

EXHIBIT A-1

Summary of Invalidity Analysis of U.S. Patent No. 11,627,631 (“’631 Patent”) in view of Xn Based Mobility Across RA (“R3-173152”)

Xn Based Mobility Across RA (“R3-173152”) was published on August 11, 2017. Therefore, R3-173152 qualifies as prior art to the ’631 Patent under at least 35 U.S.C. § 102(a). As described in the following claim chart, at least under Pegasus’s apparent infringement theory, the asserted claims of the ’631 Patent are invalid as expressly and/or inherently anticipated by R3-173152.

To the extent that R3-173152 is found not to anticipate, expressly or inherently, one or more of the asserted claims of the ’631 Patent, at least under Pegasus’s apparent infringement theory, these claims are invalid as obvious in view of R3-173152 in view of the background knowledge and ordinary creativity of a person having ordinary skill in the art at the time of the alleged invention, or in combination with other prior art identified in the cover pleading, herein, or as disclosed in Defendants’ Invalidity Contentions and accompanying charts and appendices. A person of ordinary skill would have been motivated to combine R3-173152 and any other prior art references, including but not limited to the other prior art identified in the cover pleading or herein, with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

Defendants reserve the right to amend or supplement this invalidity chart at a later date.

1. Claim 1

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
1[pre]	A method for transmitting and receiving data, the method comprising:	To the extent the preamble is limiting, at least under Pegasus's apparent infringement theory, R3-173152 discloses a method for transmitting and receiving data. For example, R3-173152 discloses this limitation based on the following exemplary citations:

Invalidity of U.S. Patent 11,627,631 in view of R3-173152

Claim Language

Exemplary Citations to R3-173152

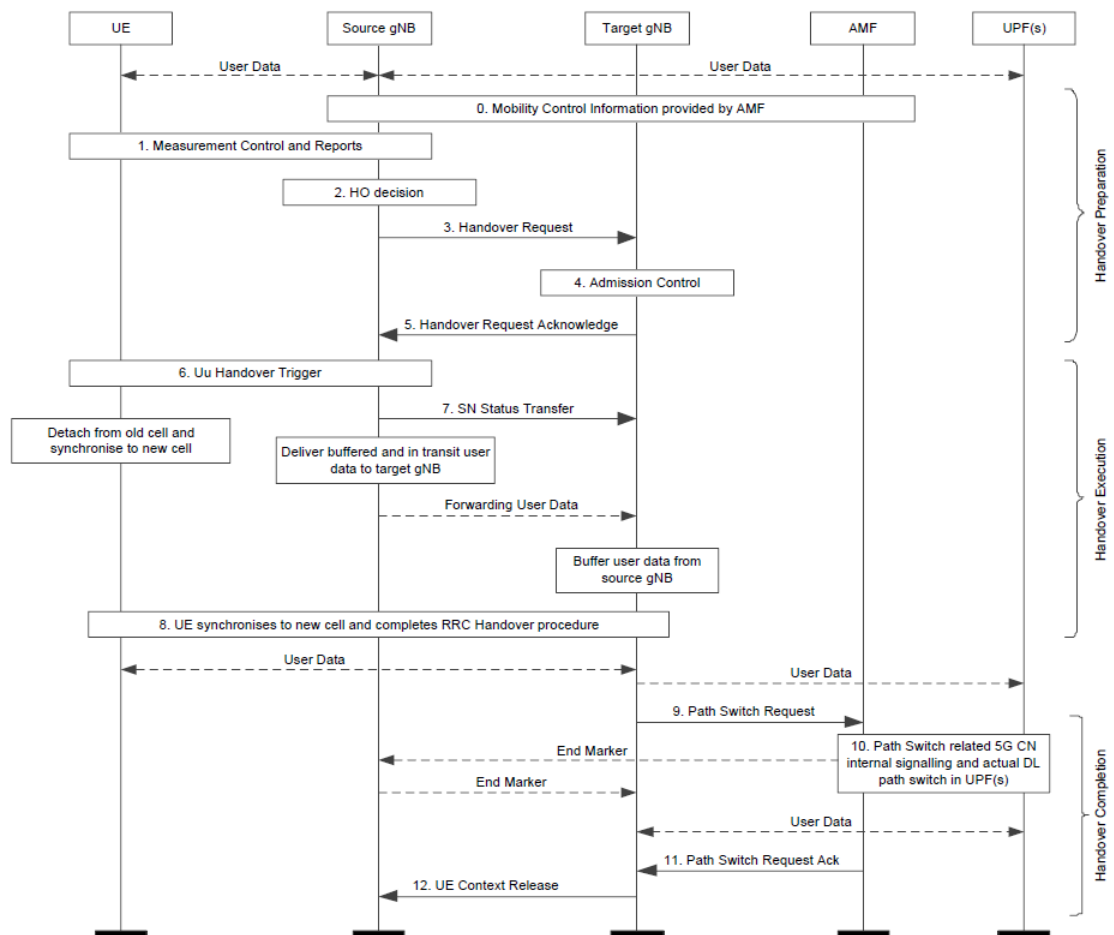


Figure 1 Xn based handover

R3-173152 at Figure 1.

Invalidity of U.S. Patent 11,627,631 in view of R3-173152

Claim Language

Exemplary Citations to R3-173152

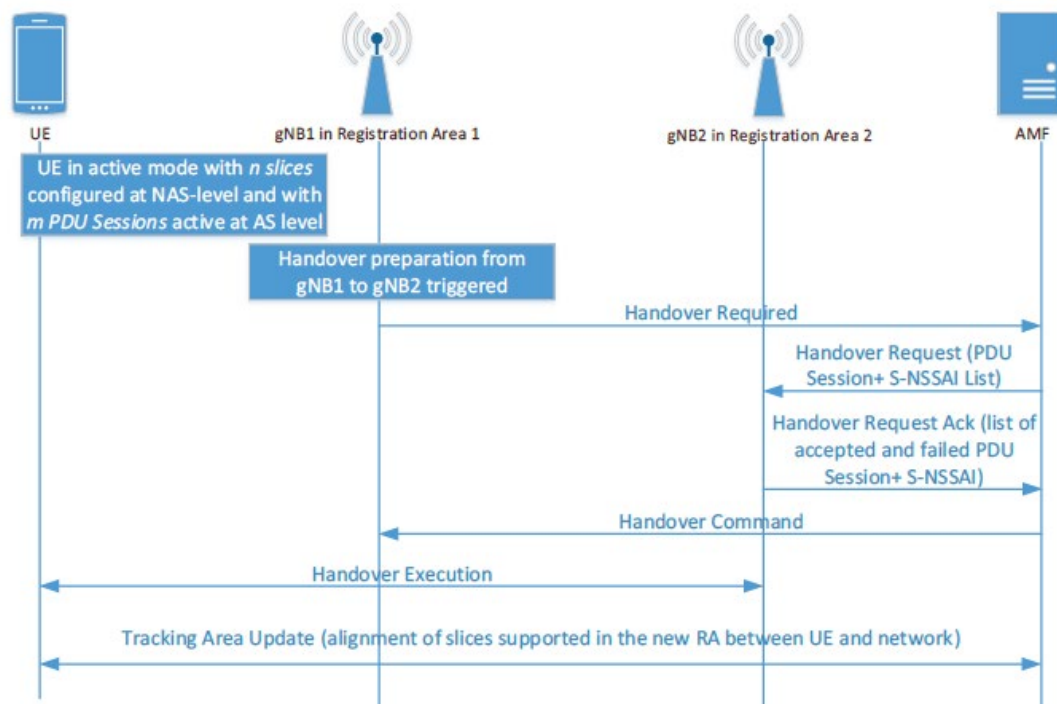


Figure 17.3.4.5-1: Active mode CN involved mobility across different Registration Areas
R3-173152 at 4.

