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

**Meeting Report  
for  
TSG SA WG3  
meeting: 92**



**Dalian, China, 20/08/2018 to 24/08/2018**

Contents:

1 Opening of the meeting 3

2 Approval of Agenda and Meeting Objectives 3

3 IPR and Anti-Trust Law Reminder 3

4 Meeting reports 3

4.1 Approval of the report from previous SA3 meeting(s) 3

4.2 Report from SA Plenary 3

4.3 Report from SA3-LI 4

5 Items for early consideration 4

6 Reports and Liaisons from other Groups 4

6.1 3GPP Working Groups 4

6.2 IETF 5

6.3 ETSI SAGE 5

6.4 GSMA 5

6.5 OMA 6

6.6 TCG 6

6.7 oneM2M 7

6.8 TC-CYBER 7

6.9 ETSI NFV security 7

6.10 Other Groups 7

7 Work Areas 8

7.1 Security aspects of 5G System - Phase 1 (5GS\_Ph1-SEC) (Rel-15) 8

7.1.1 Key hierarchy 8

7.1.2 Key derivation 8

7.1.3 Mobility 9

7.1.4 AS security 16

7.1.5 NAS security 28

7.1.6 Security context 34

7.1.7 Visibility and Configurability 35

7.1.8 Primary authentication 35

7.1.9 Secondary authentication 39

7.1.10 Interworking 40

7.1.11 non-3GPP access 42

7.1.12 NDS 43

7.1.13 Service based architecture 45

7.1.13.1 Interconnect (SEPP related) 45

8.7 Study on the security of the Wireless and Wireline Convergence for the 5G system architecture (FS\_5WWC\_SEC) (Rel-16) 52

8.8 Study on Security Aspects of PARLOS (FS\_PARLOS\_Sec) (Rel-16) 54

8.9 Other study areas 55

8.10 New study item proposals 56

9 Work Plan and Rapporteur Input 60

9.1 Review of work plan 60

9.2 Rapporteur input on status of WID or SID 61

10 Future Meeting Dates and Venues 61

11 Any Other Business 61

Annex A: List of contribution documents 63

Annex B: List of change requests 81

Annex C: Lists of liaisons 90

C1: Incoming liaison statements 90

C2: Outgoing liaison statements 91

Annex D: List of agreed/approved new and revised Work Items 92

Annex E: List of draft Technical Specifications and Reports 93

Annex F: List of future meetings 94

Annex G: List of participants 95

## 1 Opening of the meeting

Jin Peng (China Mobile) gave the welcome speech on behalf of CF3, introducing the city of Dalian to the attendees.

## 2 Approval of Agenda and Meeting Objectives

**S3-182100 Agenda**

*Type: agenda For: (not specified)  
 Source: WG Chairman*

**Decision:** The document was **approved**.

## 3 IPR and Anti-Trust Law Reminder

The attention of the delegates to the meeting of this Technical Specification Group was drawn to the fact that 3GPP Individual Members have the obligation under the IPR Policies of their respective Organizational Partners to inform their respective Organizational Partners of Essential IPRs they become aware of.

The delegates were asked to take note that they were thereby invited:

to investigate whether their organization or any other organization owns IPRs which were, or were likely to become Essential in respect of the work of 3GPP.

to notify their respective Organizational Partners of all potential IPRs, e.g., for ETSI, by means of the IPR Information Statement and the Licensing declaration forms.

The attention of the delegates to the meeting was drawn to the fact that 3GPP activities were subject to all applicable antitrust and competition laws and that compliance with said laws was therefore required by any participant of the meeting, including the Chairman and Vice-Chairmen and were invited to seek any clarification needed with their legal counsel. The leadership would conduct the present meeting with impartiality and in the interests of 3GPP. Delegates were reminded that timely submission of work items in advance of TSG/WG meetings was important to allow for full and fair consideration of such matters.

## 4 Meeting reports

### 4.1 Approval of the report from previous SA3 meeting(s)

**S3-182101 Report from last SA3 meeting/s**

*Type: report For: (not specified)  
 Source: MCC*

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

**S3-182196 Report from last SA3 meeting/s**

*Type: report For: (not specified)  
 Source: MCC*

**Discussion:**

NCSC's action item stays open.

**Decision:** The document was **approved**.

### 4.2 Report from SA Plenary

**S3-182103 Report from last SA meeting**

*Type: report For: (not specified)  
 Source: WG Chairman*

**Decision:** The document was **noted**.

### 4.3 Report from SA3-LI

Alex (SA3-LI Chair) gave an update on the status of the work in the LI group. Their last meeting was in July:

SA3LI#70.

33.127 LI 5G stage 2 is progressing with estimated completion Dec 2018. Latest version v003d available on SA3LI list.

5G LI architecture is nearly stable and SA3LI have selected most of the 5G points of interception (AMF,SMF,UDM,NRF,UPF).

5G ad-hoc scheduled for early October with additional conference calls planned.

33.128 yet to be started.

Largest SA3LI meeting so far with 36 delegates attending.

CRs already approved by email.

## 5 Items for early consideration

## 6 Reports and Liaisons from other Groups

### 6.1 3GPP Working Groups

**S3-182140 Reply LS to RAN2 on Bluetooth/WLAN measurement collection in MDT**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: S5-183626*

**Decision:** The document was **noted**.

**S3-182141 Reply LS on Bluetooth/WLAN measurement collection in MDT**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: R2-1808793*

**Discussion:**

China Mobile had a contribution related to this: tdoc 450.

**Decision:** The document was **replied to in S3-182529**.

**S3-182161 LS on use of ITS dedicated spectrum within V2X UE**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: S6-181288*

**Decision:** The document was **noted**.

**S3-182163 LS on application layer support for V2X services**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: S6-181291*

**Decision:** The document was **noted**.

### 6.2 IETF

### 6.3 ETSI SAGE

### 6.4 GSMA

**S3-182121 Question on 5G network slices**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: GSMA SIM*

**Decision:** The document was **replied to in S3-182530**.

**S3-182122 Reply LS on GSMA question on 5G network slices**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: S2-187599*

**Decision:** The document was **noted**.

**S3-182123 LS Out for 5G slices roaming**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: S3i180376*

**Decision:** The document was **noted**.

**S3-182124 Statement on urgency of alignment of ETSI SSP with 3GPP release 15**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: GSMA*

**Decision:** The document was **noted**.

**S3-182268 Draft LS to GSMA on slicing**

*Type: LS out For: Approval  
 to GSMA  
 Source: Huawei, HiSilicon*

**Discussion:**

Qualcomm: we don’t need to ask them whether we need a slice specific authentication.

ORANGE: there's no link between the DN and the slice. The secondary authentication is not linked to the NSSAI.

Ericsson: keep it simple by confirming SA2's reply.

**Decision:** The document was **revised to S3-182530**.

**S3-182530 LS to GSMA on slicing**

*Type: LS out For: Approval  
 to GSMA SIM, cc CT6,SA2  
 Source: Huawei, HiSilicon*

(Replaces S3-182268)

**Decision:** The document was **approved**.

### 6.5 OMA

### 6.6 TCG

**S3-182106 TCG progress report**

*Type: report For: Information  
 Source: InterDigital, Inc.*

**Abstract:**

This contribution provides a brief incremental summary of the progress in TCG Working Groups as of August 2018.

**Discussion:**

1. TCG – Highlights

• New/modified work working group

CyRes – Cyber Resistance WG. This workgroup intends to develop new technologies, promote existing best-practices, and coordinate efforts in other groups inside and outside TCG, to improve the cyber-resiliency of future platforms.

The CyRes WG will focus on:

1. Protection for code and configuration information that determine the platform capabilities.

2. Detection mechanisms for malware and deprecated or corrupted configuration data or code.

3. Recovery capabilities that can reliably patch both code and configuration in a selected device, and hence recover the device.

• Publication of new or revised deliverables (incremental changes from the status reported at SA3#91)

o TCG TMS Use Cases v2 – delayed due to GDPR compliance review, to be published September 2018

o TCG SNMP MIB for TPM-based Attestation – public review July 2018

o TCG PC Client Platform Firmware Profile – public review July 2018

o TCG Storage Interface Interactions (SIIS) – public review May 2018

o TCG SNMP MIB for TPM-based Attestation – public review May 2018

o TCG Device Identifier Composition Engine – published March 2018

2. Meetings

TCG Members Meeting in Lisbon, PT – 15-18 October 2018

TCG Members Meeting in TBD location – February 2019

MPWG meets every Thursday at 10-11 ET

TMS WG meets every Monday and Friday at 12-13 ET

CyRes WG meets every Wednesday at 11-12:30 ET

**Decision:** The document was **noted**.

### 6.7 oneM2M

### 6.8 TC-CYBER

Colin (NCSC) gave an update on ETSI TC CYBER:

ETSI TC Cyber met in June. Alex Leadbeater (BT) has been elected as Chair.

Two brand new work items were agreed:

• Security for Consumer Internet of Things

• Guidelines for increasing smart meter security

**S3-182138 Reply-LS on new work item "X.5Gsec-q"**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: ETSI TC CYBER*

**Discussion:**

Colin (BT): if they mention 5G we shouldn't duplicate work that is being done in 3GPP as well.

**Decision:** The document was **replied to in S3-182531**.

**S3-182531 Reply to:LS on new work item "X.5Gsec-q"**

*Type: LS out For: approval  
 to ETSI TC CYBER, ITU-T SG17, cc ETSI SAGE  
 Source: Vodafone*

**Decision:** The document was **approved**.

### 6.9 ETSI NFV security

**S3-182139 LSout to various organisations on usage of NFV Specifications**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: ETSI ISG NFV*

**Decision:** The document was **noted**.

### 6.10 Other Groups

**S3-182155 Reply LS to “5G for Industrial Communication”**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: SP-180608*

**Decision:** The document was **noted**.

**S3-182159 LS/r on revised Recommendation ITU-T Q.850 (reply to 3GPP TSG SA3 - C3-183507)**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: ITU-T SG11*

**Discussion:**

This LS was intended for CT3.

**Decision:** The document was **noted**.

## 7 Work Areas

### 7.1 Security aspects of 5G System - Phase 1 (5GS\_Ph1-SEC) (Rel-15)

#### 7.1.1 Key hierarchy

**S3-182414 Editorial correction to figure 6.2.1-1 Key hierarchy generation in 5GS**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0335 Cat: D (Rel-15)  
  
 Source: NEC Corporation*

**Abstract:**

The CR proposes to correct the figure 6.2.1-1: Key hierarchy generation in 5GS according to the normative text specified in the authentication procedures.

**Decision:** The document was **merged**.

**S3-182437 Clarification to key hierarchy**

*Type: CR For: (not specified)  
 33.501 v15.1.0 CR-0341 Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

editorial for clean spec: related to clause 5 and clause 6.2.1: correction to key hierarchy picture, moving requirements in correct clause

**Discussion:**

It was unclear the term "shall be prepared to support 256-bit keys".

Ericsson commented that all interfaces support already 256 bits. This sentence was reworded in the revision.

**Decision:** The document was **revised to S3-182573**.

**S3-182573 Clarification to key hierarchy**

*Type: CR For: -  
 33.501 v15.1.0 CR-0341 rev 1 Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-182437)

**Decision:** The document was **agreed**.

#### 7.1.2 Key derivation

**S3-182199 CR to clarify username in Annex C**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0251 Cat: F (Rel-15)  
  
 Source: Nokia,Nokia Shanghai Bell*

**Abstract:**

usage of username as in TS 23.003 is conflicting with username in annex C

**Decision:** The document was **revised to S3-182583**.

**S3-182583 CR to clarify username in Annex C**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0251 rev 1 Cat: F (Rel-15)  
  
 Source: Nokia,Nokia Shanghai Bell*

(Replaces S3-182199)

**Decision:** The document was **agreed**.

#### 7.1.3 Mobility

**S3-182181 Clause 6.7.3.2 - Modification on algorithm selection during N2 handover**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0239 Cat: F (Rel-15)  
  
 Source: ZTE Corporation*

**Decision:** The document was **revised to S3-182584**.

**S3-182584 Clause 6.7.3.2 - Modification on algorithm selection during N2 handover**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0239 rev 1 Cat: F (Rel-15)  
  
 Source: ZTE Corporation*

(Replaces S3-182181)

**Decision:** The document was **agreed**.

**S3-182182 Clause 6.7.3.5 - Correct reference for RNA update procedure**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0240 Cat: F (Rel-15)  
  
 Source: ZTE Corporation*

**Decision:** The document was **agreed**.

**S3-182183 Clause 6.8.2.1.3 - Modification on State transition from RRC-INACTIVE to RRC-CONNECTED**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0241 Cat: F (Rel-15)  
  
 Source: ZTE Corporation*

**Decision:** The document was **not pursued**.

**S3-182184 Clause 6.9.2 - Modification on security handling during handover**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0242 Cat: D (Rel-15)  
  
 Source: ZTE Corporation*

**Discussion:**

Ericsson: Note1 in 6.2.9.3.3 is important to be kept here, not removed as proposed by ZTE.

Docomo: if it's important it should be normative and not an informative note.

**Decision:** The document was **revised to S3-182585**.

**S3-182585 Clause 6.9.2 - Modification on security handling during handover**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0242 rev 1 Cat: F (Rel-15)  
  
 Source: ZTE Corporation,Ericsson*

(Replaces S3-182184)

**Decision:** The document was **agreed**.

**S3-182364 Mobility – Correcting AS re-keying and NAS re-keying in N2-handover**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0303 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

The CR corrects mistakes regarding AS re-keying and NAS re-keying in N2 handover.

**Discussion:**

ZTE: this will make CT4 to change terminology.

Ericsson: we are not introducing a new flag, this was existing already.

**Decision:** The document was **merged**.

**S3-182368 Mobility – Rectification of NAS MAC calculation for NAS Container**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0307 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

The CR rectifies what value of COUNT is used for NAS MAC calculation for NASC.

**Decision:** The document was **revised to S3-182586**.

**S3-182586 Mobility – Rectification of NAS MAC calculation for NAS Container**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0307 rev 1 Cat: F (Rel-15)  
  
 Source: Ericsson*

(Replaces S3-182368)

**Decision:** The document was **agreed**.

**S3-182369 Mobility – Rectification of how DL NAS COUNT is transferred in NAS Container**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0308 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

The CR rectifies the size of DL NAS COUNT sent in NASC and proposes that only 4 LSBs are sent.

**Discussion:**

Qualcomm: CT1 has chosen 8 LSB already.

Ericsson: this just brings clarification.

This had to be checked offline.

Since an LS to CT1 was agreed to be sent, Ericsson decided to drop this revision.

**Decision:** The document was **not pursued**.

**S3-182587 Mobility – Rectification of how DL NAS COUNT is transferred in NAS Container**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0308 rev 1 Cat: F (Rel-15)  
  
 Source: Ericsson*

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

**S3-182489 CR on N2 based HO**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0365 Cat: F (Rel-15)  
  
 Source: Qualcomm Incorporated*

**Decision:** The document was **revised to S3-182588**.

**S3-182588 CR on N2 based HO**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0365 rev 1 Cat: F (Rel-15)  
  
 Source: Qualcomm Incorporated*

(Replaces S3-182489)

**Decision:** The document was **agreed**.

**S3-182370 Mobility – Correction of NAS COUNTs in N2-handover**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0309 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

The CR does some corrections to mobility clauses.

**Decision:** The document was **agreed**.

**S3-182372 Mobility – Rectification of UE security capabilities in NAS Container**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0311 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

The CR removes a parameter from NASC, i.e., UE security capabilities, which is redundant and harmful for handover success.

**Decision:** The document was **agreed**.

**S3-182365 Mobility – Correcting to UE handling clause**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0304 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

The CR corrects the UE handling clause to include the missing scenario of NAS algorithm change "only".

**Discussion:**

Discussed together with 483.

**Decision:** The document was **merged**.

**S3-182185 Clause 6.9.2.1.2, 6.9.2.2 - Editorial modification on NAS during handover**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0243 Cat: D (Rel-15)  
  
 Source: ZTE Corporation*

**Discussion:**

Ericsson commented that removing 6.9.2.2 was not possible since it is a standalone procedure. They didn’t agree with the other changes either, since they were removing details that were important.

**Decision:** The document was **not pursued**.

**S3-182366 Mobility – Resolving EN and corrections in AS re-keying**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0305 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

The CR resolves an EN about merging/aligning "UE handling" and "AS key re-keying" clauses.

**Decision:** The document was **revised to S3-182591**.

**S3-182591 Mobility – Resolving EN and corrections in AS re-keying**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0305 rev 1 Cat: F (Rel-15)  
  
 Source: Ericsson*

(Replaces S3-182366)

**Decision:** The document was **agreed**.

**S3-182363 Mobility – Clarification in intra-gNB-CU handover**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0302 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

The CR clarifies intra-gNB-CU handover.

**Discussion:**

Huawei: Meaning of intra gNB handover is not to be explained by SA3.

It had to be check offline whether the Intra gNB CU Handover existed in other groups specifications.

Ericsson: we don’t need to distinguish between intra gNB and CU handover. We need to generalise it for just Intra gNB.

**Decision:** The document was **revised to S3-182666**.

**S3-182666 Mobility – Clarification in intra-gNB-CU handover**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0302 rev 1 Cat: F (Rel-15)  
  
 Source: Ericsson*

(Replaces S3-182363)

**Decision:** The document was **agreed**.

**S3-182371 Mobility – Removing an EN in Xn-handover**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0310 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

The CR removes a redundant EN.

**Decision:** The document was **agreed**.

**S3-182186 Clause 6.9.3 - Editorial modification on mobile registration update – AMF handling**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0244 Cat: D (Rel-15)  
  
 Source: ZTE Corporation*

**Discussion:**

Ericsson: leave out any aspect on Multi NAS until we have finished discussions.

**Decision:** The document was **merged**.

**S3-182203 Clause 6.9.3 typo corrections**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0255 Cat: F (Rel-15)  
  
 Source: Nokia, Nokia shanghai Bell*

**Decision:** The document was **merged**.

**S3-182367 Mobility – Corrections for usage of local policy at AMF**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0306 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

The CR corrects Clause 6.9.3 so that horizontal KAMF derivation is done according to the local policy at AMF.

**Decision:** The document was **revised to S3-182636**.

**S3-182636 Mobility – Corrections for usage of local policy at AMF**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0306 rev 1 Cat: F (Rel-15)  
  
 Source: Ericsson,ZTE,Nokia*

(Replaces S3-182367)

**Decision:** The document was **agreed**.

**S3-182187 Discussion on mobile registration update**

*Type: discussion For: Endorsement  
 Source: ZTE Corporation*

**Discussion:**

Nokia didn’t see a problem. The agreements in Belgrade were enough for them.

Ericsson (tdoc 419) and Qualcomm (tdoc 482) agreed on the existence of an issue and they had contributions with possible solutions.

**Decision:** The document was **noted**.

**S3-182188 Clause 6.9.3 - Add multi-NAS connections consideration for mobile registration update – AMF handling**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0245 Cat: F (Rel-15)  
  
 Source: ZTE Corporation*

**Decision:** The document was **not pursued**.

**S3-182189 Clause 6.9.3, 6.3.2.2 - Modification on mobile registration update – UE handling**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0246 Cat: F (Rel-15)  
  
 Source: ZTE Corporation*

**Decision:** The document was **not pursued**.

**S3-182373 Mobility – Rectification of how UL NAS COUNT is transferred in NAS SMC**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0312 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

The CR rectifies the size of UL NAS COUNT sent in NASC and proposes that only 4 LSBs are sent.

**Decision:** The document was **merged**.

**S3-182190 Discussion on key change indication on N14 (AMF-AMF)**

*Type: discussion For: Endorsement  
 Source: ZTE Corporation*

**Discussion:**

Ericsson: AKSI is the wrong terminology. They didn't agree with the proposals as it has fundamental errors.

**Decision:** The document was **noted**.

**S3-182191 Clause 6.9.2.3.3 - Correct indication on N14 during N2 HO**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0247 Cat: F (Rel-15)  
  
 Source: ZTE Corporation*

**Decision:** The document was **merged**.

**S3-182201 CR to Clause 6.9.3 Removal of KSEAF storage restriction**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0253 Cat: F (Rel-15)  
  
 Source: Nokia, Verizon, TMO-USA,Nokia Shanghai Bell*

**Decision:** The document was **revised to S3-182548**.

**S3-182548 CR to Clause 6.9.3 Removal of KSEAF storage restriction**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0253 rev 1 Cat: F (Rel-15)  
  
 Source: Nokia, Verizon, TMO-USA,Nokia Shanghai Bell*

(Replaces S3-182201)

**Decision:** The document was **agreed**.

**S3-182202 CR for Addition of security requirements for external storage**

*Type: CR For: (not specified)  
 33.501 v15.1.0 CR-0254 Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai bell, Verizon, TMO-USA*

**Discussion:**

Docomo: relying on an unspecified interface is a bit messy. Replace with a "shall" and reword to make the requirement clearer.

This clause was controversial and Nokia preferred to withdraw it. Docomo wanted to at least approve a few sentences and work from there from the next meeting.

Docomo proposed to postpone the decision to the next meeting, bringing the same CR for discussion. MCC clarified that if postponed, no revisions of the content would be possible.

**Decision:** The document was **revised to S3-182549**.

**S3-182549 CR for Addition of security requirements for external storage**

*Type: CR For: -  
 33.501 v15.1.0 CR-0254 rev 1 Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai bell, Verizon, TMO-USA*

(Replaces S3-182202)

**Decision:** The document was **postponed**.

**S3-182668 LS on indication for keys synchronization**

*Type: LS out For: Approval  
 to CT4,CT1,RAN2,RAN3  
 Source: ZTE*

**Decision:** The document was **approved**.

#### 7.1.4 AS security

**S3-182499 [Draft] Reply LS on connection re-establishment security**

*Type: LS out For: (not specified)  
 to RAN2  
 Source: Samsung*

**Discussion:**

ZTE: RAN2's proposal will cause an signalling overload. LTE's mechanisms could be reused here.

**Decision:** The document was **noted**.

**S3-182195 Discussion on RRC Reestablishment security**

*Type: discussion For: Endorsement  
 Source: ZTE Corporation*

**Decision:** The document was **noted**.

**S3-182242 Discussion on RRC Re-establishment Security**

*Type: discussion For: Endorsement  
 33.501 v..  
 Source: Huawei, Hisilicon*

**Decision:** The document was **noted**.

**S3-182241 DRAFT Reply LS on RRC Re-establishment security**

*Type: LS out For: Approval  
 to RAN2  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-182541**.

**S3-182541 Reply LS on RRC Re-establishment security**

*Type: LS out For: Approval  
 to RAN2, cc RAN3  
 Source: Huawei, Hisilicon*

(Replaces S3-182241)

**Decision:** The document was **approved**.

**S3-182355 Reply LS on connection re-establishment security**

*Type: LS out For: Approval  
 to RAN2, cc RAN3  
 Source: Ericsson*

**Abstract:**

The LS replies about re-establishment security.

**Discussion:**

Samsung: if we go for the LTE solution the message is not encrypted.

Huawei: RAN2 is fine with the first message not being encrypted.

Nokia: introducing this new complexity does not bring a noticeable benefit.

The Chair noted that there was a big support for keeping the LTE mechanism.

Huawei advocated for the existing solution in TS 33.501 and communicate it to RAN2.

**Decision:** The document was **merged**.

**S3-182358 Reply LS on BL/WLAN measurement collection in MDT**

*Type: LS out For: Approval  
 to RAN2, cc SA5, RAN3, CT4  
 Source: Ericsson*

**Abstract:**

The LS answers privacy and security questions that were asked to SA3.

**Discussion:**

Interdigital: spoofing of the SSID should be addressed as well.

**Decision:** The document was **revised to S3-182529**.

**S3-182529 Reply LS on BL/WLAN measurement collection in MDT**

*Type: LS out For: Approval  
 to RAN2, cc SA5, RAN3, CT4  
 Source: Ericsson*

(Replaces S3-182358)

**Decision:** The document was **approved**.

**S3-182359 Reply LS on UE identity for PO calculation**

*Type: LS out For: Approval  
 to RAN2  
 Source: Ericsson*

**Abstract:**

The LS answers that IMSI shall not be used to calculate PO.

**Decision:** The document was **revised to S3-182539**.

**S3-182539 Reply LS on UE identity for PO calculation**

*Type: LS out For: Approval  
 to RAN2  
 Source: Ericsson*

(Replaces S3-182359)

**Decision:** The document was **approved**.

**S3-182243 DRAFT Reply LS on security requirements for RRC connection release**

*Type: LS out For: Approval  
 to RAN2  
 Source: Huawei, Hisilicon, China Mobile*

**Discussion:**

Ericsson didn’t want to remove this feature and leave it up to RAN2 whether they want to use it.

Nokia: we have established in the LTE TS that all redirection shall be protected. We don’t need another network policy for this case.

Docomo: how do we know if there's an impact on the service from the UE side?

**Decision:** The document was **revised to S3-182542**.

**S3-182542 Reply LS on security requirements for RRC connection release**

*Type: LS out For: Approval  
 to RAN2, cc RAN3  
 Source: Huawei, Hisilicon, China Mobile*

(Replaces S3-182243)

**Decision:** The document was **approved**.

**S3-182360 Reply LS on security requirements for RRC connection release**

*Type: LS out For: Approval  
 to RAN2  
 Source: Ericsson*

**Abstract:**

The LS answers that RRC connection release may be send unprotected but asks to use network policy so that network can protect UEs in future when needed.

**Decision:** The document was **merged**.

**S3-182490 LS reply on security for E-UTRA connected to 5GC**

*Type: LS out For: Approval  
 to RAN2  
 Source: Qualcomm Incorporated*

**Decision:** The document was **merged**.

**S3-182361 Reply LS on Security aspects of supporting LTE connected to 5GC**

*Type: LS out For: Approval  
 to RAN2, cc CT1, RAN3  
 Source: Ericsson*

**Abstract:**

The LS answers that per-bearer activation/deactivation of ciphering makes sense for LTE connected to 5GC.

**Decision:** The document was **revised to S3-182538**.

**S3-182538 Reply LS on Security aspects of supporting LTE connected to 5GC**

*Type: LS out For: Approval  
 to RAN2, cc CT1, RAN3  
 Source: Ericsson*

(Replaces S3-182361)

**Decision:** The document was **approved**.

**S3-182484 discussion on RRC Inactive security**

*Type: discussion For: Endorsement  
 33.501 v..  
 Source: Qualcomm Incorporated*

**Decision:** The document was **noted**.

**S3-182485 CR on RRC Inactive**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0361 Cat: F (Rel-15)  
  
 Source: Qualcomm Incorporated*

**Discussion:**

Huawei: we cannot revert decisions and come back to something that RAN2 has decided. Adapt option A and forget about option B.

**Decision:** The document was **not pursued**.

**S3-182238 Update Key handling at RRC-INACTIVE state transitions**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0271 Cat: F (Rel-15)  
  
 Source: Huawei, HiSilicon, Intel, China Mobile*

**Decision:** The document was **merged**.

**S3-182295 Security Algorithms Negotiation for INACTIVE related procedures**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0282 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

Ericsson: this was brought earlier and it wasn’t agreed.

**Decision:** The document was **not pursued**.

**S3-182294 LS on INACTIVE Security Algorithms Negotiation**

*Type: LS out For: Approval  
 to RAN2, cc RAN3  
 Source: Huawei, Hisilicon*

**Decision:** The document was **noted**.

**S3-182377 Use the old KRRCint for calculation of the security token in MSG3**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0316 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

This cR corrects INACTIVE state clause.

**Decision:** The document was **revised to S3-182639**.

**S3-182639 Use the old KRRCint for calculation of the security token in MSG3**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0316 rev 1 Cat: F (Rel-15)  
  
 Source: Ericsson*

(Replaces S3-182377)

**Decision:** The document was **agreed**.

**S3-182354 Reply LS on inactive security**

*Type: LS out For: Approval  
 to RAN2, cc RAN3  
 Source: Ericsson*

**Abstract:**

The LS acknowledges RAN2 about their choice of inactive security.

**Decision:** The document was **revised to S3-182640**.

**S3-182640 Reply LS on inactive security**

*Type: LS out For: Approval  
 to RAN2, cc RAN3  
 Source: Ericsson*

(Replaces S3-182354)

**Decision:** The document was **approved**.

**S3-182500 Update on InactiveMAC-I calculation**

*Type: CR For: (not specified)  
 33.501 v15.1.0 CR-0368 Cat: F (Rel-15)  
  
 Source: Samsung*

**Discussion:**

Ericsson: this has been here since LTE, so if we want to remove we need to prove that there is a problem. We need a proper justification.

Huawei wanted this change enhanced.

Nokia: we can address the scenarios in the next meeting. Huawei proposed to bring a discussion paper about this.

Ericsson asked to be minuted: calculation of soft resume MAC-I and resume constant input needs to be revisited.

It was agreed to send an LS in 667 to CT1 as well.

**Decision:** The document was **agreed**.

**S3-182297 Discussion on input for InactiveMAC-I to avoid replay attack**

*Type: discussion For: Discussion  
 33.501 v..  
 Source: Huawei, Hisilicon*

**Decision:** The document was **noted**.

**S3-182296 Involve Fresh Parameters to Input of InactiveMAC-I to Avoid Replay Attack**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0283 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Decision:** The document was **noted**.

**S3-182501 Mechanism to mitigate replay attack in RRC-Inactive state**

*Type: CR For: (not specified)  
 33.501 v15.1.0 CR-0369 Cat: F (Rel-15)  
  
 Source: Samsung*

**Discussion:**

It was pointed out that the Issue was identified. Ericsson thought that this issue should be addressed but they didn’t agree with the solutions from Samsung and Huawei. They commented that they would bring a contribution for the next meeting. Huawei would also come back with their solution.

