

Plaintiff Cellular Evolution LLC (“Cellular Evolution” or “Plaintiff”) hereby submits this First Amended Complaint against Defendants AT&T Inc. (“ATTI”), AT&T Communications, LLC (“ATTC”), AT&T Mobility LLC (“ATTM”), and Cricket Wireless LLC (“Cricket”) (collectively, “AT&T” or “Defendants”) and states as follows:

THE PARTIES

1. Cellular Evolution is a Delaware limited liability company, having a principal place of business at 26552 La Alameda Ave., Suite 360, Mission Viejo, CA 92691.

2. On information and belief, ATTI is a corporation organized and existing under the laws of the State of Delaware, with a principal place of business at 208 South Akard Street, Dallas, Texas 75202-4206, and a registered agent for service of process at CT Corporation System, 1999 Bryan Street, Suite 900, Dallas, Texas 75201.

3. On information and belief, ATTC is a Delaware limited liability company with a principal place of business at 208 South Akard Street, Dallas, Texas 75202 and a registered agent for service of process at the Corporation Trust company, 1209 Orange St., Wilmington, Delaware 19801.

4. On information and belief, ATTM is a Delaware limited liability company with a principal place of business at 1025 Lenox Park Blvd NE, Atlanta, Georgia 30319 and a registered agent for service of process at CT Corporation System, 1999 Bryan Street, Suite 900, Dallas, Texas 75201.

5. On information and belief, Cricket is a Delaware limited liability company with a principal place of business at 575 Morosgo Dr. NE, Atlanta, Georgia 30324 and a registered agent for service of process at CT Corporation System, 1999 Bryan Street, Suite 900, Dallas, Texas 75201.

6. Cricket Wireless markets mobile phones and related wireless services in this district through its website (www.cricketwireless.com) and retail outlets such as the Cricket Wireless stores located for example, at 121 W. Southwest Loop 323, Tyler, Texas 75701 and 120 E. End Blvd. S., Marshall, Texas 75670.

7. On information and belief, in 2014, ATTI acquired Leap Wireless International Inc., which operated under the Cricket brand. Cricket was integrated with AT&T's operations to create the "new Cricket" prepaid, no-contract segment of AT&T's wireless operation. Cricket is a wholly owned subsidiary of ATTI.

JURISDICTION AND VENUE

8. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a) because this action arises under the patent laws of the United States, 35 U.S.C. §§ 101 *et seq.*

9. This Court has personal jurisdiction over AT&T. AT&T has regularly conducted and continues to conduct business in the State of Texas and in the Eastern District of Texas. On information and belief, AT&T has committed acts of infringement in the United States, in Texas, and in this federal judicial district.

10. Venue is proper in this federal district pursuant to 28 U.S.C. 1400(b).

11. On information and belief, AT&T has committed and continues to commit acts of infringement in this district. On information and belief, AT&T maintains a "regular and established" place of business in this federal judicial district, including by (a) maintaining or controlling retail stores in this federal judicial district; (b) maintaining and operating infringing base stations in this federal judicial district, including on cellular towers and other installation sites owned or leased by AT&T; and (c) maintaining and operating other places of business, including

those where research and development and sales are conducted, where customer service is provided, or where repairs are made.

12. On information and belief, AT&T has at least the following regular and established places of business in this district including but not limited to, ownership of or control over property, inventory, or infrastructure: 4757 S. Broadway Ave., Tyler, Texas, 75703; 2028 Southeast Loop 323, Tyler, Texas 75701; 8922 S. Broadway Ave., Tyler, Texas 75703; and 1712 E. Grand Ave., Marshall, TX 5670.

13. On information and belief, AT&T has a facility in Plano, Texas, called the “AT&T Foundry.”¹ On information and belief, the projects carried out at the AT&T Foundry include research and development relating to “network architecture, big data analytics, software defined networking, [and] the internet of Things.”²

14. In other recent actions, AT&T has either admitted or not contested that this federal judicial district is a proper venue for patent infringement actions against it. *See, e.g.*, Answer ¶ 40, *Mobile Synergy Sols., LLC v. AT&T Mobility LLC et al.*, No. 6:17-cv-00309 (E.D. Tex. Aug. 4, 2017), ECF No. 31; Answer ¶¶ 6, 7, *Traxcell Techs., LLC v. AT&T, Inc. et al.*, No. 2:17-cv-00718 (E.D. Tex. Jan 29, 2018), ECF No. 14; Answer ¶¶ 5, 7 *Location Based Srvs., LLC v. AT&T Mobility LLC*, No. 2:17-cv-00569 (E.D. Tex. Oct. 9, 2017), ECF No. 12.; Answer ¶ 7, *Fractus, S.A. v. AT&T Mobility LLC*, No. 2:18-cv-135 (E.D. Tex. Jun. 15, 2018), ECF No. 30.