Invalidity of U.S. Patent 11,627,631 in view of R3-173152

Claim Language

Exemplary Citations to R3-173152

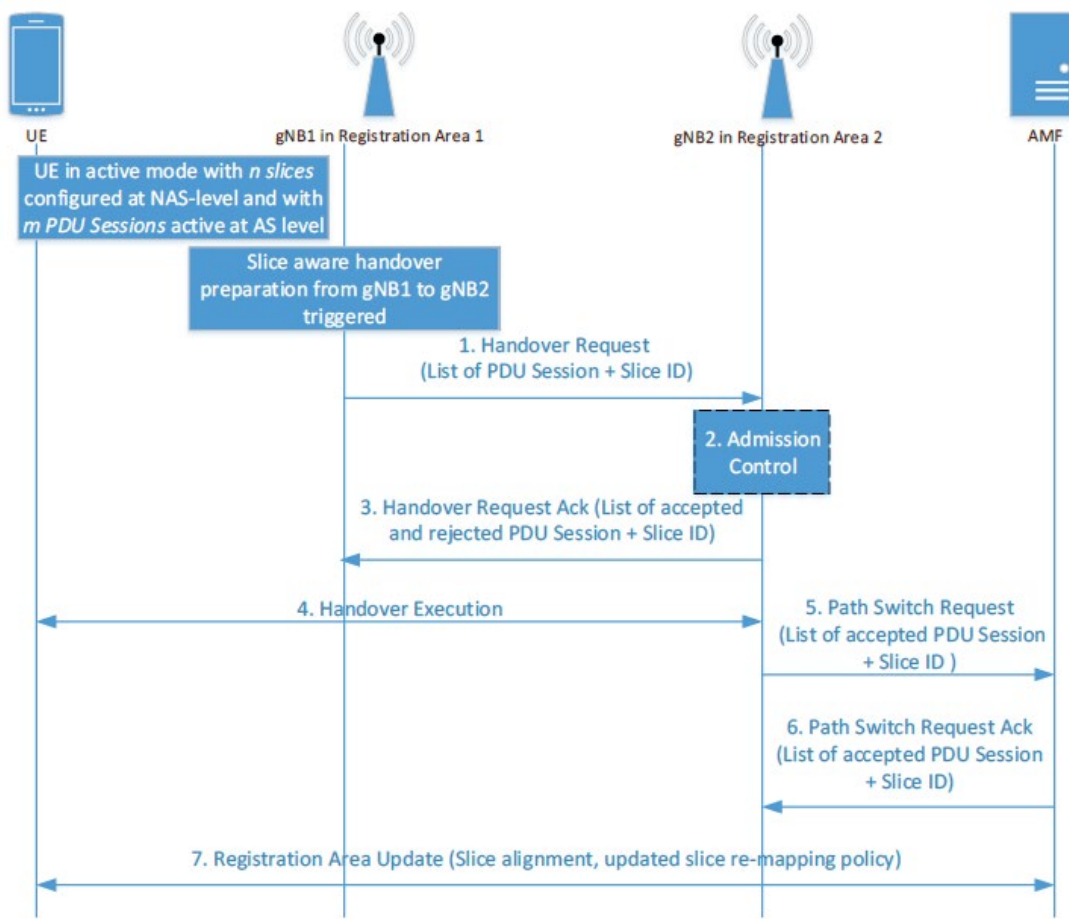


Figure 17.3.4.5-x: Active mode Xn based mobility across different Registration Areas

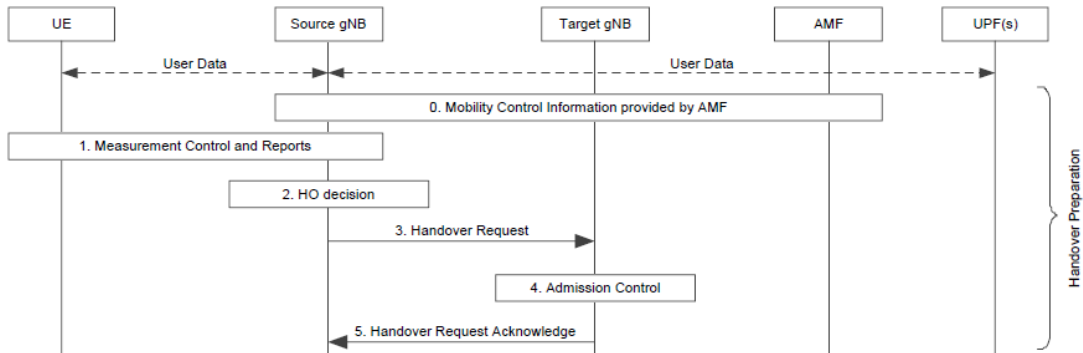
R3-173152 at 5.

To the extent it is found that R3-173152 does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that R3-173152 does not anticipate this claim, R3-173152 renders it obvious, either alone, in combination with

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
		the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine R3-173152 with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.
1[a]	deciding, by a source base station (BS), whether to perform a handover;	At least under Pegasus's apparent infringement theory, R3-173152 discloses deciding, by a source base station (BS), whether to perform a handover. For example, R3-173152 discloses this limitation based on the following exemplary citations: <pre> sequenceDiagram participant UE participant Source_gNB as Source gNB participant Target_gNB as Target gNB participant AMF participant UPF_s as UPF(s) Note over AMF: 0. Mobility Control Information provided by AMF Note over Source_gNB: 1. Measurement Control and Reports Note over Source_gNB: 2. HO decision Source_gNB->>Target_gNB: 3. Handover Request Note over Target_gNB: 4. Admission Control Target_gNB-->>Source_gNB: 5. Handover Request Acknowledge Note over Source_gNB, Target_gNB, AMF, UPF_s: Handover Preparation </pre> R3-173152 at Figure 1. Given that NW slice could be deployed in only part of the whole network, it is likely that target node cannot support the same NW slice(s) the UE is in question at the source node. Considering the slice availability, the handover procedure involves a NGC has been captured in TS 38.300. This paper focus on the Xn based handover procedure by taking the slice availability into account. R3-173152 at 1.

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Claim Language		Exemplary Citations to R3-173152
		Regarding the granularity of slice availability, it is assumed in SA2 that <i>“the slice configuration does not change within the UE’s registration area.”</i> Following the temporary assumption made by SA2, when the UE is moving to the boundary of registration areas that support different slices, the effect of slice availability for handover needs to be considered. If one or more related slices of the ongoing sessions cannot be supported by the target gNB, Rel-15 shall support release the PDU sessions of non-supported slices [1]. For the CN involved handover case which has been captured in TS38.300, the target AMF is responsible for removing slices that are not supported by target gNB, and slice removal is included in the handover preparation signalling. R3-173152 at 1.

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language	Exemplary Citations to R3-173152	
	<pre> sequenceDiagram participant UE participant gNB1 as gNB1 in Registration Area 1 participant gNB2 as gNB2 in Registration Area 2 participant AMF Note over UE: UE in active mode with n slices configured at NAS-level and with m PDU Sessions active at AS level Note over gNB1: Slice aware handover preparation from gNB1 to gNB2 triggered gNB1->>gNB2: 1. Handover Request (List of PDU Session + Slice ID) activate gNB2 gNB2->>gNB2: 2. Admission Control gNB2->>gNB1: 3. Handover Request Ack (List of accepted and rejected PDU Session + Slice ID) deactivate gNB2 gNB1->>UE: 4. Handover Execution gNB2->>AMF: 5. Path Switch Request (List of accepted PDU Session + Slice ID) activate AMF AMF->>gNB2: 6. Path Switch Request Ack (List of accepted PDU Session + Slice ID) deactivate AMF AMF->>UE: 7. Registration Area Update (Slice alignment, updated slice re-mapping policy) </pre> Figure 17.3.4.5-x: Active mode Xn based mobility across different Registration Areas R3-173152 at 5. To the extent it is found that R3-173152 does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that R3-173152 does not anticipate this claim, R3-173152 renders it obvious, either alone, in combination with	

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
		the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine R3-173152 with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.
1[b]	transmitting, from the source BS to a target BS, a handover request message when it is decided to perform the handover,	At least under Pegasus's apparent infringement theory, R3-173152 discloses transmitting, from the source BS to a target BS, a handover request message when it is decided to perform the handover. For example, R3-173152 discloses this limitation based on the following exemplary citations:  R3-173152 at Figure 1.

