CONTAINS CONFIDENTIAL INFORMATION

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

KONINKLIJKE KPN N.V., **Plaintiff,** **vs.** **TELEFONAKTIEBOLAGET LM ERICSSON AND ERICSSON INC.,** **Defendants.**	**Civil Action No. 2:22-cv-282-JRG** **JURY TRIAL**

ERICSSON'S P. R. 3-3 INVALIDITY CONTENTIONS

Pursuant to P.R. 3-3, P.R. 3-4, and the Court's Docket Control Order in the above-captioned case (Dkt. 45), Ericsson Telefonaktiebolaget LM and Ericsson Inc. (collectively "Ericsson") serve their Preliminary Invalidity Contentions with respect to the claims identified by Plaintiff KPN Koninklijke KPN N.V. ("KPN") in its Disclosure of Asserted Claims and Infringement Contentions for Ericsson (January 5, 2023) ("Infringement Contentions").

I. Preliminary Statement and Reservation of Rights

A. The Asserted Claims

According to the Infringement Contentions, KPN asserts the following patents, claims, and priority dates in its Infringement Contentions.

Asserted Patent	Asserted Claims	Asserted Priority Date(s)
7,092,705	1-6, and 22-25	October 9, 2001
8,660,560	1 and 6-8	August 7, 2008 or October 28, 2008 or October 7, 2009
8,886,772	1-6, 10 and 11	March 6, 2008 or July 31, 2008 or August 5, 2008
9,372,098	17 and 20	October 23, 2007 or October 28, 2008,
10,924,500	1, 5, 7, 9 and 10	October 11, 2011 or October 31, 2011 or November 22, 2012

The patents identified in the foregoing table are collectively referred to as the "Asserted Patents," and the claims identified in the foregoing table are collectively referred to as the

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"Asserted Claims." Any reference to an "asserted priority date" in these Preliminary Invalidity Contentions refers to the "Asserted Priority Dates" identified in the foregoing table, and further defined in section I.B, infra.

Ericsson contends that each of the Asserted Claims is invalid under at least one or more of 35 U.S.C. §§ 101, 102, 103, or 112. Pursuant to the Local Patent Rules, Ericsson does not provide any contentions regarding any claims not asserted by KPN. To the extent that the Court permits KPN to assert additional claims against Ericsson in the future, Ericsson reserves all rights to amend or supplement these Preliminary Invalidity Contentions or to otherwise disclose new or supplemental invalidity contentions regarding such claims. Furthermore, because discovery is ongoing,[1] Ericsson reserves the right to revise, amend, and/or supplement the information provided herein, including identifying, charting, and relying on additional references, should discovery yield additional information or references.

Ericsson further reserves the right to amend these contentions in response to any claim construction rulings, as permitted by the Local Patent Rules or with permission of the Court.

Ericsson incorporates by reference the invalidity contentions from any past, current, or future case involving one or more of the asserted patents, including, but not limited to the following cases: *Koninklijke KPN NV v. Xiaomi Corporation et al.*, 1-21-cv-00041 (DDE);

[1] Ericsson's ongoing efforts include but are not limited to: serving subpoenas on prior artists and inventors regarding prior art, seeking additional information related to the references and systems disclosed in these Preliminary Invalidity Contentions, and seeking additional information related to available prior art systems, as well as KPN's Infringement Contentions and the products accused of infringing therein. No depositions have been taken as of this time, including, without limitation, depositions of any inventors, authors, or entities listed on any references or systems identified in these Preliminary Invalidity Contentions. Further, Ericsson reserve the right to review and supplement these Preliminary Invalidity Contentions with respect to any additional prior art that becomes apparent as discovery proceeds.

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Koninklijke KPN NV v. u-blox AG et al., 1-21-cv-00046 (DDE); *Koninklijke KPN NV v. Samsung Electronics America, Inc. et al.,* 2-14-cv-01165 (EDTX).

The Infringement Contentions are deficient in multiple respects and do not provide Ericsson with sufficient information to understand the specific accused features and components and the alleged factual and evidentiary bases for KPN's infringement allegations. Among other things, the Infringement Contentions lack the specificity required by P.R. 3-1, fail to properly identify accused instrumentalities, and fail to explain adequately KPN's infringement theories for numerous limitations. KPN has prejudiced Ericsson's ability to understand, for purposes of preparing these Preliminary Invalidity Contentions, what KPN alleges to be the scope of the Asserted Claims. If KPN modifies any assertion or contention in its Infringement Contentions, or presents any new assertion or contention relevant to these Preliminary Invalidity Contentions to the extent allowed by the Local Patent Rules or the Court, Ericsson reserves the right to supplement or otherwise amend these initial Invalidity Contentions.

B. Priority Date Of The Asserted Patents

KPN's Infringement Contentions contain allegations regarding the priority date to which KPN alleges it is entitled for each of the Asserted Claims. Ericsson does not agree that KPN is entitled to the Asserted Priority Dates for each of the Asserted Claims, as KPN has failed to prove it is entitled to its Asserted Priority Dates.

Any reference to an "asserted priority date" in these Preliminary Invalidity Contentions refers to the priority dates identified in KPN's Infringement Contentions. Reference to a "priority date" or an "asserted priority date" should not be construed to mean that Ericsson agrees that any of the Asserted Patents are in fact entitled to such priority date, or that KPN has provided proper

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notice as to its contentions for a priority date.[2] To the extent KPN alleges that any prior art relied on in these Preliminary Invalidity Contentions does not actually qualify as prior art to an Asserted Patent, Ericsson reserves the right to rebut those allegations (e.g., by demonstrating an earlier critical date for the challenged prior art and/or a later priority date for a particular Asserted Patent and/or Asserted Claim).[3] Likewise, to the extent KPN successfully establishes an invention date before any of the prior-art references relied on by Ericsson, then those references serve as evidence of obviousness, particularly, contemporaneous invention by others.

C. Claim Construction

Ericsson's Preliminary Invalidity Contentions are based on (1) Ericsson's present understanding of the Asserted Claims, (2) the claim constructions KPN appears to be proposing based on the Infringement Contentions, all without regard to whether Ericsson agrees with KPN's apparent or expressed claim constructions, (3) the Court's Markman Order in *Koninklijke KPN NV v. Samsung Electronics America, Inc. et al.*, 2-14-cv-01165-JRG (E.D. Tex.), and (4) KPN's positions taken in the Joint Claim Construction Brief (Dkt. No. 57) filed in *KPN v. Xiaomi*, 21-cv-00041-GBW-CJB (D. Del. June 10, 2022). Ericsson reserves the right to supplement or otherwise amend these Preliminary Invalidity Contentions in response to any proposed claim constructions or alleged supporting evidence offered by KPN, any report from any expert witness for KPN regarding claim construction issues, any claim construction briefing filed by KPN, and any position taken by KPN concerning claim construction, infringement, or invalidity.

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[2] Ericsson reserves the right to rely on additional documents and evidence, including without limitation the documents cited in KPN's Infringement Contentions, in the event that KPN fails to establish that any Asserted Claim of any Asserted Patent is entitled to its Asserted Priority Date.
[3] Ericsson reserves the right to rely on additional documents and evidence to rebut any efforts by KPN to allege any reference was not publicly available or otherwise available as prior art.

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Ericsson takes no position on any matter of claim construction in these Preliminary Invalidity Contentions. If Ericsson's apparent claim constructions herein are consistent with any explicit, apparent, or implied claim constructions in the Infringement Contentions, no inference is intended and no inference should be drawn that Ericsson agrees with any of KPN's claim constructions. Any statement herein describing or tending to describe any claim element is provided solely for the purpose of understanding and/or applying the cited prior art. Ericsson expressly reserves the right (1) to propose any claim construction Ericsson considers appropriate, (2) to contest any claim construction proposed by KPN that Ericsson considers inappropriate or inaccurate, and/or (3) to take positions with respect to claim construction issues that are inconsistent with, or even contradictory to, claim construction positions expressed or implied in these Preliminary Invalidity Contentions.

Prior art not included in these Preliminary Invalidity Contentions, whether now known to Ericsson, might become relevant depending on the claim constructions proposed by Ericsson and/or the Court's claim construction rulings. Ericsson reserves all rights to supplement or modify the positions and information in these Preliminary Invalidity Contentions, including without limitation the prior art and grounds of invalidity set forth herein, pursuant to P.R. 3-6 after the Court has construed the Asserted Claims.

D. Ongoing Discovery and Supplementation

Ericsson's investigation, including its investigation of prior art and grounds for invalidity, is ongoing. Furthermore, Ericsson's invalidity positions will be the subject of expert testimony. Ericsson bases these Preliminary Invalidity Contentions on their current knowledge and understanding of the Asserted Claims, KPN's Infringement Contentions, the prior art, systems, and other facts and information available as of the date of these contentions.

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Ericsson reserves the right to supplement these Preliminary Invalidity Contentions, including, without limitation, by adding additional prior art and grounds of invalidity in accordance with the Federal Rules of Civil Procedure, the Local Rules, the Local Patent Rules, the Docket Control Order, any Order issued by this Court, or otherwise.

E. Prior Art Identification and Citations Thereto

In these Preliminary Invalidity Contentions, Ericsson identifies specific portions of prior art references that disclose the elements of the Asserted Claims. While Ericsson has identified exemplary prior art references for each element, they do not necessarily identify every disclosure of the same element in each prior art reference. A person of ordinary skill in the art would read a prior art reference as a whole and in the context of other publications, literature, and general knowledge in the field and would rely upon other information including other publications and general scientific or engineering knowledge. Ericsson therefore reserves the right to rely upon other unidentified portions of the prior art references and on other publications and prior art products and expert testimony to provide context and to aid understanding and interpretation of the identified portions of the prior art.

Ericsson also reserves the right to rely upon (1) other portions of the cited prior art references, other publications, prior art products, and the testimony of experts to establish that the alleged inventions would have been obvious to a person of ordinary skill in the art, including on the basis of modifying or combining certain cited references; (2) all versions of a cited prior art publication (*e.g.*, citations to 3GPP technical specifications and/or reports include all versions of such technical specifications and/or reports that qualify as prior art, citations to an issued patent include the published patent application, etc.); (3) admissions relating to prior art in the Asserted Patents or related patents, the prosecution history of the Asserted Patents or related

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patents, or other admissions obtained during discovery; and (4) foreign counterparts of any U.S. patents identified in Ericsson's Preliminary Invalidity Contentions.

Where Ericsson identifies a particular figure in a prior art reference, the identification should be understood to encompass the caption and description of the figure as well as any text relating to the figure in the remainder of the prior art reference (e.g., for patent references, text in the specification and prosecution history). Similarly, where an identified portion of text refers to a figure or other material, the identification of the text should be understood to include the referenced figure or other material.

All related prior art references that are themselves subparts or related documents of a broader set of documents, such as all references that form part of a single Release of an industry standard, should be considered a single prior art reference, as that is how a person of ordinary skill in the art would consider such related references.

F. Invalidity, Unenforceability and/or Ineligibility Based On Non-Required Disclosure(s)

Ericsson reserves the right to prove the invalidity, unenforceability and/or ineligibility of one or more of the Asserted Claims on bases other than those required to be disclosed in these disclosures pursuant to P.R. 3-3.

G. No Patentable Weight

Ericsson reserves the right to argue that various portions of the Asserted Claims, such as an intended use or result, non-functional descriptive material, and certain preamble language, are entitled to no patentable weight. Mapping of a portion of an Asserted Claim to a prior art reference does not represent that such portion of the claim is entitled to patentable weight when comparing the claimed subject matter to the prior art.

II. Invalidity Contentions

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As explained herein and in Exhibits A to E, Ericsson contends that each of the Asserted Claims is invalid under 35 U.S.C. §§ 102, 103, and/or 112.

A. P.R. 3-3(a) – Identification Of Prior Art

Pursuant to P. R. 3-3(a), and subject to Ericsson's reservation of rights as stated herein, Ericsson identifies the prior art that anticipates or renders obvious the Asserted Claims in the tables set forth below.[4] On information and belief, each listed reference qualifies as prior art to the Asserted Patents.

To the extent that any of the following are prior art, Ericsson reserves the right to rely upon foreign counterparts of the U.S. patents identified herein; U.S. counterparts of foreign patents and foreign patent applications identified herein; and U.S. and foreign patents and patent applications corresponding to articles and publications identified herein. Ericsson also reserves the right to rely upon parent or provisional patents or ancestor patents or patent applications from which any of the patents or patent applications identified herein claim priority to as continuation, divisional, or continuation-in-part applications. Identifications of dates of publication are made based on currently available information and Ericsson reserves the right to rely upon an earlier date should evidence supporting an earlier date be discovered.

[4] Ericsson also hereby identifies any systems or products that embody the technology described in any patent or publication identified in these Preliminary Invalidity Contentions. Ericsson reserve the right to rely on any documents or other evidence regarding any such systems.

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1. Identification Of Prior Art

a) The '705 Patent

Patent/Publication No./Document Name	Date of Issue/Publication/Priority[5]
US6901580 ("Iwanojko")	May 31, 2005
US6877051 ("Iwanojoko 051")	April 5, 2005
US6801571 ("Hyziak")	October 5, 2004
US6760761 (Sciacca)	July 6, 2004
US6581095 ("Kim")	June 17, 2003
US6389281 ("Lee")	May 14, 2002
US6098098 ("Sandahl")	August 1, 2000
KR20000037612 ("Yu")	July 5, 2000
GB2324440 ("Matthews")	October 21, 1998
EP1366578 ("Scherzer")	February 6, 2001
TSGR3#8(99)F33 I3.05 – Node B O&M Functional Description v 0.2. ("I3")	October 1999
Tdoc S5-99130 ("S5-99130")	June 1996
DE19813754 ("Hirsch")	April 6, 2000
US6978301 ("Tindal")	December 20, 2005
US5434798 ("Madebrink")	July 18, 1995
US6141565 ("Feuerstein")	October 31, 2000
US6085335 ("Djoko")	July 4, 2000
US6725032 ("Sheridan")	October 8, 1999
US6611500 ("Clarkson")	November 4, 1999
GB0022743.9 ("Shipman GB")	September 15, 2000
WO02/23806 ("Shipman WO")	March 21, 2002
EP1221786 ("Shipman EP")	January 9, 2001
US7096173 ("Rappaport")	June 22, 2006

[5] For any patent that claims the benefit of a provisional application(s), Ericsson may rely on the provisional application(s) for purposes of establishing invalidity. Ericsson may also rely upon the date of filing of any issued patent or patent application to show the priority date of that reference.

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b) **The '772 Patent**

Patent/Publication No./Document Name	Date of Issue/Publication/Priority [6]
I3.05 – Node B O&M Functional Description v 0.2.2 TSG-RAN Working Group 3 meeting #8 TSGR3#8(99)F33 ("TSGR#8(99)")	October 1999
EP1928186B1	June 4, 2008
https://www.broadband-forum.org/technical/download/TR-069_Amendment-2.pdf ("TR-069")	December 2007
US8019846 ("Rolens")	September 13, 2011
https://www.ietf.org/rfc/rfc3489.txt ("RFC3489")	March 2003
RFC 2131	March 1997
RFC 2132	March 1997
Kaminow (Selected Chapters)	2008
US7152117 ("Stapp")	December 19, 2006
IP Routers McKeown	2000
EP1667359 ("van den Bosch")	June 7, 2006
EP2053790 ("Wu")	Aug 14, 2007
EP2515480 ("Wu")	Aug 14, 2007
US8089953 ("Angelot P")	Jan 3, 2012
US20040015572 ("Kang")	Jan 22, 2004
US20030061315 ("Jin")	March 27, 2003
US20090201830 ("Angelot")	August 13, 2009
EP2124404B1 ("Ge")	November 25, 2009
EP2106079 ("Ding")	September 30, 2009
US20070268514 ("Freund 1")	November 22, 2007
US20070268515 ("Freund 2")	November 22, 2007
US20070268516 ("Freund 3")	November 22, 2007
US20090150526 ("Wu")	June 11, 2009
US8111631 ("Acke")	February 28, 2008
US8125894 ("Jozef")	February 28, 2012
US8150982 ("Zhang")	March 4, 2010
EP2012502 ("Geng")	December 29, 2006
US20040230965 (Okkonen")	November 18, 2004
US20090086688 ("Kvache")	April 2, 2009
US6366780 ("Obhan")	April 2, 2002

[6] For any patent that claims the benefit of a provisional application(s), Ericsson may rely on the provisional application(s) for purposes of establishing invalidity. Ericsson may also rely upon the date of filing of any issued patent or patent application to show the priority date of that reference.