15. AT&T derives benefits from its presence in this federal judicial district, including, but not limited to, sales revenue. For example, AT&T receives revenue from its corporate stores in this district, by selling network access, phone products, and services and by receiving payment for its network access, phone/products, and services.

¹ <https://www.att.jobs/peek-inside-innovative-att-foundry-plano-texas>.

² *Id.*

SUMMARY

16. On information and belief, in 2004, AT&T launched its 3G network touting it as “a major milestone in the North American telecommunications sector.”³ AT&T’s 3G network is a Universal Mobile Telecommunications System (“UMTS”) wireless network.⁴ UMTS is an umbrella term for the third generation (“3G”) radio technologies developed within the 3GPP.⁵

17. The 3rd Generation Partnership Project (“3GPP”) unites multiple telecommunications standard development organizations and provides their members with a stable environment to produce the Reports and Specifications that define the 3GPP technologies.⁶

18. One of the individual members of the 3GPP is The Alliance for Telecommunications Industry Solutions, USA (“ATIS”).⁷

19. On information and belief, AT&T is a member of ATIS.⁸

20. AT&T recognizes 3GPP as “the global standards body for LTE and 5G.”⁹

21. On information and belief, by 2007, UMTS was “the leading 3G technology choice” and “AT&T’s 3G service footprint include[ed] more than 200 major metropolitan areas.”¹⁰

22. On information and belief, by 2010, UMTS was among the most popular 3G mobile communication technologies.¹¹

³ <https://www.businesswire.com/news/home/20040720005480/en/ATT-Wireless-Launches-Commercial-3G-Services-Powered>.

⁴ *Id.*

⁵ <https://www.3gpp.org/technologies/keywords-acronyms/103-umts>.

⁶ <https://www.3gpp.org/about-3gpp>.

⁷ <https://www.3gpp.org/about-3gpp/partners>.

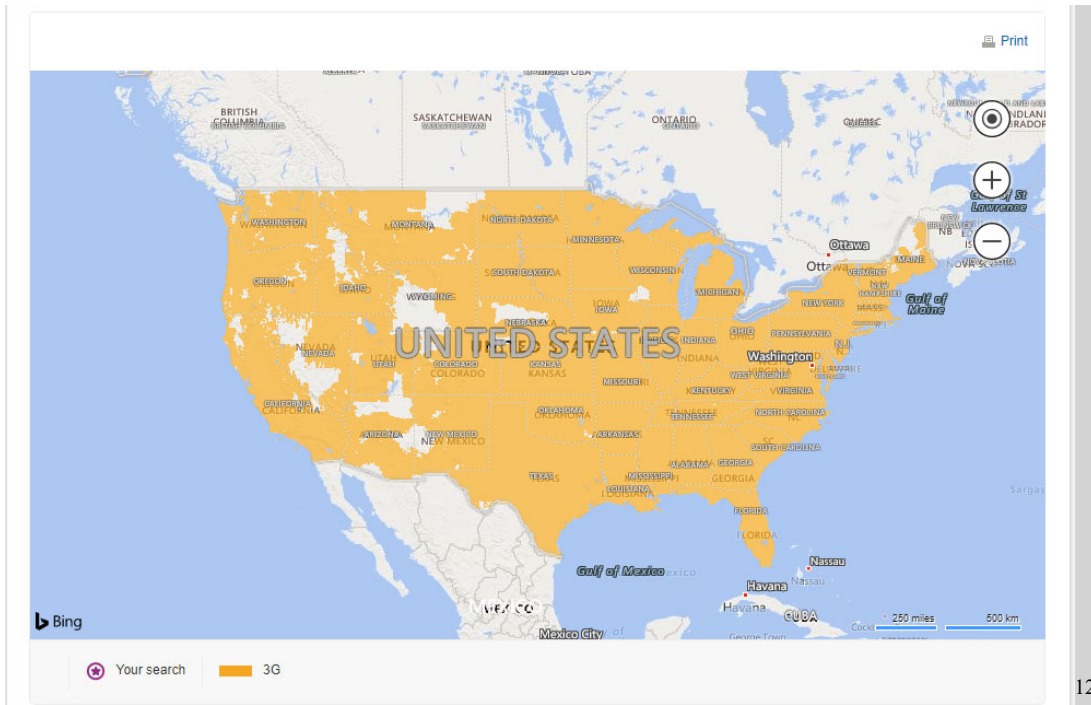
⁸ https://www.atis.org/01_membership/members/.