Invalidity of U.S. Patent 11,627,631 in view of R3-173152

Claim Language

Exemplary Citations to R3-173152

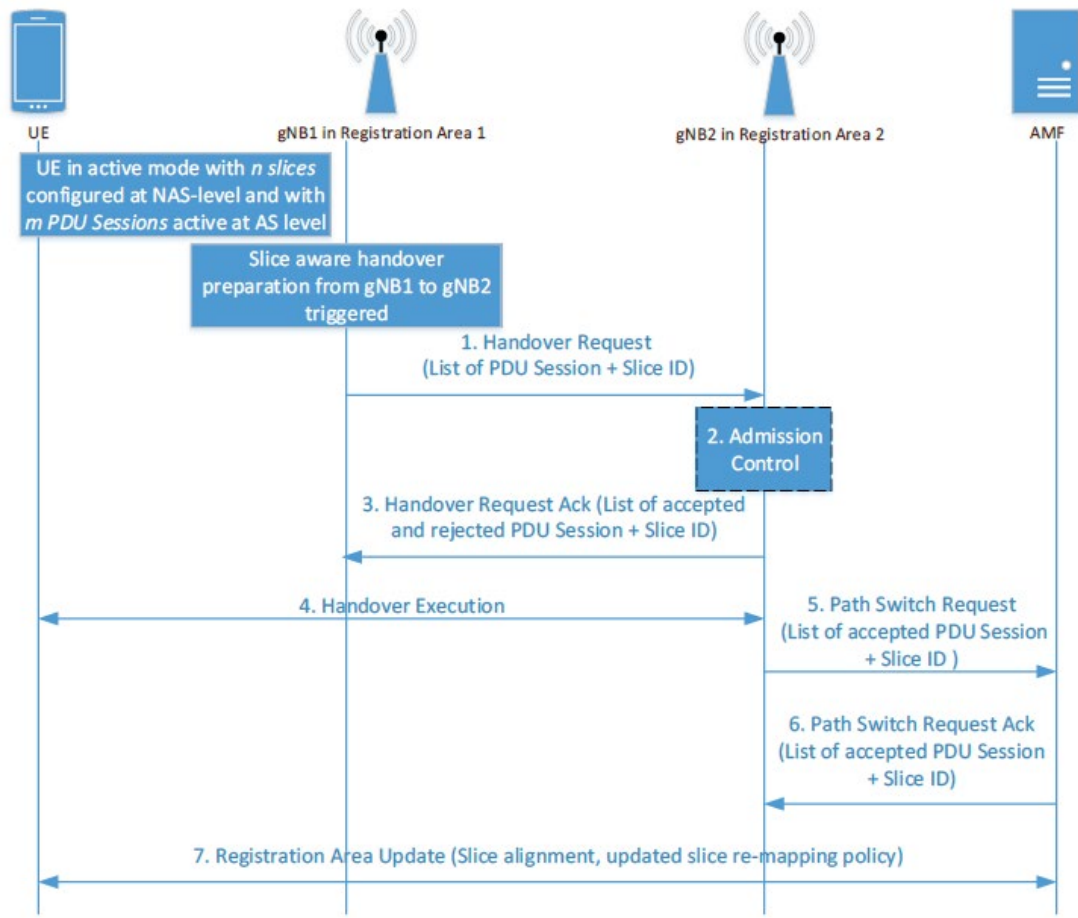


Figure 17.3.4.5-x: Active mode Xn based mobility across different Registration Areas

R3-173152 at 5.

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
		1. For the Handover Request message, it includes (all) PDU sessions with active UP connections handled by the source gNB, to indicate the target gNB which PDU session should handover to the target. 2. For the Admission Control, the target gNB may admit all/part of PDU sessions included in the Handover Request message. It is undoubted that the target gNB may reject some PDU sessions, e.g., due to resource limitation. R3-173152 at 2. 1. As the target gNB cannot support all the slices, the PDU sessions with active UP connections handled by the source gNB can be divided to two part: one part is the PDU sessions which associated slice(s) is supported by the target gNB, another part is the PDU sessions which associated slice(s) is <i>not</i> supported by the target gNB. One option is only including the latter part of PDU sessions, however, for this option, the source gNB always check the slice availability before handover. Another option is including all parts of PDU sessions in the Handover Request message. In this option, check the slice availability is not mandatory, but the source gNB may also check the slice availability for selecting the suitable target gNBs (in step 2 as in figure 1), e.g., the source gNB will not request handover UE to a gNB cannot support any slice. 2. For the Admission Control, the target gNB will check whether the slices of requested PDU sessions are supported, and the target gNB will reject the PDU sessions associated non-supported slice. However, this does not mean that the gNB release the rejected PDU sessions, but just means the target gNB will not establish the AS resources associated to the rejected PDU sessions. Even the Handover Request message only contains PDU sessions of supported slice(s), the target gNB still needs to check the slice availability to make sure that it can support the corresponding slice of each PDU sessions. R3-173152 at 3. To the extent it is found that R3-173152 does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that R3-173152 does not anticipate this claim, R3-173152 renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine R3-173152 with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
1[c]	wherein the handover request message includes network slice information; and	At least under Pegasus's apparent infringement theory, R3-173152 discloses wherein the handover request message includes network slice information. For example, R3-173152 discloses this limitation based on the following exemplary citations: <pre> sequenceDiagram participant UE participant Source_gNB as Source gNB participant Target_gNB as Target gNB participant AMF participant UPF_s as UPF(s) Note over AMF: 0. Mobility Control Information provided by AMF Note over UE, Source_gNB: 1. Measurement Control and Reports Note over Source_gNB: 2. HO decision Note over Source_gNB, Target_gNB: 3. Handover Request Note over Target_gNB: 4. Admission Control Note over Target_gNB, Source_gNB: 5. Handover Request Acknowledge Source_gNB-->>UE: User Data Target_gNB-->>UPF_s: User Data subgraph Handover_Preparation [Handover Preparation] 1 2 3 4 5 end </pre> R3-173152 at Figure 1.

Invalidity of U.S. Patent 11,627,631 in view of R3-173152

Claim Language

Exemplary Citations to R3-173152

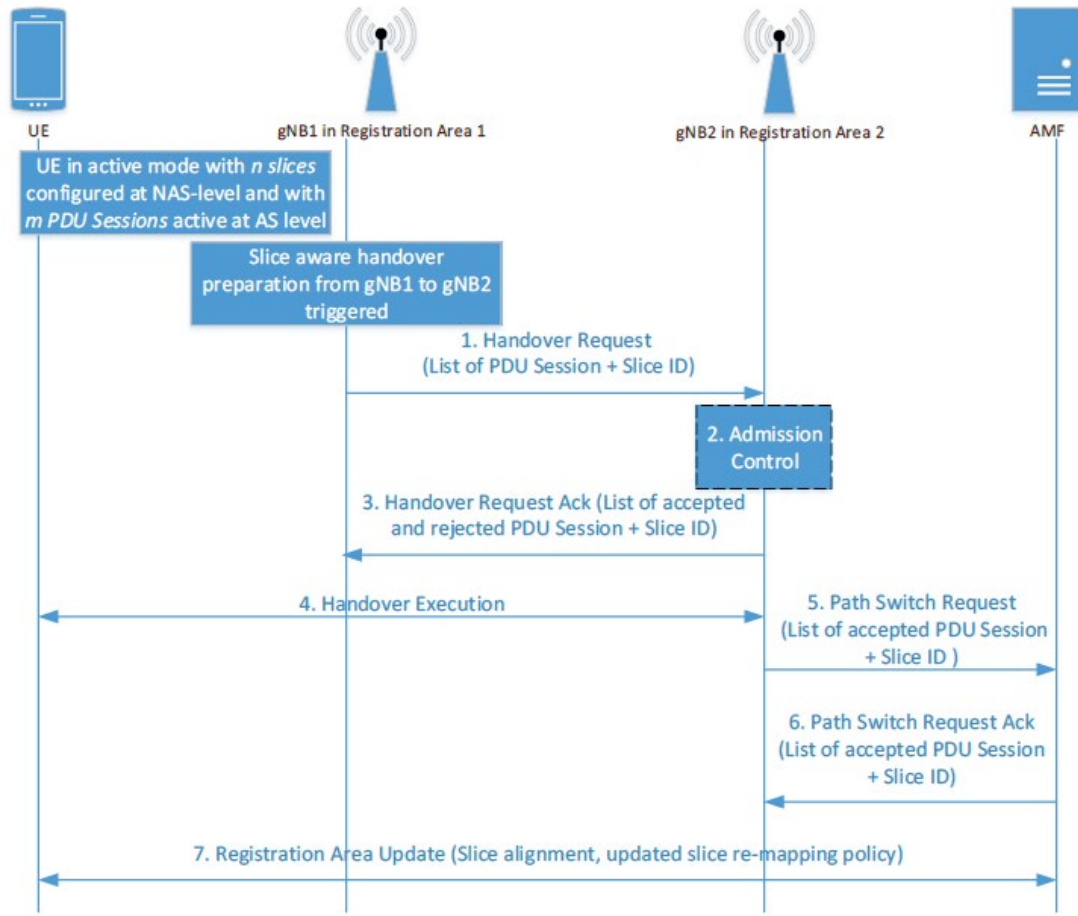


Figure 17.3.4.5-x: Active mode Xn based mobility across different Registration Areas

R3-173152 at 5.