US 20050223374 (Wishart)	October 6, 2005
US 7313606 (Donahue")	December 25, 2007
US 20040015572 ("Kang")	January 22, 2004
EP 1667359 (Van Den Bosch)	June 7, 2006
Bathrick, G. (2005) applying TR-069 to Remote Management of Home Networking Devices. DSL Forum. TR-111.	December 2005
Nikolaidis, A. E., Papastefanos, S. S., Stassinopoulos, G. I., Drakos, M. P., & Doumenis, G. A. (2006).	May 2006
US 8060623 (Vogel, Jr.)	December 1, 2005
US20050060361 ("Chatrath")	March 17, 2005
US20020073182 ("Zakurdaev")	July 12, 2002
An Introduction to Packet Switching ("McKeown")	2000

c) **The '560 Patent**

Patent/Publication No./Document Name	Date of Issue/Publication/Priority [7]
US2009/0191862A1 ("Amirijoo")	July 30, 2009
US8,175,601 ("Engström")	May 8, 2012
WO2009/075620 Al ("Engström")	June 18, 2009
US8165590 ("Gunnarsson")	April 24, 2012
US6188904 ("Marsan")	February 13, 2001
US2007/0097938A1 ("Nylander")	May 3, 2007
TSG-SA5 (Telecom Management) Report of Meeting SA5#54, 25 - 29 June 2007, Orlando, FL USA ("S5-071401")	July 29, 2007
3GPP TSG-SA5 (Telecom Management) S5-071254 Meeting SA5#54, 25 - 29 June 2007, Orlando, FL USA ("S5-071254")	June 18, 2007
3GPP TSG-SA5 (Telecom Management) S5-070974 Meeting SA5#53, 07 - 11 May 2007, Sophia Antipolis, FRANCE ("S5-070974")	May 4, 2007
3GPP TR 32.816 V0.2.0 ("S5-070862")	May 7, 2007
3GPP TR 32.816 V0.3.0 ("S5-071060")	May 15, 2007
3GPP TSG-RAN WG2 #58 R2-072044 Kobe, Japan, May 7-11, 2007 ("R2-072044")	May 4, 2007
3GPP TR 32.816 V1.0.0	May 2007

[7] For any patent that claims the benefit of a provisional application(s), Ericsson may rely on the provisional application(s) for purposes of establishing invalidity. Ericsson may also rely upon the date of filing of any issued patent or patent application to show the priority date of that reference.

3GPP TR 32.816 V1.3.1	November 2007
3GPP TS 36.300 V8.7.0	January 5, 2009
3GPP TS 36.300 V8.0.0	April 6, 2007
3GPP TS 36.331 V8.7.0	September 29, 2009

d) **The '500 Patent**

Patent/Publication No./Document Name	Date of Issue/Publication/Priority [8]
WO 2011/072719 A1 ("Eisl")	June 23, 2011
US5999814 ("Cuffaro")	December 7, 1999
US 2014/0109223 ("Jin 223")	April 7, 2014
US6073010 ("Dufour")	June 6, 2000
US9219744 ("Baliga")	December 22, 2015
US 2004/0166857 ("Shim")	August 26, 2004
US 2004/0166861 ("Trossen")	August 26, 2004
US 2006/0230450 ("Bu")	October 12, 2006
3GPP TSG-RAN WG2 #58bis R2-072411 Orlando, USA ("R2-072411")	June 2007
3GPP TSG-RAN WG2 #77bis R2-121536 Jeju, South Korea ("R2-121536")	March 2012
SAE and the Evolved Packet Core, Magnus Olsson et al., Elsevier Academic Press, 2009 ("Olsson")	2009
Network Security Principles and Practices, Saadat Malik, Cisco Press, 2003 ("Malik")	2003
US5623535 ("Leung")	April 22, 1997

e) **The '098 Patent**

Patent/Publication No./Document Name	Date of Issue/Publication/Priority [9]
US5915225 ("Mills")	June 22, 1999
US5546444 ("BellSouth")	August 13, 1996
US2002/0125998 ("Petite")	September 12, 2002
US9191774 ("Krco")	November 17, 2015

[8] For any patent that claims the benefit of a provisional application(s), Ericsson may rely on the provisional application(s) for purposes of establishing invalidity. Ericsson may also rely upon the date of filing of any issued patent or patent application to show the priority date of that reference.

[9] For any patent that claims the benefit of a provisional application(s), Ericsson may rely on the provisional application(s) for purposes of establishing invalidity. Ericsson may also rely upon the date of filing of any issued patent or patent application to show the priority date of that reference.

US7774008 ("Benaouda")	August 10, 2010
ITU-T Recommendation I.257.1	June 30, 1996
ITU-T Recommendation Q.700	May 16, 1994
ITU-T Recommendation Q.737.1	December 17, 1996
ITU-T Recommendation Q.931	May 11, 1999
ITU-T Recommendation Q.957.1	July 8, 1997
3GPP TR 33.812	September 2008
3GPP TR 22.868	March 2007
3GPP TS 29.007	June 2006
3GPP TS 43.045	December 2004

2. Identification Of Prior Art Sales/Public Uses

Item Offered for Sale and/or Publicly Used	Date of Offer/Public Use	Person or Entity Who Made and Received Offer, Made Public Use, or Made Information Known
Any product that utilizes the TR-069 standard.	Prior to the priority date of the '772 Patent	Exemplary companies may include Nokia, Apple, Verizon, AT&T, and Ring Central.
Ericsson's Neighbouring Cell Support (NCS) Application	Prior to August 7, 2008	Ericsson
Any product having at least one of a Network Parameter Optimization Application and an expert system	Prior to the priority date of the '705 Patent	At least Ericsson and Nokia
Automatic Neighbor Relation Technology Contributed to 3GPP	By June 25, 2007 to June 29, 2007	Ericsson, T-Mobile, Alcatel-Lucent, AT&T, ORANGE SA, Nokia Siemens Networks, Nortel Networks, HP, Huawei, China Mobile, Vodafone, Motorola, ZTE, ETSI
MSC Products	Prior to October 23, 2007	At least Ericsson

B. P.R. 3-3(b) – Anticipation And Obviousness

Pursuant to P.R. 3-3(b), and subject to Ericsson's reservation of rights, Ericsson attaches claim charts hereto that are directed to the prior art references that anticipate each of the Asserted Claims under 35 U.S.C. §§ 102(a), (b), (e), and/or (g), either expressly or inherently, and/or the prior art references that, in the alternative, would have rendered the Asserted Claims obvious

under 35 U.S.C. § 103. See Exhibits A to E. Some claim charts also contain explanations about the motivation to combine the references. The combinations contained in Ericsson's claim charts are exemplary. Any prior art reference cited herein may be combined with any other reference to demonstrate the invalidity of any of the Asserted Claims, as set forth below and in Exhibits A to E.

To the extent any claim limitation is construed to have a similar meaning, or to encompass similar feature(s) and/or function(s), as any other claim limitation, the citations to prior art references for each of those claim limitations in Ericsson's claim charts are incorporated by reference with respect to each other.

Ericsson's claim charts provide exemplary citations to the prior art references that teach or suggest every element of the Asserted Claims. To the extent that an element of an Asserted Claim is not shown in a chart, the Asserted Claims would have been obvious based on a combination of one or more other prior art references, as set forth below and in Exhibits A to E.

Much of the art cited in these Preliminary Invalidity Contentions reflects common knowledge and the state of the art at the time of the earliest filing date of the Asserted Patents. Ericsson may rely on additional citations, references, expert testimony, and other material to provide context or to aid in understanding the cited portions of the references and/or cited features of the systems. Ericsson also may rely on expert testimony explaining relevant portions of references, relevant hardware or software products or systems, and other discovery regarding these subject matters. Additionally, Ericsson may rely on other portions of any prior art reference or other references relied on by the same authors or describing the same systems for purposes of explaining the background and general technical subject area of the reference.

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Where an individual reference is cited with respect to all elements of an Asserted Claim, Ericsson contends that the reference anticipates the claim under 35 U.S.C. §§ 102(a), (b), (e), and/or (g) and also renders obvious the claim under 35 U.S.C. § 103, both by itself in view of the knowledge of a person of ordinary skill in the art and in combination with the other cited references to the extent the reference is not found to disclose one or more claim elements. A single prior art reference, for example, can establish obviousness where the differences between the disclosures within the reference and the claimed invention would have been obvious to one of ordinary skill in the art. For example, "[c]ombining two embodiments disclosed adjacent to each other in a prior art patent does not require a leap of inventiveness." *Boston Scientific Scimed, Inc. v. Cordis Corp.*, 554 F.3d 982, 991 (Fed. Cir. 2009). To the extent KPN contends that an embodiment within a particular item of prior art does not fully disclose all limitations of a claim, Ericsson accordingly reserves its rights to rely on other embodiments in that prior art reference, or other information, to show single reference obviousness under 35 U.S.C. § 103(a).

Where an individual reference is cited with respect to fewer than all elements of an Asserted Claim, Ericsson contends that the reference renders obvious the claim under 35 U.S.C. § 103(a) in view of each other reference and combination of references that discloses the remaining claim element(s), as indicated in the claim charts submitted herewith. "Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007) (quoting *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966)).

Exemplary motivations to combine references are discussed below and in the accompanying charts. Ericsson reserves the right to rely upon any references or assertions identified herein in connection with Ericsson's contentions that each Asserted Claim is invalid under 35 U.S.C. § 103 and to rely upon expert testimony addressing such references and assertions. The fact that prior art is identified to anticipate the Asserted Claims presents no obstacle in also relying on that reference as a basis for invalidity based on obviousness. It is established that "a rejection for obviousness under § 103 can be based on a reference which happens to anticipate the claimed subject matter." *In re Meyer*, 599 F.2d 1026, 1031 (C.C.P.A. 1979). To the extent any cited prior art item may not fully disclose a limitation of an Asserted Claim or is alleged by KPN to lack disclosure of the limitation, such limitation is present and identified in another prior art item as shown in the attached claim charts.

Many of the cited references cite or relate to additional references and/or products, services, or projects. Many of the cited references also cite software, hardware, or systems. Ericsson might rely upon such cited additional references and/or products and copies or exemplars of such software, hardware, or systems. Ericsson will produce or make available for inspection any such cited references, products, software, hardware, or systems that it intends to rely upon. Ericsson may also rely upon the disclosures of the references cited and/or discussed during the prosecution of the Asserted Patents and/or the assertions presented regarding those references.

Ericsson reserves the right to further streamline and reduce the number of anticipation or obviousness references relied upon with respect to a given Asserted Claim and to exchange or otherwise modify the specific references relied upon for anticipation and within each obviousness combination for each Asserted Claim.

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C. P.R. 3-3(c) – Claim Charts

Ericsson attaches the following claim charts pursuant to P.R. 3-3(c):

Asserted Patent	Claim Chart Exhibits
'705 patent	Exs. A-1 – A-3
'772 patent	Exs. B-1 – B-3
'560 patent	Exs. C-1 – C-4
'500 patent	Exs. D-1 – D-3
'098 patent	Exs. E-1 – E-3

The attached claim charts are based, in whole or in part, on KPN's asserted theories of infringement in this case, to the extent discernible from KPN's Infringement Contentions. As an initial matter, all portions of each prior art reference cited in each of the attached claim charts are relied upon to support the disclosure of each patent claim limitation, as all portions provide general support. Representative descriptions and supporting citations are nevertheless provided, but are merely exemplary; they do not necessarily reflect every instance where a particular claim term or claim limitation may be disclosed in or taught by the prior art reference. References to figures or drawings refer to the figures/drawings themselves, as well as to any accompanying text or text necessary to understand the figures or drawings. References to text refers to the text itself, as well as the accompanying figures or drawings that accompany the text. Ericsson reserves the right to rely on additional, or different, portions of the prior art references, other publications and expert testimony to establish what these references would have taught one of ordinary skill in the art, or in what manner they would have motivated a particular combination of references. Moreover, in certain instances, representative documents for certain prior art systems are cited, but, again, they are merely exemplary; they do not necessarily reflect or include every document relating to the prior art system that exists and that discloses or teaches a particular claim term or claim limitation. Ericsson reserves the right to rely on any and all documents that describe or relate to prior art systems, including relying on the system itself.

Ericsson also reserves the right to rely on the testimony of the authors, named inventors, or anyone else with knowledge of the prior art references and systems identified herein, as well as expert testimony regarding any such references or systems.

D. Obviousness And Motivation To Combine

The primary references identified above, and as further described in Exhibits A to E, each discloses, either expressly or inherently, every element of the Asserted Claims, thereby anticipating those claims. To the extent KPN contends that any primary reference does not anticipate the Asserted Claims, it would have been obvious to combine or modify the primary references with concepts from other prior art, as explained herein and in the following Exhibits:

Asserted Patent	Exhibits
'705 patent	A
'772 patent	B
'560 patent	C
'500 patent	D
'098 patent	E

In particular, for each limitation of the Asserted Claims that KPN contends is not met by a particular primary reference, Ericsson contends that the limitation (and claim as a whole) is obvious based on a combination of that particular primary reference with (1) any other primary reference disclosing that limitation, (2) any admitted prior art, as explained in the background of each patent or discussed in the file history, (3) any reference identified in Exhibits A to E as disclosing that limitation, and/or (4) the knowledge of a person of ordinary skill in the art and/or any of the references and concepts discussed herein regarding the relevant background and state of the art. The specific combinations of prior art that Ericsson contends render the Asserted Claims obvious are readily determinable as described herein, which is the most efficient manner of identifying the combinations in light of the fact that KPN has asserted 29 claims across 5 patents. Ericsson's obviousness grounds for each dependent claim incorporate the obviousness

grounds for the claim(s) from which the dependent claim depends in addition to any obviousness grounds identified in the charts for the dependent claim.

Ericsson does not yet have the benefit of KPN's positions on the prior art, including what (if any) elements it contends are missing in each prior art reference, whether KPN agrees that a reference is in fact prior art, and whether KPN agrees that a person of ordinary skill in the art would be motivated to combine specific references. Ericsson reserves the right to supplement these obviousness positions (including identifying additional prior art combinations and the associated reasons to combine) as discovery in the case progresses, including expert discovery.

1. Background and State Of The Art

Ericsson sets forth below a summary of their current understanding of the state of the art as understood as of the asserted priority dates of the Asserted Patents for the general subject matter of each of the Asserted Patents. The information discussed in this section may have formed the background knowledge of a person of ordinary skill in the art at the time the Asserted Patents were filed and may have been used in determining whether and how to combine references to achieve the claimed inventions. *See Randall Mfg. v. Rea*, 733 F.3d 1355, 1362 (Fed. Cir. 2013) (stating that "the knowledge [of a person of ordinary skill in the art] is part of the store of public knowledge that must be consulted when considering whether a claimed invention would have been obvious"). Ericsson expressly reserves the right to rely on each of the prior art references, systems, concepts, and technologies discussed in this Section with respect to each of the Asserted Patents.

