

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

AT&T SERVICES INC., T-MOBILE USA, INC., CELLCO PARTNERSHIP
D/B/A VERIZON WIRELESS, ERICSSON INC.,
AND NOKIA OF AMERICA CORPORATION,
Petitioners

v.

INNOVATIVE SONIC LIMITED AND CELERITY IP, LLC,
Patent Owner

IPR2024-00991
Patent No. 9,736,883

PATENT OWNER PRELIMINARY RESPONSE

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LIST OF EXHIBITS

Exhibit No.	Patent Owner's Exhibits
Ex. 2001	“Understanding 3GPP – starting with the basics,” Qualcomm, Aug 1, 2017, <i>available at</i> https://www.qualcomm.com/news/onq/2017/08/understanding-3gpp-starting-basics , <i>last accessed</i> June 4, 2024.
Ex. 2002	Erik Dahlman, Stefan Parkvall, Johan Skold, <i>4G, LTE-Advanced Pro and The Road to 5G</i> , Academic Press, 2016 (“Dahlman”)
Ex. 2003	3GPP TS 36.300 Version 11.4.0 Release 11: Technical Specification for LTE; Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Universal Terrestrial Radio Access Network (E-UTRAN); Overall description; Stage 2.
Ex. 2004	3GPP TS 36.331 Version 11.2.0 Release 11: Technical Specification for LTE; Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Resource Control (RRC); Protocol specification.
Ex. 2005	LegalMetric District Report for Texas Eastern District Court in Patent Cases (January 2019-April 2024) (“LegalMetric”)
Ex. 2006	United States District Courts—National Judicial Caseload Profile for 12-month period ending June 30, 2024; <i>available at</i> https://www.uscourts.gov/statistics-reports/analysis-reports/federal-court-management-statistics (“Judicial Caseload Statistics”)
Ex. 2007	Defendants’ P.R. 3-3 Invalidity Contentions (ISL Patents), from <i>Innovative Sonic Limited and Celerity IP, LLC v. AT&T Corp. et al.</i> , No. 2:23-cv-490 (lead), -489, -491, E.D. Tex., April 12, 2024

I. INTRODUCTION

The grounds in the Petition do not anticipate or render obvious the challenged claims. The alleged prior art—Centonza and Han—discloses LTE’s X2 Handover Process. But the X2 handover process described in Centonza and Han only discusses a single handover—from a macro cell to a local access point. There is no second request from a first eNB controlling a secondary cell as required by the claims. Further, the alleged prior art does not describe a request to transfer a first radio bearer (a first path) at a secondary cell but not a third radio bearer at a secondary cell as required by the claims.

Petitioner’s arguments mischaracterize existing messaging that is part of the handover request process disclosed in Centonza and Han as separate requests and arguing that a POSITA would modify Centonza and Han in manners leaving the disclosed handover process inoperable to provide the “second request” limitation that is completely missing from the prior art. Accordingly, Petitioner’s arguments fail.

Finally, the Board should exercise its discretion not to institute this IPR because jury trials are expected to begin approximately five months before the date a Final Written Decision is expected and each *Fintiv* factor favors denial.

II. TECHNOLOGY BACKGROUND

A. 3GPP and Cellular Standards

The Third Generation Partnership Project (“3GPP”) is “an engineering organization that develops technical specifications.” EX2001 [Understanding 3GPP], 5. 3GPP “was initially formed in December 1998 when the European Telecommunications Standards Institute (ETSI) partnered with other standard development organizations (SDOs) from around the world to develop new technologies (or more specifically, technology specifications) for the third generation (3G) of cellular networks.” *Id.*, 2. But 3GPP’s work continued on after 3G, extending first to 4G/LTE, and then to new radio technology for 5G. *Id.*, 2-3. After 3GPP develops technical specifications, regional telecommunications standards bodies, such as ETSI, adopt them to turn their contents into standards. *Id.*, 5.

1. 3GPP Technical Groups

3GPP consists of three technical specification groups (or TSGs), with TSG RAN (radio access network) being “responsible for the definition of functions, requirements, and interfaces of the Radio Access.” EX2002 [Dahlman], 25.

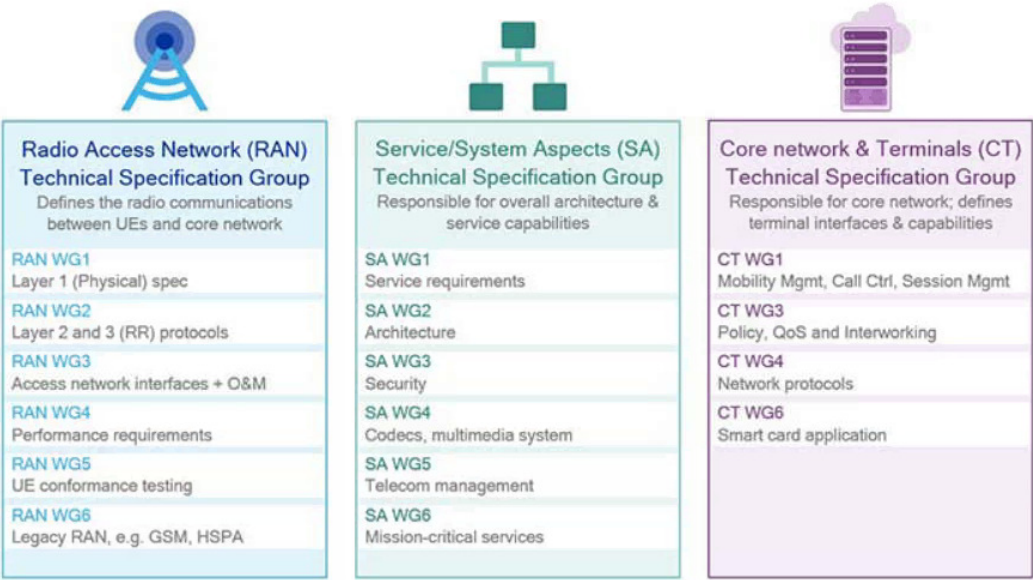


Figure 3: 3GPP distributed organization structure.

(EX2001 [Understanding 3GPP], 7).

“Radio Access” refers to access by a mobile device (also referred to as a UE or user equipment) to the base station (Evolved-Node-B, “eNB” or “eNodeB”) through the air interface. There are a total of six RAN working groups, each responsible for different aspects of the radio interface. EX2002 [Dahlman], 25. For example, RAN WG1 (“RAN1”) is responsible for “the physical layer specification,” while RAN WG2 (“RAN2”) is responsible for “the layer 2 and layer 3 radio interface specifications.” *Id.*

The technology discussed in the ’883 Patent centers on radio access network (RAN) technology—specifically Evolved Universal Terrestrial Radio Access Network, or E-UTRAN. EX1001 [’883 Patent], 1:33-42. For this IPR, the RAN

working groups are particularly relevant because the specifications and technical contributions (referred to as “T-docs”) discussed in the ’883 Patent generally involve E-UTRAN. EX1001 [’883 Patent], 2:47-66.

2. 3GPP’s Process for Developing Technical Specifications

“Developing technical specifications for mobile communication is not a one-time job,” but “an ongoing process.” EX2002 [Dahlman], 24. The process “typically includes the four phases” as illustrated below in an iterative manner, where decisions made in earlier phases such as requirements or architecture can be revised as discussions evolve. *Id.*, 24-25.

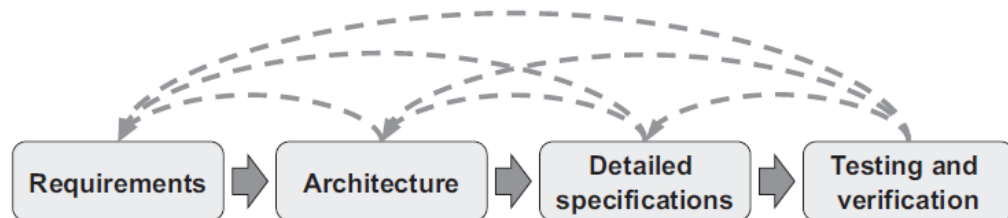


FIGURE 2.8

The standardization phases and iterative process.

3GPP members meet at least four times a year to discuss changes and updates to 3GPP technical specifications, with large working groups like RAN1 and RAN2 meeting eight times a year. EX2001 [Understanding 3GPP], 12; EX2002 [Dahlman], 25. “The 3GPP documents are divided into releases, where each release has a set of features added compared to the previous release. The

features are defined in Work Items agreed and undertaken by the TSGs.’ EX20xx-Dahlman-3d, 25. For example, LTE (4G) started with Release 8 in 2008-2009 and progressed to Release 15 in 2017:

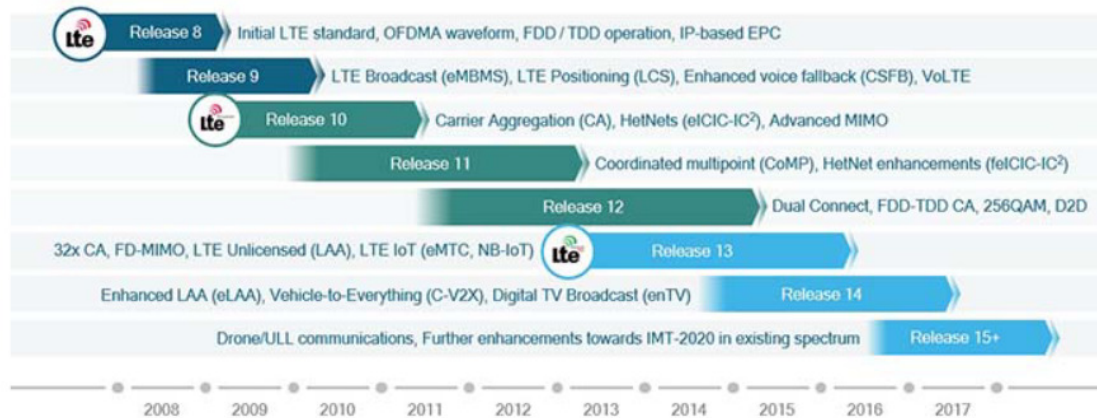
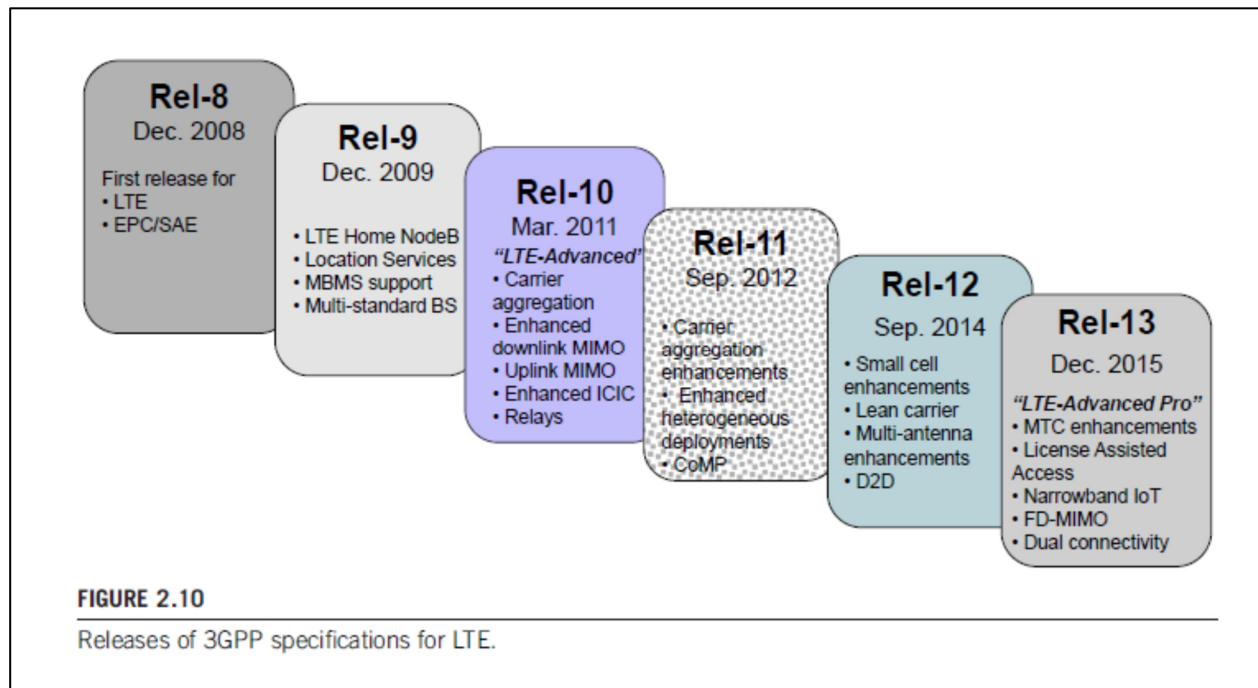


Figure 4: 4G LTE evolution by 3GPP Release.

EX2001 [Understanding 3GPP], 8. Release 15 introduced new radio (“NR”) technologies, often referenced as 5G. *Id.*

The resulting 3GPP technical specifications “are organized in multiple series and are numbered TS XX.YYY, where XX denotes the number of the specification series and YYY is the number of the specification within the series.” EX2002 [Dahlman], 26-27. The 36.YYY series cited in the documents referenced by the ’883 Patent (2:47-64) and in the Petition (at 28) concern “[r]adio aspects for LTE, LTE-Advanced, and LTE-Advanced Pro.” EX2002 [Dahlman], 26.

For this IPR, the relevant 3GPPS LTE specifications are generally Releases 11 through 13. The timeline for these releases is shown below in Dahlman Figure 2.10:



3. Knowledge and Skill Level of 3GPP Participants

Petitioner provides the following definition for level of ordinary skill in the art:

As of the earliest claimed priority date, a person of ordinary skill in the art at the time of the alleged invention of the '883 patent ("POSITA") would have had a B.S. in Electrical Engineering or a related field with at least three years of experience designing, developing, and/or testing telecommunication systems. Ex-1003, ¶ 27. A POSITA would also have familiarity with the wireless standards and well-known protocols for accessing wireless networks. *Id.* More education may supplement practical experience or *vice versa*. *Id.*

Pet., 10.

Participants in 3GPP were necessarily far more experienced than Petitioner's POSITA. Engineers participating in the RAN1 and RAN2 specification drafting generally had above-average skill levels at the time of the invention and that continues to be the case. Such above-average level skill levels are expected because a person with the 3-year experience proposed by Petitioner would not have the intimate knowledge of the existing standardized cellular system, including the pros and cons of the available techniques and control features. Without such intimate knowledge, they would not know how a proposed change would impact the rest of the system and would not be able to make the right choice. As such, they would not be able to specify a reliable and efficient cellular network.

But even with those far above-average (and sometimes extraordinary) skill levels, engineers participating in 3GPP technical discussions would not be

expected to be familiar with all relevant aspects of the specifications. Each specification is typically hundreds of pages of detailed requirements, and there are multiple specifications for different aspects of E-UTRAN. *See, e.g.*, EX2003 [TS 36.300 V11.4.0] (221 pages); EX2004 [TS 36.331 V11.2.0] (345 pages). Further, the various sections of the specification are developed by different teams of 3GPP participants, meaning no single participant is involved with all aspects of the specifications.