**Decision:** The document was **noted**.

**S3-182237 Algorithm Negotiation for Unauthenticated UEs in LSM**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0270 Cat: F (Rel-15)  
  
 Source: Huawei, HiSilicon, China Mobile*

**Decision:** The document was **revised to S3-182646**.

**S3-182646 Algorithm Negotiation for Unauthenticated UEs in LSM**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0270 rev 1 Cat: F (Rel-15)  
  
 Source: Huawei, HiSilicon, China Mobile.Ericsson*

(Replaces S3-182237)

**Decision:** The document was **agreed**.

**S3-182398 Missing procedure for AS algorithm negotiation for unauthenticated emergency sessions**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0326 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

The CR does adds missing procedure for AS algo negotiation for unauthenticated emergency sessions.

**Decision:** The document was **merged**.

**S3-182204 Make DTLS optional on F1, E1, N2, Xn interfaces**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0256 Cat: C (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell, Huawei, HiSilicon*

**Discussion:**

BT: This is making IPSec optional as well in 9.8.3.

Ericsson didn't agree with making it optional. Huawei supported Ericsson.

ORANGE: we had long discussions to make this mandatory. No point to reverse this.

Huawei: there are technical arguments behind this.

Docomo: A "may" be supported complicates inter-operability for operators.

Ericsson: DTLS is for the protection of the applications that are using SCTP. This is what is stated in the RFC.

**Decision:** The document was **not pursued**.

**S3-182516 Supporting DTLS on gNB internal and external SCTP Interfaces**

*Type: discussion For: Endorsement  
 33.501 v..  
 Source: Huawei, Hisilicon, Nokia*

(Replaces S3-182239)

**Decision:** The document was **not pursued**.

**S3-182179 Clause 6.6.1 - Modification on UP security policy**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0237 Cat: F (Rel-15)  
  
 Source: ZTE Corporation*

**Decision:** The document was **merged**.

**S3-182180 Clause 6.6.2 - Modification on UP security activation mechanism**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0238 Cat: D (Rel-15)  
  
 Source: ZTE Corporation*

**Discussion:**

Huawei supported this change. Nokia had some reservations since they considered it a rare case. They dropped their objection since everybody else could live with the change.

**Decision:** The document was **revised to S3-182645**.

**S3-182645 Clause 6.6.2 - Modification on UP security activation mechanism**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0238 rev 1 Cat: F (Rel-15)  
  
 Source: ZTE Corporation*

(Replaces S3-182180)

**Decision:** The document was **agreed**.

**S3-182229 Clarification on UP security policy verification**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0264 Cat: F (Rel-15)  
  
 Source: CATT*

**Decision:** The document was **merged**.

**S3-182488 UP policy check**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0364 Cat: F (Rel-15)  
  
 Source: Qualcomm Incorporated*

**Decision:** The document was **revised to S3-182644**.

**S3-182644 UP policy check**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0364 rev 1 Cat: F (Rel-15)  
  
 Source: Qualcomm Incorporated,ZTE,CATT*

(Replaces S3-182488)

**Decision:** The document was **agreed**.

**S3-182233 Reference corrections in clause 6.10**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0268 Cat: F (Rel-15)  
  
 Source: CATT*

**Decision:** The document was **agreed**.

**S3-182350 DC - definition corrections**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0295 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

The CR does minor corrections to the definition of "AS Secondary Cell security context".

**Decision:** The document was **revised to S3-182648**.

**S3-182648 DC - definition corrections**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0295 rev 1 Cat: F (Rel-15)  
  
 Source: Ericsson,CATT*

(Replaces S3-182350)

**Discussion:**

Includes the definition part of tdoc 2231.

**Decision:** The document was **agreed**.

**S3-182352 DC - integrity protection of traffic between UE and SN**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0297 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

The CR does corrections to handling of integrity protection of traffic between UE and SN.

**Discussion:**

Huawei and Qualcomm didn’t agree with this change.

Ericsson: Removing this assumes that the ng-eNB is not supporting integrity protection.

Vodafone supported this change.

Docomo: all dual connectivity types have no integrity protection supported? It was answered yes.

It was also clarified that in pure 5G gNB-gNB there is integrity protection.

DT also supported the notion of this change, but they commented that thing should be normative and not go into a note.

Qualcomm: dual connectivity where one RAN is LTE and the other is NR, we don’t support integrity protection. This was the agreement during the last meeting.

Ericsson eventually dropped this proposal and commented that they would come back with a modified proposal based on this.

**Decision:** The document was **not pursued**.

**S3-182260 Other Security Procedures for Dual Connectivity**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0273 Cat: F (Rel-15)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **revised to S3-182649**.

**S3-182649 Other Security Procedures for Dual Connectivity**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0273 rev 1 Cat: F (Rel-15)  
  
 Source: Huawei, HiSilicon,Ericsson,CATT*

(Replaces S3-182260)

**Decision:** The document was **agreed**.

**S3-182231 Clarifications on handover handling for Dual Connectivity**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0266 Cat: F (Rel-15)  
  
 Source: CATT*

**Discussion:**

Definition part will go into S3-182648.The rest goes to 649.

**Decision:** The document was **merged**.

**S3-182353 DC - adding missing details**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0298 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

The CR adds missing details of some procedures/mechanisms for dual connectivity.

**Decision:** The document was **merged**.

**S3-182302 Handling UP security policy in MRDC**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0285 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Decision:** The document was **not pursued**.

**S3-182351 Handling of maximum supported data rate per UE for integrity protection of DRBs**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0296 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

The CR does adds indication of data rate support at UE, which was missing.

**Discussion:**

Huawei: policing the rate is causing an unnecessary burden on the gNB.(on the sentence "if the UE indicates 64 kbps as its maximum data rate, then the network turns on the integrity protection for user plane data only for total data rates equal to or lower than 64 kbps. ").

Nokia: nothing new here, SA2 has captured it already.

It was decided to drop this given that it was captured already in SA2.

**Decision:** The document was **not pursued**.

**S3-182356 DC - Handling of UP security policy in SN**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0299 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

This CR fill in details of how UP security policy is handled in SN.

**Decision:** The document was **not pursued**.

**S3-182357 DC - Selection of SN**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0300 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

This CR clarifies how MN selects a proper SN.

**Decision:** The document was **not pursued**.

**S3-182362 DC – correcting reference**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0301 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

The CR does some minor editorial corrections.

**Decision:** The document was **agreed**.

**S3-182240 AS SMC Handling Update**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0272 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Decision:** The document was **agreed**.

**S3-182301 Align AS SMC procedure with SA2 and RAN3**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0284 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

Qualcomm, Ericsson: content is OK but the location is not correct.

It was agreed to change this in order to just show a reference to the relevant TS.

Nokia didn’t agree with the last paragraph of the change.

**Decision:** The document was **revised to S3-182650**.

**S3-182650 Align AS SMC procedure with SA2 and RAN3**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0284 rev 1 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

(Replaces S3-182301)

**Decision:** The document was **agreed**.

**S3-182205 CR to delete ENs in clause 5.3 gNB Requirements**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0257 Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **revised to S3-182651**.

**S3-182651 CR to delete ENs in clause 5.3 gNB Requirements**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0257 rev 1 Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-182205)

**Decision:** The document was **agreed**.

**S3-182234 Resolving Editor’s Notes for requirements on the gNB**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0269 Cat: F (Rel-15)  
  
 Source: CATT*

**Decision:** The document was **merged**.

**S3-182415 Correction to Clause 5.11.2 Requirements for algorithm selection**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0336 Cat: F (Rel-15)  
  
 Source: NEC Corporation*

**Abstract:**

This CR proposes to correct the “NR algorithm for AS layer” as “NR AS algorithm for AS layer” in clause 5.11.2.

**Decision:** The document was **agreed**.

**S3-182376 Update of definition of 5G AS security context for 3GPP access**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0315 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

This CR corrects a definition.

**Decision:** The document was **revised to S3-182652**.

**S3-182652 Update of definition of 5G AS security context for 3GPP access**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0315 rev 1 Cat: F (Rel-15)  
  
 Source: Ericsson*

(Replaces S3-182376)

**Decision:** The document was **agreed**.

**S3-182483 Simplification of the UE handling of keys at handover**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0360 Cat: F (Rel-15)  
  
 Source: Qualcomm Incorporated*

**Decision:** The document was **revised to S3-182590**.

**S3-182590 Simplification of the UE handling of keys at handover**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0360 rev 1 Cat: F (Rel-15)  
  
 Source: Qualcomm Incorporated*

(Replaces S3-182483)

**Decision:** The document was **agreed**.

**S3-182667 LS on calculation of inactive MAC-I token**

*Type: LS out For: Approval  
 to RAN2  
 Source: Samsung*

**Decision:** The document was **approved**.

#### 7.1.5 NAS security

**S3-182209 Define and clarify ABBA parameter**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0261 Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **revised to S3-182653**.

**S3-182653 Define and clarify ABBA parameter**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0261 rev 1 Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-182209)

**Decision:** The document was **agreed**.

**S3-182523 Comments on S3-182209**

*Type: discussion For: (not specified)  
 Source: Qualcomm Incorporated*

**Decision:** The document was **noted**.

**S3-182409 Multiple NAS connections: mobility with horizontal KAMF derivation**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0332 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Discussion:**

NEC: we don’t re-establish IPSec as described in step 3.

Ericsson: we have to keep this if it is not described somewhere else.

Qualcomm: handover over 4G, and other cases should also be described here.

It was agreed to send an LS to CT1 to know their opinion on the results of the agreements in SA3.

**Decision:** The document was **not pursued**.

**S3-182480 Adding to note about ABBA to Annex A.7 that was missed in implementation of CR 0155r2**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0359 Cat: F (Rel-15)  
  
 Source: Qualcomm Incorporated*

**Decision:** The document was **not pursued**.

**S3-182482 Discussion on security context handling issues when the UE is multiple registered in the same PLMN**

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

**Discussion:**

The LS to cT1 in tdoc 637 is based on this document.

**Decision:** The document was **noted**.

**S3-182487 K\_AMF change indication in NAS SMC**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0363 Cat: F (Rel-15)  
  
 Source: Qualcomm Incorporated*

**Discussion:**

Nokia and Huawei agreed with Qualcomm.

**Decision:** The document was **revised to S3-182638**.

**S3-182638 K\_AMF change indication in NAS SMC**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0363 rev 1 Cat: F (Rel-15)  
  
 Source: Qualcomm Incorporated,Ericsson*

(Replaces S3-182487)

**Decision:** The document was **agreed**.

**S3-182176 Discussion on AMF sending NAS SMC over both access types**

*Type: discussion For: Endorsement  
 Source: ZTE Corporation*

**Decision:** The document was **noted**.

**S3-182177 Clause 6.4.2.2 - Clarification on AMF sending NAS SMC over both access types**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0235 Cat: F (Rel-15)  
  
 Source: ZTE Corporation*

**Decision:** The document was **not pursued**.

**S3-182411 Multiple NAS connections: taking a new security context into use on non-3GPP access**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0334 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Discussion:**

Nokia: the existing IPSec would have to be deleted and then created again.

Revised to add this clarification.

**Decision:** The document was **revised to S3-182654**.

**S3-182654 Multiple NAS connections: taking a new security context into use on non-3GPP access**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0334 rev 1 Cat: F (Rel-15)  
  
 Source: Ericsson*

(Replaces S3-182411)

**Decision:** The document was **agreed**.

**S3-182292 Discussion on initial NAS message Protection Solution**

*Type: discussion For: Discussion  
 33.501 v..  
 Source: Huawei, Hisilicon*

**Decision:** The document was **noted**.

**S3-182192 Clause 6.9.3 - Add description for mobile registration update when NAS SMC has been performed – AMF handling**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0248 Cat: F (Rel-15)  
  
 Source: ZTE Corporation*

**Decision:** The document was **not pursued**.

**S3-182475 Initial NAS security discussion**

*Type: discussion For: Endorsement  
 Source: Qualcomm Incorporated, DT, Vodafone, KPN*

**Discussion:**

DT: this is not only protecting the message in its current form but also it is safe for the future.

Nokia: too late to change the call flow, impact on current implementations. I don’t see the threat of the UE being traceable, nothing to protect here.

Vodafone supported Qualcomm's assessment on reverse engineering.

Interdigital: GUTI carries AMF identifier and it is enough to identify a number of UEs that work with an AMF.

Intel: ProSe is not supported in Rel-15, there is no clear threat analysis done and we propose to postpone this for Rel-16.

Ericsson agreed with Intel: it is too late and we are concerned with the impact on stage 2. Postpone to Rel-16.

Vodafone: we had agreed on a change on this. We would need a CR to revert this and it's not postponing: it's taking an action.

Qualcomm agreed with Vodafone. SA3 has rejected this CR twice already.

AT&T: if we don't do it now, we may not do it at all. Docomo agreed.

Nokia: is this an essential feature?

Ericsson: it's fine to introduce this in later Releases.

Docomo: Why is CT1 worried about the delay? Partial cyphering was present in LTE already.

The Chair requested a show of hands on 292 and 475.

Tdoc 292:

Nokia, LG,Intel,Huawei,Ericsson, ZTE.

Tdoc 475:

Vodafone, Qualcomm, IDEMIA,Docomo, DT,ORANGE,Interdigital,BT,NIST,China Mobile,AT&T,Vodafone, Airbus,Gemalto.

**Decision:** The document was **noted**.

**S3-182293 Delete initial NAS message protection solution**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0281 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

Qualcomm didn't agree with the removal.

**Decision:** The document was **not pursued**.

**S3-182477 Moving the HASHAMF behaviour from subclause 6.7.2 to subclause 6.4.6**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0356 Cat: F (Rel-15)  
  
 Source: Qualcomm Incorporated*

**Decision:** The document was **not pursued**.

**S3-182396 Reply LS on Initial NAS Message Protection**

*Type: LS out For: (not specified)  
 to SA2, CT1  
 Source: Intel Corporation (UK) Ltd*

**Decision:** The document was **noted**.

**S3-182476 Reply LS on initial NAS message protection**

*Type: LS out For: Approval  
 to SA2, CT1  
 Source: Qualcomm Incorporated*

**Discussion:**

Ericsson: it is important to analyse impacts on stage 2.

DT: security by default should be the solution we should aim for.

The Chair suggested that in SA3 a trade-off would be needed in this case if SA3 couldn’t get to the full security solution and let another group decide.

Huawei commented that there seemed to be two sides on this issue: vendors (who saw a huge impact with little gain) and the operators/ handset manufacturers.

Ericsson: we never justified why we needed to protect all the parameters.

Qualcomm: you can link all this to the IMSI.

Docomo agreed with Qualcomm. Alf also wondered where the impact was happening exactly. Ericsson replied that SA2 needed to revise the flow and it was too late to do this stage 2 change now.

Docomo: the impact or cost is in standard development then.

The Chair commented that not sending LS would mean that what is in the TS would remain. He suggested to send an LS stating the disagreement in SA3 on the justification.

Huawei agreed to send such LS and suggested to let SA plenary decide.

It was agreed to create an LS to express the lack of consensus (S3-182632).

Alex (BT) warned about the danger of the operators not being GDPR compliant. He also added that we are required by the regulators to support LI but as operators we cannot justify creating more "holes" than the ones that LI requires.LI "holes" are protected, but here we would have "holes" open to the public.

**Decision:** The document was **noted**.

**S3-182206 CR to align NAS Connection value and access type**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0258 Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **agreed**.

**S3-182193 Clause 6.9.5.1 - Add rule for concurrent running of security procedures**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0249 Cat: F (Rel-15)  
  
 Source: ZTE Corporation*

**Discussion:**

Ericsson: rule three is not needed. It was agreed to be removed.

There was an overlap with rule 6 with the contribution 478 from Qualcomm. It was agreed to integrate it here.

**Decision:** The document was **revised to S3-182655**.

**S3-182655 Clause 6.9.5.1 - Add rule for concurrent running of security procedures**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0249 rev 1 Cat: F (Rel-15)  
  
 Source: ZTE Corporation,Qualcomm*

(Replaces S3-182193)

**Decision:** The document was **agreed**.

**S3-182194 Clause 6.9.5.2 - Modify rule for concurrent running of security procedures**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0250 Cat: F (Rel-15)  
  
 Source: ZTE Corporation*

**Discussion:**

Overlap with 410 and 479, that simply remove bullet 4.

**Decision:** The document was **revised to S3-182656**.

**S3-182656 Clause 6.9.5.2 - Modify rule for concurrent running of security procedures**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0250 rev 1 Cat: F (Rel-15)  
  
 Source: ZTE Corporation,Ericsson,Qualcomm*

(Replaces S3-182194)

**Decision:** The document was **agreed**.

**S3-182479 Correction to the concurrency rules for parallel NAS connections**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0358 Cat: F (Rel-15)  
  
 Source: Qualcomm Incorporated*

**Decision:** The document was **merged**.

**S3-182478 Concurrency issues with N2 and 5G to EPS handovers**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0357 Cat: F (Rel-15)  
  
 Source: Qualcomm Incorporated*

**Decision:** The document was **merged**.

**S3-182207 Correct confidentiality key in confidentiality clause.**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0259 Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **agreed**.

**S3-182208 Delete EN in Annex D for parameters**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0260 Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai bell*

**Decision:** The document was **agreed**.

**S3-182213 Delete EN in Clause 10.2.1 Authenticated IMS Emergency Sessions**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0262 Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **agreed**.

**S3-182178 Clause 6.4.5 - Editorial modification on NAS COUNT handling**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0236 Cat: D (Rel-15)  
  
 Source: ZTE Corporation*

**Decision:** The document was **agreed**.

**S3-182410 Correction to clause 6.9.5.2**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0333 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Decision:** The document was **merged**.

**S3-182637 LS on security issues on Multi NAS scenarios**

*Type: LS out For: Approval  
 to CT1  
 Source: Qualcomm*

**Decision:** The document was **approved**.

#### 7.1.6 Security context

**S3-182175 Clause 6.3.1 - Modification on security context handling**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0234 Cat: D (Rel-15)  
  
 Source: ZTE Corporation*

**Decision:** The document was **merged**.

**S3-182287 Discussion on security handling when deploying UDSF**

*Type: discussion For: Endorsement  
 33.501 v..  
 Source: Huawei, Hisilicon*

**Discussion:**

Intel: we should not be implementation specific.

Docomo: Is it necessary to have KSEAF stored anywhere in Rel-15? It's not clear to me why they need to store it.

Ericsson proposed to remove the requirement on the storage. It was confusing for SA2.

**Decision:** The document was **noted**.

**S3-182540 Corrections to references related to handling of security contexts in mobility procedures**

*Type: CR For: -  
 33.501 v15.1.0 CR-0344 rev 1 Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell,ZTE*

(Replaces S3-182442)

**Decision:** The document was **agreed**.

#### 7.1.7 Visibility and Configurability

#### 7.1.8 Primary authentication

**S3-182394 Discussion on ngKSI**

*Type: discussion For: (not specified)  
 Source: Intel Corporation (UK) Ltd*

**Decision:** The document was **noted**.

**S3-182434 Discussion on provision of ngKSI to UE in EAP-Request/AKA'-Challenge message**

*Type: discussion For: Endorsement  
 33.501 v..  
 Source: Huawei, Hisilicon*

**Decision:** The document was **noted**.

**S3-182481 Discussion on the response to the CT1 LS on provision of ngKSI to UE at EAP-Request/AKA'-Challenge**

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

**Decision:** The document was **noted**.

**S3-182392 Clarification of ngKSI and ABBA parameter in 5G-AKA**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0323 Cat: F (Rel-15)  
  
 Source: Intel Corporation (UK) Ltd*

**Decision:** The document was **revised to S3-182533**.

**S3-182533 Clarification of ngKSI and ABBA parameter in 5G-AKA**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0323 rev 1 Cat: F (Rel-15)  
  
 Source: Intel Corporation (UK) Ltd*

(Replaces S3-182392)

**Decision:** The document was **agreed**.

**S3-182393 Clarification for ngksi and ABBA parameter for EAP-AKA’**

*Type: CR For: (not specified)  
 33.501 v15.1.0 CR-0324 Cat: F (Rel-15)  
  
 Source: Intel Corporation (UK) Ltd*

**Decision:** The document was **revised to S3-182534**.

**S3-182534 Clarification for ngksi and ABBA parameter for EAP-AKA’**

*Type: CR For: -  
 33.501 v15.1.0 CR-0324 rev 1 Cat: F (Rel-15)  
  
 Source: Intel Corporation (UK) Ltd,Huawei,Nokia, Nokia Shanghai Bell*

(Replaces S3-182393)

**Decision:** The document was **agreed**.

**S3-182446 Provision of ngKSI to UE at EAP-Request/ AKA'-Challenge**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0346 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Decision:** The document was **merged**.

**S3-182448 [DRAFT] Reply LS to LS on provision of ngKSI to UE at EAP-Request/AKA'-Challenge**

*Type: LS out For: Approval  
 to CT1  
 Source: Huawei, Hisilicon*

**Decision:** The document was **revised to S3-182532**.

**S3-182532 Reply LS to LS on provision of ngKSI to UE at EAP-Request/AKA'-Challenge**

*Type: LS out For: Approval  
 to CT1  
 Source: Huawei, Hisilicon*

(Replaces S3-182448)

**Decision:** The document was **approved**.

Attachments to this outgoing LS: S3-182534

**S3-182200 Deletion of Requester ID from ‘Nausf\_UEAuthentication\_authenticate’**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0252 Cat: F (Rel-15)  
  
 Source: Nokia,Nokia Shanghai Bell*

**Decision:** The document was **agreed**.

**S3-182279 Editorial corrections to TS 33.501**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0278 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

ORANGE: do we need Note 9 in the definition?

Vodafone disagreed with the note as well.

NOTE 2 was brought back as the change was argued by NEC.

**Decision:** The document was **revised to S3-182657**.

**S3-182657 Editorial corrections to TS 33.501**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0278 rev 1 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

(Replaces S3-182279)

**Decision:** The document was **agreed**.

**S3-182284 Corrections on primary authentication**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0279 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

The addition in bullet 5 wasn't fully understood.

**Decision:** The document was **revised to S3-182658**.

**S3-182658 Corrections on primary authentication**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0279 rev 1 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

(Replaces S3-182284)

**Decision:** The document was **agreed**.

**S3-182285 Delay the transmission of kseaf after home network verifies the RES\_star**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0280 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Decision:** The document was **agreed**.

**S3-182417 Removal of Note 2a on Kausf use case restriction**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0337 Cat: F (Rel-15)  
  
 Source: NEC Corporation*

**Abstract:**

The existence of Note 2a in clause 6.1.1.1 will create ambiguity in the specification regarding the Kausf usage. Hence it is removed.

**Decision:** The document was **revised to S3-182659**.

**S3-182659 Removal of Note 2a on Kausf use case restriction**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0337 rev 1 Cat: F (Rel-15)  
  
 Source: NEC Corporation*

(Replaces S3-182417)

**Decision:** The document was **agreed**.

**S3-182418 Clarification on Storage of SUPI at SEAF**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0338 Cat: F (Rel-15)  
  
 Source: NEC Corporation*

**Abstract:**

The storage of SUPI after a successful authentication is clarified in both EAP-AKA’ and 5G AKA authentication procedures in clause 6.1.3.1 and 6.1.3.2 respectively

**Discussion:**

Vodafone: store "securely".

This was agreed.

ORANGE, DT, BT: don’t delete the SUPI, just store it.

**Decision:** The document was **not pursued**.

**S3-182660 Clarification on Storage of SUPI at SEAF**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0338 rev 1 Cat: F (Rel-15)  
  
 Source: NEC Corporation*

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

**S3-182440 Update on SEAF requirements**

*Type: CR For: (not specified)  
 33.501 v15.1.0 CR-0223 rev 1 Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-181894)

**Abstract:**

related to clause 5, several requirements for which solutions were defined are missing, but needed for testing against requirements

**Decision:** The document was **revised to S3-182589**.

**S3-182589 Update on SEAF requirements**

*Type: CR For: -  
 33.501 v15.1.0 CR-0223 rev 2 Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-182440)

**Decision:** The document was **agreed**.

**S3-182443 Clarification to support of authentication methods**

*Type: CR For: (not specified)  
 33.501 v15.1.0 CR-0345 Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **revised to S3-182680**.

**S3-182680 Clarification to support of authentication methods**

*Type: CR For: -  
 33.501 v15.1.0 CR-0345 rev 1 Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-182443)

**Discussion:**

ORANGE didn’t support the added note. It's confusing and it's not adding anything.

Nokia commented that they got questions from operators on how they had to choose.

IDEMIA didn’t see the need for this note.

Ericsson commented that this was just a note, no wrong technical issue here.

Qualcomm: if we are having this confusion here, this needs to be clarified to the outside world.

**Decision:** The document was **not pursued**.

**S3-182174 Clause 6.1.2 - Modification on figure of initiation of authentication**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0233 Cat: F (Rel-15)  
  
 Source: ZTE Corporation*

**Discussion:**

Ericsson didn’t see the need to have a split in the figure.

**Decision:** The document was **not pursued**.

#### 7.1.9 Secondary authentication

**S3-182269 Amendment to Re-authentication procedure in Secondary Authentication**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0274 Cat: F (Rel-15)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

ORANGE: not consistent with what SA2 has in their specification.

Huawei commented that was the reason why they were proposing an LS to SA2 where they should add this change. The procedure was broken according to them.

ORANGE commented that SA3 was not the right place to discuss this but in SA2.

Ericsson: let's ask SA2 with an LS if there is a problem.

**Decision:** The document was **not pursued**.

**S3-182270 Draft-LS-out-to-SA2-on secondary re-authentication**

*Type: LS out For: Approval  
 to SA2  
 Source: Huawei, HiSilicon*

**Decision:** The document was **revised to S3-182661**.

**S3-182661 LS-out-to-SA2-on secondary re-authentication**

*Type: LS out For: Approval  
 to SA2  
 Source: Huawei, HiSilicon*

(Replaces S3-182270)

**Decision:** The document was **approved**.

#### 7.1.10 Interworking

**S3-182486 CR on registration procedure for mobility from 4G to 5G**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0362 Cat: F (Rel-15)  
  
 Source: Qualcomm Incorporated*

**Decision:** The document was **revised to S3-182574**.

**S3-182574 CR on registration procedure for mobility from 4G to 5G**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0362 rev 1 Cat: F (Rel-15)  
  
 Source: Qualcomm Incorporated*

(Replaces S3-182486)

**Decision:** The document was **agreed**.

**S3-182401 Clarifications related to the NAS Container calculation during inter system handover**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0329 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

The CR clarifies the description of the NAS Container in the handover from EPS to 5GS procedure..

**Decision:** The document was **revised to S3-182575**.

**S3-182575 Clarifications related to the NAS Container calculation during inter system handover**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0329 rev 1 Cat: F (Rel-15)  
  
 Source: Ericsson*

(Replaces S3-182401)

**Decision:** The document was **agreed**.

**S3-182400 Removal of editor’s note on harmonization between inter and intra system handovers**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0328 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

The CR removes a superfluous EN.

**Decision:** The document was **revised to S3-182576**.

**S3-182576 Removal of editor’s note on harmonization between inter and intra system handovers**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0328 rev 1 Cat: F (Rel-15)  
  
 Source: Ericsson*

(Replaces S3-182400)

**Decision:** The document was **agreed**.

**S3-182491 CR on corrections on the 5GS to EPS handover procedure**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0366 Cat: F (Rel-15)  
  
 Source: Qualcomm Incorporated*

**Discussion:**

NTT-Docomo: is there any reason to specify 4 or 8 bytes? It's irrelevant from the security point of view.

Ericsson: CT1 usually asks us about the size.

**Decision:** The document was **revised to S3-182579**.

**S3-182579 CR on corrections on the 5GS to EPS handover procedure**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0366 rev 1 Cat: F (Rel-15)  
  
 Source: Qualcomm Incorporated*

(Replaces S3-182491)

**Decision:** The document was **agreed**.

**S3-182492 LS on NAS parameter for 5GS to EPS HO**

*Type: LS out For: Approval  
 to CT1, RAN2, RAN3  
 Source: Qualcomm Incorporated*

**Decision:** The document was **revised to S3-182580**.

**S3-182580 LS on NAS parameter for 5GS to EPS HO**

*Type: LS out For: Approval  
 to CT1, RAN2, RAN3  
 Source: Qualcomm Incorporated*

(Replaces S3-182492)

**Decision:** The document was **approved**.

**S3-182399 Corrections and clarifications to interworking clauses**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0327 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

The CR provides a set of corrections related to wrong or misspelled parameter names.

**Decision:** The document was **revised to S3-182581**.

**S3-182581 Corrections and clarifications to interworking clauses**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0327 rev 1 Cat: F (Rel-15)  
  
 Source: Ericsson*

(Replaces S3-182399)

**Decision:** The document was **agreed**.

**S3-182442 Corrections to references related to handling of security contexts in mobility procedures**

*Type: CR For: (not specified)  
 33.501 v15.1.0 CR-0344 Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Reference to correct clause for mobility procedures

**Decision:** The document was **revised to S3-182540**.

#### 7.1.11 non-3GPP access

**S3-182230 Clarifications on AS key update for non-3GPP access**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0265 Cat: F (Rel-15)  
  
 Source: CATT*

**Discussion:**

Qualcomm: we don’t want to do reauthentication in this scenario, no security reasons.

**Decision:** The document was **not pursued**.

**S3-182232 Clarifications on the key lifetime for non-3GPP access**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0267 Cat: F (Rel-15)  
  
 Source: CATT*

**Discussion:**

Nokia,Qualcomm: the new text is confusing.

**Decision:** The document was **not pursued**.

#### 7.1.12 NDS

**S3-182402 Addition of missing reference to RFC on DTLS over SCTP**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0330 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

The CR adds a missing reference to the RFC on DTLS over SCTP.

**Discussion:**

Huawei: add a note on the limitation during implementation.

ORANGE: this is implementing the agreement from last meeting.

Ericsson: we only minuted last meeting that we needed to fix the reference.

**Decision:** The document was **agreed**.

**S3-182403 Correction of Note on physical protection for NDS/IP use**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0331 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

The CRS corrects the note on physical protection.