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
		1. For the Handover Request message, it includes (all) PDU sessions with active UP connections handled by the source gNB, to indicate the target gNB which PDU session should handover to the target. 2. For the Admission Control, the target gNB may admit all/part of PDU sessions included in the Handover Request message. It is undoubted that the target gNB may reject some PDU sessions, e.g., due to resource limitation. R3-173152 at 2. 1. As the target gNB cannot support all the slices, the PDU sessions with active UP connections handled by the source gNB can be divided to two part: one part is the PDU sessions which associated slice(s) is supported by the target gNB, another part is the PDU sessions which associated slice(s) is <i>not</i> supported by the target gNB. One option is only including the latter part of PDU sessions, however, for this option, the source gNB always check the slice availability before handover. Another option is including all parts of PDU sessions in the Handover Request message. In this option, check the slice availability is not mandatory, but the source gNB may also check the slice availability for selecting the suitable target gNBs (in step 2 as in figure 1), e.g., the source gNB will not request handover UE to a gNB cannot support any slice. 2. For the Admission Control, the target gNB will check whether the slices of requested PDU sessions are supported, and the target gNB will reject the PDU sessions associated non-supported slice. However, this does not mean that the gNB release the rejected PDU sessions, but just means the target gNB will not establish the AS resources associated to the rejected PDU sessions. Even the Handover Request message only contains PDU sessions of supported slice(s), the target gNB still needs to check the slice availability to make sure that it can support the corresponding slice of each PDU sessions. R3-173152 at 3. To the extent it is found that R3-173152 does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that R3-173152 does not anticipate this claim, R3-173152 renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine R3-173152 with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.
1[d]	receiving, by the source BS from the target BS, a handover	At least under Pegasus's apparent infringement theory, R3-173152 discloses receiving, by the source BS from the target BS, a handover request confirmation

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
	request confirmation message in response to the handover request message,	message in response to the handover request message. For example, R3-173152 discloses this limitation based on the following exemplary citations: <pre> sequenceDiagram participant UE participant Source_gNB as Source gNB participant Target_gNB as Target gNB participant AMF participant UPF_s as UPF(s) Note over Source_gNB: 0. Mobility Control Information provided by AMF Note over UE, Source_gNB: 1. Measurement Control and Reports Note over Source_gNB: 2. HO decision Note over Source_gNB, Target_gNB: 3. Handover Request Note over Target_gNB, AMF: 4. Admission Control Note over Target_gNB, Source_gNB: 5. Handover Request Acknowledge UE-->>Source_gNB: User Data Target_gNB-->>UPF_s: User Data subgraph Handover_Preparation 1 2 3 4 5 end </pre> R3-173152 at Figure 1.

Invalidity of U.S. Patent 11,627,631 in view of R3-173152

Claim Language

Exemplary Citations to R3-173152

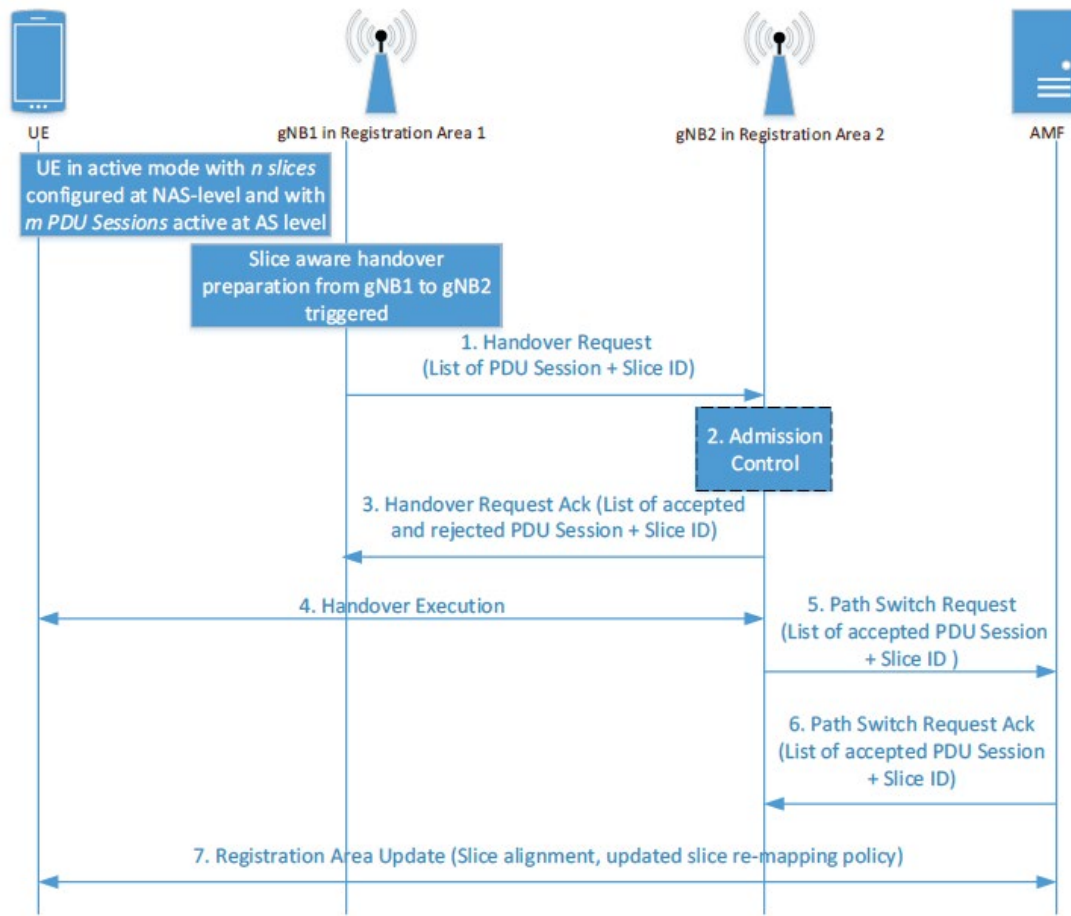


Figure 17.3.4.5-x: Active mode Xn based mobility across different Registration Areas

R3-173152 at 5.

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
		3. For the Handover Request ACK message, it includes the admitted PDU session list and not admitted PDU session list, to indicate which PDU session can handover to the target. Handover Request ACK message also includes the <i>RRC Context</i> IE, which will send to UE via the source gNB transparently (i.e., via Handover Command message). In the <i>RRC Context</i> IE, the target gNB presents how to configure the RBs for UE, and if some PDU sessions are rejected, the target gNB will put the DRBs associated to the rejected PDU sessions in the <i>DRB-ToReleaseList</i> (which is included in the <i>RRC Context</i> IE), and thus UE is notified which PDU sessions are not admitted in the target gNB. R3-173152 at 2. 3. For the Handover Request ACK message, the target gNB informs non-admitted PDU sessions (e.g., including due to slice availability) list to the source gNB. The non-admitted PDU session is also indicated in the <i>RRC Context</i> IE through <i>DRB-ToReleaseList</i>, and thus UE can be informed. 4. The target gNB informs AMF the admitted/non-admitted PDU sessions by path switch procedure. Then, the NGC can release the non-admitted PDU sessions (including non-admitted PDU sessions due to slice availability). R3-173152 at 3. To the extent it is found that R3-173152 does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that R3-173152 does not anticipate this claim, R3-173152 renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine R3-173152 with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.
1[e]	wherein, if one or more protocol data unit (PDU) sessions are associated with one or more network slices that are not supported by the target BS, the handover request confirmation message includes information for	At least under Pegasus's apparent infringement theory, R3-173152 discloses wherein, if one or more protocol data unit (PDU) sessions are associated with one or more network slices that are not supported by the target BS, the handover request confirmation message includes information for indicating a rejection of the one or more PDU sessions by the target BS. For example, R3-173152 discloses this limitation based on the following exemplary citations:

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
	indicating a rejection of the one or more PDU sessions by the target BS.	<pre> sequenceDiagram participant UE participant Source_gNB as Source gNB participant Target_gNB as Target gNB participant AMF participant UPF_s as UPF(s) Note over AMF: 0. Mobility Control Information provided by AMF AMF->>Source_gNB: 0. Mobility Control Information provided by AMF AMF->>Target_gNB: 0. Mobility Control Information provided by AMF Note over UE,Source_gNB: 1. Measurement Control and Reports UE->>Source_gNB: 1. Measurement Control and Reports Note over Source_gNB: 2. HO decision Source_gNB->>Target_gNB: 3. Handover Request Note over Target_gNB: 4. Admission Control Target_gNB->>Source_gNB: 5. Handover Request Acknowledge Note over Source_gNB,UE: User Data Source_gNB-->>UE: User Data Note over Target_gNB,UPF_s: User Data Target_gNB-->>UPF_s: User Data Note right of UPF_s: Handover Preparation </pre> R3-173152 at Figure 1.