⁹ https://about.att.com/newsroom/2018/communication_standards.html.

¹⁰ <https://www.justice.gov/atr/telecom-symposium-presentation-hank-kafka-att>.

¹¹ F. Qian, Z. Wang, A. Gerber, Z. M. Mao, S. Sen, and O. Spatscheck. Characterizing Radio Resource Allocation for 3G Networks, IMC '10 Proceedings of the 10th ACM SIGCOMM conference on Internet measurement Pages 137-150, Melbourne, Australia, Nov. 01-30, 2010 [available at <https://dl.acm.org/citation.cfm?id=1879159>] (“Qian”).

23. On information and belief, AT&T currently has a 3G network extending throughout the United States. The map below shows the coverage of AT&T's 3G network in the United States:



24. A UMTS network consists of three subsystems as shown in the figure below: (1) User Equipment (UE) which is essentially a mobile handset carried by an end user; (2) UMTS Terrestrial Radio Access Network (UTRAN) which allows connectivity between a UE and a Core Network and consists of base stations (called Node-Bs) and Radio Network Controllers (RNC), which control multiple Node-Bs; and (3) the Core Network (“CN”) which is the backbone of the cellular network.¹³

¹² <https://www.att.com/maps/edo/att-hplmn-broadband.html>.

¹³ Qian, Fig. 1.

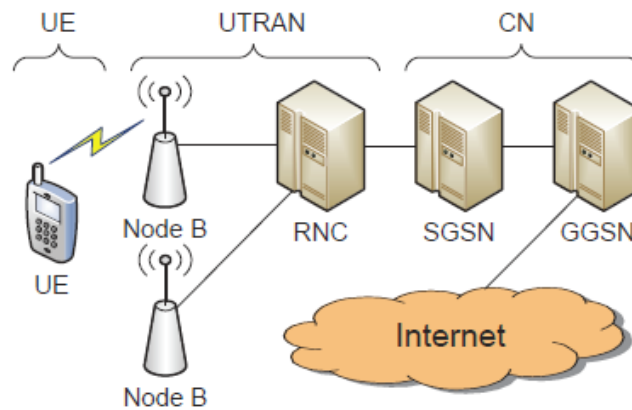


Figure 1: The UMTS architecture

25. 3GPP has adopted a standard which specifies the Radio Resource Control (“RRC”) Protocol for the UE-UTRAN radio interface in a UMTS network which is titled Universal Mobile Telecommunications System (UMTS); Radio Resource Control (RRC); Protocol Specification and is set forth, for example, in 3GPP TS 25.331 and ETSI TS 125.331 (“UMTS RRC Protocol”).

26. According to the UMTS RRC Protocol, “scheduling of system information blocks is performed by the RRC layer in UTRAN.” UMTS RRC Protocol at 8.1.1.1.5. To that end, “system information is continuously broadcast on a regular basis in accordance with the scheduling defined for each system information block.” UMTS RRC Protocol at 8.1.1.2. The UMTS RRC Protocol then requires that the “UE shall read SYSTEM INFORMATION messages broadcast on a BCH transport channel in idle mode and in the connected mode in states CELL_FACH, CELL_PCH, URA_PCH and CELL_DCH (TDD only).” UMTS RRC Protocol at 8.1.1.3.

27. On information and belief, implementation of the UMTS RRC Protocol is mandatory in a UMTS network.

28. 3GPP has also adopted a standard which specifies the Access Stratum (AS) part of the Idle Mode procedures applicable to a UE which is titled Universal Mobile Telecommunications System (UMTS); User Equipment (UE) procedures in idle mode and procedures for cell

reselection in connected mode and is set forth, for example, in 3GPP TS 25.304 and ETSI 125.304 (“UMTS UE Procedures”).