**Discussion:**

DT: say "if" and not "In case".

BT: the specs are control plane only, why remove these words?

It was agreed to remove the note.

**Decision:** The document was **revised to S3-182662**.

**S3-182662 Correction of Note on physical protection for NDS/IP use**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0331 rev 1 Cat: F (Rel-15)  
  
 Source: Ericsson*

(Replaces S3-182403)

**Decision:** The document was **agreed**.

**S3-182164 Protection of the N4 Interface**

*Type: CR For: (not specified)  
 33.501 v15.1.0 CR-0228 Cat: B (Rel-15)  
  
 Source: Juniper Networks, Deutsche Telecom AG*

**Abstract:**

Section 9 of TS33.501 details requirements and mechanisms of protecting non-SBA interfaces, but the N4 interface is missing. This contribution adds a new section for security mechanisms for the N4 interface.

**Discussion:**

Ericsson: Do we need to specify separately the security for every core network/RAN interface? We should do it in a more generic way.

ORANGE: this is in line with what SA2 is doing.

It was agreed to create a new CR to do such generalization.

**Decision:** The document was **not pursued**.

**S3-182663 Protection of non SBA interfaces internal to 5G core.**

*Type: CR For: -  
 33.501 v15.1.0 CR-0374 Cat: B (Rel-15)  
  
 Source: Deutsche Telecom AG*

**Decision:** The document was **agreed**.

**S3-182165 Protection of the N9 Interface**

*Type: CR For: (not specified)  
 33.501 v15.1.0 CR-0229 Cat: B (Rel-15)  
  
 Source: Juniper Networks, Deutsche Telecom AG*

**Abstract:**

Section 9 of TS33.501 details requirements and mechanisms of protecting non-SBA interfaces, but the N9 interface is missing. This contribution adds a new section for security mechanisms for the N9 interface.

**Decision:** The document was **not pursued**.

**S3-182245 DRAFT LS on SCTP Restrictions when supporting DTLS over SCTP**

*Type: LS out For: Approval  
 to RAN2  
 Source: Huawei, Hisilicon*

**Decision:** The document was **noted**.

**S3-182239 Supporting DTLS on gNB internal and external SCTP Interfaces**

*Type: discussion For: Endorsement  
 33.501 v..  
 Source: Huawei, Hisilicon, Nokia*

**Decision:** The document was **revised to S3-182516**.

#### 7.1.13 Service based architecture

##### 7.1.13.1 Interconnect (SEPP related)

**S3-182335 On the alignment of N32 terminology**

*Type: discussion For: Endorsement  
 Source: Deutsche Telekom AG, Juniper Networks Inc.*

**Decision:** The document was **noted**.

**S3-182272 CR to add N32 definitions**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0275 Cat: F (Rel-15)  
  
 Source: Nokia,Nokia Shanghai Bell*

**Decision:** The document was **revised to S3-182550**.

**S3-182550 N32 solution details**

*Type: CR For: Agreement  
 33.501 v15.1.0 CR-0275 rev 1 Cat: F (Rel-15)  
  
 Source: Nokia,Nokia Shanghai Bell*

(Replaces S3-182272)

**Decision:** The document was **agreed**.

**S3-182387 N32 terminology and restructuring**

*Type: other For: Approval  
 33.501 v..  
 Source: Ericsson*

**Abstract:**

pCR to N32 draft-CR S3-181939

**Decision:** The document was **revised to S3-182551**.

**S3-182551 N32 terminology and restructuring**

*Type: other For: Approval  
 33.501 v..  
 Source: Ericsson*

(Replaces S3-182387)

**Decision:** The document was **merged**.

**S3-182258 Remove EN in 13.2 – Application layer security**

*Type: other For: Approval  
 33.501 v..  
 Source: Nokia,Nokia Shanghai Bell*

**Abstract:**

Remove EN in 13.2 – Application layer security

**Decision:** The document was **merged**.

**S3-182271 Presentation on N32 connections and N32-f context**

*Type: other For: Presentation  
 Source: Nokia, Juniper,Nokia Shanghai Bell*

**Abstract:**

This is a presentation put together by Juniper to illustrate the two types of N32 connections and N32-f context established between two SEPPs. This is for information, presentation and discussion.

**Decision:** The document was **noted**.

**S3-182341 N32-f context**

*Type: other For: Approval  
 33.501 v..  
 Source: Ericsson*

**Decision:** The document was **revised to S3-182552**.

**S3-182552 N32-f context**

*Type: other For: Approval  
 33.501 v..  
 Source: Ericsson*

(Replaces S3-182341)

**Decision:** The document was **merged**.

**S3-182259 Exchange of N32-f context id during Initial Handshake**

*Type: other For: Approval  
 33.501 v..  
 Source: Nokia,Nokia Shanghai Bell*

**Abstract:**

Exchange of N32-f context id during Initial Handshake

**Decision:** The document was **merged**.

**S3-182325 Session Key Derivation for N32-f Application Layer Security**

*Type: other For: Approval  
 33.501 v..  
 Source: NCSC*

**Abstract:**

Proposal for session key derivation for N32-f application layer security

**Decision:** The document was **merged**.

**S3-182380 N32 session key derivation and key hierarchy**

*Type: other For: Approval  
 33.501 v..  
 Source: Ericsson*

**Decision:** The document was **revised to S3-182553**.

**S3-182553 N32 session key derivation and key hierarchy**

*Type: other For: Approval  
 33.501 v..  
 Source: Ericsson*

(Replaces S3-182380)

**Decision:** The document was **merged**.

**S3-182386 TLS export**

*Type: other For: Approval  
 33.501 v..  
 Source: Ericsson*

**Abstract:**

discussion paper on how to use TLS export

**Decision:** The document was **revised to S3-182554**.

**S3-182554 TLS export**

*Type: other For: Approval  
 33.501 v..  
 Source: Ericsson*

(Replaces S3-182386)

**Decision:** The document was **merged**.

**S3-182321 pCR to DraftCR - Protection Policies**

*Type: other For: Approval  
 33.501 v..  
 Source: KPN N.V.*

**Abstract:**

This pCR to the DraftCR on SEPP related issues provides a number of changes as were discussed during the conference calls.

**Discussion:**

Docomo: "Which IPX providers are authorized to perform modifications" not required if we don’t have a next hop. Delete this line. If we have a next hop identifier this is not required.

It was commented that KPN was not present in the meeting to agree on the changes. DT proposed to take this over.

**Decision:** The document was **revised to S3-182555**.

**S3-182555 pCR to DraftCR - Protection Policies**

*Type: other For: Approval  
 33.501 v..  
 Source: Deutsche Telekom*

(Replaces S3-182321)

**Decision:** The document was **merged**.

**S3-182433 Revision of the modification policy in draft CR S3-181937**

*Type: other For: Approval  
 33.501 v..  
 Source: China Mobile*

**Decision:** The document was **revised to S3-182558**.

**S3-182558 Revision of the modification policy in draft CR S3-181937**

*Type: other For: Approval  
 33.501 v..  
 Source: China Mobile*

(Replaces S3-182433)

**Decision:** The document was **merged**.

**S3-182507 Clarifications to protection policies**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0371 Cat: F (Rel-15)  
  
 Source: Deutsche Telekom AG*

**Decision:** The document was **revised to S3-182559**.

**S3-182559 Clarifications to protection policies**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0371 rev 1 Cat: F (Rel-15)  
  
 Source: Deutsche Telekom AG*

(Replaces S3-182507)

**Decision:** The document was **merged**.

**S3-182390 Message Routing in N32**

*Type: discussion For: Discussion  
 33.501 v..  
 Source: Ericsson*

**Abstract:**

Describe problem and possible solutions for inter PLMN message routing

**Discussion:**

Huawei didn’t agree with these proposals.

It was agreed to send an LS to CT4.

**Decision:** The document was **noted**.

**S3-182257 JOSE based protection of messages over N32-f**

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

**Abstract:**

JOSE based protection of HTTP messages over N32-f

**Decision:** The document was **revised to S3-182560**.

**S3-182560 JOSE based protection of messages over N32-f**

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

(Replaces S3-182257)

**Decision:** The document was **merged**.

**S3-182521 Commenting contribution on JOSE based protection of HTTP messages over N32-f (S3-182257)**

*Type: other For: Approval  
 Source: Deutsche Telekom AG*

**Decision:** The document was **noted**.

**S3-182527 Comment on: JOSE based protection of HTTP messages over N32-f (S3-182257)**

*Type: discussion For: Approval  
 Source: Ericsson-LG Co., LTD*

**Decision:** The document was **noted**.

**S3-182340 References to encrypted IEs in the rewritten HTTP message**

*Type: other For: Approval  
 33.501 v..  
 Source: Ericsson*

**Decision:** The document was **noted**.

**S3-182413 On the need for error signalling in inter-PLMN communication**

*Type: discussion For: Endorsement  
 Source: Deutsche Telekom AG*

**Decision:** The document was **revised to S3-182561**.

**S3-182561 On the need for error signalling in inter-PLMN communication**

*Type: discussion For: Endorsement  
 Source: Deutsche Telekom AG*

(Replaces S3-182413)

**Decision:** The document was **endorsed**.

**S3-182435 Discussion of error handling for SBA**

*Type: discussion For: Discussion  
 33.501 v..  
 Source: China Mobile*

**Decision:** The document was **noted**.

**S3-182447 Error handling for SBA authentication and authorization in service layer**

*Type: CR For: (not specified)  
 33.501 v15.1.0 CR-0347 Cat: F (Rel-15)  
  
 Source: China Mobile*

**Discussion:**

DT: what's the benefit of silently discarding here? Also, there is normative text in the notes.

China Mobile: we need a procedure to deal with this error handling.

DT proposed to include these changes in the error messages that they had brought in the discussion paper. In any case the error messages were to be worked on in CT4 so an LS would be sent to them. This was agreed.

BT: "silently discard" wording is used when there is an overload.

**Decision:** The document was **revised to S3-182563**.

**S3-182563 Error handling for SBA authentication and authorization in service layer**

*Type: CR For: -  
 33.501 v15.1.0 CR-0347 rev 1 Cat: F (Rel-15)  
  
 Source: China Mobile*

(Replaces S3-182447)

**Decision:** The document was **agreed**.

**S3-182522 Error handling for N32 Application Layer Security**

*Type: other For: Approval  
 33.501 v..  
 Source: Nokia*

**Abstract:**

Error handling for N32 Application layer security

**Discussion:**

Vodafone proposed to have the error handling optional.

Ericsson: error handling being optional is stepping on CT4's (stage 3) territory.

**Decision:** The document was **revised to S3-182564**.

**S3-182564 Error handling for N32 Application Layer Security**

*Type: other For: Approval  
 33.501 v..  
 Source: Nokia*

(Replaces S3-182522)

**Decision:** The document was **merged**.

**S3-182173 Clause 5.9.3.3 - Modification on integrity requirement on N32**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0232 Cat: F (Rel-15)  
  
 Source: ZTE Corporation*

**Discussion:**

DT didn’t agree with this change; it is not modified inline.NCSC agreed.

**Decision:** The document was **not pursued**.

**S3-182506 Clarification to the protection of attributes by the SEPP**

*Type: CR For: Approval  
 33.501 v15.1.0 CR-0370 Cat: F (Rel-15)  
  
 Source: Deutsche Telekom AG*

Key issue on security for small data transmission

*Type: pCR For: Approval  
 33.861 v0.0.0  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

**S3-182113 New KI proposal for TR 33.861 on CIoT security**

*Type: pCR For: Approval  
 33.861 v12.0.0  
 Source: InterDigital, Inc.*

**Abstract:**

This contribution proposes a new KI for TR 33.861.

**Decision:** The document was **not treated**.

**S3-182115 New KI proposal for TR 33.861 on CIoT security**

*Type: pCR For: Approval  
 33.861 v12.0.0  
 Source: InterDigital, Inc.*

**Abstract:**

Abstract:

This document is for information only. This document is a first draft of how the issues discussed in S3-182322 can be put into a key issue.

**Decision:** The document was **not treated**.

**S3-182248 Key Issue on gNB Protection from CIoT DoS attack**

*Type: pCR For: Approval  
 33.861 v0.1.0  
 Source: Huawei, Hisilicon, China Mobile*

**Decision:** The document was **not treated**.

**S3-182263 Key issue on DoS attack on the network for CIoT**

*Type: pCR For: Approval  
 33.861 v0.0.0  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

**S3-182405 New key issue for security key storage**

*Type: pCR For: Approval  
 33.861 v0.1.0  
 Source: Ericsson*

**Decision:** The document was **not treated**.

**S3-182300 Key Issue on IoT Terminal Security Monitoring**

*Type: pCR For: Approval  
 33.861 v0.1.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **not treated**.

**S3-182210 Key issue avoiding AS encryption for application security enabled UE**

*Type: pCR For: Approval  
 33.861 v16.0.0  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **not treated**.

**S3-182510 New key issue on flexible security of CIoT devices**

*Type: pCR For: Approval  
 33.861 v0.0.0  
 Source: LG Electronics*

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

**New KI proposal for TR 33.861 on CIoT security**

*Type: pCR For: Approval  
 33.861 v12.0.0  
 Source: InterDigital, Inc.*

**Abstract:**

This contribution proposes a new KI for TR 33.861.

**Decision:** The document was **not treated**.

**S3-182406 New key issue for security key and authentication tag size**

*Type: pCR For: Approval  
 33.861 v0.1.0  
 Source: Ericsson*

**Decision:** The document was **not treated**.

**S3-182324 For Information: A potential new solution for dealing with maliciously behaving devices**

*Type: other For: Information  
 Source: KPN N.V.*

**Abstract:**

For information purposes only. A draft for a new solution for dealing with maliciously behaving devices in provided.

**Decision:** The document was **not treated**.

### 8.7 Study on the security of the Wireless and Wireline Convergence for the 5G system architecture (FS\_5WWC\_SEC) (Rel-16)

**S3-182152 LS on devices behind 5G-RG accessing the 5GC**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: S3i180377*

**Decision:** The document was **postponed**.

**S3-182309 skeleton of TR 33807**

*Type: draft TR For: Approval  
 33.807 v0.0.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **approved**.

**S3-182310 scope of TR33807**

*Type: pCR For: Approval  
 33.807 v0.0.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **not treated**.

**S3-182158 New KI proposal for TR 33.807 on security of the Wireless and Wireline Convergence for the 5G system architecture**

*Type: pCR For: Approval  
 33.807 v12.0.0  
 Source: InterDigital, Inc.*

**Abstract:**

This contribution proposes a new KI for TR 33.807.

**Decision:** The document was **not treated**.

**S3-182498 Key Issue on Access to 5GC from UEs that do not support NAS**

*Type: pCR For: Approval  
 33.807 v0.0.0  
 Source: Motorola Mobility, Lenovo*

**Abstract:**

Proposes a new key issue for UEs that do not support NAS for trusted non-3GPP access.

**Decision:** The document was **not treated**.

**S3-182497 Key Issue on Registration and NAS transport for trusted non-3GPP access**

*Type: pCR For: Approval  
 33.807 v12.0.0  
 Source: Motorola Mobility, Lenovo*

**Abstract:**

Proposes a new key issue for trusted non-3GPP access.

**Decision:** The document was **not treated**.

**S3-182315 new requirement of trusted access**

*Type: pCR For: Approval  
 33.807 v0.0.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **not treated**.

**S3-182311 new requirement of 5G RG**

*Type: pCR For: Approval  
 33.807 v0.0.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **not treated**.

**S3-182312 new requirement of NAS security**

*Type: pCR For: Approval  
 33.807 v0.0.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **not treated**.

**S3-182313 new requirement of multi NAS connection**

*Type: pCR For: Approval  
 33.807 v0.0.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **not treated**.

**S3-182314 new requirement of UP security**

*Type: pCR For: Approval  
 33.807 v0.0.0  
 Source: Huawei, Hisilicon*

**Decision:** The document was **not treated**.

### 8.8 Study on Security Aspects of PARLOS (FS\_PARLOS\_Sec) (Rel-16)

**S3-182151 Reply LS on clarification on Restricted Operator Services**

*Type: LS in For: (not specified)  
 Original outgoing LS: -, to -, cc -  
 Source: S2-181407*

**Decision:** The document was **postponed**.

**S3-182211 Key issue providing temporary security for PARLOS PDU session**

*Type: pCR For: Approval  
 33.815 v16.0.0  
 Source: Nokia, Nokia Shanghai bell*

**Decision:** The document was **not treated**.

**S3-182252 Proposed Skeleton for TR**

*Type: draft TR For: Agreement  
 33.815 v0.0.0  
 Source: SPRINT Corporation*

**Decision:** The document was **approved**.

**S3-182253 P-CR proposing Background clause text**

*Type: pCR For: Agreement  
 33.815 v12.0.0  
 Source: SPRINT Corporation*

**Decision:** The document was **not treated**.

**S3-182254 P-CR proposing Introduction clause text**

*Type: pCR For: Agreement  
 33.815 v12.0.0  
 Source: SPRINT Corporation*

**Decision:** The document was **not treated**.

**S3-182255 P-CR proposing Scope clause text**

*Type: pCR For: Agreement  
 33.815 v0.0.0  
 Source: SPRINT Corporation*

**Decision:** The document was **not treated**.

**S3-182256 P-CR proposing Requirements, assumptions and constraint clause text**

*Type: pCR For: Agreement  
 33.815 v0.0.0  
 Source: SPRINT Corporation*

**Decision:** The document was **not treated**.

**S3-182412 Support for Unauthenticated UEs access to RLOS using EPC**

*Type: pCR For: (not specified)  
 33.815 v0.0.0  
 Source: Intel Corporation (UK) Ltd*

**Decision:** The document was **not treated**.

**S3-182416 EPC solution for RLOS access**

*Type: pCR For: (not specified)  
 33.815 v0.0.0  
 Source: Intel Corporation (UK) Ltd*

**Decision:** The document was **noted**.

**S3-182631 EPC solution for RLOS access**

*Type: pCR For: -  
 33.815 v0.0.0  
 Source: Intel Corporation (UK) Ltd*

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

**S3-182496 Key Issue on PARLOS Security**

*Type: pCR For: Approval  
 33.815 v0.0.0  
 Source: Motorola Mobility, Lenovo*

**Abstract:**

Proposes a new key issue on PARLOS security.

**Decision:** The document was **not treated**.

### 8.9 Other study areas

**S3-182449 Discussion on clarification of concept of slice authentication**

*Type: discussion For: Endorsement  
 Source: China Mobile*

**Discussion:**

ORANGE: cat 1 and cat 2 can be discarded. I can agree with cat 3, this slice authentication comes after a successful primary authentication. I agree with the conclusion. Colin (BT) agreed with cat 3 as well.

China Mobile asked to be minuted that the SA3 preference was on cat 3. ORANGE added that this would be with some modification on the objectives of the Study Item in 2212.

**Decision:** The document was **noted**.

### 8.10 New study item proposals

**S3-182212 SID on Enhanced network Slicing**

*Type: SID new For: Approval  
 Source: Nokia, Nokia Shanghai Bell,NEC, Huawei, HiSilicon,Motorola Mobility, Lenovo*

**Discussion:**

Huawei: less about network slicing than it is stated.

ZTE: network slice security belongs to phase two.

The Chair commented that this was coming from an agreement from last meeting.

China Mobile: we need to clarify the authentication in the network slice context. We have a discussion paper about this in 449. From this document it was preferred to go for cat 3.

ORANGE commented that SA2 had this in their study.

Ericsson: the last bullet is a bit out of scope of this SID, it should belong to another SID. Vodafone agreed.

Qualcomm: inter-slice security isolation? Where is this defined? ORANGE and Gemalto wanted to keep this bullet.

Huawei: add privacy issues.

ORANGE: privacy is in our terms of reference. We always take it into account. Interdigital: all security issues are part of the ToR.

**Decision:** The document was **revised to S3-182665**.

**S3-182665 SID on Enhanced network Slicing**

*Type: SID new For: Approval  
 Source: Nokia, Nokia Shanghai Bell,NEC, Huawei, HiSilicon,Motorola Mobility, Lenovo*

(Replaces S3-182212)

**Decision:** The document was **agreed**.

**S3-182244 Study of 5G System Security Phase-2**

*Type: SID new For: Approval  
 Source: Huawei, Hisilicon,*

**Decision:** The document was **revised to S3-182625**.

**S3-182625 Study of KDF negotiation for 5G System Security**

*Type: SID new For: Approval  
 Source: Huawei, Hisilicon,*

(Replaces S3-182244)

**Discussion:**

ORANGE: overlapping with our study in LTE-CUP.

AT&T supported this SID.

Qualcomm: RAN related stuff should go to a different SID. A single SID with a long list of objectives would be too much and this is the way other 3GPP WGs are working this way. ORANGE supported this.

**Decision:** The document was **agreed**.

**S3-182249 Study on 5G security enhancement**

*Type: SID new For: Approval  
 Source: Apple Computer Trading Co. Ltd*

**Abstract:**

This new study item aims to address the security issue caused by fake base station in 5G system.

**Discussion:**

ORANGE: privacy was covered in 5G phase one already.

Interdigital: during fake base station attack, identifiers can be leaked.

NCSC: these studies seem to affect only the UE, are studying impact on the core? Apple replied that the core was covered.

T-Mobile: overlap with the Huawei SID.

The Chair commented that there had been a privacy study item in the past whose results were not satisfactory.

ORANGE proposed some rewording regarding privacy. The objectives were also simplified.

Ericsson: giving a handbook of threats to 5G is giving a bad image. Let's focus on solutions and not study the threats.

Ericsson commented that there was agreement on having focused studies and that they could come back in the next meeting with the different studies. Discussing the content during the present meeting would be time consuming. Huawei agreed.

**Decision:** The document was **revised to S3-182634**.

**S3-182634 Study on 5G security enhancement against false base stations**

*Type: SID new For: Approval  
 Source: Apple Computer Trading Co. Ltd*

(Replaces S3-182249)

**Decision:** The document was **revised to S3-182704**.

**S3-182704 Study on 5G security enhancement against false base stations**

*Type: SID new For: Approval  
 Source: Apple Computer Trading Co. Ltd*

(Replaces S3-182634)

**Decision:** The document was **agreed**.

**S3-182250 New WID on Security of the enhancement to the 5GC location services**

*Type: SID new For: Agreement  
 Source: CATT*

**Discussion:**

ORANGE: some statements are normative.

Qualcomm: in SA2 they consider translating what we have in LTE in the 5G system. Security threats are not clear. We don’t think that this is SID is needed. A SID could be needed depending on RAN's work such as broadcast aspects.

Ericsson: we should take a look at any work that SA2 is doing. We support this SID with a simplified objective.

**Decision:** The document was **revised to S3-182678**.

**S3-182678 New SID on Security of the enhancement to the 5GC location services**

*Type: SID new For: Agreement  
 Source: CATT*

(Replaces S3-182250)

**Decision:** The document was **agreed**.

**S3-182265 The SID on security for 5G URLLC**

*Type: SID new For: Approval  
 Source: Huawei, HiSilicon*

**Discussion:**

Qualcomm: we have seen this before and rejected it. What's new?

Huawei: SA2's progressed and they have security issues that need to be taken into account here.

Vodafone: we would trigger this SID with an LS from SA2.

Docomo: we should start working on our own and not wait for SA2 to start any kind of work. A discussion paper would have been helpful to explain to us what the issues are instead of "security issues were detected". Qualcomm supported this.

ORANGE also wanted a discussion paper on what SA2 is doing and the security issues that are identified in their work.

Interdigital: asking SA2 for the security issues? That's our job.

Huawei clarified that SA2 would finish their study in September.

**Decision:** The document was **revised to S3-182679**.

**S3-182679 The SID on security for 5G URLLC**

*Type: SID new For: Approval  
 Source: Huawei, HiSilicon*

(Replaces S3-182265)

**Decision:** The document was **agreed**.

**S3-182333 Discussion on Security Assurance for 3GPP Virtualized Network Products**

*Type: discussion For: Endorsement  
 Source: Nokia, Nokia Shanghai Bell, China Mobile*

**Abstract:**

This contribution analyses the gaps between current SECAM/SCAS work and security assurance work for 3GPP virtualized network products, raises some relevant questions, and proposes to start a new study work on security assurance of 3GPP virtualized network

**Decision:** The document was **noted**.

**S3-182378 Security enhancements in LTE**

*Type: discussion For: Endorsement  
 33.401 v..  
 Source: Ericsson*

**Abstract:**

This discussion paper proposes that SA3 starts studies on LTE security enhancements.

**Decision:** The document was **noted**.

**S3-182379 Security enhancements in 5G**

*Type: discussion For: Endorsement  
 33.501 v..  
 Source: Ericsson*

**Abstract:**

This discussion paper proposes that SA3 starts studies on 5G security enhancements.

**Discussion:**

Qualcomm: we cannot limit to these two points.

**Decision:** The document was **noted**.

**S3-182423 Discussing about the necessity of SCAS for 3GPP virtualized network products**

*Type: discussion For: Discussion  
 Source: China Mobile*

**Decision:** The document was **noted**.

**S3-182424 Discussing about ToE of SCAS for 3GPP virtualized network products**

*Type: discussion For: Decision  
 Source: China Mobile*

**Decision:** The document was **noted**.

**S3-182425 Discussing about the SECAM and SCAS for 3GPP virtualized network products**

*Type: discussion For: Decision  
 Source: China Mobile*

**Decision:** The document was **noted**.

**S3-182426 Implications of Network Function Virtualisation**

*Type: discussion For: Discussion  
 Source: BT plc*

**Abstract:**

Implications of Virtualisation

**Decision:** The document was **noted**.

**S3-182427 New SID on SECAM and SCAS for 3GPP virtualized network products**

*Type: SID new For: (not specified)  
 Source: China Mobile, Nokia, Nokia Shanghai Bell, China Unicom, CAICT, CATT, ZTE*

**Discussion:**

Alex (BT): it misses whether we have to make changes in the architecture in order to virtualize it.

Ericsson: this assumes impact on our architecture and we want to avoid that. Enhancement on the existing architecture is not what SCAS is about.

NCSC: let's extend it beyond SCAS.

The Chair commented that this could duplicate work done in other groups like ETSI ISG NFV. Better to separate SCAS activities from architecture enhancements.

Colin (BT): deployment issues are in scope of GSMA.

Ericsson: we will not be doing security assurance for platforms (e.g. proposed by ETSI NFV).

Nokia: this is a study, there is no normative output here. Ericsson conceded given that this was a study.

**Decision:** The document was **revised to S3-182681**.

**S3-182681 New SID on SECAM and SCAS for 3GPP virtualized network products**

*Type: SID new For: -  
 Source: China Mobile, Nokia, Nokia Shanghai Bell, China Unicom, CAICT, CATT, ZTE*

(Replaces S3-182427)

**Decision:** The document was **agreed**.

**S3-182444 Intro to FS\_VERTICAL\_LAN\_SEC**

*Type: discussion For: (not specified)  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **noted**.

**S3-182445 SID\_FS\_VERTICAL\_LAN\_SEC**

*Type: SID new For: (not specified)  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **revised to S3-182682**.

**S3-182682 Study on Security for 5GS Enhanced support of Vertical and LAN Services**

*Type: SID new For: -  
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-182445)

**Decision:** The document was **agreed**.

**S3-182677 Study on the supporting of perfect forward secrecy for 5G Authentication and Key Agreement Protocols**

*Type: SID new For: Agreement  
 Source: Huawei*

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

## 9 Work Plan and Rapporteur Input

### 9.1 Review of work plan

**S3-182102 SA3 Work Plan**

*Type: Work Plan For: (not specified)  
 Source: MCC*

**Decision:** The document was **noted**.

### 9.2 Rapporteur input on status of WID or SID

**S3-182105 Work Plan input from Rapporteurs**

*Type: other For: (not specified)  
 Source: MCC*

**Decision:** The document was **revised to S3-182699**.

**S3-182699 Work Plan input from Rapporteurs**

*Type: other For: -  
 Source: MCC*

(Replaces S3-182105)

**Decision:** The document was **noted**.

## 10 Future Meeting Dates and Venues

**S3-182104 SA3 meeting calendar**

*Type: other For: (not specified)  
 Source: MCC*

**Decision:** The document was **revised to S3-182698**.

**S3-182698 SA3 meeting calendar**

*Type: other For: -  
 Source: MCC*

(Replaces S3-182104)

**Decision:** The document was **noted**.

## 11 Any Other Business

SA#92 AdHoc will be an ad-hoc, so no voting rights will be recorded. This meeting will have decision power.

Agenda for SA3#92AdHoc (taking as a base the agenda items of this meeting's agenda)

Work Items

7.1 5G Phase one

7.2 5G SCAS

MCC commented that the latest version of 33.501 would not be available by the tdoc deadline for this meeting (given its proximity to SA). There were +100 CRs to be implemented on this spec.

The Chair suggested to endorse CRs in the next meeting taking as a base the agreed CRs from this meeting.

MCC will generate a document listing all the agreed CRs where delegates can see the clauses affected and avoid clashes.

8.1 - 8.8 Studies.

Not the new Study Items (they will be treated in November).

Anja (Nokia) announced that the former SA3 delegate Gunther Horn had won the 3GPP lifetime award. The delegates showed their appreciation for his long time career and achievements in 3GPP SA3.

After this the SA3 Chair thanked MCC and CF3 for hosting the meeting. After this, the meeting was closed.