Invalidity of U.S. Patent 11,627,631 in view of R3-173152

Claim Language

Exemplary Citations to R3-173152

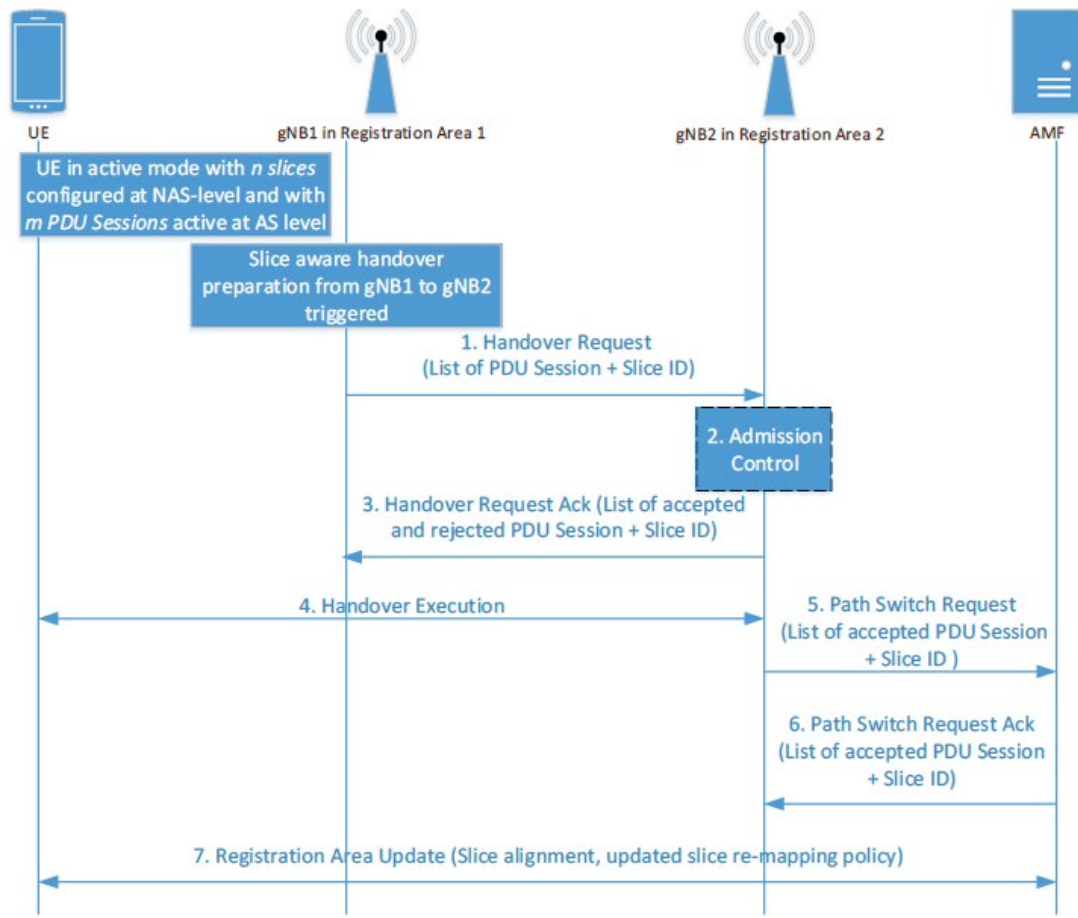


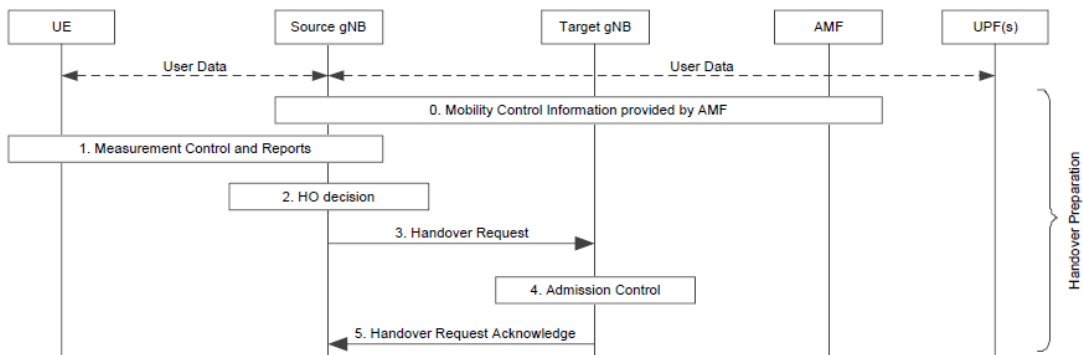
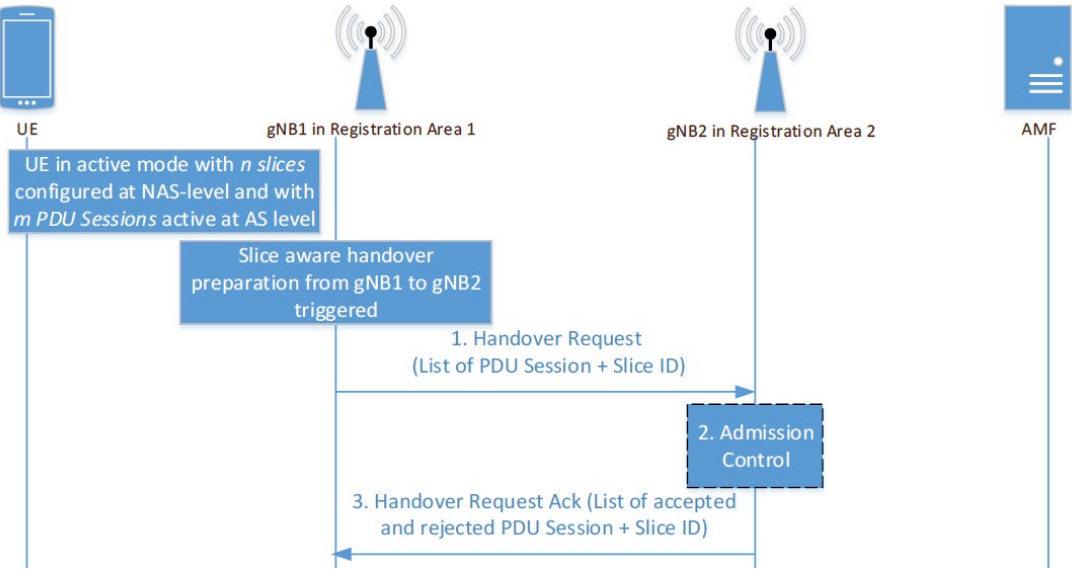
Figure 17.3.4.5-x: Active mode Xn based mobility across different Registration Areas

R3-173152 at 5.

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
		3. For the Handover Request ACK message, it includes the admitted PDU session list and not admitted PDU session list, to indicate which PDU session can handover to the target. Handover Request ACK message also includes the <i>RRC Context</i> IE, which will send to UE via the source gNB transparently (i.e., via Handover Command message). In the <i>RRC Context</i> IE, the target gNB presents how to configure the RBs for UE, and if some PDU sessions are rejected, the target gNB will put the DRBs associated to the rejected PDU sessions in the <i>DRB-ToReleaseList</i> (which is included in the <i>RRC Context</i> IE), and thus UE is notified which PDU sessions are not admitted in the target gNB. R3-173152 at 2. 3. For the Handover Request ACK message, the target gNB informs non-admitted PDU sessions (e.g., including due to slice availability) list to the source gNB. The non-admitted PDU session is also indicated in the <i>RRC Context</i> IE through <i>DRB-ToReleaseList</i>, and thus UE can be informed. 4. The target gNB informs AMF the admitted/non-admitted PDU sessions by path switch procedure. Then, the NGC can release the non-admitted PDU sessions (including non-admitted PDU sessions due to slice availability). R3-173152 at 3. To the extent it is found that R3-173152 does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that R3-173152 does not anticipate this claim, R3-173152 renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine R3-173152 with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

2. Claim 2

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
2	The method according to claim 1, further comprising:	At least under Pegasus's apparent infringement theory, R3-173152 discloses receiving, by the source BS from a user equipment (UE), a non-access stratum (NAS)

Invalidity of U.S. Patent 11,627,631 in view of R3-173152	
Claim Language	Exemplary Citations to R3-173152
receiving, by the source BS from a user equipment (UE), a non-access stratum (NAS) message including network slice request information.	message including network slice request information. For example, R3-173152 discloses this limitation based on the following exemplary citations:  R3-173152 at Figure 1.  R3-173152 at 5.

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
		To the extent it is found that R3-173152 does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that R3-173152 does not anticipate this claim, R3-173152 renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine R3-173152 with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

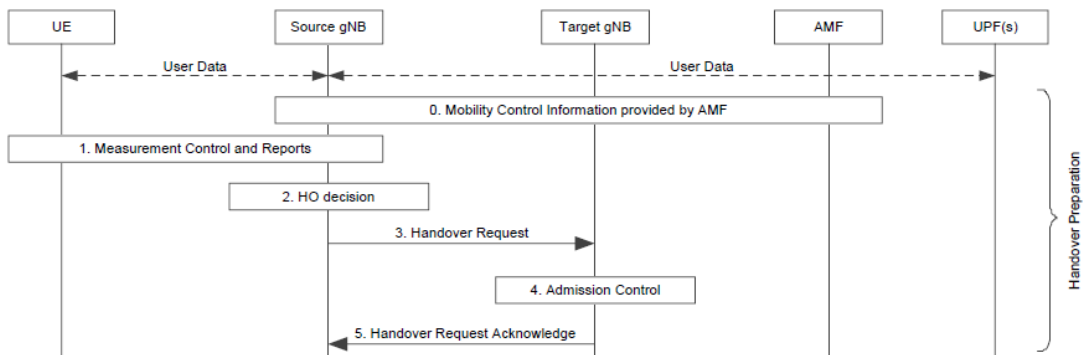
3. Claim 3

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
3	The method according to claim 2, further comprising: receiving, by the source BS from a core network entity, the network slice information, wherein the network slice information is configured by the network slice request information.	At least under Pegasus's apparent infringement theory, R3-173152 discloses receiving, by the source BS from a core network entity, the network slice information, wherein the network slice information is configured by the network slice request information. For example, R3-173152 discloses this limitation based on the following exemplary citations:

