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

 **DRAFT Meeting Report
for
TSG SA WG3
meeting: AdHoc**

**Online, Electronic meeting, 27/06/2022 to 01/07/2022**

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## 1 Agenda and Meeting Objectives

**S3-221310 Agenda**

 *Type: agenda For: (not specified)
 Source: SA WG3 Chair*

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

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.

**S3-221311 Process for SA3#107e meeting**

 *Type: other For: (not specified)
 Source: SA WG3 Chair*

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

**S3-221312 Process and agenda for SA3#107e**

 *Type: other For: (not specified)
 Source: SA WG3 Chair*

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

## 2 Meeting Reports

## 3 Reports and Liaisons from other Groups (related to studies in the agenda)

**S3-221315 LS on user’s consent for EDGEAPP**

 *Type: LS in For: (not specified)
 Original outgoing LS: -, to -, cc -
 Source: C3-223780*

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

**S3-221476 [DRAFT] Reply LS on user’s consent for EDGEAPP**

 *Type: LS out For: Approval
 to CT3, cc SA2, SA6, CT4
 Source: Ericsson*

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

**S3-221420 Reply LS on User Consent for EDGEAPP**

 *Type: LS out For: Approval
 to CT3, cc SA2, SA6. CT4
 Source: Huawei, HiSilicon*

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

**S3-221317 LS on V2X PC5 link for unicast communication with null security algorithm**

 *Type: LS in For: (not specified)
 Original outgoing LS: -, to -, cc -
 Source: R5-222035*

**Decision:** The document was **replied to in S3-221590**.

**S3-221405 Reply LS about V2X PC5 unicast link with null security algorithm**

 *Type: LS out For: Approval
 to RAN5, cc CT1, RAN2
 Source: Huawei, HiSilicon*

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

**S3-221535 DRAFT Reply LS on V2X PC5 link for unicast communication with null security algorithm**

 *Type: LS out For: (not specified)
 to RAN WG5, cc CT WG1, RAN WG2
 Source: Lenovo*

**Decision:** The document was **revised to S3-221590**.

**S3-221584 Null algorithm is not security deactivation**

 *Type: draftCR For: (not specified)
 33.536 v17.1.0
 Source: Lenovo*

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

**S3-221393 Reply LS on Clarification on MBS Security Keys**

 *Type: LS out For: Approval
 to CT4, cc CT1, CT3, SA2
 Source: Huawei, HiSilicon*

**Decision:** The document was **revised to S3-221665**.

**S3-221316 LS to 3GPP CT4 on Identification of source PLMN-ID in SBA**

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

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

**S3-221536 Null algorithm is not security deactivation**

 *Type: CR For: Approval
 33.536 v17.1.0
 Source: Lenovo*

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

**S3-221590 Reply LS on V2X PC5 link for unicast communication with null security algorithm**

 *Type: LS out For: (not specified)
 to RAN WG5, cc CT WG1, RAN WG2
 Source: Lenovo*

(Replaces S3-221535)

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

**S3-221665 Reply LS on Clarification on MBS Security Keys**

 *Type: LS out For: Approval
 to CT4, cc CT1, CT3, SA2
 Source: Huawei, HiSilicon*

(Replaces S3-221393)

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

**S3-221587 Reply LS on V2X PC5 link for unicast communication with null security algorithm**

 *Type: LS in For: Discussion
 Original outgoing LS: -, to -, cc -
 Source: C1-223972*

**Decision:** The document was **replied to in S3-221590**.

## 4 Work areas (No normative work included in this meeting)

## 5 Studies areas

### 5.1 Study on 5G security enhancement against false base stations

**S3-221364 Addressing the editor’s note in 6.27.2.1.1 of Sol#27**

 *Type: pCR For: Approval
 33.809 v0.18.0
 Source: CableLabs, Deutsche Telekom, Philips International B.V.*

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

**S3-221366 Addressing EN on NR Repeater in 6.27.2.2.4 of Sol#27**

 *Type: pCR For: Approval
 33.809 v0.19.0
 Source: CableLabs*

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

**S3-221368 Addressing the editor’s note in 6.27.2.2.1of Sol#27**

 *Type: pCR For: Approval
 33.809 v0.19.0
 Source: CableLabs, Deutsche Telekom, Philips International B.V.*

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

**S3-221370 LS out on authenticity and replay protection of system information**

 *Type: LS out For: Approval
 to RAN2
 Source: CableLabs, Deutsche Telekom, Philips International B.V., Ericsson, InterDigital, Apple, Johns Hopkins University APL, NIST*

**Decision:** The document was **revised to S3-221612**.

**S3-221371 Evaluation of solution #4**

 *Type: pCR For: Approval
 33.809 v0.19.0
 Source: Huawei, HiSilicon, Ericsson, Apple, Philips*

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

**S3-221464 5GFBS - Security risk in lower layers**

 *Type: pCR For: Approval
 33.809 v0.18.0
 Source: Apple*

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

**S3-221572 Detection of MitM attacks with secret paging**

 *Type: pCR For: (not specified)
 33.809 v0.19.0
 Source: Lenovo*

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

**S3-221612 LS out on authenticity and replay protection of system information**

 *Type: LS out For: Approval
 to RAN2
 Source: CableLabs, Deutsche Telekom, Philips International B.V., Ericsson, InterDigital, Apple, Johns Hopkins University APL, NIST, Huawei, Nokia, Samsung, Intel*

(Replaces S3-221370)

**Decision:** The document was **revised to S3-221700**.

**S3-221700 LS out on authenticity and replay protection of system information**

 *Type: LS out For: Approval
 to RAN2
 Source: CableLabs, Deutsche Telekom, Philips International B.V., Ericsson, InterDigital, Apple, Johns Hopkins University APL, NIST, Huawei, Nokia, Samsung, Intel*

(Replaces S3-221612)

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

### 5.2 Study on Security Impacts of Virtualisation

**S3-221318 Solution 5 EN on Certificates and Tokens**

 *Type: pCR For: (not specified)
 33.848 v0.12.0
 Source: U.S. National Security Agency*

**Abstract:**

Request to remove the EN on The linkage between provisioning certificates and OAuth tokens to remote attestation

**Decision:** The document was **revised to S3-221648**.

**S3-221337 Updates to Solution #5**

 *Type: pCR For: Approval
 33.848 v0.12.0
 Source: Johns Hopkins University APL, US National Security Agency, CableLabs, InterDigital, AT&T, CISA ECD*

**Abstract:**

Updates to Solution 5

**Decision:** The document was **revised to S3-221701**.

**S3-221701 Updates to Solution #5**

 *Type: pCR For: Approval
 33.848 v0.12.0
 Source: Johns Hopkins University APL, US National Security Agency, CableLabs, InterDigital, AT&T, CISA ECD*

(Replaces S3-221337)

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

**S3-221338 Address EN on Run-time Attestation**

 *Type: pCR For: Approval
 33.848 v0.12.0
 Source: Johns Hopkins University APL, US National Security Agency, CableLabs, InterDigital, AT&T, CISA ECD*

**Decision:** The document was **revised to S3-221702**.

**S3-221702 Address EN on Run-time Attestation**

 *Type: pCR For: Approval
 33.848 v0.12.0
 Source: Johns Hopkins University APL, US National Security Agency, CableLabs, InterDigital, AT&T, CISA ECD*

(Replaces S3-221338)

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

**S3-221339 Remove EN in clause 6.6.3.4**

 *Type: pCR For: Approval
 33.848 v0.12.0
 Source: Johns Hopkins University APL, US National Security Agency, CableLabs, InterDigital, AT&T, CISA ECD*

**Abstract:**

Remove EN in clause 6.6.3.4 in TR 33.848

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

**S3-221392 Update of KI #3 to contribute an EN**

 *Type: pCR For: Approval
 33.848 v0.12.0
 Source: Huawei, HiSilicon*

**Decision:** The document was **revised to S3-221689**.

**S3-221404 evaluation on solution 5**

 *Type: pCR For: Approval
 33.848 v0.12.0
 Source: Huawei, HiSilicon*

**Decision:** The document was **revised to S3-221670**.

**S3-221485 New solution on boot time attestation at 3GPP function level**

 *Type: pCR For: Approval
 33.848 v0.12.0
 Source: Huawei, HiSilicon*

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

**S3-221486 New solution on trust domain and slice Isolation**

 *Type: pCR For: Approval
 33.848 v0.12.0
 Source: Huawei, HiSilicon*

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

**S3-221648 Solution 5 EN on Certificates and Tokens**

 *Type: pCR For: (not specified)
 33.848 v0.12.0
 Source: U.S. National Security Agency*

(Replaces S3-221318)

**Abstract:**

Request to remove the EN on The linkage between provisioning certificates and OAuth tokens to remote attestation

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

**S3-221670 evaluation on solution 5**

 *Type: pCR For: Approval
 33.848 v0.12.0
 Source: Huawei, HiSilicon*

(Replaces S3-221404)

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

**S3-221689 Update of KI #3 to contribute an EN**

 *Type: pCR For: Approval
 33.848 v0.12.0
 Source: Huawei, HiSilicon*

(Replaces S3-221392)

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

**S3-221692 TR 33 848 v0\_13\_0**

 *Type: draft TR For: Agreement
 33.848 v0.13.0
 Source: BT plc*

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

### 5.3 Study on Security Aspects of Proximity Based Services in 5GS Phase 2

**S3-221330 Key issue on Privacy protection over the UE-to-UE Relay**

 *Type: pCR For: Approval
 33.740 v0.0.0
 Source: InterDigital, Europe, Ltd.*

**Abstract:**

This contribution proposes to add a new key issue on Privacy protection over the UE-to-UE Relay.

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

**S3-221331 Key Issue on Authorization in the UE-to-UE Relay Scenario**

 *Type: pCR For: Approval
 33.740 v0.0.0
 Source: InterDigital, Europe, Ltd.*

**Abstract:**

This contribution proposes to add a new key issue on authorization in the UE-to-UE relay scenario.

**Decision:** The document was **revised to S3-221608**.

**S3-221332 Key Issue on Security of UE-to-UE Relay**

 *Type: pCR For: Approval
 33.740 v0.0.0
 Source: InterDigital, Europe, Ltd.*

**Abstract:**

This contribution proposes to add a new key issue on Security of UE-to-UE Relay.

**Decision:** The document was **revised to S3-221609**.

**S3-221383 Integrity and confidentiality of information over the UE-to-UE Relay**

 *Type: pCR For: Approval
 33.740 v0.0.0
 Source: Huawei, HiSilicon*

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

**S3-221406 New Key Issue on security of ProSe groupcast communications**

 *Type: pCR For: Approval
 33.740 v0.0.0
 Source: Huawei, HiSilicon*

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

**S3-221418 Authorization in the UE-to-UE relay scenario**

 *Type: pCR For: Approval
 33.740 v0.0.0
 Source: Huawei, HiSilicon*

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

**S3-221419 Privacy of information over the UE-to-UE Relay**

 *Type: pCR For: Approval
 33.740 v0.0.0
 Source: Huawei, HiSilicon*

**Decision:** The document was **revised to S3-221677**.

**S3-221421 Key issue on Authorization in the UE-to-UE relay scenario**

 *Type: pCR For: Approval
 33.740 v0.0.0
 Source: China Telecomunication Corp.*

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

**S3-221422 Key issue on Integrity and confidentiality of information over the UE-to-UE**

 *Type: pCR For: Approval
 33.740 v0.0.0
 Source: China Telecomunication Corp.*

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

**S3-221423 Key issue on Secondary authentication of Remote UE via L3 UE-to-Network relay without N3IWF**

 *Type: pCR For: Approval
 33.740 v0.0.0
 Source: China Telecomunication Corp.*

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

**S3-221426 Key issue on authorization in multi-path transmission for UE-to-Network Relay scenario**

 *Type: pCR For: Approval
 33.740 v0.0.0
 Source: ZTE Corporation*

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

**S3-221427 Key issue on authorization in the UE-to-UE relay scenario**

 *Type: pCR For: Approval
 33.740 v0.0.0
 Source: ZTE Corporation*

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

**S3-221428 Key issue on Integrity and confidentiality of information over the UE-to-UE Relay**

 *Type: pCR For: Approval
 33.740 v0.0.0
 Source: ZTE Corporation*

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

**S3-221429 Key issue on Privacy of information over the UE-to-UE Relay**

 *Type: pCR For: Approval
 33.740 v0.0.0
 Source: ZTE Corporation*

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

**S3-221430 Key issue on Support direct communication path switching between PC5 and Uu**

 *Type: pCR For: Approval
 33.740 v0.0.0
 Source: ZTE Corporation*

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

**S3-221446 Key issue on UE Identity protection during UE-to-UE relay discovery**

 *Type: pCR For: Approval
 33.740 v0.0.0
 Source: China Telecomunication Corp.*

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

**S3-221447 Key issue on Privacy protection over the UE-to-UE Relay**

 *Type: pCR For: Approval
 33.740 v0.0.0
 Source: China Telecomunication Corp.*

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

**S3-221491 pCR to TR33.740 Key Issue on Integrity and confidentiality of information over the UE-to-UE Relay**

 *Type: pCR For: Approval
 33.740 v0.0.0
 Source: CATT*

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

**S3-221495 pCR to TR33.740 Key Issue on Authorization in the UE-to-UE relay scenario**

 *Type: pCR For: Approval
 33.740 v0.0.0
 Source: CATT*

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

**S3-221496 pCR to TR33.740 Key Issue on Privacy of information over the UE-to-UE Relay**

 *Type: pCR For: Approval
 33.740 v0.0.0
 Source: CATT*

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

**S3-221503 Remote UE Security Establishment via U2U Relay**

 *Type: pCR For: Approval
 33.740 v0.0.0
 Source: OPPO*

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

**S3-221505 U2U Relay Trust Model**

 *Type: pCR For: Approval
 33.740 v0.0.0
 Source: OPPO*

**Decision:** The document was **revised to S3-221699**.

**S3-221699 U2U Relay Trust Model**

 *Type: pCR For: Approval
 33.740 v0.0.0
 Source: OPPO*

(Replaces S3-221505)

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

**S3-221519 New Key Issue: Security for UE-to-UE Relay discovery**

 *Type: pCR For: Approval
 33.740 v0.1.0
 Source: Qualcomm Incorporated*

**Decision:** The document was **revised to S3-221693**.

**S3-221548 Key Issue on Security for UE-to-UE Relay Discovery**

 *Type: pCR For: Approval
 33.740 v0.0.0
 Source: Beijing Xiaomi Mobile Software*

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

**S3-221549 Key Issue on Security of UE-to-UE Relay Communication**

 *Type: pCR For: Approval
 33.740 v0.0.0
 Source: Beijing Xiaomi Mobile Software*

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

**S3-221425 Add context to the architecture clause**

 *Type: pCR For: Approval
 33.740 v0.0.0
 Source: ZTE Corporation*

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

**S3-221489 pCR to TR33.740 Clause Introduction and Scope**

 *Type: pCR For: Approval
 33.740 v0.0.0
 Source: CATT*

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

**S3-221490 pCR to TR 33.740 Clause 4 Security Aspects of 5G ProSe**

 *Type: pCR For: Approval
 33.740 v0.0.0
 Source: CATT*

**Decision:** The document was **revised to S3-221640**.

**S3-221608 Key Issue on Authorization in the UE-to-UE Relay Scenario**

 *Type: pCR For: Approval
 33.740 v0.0.0
 Source: InterDigital, Europe, Ltd., Huawei, HiSilicon, China Telecomunication, ZTE, CATT*

(Replaces S3-221331)

**Abstract:**

This contribution proposes to add a new key issue on authorization in the UE-to-UE relay scenario.

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

**S3-221609 Key Issue on Security of UE-to-UE Relay**

 *Type: pCR For: Approval
 33.740 v0.0.0
 Source: InterDigital, Europe, Ltd., Huawei, HiSilicon, China Telecomunication, ZTE, CATT, Xiaomi, OPPO*

(Replaces S3-221332)

**Abstract:**

This contribution proposes to add a new key issue on Security of UE-to-UE Relay.

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

**S3-221640 pCR to TR 33.740 Clause 4 Security Aspects of 5G ProSe**

 *Type: pCR For: Approval
 33.740 v0.0.0
 Source: CATT, ZTE*

(Replaces S3-221490)

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

**S3-221643 TR 33.740 v0.1.0 Study on security aspects of Proximity Based Services (ProSe) in 5G System (5GS) phase 2**

 *Type: draft TR For: Approval
 33.740 v0.1.0
 Source: CATT*

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

**S3-221677 Privacy of information over the UE-to-UE Relay**

 *Type: pCR For: Approval
 33.740 v0.0.0
 Source: Huawei, HiSilicon, Interdigital, ZTE, ChinaTelecom, CATT*

(Replaces S3-221419)

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

**S3-221693 New Key Issue: Security for UE-to-UE Relay discovery**

 *Type: pCR For: Approval
 33.740 v0.1.0
 Source: Qualcomm Incorporated*

(Replaces S3-221519)

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

### 5.4 Study on privacy of identifiers over radio access

**S3-221340 New key issue on users identified by Priority Access**

 *Type: pCR For: Approval
 33.870 v0.2.0
 Source: Johns Hopkins University APL, US National Security Agency, CISA ECD, Peraton Labs, Interdigital, Apple*

**Abstract:**

New key issue on users identified by Priority Access

**Decision:** The document was **revised to S3-221642**.

**S3-221517 Scope of SUPI Type IMSI in KI#1**

 *Type: pCR For: Approval
 33.870 v0.2.0
 Source: Qualcomm Incorporated*

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

**S3-221518 Addition of threats due to EAP in KI#1**

 *Type: pCR For: Approval
 33.870 v0.2.0
 Source: Qualcomm Incorporated*

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

**S3-221465 IDPrvc - Security issue on C-RNTI**

 *Type: pCR For: Approval
 33.870 v0.1.0
 Source: Apple*

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

**S3-221460 Padding-based solution to the leakage of the length of SUPI through SUCI.**

 *Type: pCR For: Approval
 33.870 v0.2.0
 Source: Ericsson LM*

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

**S3-221462 Hash-based solution to the leakage of the length of SUPI through SUCI**

 *Type: pCR For: Approval
 33.870 v0.2.0
 Source: Ericsson LM*

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

**S3-221463 Map-based solution to the leakage of the length of SUPI through SUCI**

 *Type: pCR For: Approval
 33.870 v0.2.0
 Source: Ericsson LM*

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

**S3-221329 New solution for Key issue #1**

 *Type: pCR For: Approval
 33.870 v0.2.0
 Source: InterDigital, Inc.*

**Abstract:**

This new solution proposes a padding mechanism to protect the privacy of variable length SUPIs in NAI format.

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

**S3-221431 SUPI padding solution on Key issue #1**

 *Type: pCR For: Approval
 33.870 v0.2.0
 Source: ZTE Corporation*

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

**S3-221378 Solution for Privacy aspects of variable length user identifiers**

 *Type: pCR For: Approval
 33.870 v0.2.0
 Source: Nokia Japan*

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

**S3-221410 New solution for key issue 1**

 *Type: pCR For: Approval
 33.870 v0.2.0
 Source: Huawei, HiSilicon*

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

**S3-221641 New key issue on users identified by Priority Access**

 *Type: pCR For: Approval
 33.870 v0.2.0
 Source: InterDigital, Inc.*

**Abstract:**

The specification of multiple priority establishment causes provides an attacker with more detail to distinguish different types of priority subscribers. This PCR adds a new KI for studying such threats.

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

**S3-221642 New key issue on users identified by Priority Access**

 *Type: pCR For: Approval
 33.870 v0.2.0
 Source: Johns Hopkins University APL, US National Security Agency, CISA ECD, Peraton Labs, Interdigital, Apple, CableLabs*

(Replaces S3-221340)

**Abstract:**

The specification of multiple priority establishment causes provides an attacker with more detail to distinguish different types of priority subscribers. This PCR adds a new KI for studying such threats.

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

**S3-221696 TR 33.870**

 *Type: draft TR For: (not specified)
 33.870 v0.3.0
 Source: InterDigital, Inc.*

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

### 5.5 Study on Standardising Automated Certificate Management in SBA

**S3-221585 Key Issue for Management of Automated Bulk Certificate updates for SBA leading to temporary service unavailability**

 *Type: pCR For: Approval
 33.876 v0.2.0
 Source: Nokia Japan*

(Replaces S3-221380)

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

**S3-221381 Update KI #6 for a new security threat**

 *Type: pCR For: Approval
 33.876 v0.2.0
 Source: Huawei, HiSilicon*

**Decision:** The document was **revised to S3-221661**.

**S3-221382 New solution for KI #6 Relation between certificate management lifecycle and NF management lifecycle**

 *Type: pCR For: Approval
 33.876 v0.2.0
 Source: Huawei, HiSilicon*

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

**S3-221473 A solution for certificate and NF lifecycle management relation**

 *Type: pCR For: Approval
 33.876 v0.2.0
 Source: Ericsson*

**Decision:** The document was **revised to S3-221658**.

**S3-221408 New solution for key issue 1**

 *Type: pCR For: Approval
 33.876 v0.2.0
 Source: Huawei, HiSilicon*

**Decision:** The document was **revised to S3-221671**.

**S3-221475 A new solution of using CMP for certificate enrolment and renewal**

 *Type: pCR For: Approval
 33.876 v0.2.0
 Source: Ericsson*

**Decision:** The document was **revised to S3-221659**.

**S3-221409 New solution for key issue 3 and 4 based on OCSP**

 *Type: pCR For: Approval
 33.876 v0.2.0
 Source: Huawei, HiSilicon*

**Decision:** The document was **revised to S3-221672**.

**S3-221474 A new solution for using attestation to build initial trust for certificate management**

 *Type: pCR For: Approval
 33.876 v0.2.0
 Source: Ericsson*

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

**S3-221501 Solution for secure initial enrolment of NF certificates**

 *Type: pCR For: (not specified)
 33.876 v0.2.0
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **revised to S3-221620**.