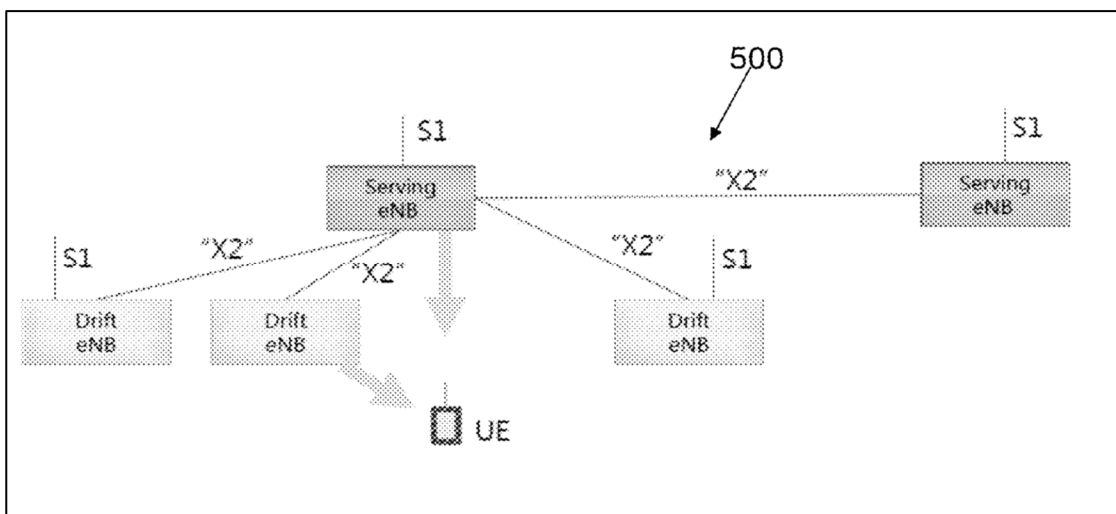
B. '883 Patent

The '883 Patent is directed to “handling inter-node connectivity in a wireless communication system.” '883 Patent, Title, Abstract. At the time of invention, the 3GPP standards organization was undertaking standardization activities with respect to the Evolved Universal Terrestrial Radio Access Network, or “E-UTRAN” air interface. EX1001 ['883 Patent], 1:33-42. Thus, the wireless communications systems of the '883 Patent were developed in the context of E-UTRAN and may be “designed to support one or more standards such as the standard offered by” 3GPP. EX1001 ['883 Patent], 2:47-64. Accordingly, the '883 Patent incorporates by reference several E-UTRAN standards documents. *Id.*

In general, the '883 Patent is concerned with implementing the inter-node “dual connectivity” features that would be incorporated into LTE Release 13.

EX1001 ['883 Patent], 6:8-9 (“the details of inter-node dual connectivity are currently not clear.”); *see* EX2002 [Dahlman], 27, Figure 2.10 (showing “dual connectivity” as functionality incorporated into LTE Release 13). The study of small cell enhancement for the E-UTRAN air interface protocol was approved in the 3GPP document RP-122033. EX1001 ['883 Patent], 5:13-16. The study was intended to “[i]dentify and evaluate the benefits of UEs having dual connectivity to macro and small cell layers served by different or same carrier and for which scenarios such dual connectivity is feasible and beneficial.” EX1001 ['883 Patent], 5:17-20.

One way to achieve dual connectivity is through “carrier aggregation” or “CA.” EX1001 ['883 Patent], 5:39-40. The 3GPP document RWS-120046 discloses a possible architecture for carrier aggregation in an E-UTRANS network:



'883 Patent Fig. 5 (Reproduced from RWS-0120046)

“As shown in FIG. 5, a network node called ‘Serving eNB’ controls a macro cell and a network node called ‘Drift eNB’ controls a small cell.” EX1001 [’883 Patent], 5:49-51. While in traditional wireless networks, the UE (the user equipment, e.g., a mobile phone) would be connected to only one node (eNB), here the UE is simultaneously connected to both a “serving eNB” (a macro cell) and a “drift eNB” (a small cell).

The ’883 Patent distinguishes between two types of carrier aggregation. One is “intra-node” where the macro cell and small cell are controlled by the same eNB. The other is “inter-node” where the macro cell and small cell are controlled by different eNBs. EX1001 [’883 Patent], 5:49-51. While “currently specified CA is generally for intra-eNB” (*Id.*, 5:43-44), the ’883 Patent acknowledges that “the details of inter-node dual connectivity are not currently clear.” EX1001 [’883 Patent], 6:8-9. Thus, the inventions of the ’883 Patent are directed to providing methods for handling inter-node connectivity.

1. Challenged Claims

The Petition challenges claims 1-11 of the ’883 Patent. Pet., 5-6. Claims 1 and 7 are independent. EX1001 [’883 Patent], cls. 1 and 7. Claims 2-6 depend from claim 1 and claims 8-11 depend from claim 7. *Id.*, cls. 2-6, 8-11.

Independent claim 1 is listed below.

1. A method for handling inter-node connectivity in a wireless communication system, comprising:
receiving, by a first evolved node B (eNB), a first request from a second eNB for aggregating a Secondary Cell (SCell) for a User Equipment (UE);
transmitting an accept message from the first eNB to the second eNB in response to the first request; and
transmitting a second request from the first eNB, which controls the SCell of the UE, to the second eNB, which controls a Primary Cell (PCell) of the UE, to change a data path for a first radio bearer of the UE, wherein the second request does not indicate to change the data path for a third radio bearer of the UE;
wherein a first path is via the first eNB and used as the data path for the first radio bearer and the third radio bearer before changing the data path for the first radio bearer.

Id., cl. 1. Independent claim 7 is similar for purposes of this POPR, except it claims “receiving, by the second eNB which controls a Primary Cell (PCell) of the UE, a second request from the first eNB which controls the SCell of the UE” rather than “transmitting a second request from the first eNB, which controls the SCell of the UE, to the second eNB, which controls a Primary Cell (PCell) of the UE, to change a data path for a first radio bearer of the UE”. *Id.* Thus, claim 1 is drafted from the point of view of the first eNB transmitting the second request and claim 7 is drafted from the point of view of the second eNB receiving the second request.

Thus, the claims are directed toward inter-node dual connectivity changes that can be controlled by the secondary, or SCell, rather than the primary cell. The

claimed UE has a data path for a first and third radio bearer through an SCell and the first eNB (which controls the SCell) requests to change the data path of the first radio bearer without changing the data path of the third radio bearer.

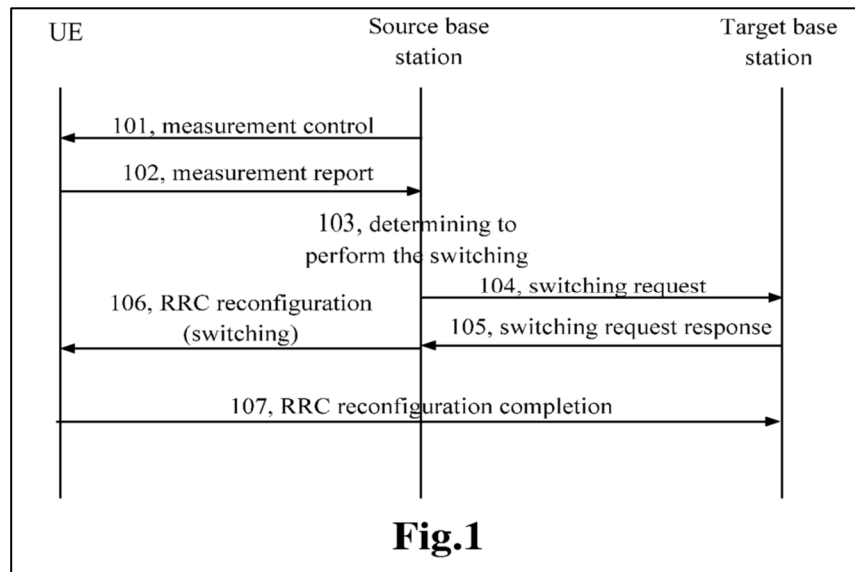
Further, claims 1 and 7 both require two distinct dual connectivity operations—first, the Primary Cell sends a first request to establish dual connectivity with a Secondary Cell. *Id.* After the Primary Cell receives an accept message and establishes dual connectivity with the Secondary Cell, the Secondary Cell then sends a separate, second request to change the data path for a radio bearer that has already been established.

2. Prosecution History

Petitioner argues that “[d]uring prosecution, Patent Owner accepted that the prior art disclosed the functionality of the Challenged Claims.” Pet.,1. Petitioner cites no evidence because the allegation is not supported. *Id.*, 1, 9-10. Nowhere in the prosecution history did Patent Owner make any statements that the prior art in front of the office taught the challenged claims.

Indeed, the prosecution history is consistent with the arguments made in this POPR. Specifically, the Examiner’s rejection was based on a combination of three references—Sambhwani, Chen and Horn. EX1002 [’883 Patent FH], 361-362. The Examiner relied on Chen as disclosing the claimed “first request” based on Chen

Figure 1, which discloses a message flow diagram very similar to the message flows Petitioner relies on from Centonza and Han except Chen Fig. 1 omits the messaging with the MME and SGW:



EX1012 [Chen], Fig. 1; EX1002 [’883 Patent FH], 362-363. *Compare* EX1012 [Chen], Fig. 1 *with* EX1006 [Centonza Provisional], Fig. 14 *and* EX1007 [Han], Fig. 4.

Like the message flows from Centonza and Han that the Petition relies on, Chen’s message flow does not disclose a second request, let alone a “second request [that] does not indicate to change the data path for a third radio bearer of the UE” as required by the claims. The Examiner realized this and argued Sambhwani disclosed the “second request” and Horn disclosed the “second request

[that] does not indicate to change the data path for a third radio bearer of the UE” EX1002 [’883 Patent FH], 362-363.

Thus, the Examiner realized the same deficiencies in the message flow of Chen that Patent Owner discusses below with respect to Centonza and Han. Further, the Applicant’s response to the rejection was addressing fundamentally different issues with Sambhwani than are present in this IPR. EX1002 [’883 Patent FH], 396-398. Further, the Applicant’s response was distinguishing the Sambhwani reference, not the Chen or Horn references. *Id.*, 396. (“Since S-RNC and D-RNC are network nodes which control base stations or nodeBs, the S-RNC and D-RNC disclosed in Sambhwani are ***different and distinguishable*** from the eNBs recited in claims 6 and 13.”) (Emphasis in original).

There was no reason for the Applicant to advance alternate arguments given that Sambhwani was clearly distinguishable, and the lack of arguments is no indication that the Applicant “accepted that the prior art disclosed the functionality of the Challenged Claims.” Pet., 1. If anything, the prosecution history indicates both the Examiner and Applicant realized the message flow from Chen (which is largely the same as the message flow Petitioner relies on from Centonza and Han) does not teach the claimed second request.

C. Alleged Prior Art

1. Centonza

Centonza (U.S. Pat. No. 9,479,973) is directed to a “node and method for handing over a sub-set of bearers to enable multiple connectivity of a terminal towards several base stations.” EX1005 [Centonza], Title. Centonza identifies that “[w]hen using a single flow for mapping bearers in a heterogeneous network, several problems exists. An example of such a problem is the need for frequent handovers.” *Id.*, 1:66-2:2. According to Centonza, its invention “make[s] it possible to perform handovers selectively between a source and a target eNB, thereby creating more system flexibility than the legacy way of performing handover where a user equipment is completely handed over to the target.” *Id.*, 2:37-41.

Centonza suggests that “the handover can be triggered and/or executed at a bearer level rather than the current user equipment level approach that is used in LTE is proposed.” EX1005 [Centonza], 2:29-32. “Different handover triggering conditions can be set, and based on these conditions as well as other factors such as load and user equipment/network buffer conditions; a selective handover of only a subset of the user equipment bearers is performed.” *Id.*, 2:32-36. Consistent with

3GPP LTE Release 11, Centonza teaches these handovers can occur between macro and pico cells. *Id.*, 1:35-52.

Specifically, Centonza is directed to updating 4GLTE release 11 in order to support complementing macro base stations with low powered (i.e., pico) base stations. Centonza explains as follows:

Yet another approach that is gaining high attention is to use Heterogeneous Networks where the traditional pre-planned macro base stations (known as the macro layer) are complemented with several low-powered base stations that may be deployed in a relatively unplanned manner. The 3rd Generation Partnership Project (3GPP) has incorporated the concept of Heterogeneous Networks as one of the core items of study in the latest enhancements of LTE, such as LTE release 11 and several low-powered base stations for realizing heterogeneous networks such as pico base stations, femto base stations (also known as home base stations or HeNBs), relays, and RRHs (remote radio heads) have been defined. The initial discussion for LTE release 12 has already started and one of the proposed items for study is the possibility of serving a user equipment (UE) from more than one eNB simultaneously. The current legacy handover mechanisms of LTE have to be updated in order to support this.

EX1005 [Centonza], 1:35-52.

An example of Centonza's architecture is shown below in Centonza Fig. 12, where the macro (or "anchor") base station 401A "are able to provide coverage and the picos 401B are there only for capacity enhancements." EX1001 ['883 Patent], 10:28-30.