## Annex A: List of contribution documents

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Document | Title | Source | Decision | Replaces | Replaced by |
| * S3-182100 | * Agenda | * WG Chairman | * approved |  |  |
| * S3-182101 | * Report from last SA3 meeting/s | * MCC | * withdrawn |  |  |
| * S3-182102 | * SA3 Work Plan | * MCC | * noted |  |  |
| * S3-182103 | * Report from last SA meeting | * WG Chairman | * noted |  |  |
| * S3-182104 | * SA3 meeting calendar | * MCC | * revised |  | * S3-182698 |
| * S3-182105 | * Work Plan input from Rapporteurs | * MCC | * revised |  | * S3-182699 |
| * S3-182106 | * TCG progress report | * InterDigital, Inc. | * noted |  |  |
| * S3-182107 | * [MCSec] 33180 R14. Examples of MC service ID shall be URI | * Airbus DS SLC | * revised |  | * S3-182543 |
| * S3-182108 | * [MCSec] 33180 R15. Examples of MC service ID shall be URI | * Airbus DS SLC | * revised |  | * S3-182544 |
| * S3-182109 | * New KI proposal for TR 33.861 on CIoT security | * InterDigital, Inc. | * not treated |  |  |
| * S3-182110 | * [MCSec] 33180 R14. Clarification for MIKEY-SAKKE values | * Airbus DS SLC | * revised |  | * S3-182545 |
| * S3-182111 | * [MCSec] 33180 R15. Clarification for MIKEY-SAKKE values | * Airbus DS SLC | * revised |  | * S3-182546 |
| * S3-182112 | * [MCSec] 33180 R15. Clarification for MIKEY-SAKKE values | * Airbus DS SLC | * withdrawn |  |  |
| * S3-182113 | * New KI proposal for TR 33.861 on CIoT security | * InterDigital, Inc. | * not treated |  |  |
| * S3-182114 | * New KI proposal for TR 33.861 on CIoT security | * InterDigital, Inc. | * not treated |  |  |
| * S3-182115 | * New KI proposal for TR 33.861 on CIoT security | * InterDigital, Inc. | * not treated |  |  |
| * S3-182116 | * New KI proposal for TR 33.861 on CIoT security | * InterDigital, Inc. | * not treated |  |  |
| * S3-182117 | * New KI proposal for TR 33.861 on CIoT security | * InterDigital, Inc. | * not treated |  |  |
| * S3-182118 | * Use of SCEF anchored non-IP PDN Connections with BEST | * Convida Wireless, InterDigital, Inc. | * noted |  |  |
| * S3-182119 | * Adding BEST Support for non-IP PDN Connections that Terminate at the SCEF | * Convida Wireless, InterDigital, Inc. | * revised |  | * S3-182626 |
| * S3-182120 | * [Draft] LS on Specification of the EAS-C/U interfaces for BEST | * Convida Wireless, InterDigital, Inc. | * revised |  | * S3-182674 |
| * S3-182121 | * Question on 5G network slices | * GSMA SIM | * replied to |  |  |
| * S3-182122 | * Reply LS on GSMA question on 5G network slices | * S2-187599 | * noted |  |  |
| * S3-182123 | * LS Out for 5G slices roaming | * S3i180376 | * noted |  |  |
| * S3-182124 | * Statement on urgency of alignment of ETSI SSP with 3GPP release 15 | * GSMA | * noted |  |  |
| * S3-182125 | * Reply LS on initial NAS message protection | * C1-183727 | * withdrawn |  |  |
| * S3-182126 | * Reply LS on initial NAS message protection | * S2-187505 | * replied to |  |  |
| * S3-182127 | * LS on [Temporary group call – user regroup] and [Temporary group – broadcast group call] | * C1-184907 | * noted |  |  |
| * S3-182128 | * Provision of ngKSI to UE at EAP-Request/AKA'-Challenge | * C1-184942 | * replied to |  |  |
| * S3-182129 | * Reply LS on AUSF/UDM instance selection and SUCI parameters | * C4-184576 | * noted |  |  |
| * S3-182130 | * Response to “Reply LS on AUSF/UDM instance selection and SUCI parameters” | * C6-180361 | * noted |  |  |
| * S3-182131 | * Reply LS to “LS on AUSF/UDM instance selection and SUCI parameters” | * S2-186257 | * noted |  |  |
| * S3-182132 | * LS OUT on TLS and inter PLMN routing | * C4-184612 | * noted |  |  |
| * S3-182133 | * LS OUT on TLS and inter PLMN routing | * C4-185493 | * replied to |  |  |
| * S3-182134 | * LS on Nausf\_SoRProtection service | * C4-185319 | * noted |  |  |
| * S3-182135 | * Reply LS on avoiding race condition in 5G AKA | * C4-185320 | * noted |  |  |
| * S3-182136 | * LS OUT on OAuth 2.0 | * C4-185505 | * replied to |  |  |
| * S3-182137 | * Reply LS on SoR mechanism | * C6-180295 | * noted |  |  |
| * S3-182138 | * Reply-LS on new work item "X.5Gsec-q" | * ETSI TC CYBER | * replied to |  |  |
| * S3-182139 | * LSout to various organisations on usage of NFV Specifications | * ETSI ISG NFV | * noted |  |  |
| * S3-182140 | * Reply LS to RAN2 on Bluetooth/WLAN measurement collection in MDT | * S5-183626 | * noted |  |  |
| * S3-182141 | * Reply LS on Bluetooth/WLAN measurement collection in MDT | * R2-1808793 | * replied to |  |  |
| * S3-182142 | * Security related agreements on Early Data Transmission | * R2-1808869 | * noted |  |  |
| * S3-182143 | * Reply LS on Security aspects of supporting LTE connected to 5GC | * R2-1809162 | * replied to |  |  |
| * S3-182144 | * LS on inactive security | * R2-1809177 | * replied to |  |  |
| * S3-182145 | * LS on UE identity for PO calculation | * R2-1810941 | * replied to |  |  |
| * S3-182146 | * LS on security requirements for RRC connection release | * R2-1810960 | * replied to |  |  |
| * S3-182147 | * LS on connection re-establishment security | * R2-1810965 | * replied to |  |  |
| * S3-182148 | * LS on EDT procedures and AS NAS interaction (R2-1712077) | * R3-183574 | * noted |  |  |
| * S3-182149 | * Reply LS on new BEST Service | * S2-187226 | * noted |  |  |
| * S3-182150 | * LS on security handling when deploying UDSF | * S2-187506 | * replied to |  |  |
| * S3-182151 | * Reply LS on clarification on Restricted Operator Services | * S2-181407 | * postponed |  |  |
| * S3-182152 | * LS on devices behind 5G-RG accessing the 5GC | * S3i180377 | * postponed |  |  |
| * S3-182153 | * Reply LS on CAPIF4xMB | * S6-180727 | * replied to |  |  |
| * S3-182154 | * Reply LS on CAPIF4xMB | * S6-180944 | * noted |  |  |
| * S3-182155 | * Reply LS to “5G for Industrial Communication” | * SP-180608 | * noted |  |  |
| * S3-182156 | * LS on Guidance on Way Forward for Steering of Roaming | * SP-180621 | * noted |  |  |
| * S3-182157 | * UE capability related to integrity protection of DRBs | * R2-1804056 | * withdrawn |  |  |
| * S3-182158 | * New KI proposal for TR 33.807 on security of the Wireless and Wireline Convergence for the 5G system architecture | * InterDigital, Inc. | * not treated |  |  |
| * S3-182159 | * LS/r on revised Recommendation ITU-T Q.850 (reply to 3GPP TSG SA3 - C3-183507) | * ITU-T SG11 | * noted |  |  |
| * S3-182160 | * Reply LS on temporary group regroup procedures | * S6-181287 | * noted |  |  |
| * S3-182161 | * LS on use of ITS dedicated spectrum within V2X UE | * S6-181288 | * noted |  |  |
| * S3-182162 | * Reply LS on CAPIF specification work in SA3 | * S6-181290 | * noted |  |  |
| * S3-182163 | * LS on application layer support for V2X services | * S6-181291 | * noted |  |  |
| * S3-182164 | * Protection of the N4 Interface | * Juniper Networks, Deutsche Telecom AG | * not pursued |  | * - |
| * S3-182165 | * Protection of the N9 Interface | * Juniper Networks, Deutsche Telecom AG | * not pursued |  |  |
| * S3-182166 | * Discussion on the Scope and Future Use of the NDS IP and AF Specifications | * Juniper Networks | * noted |  |  |
| * S3-182167 | * Update NDS/IP scope with application layer crypto profiles | * Juniper Networks | * revised |  | * S3-182606 |
| * S3-182168 | * Update NDS/IP scope with application layer crypto profiles | * Juniper Networks | * not pursued |  | * - |
| * S3-182169 | * Clarify NDS/AF intro regarding crypto profiles | * Juniper Networks | * revised |  | * S3-182608 |
| * S3-182170 | * Clarify NDS/AF intro regarding crypto profiles | * Juniper Networks | * noted |  | * - |
| * S3-182171 | * Clause 5.2.5 - Modification on subscriber privacy | * ZTE Corporation | * revised |  | * S3-182635 |
| * S3-182172 | * Clause 5.8.2 - Modification on requirement on UDM storing key pair identifier | * ZTE Corporation | * not pursued |  |  |
| * S3-182173 | * Clause 5.9.3.3 - Modification on integrity requirement on N32 | * ZTE Corporation | * not pursued |  |  |
| * S3-182174 | * Clause 6.1.2 - Modification on figure of initiation of authentication | * ZTE Corporation | * not pursued |  |  |
| * S3-182175 | * Clause 6.3.1 - Modification on security context handling | * ZTE Corporation | * merged |  | * S3-182540 |
| * S3-182176 | * Discussion on AMF sending NAS SMC over both access types | * ZTE Corporation | * noted |  |  |
| * S3-182177 | * Clause 6.4.2.2 - Clarification on AMF sending NAS SMC over both access types | * ZTE Corporation | * not pursued |  |  |
| * S3-182178 | * Clause 6.4.5 - Editorial modification on NAS COUNT handling | * ZTE Corporation | * agreed |  |  |
| * S3-182179 | * Clause 6.6.1 - Modification on UP security policy | * ZTE Corporation | * merged |  | * S3-182644 |
| * S3-182180 | * Clause 6.6.2 - Modification on UP security activation mechanism | * ZTE Corporation | * revised |  | * S3-182645 |
| * S3-182181 | * Clause 6.7.3.2 - Modification on algorithm selection during N2 handover | * ZTE Corporation | * revised |  | * S3-182584 |
| * S3-182182 | * Clause 6.7.3.5 - Correct reference for RNA update procedure | * ZTE Corporation | * agreed |  |  |
| * S3-182183 | * Clause 6.8.2.1.3 - Modification on State transition from RRC-INACTIVE to RRC-CONNECTED | * ZTE Corporation | * not pursued |  |  |
| * S3-182184 | * Clause 6.9.2 - Modification on security handling during handover | * ZTE Corporation | * revised |  | * S3-182585 |
| * S3-182185 | * Clause 6.9.2.1.2, 6.9.2.2 - Editorial modification on NAS during handover | * ZTE Corporation | * not pursued |  |  |
| * S3-182186 | * Clause 6.9.3 - Editorial modification on mobile registration update – AMF handling | * ZTE Corporation | * merged |  | * S3-182636 |
| * S3-182187 | * Discussion on mobile registration update | * ZTE Corporation | * noted |  |  |
| * S3-182188 | * Clause 6.9.3 - Add multi-NAS connections consideration for mobile registration update – AMF handling | * ZTE Corporation | * not pursued |  |  |
| * S3-182189 | * Clause 6.9.3, 6.3.2.2 - Modification on mobile registration update – UE handling | * ZTE Corporation | * not pursued |  |  |
| * S3-182190 | * Discussion on key change indication on N14 (AMF-AMF) | * ZTE Corporation | * noted |  |  |
| * S3-182191 | * Clause 6.9.2.3.3 - Correct indication on N14 during N2 HO | * ZTE Corporation | * merged |  | * S3-182585 |
| * S3-182192 | * Clause 6.9.3 - Add description for mobile registration update when NAS SMC has been performed – AMF handling | * ZTE Corporation | * not pursued |  |  |
| * S3-182193 | * Clause 6.9.5.1 - Add rule for concurrent running of security procedures | * ZTE Corporation | * revised |  | * S3-182655 |
| * S3-182194 | * Clause 6.9.5.2 - Modify rule for concurrent running of security procedures | * ZTE Corporation | * revised |  | * S3-182656 |
| * S3-182195 | * Discussion on RRC Reestablishment security | * ZTE Corporation | * noted |  |  |
| * S3-182196 | * Report from last SA3 meeting/s | * MCC | * approved |  |  |
| * S3-182197 | * Removal of JWE/JWS profile from 33.501 | * Ericsson | * merged |  | * S3-182550 |
| * S3-182198 | * JWE and JWS profiles | * Ericsson | * merged |  | * S3-182606 |
| * S3-182199 | * CR to clarify username in Annex C | * Nokia,Nokia Shanghai Bell | * revised |  | * S3-182583 |
| * S3-182200 | * Deletion of Requester ID from ‘Nausf\_UEAuthentication\_authenticate’ | * Nokia,Nokia Shanghai Bell | * agreed |  |  |
| * S3-182201 | * CR to Clause 6.9.3 Removal of KSEAF storage restriction | * Nokia, Verizon, TMO-USA,Nokia Shanghai Bell | * revised |  | * S3-182548 |
| * S3-182202 | * CR for Addition of security requirements for external storage | * Nokia, Nokia Shanghai bell, Verizon, TMO-USA | * revised |  | * S3-182549 |
| * S3-182203 | * Clause 6.9.3 typo corrections | * Nokia, Nokia shanghai Bell | * merged |  | * S3-182636 |
| * S3-182204 | * Make DTLS optional on F1, E1, N2, Xn interfaces | * Nokia, Nokia Shanghai Bell, Huawei, HiSilicon | * not pursued |  |  |
| * S3-182205 | * CR to delete ENs in clause 5.3 gNB Requirements | * Nokia, Nokia Shanghai Bell | * revised |  | * S3-182651 |
| * S3-182206 | * CR to align NAS Connection value and access type | * Nokia, Nokia Shanghai Bell | * agreed |  |  |
| * S3-182207 | * Correct confidentiality key in confidentiality clause. | * Nokia, Nokia Shanghai Bell | * agreed |  |  |
| * S3-182208 | * Delete EN in Annex D for parameters | * Nokia, Nokia Shanghai bell | * agreed |  |  |
| * S3-182209 | * Define and clarify ABBA parameter | * Nokia, Nokia Shanghai Bell | * revised |  | * S3-182653 |
| * S3-182210 | * Key issue avoiding AS encryption for application security enabled UE | * Nokia, Nokia Shanghai Bell | * not treated |  |  |
| * S3-182211 | * Key issue providing temperory security for PARLOS PDU session | * Nokia, Nokia Shanghai bell | * not treated |  |  |
| * S3-182212 | * SID on Enhanced network Slicing | * Nokia, Nokia Shanghai Bell,NEC, Huawei, HiSilicon,Motorola Mobility, Lenovo | * revised |  | * S3-182665 |
| * S3-182213 | * Delete EN in Clause 10.2.1 Authenticated IMS Emergency Sessions | * Nokia, Nokia Shanghai Bell | * agreed |  |  |
| * S3-182214 | * Discussion paper on S3-182150 KSEAF storage in UDSF | * Nokia, Nokia Shanghai Bell | * noted |  |  |
| * S3-182215 | * draft\_Reply LS to S3-182150 security handling when deploying UDSF | * Nokia,Nokia Shanghai Bell | * revised |  | * S3-182547 |
| * S3-182216 | * [CAPIF\_Sec] 33122 R15 access token profile | * Motorola Solutions UK Ltd. | * revised |  | * S3-182620 |
| * S3-182217 | * [CAPIF-Sec] 33122 R15 FC values for CAPIF | * Motorola Solutions UK Ltd. | * withdrawn |  |  |
| * S3-182218 | * [CAPIF-Sec] 33122 correct note in clause 6.5.2.1 | * Motorola Solutions UK Ltd. | * revised |  | * S3-182622 |
| * S3-182219 | * [CAPIF-Sec] 33220 R15 FC values for CAPIF | * Motorola Solutions UK Ltd. | * withdrawn |  |  |
| * S3-182220 | * [MCPTT] 33179 R13 Fix XML schema | * Motorola Solutions UK Ltd. | * agreed |  |  |
| * S3-182221 | * [MCSec] 33180 R14 Fix XML schema | * Motorola Solutions UK Ltd. | * agreed |  |  |
| * S3-182222 | * [MCPTT] 33180 R15 Fix XML schema (mirror) | * Motorola Solutions UK Ltd. | * revised |  | * S3-182601 |
| * S3-182223 | * [MCSec] 33180 R14 FC values for MCData | * Motorola Solutions UK Ltd. | * agreed |  |  |
| * S3-182224 | * [MCSec] 33180 R15 FC values for MCData (mirror) | * Motorola Solutions UK Ltd. | * agreed |  |  |
| * S3-182225 | * [MCSec] 33180 R15 registered media type | * Motorola Solutions UK Ltd. | * agreed |  |  |
| * S3-182226 | * [MCSec] 33220 R14 FC values for MCData | * Motorola Solutions UK Ltd. | * agreed |  |  |
| * S3-182227 | * [MCSec] 33220 R15 FC values for MCData (mirror) | * Motorola Solutions UK Ltd. | * agreed |  |  |
| * S3-182228 | * Clause 6.12.2-Adding Routing Indicator in SUCI | * CATT, Ericsson , Vodafone, Huawei, NEC, China Mobile, Nokia, Nokia Shanghai Bell Labs, IDEMIA | * revised |  | * S3-182513 |
| * S3-182229 | * Clarification on UP security policy verification | * CATT | * merged |  | * S3-182644 |
| * S3-182230 | * Clarifications on AS key update for non-3GPP access | * CATT | * not pursued |  |  |
| * S3-182231 | * Clarifications on handover handling for Dual Connectivity | * CATT | * merged |  | * S3-182649 |
| * S3-182232 | * Clarifications on the key lifetime for non-3GPP access | * CATT | * not pursued |  |  |
| * S3-182233 | * Reference corrections in clause 6.10 | * CATT | * agreed |  |  |
| * S3-182234 | * Resolving Editor’s Notes for requirements on the gNB | * CATT | * merged |  | * S3-182651 |
| * S3-182235 | * Key issue proposal for FS\_CIoT\_sec\_5G | * NEC Corporation | * not treated |  |  |
| * S3-182236 | * Removal of comment texts | * NEC Corporation | * not pursued |  |  |
| * S3-182237 | * Algorithm Negotiation for Unauthenticated UEs in LSM | * Huawei, HiSilicon, China Mobile | * revised |  | * S3-182646 |
| * S3-182238 | * Update Key handling at RRC-INACTIVE state transitions | * Huawei, HiSilicon, Intel, China Mobile | * merged |  | * S3-182639 |
| * S3-182239 | * Supporting DTLS on gNB internal and external SCTP Interfaces | * Huawei, Hisilicon, Nokia | * revised |  | * S3-182516 |
| * S3-182240 | * AS SMC Handling Update | * Huawei, Hisilicon | * agreed |  |  |
| * S3-182241 | * DRAFT Reply LS on RRC Re-establishment security | * Huawei, Hisilicon | * revised |  | * S3-182541 |
| * S3-182242 | * Discussion on RRC Re-establishment Security | * Huawei, Hisilicon | * noted |  |  |
| * S3-182243 | * DRAFT Reply LS on security requirements for RRC connection release | * Huawei, Hisilicon, China Mobile | * revised |  | * S3-182542 |
| * S3-182244 | * Study of 5G System Security Phase-2 | * Huawei, Hisilicon, | * revised |  | * S3-182625 |
| * S3-182245 | * DRAFT LS on SCTP Restrictions when supporting DTLS over SCTP | * Huawei, Hisilicon | * noted |  |  |
| * S3-182246 | * pCR to TR33.861: Authentication of a group of CIoT devices | * Huawei, Hisilicon | * not treated |  |  |
| * S3-182247 | * pCR to TR33.861: Secure Communication for a group CIoT devices | * Huawei, Hisilicon | * not treated |  |  |
| * S3-182248 | * Key Issue on gNB Protection from CIoT DoS attack | * Huawei, Hisilicon, China Mobile | * not treated |  |  |
| * S3-182249 | * Study on 5G security enhancement | * Apple Computer Trading Co. Ltd | * revised |  | * S3-182634 |
| * S3-182250 | * New WID on Security of the enhancement to the 5GC location services | * CATT | * revised |  | * S3-182678 |
| * S3-182251 | * Performance aspects for the new 256-bit algorithms | * CATT | * revised |  | * S3-182537 |
| * S3-182252 | * Proposed Skeleton for TR | * SPRINT Corporation | * approved |  |  |
| * S3-182253 | * P-CR proposing Background clause text | * SPRINT Corporation | * not treated |  |  |
| * S3-182254 | * P-CR proposing Introduction clause text | * SPRINT Corporation | * not treated |  |  |
| * S3-182255 | * P-CR proposing Scope clause text | * SPRINT Corporation | * not treated |  |  |
| * S3-182256 | * P-CR proposing Requirements, assumptions and constraint clause text | * SPRINT Corporation | * not treated |  |  |
| * S3-182257 | * JOSE based protection of messages over N32-f | * Nokia, NCSC,Nokia Shanghai Bell | * revised |  | * S3-182560 |
| * S3-182258 | * Remove EN in 13.2 – Application layer security | * Nokia,Nokia Shanghai Bell | * merged |  | * S3-182673 |
| * S3-182259 | * Exchange of N32-f context id during Initial Handshake | * Nokia,Nokia Shanghai Bell | * merged |  | * S3-182673 |
| * S3-182260 | * Other Security Procedures for Dual Connectivity | * Huawei, HiSilicon | * revised |  | * S3-182649 |
| * S3-182261 | * Key issue on keys used in GBA | * Huawei, HiSilicon | * not treated |  |  |
| * S3-182262 | * Key issue for fitting GBA into 5G core network functions | * Huawei, HiSilicon | * not treated |  |  |
| * S3-182263 | * Key issue on DoS attack on the network for CIoT | * Huawei, HiSilicon | * not treated |  |  |
| * S3-182264 | * Key issue on security for small data transmission | * Huawei, HiSilicon | * not treated |  |  |
| * S3-182265 | * The SID on security for 5G URLLC | * Huawei, HiSilicon | * revised |  | * S3-182679 |
| * S3-182266 | * Discussion-slice-management-security | * Huawei, HiSilicon, China Mobile, China Unicom, CATR, CATT | * noted |  |  |
| * S3-182267 | * WID slicing management security | * Huawei, HiSilicon, China Mobile, China Unicom, CATR, CATT | * noted |  |  |
| * S3-182268 | * Draft LS to GSMA on slicing | * Huawei, HiSilicon | * revised |  | * S3-182530 |
| * S3-182269 | * Amendment to Re-authentication procedure in Secondary Authentication | * Huawei, HiSilicon | * not pursued |  |  |
| * S3-182270 | * Draft-LS-out-to-SA2-on secondary re-authentication | * Huawei, HiSilicon | * revised |  | * S3-182661 |
| * S3-182271 | * Presentation on N32 connections and N32-f context | * Nokia, Juniper,Nokia Shanghai Bell | * noted |  |  |
| * S3-182272 | * CR to add N32 definitions | * Nokia,Nokia Shanghai Bell | * revised |  | * S3-182550 |
| * S3-182273 | * CR to add a missing step to discover an NF producer instance during Access Token Request | * Nokia,Nokia Shanghai Bell | * revised |  | * S3-182641 |
| * S3-182274 | * CR to add Access Token Request procedure for a specific NF service producer | * Nokia,Nokia Shanghai Bell | * revised |  | * S3-182642 |
| * S3-182275 | * Security requirements for API invoker onboarding and offboarding | * Huawei, Hisilicon | * revised |  | * S3-182618 |
| * S3-182276 | * Modifications on Security procedures for API invoker onboarding | * Huawei, Hisilicon | * revised |  | * S3-182610 |
| * S3-182277 | * Clarification on Security protections in CAPIF-1 and CAPIF-2 reference point | * Huawei, Hisilicon | * revised |  | * S3-182619 |
| * S3-182278 | * Clarification on access token verification | * Huawei, Hisilicon | * revised |  | * S3-182621 |
| * S3-182279 | * Editorial corrections to TS 33.501 | * Huawei, Hisilicon | * revised |  | * S3-182657 |
| * S3-182280 | * FC value in TS 33.220 | * Huawei, Hisilicon | * revised |  | * S3-182623 |
| * S3-182281 | * Adding FC value to TS 33.122 | * Huawei, Hisilicon | * revised |  | * S3-182624 |
| * S3-182282 | * Access token profile | * Huawei, Hisilicon | * merged |  | * S3-182620 |
| * S3-182283 | * Key Issue on mutual authentication between UE and BSF | * Huawei, Hisilicon | * not treated |  |  |
| * S3-182284 | * Corrections on primary authentication | * Huawei, Hisilicon | * revised |  | * S3-182658 |
| * S3-182285 | * Delay the transmission of kseaf after home network verifies the RES\_star | * Huawei, Hisilicon | * agreed |  |  |
| * S3-182286 | * editorial modification on TR33.856 | * Huawei, Hisilicon | * revised |  | * S3-182693 |
| * S3-182287 | * Dicussion on security handling when deploying UDSF | * Huawei, Hisilicon | * noted |  |  |
| * S3-182288 | * evaluation of solution 1.1 for KI#1 | * Huawei, Hisilicon | * revised |  | * S3-182687 |
| * S3-182289 | * a proposal for the key issue on protecting the SRVCC capability of TR33.856 | * Huawei, Hisilicon | * revised |  | * S3-182684 |
| * S3-182290 | * a proposal for protecting the SRVCC capability of TR33.856 | * Huawei, Hisilicon | * revised |  | * S3-182686 |
| * S3-182291 | * conclusion for key issue on protecting the SRVCC capability in initial NAS message | * Huawei, Hisilicon | * revised |  | * S3-182691 |
| * S3-182292 | * Discussion on initial NAS message Protection Solution | * Huawei, Hisilicon | * noted |  |  |
| * S3-182293 | * Delete initial NAS message protection solution | * Huawei, Hisilicon | * not pursued |  |  |
| * S3-182294 | * LS on INACTIVE Security Algorithms Negotiation | * Huawei, Hisilicon | * noted |  |  |
| * S3-182295 | * Security Algorithms Negotiation for INACTIVE related procedures | * Huawei, Hisilicon | * not pursued |  |  |
| * S3-182296 | * Involve Fresh Parameters to Input of InactiveMAC-I to Avoid Replay Attack | * Huawei, Hisilicon | * noted |  |  |
| * S3-182297 | * Discussion on input for InactiveMAC-I to avoid replay attack | * Huawei, Hisilicon | * noted |  |  |
| * S3-182298 | * Alignment of terminology in RRCConnctionReestablsihment Procedure in R14 | * Huawei, Hisilicon | * revised |  | * S3-182602 |
| * S3-182299 | * Alignment of terminology in RRCConnctionReestablsihment Procedure in R15 | * Huawei, Hisilicon | * revised |  | * S3-182603 |
| * S3-182300 | * Key Issue on IoT Terminal Security Monitoring | * Huawei, Hisilicon | * not treated |  |  |
| * S3-182301 | * Align AS SMC procedure with SA2 and RAN3 | * Huawei, Hisilicon | * revised |  | * S3-182650 |
| * S3-182302 | * Hanldling UP security policy in MRDC | * Huawei, Hisilicon | * not pursued |  |  |
| * S3-182303 | * skeleton of TS 33511 | * Huawei, Hisilicon | * approved |  |  |
| * S3-182304 | * scope of TS 33511 | * Huawei, Hisilicon | * approved |  |  |
| * S3-182305 | * security requirements and corresponding test cases for gNB | * Huawei, Hisilicon | * noted |  |  |
| * S3-182306 | * skeleton of TS 33515 | * Huawei, Hisilicon | * revised |  | * S3-182599 |