**S3-221552 New solution on Cross-Certification Based Trust Chain in the SBA Architecture**

 *Type: pCR For: Approval
 33.876 v0.2.0
 Source: Beijing Xiaomi Mobile Software*

**Decision:** The document was **revised to S3-221644**.

**S3-221553 New solution on Interconnection CA Based Trust Chain in the SBA Architecture**

 *Type: pCR For: Approval
 33.876 v0.2.0
 Source: Beijing Xiaomi Mobile Software*

**Decision:** The document was **revised to S3-221645**.

**S3-221380 Key Issue for Management of Automated Bulk Certificate updates for SBA leading to temporary service unavailability**

 *Type: pCR For: Approval
 33.876 v0.2.0
 Source: Nokia Japan*

**Decision:** The document was **revised to S3-221585**.

**S3-221618 Solution for secure initial enrolment of NF certificates**

 *Type: pCR For: (not specified)
 33.876 v0.2.0
 Source: Nokia, Nokia Shanghai Bell*

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

**S3-221619 Draft TR 33.876 Study on Standardising Automated Certificate Management in SBA**

 *Type: draft TR For: Approval
 33.876 v0.3.0
 Source: Nokia, Nokia Shanghai Bell*

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

**S3-221620 Solution for secure initial enrolment of NF certificates**

 *Type: pCR For: (not specified)
 33.876 v0.2.0
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-221501)

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

**S3-221644 New solution on Cross-Certification Based Trust Chain in the SBA Architecture**

 *Type: pCR For: Approval
 33.876 v0.2.0
 Source: Beijing Xiaomi Mobile Software*

(Replaces S3-221552)

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

**S3-221645 New solution on Interconnection CA Based Trust Chain in the SBA Architecture**

 *Type: pCR For: Approval
 33.876 v0.2.0
 Source: Beijing Xiaomi Mobile Software*

(Replaces S3-221553)

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

**S3-221658 A solution for certificate and NF lifecycle management relation**

 *Type: pCR For: Approval
 33.876 v0.2.0
 Source: Ericsson*

(Replaces S3-221473)

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

**S3-221659 A new solution of using CMP for certificate enrolment and renewal**

 *Type: pCR For: Approval
 33.876 v0.2.0
 Source: Ericsson, Intel, Verizon, Nokia, Nokia Shanghai Bell*

(Replaces S3-221475)

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

**S3-221661 Update KI #6 for a new security threat**

 *Type: pCR For: Approval
 33.876 v0.2.0
 Source: Huawei, HiSilicon*

(Replaces S3-221381)

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

**S3-221671 New solution for key issue 1**

 *Type: pCR For: Approval
 33.876 v0.2.0
 Source: Huawei, HiSilicon*

(Replaces S3-221408)

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

**S3-221672 New OCSP based solution for key issue 3**

 *Type: pCR For: Approval
 33.876 v0.2.0
 Source: Huawei, HiSilicon*

(Replaces S3-221409)

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

### 5.6 New SID on AKMA phase 2

**S3-221351 Update in KI1 for encryption keys**

 *Type: pCR For: Approval
 33.737 v0.1.0
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **revised to S3-221635**.

**S3-221356 Key Issue for AKMA roaming scenario**

 *Type: pCR For: Approval
 33.737 v0.1.0
 Source: THALES*

**Abstract:**

This contribution proposes to complete the Key Issue #1.1 of TR 33.737.

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

**S3-221435 Update the Key issue of AKMA roaming**

 *Type: pCR For: Approval
 33.737 v0.1.0
 Source: ZTE Corporation*

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

**S3-221529 Adding security threat and requirements to KI#1**

 *Type: pCR For: Approval
 33.737 v0.1.0
 Source: Samsung*

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

**S3-221457 New key issue of multiple AAnF sets in AKMA roaming scenario**

 *Type: pCR For: Approval
 33.737 v0.1.0
 Source: LG Electronics France*

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

**S3-221558 New KI Multiple registrations in AKMA scenarios**

 *Type: pCR For: Approval
 33.737 v0.1.0
 Source: Xiaomi Communication*

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

**S3-221352 Solution on AKMA roaming**

 *Type: pCR For: Approval
 33.737 v0.1.0
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **revised to S3-221634**.

**S3-221384 new solution for AKMA roaming when both UE and AF are in VPLMN**

 *Type: pCR For: Approval
 33.737 v0.1.0
 Source: Huawei, HiSilicon*

**Decision:** The document was **revised to S3-221662**.

**S3-221385 new solution for AKMA roaming when UE is in visited network but the AF in Home network.**

 *Type: pCR For: Approval
 33.737 v0.1.0
 Source: Huawei, HiSilicon*

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

**S3-221433 New solution about the roaming AKMA architecture of the AF inside and outside the HPLMN**

 *Type: pCR For: Approval
 33.737 v0.1.0
 Source: ZTE Corporation*

**Decision:** The document was **revised to S3-221651**.

**S3-221434 New solution about the roaming AKMA architecture of the AF inside and outside the VPLMN**

 *Type: pCR For: Approval
 33.737 v0.1.0
 Source: ZTE Corporation*

**Decision:** The document was **revised to S3-221652**.

**S3-221459 New solution of AKMA anchor key registration to the AAnF in VPLMN after primary authentication**

 *Type: pCR For: Approval
 33.737 v0.1.0
 Source: LG Electronics France*

**Decision:** The document was **revised to S3-221596**.

**S3-221554 KI#1, New Sol AKMA Application key request via proxy and NEF in roaming scenarios**

 *Type: pCR For: Approval
 33.737 v0.1.0
 Source: Xiaomi Communication*

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

**S3-221555 KI#1, New Sol Proxy-based AKMA Application key request in roaming scenarios**

 *Type: pCR For: Approval
 33.737 v0.1.0
 Source: Xiaomi Communication*

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

**S3-221571 AKMA roaming and LI**

 *Type: pCR For: Approval
 33.737 v0.1.0
 Source: Lenovo*

**Decision:** The document was **revised to S3-221592**.

**S3-221432 Discussion on the regulatory control point in AKMA roaming**

 *Type: pCR For: Discussion
 33.737 v0.1.0
 Source: ZTE Corporation*

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

**S3-221456 Discussion paper of AKMA roaming**

 *Type: discussion For: Endorsement
 33.737 v..
 Source: China Mobile*

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

**S3-221581 Discussion about the roaming architecture**

 *Type: discussion For: Endorsement
 Source: Ericsson*

**Decision:** The document was **endorsed**.

**S3-221458 Solution of introducing AP into AKMA**

 *Type: pCR For: Approval
 33.737 v0.1.0
 Source: China Mobile*

**Decision:** The document was **revised to S3-221688**.

**S3-221466 AKMA - New solution on AP**

 *Type: pCR For: Approval
 33.737 v0.0.0
 Source: Apple*

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

**S3-221516 AKMA Application Proxy solution based on GBA procedures**

 *Type: pCR For: Approval
 33.737 v0.1.0
 Source: Qualcomm Incorporated*

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

**S3-221556 KI#2, New Sol Authentication via proxy AKMA scenarios.**

 *Type: pCR For: Approval
 33.737 v0.1.0
 Source: Xiaomi Communication*

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

**S3-221557 KI#2, New Sol Authentication via proxy and NEF in AKMA scenarios**

 *Type: pCR For: Approval
 33.737 v0.1.0
 Source: Xiaomi Communication*

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

**S3-221592 AKMA roaming and LI**

 *Type: pCR For: Approval
 33.737 v0.1.0
 Source: Lenovo*

(Replaces S3-221571)

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

**S3-221596 New solution of AKMA anchor key registration to the AAnF in VPLMN after primary authentication**

 *Type: pCR For: Approval
 33.737 v0.1.0
 Source: LG Electronics France*

(Replaces S3-221459)

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

**S3-221634 Solution on AKMA roaming**

 *Type: pCR For: Approval
 33.737 v0.1.0
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-221352)

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

**S3-221635 Update in KI1 for encryption keys**

 *Type: pCR For: Approval
 33.737 v0.1.0
 Source: Nokia, Nokia Shanghai Bell, Samsung*

(Replaces S3-221351)

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

**S3-221651 New solution about the roaming AKMA architecture of the AF inside and outside the HPLMN**

 *Type: pCR For: Approval
 33.737 v0.1.0
 Source: ZTE Corporation*

(Replaces S3-221433)

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

**S3-221652 New solution about the roaming AKMA architecture of the AF inside and outside the VPLMN**

 *Type: pCR For: Approval
 33.737 v0.1.0
 Source: ZTE Corporation*

(Replaces S3-221434)

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

**S3-221662 new solution for AKMA roaming when both UE and AF are in VPLMN**

 *Type: pCR For: Approval
 33.737 v0.1.0
 Source: Huawei, HiSilicon*

(Replaces S3-221384)

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

**S3-221687 draft TR 33.737**

 *Type: draft TR For: Approval
 33.737 v0.2.0
 Source: China Mobile*

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

**S3-221688 Solution of introducing AP into AKMA**

 *Type: pCR For: Approval
 33.737 v0.1.0
 Source: China Mobile, Apple, Qualcomm*

(Replaces S3-221458)

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

### 5.7 Study of Security aspect of home network triggered primary authentication

**S3-221386 Skeleton update**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: Huawei, HiSilicon*

**Decision:** The document was **revised to S3-221663**.

**S3-221387 new KI in interworking**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: Huawei, HiSilicon*

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

**S3-221388 new KI in SoR/UPU counter wraparound**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: Huawei, HiSilicon*

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

**S3-221389 new KI in Kakma refresh**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: Huawei, HiSilicon*

**Decision:** The document was **revised to S3-221664**.

**S3-221524 Corrections to TR 33.741**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: Lenovo*

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

**S3-221391 New KI on race condition**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: Huawei, HiSilicon*

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

**S3-221580 KI#2 update to remove the signalling overhead for KAF**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: Ericsson*

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

**S3-221390 AUSF triggered the primary authentication**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: Huawei, HiSilicon*

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

**S3-221525 Solution to enable HN triggered Primary Authentication with AUSF**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: Lenovo*

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

**S3-221526 Solution to enable HN triggered Primary Authentication with UDM**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: Lenovo*

**Decision:** The document was **revised to S3-221589**.

**S3-221530 New solution on HN initiated re-authentcation via AUSF**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: Samsung*

**Decision:** The document was **revised to S3-221601**.

**S3-221551 New solution on AUSF initiated Primary Authentication**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: Beijing Xiaomi Mobile Software*

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

**S3-221353 Solution on HN triggering primary authentication for various scenarios**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **revised to S3-221633**.

**S3-221415 New solution UDM triggered primary authentication**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: Huawei, HiSilicon*

**Decision:** The document was **revised to S3-221675**.

**S3-221436 Home network triggered authentication solution for 4G to 5G interworking on Key issue #1**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: ZTE Corporation*

**Decision:** The document was **revised to S3-221653**.

**S3-221498 New solution on KI#1 AMF based solution**

 *Type: pCR For: (not specified)
 33.741 v0.1.0
 Source: NEC Corporation*

**Decision:** The document was **revised to S3-221697**.

**S3-221515 Solution using UDM to trigger authentication**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: Qualcomm Incorporated*

**Decision:** The document was **revised to S3-221606**.

**S3-221531 New solution on UDM initiated re-authentcation based on AUSF request**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: Samsung*

**Decision:** The document was **revised to S3-221602**.

**S3-221532 New solution for Kaf refresh**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: Samsung*

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

**S3-221550 New solution on UDM initiated Primary Authentication**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: Beijing Xiaomi Mobile Software*

**Decision:** The document was **revised to S3-221646**.

**S3-221354 Solution on Kaf refresh without primary authentication -UA\***

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: Nokia, Nokia Shanghai Bell*

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

**S3-221355 Solution on Kaf refresh without primary authentication- AAnF**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: Nokia, Nokia Shanghai Bell*

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

**S3-221437 Kaf update solution without triggering primary authentication on Key issue #2**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: ZTE Corporation*

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

**S3-221472 New solution Security procedure of KAF refresh-MAC**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: OPPO*

**Abstract:**

This contribution addresses the security requirements in KI#2.

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

**S3-221480 New solution Security procedure of KAF refresh-Counter**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: OPPO*

**Abstract:**

This contribution addresses the security requirements for key issue #2 in TR 33.741.

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

**S3-221481 New solution Security procedure of KAF-Nonce**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: OPPO*

**Abstract:**

This contribution addresses the security requirements for key issue #2 in TR 33.741.

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

**S3-221497 New solution on KI#1 UE based solution**

 *Type: pCR For: (not specified)
 33.741 v0.1.0
 Source: NEC Corporation*

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

**S3-221576 Discussion about the home triggered primary authentication for interworking**

 *Type: discussion For: Endorsement
 Source: Ericsson*

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

**S3-221577 Conclusion for the primary authentication upon interworking from EPS to 5GS**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: Ericsson*

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

**S3-221578 Discussion about the need for initiating home triggered primary authentication for the SoR/UPU use case.**

 *Type: discussion For: Endorsement
 Source: Ericsson*

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

**S3-221579 Conclusion for the primary authentication upon SoR and UPU counter wrap around.**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: Ericsson*

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

**S3-221589 Solution to enable HN triggered Primary Authentication with UDM**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: Lenovo*

(Replaces S3-221526)

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

**S3-221601 New solution on HN initiated re-authentcation via AUSF**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: Samsung*

(Replaces S3-221530)

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

**S3-221602 New solution on UDM initiated re-authentcation based on AUSF request**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: Samsung*

(Replaces S3-221531)

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

**S3-221606 Solution using UDM to trigger authentication**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: Qualcomm Incorporated*

(Replaces S3-221515)

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

**S3-221633 Solution on HN triggering primary authentication for various scenarios**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-221353)

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

**S3-221646 New solution on UDM initiated Primary Authentication**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: Beijing Xiaomi Mobile Software*

(Replaces S3-221550)

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

**S3-221653 Home network triggered authentication solution for 4G to 5G interworking on Key issue #1**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: ZTE Corporation*

(Replaces S3-221436)

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

**S3-221663 Skeleton update**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: Huawei, HiSilicon*

(Replaces S3-221386)

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

**S3-221664 new KI in Kakma refresh**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: Huawei, HiSilicon*

(Replaces S3-221389)

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

**S3-221675 New solution UDM triggered primary authentication**

 *Type: pCR For: Approval
 33.741 v0.1.0
 Source: Huawei, HiSilicon*

(Replaces S3-221415)

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

**S3-221679 TR 33.741**

 *Type: draft TR For: (not specified)
 33.741 v0.2.0
 Source: Huawei, HiSilicon*

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

**S3-221697 New solution on KI#1 AMF based solution**

 *Type: pCR For: (not specified)
 33.741 v0.1.0
 Source: NEC Corporation*

(Replaces S3-221498)

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

### 5.8 Study on security aspects of enablers for Network Automation for 5G - phase 3

**S3-221451 Anomaly in Multivendor NWDAF Framework**

 *Type: pCR For: (not specified)
 33.738 v0.1.0
 Source: Intel*

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

**S3-221453 Revision on KI#2**

 *Type: pCR For: Approval
 33.738 v0.1.0
 Source: China Mobile Com. Corporation*

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

**S3-221454 KI on Security for NWDAF-assisted application detection**

 *Type: pCR For: Approval
 33.738 v0.1.0
 Source: China Mobile Com. Corporation*

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

**S3-221533 Key issue on Cyber-attack detection supported by NWDAF**

 *Type: pCR For: Approval
 33.738 v0.1.0
 Source: Samsung*

**Decision:** The document was **revised to S3-221603**.

**S3-221365 New solution on authorization of AI/ML model retrieving**

 *Type: pCR For: Approval
 33.738 v0.1.0
 Source: China Telecommunications*

**Decision:** The document was **revised to S3-221595**.

**S3-221452 Authorization and Authentication of ML model transfer**

 *Type: pCR For: (not specified)
 33.738 v0.1.0
 Source: Intel*

**Decision:** The document was **revised to S3-221639**.

**S3-221470 Solution for AI-ML model authorization and retrieval**

 *Type: pCR For: Approval
 33.738 v0.1.0
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **revised to S3-221615**.

**S3-221570 AI/ML model storage and sharing security**

 *Type: pCR For: Approval
 33.738 v0.1.0
 Source: Lenovo*

**Decision:** The document was **revised to S3-221591**.

**S3-221367 New solution on Using Federated-Learning-related Analytics Id for authorization of selection of participant NWDAF instances in the Federated Learning group**

 *Type: pCR For: Approval
 33.738 v0.1.0
 Source: China Telecommunications*

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

**S3-221369 New solution on topology hiding in data and analytics exchange in roaming case**

 *Type: pCR For: Approval
 33.738 v0.1.0
 Source: China Telecommunications*

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

**S3-221471 Solution for access control and anonymization for data and analytics exchange in roaming**

 *Type: pCR For: Approval
 33.738 v0.1.0
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **revised to S3-221616**.

**S3-221469 Solution for anomalous NF behaviour detection by NWDAF**

 *Type: pCR For: Approval
 33.738 v0.1.0
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **revised to S3-221617**.

**S3-221591 AI/ML model storage and sharing security**

 *Type: pCR For: Approval
 33.738 v0.1.0
 Source: Lenovo*

(Replaces S3-221570)

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

**S3-221595 New solution on authorization of AI/ML model retrieving**

 *Type: pCR For: Approval
 33.738 v0.1.0
 Source: China Telecommunications*

(Replaces S3-221365)

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

**S3-221603 Key issue on Cyber-attack detection**

 *Type: pCR For: Approval
 33.738 v0.1.0
 Source: Samsung*

(Replaces S3-221533)

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

**S3-221615 Solution for AI-ML model authorization and retrieval**

 *Type: pCR For: Approval
 33.738 v0.1.0
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-221470)

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

**S3-221616 Solution for access control and anonymization for data and analytics exchange in roaming**

 *Type: pCR For: Approval
 33.738 v0.1.0
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-221471)

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

**S3-221617 Solution for anomalous NF behaviour detection by NWDAF**

 *Type: pCR For: Approval
 33.738 v0.1.0
 Source: Nokia, Nokia Shanghai Bell*

(Replaces S3-221469)

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

**S3-221639 Authorization and Authentication of ML model transfer**

 *Type: pCR For: (not specified)
 33.738 v0.1.0
 Source: Intel*

(Replaces S3-221452)

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

**S3-221657 draft TR 33.738 0.2.0**

 *Type: draft TR For: Approval
 33.738 v0.2.0
 Source: China Mobile Group Device Co.*

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

### 5.9 Study on Security Enhancement of support for Edge Computing — phase 2

**S3-221320 New key issue on UE privacy protection and authorization in NW exposure of UE traffic related information to AF**

 *Type: pCR For: Approval
 33.739 v0.1.0
 Source: InterDigital Communications*

**Abstract:**

This contribution proposes a key issue for security aspect on the NW exposure of UE traffic related information.

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

**S3-221322 New key issue on Authorization for ACR**

 *Type: pCR For: Approval
 33.739 v0.1.0
 Source: InterDigital Communications*

**Abstract:**

This contribution proposes a key issue for ACR authorization.

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

**S3-221323 New key issue on ACR security**

 *Type: pCR For: Approval
 33.739 v0.1.0
 Source: InterDigital Communications*

**Abstract:**

This contribution proposes a new key issue for ACR security.