29. The UMTS UE Procedures apply to all UEs that support at least UTRA, including multi-RAT UEs described in the 3GPP specifications in instances (a) when the UE is camped on a UTRA cell; and/or (b) when the UE is searching for a cell to camp on. UMTS UE Procedures at 7.

30. On information and belief, the implementation of the UMTS UE Procedures is mandatory in a UMTS network.

31. 3GPP has adopted a technical specification for the GSM, UMTS and LTE network architecture titled “Digital Cellular Telecommunications System (Phase 2+) (GSM); Universal Mobile Telecommunications System (“UMTS”); LTE; Network Architecture” as 3GPP TS 23.002 and ETSI TS 123.002 (“3GPP Network Architecture”).

32. On information and belief, the AT&T network complies with the 3GPP Network Architecture.¹⁴

33. Additionally, on information and belief, each Defendant is a 3rd Generation Partnership Project (“3GPP”) member organization or is affiliated with a 3GPP member organization. 3GPP solicits identification of standard essential patents, and on information and belief through 3GPP, each Defendant received actual notice of the standard essential patents at issue here.

34. On information and belief, AT&T, as a sophisticated user of the patent system and a sophisticated industry leader in standard-setting bodies, had actual knowledge of the patents at issue here. AT&T has played a leadership role in standard setting within the 3GPP. In a

¹⁴ See, e.g., <https://www.businesswire.com/news/home/20040720005480/en/ATT-Wireless-Launches-Commercial-3G-Services-Powered>

presentation in January 2009, in which AT&T identified the rollout of AMR-WB within the 3GPP, AT&T noted its own leadership in standard setting within both the 3GPP and other organizations.¹⁵

35. On information and belief, AT&T sells products for use on its network (“AT&T UE”).¹⁶ Carriers such as AT&T are not mere resellers of UEs. Instead, AT&T subsidizes and bundles UEs with cellular service plans.

36. Defendants are not licensed to the patents asserted in this Complaint, yet each Defendant knowingly, actively, and lucratively practices and induces others to practice the claims of the patents.

COUNT I: INFRINGEMENT OF U.S. PATENT NO. 6,741,868

37. On May 25, 2004, the USPTO duly and legally issued United States Patent No. 6,741,868 (“the ‘868 Patent”), entitled “Method and Apparatus for Interfacing Among Mobile Terminal, Base Station, and Core Network in Mobile Telecommunications System.” Cellular Evolution holds all rights, title, and interest in and to the ‘868 Patent.

38. Upon information and belief, Defendants have infringed directly and continue to infringe directly the ‘868 Patent. The infringing acts include, but are not limited to, the use of products and services practicing the UMTS RRC Protocol and UMTS UE Procedures adapted by 3GPP. The infringing activity includes at least compliance with the UMTS RRC Protocol and UMTS UE Procedures in AT&T’s 3G network including the base stations constituting that network in the United States and the UE operating on that network.

¹⁵ <https://www.atis.org/lte/documents/AT&Ts%20Vision%20of%20LTE.pdf>.

¹⁶ <https://www.att.com/buy/phones/>.

39. On information and belief, AT&T's 3G network employs a UMTS network.¹⁷ On information and belief, AT&T's 3G network complies with the UMTS RRC Protocol and practices the requirements set forth in that standard.

40. On information and belief, the AT&T UE complies with the UMTS UE Procedures.

41. AT&T advertises and promotes its 3G network on its website.¹⁸

42. AT&T offers for sale and sells products for use on its network ("AT&T UE").¹⁹

43. The AT&T UE includes, but is not limited to, for example, the following products: Apple iPhone XR, Apple iPhone SE, Apple iPhone XS, Apple iPhone XS Max, Apple iPhone X, Apple iPhone 8, Apple iPhone 8 Plus, Apple iPhone 7, Apple iPhone 7 Plus, Apple iPhone 6s, Apple iPhone 6s Plus, Samsung Galaxy S10+, Samsung Galaxy S10e, Samsung Galaxy S10, Samsung Galaxy Note 9, Samsung Galaxy S9, Samsung Galaxy S9+, Samsung Galaxy S8, Samsung Galaxy S8 Active, Samsung Galaxy S8 Plus, Samsung Galaxy S7, Samsung Galaxy Fold, Samsung Galaxy J7, Samsung Galaxy J3, Samsung Galaxy A6, Samsung Galaxy Note8, LG G8 ThinQ, LG Stylo 4+, LG K30, LG V40 ThinQ, LG V35 ThinQ, LG X Venture, LG V30, Kyocera DuraForce Pro 2, Razer Phone 2, Moto G Play 6th Gen., and Blackberry KEYone.²⁰

44. AT&T directly infringes the '868 Patent. For example, AT&T directly infringes representative claim 27 of the '868 patent because performance of all steps of the method claims of the '868 patent is attributable to AT&T.