Ericsson contends that, to the extent the primary references identified in these Preliminary Invalidity Contentions do not anticipate the Asserted Claims, it would have been obvious to combine any of the references, systems, concepts, or technologies discussed in this Section with those primary references. Ericsson also reserves the right to rely on the discussions

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of the state of the art and prior art in each of the Asserted Patent specifications and their file histories including foreign file histories of related patents in explaining the state of the art. Ericsson further expressly reserves the right to supplement their summary of the background and state of the art, including, for example, with information from any of the authors or named inventors on any of the prior art references, by personnel familiar with systems based on any of the prior art references, or any prior art systems related to prior art references, or by technical experts retained on behalf of any party. Ericsson also expressly reserves the right to rely on any admissions by any of the named inventors, institutions with which they were associated, and KPN, regarding the state of the art.

a) **Background and State of the Art Related to the '705 Patent**

Prior to the '705 patent's earliest alleged priority date, a person of ordinary skill in the art would have known that the "cell parameters of particular mobile switching centres in a network are copied to a database, and the copied parameters are stored." '705 patent at 1:58-60; *see also Madebrink* at Abstract, Figs. 3, 4A, 4B, 5 (and corresponding disclosures), 3:1-9, 3:29-47; 3:66-4:37, 4:58-6:53; 7:21-10:34; 11:28-13:15; cl. 1, 3, 5, 11, 12, 17-23.

Prior to the '705 patent's earliest alleged priority date, a person of ordinary skill in the art would have known that the copied parameter from the network and the proposed modifications to the copied parameters are stored in the same database in different parts (SPDB and TEDB) or in completely different databases (SPDB and TEDB). *Madebrink* at Abstract, Figs. 3, 4A, 4B, 5 (and corresponding disclosures relating to SPDB (current image of actual parameters) and TEDB (suggested changes to parameters)), 3:1-9, 3:29-47; 3:66-4:37, 4:58-6:53; 7:21-10:34; 11:28-13:15; cl. 1, 3, 5, 11, 12, 17-23.

Prior to the '705 patent's earliest alleged priority date, a person of ordinary skill in the art would have known that to copy operational parameters from the network to a database so that

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changes to the operational parameters could be made and checked for consistency purposes. *Madebrink* at Abstract, Figs. 3, 4A, 4B, 5 (and corresponding disclosures), 3:1-9, 3:29-47; 3:66-4:37, 4:58-6:53; 7:21-10:34; 11:28-13:15; cl. 1, 3, 5, 11, 12, 17-23.

Prior to the '705 patent's earliest alleged priority date, a person of ordinary skill in the art would have known that "a set of proposed changes to the stored parameters is prepared and the consistency of the prepared set of proposed changes is verified." '705 patent at 1:60-63; *see also* *Madebrink* at Abstract, Figs. 3, 4A, 4B, 5 (and corresponding disclosures), 3:1-9, 3:29-47; 3:66-4:37, 4:58-6:53; 7:21-10:34; 11:28-13:15; cl. 1, 3, 4, 5, 11, 12, 16-23..

Prior to the '705 patent's earliest alleged priority date, a person of ordinary skill in the art would have known that before a modified parameter is implemented in a wireless network, one would checking the modified parameter on the basis of a rule so as to know whether or not to implement the parameter. *Madebrink* at Abstract, Figs. 3, 4A, 4B, 5 (and corresponding disclosures), 3:1-9, 3:29-47; 3:66-4:37, 4:58-6:53; 7:21-10:34; 11:28-13:15; cl. 1, 3, 4, 5, 11, 12, 16-23.

Prior to the '705 patent's earliest alleged priority date, a person of ordinary skill in the art would have known that after checking the modified parameter on the basis of a rule so as to know whether or not to implement the parameter, one would actually storing the modified parameter in the network such that subsequent network operation will respond to the modified parameter. *Madebrink* at Abstract, Figs. 3, 4A, 4B, 5 (and corresponding disclosures), 3:1-9, 3:29-47; 3:66-4:37, 4:58-6:53; 7:21-10:34; 11:28-13:15; cl. 1, 3, 4, 5, 11, 12, 16-23..

Prior to the '705 patent's earliest alleged priority date, a person of ordinary skill in the art would have known that "[a]lterations to the set of proposed changes responsive to the verification are made and the verified set of proposed changes is copied to the concerned mobile

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switching centres." '705 patent at 1:63-66; *see also* Madebrink at Abstract, Figs. 3, 4A, 4B, 5 (and corresponding disclosures), 3:1-9, 3:29-47; 3:66-4:37, 4:58-6:53; 7:21-10:34; 11:28-13:15; cl. 1, 3, 4, 5, 11, 12, 16-23.

Prior to the '705 patent's earliest alleged priority date, a person of ordinary skill in the art would have known that "[t] he verified set of proposed changes is then introduced into the network" and that "[a]n up-to-date image of the cell parameters in the mobile switching centres in the network is maintained in a system parameter database." '705 patent at 1:66-2:2; *see also Madebrink* at Abstract, Figs. 3, 4A, 4B, 5 (and corresponding disclosures), 3:1-9, 3:29-47; 3:66-4:37, 4:58-6:53; 7:21-10:34; 11:28-13:15; cl. 1, 3, 4, 5, 11, 12, 16-23..

Prior to the '705 patent's earliest alleged priority date, a person of ordinary skill in the art would have known that the "[r]easons for such a reconfiguration are numerous, e.g. a temporary cell split needed to deal with an expected increase in traffic due to an event or the permanent integration of new elements both affecting the settings of already existing elements in the radio network." '705 patent at 2:12-16; *see also Madebrink* at 1:57-3:25, 9:27-48.

Prior to the '705 patent's earliest alleged priority date, a person of ordinary skill in the art would have known to check modified parameters against baseline rules and deviations of those rules based operational practice. For example, a POSITA would have understood that it was know to generating operating rules for each corridor in a service coverage area where those rules "relate to the manner in which the available spectrum in each corridor [is] managed." Obhan at 2:62-67. In those known systems "[t]he spectrum for each corridor is monitored in a real-time basis as is the unused spectrum. Active and idle subscribers are also tracked in each corridor. Based upon the demands placed on the resources of the corridor, subscribers needs are matched to available resources in the corridor and, when required, operations are taken to alter loading

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within the corridor according to the operating rules. In one embodiment of the present invention, by identifying unused capacity and filling such capacity, the SYM system enables the system operator to raise extra revenues via the SYM system managed voice/data/advertising services." *Id.* at 3:1-11.

Prior to the '705 patent's earliest alleged priority date, a person of ordinary skill in the art would have known that upon making proposed changes to parameters, "if there are inconsistencies, an operator will decide whether to approve the changes anyway or to specify modifications to the changes" and that such an approval would be made using a computer that displayed a message regarding the inconsistencies. Madebrink at 11:18-21; *see also id.* at 2:31-37.

Prior to the '705 patent's earliest alleged priority date, a person of ordinary skill in the art would have known that that a wireless system can have common parameters that are preset and parameters that are set based on historical performance characteristics the network. Hyziak at 5:39-51.

Prior to the '705 patent's earliest alleged priority date, a person of ordinary skill in the art would have known that to "begin[] with an initial network design and a set if traffic handling requirements, the network designing tool is able to evolve a modification to the initial design that not only satisfies the traffic handling requirements but also improves the design with respect to predetermined network performance criteria….Significantly, rather than·evolving a network design solely-on the basis of a·fixed rule set, as in known network design tools," it was also known to "evolve a set of network design rules found to be most effective in generating network designs that optimise the performance measures, for example, minimising the network provision costs *by varying the network design rules*, certain types of network modification that may not

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have been possible with a fixed rule set…" such that an "an initial network design may include a specification of components of an existing network that needs to be enhanced for example, or simply a list of specific sites geographical sites suitable for siting network equipment." GB-Shipman at 2:24-3:10; *see also WO-Shipman and EP-Shipman*. A POSITA also would have known to use a "network simulator 201… [that] simulates [a known] network arrangement," and a "rule generator 203" that receives baseline rules "generates variations of those rules." GB-Shipman at 6:26-7:25; *see also WO-Shipman and EP-Shipman*.

In addition to the foregoing concepts, features, and technologies, the patents and file histories acknowledge that other features and technologies were known in the prior art, including without limitation changing an operational parameter of a RAN. Verifying that the modified parameter does not violate a rule, including a technically sufficient setting and an optimized setting. Optimizing a setting based on real-world usage of parameter setting in a network. And modifying a parameter setting for future use in the network in response to the rule being obeyed. At the time of the alleged invention, these concepts were widely known to be present in prior art systems with expert systems / parameter simulators.

705 Patent – Claim 1	**Exemplary Prior Art**
1. A method for verifying a modified parameter obtained from changing an operational parameter of a component of a radio network, the method comprising the steps of:	Verifying a modified parameter obtained from changing an operational parameter of a component of a radio network is well-known in the prior art. *See, e.g.*, '705 patent AAPA, Iwanojko; Iwanojoko 051; Hyziak; Sciacca; Kim; Lee; Sandah; Yu; Matthews; Scherzer; I3; S5-99130; Hirsch; Tindal; Obhan; Feuerstein; Djoko; Sheridan; Clarkson; Shipman GB; Shipman WO; Shipman EP; Rappaport
before the modified parameter is implemented in the network, checking the modified parameter on the basis of a rule so	Checking the modified parameter on the basis of a rule so as to yield a result before the modified parameter is implemented in the

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as to yield a result, said rule comprising both a technically sufficient parameter setting requirement and a deviation from the setting requirement based on an operational requirement deduced from use of the radio network; and	network is well-known in the art. *See, e.g.*, Iwanojko; Iwanojoko 051; Hyziak; Sciacca; Kim; Lee; Sandah; Yu; Matthews; Scherzer; I3; S5-99130; Hirsch; Tindal; Obhan; Feuerstein; Djoko; Sheridan; Clarkson; Shipman GB; Shipman WO; Shipman EP; Rappaport. Using a rule comprising both a technically sufficient parameter setting requirement and a deviation from the setting requirement based on an operational requirement deduced from use of the radio network is well-known in the art. *See, e.g.*, Iwanojko; Iwanojoko 051; Hyziak; Sciacca; Kim; Lee; Sandah; Yu; Matthews; Scherzer; I3; S5-99130; Hirsch; Tindal; Obhan; Feuerstein; Djoko; Sheridan; Clarkson; Shipman GB; Shipman WO; Shipman EP; Rappaport
if the result indicates that the rule has been obeyed, storing the modified parameter in the network such that subsequent network operation will respond to the modified parameter.	Storing the modified parameter in the network such that subsequent network operation will respond to the modified parameter, if the result indicates that the rule has been obeyed is well-known in the art. *See, e.g.*, '705 patent AAPA, Iwanojko; Iwanojoko 051; Hyziak; Sciacca; Kim; Lee; Sandah; Yu; Matthews; Scherzer; I3; S5-99130; Hirsch; Tindal; Obhan; Feuerstein; Djoko; Sheridan; Clarkson; Shipman GB; Shipman WO; Shipman EP; Rappaport
705 Patent – Claim 2	**Exemplary Prior Art**
2. The method recited in claim 1 wherein the checking step comprises the steps of: copying the operational parameter from the radio network to a database; and changing the operational parameter to the modified parameter.	Copying the operational parameter from the radio network to a database; and changing the operational parameter to the modified parameter is well-known in the art. *See, e.g.*, '705 patent AAPA, Iwanojko; Iwanojoko 051; Hyziak; Sciacca; Kim; Lee; Sandah; Yu; Matthews; Scherzer; I3; S5-99130; Hirsch; Tindal; Obhan; Feuerstein; Djoko; Sheridan; Clarkson; Shipman GB; Shipman WO; Shipman EP; Rappaport

705 Patent – Claim 3	Exemplary Prior Art
3. The method recited in claim 2 further comprising the step of generating a non-compliance signal if the modified parameter does not obey the operational requirement.	Generating a non-compliance signal if the modified parameter does not obey the operational requirement is well-known in the art. *See, e.g.*, Iwanojko; Iwanojoko 051; Hyziak; Sciacca; Kim; Lee; Sandah; Yu; Matthews; Scherzer; I3; S5-99130; Hirsch; Tindal; Obhan; Feuerstein; Djoko; Sheridan; Clarkson; Shipman GB; Shipman WO; Shipman EP; Rappaport
705 Patent – Claim 4	**Exemplary Prior Art**
4. The method recited in claim 3 wherein the non-compliance signal is a file or message displayed to an operator.	Generating a non-compliance signal that is a file or message displayed to an operator is well-known in the art. *See, e.g.*, Iwanojko; Iwanojoko 051; Hyziak; Sciacca; Kim; Lee; Sandah; Yu; Matthews; Scherzer; I3; S5-99130; Hirsch; Tindal; Obhan; Feuerstein; Djoko; Sheridan; Clarkson; Shipman GB; Shipman WO; Shipman EP; Rappaport
705 Patent – Claim 5	**Exemplary Prior Art**
5. The method recited in claim 3 wherein the non-compliance signal is programmable.	Generating a non-compliance signal that is programmable is well-known in the art. *See, e.g.*, Iwanojko; Iwanojoko 051; Hyziak; Sciacca; Kim; Lee; Sandah; Yu; Matthews; Scherzer; I3; S5-99130; Hirsch; Tindal; Obhan; Feuerstein; Djoko; Sheridan; Clarkson; Shipman GB; Shipman WO; Shipman EP; Rappaport
705 Patent – Claim 6	**Exemplary Prior Art**
6. The method recited in claim 2 further comprising the steps of: storing the operational parameter in a first part of the database; and storing the modified parameter in a second part of the database.	Storing the operational parameter in a first part of the database; and storing the modified parameter in a second part of the database is well-known in the prior art. *See, e.g.,* '705 patent AAPA, Iwanojko; Iwanojoko 051; Hyziak; Sciacca; Kim; Lee; Sandah; Yu; Matthews; Scherzer; I3; S5-99130; Hirsch; Tindal; Obhan; Feuerstein; Djoko; Sheridan; Clarkson; Shipman GB; Shipman WO; Shipman EP; Rappaport

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705 Patent – Claim 22	Exemplary Prior Art
22. A system for verifying a modified parameter obtained from changing an operational parameter of a component of a radio network, wherein the system comprises:	*See* corresponding feature in claim 1.
a rule checker which, before the modified parameter is implemented in the network, checks the modified parameter on the basis of a rule so as to yield a result, said rule comprising both a technically sufficient parameter setting requirement and a deviation from the setting requirement based on an operational requirement deduced from use of the radio network; and	*See* corresponding feature in claim 1.
a data transferrer which, if the result indicates that the rule has been obeyed, stores the modified parameter in the network such that subsequent network operation will respond to the modified parameter.	*See* corresponding feature in claim 1.
705 Patent – Claim 23	**Exemplary Prior Art**
23. The system recited in claim 22 further comprising: a first part of a database for storing the operational parameter from the radio network; and a second part of the database for storing the modified parameter.	*See* corresponding feature in claims 2 and 6.
705 Patent – Claim 24	**Exemplary Prior Art**
24. The system recited in claim 23 further comprising a signal generator which generates a non-compliance signal if the modified parameter does not obey the operational requirement.	*See* corresponding feature in claim 3.

705 Patent – Claim 25	Exemplary Prior Art
25. The system recited in claim 23 further comprising scripting means which define rules and/or error messages that are to be used by the rule checker.	*See* corresponding feature in claims 4 and 5.

b) **Background and State of the Art Related to the '772 Patent**

Prior to the '772 patent's earliest alleged priority date, a person of ordinary skill in the art would have known that "[a] TCP/IP based broadband customer device, such as a high end settop box, is actually a high performance network computer. These broadband customer devices typically roll off a production line with the same operation image. That means that all of the customer devices have the exact same network identity and a default configuration when they leave the production line. They have to undergo some sort of configuration procedure before they can be used in a specific intranet environment by end users." Jin at ¶2.