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

**S3-221411 New KI on Authentication and Authorization between V-ECS and H-ECS**

 *Type: pCR For: Approval
 33.739 v0.1.0
 Source: Huawei, HiSilicon*

**Decision:** The document was **revised to S3-221673**.

**S3-221412 New KI on Transport security for the EDGE10 interface**

 *Type: pCR For: Approval
 33.739 v0.1.0
 Source: Huawei, HiSilicon*

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

**S3-221413 New KI on Authentication and Authorization between AC and EEC**

 *Type: pCR For: Approval
 33.739 v0.1.0
 Source: Huawei, HiSilicon*

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

**S3-221477 Updates to authentication and authorization key issue**

 *Type: pCR For: Approval
 33.739 v0.1.0
 Source: Ericsson*

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

**S3-221487 New KI on data protection for the fast and efficient network exposure**

 *Type: pCR For: Approval
 33.739 v0.1.0
 Source: Huawei, HiSilicon*

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

**S3-221488 New KI on how to authorize PDU session to support local traffic routing to access an EHE in the VPLMN**

 *Type: pCR For: Approval
 33.739 v0.1.0
 Source: Huawei, HiSilicon*

**Decision:** The document was **revised to S3-221683**.

**S3-221357 Solution for Key Issue #2.2**

 *Type: pCR For: Approval
 33.739 v0.1.0
 Source: THALES*

**Abstract:**

This contribution proposes solution for Key Issue #2.2 of TR 33.739.

**Decision:** The document was **revised to S3-221704**.

**S3-221704 Solution for Key Issue #2.2**

 *Type: pCR For: Approval
 33.739 v0.1.0
 Source: THALES*

(Replaces S3-221357)

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

**S3-221377 New solution Authentication mechanism selection in EDGE**

 *Type: pCR For: Approval
 33.739 v0.1.0
 Source: OPPO*

**Abstract:**

This solution addresses security requirement for authentication mechanism selection between EEC and ECS, EEC and EES in key issue #2.2.

**Decision:** The document was **revised to S3-221694**.

**S3-221379 New solution Authentication mechanism selection among EEC, ECS, and EES**

 *Type: pCR For: Approval
 33.739 v0.1.0
 Source: OPPO*

**Abstract:**

This solution addresses security requirement for authentication mechanism selection between EEC and ECS, EEC and EES in key issue #2.2. It is proposed to realize the authentication mechanism selection between EEC, ECS and EES at the same time with the hel

**Decision:** The document was **revised to S3-221695**.

**S3-221399 Authentication mechanism selection between the EEC and ECS/EES**

 *Type: pCR For: Approval
 33.739 v0.1.0
 Source: Huawei, HiSilicon*

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

**S3-221438 ECS EES authentication method information provisioning solution on Key issue #2.2**

 *Type: pCR For: Approval
 33.739 v0.1.0
 Source: ZTE Corporation*

**Decision:** The document was **revised to S3-221654**.

**S3-221467 MEC - Negotiation procedure for the authentication and authorization**

 *Type: LS out For: Approval
 to CT3, cc SA6, SA2, CT4
 Source: Apple*

**Decision:** The document was **revised to S3-221678**.

**S3-221527 Authentication mechanism selection between EEC and ECS**

 *Type: pCR For: Approval
 33.739 v0.1.0
 Source: Samsung*

**Decision:** The document was **revised to S3-221599**.

**S3-221528 Authentication mechanism selection between EEC and EES**

 *Type: pCR For: Approval
 33.739 v0.1.0
 Source: Samsung*

**Decision:** The document was **revised to S3-221600**.

**S3-221559 KI#2.1, New Sol Authentication and authorization between EEC hosted in the roaming UE and ECS**

 *Type: pCR For: Approval
 33.739 v0.1.0
 Source: Xiaomi Communication*

**Decision:** The document was **revised to S3-221611**.

**S3-221560 KI#2.1, New Sol Authentication and authorization between EEC hosted in the roaming UE and EES**

 *Type: pCR For: Approval
 33.739 v0.1.0
 Source: Xiaomi Communication*

**Decision:** The document was **revised to S3-221613**.

**S3-221561 KI#2.2, New Sol 5GC-based authentication mechanism selection between EEC and ECS or EES**

 *Type: pCR For: Approval
 33.739 v0.1.0
 Source: Xiaomi Communication*

**Decision:** The document was **revised to S3-221614**.

**S3-221468 HN-auth-NAS based HN triggered authentication**

 *Type: pCR For: Approval
 33.741 v0.0.0
 Source: Apple*

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

**S3-221599 Authentication mechanism selection between EEC and ECS**

 *Type: pCR For: Approval
 33.739 v0.1.0
 Source: Samsung*

(Replaces S3-221527)

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

**S3-221600 Authentication mechanism selection between EEC and EES**

 *Type: pCR For: Approval
 33.739 v0.1.0
 Source: Samsung*

(Replaces S3-221528)

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

**S3-221611 KI#2.1, New Sol Authentication and authorization between EEC hosted in the roaming UE and ECS**

 *Type: pCR For: Approval
 33.739 v0.1.0
 Source: Xiaomi Communication*

(Replaces S3-221559)

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

**S3-221613 KI#2.1, New Sol Authentication and authorization between EEC hosted in the roaming UE and EES**

 *Type: pCR For: Approval
 33.739 v0.1.0
 Source: Xiaomi Communication*

(Replaces S3-221560)

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

**S3-221614 KI#2.2, New Sol 5GC-based authentication mechanism selection between EEC and ECS or EES**

 *Type: pCR For: Approval
 33.739 v0.1.0
 Source: Xiaomi Communication*

(Replaces S3-221561)

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

**S3-221654 ECS EES authentication method information provisioning solution on Key issue #2.2**

 *Type: pCR For: Approval
 33.739 v0.1.0
 Source: ZTE Corporation*

(Replaces S3-221438)

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

**S3-221673 New KI on Authentication and Authorization between V-ECS and H-ECS**

 *Type: pCR For: Approval
 33.739 v0.1.0
 Source: Huawei, HiSilicon*

(Replaces S3-221411)

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

**S3-221678 MEC - Negotiation procedure for the authentication and authorization**

 *Type: pCR For: Approval
 33.739 v0.1.0
 Source: Apple*

(Replaces S3-221467)

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

**S3-221683 New KI on how to authorize PDU session to support local traffic routing to access an EHE in the VPLMN**

 *Type: pCR For: Approval
 33.739 v0.1.0
 Source: Huawei, HiSilicon*

(Replaces S3-221488)

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

**S3-221685 Draft TR 33.739**

 *Type: draft TR For: Approval
 33.739 v0.2.0
 Source: Huawei, HiSilicon*

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

**S3-221694 New solution Authentication mechanism selection in EDGE**

 *Type: pCR For: Approval
 33.739 v0.1.0
 Source: OPPO*

(Replaces S3-221377)

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

**S3-221695 New solution Authentication mechanism selection among EEC, ECS, and EES**

 *Type: pCR For: Approval
 33.739 v0.1.0
 Source: OPPO*

(Replaces S3-221379)

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

### 5.10 Study on Personal IoT Networks Security Aspects

**S3-221319 New key issue on Protecting Identification of PIN and PIN Privacy**

 *Type: pCR For: Approval
 33.882 v0.0.1
 Source: InterDigital, Inc.*

**Abstract:**

This pCR proposes a new Key Issue, Protecting Identification of PIN and PIN Privacy.

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

**S3-221321 New key issue on Secure Communication of between PINEs**

 *Type: pCR For: Approval
 33.882 v0.0.1
 Source: InterDigital, Inc.*

**Abstract:**

This proposal aims to add a new Key Issue on secure communications between PINEs.

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

**S3-221325 New key issue on Secure policy and parameters provisioning for PIN**

 *Type: pCR For: Approval
 33.882 v0.0.1
 Source: InterDigital, Inc.*

**Abstract:**

This PCR proposes a new KI aiming to study secure provisioning of policy and parameters for PIN.

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

**S3-221327 New key issue on Authorization of PINE**

 *Type: pCR For: Approval
 33.882 v0.0.1
 Source: InterDigital, Inc.*

**Abstract:**

This PCR proposes to study security issues related to the authorization of PINEs in a particular PIN.

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

**S3-221328 New key issue on PIN and PINE discovery authorization**

 *Type: pCR For: Approval
 33.882 v0.0.1
 Source: InterDigital, Inc.*

**Abstract:**

This PCR proposes a new KI that aims to study secure discovery authorization procedure of PINEs in a given PIN.

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

**S3-221335 New Key Issue on controlling access of PIN elements to 5G network**

 *Type: pCR For: Approval
 33.882 v0.0.1
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

New Key Issue on controlling access of PIN Elements to 5G Network.

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

**S3-221417 Authentication and authorization to PINE behind PEGC and PEMC**

 *Type: pCR For: Approval
 33.882 v0.0.0
 Source: Huawei, HiSilicon*

**Decision:** The document was **revised to S3-221676**.

**S3-221440 Key issue on secure data transfer between PEGC PEMC and PIN NF**

 *Type: pCR For: Approval
 33.882 v0.0.0
 Source: ZTE Corporation*

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

**S3-221502 Proposed skeleton for TR 33.882**

 *Type: pCR For: Approval
 33.882 v0.0.0
 Source: vivo Mobile Communication (S)*

**Abstract:**

Skeleton of TR 33.882

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

**S3-221504 Scope of TR 33.882**

 *Type: pCR For: Approval
 33.882 v0.0.0
 Source: vivo Mobile Communication (S)*

**Abstract:**

Scope of TR 33.882

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

**S3-221506 New KI for authentication of PINE**

 *Type: pCR For: Approval
 33.882 v0.0.0
 Source: vivo Mobile Communication (S)*

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

**S3-221507 New Key Issue for controlling of remote provisioning**

 *Type: pCR For: Approval
 33.882 v0.0.0
 Source: vivo Mobile Communication (S)*

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

**S3-221564 New KI: Secure authentication of PINE**

 *Type: pCR For: Approval
 33.882 v0.0.0
 Source: Xiaomi Communication*

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

**S3-221565 New KI: Secure provisioning of credentials for non-3GPP device via PEGC**

 *Type: pCR For: Approval
 33.882 v0.0.0
 Source: Xiaomi Communication*

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

**S3-221656 TR 33.882 v0.1.0**

 *Type: draft TR For: Approval
 33.882 v0.1.0
 Source: vivo*

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

**S3-221676 Authentication and authorization to PINE behind PEGC and PEMC**

 *Type: pCR For: Approval
 33.882 v0.0.0
 Source: Huawei, HiSilicon*

(Replaces S3-221417)

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

### 5.11 Study on SNAAPP security

**S3-221314 skeleton for draft TR 33.884 SNAAPP security(FS\_SNAAPPY)**

 *Type: draft TR For: Approval
 33.884 v0.0.0
 Source: NTT DOCOMO*

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

**S3-221336 New Key Issue on Securing API invocation from UE applications**

 *Type: pCR For: Approval
 33.884 v0.0.0
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

New Key Issue on securing invocation of northbound APIs from applications residing on UEs.

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

**S3-221359 pCR to 33.884, scope**

 *Type: pCR For: Approval
 33.884 v0.0.0
 Source: NTT DOCOMO*

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

**S3-221478 A new key issue on authentication and authorization of UE in UE originated API invocation**

 *Type: pCR For: Approval
 33.884 v0.0.0
 Source: Ericsson*

**Decision:** The document was **revised to S3-221660**.

**S3-221479 A new key issue on user consent in API invocations**

 *Type: pCR For: Approval
 33.884 v0.0.0
 Source: Ericsson*

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

**S3-221582 pCR to 33.884, key issues from scope objective 1**

 *Type: pCR For: Approval
 33.884 v0.0.0
 Source: NTT DOCOMO*

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

**S3-221597 draft TR 33.884**

 *Type: draft TR For: (not specified)
 33.884 v0.1.0
 Source: DOCOMO Communications Lab.*

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

**S3-221626 draft - LS reply on CAPIF authorization roles related to FS\_SNAAPP – documenting state of discussion after SA3#107e-AdHoc - to be noted**

 *Type: LS out For: (not specified)
 to SA6
 Source: DOCOMO Communications Lab.*

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

**S3-221660 A new key issue on authentication and authorization of UE in UE originated API invocation**

 *Type: pCR For: Approval
 33.884 v0.0.0
 Source: Ericsson, Nokia, Nokia Shanghai Bell*

(Replaces S3-221478)

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

**S3-221586 LS on CAPIF authorization roles related to FS\_SNAAPP**

 *Type: LS in For: Discussion
 Original outgoing LS: -, to -, cc -
 Source: S6-221771*

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

### 5.12 Study on enhanced security for network slicing Phase 3

**S3-221372 Skeleton of TR33.886**

 *Type: pCR For: Approval
 33.886 v0.0.0
 Source: Huawei, HiSilicon*

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

**S3-221373 Scope of TR33.886**

 *Type: pCR For: Approval
 33.886 v0.0.0
 Source: Huawei, HiSilicon*

**Decision:** The document was **revised to S3-221628**.

**S3-221374 New KI-providing VPLMN slice information to roaming UE**

 *Type: pCR For: Approval
 33.886 v0.0.0
 Source: Huawei, HiSilicon*

**Decision:** The document was **revised to S3-221629**.

**S3-221375 New KI-temprory slices and slice authorization**

 *Type: pCR For: Approval
 33.886 v0.0.0
 Source: Huawei, HiSilicon*

**Decision:** The document was **revised to S3-221630**.

**S3-221376 New KI on NSAC**

 *Type: pCR For: Approval
 33.886 v0.0.0
 Source: Huawei, HiSilicon*

**Decision:** The document was **revised to S3-221631**.

**S3-221628 Scope of TR33.886**

 *Type: pCR For: Approval
 33.886 v0.0.0
 Source: Huawei, HiSilicon*

(Replaces S3-221373)

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

**S3-221629 New KI-providing VPLMN slice information to roaming UE**

 *Type: pCR For: Approval
 33.886 v0.0.0
 Source: Huawei, HiSilicon*

(Replaces S3-221374)

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

**S3-221630 New KI-temprory slices and slice authorization**

 *Type: pCR For: Approval
 33.886 v0.0.0
 Source: Huawei, HiSilicon*

(Replaces S3-221375)

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

**S3-221631 New KI on NSAC**

 *Type: pCR For: Approval
 33.886 v0.0.0
 Source: Huawei, HiSilicon*

(Replaces S3-221376)

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

**S3-221632 Draft TR 33.886 for eNS3**

 *Type: draft TR For: (not specified)
 33.886 v0.1.0
 Source: Huawei*

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

### 5.13 Study on Security aspects for 5WWC Phase 2

**S3-221341 Skeleton for 5WWC Ph2 study**

 *Type: pCR For: Approval
 33.887 v0.0.0
 Source: Nokia, Nokia Shanghai Bell*

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

**S3-221342 Scope of 5WWC study**

 *Type: pCR For: Approval
 33.887 v0.0.0
 Source: Nokia, Nokia Shanghai Bell, CableLabs*

**Decision:** The document was **revised to S3-221636**.

**S3-221343 Key issue on authentication of AUN3 device not supporting EAP**

 *Type: pCR For: Approval
 33.887 v0.0.0
 Source: Nokia, Nokia Shanghai Bell, CableLabs*

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

**S3-221344 Key issue on authentication of AUN3 device supporting EAP**

 *Type: pCR For: Approval
 33.887 v0.0.0
 Source: Nokia, Nokia Shanghai Bell, CableLabs*

**Decision:** The document was **revised to S3-221637**.

**S3-221345 Key issue on Authentication of UE behind RG and connected via NSWO**

 *Type: pCR For: Approval
 33.887 v0.0.0
 Source: Nokia, Nokia Shanghai Bell, CableLabs*

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

**S3-221346 Key issue on Security aspect of slice information exposure of N3IWF/TNGF**

 *Type: pCR For: Approval
 33.887 v0.0.0
 Source: Nokia, Nokia Shanghai Bell, CableLabs*

**Decision:** The document was **revised to S3-221638**.

**S3-221416 authentication and authorization to N3GPP device behind 5G-RG**

 *Type: pCR For: Approval
 33.887 v0.0.0
 Source: Huawei, HiSilicon*

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

**S3-221636 Scope of 5WWC study**

 *Type: pCR For: Approval
 33.887 v0.0.0
 Source: Nokia, Nokia Shanghai Bell, CableLabs*

(Replaces S3-221342)

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

**S3-221637 Key issue on authentication of AUN3 device supporting EAP**

 *Type: pCR For: Approval
 33.887 v0.0.0
 Source: Nokia, Nokia Shanghai Bell, CableLabs*

(Replaces S3-221344)

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

**S3-221638 Key issues on Security aspect of slice information exposure of N3IWF/TNGF**

 *Type: pCR For: Approval
 33.887 v0.0.0
 Source: Nokia, Nokia Shanghai Bell, CableLabs*

(Replaces S3-221346)

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

**S3-221703 draft 33.887 v0.1.0 Study on Security aspects for 5WWC Phase 2**

 *Type: draft TR For: Approval
 33.887 v0.1.0
 Source: Nokia*

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

### 5.14 Study on the security aspects of Artificial Intelligence (AI)/Machine Learning (ML) for the NG-RAN

**S3-221573 TR skeleton**

 *Type: draft TR For: Approval
 33.877 v0.0.0
 Source: Ericsson*

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

**S3-221574 Content for the scope clause of the technical report**

 *Type: pCR For: Approval
 33.877 v0.0.0
 Source: Ericsson*

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

**S3-221575 Initial content for the background clause of the technical report**

 *Type: pCR For: Approval
 33.877 v0.0.0
 Source: Ericsson*

**Decision:** The document was **revised to S3-221649**.

**S3-221649 Initial content for the background clause of the technical report**

 *Type: pCR For: Approval
 33.877 v0.0.0
 Source: Ericsson*

(Replaces S3-221575)

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

**S3-221650 Draft TR 33.877 v0.1.0 Study on the security aspects of Artificial Intelligence (AI)/Machine Learning (ML) for the NG-RAN**

 *Type: draft TR For: Approval
 33.877 v0.1.0
 Source: Ericsson España S.A.*

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

### 5.15 Study on security support for Next Generation Real Time Communication services

**S3-221482 skeleton for NGRTC**

 *Type: draft TR For: Approval
 33.890 v0.0.0
 Source: Huawei, HiSilicon*

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

**S3-221483 Scope of TR 33.890**

 *Type: pCR For: Approval
 33.890 v0.0.0
 Source: Huawei, HiSilicon*

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

**S3-221484 New KI on 3rd party ID**

 *Type: pCR For: Approval
 33.890 v0.0.0
 Source: Huawei, HiSilicon*

**Decision:** The document was **revised to S3-221682**.

**S3-221546 Key Issue on Authorization for Third Party Specific User ID Usage**

 *Type: pCR For: Approval
 33.890 v0.0.0
 Source: Beijing Xiaomi Mobile Software*

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

**S3-221547 Key Issue on Verification of the Third Party User Specific ID**

 *Type: pCR For: Approval
 33.890 v0.0.0
 Source: Beijing Xiaomi Mobile Software*

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

**S3-221682 New KI on 3rd party ID**

 *Type: pCR For: Approval
 33.890 v0.0.0
 Source: Huawei, HiSilicon, Xiaomi, Ericsson*

(Replaces S3-221484)

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

**S3-221686 DraftTR\_33.890**

 *Type: draft TR For: Approval
 33.890 v0.1.0
 Source: Huawei, HiSilicon*

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

### 5.16 Study on security aspects of enhanced support of Non-Public Networks phase 2

**S3-221361 Key issue on connected and idle mode mobility**

 *Type: pCR For: Approval
 33.858 v0.0.1
 Source: Nokia, Nokia Shanghai Bell*

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

**S3-221362 Key issue on non-3GPP access in SNPN’s**

 *Type: pCR For: Approval
 33.858 v0.0.1
 Source: Nokia, Nokia Shanghai Bell*

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

**S3-221363 Key issue on providing access to localised services**

 *Type: pCR For: Approval
 33.858 v0.0.1
 Source: Nokia, Nokia Shanghai Bell*

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

**S3-221450 Authentication and Authorization for Localized Services**

 *Type: other For: (not specified)
 33.858 v..
 Source: Intel*

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

**S3-221492 Scope for Study on security aspects of enhanced support of Non-Public Networks phase 2**

 *Type: pCR For: Approval
 33.858 v0.0.0
 Source: Ericsson*

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

**S3-221493 New Key Issue "Security of non-3GPP access for SNPN"**

 *Type: pCR For: Approval
 33.858 v0.0.0
 Source: Ericsson*

**Decision:** The document was **revised to S3-221681**.

**S3-221494 New Key Issue "Hosting network and UE mutual authentication"**

 *Type: pCR For: Approval
 33.858 v0.0.0
 Source: Ericsson*

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

**S3-221562 New KI: Home control enhancement for eNPN**

 *Type: pCR For: Approval
 33.858 v0.0.0
 Source: Xiaomi Communication*

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

**S3-221563 New KI: Support for secure non-3GPP access for NPN**

 *Type: pCR For: Approval
 33.858 v0.0.0
 Source: Xiaomi Communication*

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

**S3-221681 New Key Issue "Security of non-3GPP access for SNPN"**

 *Type: pCR For: Approval
 33.858 v0.0.0
 Source: Ericsson, Nokia, Nokia Shanghai Bell, Xiaomi, CableLabs*

(Replaces S3-221493)

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

**S3-221684 draft TR 33.858 v0.1.0**

 *Type: draft TR For: Approval
 33.858 v0.1.0
 Source: Ericsson*

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

### 5.17 Study on Security of Phase 2 for UAS, UAV and UAM

**S3-221333 Key Issue on Direct C2 Security**

 *Type: pCR For: Approval
 33.891 v0.0.0
 Source: InterDigital, Europe, Ltd.*

**Abstract:**

This contribution proposes a new key issue for Direct C2 Security.