45. Claim 27 of the '868 Patent recites a method for interfacing among a terminal, a radio network and a core network connected to the radio network in a mobile telecommunication system, wherein the radio network has a base station (BS). AT&T performs a method for

¹⁷ <https://www.pcmag.com/news/300986/cdma-vs-gsm-whats-the-difference>.

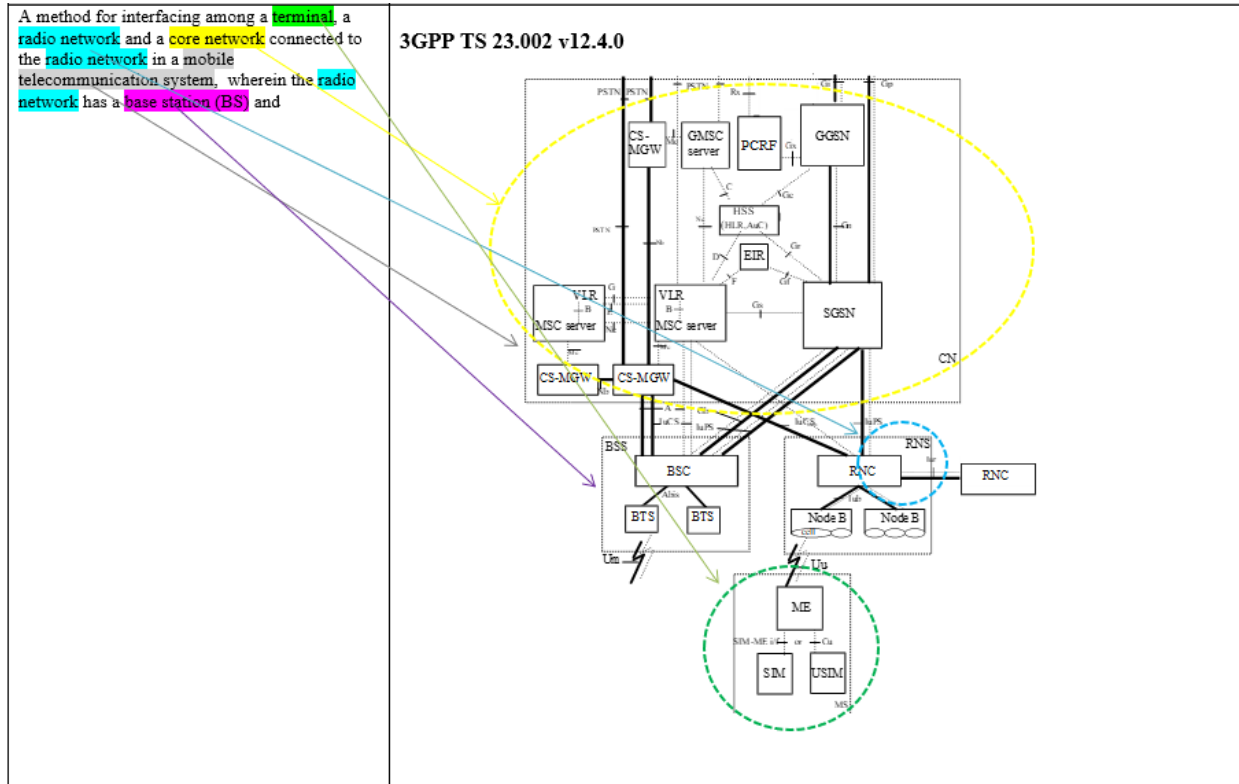
¹⁸ <https://www.att.com/maps/edo/att-hplmn-broadband.html>.

¹⁹ <https://www.att.com/buy/phones/>.

²⁰ <https://www.att.com/buy/phones/>.

interfacing among a terminal (UE), a radio network and a core network connected to the radio network in a mobile telecommunication system, wherein the radio network has a base station (BS).