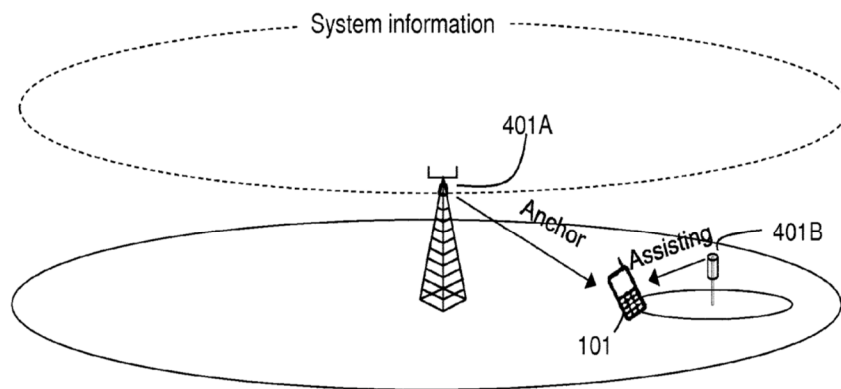
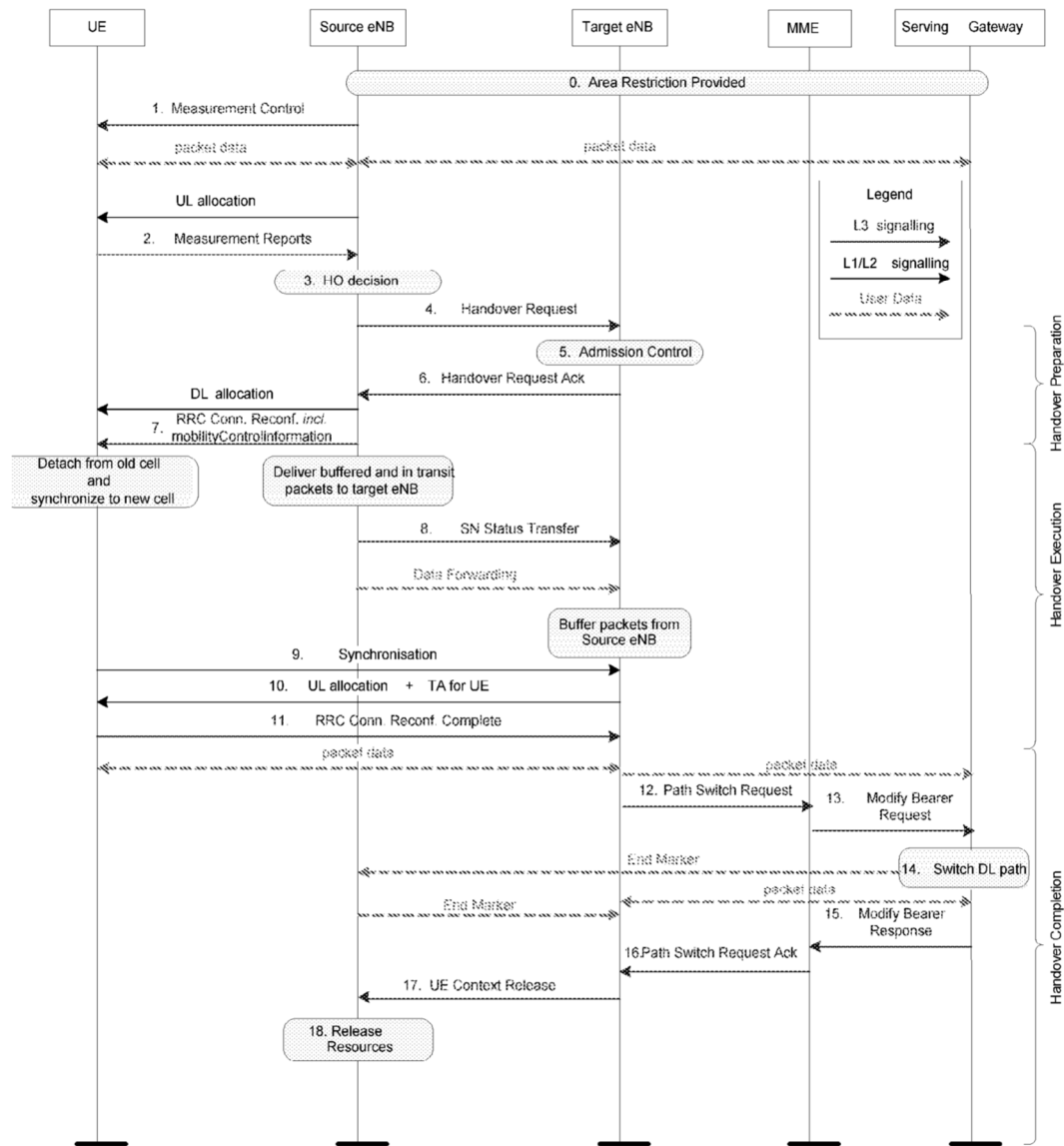


FIGURE 12

In these embodiments, "the user equipment maintains the macro connectivity all the time (called the 'anchor' flow), and adds the pico connectivity when it is in the coverage area of the pico (called the 'assisting' flow)." EX1005 [Centonza], 10:31-38. Centonza refers to this arrangement as "multiple connectivity" or "dual connectivity." 10:37-39. In "multiple connectivity" or "dual connectivity" arrangements such as those relied on by Petitioner, the anchor flow is used for control signaling but either the anchor or assisting ('pico') flow may transmit data. EX1005 [Centonza], 10:34-38 ("When both connections are active,

the anchor flow may be used either for control signaling while the assisting flow is used for data. However, it will still be possible to send data also via the anchor flow.”). Thus, the anchor, or macro cell, ultimately controls pico connectivity.

Centonza’s “handover process is shown in Fig. 14” of the Centonza Provisional:

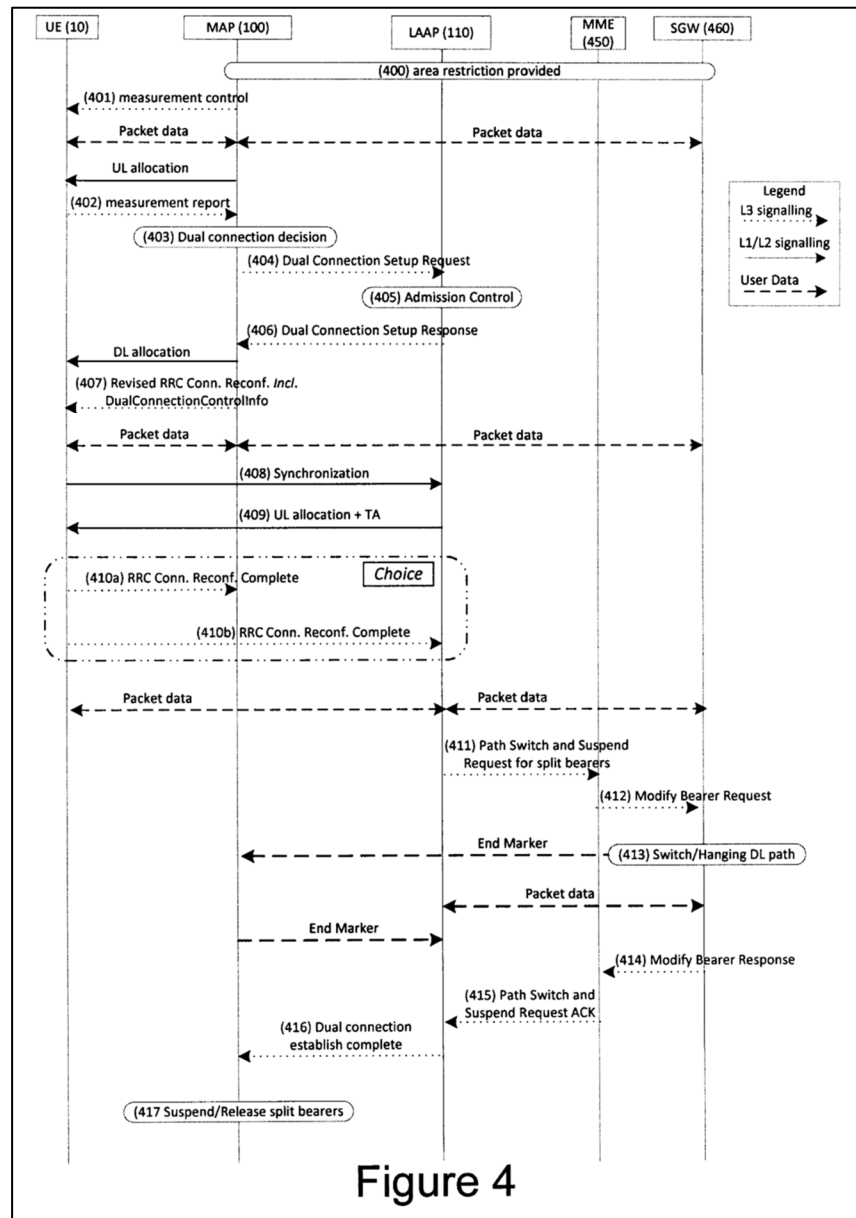


EX1006 [Centonza Provisional], 46 (Fig. 14), 21; *see also* EX1005 [Centonza], Fig. 15, 13:26-27. “The handover procedure can be subdivided into three stages of preparation (initiation), execution and completion.” *Id.*, 13:26-27.

2. Han

Han (EX1007, WIPO Publication No. WO 2014/056130) was filed on October 8, 2012 and is directed to a “Method and Apparatus For Managing Dual Connection Establishment.” *Id.*, Title. Han relates to LTE networks. EX1007 [Han], [0002]; Pet., 48. The LTE specification in force at the time Han was filed was release 11. EX2002 [Dahlman], 27 (Fig. 2.10). Thus, Han, like Centonza, is discussing improving LTE functionality present in LTE release 11.

The method disclosed in Han for managing dual connection establishment is shown in the signaling diagram at Han Figure 4:



EX1007 [Han], Figure 4. This diagram illustrates how “a MAP manages the establishment of a dual connection.” EX1007 [Han], [0035]. Thus, Figure 4 discloses the messaging used for a MAP to request a dual connection setup. All the messaging in Figure 4 relates to establishing the dual connection requested by the MAP at Dual Connection Setup Request 404. *Id.*, [0037]-[0056].

III. CLAIM CONSTRUCTION

The Petition proposes that no terms need expressly construed. Pet., 10-11. For purposes of this preliminary response, Patent Owner's position is that all terms are entitled to their plain and ordinary meaning as understood by a POSITA PO reserves the right to provide express constructions for claim terms in the '883 Patent should this IPR be instituted.

IV. PETITIONER HAS NOT SHOWN A REASONABLE LIKELIHOOD OF SUCCESS FOR GROUNDS 1 AND 2

A. Centonza Does Not Anticipate Independent Claims 1 or 7

Independent claims 1 and 7 require the first eNB, which controls a secondary cell (SCell), to request to change a data path for a first radio bearer of the UE but not a third radio bearer of the UE, wherein the radio bearers use a data path through the first eNB (i.e., the secondary cell). That is, the secondary cell is connected to the UE (e.g., the cell phone) via two radio bearers (the first and third radio bearers) and requests to change the data path of one of the radio bearers (the first radio bearer) without changing the path for the other radio bearer (i.e., the third radio bearer).

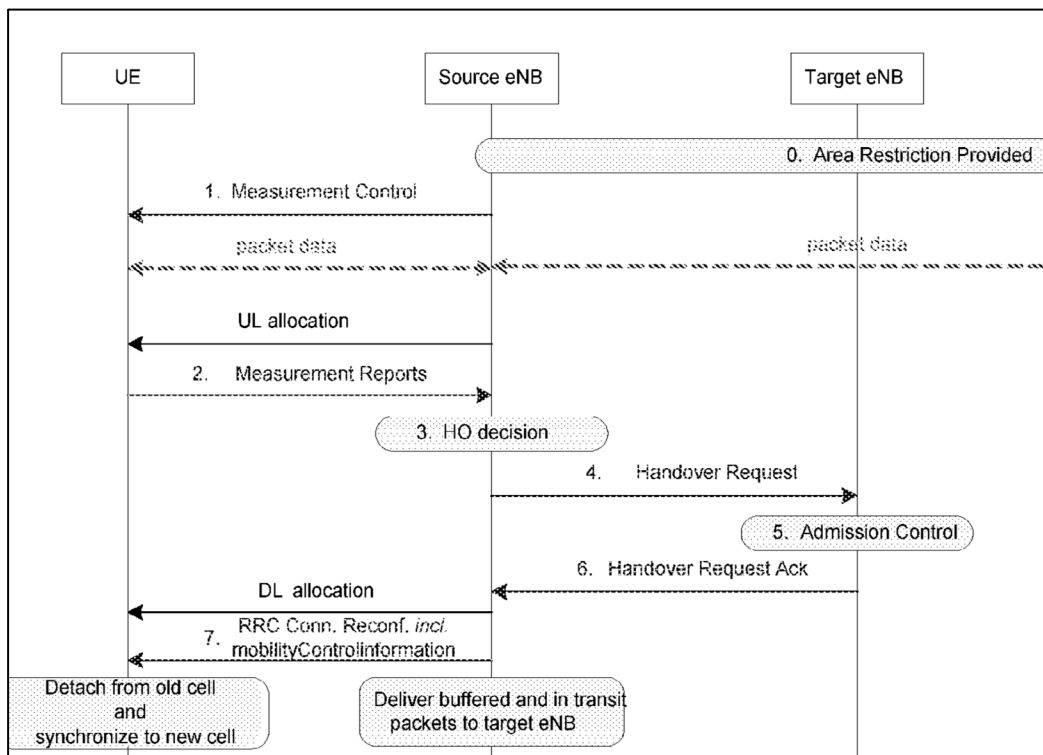
Petitioner argues that Centonza "discloses three messages that contain the claimed 'second request,' each of which occurs after the 'first request': the Handover Request Acknowledge, the Path Switch Request to UE Context Release,

and the Handover Request for subsequent selective handovers.” Pet., 21. As discussed below, none of these messages is the claimed “second request.”

1. Centonza’s “Handover Request Acknowledge” Is Not The Claimed “Second Request”

Petitioner argues that Centonza’s “Handover Request Acknowledge” message is the claimed second request. Pet., 21-23. This is incorrect. As the name makes clear, Centonza’s “Handover Request Acknowledge” message is a message sent from the Target eNB (which Petitioner argues is the claimed first eNB) to *acknowledge* receipt of a Handover Request from the Source eNB. It is not a *request*, let alone a “second request.”

Figure 14 of the Centonza Provisional demonstrates this:



EX1006 [Centonza Provisional], Fig. 14. Centonza Provisional Figure 14 demonstrates Centonza's handover procedure. *Id.*, 21. As discussed in the provisional, at step 4, "the source eNB sends a HANDOVER REQUEST message to the target eNB." *Id.*, 21. This is the "Handover Request" 4. Handover Request 4 is the only request to initiate a handover disclosed in Centonza Provisional Figure 14. Petitioner argues that Handover Request 4 is the claimed "first request." Pet., 17.

As shown in Centonza Provisional Figure 14, "Handover Request Acknowledge" 6 is an acknowledgement to "Handover Request" 4 that the target eNB has received the Handover Request and is able to admit the UE. *Id.*, 22. ("If the target eNB is able to admit the UE, a message is sent to the UE to initiate the handover."). *See, e.g.*, Pet., 21 ("The [Handover Request Acknowledge] includes an acceptance [of Handover Request 4]..."). Along with all the messaging in Figure 14 (and Centonza Figure 15), Handover Request Acknowledge 6 is part of the same handover initiated by Handover Request 4. "Handover Request Acknowledgement" is therefore not a second request as claimed in the '883 Patent.

Petitioner argues that the Handover Request Acknowledgement 6 includes "a request to change a data path for a first radio bearer." Pet., 21. This mischaracterizes Handover Request Acknowledgement 6 to make it seem like the

acknowledgement is a request rather than an *acknowledgement of a request*. The Centonza Provisional explains as follows:

In legacy handover, as shown in [sic] when the target eNB receives a HANDOVER REQUEST message, it performs admission control and if it can admit one or more of the data radio bearers comprised in the request, it sends a HANDOVER REQUEST ACKNOWLEDGE message over X2 towards the source eNB, as shown in Figure 14.

EX1006 [Centonza Provisional], 54 (bold in original). The Handover Request Acknowledge is therefore *not requesting* to change a data path, it is *responding* to the Handover Request to *acknowledge* which “data radio bearers comprised in the request” can be admitted. *Id.* In other words, the Handover Request 4 provides a list of data radio bearers for handover and Handover Request Acknowledge 6 confirms which of the requested data radio bearers it can admit.