**Decision:** The document was **revised to S3-221610**.

**S3-221334 Key Issue on Direct C2 Authorization**

 *Type: pCR For: Approval
 33.891 v0.0.0
 Source: InterDigital, Europe, Ltd.*

**Abstract:**

This contribution proposes a new key issue for Direct C2 Authorization.

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

**S3-221407 New Key Issue on security enhancement of C2 communication**

 *Type: pCR For: Approval
 33.891 v0.0.0
 Source: Huawei, HiSilicon*

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

**S3-221514 Key issue for security of unicast connection**

 *Type: other For: Approval
 Source: Qualcomm Incorporated*

**Decision:** The document was **revised to S3-221605**.

**S3-221512 Proposed skeleton for TR 33.891**

 *Type: draft TR For: Approval
 33.891 v0.0.0
 Source: Qualcomm Incorporated*

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

**S3-221513 Proposed scope for TR 33.891**

 *Type: pCR For: Approval
 33.891 v0.0.0
 Source: Qualcomm Incorporated*

**Decision:** The document was **revised to S3-221604**.

**S3-221534 Key issue on Privacy and security aspects of broadcasting Remote ID**

 *Type: pCR For: Approval
 33.891 v0.0.0
 Source: Samsung*

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

**S3-221604 Proposed scope for TR 33.891**

 *Type: pCR For: Approval
 33.891 v0.0.0
 Source: Qualcomm Incorporated*

(Replaces S3-221513)

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

**S3-221605 Key issue for security of unicast connection**

 *Type: other For: Approval
 Source: Qualcomm Incorporated*

(Replaces S3-221514)

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

**S3-221607 Draft TR 33.891 v0.1.0**

 *Type: draft TR For: Approval
 33.891 v0.1.0
 Source: Qualcomm Incorporated*

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

**S3-221610 Key Issue on Direct C2 Security**

 *Type: pCR For: Approval
 33.891 v0.0.0
 Source: InterDigital, Europe, Ltd., Huawei, HiSilicon*

(Replaces S3-221333)

**Abstract:**

This contribution proposes a new key issue for Direct C2 Security.

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

### 5.18 Study to enable URSP rules to securely identify Applications

**S3-221567 Skeleton for TR 33.892 FS\_USIA**

 *Type: draft TR For: Approval
 33.892 v0.0.0
 Source: Lenovo*

**Decision:** The document was **revised to S3-221593**.

**S3-221568 Scope for TR 33.892**

 *Type: pCR For: Approval
 33.892 v0.0.0
 Source: Lenovo*

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

**S3-221569 KI on determination of additional information for application identification**

 *Type: pCR For: Approval
 33.892 v0.0.0
 Source: Lenovo*

**Decision:** The document was **revised to S3-221594**.

**S3-221593 Skeleton for TR 33.892 FS\_USIA**

 *Type: draft TR For: Approval
 33.892 v0.0.0
 Source: Lenovo*

(Replaces S3-221567)

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

**S3-221594 KI on determination of additional information for application identification**

 *Type: pCR For: Approval
 33.892 v0.0.0
 Source: Lenovo*

(Replaces S3-221569)

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

**S3-221690 Draft TR 33.892**

 *Type: draft TR For: (not specified)
 33.892 v0.1.0
 Source: Lenovo*

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

### 5.19 Study on Security Aspects of Ranging Based Services and Sidelink Positioning

**S3-221537 33.893: Draft Skeleton**

 *Type: draft TR For: Approval
 33.893 v0.0.0
 Source: Xiaomi Technology*

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

**S3-221538 33.893: Scope**

 *Type: pCR For: Approval
 33.893 v0.0.0
 Source: Xiaomi Technology*

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

**S3-221441 Add context to the architecture assumption**

 *Type: pCR For: Approval
 33.893 v0.0.0
 Source: ZTE Corporation*

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

**S3-221539 33.893: Architecure Assumptions**

 *Type: pCR For: Approval
 33.893 v0.0.0
 Source: Xiaomi Technology*

**Decision:** The document was **revised to S3-221622**.

**S3-221398 New key issue on privacy protection for Ranging/Sidelink positioning with the assistance of assistant UE**

 *Type: pCR For: Approval
 33.893 v0.0.0
 Source: Huawei, HiSilicon*

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

**S3-221455 Key issue on Privacy protection for Network assisted Sidelink Positioning**

 *Type: pCR For: Approval
 33.893 v0.0.0
 Source: China Telecomunication Corp.*

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

**S3-221540 33.893: New Key Issue on Privacy**

 *Type: pCR For: Approval
 33.893 v0.0.0
 Source: Xiaomi Technology*

**Decision:** The document was **revised to S3-221623**.

**S3-221442 Key issue on discovery message protection between reference UEs and target UEs**

 *Type: pCR For: Approval
 33.893 v0.0.0
 Source: ZTE Corporation*

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

**S3-221542 33.893: New Key Issue on Discovery Security**

 *Type: pCR For: Approval
 33.893 v0.0.0
 Source: Xiaomi Technology*

**Decision:** The document was **revised to S3-221624**.

**S3-221443 Key issue on security of network based sidelink positioning**

 *Type: pCR For: Approval
 33.893 v0.0.0
 Source: ZTE Corporation*

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

**S3-221445 Key issue on security of UE based sidelink positioning**

 *Type: pCR For: Approval
 33.893 v0.0.0
 Source: ZTE Corporation*

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

**S3-221543 33.893: New Key Issue on Direct Communication Security**

 *Type: pCR For: Approval
 33.893 v0.0.0
 Source: Xiaomi Technology*

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

**S3-221444 Key issue on security of service exposure to a UE**

 *Type: pCR For: Approval
 33.893 v0.0.0
 Source: ZTE Corporation*

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

**S3-221541 33.893: New Key Issue on Authorization for Ranging/SL Positioning Service**

 *Type: pCR For: Approval
 33.893 v0.0.0
 Source: Beijing Xiaomi Mobile Software*

**Decision:** The document was **revised to S3-221647**.

**S3-221360 Key issue on application impersonation**

 *Type: pCR For: Approval
 33.892 v0.0.1
 Source: Nokia, Nokia Shanghai Bell*

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

**S3-221622 33.893: Architecure Assumptions**

 *Type: pCR For: Approval
 33.893 v0.0.0
 Source: Xiaomi Technology*

(Replaces S3-221539)

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

**S3-221623 33.893: New Key Issue on Privacy**

 *Type: pCR For: Approval
 33.893 v0.0.0
 Source: Xiaomi Technology*

(Replaces S3-221540)

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

**S3-221624 33.893: New Key Issue on Discovery Security**

 *Type: pCR For: Approval
 33.893 v0.0.0
 Source: Xiaomi Technology*

(Replaces S3-221542)

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

**S3-221625 33.893: New Key Issue on Authorization for Ranging/SL Positioning Service**

 *Type: pCR For: Approval
 33.893 v0.0.0
 Source: Beijing Xiaomi Mobile Software*

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

**S3-221627 Draft TR 33.893**

 *Type: draft TR For: Approval
 33.893 v0.1.0
 Source: Xiaomi Technology*

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

**S3-221647 33.893: New Key Issue on Authorization for Ranging/SL Positioning Service**

 *Type: pCR For: Approval
 33.893 v0.0.0
 Source: Beijing Xiaomi Mobile Software*

(Replaces S3-221541)

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

### 5.20 Study on Security and Privacy of AI/ML-based Services and Applications in 5G

**S3-221313 LS on 5GC information exposure to UE**

 *Type: LS in For: (not specified)
 Original outgoing LS: -, to -, cc -
 Source: S2-2205286*

**Decision:** The document was **replied to in S3-221621**.

**S3-221358 draft-LS reply on 5GC information exposure to UE**

 *Type: LS out For: Approval
 to SA2, cc SA1
 Source: NTT DOCOMO*

**Decision:** The document was **revised to S3-221621**.

**S3-221511 Draft LS on 5GC Information Exposure to UE**

 *Type: LS out For: Approval
 to SA2, SA1
 Source: OPPO*

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

**S3-221583 TR 33.898 Skeleton**

 *Type: draft TR For: Approval
 33.898 v0.0.0
 Source: OPPO*

(Replaces S3-221508)

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

**S3-221509 Scope of TR 33.898**

 *Type: pCR For: Approval
 33.898 v0.0.0
 Source: OPPO*

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

**S3-221510 References in TR 33.898**

 *Type: pCR For: Approval
 33.898 v0.0.0
 Source: OPPO*

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

**S3-221347 Key issue on authorization of AIML operations**

 *Type: pCR For: Approval
 33.898 v0.0.0
 Source: Nokia, Nokia Shanghai Bell*

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

**S3-221349 Key issue on securing AIML operation**

 *Type: pCR For: Approval
 33.898 v0.0.0
 Source: Nokia, Nokia Shanghai Bell*

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

**S3-221324 New key issue on Federated Learning AIML model protection**

 *Type: pCR For: Approval
 33.898 v0.0.1
 Source: InterDigital Communications*

**Abstract:**

The contribution proposes a KI to AIML model protection.

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

**S3-221350 Key issue on Security criteria of UE selection for AIML**

 *Type: pCR For: Approval
 33.898 v0.0.0
 Source: Nokia, Nokia Shanghai Bell*

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

**S3-221326 New key issue on Federated Learning AIML model privacy protection**

 *Type: pCR For: Approval
 33.898 v0.0.1
 Source: InterDigital Communications*

**Abstract:**

The contribution proposes a new KI for AIML model privacy protection.

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

**S3-221566 New KI: Privacy-preserving federated learning**

 *Type: pCR For: Approval
 33.898 v0.0.0
 Source: Xiaomi Communication*

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

**S3-221348 Key issue on authorization of UE accessing the 5G analytics**

 *Type: pCR For: Approval
 33.898 v0.0.0
 Source: Nokia, Nokia Shanghai Bell*

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

**S3-221508 TR 33.898 Skeleton**

 *Type: pCR For: Approval
 33.898 v0.0.0
 Source: OPPO*

**Decision:** The document was **revised to S3-221583**.

**S3-221598 draft-LS reply on 5GC information exposure to UE**

 *Type: LS out For: Approval
 to SA2, SA1
 Source: NTT DOCOMO*

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

**S3-221621 LS reply on 5GC information exposure to UE**

 *Type: LS out For: Approval
 to SA2, SA1
 Source: NTT DOCOMO*

(Replaces S3-221358)

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

**S3-221698 TR 33.898**

 *Type: draft TR For: Approval
 33.898 v0.1.0
 Source: OPPO*

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

### 5.21 Study on applicability of the Zero Trust Security principles in mobile networks

**S3-221520 Proposal for TR 33.894 Skeleton**

 *Type: draft TR For: Approval
 33.894 v0.0.0
 Source: Lenovo*

**Abstract:**

This contribution presents the skeleton for FS\_ZTS\_SID

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

**S3-221523 Update of Scope**

 *Type: pCR For: Approval
 33.894 v0.0.1
 Source: Lenovo, Rakuten Mobile Inc, Interdigital, US NSA, Motorola Solutions, Johns Hopkins University APL, Intel, Center for Internet Security*

**Decision:** The document was **revised to S3-221588**.

**S3-221522 Security Assumptions**

 *Type: pCR For: Approval
 33.894 v0.0.1
 Source: Lenovo, Rakuten Mobile Inc., Interdigital, US NSA, Motorola Solutions, Johns Hopkins University APL, Intel, Center for Internet Security*

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

**S3-221439 new key issue Exposure of Network Capabilities**

 *Type: pCR For: Approval
 33.894 v0.0.0
 Source: ZTE Corporation*

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

**S3-221449 Key Issue on Secure Trust Evaluation**

 *Type: other For: (not specified)
 33.894 v..
 Source: Intel*

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

**S3-221500 Key issue on determining and maintaining trust indication in 5G Core**

 *Type: pCR For: Approval
 33.894 v0.0.0
 Source: Nokia, Nokia Shanghai Bell*

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

**S3-221521 Key Issue#1 on Need for continuous Trust evaluation**

 *Type: pCR For: Approval
 33.894 v0.0.1
 Source: Lenovo, Nokia, Nokia Shanghai Bell, Rakuten Mobile Inc., Interdigital, US NSA, Motorola Solutions, Johns Hopkins University APL, Intel, Center for Internet Security*

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

**S3-221499 Key issue on misuse of OAuth 2.0 access token by anomalous Network functions**

 *Type: pCR For: Approval
 33.894 v0.0.0
 Source: Nokia, Nokia Shanghai Bell*

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

**S3-221448 Key Issue on secure storage and limited access to NF credentials**

 *Type: other For: (not specified)
 33.894 v..
 Source: Intel*

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

**S3-221588 Update of Scope**

 *Type: pCR For: Approval
 33.894 v0.0.1
 Source: Lenovo, Rakuten Mobile Inc, Interdigital, US NSA, Motorola Solutions, Johns Hopkins University APL, Intel, Center for Internet Security*

(Replaces S3-221523)

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

**S3-221691 Draft TR 33.894 for ZTS**

 *Type: draft TR For: Approval
 33.894 v0.1.0
 Source: Lenovo*

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

### 5.22 Study of Security aspects on User Consent for 3GPP Services Phase 2

**S3-221400 Skeleton of UC3S\_Ph2**

 *Type: draft TR For: Approval
 33.896 v0.0.0
 Source: Huawei, HiSilicon*

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

**S3-221401 Scope of UC3S\_Ph2**

 *Type: pCR For: Approval
 33.896 v0.0.0
 Source: Huawei, HiSilicon*

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

**S3-221402 New key issue on Roaming of eNA**

 *Type: pCR For: Approval
 33.896 v0.0.0
 Source: Huawei, HiSilicon*

**Decision:** The document was **revised to S3-221668**.

**S3-221403 New Key Issue on NTN**

 *Type: pCR For: Approval
 33.896 v0.0.0
 Source: Huawei, HiSilicon*

**Decision:** The document was **revised to S3-221669**.

**S3-221424 Key Issue for NTN specific user consent for UE location sharing**

 *Type: pCR For: (not specified)
 33.896 v0.0.1
 Source: Nokia Japan*

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

**S3-221544 33.896: New Key Issue on NTN Specific User Consent**

 *Type: pCR For: Approval
 33.896 v0.0.0
 Source: Xiaomi Technology*

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

**S3-221545 33.896: New Solution for NTN Specific User Consent**

 *Type: pCR For: Approval
 33.896 v0.0.0
 Source: Xiaomi Technology*

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

**S3-221668 New key issue on Roaming of eNA**

 *Type: pCR For: Approval
 33.896 v0.0.0
 Source: Huawei, HiSilicon*

(Replaces S3-221402)

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

**S3-221669 New Key Issue on NTN**

 *Type: pCR For: Approval
 33.896 v0.0.0
 Source: Huawei, HiSilicon, Xiaomi, Nokia, Nokia Shanghai Bell*

(Replaces S3-221403)

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

**S3-221680 TR 33.896**

 *Type: draft TR For: (not specified)
 33.896 v0.1.0
 Source: HUAWEI TECH. GmbH*

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

### 5.23 Study on security enhancements for 5G multicast-broadcast services Phase 2

**S3-221394 Skeleton of MBS phase2**

 *Type: draft TR For: Approval
 33.883 v0.0.0
 Source: Huawei, HiSilicon*

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

**S3-221395 Scope of MBS phase2**

 *Type: pCR For: Approval
 33.883 v0.0.0
 Source: Huawei, HiSilicon*

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

**S3-221396 New key issue on TMGI protection**

 *Type: pCR For: Approval
 33.883 v0.0.0
 Source: Huawei, HiSilicon*

**Decision:** The document was **revised to S3-221666**.

**S3-221397 New key issue on security handling in MOCN network sharing scenario**

 *Type: pCR For: Approval
 33.883 v0.0.0
 Source: Huawei, HiSilicon*

**Decision:** The document was **revised to S3-221667**.

**S3-221414 New key issue on security protection for Ues in RRC inactive state**

 *Type: pCR For: Approval
 33.883 v0.0.0
 Source: Huawei, HiSilicon*

**Decision:** The document was **revised to S3-221674**.

**S3-221461 Discussion paper about the security enhancements enabling UE’s receiving Multicast MBS Session data in RRC\_INACTIVE state**

 *Type: discussion For: Endorsement
 Source: Ericsson*

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

**S3-221655 TR 33.883**

 *Type: draft TR For: (not specified)
 33.883 v0.1.0
 Source: Huawei, HiSilicon*

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

**S3-221666 New key issue on TMGI protection**

 *Type: pCR For: Approval
 33.883 v0.0.0
 Source: Huawei, HiSilicon*

(Replaces S3-221396)

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

**S3-221667 New key issue on security handling in MOCN network sharing scenario**

 *Type: pCR For: Approval
 33.883 v0.0.0
 Source: Huawei, HiSilicon*

(Replaces S3-221397)

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

**S3-221674 New key issue on security protection for Ues in RRC inactive state**

 *Type: pCR For: Approval
 33.883 v0.0.0
 Source: Huawei, HiSilicon*

(Replaces S3-221414)