Prior to the '772 patent's earliest alleged priority date, a person of ordinary skill in the art would have known that "configuration methods currently used can be classified as either (a) sending a trained technician to customer sites to do the manual configuration for each customer device or each network computer; (b) shipping a detailed configuration manual with each broadband-based customer device and asking the end user to perform the configuration by reading the User's Manual." Jin at ¶3; *see also* '772 patent at 1:53-60.

Prior to the '772 patent's earliest alleged priority date, a person of ordinary skill in the art would have known that the industry had already "completely eliminate[d] the need to do any manual configuration on the client side for broadband-based customer devices…." Jin at ¶10. In those known systems, when a consumer device (ACC) connects to the network it sends a message to a *Relay* Server (SRA) (Jin at ¶47), the Relay Server relays that message to an auto-configuration server (ACS) (Jin at ¶¶48-49), the ACS replies to the Relay Server with a message

(green) carrying the configuration data from a configuration database (Jin at ¶¶51-52), the Relay Server *relays* the message with configuration data the consumer device (Jin at ¶53), and the consumer device configures itself (Jin at ¶54). Indeed, nothing about "relaying" information from one server to another or from a server to a device is innovative. The '772 patent admits as much, when it teaches that "relaying" information was known in the prior art. "The requesting manageable electronic device 1 sends its request to the wide area network WAN. In case the request comprises the IP address of the auto-configuration server manager, the DSLAM transmits the request to the network switch (not shown) that will relay the request to the auto configuration server manager (as known in the art)." '772 patent at 5:56-61; *See also Stapp* at Fig. 3 (and corresponding disclosures); *see also id.* at column 6, lines 5-38; column 10, line 43 – column 11, line 37; column 12, lines 6-8, column 15:8-16:25; 17:11-19.

Prior to the '772 patent's earliest alleged prior date, a person of ordinary skill in the art would have known about using a database communicatively coupled to a proxy server for storing information to identify electronic devices, such as CPE and configuration servers. *See, e.g.*, Stapp at 9:32-12:5; Angelot at Fig. 1(database 22 coupled to proxy server 14 and storing information about CPE (12a) and configuration servers (20a)); see also *id.* at Fig. 3a.

Prior to the '772 patent's earliest alleged priority date, a person of ordinary skill in the art would have known about another end-to-end architecture for configuring devices that was described in the TR-069 communication protocol where the CPE was preloaded with the IP address of the ACS server that provides the configuration information. TR-069 at 9.

Prior to the '772 patent's earliest alleged priority date, a person of ordinary skill in the art would have known that the CPE WAN Management Protocol allows an ACS to provision a CPE and that the provisioning mechanism allows straightforward future extension to allow

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provisioning of services and capabilities not yet included in this version of the specifications.TR-069 at 1.1.1.

In addition to the foregoing concepts, features, and technologies, the patents and file histories acknowledge that other features and technologies were known in the prior art, including without limitation a system with multiple auto-configuration servers, a manageable electronic device, a database, and a proxy server for controlling access to the configuration servers and coupled between those servers and the electronic device. One well-known technique for communicating between the various devices/servers was to relay the messages between the electronic device and the configuration server using a proxy server that would utilize the database to associate the servers and the device. Identifying the type of the device requesting configuration data and the corresponding service provider using the device's network address and the database was also well-known. *See generally* Angelot. Identifying the type of the configuration server based on the device's identity and using the database was also well-known. *See generally* Angelot. Using a programmed computer with memory and a CPU to operate as the above-described proxy server was also well-known in the art. *See generally Angelot; Jin.*

772 Patent	**Exemplary Prior Art**
1. A system for remote device management comprising: a plurality of auto-configuration servers (ACSs); a manageable electronic device; an auto-configuration server managing device (ACSMD) for controlling access to the ACSs communicatively coupled intermediately between the plurality of ACSs and the managed electronic device; and at least one database communicatively coupled to the ACSM and storing	A system with a plurality of auto-configuration servers (ACSs); a manageable electronic device; an auto-configuration server managing device (ACSMD) for controlling access to the ACSs communicatively coupled intermediately between the plurality of ACSs and the managed electronic device; and at least one database communicatively coupled to the ACSM and storing information for the identification of electronic devices was well-known in the prior art. *See, e.g.*,'772 patent AAPA, KPN's admission that this claim is

information for the identification of electronic devices,	invalid, TSGR#8(99), TR-069, Rolens, RFC3489, RFC 2131, RFC 2132, Stapp, van den Bosch, Wu, Kang, Jin, Angelot, Ge", Ding, Freund 1, 2 and 3, Acke, Jozef, Zhang, Geng, Okkonen, Kvache, Obhan, Wishart, Donahue, Bathrick, Nikolaidis, Vogel, Jr., Chatrath, Zakurdaev, McKeown.
wherein the manageable electronic device is configured to send a request for configuration data to the ACSMD,	Configuring a manageable electronic device to send a request for configuration data to the ACSMD was well-known in the prior art. See, e.g., '772 patent AAPA, KPN's admission that this claim is invalid, TSGR#8(99), TR-069, Rolens, RFC3489, RFC 2131, RFC 2132, Stapp, van den Bosch, Wu, Kang, Jin, Angelot, Ge", Ding, Freund 1, 2 and 3, Acke, Jozef, Zhang, Geng, Okkonen, Kvache, Obhan, Wishart, Donahue, Bathrick, Nikolaidis, Vogel, Jr., Chatrath, Zakurdaev, McKeown.
wherein configuration data comprise data for configuring the manageable electronic device, and	At the time of the alleged invention, it was well know that configuration data included data configuring the manageable electronic device. *See, e.g.*, *See, e.g.*, '772 patent AAPA, KPN's admission that this claim is invalid, TSGR#8(99), TR-069, Rolens, RFC3489, RFC 2131, RFC 2132, Stapp, van den Bosch, Wu, Kang, Jin, Angelot, Ge", Ding, Freund 1, 2 and 3, Acke, Jozef, Zhang, Geng, Okkonen, Kvache, Obhan, Wishart, Donahue, Bathrick, Nikolaidis, Vogel, Jr., Chatrath, Zakurdaev, McKeown.
wherein the ACSMD is configured, responsive to receiving the request, to: identify the manageable electronic device by comparing at least a portion of the request with the information for the identification of electronic devices of the at least one database, and identify an ACS from the plurality of ACSs in accordance with the identification of the manageable electronic device to provide configuration data to the manageable electronic device, and	At the time of the alleged invention, it was well-known to configure an ACSMD to perform the following functions in response to receiving the request for configuration data: (1) identify the manageable electronic device by comparing at least a portion of the request with the information for the identification of electronic devices of the at least one database, and (2) identify an ACS from the plurality of ACSs in accordance with the identification of the manageable electronic device to provide configuration data to the manageable electronic device. *See, e.g.*, '772 patent AAPA, KPN's admission that this claim is invalid, TSGR#8(99), TR-069,

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	Rolens, RFC3489, RFC 2131, RFC 2132, Stapp, van den Bosch, Wu, Kang, Jin, Angelot, Ge", Ding, Freund 1, 2 and 3, Acke, Jozef, Zhang, Geng, Okkonen, Kvache, Obhan, Wishart, Donahue, Bathrick, Nikolaidis, Vogel, Jr., Chatrath, Zakurdaev, McKeown.
wherein the ACSMD is further configured to relay the request to the identified ACS.	At the time of the alleged invention, it was well-known for the ACSMD to relay the request for configuration data to the identified ACS. *See, e.g.*, '772 patent AAPA, KPN's admission that this claim is invalid, TSGR#8(99), TR-069, Rolens, RFC3489, RFC 2131, RFC 2132, Stapp, van den Bosch, Wu, Kang, Jin, Angelot, Ge", Ding, Freund 1, 2 and 3, Acke, Jozef, Zhang, Geng, Okkonen, Kvache, Obhan, Wishart, Donahue, Bathrick, Nikolaidis, Vogel, Jr., Chatrath, Zakurdaev, McKeown.
2. The system according to claim 1, wherein the ACSMD is further configured to receive a reply from the identified ACS, and relay the reply to the manageable electronic device.	At the time of the alleged invention, it was well-known for the ACSMD to receive a reply from the identified ACS, and relay the reply to the manageable electronic device. *See, e.g.*, TSGR#8(99), TR-069, Rolens, RFC3489, RFC 2131, RFC 2132, Stapp, van den Bosch, Wu, Kang, Jin, Angelot, Ge", Ding, Freund 1, 2 and 3, Acke, Jozef, Zhang, Geng, Okkonen, Kvache, Obhan, Wishart, Donahue, Bathrick, Nikolaidis, Vogel, Jr., Chatrath, Zakurdaev, McKeown.
3. The system according to claim 1, wherein the ACSMD is further configured to identify the type of the manageable electronic device by comparing a network address of the manageable electronic device in the request with a predetermined plurality of network addresses in the at least one database.	At the time of the alleged invention, it was well-known for the ACSMD to identify the type of the manageable electronic device by comparing a network address of the manageable electronic device in the request with a predetermined plurality of network addresses in the at least one database. *See, e.g.*, TSGR#8(99), TR-069, Rolens, RFC3489, RFC 2131, RFC 2132, Stapp, van den Bosch, Wu, Kang, Jin, Angelot, Ge", Ding, Freund 1, 2 and 3, Acke, Jozef, Zhang, Geng, Okkonen, Kvache, Obhan, Wishart, Donahue, Bathrick, Nikolaidis, Vogel, Jr., Chatrath, Zakurdaev, McKeown.
4. The system according to claim 3,	At the time of the alleged invention, it was

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identifying the type of the manageable electronic device further comprises identifying a service provider based on the network address from a predetermined plurality of service provider identifications associated with the predetermined plurality of network addresses in the at least one database.	well-known for the ACSMD to identify a service provider based on the network address from a predetermined plurality of service provider identifications associated with the predetermined plurality of network addresses in the at least one database. *See, e.g.*, TSGR#8(99), TR-069, Rolens, RFC3489, RFC 2131, RFC 2132, Stapp, van den Bosch, Wu, Kang, Jin, Angelot, Ge", Ding, Freund 1, 2 and 3, Acke, Jozef, Zhang, Geng, Okkonen, Kvache, Obhan, Wishart, Donahue, Bathrick, Nikolaidis, Vogel, Jr., Chatrath, Zakurdaev, McKeown.
5. The system according to claim 4, wherein identifying the ACS from the plurality of ACSs in accordance with the identification of the manageable electronic device further comprises determining a network address of the identified ACS from a predetermined plurality of ACS network addresses in the at least one database.	At the time of the alleged invention, it was well-known for the ACSMD to identify the ACS from the plurality of ACSs in accordance with the identification of the manageable electronic device further comprises determining a network address of the identified ACS from a predetermined plurality of ACS network addresses in the at least one database. *See, e.g.*, TSGR#8(99), TR-069, Rolens, RFC3489, RFC 2131, RFC 2132, Stapp, van den Bosch, Wu, Kang, Jin, Angelot, Ge", Ding, Freund 1, 2 and 3, Acke, Jozef, Zhang, Geng, Okkonen, Kvache, Obhan, Wishart, Donahue, Bathrick, Nikolaidis, Vogel, Jr., Chatrath, Zakurdaev, McKeown.
6. The system according to claim 3, wherein identifying the ACS from the plurality of ACSs in accordance with the identification of the manageable electronic device further comprises determining a network address of the identified ACS from a predetermined plurality of ACS network addresses in the at least one database.	See corresponding features for claim 5.
10. A computer configured for remote device management, the computer comprising a processing unit and memory, the memory being connected to the processing unit, the computer being communicatively coupled to at least one database, a plurality of auto-configuration servers (ACSs), and a manageable	See corresponding features for claim 1.

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electronic device, the computer being disposed as an intermediary between the manageable electronic device and the plurality of ACSs for controlling access to the ACSs, the at least one database storing information for the identification of electronic devices; wherein the computer is configured, responsive to receiving a request from a manageable electronic device for configuration data, to: identify the manageable electronic device by comparing at least a portion of the request with the information for the identification of electronic devices of the at least one database, and identify an ACS from the plurality of ACSs in accordance with the identification of the manageable electronic device to provide configuration data to the manageable electronic device, wherein configuration data comprise data for configuring the manageable electronic device, and wherein the computer is further configured to relay the request to the identified ACS.	
11. The computer according to claim 10, wherein the computer is further configured to relay the request to the identified ACS, receive a reply from the identified ACS, and relay the reply to the manageable electronic device.	See corresponding features in claim 2.

c) **Background and State of the Art Related to the ’560 Patent**

Prior to the ’560 patent’s earliest alleged priority date, a person of ordinary skill in the art would have known that base stations in 2G and 3G wireless networks maintained a cell-specific list of surrounding cells that are considered for cell reselection or handover called the neighbor cell list (NCL) and that these lists were stored in each base station and broadcast within the cell. *See, e.g.*, Engström at 2:1–10 (“During a call a mobile terminal typically moves around among the cells; moving from one to one of its neighbours, repeatedly. A list of known neighbours, the

so-called 'neighbour cell list' is important for the network to enable reliable handover between cells of a mobile terminal. The purpose of neighbour cell lists is to allow the base stations to give their connected mobile terminals a defined set of cells to measure on."); Nylander at [0029] ("A neighbor cell list is a set of cells upon which a user equipment unit in idle mode should measure. The neighbor cell list (also known as 'neighbor list') is typically included in a broadcast from the radio base station to idle mode user equipment units served by the radio base station."); Marsan at 1:38–43 ("Handing-off communication between cells is known in multi-cell communication systems. Subscriber units are provided with a neighbor cell list from the FNE whenever a communication is established and also when a communication is handed-off. The neighbor cell list serves as a list of possible hand-off targets for the subscriber unit.").