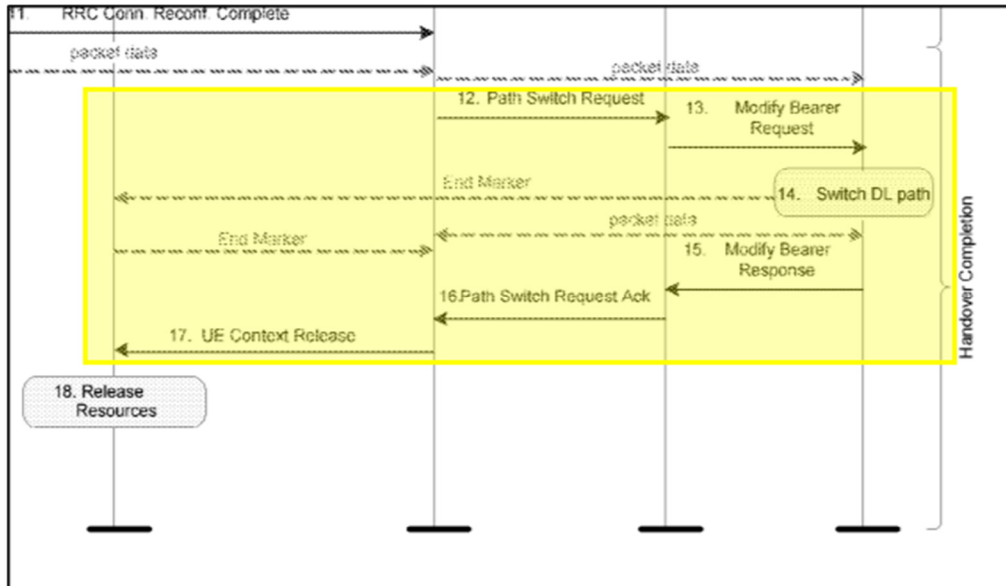
Petitioner argues that “[t]his process changes the data path for the handed-over bearers and, correspondingly, the Handover Request Acknowledge requests to change the data path via the E-RABs Admitted List.” Pet., 23. But the “process” Petitioner refers to is the process shown in Centonza Provisional Fig. 14, which is set in motion by Handover Request 4. EX1006 [Centonza Provisional], Fig. 14; EX1005 [Centonza], Fig. 15. Handover Request 4 is only one of a number of

messages generated by the initial Handover Request 4. Accordingly, Centonza's "Handover Request Acknowledge" is not a request to change a data path, let alone a second request to change a data path for a first radio bearer as required by the claims.

2. Centonza's "Path Switch Request To UE Context Release" Is Not The Claimed "Second Request"

The second argument Petitioner advances is that the claimed "second request" is Centonza's "Path Switch Request to UE Context Release." Pet., 23-26. Here, Petitioner is not relying on a single message, but instead aggregates messages Path Switch Request 12 through UE Context Release 17 (i.e., messages 12-17) in Centonza Provisional Figure 14 and treats them all as though they are one message.

The aggregated messages are highlighted below in the excerpt from Centonza Provisional Figure 14:



EX1006 [Centonza Provisional], Fig. 14.

As with Handover Request Acknowledge 4, “Path Switch Request to UE Context Release” are all messages related to implementing Centonza’s Handoff Request 4. *See* EX1006 [Centonza Provisional], 92-94 (messages 12-17 listed as part of “[t]he main steps of the handover process”). Thus, these messages do not constitute an independent request, they are messages that are collectively necessary to implement Centonza’s Handover Request 4.

This is born out in Centonza’s descriptions. Step 11 is a message from the UE to the target eNB that “confirm[s] that the handover succeeded” with respect to the UE. *Id.*, 94. However, the MME 115 and SGW 117 (what Petitioner refers to as

the “core network” (Pet., 26))¹ need to be informed of the handover so that they can route incoming packets accordingly. Thus, in Step 12, the target eNB “inform[s the MME] that the UE has changed cell.” Step 12 is not requesting a new handover, it is informing the core network (Pet., 26) that a handover has occurred so that the core network can route incoming packets to the appropriate eNB.

As with the Handover Request Acknowledge 6, Petitioner misleadingly characterizes the “Path Switch Request” as an independent handover request. Pet., 24. While step 12 is titled “Path Switch Request” it is not an independent request; instead, it is *informing* the core network that Handover Request 4 has been implemented and the UE has changed cell. EX1006 [Centonza Provisional], 94 (“12. The target eNB sends a PATH SWITCH REQUEST message to MME to inform that the UE has changed cell.”). “[I]nform[ing the MME] that the UE has changed cell” is not a second request from a first eNB to change data paths. *Id.*

¹ MME 115 is the “Mobility Management Entity.” EX1006 [Centoza Provisional], 110. SWG 117 is the “Serving Gateway.” *Id.*, 111. These are components of the terrestrial (i.e., not wireless) network that are responsible for routing incoming and outgoing packets to the correct eNBs.

Accordingly, “Path Switch Request To UE Context Release” is not the claimed “second request.”

3. Centonza’s “Handover Request For Subsequent Selective Handovers” Is Not The Claimed “Second Request”

Finally, Petitioner argues that Centonza’s “Handover Request for subsequent selective handovers” is the claimed “second request” for “subsequent selective handovers.” Petitioner argues that the “subsequent selective handovers” should be considered in the context of “requests from the assisting cell to the anchor cell.” Pet., 26. This is not how Centonza describes “selective handover.” For the “selective handover,” Centonza teaches that “an eNB acting like an assisting node ... perform[s] a selective handover of the user equipment to another assisting eNB.” EX1005 [Centonza], 23:49-54; EX1006 [Centonza Provisional], 56-57. Thus, the “selective handover” transfers radio bearers from the current assisting node to a new assisting node, not back to the source or anchor eNB controlling a Primary Cell of the UE. *Id.*

Further, the “selective handover” is a recommendation from the assisting node, not an independent request. EX1005 [Centonza], 23:55-61; EX1006 [Centonza Provisional], 56-57. In Centonza, the source or anchor eNB ultimately decides what to do with the bearers (i.e., whether to “handover the bearers to the new assisting node or decide to keep it with itself or drop them.”). *Id.* And, as

discussed above, the assisting node recommends transfer to another assisting node, not to the anchor eNB. In situations where the anchor eNB keeps the bearers or drops them, it is rejecting the assisting node's recommendation. EX1005 [Centonza], 23:49-61; EX1006 [Centonza Provisional], 56-57.

Finally, nothing in Centonza's description of the "selective handover" indicates that the assisting node "changes the data path for a first radio bearer of the UE" but "does not indicate to change the data path for a third radio bearer of the UE." EX1001 ['883 Patent], cls. 1 and 7. Centonza's "selective handover" teaches transmitting all bearers present on the assisting node. EX1005 [Centonza], 23:49-61; EX1006 [Centonza Provisional], 56-57.

4. Centonza Does Not Disclose "The Second Request Does Not Indicate To Change The Data Path For A Third Radio Bearer of The UE"

As discussed above, Centonza discloses one request for dual connection from one access point. *Supra*, §IV.A.4. Centonza does not disclose a second request to change dual connections from a second eNB.

Petitioner argues that "Centonza explains that the number of bearers that are handed over is 'less than or equal to a total number of bearers associated with the wireless terminal.'" Pet., 27-28. There are several problems with Petitioner's arguments. First, in each instance cited, Centonza is referring to keeping bearers at

the *source eNB*. EX1005 [Centonza], 3:4-8 (“a method, in a source base station, for providing a handover for a sub-set of bearers ... being served by the source base station. The sub-set of bearers is less than or equal to all bearers [being served by the source base station] associated with the wireless terminal”), 29:2-5; EX1006 [Centonza Provisional], 106, 112. The disclosed handover is from the source base station, not the target base station. Thus, Centonza is discussing the transfer embodied by Centonza Provisional Figure 14, not a non-existent second transfer.

Petitioner argues that “[t]he Handover Request Acknowledge and Path Switch Request state that there are bearers that will not be handed over, the E-RABs Not Admitted List and the Selective Handover Indicator, respectively.” Pet., 28-29. As discussed above, the Handover Request Acknowledge and the messages at steps 11-17 of Centonza Provisional Fig. 14 are not requests; they are messaging related to implementing the Handover Request 4 of Centonza Provisional Fig. 14. *Supra*, §IV.A.1. The Handover Request Acknowledge tells the Source eNB which bearers the Source eNB can transfer to the Target eNB. *Supra*, §IV.A.1. Steps 11 through 17 tell the Core Network which bearers have been transferred to the Target eNB so the Core Network understands where to route incoming packets. *Supra*, §IV.A.2. And Centonza’s “selective handover” teaches transmitting all bearers, not

a subset of bearers. EX1005 [Centonza], 23:49-61; EX1006 [Centonza Provisional], 56-57; *Supra*, §IV.A.3.

Second, Petitioner's argument is an obviousness argument because it relies on knowledge of a POSITA to supply a limitation that is missing from Centonza. That is, Petitioner's argument relies on the statement that "[a] POSITA would have understood that there were at least 11 data radio bearers for a UE in the LTE-based partial handover system that Centonza describes (and potentially up to 256)" (Pet., 28 n. 7) to supply the "third radio bearer" limitation. Pet., 28, n. 7. Ground 1 is presented as an anticipation ground based on Centonza. Pet., 5-6. Anticipation requires each limitation is expressly or inherently disclosed within Centonza. 35 U.S.C. §102; *Virnetx Inc. v. Apple Inc.*, 665 Fed.Appx. 880, 885 (Fed. Cir. 2016). Third radio bearers are not expressly disclosed in Centonza and Petitioner is not arguing inherency. Petitioner cannot argue inherency because nothing in Centonza would require a third radio bearer "necessarily must be present" even if LTE can support additional radio bearers in other contexts. *Par Pharm. v. TWI Pharm., Inc.*, 773 F.3d 1186, 1195-96 (Fed. Cir. 2014). Thus, ground 1 fails as a matter of law.

Third, Petitioner is relying on a POSITA's knowledge to supply a limitation that is completely missing from the alleged prior art. A POSITA's knowledge of the art is not a wholesale substitute to provide limitations that are completely

missing from the claims. *See DSS Tech. Mgmt. Inc. v. Apple Inc.*, 885 F.3d 1367, 1377 (Fed. Cir. 2018) (The Board may not “rel[y] on ‘ordinary creativity’ ‘as a wholesale substitute for reasoned analysis and evidentiary support’ ‘when dealing with a limitation missing from the prior art references specified’”) (*quoting Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355, 1361 (Fed. Cir. 2016)); *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 851 F.3d 1270, 1274-1275 (Fed. Cir. 2017) (expert may not “fill in missing limitations” by alleging that a person of ordinary skill in the art would envision them).

Using a POSITA’s knowledge of the art to fill missing limitations is only appropriate when “the limitation in question [is] unusually simple and the technology particularly straightforward.” *DSS Tech*, 1374 (quoting *Arendi* at 1362). As discussed above (*Supra*, II.A.3), 3GPP cellular standards are not unusually simple or particularly straightforward. Top experts from around the world meet several times a year to revise standards in an ongoing and iterative process. *Id.* This process can take years. EX2002 [Dahlman], 27, Fig. 2.10, 527 (“the world has witnessed four generations of mobile communication, with each new generation emerging roughly 10 years after the emergence of the previous generation.”). These revision processes must account for backward compatibility with existing standards. EX1005 [Centonza], 1:50-52 (“The current legacy

handover mechanisms of LTE have to be updated in order to support [serving UEs from more than one eNB simultaneously]”), 20:55-57 (“The advantage [to these embodiments] is that they are backward compatible”); EX2002 [Dahlman], 29 (“[LTE RAN] requirements were also set on ... interaction/compatibility with other 3GPP radio-access technologies...”), 41 (“One important requirement was *backward compatibility*. Essentially this means that an earlier-release LTE device should be able to access a carrier supporting LTE 10 functionality...”)(emphasis in original).

The revision process must also account for how any changes impact not only existing LTE functionality, but also updated LTE functionality present in the next release. EX2002 [Dahlman], Fig. 2.8, (“the standards body may find that previous decisions in the architecture or even in the requirements phase need to be revisited.”). Thus, the technology here is highly complex.

The missing limitation, moreover, is not a minor detail but instead “plays a major role in the subject matter claimed.” *Arendi*, 832 F.3d at 1362. The invention of the ’883 Patent is directed to implementing inter-node dual connectivity. *Supra*, §II.B. The claims are directed toward inter-node dual connectivity that can be controlled by the first eNB of the secondary, or SCell, rather than the primary cell. The second request sent from the first eNB (i.e., SCell) releasing one bearer but not

a third bearer is therefore central to the claimed invention. This is not a case where knowledge of a POSITA can be used to substitute for a limitation that is completely missing from the prior art of record.

While Petitioner argues that “the requests do not indicate a change in data path for a third radio bearer of the UE” (Pet., 29) that is because Centonza discloses neither the claimed “second requests” nor third radio bearers.² *Supra*, §IV.A. Petitioner’s argument should therefore be rejected.

B. Centonza Does Not Render Obvious Claims 1 and 7

As discussed above, Centonza does not anticipate claims 1 and 7 because it does not disclose the limitation “transmitting a second request from the first eNB, which controls the SCell of the UE, to the second eNB, which controls a Primary Cell (PCell) of the UE, to change a data path for a first radio bearer of the UE, wherein the second request does not indicate to change the data path for a third radio bearer of the UE” of claim 1 or the related limitation in claim 7.

² The claims do not only require “a third radio bearer of the UE,” they also require that the first eNB (which controls the SCell) is “used as the data path for the ... third radio bearer.” EX1001 [’883 Patent], cls. 1, 7. Thus, the claimed third radio bearer must use a data path via the first eNB.