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

## 6 Any Other Business

## Annex A: Contribution documents and status

### A1: List of TDocs

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Document | Title | Source | Decision | Replaces | Replaced by |
| S3-221310 | Agenda | SA WG3 Chair | approved |  |  |
| S3-221311 | Process for SA3#107e meeting | SA WG3 Chair | noted |  |  |
| S3-221312 | Process and agenda for SA3#107e | SA WG3 Chair | noted |  |  |
| S3-221313 | LS on 5GC information exposure to UE | S2-2205286 | replied to |  |  |
| S3-221314 | skeleton for draft TR 33.884 SNAAPP security(FS\_SNAAPPY) | NTT DOCOMO | approved |  |  |
| S3-221315 | LS on user’s consent for EDGEAPP | C3-223780 | postponed |  |  |
| S3-221316 | LS to 3GPP CT4 on Identification of source PLMN-ID in SBA | GSMA | withdrawn |  |  |
| S3-221317 | LS on V2X PC5 link for unicast communication with null security algorithm | R5-222035 | replied to |  |  |
| S3-221318 | Solution 5 EN on Certificates and Tokens | U.S. National Security Agency | revised |  | S3-221648 |
| S3-221319 | New key issue on Protecting Identification of PIN and PIN Privacy | InterDigital, Inc. | noted |  |  |
| S3-221320 | New key issue on UE privacy protection and authorization in NW exposure of UE traffic related information to AF | InterDigital Communications | noted |  |  |
| S3-221321 | New key issue on Secure Communication of between PINEs | InterDigital, Inc. | noted |  |  |
| S3-221322 | New key issue on Authorization for ACR | InterDigital Communications | noted |  |  |
| S3-221323 | New key issue on ACR security | InterDigital Communications | noted |  |  |
| S3-221324 | New key issue on Federated Learning AIML model protection | InterDigital Communications | noted |  |  |
| S3-221325 | New key issue on Secure policy and parameters provisioning for PIN | InterDigital, Inc. | noted |  |  |
| S3-221326 | New key issue on Federated Learning AIML model privacy protection | InterDigital Communications | noted |  |  |
| S3-221327 | New key issue on Authorization of PINE | InterDigital, Inc. | noted |  |  |
| S3-221328 | New key issue on PIN and PINE discovery authorization | InterDigital, Inc. | noted |  |  |
| S3-221329 | New solution for Key issue #1 | InterDigital, Inc. | noted |  |  |
| S3-221330 | Key issue on Privacy protection over the UE-to-UE Relay | InterDigital, Europe, Ltd. | merged |  | S3-221677 |
| S3-221331 | Key Issue on Authorization in the UE-to-UE Relay Scenario | InterDigital, Europe, Ltd. | revised |  | S3-221608 |
| S3-221332 | Key Issue on Security of UE-to-UE Relay | InterDigital, Europe, Ltd. | revised |  | S3-221609 |
| S3-221333 | Key Issue on Direct C2 Security | InterDigital, Europe, Ltd. | revised |  | S3-221610 |
| S3-221334 | Key Issue on Direct C2 Authorization | InterDigital, Europe, Ltd. | noted |  |  |
| S3-221335 | New Key Issue on controlling access of PIN elements to 5G network | Nokia, Nokia Shanghai Bell | merged |  | S3-221676 |
| S3-221336 | New Key Issue on Securing API invocation from UE applications | Nokia, Nokia Shanghai Bell | merged |  | S3-221660 |
| S3-221337 | Updates to Solution #5 | Johns Hopkins University APL, US National Security Agency, CableLabs, InterDigital, AT&T, CISA ECD | revised |  | S3-221701 |
| S3-221338 | Address EN on Run-time Attestation | Johns Hopkins University APL, US National Security Agency, CableLabs, InterDigital, AT&T, CISA ECD | revised |  | S3-221702 |
| S3-221339 | Remove EN in clause 6.6.3.4 | Johns Hopkins University APL, US National Security Agency, CableLabs, InterDigital, AT&T, CISA ECD | noted |  |  |
| S3-221340 | New key issue on users identified by Priority Access | Johns Hopkins University APL, US National Security Agency, CISA ECD, Peraton Labs, Interdigital, Apple | revised |  | S3-221642 |
| S3-221341 | Skeleton for 5WWC Ph2 study | Nokia, Nokia Shanghai Bell | approved |  |  |
| S3-221342 | Scope of 5WWC study | Nokia, Nokia Shanghai Bell, CableLabs | revised |  | S3-221636 |
| S3-221343 | Key issue on authentication of AUN3 device not supporting EAP | Nokia, Nokia Shanghai Bell, CableLabs | noted |  |  |
| S3-221344 | Key issue on authentication of AUN3 device supporting EAP | Nokia, Nokia Shanghai Bell, CableLabs | revised |  | S3-221637 |
| S3-221345 | Key issue on Authentication of UE behind RG and connected via NSWO | Nokia, Nokia Shanghai Bell, CableLabs | noted |  |  |
| S3-221346 | Key issue on Security aspect of slice information exposure of N3IWF/TNGF | Nokia, Nokia Shanghai Bell, CableLabs | revised |  | S3-221638 |
| S3-221347 | Key issue on authorization of AIML operations | Nokia, Nokia Shanghai Bell | noted |  |  |
| S3-221348 | Key issue on authorization of UE accessing the 5G analytics | Nokia, Nokia Shanghai Bell | noted |  |  |
| S3-221349 | Key issue on securing AIML operation | Nokia, Nokia Shanghai Bell | noted |  |  |
| S3-221350 | Key issue on Security criteria of UE selection for AIML | Nokia, Nokia Shanghai Bell | noted |  |  |
| S3-221351 | Update in KI1 for encryption keys | Nokia, Nokia Shanghai Bell | revised |  | S3-221635 |
| S3-221352 | Solution on AKMA roaming | Nokia, Nokia Shanghai Bell | revised |  | S3-221634 |
| S3-221353 | Solution on HN triggering primary authentication for various scenarios | Nokia, Nokia Shanghai Bell | revised |  | S3-221633 |
| S3-221354 | Solution on Kaf refresh without primary authentication -UA\* | Nokia, Nokia Shanghai Bell | noted |  |  |
| S3-221355 | Solution on Kaf refresh without primary authentication- AAnF | Nokia, Nokia Shanghai Bell | noted |  |  |
| S3-221356 | Key Issue for AKMA roaming scenario | THALES | merged |  | S3-221635 |
| S3-221357 | Solution for Key Issue #2.2 | THALES | revised |  | S3-221704 |
| S3-221358 | draft-LS reply on 5GC information exposure to UE | NTT DOCOMO | revised |  | S3-221621 |
| S3-221359 | pCR to 33.884, scope | NTT DOCOMO | approved |  |  |
| S3-221360 | Key issue on application impersonation | Nokia, Nokia Shanghai Bell | noted |  |  |
| S3-221361 | Key issue on connected and idle mode mobility | Nokia, Nokia Shanghai Bell | noted |  |  |
| S3-221362 | Key issue on non-3GPP access in SNPN’s | Nokia, Nokia Shanghai Bell | merged |  | S3-221681 |
| S3-221363 | Key issue on providing access to localised services | Nokia, Nokia Shanghai Bell | noted |  |  |
| S3-221364 | Addressing the editor’s note in 6.27.2.1.1 of Sol#27 | CableLabs, Deutsche Telekom, Philips International B.V. | noted |  |  |
| S3-221365 | New solution on authorization of AI/ML model retrieving | China Telecommunications | revised |  | S3-221595 |
| S3-221366 | Addressing EN on NR Repeater in 6.27.2.2.4 of Sol#27 | CableLabs | noted |  |  |
| S3-221367 | New solution on Using Federated-Learning-related Analytics Id for authorization of selection of participant NWDAF instances in the Federated Learning group | China Telecommunications | noted |  |  |
| S3-221368 | Addressing the editor’s note in 6.27.2.2.1of Sol#27 | CableLabs, Deutsche Telekom, Philips International B.V. | noted |  |  |
| S3-221369 | New solution on topology hiding in data and analytics exchange in roaming case | China Telecommunications | noted |  |  |
| S3-221370 | LS out on authenticity and replay protection of system information | CableLabs, Deutsche Telekom, Philips International B.V., Ericsson, InterDigital, Apple, Johns Hopkins University APL, NIST | revised |  | S3-221612 |
| S3-221371 | Evaluation of solution #4 | Huawei, HiSilicon, Ericsson, Apple, Philips | noted |  |  |
| S3-221372 | Skeleton of TR33.886 | Huawei, HiSilicon | approved |  |  |
| S3-221373 | Scope of TR33.886 | Huawei, HiSilicon | revised |  | S3-221628 |
| S3-221374 | New KI-providing VPLMN slice information to roaming UE | Huawei, HiSilicon | revised |  | S3-221629 |
| S3-221375 | New KI-temprory slices and slice authorization | Huawei, HiSilicon | revised |  | S3-221630 |
| S3-221376 | New KI on NSAC | Huawei, HiSilicon | revised |  | S3-221631 |
| S3-221377 | New solution Authentication mechanism selection in EDGE | OPPO | revised |  | S3-221694 |
| S3-221378 | Solution for Privacy aspects of variable length user identifiers | Nokia Japan | noted |  |  |
| S3-221379 | New solution Authentication mechanism selection among EEC, ECS, and EES | OPPO | revised |  | S3-221695 |
| S3-221380 | Key Issue for Management of Automated Bulk Certificate updates for SBA leading to temporary service unavailability | Nokia Japan | revised |  | S3-221585 |
| S3-221381 | Update KI #6 for a new security threat | Huawei, HiSilicon | revised |  | S3-221661 |
| S3-221382 | New solution for KI #6 Relation between certificate management lifecycle and NF management lifecycle | Huawei, HiSilicon | noted |  |  |
| S3-221383 | Integrity and confidentiality of information over the UE-to-UE Relay | Huawei, HiSilicon | merged |  | S3-221609 |
| S3-221384 | new solution for AKMA roaming when both UE and AF are in VPLMN | Huawei, HiSilicon | revised |  | S3-221662 |
| S3-221385 | new solution for AKMA roaming when UE is in visited network but the AF in Home network. | Huawei, HiSilicon | noted |  |  |
| S3-221386 | Skeleton update | Huawei, HiSilicon | revised |  | S3-221663 |
| S3-221387 | new KI in interworking | Huawei, HiSilicon | noted |  |  |
| S3-221388 | new KI in SoR/UPU counter wraparound | Huawei, HiSilicon | noted |  |  |
| S3-221389 | new KI in Kakma refresh | Huawei, HiSilicon | revised |  | S3-221664 |
| S3-221390 | AUSF triggered the primary authentication | Huawei, HiSilicon | noted |  |  |
| S3-221391 | New KI on race condition | Huawei, HiSilicon | noted |  |  |
| S3-221392 | Update of KI #3 to contribute an EN | Huawei, HiSilicon | revised |  | S3-221689 |
| S3-221393 | Reply LS on Clarification on MBS Security Keys | Huawei, HiSilicon | revised |  | S3-221665 |
| S3-221394 | Skeleton of MBS phase2 | Huawei, HiSilicon | approved |  |  |
| S3-221395 | Scope of MBS phase2 | Huawei, HiSilicon | approved |  |  |
| S3-221396 | New key issue on TMGI protection | Huawei, HiSilicon | revised |  | S3-221666 |
| S3-221397 | New key issue on security handling in MOCN network sharing scenario | Huawei, HiSilicon | revised |  | S3-221667 |
| S3-221398 | New key issue on privacy protection for Ranging/Sidelink positioning with the assistance of assistant UE | Huawei, HiSilicon | merged |  | S3-221623 |
| S3-221399 | Authentication mechanism selection between the EEC and ECS/EES | Huawei, HiSilicon | noted |  |  |
| S3-221400 | Skeleton of UC3S\_Ph2 | Huawei, HiSilicon | approved |  |  |
| S3-221401 | Scope of UC3S\_Ph2 | Huawei, HiSilicon | approved |  |  |
| S3-221402 | New key issue on Roaming of eNA | Huawei, HiSilicon | revised |  | S3-221668 |
| S3-221403 | New Key Issue on NTN | Huawei, HiSilicon | revised |  | S3-221669 |
| S3-221404 | evaluation on solution 5 | Huawei, HiSilicon | revised |  | S3-221670 |
| S3-221405 | Reply LS about V2X PC5 unicast link with null security algorithm | Huawei, HiSilicon | merged |  | S3-221590 |
| S3-221406 | New Key Issue on security of ProSe groupcast communications | Huawei, HiSilicon | noted |  |  |
| S3-221407 | New Key Issue on security enhancement of C2 communication | Huawei, HiSilicon | merged |  | S3-221610 |
| S3-221408 | New solution for key issue 1 | Huawei, HiSilicon | revised |  | S3-221671 |
| S3-221409 | New solution for key issue 3 and 4 based on OCSP | Huawei, HiSilicon | revised |  | S3-221672 |
| S3-221410 | New solution for key issue 1 | Huawei, HiSilicon | noted |  |  |
| S3-221411 | New KI on Authentication and Authorization between V-ECS and H-ECS | Huawei, HiSilicon | revised |  | S3-221673 |
| S3-221412 | New KI on Transport security for the EDGE10 interface | Huawei, HiSilicon | approved |  |  |
| S3-221413 | New KI on Authentication and Authorization between AC and EEC | Huawei, HiSilicon | noted |  |  |
| S3-221414 | New key issue on security protection for Ues in RRC inactive state | Huawei, HiSilicon | revised |  | S3-221674 |
| S3-221415 | New solution UDM triggered primary authentication | Huawei, HiSilicon | revised |  | S3-221675 |
| S3-221416 | authentication and authorization to N3GPP device behind 5G-RG | Huawei, HiSilicon | noted |  |  |
| S3-221417 | Authentication and authorization to PINE behind PEGC and PEMC | Huawei, HiSilicon | revised |  | S3-221676 |
| S3-221418 | Authorization in the UE-to-UE relay scenario | Huawei, HiSilicon | merged |  | S3-221608 |
| S3-221419 | Privacy of information over the UE-to-UE Relay | Huawei, HiSilicon | revised |  | S3-221677 |
| S3-221420 | Reply LS on User Consent for EDGEAPP | Huawei, HiSilicon | noted |  |  |
| S3-221421 | Key issue on Authorization in the UE-to-UE relay scenario | China Telecomunication Corp. | merged |  | S3-221608 |
| S3-221422 | Key issue on Integrity and confidentiality of information over the UE-to-UE | China Telecomunication Corp. | merged |  | S3-221609 |
| S3-221423 | Key issue on Secondary authentication of Remote UE via L3 UE-to-Network relay without N3IWF | China Telecomunication Corp. | noted |  |  |
| S3-221424 | Key Issue for NTN specific user consent for UE location sharing | Nokia Japan | merged |  | S3-221669 |
| S3-221425 | Add context to the architecture clause | ZTE Corporation | merged |  | S3-221640 |
| S3-221426 | Key issue on authorization in multi-path transmission for UE-to-Network Relay scenario | ZTE Corporation | noted |  |  |
| S3-221427 | Key issue on authorization in the UE-to-UE relay scenario | ZTE Corporation | merged |  | S3-221608 |
| S3-221428 | Key issue on Integrity and confidentiality of information over the UE-to-UE Relay | ZTE Corporation | merged |  | S3-221609 |
| S3-221429 | Key issue on Privacy of information over the UE-to-UE Relay | ZTE Corporation | merged |  | S3-221677 |
| S3-221430 | Key issue on Support direct communication path switching between PC5 and Uu | ZTE Corporation | noted |  |  |
| S3-221431 | SUPI padding solution on Key issue #1 | ZTE Corporation | noted |  |  |
| S3-221432 | Discussion on the regulatory control point in AKMA roaming | ZTE Corporation | noted |  |  |
| S3-221433 | New solution about the roaming AKMA architecture of the AF inside and outside the HPLMN | ZTE Corporation | revised |  | S3-221651 |
| S3-221434 | New solution about the roaming AKMA architecture of the AF inside and outside the VPLMN | ZTE Corporation | revised |  | S3-221652 |
| S3-221435 | Update the Key issue of AKMA roaming | ZTE Corporation | merged |  | S3-221635 |
| S3-221436 | Home network triggered authentication solution for 4G to 5G interworking on Key issue #1 | ZTE Corporation | revised |  | S3-221653 |
| S3-221437 | Kaf update solution without triggering primary authentication on Key issue #2 | ZTE Corporation | noted |  |  |
| S3-221438 | ECS EES authentication method information provisioning solution on Key issue #2.2 | ZTE Corporation | revised |  | S3-221654 |
| S3-221439 | new key issue Exposure of Network Capabilities | ZTE Corporation | noted |  |  |
| S3-221440 | Key issue on secure data transfer between PEGC PEMC and PIN NF | ZTE Corporation | noted |  |  |
| S3-221441 | Add context to the architecture assumption | ZTE Corporation | merged |  | S3-221622 |
| S3-221442 | Key issue on discovery message protection between reference UEs and target UEs | ZTE Corporation | merged |  | S3-221624 |
| S3-221443 | Key issue on security of network based sidelink positioning | ZTE Corporation | noted |  |  |
| S3-221444 | Key issue on security of service exposure to a UE | ZTE Corporation | noted |  |  |
| S3-221445 | Key issue on security of UE based sidelink positioning | ZTE Corporation | noted |  |  |
| S3-221446 | Key issue on UE Identity protection during UE-to-UE relay discovery | China Telecomunication Corp. | merged |  | S3-221693 |
| S3-221447 | Key issue on Privacy protection over the UE-to-UE Relay | China Telecomunication Corp. | merged |  | S3-221677 |
| S3-221448 | Key Issue on secure storage and limited access to NF credentials | Intel | noted |  |  |
| S3-221449 | Key Issue on Secure Trust Evaluation | Intel | noted |  |  |
| S3-221450 | Authentication and Authorization for Localized Services | Intel | noted |  |  |
| S3-221451 | Anomaly in Multivendor NWDAF Framework | Intel | noted |  |  |
| S3-221452 | Authorization and Authentication of ML model transfer | Intel | revised |  | S3-221639 |
| S3-221453 | Revision on KI#2 | China Mobile Com. Corporation | approved |  |  |
| S3-221454 | KI on Security for NWDAF-assisted application detection | China Mobile Com. Corporation | approved |  |  |
| S3-221455 | Key issue on Privacy protection for Network assisted Sidelink Positioning | China Telecomunication Corp. | merged |  | S3-221623 |
| S3-221456 | Discussion paper of AKMA roaming | China Mobile | noted |  |  |
| S3-221457 | New key issue of multiple AAnF sets in AKMA roaming scenario | LG Electronics France | noted |  |  |
| S3-221458 | Solution of introducing AP into AKMA | China Mobile | revised |  | S3-221688 |
| S3-221459 | New solution of AKMA anchor key registration to the AAnF in VPLMN after primary authentication | LG Electronics France | revised |  | S3-221596 |
| S3-221460 | Padding-based solution to the leakage of the length of SUPI through SUCI. | Ericsson LM | noted |  |  |
| S3-221461 | Discussion paper about the security enhancements enabling UE’s receiving Multicast MBS Session data in RRC\_INACTIVE state | Ericsson | noted |  |  |
| S3-221462 | Hash-based solution to the leakage of the length of SUPI through SUCI | Ericsson LM | noted |  |  |
| S3-221463 | Map-based solution to the leakage of the length of SUPI through SUCI | Ericsson LM | noted |  |  |
| S3-221464 | 5GFBS - Security risk in lower layers | Apple | noted |  |  |
| S3-221465 | IDPrvc - Security issue on C-RNTI | Apple | noted |  |  |
| S3-221466 | AKMA - New solution on AP | Apple | merged |  | S3-221688 |
| S3-221467 | MEC - Negotiation procedure for the authentication and authorization | Apple | revised |  | S3-221678 |
| S3-221468 | HN-auth-NAS based HN triggered authentication | Apple | noted |  |  |
| S3-221469 | Solution for anomalous NF behaviour detection by NWDAF | Nokia, Nokia Shanghai Bell | revised |  | S3-221617 |
| S3-221470 | Solution for AI-ML model authorization and retrieval | Nokia, Nokia Shanghai Bell | revised |  | S3-221615 |
| S3-221471 | Solution for access control and anonymization for data and analytics exchange in roaming | Nokia, Nokia Shanghai Bell | revised |  | S3-221616 |
| S3-221472 | New solution Security procedure of KAF refresh-MAC | OPPO | noted |  |  |
| S3-221473 | A solution for certificate and NF lifecycle management relation | Ericsson | revised |  | S3-221658 |
| S3-221474 | A new solution for using attestation to build initial trust for certificate management | Ericsson | noted |  |  |
| S3-221475 | A new solution of using CMP for certificate enrolment and renewal | Ericsson | revised |  | S3-221659 |
| S3-221476 | [DRAFT] Reply LS on user’s consent for EDGEAPP | Ericsson | noted |  |  |
| S3-221477 | Updates to authentication and authorization key issue | Ericsson | approved |  |  |
| S3-221478 | A new key issue on authentication and authorization of UE in UE originated API invocation | Ericsson | revised |  | S3-221660 |
| S3-221479 | A new key issue on user consent in API invocations | Ericsson | noted |  |  |
| S3-221480 | New solution Security procedure of KAF refresh-Counter | OPPO | noted |  |  |
| S3-221481 | New solution Security procedure of KAF-Nonce | OPPO | noted |  |  |
| S3-221482 | skeleton for NGRTC | Huawei, HiSilicon | approved |  |  |
| S3-221483 | Scope of TR 33.890 | Huawei, HiSilicon | approved |  |  |
| S3-221484 | New KI on 3rd party ID | Huawei, HiSilicon | revised |  | S3-221682 |
| S3-221485 | New solution on boot time attestation at 3GPP function level | Huawei, HiSilicon | noted |  |  |
| S3-221486 | New solution on trust domain and slice Isolation | Huawei, HiSilicon | approved |  |  |
| S3-221487 | New KI on data protection for the fast and efficient network exposure | Huawei, HiSilicon | noted |  |  |
| S3-221488 | New KI on how to authorize PDU session to support local traffic routing to access an EHE in the VPLMN | Huawei, HiSilicon | revised |  | S3-221683 |
| S3-221489 | pCR to TR33.740 Clause Introduction and Scope | CATT | approved |  |  |
| S3-221490 | pCR to TR 33.740 Clause 4 Security Aspects of 5G ProSe | CATT | revised |  | S3-221640 |
| S3-221491 | pCR to TR33.740 Key Issue on Integrity and confidentiality of information over the UE-to-UE Relay | CATT | merged |  | S3-221609 |
| S3-221492 | Scope for Study on security aspects of enhanced support of Non-Public Networks phase 2 | Ericsson | approved |  |  |
| S3-221493 | New Key Issue "Security of non-3GPP access for SNPN" | Ericsson | revised |  | S3-221681 |
| S3-221494 | New Key Issue "Hosting network and UE mutual authentication" | Ericsson | noted |  |  |
| S3-221495 | pCR to TR33.740 Key Issue on Authorization in the UE-to-UE relay scenario | CATT | merged |  | S3-221608 |
| S3-221496 | pCR to TR33.740 Key Issue on Privacy of information over the UE-to-UE Relay | CATT | merged |  | S3-221677 |
| S3-221497 | New solution on KI#1 UE based solution | NEC Corporation | noted |  |  |
| S3-221498 | New solution on KI#1 AMF based solution | NEC Corporation | revised |  | S3-221697 |
| S3-221499 | Key issue on misuse of OAuth 2.0 access token by anomalous Network functions | Nokia, Nokia Shanghai Bell | noted |  |  |
| S3-221500 | Key issue on determining and maintaining trust indication in 5G Core | Nokia, Nokia Shanghai Bell | noted |  |  |
| S3-221501 | Solution for secure initial enrolment of NF certificates | Nokia, Nokia Shanghai Bell | revised |  | S3-221620 |
| S3-221502 | Proposed skeleton for TR 33.882 | vivo Mobile Communication (S) | approved |  |  |
| S3-221503 | Remote UE Security Establishment via U2U Relay | OPPO | merged |  | S3-221609 |
| S3-221504 | Scope of TR 33.882 | vivo Mobile Communication (S) | approved |  |  |
| S3-221505 | U2U Relay Trust Model | OPPO | revised |  | S3-221699 |
| S3-221506 | New KI for authentication of PINE | vivo Mobile Communication (S) | merged |  | S3-221676 |
| S3-221507 | New Key Issue for controlling of remote provisioning | vivo Mobile Communication (S) | noted |  |  |
| S3-221508 | TR 33.898 Skeleton | OPPO | revised |  | S3-221583 |
| S3-221509 | Scope of TR 33.898 | OPPO | approved |  |  |