| * S3-182307 | * scope of TS 33515 | * Huawei, Hisilicon | * approved |  |  |
| * S3-182308 | * EDCE5 security requirements and corresponding test cases for MeNB | * Huawei, Hisilicon | * not pursued |  | * - |
| * S3-182309 | * skeleton of TR 33807 | * Huawei, Hisilicon | * approved |  |  |
| * S3-182310 | * scope of TR33807 | * Huawei, Hisilicon | * not treated |  |  |
| * S3-182311 | * new requirement of 5G RG | * Huawei, Hisilicon | * not treated |  |  |
| * S3-182312 | * new requirement of NAS security | * Huawei, Hisilicon | * not treated |  |  |
| * S3-182313 | * new requirement of multi NAS connection | * Huawei, Hisilicon | * not treated |  |  |
| * S3-182314 | * new requirement of UP security | * Huawei, Hisilicon | * not treated |  |  |
| * S3-182315 | * new requirement of truted access | * Huawei, Hisilicon | * not treated |  |  |
| * S3-182316 | * Clarifications in TS 33117 | * Huawei, Hisilicon | * revised |  | * S3-182612 |
| * S3-182317 | * CR on mandatory ciphering of access tokens by NRF in inter-PLMN scenarios | * Nokia,Nokia Shanghai Bell | * not pursued |  | * - |
| * S3-182318 | * CR to remove Editor’s Note on additional claims in the access token | * Nokia,Nokia Shanghai Bell | * revised |  | * S3-182566 |
| * S3-182319 | * CR to remove Editor’s Note on additional parameters that may be required in step 1 of Figure 13.4.1.1-2 | * Nokia,Nokia Shanghai Bell | * revised |  | * S3-182567 |
| * S3-182320 | * CR to remove Editor’s Note on verification of claims in the access token | * Nokia,Nokia Shanghai Bell | * merged |  | * S3-182568 |
| * S3-182321 | * pCR to DraftCR - Protection Policies | * KPN N.V. | * revised |  | * S3-182555 |
| * S3-182322 | * For Information: Discussion document on dealing with maliciously behaving devices | * KPN N.V. | * not treated |  |  |
| * S3-182323 | * For Information: Potential new key issue | * KPN N.V. | * not treated |  |  |
| * S3-182324 | * For Information: A potential new solution for dealing with maliciously behaving devices | * KPN N.V. | * not treated |  |  |
| * S3-182325 | * Session Key Derivation for N32-f Application Layer Security | * NCSC | * merged |  | * S3-182553 |
| * S3-182326 | * Agenda and notes of SA3 conference call on remaining Rel-15 SBA work | * Deutsche Telekom AG | * noted |  |  |
| * S3-182327 | * Agenda and notes of CT4/SA3 conference call on N32 | * Deutsche Telekom AG | * noted |  |  |
| * S3-182328 | * Agenda and notes of SA3 conference call on N32 | * Deutsche Telekom AG | * noted |  |  |
| * S3-182329 | * CR-slice-management-security | * Huawei, HiSilicon, China Mobile, China Unicom, CATR, CATT | * agreed |  |  |
| * S3-182330 | * SBA Security in the Context of 5G SCAS Work | * Deutsche Telekom AG, Nokia | * endorsed |  |  |
| * S3-182331 | * Document Skeleton for TS 33.512, based on TS 33.116 | * Deutsche Telekom AG | * revised |  | * S3-182594 |
| * S3-182332 | * Update to WID 5G SCAS | * Nokia, Nokia Shanghai Bell, Huawei, HiSilicon, China Unicom, CATT, Deutsche Telekom, ZTE, Samsung, KPN, NEC, British Telecom, China Mobile | * revised |  | * S3-182525 |
| * S3-182333 | * Discussion on Security Assurance for 3GPP Virtualized Network Products | * Nokia, Nokia Shanghai Bell, China Mobile | * noted |  |  |
| * S3-182334 | * New WID on security aspects of single radio voice continuity from 5G to 3G | * China Unicom, Huawei, HiSilicon, ZTE, CATT, OPPO | * revised |  | * S3-182671 |
| * S3-182335 | * On the alignment of N32 terminology | * Deutsche Telekom AG, Juniper Networks Inc. | * noted |  |  |
| * S3-182336 | * Evaluation for solution #1.1 | * China Unicom | * revised |  | * S3-182688 |
| * S3-182337 | * Closing the open Action Item for implementing one NESAS Pilot Finding in SCAS specification | * Nokia, Nokia Shanghai Bell | * noted |  |  |
| * S3-182338 | * Evaluation for solution #1.2 | * China Unicom | * revised |  | * S3-182689 |
| * S3-182339 | * A scenario on secure communication for shared bikes | * Alibaba (China) Group., Ltd. | * revised |  | * S3-182518 |
| * S3-182340 | * References to encrypted IEs in the rewritten HTTP message | * Ericsson | * noted |  |  |
| * S3-182341 | * N32-f context | * Ericsson | * revised |  | * S3-182552 |
| * S3-182342 | * Message flows including SEPP | * Ericsson | * not pursued |  |  |
| * S3-182343 | * Authentication for token-based authorization | * Ericsson | * agreed |  |  |
| * S3-182344 | * Clarifications and editorials to clause 13.1 (Transport security for service based interfaces) | * Ericsson | * withdrawn |  |  |
| * S3-182345 | * Clarifications and editorials to clause 13.3 (authentication and static authorization between network functions) | * Ericsson | * merged |  | * S3-182569 |
| * S3-182346 | * Update to LS on Implementation of NESAS Pilot Findings in SCAS specifications | * Nokia, Nokia Shanghai Bell | * revised |  | * S3-182701 |
| * S3-182347 | * Evaluation for solution #1.3 | * China Unicom | * revised |  | * S3-182690 |
| * S3-182348 | * EDCE5 – Fixing contradicting and insecure scg/sk counter handling in 33.401 from 36.331 | * Ericsson | * not pursued |  |  |
| * S3-182349 | * LTE EDT - Updates in suspend/resume | * Ericsson | * revised |  | * S3-182604 |
| * S3-182350 | * DC - definition corrections | * Ericsson | * revised |  | * S3-182648 |
| * S3-182351 | * Handling of maximum supported data rate per UE for integrity protection of DRBs | * Ericsson | * not pursued |  |  |
| * S3-182352 | * DC - integrity protection of traffic between UE and SN | * Ericsson | * not pursued |  |  |
| * S3-182353 | * DC - adding missing details | * Ericsson | * merged |  | * S3-182649 |
| * S3-182354 | * Reply LS on inactive security | * Ericsson | * revised |  | * S3-182640 |
| * S3-182355 | * Reply LS on connection re-establishment security | * Ericsson | * merged |  | * S3-182541 |
| * S3-182356 | * DC - Handling of UP security policy in SN | * Ericsson | * not pursued |  |  |
| * S3-182357 | * DC - Selection of SN | * Ericsson | * not pursued |  |  |
| * S3-182358 | * Reply LS on BL/WLAN measurement collection in MDT | * Ericsson | * revised |  | * S3-182529 |
| * S3-182359 | * Reply LS on UE identity for PO calculation | * Ericsson | * revised |  | * S3-182539 |
| * S3-182360 | * Reply LS on security requirements for RRC connection release | * Ericsson | * merged |  | * S3-182542 |
| * S3-182361 | * Reply LS on Security aspects of supporting LTE connected to 5GC | * Ericsson | * revised |  | * S3-182538 |
| * S3-182362 | * DC – correcting reference | * Ericsson | * agreed |  |  |
| * S3-182363 | * Mobility – Clarification in intra-gNB-CU handover | * Ericsson | * revised |  | * S3-182666 |
| * S3-182364 | * Mobility – Correcting AS re-keying and NAS re-keying in N2-handover | * Ericsson | * merged |  | * S3-182585 |
| * S3-182365 | * Mobility – Correcting to UE handling clause | * Ericsson | * merged |  | * S3-182590 |
| * S3-182366 | * Mobility – Resolving EN and corrections in AS re-keying | * Ericsson | * revised |  | * S3-182591 |
| * S3-182367 | * Mobility – Corrections for usage of local policy at AMF | * Ericsson | * revised |  | * S3-182636 |
| * S3-182368 | * Mobility – Rectification of NAS MAC calculation for NAS Container | * Ericsson | * revised |  | * S3-182586 |
| * S3-182369 | * Mobility – Rectification of how DL NAS COUNT is transferred in NAS Container | * Ericsson | * not pursued |  | * - |
| * S3-182370 | * Mobility – Correction of NAS COUNTs in N2-handover | * Ericsson | * agreed |  |  |
| * S3-182371 | * Mobility – Removing an EN in Xn-handover | * Ericsson | * agreed |  |  |
| * S3-182372 | * Mobility – Rectification of UE security capabilities in NAS Container | * Ericsson | * agreed |  |  |
| * S3-182373 | * Mobility – Rectification of how UL NAS COUNT is transferred in NAS SMC | * Ericsson | * merged |  | * S3-182638 |
| * S3-182374 | * Privacy – adding missing detials in SUCI content and format | * Ericsson | * revised |  | * S3-182535 |
| * S3-182375 | * Privacy - addressing ENs | * Ericsson | * revised |  | * S3-182571 |
| * S3-182376 | * Update of definition of 5G AS security context for 3GPP access | * Ericsson | * revised |  | * S3-182652 |
| * S3-182377 | * Use the old KRRCint for calculation of the security token in MSG3 | * Ericsson | * revised |  | * S3-182639 |
| * S3-182378 | * Security enhancements in LTE | * Ericsson | * noted |  |  |
| * S3-182379 | * Security enhancements in 5G | * Ericsson | * noted |  |  |
| * S3-182380 | * N32 session key derivation and key hierarchy | * Ericsson | * revised |  | * S3-182553 |
| * S3-182381 | * Removal of MAC based OAuth2.0 token verification | * Ericsson | * not pursued |  |  |
| * S3-182382 | * OAuth Client Registration up to implementation | * Ericsson | * not pursued |  |  |
| * S3-182383 | * Removal of token validation by NRF | * Ericsson | * revised |  | * S3-182568 |
| * S3-182384 | * NRF Access Token Service | * Ericsson | * merged |  | * S3-182641 |
| * S3-182385 | * Clarifications on OAuth access token scope | * Ericsson | * merged |  | * S3-182641 |
| * S3-182386 | * TLS export | * Ericsson | * revised |  | * S3-182554 |
| * S3-182387 | * N32 terminology and restructuring | * Ericsson | * revised |  | * S3-182551 |
| * S3-182388 | * HTTP basic authentication to NRF | * Ericsson | * not pursued |  |  |
| * S3-182389 | * NF Instance ID in HTTP basic authentication username in Rel-15 | * Ericsson | * noted |  |  |
| * S3-182390 | * Message Routing in N32 | * Ericsson | * noted |  |  |
| * S3-182391 | * Propose the content of conclusions | * China Unicom | * revised |  | * S3-182692 |
| * S3-182392 | * Clarification of ngKSI and ABBA parameter in 5G-AKA | * Intel Corporation (UK) Ltd | * revised |  | * S3-182533 |
| * S3-182393 | * Clarification for ngksi and ABBA parameter for EAP-AKA’ | * Intel Corporation (UK) Ltd | * revised |  | * S3-182534 |
| * S3-182394 | * Discussion on ngKSI | * Intel Corporation (UK) Ltd | * noted |  |  |
| * S3-182395 | * AKMA Architecture for Non-3GPP Credential Download | * Alibaba (China) Group., Ltd. | * revised |  | * S3-182520 |
| * S3-182396 | * Reply LS on Initial NAS Message Protection | * Intel Corporation (UK) Ltd | * noted |  |  |
| * S3-182397 | * Steering of Information using Secure Packet | * Intel Corporation (UK) Ltd | * withdrawn |  |  |
| * S3-182398 | * Missing procedure for AS algorithm negotiation for unauthenticated emergency sessions | * Ericsson | * merged |  | * S3-182646 |
| * S3-182399 | * Corrections and clarifications to interworking clauses | * Ericsson | * revised |  | * S3-182581 |
| * S3-182400 | * Removal of editor’s note on harmonization between inter and intra system handovers | * Ericsson | * revised |  | * S3-182576 |
| * S3-182401 | * Clarifications related to the NAS Container calculation during inter system handover | * Ericsson | * revised |  | * S3-182575 |
| * S3-182402 | * Addition of missing reference to RFC on DTLS over SCTP | * Ericsson | * agreed |  |  |
| * S3-182403 | * Correction of Note on physical protection for NDS/IP use | * Ericsson | * revised |  | * S3-182662 |
| * S3-182404 | * New key issue for security key refreshing | * Ericsson | * not treated |  |  |
| * S3-182405 | * New key issue for security key storage | * Ericsson | * not treated |  |  |
| * S3-182406 | * New key issue for security key and authentication tag size | * Ericsson | * not treated |  |  |
| * S3-182407 | * New key issue for integrity protection of small data | * Ericsson | * not treated |  |  |
| * S3-182408 | * New key issue for encryption of small data | * Ericsson | * not treated |  |  |
| * S3-182409 | * Multiple NAS connections: mobility with horizontal KAMF derivation | * Ericsson | * not pursued |  |  |
| * S3-182410 | * Correction to clause 6.9.5.2 | * Ericsson | * merged |  | * S3-182656 |
| * S3-182411 | * Multiple NAS connections: taking a new security context into use on non-3GPP access | * Ericsson | * revised |  | * S3-182654 |
| * S3-182412 | * Support for Unauthenticated UEs access to RLOS using EPC | * Intel Corporation (UK) Ltd | * not treated |  |  |
| * S3-182413 | * On the need for error signalling in inter-PLMN communication | * Deutsche Telekom AG | * revised |  | * S3-182561 |
| * S3-182414 | * Editorial correction to figure 6.2.1-1 Key hierarchy generation in 5GS | * NEC Corporation | * merged |  | * S3-182573 |
| * S3-182415 | * Correction to Clause 5.11.2 Requirements for algorithm selection | * NEC Corporation | * agreed |  |  |
| * S3-182416 | * EPC solution for RLOS access | * Intel Corporation (UK) Ltd | * noted |  | * - |
| * S3-182417 | * Removal of Note 2a on Kausf use case restriction | * NEC Corporation | * revised |  | * S3-182659 |
| * S3-182418 | * Clarification on Storage of SUPI at SEAF | * NEC Corporation | * not pursued |  | * - |
| * S3-182419 | * Editorial correction to TS 33.501 | * NEC Corporation | * agreed |  |  |
| * S3-182420 | * Skeleton for TS 33.514 SCAS UDM | * NEC Corporation | * revised |  | * S3-182598 |
| * S3-182421 | * Scope proposal for TS 33.514 SCAS UDM | * NEC Corporation | * approved |  |  |
| * S3-182422 | * Mitigation against fraudulent registration attack between SEPPs | * Huawei, Hisilicon | * not pursued |  |  |
| * S3-182423 | * Discussing about the necessity of SCAS for 3GPP virtualized network products | * China Mobile | * noted |  |  |
| * S3-182424 | * Discussing about ToE of SCAS for 3GPP virtualized network products | * China Mobile | * noted |  |  |
| * S3-182425 | * Discussing about the SECAM and SCAS for 3GPP virtualized network products | * China Mobile | * noted |  |  |
| * S3-182426 | * Implications of Network Function Virtualisation | * BT plc | * noted |  |  |
| * S3-182427 | * New SID on SECAM and SCAS for 3GPP virtualized network products | * China Mobile, Nokia, Nokia Shanghai Bell, China Unicom, CAICT, CATT, ZTE | * revised |  | * S3-182681 |
| * S3-182428 | * A scenario on UAV Nav in AKMA | * China Mobile | * noted |  |  |
| * S3-182429 | * A scenario on V2X communication in 5G | * China Mobile | * not treated |  |  |
| * S3-182430 | * Discussion and pCR for secure tranferring between network and 3rd party in AKMA | * China Mobile, DT, KPN, LG electronics, Alibaba (China) Group., Ltd. | * not treated |  |  |
| * S3-182431 | * Discussion and pCR for identity key issue of AKMA | * China Mobile, DT, KPN, Alibaba (China) Group., Ltd. | * revised |  | * S3-182526 |
| * S3-182432 | * Discussion and pCR for decoupling secure procedure with specific protocol in AKMA | * China Mobile, KPN, LG electronics, Alibaba (China) Group., Ltd. | * not treated |  |  |
| * S3-182433 | * Revision of the modification policy in draft CR S3-181937 | * China Mobile | * revised |  | * S3-182558 |
| * S3-182434 | * Discussion on provision of ngKSI to UE in EAP-Request/AKA'-Challenge message | * Huawei, Hisilicon | * noted |  |  |
| * S3-182435 | * Discussion of error handling for SBA | * China Mobile | * noted |  |  |
| * S3-182436 | * Generic description of security elements | * Nokia, Nokia Shanghai Bell | * revised | * S3-181892 | * S3-182613 |
| * S3-182437 | * Clarification to key hierarchy | * Nokia, Nokia Shanghai Bell | * revised |  | * S3-182573 |
| * S3-182438 | * Editorial changes to clause 9 | * Nokia, Nokia Shanghai Bell | * revised | * S3-181895 | * S3-182664 |
| * S3-182439 | * Collection of editorial changes | * Nokia, Nokia Shanghai Bell | * revised |  | * S3-182528 |
| * S3-182440 | * Update on SEAF requirements | * Nokia, Nokia Shanghai Bell | * revised | * S3-181894 | * S3-182589 |
| * S3-182441 | * Addition of definitions and corrections to references | * Nokia, Nokia Shanghai Bell | * revised |  | * S3-182582 |
| * S3-182442 | * Corrections to references related to handling of security contexts in mobility procedures | * Nokia, Nokia Shanghai Bell | * revised |  | * S3-182540 |
| * S3-182443 | * Clarification to support of authentication methods | * Nokia, Nokia Shanghai Bell | * revised |  | * S3-182680 |
| * S3-182444 | * Intro to FS\_VERTICAL\_LAN\_SEC | * Nokia, Nokia Shanghai Bell | * noted |  |  |
| * S3-182445 | * SID\_FS\_VERTICAL\_LAN\_SEC | * Nokia, Nokia Shanghai Bell | * revised |  | * S3-182682 |
| * S3-182446 | * Provision of ngKSI to UE at EAP-Request/ AKA'-Challenge | * Huawei, Hisilicon | * merged |  | * S3-182534 |
| * S3-182447 | * Error handling for SBA authentication and authorization in service layer | * China Mobile | * revised |  | * S3-182563 |
| * S3-182448 | * [DRAFT] Reply LS to LS on provision of ngKSI to UE at EAP-Request/AKA'-Challenge | * Huawei, Hisilicon | * revised |  | * S3-182532 |
| * S3-182449 | * Discussion on clarification of concept of slice authentication | * China Mobile | * noted |  |  |
| * S3-182450 | * Clarification on motivation and privacy concerns for BT and WLAN measurement collection in MDT | * China Mobile | * noted |  |  |
| * S3-182451 | * Discussion on charging fraud attack | * Huawei, Hisilicon | * noted |  |  |
| * S3-182452 | * Clarification on authentication and authorization in SBA | * Huawei, Hisilicon | * revised |  | * S3-182569 |
| * S3-182453 | * Adding OAuth related authorization services for SBA security | * Huawei, Hisilicon | * revised |  | * S3-182670 |
| * S3-182454 | * TS 33.834 - editorial updates | * Vodafone España SA | * withdrawn |  |  |
| * S3-182455 | * Draft LS to ETSI SCP regarding the integration of LTKUP solution 4B into the OTA specifications. | * Vodafone España SA | * withdrawn |  |  |
| * S3-182456 | * CR to TS 33.163 (BEST) - correction of Tag values | * Vodafone España SA | * revised |  | * S3-182627 |
| * S3-182457 | * CR to TS33.163 (BEST) - clarification of error conditions | * Vodafone España SA | * withdrawn |  |  |
| * S3-182458 | * CR to 33.163 - Clarification as to when the Serving Network TLV is required | * Vodafone España SA | * agreed |  |  |
| * S3-182459 | * References to encrypted IEs in the rewritten HTTP message | * Ericsson | * withdrawn |  |  |
| * S3-182460 | * N32-f context | * Ericsson | * withdrawn |  |  |
| * S3-182461 | * Message flows including SEPP | * Ericsson | * withdrawn |  |  |
| * S3-182462 | * Authentication for token-based authorization | * Ericsson | * withdrawn |  |  |
| * S3-182463 | * Clarifications and editorials to clause 13.1 (Transport security for service based interfaces) | * Ericsson | * withdrawn |  |  |
| * S3-182464 | * Clarifications and editorials to clause 13.3 (authentication and static authorization between network functions) | * Ericsson | * withdrawn |  |  |
| * S3-182465 | * Clarifications and editorials to clause 13.1 (Transport security for service based interfaces) | * Ericsson | * revised |  | * S3-182570 |
| * S3-182466 | * LTKUP: solution#5 evaluation | * Gemalto N.V. | * revised |  | * S3-182696 |
| * S3-182467 | * Key Issue on Authentication | * Huawei, Hisilicon | * noted |  | * - |
| * S3-182468 | * Support of 256-bit algorithms: references | * Gemalto N.V. | * revised |  | * S3-182675 |
| * S3-182469 | * Support of 256-bit algorithms: changes | * Gemalto N.V. | * noted |  |  |
| * S3-182470 | * Updates on Security Mechanism for Steering of Roaming | * Samsung, Qualcomm Incorporated, T-Mobile USA | * agreed |  |  |
| * S3-182471 | * Mending MCC EditHelp Comments | * Deutsche Telekom AG | * approved |  |  |
| * S3-182472 | * Assignment of FC values to AEFPSK derivation | * Samsung | * merged |  | * S3-182624 |
| * S3-182473 | * Clarifications on the calculation of NAS-MAC for RRCConnection re-establishmentwith Control Plane CIoT optimisations (Rel-14) | * Qualcomm Incorporated | * revised |  | * S3-182614 |
| * S3-182474 | * Clarifications on the calculation of NAS-MAC for RRCConnection re-establishmentwith Control Plane CIoT optimisations (Rel-15) | * Qualcomm Incorporated | * revised |  | * S3-182615 |
| * S3-182475 | * Initial NAS security discussion | * Qualcomm Incorporated, DT, Vodafone, KPN | * noted |  |  |
| * S3-182476 | * Reply LS on initial NAS message protection | * Qualcomm Incorporated | * noted |  |  |
| * S3-182477 | * Moving the HASHAMF behaviour from subclause 6.7.2 to subclause 6.4.6 | * Qualcomm Incorporated | * not pursued |  |  |
| * S3-182478 | * Concurrency issues with N2 and 5G to EPS handovers | * Qualcomm Incorporated | * merged |  | * S3-182655 |
| * S3-182479 | * Correction to the concurrency rules for parallel NAS connections | * Qualcomm Incorporated | * merged |  | * S3-182656 |
| * S3-182480 | * Adding to note about ABBA to Annex A.7 that was missed in implementation of CR 0155r2 | * Qualcomm Incorporated | * not pursued |  |  |
| * S3-182481 | * Discussion on the response to the CT1 LS on provision of ngKSI to UE at EAP-Request/AKA'-Challenge | * Qualcomm Incorporated | * noted |  |  |
| * S3-182482 | * Discussion on security context handling issues when the UE is multiple registered in the same PLMN | * Qualcomm Incorporated | * noted |  |  |
| * S3-182483 | * Simplification of the UE handling of keys at handover | * Qualcomm Incorporated | * revised |  | * S3-182590 |
| * S3-182484 | * discussion on RRC Inactive security | * Qualcomm Incorporated | * noted |  |  |
| * S3-182485 | * CR on RRC Inactive | * Qualcomm Incorporated | * not pursued |  |  |
| * S3-182486 | * CR on reigstration procedure for mobility from 4G to 5G | * Qualcomm Incorporated | * revised |  | * S3-182574 |
| * S3-182487 | * K\_AMF change indication in NAS SMC | * Qualcomm Incorporated | * revised |  | * S3-182638 |
| * S3-182488 | * UP policy check | * Qualcomm Incorporated | * revised |  | * S3-182644 |
| * S3-182489 | * CR on N2 based HO | * Qualcomm Incorporated | * revised |  | * S3-182588 |
| * S3-182490 | * LS reply on security for E-UTRA connected to 5GC | * Qualcomm Incorporated | * merged |  | * S3-182538 |
| * S3-182491 | * CR on corrections on the 5GS to EPS handover procedure | * Qualcomm Incorporated | * revised |  | * S3-182579 |
| * S3-182492 | * LS on NAS parameter for 5GS to EPS HO | * Qualcomm Incorporated | * revised |  | * S3-182580 |
| * S3-182493 | * Handling of initial value of CounterSoR | * Qualcomm Incorporated | * agreed |  |  |
| * S3-182494 | * Agenda and notes of 27th June conference call on remaining Rel-15 SBA work | * Qualcomm Incorporated | * noted |  |  |
| * S3-182495 | * Assigning FC value to TS 33.122 | * Samsung | * merged |  | * S3-182623 |
| * S3-182496 | * Key Issue on PARLOS Security | * Motorola Mobility, Lenovo | * not treated |  |  |
| * S3-182497 | * Key Issue on Registration and NAS transport for trusted non-3GPP access | * Motorola Mobility, Lenovo | * not treated |  |  |
| * S3-182498 | * Key Issue on Access to 5GC from UEs that do not support NAS | * Motorola Mobility, Lenovo | * not treated |  |  |
| * S3-182499 | * [Draft] Reply LS on connection re-establishment security | * Samsung | * noted |  |  |
| * S3-182500 | * Update on InactiveMAC-I calculation | * Samsung | * agreed |  |  |
| * S3-182501 | * Mechanism to mitigate replay attack in RRC-Inactive state | * Samsung | * noted |  |  |
| * S3-182502 | * Discussion on Key Issues of FS\_SBA\_Sec | * Deutsche Telekom AG | * noted |  |  |
| * S3-182503 | * Introducing a new set of key issues to TR 33.855 | * Deutsche Telekom AG | * approved |  |  |
| * S3-182504 | * Skeleton for TS 33.513 | * Samsung | * revised |  | * S3-182595 |
| * S3-182505 | * Scope for TS 33.513 SCAS UPF | * Samsung | * approved |  |  |
| * S3-182506 | * Clarification to the protection of attributes by the SEPP | * Deutsche Telekom AG | * revised |  | * S3-182565 |
| * S3-182507 | * Clarifications to protection policies | * Deutsche Telekom AG | * revised |  | * S3-182559 |
| * S3-182508 | * New key issue on Privacy of subscriber and application user | * LG Electronics | * not treated |  |  |
| * S3-182509 | * New key issue on provisioning of CIoT devices | * LG Electronics | * not treated |  |  |
| * S3-182510 | * New key issue on flexible security of CIoT devices | * LG Electronics | * withdrawn |  |  |
| * S3-182511 | * CR for 33.501 - Editorial correction of 6.9.3 | * LG Electronics | * merged |  | * S3-182528 |