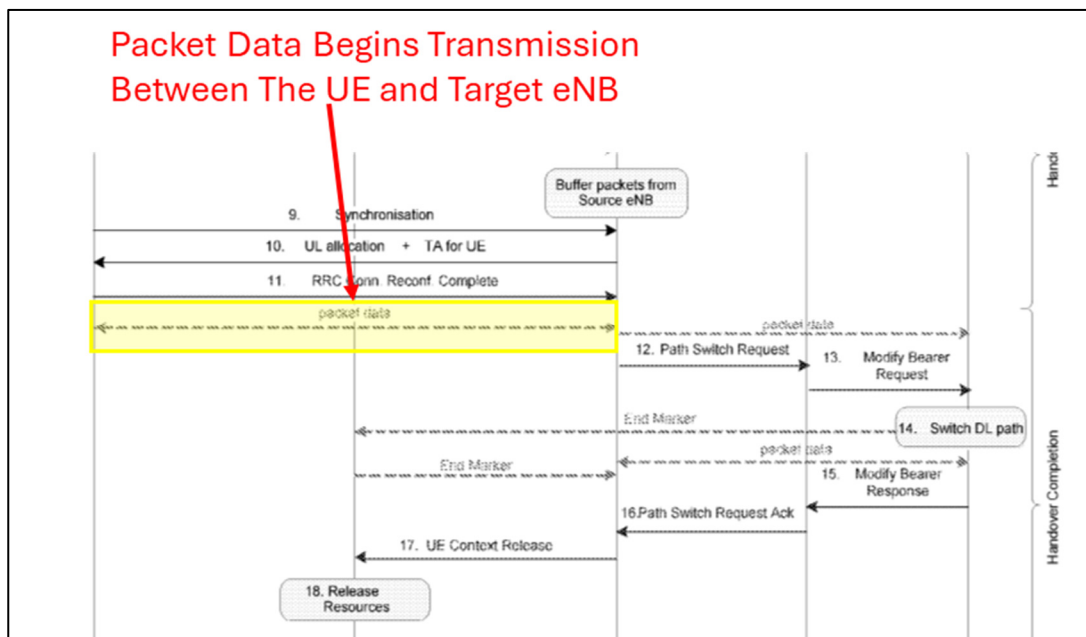
1. A POSITA Would Not Replace Centonza's Path Switch Request 12 Through UE Context Release 17 Messages With The Claimed Second Request

Petitioner argues “[t]o the extent the Path Switch Request to UE Context Release the Target eNB provided initially over the S1 interface (through the core network) is not considered ‘from the first eNB ... to the second eNB’ ([1e] and [7e] (similar)), a POSITA would have been motivated to exclusively use X2 for this message.” Pet., 37. Petitioner is essentially proposing that a POSITA would spontaneously combine steps 11 through 17 of Centonza Provisional Figure 14 into one message transmitted over X2 from the Target eNB to the Source eNB to supply a limitation that is completely missing from the prior art of record. *DSS Tech. Mgmt. Inc. v. Apple Inc.*, 885 F.3d 1367, 1377 (Fed. Cir. 2018).

There are several problems with Petitioner's proposal. First, Petitioner's proposal makes no sense in the context of Centonza Provisional Figure 14. As discussed above, there is no “second request” in Figure 14. Steps 11 through 17 are all messages related to implementing the “Dual Connection Setup Request” step at 404 from the source eNB. *Supra*, §IV.A.2. Petitioner argues that “Dual Connection Setup Request” 4 is the claimed “first request.” Pet., 17-18. All the signaling in Figure 14 is directed to carrying out step 4. *Supra*, §§IV.A.1-3.. Steps 11 through

17 are not a separate request, they are part of the single request for a dual connection disclosed in Han Fig. 4.

Further, by the time of step 11, the dual connection requested at step 4 has been implemented and the Target eNB has established a data path with the UE. This data path is shown in the highlighted excerpt of Centonza Provisional Fig. 14 (showing “packet data” transmitted from the UE to Target eNB) below:



EX1006 [Centonza Provisional], Fig. 14. To explain further, the Target eNB sends the UL (uplink) allocation and timing advance to the UE at step 10. *Id.*, 94. At step 11, “[w]hen the UE has successfully accessed the target cell, the UE sends the *RRCConnectionReconfigurationComplete* message to the target to confirm that the handover succeeded.” *Id.* At this point, as shown in the excerpt of Fig. 14

above, “the target eNB can begin sending data to the UE and the UE can send data to the target based on the scheduling grants it is receiving.” *Id.* “However, the data from the CN [Core Network] is still routed to the source eNB.” *Id.* Step 12 (“Path Switch Request”) is not the start of a new request, it is a “message to MME [i.e., the Core Network] to inform that the UE has changed cell.” *Id.* Similarly, step 13 is a message from the MME to the serving gateway to tell the serving gateway that the target eNB is now the data bearer. *Id.* These steps are necessary and cannot be replaced because the Core Network needs to understand that the source eNB no longer has the data bearer in order to switch from routing incoming packets from the source eNB to the target eNB. Similarly, steps 14 through 17 are messages from the “core network” to the target and source eNBs acknowledging the “core network” has completed the path switch. Thus, if steps 11 through 17 are not performed, “Handover Request” 4 would fail because the network would still route incoming data packets to the source eNB.

Petitioner argues as follows:

Exclusively using X2 would reduce the network components needed to forward messages to an eNB. *Id.* This would reduce the network's processing load and the potential for error. *Id.* Using X2 would also speed up the network, *e.g.*, the message would not need to pass through the core network. *Id.* And it would allow the network to scale without potentially overloading the core network or expanding the amount of core network components. *Id.*

Pet., 37. Petitioner provides no evidence or analysis for why any of these conclusory rationales are true. Petitioner's expert parrots the attorney argument in the Petition. EX1003 [Mahon Decl.], ¶174. Even if true, removing messaging with the Core Network would come at the expense of causing Handover Request 4 to fail, rendering the entire handover process disclosed in Centonza Provisional Figure 14 pointless.

Further, there is no reason for the Target eNB to send a request to the Source eNB to implement the same dual connection that the Source eNB already requested at step 4 and implemented at step 11. In other words, the Source eNB has already implemented the dual connection Petitioner proposes the Target eNB should request from the Source eNB. Unnecessary, redundant messaging does not reduce "processing load and the potential for error" (Pet., 37), it increases it.

Petitioner argues that “using X2 instead of S1 would have a reasonable expectation of success because “the two options [are] interchangeable.” Pet., 37. But “[t]he X2 Handover process is [already] shown in Figure 14” of the Centonza Provisional. EX1006 [Centonza Provisional], 92. That is Centonza Provisional Figure 14 already uses X2 messaging. *Id.* Thus, Petitioner’s distinction between X2 and S1 does not appear relevant. However, as described above, replacing the X2 messages at steps 11 through 17 of Centonza Provisional Figure 14 (thereby removing communications with the Core Network) with one message from the Source eNB to the Target eNB would certainly cause the handover described in Figure 14 to fail.

Second, Petitioner provides no support for its proposed changes other than conclusory expert testimony. Petitioner’s expert parrots the Petition without providing any additional analysis or support. *Compare* Pet., 37-38 *with* EX1003 [Mahon Decl.], ¶¶173-176. While both the Petition (citing to the expert declaration) and expert declaration state that “[a] POSITA would have further found that using X2 instead of S1 would have a reasonable expectation of success,” (*Id.*, ¶175), Dr. Mahon’s analysis seems to assume that Centonza Provisional Figure 14 is using S1, when in fact the provisional indicates Figure 14 is already using X2. EX1006 [Centonza Provisional], 92. Further, Dr. Mahon

provides no explanation of how the handover process described in Figure 14 could still function if the messaging to and from the Core Network were removed.

Conclusory expert testimony that merely parrots attorney argument is entitled to little weight. *Xerox Corp. et al. v. Bytemark, Inc.*, IPR2022-00624, Paper 12 (Director Review Decision), 5 (PTAB Feb. 10, 2023) (affirming Board’s decision assigning little weight to expert declaration where “[t]he declaration sets forth Petitioner’s conclusory assertions as though they are facts, rather than setting forth facts and evidence in support of Petitioner’s assertions.”).

Third, as discussed above, a POSITA’s knowledge of the art is not a wholesale substitute to provide limitations that are completely missing from the claims. *See supra*, §IV.A.4; *DSS Tech.*, 885 F.3d at 1377 (Fed. Cir. 2018). For the reasons discussed above, adding an undisclosed “second message” to Centonza is not unusually simple, nor is the technology here straightforward. *Supra*, §IV.A.4.

The missing limitation, moreover, is not a minor detail but instead “plays a major role in the subject matter claimed.” *Arendi*, 832 F.3d at 1362. The invention of the ’883 Patent is directed to implementing inter-node dual connectivity. *Supra*, §II.B. The claims are directed toward inter-node dual connectivity that is controlled by the first eNB of the secondary, or SCell, rather than the primary cell. The second request sent from the first eNB (i.e., SCell) is therefore central to the

claimed invention. This is not a case where knowledge of a POSITA can be used to substitute for a limitation that is completely missing from the prior art of record.

Dr. Mahon's conclusory testimony parrots the Petition's attorney argument and does not address why the changes he proposes would be desirable in the context of the LTE technology at issue in Centonza (i.e., LTE release 12) or whether the proposed changes could even work with LTE. *Supra*, §IV.A.4. Accordingly, his declaration is entitled to no weight on this point. Petitioner's obviousness arguments therefore fail.

2. A POSITA Would Not Replace Centonza's Handover Request Acknowledge 6 or Handover Request 4 With The Claimed Second Request

The Petition argues that “[t]o the extent the Handover Request Acknowledge and Handover Request are not ‘request[s] . . . to change a data path’ ([1d], [7e] (similar)), a POSITA would have been motivated to modify these messages to request to change the data path (and then change the data path based on these messages).” Pet., 38-39. Thus, Petitioner again seeks to use a POSITA's knowledge to provide a limitation that is completely missing from the prior art presented. The Petition explains as follows:

To the extent the Handover Request Acknowledge and Handover Request are not “request[s] . . . to change a data path” ([1d], [7e] (similar)), a POSITA would have been motivated to modify these messages to request to change the data path (and then change the data path based on these messages). Ex-1003, ¶ 177. The two messages already include a list of E-RABs to handover, like the Path Switch Request. *Id.* In that scenario, the Source eNB, in addition to changing the DL allocation at the UE and forwarding packets to the Target eNB, could also release its resources for those E-RABs (rather than wait for the UE Context Release or the end marker from the core network). *Id.* A POSITA would be motivated to make this change to simplify the system and reduce the number of messages exchanged between the eNBs and the core network for the same reasons as above. *Id.* A POSITA would also have recognized that this change would not have impacted the selective handover system because cells and downlink data path would have already changed at the UE. *Id.* A POSITA would thus have a reasonable expectation of success for the same reasons as above. *Id.*

Pet., 38-39.

There are several problems with Petitioner’s argument. First, Petitioner argues that “[t]o the extent the Handover Request Acknowledge and Handover Request are not ‘request[s] . . . to change a data path’ ([1d], [7e] (similar)), a POSITA would have been motivated to modify these messages to request to

change the data path (and then change the data path based on these messages).”

Pet., 38. Again, all the messaging in Centonza Provisional Figure 14 is directed to implementing the Handover Request at step 4. *Supra*, §IV.A.1-2. Petitioner alleges the Handover Request is the “first request.” Pet., 17. There is no claimed second request shown in Centonza Provisional Figure 14 or elsewhere in Centonza. Thus, the issue is not whether these messages are part of a request, the issue is that even if they are considered part of a request, it is the same request and there is no second request as required by the claims.

Petitioner argues that “[a] POSITA would be motivated to make this change to simplify the system and reduce the number of messages exchanged between the eNBs and the core network for the same reasons as above.” Pet., 39. But again, eliminating messaging with the Core Network essentially removes the Core Network from Centonza, rendering the handover process described at Figure 14 inoperable. *Supra*, §IV.A.2. Further, Handover Request Acknowledge 6 is an acknowledgement message that acknowledges “if it can admit one or more of the data radio bearers comprised in the [Handover Request 4].” EX1006 [Centonza], 54. If Handover Request Acknowledge 6 were replaced with a separate request, the handover requested at step 4 would never take place and Centonza Provisional Figure 14 would fail.

Second, Petitioner provides no support for its proposed changes other than conclusory expert testimony. As with Centonza steps 11-17, Petitioner's expert parrots the Petition without providing any additional analysis or support. *Compare* Pet., 38-39 *with* EX1003 [Mahon Decl.], ¶177. While both the Petition (citing to the expert declaration) and expert declaration state that “A POSITA would thus have a reasonable expectation of success for the same reasons as described above,” (*Id.*), it is not clear where Dr. Mahon intended to cite to, and the preceding paragraphs of his declaration do not appear to support his conclusion that a POSITA would, without prompting, alter the “Handover Request Acknowledge and Handover Request” messages to operate in a manner that is not disclosed in Centonza. While paragraph 175 states “a POSITA would have further found that using X2 instead of S1 would have a reasonable expectation of success,” (EX1003 [Mahon Decl.], ¶175), as discussed above, Centonza Provisional Figure 14 already uses X2. Further, “using X2 instead of S1” is a different issue than “modify[ing Handover Request Acknowledge and Handover Request] to request to change the data path (and then change the data path based on these messages).” *Id.*, ¶177; *supra*, §IV.B.1. Thus, ¶175 does not appear to support Dr. Mahon's statement. As discussed above, such conclusory testimony is entitled to no weight. *supra*, §IV.A.4.

Third, for the same reasons discussed above for Petitioner's arguments to replace steps 11 through 17 with a second request that is completely missing from Centonza, Petitioner cannot rely solely on a POSITA's knowledge to provide the missing limitations. *See supra*, §IV.B.2. Petitioner's obviousness arguments are based on hindsight analysis that would render the resulting combination inoperable. Petitioner's arguments therefore fail.

C. Centonza Does Not Anticipate Or Render Obvious Dependent Claims 2-6 or 8-11

Because Centonza does not anticipate or render obvious independent claims 1 or 7, it does not anticipate or render obvious the claims that depend therefrom.

V. PETITIONER HAS NOT SHOWN A REASONABLE LIKELIHOOD OF SUCCESS FOR GROUNDS 3 AND 4

A. Han Does Not Anticipate Independent Claims 1 and 7

Han, like Centonza, discusses dual connection requests initiated from a macro cell, rather than a secondary cell as required by the claims. Further, Han at most discloses an initial dual connection request from the macro cell, not a second request from a secondary cell as required by the claims.