Prior to the '560 patent's earliest alleged priority date, a person of ordinary skill in the art would have known that "automated configuration and optimisation of intra-network NCLS and inter-network NCLs, based on e.g. actual measurement feedback from user terminals, observed mobility patterns, base station scans and handover statistics" were being investigated by the 3GPP for 4G cellular standards. '560 Patent at 1: 51–55; *see also* Amirijoo at [0015]–[0016] ("It is envisioned that E-UTRAN will initially have a limited radio coverage. . . . To handle issues like load balancing between different frequency bands, which require inter-frequency handovers (HO), IRAT and inter-frequency neighbor relation lists (NRLs) are established."); Engström at 3:24–29 ("An automatic, UE assisted, neighbour cell update is being designed for LTE."); 3GPP TS 36.300 at 114–117 (specifying an "Automatic Neighbour Relation Function," including both Intra-LTE/frequency and Inter-RAT/Inter-frequency functionality). Indeed, the '560 Patent admits that the prior art teaches "automated configuration and optimisation of . . . inter-network NCLs" based on "actual measurement feedback from user terminals" and "handover statistics,"

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including a selector configured to select "a user terminal from a serving cell to look for neighbour cells of other networks by scanning all cells," a request generator configured to request "the Cell Global Identifier (CGI) and further cell information from the neighbouring cells," and an updating means configured to update the "NRT using the information reported from the user terminals." '560 Patent at 1:49–2:7; 7:14–18; [redacted]

'560 Patent Claim 1	Exemplary Prior Art
1. A system for updating a neighbour cell list in a telecom communications architecture comprising a first wireless access network having a first wireless access node for which at least one first neighbour cell list is defined and a second wireless access network having a second wireless access node for which at least one second neighbour cell list is defined, the system comprising:	A system for updating an NCL in a telecommunications architecture comprising first/second wireless access networks having first/second wireless access nodes and first/second NCLs is well known in the prior art. *See, e.g.*, 3GPP TR 32.816, 3GPP TS 36.300, S5-070974, Amirijoo, Engström, Ericsson's NCS Application, Marsan, Nylander.
[1.1] a detector configured for detecting user terminals to be transferred from the first wireless access node of the first wireless access network to the second wireless access node of the second wireless access network;	A detector configured for detecting user terminals to be transferred between first/send wireless access nodes in different wireless networks is well known in the prior art. *See, e.g.*, 3GPP TR 32.816, 3GPP TS 36.300 V8.7.0, S5-070974, Amirijoo, Engström, Ericsson's NCS Application, Marsan.
[1.2] a selector configured for selecting a part of the user terminals;	A selector configured to select a part of the user terminals is well known in the prior art. *See, e.g.*, 3GPP TS 36.300 V8.7.0, S5-070974, Amirijoo, Engström, Ericsson's NCS Application, Marsan.
[1.3] a request generator configured for requesting from the first wireless access node one or more of the selected user terminals to report cell information of a plurality of wireless access nodes of at least one	A request generator configured for requesting one or more of the selected user terminals to report cell information of a plurality of wireless access nodes of the first/second wireless access network is well known in the prior art. *See, e.g.*, 3GPP TS 36.300 V8.7.0, S5-070974, Amirijoo, Engström, Ericsson's NCS Application, Marsan.

of the first wireless access network and the second wireless access network;	
[1.4] a receiver configured for receiving the cell information from the one or more of the selected user terminals; and	A receiver configured for receiving the cell information from one or more selected user terminals is well known in the prior art. *See, e.g.*, 3GPP TS 36.300 V8.7.0, S5-070974, Amirijoo, Engström, Ericsson's NCS Application, Marsan.
[1.5] updating means configured for updating at least one of the first neighbour cell list and the second neighbour cell list using the received cell information.	The claimed "updated means" configured for updating at least one of the first/second neighbour cell list using the received cell information is well known in the prior art. *See, e.g.*, 3GPP TR 32.816, 3GPP TS 36.300 V8.7.0, S5-070974, Amirijoo, Engström, Ericsson's NCS Application, Marsan.
6. [Pre] The system according to claim 1,	*See* claim 1.
[6.1] wherein the request generator is configured for requesting from the first wireless access node one or more of the selected user terminals to report cell information of a plurality of wireless access nodes of the second wireless access network;	*See* claim 1.
[6.2] wherein the receiver is configured for receiving the cell information of the wireless access nodes of the second wireless access network via the first wireless access node,	*See* claim 1.
[6.3] further comprising a transfer system configured for transferring user terminals from the first wireless access network to the second wireless access network after receiving the one or more cell parameters of wireless access nodes of the second wireless access network via the first wireless access node.	Transfer systems configured for transferring user terminals between first/second wireless access networks after receiving cell parameters are well known in the prior art. *See, e.g.*, 3GPP TS 36.300 V8.7.0, S5-070974, Amirijoo, Engström, Ericsson's NCS Application, Marsan.
7. The system according to claim 1, wherein the telecommunications system is further configured for receiving location information from one or more of the detected user terminals and wherein the location information is used as a selection	A system configured for receiving location information from detected user terminals and using such information as a selection parameter is well known in the prior art. *See, e.g.*, 3GPP TR 32.816, 3GPP TS 36.300 V8.7.0, Amirijoo, Marsan.

parameter for selecting the part of the detected user terminals.	
8. The system according to claim 1, wherein one or more thresholds, possibly service-dependent, are defined in the telecommunications system for transferring the user terminals between the first wireless access network and the second wireless access network and wherein at least one of the thresholds is used as a selection parameter for selecting the part of the detected user terminals.	A system defining one or more thresholds for transferring user terminals between first/second wireless access networks and using such thresholds as a selection parameter is well known in the prior art. *See, e.g.*, 3GPP TS 36.300 V8.7.0, S5-070974, Amirijoo, Engström, Ericsson's NCS Application, Marsan.

d) **Background and State of the Art Related to the '500 Patent**

Prior to the '500 patent's earliest alleged priority date, a person of ordinary skill in the art would have known about multiple technologies (e.g., GSM, GPRS, UMTS, and LTE) described by various telecommunication standards that define telecommunications systems. *E.g.*, '500 Patent, 6:56-59. These technologies included a base station (also known as a cell tower or eNodeB). '500 Patent, 6:59-64. A POSITA would have known that radio signals from handheld mobile devices are received at the base station, processed into signals and transmitted to the core network. '500 Patent, 7:2-4. A POSITA would have known that these prior art technologies included respective core networks that included, e.g., a Mobile Switching Centre (MSC), a Serving Gateway Support Node (SGSN), or a Mobility Management Entity (MME). *See* Eisl at [0037].

A POSITA also would have known that malware on a mobile device could cause the device to indulge in malicious behavior that could adversely affect the network. *See* Mulliner at 1-3; Eisl at [007]; '500 Patent, 1:49-65. A POSITA would have known that such malicious behavior could trigger continuous requests for call forwarding or repeated handover attempts. Mulliner at 3; Eisl at [007]; '500 Patent, 2:52-3:3. A POSITA would have known that repeated

handover attempts, also known as handoff oscillations, have many adverse effects on a cellular network. Cuffaro, 1:14-24. A POSITA would have known that core networks play a crucial role in the handover mobility process. Olsson at 356-57; Eisl at [0037].

As the '500 Patent admits, a POSITA would have known that when a mobile device transmits signals to a telecommunications network they are received in a base station and processed into data streams internal to the telecommunications network. *See* '500 Patent, 3:19-22. A POSITA would have understood that these data streams, or signals, are sent between components of a core network, e.g., a radio network controller RNC, a mobile switching centre MSC, a Home Location Register HLR, and an Authentication Centre AuC. *See* '500 Patent, 3:26-30. A POSITA would have understood that malicious behavior by the mobile device would result in signaling, or data streams, transmitted not just between the device and the network but also within the network itself. '500 Patent, 3:30-34. A POSITA would have understood multiple ways of registering events within a telecommunications network, such as setting a flag. '500 Patent, 5:29-31.

A POSITA would have known that one way to detect anomalous behavior in a network was to establish a threshold on the number of events that a user can initiate, including by counting the number of events (including signals corresponding to an event) and comparing the count to a threshold. *See* Malik at 419. A POSITA would have known that counting handovers, including number of handovers made in a certain period of time, and comparison to a threshold, could provide useful information about mobile device behavior to the network. Leung, 2:17-36, Figure 5, 4:37-64; Cuffaro, 1:56-2:6.

In addition to the foregoing concepts, features, and technologies, the patents and file histories acknowledge that other features and technologies were known in the prior art, including

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without limitation a telecommunications network that is arranged to count in the core network a number of occurrences of a certain predetermined signal that represents an interaction between network devices and that indicates handover of the mobile telecommunications device; and registering when the number of occurrences of the signal exceeds a level indicating acceptable behaviour of the mobile device.

500 Patent – Claim 1	Exemplary Prior Art
1. A system comprising: a telecommunications network configured to identify mobile telecommunications device and comprising a core network and a base station,	A telecommunications network configured to identify a mobile telecommunications device and comprising a core network and base station is well-known in the prior art. *See, e.g.*, '500 patent AAPA, Eisl, Olsson, Cuffaro, Jin 223
wherein the base station is configured to receive radio signals from the mobile telecommunications device and further process the radio signals into processed signals and to transmit the processed signals to the core network	A base station configured to receive radio signals from the mobile telecommunications device and further process the radio signals into processed signals and to transmit the processed signals to the core network is well-known in the prior art. *See, e.g.*, '500 patent AAPA, Eisl, Olsson, Cuffaro, Jin 223
wherein the telecommunications network is arranged to count in the core network a number of occurrences of a certain predetermined signal associated with the mobile telecommunications device	A telecommunications network arranged to count in the core network a number of occurrences of a certain predetermined signal associated with the mobile device is well-known in the prior art. *See, e.g.*, '500 patent AAPA, Eisl, Malik, Cuffaro, Jin 223
the certain predetermined signal representing an interaction between network devices in the core network for normal processing of signals	A predetermined signal representing an interaction between network devices in the core network for normal processing of signals is well-known in the prior art. *See e.g.*, '500 patent AAPA, Eisl, Olsson, Cuffaro, Jin 223
wherein the telecommunications network is further arranged to register when the number of occurrences of the certain predetermined signal exceeds a level indicating acceptable behaviour of the mobile telecommunications device in the telecommunications network	A telecommunications network further arranged to register when the number of occurrences of the certain predetermined signal exceeds a level indicating acceptable behaviour of the mobile device is well-known in the prior art. *See e.g.*, '500 patent AAPA, Eisl, Malik, Cuffaro, Jin 223
wherein the certain predetermined signal indicates handover of the mobile	A predetermined signal indicating handover of the mobile device is well-known in the

telecommunications device	prior art. *See e.g.*, '500 patent AAPA, Eisl, Olsson, Cuffaro, Jin 223
500 Patent – Claim 5	**Exemplary Prior Art**
5. The system according to claim 1, wherein the telecommunications network is further configured to detect when the number of occurrences of the certain predetermined signal exceeds a predetermined rate.	A telecommunications network configured to detect when the number of occurrences of the certain predetermined signal exceeds a predetermined rate is well-known in the art. *See, e.g.*, '500 patent AAPA, Eisl, Malik, Cuffaro, Jin 223
500 Patent – Claim 7	**Exemplary Prior Art**
7. The system according to claim 1, wherein the telecommunications network is arranged to register when the number of occurrences of the certain predetermined signal exceeds the level for acceptable behaviour by setting a flag and/or starting a back off timer.	A telecommunications network arranged to register when the number of occurrences of the certain predetermined signal exceeds the level for acceptable behaviour by setting a flag and/or starting a back off timer is well-known in the art. *See, e.g.*, '500 patent APA, Eisl, Baliga, Cuffaro, Jin 223
500 Patent – Claim 9	**Exemplary Prior Art**
9. The system according to claim 1, wherein the telecommunications network is arranged to count the number of occurrences of the certain predetermined signal in a Mobility Management Entity or Serving Gateway Support Node or Mobile Switching Center of the telecommunications network.	A telecommunications network arranged to count the number of occurrences of the certain predetermined signal in a MME, SGSN, or MSC is well-known in the art. *See, e.g.*, '500 AAPA, Eisl, Cuffaro, Jin 223
500 Patent – Claim 10	**Exemplary Prior Art**
10. The system according to claim 1, wherein the telecommunications network is further configured to: identify at least one additional mobile telecommunications device	A telecommunications network configured to perform the steps of claim 1 for more than one mobile device is well-known in the art. *See, e.g.*, '500 Patent AAPA, Eisl, Olsson, Bu, Cuffaro, Jin 223
receive radio signals from the at least one additional mobile telecommunications device and to process these radio signals into processed signals and to transmit the processed signals to the core network,	*See* corresponding feature in claim 1.
count in the core network a number of occurrences of a certain predetermined signal associated with the at least one	*See* corresponding feature in claim 1.

additional mobile telecommunications device, the certain predetermined processed signal representing an interaction between network devices for normal processing of signals	
register when the number of occurrences of a certain predetermined signal associated with the at least one additional mobile telecommunications device exceeds a level indicating acceptable behaviour of the at least one additional mobile telecommunications device within the telecommunications network	*See* corresponding feature in claim 1.
wherein the telecommunications network is further arranged to aggregate registered data of the mobile telecommunications device and the at least one additional mobile telecommunications device	A telecommunications network arranged to aggregate registered data of the mobile telecommunications device and an additional mobile telecommunications device is well-known in the prior art. *See, e.g.*, '500 Patent AAPA, Eisl, Cuffaro, Jin 223, Malik, Olsson
wherein the certain predetermined signal associated with the at least one additional mobile telecommunications device indicates handover of the at least one additional mobile telecommunications device	*See* corresponding feature in claim 1.

e) **Background and State of the Art Related to the '098 Patent**

Prior to the '098 patent's earliest alleged priority date, a person of ordinary skill in the art would have known techniques for transferring user data (*i.e.*, machine-to-machine data or M2M data) to a data processing center over a telecommunications network were well known. *See, e.g.*, Krco at 2:6–3:14 ("The object of the present invention is solved by means of a User Equipment (UE) for distribution of information in a primary cellular network. . . . By embedding Wireless Sensor Network (WSN) properties (such as the availability) in the already existing signalling in a cellular network, efficiency will be enhanced both in terms of network usage and development complexity for the individual service developer. . . . The UE could be a mobile phone or any other device whose intention is to forward information between the second network or entity and the service provider. Such a device is for instance an M2M device for AMR or a security

application such as a burglar alarm."); BellSouth at 4:22–34 ("The present invention solves the problems of the prior art by providing an apparatus and method for communicating data via a cellular network control channel of a CMR system. Telecommunications service suppliers, including a company related to the assignee of this application, Bell South Mobility, have already installed the necessary equipment to support nationwide communications via CMR networks. The inventors have recognized that the CMR system is an existing communications architecture which can be adapted in a novel manner to supply either one or two-way data communications with minimal impact upon the well-known voice communications offered by the cellular mobile radiotelephone network."); ITU-T Recommendation I.257.1 at 1 ("The UUS supplementary service allows the user to send/receive a limited amount of user-generated information to/from another user-network interface. This information is passed transparently (i.e. without modification of contents) through the network.").

Prior to the '098 patent's earliest alleged priority date, a person of ordinary skill in the art would have known one way to transmit user data to a data processing center involved encapsulating the user data in wireless signaling messages specified for carrying signaling data for managing connections in a telecommunications network. *See, e.g.*, Krco at 5: 37–43 ("The secondary data is in the present invention embedded into the existing first messages. This is made in order to support transfer of the availability information of devices attached to an UE (or a standalone M2M device). The UE is used to communicate with the service provider. The secondary data preferably consists in an information element in the first message, which may be called ExtDeviceInfo."); BellSouth at 6:33–41 ("The data message comprises selected data and a predetermined identifying characteristic that uniquely identifies the cellular communications device which transmits the data message to the MSC. The data message is formatted to

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correspond to an identification signal, often referred to as a registration signal, which is normally transmitted by a cellular radiotelephone unit when the device first identifies itself to the CMR system."); [redacted] ITU-T Recommendation I.257.1 at 1–6 ("The user-to-user (UUS) supplementary service allows an ISDN user to send/receive a limited amount of information to/from another ISDN user over the signalling channel in association with a call to the other ISDN user. . . . A calling user can request UUI transfer when originating a call and terminate the call before a connection is established. . . . The UUS supplementary service can be provided to private ISDNs.").

Prior to the '098 patent's earliest alleged priority date, a person of ordinary skill in the art would have known to use a node in the wireless network, such as a mobile switching center, to retrieve user data encapsulated in a wireless signaling messages. *See, e.g.*, Krco at 6:45–51 ("When the third entity receives the second request message or when there is a publish and Subscribe relationship (periodically or 'event-triggered'), the third entity performs the steps of: [1] extracting the secondary data from the first message, and [2] sending the secondary data to the fourth entity."); BellSouth at 16:12–25 ("Prior to sending the selected data to the data processing system, the data collection system first converts the data message to an acceptable communications protocol for conveying the data message to the data processing system. This step is necessary prior to communication with the data processing system because, unlike the MSC and the data collection system, neither the data processing system nor the second communications link are compatible with the IS-41 standard.").

