

CLAIMS

1. A method (2000) performed by a wireless device, the method comprising:
transmitting (2010) a first message to a network node, the first message comprising a
first portion of a Fifth Generation System Temporary Mobile Subscriber Identity, 5G-S-TMSI;
5 and

transmitting (2020) a second message to the network node, the second message
comprising a second portion of the 5G-S-TMSI.

2. The method of Claim 1, wherein one or more of the following apply:
10 the first message comprises a Radio Resource Control, RRC, request;
the second message comprises an RRC setup complete message; and
the second message is transmitted in response to receiving an RRC setup message from
the network node.

3. The method of any of Claims 1-2, wherein, prior to transmitting the first message
and the second message, the method further comprises:

transmitting (2030), to the network node, a request message requesting the network
node to grant the wireless device resources for transmitting the first message; and

receiving (2040), from the network node, a grant message granting the wireless device
20 the resources for transmitting the first message.

4. The method of any of Claims 1-3 wherein, prior to transmitting the first message
and the second message, the method further comprises splitting (2050) the 5G-S-TMSI into the
first portion and the second portion.

5. The method of Claim 4, wherein splitting the 5G-S-TMSI into the first portion and
the second portion is based on a determination that the length of the 5G-S-TMSI exceeds a
limit that the network node is capable of receiving in the first message.

6. The method of any of Claims 1-5, further comprising determining, based at least in
part on information received from the network node, which portion of the 5G-S-TMSI to
include in the second message.

7. A wireless device (110, 200, 330, 491, 492, 530) comprising:
a memory (130, 215, 390-1, 390-2) configured to store instructions; and
processing circuitry (120, 201, 360, 538) configured to perform the method of any of

5 Claims 1-6.

8. A method (2100) performed by a network node, the method comprising:
receiving (2110) a first message from a wireless device, the first message comprising a
first portion of a Fifth Generation System Temporary Mobile Subscriber Identity (5G-S-
TMSI);

10 receiving (2120) a second message from the wireless device, the second message
comprising a second portion of the 5G-S-TMSI; and

obtaining (2130) the 5G-S-TMSI by reassembling the first portion of the 5G-S-TMSI
and the second portion of the 5G-TMSI received from the wireless device.

15 9. The method of Claim 8, wherein a size of the obtained 5G-S-TMSI exceeds a limit
that the network node is capable of receiving in the first message.

37. The method of any of Claims 8-9, wherein one or more of the following applies:
the first message comprises a Radio Resource Control (RRC) request; and
20 the second message comprises an RRC setup complete message.

11. The method of any of Claims 8-10, wherein, prior to receiving the first message
and the second message, the method further comprises:

25 receiving, from the wireless device, a request message requesting the network node to
grant the wireless device resources for transmitting the first message; and

transmitting, to the wireless device, a grant message granting the wireless device the
resources for transmitting the first message.

12. The method of any of Claims 8-11, further comprising transmitting, to the wireless
30 device, one or more of the following:

an RRC setup message, wherein the RRC setup message is transmitted in response to
receiving the first message;

information indicating which bits of the 5G-S-TMSI to include in the first portion or the second portion; and an indicator that indicates a length of the first portion of the 5G-S-TMSI that the network node is capable of receiving in the first message.

5 13. The method of any of Claims 8-12, further comprising using the 5G-S-TMSI to identify the wireless device in a subsequent message.

 14. A network node (160, 330, 412, 520) comprising:
 a memory (180, 390-1, 390-2) configured to store instructions; and
10 processing circuitry (170, 360, 528) configured to execute the instructions, wherein the network node is configured to performed the method of any of Claims 8-13.

 15. A computer program product comprising a non-transitory computer readable medium (130, 180, 215, 390-1, 390-2) storing computer readable program code, the computer
15 readable program code comprises program code for performing the method of any of Claims 1 and 8.

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