| S3-221510 | References in TR 33.898 | OPPO | approved |  |  |
| S3-221511 | Draft LS on 5GC Information Exposure to UE | OPPO | merged |  | S3-221621 |
| S3-221512 | Proposed skeleton for TR 33.891 | Qualcomm Incorporated | approved |  |  |
| S3-221513 | Proposed scope for TR 33.891 | Qualcomm Incorporated | revised |  | S3-221604 |
| S3-221514 | Key issue for security of unicast connection | Qualcomm Incorporated | revised |  | S3-221605 |
| S3-221515 | Solution using UDM to trigger authentication | Qualcomm Incorporated | revised |  | S3-221606 |
| S3-221516 | AKMA Application Proxy solution based on GBA procedures | Qualcomm Incorporated | merged |  | S3-221688 |
| S3-221517 | Scope of SUPI Type IMSI in KI#1 | Qualcomm Incorporated | noted |  |  |
| S3-221518 | Addition of threats due to EAP in KI#1 | Qualcomm Incorporated | noted |  |  |
| S3-221519 | New Key Issue: Security for UE-to-UE Relay discovery | Qualcomm Incorporated | revised |  | S3-221693 |
| S3-221520 | Proposal for TR 33.894 Skeleton | Lenovo | approved |  |  |
| S3-221521 | Key Issue#1 on Need for continuous Trust evaluation | Lenovo, Nokia, Nokia Shanghai Bell, Rakuten Mobile Inc., Interdigital, US NSA, Motorola Solutions, Johns Hopkins University APL, Intel, Center for Internet Security | noted |  |  |
| S3-221522 | Security Assumptions | Lenovo, Rakuten Mobile Inc., Interdigital, US NSA, Motorola Solutions, Johns Hopkins University APL, Intel, Center for Internet Security | noted |  |  |
| S3-221523 | Update of Scope | Lenovo, Rakuten Mobile Inc, Interdigital, US NSA, Motorola Solutions, Johns Hopkins University APL, Intel, Center for Internet Security | revised |  | S3-221588 |
| S3-221524 | Corrections to TR 33.741 | Lenovo | approved |  |  |
| S3-221525 | Solution to enable HN triggered Primary Authentication with AUSF | Lenovo | noted |  |  |
| S3-221526 | Solution to enable HN triggered Primary Authentication with UDM | Lenovo | revised |  | S3-221589 |
| S3-221527 | Authentication mechanism selection between EEC and ECS | Samsung | revised |  | S3-221599 |
| S3-221528 | Authentication mechanism selection between EEC and EES | Samsung | revised |  | S3-221600 |
| S3-221529 | Adding security threat and requirements to KI#1 | Samsung | merged |  | S3-221635 |
| S3-221530 | New solution on HN initiated re-authentcation via AUSF | Samsung | revised |  | S3-221601 |
| S3-221531 | New solution on UDM initiated re-authentcation based on AUSF request | Samsung | revised |  | S3-221602 |
| S3-221532 | New solution for Kaf refresh | Samsung | noted |  |  |
| S3-221533 | Key issue on Cyber-attack detection supported by NWDAF | Samsung | revised |  | S3-221603 |
| S3-221534 | Key issue on Privacy and security aspects of broadcasting Remote ID | Samsung | noted |  |  |
| S3-221535 | DRAFT Reply LS on V2X PC5 link for unicast communication with null security algorithm | Lenovo | revised |  | S3-221590 |
| S3-221536 | Null algorithm is not security deactivation | Lenovo | withdrawn |  |  |
| S3-221537 | 33.893: Draft Skeleton | Xiaomi Technology | approved |  |  |
| S3-221538 | 33.893: Scope | Xiaomi Technology | approved |  |  |
| S3-221539 | 33.893: Architecure Assumptions | Xiaomi Technology | revised |  | S3-221622 |
| S3-221540 | 33.893: New Key Issue on Privacy | Xiaomi Technology | revised |  | S3-221623 |
| S3-221541 | 33.893: New Key Issue on Authorization for Ranging/SL Positioning Service | Beijing Xiaomi Mobile Software | revised |  | S3-221647 |
| S3-221542 | 33.893: New Key Issue on Discovery Security | Xiaomi Technology | revised |  | S3-221624 |
| S3-221543 | 33.893: New Key Issue on Direct Communication Security | Xiaomi Technology | noted |  |  |
| S3-221544 | 33.896: New Key Issue on NTN Specific User Consent | Xiaomi Technology | merged |  | S3-221669 |
| S3-221545 | 33.896: New Solution for NTN Specific User Consent | Xiaomi Technology | noted |  |  |
| S3-221546 | Key Issue on Authorization for Third Party Specific User ID Usage | Beijing Xiaomi Mobile Software | merged |  | S3-221682 |
| S3-221547 | Key Issue on Verification of the Third Party User Specific ID | Beijing Xiaomi Mobile Software | merged |  | S3-221682 |
| S3-221548 | Key Issue on Security for UE-to-UE Relay Discovery | Beijing Xiaomi Mobile Software | merged |  | S3-221693 |
| S3-221549 | Key Issue on Security of UE-to-UE Relay Communication | Beijing Xiaomi Mobile Software | merged |  | S3-221609 |
| S3-221550 | New solution on UDM initiated Primary Authentication | Beijing Xiaomi Mobile Software | revised |  | S3-221646 |
| S3-221551 | New solution on AUSF initiated Primary Authentication | Beijing Xiaomi Mobile Software | noted |  |  |
| S3-221552 | New solution on Cross-Certification Based Trust Chain in the SBA Architecture | Beijing Xiaomi Mobile Software | revised |  | S3-221644 |
| S3-221553 | New solution on Interconnection CA Based Trust Chain in the SBA Architecture | Beijing Xiaomi Mobile Software | revised |  | S3-221645 |
| S3-221554 | KI#1, New Sol AKMA Application key request via proxy and NEF in roaming scenarios | Xiaomi Communication | noted |  |  |
| S3-221555 | KI#1, New Sol Proxy-based AKMA Application key request in roaming scenarios | Xiaomi Communication | noted |  |  |
| S3-221556 | KI#2, New Sol Authentication via proxy AKMA scenarios. | Xiaomi Communication | noted |  |  |
| S3-221557 | KI#2, New Sol Authentication via proxy and NEF in AKMA scenarios | Xiaomi Communication | noted |  |  |
| S3-221558 | New KI Multiple registrations in AKMA scenarios | Xiaomi Communication | noted |  |  |
| S3-221559 | KI#2.1, New Sol Authentication and authorization between EEC hosted in the roaming UE and ECS | Xiaomi Communication | revised |  | S3-221611 |
| S3-221560 | KI#2.1, New Sol Authentication and authorization between EEC hosted in the roaming UE and EES | Xiaomi Communication | revised |  | S3-221613 |
| S3-221561 | KI#2.2, New Sol 5GC-based authentication mechanism selection between EEC and ECS or EES | Xiaomi Communication | revised |  | S3-221614 |
| S3-221562 | New KI: Home control enhancement for eNPN | Xiaomi Communication | noted |  |  |
| S3-221563 | New KI: Support for secure non-3GPP access for NPN | Xiaomi Communication | merged |  | S3-221681 |
| S3-221564 | New KI: Secure authentication of PINE | Xiaomi Communication | merged |  | S3-221676 |
| S3-221565 | New KI: Secure provisioning of credentials for non-3GPP device via PEGC | Xiaomi Communication | noted |  |  |
| S3-221566 | New KI: Privacy-preserving federated learning | Xiaomi Communication | noted |  |  |
| S3-221567 | Skeleton for TR 33.892 FS\_USIA | Lenovo | revised |  | S3-221593 |
| S3-221568 | Scope for TR 33.892 | Lenovo | noted |  |  |
| S3-221569 | KI on determination of additional information for application identification | Lenovo | revised |  | S3-221594 |
| S3-221570 | AI/ML model storage and sharing security | Lenovo | revised |  | S3-221591 |
| S3-221571 | AKMA roaming and LI | Lenovo | revised |  | S3-221592 |
| S3-221572 | Detection of MitM attacks with secret paging | Lenovo | noted |  |  |
| S3-221573 | TR skeleton | Ericsson | approved |  |  |
| S3-221574 | Content for the scope clause of the technical report | Ericsson | approved |  |  |
| S3-221575 | Initial content for the background clause of the technical report | Ericsson | revised |  | S3-221649 |
| S3-221576 | Discussion about the home triggered primary authentication for interworking | Ericsson | noted |  |  |
| S3-221577 | Conclusion for the primary authentication upon interworking from EPS to 5GS | Ericsson | noted |  |  |
| S3-221578 | Discussion about the need for initiating home triggered primary authentication for the SoR/UPU use case. | Ericsson | noted |  |  |
| S3-221579 | Conclusion for the primary authentication upon SoR and UPU counter wrap around. | Ericsson | noted |  |  |
| S3-221580 | KI#2 update to remove the signalling overhead for KAF | Ericsson | noted |  |  |
| S3-221581 | Discussion about the roaming architecture | Ericsson | endorsed |  |  |
| S3-221582 | pCR to 33.884, key issues from scope objective 1 | NTT DOCOMO | withdrawn |  |  |
| S3-221583 | TR 33.898 Skeleton | OPPO | approved | S3-221508 |  |
| S3-221584 | Null algorithm is not security deactivation | Lenovo | noted |  |  |
| S3-221585 | Key Issue for Management of Automated Bulk Certificate updates for SBA leading to temporary service unavailability | Nokia Japan | noted | S3-221380 |  |
| S3-221586 | LS on CAPIF authorization roles related to FS\_SNAAPP | S6-221771 | postponed |  |  |
| S3-221587 | Reply LS on V2X PC5 link for unicast communication with null security algorithm | C1-223972 | replied to |  |  |
| S3-221588 | Update of Scope | Lenovo, Rakuten Mobile Inc, Interdigital, US NSA, Motorola Solutions, Johns Hopkins University APL, Intel, Center for Internet Security | approved | S3-221523 |  |
| S3-221589 | Solution to enable HN triggered Primary Authentication with UDM | Lenovo | approved | S3-221526 |  |
| S3-221590 | Reply LS on V2X PC5 link for unicast communication with null security algorithm | Lenovo | approved | S3-221535 |  |
| S3-221591 | AI/ML model storage and sharing security | Lenovo | approved | S3-221570 |  |
| S3-221592 | AKMA roaming and LI | Lenovo | approved | S3-221571 |  |
| S3-221593 | Skeleton for TR 33.892 FS\_USIA | Lenovo | approved | S3-221567 |  |
| S3-221594 | KI on determination of additional information for application identification | Lenovo | approved | S3-221569 |  |
| S3-221595 | New solution on authorization of AI/ML model retrieving | China Telecommunications | approved | S3-221365 |  |
| S3-221596 | New solution of AKMA anchor key registration to the AAnF in VPLMN after primary authentication | LG Electronics France | approved | S3-221459 |  |
| S3-221597 | draft TR 33.884 | DOCOMO Communications Lab. | approved |  |  |
| S3-221598 | draft-LS reply on 5GC information exposure to UE | NTT DOCOMO | withdrawn | - |  |
| S3-221599 | Authentication mechanism selection between EEC and ECS | Samsung | approved | S3-221527 |  |
| S3-221600 | Authentication mechanism selection between EEC and EES | Samsung | approved | S3-221528 |  |
| S3-221601 | New solution on HN initiated re-authentcation via AUSF | Samsung | approved | S3-221530 |  |
| S3-221602 | New solution on UDM initiated re-authentcation based on AUSF request | Samsung | approved | S3-221531 |  |
| S3-221603 | Key issue on Cyber-attack detection | Samsung | approved | S3-221533 |  |
| S3-221604 | Proposed scope for TR 33.891 | Qualcomm Incorporated | approved | S3-221513 |  |
| S3-221605 | Key issue for security of unicast connection | Qualcomm Incorporated | approved | S3-221514 |  |
| S3-221606 | Solution using UDM to trigger authentication | Qualcomm Incorporated | approved | S3-221515 |  |
| S3-221607 | Draft TR 33.891 v0.1.0 | Qualcomm Incorporated | approved |  |  |
| S3-221608 | Key Issue on Authorization in the UE-to-UE Relay Scenario | InterDigital, Europe, Ltd., Huawei, HiSilicon, China Telecomunication, ZTE, CATT | approved | S3-221331 |  |
| S3-221609 | Key Issue on Security of UE-to-UE Relay | InterDigital, Europe, Ltd., Huawei, HiSilicon, China Telecomunication, ZTE, CATT, Xiaomi, OPPO | approved | S3-221332 |  |
| S3-221610 | Key Issue on Direct C2 Security | InterDigital, Europe, Ltd., Huawei, HiSilicon | approved | S3-221333 |  |
| S3-221611 | KI#2.1, New Sol Authentication and authorization between EEC hosted in the roaming UE and ECS | Xiaomi Communication | approved | S3-221559 |  |
| S3-221612 | LS out on authenticity and replay protection of system information | CableLabs, Deutsche Telekom, Philips International B.V., Ericsson, InterDigital, Apple, Johns Hopkins University APL, NIST, Huawei, Nokia, Samsung, Intel | revised | S3-221370 | S3-221700 |
| S3-221613 | KI#2.1, New Sol Authentication and authorization between EEC hosted in the roaming UE and EES | Xiaomi Communication | approved | S3-221560 |  |
| S3-221614 | KI#2.2, New Sol 5GC-based authentication mechanism selection between EEC and ECS or EES | Xiaomi Communication | approved | S3-221561 |  |
| S3-221615 | Solution for AI-ML model authorization and retrieval | Nokia, Nokia Shanghai Bell | approved | S3-221470 |  |
| S3-221616 | Solution for access control and anonymization for data and analytics exchange in roaming | Nokia, Nokia Shanghai Bell | approved | S3-221471 |  |
| S3-221617 | Solution for anomalous NF behaviour detection by NWDAF | Nokia, Nokia Shanghai Bell | approved | S3-221469 |  |
| S3-221618 | Solution for secure initial enrolment of NF certificates | Nokia, Nokia Shanghai Bell | withdrawn | - |  |
| S3-221619 | Draft TR 33.876 Study on Standardising Automated Certificate Management in SBA | Nokia, Nokia Shanghai Bell | approved |  |  |
| S3-221620 | Solution for secure initial enrolment of NF certificates | Nokia, Nokia Shanghai Bell | approved | S3-221501 |  |
| S3-221621 | LS reply on 5GC information exposure to UE | NTT DOCOMO | approved | S3-221358 |  |
| S3-221622 | 33.893: Architecure Assumptions | Xiaomi Technology | approved | S3-221539 |  |
| S3-221623 | 33.893: New Key Issue on Privacy | Xiaomi Technology | approved | S3-221540 |  |
| S3-221624 | 33.893: New Key Issue on Discovery Security | Xiaomi Technology | approved | S3-221542 |  |
| S3-221625 | 33.893: New Key Issue on Authorization for Ranging/SL Positioning Service | Beijing Xiaomi Mobile Software | withdrawn | - |  |
| S3-221626 | draft - LS reply on CAPIF authorization roles related to FS\_SNAAPP – documenting state of discussion after SA3#107e-AdHoc - to be noted | DOCOMO Communications Lab. | noted |  |  |
| S3-221627 | Draft TR 33.893 | Xiaomi Technology | approved |  |  |
| S3-221628 | Scope of TR33.886 | Huawei, HiSilicon | approved | S3-221373 |  |
| S3-221629 | New KI-providing VPLMN slice information to roaming UE | Huawei, HiSilicon | approved | S3-221374 |  |
| S3-221630 | New KI-temprory slices and slice authorization | Huawei, HiSilicon | approved | S3-221375 |  |
| S3-221631 | New KI on NSAC | Huawei, HiSilicon | approved | S3-221376 |  |
| S3-221632 | Draft TR 33.886 for eNS3 | Huawei | approved |  |  |
| S3-221633 | Solution on HN triggering primary authentication for various scenarios | Nokia, Nokia Shanghai Bell | approved | S3-221353 |  |
| S3-221634 | Solution on AKMA roaming | Nokia, Nokia Shanghai Bell | approved | S3-221352 |  |
| S3-221635 | Update in KI1 for encryption keys | Nokia, Nokia Shanghai Bell, Samsung | approved | S3-221351 |  |
| S3-221636 | Scope of 5WWC study | Nokia, Nokia Shanghai Bell, CableLabs | approved | S3-221342 |  |
| S3-221637 | Key issue on authentication of AUN3 device supporting EAP | Nokia, Nokia Shanghai Bell, CableLabs | approved | S3-221344 |  |
| S3-221638 | Key issues on Security aspect of slice information exposure of N3IWF/TNGF | Nokia, Nokia Shanghai Bell, CableLabs | approved | S3-221346 |  |
| S3-221639 | Authorization and Authentication of ML model transfer | Intel | approved | S3-221452 |  |
| S3-221640 | pCR to TR 33.740 Clause 4 Security Aspects of 5G ProSe | CATT, ZTE | approved | S3-221490 |  |
| S3-221641 | New key issue on users identified by Priority Access | InterDigital, Inc. | withdrawn | - |  |
| S3-221642 | New key issue on users identified by Priority Access | Johns Hopkins University APL, US National Security Agency, CISA ECD, Peraton Labs, Interdigital, Apple, CableLabs | approved | S3-221340 |  |
| S3-221643 | TR 33.740 v0.1.0 Study on security aspects of Proximity Based Services (ProSe) in 5G System (5GS) phase 2  | CATT | approved |  |  |
| S3-221644 | New solution on Cross-Certification Based Trust Chain in the SBA Architecture | Beijing Xiaomi Mobile Software | approved | S3-221552 |  |
| S3-221645 | New solution on Interconnection CA Based Trust Chain in the SBA Architecture | Beijing Xiaomi Mobile Software | approved | S3-221553 |  |
| S3-221646 | New solution on UDM initiated Primary Authentication | Beijing Xiaomi Mobile Software | approved | S3-221550 |  |
| S3-221647 | 33.893: New Key Issue on Authorization for Ranging/SL Positioning Service | Beijing Xiaomi Mobile Software | approved | S3-221541 |  |
| S3-221648 | Solution 5 EN on Certificates and Tokens | U.S. National Security Agency | approved | S3-221318 |  |
| S3-221649 | Initial content for the background clause of the technical report | Ericsson | approved | S3-221575 |  |
| S3-221650 | Draft TR 33.877 v0.1.0 Study on the security aspects of Artificial Intelligence (AI)/Machine Learning (ML) for the NG-RAN | Ericsson España S.A. | approved |  |  |
| S3-221651 | New solution about the roaming AKMA architecture of the AF inside and outside the HPLMN | ZTE Corporation | approved | S3-221433 |  |
| S3-221652 | New solution about the roaming AKMA architecture of the AF inside and outside the VPLMN | ZTE Corporation | approved | S3-221434 |  |
| S3-221653 | Home network triggered authentication solution for 4G to 5G interworking on Key issue #1 | ZTE Corporation | approved | S3-221436 |  |
| S3-221654 | ECS EES authentication method information provisioning solution on Key issue #2.2 | ZTE Corporation | approved | S3-221438 |  |
| S3-221655 | TR 33.883  | Huawei, HiSilicon | approved |  |  |
| S3-221656 | TR 33.882 v0.1.0 | vivo | approved |  |  |
| S3-221657 | draft TR 33.738 0.2.0 | China Mobile Group Device Co. | approved |  |  |
| S3-221658 | A solution for certificate and NF lifecycle management relation | Ericsson | approved | S3-221473 |  |
| S3-221659 | A new solution of using CMP for certificate enrolment and renewal | Ericsson, Intel, Verizon, Nokia, Nokia Shanghai Bell | approved | S3-221475 |  |
| S3-221660 | A new key issue on authentication and authorization of UE in UE originated API invocation | Ericsson, Nokia, Nokia Shanghai Bell | approved | S3-221478 |  |
| S3-221661 | Update KI #6 for a new security threat | Huawei, HiSilicon | approved | S3-221381 |  |
| S3-221662 | new solution for AKMA roaming when both UE and AF are in VPLMN | Huawei, HiSilicon | approved | S3-221384 |  |
| S3-221663 | Skeleton update | Huawei, HiSilicon | approved | S3-221386 |  |
| S3-221664 | new KI in Kakma refresh | Huawei, HiSilicon | approved | S3-221389 |  |
| S3-221665 | Reply LS on Clarification on MBS Security Keys | Huawei, HiSilicon | approved | S3-221393 |  |
| S3-221666 | New key issue on TMGI protection | Huawei, HiSilicon | approved | S3-221396 |  |
| S3-221667 | New key issue on security handling in MOCN network sharing scenario | Huawei, HiSilicon | approved | S3-221397 |  |
| S3-221668 | New key issue on Roaming of eNA | Huawei, HiSilicon | approved | S3-221402 |  |
| S3-221669 | New Key Issue on NTN | Huawei, HiSilicon, Xiaomi, Nokia, Nokia Shanghai Bell | approved | S3-221403 |  |
| S3-221670 | evaluation on solution 5 | Huawei, HiSilicon | approved | S3-221404 |  |
| S3-221671 | New solution for key issue 1 | Huawei, HiSilicon | approved | S3-221408 |  |
| S3-221672 | New OCSP based solution for key issue 3 | Huawei, HiSilicon | approved | S3-221409 |  |
| S3-221673 | New KI on Authentication and Authorization between V-ECS and H-ECS | Huawei, HiSilicon | approved | S3-221411 |  |
| S3-221674 | New key issue on security protection for Ues in RRC inactive state | Huawei, HiSilicon | approved | S3-221414 |  |
| S3-221675 | New solution UDM triggered primary authentication | Huawei, HiSilicon | approved | S3-221415 |  |
| S3-221676 | Authentication and authorization to PINE behind PEGC and PEMC | Huawei, HiSilicon | approved | S3-221417 |  |
| S3-221677 | Privacy of information over the UE-to-UE Relay | Huawei, HiSilicon, Interdigital, ZTE, ChinaTelecom, CATT | approved | S3-221419 |  |
| S3-221678 | MEC - Negotiation procedure for the authentication and authorization | Apple | approved | S3-221467 |  |
| S3-221679 | TR 33.741 | Huawei, HiSilicon | approved |  |  |
| S3-221680 | TR 33.896 | HUAWEI TECH. GmbH | approved |  |  |
| S3-221681 | New Key Issue "Security of non-3GPP access for SNPN" | Ericsson, Nokia, Nokia Shanghai Bell, Xiaomi, CableLabs | approved | S3-221493 |  |
| S3-221682 | New KI on 3rd party ID | Huawei, HiSilicon, Xiaomi, Ericsson | approved | S3-221484 |  |
| S3-221683 | New KI on how to authorize PDU session to support local traffic routing to access an EHE in the VPLMN | Huawei, HiSilicon | approved | S3-221488 |  |
| S3-221684 | draft TR 33.858 v0.1.0 | Ericsson | approved |  |  |
| S3-221685 | Draft TR 33.739 | Huawei, HiSilicon | approved |  |  |
| S3-221686 | DraftTR\_33.890 | Huawei, HiSilicon | approved |  |  |
| S3-221687 | draft TR 33.737 | China Mobile  | approved |  |  |
| S3-221688 | Solution of introducing AP into AKMA | China Mobile, Apple, Qualcomm | approved | S3-221458 |  |
| S3-221689 | Update of KI #3 to contribute an EN | Huawei, HiSilicon | approved | S3-221392 |  |
| S3-221690 | Draft TR 33.892 | Lenovo | approved |  |  |
| S3-221691 | Draft TR 33.894 for ZTS | Lenovo | approved |  |  |
| S3-221692 | TR 33 848 v0\_13\_0 | BT plc | approved |  |  |
| S3-221693 | New Key Issue: Security for UE-to-UE Relay discovery | Qualcomm Incorporated | approved | S3-221519 |  |
| S3-221694 | New solution Authentication mechanism selection in EDGE | OPPO | approved | S3-221377 |  |
| S3-221695 | New solution Authentication mechanism selection among EEC, ECS, and EES | OPPO | approved | S3-221379 |  |
| S3-221696 | TR 33.870 | InterDigital, Inc. | approved |  |  |
| S3-221697 | New solution on KI#1 AMF based solution | NEC Corporation | approved | S3-221498 |  |
| S3-221698 | TR 33.898 | OPPO | approved | - | - |
| S3-221699 | U2U Relay Trust Model | OPPO | noted | S3-221505 | - |
| S3-221700 | LS out on authenticity and replay protection of system information | CableLabs, Deutsche Telekom, Philips International B.V., Ericsson, InterDigital, Apple, Johns Hopkins University APL, NIST, Huawei, Nokia, Samsung, Intel | approved | S3-221612 | - |
| S3-221701 | Updates to Solution #5 | Johns Hopkins University APL, US National Security Agency, CableLabs, InterDigital, AT&T, CISA ECD | approved | S3-221337 | - |
| S3-221702 | Address EN on Run-time Attestation | Johns Hopkins University APL, US National Security Agency, CableLabs, InterDigital, AT&T, CISA ECD | approved | S3-221338 | - |
| S3-221703 | draft 33.887 v0.1.0 Study on Security aspects for 5WWC Phase 2 | Nokia | approved | - | - |
| S3-221704 | Solution for Key Issue #2.2 | THALES | approved | S3-221357 | - |