Claim	Exemplary Prior Art
17. A node in a telecommunications network, said telecommunications network	A node within a telecommunications network configured for transferring data from a

being configured for transferring data from a communication apparatus to a machine-to-machine server, said node being comprising:	communication apparatus to a machine-to-machine server was well known in the prior art. *See, e.g.*, Krco, Bell South, ISDN Standard.
[17.1] one or more processors for carrying out operations including:	It was well known that the claimed node would include one or more processors for carrying out operations. *See, e.g.*, 3GPP TS 29.007, 3GPP TS 43.045, Krco, Bell South, ISDN Standard.
[17.2] receiving a wireless signalling message from said communication apparatus . . . wherein wireless signalling messages of the telecommunications network are of a message type specified for carrying signalling data for managing connections in the telecommunications network;	Functionality for receiving, from a communications apparatus, a wireless signalling message of a message type specified for carrying signalling data for managing connections in the telecommunications network was well known in the prior art. *See, e.g.*, 3GPP TS 29.007, 3GPP TS 43.045, Krco, Bell South, ISDN Standard.
[17.3] said received wireless signalling message having inserted in it non-signalling application data generated for a machine-to-machine function by the communication apparatus,	Functionality for inserting non-signalling application data generated for a machine-to-machine function by the communication apparatus in wireless signalling messages was well known in the prior art. *See, e.g.*, Krco, Bell South, ISDN Standard.
[17.4] retrieving said non-signalling application data from the received wireless signalling message;	Functionality for retrieving said non-signalling application data from the received wireless signalling message was well known in the prior art. *See, e.g.*, Krco, Bell South, ISDN Standard.
[17.5] terminating further transmission of the received wireless signalling message and transferring said retrieved non-signalling application data to said machine-to-machine server.	Functionality for terminating further transmission of the received wireless signalling message and transferring said retrieved non-signalling application data to said machine-to-machine server was well known in the prior art. *See, e.g.*, Krco, Bell South, ISDN Standard.
20. The node of claim 17, wherein the telecommunications network is configured for transferring non-signalling application data from the communication apparatus to the machine-to-machine server in a machine-to-machine communications setting;	*See* claim 1.
[20.1] wherein transferring said non-signalling application data to said machine-to-machine server comprises transferring said non-signalling application data to said machine-to-machine server, while avoiding to establish a complete circuit-switched or packet-switched connection between said	*See* claim 1.

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communication apparatus and said telecommunications network.	

2. Motivation To Combine

Each prior art reference may be combined with one or more other prior art references to render obvious the Asserted Claims in combination, as explained in more detail below. The disclosures of these references also may be combined with information known to persons skilled in the art at the time of the alleged invention, and understood and supplemented in view of the common sense of persons skilled in the art at the time of the alleged invention, including any statements in the intrinsic record of the Asserted Patents and related applications.

A person of ordinary skill would have been motivated to combine the prior art cited in the attached claim charts based on the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art. The identified prior art references, including portions cited in the claim charts, address the same or similar technical issues and suggest the same or similar solutions to those issues as the Asserted Claims. On such bases, on an element-by-element basis, Ericsson intends to combine one or more prior art references identified in the claim charts attached as Exhibits A to E with each other to address any contention from KPN that a particular prior art item supposedly lacks one or more elements of an Asserted Claim. In other words, Ericsson contends that each charted prior art reference can be combined with other charted prior art references when a particular prior art item lacks or does not explicitly disclose an element or feature of an Asserted Claim.

A motivation, teaching or suggestion to combine the prior art identified exists for each obviousness combination identified above. In *KSR International Co. v. Teleflex Inc., et al.,* 550 U.S. 398 (2007), the Supreme Court held that a claimed invention can be obvious even if there is no teaching, suggestion, or motivation for combining the references to produce the claimed

invention. *KSR* holds that patents that are based on new combinations of elements or components already known in a technical field may be found obvious. Specifically, the Court in *KSR* rejected a rigid application of the "teaching, suggestion, or motivation [to combine] test." *Id.* at 418-419. "In determining whether the subject matter of a patent claim is obvious, neither the particular motivation nor avowed purpose of the patentee controls. What matters is the objective reach of the claim." *Id.* at 419. "Under the correct analysis, any need or problem known in the field of endeavor at the time of the invention and addressed by the patent can provide a reason for combining the elements in the manner claimed." *Id.* at 420. The Court noted that "[c]ommon sense teaches, however, that familiar items may have obvious uses beyond their primary purposes, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle." *Id.* at 420. The Court further stated that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results" *Id.* at 416. "When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense." *Id.* at 421.

Based on *KSR,* the USPTO issued a set of Examination Guidelines. *See* Examination Guidelines for Determining Obviousness Under 35 U.S.C. §103 in view of the Supreme Court Decision in *KSR International Co. v. Teleflex, Inc.*, 72 Fed. Reg. 57526 (October 10, 2007). The Guidelines provide a variety of rationales on which to base a finding of obviousness. Those rationales are based on *KSR* and other precedent. The rationales include:

(A) Combining prior art elements according to known methods to yield predictable results;

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(B) Simple substitution of one known element for another to obtain predictable results;

(C) Use of known technique to improve similar devices (methods, or products) in the same way;

(D) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;

(E) ‘‘Obvious to try’’— choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;

(F) Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the art;

(G) Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

Id. at 57529. Ericsson contends that one or more of these rationales apply in considering the obviousness of the Asserted Claims. A person of ordinary skill in the art at the time of the claimed invention(s) had reason to combine or modify one or more of the references listed and charted in Exhibits A-1 to E-3 in light of the knowledge of a person of ordinary skill at the time and information in the prior art references cited herein.

Additional evidence establishing that there would have been a motivation to combine the prior art references identified above pursuant to the Scheduling Order includes the interrelated teachings of multiple prior art references; the effects of demands known to the design community or present in the marketplace; the existence of a known problem for which there was an obvious solution encompassed by the Asserted Claims; the existence of a known need or problem in the field of the endeavor at the time of the invention(s); and the background knowledge that would have been possessed by a person having ordinary skill in the art.

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Further, the prior art references explicitly or implicitly reference other prior art references, share common authors or inventors, were published in the same journals, presented at the same conferences, were presented as proposals to standards working groups, and/or were developed at common companies, schools, or organizations, all of which would motivate one of skill in the art to combine them. These references are also within the field of the Asserted Patents and are directed to similar subject matter within that field. Additionally, any products, devices, or processes described in the references existed and/or were invented before or during the period in which the claimed inventions were developed, providing further motivation to combine them.

Thus, the motivation to combine the teachings of the prior art references disclosed herein is found in the references themselves and: (1) the nature of the problem being solved, (2) the express, implied and inherent teachings of the prior art, (3) the knowledge of persons of ordinary skill in the art, (4) the fact that the prior art is generally directed toward methods and systems for processing wireless signals, and (5) the predictable results obtained in combining the different elements of the prior art. Additionally, one would be motivated to address at least the alleged problems or achieve the purported objectives identified in the description of the Asserted Patents. *See, e.g.,* the exemplary modifications to combine detailed below. Moreover, the references charted in the Invalidity Contentions recognized and solved these problems.

Any reference or combination of references that anticipates or makes obvious an asserted independent claim also makes obvious any asserted claim dependent on that independent claim because every element of each dependent claim was known by a person of ordinary skill at the time of the alleged invention, and it would have been obvious to combine those known elements with the independent claims at least as a matter of common sense and routine innovation. Accordingly, Ericsson contends that each asserted claim would have been obvious not only by

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the combinations explicitly defined in these contentions, but also by any combination of references that renders obvious an asserted claim.

Numerous prior art references, including those identified above and in the claim charts reflect common knowledge and the state of the prior art prior to the priority dates of the Asserted Patents. As it would be unduly burdensome to create detailed claim charts for the thousands of invalidating combinations, Ericsson has provided illustrative examples of such invalidating combinations in the charts noted herein. For at least the reasons described above and below in the examples provided, as well as in the attached claim charts, it would have been obvious to one of ordinary skill in the art to combine any of a number of prior art references, including any combination of those identified in the attached claim charts, to meet the limitations of the Asserted Claims. As such, Ericsson's inclusion of exemplary combinations does not preclude them from identifying other invalidating combinations as appropriate.

Secondary considerations of nonobviousness "simply cannot overcome a strong prima facie case of obviousness." *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1246 (Fed. Cir. 2010). For any secondary consideration to be relevant, Plaintiff must establish a nexus between the secondary consideration and the claimed inventions. *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1312 (Fed. Cir. 2006).

KPN has not provided any evidence of any secondary considerations, much less any nexus between such secondary considerations and the claimed inventions of the Asserted Patents. Ericsson contends that no secondary considerations evidence exists that supports the validity of any Asserted Claim and reserve all rights to respond to any argument or evidence presented by KPN regarding any alleged secondary considerations of non-obviousness.

a) **Exemplary Motivation to Combine for '705 Patent**

To the extent the references charted in Exhibits A-1 – A-3 do not disclose "before the modified parameter is implemented in the network, checking the modified parameter on the basis of a rule so as to yield a result, said rule comprising both a technically sufficient parameter

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setting requirement and a deviation from the setting requirement based on an operational requirement deduced from use of the radio network" it would have been obvious to combine any of these charted references with at least Iwanojko; Iwanojoko 051; Hyziak; Sciacca; Kim; Lee; Sandah; Yu; Matthews; Scherzer; I3; S5-99130; Hirsch; Tindal; Obhan; Feuerstein; Djoko; Sheridan; Clarkson; Shipman GB; Shipman WO; Shipman EP; Rappaport, each of which discloses this limitation as shown in each Exhibit A-1 to A-3. A person of skill in the art would be motivated to combine these references because they are in the same field of endeavor as the prior references in Exhibits A-1 to A-3, so a POSITA would have been encouraged to look at them. For instance, when a cell reconfiguration request is received, it was known and obvious to perform a check on the requested configuration changes to ensure they are compatible with the remaining parameter settings and capabilities. Only if the change operation is successful is the change command issued to cause the reconfiguration. For instance, it was widely known and obvious to utilize an expert system to optimize the system using "many rules" by initially obtaining the knowledge or rules of parameter optimization from human experts, just like the '705 Patent, and then as the conditions in the field change, the system will automatically change the relevant parameter values based on the field data, and iteratively evaluate their merits using the simulator. A POSITA would have understood that this was the preferred technique for altering operating parameters in order to improve and enhance performance of the communication system. The widely known self-engineering systems were universally understood to adjust operating parameters to achieve optimal network performance. And once a stable assignment has been achieved, the results are implemented in the wireless communication system and set in place for reevaluations by the self-engineering system. Specifically, once the simulator has run, the expert system evaluates whether the rules were complied with and if so the

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respective proposed operating parameters may be implemented into the network. The '705 Patent admits that as far back as 1991 "verifying" proposed parameter changes was known. (705 patent at 1:60-63.) Upon verification the modified parameters were "introduced into the network." (Id., 1:66-67.)

A POSITA would have been motivated to evaluate proposed network parameter changes before implementing them in order to verify that the overall network performance is improved. A POSITA would also have been motivated to verify optimized network parameters in the manner discussed above. Moreover, a POSITA would have been motivated to use various known design techniques in implementing the above-discussed configuration check using known parameter optimization systems with verification, and would have recognized the predictable benefit of simulating and verifying optimized parameters before implementing them into the communication network.

Such a design would have involved the use of known verification techniques to produce the predictable result of confirming that a modified parameter actually optimizes a specific network where it will be implemented.

These combinations would also have been a combination of prior art elements according to known methods and obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field. Moreover, these combinations would have been the result of applying known techniques to a known method—that was ready for improvement—to yield predictable results.

Moreover, design incentives and other market forces would have prompted these combinations and modifications. Additionally, some prior art references refer to or discuss other

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prior art references, illustrating the close technical relationship among the prior art references, either expressly or inherently; therefore, it would have been obvious to combine those pieces of prior art for at least that reason.

Moreover, to the extent the primary references do not disclose the features of claim 2, it would have been straightforward and obvious to "copy" the operational parameters from the network to a database, a POSITA would have found coping an obvious implementation of the available mechanisms for collecting the operating parameters. Indeed, copying parameters from a network was well-within the knowledge and skill of a POSITA. The '705 patent admits this when discussing Madebrink and stating that it was known to copy cell parameters to a database and store them along so that proposed changes can be prepared and verified before implementing the altered parameters into the network. 705 patent at 1:56-67. Additionally, a POSITA would have been encouraged to look to the above-described prior art given that it all is in the same filed. Having looked to these references a POSITA would have understood that copying the operational parameter from the radio network to a database; and changing the operational parameter to the modified parameter was well-understood routine and conventional at the time of the alleged invention and that performing these steps would have been straightforward and obvious. Such a person would have been motivated to use the actual network parameters in existence and modify them for optimization purposes. One well-known and obvious way to do that was to copy the operational parameters to a database and then modify them.

Similarly, a POSITA would have understood that generating a warning message to alert the user of configuration errors, e.g., generating a non-compliance signal if the modified parameter does not obey the operational requirement, was well-understood routine and conventional at the time of the alleged invention and that generating such a signal would have

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been straightforward and obvious. Such a person would have been motivated to generate a non-compliance signal to alert the operator of configuration failures and mistakes. One well-known and obvious way to do that was to provide the user with a warning that is programmable, e.g., a warning that is optionally visual and/or audible.

Also at the time of the alleged invention it was obvious, to copy parameters to one part of a database and modify them in another part of (the same or a different) database. Indeed, it would have been obvious to copy the operational parameter from the radio network to a database, and change the operational parameter to the modified parameter. The art is replete with examples of this feature. Having looked to the above-mentioned references, a POSITA would have understood that copying the operational parameter from the radio network to a database; and changing the operational parameter to the modified parameter was well-understood routine and conventional at the time of the alleged invention and that performing these steps would have been straightforward and obvious. Such a person would have been motivated to use the actual network parameters in existence and modify them for optimization purposes. One well-known and obvious way to do that was to copy the operational parameters to a database and then modify them.

b) **Exemplary Motivation to Combine for '772 Patent**

To the extent the references charted in Exhibits B-1 – B-3 do not disclose "wherein the ACSMD is further configured to relay the request to the identified ACS," it would have been obvious to combine any of these charted references with at least TSGR#8(99), TR-069, Rolens, RFC3489, RFC 2131, RFC 2132, Stapp, van den Bosch, Wu, Kang, Jin, Angelot, Ge", Ding, Freund 1, 2 and 3, Acke, Jozef, Zhang, Geng, Okkonen, Kvache, Obhan, Wishart, Donahue, Bathrick, Nikolaidis, Vogel, Jr., Chatrath, Zakurdaev, McKeown, each of which discloses this limitation.

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A person of skill in the art would be motivated to combine these references because they are in the same field of endeavor as the prior references in Exhibits B-1 to B-3, so a POSITA would have been encouraged to look at them. For instance, nothing about "relaying" information from one server to another or from a server to a device is innovative. The '772 patent admits as much, when it teaches that "relaying" information was known in the prior art. "The requesting manageable electronic device 1 sends its request to the wide area network WAN. In case the request comprises the IP address of the auto-configuration server manager, the DSLAM transmits the request to the network switch (not shown) that will relay the request to the auto configuration server manager (as known in the art)." 772 patent at 5:56-61. KPN also asserted that relaying is simply sending or passing in a brief to a Court in Delaware. *See for example*, Joint Claim Construction Brief (Dkt. No. 57) filed in *KPN v. Xiaomi*, 21-cv-00041-GBW-CJB (D. Del. June 10, 2022) at 52 fn 10, 55 (arguing that "relay" means "send" or "pass"); *see also id*. at 13 ("the ACSMD enables information … to pass between the ACSs and the manageable electronic device").)

Each of the primary references in exhibits B-1 to B-3 at least sends and/or passes messages between the configurable device and the configuration server using a proxy server as the intermediary. Nevertheless, to the extent KPN changes its position and argues that "relay" no longer means "send" or "pass," or contends that relaying of communications does not occur as discussed above, such modification would have been obvious to implement in view of the knowledge of a POSITA as confirmed in the above-mentioned prior art. For example, a person having ordinary skill in the art would have found it routine and conventional to modify the proxy servers in the prior art (the ACSMD) to relay the request to the configuration server (ACS) and relay the reply to the CPE (manageable electronic device). A person having ordinary skill in the

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art would have understood that relaying messages between a consumer device and a configuration server using a proxy server was straightforward, routine, conventional and the predominant manner of sending information between devices and servers. Nothing about "relaying" information from one server to another or from a server to a device is innovative. The '772 patent admits as much, when it teaches that "relaying" information was known in the prior art. '772 patent at 5:56-61. Also, in Delaware, KPN argued that relaying is simply sending or passing. A person having ordinary skill in the art would have recognized limited options for supplying the consumer device with configuration data: (1) coding the configuration server's URI into the device, (2) coding the central server's URI into the device so that the device can request configuration information from the central server, which will relay the request to the relevant configuration server with sufficient information for the configuration server to reply directly to the device, or (3) coding the central server's URI into the device so that the device can request configuration information from the central server, which will relay the request to the relevant configuration server with sufficient information for the configuration server to reply to the configuration server, which will then relay the configuration information to the device. Also, there is no dispute that the claimed "relay" was known in the art.