Petitioner fundamentally mischaracterizes the messaging disclosed in Han Fig. 4. In only one instance in Han is there a decision to establish or change a dual connection. That instance is at operation 403 of Han Fig. 4. EX1007 [Han], Fig. 4 at 403 ("Dual Connection Decision"), [0039] ("At operation 403, the MAP 100

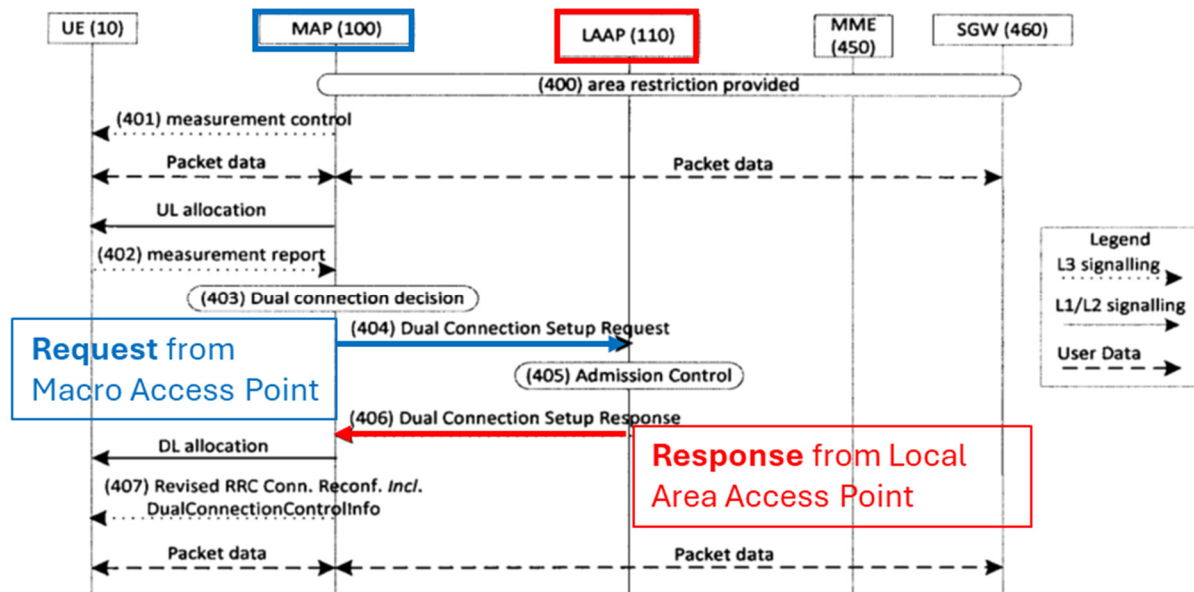
may determine, based on the one or more measurement reports on one or more LA cells, whether to establish a dual connection for the UE 10.”), Fig. 3 (disclosing a single “dual connection setup request message to be transmitted to a local area access point (LAAP)” at operation 330). Thus, MAP 100 (Han’s macro cell) is the only entity disclosed anywhere in Han that determines whether to establish a dual connection or sends a request to establish a dual connection. There is never a *second request*. Petitioner argues that the “Dual Connection Setup Request” 404 sent by MAP 100 is the *first request* (Pet., 42-43), but cannot identify a *second request*, let alone a *second request from an eNB that controls a secondary cell* as required by the claims.

Petitioner argues that Han contains “three messages that contain the claimed ‘second request’”: Dual Connection Setup Response, Path Switch and Suspend Request For Split Bearers to Dual Connection Establish Complete and Dual Connection Setup Request.” Pet., 44. As discussed below, in each case, Petitioner identifies a message that Han identifies as part of what Petitioner argues is the “first request.”

1. Han’s “Dual Connection Setup Response” Is Not The Claimed Second Request

As the name makes clear, “Dual Connection Setup Response” is not a *Request*, it is a *Response* to the MAP’s “Dual Connection Setup Request.”

Petitioner says so itself. Pet., 43 (Han “discloses an accept message (Dual Connection Setup Response) from the first eNB (LAAP) to the second eNB (MAP) *in response* to the first request (Dual Connection Setup Request).”) (emphasis added). This is shown below using an annotated version of Han Fig. 4:



Han characterizes the “Dual Connection Setup Response 406” as a “dual connection setup request acknowledgement (ACK)”, not a second, separate request:

[0042] At operation 406, the LAAP 110 may prepare the dual connection with Layer-1/Layer-2 (L1/L2) and may transmit a “dual connection setup request acknowledge (ACK)” message to the MAP 100. The dual connection setup request ACK message may include a transparent container to be sent to the UE as an RRC message to perform the dual connection setup. The container may, for example, include a new C-RNTI, LAAP 110 security algorithm identifiers for the selected security algorithms, a dedicated RACH preamble, and/or other possible parameters, such as access parameters, System Information Blocks (SIBs), etc. The dual connection setup request ACK message may also include RNL/TNL information for the forwarding tunnels, if necessary.

EX1007 [Han], [0042]. In other words, Han at step 406 is simply acknowledging the request from the Macro cell (which Petitioner argues is the claimed “first request”), not making an independent second request from a Secondary Cell. That is, in step 404, the MAP 100 requests to establish dual connection with LAAP 110. Step 404 acknowledges this request; it does.

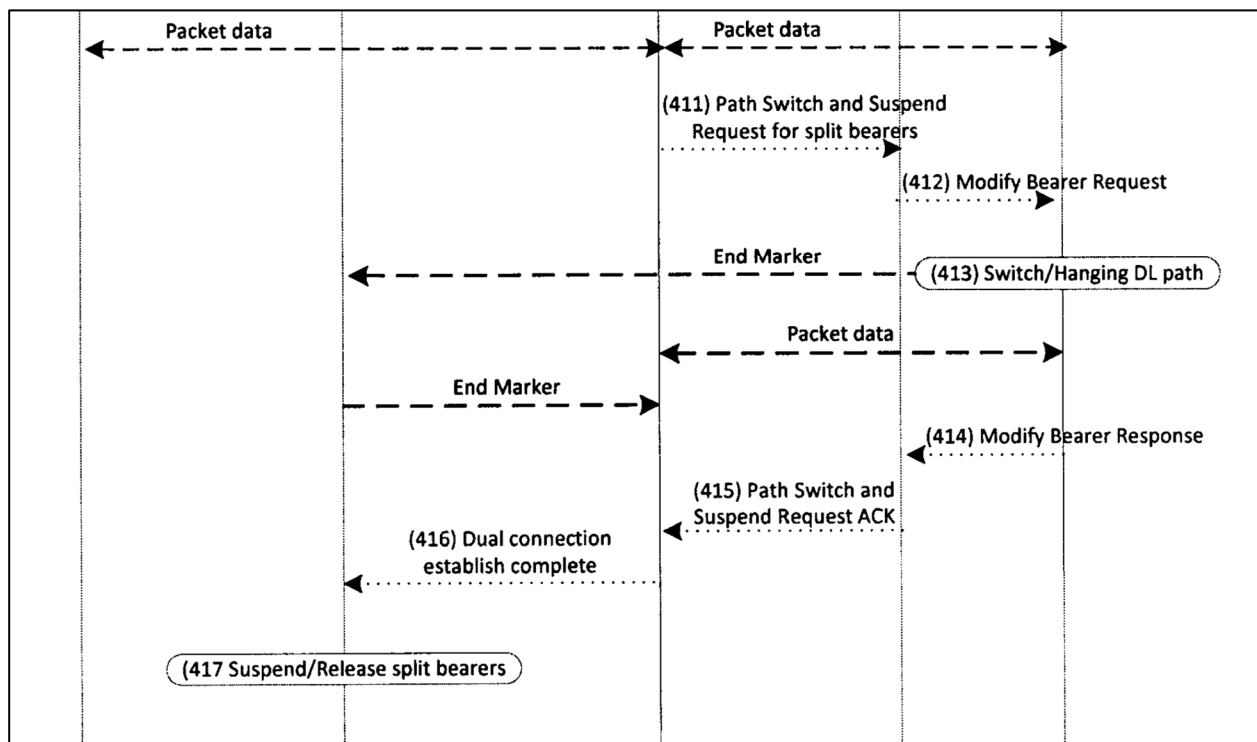
Indeed, Petitioner argues the same “Dual Connection Setup Response” response is the “accept message” of limitation 1c (“transmitting an accept message from the first eNB to the second eNB in response to the first request.”). Pet., 43-44. And Petitioner argues that the “Dual Connection Setup Request” from MAP (100) is the claimed “first request” of limitation 1b. Pet., 42-43.

Petitioner’s argument that Han’s “Dual Connection Setup Response” is not only the “accept message” but simultaneously the “second request” of limitation 1d makes no sense and is unsupported by the disclosure of Han. Pet., 44-45.

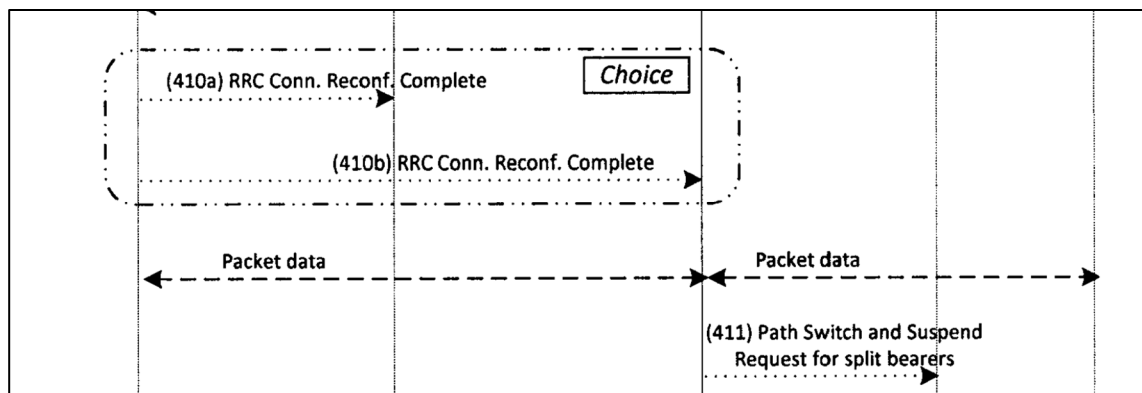
Accordingly, the “Dual Connection Setup Response” is not a second request from the first eNB.

2. Han’s “Path Switch and Suspend Request For Split Bearers through the Dual Connection Establish Complete” Messages Are Not The Claimed Second Request

The Petition argues that Han steps 411 through 417 are the claimed second request. Pet., 43-46. Again, this message has nothing to do with a second request from a Secondary Cell to change radio bearers. EX1007 [Han], [0049]-[0056]. Instead, these operations are generated in response to, and as part of, the dual connection requested by Map 100 in Han operation 404. *Id.* The relevant portion of Han Fig. 4 is shown below:



EX1007 [Han], Fig. 4. The only message sent from LAAP 110 (which Petitioner alleges is the first eNB that controls the secondary cell) in operations 411-417 is operation 411. *Id.* Han explains that operation 411 “send[s] a ‘path switch/suspend request message’ to an MME 450 to inform that the UE 10 has setup a dual connection.” *Id.*, [0050]. The “dual connection” that UE 10 has setup is the dual connection that was setup in response to Dual Connection Setup Request 404 (i.e., the request Petitioner argues is the claimed “first request”):



Id., Fig. 4.³ That is, LAAP 110 sends the “Path Switch and Suspend Request for split bearers 411” to Mobility Management Entity (MME) 450 to inform MME

³ Note that in Han Fig. 4, the “Packet data” from the UE 10 only switches from MAP 100 to LAAP 110 after operations 410a/b. This is because operations 410a and b are confirming that the Dual Connection Setup Request at 404 has been completed.

450 (and subsequently Serving Gateway 460)⁴ that UE 10 (the mobile phone) has established a dual connection. Thus, operation 411 is a not a request to change bearers, let alone a second request to change bearers from a first eNB that controls a secondary cell.

3. Han’s “Dual Connection Setup Request” Is Not The Claimed Second Request

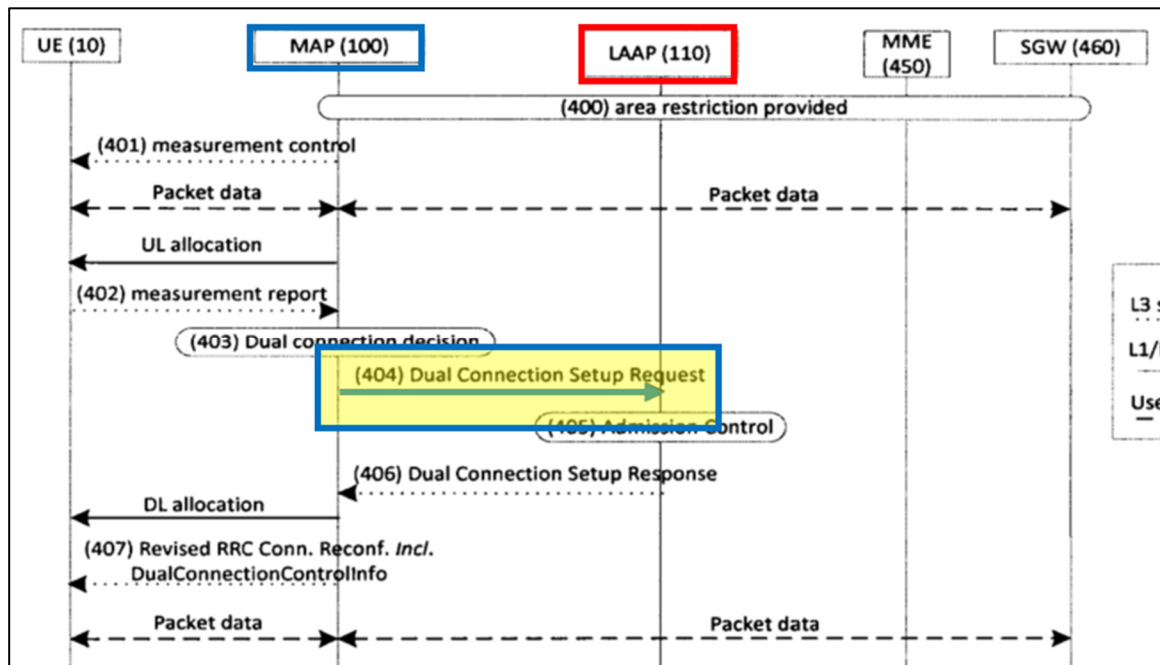
Finally, Petitioner argues that Han’s “Dual Connection Setup Request (step 404)” is a second request. Pet., 47-48. This is the same request Petitioner argues is also the first request. Pet., 42-43.

Petitioner is incorrect. The claimed “first request” is sent from the “second eNB.” EX1001 [’883 Patent], cls 1 and 7. The claimed “second request” is sent from the “first eNB.” *Id.* MAP 100 (which sends Dual Connection Setup Request 404) cannot be both the first eNB and second eNB.

Petitioner states that “[b]y providing this bearer split information, ‘the LAAP may setup appropriate data bearers for the UE so that, for example, data transmission may be offloaded from the MAP to the LAP.’” Pet., 47 (quoting

⁴ MME 450 and SGW 460 are landline network components that need to understand which eNBs to distribute incoming packets to when there is a dual connection.