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
		R3-173152 at Figure 1. To the extent it is found that R3-173152 does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that R3-173152 does not anticipate this claim, R3-173152 renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine R3-173152 with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

4. Claim 4

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
4	The method according to claim 2, wherein the NAS message including the network slice	At least under Pegasus's apparent infringement theory, R3-173152 discloses wherein the NAS message including the network slice request information is included in a

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
	request information is included in a radio resource control (RRC) connection setup completion message.	radio resource control (RRC) connection setup completion message. For example, R3-173152 discloses this limitation based on the following exemplary citations:  R3-173152 at Figure 1. 3. For the Handover Request ACK message, it includes the admitted PDU session list and not admitted PDU session list, to indicate which PDU session can handover to the target. Handover Request ACK message also includes the <i>RRC Context</i> IE, which will send to UE via the source gNB transparently (i.e., via Handover Command message). In the <i>RRC Context</i> IE, the target gNB presents how to configure the RBs for UE, and if some PDU sessions are rejected, the target gNB will put the DRBs associated to the rejected PDU sessions in the <i>DRB-ToReleaseList</i> (which is included in the <i>RRC Context</i> IE), and thus UE is notified which PDU sessions are not admitted in the target gNB. R3-173152 at 2. 3. For the Handover Request ACK message, the target gNB informs non-admitted PDU sessions (e.g., including due to slice availability) list to the source gNB. The non-admitted PDU session is also indicated in the <i>RRC Context</i> IE through <i>DRB-ToReleaseList</i>, and thus UE can be informed. R3-173152 at 2.

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
		About how to release the PDU sessions, it has been agreed in SA2 as “when a Network Slice instance used for a one or multiple PDU Sessions is no longer available, the 5GC initiates a network-triggered PDU session release procedure with an appropriate cause value for the impacted PDU session(s)”, and “the PDU session(s) may be also implicitly released”. Thus, the PDU session(s) can be implicitly released (i.e., without PDU session release procedure). That is, the target gNB determines to reject the PDU session(s), and informs AMF and UE by path switch and Handover Command (e.g., via <i>RRC Context IE</i>), respectively. Then, the AMF and UE release the PDU session in the NAS level automatically. On the other hand, the RA update procedure will be performed after handover procedure due to across RA, which can be used to align the slices supported/PDU session status between UE and network, and RA update procedure can also be used for releasing PDU sessions. R3-173152 at 2. <pre> sequenceDiagram participant UE participant gNB1 as gNB1 in Registration Area 1 participant gNB2 as gNB2 in Registration Area 2 participant AMF Note over UE: UE in active mode with n slices configured at NAS-level and with m PDU Sessions active at AS level Note over gNB1: Slice aware handover preparation from gNB1 to gNB2 triggered gNB1->>gNB2: 1. Handover Request (List of PDU Session + Slice ID) Note over gNB2: 2. Admission Control gNB2-->>gNB1: 3. Handover Request Ack (List of accepted and rejected PDU Session + Slice ID) </pre> R3-173152 at 5. To the extent it is found that R3-173152 does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that R3-173152 does not anticipate this claim, R3-173152 renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
		ordinary skill in the art would have been motivated to combine R3-173152 with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

5. Claim 5

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
5	The method according to claim 3, wherein the network slice information is configured by the core network entity based on the network slice request information.	At least under Pegasus's apparent infringement theory, R3-173152 discloses receiving, by the source BS from a core network entity, the network slice information, wherein the network slice information is configured by the core network entity based on the network slice request information. For example, R3-173152 discloses this limitation based on the following exemplary citations: R3-173152 at Figure 1.

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
		<pre> sequenceDiagram participant UE participant gNB1 as gNB1 in Registration Area 1 participant gNB2 as gNB2 in Registration Area 2 participant AMF Note over UE: UE in active mode with n slices configured at NAS-level and with m PDU Sessions active at AS level Note over gNB1: Slice aware handover preparation from gNB1 to gNB2 triggered gNB1->>gNB2: 1. Handover Request (List of PDU Session + Slice ID) activate gNB2 Note over gNB2: 2. Admission Control gNB2-->>gNB1: 3. Handover Request Ack (List of accepted and rejected PDU Session + Slice ID) deactivate gNB2 </pre> R3-173152 at 5. To the extent it is found that R3-173152 does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that R3-173152 does not anticipate this claim, R3-173152 renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine R3-173152 with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

6. Claim 6

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
6	The method according to claim 5, wherein the transmission of the handover request message is performed through a direct interface associated with the target base station.	At least under Pegasus's apparent infringement theory, R3-173152 discloses wherein the transmission of the handover request message is performed through a direct interface associated with the target base station. For example, R3-173152 discloses this limitation based on the following exemplary citations: <pre> sequenceDiagram participant UE participant Source_gNB as Source gNB participant Target_gNB as Target gNB participant AMF participant UPF_s as UPF(s) Note over AMF: 0. Mobility Control Information provided by AMF AMF->>Source_gNB: 0. Mobility Control Information provided by AMF Note over UE,Source_gNB: 1. Measurement Control and Reports UE->>Source_gNB: 1. Measurement Control and Reports Note over Source_gNB: 2. HO decision Source_gNB->>Target_gNB: 3. Handover Request Note over Target_gNB: 4. Admission Control Target_gNB->>Source_gNB: 5. Handover Request Acknowledge Note over Source_gNB,UE: User Data Source_gNB-->>UE: User Data Note over Target_gNB,UPF_s: User Data Target_gNB-->>UPF_s: User Data </pre> R3-173152 at Figure 1.

Invalidity of U.S. Patent 11,627,631 in view of R3-173152

Claim Language

Exemplary Citations to R3-173152

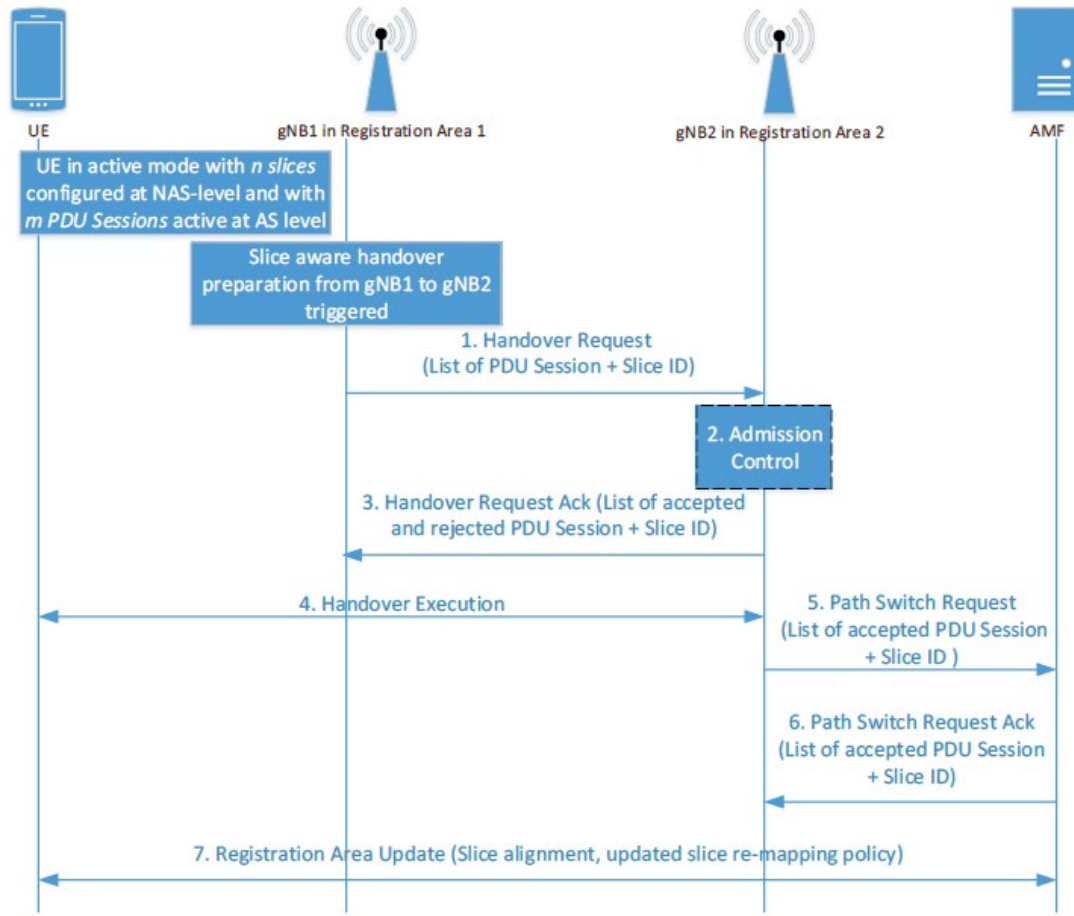


Figure 17.3.4.5-x: Active mode Xn based mobility across different Registration Areas

R3-173152 at 5.