The claimed relaying of "the request to the identified ACS" and relaying of "the reply to the manageable electronic device" is, at most, a predictable variation of prior art. Therefore, a person having ordinary skill in the art would have found it straightforward, routine, conventional, and predictable to modify the prior art systems to relay requests and replies, as claimed.

Also, in the prior art systems there are situations where the consumer device does not know the configuration server's address, but it does know the unique resource identifier (URI) of the proxy server. Therefore, a person having ordinary skill in the art would have recognized that

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there is a good reason for the proxy server to "relay" messages between the consumer device and the configuration server—without relaying the requests/replies, the consumer device and configuration server would not be able to communicate. A person having ordinary skill in the art would have readily understood that in response to receiving the request, proxy server must ascertain where to send the request by looking at table/map (database) stored in a memory.

A person having ordinary skill in the art would have found it conventional to design the configuration server to match the MAC address of the consumer device with the corresponding IP address of the configuration server and then relay the consumer device's request to the configuration server based on the matching/processing performed by the proxy server

Given the disclosures in the above-described references and the knowledge of a person having ordinary skill in the art, modifying a proxy server to relay the consumer device's request for configuration settings after changing/processing that request would have been routine and conventional because it would have ensured that the request is sent/passed to the appropriate configuration server. Also, a person having ordinary skill in the art would have found it desirable to acquire the correct configuration file from the configuration server identified in the table/map—otherwise, the system would not operate properly.

c) **Exemplary Motivation to Combine for '560 Patent**

To the extent the references charted in Exhibits C-1 – C-4 do not disclose "[a] system for updating a neighbour cell list in a telecom communications architecture comprising a first wireless access network having a first wireless access node for which at least one first neighbour cell list is defined and a second wireless access network having a second wireless access node for which at least one second neighbour cell list is defined," it would have been obvious to combine any of these charted references with at least Amirijoo, Engström, Engström, Gunnarsson, Marsan, Nylander, TSG-SA5, S5-071401, S5-071254, S5-070974, S5-070862, S5-071060, R2-

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072044, R2-072044, 3GPP TR 32.816 V1.0.0, 3GPP TR 32.816 V1.3.1, 3GPP TS 36.300 V8.7.0, 3GPP TS 36.300 V8.0.0, and 3GPP TS 36.331 V8.7.0., each of which discloses this limitation. A person of skill in the art would be motivated to combine these references because they are in the same field of endeavor. And a POSITA having knowledge of these references would have found it obvious to modify the primary references in exhibits C-1 to C-4 to update neighbor cell lists in different wireless access networks. For example, it would have been obvious to combine and/or supplement the primary references in Exhibits C-1 to C4 with well-known products that focused on conventional neighbor cell lists, such as Ericsson's NCS Application, because a POSITA would have been motivated to include backward compatibility with earlier generations of cellular technology in a system implementing 3GPP TS 36.300. *See, e.g.*, Amirijoo at [0015]; S5-070862 at 4, 7; 3GPP TR 32.816 V1.3.1 at 5; 3GPP TS 36.300 V8.7.0 at 57–60; 3GPP TS 36.300 V8.0.0 at 48–50. In addition, it would have been obvious to combine Ericsson's ANR technology with one or more references that teach a system for updating neighbor cell lists in different wireless access networks. *See, e.g.*, 3GPP TR 32.816 (2007-05) at 10–12, 13–14; U.S. Publication No. 2007/0097938A1 at Abstract, Figs. 1–5, [0027]–[0031], [0036]–[0040], [0061], [0075]–[0087]; U.S. Patent No. 8,175,601 at 1:35–2:36; R2-072888 at 1–3; S5-070862 at 11–12, 13–14. Moreover, the above-described references reflect improvements in known systems in that that provide backward compatibility, and it is the nature of standard setting to combine ideas from different references to achieve the best solution. These combinations would also have been a combination of prior art elements according to known methods and obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field. Moreover,

these combinations would have been the result of applying known techniques to a known method—that was ready for improvement—to yield predictable results.

To the extent the references charted in Exhibits C-1 – C-4 do not disclose "a selector configured for selecting a part of the user terminals," it would have been obvious to combine any of these charted references with at least Amirijoo, Engström, Engström, Gunnarsson, Marsan, Nylander, TSG-SA5, S5-071401, S5-071254, S5-070974, S5-070862, S5-071060, R2-072044, R2-072044, 3GPP TR 32.816 V1.0.0, 3GPP TR 32.816 V1.3.1, 3GPP TS 36.300 V8.7.0, 3GPP TS 36.300 V8.0.0, and 3GPP TS 36.331 V8.7.0., each of which discloses this limitation. A person of skill in the art would be motivated to combine these references because they are in the same field of endeavor. And a POSITA having knowledge of these references would have found it obvious to modify the primary references in exhibits C-1 to C-4 given known design incentives and other market forces that would have prompted these combinations and modifications. Additionally, some prior art references refer to or discuss other prior art references, illustrating the close technical relationship among the prior art references, either expressly or inherently; therefore, it would have been obvious to combine those pieces of prior art for at least that reason. Moreover, the above-described references reflect improvements in known systems in that that provide backward compatibility, and it is the nature of standard setting to combine ideas from different references to achieve the best solution. These combinations would also have been a combination of prior art elements according to known methods and obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field. Moreover, these combinations would have been the

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result of applying known techniques to a known method—that was ready for improvement—to yield predictable results.

To the extent the references charted in Exhibits C-1 – C-4 do not disclose that "the telecommunications system is further configured for receiving location information from one or more of the detected user terminals and wherein the location information is used as a selection parameter for selecting the part of the detected user terminals," it would have been obvious to combine any of these charted references with at least Amirijoo, Engström, Engström, Gunnarsson, Marsan, Nylander, TSG-SA5, S5-071401, S5-071254, S5-070974, S5-070862, S5-071060, R2-072044, R2-072044, 3GPP TR 32.816 V1.0.0, 3GPP TR 32.816 V1.3.1, 3GPP TS 36.300 V8.7.0, 3GPP TS 36.300 V8.0.0, and 3GPP TS 36.331 V8.7.0., each of which discloses this limitation. A POSITA would have been motivated to combine well-known functionality for using location information as a selection parameter with the primary references given that it was well-understood and obvious to include the ability to associate measurements for self-optimisation purpose with location information, that the measurement load at UE should be minimized, and that the mobility solution should not consume excessive UE battery, e.g., due to measurements, measurement reporting, BCH reception, or TA update signalling. . . . Adaptive control of some measurement/mobility parameters (e.g., based on DRX, cell size, or mobility) may also be considered as a countermeasure. To reduce TA update signalling, TA allocations can be differentiated depending on the UE speed or the mobility vector, on top of appropriate TA planning. And a POSITA having knowledge of these references would have found it obvious to modify the primary references in exhibits C-1 to C-4 given known design incentives and other market forces that would have prompted these combinations and modifications. Additionally, some prior art references refer to or discuss other prior art references, illustrating the close

technical relationship among the prior art references, either expressly or inherently; therefore, it would have been obvious to combine those pieces of prior art for at least that reason. Moreover, the above-described references reflect improvements in known systems in that that provide backward compatibility, and it is the nature of standard setting to combine ideas from different references to achieve the best solution. These combinations would also have been a combination of prior art elements according to known methods and obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field. Moreover, these combinations would have been the result of applying known techniques to a known method—that was ready for improvement—to yield predictable results.

d) **Exemplary Motivation to Combine for '500 Patent**

To the extent the references charted in Exhibits D-1 – D-3 do not disclose a "base station is configured to receive radio signals from the mobile telecommunications device and further process the radio signals into processed signals and to transmit the processed signals to the core network," it would have been obvious to combine any of these charted references with at least Eisl, Cuffaro, Olsson, Jin 223. For example, the '500 Patent admits that this limitation was known to a POSITA. *See* '500 Patent, 3:19-22 ("As is known by the skilled person, when the mobile device transmits signals to the telecommunications network they are received in a base station and processed into data streams internal to the telecommunications network."). A person of ordinary skill in the art would have been motivated to combine the references with this knowledge of a POSITA, or any of the other prior art references identified herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known

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methods which would yield predictable results. For example, the references relate to standardized cellular communication networks such as GSM, LTE, etc., each of which contained base stations processing signals so far as Ericsson understands KPN's interpretation of those claims to the Accused Products.

To the extent the references charted in Exhibits D-1 – D-3 do not disclose a telecommunications network "arranged to count in the core network a number of occurrences of a certain predetermined signal associated with the mobile telecommunications device," it would have been obvious to combine any of these charted references with at least Eisl, Cuffaro, or Malik, each of which discloses this limitation. A person of ordinary skill in the art would have been motivated to combine the references with any of the prior art references identified herein with a reasonable expectation of success because each of these references contains familiar elements within the same field of endeavor to address the same known problems, according to known methods which would yield predictable results. For example, a POSITA would have been motivated to use counting to determine the various numbers, parameters, or statistics disclosed in the various references because such counting would have been more accurate than any other form (e.g., estimation) and could be performed with simple, known logic that was known to a POSITA for decades. A POSITA would have known that counting, including counting signals, was a routine and well-known practice and the most obvious and natural way to determine a "number" of something, including events or signals indicating handover in a network. A POSITA would have understood that handover signals, representing an interaction between network devices in the core network, were well-known in prior art networks (*see, e.g.*, Olsson) and that counting such signals would have been an obvious way to count handovers within the core network.

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e) Exemplary Motivation to Combine for '098 Patent

To the extent the references charted in Exhibits E-1 – E-3 do not disclose "one or more processors for carrying out [the claimed] operations," it would have been obvious to combine any of these charted references with at least Mills, BellSouth, Petite, Krco, Benaouda, ITU-T Recommendation I.257.1, ITU-T Recommendation Q.700, ITU-T Recommendation Q.737.1, ITU-T Recommendation Q.931, ITU-T Recommendation Q.957.1, 3GPP TR 33.812, 3GPP TR 22.868, 3GPP TS 29.007, and/or 3GPP TS 43.045, each of which discloses this limitation. A person of skill in the art would be motivated to combine these references because they are in the same field of endeavor. And a POSITA having knowledge of these references would have found it obvious to modify the primary references in exhibits E-1 to E-3 to use one or more processors, which are either inherent or obvious in view of the prior art, because such processors are necessary to carry out the relevant network functions. Moreover, a skilled artisan would have been motivated to combine the prior art's communications protocol with nodes used in telecommunications networks at the time, including, *e.g.*, MSC products sold by Ericsson. Moreover, the above-described references reflect improvements in known systems in that that provide backward compatibility, and it is the nature of standard setting to combine ideas from different references to achieve the best solution. These combinations would also have been a combination of prior art elements according to known methods and obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field. Moreover, these combinations would have been the result of applying known techniques to a known method—that was ready for improvement—to yield predictable results.

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To the extent the references charted in Exhibits E-1 – E-3 do not disclose "terminating further transmission of the received wireless signalling message and transferring said retrieved non-signalling application data to said machine-to-machine server," it would have been obvious to combine any of these charted references with at least Mills, BellSouth, Petite, Krco, Benaouda, ITU-T Recommendation I.257.1, ITU-T Recommendation Q.700, ITU-T Recommendation Q.737.1, ITU-T Recommendation Q.931, ITU-T Recommendation Q.957.1, 3GPP TR 33.812, 3GPP TR 22.868, 3GPP TS 29.007, and/or 3GPP TS 43.045, each of which discloses this limitation. A person of skill in the art would be motivated to combine these references because they are in the same field of endeavor. And a POSITA having knowledge of these references would have found it obvious to modify the primary references in exhibits E-1 to E-3 to terminate further transmission of the received wireless signalling message. As was known in the prior art, the purpose of the wireless signalling message is to convey M2M data over a telecommunications network. Once the node has extracted user data from the received wireless signalling message, it would have been obvious to a skilled artian, based on his or her ordinary ingenuity and common sense, to cease further transmission of the received wireless signalling message. In this context, further transmission of received wireless signalling messages would not work because the prior teches that the data processing system is incompatible with such messages. These combinations would also have been a combination of prior art elements according to known methods and obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field. Moreover, these combinations would have been the result of applying known techniques to a known method—that was ready for improvement—to yield predictable results.

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3. Statement Regarding Exemplary Obviousness Combinations and Motivations to Combine

The suggested obviousness combinations discussed herein are not to be construed to suggest that any reference included in the combinations is not anticipatory. Further, to the extent that KPN contends that any of the anticipatory prior art fails to disclose one or more limitations of the Asserted Claims, Ericsson reserves the right to identify other prior art references that, when combined with the anticipatory prior art, would render the claims obvious despite an allegedly missing limitation. Ericsson will further specify the motivations to combine the prior art, including through reliance on expert testimony, at the appropriate later stage of this lawsuit.

The Supreme Court in *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007), recognized that patents based on new combinations of elements or components already known in a technical field may be found to have been obvious. The Supreme Court rejected a rigid application of the "teaching, suggestion, or motivation [to combine]" test. *Id.* at 415, 419. "In determining whether the subject matter of a patent claim is obvious, neither the particular motivation nor the avowed purpose of the patentee controls. What matters is the objective reach of the claim." *Id.* at 419. "Under the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed." *Id.* at 420. The Supreme Court emphasized the principle that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *Id.* at 416. A key inquiry is whether the "improvement is more than the predictable use of prior art elements according to their established function." *Id.* at 417.

The Court further held that "in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle." *Id.* at 420. It is sufficient that a

combination of elements was "obvious to try"—"When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense." *Id*. at 421. "In that instance the fact that a combination was obvious to try might show that it was obvious under § 103." *Id*. Finally, the Supreme Court recognized that "[g]ranting patent protection to advances that would occur in the ordinary course without real innovation retards progress and may, in the case of patents combining previously known elements, deprive prior inventions of their value or utility." *Id*. at 419.

The rationale to combine or modify prior art references is significantly stronger when the references seek to solve the same problem, come from the same field, and correspond well together. *See In re Inland Steel Co.*, 265 F.3d 1354, 1362 (Fed. Cir. 2001) (allowing two references to be combined as invalidating art under similar circumstances where the art "focus[ed] on the same problem ... c[a]me from the same field of art [and] ... the identified problem found in the two references correspond[ed] well").

All of the following rationales recognized in *KSR* support a finding of obviousness with respect to each of the obviousness combinations disclosed herein: (1) combining prior art elements according to known methods to yield predictable results; (2) simple substitution of one known element for another to obtain predictable results; (3) use of a known technique to improve similar devices, methods, or products in the same way; (4) applying a known technique to a known device, method, or product ready for improvement to yield predictable results; (5) "obvious to try," that is, choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success; (6) known work in one field of endeavor may prompt

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variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the art; and (7) some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention. Certain of these rationales are discussed more specifically below. The fact that other rationales are not discussed more specifically should not be interpreted as an admission or concession that the other rationales do not apply.

Multiple teachings, suggestions, motivations, and/or reasons to modify any of the references and/or to combine two or more of the prior art references set forth herein come from many sources, including the prior art itself (individual references and as a whole), common knowledge, common sense, predictability, expectations, industry trends, design incentives or need, market demand or pressure, market forces, obviousness to try, the nature of the problem faced, and/or knowledge possessed by a person of ordinary skill. Ericsson reserves the right to present expert testimony on, among other things, the teachings, suggestions, motivations, and/or reasons to modify any of the references and/or to combine any two or more of the prior art references presented in Exhibits A to E.