EX1007 [Han], [0040]). But as shown in the excerpt of Han Fig. 4 below, LAAP 110 *receives* the “Dual Connection Setup Request.” It does not *send* the request as required by the claims:

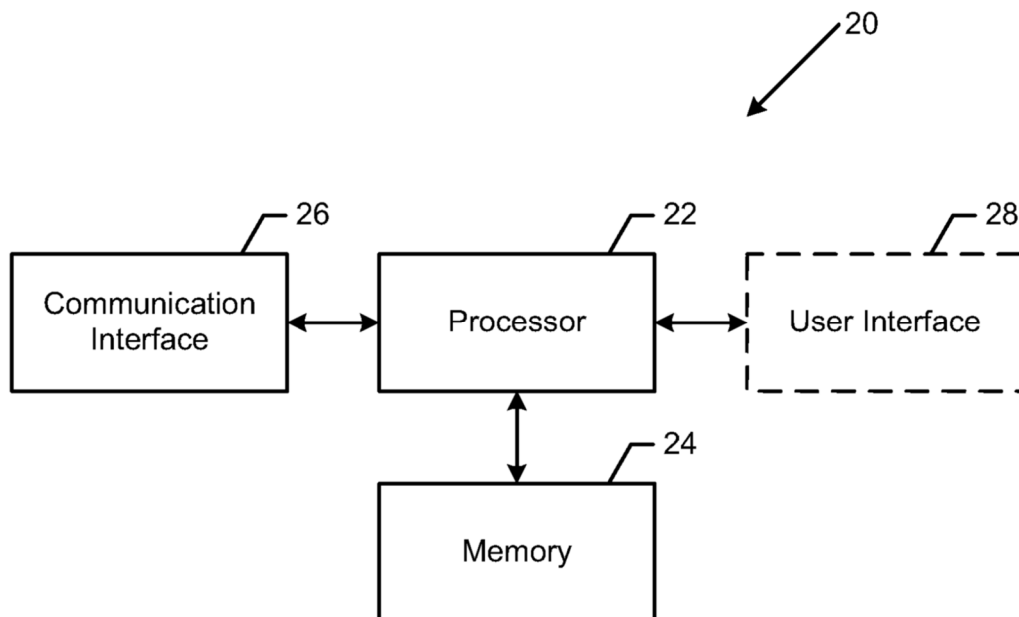


EX1007 [Han], Fig. 4.

Petitioner argues that the request “may also be sent the other way (from the LAAP to the MAP” but even were that the case, the request from the LAAP would be the “first request,” not the “second request.” EX1007 [Han]. Every embodiment of Han discusses only one request from one entity to establish a dual connection setup. *Id.*, Figs. 3 and 4. Nor is Petitioner’s statement that Han [0031] “explain[s] that each LAP and MAAP [sic] can have analogous functionality” accurate. Pet., 47. Han [0031] states that the entities disclosed in Han Fig. 20 contain “means ...

for causing their respective entities to carry out the operations depicted in Figure 4.” That is, the LAAP may have an apparatus 20 that performs the functions the LAAP performs in Fig. 4. It does not state that the MAP and LAAP can have analogous functionality.

Further, to the extent Petitioner argues that the LAAP could send a “first request” based on a catch-all sentence describing the generic processor embodiment of Han Fig. 2 (below, illustrating “apparatus 20”), this is a different embodiment than Han Fig. 4.



EX1007 [Han] Fig. 2, [0034]. Nothing in Han or the Petition describes how such a change could be combined with the embodiment of Han Figs. 3 or 4.

Further, even if the LAAP could send the Dual Connection Setup Request, that would function as the claimed first request in the context of Han Fig. 4, suffering from the same deficiencies discussed above in Sections V.A.1 and 2. There would still be no disclosure of any **second** request to change a data path as recited in the challenged claims.

Accordingly, nothing in Han discloses the claimed second request.

4. Han Does Not Disclose “The Second Request Does Not Indicate To Change The Data Path For A Third Radio Bearer of The UE”

As discussed above, Han discloses one request for dual connection from one access point. *Supra*, §§V.A.1-3.. Han does not disclose a second request to change dual connections from a second eNB. Although the Petition alleges Han discloses a second request, in every instance, the Petition relies on messaging relating to Han’s “Dual Connection Setup Request 404”, which Petitioner argues is the claimed first request. *Supra*, §V.A.1.

In addition, nothing in Han discloses any request that “does not indicate to change the data path for a third radio bearer of the UE” as required by the claims. The Petition does not argue otherwise. Pet., 48-49. Instead, the Petition argues that a POSITA “would have understood that requesting to split bearers (and change the

data path for those bearers) would not indicate a change in the data path for a third radio bearer (*e.g.*, one of the other bearers for the UE).” Pet., 48-49.

There are several deficiencies in Petitioner’s argument. First, Petitioner’s argument is an obviousness argument because it relies on knowledge of a POSITA to supply a limitation that is missing from Han. That is, Petitioner argues that Han relates to LTE and a Petitioner would allegedly understand that LTE “supported at least 11, and up to 256, radio bearers.” Pet., 48. Ground 3 is anticipation based on Han. Pet., 5-6. Anticipation requires each limitation is expressly or inherently disclosed within Han. 35 U.S.C. §102; *Virnetx Inc. v. Apple Inc.*, 665 Fed.Appx. 880, 885 (Fed. Cir. 2016). Third radio bearers are not expressly disclosed in Han and Petitioner is not arguing inherency. *See* §IV.A.4, *supra*. Thus, ground 3 fails as a matter of law.

Second, as with Centonza, Petitioner is relying on a POSITA’s knowledge to supply a limitation that is completely missing from the alleged prior art. *See supra*, §IV.A.4. This practice is the exception to the rule, meant only for limitations where the limitation in question was unusually simple and the technology straightforward. *Supra*, §IV.A.4; *Arendi* at 1362. As discussed for Centonza, neither is the case here. *Id.*

Third, while Petitioner argues that “none of these ‘second requests’ indicate to change the data path for a third radio bearer of the UE” (Pet., 48-49) that is because Han discloses neither the claimed “second requests” nor LAAPs that utilize third radio bearers.⁵ *Supra*, §§V.A.1-3. Petitioner’s argument fails because it has no basis in the disclosure of Han.

B. Han Does Not Render Obvious Independent Claims 1 and 7

1. A POSITA Would Not Replace Han Operations 411 Through 417 With A New Request From LAAP 110 to MAP 100

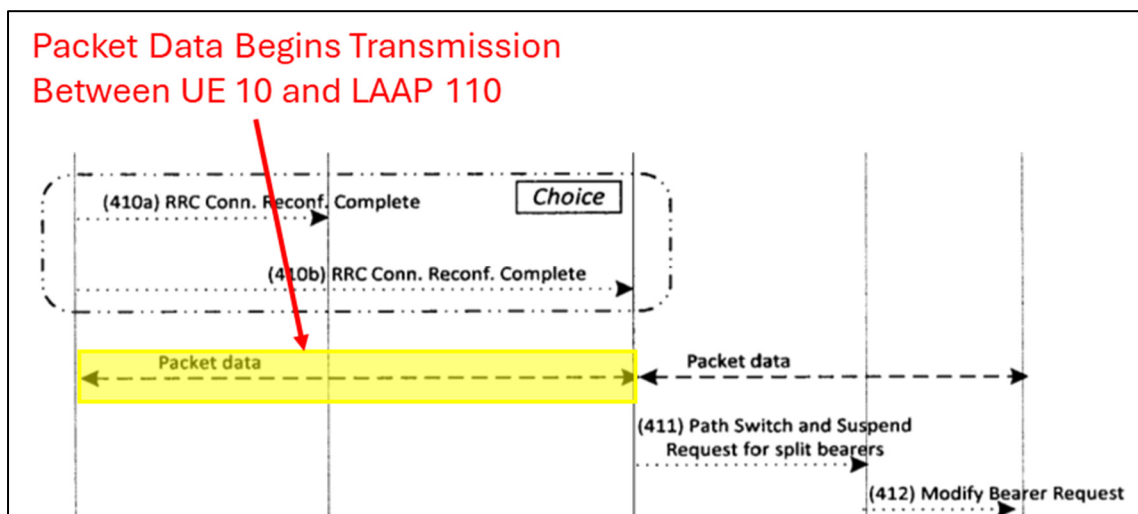
Petitioner argues that “[t]o the extent Path Switch and Suspend Request to Dual Connection Establish Complete the LAAP provided initially through the core network is not considered “from the first eNB ... to the second eNB” ([1e] and [7e] (similar)), a POSITA would have been motivated to exclusively use X2 for this message.” Pet., 57-58. Like its argument for Centonza, Petitioner is essentially

⁵ The claims do not only require “a third radio bearer of the UE,” they also require that the first eNB (which controls the SCell) is “used as the data path for the ... third radio bearer.” EX1001 [’883 Patent], cls. 1, 7. Thus, the claimed third radio bearer must use a data path via the first eNB. The Petition cannot and does not argue this is the case in Han.

proposing that a POSITA would spontaneously combine Han operations 411 through 417 into one message transmitted over X2 from LAAP 110 to MAP 100.

Petitioner's proposal makes no sense in the context of Han Figure 4. As discussed above, there is no "second request" in Figure 4. Operation 411 through 417 are all messages related to implementing the "Dual Connection Setup Request" operation at 404 from MAP 100. *Supra*, §V.A.2. Petitioner argues that "Dual Connection Setup Request" operation 404 is the claimed "first request." Pet., 42-43. All the signaling in Figure 4 is directed to carrying out operation 404. *Supra*, §§V.A.1-2. Operations 411 through 417 are not a separate request, they are part of the single request for a dual connection disclosed in Han Fig. 4.

Further, by the time of Operation 411, the dual connection requested at operation 404 has been implemented and LAAP 110 has established a data path with UE10. This data path is shown in the highlighted excerpt of Han Fig. 4 below:



EX1007 [Han], Fig. 4. To explain further, UE 10 sends operations 410a and/or 410b to the LAAP 110 and/or MAP 100 “to indicate that the dual connection establishment procedure is completed.” EX1007 [Han], [0046]. Once the dual connection establishment procedure is completed, packet data is transmitted between UE 10 and LAAP 110. Operation 411 is not the start of a second request, it is a message to MME 450 to “inform [MME 450] that the UE 10 has set up a dual network.” *Id.*, [0050]. Per Petitioner’s terminology, operations 411 and 412 are informing the “core network” that the dual connection is complete so the “core network” (e.g., the wired network) can start routing data packets to the appropriate wireless access point. Operations 413 through 417 are messages from the “core network” to LAAP 110 and MAP 100 acknowledging the “core network” has completed the path switch.

There is no reason for LAAP 110 to send a request to MAP 100 to implement the same dual connection that MAP 100 already requested at operation 404 and implemented at operation 410a/b. In other words, MAP 100 has already implemented the dual connection Petitioner proposes LAAP 110 should request from MAP 100. Unnecessary, redundant messaging does not reduce “processing load and the potential for error” (Pet., 57).

Further, a POSITA would not eliminate operations 411 through 417 because the “core network” (as Petitioner terms it) needs to be notified that the dual connection requested by MAP 100 (operations 403-404) has been implemented. MME (mobility management entity) 450 and SGW (serving gateway) 460 need to know that UE 10 has a dual connection with MAP 100 and LAAP 110 because they are responsible for managing the dual connection on the network end. For example, SGW 460 is responsible for “switch[ing] the DL data path for split bearers to the LA cell 110 side.” EX1007 [Han], [0052]. If operations 411 through 417 were replaced with a single redundant message from LAAP 110 to MAP 100, SGW 460 would not be aware of the dual connection and would continue to route all DL data to MAP 100, meaning the dual connection would not function.

In addition, for the same reasons discussed above for Centonza, Petitioner cannot rely on a POSITA’s knowledge of the art to provide the missing “second request” limitation that is completely missing from the prior art. *See supra*, §IV.A.4. Petitioner’s obviousness arguments therefore fail.

2. A POSITA Would Not Replace Han’s Operations 404 And 406 With A Second Request

Petitioner argues that “[t]o the extent the Dual Connection Setup Response and Dual Connection Setup Request are not ‘request[s] . . . to change a data path’ ([1d], [7e] (similar)), a POSITA would have been motivated to modify these

messages to request to change the data path (and then change the data path based on these messages).” Again, all of the messaging in Han Figure 4 is directed to implementing the Dual Connection Setup Request at operation 404. *Supra*, §§V.A.1-2. Petitioner alleges the Dual Connection Setup Request is the “first request.” Pet., 42-43. There is no second request shown in Han Fig.4 or elsewhere in Han. Thus, the issue is not whether these messages are part of a request, the issue is that even if they are considered part of a request, it is the same request and there is no second request as required by the claims.

Petitioner argues that “[a] POSITA would be motivated to make this change to simplify the system and reduce the number of messages exchanged between the eNBs and the core network for the same reasons as above.” Pet., 58. But again, this change essentially removes the core network from Han, rendering Han Fig. 4 inoperable. *Supra*, §V.A.2. Further, Dual Connection Setup Response 406 is an “ACK message” that “perform[s] the dual connection setup” requested at operation 404. If Dual Connection Setup Response 406 were replaced with a separate request, the dual connection setup requested at operation 404 would never take place and Han Fig. 4 would fail.

In addition, for the same reasons discussed above for Centonza, Petitioner cannot rely on a POSITA’s knowledge of the art to provide the missing “second

request” limitation that is completely missing from the prior art. *See supra*,

§IV.A.4. Petitioner’s obviousness arguments therefore fail.

C. Han Does Not Anticipate Or Render Obvious Dependent Claims 2-6 and 8-11

Because Han does not anticipate or render obvious independent claims 1 or 7, it does not anticipate or render obvious the claims that depend therefrom.

VI. THE BOARD SHOULD EXERCISE DISCRETION UNDER SECTION 314 AND DENY INSTITUTION

The Board should deny institution under 35 U.S.C. §314 because all six *Fintiv* factors favor discretionary denial. There is no requirement that the Board institute IPR. *See, e.g., Harmonic Inc. v. Avid Tech.*, 815 F.3d 1356, 1367 (Fed. Cir. 2016). “[T]he PTO is permitted, but never compelled, to institute an IPR proceeding.” *Id.* Rather, the decision to institute is delegated to the Board and is purely discretionary.

35 U.S.C. §314(a) gives the Board discretion to deny institution because of efficiency considerations *stemming* from parallel proceedings on the same patent. *See NHK Spring Co. v. Intri-Plex., Inc.*, IPR2018-00752, Paper 8 (PTAB Sept. 12, 2018) (precedential, designated May 7, 2019) (“*NHK Spring*”). The PTAB has set forth six factors for determining whether discretionary denial due to efficiency considerations relating to parallel proceedings is appropriate (the “*Fintiv* factors”):

1. whether the *court* granted a stay or evidence exists that one may be granted if a proceeding is instituted;
2. proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision;
3. investment in the parallel proceeding by the court and the parties;
4. overlap *between* issues raised in the petition and in the parallel proceeding;
5. whether the petitioner(s) and the defendant in the parallel proceeding are the same party; and
6. other *circumstances* that impact the Board’s exercise of discretion, including the merits.

Apple Inc. v. Fintiv, Inc., IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential) (“*Fintiv I*”), 6; *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 15 (PTAB May 13, 2020) (order denying institution) (informative, designated July 13, 2020) (“*Fintiv II*”), 7-8.

The Director has issued *additional* guidance on the application of *Fintiv*. See Katherine K. Vidal, *Interim Procedure for Discretionary Denials in AIA Post-*

Grant Proceedings with Parallel District Court Litigation (June 21, 2022)⁶ (“*Fintiv* Memo”). See also *OpenSky Indus., LLC v. VLSI Tech. LLC*, IPR2021-01064, Paper 102, 49–50 (PTAB Oct. 4, 2022) (precedential) (“*OpenSky*”) and *CommScope Techs. LLC v. Dali Wireless, Inc.*, IPR2022-01242, Paper 23 (PTAB Feb. 27, 2023) (precedential) (“*CommScope*”). Under the interim *Fintiv* Memo, if the Board “determines that the information presented at the institution stage presents a compelling unpatentability challenge, that determination alone demonstrates that the PTAB should not discretionarily deny institution under *Fintiv*.” *Interim Fintiv* Memo, 4–5. However, *OpenSky* and *CommScope* make clear that the compelling merits standard is a significantly higher standard than the institution standard, requiring that it be “highly likely that the petitioner would prevail with respect to at least one challenged claim.” *OpenSky*, 49; *CommScope*, 3–4. Further, “compelling merits” should be considered only after a determination that the first five *Fintiv* factors favor discretionary denial. *CommScope*, 4–5.

