved.**

#### 9.1.5 Enhanced test methods for FR2 DL 256QAM RF

**R4-2104521 TP to TR38.884 v0.2.0 on ETC system**

*Type: pCR For: Approval  
 38.884 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: vivo*

**Decision: Revised to R4-2106129 (from R4-2104521).**

**R4-2106129 TP to TR38.884 v0.2.0 on ETC system**

*Type: pCR For: Approval  
 38.884 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: vivo*

**Decision: Return to.**

**R4-2104570 Considerations on ETC MUs and a testability**

*Type: discussion For: Discussion  
 Source: Anritsu Corporation*

**Abstract:**

In this contribution we would like to show our general views on some specific factors to decide MUs and testability in an ETC environment which also relates to a design of the FR2 OTA test systems.

We also report our evaluation result of a free space path

**Decision: Noted.**

**R4-2104571 Comparison of path loss at frequency around band n262**

*Type: discussion For: Discussion  
 Source: Anritsu Corporation*

**Abstract:**

Merged in R4-2104570. (Based on the guidance from the leadership on meeting efficiency improvements.)

In this contribution we report our evaluation result of a free space path loss comparison between NTC (Normal Temperature Condition) and ETC (Extreme Te

**Decision: Noted.**

**R4-2107128 On extreme temperature condition testing**

*Type: other For: Approval  
 Source: Keysight Technologies UK Ltd*

**Decision: Noted.**

#### 9.1.6 Test time reduction

**R4-2104518 LS on antenna assumption and measurement grids for FR2 PC3**

*Type: LS out For: Approval  
 to RAN5  
 Source: vivo*

**Decision: Revised to R4-2106128 (from R4-2104518).**

**R4-2106128 LS on antenna assumption and measurement grids for FR2 PC3**

*Type: LS out For: Approval  
 to RAN5  
 Source: vivo*

**Decision: Return to.**

**R4-2104519 Discussion and TP to TR38.884 on FR2 testing time reduction**

*Type: pCR For: Approval  
 38.884 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: vivo*

**Decision: Approved.**

**R4-2105001 Discussion on enhanced test method to reduce FR2 OTA test time**

*Type: discussion For: Discussion  
 Source: LG Electronics Inc.*

**Decision: Noted.**

**R4-2105044 Discussion on prioritized methods for test time reduction**

*Type: discussion For: Discussion  
 Source: Samsung*

**Decision: Noted.**

**R4-2107110 Text proposal to TR38.884: Fast Spherical Coverage Method**

*Type: discussion For: Approval  
 Source: Rohde & Schwarz*

**Decision: Return to.**

**R4-2107129 Draft LS to RAN5 on Test Time Reduction**

*Type: LS out For: Approval  
 to RAN5  
 Source: Keysight Technologies UK Ltd*

**Decision: Merged (with R4-2104518).**

**R4-2107296 Discussion on enhance test method to reduce FR2 OTA test time**

*Type: other For: Approval  
 Source: HiSilicon Technologies Co. Ltd*

**Decision: Noted.**

#### 9.1.7 Extension of frequency applicability of permitted methods in 38.810 for band n262

**R4-2104896 On permitted test methods for demodulation in band n262**

*Type: discussion For: Discussion  
 Source: Apple*

**Decision: Noted.**

### 9.5 Study on 5G NR UE Application Layer Data Throughput Performance

#### 9.5.1 General and work plan

**R4-2105996 Email discussion summary for [98-bis-e][325] NR\_ATP**

*Type: other For: Information  
 Source: Moderator (Qualcomm)*

**Abstract:**

**Discussion:**

**Decision: Revised to R4-2106158 (from R4-2105996).**

**R4-2106158 Email discussion summary for [98-bis-e][325] NR\_ATP**

*Type: other For: Information  
 Source: Moderator (Qualcomm)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106122 WF on 5G NR UE Application Layer Data Throughput Performance**

*Type: other For: Approval  
 Source: Qualcomm*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2107032 Work Plan for Study on 5G NR UE Application Layer Data Throughput Performance**

*Type: Work Plan For: Approval  
 Source: Qualcomm Incorporated*

**Decision: Revised to R4-2106124 (from R4-2107032).**

**R4-2106124 Work Plan for Study on 5G NR UE Application Layer Data Throughput Performance**

*Type: Work Plan For: Approval  
 Source: Qualcomm Incorporated*

**Decision: Return to.**

#### 9.5.2 Test methodology

**R4-2106429 Discussion on test methodology for NR UE Application Layer Data Throughput Performance requirements**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision: Noted.**

**R4-2106869 Test methodology for application layer data throughput performance**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

This contribution discusses the test methodology for application layer data throughput performance.

**Decision: Noted.**

**R4-2107033 Test Methodology for Application Layer Throughput Tests**

*Type: discussion For: (not specified)  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

#### 9.5.3 Test parameters

**R4-2106430 Discussion on test parameters for NR UE Application Layer Data Throughput Performance requirements**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision: Noted.**

**R4-2106870 Test parameters for application layer performance**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

This contribution discusses the test parameters for application layer data throughput performance.

**Decision: Noted.**

**R4-2107035 Test Parameters for Application Layer Throughput Tests**

*Type: discussion For: (not specified)  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

## 10 Rel-17 Work Items for LTE

## 11 Rel-17 Study Items for LTE

## 12 Liaison and output to other groups

### 12.1 R17 related

### 12.2 Others

**R4-2105999 Email discussion summary for [98-bis-e][328] LS\_reply\_ITU-R**

*Type: other For: Information  
 Source: Moderator (Ericsson)*

**Abstract:**

**Discussion:**

**Decision: Revised to R4-2106159 (from R4-2105999).**

**R4-2106159 Email discussion summary for [98-bis-e][328] LS\_reply\_ITU-R**

*Type: other For: Information  
 Source: Moderator (Ericsson)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106125 WF on OTA in-field testing and antenna model information to ITU-R**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**R4-2106354 Draft LS to ITU-R and CEPT on extension of IMT array antenna model to support sub-array structures**

*Type: LS out For: Approval  
 to ITU-R, CEPT  
 Source: Ericsson, Nokia, Qualcomm*

**Abstract:**

In this contribution, an extension to the current model is presented to better represent the antenna radiation of such AAS base stations. The extension thus adds support for sub-array antenna geometries. The extension can be seen as an intermediate proces

**Decision: Noted.**

**R4-2106356 Draft LS on feedback on LS from ITU-R WP 1C related to in-field unwanted emission testing**

*Type: LS out For: Approval  
 to ITU-R  
 Source: Ericsson*

**Abstract:**

In this contribution we present some additional background information regarding aspects related to in-field measurements unwanted emission TRP levels. At the end of the contribution a draft LS is attached with the intension to stimulate the discussion an

**Decision: Noted.**

## 13 Revision of the Work Plan

### 13.1 R17 new proposals

#### 13.1.1 Spectrum related

#### 13.1.2 Non-spectrum related

### 13.2 Others

## 14 Any other business

## 15 Close of the E-meeting

## BACKUP

**R4-21AAAAA Email discussion summary for**

*Type: other For: Information  
 Source: Moderator (TBA)*

**Abstract:**

**Discussion:**

**Decision: Return to.**