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
		1. For the Handover Request message, it includes (all) PDU sessions with active UP connections handled by the source gNB, to indicate the target gNB which PDU session should handover to the target. 2. For the Admission Control, the target gNB may admit all/part of PDU sessions included in the Handover Request message. It is undoubted that the target gNB may reject some PDU sessions, e.g., due to resource limitation. R3-173152 at 2. 1. As the target gNB cannot support all the slices, the PDU sessions with active UP connections handled by the source gNB can be divided to two part: one part is the PDU sessions which associated slice(s) is supported by the target gNB, another part is the PDU sessions which associated slice(s) is <i>not</i> supported by the target gNB. One option is only including the latter part of PDU sessions, however, for this option, the source gNB always check the slice availability before handover. Another option is including all parts of PDU sessions in the Handover Request message. In this option, check the slice availability is not mandatory, but the source gNB may also check the slice availability for selecting the suitable target gNBs (in step 2 as in figure 1), e.g., the source gNB will not request handover UE to a gNB cannot support any slice. 2. For the Admission Control, the target gNB will check whether the slices of requested PDU sessions are supported, and the target gNB will reject the PDU sessions associated non-supported slice. However, this does not mean that the gNB release the rejected PDU sessions, but just means the target gNB will not establish the AS resources associated to the rejected PDU sessions. Even the Handover Request message only contains PDU sessions of supported slice(s), the target gNB still needs to check the slice availability to make sure that it can support the corresponding slice of each PDU sessions. R3-173152 at 3. To the extent it is found that R3-173152 does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that R3-173152 does not anticipate this claim, R3-173152 renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine R3-173152 with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

7. Claim 7

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
7[pre]	A controller for transmitting and receiving data, the controller comprising:	To the extent the preamble is limiting, at least under Pegasus's apparent infringement theory, R3-173152 discloses a controller for transmitting and receiving data. For example, R3-173152 discloses this limitation based on the following exemplary citations: <i>See</i> limitation 1[pre]. To the extent it is found that R3-173152 does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that R3-173152 does not anticipate this claim, R3-173152 renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine R3-173152 with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.
7[a]	a processor performs:	At least under Pegasus's apparent infringement theory, R3-173152 discloses a processor. For example, R3-173152 discloses this limitation based on the following exemplary citations:

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
		<pre> sequenceDiagram participant UE participant Source_gNB as Source gNB participant Target_gNB as Target gNB participant AMF participant UPF_s as UPF(s) Note over AMF: 0. Mobility Control Information provided by AMF AMF->>Source_gNB: 0. Mobility Control Information provided by AMF AMF->>Target_gNB: 0. Mobility Control Information provided by AMF Note over UE, Source_gNB: 1. Measurement Control and Reports UE->>Source_gNB: 1. Measurement Control and Reports Note over Source_gNB: 2. HO decision Source_gNB->>Target_gNB: 3. Handover Request Note over Target_gNB: 4. Admission Control Target_gNB->>Source_gNB: 5. Handover Request Acknowledge Note over UE, Source_gNB: User Data UE-->>Source_gNB: User Data Note over Target_gNB, UPF_s: User Data Target_gNB-->>UPF_s: User Data Note right of UPF_s: Handover Preparation </pre> R3-173152 at Figure 1.

Invalidity of U.S. Patent 11,627,631 in view of R3-173152

Claim Language

Exemplary Citations to R3-173152

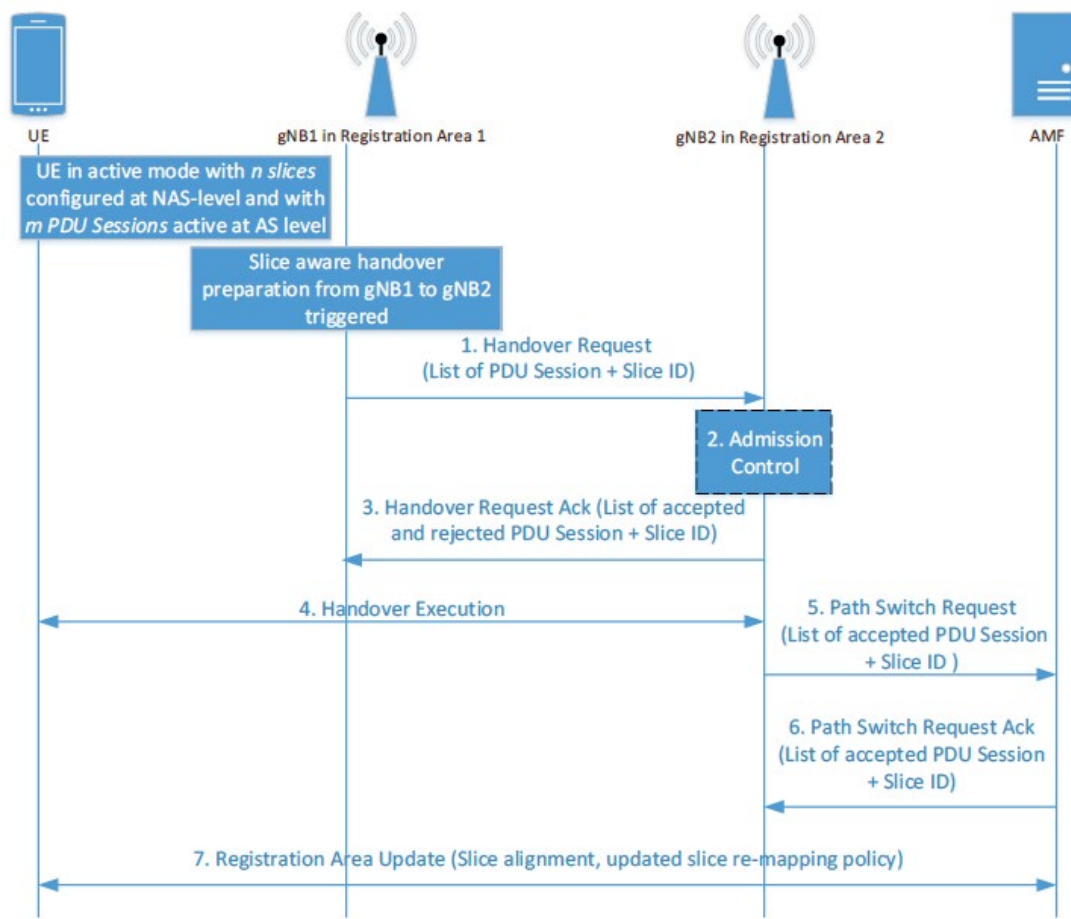


Figure 17.3.4.5-x: Active mode Xn based mobility across different Registration Areas

R3-173152 at 5.

To the extent it is found that R3-173152 does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that R3-173152 does not anticipate this claim, R3-173152 renders it obvious, either alone, in combination with

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
		the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine R3-173152 with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.
7[b]	to decide whether to perform a handover,	At least under Pegasus's apparent infringement theory, R3-173152 discloses to decide whether to perform a handover. For example, R3-173152 discloses this limitation based on the following exemplary citations: <i>See</i> limitation 1[a]. To the extent it is found that R3-173152 does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that R3-173152 does not anticipate this claim, R3-173152 renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine R3-173152 with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.
7[c]	to transmit a handover request message when it is decided to perform the handover,	At least under Pegasus's apparent infringement theory, R3-173152 discloses to transmit a handover request message when it is decided to perform the handover. For example, R3-173152 discloses this limitation based on the following exemplary citations: <i>See</i> limitation 1[b].

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
		To the extent it is found that R3-173152 does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that R3-173152 does not anticipate this claim, R3-173152 renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine R3-173152 with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.
7[d]	wherein the handover request message includes network slice information; and	At least under Pegasus's apparent infringement theory, R3-173152 discloses wherein the handover request message includes network slice information. For example, R3-173152 discloses this limitation based on the following exemplary citations: <i>See</i> limitation 1[c]. To the extent it is found that R3-173152 does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that R3-173152 does not anticipate this claim, R3-173152 renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine R3-173152 with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.
7[e]	to receive a handover request confirmation message in response to the handover request message,	At least under Pegasus's apparent infringement theory, R3-173152 discloses to receive a handover request confirmation message in response to the handover request message. For example, R3-173152 discloses this limitation based on the following exemplary citations:

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
		See limitation 1[d]. To the extent it is found that R3-173152 does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that R3-173152 does not anticipate this claim, R3-173152 renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine R3-173152 with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.
7[f]	wherein, if one or more protocol data unit (PDU) sessions are associated with one or more network slices that are not supported by a target BS, the handover request confirmation message includes information for indicating a rejection of the one or more PDU sessions by the target BS.	At least under Pegasus's apparent infringement theory, R3-173152 discloses wherein, if one or more protocol data unit (PDU) sessions are associated with one or more network slices that are not supported by a target BS, the handover request confirmation message includes information for indicating a rejection of the one or more PDU sessions by the target BS. For example, R3-173152 discloses this limitation based on the following exemplary citations: See limitation 1[e]. To the extent it is found that R3-173152 does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that R3-173152 does not anticipate this claim, R3-173152 renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine R3-173152 with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
		elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