| * S3-182512 | * CR for 33.501 - Editorial correction of 6.7.2 | * LG Electronics | * agreed |  |  |
| * S3-182513 | * Clause 6.12.2-Adding Routing Indicator in SUCI | * CATT, Ericsson , Vodafone, Huawei, NEC, China Mobile, Nokia, Nokia Shanghai Bell Labs, IDEMIA | * merged | * S3-182228 | * S3-182535 |
| * S3-182514 | * Disucssion and clarification on SUCI parameters | * Huawei, Hisilicon | * noted |  |  |
| * S3-182515 | * LS on SUCI parameters clarification | * Huawei, Hisilicon | * revised |  | * S3-182536 |
| * S3-182516 | * Supporting DTLS on gNB internal and external SCTP Interfaces | * Huawei, Hisilicon, Nokia | * not pursued | * S3-182239 |  |
| * S3-182517 | * Security requirements on the CAPIF-3e/4e/5e reference points | * China Telecommunications | * withdrawn |  |  |
| * S3-182518 | * A scenario on secure communication for shared bikes | * Alibaba (China) Group., Ltd., China Mobile | * noted | * S3-182339 | * - |
| * S3-182519 | * Response to 3GPP SA2 liaison S2-183036 on ‘general status of work’ | * BBF | * noted |  |  |
| * S3-182520 | * AKMA Architecture for Non-3GPP Credential Download | * Alibaba (China) Group., Ltd., China Mobile | * noted | * S3-182395 | * - |
| * S3-182521 | * Commenting contribution on JOSE based protection of HTTP messages over N32-f (S3-182257) | * Deutsche Telekom AG | * noted |  |  |
| * S3-182522 | * Error handling for N32 Application Layer Security | * Nokia | * revised |  | * S3-182564 |
| * S3-182523 | * Comments on S3-182209 | * Qualcomm Incorporated | * noted |  |  |
| * S3-182524 | * WI Summary for 5G\_Ph1-sec | * NTT DOCOMO INC. | * revised |  | * S3-182633 |
| * S3-182525 | * Update to WID 5G SCAS | * Nokia, Nokia Shanghai Bell, Huawei, HiSilicon, China Unicom, CATT, Deutsche Telekom, ZTE, Samsung, KPN, NEC, British Telecom, China Mobile, Ericsson | * revised | * S3-182332 | * S3-182593 |
| * S3-182526 | * Discussion and pCR for identity key issue of AKMA | * China Mobile, DT, KPN, Alibaba (China) Group., Ltd. | * noted | * S3-182431 | * - |
| * S3-182527 | * Comment on: JOSE based protection of HTTP messages over N32-f (S3-182257) | * Ericsson-LG Co., LTD | * noted |  |  |
| * S3-182528 | * Collection of editorial changes | * Nokia, Nokia Shanghai Bell,LG | * agreed | * S3-182439 | * - |
| * S3-182529 | * Reply LS on BL/WLAN measurement collection in MDT | * Ericsson | * approved | * S3-182358 | * - |
| * S3-182530 | * LS to GSMA on slicing | * Huawei, HiSilicon | * approved | * S3-182268 | * - |
| * S3-182531 | * Reply to:LS on new work item "X.5Gsec-q" | * Vodafone | * approved | * - | * - |
| * S3-182532 | * Reply LS to LS on provision of ngKSI to UE at EAP-Request/AKA'-Challenge | * Huawei, Hisilicon | * approved | * S3-182448 | * - |
| * S3-182533 | * Clarification of ngKSI and ABBA parameter in 5G-AKA | * Intel Corporation (UK) Ltd | * agreed | * S3-182392 | * - |
| * S3-182534 | * Clarification for ngksi and ABBA parameter for EAP-AKA’ | * Intel Corporation (UK) Ltd,Huawei,Nokia, Nokia Shanghai Bell | * agreed | * S3-182393 | * - |
| * S3-182535 | * Privacy – adding missing detials in SUCI content and format | * CATT, Ericsson , Vodafone, Huawei, NEC, China Mobile, Nokia, Nokia Shanghai Bell Labs, IDEMIA | * agreed | * S3-182374 | * - |
| * S3-182536 | * LS on SUCI parameters clarification | * Huawei, Hisilicon | * approved | * S3-182515 | * - |
| * S3-182537 | * Performance aspects for the new 256-bit algorithms | * CATT | * noted | * S3-182251 | * - |
| * S3-182538 | * Reply LS on Security aspects of supporting LTE connected to 5GC | * Ericsson | * approved | * S3-182361 | * - |
| * S3-182539 | * Reply LS on UE identity for PO calculation | * Ericsson | * approved | * S3-182359 | * - |
| * S3-182540 | * Corrections to references related to handling of security contexts in mobility procedures | * Nokia, Nokia Shanghai Bell,ZTE | * agreed | * S3-182442 | * - |
| * S3-182541 | * Reply LS on RRC Re-establishment security | * Huawei, Hisilicon | * approved | * S3-182241 | * - |
| * S3-182542 | * Reply LS on security requirements for RRC connection release | * Huawei, Hisilicon, China Mobile | * approved | * S3-182243 | * - |
| * S3-182543 | * [MCSec] 33180 R14. Examples of MC service ID shall be URI | * Airbus DS SLC | * agreed | * S3-182107 | * - |
| * S3-182544 | * [MCSec] 33180 R15. Examples of MC service ID shall be URI | * Airbus DS SLC | * agreed | * S3-182108 | * - |
| * S3-182545 | * [MCPTT 33180 R14. Clarification for MIKEY-SAKKE values | * Airbus DS SLC | * agreed | * S3-182110 | * - |
| * S3-182546 | * [MCSec] 33180 R15. Clarification for MIKEY-SAKKE values | * Airbus DS SLC | * agreed | * S3-182111 | * - |
| * S3-182547 | * Reply LS to S3-182150 security handling when deploying UDSF | * Nokia,Nokia Shanghai Bell | * noted | * S3-182215 | * - |
| * S3-182548 | * CR to Clause 6.9.3 Removal of KSEAF storage restriction | * Nokia, Verizon, TMO-USA,Nokia Shanghai Bell | * agreed | * S3-182201 | * - |
| * S3-182549 | * CR for Addition of security requirements for external storage | * Nokia, Nokia Shanghai bell, Verizon, TMO-USA | * postponed | * S3-182202 | * - |
| * S3-182550 | * N32 solution details | * Nokia,Nokia Shanghai Bell | * agreed | * S3-182272 | * - |
| * S3-182551 | * N32 terminology and restructuring | * Ericsson | * merged | * S3-182387 | * S3-182673 |
| * S3-182552 | * N32-f context | * Ericsson | * merged | * S3-182341 | * S3-182673 |
| * S3-182553 | * N32 session key derivation and key hierarchy | * Ericsson | * merged | * S3-182380 | * S3-182550 |
| * S3-182554 | * TLS export | * Ericsson | * merged | * S3-182386 | * S3-182673 |
| * S3-182555 | * pCR to DraftCR - Protection Policies | * Deutsche Telekom | * merged | * S3-182321 | * S3-182552 |
| * S3-182556 | * [MCPTT] 33179 R13. Examples of MC service ID shall be URI | * Airbus DS SLC | * agreed | * - | * - |
| * S3-182557 | * [MCPTT] 331179 R13. Clarification for MIKEY-SAKKE values | * Airbus DS SLC | * agreed | * - | * - |
| * S3-182558 | * Revision of the modification policy in draft CR S3-181937 | * China Mobile | * merged | * S3-182433 | * S3-182673 |
| * S3-182559 | * Clarifications to protection policies | * Deutsche Telekom AG | * merged | * S3-182507 | * S3-182673 |
| * S3-182560 | * JOSE based protection of messages over N32-f | * Nokia, NCSC,Nokia Shanghai Bell | * merged | * S3-182257 | * S3-182673 |
| * S3-182561 | * On the need for error signalling in inter-PLMN communication | * Deutsche Telekom AG | * endorsed | * S3-182413 | * - |
| * S3-182562 | * LS on N32 error signalling | * Deutsche Telekom | * approved | * - | * - |
| * S3-182563 | * Error handling for SBA authentication and authorization in service layer | * China Mobile | * agreed | * S3-182447 | * - |
| * S3-182564 | * Error handling for N32 Application Layer Security | * Nokia | * merged | * S3-182522 | * S3-182550 |
| * S3-182565 | * Clarification to the protection of attributes by the SEPP | * Deutsche Telekom AG | * agreed | * S3-182506 | * - |
| * S3-182566 | * CR to remove Editor’s Note on additional claims in the access token | * Nokia,Nokia Shanghai Bell | * agreed | * S3-182318 | * - |
| * S3-182567 | * CR to remove Editor’s Note on additional parameters that may be required in step 1 of Figure 13.4.1.1-2 | * Nokia,Nokia Shanghai Bell | * agreed | * S3-182319 | * - |
| * S3-182568 | * Removal of token validation by NRF | * Ericsson,Nokia | * agreed | * S3-182383 | * - |
| * S3-182569 | * Clarification on authentication and authorization in SBA | * Huawei, Hisilicon,Ericsson, Nokia | * agreed | * S3-182452 | * - |
| * S3-182570 | * Clarifications and editorials to clause 13.1 (Transport security for service based interfaces) | * Ericsson | * agreed | * S3-182465 | * - |
| * S3-182571 | * Privacy - addressing ENs | * Ericsson | * agreed | * S3-182375 | * - |
| * S3-182572 | * LS Reply on Control Plane Solution for Steering of Roaming in 5GS | * GSMA | * postponed | * - | * - |
| * S3-182573 | * Clarification to key hierarchy | * Nokia, Nokia Shanghai Bell | * agreed | * S3-182437 | * - |
| * S3-182574 | * CR on reigstration procedure for mobility from 4G to 5G | * Qualcomm Incorporated | * agreed | * S3-182486 | * - |
| * S3-182575 | * Clarifications related to the NAS Container calculation during inter system handover | * Ericsson | * agreed | * S3-182401 | * - |
| * S3-182576 | * Removal of editor’s note on harmonization between inter and intra system handovers | * Ericsson | * agreed | * S3-182400 | * - |
| * S3-182577 | * A scenario on secure communication for shared bikes | * Alibaba (China) Group., Ltd., China Mobile | * withdrawn | * - | * - |
| * S3-182578 | * AKMA Architecture for Non-3GPP Credential Download | * Alibaba (China) Group., Ltd., China Mobile | * withdrawn | * - | * - |
| * S3-182579 | * CR on corrections on the 5GS to EPS handover procedure | * Qualcomm Incorporated | * agreed | * S3-182491 | * - |
| * S3-182580 | * LS on NAS parameter for 5GS to EPS HO | * Qualcomm Incorporated | * approved | * S3-182492 | * - |
| * S3-182581 | * Corrections and clarifications to interworking clauses | * Ericsson | * agreed | * S3-182399 | * - |
| * S3-182582 | * Addition of definitions and corrections to references | * Nokia, Nokia Shanghai Bell | * agreed | * S3-182441 | * - |
| * S3-182583 | * CR to clarify username in Annex C | * Nokia,Nokia Shanghai Bell | * agreed | * S3-182199 | * - |
| * S3-182584 | * Clause 6.7.3.2 - Modification on algorithm selection during N2 handover | * ZTE Corporation | * agreed | * S3-182181 | * - |
| * S3-182585 | * Clause 6.9.2 - Modification on security handling during handover | * ZTE Corporation,Ericsson | * agreed | * S3-182184 | * - |
| * S3-182586 | * Mobility – Rectification of NAS MAC calculation for NAS Container | * Ericsson | * agreed | * S3-182368 | * - |
| * S3-182587 | * Mobility – Rectification of how DL NAS COUNT is transferred in NAS Container | * Ericsson | * withdrawn | * - | * - |
| * S3-182588 | * CR on N2 based HO | * Qualcomm Incorporated | * agreed | * S3-182489 | * - |
| * S3-182589 | * Update on SEAF requirements | * Nokia, Nokia Shanghai Bell | * agreed | * S3-182440 | * - |
| * S3-182590 | * Simplification of the UE handling of keys at handover | * Qualcomm Incorporated | * agreed | * S3-182483 | * - |
| * S3-182591 | * Mobility – Resolving EN and corrections in AS re-keying | * Ericsson | * agreed | * S3-182366 | * - |
| * S3-182592 | * Draft TS 33.511 | * Huawei | * approved | * - | * - |
| * S3-182593 | * Update to WID 5G SCAS | * Nokia, Nokia Shanghai Bell, Huawei, HiSilicon, China Unicom, CATT, Deutsche Telekom, ZTE, Samsung, KPN, NEC, British Telecom, China Mobile, Ericsson | * agreed | * S3-182525 | * - |
| * S3-182594 | * Document Skeleton for TS 33.512, based on TS 33.116 | * Deutsche Telekom AG | * approved | * S3-182331 | * - |
| * S3-182595 | * Skeleton for TS 33.513 | * Samsung | * approved | * S3-182504 | * - |
| * S3-182596 | * Draft TS 33.513 | * Samsung | * approved | * - | * - |
| * S3-182597 | * Draft TS 33.514 | * NEC | * approved | * - | * - |
| * S3-182598 | * Skeleton for TS 33.514 SCAS UDM | * NEC Corporation | * approved | * S3-182420 | * - |
| * S3-182599 | * skeleton of TS 33515 | * Huawei, Hisilicon | * approved | * S3-182306 | * - |
| * S3-182600 | * Draft TS 33.515 | * Huawei | * approved | * - | * - |
| * S3-182601 | * [MCPTT] 33180 R15 Fix XML schema | * Motorola Solutions UK Ltd. | * agreed | * S3-182222 | * - |
| * S3-182602 | * Alignment of terminology in RRCConnctionReestablsihment Procedure in R14 | * Huawei, Hisilicon | * agreed | * S3-182298 | * - |
| * S3-182603 | * Alignment of terminology in RRCConnctionReestablsihment Procedure in R15 | * Huawei, Hisilicon | * agreed | * S3-182299 | * - |
| * S3-182604 | * LTE EDT - Updates in suspend/resume | * Ericsson | * agreed | * S3-182349 | * - |
| * S3-182605 | * LS on security aspects of EDT | * Ericsson | * approved | * - | * - |
| * S3-182606 | * Update NDS/IP scope with application layer crypto profiles | * Juniper Networks | * agreed | * S3-182167 | * - |
| * S3-182607 | * Update NDS/IP scope with application layer crypto profiles | * Juniper Networks | * withdrawn | * - | * - |
| * S3-182608 | * Clarify NDS/AF intro regarding crypto profiles | * Juniper Networks | * agreed | * S3-182169 | * - |
| * S3-182609 | * Clarify NDS/AF intro regarding crypto profiles | * Juniper Networks | * withdrawn | * - | * - |
| * S3-182610 | * Modifications on Security procedures for API invoker onboarding | * Huawei, Hisilicon | * agreed | * S3-182276 | * - |
| * S3-182611 | * EDCE5 security requirements and corresponding test cases for MeNB | * Huawei, Hisilicon | * withdrawn | * - | * - |
| * S3-182612 | * Clarifications in TS 33117 | * Huawei, Hisilicon | * agreed | * S3-182316 | * - |
| * S3-182613 | * Generic description of security elements | * Nokia, Nokia Shanghai Bell | * agreed | * S3-182436 | * - |
| * S3-182614 | * Clarifications on the calculation of NAS-MAC for RRCConnection re-establishmentwith Control Plane CIoT optimisations (Rel-14) | * Qualcomm Incorporated | * agreed | * S3-182473 | * - |
| * S3-182615 | * Clarifications on the calculation of NAS-MAC for RRCConnection re-establishmentwith Control Plane CIoT optimisations (Rel-15) | * Qualcomm Incorporated | * agreed | * S3-182474 | * - |
| * S3-182616 | * LS on using same counters in EDCE5 | * Ericsson | * approved | * - | * - |
| * S3-182617 | * Reply to: LS on CAPIF4xMB | * Samsung | * approved | * - | * - |
| * S3-182618 | * Security requirements for API invoker onboarding and offboarding | * Huawei, Hisilicon | * agreed | * S3-182275 | * - |
| * S3-182619 | * Clarification on Security protections in CAPIF-1 and CAPIF-2 reference point | * Huawei, Hisilicon | * agreed | * S3-182277 | * - |
| * S3-182620 | * [CAPIF\_Sec] 33122 R15 access token profile | * Motorola Solutions UK Ltd. | * agreed | * S3-182216 | * - |
| * S3-182621 | * Clarification on access token verification | * Huawei, Hisilicon | * agreed | * S3-182278 | * - |
| * S3-182622 | * [CAPIF-Sec] 33122 correct note in clause 6.5.2.1 | * Motorola Solutions UK Ltd. | * agreed | * S3-182218 | * - |
| * S3-182623 | * FC value in TS 33.220 | * Huawei, Hisilicon | * agreed | * S3-182280 | * - |
| * S3-182624 | * Adding FC value to TS 33.122 | * Huawei, Hisilicon | * agreed | * S3-182281 | * - |
| * S3-182625 | * Study of KDF negotiation for 5G System Security | * Huawei, Hisilicon, | * agreed | * S3-182244 | * - |
| * S3-182626 | * Adding BEST Support for non-IP PDN Connections that Terminate at the SCEF | * Convida Wireless, InterDigital, Inc. | * agreed | * S3-182119 | * - |
| * S3-182627 | * CR to TS 33.163 (BEST) - correction of Tag values | * Vodafone España SA | * agreed | * S3-182456 | * - |
| * S3-182628 | * Discussion and pCR for identity key issue of AKMA | * China Mobile, DT, KPN, Alibaba (China) Group., Ltd. | * withdrawn | * - | * - |
| * S3-182629 | * Reply to: LS OUT on OAuth 2.0 | * Ericsson | * approved | * - | * - |
| * S3-182630 | * Reply to: LS OUT on TLS and inter PLMN routing | * NTT-Docomo | * approved | * - | * - |
| * S3-182631 | * EPC solution for RLOS access | * Intel Corporation (UK) Ltd | * withdrawn | * - | * - |
| * S3-182632 | * Reply to: LS on initial NAS message protection | * NTT-Docomo | * approved | * - | * - |
| * S3-182633 | * WI Summary for 5G\_Ph1-sec | * NTT DOCOMO INC. | * endorsed | * S3-182524 | * - |
| * S3-182634 | * Study on 5G security enhancement against false base stations | * Apple Computer Trading Co. Ltd | * revised | * S3-182249 | * S3-182704 |
| * S3-182635 | * Clause 5.2.5 - Modification on subscriber privacy | * ZTE Corporation | * agreed | * S3-182171 | * - |
| * S3-182636 | * Mobility – Corrections for usage of local policy at AMF | * Ericsson,ZTE,Nokia | * agreed | * S3-182367 | * - |
| * S3-182637 | * LS on security issues on Multi NAS scenarios | * Qualcomm | * approved | * - | * - |
| * S3-182638 | * K\_AMF change indication in NAS SMC | * Qualcomm Incorporated,Ericsson | * agreed | * S3-182487 | * - |
| * S3-182639 | * Use the old KRRCint for calculation of the security token in MSG3 | * Ericsson | * agreed | * S3-182377 | * - |
| * S3-182640 | * Reply LS on inactive security | * Ericsson | * approved | * S3-182354 | * - |
| * S3-182641 | * CR to add a missing step to discover an NF producer instance during Access Token Request | * Nokia,Nokia Shanghai Bell,Ericsson,Huawei | * agreed | * S3-182273 | * - |
| * S3-182642 | * CR to add Access Token Request procedure for a specific NF service producer | * Nokia,Nokia Shanghai Bell | * agreed | * S3-182274 | * - |
| * S3-182643 | * CR on mandatory ciphering of access tokens by NRF in inter-PLMN scenarios | * Nokia,Nokia Shanghai Bell | * withdrawn | * - | * - |
| * S3-182644 | * UP policy check | * Qualcomm Incorporated,ZTE,CATT | * agreed | * S3-182488 | * - |
| * S3-182645 | * Clause 6.6.2 - Modification on UP security activation mechanism | * ZTE Corporation | * agreed | * S3-182180 | * - |
| * S3-182646 | * Algorithm Negotiation for Unauthenticated UEs in LSM | * Huawei, HiSilicon, China Mobile.Ericsson | * agreed | * S3-182237 | * - |
| * S3-182647 | * Clarifications in TS 33117 | * Huawei, Hisilicon | * agreed | * - | * - |
| * S3-182648 | * DC - definition corrections | * Ericsson,CATT | * agreed | * S3-182350 | * - |
| * S3-182649 | * Other Security Procedures for Dual Connectivity | * Huawei, HiSilicon,Ericsson,CATT | * agreed | * S3-182260 | * - |
| * S3-182650 | * Align AS SMC procedure with SA2 and RAN3 | * Huawei, Hisilicon | * agreed | * S3-182301 | * - |
| * S3-182651 | * CR to delete ENs in clause 5.3 gNB Requirements | * Nokia, Nokia Shanghai Bell | * agreed | * S3-182205 | * - |
| * S3-182652 | * Update of definition of 5G AS security context for 3GPP access | * Ericsson | * agreed | * S3-182376 | * - |
| * S3-182653 | * Define and clarify ABBA parameter | * Nokia, Nokia Shanghai Bell | * agreed | * S3-182209 | * - |
| * S3-182654 | * Multiple NAS connections: taking a new security context into use on non-3GPP access | * Ericsson | * agreed | * S3-182411 | * - |
| * S3-182655 | * Clause 6.9.5.1 - Add rule for concurrent running of security procedures | * ZTE Corporation,Qualcomm | * agreed | * S3-182193 | * - |
| * S3-182656 | * Clause 6.9.5.2 - Modify rule for concurrent running of security procedures | * ZTE Corporation,Ericsson,Qualcomm | * agreed | * S3-182194 | * - |
| * S3-182657 | * Editorial corrections to TS 33.501 | * Huawei, Hisilicon | * agreed | * S3-182279 | * - |
| * S3-182658 | * Corrections on primary authentication | * Huawei, Hisilicon | * agreed | * S3-182284 | * - |
| * S3-182659 | * Removal of Note 2a on Kausf use case restriction | * NEC Corporation | * agreed | * S3-182417 | * - |
| * S3-182660 | * Clarification on Storage of SUPI at SEAF | * NEC Corporation | * withdrawn | * - | * - |
| * S3-182661 | * LS-out-to-SA2-on secondary re-authentication | * Huawei, HiSilicon | * approved | * S3-182270 | * - |
| * S3-182662 | * Correction of Note on physical protection for NDS/IP use | * Ericsson | * agreed | * S3-182403 | * - |
| * S3-182663 | * Protection of non SBA interfaces internal to 5G core. | * Deutsche Telecom AG | * agreed | * - | * - |
| * S3-182664 | * Editorial changes to clause 9 | * Nokia, Nokia Shanghai Bell | * agreed | * S3-182438 | * - |
| * S3-182665 | * SID on Enhanced network Slicing | * Nokia, Nokia Shanghai Bell,NEC, Huawei, HiSilicon,Motorola Mobility, Lenovo | * agreed | * S3-182212 | * - |
| * S3-182666 | * Mobility – Clarification in intra-gNB-CU handover | * Ericsson | * agreed | * S3-182363 | * - |
| * S3-182667 | * LS on calculation of inactive MAC-I token | * Samsung | * approved | * - | * - |
| * S3-182668 | * LS on inidication for keys syncronization | * ZTE | * approved | * - | * - |
| * S3-182669 | * revised WID 5G Phase one security | * NTT-Docomo | * agreed | * - | * - |
| * S3-182670 | * Adding OAuth related authorization services for SBA security | * Huawei, Hisilicon | * agreed | * S3-182453 | * - |
| * S3-182671 | * New WID on security aspects of single radio voice continuity from 5G to 3G | * China Unicom, Huawei, HiSilicon, ZTE, CATT, OPPO | * noted | * S3-182334 | * - |
| * S3-182672 | * Draft CR on Application layer security on the N32 interface | * Nokia | * revised | * - | * S3-182673 |
| * S3-182673 | * Draft CR on Application layer security on the N32 interface | * Nokia | * approved | * S3-182672 | * - |
| * S3-182674 | * LS on Specification of the EAS-C/U interfaces for BEST | * InterDigital, Inc. | * approved | * S3-182120 | * - |
| * S3-182675 | * Support of 256-bit algorithms: references | * Gemalto N.V. | * approved | * S3-182468 | * - |
| * S3-182676 | * Draft TR 33.841 | * Vodafone | * approved | * - | * - |
| * S3-182677 | * Study on the supporting of perfect forward secrecy for 5G Authentication and Key Agreement Protocols | * Huawei | * withdrawn | * - | * - |
| * S3-182678 | * New SID on Security of the enhancement to the 5GC location services | * CATT | * agreed | * S3-182250 | * - |
| * S3-182679 | * The SID on security for 5G URLLC | * Huawei, HiSilicon | * agreed | * S3-182265 | * - |
| * S3-182680 | * Clarification to support of authentication methods | * Nokia, Nokia Shanghai Bell | * not pursued | * S3-182443 | * - |
| * S3-182681 | * New SID on SECAM and SCAS for 3GPP virtualized network products | * China Mobile, Nokia, Nokia Shanghai Bell, China Unicom, CAICT, CATT, ZTE | * agreed | * S3-182427 | * - |
| * S3-182682 | * Study on Security for 5GS Enhanced support of Vertical and LAN Services | * Nokia, Nokia Shanghai Bell | * agreed | * S3-182445 | * - |
| * S3-182683 | * TR 33.855 | * Deutsche Telekom | * approved | * - | * - |
| * S3-182684 | * a proposal for the key issue on protecting the SRVCC capability of TR33.856 | * Huawei, Hisilicon | * approved | * S3-182289 | * - |
| * S3-182685 | * Draft TR 33.856 | * China Unicom | * approved | * - | * - |
| * S3-182686 | * a proposal for protecting the SRVCC capability of TR33.856 | * Huawei, Hisilicon | * approved | * S3-182290 | * - |
| * S3-182687 | * evaluation of solution 1.1 for KI#1 | * Huawei, Hisilicon | * approved | * S3-182288 | * - |
| * S3-182688 | * Evaluation for solution #1.1 | * China Unicom | * approved | * S3-182336 | * - |
| * S3-182689 | * Evaluation for solution #1.2 | * China Unicom | * approved | * S3-182338 | * - |
| * S3-182690 | * Evaluation for solution #1.3 | * China Unicom | * approved | * S3-182347 | * - |
| * S3-182691 | * conclusion for key issue on protecting the SRVCC capability in initial NAS message | * Huawei, Hisilicon | * approved | * S3-182291 | * - |
| * S3-182692 | * Propose the content of conclusions | * China Unicom | * approved | * S3-182391 | * - |
| * S3-182693 | * editorial modification on TR33.856 | * Huawei, Hisilicon | * approved | * S3-182286 | * - |
| * S3-182694 | * Key Issue on Authentication | * Huawei, Hisilicon | * withdrawn | * - | * - |
| * S3-182695 | * Key Issue on secure communication between UE and 3rd party application server | * China Mobile | * noted | * - | * - |
| * S3-182696 | * LTKUP: solution#5 evaluation | * Gemalto N.V. | * approved | * S3-182466 | * - |
| * S3-182697 | * Clarifications in clause 13.5 | * Ericsson | * agreed | * - | * - |
| * S3-182698 | * SA3 meeting calendar | * MCC | * noted | * S3-182104 | * - |
| * S3-182699 | * Work Plan input from Rapporteurs | * MCC | * noted | * S3-182105 | * - |
| * S3-182700 | * Application layer security on the N32 interface | * Nokia | * agreed | * - | * - |
| * S3-182701 | * Update to LS on Implementation of NESAS Pilot Findings in SCAS specifications | * Nokia, Nokia Shanghai Bell | * approved | * S3-182346 | * - |
| * S3-182702 | * Draft TR 33.834 | * Vodafone | * approved | * - | * - |
| * S3-182703 | * Cover sheet for TR 33.856 | * China Unicom | * approved | * - | * - |
| * S3-182704 | * Study on 5G security enhancement against false base stations | * Apple Computer Trading Co. Ltd | * agreed | * S3-182634 | * - |