### A2: Tdoc decision timing

|  |  |  |
| --- | --- | --- |
| Document | Date/time UTC | Decision |
| S3-221310 | 05/07/2022 13:24:33 | approved |
| S3-221311 | 05/07/2022 13:24:39 | noted |
| S3-221312 | 05/07/2022 13:24:39 | noted |
| S3-221313 | 06/07/2022 13:15:28 | available |
| S3-221314 | 06/07/2022 12:50:23 | approved |
| S3-221315 | 05/07/2022 14:09:32 | postponed |
| S3-221317 | 05/07/2022 14:11:40 | available |
| S3-221319 | 06/07/2022 12:48:14 | noted |
| S3-221320 | 06/07/2022 12:46:10 | noted |
| S3-221321 | 06/07/2022 12:48:15 | noted |
| S3-221322 | 06/07/2022 12:46:15 | noted |
| S3-221323 | 06/07/2022 12:46:16 | noted |
| S3-221324 | 06/07/2022 13:17:57 | noted |
| S3-221325 | 06/07/2022 12:48:31 | noted |
| S3-221326 | 06/07/2022 13:17:58 | noted |
| S3-221327 | 06/07/2022 12:48:44 | noted |
| S3-221328 | 06/07/2022 12:48:57 | noted |
| S3-221329 | 06/07/2022 10:22:18 | noted |
| S3-221330 | 05/07/2022 15:11:28 | available |
| S3-221334 | 06/07/2022 13:10:34 | noted |
| S3-221335 | 06/07/2022 12:49:11 | available |
| S3-221336 | 06/07/2022 12:50:42 | available |
| S3-221337 | 05/07/2022 14:49:08 | revised |
| S3-221338 | 05/07/2022 14:52:44 | revised |
| S3-221339 | 05/07/2022 14:55:05 | noted |
| S3-221341 | 06/07/2022 12:52:15 | approved |
| S3-221343 | 06/07/2022 12:52:26 | noted |
| S3-221345 | 06/07/2022 12:52:37 | noted |
| S3-221347 | 06/07/2022 13:17:44 | noted |
| S3-221348 | 06/07/2022 13:18:22 | noted |
| S3-221349 | 06/07/2022 13:17:51 | noted |
| S3-221350 | 06/07/2022 13:17:57 | noted |
| S3-221354 | 06/07/2022 12:43:34 | noted |
| S3-221355 | 06/07/2022 12:43:45 | noted |
| S3-221356 | 06/07/2022 11:04:37 | available |
| S3-221357 | 06/07/2022 12:46:54 | approved |
| S3-221357 | 07/07/2022 14:07:50 | revised |
| S3-221359 | 06/07/2022 12:50:53 | approved |
| S3-221360 | 06/07/2022 13:14:21 | noted |
| S3-221361 | 06/07/2022 12:54:05 | noted |
| S3-221362 | 06/07/2022 12:54:27 | available |
| S3-221363 | 06/07/2022 12:54:30 | noted |
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| S3-221378 | 06/07/2022 10:22:26 | noted |
| S3-221380 | 22/06/2022 10:21:13 | withdrawn |
| S3-221380 | 22/06/2022 11:27:31 | revised |
| S3-221382 | 06/07/2022 10:23:00 | noted |
| S3-221383 | 05/07/2022 15:12:13 | available |
| S3-221385 | 06/07/2022 11:05:19 | noted |
| S3-221387 | 06/07/2022 12:41:23 | noted |
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| S3-221390 | 06/07/2022 12:42:01 | noted |
| S3-221391 | 06/07/2022 12:41:44 | noted |
| S3-221394 | 06/07/2022 13:21:44 | approved |
| S3-221395 | 06/07/2022 13:21:59 | approved |
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| S3-221400 | 06/07/2022 13:20:08 | approved |
| S3-221401 | 06/07/2022 13:20:47 | approved |
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| S3-221406 | 05/07/2022 15:12:18 | noted |
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| S3-221416 | 06/07/2022 12:52:51 | noted |
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| S3-221450 | 06/07/2022 12:54:33 | noted |
| S3-221451 | 06/07/2022 12:44:47 | noted |
| S3-221453 | 06/07/2022 12:44:54 | approved |
| S3-221454 | 06/07/2022 12:44:55 | approved |
| S3-221455 | 06/07/2022 13:13:01 | available |
| S3-221456 | 06/07/2022 11:05:58 | noted |
| S3-221457 | 06/07/2022 11:05:00 | noted |
| S3-221460 | 06/07/2022 10:22:04 | noted |
| S3-221461 | 06/07/2022 13:22:26 | noted |
| S3-221462 | 06/07/2022 10:22:07 | noted |
| S3-221463 | 06/07/2022 10:22:12 | noted |
| S3-221464 | 05/07/2022 14:45:14 | noted |
| S3-221465 | 06/07/2022 10:22:39 | noted |
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| S3-221474 | 06/07/2022 11:03:19 | noted |
| S3-221476 | 05/07/2022 14:09:45 | noted |
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| S3-221480 | 06/07/2022 12:43:53 | noted |
| S3-221481 | 06/07/2022 12:44:23 | noted |
| S3-221482 | 06/07/2022 12:53:23 | approved |
| S3-221483 | 06/07/2022 12:53:25 | approved |
| S3-221485 | 05/07/2022 14:57:29 | noted |
| S3-221486 | 05/07/2022 14:57:35 | approved |
| S3-221487 | 06/07/2022 12:46:42 | noted |
| S3-221489 | 06/07/2022 10:07:40 | approved |
| S3-221491 | 06/07/2022 10:02:41 | available |
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| S3-221495 | 06/07/2022 10:02:55 | available |
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| S3-221497 | 06/07/2022 12:44:24 | noted |
| S3-221499 | 06/07/2022 13:19:49 | noted |
| S3-221500 | 06/07/2022 13:19:38 | noted |
| S3-221502 | 06/07/2022 12:49:30 | approved |
| S3-221503 | 06/07/2022 10:03:26 | available |
| S3-221504 | 06/07/2022 12:49:33 | approved |
| S3-221505 | 05/07/2022 14:43:20 | revised |
| S3-221506 | 06/07/2022 12:49:41 | available |
| S3-221507 | 06/07/2022 12:49:52 | noted |
| S3-221509 | 06/07/2022 13:17:37 | approved |
| S3-221510 | 06/07/2022 13:17:40 | approved |
| S3-221511 | 06/07/2022 13:16:50 | available |
| S3-221512 | 06/07/2022 13:11:00 | approved |
| S3-221516 | 06/07/2022 12:40:53 | available |
| S3-221517 | 06/07/2022 10:21:52 | noted |
| S3-221518 | 06/07/2022 10:22:00 | noted |
| S3-221520 | 06/07/2022 13:19:14 | approved |
| S3-221521 | 06/07/2022 13:19:47 | noted |
| S3-221522 | 06/07/2022 13:19:26 | noted |
| S3-221524 | 06/07/2022 12:41:41 | approved |
| S3-221525 | 06/07/2022 12:42:02 | noted |
| S3-221529 | 06/07/2022 11:04:53 | available |
| S3-221532 | 06/07/2022 12:43:19 | noted |
| S3-221534 | 06/07/2022 13:11:09 | noted |
| S3-221537 | 06/07/2022 13:11:48 | approved |
| S3-221538 | 06/07/2022 13:12:09 | approved |
| S3-221543 | 06/07/2022 13:13:43 | noted |
| S3-221544 | 06/07/2022 13:21:30 | available |
| S3-221545 | 06/07/2022 13:21:37 | noted |
| S3-221546 | 06/07/2022 12:53:47 | available |
| S3-221547 | 06/07/2022 12:53:55 | available |
| S3-221548 | 06/07/2022 10:06:45 | available |
| S3-221549 | 06/07/2022 10:07:03 | available |
| S3-221551 | 06/07/2022 12:42:21 | noted |
| S3-221554 | 06/07/2022 11:05:41 | noted |
| S3-221555 | 06/07/2022 11:05:42 | noted |
| S3-221556 | 06/07/2022 12:40:59 | noted |
| S3-221557 | 06/07/2022 12:41:05 | noted |
| S3-221558 | 06/07/2022 11:05:02 | noted |
| S3-221562 | 06/07/2022 12:54:54 | noted |
| S3-221563 | 06/07/2022 12:55:08 | available |
| S3-221564 | 06/07/2022 12:50:05 | available |
| S3-221565 | 06/07/2022 12:50:09 | noted |
| S3-221566 | 06/07/2022 13:18:14 | noted |
| S3-221568 | 06/07/2022 13:11:32 | noted |
| S3-221572 | 05/07/2022 14:45:19 | noted |
| S3-221573 | 06/07/2022 12:52:58 | approved |
| S3-221574 | 06/07/2022 12:53:08 | approved |
| S3-221576 | 06/07/2022 12:44:28 | noted |
| S3-221577 | 06/07/2022 12:44:30 | noted |
| S3-221578 | 06/07/2022 12:44:36 | noted |
| S3-221579 | 06/07/2022 12:44:37 | noted |
| S3-221580 | 06/07/2022 12:41:48 | noted |
| S3-221581 | 06/07/2022 11:06:04 | available |
| S3-221583 | 06/07/2022 13:16:57 | approved |
| S3-221584 | 05/07/2022 14:12:56 | noted |
| S3-221585 | 06/07/2022 10:22:47 | noted |
| S3-221586 | 06/07/2022 12:51:17 | postponed |
| S3-221587 | 05/07/2022 14:12:21 | available |
| S3-221588 | 06/07/2022 13:19:20 | approved |
| S3-221589 | 06/07/2022 12:42:05 | approved |
| S3-221590 | 05/07/2022 14:11:12 | approved |
| S3-221591 | 06/07/2022 12:45:32 | approved |
| S3-221592 | 06/07/2022 11:05:47 | approved |
| S3-221593 | 06/07/2022 13:11:25 | approved |
| S3-221594 | 06/07/2022 13:11:39 | approved |
| S3-221595 | 06/07/2022 12:45:07 | approved |
| S3-221596 | 06/07/2022 11:05:36 | approved |
| S3-221597 | 06/07/2022 14:37:51 | approved |
| S3-221599 | 06/07/2022 12:47:35 | approved |
| S3-221600 | 06/07/2022 12:47:38 | approved |
| S3-221601 | 06/07/2022 12:42:15 | approved |
| S3-221602 | 06/07/2022 12:43:12 | approved |
| S3-221603 | 06/07/2022 12:44:59 | approved |
| S3-221604 | 06/07/2022 13:11:04 | approved |
| S3-221605 | 06/07/2022 13:10:55 | approved |
| S3-221606 | 06/07/2022 12:43:05 | approved |
| S3-221607 | 06/07/2022 14:31:26 | approved |
| S3-221608 | 05/07/2022 15:11:39 | approved |
| S3-221609 | 05/07/2022 15:11:44 | approved |
| S3-221610 | 06/07/2022 13:10:28 | approved |
| S3-221611 | 06/07/2022 12:47:42 | approved |
| S3-221612 | 05/07/2022 14:14:37 | approved |
| S3-221612 | 05/07/2022 14:43:39 | revised |
| S3-221613 | 06/07/2022 12:47:50 | approved |
| S3-221614 | 06/07/2022 12:47:51 | approved |
| S3-221615 | 06/07/2022 12:45:23 | approved |
| S3-221616 | 06/07/2022 12:45:48 | approved |
| S3-221617 | 06/07/2022 12:45:57 | approved |
| S3-221619 | 06/07/2022 14:34:04 | approved |
| S3-221620 | 06/07/2022 11:03:46 | approved |
| S3-221621 | 06/07/2022 13:15:41 | approved |
| S3-221622 | 06/07/2022 13:12:29 | approved |
| S3-221623 | 06/07/2022 13:12:37 | approved |
| S3-221624 | 06/07/2022 13:13:26 | approved |
| S3-221626 | 06/07/2022 13:24:50 | noted |
| S3-221627 | 06/07/2022 14:34:14 | approved |
| S3-221628 | 06/07/2022 12:51:47 | approved |
| S3-221629 | 06/07/2022 12:51:52 | approved |
| S3-221630 | 06/07/2022 12:51:59 | approved |
| S3-221631 | 06/07/2022 12:52:03 | approved |
| S3-221632 | 06/07/2022 14:34:25 | approved |
| S3-221633 | 06/07/2022 12:42:28 | approved |
| S3-221634 | 06/07/2022 11:05:08 | approved |
| S3-221635 | 06/07/2022 11:04:20 | approved |
| S3-221636 | 06/07/2022 12:52:19 | approved |
| S3-221637 | 06/07/2022 12:52:31 | approved |
| S3-221638 | 06/07/2022 12:52:43 | approved |
| S3-221639 | 06/07/2022 12:45:13 | approved |
| S3-221640 | 06/07/2022 10:07:45 | approved |
| S3-221642 | 06/07/2022 13:38:34 | withdrawn |
| S3-221642 | 06/07/2022 13:52:11 | approved |
| S3-221643 | 06/07/2022 14:34:40 | approved |
| S3-221644 | 06/07/2022 11:03:58 | approved |
| S3-221645 | 06/07/2022 11:04:01 | approved |
| S3-221646 | 06/07/2022 12:43:23 | approved |
| S3-221647 | 06/07/2022 13:14:14 | approved |
| S3-221648 | 05/07/2022 14:45:35 | approved |
| S3-221649 | 06/07/2022 12:53:10 | approved |
| S3-221650 | 06/07/2022 14:34:56 | approved |
| S3-221651 | 06/07/2022 11:05:23 | approved |
| S3-221652 | 06/07/2022 11:05:26 | approved |
| S3-221653 | 06/07/2022 12:42:46 | approved |
| S3-221654 | 06/07/2022 12:47:22 | approved |
| S3-221655 | 06/07/2022 14:35:04 | approved |
| S3-221656 | 06/07/2022 14:35:12 | approved |
| S3-221657 | 06/07/2022 14:35:29 | approved |
| S3-221658 | 06/07/2022 10:23:12 | approved |
| S3-221659 | 06/07/2022 10:23:32 | approved |
| S3-221660 | 06/07/2022 12:50:57 | approved |
| S3-221661 | 06/07/2022 10:22:54 | approved |
| S3-221662 | 06/07/2022 11:05:15 | approved |
| S3-221663 | 06/07/2022 12:41:19 | approved |
| S3-221664 | 06/07/2022 12:41:30 | approved |
| S3-221665 | 05/07/2022 14:13:02 | approved |
| S3-221666 | 06/07/2022 13:22:06 | approved |
| S3-221667 | 06/07/2022 13:22:07 | approved |
| S3-221668 | 06/07/2022 13:20:49 | approved |
| S3-221669 | 06/07/2022 13:20:57 | approved |
| S3-221670 | 05/07/2022 14:57:25 | approved |
| S3-221671 | 06/07/2022 10:23:23 | approved |
| S3-221672 | 06/07/2022 10:23:40 | approved |
| S3-221673 | 06/07/2022 12:46:23 | approved |
| S3-221674 | 06/07/2022 13:22:18 | approved |
| S3-221675 | 06/07/2022 12:42:36 | approved |
| S3-221676 | 06/07/2022 12:49:17 | approved |
| S3-221677 | 05/07/2022 15:12:49 | approved |
| S3-221678 | 06/07/2022 12:47:28 | approved |
| S3-221679 | 06/07/2022 14:35:42 | approved |
| S3-221680 | 06/07/2022 14:35:55 | approved |
| S3-221681 | 06/07/2022 12:54:43 | approved |
| S3-221682 | 06/07/2022 12:53:29 | approved |
| S3-221683 | 06/07/2022 12:46:47 | approved |
| S3-221684 | 06/07/2022 14:36:08 | approved |
| S3-221685 | 06/07/2022 14:36:23 | approved |
| S3-221686 | 06/07/2022 14:36:39 | approved |
| S3-221687 | 06/07/2022 14:36:52 | approved |
| S3-221688 | 06/07/2022 11:06:15 | approved |
| S3-221689 | 05/07/2022 14:57:18 | approved |
| S3-221690 | 06/07/2022 14:37:05 | approved |
| S3-221691 | 06/07/2022 14:37:18 | approved |
| S3-221692 | 06/07/2022 14:37:33 | approved |
| S3-221693 | 06/07/2022 10:06:30 | approved |
| S3-221694 | 06/07/2022 12:47:01 | approved |
| S3-221695 | 06/07/2022 12:47:08 | approved |
| S3-221696 | 06/07/2022 14:37:42 | approved |
| S3-221697 | 06/07/2022 12:42:56 | approved |
| S3-221698 | 06/07/2022 14:31:49 | approved |
| S3-221699 | 06/07/2022 10:06:20 | noted |
| S3-221700 | 05/07/2022 14:43:40 | approved |
| S3-221701 | 05/07/2022 14:49:09 | approved |
| S3-221702 | 05/07/2022 14:52:45 | approved |
| S3-221703 | 06/07/2022 14:33:51 | approved |
| S3-221704 | 07/07/2022 14:07:51 | approved |