8. Claim 8

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
8	The controller according to claim 7, wherein the processor further performs to receive a non-access stratum (NAS) message including network slice request information.	At least under Pegasus's apparent infringement theory, R3-173152 wherein the processor further performs to receive a non-access stratum (NAS) message including network slice request information. For example, R3-173152 discloses this limitation based on the following exemplary citations: <i>See claim 2.</i> To the extent it is found that R3-173152 does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that R3-173152 does not anticipate this claim, R3-173152 renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine R3-173152 with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

9. Claim 9

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
9	The controller according to claim 8, wherein the processor further performs to receive the network slice information from a core network, wherein the network slice information is configured by the network slice request information.	At least under Pegasus's apparent infringement theory, R3-173152 discloses wherein the processor further performs to receive the network slice information from a core network, wherein the network slice information is configured by the network slice request information. For example, R3-173152 discloses this limitation based on the following exemplary citations: <i>See claim 3.</i> To the extent it is found that R3-173152 does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that R3-173152 does not anticipate this claim, R3-173152 renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine R3-173152 with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

10. Claim 10

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
10	The controller according to claim 8, wherein the NAS message including the network slice request information is included in a radio resource	At least under Pegasus's apparent infringement theory, R3-173152 discloses wherein the NAS message including the network slice request information is included in a radio resource control (RRC) connection setup completion message. For example, R3-173152 discloses this limitation based on the following exemplary citations:

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
	control (RRC) connection setup completion message.	<i>See</i> claim 4. To the extent it is found that R3-173152 does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that R3-173152 does not anticipate this claim, R3-173152 renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine R3-173152 with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

11. Claim 11

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
11	The controller according to claim 9, wherein the network slice information is configured by the core network entity based on the network slice request information.	At least under Pegasus's apparent infringement theory, R3-173152 discloses wherein the network slice information is configured by the core network entity based on the network slice request information. For example, R3-173152 discloses this limitation based on the following exemplary citations: <i>See</i> claim 5. To the extent it is found that R3-173152 does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that R3-173152 does not anticipate this claim, R3-173152 renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine R3-173152 with any

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
		of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

12. Claim 12

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
12	The controller according to claim 11, wherein the transmission of the handover request message is performed through a direct interface associated with the target base station.	At least under Pegasus's apparent infringement theory, R3-173152 discloses wherein the transmission of the handover request message is performed through a direct interface associated with the target base station. For example, R3-173152 discloses this limitation based on the following exemplary citations: <i>See claim 6.</i> To the extent it is found that R3-173152 does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that R3-173152 does not anticipate this claim, R3-173152 renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine R3-173152 with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

13. Claim 13

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
13[pre]	An apparatus for transmitting and receiving data, the apparatus comprising:	To the extent the preamble is limiting, at least under Pegasus's apparent infringement theory, R3-173152 discloses an apparatus for transmitting and receiving data. For example, R3-173152 discloses this limitation based on the following exemplary citations: <i>See limitation 1[pre].</i> To the extent it is found that R3-173152 does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that R3-173152 does not anticipate this claim, R3-173152 renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine R3-173152 with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.
13[a]	a controller configured to decide whether to perform a handover,	At least under Pegasus's apparent infringement theory, R3-173152 discloses a controller configured to decide whether to perform a handover. For example, R3-173152 discloses this limitation based on the following exemplary citations: <i>See limitation 1[a].</i> To the extent it is found that R3-173152 does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that R3-173152 does not anticipate this claim, R3-173152 renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine R3-173152 with any

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
		of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.
13[b]	a transmitter configured to transmit a handover request message when it is decided to perform the handover,	At least under Pegasus's apparent infringement theory, R3-173152 discloses a transmitter configured to transmit a handover request message when it is decided to perform the handover. For example, R3-173152 discloses this limitation based on the following exemplary citations: <i>See</i> limitation 1[b]. To the extent it is found that R3-173152 does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that R3-173152 does not anticipate this claim, R3-173152 renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine R3-173152 with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.
13[c]	wherein the handover request message includes network slice information; and	At least under Pegasus's apparent infringement theory, R3-173152 discloses wherein the handover request message includes network slice information. For example, R3-173152 discloses this limitation based on the following exemplary citations: <i>See</i> limitation 1[c]. To the extent it is found that R3-173152 does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that R3-173152 does not anticipate this claim, R3-173152 renders it obvious, either alone, in combination with

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
		the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine R3-173152 with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.
13[d]	a receiver configured to receive a handover request confirmation message in response to the handover request message,	At least under Pegasus's apparent infringement theory, R3-173152 discloses a receiver configured to receive a handover request confirmation message in response to the handover request message. For example, R3-173152 discloses this limitation based on the following exemplary citations: <i>See</i> limitation 1[d]. To the extent it is found that R3-173152 does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that R3-173152 does not anticipate this claim, R3-173152 renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine R3-173152 with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.
13[e]	wherein, if one or more protocol data unit (PDU) sessions are associated with one or more network slices that are not supported by a target BS, the handover	At least under Pegasus's apparent infringement theory, R3-173152 discloses wherein, if one or more protocol data unit (PDU) sessions are associated with one or more network slices that are not supported by the target BS, the handover request confirmation message includes information for indicating a rejection of the one or more PDU sessions by the target BS. For example, R3-173152 discloses this limitation based on the following exemplary citations:

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
	request confirmation message includes information for indicating a rejection of the one or more PDU sessions by the target BS.	<i>See limitation 1[e].</i> To the extent it is found that R3-173152 does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that R3-173152 does not anticipate this claim, R3-173152 renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine R3-173152 with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

14. Claim 14

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
14	The apparatus according to claim 13, wherein the processor further performs to receive a non-access stratum (NAS) message including network slice request information.	At least under Pegasus's apparent infringement theory, R3-173152 discloses wherein the processor further performs to receive a non-access stratum (NAS) message including network slice request information. For example, R3-173152 discloses this limitation based on the following exemplary citations: <i>See claim 2.</i> To the extent it is found that R3-173152 does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that R3-173152 does not anticipate this claim, R3-173152 renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
		ordinary skill in the art would have been motivated to combine R3-173152 with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

15. Claim 15

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
15	The apparatus according to claim 14, wherein the processor further performs to receive the network slice information from a core network, wherein the network slice information is configured by the network slice request information.	At least under Pegasus's apparent infringement theory, R3-173152 discloses wherein the processor further performs to receive the network slice information from a core network, wherein the network slice information is configured by the network slice request information. For example, R3-173152 discloses this limitation based on the following exemplary citations: <i>See claim 3.</i> To the extent it is found that R3-173152 does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that R3-173152 does not anticipate this claim, R3-173152 renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine R3-173152 with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

16. Claim 16

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
16	The apparatus according to claim 14, wherein the NAS message including the network slice request information is included in a radio resource control (RRC) connection setup completion message.	At least under Pegasus's apparent infringement theory, R3-173152 discloses wherein the NAS message including the network slice request information is included in a radio resource control (RRC) connection setup completion message. For example, R3-173152 discloses this limitation based on the following exemplary citations: <i>See claim 4.</i> To the extent it is found that R3-173152 does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that R3-173152 does not anticipate this claim, R3-173152 renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine R3-173152 with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

17. Claim 17

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
17	The apparatus according to claim 15, wherein the network slice information is configured by the core network entity based on the network slice request information.	At least under Pegasus's apparent infringement theory, R3-173152 discloses wherein the network slice information is configured by the core network entity based on the network slice request information. For example, R3-173152 discloses this limitation based on the following exemplary citations: <i>See claim 5.</i>

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
		To the extent it is found that R3-173152 does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that R3-173152 does not anticipate this claim, R3-173152 renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine R3-173152 with any of the other prior art references identified in the cover pleading or herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.

18. Claim 18

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
18	The apparatus according to claim 17, wherein the transmission of the handover request message is performed through a direct interface associated with the target base station.	At least under Pegasus's apparent infringement theory, R3-173152 discloses wherein the transmission of the handover request message is performed through a direct interface associated with the target base station. For example, R3-173152 discloses this limitation based on the following exemplary citations: <i>See claim 6.</i> To the extent it is found that R3-173152 does not expressly disclose this limitation, the limitation is inherent. Moreover, to the extent it is found that R3-173152 does not anticipate this claim, R3-173152 renders it obvious, either alone, in combination with the knowledge of a person of ordinary skill in the art, and/or in combination with other prior art references identified in the cover pleading or herein. A person of ordinary skill in the art would have been motivated to combine R3-173152 with any of the other prior art references identified in the cover pleading or herein with a

Invalidity of U.S. Patent 11,627,631 in view of R3-173152		
Claim Language		Exemplary Citations to R3-173152
		reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results.