Ericsson further contends that the prior art identified in these Preliminary Invalidity Contentions is evidence of simultaneous or near-simultaneous independent invention by others of the alleged invention as recited in one or more of the Asserted Claims. Ericsson reserves its right to rely on the simultaneous or near-simultaneous independent invention by others as further evidence of the obviousness of the Asserted Claims.

Each limitation of the Asserted Claims was well-known to those of ordinary skill in the art at the time. At best, the elements recited in the Asserted Claims are mere combinations and

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modifications of these well-known elements. A person of ordinary skill in the art would be able, and motivated, to improve the existing technology in the same or similar manner by combining or modifying the individual elements that were already known in the art to yield predictable results.

4. Secondary Considerations

A patentee bears the burden of production with respect to evidence of secondary considerations of non-obviousness. *ZUP, LLC v. Nash Mfg., Inc.*, 896 F.3d 1365, 1373 (Fed. Cir. 2018). As of the date of these Preliminary Invalidity Contentions, KPN has not yet identified any evidence of secondary considerations. Ericsson reserves all rights to further respond to any secondary considerations of non-obviousness raised by KPN, including by updating, modifying, and/or adding to these Preliminary Invalidity Contentions. Ericsson is not aware of any unexpected results (none is mentioned in the Asserted Patents or their file histories), long felt need, commercial success (or any nexus to any allegedly successful commercial embodiment), or awards for the alleged inventions of the Asserted Patents.

E. P.R. 3-3(d): Invalidity Under 35 U.S.C. § 112

As set forth below, Ericsson contends that the Asserted Claims are invalid under 35 U.S.C. § 112 because the claims (1) are indefinite; (2) fail to satisfy the enablement requirement; and/or (3) fail to satisfy the written description requirement.

Ericsson's invalidity contentions for the Asserted Claims identified in this section are made in the alternative and do not constitute, and should not be interpreted as, admissions regarding the construction or scope of the Asserted Claims identified herein or that any of the Asserted Claims identified herein would not have been anticipated and/or obvious in light of the prior art.

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KPN has not yet provided a claim construction for any of the terms or phrases that Ericsson anticipates will be in dispute. Ericsson, therefore, cannot provide a complete list of § 112 defenses because Ericsson does not know whether KPN will proffer a construction for certain terms and phrases that is broader than, or inconsistent with, the construction that would be supportable by the disclosure set forth in the specification. Ericsson offers these contentions without prejudice to any position they may ultimately take as to any claim construction issues.

Accordingly, Ericsson reserves the right to supplement, amend, and/or modify these § 112 invalidity contentions as discovery progresses.

1. Invalidity Under 35 U.S.C. § 112, ¶ 1

35 U.S.C. § 112, ¶ 1 requires that the specification contain a written description of the invention. "[T]he hallmark of written description is disclosure." *Boston Scientific Corp. v. Johnson & Johnson*, 647 F.3d 1353, 1361–62 (Fed. Cir. 2011) (citation omitted). The test for whether a specification adequately describes an invention is "whether the disclosure of the application relied upon reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date . . . . [T]he test requires an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art .... [It] is a question of fact." *Ariad Pharms., Inc. v. Eli Lilly and Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (*en banc*); *Boston Scientific*, 647 F.3d at 1362.

The enablement requirement of Section 112 demands that the patent specification enable "those skilled in the art to make and use the full scope of the claimed invention without 'undue experimentation.'" *Genentech, Inc. v. Novo Nordisk A/S*, 108 F.3d 1361, 1365 (Fed. Cir. 1997) (quoting *In re Wright*, 999 F.2d 1557, 1561 (Fed. Cir. 1993)). "[T]he scope of the claims must be less than or equal to the scope of the enablement." *Nat'l Recovery Tech., Inc. v. Magnetic Separation Sys., Inc.*, 166 F.3d 1190, 1196 (Fed. Cir. 1999).

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Ericsson contends that the following Asserted Claims are invalid under 35 U.S.C. § 112, ¶ 1. Each Asserted Claim identified below (and each Asserted Claim that depends therefrom) is invalid under ¶ 1 because the specification of the Asserted Patent fails to provide a sufficient written description, enabling disclosure, and/or fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention the meaning of the term(s) and/or phrase(s). For each listed term or phrase, Ericsson believes the term or phrase is invalid under § 112, ¶ 1, as is any limitation including such terms or phrases, for the same reason(s).

Asserted Patent	Asserted Claim(s)	Term(s) and/or Phrase(s) Lacking Written Description and/or Enablement
'705 patent	1, 22	verifying a modified parameter
	1, 22	an operational parameter of a component of a radio network
	1, 22	a technically sufficient parameter setting requirement
	22	a rule checker…which checks the modified parameter on the basis of a rule so as to yield a result
	1, 22	a deviation from the setting requirement based on an operational requirement deduced from use of the radio network
	1	storing the modified parameter in the network
	22	a data transferrer which … stores the modified parameter in the network
	1, 22	subsequent network operation will respond to the modified parameter
	2	copying the operational parameter from the radio network to a database
	3	generating a non-compliance signal
	24	a signal generator which generates a non-compliance signal if the modified parameter does not obey the operational requirement
	25	scripting means which define rules and/or error messages that are to be used by the rule checker
	4	the non-compliance signal is a file or message displayed to an operator
	5	the non-compliance signal is programmable
'772 patent	1	one database … storing information for the identification of electronic devices,
	10,	at least one database storing information for

Asserted Patent	Asserted Claim(s)	Term(s) and/or Phrase(s) Lacking Written Description and/or Enablement
		the identification of electronic devices
	1, 10	configuration data comprise data for configuring the manageable electronic device,
	1	provide configuration data to the manageable electronic device
	3	the ACSMD is further configured to identify the type of the manageable electronic device by comparing a network address of the manageable electronic device in the request with a predetermined plurality of network addresses in the at least one database
	4	identifying a service provider based on the network address from a predetermined plurality of service provider identifications associated with the predetermined plurality of network addresses in the at least one database
	5, 6	determining a network address of the identified ACS from a predetermined plurality of ACS network addresses in the at least one database
'560 patent	1	a detector configured for detecting user terminals to be transferred from the first wireless access node to the second wireless access node of the second wireless access network
	1	updating means configured for updating at least one of the first neighbour cell list and the second neighbour cell list using the received cell information.
	6	transfer system
'500 patent	1	wherein the telecommunications network is arranged to count in the core network a number of occurrences of a certain predetermined signal associated with the mobile telecommunications device, the certain predetermined signal representing an interaction between network devices in the core network for normal processing of signals
	1	further process the radio signals into processed signals
	1	wherein the telecommunications network is further arranged to register when the number of occurrences of the certain predetermined signal exceeds a level indicating acceptable behaviour of the mobile telecommunications device in the

Asserted Patent	Asserted Claim(s)	Term(s) and/or Phrase(s) Lacking Written Description and/or Enablement
		telecommunications network
	1	wherein the certain predetermined signal indicates handover of the mobile telecommunications device
	5	wherein the telecommunications network is further configured to detect when the number of occurrences of the certain predetermined signal exceeds a predetermined rate
	7	wherein the telecommunications network is arranged to register when the number of occurrences of the certain predetermined signal exceeds the level for acceptable behaviour by setting a flag and/or starting a back off timer
	9	wherein the telecommunications network is arranged to count the number of occurrences of the certain predetermined signal in a Mobility Management Entity or Serving Gateway Support Node or Mobile Switching Center of the telecommunications network
	10	identify at least one additional mobile telecommunications device
	10	count in the core network a number of occurrences of a certain predetermined signal associated with the at least one additional mobile telecommunications device, the certain predetermined signal representing an interaction between network devices for normal processing of signals
	10	register when the number of occurrences of a certain predetermined signal associated with the at least one additional mobile telecommunications device exceeds a level indicating acceptable behaviour of the at least one additional mobile telecommunications device in the telecommunications network
	10	wherein the telecommunications network is further arranged to aggregate registered data of the mobile telecommunications device and the at least one additional mobile telecommunications device
	10	wherein the certain predetermined signal associated with the at least one additional mobile telecommunications device indicates handover of the at least one additional mobile

Asserted Patent	Asserted Claim(s)	Term(s) and/or Phrase(s) Lacking Written Description and/or Enablement
		telecommunications device
'098 patent	17	wireless signalling message
	17	non-signalling application data
	17	machine-to-machine server
	20	machine-to-machine communications setting

2. Invalidity Under 35 U.S.C. § 112, ¶ 2

Claims are indefinite under 35 U.S.C. § 112, ¶ 2 when they "fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention." Nautilus, Inc. v. Biosig Instruments, Inc., 34 S. Ct. 2120, 2124 (2014). To the extent an asserted apparatus claim includes both apparatus and method limitations, that claim is invalid for indefiniteness under § 112, ¶ 2 because it fails to identify or notify the public of what constitutes direct infringement. See IPXL Holdings, L.L.C. v. Amazon.com, Inc., 430 F.3d 1377 (Fed. Cir. 2005).

In addition to Ericsson's reservation of rights stated above, Ericsson will present arguments as to indefiniteness will be presented at that time, i.e., through the Markman meet and confer and briefing process.

Ericsson contends that the following Asserted Claims are invalid under 35 U.S.C. § 112, ¶ 2. Each Asserted Claim identified below (and each Asserted Claim that depends therefrom) is invalid under ¶ 2 because they fail to inform, with reasonable certainty, those skilled in the art about the scope of the claimed invention. For each listed term or phrase, Ericsson believe the term or phrase (as well as terms within any such phrase) is invalid under § 112, ¶ 2, and any limitation including such term or phrase is also indefinite.

Asserted Patent	Asserted Claim(s)	Indefinite Terms or Phrases
'705 patent	1, 22	verifying a modified parameter
	1, 22	an operational parameter of a component of a radio network
	22	a rule checker…which checks the modified parameter on the basis of a rule so as to yield a

Asserted Patent	Asserted Claim(s)	Indefinite Terms or Phrases
		result
	1, 22	a deviation from the setting requirement based on an operational requirement deduced from use of the radio network
	1, 22	a technically sufficient parameter setting requirement
	1	storing the modified parameter in the network
	22	a data transferrer which … stores the modified parameter in the network
	1, 22	subsequent network operation will respond to the modified parameter
	2	copying the operational parameter from the radio network to a database
	3	generating a non-compliance signal
	24	a signal generator which generates a non-compliance signal if the modified parameter does not obey the operational requirement
	25	scripting means which define rules and/or error messages that are to be used by the rule checker
	4	the non-compliance signal is a file or message displayed to an operator
	5	the non-compliance signal is programmable
'772 patent	1	one database … storing information for the identification of electronic devices,
	10,	at least one database storing information for the identification of electronic devices
	1, 10	configuration data comprise data for configuring the manageable electronic device,
	1	provide configuration data to the manageable electronic device
	3	the ACSMD is further configured to identify the type of the manageable electronic device by comparing a network address of the manageable electronic device in the request with a predetermined plurality of network addresses in the at least one database
	4	identifying a service provider based on the network address from a predetermined plurality of service provider identifications associated with the predetermined plurality of network addresses in the at least one database
	5, 6	determining a network address of the identified ACS from a predetermined plurality of ACS network addresses in the at least one database
'560 patent	1	a detector configured for detecting user

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Asserted Patent	Asserted Claim(s)	Indefinite Terms or Phrases
		terminals to be transferred from the first wireless access node of the first wireless access network to the second wireless access node of the second wireless access network
	1	a selector configured for selecting a part of the user terminals
	1	updating means configured for updating at least one of the first neighbour cell list and the second neighbour cell list using the received cell information.
	6	the one or more cell parameters of wireless access nodes of the second wireless access network
'500 patent	1, 10	[further] process the[se] radio signals into processed signals
	1, 10	occurrences of a certain predetermined signal associated with the [at least one additional] mobile telecommunications device, the certain predetermined [processed] signal representing an interaction between network devices [in the core network] for normal processing of signals
	1, 10	wherein the certain predetermined signal [associated with the at least one additional mobile telecommunications device] indicates handover of the [at least one additional] mobile telecommunications device
	1, 10	when the number of occurrences of [the/a] certain predetermined signal [associated with the at least one additional mobile telecommunications device] exceeds a level indicating acceptable behaviour of the [at least one additional] mobile telecommunications device [with]in the telecommunications network
	5	when the number of occurrences of certain predetermined signal exceeds a predetermined rate
	7	when the number of occurrences of the certain predetermined signal exceeds the level for acceptable behaviour
	7	setting a flag and/or starting a back off timer
	9	Mobility Management Entity or Serving Gateway Support Node or Mobile Switching Center
	10	certain predetermined processed signal

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Asserted Patent	Asserted Claim(s)	Indefinite Terms or Phrases
	10	aggregate registered data
'098 patent	17	wireless signalling message
	17	non-signalling application data
	17	machine-to-machine server
		machine-to-machine communications setting

III. Accompanying Document Production

Pursuant to P.R. 3-4(a), Ericsson is producing documentation sufficient to show the operation of any aspects or elements of each Accused Instrumentality identified by KPN in its P.R. 3-1(c) charts. *See, e.g.,* Ericsson_INV_000007527-Ericsson_INV_000007734; Ericsson_INV_000008807-Ericsson_INV_000008821; Ericsson_KPN_001990439-Ericsson_KPN_001998099. Additionally, pursuant to P.R. 3-4(b), Ericsson is producing herewith a copy of each prior art reference identified above pursuant to P.R. 3-3(a) which does not appear in the file histories of the Asserted Patents, as well as additional prior art references. *Id.* To the extent any such prior art reference is not in English, Ericsson has produced to KPN or will produce to KPN an English translation of the portion(s) of the non-English prior art reference(s) relied upon by Ericsson. *Id.*

Dated: March 16, 2023

Theodore Stevenson, III (Lead Attorney)
Texas State Bar No. 19196650
ted.stevenson@alston.com
ALSTON & BIRD
2200 Ross Avenue, Suite 2300
Dallas, TX 75201
Telephone: (214) 922-3507
Facsimile: (214) 922-3899

Samuel F. Baxter
Texas State Bar No. 01938000
sbaxter@mckoolsmith.com
Jennifer L. Truelove
Texas State Bar No. 24012906
jtruelove@mckoolsmith.com
MCKOOL SMITH, P.C.
104 E. Houston Street, Suite 300
Marshall, Texas 75670
Telephone: (903) 923-9000
Telecopier: (903) 923-9099

ATTORNEYS FOR TELEFONAKTIEBOLAGET LM ERICSSON AND ERICSSON INC.

/s/ Nicholas Mathews
Nicholas Mathews
Texas State Bar No. 24085457
nmathews@McKoolSmith.com
Jonathan Powers
Texas State Bar No. 24098277
jpowers@mckoolsmith.com
Alexander J. Chern
Texas State Bar No. 24109718
achern@McKoolSmith.com
Carson D. Young
Texas State Bar No. 24106613
cyoung@McKoolSmith.com
MCKOOL SMITH, P.C.
300 Crescent Court Suite 1500
Dallas, TX 75201
Telephone: (214) 978-4000
Telecopier: (214) 978-4044

Joshua Budwin
Texas State Bar No. 24050347
jbudwin@mckoolsmith.com
Matthew T. Cameron
Texas State Bar No. 24097451
mcameron@McKoolSmith.com
MCKOOL SMITH, P.C.
303 Colorado Street, Suite 2100
Austin, TX 78701
Telephone: (512) 692-8752
Telecopier: (512) 692-8744

John S. Holley
Texas State Bar No. 24078678
jholley@mckoolsmith.com
MCKOOL SMITH, P.C.
1900 K Street, Suite 600
Washington, DC 20006
Telephone: (202) 370-8300
Telecopier: (202) 370-8344

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CERTIFICATE OF SERVICE

I certify that on March 16, 2023, the foregoing document was served by electronic mail on all counsel of record.

/s/ *Nicholas Mathews*
Nicholas Mathews

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