## Annex B: List of change requests

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Document | Title | Source | Spec | CR | Rev | Rel | Cat | WI | Decision |
| * S3-182316 | * Clarifications in TS 33117 | * Huawei, Hisilicon | * 33.117 | * 0006 | * - | * Rel-15 | * F | * SCAS | * revised |
| * S3-182612 | * Clarifications in TS 33117 | * Huawei, Hisilicon | * 33.117 | * 0006 | * 1 | * Rel-15 | * A | * SCAS | * agreed |
| * S3-182647 | * Clarifications in TS 33117 | * Huawei, Hisilicon | * 33.117 | * 0007 | * - | * Rel-14 | * F | * SCAS | * agreed |
| * S3-182216 | * [CAPIF\_Sec] 33122 R15 access token profile | * Motorola Solutions UK Ltd. | * 33.122 | * 0001 | * - | * Rel-15 | * F | * CAPIF-Sec | * revised |
| * S3-182620 | * [CAPIF\_Sec] 33122 R15 access token profile | * Motorola Solutions UK Ltd. | * 33.122 | * 0001 | * 1 | * Rel-15 | * B | * CAPIF-Sec | * agreed |
| * S3-182217 | * [CAPIF-Sec] 33122 R15 FC values for CAPIF | * Motorola Solutions UK Ltd. | * 33.122 | * 0002 | * - | * Rel-15 | * F | * CAPIF-Sec | * withdrawn |
| * S3-182218 | * [CAPIF-Sec] 33122 correct note in clause 6.5.2.1 | * Motorola Solutions UK Ltd. | * 33.122 | * 0003 | * - | * Rel-15 | * F | * CAPIF-Sec | * revised |
| * S3-182622 | * [CAPIF-Sec] 33122 correct note in clause 6.5.2.1 | * Motorola Solutions UK Ltd. | * 33.122 | * 0003 | * 1 | * Rel-15 | * F | * CAPIF-Sec | * agreed |
| * S3-182236 | * Removal of comment texts | * NEC Corporation | * 33.122 | * 0004 | * - | * Rel-15 | * D | * CAPIF-Sec | * not pursued |
| * S3-182275 | * Security requirements for API invoker onboarding and offboarding | * Huawei, Hisilicon | * 33.122 | * 0005 | * - | * Rel-15 | * F | * CAPIF-Sec | * revised |
| * S3-182618 | * Security requirements for API invoker onboarding and offboarding | * Huawei, Hisilicon | * 33.122 | * 0005 | * 1 | * Rel-15 | * B | * CAPIF-Sec | * agreed |
| * S3-182276 | * Modifications on Security procedures for API invoker onboarding | * Huawei, Hisilicon | * 33.122 | * 0006 | * - | * Rel-15 | * F | * CAPIF-Sec | * revised |
| * S3-182610 | * Modifications on Security procedures for API invoker onboarding | * Huawei, Hisilicon | * 33.122 | * 0006 | * 1 | * Rel-15 | * F | * CAPIF-Sec | * agreed |
| * S3-182277 | * Clarification on Security protections in CAPIF-1 and CAPIF-2 reference point | * Huawei, Hisilicon | * 33.122 | * 0007 | * - | * Rel-15 | * F | * CAPIF-Sec | * revised |
| * S3-182619 | * Clarification on Security protections in CAPIF-1 and CAPIF-2 reference point | * Huawei, Hisilicon | * 33.122 | * 0007 | * 1 | * Rel-15 | * F | * CAPIF-Sec | * agreed |
| * S3-182278 | * Clarification on access token verification | * Huawei, Hisilicon | * 33.122 | * 0008 | * - | * Rel-15 | * F | * CAPIF-Sec | * revised |
| * S3-182621 | * Clarification on access token verification | * Huawei, Hisilicon | * 33.122 | * 0008 | * 1 | * Rel-15 | * F | * CAPIF-Sec | * agreed |
| * S3-182281 | * Adding FC value to TS 33.122 | * Huawei, Hisilicon | * 33.122 | * 0009 | * - | * Rel-15 | * F | * CAPIF-Sec | * revised |
| * S3-182624 | * Adding FC value to TS 33.122 | * Huawei, Hisilicon | * 33.122 | * 0009 | * 1 | * Rel-15 | * F | * CAPIF-Sec | * agreed |
| * S3-182282 | * Access token profile | * Huawei, Hisilicon | * 33.122 | * 0010 | * - | * Rel-15 | * F | * CAPIF-Sec | * merged |
| * S3-182472 | * Assignment of FC values to AEFPSK derivation | * Samsung | * 33.122 | * 0011 | * - | * Rel-15 | * F | * CAPIF-Sec | * merged |
| * S3-182517 | * Security requirements on the CAPIF-3e/4e/5e reference points | * China Telecommunications | * 33.122 | * 0012 | * - | * Rel-15 | * C | * CAPIF-Sec | * withdrawn |
| * S3-182119 | * Adding BEST Support for non-IP PDN Connections that Terminate at the SCEF | * Convida Wireless, InterDigital, Inc. | * 33.163 | * 0004 | * - | * Rel-16 | * B | * BEST\_MTC\_Sec,TEI16 | * revised |
| * S3-182626 | * Adding BEST Support for non-IP PDN Connections that Terminate at the SCEF | * Convida Wireless, InterDigital, Inc. | * 33.163 | * 0004 | * 1 | * Rel-16 | * B | * BEST\_MTC\_Sec,TEI16 | * agreed |
| * S3-182456 | * CR to TS 33.163 (BEST) - correction of Tag values | * Vodafone España SA | * 33.163 | * 0005 | * - | * Rel-15 | * F | * BEST\_MTC\_Sec | * revised |
| * S3-182627 | * CR to TS 33.163 (BEST) - correction of Tag values | * Vodafone España SA | * 33.163 | * 0005 | * 1 | * Rel-15 | * F | * BEST\_MTC\_Sec | * agreed |
| * S3-182457 | * CR to TS33.163 (BEST) - clarification of error conditions | * Vodafone España SA | * 33.163 | * 0006 | * - | * Rel-15 | * F | * BEST\_MTC\_Sec | * withdrawn |
| * S3-182458 | * CR to 33.163 - Clarification as to when the Serving Network TLV is required | * Vodafone España SA | * 33.163 | * 0007 | * - | * Rel-15 | * F | * BEST\_MTC\_Sec | * agreed |
| * S3-182220 | * [MCPTT] 33179 R13 Fix XML schema | * Motorola Solutions UK Ltd. | * 33.179 | * 0033 | * - | * Rel-13 | * F | * MCPTT | * agreed |
| * S3-182556 | * [MCPTT] 33179 R13. Examples of MC service ID shall be URI | * Airbus DS SLC | * 33.179 | * 0095 | * - | * Rel-13 | * F | * MCPTT | * agreed |
| * S3-182557 | * [MCPTT] 331179 R13. Clarification for MIKEY-SAKKE values | * Airbus DS SLC | * 33.179 | * 0096 | * - | * Rel-13 | * F | * MCPTT | * agreed |
| * S3-182107 | * [MCSec] 33180 R14. Examples of MC service ID shall be URI | * Airbus DS SLC | * 33.180 | * 0085 | * - | * Rel-14 | * F | * MCSec | * revised |
| * S3-182543 | * [MCSec] 33180 R14. Examples of MC service ID shall be URI | * Airbus DS SLC | * 33.180 | * 0085 | * 1 | * Rel-14 | * F | * MCSec | * agreed |
| * S3-182108 | * [MCSec] 33180 R15. Examples of MC service ID shall be URI | * Airbus DS SLC | * 33.180 | * 0086 | * - | * Rel-15 | * A | * MCSec | * revised |
| * S3-182544 | * [MCSec] 33180 R15. Examples of MC service ID shall be URI | * Airbus DS SLC | * 33.180 | * 0086 | * 1 | * Rel-15 | * A | * McSec | * agreed |
| * S3-182110 | * [MCSec] 33180 R14. Clarification for MIKEY-SAKKE values | * Airbus DS SLC | * 33.180 | * 0087 | * - | * Rel-14 | * F | * MCSec | * revised |
| * S3-182545 | * [MCPTT 33180 R14. Clarification for MIKEY-SAKKE values | * Airbus DS SLC | * 33.180 | * 0087 | * 1 | * Rel-14 | * F | * MCSec | * agreed |
| * S3-182111 | * [MCSec] 33180 R15. Clarification for MIKEY-SAKKE values | * Airbus DS SLC | * 33.180 | * 0088 | * - | * Rel-15 | * A | * MCSec | * revised |
| * S3-182546 | * [MCSec] 33180 R15. Clarification for MIKEY-SAKKE values | * Airbus DS SLC | * 33.180 | * 0088 | * 1 | * Rel-15 | * A | * MCSec | * agreed |
| * S3-182112 | * [MCSec] 33180 R15. Clarification for MIKEY-SAKKE values | * Airbus DS SLC | * 33.180 | * 0089 | * - | * Rel-15 | * A | * MCSec | * withdrawn |
| * S3-182221 | * [MCSec] 33180 R14 Fix XML schema | * Motorola Solutions UK Ltd. | * 33.180 | * 0090 | * - | * Rel-14 | * F | * MCSec | * agreed |
| * S3-182222 | * [MCPTT] 33180 R15 Fix XML schema (mirror) | * Motorola Solutions UK Ltd. | * 33.180 | * 0091 | * - | * Rel-15 | * F | * MCPTT | * revised |
| * S3-182601 | * [MCPTT] 33180 R15 Fix XML schema | * Motorola Solutions UK Ltd. | * 33.180 | * 0091 | * 1 | * Rel-15 | * A | * MCSec | * agreed |
| * S3-182223 | * [MCSec] 33180 R14 FC values for MCData | * Motorola Solutions UK Ltd. | * 33.180 | * 0092 | * - | * Rel-14 | * F | * MCSec | * agreed |
| * S3-182224 | * [MCSec] 33180 R15 FC values for MCData (mirror) | * Motorola Solutions UK Ltd. | * 33.180 | * 0093 | * - | * Rel-15 | * A | * MCSec | * agreed |
| * S3-182225 | * [MCSec] 33180 R15 registered media type | * Motorola Solutions UK Ltd. | * 33.180 | * 0094 | * - | * Rel-15 | * F | * eMCSec | * agreed |
| * S3-182167 | * Update NDS/IP scope with application layer crypto profiles | * Juniper Networks | * 33.210 | * 0050 | * - | * Rel-15 | * F | * SEC1-NDS | * revised |
| * S3-182606 | * Update NDS/IP scope with application layer crypto profiles | * Juniper Networks | * 33.210 | * 0050 | * 1 | * Rel-15 | * B | * 5GS\_Ph1-SEC | * agreed |
| * S3-182168 | * Update NDS/IP scope with application layer crypto profiles | * Juniper Networks | * 33.210 | * 0051 | * - | * Rel-16 | * D | * SEC1-NDS | * not pursued |
| * S3-182607 | * Update NDS/IP scope with application layer crypto profiles | * Juniper Networks | * 33.210 | * 0051 | * 1 | * Rel-16 | * B | * TEI16 | * withdrawn |
| * S3-182198 | * JWE and JWS profiles | * Ericsson | * 33.210 | * 0052 | * - | * Rel-15 | * F | * TEI15 | * merged |
| * S3-182308 | * EDCE5 security requirements and corresponding test cases for MeNB | * Huawei, Hisilicon | * 33.216 | * 0001 | * - | * Rel-15 | * F | * SCAS\_eNB | * not pursued |
| * S3-182611 | * EDCE5 security requirements and corresponding test cases for MeNB | * Huawei, Hisilicon | * 33.216 | * 0001 | * 1 | * Rel-15 | * B | * SCAS\_eNB | * withdrawn |
| * S3-182219 | * [CAPIF-Sec] 33220 R15 FC values for CAPIF | * Motorola Solutions UK Ltd. | * 33.220 | * 0192 | * - | * Rel-15 | * F | * CAPIF-Sec | * withdrawn |
| * S3-182226 | * [MCSec] 33220 R14 FC values for MCData | * Motorola Solutions UK Ltd. | * 33.220 | * 0193 | * - | * Rel-14 | * F | * MCSec | * agreed |
| * S3-182227 | * [MCSec] 33220 R15 FC values for MCData (mirror) | * Motorola Solutions UK Ltd. | * 33.220 | * 0194 | * - | * Rel-15 | * A | * MCSec | * agreed |
| * S3-182280 | * FC value in TS 33.220 | * Huawei, Hisilicon | * 33.220 | * 0195 | * - | * Rel-15 | * F | * TEI15 | * revised |
| * S3-182623 | * FC value in TS 33.220 | * Huawei, Hisilicon | * 33.220 | * 0195 | * 1 | * Rel-15 | * F | * TEI15 | * agreed |
| * S3-182495 | * Assigning FC value to TS 33.122 | * Samsung | * 33.220 | * 0196 | * - | * Rel-15 | * F | * CAPIF-Sec | * merged |
| * S3-182169 | * Clarify NDS/AF intro regarding crypto profiles | * Juniper Networks | * 33.310 | * 0095 | * - | * Rel-15 | * D | * SEC1-NDS | * revised |
| * S3-182608 | * Clarify NDS/AF intro regarding crypto profiles | * Juniper Networks | * 33.310 | * 0095 | * 1 | * Rel-15 | * C | * 5GS\_Ph1-SEC | * agreed |
| * S3-182170 | * Clarify NDS/AF intro regarding crypto profiles | * Juniper Networks | * 33.310 | * 0096 | * - | * Rel-16 | * D | * SEC1-NDS | * noted |
| * S3-182609 | * Clarify NDS/AF intro regarding crypto profiles | * Juniper Networks | * 33.310 | * 0096 | * 1 | * Rel-16 | * B | * TEI16 | * withdrawn |
| * S3-182298 | * Alignment of terminology in RRCConnctionReestablsihment Procedure in R14 | * Huawei, Hisilicon | * 33.401 | * 0661 | * - | * Rel-14 | * F | * TEI14 | * revised |
| * S3-182602 | * Alignment of terminology in RRCConnctionReestablsihment Procedure in R14 | * Huawei, Hisilicon | * 33.401 | * 0661 | * 1 | * Rel-14 | * F | * TEI14 | * agreed |
| * S3-182299 | * Alignment of terminology in RRCConnctionReestablsihment Procedure in R15 | * Huawei, Hisilicon | * 33.401 | * 0662 | * - | * Rel-15 | * A | * TEI14 | * revised |
| * S3-182603 | * Alignment of terminology in RRCConnctionReestablsihment Procedure in R15 | * Huawei, Hisilicon | * 33.401 | * 0662 | * 1 | * Rel-15 | * A | * TEI14 | * agreed |
| * S3-182348 | * EDCE5 – Fixing contradicting and insecure scg/sk counter handling in 33.401 from 36.331 | * Ericsson | * 33.401 | * 0663 | * - | * Rel-15 | * F | * EDCE5 | * not pursued |
| * S3-182349 | * LTE EDT - Updates in suspend/resume | * Ericsson | * 33.401 | * 0664 | * - | * Rel-15 | * B | * LTE\_eMTC4-Core, NB\_IOTenh2-Core | * revised |
| * S3-182604 | * LTE EDT - Updates in suspend/resume | * Ericsson | * 33.401 | * 0664 | * 1 | * Rel-15 | * B | * TEI15 | * agreed |
| * S3-182473 | * Clarifications on the calculation of NAS-MAC for RRCConnection re-establishmentwith Control Plane CIoT optimisations (Rel-14) | * Qualcomm Incorporated | * 33.401 | * 0665 | * - | * Rel-14 | * F | * TEI14 | * revised |
| * S3-182614 | * Clarifications on the calculation of NAS-MAC for RRCConnection re-establishmentwith Control Plane CIoT optimisations (Rel-14) | * Qualcomm Incorporated | * 33.401 | * 0665 | * 1 | * Rel-14 | * F | * TEI14 | * agreed |
| * S3-182474 | * Clarifications on the calculation of NAS-MAC for RRCConnection re-establishmentwith Control Plane CIoT optimisations (Rel-15) | * Qualcomm Incorporated | * 33.401 | * 0666 | * - | * Rel-15 | * A | * TEI14 | * revised |
| * S3-182615 | * Clarifications on the calculation of NAS-MAC for RRCConnection re-establishmentwith Control Plane CIoT optimisations (Rel-15) | * Qualcomm Incorporated | * 33.401 | * 0666 | * 1 | * Rel-15 | * A | * TEI14 | * agreed |
| * S3-182438 | * Editorial changes to clause 9 | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0154 | * 2 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182664 | * Editorial changes to clause 9 | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0154 | * 3 | * Rel-15 | * D | * 5GS\_Ph1-SEC | * agreed |
| * S3-182436 | * Generic description of security elements | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0221 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182613 | * Generic description of security elements | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0221 | * 2 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182440 | * Update on SEAF requirements | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0223 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182589 | * Update on SEAF requirements | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0223 | * 2 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182164 | * Protection of the N4 Interface | * Juniper Networks, Deutsche Telecom AG | * 33.501 | * 0228 | * - | * Rel-15 | * B | * 5GS\_Ph1-SEC | * not pursued |
| * S3-182165 | * Protection of the N9 Interface | * Juniper Networks, Deutsche Telecom AG | * 33.501 | * 0229 | * - | * Rel-15 | * B | * 5GS\_Ph1-SEC | * not pursued |
| * S3-182171 | * Clause 5.2.5 - Modification on subscriber privacy | * ZTE Corporation | * 33.501 | * 0230 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182635 | * Clause 5.2.5 - Modification on subscriber privacy | * ZTE Corporation | * 33.501 | * 0230 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182172 | * Clause 5.8.2 - Modification on requirement on UDM storing key pair identifier | * ZTE Corporation | * 33.501 | * 0231 | * - | * Rel-15 | * D | * 5GS\_Ph1-SEC | * not pursued |
| * S3-182173 | * Clause 5.9.3.3 - Modification on integrity requirement on N32 | * ZTE Corporation | * 33.501 | * 0232 | * - | * Rel-15 | * F | * FS\_NSA | * not pursued |
| * S3-182174 | * Clause 6.1.2 - Modification on figure of initiation of authentication | * ZTE Corporation | * 33.501 | * 0233 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * not pursued |
| * S3-182175 | * Clause 6.3.1 - Modification on security context handling | * ZTE Corporation | * 33.501 | * 0234 | * - | * Rel-15 | * D | * FS\_NSA | * merged |
| * S3-182177 | * Clause 6.4.2.2 - Clarification on AMF sending NAS SMC over both access types | * ZTE Corporation | * 33.501 | * 0235 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * not pursued |
| * S3-182178 | * Clause 6.4.5 - Editorial modification on NAS COUNT handling | * ZTE Corporation | * 33.501 | * 0236 | * - | * Rel-15 | * D | * 5GS\_Ph1-SEC | * agreed |
| * S3-182179 | * Clause 6.6.1 - Modification on UP security policy | * ZTE Corporation | * 33.501 | * 0237 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * merged |
| * S3-182180 | * Clause 6.6.2 - Modification on UP security activation mechanism | * ZTE Corporation | * 33.501 | * 0238 | * - | * Rel-15 | * D | * 5GS\_Ph1-SEC | * revised |
| * S3-182645 | * Clause 6.6.2 - Modification on UP security activation mechanism | * ZTE Corporation | * 33.501 | * 0238 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182181 | * Clause 6.7.3.2 - Modification on algorithm selection during N2 handover | * ZTE Corporation | * 33.501 | * 0239 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182584 | * Clause 6.7.3.2 - Modification on algorithm selection during N2 handover | * ZTE Corporation | * 33.501 | * 0239 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182182 | * Clause 6.7.3.5 - Correct reference for RNA update procedure | * ZTE Corporation | * 33.501 | * 0240 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182183 | * Clause 6.8.2.1.3 - Modification on State transition from RRC-INACTIVE to RRC-CONNECTED | * ZTE Corporation | * 33.501 | * 0241 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * not pursued |
| * S3-182184 | * Clause 6.9.2 - Modification on security handling during handover | * ZTE Corporation | * 33.501 | * 0242 | * - | * Rel-15 | * D | * 5GS\_Ph1-SEC | * revised |
| * S3-182585 | * Clause 6.9.2 - Modification on security handling during handover | * ZTE Corporation,Ericsson | * 33.501 | * 0242 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182185 | * Clause 6.9.2.1.2, 6.9.2.2 - Editorial modification on NAS during handover | * ZTE Corporation | * 33.501 | * 0243 | * - | * Rel-15 | * D | * 5GS\_Ph1-SEC | * not pursued |
| * S3-182186 | * Clause 6.9.3 - Editorial modification on mobile registration update – AMF handling | * ZTE Corporation | * 33.501 | * 0244 | * - | * Rel-15 | * D | * 5GS\_Ph1-SEC | * merged |
| * S3-182188 | * Clause 6.9.3 - Add multi-NAS connections consideration for mobile registration update – AMF handling | * ZTE Corporation | * 33.501 | * 0245 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * not pursued |
| * S3-182189 | * Clause 6.9.3, 6.3.2.2 - Modification on mobile registration update – UE handling | * ZTE Corporation | * 33.501 | * 0246 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * not pursued |
| * S3-182191 | * Clause 6.9.2.3.3 - Correct indication on N14 during N2 HO | * ZTE Corporation | * 33.501 | * 0247 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * merged |
| * S3-182192 | * Clause 6.9.3 - Add description for mobile registration update when NAS SMC has been performed – AMF handling | * ZTE Corporation | * 33.501 | * 0248 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * not pursued |
| * S3-182193 | * Clause 6.9.5.1 - Add rule for concurrent running of security procedures | * ZTE Corporation | * 33.501 | * 0249 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182655 | * Clause 6.9.5.1 - Add rule for concurrent running of security procedures | * ZTE Corporation,Qualcomm | * 33.501 | * 0249 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182194 | * Clause 6.9.5.2 - Modify rule for concurrent running of security procedures | * ZTE Corporation | * 33.501 | * 0250 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182656 | * Clause 6.9.5.2 - Modify rule for concurrent running of security procedures | * ZTE Corporation,Ericsson,Qualcomm | * 33.501 | * 0250 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182199 | * CR to clarify username in Annex C | * Nokia,Nokia Shanghai Bell | * 33.501 | * 0251 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182583 | * CR to clarify username in Annex C | * Nokia,Nokia Shanghai Bell | * 33.501 | * 0251 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182200 | * Deletion of Requester ID from ‘Nausf\_UEAuthentication\_authenticate’ | * Nokia,Nokia Shanghai Bell | * 33.501 | * 0252 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182201 | * CR to Clause 6.9.3 Removal of KSEAF storage restriction | * Nokia, Verizon, TMO-USA,Nokia Shanghai Bell | * 33.501 | * 0253 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182548 | * CR to Clause 6.9.3 Removal of KSEAF storage restriction | * Nokia, Verizon, TMO-USA,Nokia Shanghai Bell | * 33.501 | * 0253 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182202 | * CR for Addition of security requirements for external storage | * Nokia, Nokia Shanghai bell, Verizon, TMO-USA | * 33.501 | * 0254 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182549 | * CR for Addition of security requirements for external storage | * Nokia, Nokia Shanghai bell, Verizon, TMO-USA | * 33.501 | * 0254 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * postponed |
| * S3-182203 | * Clause 6.9.3 typo corrections | * Nokia, Nokia shanghai Bell | * 33.501 | * 0255 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * merged |
| * S3-182204 | * Make DTLS optional on F1, E1, N2, Xn interfaces | * Nokia, Nokia Shanghai Bell, Huawei, HiSilicon | * 33.501 | * 0256 | * - | * Rel-15 | * C | * 5GS\_Ph1-SEC | * not pursued |
| * S3-182205 | * CR to delete ENs in clause 5.3 gNB Requirements | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0257 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182651 | * CR to delete ENs in clause 5.3 gNB Requirements | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0257 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182206 | * CR to align NAS Connection value and access type | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0258 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182207 | * Correct confidentiality key in confidentiality clause. | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0259 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182208 | * Delete EN in Annex D for parameters | * Nokia, Nokia Shanghai bell | * 33.501 | * 0260 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182209 | * Define and clarify ABBA parameter | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0261 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182653 | * Define and clarify ABBA parameter | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0261 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182213 | * Delete EN in Clause 10.2.1 Authenticated IMS Emergency Sessions | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0262 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182228 | * Clause 6.12.2-Adding Routing Indicator in SUCI | * CATT, Ericsson , Vodafone, Huawei, NEC, China Mobile, Nokia, Nokia Shanghai Bell Labs, IDEMIA | * 33.501 | * 0263 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182513 | * Clause 6.12.2-Adding Routing Indicator in SUCI | * CATT, Ericsson , Vodafone, Huawei, NEC, China Mobile, Nokia, Nokia Shanghai Bell Labs, IDEMIA | * 33.501 | * 0263 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * merged |
| * S3-182229 | * Clarification on UP security policy verification | * CATT | * 33.501 | * 0264 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * merged |
| * S3-182230 | * Clarifications on AS key update for non-3GPP access | * CATT | * 33.501 | * 0265 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * not pursued |
| * S3-182231 | * Clarifications on handover handling for Dual Connectivity | * CATT | * 33.501 | * 0266 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * merged |
| * S3-182232 | * Clarifications on the key lifetime for non-3GPP access | * CATT | * 33.501 | * 0267 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * not pursued |
| * S3-182233 | * Reference corrections in clause 6.10 | * CATT | * 33.501 | * 0268 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182234 | * Resolving Editor’s Notes for requirements on the gNB | * CATT | * 33.501 | * 0269 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * merged |
| * S3-182237 | * Algorithm Negotiation for Unauthenticated UEs in LSM | * Huawei, HiSilicon, China Mobile | * 33.501 | * 0270 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182646 | * Algorithm Negotiation for Unauthenticated UEs in LSM | * Huawei, HiSilicon, China Mobile.Ericsson | * 33.501 | * 0270 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182238 | * Update Key handling at RRC-INACTIVE state transitions | * Huawei, HiSilicon, Intel, China Mobile | * 33.501 | * 0271 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * merged |
| * S3-182240 | * AS SMC Handling Update | * Huawei, Hisilicon | * 33.501 | * 0272 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182260 | * Other Security Procedures for Dual Connectivity | * Huawei, HiSilicon | * 33.501 | * 0273 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182649 | * Other Security Procedures for Dual Connectivity | * Huawei, HiSilicon,Ericsson,CATT | * 33.501 | * 0273 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182269 | * Amendment to Re-authentication procedure in Secondary Authentication | * Huawei, HiSilicon | * 33.501 | * 0274 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * not pursued |
| * S3-182272 | * CR to add N32 definitions | * Nokia,Nokia Shanghai Bell | * 33.501 | * 0275 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182550 | * N32 solution details | * Nokia,Nokia Shanghai Bell | * 33.501 | * 0275 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182273 | * CR to add a missing step to discover an NF producer instance during Access Token Request | * Nokia,Nokia Shanghai Bell | * 33.501 | * 0276 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182641 | * CR to add a missing step to discover an NF producer instance during Access Token Request | * Nokia,Nokia Shanghai Bell,Ericsson,Huawei | * 33.501 | * 0276 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182274 | * CR to add Access Token Request procedure for a specific NF service producer | * Nokia,Nokia Shanghai Bell | * 33.501 | * 0277 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182642 | * CR to add Access Token Request procedure for a specific NF service producer | * Nokia,Nokia Shanghai Bell | * 33.501 | * 0277 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182279 | * Editorial corrections to TS 33.501 | * Huawei, Hisilicon | * 33.501 | * 0278 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182657 | * Editorial corrections to TS 33.501 | * Huawei, Hisilicon | * 33.501 | * 0278 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182284 | * Corrections on primary authentication | * Huawei, Hisilicon | * 33.501 | * 0279 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182658 | * Corrections on primary authentication | * Huawei, Hisilicon | * 33.501 | * 0279 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182285 | * Delay the transmission of kseaf after home network verifies the RES\_star | * Huawei, Hisilicon | * 33.501 | * 0280 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182293 | * Delete initial NAS message protection solution | * Huawei, Hisilicon | * 33.501 | * 0281 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * not pursued |
| * S3-182295 | * Security Algorithms Negotiation for INACTIVE related procedures | * Huawei, Hisilicon | * 33.501 | * 0282 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * not pursued |
| * S3-182296 | * Involve Fresh Parameters to Input of InactiveMAC-I to Avoid Replay Attack | * Huawei, Hisilicon | * 33.501 | * 0283 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * noted |
| * S3-182301 | * Align AS SMC procedure with SA2 and RAN3 | * Huawei, Hisilicon | * 33.501 | * 0284 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182650 | * Align AS SMC procedure with SA2 and RAN3 | * Huawei, Hisilicon | * 33.501 | * 0284 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182302 | * Hanldling UP security policy in MRDC | * Huawei, Hisilicon | * 33.501 | * 0285 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * not pursued |
| * S3-182317 | * CR on mandatory ciphering of access tokens by NRF in inter-PLMN scenarios | * Nokia,Nokia Shanghai Bell | * 33.501 | * 0286 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * not pursued |
| * S3-182643 | * CR on mandatory ciphering of access tokens by NRF in inter-PLMN scenarios | * Nokia,Nokia Shanghai Bell | * 33.501 | * 0286 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * withdrawn |
| * S3-182318 | * CR to remove Editor’s Note on additional claims in the access token | * Nokia,Nokia Shanghai Bell | * 33.501 | * 0287 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182566 | * CR to remove Editor’s Note on additional claims in the access token | * Nokia,Nokia Shanghai Bell | * 33.501 | * 0287 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182319 | * CR to remove Editor’s Note on additional parameters that may be required in step 1 of Figure 13.4.1.1-2 | * Nokia,Nokia Shanghai Bell | * 33.501 | * 0288 | * - | * Rel-15 | * D | * 5GS\_Ph1-SEC | * revised |
| * S3-182567 | * CR to remove Editor’s Note on additional parameters that may be required in step 1 of Figure 13.4.1.1-2 | * Nokia,Nokia Shanghai Bell | * 33.501 | * 0288 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182320 | * CR to remove Editor’s Note on verification of claims in the access token | * Nokia,Nokia Shanghai Bell | * 33.501 | * 0289 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * merged |
| * S3-182329 | * CR-slice-management-security | * Huawei, HiSilicon, China Mobile, China Unicom, CATR, CATT | * 33.501 | * 0290 | * - | * Rel-15 | * B | * 5GS\_Ph1-SEC | * agreed |
| * S3-182342 | * Message flows including SEPP | * Ericsson | * 33.501 | * 0291 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * not pursued |
| * S3-182343 | * Authentication for token-based authorization | * Ericsson | * 33.501 | * 0292 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182344 | * Clarifications and editorials to clause 13.1 (Transport security for service based interfaces) | * Ericsson | * 33.501 | * 0293 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * withdrawn |
| * S3-182345 | * Clarifications and editorials to clause 13.3 (authentication and static authorization between network functions) | * Ericsson | * 33.501 | * 0294 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * merged |
| * S3-182350 | * DC - definition corrections | * Ericsson | * 33.501 | * 0295 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182648 | * DC - definition corrections | * Ericsson,CATT | * 33.501 | * 0295 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182351 | * Handling of maximum supported data rate per UE for integrity protection of DRBs | * Ericsson | * 33.501 | * 0296 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * not pursued |
| * S3-182352 | * DC - integrity protection of traffic between UE and SN | * Ericsson | * 33.501 | * 0297 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * not pursued |
| * S3-182353 | * DC - adding missing details | * Ericsson | * 33.501 | * 0298 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * merged |
| * S3-182356 | * DC - Handling of UP security policy in SN | * Ericsson | * 33.501 | * 0299 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * not pursued |
| * S3-182357 | * DC - Selection of SN | * Ericsson | * 33.501 | * 0300 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * not pursued |
| * S3-182362 | * DC – correcting reference | * Ericsson | * 33.501 | * 0301 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182363 | * Mobility – Clarification in intra-gNB-CU handover | * Ericsson | * 33.501 | * 0302 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182666 | * Mobility – Clarification in intra-gNB-CU handover | * Ericsson | * 33.501 | * 0302 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182364 | * Mobility – Correcting AS re-keying and NAS re-keying in N2-handover | * Ericsson | * 33.501 | * 0303 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * merged |
| * S3-182365 | * Mobility – Correcting to UE handling clause | * Ericsson | * 33.501 | * 0304 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * merged |
| * S3-182366 | * Mobility – Resolving EN and corrections in AS re-keying | * Ericsson | * 33.501 | * 0305 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182591 | * Mobility – Resolving EN and corrections in AS re-keying | * Ericsson | * 33.501 | * 0305 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182367 | * Mobility – Corrections for usage of local policy at AMF | * Ericsson | * 33.501 | * 0306 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182636 | * Mobility – Corrections for usage of local policy at AMF | * Ericsson,ZTE,Nokia | * 33.501 | * 0306 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182368 | * Mobility – Rectification of NAS MAC calculation for NAS Container | * Ericsson | * 33.501 | * 0307 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182586 | * Mobility – Rectification of NAS MAC calculation for NAS Container | * Ericsson | * 33.501 | * 0307 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182369 | * Mobility – Rectification of how DL NAS COUNT is transferred in NAS Container | * Ericsson | * 33.501 | * 0308 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * not pursued |
| * S3-182587 | * Mobility – Rectification of how DL NAS COUNT is transferred in NAS Container | * Ericsson | * 33.501 | * 0308 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * withdrawn |
| * S3-182370 | * Mobility – Correction of NAS COUNTs in N2-handover | * Ericsson | * 33.501 | * 0309 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182371 | * Mobility – Removing an EN in Xn-handover | * Ericsson | * 33.501 | * 0310 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182372 | * Mobility – Rectification of UE security capabilities in NAS Container | * Ericsson | * 33.501 | * 0311 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182373 | * Mobility – Rectification of how UL NAS COUNT is transferred in NAS SMC | * Ericsson | * 33.501 | * 0312 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * merged |
| * S3-182374 | * Privacy – adding missing detials in SUCI content and format | * Ericsson | * 33.501 | * 0313 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182535 | * Privacy – adding missing detials in SUCI content and format | * CATT, Ericsson , Vodafone, Huawei, NEC, China Mobile, Nokia, Nokia Shanghai Bell Labs, IDEMIA | * 33.501 | * 0313 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182375 | * Privacy - addressing ENs | * Ericsson | * 33.501 | * 0314 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182571 | * Privacy - addressing ENs | * Ericsson | * 33.501 | * 0314 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182376 | * Update of definition of 5G AS security context for 3GPP access | * Ericsson | * 33.501 | * 0315 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182652 | * Update of definition of 5G AS security context for 3GPP access | * Ericsson | * 33.501 | * 0315 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182377 | * Use the old KRRCint for calculation of the security token in MSG3 | * Ericsson | * 33.501 | * 0316 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182639 | * Use the old KRRCint for calculation of the security token in MSG3 | * Ericsson | * 33.501 | * 0316 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182381 | * Removal of MAC based OAuth2.0 token verification | * Ericsson | * 33.501 | * 0317 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * not pursued |
| * S3-182382 | * OAuth Client Registration up to implementation | * Ericsson | * 33.501 | * 0318 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * not pursued |
| * S3-182383 | * Removal of token validation by NRF | * Ericsson | * 33.501 | * 0319 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182568 | * Removal of token validation by NRF | * Ericsson,Nokia | * 33.501 | * 0319 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182384 | * NRF Access Token Service | * Ericsson | * 33.501 | * 0320 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * merged |
| * S3-182385 | * Clarifications on OAuth access token scope | * Ericsson | * 33.501 | * 0321 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * merged |
| * S3-182388 | * HTTP basic authentication to NRF | * Ericsson | * 33.501 | * 0322 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * not pursued |
| * S3-182392 | * Clarification of ngKSI and ABBA parameter in 5G-AKA | * Intel Corporation (UK) Ltd | * 33.501 | * 0323 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182533 | * Clarification of ngKSI and ABBA parameter in 5G-AKA | * Intel Corporation (UK) Ltd | * 33.501 | * 0323 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182393 | * Clarification for ngksi and ABBA parameter for EAP-AKA’ | * Intel Corporation (UK) Ltd | * 33.501 | * 0324 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182534 | * Clarification for ngksi and ABBA parameter for EAP-AKA’ | * Intel Corporation (UK) Ltd,Huawei,Nokia, Nokia Shanghai Bell | * 33.501 | * 0324 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182397 | * Steering of Information using Secure Packet | * Intel Corporation (UK) Ltd | * 33.501 | * 0325 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * withdrawn |
| * S3-182398 | * Missing procedure for AS algorithm negotiation for unauthenticated emergency sessions | * Ericsson | * 33.501 | * 0326 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * merged |
| * S3-182399 | * Corrections and clarifications to interworking clauses | * Ericsson | * 33.501 | * 0327 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182581 | * Corrections and clarifications to interworking clauses | * Ericsson | * 33.501 | * 0327 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182400 | * Removal of editor’s note on harmonization between inter and intra system handovers | * Ericsson | * 33.501 | * 0328 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182576 | * Removal of editor’s note on harmonization between inter and intra system handovers | * Ericsson | * 33.501 | * 0328 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182401 | * Clarifications related to the NAS Container calculation during inter system handover | * Ericsson | * 33.501 | * 0329 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182575 | * Clarifications related to the NAS Container calculation during inter system handover | * Ericsson | * 33.501 | * 0329 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182402 | * Addition of missing reference to RFC on DTLS over SCTP | * Ericsson | * 33.501 | * 0330 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182403 | * Correction of Note on physical protection for NDS/IP use | * Ericsson | * 33.501 | * 0331 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182662 | * Correction of Note on physical protection for NDS/IP use | * Ericsson | * 33.501 | * 0331 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182409 | * Multiple NAS connections: mobility with horizontal KAMF derivation | * Ericsson | * 33.501 | * 0332 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * not pursued |
| * S3-182410 | * Correction to clause 6.9.5.2 | * Ericsson | * 33.501 | * 0333 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * merged |
| * S3-182411 | * Multiple NAS connections: taking a new security context into use on non-3GPP access | * Ericsson | * 33.501 | * 0334 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182654 | * Multiple NAS connections: taking a new security context into use on non-3GPP access | * Ericsson | * 33.501 | * 0334 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182414 | * Editorial correction to figure 6.2.1-1 Key hierarchy generation in 5GS | * NEC Corporation | * 33.501 | * 0335 | * - | * Rel-15 | * D | * 5GS\_Ph1-SEC | * merged |
| * S3-182415 | * Correction to Clause 5.11.2 Requirements for algorithm selection | * NEC Corporation | * 33.501 | * 0336 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182417 | * Removal of Note 2a on Kausf use case restriction | * NEC Corporation | * 33.501 | * 0337 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182659 | * Removal of Note 2a on Kausf use case restriction | * NEC Corporation | * 33.501 | * 0337 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182418 | * Clarification on Storage of SUPI at SEAF | * NEC Corporation | * 33.501 | * 0338 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * not pursued |
| * S3-182660 | * Clarification on Storage of SUPI at SEAF | * NEC Corporation | * 33.501 | * 0338 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * withdrawn |
| * S3-182419 | * Editorial correction to TS 33.501 | * NEC Corporation | * 33.501 | * 0339 | * - | * Rel-15 | * D | * 5GS\_Ph1-SEC | * agreed |
| * S3-182422 | * Mitigation against fraudulent registration attack between SEPPs | * Huawei, Hisilicon | * 33.501 | * 0340 | * - | * Rel-15 | * B | * 5GS\_Ph1-SEC | * not pursued |
| * S3-182437 | * Clarification to key hierarchy | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0341 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182573 | * Clarification to key hierarchy | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0341 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182439 | * Collection of editorial changes | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0342 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182528 | * Collection of editorial changes | * Nokia, Nokia Shanghai Bell,LG | * 33.501 | * 0342 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182441 | * Addition of definitions and corrections to references | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0343 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182582 | * Addition of definitions and corrections to references | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0343 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182442 | * Corrections to references related to handling of security contexts in mobility procedures | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0344 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182540 | * Corrections to references related to handling of security contexts in mobility procedures | * Nokia, Nokia Shanghai Bell,ZTE | * 33.501 | * 0344 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182443 | * Clarification to support of authentication methods | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0345 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182680 | * Clarification to support of authentication methods | * Nokia, Nokia Shanghai Bell | * 33.501 | * 0345 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * not pursued |
| * S3-182446 | * Provision of ngKSI to UE at EAP-Request/ AKA'-Challenge | * Huawei, Hisilicon | * 33.501 | * 0346 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * merged |
| * S3-182447 | * Error handling for SBA authentication and authorization in service layer | * China Mobile | * 33.501 | * 0347 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182563 | * Error handling for SBA authentication and authorization in service layer | * China Mobile | * 33.501 | * 0347 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182452 | * Clarification on authentication and authorization in SBA | * Huawei, Hisilicon | * 33.501 | * 0348 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182569 | * Clarification on authentication and authorization in SBA | * Huawei, Hisilicon,Ericsson, Nokia | * 33.501 | * 0348 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182453 | * Adding OAuth related authorization services for SBA security | * Huawei, Hisilicon | * 33.501 | * 0349 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182670 | * Adding OAuth related authorization services for SBA security | * Huawei, Hisilicon | * 33.501 | * 0349 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182461 | * Message flows including SEPP | * Ericsson | * 33.501 | * 0350 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * withdrawn |
| * S3-182462 | * Authentication for token-based authorization | * Ericsson | * 33.501 | * 0351 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * withdrawn |
| * S3-182463 | * Clarifications and editorials to clause 13.1 (Transport security for service based interfaces) | * Ericsson | * 33.501 | * 0352 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * withdrawn |
| * S3-182464 | * Clarifications and editorials to clause 13.3 (authentication and static authorization between network functions) | * Ericsson | * 33.501 | * 0353 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * withdrawn |
| * S3-182465 | * Clarifications and editorials to clause 13.1 (Transport security for service based interfaces) | * Ericsson | * 33.501 | * 0354 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182570 | * Clarifications and editorials to clause 13.1 (Transport security for service based interfaces) | * Ericsson | * 33.501 | * 0354 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182470 | * Updates on Security Mechanism for Steering of Roaming | * Samsung, Qualcomm Incorporated, T-Mobile USA | * 33.501 | * 0355 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182477 | * Moving the HASHAMF behaviour from subclause 6.7.2 to subclause 6.4.6 | * Qualcomm Incorporated | * 33.501 | * 0356 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * not pursued |
| * S3-182478 | * Concurrency issues with N2 and 5G to EPS handovers | * Qualcomm Incorporated | * 33.501 | * 0357 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * merged |
| * S3-182479 | * Correction to the concurrency rules for parallel NAS connections | * Qualcomm Incorporated | * 33.501 | * 0358 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * merged |
| * S3-182480 | * Adding to note about ABBA to Annex A.7 that was missed in implementation of CR 0155r2 | * Qualcomm Incorporated | * 33.501 | * 0359 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * not pursued |
| * S3-182483 | * Simplification of the UE handling of keys at handover | * Qualcomm Incorporated | * 33.501 | * 0360 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182590 | * Simplification of the UE handling of keys at handover | * Qualcomm Incorporated | * 33.501 | * 0360 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182485 | * CR on RRC Inactive | * Qualcomm Incorporated | * 33.501 | * 0361 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * not pursued |
| * S3-182486 | * CR on reigstration procedure for mobility from 4G to 5G | * Qualcomm Incorporated | * 33.501 | * 0362 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182574 | * CR on reigstration procedure for mobility from 4G to 5G | * Qualcomm Incorporated | * 33.501 | * 0362 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182487 | * K\_AMF change indication in NAS SMC | * Qualcomm Incorporated | * 33.501 | * 0363 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182638 | * K\_AMF change indication in NAS SMC | * Qualcomm Incorporated,Ericsson | * 33.501 | * 0363 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182488 | * UP policy check | * Qualcomm Incorporated | * 33.501 | * 0364 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182644 | * UP policy check | * Qualcomm Incorporated,ZTE,CATT | * 33.501 | * 0364 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182489 | * CR on N2 based HO | * Qualcomm Incorporated | * 33.501 | * 0365 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182588 | * CR on N2 based HO | * Qualcomm Incorporated | * 33.501 | * 0365 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182491 | * CR on corrections on the 5GS to EPS handover procedure | * Qualcomm Incorporated | * 33.501 | * 0366 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182579 | * CR on corrections on the 5GS to EPS handover procedure | * Qualcomm Incorporated | * 33.501 | * 0366 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182493 | * Handling of initial value of CounterSoR | * Qualcomm Incorporated | * 33.501 | * 0367 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182500 | * Update on InactiveMAC-I calculation | * Samsung | * 33.501 | * 0368 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182501 | * Mechanism to mitigate replay attack in RRC-Inactive state | * Samsung | * 33.501 | * 0369 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * noted |
| * S3-182506 | * Clarification to the protection of attributes by the SEPP | * Deutsche Telekom AG | * 33.501 | * 0370 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182565 | * Clarification to the protection of attributes by the SEPP | * Deutsche Telekom AG | * 33.501 | * 0370 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182507 | * Clarifications to protection policies | * Deutsche Telekom AG | * 33.501 | * 0371 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * revised |
| * S3-182559 | * Clarifications to protection policies | * Deutsche Telekom AG | * 33.501 | * 0371 | * 1 | * Rel-15 | * F | * 5GS\_Ph1-SEC | * merged |
| * S3-182511 | * CR for 33.501 - Editorial correction of 6.9.3 | * LG Electronics | * 33.501 | * 0372 | * - | * Rel-15 | * D | * 5GS\_Ph1-SEC | * merged |
| * S3-182512 | * CR for 33.501 - Editorial correction of 6.7.2 | * LG Electronics | * 33.501 | * 0373 | * - | * Rel-15 | * D | * 5GS\_Ph1-SEC | * agreed |
| * S3-182663 | * Protection of non SBA interfaces internal to 5G core. | * Deutsche Telecom AG | * 33.501 | * 0374 | * - | * Rel-15 | * B | * 5GS\_Ph1-SEC | * agreed |
| * S3-182697 | * Clarifications in clause 13.5 | * Ericsson | * 33.501 | * 0375 | * - | * Rel-15 | * F | * 5GS\_Ph1-SEC | * agreed |
| * S3-182700 | * Application layer security on the N32 interface | * Nokia | * 33.501 | * 0376 | * - | * Rel-15 | * B | * 5GS\_Ph1-SEC | * agreed |