⁶ Available at https://www.uspto.gov/sites/default/files/documents/interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621_.pdf

Here, all six *Fintiv* factors weigh in favor of discretionary denial and there are no “compelling merits” or a *Sotera*-type stipulation. Accordingly, the Board should exercise its discretion and deny institution.

A. Factor 1

The first *Fintiv* factor—regarding whether a stay exists or is likely to be granted if a proceeding is instituted—weighs in favor of denial. No motion to stay pending the institution decision has been filed in the litigations. The district court has an established practice not to stay litigations pending resolution of inter partes review prior to institution. *Viavi Sols. Inc. v. Zhejiang Crystal-Optech Co.*, No. 2:21-CV-00378-JRG, 2022 WL 16856099, at *5 (E.D. Tex. Nov. 10, 2022) (“It is the Court’s established practice to consider that motions to stay pending IPR proceedings which have not been instituted are inherently premature and should be denied as such.”).

Even post-institution, the district court judge is unlikely to stay the case absent agreement from the parties. EX2005 [LegalMetric], 3 (showing 15% win rate on contested motions to stay pending IPRs in the ED Tex). Thus, this factor weighs in favor of denial.

B. Factor 2

The second *Fintiv* factor—the proximity of the court’s trial date to the Board’s projected statutory deadline for a Final Written Decision—weighs in favor of denial. The Notice of Filing Date Accorded To Petition was mailed on June 18, 2024. Paper 7, 1. A Final Written Decision will therefore be due no later than December 18, 2025. *See* 35 U.S.C. §314(b); 35 U.S.C. §316(a)(11). Jury selection in the district court litigation is scheduled to begin on July 21, 2025. EX1015, 1. Thus, a final written decision will issue roughly five months after the trial.

Further, under the Interim *Fintiv* Memo, the PTAB will consider the median time from filing to disposition of the civil trial for the district in which the parallel litigation resides. *Id.*, 4-5. The current median time to trial in the Eastern District of Texas is 21.6 months. EX2006 [Judicial Caseload Profile, June 2024], 35. The district court litigations were filed on October 19, 2023. Paper 8 [Patent Owner’s Mandatory Notices], 2. Under these statistics, trial would be expected July or August 2025. Thus, using either the actual scheduled trial date in this matter or the median time-to-trial statistics for the Eastern District of Texas, trial is expected to conclude at least four or five months before a final written decision is due in this matter.

Under *Fintiv* factor 2, this weighs heavily in favor of discretionary denial. *See Fintiv I*, 9 (“If the court’s trial date is earlier than the projected statutory deadline, the Board generally has weighed this factor in favor of exercising authority to deny institution under *NHK*.”). *See Ericsson Inc. et al v. Collison Communications, Inc.*, IPR2022-01233, Paper 12 (PTAB Jan. 19, 2023) at 12-13 (holding Factor 2 “weighs in favor of denying institution, given that we would not expect to issue a final written until at least four months” after trial). Further, granting institution here would frustrate one of the primary objectives of the AIA, which is “to provide an effective and efficient alternative” to parallel litigation. *NHK Spring*, 19-20 (quoting *General Plastic Indus. Co., Ltd. v. Canon Kabushiki Kaisha*, IPR2016-01357, Paper 19, 15-19 (PTAB Sept. 6, 2017) (precedential, designated Oct. 18, 2017)). If IPR were instituted, any potential FWD would issue well after trial concludes. Thus, instituting IPR here cannot be viewed as an “alternative” to litigation. Rather, it would simply be more litigation.

Petitioners cite *Hulu, LLC v. SITO Mobile R&D IP, LLC*, IPR2021-00298, Paper 11 at 11-18 (PTAB May 19, 2021) and *NetNut Ltd. v. Bright Data Ltd.*, IPR2021-01492, Paper 12 at 9-16 (PTAB Mar. 21, 2022) to argue that “[t]he Board has granted institution in cases where the final written decision issued a few months after the scheduled trial date when other factors favor institution.” Pet., 62-

63. In both cases, several factors weighed in favor of institution. Here, no factors weigh in favor of institution.

Petitioners cite *CrowdStrike, Inc. v. Open Text Inc.*, IPR2023-00556, Paper 9 at 8 (PTAB Sept. 12, 2023) to argue that the Board treats factor 2 as neutral where Petitioners will have multiple trials (Pet., 63), but in *Crowdstrike*, the trials started “a few weeks earlier than the projected statutory deadline.” *Id.* Here, the projected statutory deadline will be roughly four or five months after the scheduled trials. Thus, *Crowdstrike* does not support Petitioners’ position. Factor 2 therefore weighs in favor of denying institution.

C. Factor 3

The third *Fintiv* factor—which relates to “the amount and type of work already completed in the parallel litigation by the court and the parties at the time of the institution decision” (*Fintiv I* at 9)—also favors denial. Significant amounts of work have been completed in the district court. The parties have completed their P.R. 3-1 and 3-2 disclosures (Infringement Contentions) and their P.R. 3-3 and 3-4 disclosures (Invalidity Contentions). EX1015 [Docket Control Order], 5-6. The institution decision is expected no later than December 18, 2024. *See* 35 U.S.C. §314(b). By that date, the parties will have exchanged proposed claim constructions, submitted their opening claim construction briefs, completed claim

construction discovery, and submitted technical tutorials. EX1015 [Docket Control Order], 4-5. The *Markman* hearings in the district court litigations are scheduled for January 22, 2025 and February 5, 2025, respectively.⁷ EX1015 [Docket Control Order], 3. The ordinary practice of this district court is to provide preliminary constructions at or shortly before the Markman hearing. Thus, significant substantive work will have already been completed in the district court litigation by the expected time of the institution decision. *See Fintiv II*, 14 (“based on the level of investment and effort already expended on claim construction and invalidity contentions in the District Court, this factor weighs somewhat in favor of discretionary denial in this case.”).

Petitioners argue that their “diligence in filing and the district court’s minimal investment tips this factor in favor of institution.” Pet., 64. But the Petition measures investment at the time the IPRs were filed, not (as required by

⁷ The district court split the deadlines for the district court cases into two tracks—the “ATL cases” (including cases 2:23-cv-486, 2:23-cv- 487, and 2:23-cv-488) and the “ISL cases” (including cases 2:23-cv-489, 2:23- cv-490, and 2:23-cv-491). EX1015 [Docket Control Order], 2 n.2. The ATL schedule is roughly two weeks ahead of the ISL schedule.

Fintiv) at the time of the institution decision. As discussed above, by the time of the institution decision, claim construction will be nearly complete and significant discovery will have taken place.

Further, the Petition was filed on May 31, 2024. Paper 7 at 1. Infringement contentions were filed January 4, 2024. EX1015 [Docket Control Order], 6. Thus, Petitioners waited approximately five months from receiving infringement contentions to file the Petition. Indeed, Petitioners filed their own invalidity contentions on April 12, 2024 and then waited another six weeks before filing this Petition. EX1015 [Docket Control Order], 5. These timelines show more delay than any case Petitioner cites. Accordingly, factor 3 weighs in favor of non-institution.

D. Factor 4

The fourth *Fintiv* factor—which relates to overlap between issues raised in the petition and in the parallel proceeding—also weighs in favor of denying institution. “[I]f the petition includes the same or substantially the same claims, grounds, arguments, and evidence as presented in the parallel proceeding, this fact has favored denial.” *Fintiv* at 12. Each claim at issue in the parallel litigation is challenged in the Petition. The primary references at issue in the Petition—Centonza and Han—are identified and charted in Petitioner’s invalidity contentions.

EX2007 [Invalidity Contentions], 10 (identifying U.S. Patent Publication No. 2014/0206361A1 (Centonza’s Patent Application Publication) and WO2014056130A1 (Han) as alleged prior art).

The Petition stipulates that “if trial is instituted, Petitioners will not pursue this IPR’s Grounds in the district court litigation.” Pet., 64. The PTAB has classified such stipulations as “*Sand Revolution*”-style stipulations after the stipulation filed in *Sand Revolution II, LLC v. Continental Intermodal Group – Trucking LLC*, IPR2019-01393, Paper 24 (PTAB June 16, 2020), where Petitioner filed a stipulation that it “will not pursue the same grounds in district court litigation.” *Id.* at 11-12. The PTAB has routinely found similar stipulations weigh only “marginally in favor of not exercising discretion to deny institution.” *Id.*, 12; *LG Elecs., Inc. v. Ancora Techs., Inc.*, IPR2021-00581, Paper 16, 9-10 (PTAB June 10, 2021) (same); *Google LLC v. EcoFactor Inc.*, IPR2021-00454, Paper 9 (PTAB July 22, 2021) (same); *Samsung Electronics Co. Ltd. v. California Institute of Tech.*, IPR2023-00130, Paper 10, 19-20 (PTAB May 4, 2023) (same); *Roku, Inc. v. IOENGINE, LLC*, IPR2022-01554, Paper 11, 13-14 (PTAB May 5, 2023) (same).

In short, the Board routinely assigns almost no weight to *Sands Revolution* style stipulations such as the one Petitioner filed here. This is because *Sands*

Revolution-style stipulations do little to eliminate overlap with the district court litigations. The grounds in this Petition are limited to single references (i.e., Centonza in grounds 1 and 2 and Han in grounds 3 and 4). Petitioners' stipulation does nothing to prevent Han and Centonza from being re-used in substantially the same form in the litigation by combining them with any secondary reference. Indeed, Petitioner's invalidity contentions reserve the right to do so. *See, e.g.*, EX2007 [Invalidity Contentions], 12 ("Any prior art reference cited herein may be combined with any other reference to demonstrate the invalidity of any of the Asserted Claims"). Thus, the stipulation here is almost meaningless.

Further, the Board has routinely denied institution in situations like the present where the other factors clearly favored non-institution, even where Petitioners offered stronger stipulations than the one offered here. For example, in *LG Elecs., Inc. v. Ancora Techs., Inc.*, No. IPR2021-00581, Paper 16, 9-10 (PTAB June 10, 2021), the Board denied institution despite Petitioner's stipulation "it will not subsequently assert invalidity in the district court on the same grounds asserted in the IPR or on the basis of the Hellman reference, either alone or in combination with any other reference." *Id.* Unlike Petitioner's stipulation here, the Petitioner in *Ancora* agreed to a blanket stipulation not to assert the primary referenced Hellman under any circumstance. The Board there agreed with Patent Owner that, even with

Petitioner’s stipulation, “there is significant overlap between the issues raised in the Petition and in the parallel district court proceeding.” *Id.* Similarly, in *Samsung Electronics Co., LTD. v. California Institute of Technology*, IPR2023-00130, Paper 10 (PTAB May 4, 2023), the Board denied institution notwithstanding a stipulation it characterized as “broader to *some* degree than the stipulation discussed in *Sand Revolution*” because “the trial in the Underlying Litigation would commence several months before the expected date of our final written decision” and there had been significant investment in the litigation. *Id.*, 16-20.

The facts here are similar to *Ankora* and *Samsung*. Accordingly, any marginal weight Petitioner’s stipulation is entitled to does not outweigh the other factors.

E. Factor 5

The fifth *Fintiv* factor—whether the petitioners and the defendant in the parallel proceedings are the same parties—weighs in favor of discretionary denial. The parties here are the same as the parties in the litigations. *Fintiv II*, 15 (“Because the petitioner and the defendant in the parallel proceeding are the same party, this factor weighs in favor of discretionary denial.”).

F. Factor 6

The sixth *Fintiv* factor—relating to other circumstances that impact the Board’s exercise of discretion, including the merits—weighs in favor of discretionary denial. As demonstrated in Sections IV and V above, the merits of Petitioner’s arguments are weak and Petitioner has failed to show a reasonable likelihood of success for any ground, much less a high likelihood of prevailing as required to show “compelling merits.” *See Fintiv I*, 15 (“if the merits of the grounds raised in the petition are a closer call, then that fact has favored denying institution when other factors favoring denial are present”); *Commscope Technologies LLC, v. Dali Wireless, Inc.*, IPR2022-01242, Paper 23, 5 (precedential) (“Merely pointing to [] analysis under the lower institution standard is insufficient to demonstrate that the Petition presents a compelling *unpatentability* challenge.”). None of the prior art discloses a second request from a first eNB that controls a secondary cell as required by the claims, and each ground relies on importing limitations that are completely missing from the asserted references from knowledge of a POSITA. *Supra*, §§IV-V. Merits are not “compelling” when no combination of asserted references discloses every limitation of the challenged claims.

Petitioner's allegations that the Petition shows "compelling merits" (Pet., 65-66) are the type of unsupported attorney argument rejected by *Commscope*. Petitioner's allegations essentially "point[] to its analysis under the lower § 314 standard." *Commscope*, IPR2022-01242, Paper 23. *See* Pet., 65 ("Both Centonza and Han—which were not before Patent Office—teach or suggest the claimed message functionality using eNBs."). Petitioner incorrectly argues that "Patent Owner acceded during prosecution that the prior art that prior art taught the message flow of the Challenged Claims." Pet., 65. Nowhere in the ten pages cited by Petitioner does the applicant accede or admit that the prior art before the office teaches any limitation of the challenged claims. EX1002, 407-416. *See supra*, §II.B.2. Further, every IPR Petition necessarily alleges, as *Petitioners* do here, that the asserted prior art teaches limitations that were missing from the prior art examined during prosecution. Such generic allegations do not rise to the level of compelling merits. *See, e.g., OpenSky* at 49 ("a compelling-merits challenge is a higher standard than the reasonable likelihood required for the institution of an IPR under 35 U.S.C. § 314(a)."). Thus, this factor favors discretionary denial.

Accordingly, all six *Fintiv* factors weigh in favor of discretionary denial. The Board should use its discretion to deny institution of this IPR.

VII. CONCLUSION

Based on the foregoing, the Board should deny Institution.

Dated: September 18, 2024

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CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME LIMITS

This Patent Owner Preliminary Response consists of 13,168 words, excluding table of contents, table of authorities, certificate of service, this certificate, or table of exhibits. The Response complies with the type-volume limitation of 14,000 words as set forth in 37 C.F.R. § 42.24. In preparing this certificate, counsel has relied on the word count of the word-processing system used to prepare the paper (Microsoft Word).

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6, the undersigned certifies that on September 18, 2024, a copy of the foregoing documents **PATENT OWNER PRELIMINARY RESPONSE AND EXHIBITS** were served by electronic mail, as consented to by Petitioner, upon the following:

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