## Annex B: List of change requests

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Document | Title | Source | Spec | CR | Rev | Rel | Cat | WI | Decision |
| S3-221536 | Null algorithm is not security deactivation | Lenovo | 33.536 | - | - | Rel-17 | F | eV2XARC | withdrawn |

## Annex C: Lists of liaisons

### C1: Incoming liaison statements

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Document | Original | Title | From | Decision | Reply TDoc |
| S3-221313 |  | LS on 5GC information exposure to UE | S2-2205286 | replied to | S3-221621 |
| S3-221315 |  | LS on user’s consent for EDGEAPP | C3-223780 | postponed | (none) |
| S3-221316 |  | LS to 3GPP CT4 on Identification of source PLMN-ID in SBA | GSMA | withdrawn | (none) |
| S3-221317 |  | LS on V2X PC5 link for unicast communication with null security algorithm | R5-222035 | replied to | S3-221590 |
| S3-221586 |  | LS on CAPIF authorization roles related to FS\_SNAAPP | S6-221771 | postponed | (none) |
| S3-221587 |  | Reply LS on V2X PC5 link for unicast communication with null security algorithm | C1-223972 | replied to | S3-221590 |

### C2: Outgoing liaison statements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Document | Title | To | Cc | reply to i/c LS |
| S3-221590 | Reply LS on V2X PC5 link for unicast communication with null security algorithm | RAN WG5 | CT WG1, RAN WG2 | S3-221317 |
| S3-221621 | LS reply on 5GC information exposure to UE | SA2, SA1 | - | S3-221313 |
| S3-221665 | Reply LS on Clarification on MBS Security Keys | CT4 | CT1, CT3, SA2 | S3-221153 |
| S3-221700 | LS out on authenticity and replay protection of system information | RAN2 | - | - |

## Annex D: List of draft Technical Specifications and Reports

|  |  |  |  |
| --- | --- | --- | --- |
| Document | Spec | vers | Doc title |
| S3-221314 | 33.884 | 0.0.0 | skeleton for draft TR 33.884 SNAAPP security(FS\_SNAAPPY) |
| S3-221394 | 33.883 | 0.0.0 | Skeleton of MBS phase2 |
| S3-221400 | 33.896 | 0.0.0 | Skeleton of UC3S\_Ph2 |
| S3-221482 | 33.890 | 0.0.0 | skeleton for NGRTC |
| S3-221512 | 33.891 | 0.0.0 | Proposed skeleton for TR 33.891 |
| S3-221520 | 33.894 | 0.0.0 | Proposal for TR 33.894 Skeleton |
| S3-221537 | 33.893 | 0.0.0 | 33.893: Draft Skeleton |
| S3-221567 | 33.892 | 0.0.0 | Skeleton for TR 33.892 FS\_USIA |
| S3-221573 | 33.877 | 0.0.0 | TR skeleton |
| S3-221583 | 33.898 | 0.0.0 | TR 33.898 Skeleton |
| S3-221593 | 33.892 | 0.0.0 | Skeleton for TR 33.892 FS\_USIA |
| S3-221597 | 33.884 | 0.1.0 | draft TR 33.884 |
| S3-221607 | 33.891 | 0.1.0 | Draft TR 33.891 v0.1.0 |
| S3-221619 | 33.876 | 0.3.0 | Draft TR 33.876 Study on Standardising Automated Certificate Management in SBA |
| S3-221627 | 33.893 | 0.1.0 | Draft TR 33.893 |
| S3-221632 | 33.886 | 0.1.0 | Draft TR 33.886 for eNS3 |
| S3-221643 | 33.740 | 0.1.0 | TR 33.740 v0.1.0 Study on security aspects of Proximity Based Services (ProSe) in 5G System (5GS) phase 2  |
| S3-221650 | 33.877 | 0.1.0 | Draft TR 33.877 v0.1.0 Study on the security aspects of Artificial Intelligence (AI)/Machine Learning (ML) for the NG-RAN |
| S3-221655 | 33.883 | 0.1.0 | TR 33.883  |
| S3-221656 | 33.882 | 0.1.0 | TR 33.882 v0.1.0 |
| S3-221657 | 33.738 | 0.2.0 | draft TR 33.738 0.2.0 |
| S3-221679 | 33.741 | 0.2.0 | TR 33.741 |
| S3-221680 | 33.896 | 0.1.0 | TR 33.896 |
| S3-221684 | 33.858 | 0.1.0 | draft TR 33.858 v0.1.0 |
| S3-221685 | 33.739 | 0.2.0 | Draft TR 33.739 |
| S3-221686 | 33.890 | 0.1.0 | DraftTR\_33.890 |
| S3-221687 | 33.737 | 0.2.0 | draft TR 33.737 |
| S3-221690 | 33.892 | 0.1.0 | Draft TR 33.892 |
| S3-221691 | 33.894 | 0.1.0 | Draft TR 33.894 for ZTS |
| S3-221692 | 33.848 | 0.13.0 | TR 33 848 v0\_13\_0 |
| S3-221696 | 33.870 | 0.3.0 | TR 33.870 |
| S3-221698 | 33.898 | 0.1.0 | TR 33.898 |
| S3-221703 | 33.887 | 0.1.0 | draft 33.887 v0.1.0 Study on Security aspects for 5WWC Phase 2 |

## Annex E: List of participants

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| TITLE | Family Name | Given Name | Employer Organization | Organization Represented |
| Mr. | Bai | JingPeng | China Telecom Corporation Ltd. | China Telecom Corporation Ltd. |
| Dr. | Baskaran | Sheeba Backia Mary | Motorola Mobility Germany GmbH | Motorola Mobility Germany GmbH |
| Dr. | Ben Henda | Noamen | Huawei Technologies Sweden AB | Huawei Technologies Sweden AB |
| Mr. | Bhatt | Rakshesh P. | Nokia Japan | Nokia Japan |
| Ing. | Broszeit | Marco | Vodafone GmbH | Vodafone GmbH |
| Mr. | Brusilovsky | Alec | InterDigital, Inc. | InterDigital, Inc. |
| Mr. | Cano Soveri | Mirko | ETSI | ETSI |
| Mr. | Canterbury | Mark | Tencastle Limited | National Technical Assistance |
| Mr. | Chen | Jingran | OPPO Beijing | OnePlus |
| Mr. | Choi | Hongjin | Samsung R&D Institute UK | Harman GmbH |
| Miss | chong | vivian | VIVO TECH GmbH | VIVO TECH GmbH |
| Mr. | Chou | Joey | Intel Corporation (UK) Ltd | Intel Korea, Ltd. |
| Mr. | Choyi | Vinod Kumar | Verizon UK Ltd | Verizon Denmark |
| Ms. | Comak | Pinar | Ericsson LM | Ericsson LM |
| Mr. | Cong | Shi | Guangdong OPPO Mobile Telecom. | OPPO |
| Mrs. | Costa | Luciana | TELECOM ITALIA S.p.A. | TELECOM ITALIA S.p.A. |
| Mr. | Dees | Walter | Philips International B.V. | Philips International B.V. |
| Mr. | Doerr | Johannes | BMWK | BMWK |
| Mr. | Eckel | Charles | Cisco Systems Belgium | Cisco Systems Belgium |
| Mr. | Ennesser | Francois | Huawei Technologies France | Huawei Technologies France |
| Dr. | Escott | Adrian | Qualcomm CDMA Technologies | Qualcomm CDMA Technologies |
| Mr. | Evans | Tim P. | VODAFONE Group Plc | Vodafone España SA |
| Mr. | Ferdi | Samir | InterDigital, Inc. | InterDigital, Europe, Ltd. |
| Mr. | Gabay | David | MITRE Corporation | MITRE Corporation |
| Mrs. | Gan | Lu | OPPO | OPPO Beijing |
| Mr. | Gao | Weihan | China Telecom Corporation Ltd. | China Telecomunication Corp. |
| Dr. | Garcia-Morchon | Oscar | Philips International B.V. | Philips International B.V. |
| Mr. | Gholmieh | Aziz | Qualcomm Technologies Int | Qualcomm Finland RFFE Oy |
| Mr. | Grewal | Rajpreet Singh | NTIA | NTIA |
| Mr. | Guo | Boren | OPPO Beijing | Hangzhou Douku |
| Ms. | Guo | Ivy | Apple Computer Trading Co. Ltd | Apple Computer Trading Co. Ltd |
| Mr. | Guo | Longhua | HUAWEI TECH. GmbH | HUAWEI TECHNOLOGIES Co. Ltd. |
| Ms. | Guo | Yali | OPPO Beijing | Shenzhen Heytap |
| Mr. | Guo | Yi | Intel Corporation (UK) Ltd | Intel Belgium SA/NV |
| Mr. | Hanhisalo | Markus | Ericsson LM | Oy LM Ericsson AB |
| Mr. | Hoffpauir | Dusty | Charter Communications, Inc | Charter Communications, Inc |
| Mr. | Hu | Li | HUAWEI TECHNOLOGIES Co. Ltd. | HiSilicon Technologies Co. Ltd |
| Dr. | Jost | Christine | Ericsson LM | Ericsson LM |
| Dr. | Karakoc | Ferhat | Ericsson LM | Ericsson LM |
| Dr. | Keesmaat | Iko | TNO | KPN N.V. |
| Dr. | Khan | Mohsin | Ericsson LM | Ericsson LM |
| Mr. | khare | saurabh | Nokia Germany | Nokia Solutions & Networks (I) |
| Dr. | Kim | Hongil | Qualcomm Incorporated | Qualcomm Technologies Int |
| Dr. | Kim | Hyunsook | LG Electronics Inc. | LG Electronics Inc. |
| Mr. | Kolekar | Abhijeet | Intel Corporation (UK) Ltd | Intel |
| Ms. | Koser | Elizabeth | U.S. National Security Agency | U.S. National Security Agency |
| Dr. | Kunz | Andreas | Motorola Mobility Germany GmbH | Lenovo (Beijing) Ltd |
| Dr. | Lee | Duckey | Samsung R&D Institute UK | Samsung Electronics Benelux BV |
| Dr. | Lee | Soo Bum | Qualcomm Incorporated | Qualcomm Korea |
| Mr. | Lee | Xiaoyang | CISA ECD | CISA ECD |
| Dr. | Lei | Ao | HUAWEI TECHNOLOGIES Co. Ltd. | Huawei Telecommunication India |
| Dr. | Lei | Zander (Zhongding) | HuaWei Technologies Co., Ltd | Huawei Technologies (Korea) |
| Ms. | Li | Chenyi | China Unicom | Unicompay |
| Mr. | Li | Fei | HUAWEI TECHNOLOGIES Co. Ltd. | Huawei Technologies R&D UK |
| Mr. | Li | He | HUAWEI TECHNOLOGIES Co. Ltd. | Huawei Device Co., Ltd |
| Dr. | Li | Lun | HuaWei Technologies Co., Ltd | HuaWei Technologies Co., Ltd |
| Miss | Li | Yan | ZTE Corporation | ZTE Corporation |
| Dr. | Liang | Haoran | Xiaomi Communications | Xiaomi Communications |
| Dr. | Liao | Ellen C. | Google Inc. | Google Inc. |
| Miss | Lin | Lin | China Unicom | Unicom Broadband Online |
| Mr. | Lin | Zhaoji | ZTE Corporation | ZTE Corporation. |
| Mr. | Liu | Hongjun | ZTE Corporation | Nubia Technology Co.,Ltd |
| Mr. | Liu | Yuze | ZTE Corporation. | ShenZhen Zhongxing Shitong |
| Mr. | Lu | Fei | Guangdong OPPO Mobile Telecom. | Chongqing Angying |
| Ms. | Lu | Wei | Xiaomi Technology | Xiaomi Technology |
| Mr. | Luetzenkirchen | Thomas | Intel Deutschland GmbH | Intel Deutschland GmbH |
| Mr. | Lyu | Huazhang | vivo Mobile Communication Co., | vivo Mobile Communication (H) |
| Mr. | Ma | Ruitao | China Unicom | VSENS |
| Mr. | Ma | Wei | ZTE Corporation | Sanechips |
| Mr. | Manganahalli Jayaprakash | Sandesh | TNO | TNO |
| Mr. | MAO | Yuxin | Beijing Xiaomi Mobile Software | Xiaomi EV Technology |
| Miss | Martinez Tarradell | Marta | Intel | Intel Corporation Italia SpA |
| Dr. | MTITA | Collins | Ericsson France S.A.S | Ericsson Inc. |
| Dr. | Muhanna | Ahmad | Mavenir | Mavenir |
| Mr. | Nair | Suresh | Nokia Germany | Nokia Corporation |
| Mr. | Naslund | Mats | NDRE | NDRE |
| Mrs. | Nisbeth | Daphanie | U.S. National Security Agency | U.S. National Security Agency |
| Mr. | Norton | Mark | U.S. Department of Defense | U.S. Department of Defense |
| Mr. | Orkopoulos | Stawros | Nokia Germany | Nokia Italy |
| Mr. | Palanigounder | Anand | Qualcomm Technologies Int | QUALCOMM JAPAN LLC. |
| Dr. | Palat | Sudeep | Intel Corporation (UK) Ltd | Intel Corporation (UK) Ltd |
| Ms. | Parambath Sasi | NIvedya | Samsung R&D Institute India | Samsung R&D Institute India |
| Dr. | Park | Junhyun | Samsung R&D Institute UK | Samsung Electronics Czech |
| Mr. | Pätzold | Thomas | Deutsche Telekom AG | Deutsche Telekom AG |
| Mrs. | Pauliac | Mireille | THALES | THALES |
| Mr. | Peinado | German | Nokia Germany | Nokia Poland |
| Dr. | Polak | Adam | Qualcomm CDMA Technologies | Qualcomm CDMA Technologies |
| Dr. | Qu | Zhicheng | ZTE Corporation | ZONSON |
| Mr. | Rajadurai | Rajavelsamy | Samsung R&D Institute UK | Samsung Electronics Co., Ltd |
| Ms. | Rajendran | Rohini | Samsung R&D Institute India | SAMSUNG R&D INSTITUTE JAPAN |
| Mr. | Rath | Paresh | U.S. Department of Defense | U.S. Department of Defense |
| Mr. | Ren | Chi | China Unicom | CITC |
| Mrs. | Rong | Wu | HUAWEI TECHNOLOGIES Co. Ltd. | HUAWEI TECH. GmbH |
| Dr. | Shailendra | Samar | Intel Technology India Pvt Ltd | Intel Technology India Pvt Ltd |
| Miss | shang | zhengyi | Beijing Xiaomi Mobile Software | Beijing Xiaomi Mobile Software |
| Ms. | Shen | Jun | China Telecommunications | China Telecommunications |
| Ms. | Shen | Yang | Beijing Xiaomi Mobile Software | Beijing Xiaomi Mobile Software |
| Ms. | So | Tricci | OPPO | Orope Germany GmbH |
| Mrs. | Stanetsky | Nataliya | Google Inc. | Google Inc. |
| Mr. | Starsinic | Michael | InterDigital, Inc. | InterDigital France R&D, SAS |
| Dr. | Staufer | Markus | Nokia Germany | Nokia Hungary |
| Mr. | Stojanovski | Saso | Intel Deutschland GmbH | Intel Finland Oy |
| Mrs. | Sun | Xiaowen | vivo Mobile Communication Co., | vivo Japan KK |
| Mr. | Syrett | Mark | Hewlett-Packard Enterprise | Hewlett-Packard Enterprise |
| Mr. | Tiwari | Kundan | NEC Corporation | NEC Corporation |
| Dr. | Tsiatsis | Vlasios | Ericsson LM | Ericsson España S.A. |
| Mrs. | Vahidi | Helena | Ericsson LM | Ericsson LM |
| Dr. | Wan | Tao | CableLabs | CableLabs |
| Mr. | Wang | Wen | vivo Mobile Communication Co., | vivo Mobile Com. (Chongqing) |
| Dr. | Wang | Zhaoning | China Unicom | CUG |
| Ms. | WEI | QUN | China Unicom | BTPDI |
| Mr. | Wen | Wu | ZTE Corporation. | CALTTA |
| Ms. | Wifvesson | Monica | Ericsson LM | Ericsson Limited |
| Mr. | Wong | Marcus | OPPO | Chengdu OPPO Telecommunication |
| Ms. | WU | Jinhua | Beijing Xiaomi Mobile Software | Beijing Xiaomi Software Tech |
| Miss | Wu | Yizhuang | HUAWEI TECHNOLOGIES Co. Ltd. | HUAWEI Technologies Japan K.K. |
| Dr. | Xie | Shaowei | ZTE Corporation | ZXNE |
| Mr. | Xie | Zhenhua | vivo Mobile Communication Co., | vivo Mobile Communication (S) |
| Mr. | Xing | TianQi | China Unicom | CU Digital Technology |
| Ms. | Xing | Zhen | ZTE Corporation. | ZTE Photonics |
| Miss | Xiong | Lihui | Guangdong OPPO Mobile Telecom. | Guangdong OPPO Mobile Telecom. |
| Mr. | Xu | Yang | Guangdong OPPO Mobile Telecom. | Dongguan OPPO Precision Elec. |
| Miss | Yang | Haorui | OPPO Beijing | Hangzhou Mengyuxiang |
| Dr. | Yao | Ge | China Unicom | China Unicom |
| Mr. | Yao | Yizhi | Intel Corporation (UK) Ltd | Intel Technology Poland SP Zoo |
| Mr. | You | Shilin | ZTE Corporation. | ZTE Wistron Telecom AB |
| Mr. | Yu | Hang | vivo Mobile Com. (Chongqing) | vivo Communication Technology |
| Miss | Yuan | Liya | ZTE Corporation | Jetflow |
| Dr. | Zhang | Amy | vivo Japan KK | vivo Japan KK |
| Dr. | Zhang | Bo | HUAWEI TECHNOLOGIES Co. Ltd. | Huawei Technologies Japan K.K. |
| Mr. | Zhang | Pengfei | vivo Mobile Communication Co., | vivo Mobile Communication (S) |
| Mr. | Zhang | Yizhong | vivo Mobile Communication (S) | vivo Mobile Communication Co., |
| Dr. | Zhao | Shuai | Intel | Intel Sweden AB |
| Mr. | Zhou | Wei | CATT | CATT |
| Mr. | Zhu | Chunhui | Beijing Xiaomi Mobile Software | Beijing Xiaomi Electronics |
| Dr. | Zugenmaier | Alf | NTT DOCOMO INC. | DOCOMO Communications Lab. |

## Annex F: List of future meetings

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Title | Start date | End date (OP) | Town | Country | Reference |
| SA3#108-e | 2022-08-22 | 2022-08-26 | Online |  | S3-108-e |
| SA3#86-LI-b | 2022-08-30 | 2022-09-02 | Sophia Antipolis | FR | S3-86 |
| SA3#87-LI-e-a | 2022-10-05 | 2022-10-07 | Online |  | S3-87-e |
| SA3#108-bis-e | 2022-10-10 | 2022-10-14 | Online |  | S3-108-bis-e |
| SA3#87-LI-b | 2022-11-01 | 2022-11-04 | US TBC | US | S3-87 |
| SA3#109 | 2022-11-14 | 2022-11-18 | Canada | CA | S3-109 |
| SA3#109-bis | 2023-01-16 | 2023-01-20 | TBD |  | S3-109-bis |
| SA3#88-LI | 2023-01-31 | 2023-02-03 | Sophia Antipolis | FR | S3-88 |
| SA3#110 | 2023-02-20 | 2023-02-24 | EU | EU | S3-110 |
| SA3#110-bis | 2023-04-17 | 2023-04-21 | TBD | US | S3-110-bis |
| SA3#111 | 2023-05-22 | 2023-05-26 | China | CN | S3-111 |
| SA3#112 | 2023-08-14 | 2023-08-18 | EU | EU | S3-112 |
| SA3#113 | 2023-11-06 | 2023-11-10 | TBD | US | S3-113 |
| SA3#114 | 2024-01-22 | 2024-01-26 | TBD |  | S3-114 |
| SA3#115 | 2024-02-26 | 2024-03-01 | TBD |  | S3-115 |
| SA3#116-(option 1) | 2024-05-13 | 2024-05-17 | TBD |  | S3-116 |
| SA3#116-(option 2) | 2024-05-20 | 2024-05-24 | TBD |  | S3-116 |
| SA3#117 | 2024-08-26 | 2024-08-30 | TBD |  | S3-117 |
| SA3#118 | 2024-10-07 | 2024-10-11 | TBD |  | S3-118 |
| SA3#119 | 2024-11-11 | 2024-11-15 | TBD |  | S3-119 |