## Annex C: Lists of liaisons

### C1: Incoming liaison statements

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Document | Original | Title | From | Decision | Reply in |
| * S3-182121 |  | * Question on 5G network slices | * GSMA SIM | * replied to | * S3-182530 |
| * S3-182122 |  | * Reply LS on GSMA question on 5G network slices | * S2-187599 | * noted |  |
| * S3-182123 |  | * LS Out for 5G slices roaming | * S3i180376 | * noted |  |
| * S3-182124 |  | * Statement on urgency of alignment of ETSI SSP with 3GPP release 15 | * GSMA | * noted |  |
| * S3-182125 |  | * Reply LS on initial NAS message protection | * C1-183727 | * withdrawn |  |
| * S3-182126 |  | * Reply LS on initial NAS message protection | * S2-187505 | * replied to | * S3-182632 |
| * S3-182127 |  | * LS on [Temporary group call – user regroup] and [Temporary group – broadcast group call] | * C1-184907 | * noted |  |
| * S3-182128 |  | * Provision of ngKSI to UE at EAP-Request/AKA'-Challenge | * C1-184942 | * replied to | * S3-182532 |
| * S3-182129 |  | * Reply LS on AUSF/UDM instance selection and SUCI parameters | * C4-184576 | * noted |  |
| * S3-182130 |  | * Response to “Reply LS on AUSF/UDM instance selection and SUCI parameters” | * C6-180361 | * noted |  |
| * S3-182131 |  | * Reply LS to “LS on AUSF/UDM instance selection and SUCI parameters” | * S2-186257 | * noted |  |
| * S3-182132 |  | * LS OUT on TLS and inter PLMN routing | * C4-184612 | * noted |  |
| * S3-182133 |  | * LS OUT on TLS and inter PLMN routing | * C4-185493 | * replied to | * S3-182630 |
| * S3-182134 |  | * LS on Nausf\_SoRProtection service | * C4-185319 | * noted |  |
| * S3-182135 |  | * Reply LS on avoiding race condition in 5G AKA | * C4-185320 | * noted |  |
| * S3-182136 |  | * LS OUT on OAuth 2.0 | * C4-185505 | * replied to | * S3-182629 |
| * S3-182137 |  | * Reply LS on SoR mechanism | * C6-180295 | * noted |  |
| * S3-182138 |  | * Reply-LS on new work item "X.5Gsec-q" | * ETSI TC CYBER | * replied to | * S3-182531 |
| * S3-182139 |  | * LSout to various organisations on usage of NFV Specifications | * ETSI ISG NFV | * noted |  |
| * S3-182140 |  | * Reply LS to RAN2 on Bluetooth/WLAN measurement collection in MDT | * S5-183626 | * noted |  |
| * S3-182141 |  | * Reply LS on Bluetooth/WLAN measurement collection in MDT | * R2-1808793 | * replied to | * S3-182529 |
| * S3-182142 |  | * Security related agreements on Early Data Transmission | * R2-1808869 | * noted |  |
| * S3-182143 |  | * Reply LS on Security aspects of supporting LTE connected to 5GC | * R2-1809162 | * replied to | * S3-182538 |
| * S3-182144 |  | * LS on inactive security | * R2-1809177 | * replied to | * S3-182640 |
| * S3-182145 |  | * LS on UE identity for PO calculation | * R2-1810941 | * replied to | * S3-182539 |
| * S3-182146 |  | * LS on security requirements for RRC connection release | * R2-1810960 | * replied to | * S3-182542 |
| * S3-182147 |  | * LS on connection re-establishment security | * R2-1810965 | * replied to | * S3-182541 |
| * S3-182148 |  | * LS on EDT procedures and AS NAS interaction (R2-1712077) | * R3-183574 | * noted |  |
| * S3-182149 |  | * Reply LS on new BEST Service | * S2-187226 | * noted |  |
| * S3-182150 |  | * LS on security handling when deploying UDSF | * S2-187506 | * replied to | * S3-182547 |
| * S3-182151 |  | * Reply LS on clarification on Restricted Operator Services | * S2-181407 | * postponed |  |
| * S3-182152 |  | * LS on devices behind 5G-RG accessing the 5GC | * S3i180377 | * postponed |  |
| * S3-182153 |  | * Reply LS on CAPIF4xMB | * S6-180727 | * replied to | * S3-182617 |
| * S3-182154 |  | * Reply LS on CAPIF4xMB | * S6-180944 | * noted |  |
| * S3-182155 |  | * Reply LS to “5G for Industrial Communication” | * SP-180608 | * noted |  |
| * S3-182156 |  | * LS on Guidance on Way Forward for Steering of Roaming | * SP-180621 | * noted |  |
| * S3-182157 |  | * UE capability related to integrity protection of DRBs | * R2-1804056 | * withdrawn |  |
| * S3-182159 |  | * LS/r on revised Recommendation ITU-T Q.850 (reply to 3GPP TSG SA3 - C3-183507) | * ITU-T SG11 | * noted |  |
| * S3-182160 |  | * Reply LS on temporary group regroup procedures | * S6-181287 | * noted |  |
| * S3-182161 |  | * LS on use of ITS dedicated spectrum within V2X UE | * S6-181288 | * noted |  |
| * S3-182162 |  | * Reply LS on CAPIF specification work in SA3 | * S6-181290 | * noted |  |
| * S3-182163 |  | * LS on application layer support for V2X services | * S6-181291 | * noted |  |
| * S3-182519 |  | * Response to 3GPP SA2 liaison S2-183036 on ‘general status of work’ | * BBF | * noted |  |
| * S3-182572 |  | * LS Reply on Control Plane Solution for Steering of Roaming in 5GS | * GSMA | * postponed |  |

### C2: Outgoing liaison statements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Document | Title | To | Cc | reply to i/c LS |
| * S3-182529 | * Reply LS on BL/WLAN measurement collection in MDT | * RAN2 | * SA5, RAN3, CT4 | * S3-182141 |
| * S3-182530 | * LS to GSMA on slicing | * GSMA SIM | * CT6,SA2 | * S3-182121 |
| * S3-182531 | * Reply to:LS on new work item "X.5Gsec-q" | * ETSI TC CYBER, ITU-T SG17 | * ETSI SAGE | * S3-182138 |
| * S3-182532 | * Reply LS to LS on provision of ngKSI to UE at EAP-Request/AKA'-Challenge | * CT1 | * - | * S3-182128 |
| * S3-182536 | * LS on SUCI parameters clarification | * CT1, CT4,CT6 | * SA2 | * - |
| * S3-182538 | * Reply LS on Security aspects of supporting LTE connected to 5GC | * RAN2 | * CT1, RAN3 | * S3-182143 |
| * S3-182539 | * Reply LS on UE identity for PO calculation | * RAN2 | * - | * S3-182145 |
| * S3-182541 | * Reply LS on RRC Re-establishment security | * RAN2 | * RAN3 | * - |
| * S3-182542 | * Reply LS on security requirements for RRC connection release | * RAN2 | * RAN3 | * S3-182146 |
| * S3-182562 | * LS on N32 error signalling | * CT4 | * - |  |
| * S3-182580 | * LS on NAS parameter for 5GS to EPS HO | * CT1, RAN2, RAN3 | * - | * - |
| * S3-182605 | * LS on security aspects of EDT | * RAN2 | * RAN3 |  |
| * S3-182616 | * LS on using same counters in EDCE5 | * RAN2,RAN3 | * - |  |
| * S3-182617 | * Reply to: LS on CAPIF4xMB | * SA6,SA4 | * SA2,CT3 | * S3-182153 |
| * S3-182629 | * Reply to: LS OUT on OAuth 2.0 | * CT4 | * - | * S3-182136 |
| * S3-182630 | * Reply to: LS OUT on TLS and inter PLMN routing | * CT4 | * SA2 | * S3-182133 |
| * S3-182632 | * Reply to: LS on initial NAS message protection | * SA2,CT1 | * - | * S3-182126 |
| * S3-182637 | * LS on security issues on Multi NAS scenarios | * CT1 | * - |  |
| * S3-182640 | * Reply LS on inactive security | * RAN2 | * RAN3 | * S3-182144 |
| * S3-182661 | * LS-out-to-SA2-on secondary re-authentication | * SA2 | * - | * - |
| * S3-182667 | * LS on calculation of inactive MAC-I token | * RAN2 | * - |  |
| * S3-182668 | * LS on inidication for keys syncronization | * CT4,CT1,RAN2,RAN3 | * - |  |
| * S3-182674 | * LS on Specification of the EAS-C/U interfaces for BEST | * CT3 | * SA2 | * - |
| * S3-182701 | * Update to LS on Implementation of NESAS Pilot Findings in SCAS specifications | * GSMA SECAG | * - | * - |

## Annex D: List of agreed/approved new and revised Work Items

|  |  |  |  |
| --- | --- | --- | --- |
| Document | Title | Source | new/revised |
| * S3-182625 | * Study of KDF negotiation for 5G System Security | * Huawei, Hisilicon, | * SID new |
| * S3-182665 | * SID on Enhanced network Slicing | * Nokia, Nokia Shanghai Bell,NEC, Huawei, HiSilicon,Motorola Mobility, Lenovo | * SID new |
| * S3-182678 | * New SID on Security of the enhancement to the 5GC location services | * CATT | * SID new |
| * S3-182679 | * The SID on security for 5G URLLC | * Huawei, HiSilicon | * SID new |
| * S3-182681 | * New SID on SECAM and SCAS for 3GPP virtualized network products | * China Mobile, Nokia, Nokia Shanghai Bell, China Unicom, CAICT, CATT, ZTE | * SID new |
| * S3-182682 | * Study on Security for 5GS Enhanced support of Vertical and LAN Services | * Nokia, Nokia Shanghai Bell | * SID new |
| * S3-182704 | * Study on 5G security enhancement against false base stations | * Apple Computer Trading Co. Ltd | * SID new |
| * S3-182593 | * Update to WID 5G SCAS | * Nokia, Nokia Shanghai Bell, Huawei, HiSilicon, China Unicom, CATT, Deutsche Telekom, ZTE, Samsung, KPN, NEC, British Telecom, China Mobile, Ericsson | * WID revised |
| * S3-182669 | * revised WID 5G Phase one security | * NTT-Docomo | * WID revised |

## Annex E: List of draft Technical Specifications and Reports

|  |  |  |  |
| --- | --- | --- | --- |
| Document | Spec | vers | Doc title |
| * S3-182252 | * 33.815 | * 0.0.0 | * Proposed Skeleton for TR |
| * S3-182303 | * 33.511 | * 0.0.0 | * skeleton of TS 33511 |
| * S3-182306 | * 33.515 | * 0.0.0 | * skeleton of TS 33515 |
| * S3-182309 | * 33.807 | * 0.0.0 | * skeleton of TR 33807 |
| * S3-182331 | * 33.512 | * 0.1.0 | * Document Skeleton for TS 33.512, based on TS 33.116 |
| * S3-182504 | * 33.513 | * 0.0.0 | * Skeleton for TS 33.513 |
| * S3-182592 | * 33.511 | * 0.1.0 | * Draft TS 33.511 |
| * S3-182594 | * 33.512 | * 0.1.0 | * Document Skeleton for TS 33.512, based on TS 33.116 |
| * S3-182595 | * 33.513 | * 0.0.0 | * Skeleton for TS 33.513 |
| * S3-182596 | * 33.513 | * 0.1.0 | * Draft TS 33.513 |
| * S3-182597 | * 33.514 | * 0.1.0 | * Draft TS 33.514 |
| * S3-182599 | * 33.515 | * 0.0.0 | * skeleton of TS 33515 |
| * S3-182600 | * 33.515 | * 0.1.0 | * Draft TS 33.515 |
| * S3-182676 | * 33.841 | * 0.5.0 | * Draft TR 33.841 |
| * S3-182683 | * 33.855 | * 1.1.0 | * TR 33.855 |
| * S3-182685 | * 33.856 | * 0.3.0 | * Draft TR 33.856 |
| * S3-182702 | * 33.834 | * 0.7.0 | * Draft TR 33.834 |

## Annex F: List of future meetings

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Title | Start date | End date (OP) | Town | Country | Reference |
| * SA3#93 | * 2018-11-12 | * 2018-11-16 | * Spokane | * US | * S3-93 |
| * SA3#72-LI | * 2019-01-21 | * 2019-01-24 | * Sophia Antipolis | * FR | * S3-ah-34081 |
| * SA3#94 | * 2019-01-28 | * 2019-02-01 | * Kochi | * IN | * S3-94 |
| * SA3#95 | * 2019-05-06 | * 2019-05-10 | * Dubrovnik | * CR | * S3-95 |
| * SA3-Ad-Hoc | * 2019-06-24 | * 2019-06-28 | * Sapporo | * JP | * S3-ah-40149 |
| * SA3#96 | * 2019-08-26 | * 2019-08-30 | * Wroclaw | * PL | * S3-96 |
| * SA3-Ad-Hoc | * 2019-10-14 | * 2019-10-18 | * TBD |  | * S3-ah-40150 |
| * SA3#97 | * 2019-11-18 | * 2019-11-22 | * Sophia Antipolis | * FR | * S3-97 |

## Annex G: List of participants

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| TITLE | Family Name | Given Name | Employer Organization | Organization Represented | Organization Represented Category Code |
| Dr. | Arumugam | Sivabalan | NEC Europe Ltd | NEC Telecom MODUS Ltd. | ETSI |
| Mr. | Ben Henda | Noamen | Ericsson LM | Ericsson Inc. | ATIS |
| Mr. | Blanchard | Colin | BT plc | BT plc | ETSI |
| Mr. | Brusilovsky | Alec | InterDigital, Inc. | InterDigital, Inc. | ETSI |
| Mr. | Bykampadi | Nagendra | Nokia France | Nokia Japan | ARIB |
| Mr. | Cano Soveri | Mirko | ETSI | ETSI | ETSI |
| Mr. | Chen | Jing | Huawei Technologies Co. Ltd. | Futurewei Technologies | ATIS |
| Mr. | Cichonski | Jeffrey | NIST | NIST | ATIS |
| Mr. | Dapeng | Liu | Alibaba (China) Group., Ltd. | Alibaba (China) Group., Ltd. | CCSA |
| Mr. | Dolly | Martin | AT&T | AT&T | ATIS |
| Dr. | Escott | Adrian | Qualcomm CDMA Technologies | Qualcomm UK Ltd | ETSI |
| Mr. | Evans | Tim P. | Vodafone Group Plc | Vodafone España SA | ETSI |
| Mr. | Feng | Cheng | Datang Mobile Com. Equipment | Datang Mobile Com. Equipment | CCSA |
| Mr. | Feng | Luo | China Mobile (Suzhou) Software | China Mobile Group Device Co. | CCSA |
| Mr. | Gamishev | Todor | Orange | Orange | ETSI |
| Dr. | Gao | Feng | China Unicom | China Unicom | CCSA |
| Dr. | Granboulan | Louis | Airbus DS SLC | Airbus DS SLC | ETSI |
| Dr. | Grime | Matthew | NCSC | NCSC | ETSI |
| Ms. | Guo | Shu | Apple Computer Trading Co. Ltd | Apple Computer Trading Co. Ltd | CCSA |
| Dr. | Huang | Lin | Qihoo 360 | Qihoo 360 | CCSA |
| Miss | Huang | Xiaoting | China Mobile Com. Corporation | CMDI | CCSA |
| Mrs. | Jack | Fox | Huawei Technologies Co. Ltd. | Huawei Technologies Co. Ltd. | ETSI |
| Miss | Jerichow | Anja | Nokia Germany | Nokia France | ETSI |
| Dr. | Kim | Joonwoong | LG Electronics France | LG Electronics France | ETSI |
| Mr. | Kolekar | Abhijeet | Intel Corporation (UK) Ltd | Intel Corporation (UK) Ltd | ETSI |
| Mr. | Kujanen | Juha | Ericsson LM | Ericsson-LG Co., LTD | TTA |
| Dr. | Kunz | Andreas | Motorola Mobility Germany GmbH | Motorola Mobility UK Ltd. | ETSI |
| Mr. | Leadbeater | Alex | BT plc | BT plc | ETSI |
| Dr. | Lee | Soo Bum | Qualcomm Incorporated | Qualcomm Korea | TTA |
| Dr. | Lei | Zander (Zhongding) | HuaWei Technologies Co., Ltd | HUAWEI TECH. GmbH | ETSI |
| Mr. | Li | He | Huawei Technologies Co. Ltd. | Huawei Technologies France | ETSI |
| Mr. | Li | Weiguang | Qihoo 360 | Qihoo 360 | CCSA |
| Ms. | Liang | Huarui | Apple GmbH | Apple GmbH | ETSI |
| Miss | Liu | Chang | DATANG TELECOM INTERNATIONAL | DATANG TELECOM INTERNATIONAL | CCSA |
| Mr. | Liu | Fuwen | China Mobile (Hangzhou) Inf. | China Mobile M2M Company Ltd. | CCSA |
| Mr. | Liu | Guoqing | Datang Linktester Technology | Datang Linktester Technology | CCSA |
| Miss | Lu | Wei | Nokia Germany | Nokia Corporation | ETSI |
| Mr. | Mellqvist | Anders | Sony Europe Limited | Sony Mobile Communications | ARIB |
| Dr. | Muhanna | Ahmad | Huawei Technologies Sweden AB | HiSilicon Technologies Co. Ltd | CCSA |
| Mr. | Nair | Suresh | Nokia Germany | Nokia Belgium | ETSI |
| Mr. | Nakarmi | Prajwol Kumar | Ericsson Limited | Ericsson LM | ETSI |
| Mr. | Normann | Henrik Andreas | Ericsson LM | Ericsson France S.A.S | ETSI |
| Mr. | Oishi | Tateo | Sony Europe Limited | Sony Corporation | ARIB |
| Mr. | Palanigounder | Anand | Qualcomm UK Ltd | Qualcomm Europe Inc.(Italy) | ETSI |
| Mrs. | Pauliac | Mireille | Gemalto N.V. | Gemalto N.V. | ETSI |
| Mr. | Pei | Hongzhou | Meizu Technology | Meizu Technology | CCSA |
| Mr. | Peng | Jin | China Mobile (Suzhou) Software | China Mobile (Suzhou) Software | CCSA |
| Dr. | Prasad | Anand | NEC Europe Ltd | NEC Corporation | ETSI |
| Mr. | Qi | Minpeng | China Mobile Com. Corporation | China Mobile International Ltd | CCSA |
| Mr. | Rajadurai | Rajavelsamy | Samsung R&D Institute UK | Samsung R&D Institute UK | ETSI |
| Mrs. | Rong | Wu | Huawei Technologies Co. Ltd. | Huawei Device Co., Ltd | CCSA |
| Mr. | Rudolph | Hans Christian | Deutsche Telekom AG | Deutsche Telekom AG | ETSI |
| Mr. | Tangudu | Narendranath Durga | Samsung R&D Institute India | SAMSUNG Electronics Co., Ltd. | ARIB |
| Dr. | Targali | Yousif | T-Mobile USA Inc. | T-Mobile USA Inc. | ATIS |
| Mr. | Vujcic | Dragan | IDEMIA | IDEMIA | ETSI |
| Mr. | Wang | Chunmeng | Ericsson Limited | Ericsson Limited | ETSI |
| Dr. | Wang | Haiguang | Huawei Technologies Co. Ltd. | Huawei Tech.(UK) Co., Ltd | ETSI |
| Dr. | Wang | Yong | HuaWei Technologies Co., Ltd | HuaWei Technologies Co., Ltd | CCSA |
| Mr. | Whorlow | Colin | NCSC | HOME OFFICE | ETSI |
| Mr. | Wong | Marcus | Huawei Tech.(UK) Co., Ltd | HuaWei Technologies Co., Ltd | CCSA |
| Mr. | Woodward | Tim | Motorola Solutions Danmark A/S | Motorola Solutions UK Ltd. | ETSI |
| Mr. | Xie | Zhenhua | ZTE Corporation | ZTE Corporation | CCSA |
| Mr. | Yoshizawa | Taka | NEC Europe Ltd | NEC Corporation | TTC |
| Miss | Zhang | Xiaowei | Deutsche Telekom AG | Deutsche Telekom AG | ETSI |
| Ms. | Zhang | Yi | Qihoo 360 | Qihoo 360 | CCSA |
| Mr. | Zhao | Xuwen | HiSilicon Technologies Co. Ltd | Huawei Telecommunication India | TSDSI |
| Mr. | Zhou | Wei | CATT | CATT | CCSA |
| Dr. | Zugenmaier | Alf | NTT DOCOMO INC. | NTT DOCOMO INC. | TTC |