To the extent the preamble of claim 27 is deemed to be a limitation, it is performed by AT&T:



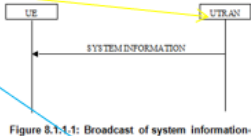
46. Claim 27 of the '868 Patent recites the terminal has a hybrid operating type being possible to be set as either a synchronous operating type or an asynchronous operating type. The UE and the AT&T radio network meet this limitation:

<p>the terminal has a hybrid operating type being possible to be set as either a synchronous operating type or an asynchronous operating type, said method comprising the steps of:</p>	<p>3GPP TS 25.304 V12.1.0</p> <p>Page 16</p> <p>5 Process and procedure descriptions</p> <p>5.1 PLMN selection</p> <p>5.1.1 General</p> <p>In the UE, the AS shall report available PLMNs to the NAS on request from the NAS or autonomously.</p> <p>UE shall maintain a list of allowed PLMN types. The allowed PLMN type can be GSM-MAP only, ANSI-41 only or both. During PLMN selection, based on the list of allowed PLMN types and a list of PLMN identities in priority order, the particular PLMN may be selected either automatically or manually. Each PLMN in the list of PLMN identities can be identified by either 'PLMN identity' (GSM-MAP) or 'SID'. In the system information on the broadcast channel, the UE can receive a 'PLMN identity' (GSM-MAP) or a 'SID' or a 'PLMN identity' (GSM-MAP) and a 'SID', in a given cell. For a given cell, the UE might receive several 'PLMN identities' from the system information on the broadcast channel. The result of the PLMN selection is an identifier of the selected PLMN, the choice being based on the allowed PLMN types, UE capability or other factors. This identifier is one of either 'PLMN identity' for GSM-MAP type of PLMNs or 'SID' for ANSI-41 type of PLMNs.</p> <p>In case that the list of allowed PLMN types includes GSM-MAP, the non-access part of the PLMN selection process is specified in [5]. In the case that list of allowed PLMN types includes ANSI-41, the non-access stratum part of the PLMN selection is specified in TIA/EIA/IS-2000.5 and TIA/EIA/IS-707.</p>
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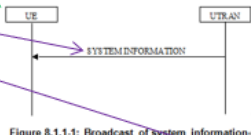
47. Claim 27 of the '868 Patent recites that the method comprises the step of storing core network operating type information and information related to the core network on a storage device. AT&T perform this step at the base stations of its 3G network:

<p>a) storing core network operating type information and information related to the core network on a storage device;</p>	<p>ETSI TS 125 331 V15.4.0</p> <p>Page 61</p> <p>.8.1 RRC Connection Management Procedures</p> <p>.8.1.1 Broadcast of system information</p>  <p>Figure 8.1.1.1: Broadcast of system information</p> <p>Note: See below for PLMN type contained in the system information message from UTRAN to UE.</p>
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48. Claim 27 of the '868 Patent recites that the method comprises the step of reading the core network operating type information and information related to the core network stored on the storage device during a time period of initialization of the BS. AT&T perform this step at the base stations of its 3G network:

<p>b) reading the core network operating type information and information related to the core network stored on the storage device during a time period of initialization of the BS;</p>	<p>ETSI TS 125 331 V15.4.0</p> <p>Page 61</p> <p>.8.1 RRC Connection Management Procedures</p> <p>.8.1.1 Broadcast of system information</p>  <p>Figure 8.1.1.1: Broadcast of system information</p> <p>Note: See below for PLMN type contained in the system information message from UTRAN to UE.</p>
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49. Claim 27 of the '868 Patent recites that the method comprises the step of providing the terminal with the core network operating type information and information related to the core network as a message through a predetermined channel. AT&T perform this step at the base stations of its 3G network:

<p>c) providing the terminal with the core network operating type information and information related to the core network as a message through a predetermined channel;</p>	<p>ETSI TS 125 331 V15.4.0</p> <p>Page 61</p> <p>.8.1 RRC Connection Management Procedures</p> <p>.8.1.1 Broadcast of system information</p>  <p>Figure 8.1.1.1: Broadcast of system information</p> <p>Note: See below for PLMN type contained in the system information message from UTRAN to UE.</p> <p>See page 62</p> <p>8.1.1.1 General The purpose of this procedure is to broadcast system information from the UTRAN to UEs in a cell.</p> <p>8.1.1.1.1 System information structure The system information elements are broadcast in <i>system information blocks</i>. A system information block groups</p>
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	See page 65						
	Table 8.1.1: Specification of system information block characteristics						
	System information block	Area scope	UE mode/state when block is valid	UE mode/state when block is read	Scheduling information	Modification of system information	Additional comment
	Master information block	Cell	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	SIB_POS = 0 SIB_REP = 8 (FDD) SIB_REP = 8, 16, 32 (TDD) SIB_OFF=2	Value tag	See Note 5
	See page 765						
	10.2.48.8.1 Master Information Block						
	Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version	
	Other information elements						
	MIB Value tag	MP		MIB Value tag 10.3.8.9			
	CN information elements						
	Supported PLMN types	MP		PLMN Type 10.3.1.12			
	PLMN Identity	CV-GSM		PLMN Identity 10.3.1.11			

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10.2.48.8.1 Master Information Block

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version

Condition	Explanation
GSM	The IE is mandatory present if the IE "Supported PLMN Types" is set to 'GSM-MAP' or 'GSM-MAP AND ANSI-41', and not needed otherwise

Note: "CV" is defined as "Conditional on Value" by the Spec on page 47. As such, "CV-GSM" means that depending on or when the operating type of the core network is identified as GSM-MAP or GSM-MAP and ANSI-41, then PLMN Identity field is needed or is mandatory, as defined below.

ANSI-41 information elements					
ANSI-41 Core Network Information	CV-ANSI-41		ANSI-41 Core Network Information 10.3.9.1		
References to other system information blocks and scheduling blocks	MP		References to other system information blocks and scheduling blocks 10.3.8.14		

Condition	Explanation
ANSI-41	The IE is mandatory present if the IE "Supported PLMN Types" is set to 'ANSI-41' or 'GSM-MAP AND ANSI-41', and not needed otherwise

Note: "CV" is defined as "Conditional on Value" by the Spec on page 47. As such, "CV-ANSI-41" means that depending on or when the operating type of the core network is identified as ANSI-41 or GSM-MAP and ANSI-41, then PLMN Identity field is needed or is mandatory, as defined below.

See page 828
10.3.1.12 PLMN Type
Identifies the type of Public Land Mobile Network (PLMN). This IE shall be used to control the interpretation of network dependent messages and information elements in the RRC protocol.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
PLMN Type	MP		Enumerated (GSM-MAP, ANSI-41, GSM-MAP and ANSI-41)	One spare value is needed.

50. Claim 27 of the '868 Patent recites that the method comprises the step of extracting, at the terminal, the core network operating type information from a received message, the core network operating type information being inserted into a predetermined location of the message. A user operating the AT&T UE performs this step under the direction and/or control of AT&T:

d) extracting at the terminal, the core network operating type information from a received message, the core network operating type information being inserted into a predetermined location of the message.

ETSI TS 125 331 V15.4.0
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 8.1 RRC Connection Management Procedures
 8.1.1 Broadcast of system information

Note: See below for PLMN type contained in the system information message from UTRAN to UE.

See page 62
 8.1.1.1 General
 The purpose of this procedure is to broadcast system information from the UTRAN to UEs in a cell.

8.1.1.1.1 System information structure
 The system information elements are broadcast in *system information blocks*. A system information block groups together system information elements of the same nature. Different system information blocks may have different characteristics, e.g. regarding their repetition rate and the requirements on UEs to re-read the system information blocks.

See below for structure of the message.

See page 65
Table 8.1.1: Specification of system information block characteristics

System information block	Area scope	UE mode/state when block is valid	UE mode/state when block is read	Scheduling information	Modification of system information	Additional comment
Master information block	Cell	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	SIB_POS = 0 SIB_REP = 8 (FDD) SIB_REP = 8, 16, 32 (TDD) SIB_OFF=2	Value tag	See Note 5

See page 765
 10.2.48.8.1 Master Information Block

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Other information elements					
MIB Value tag	MP		MIB Value tag 10.3.8.9		
CN information elements					
Supported PLMN types	MP		PLMN Type 10.3.1.12		
PLMN Identity	CV-GSM		PLMN Identity 10.3.1.11		

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10.2.48.8.1 Master Information Block

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version

Condition	Explanation
<i>GSM</i>	The IE is mandatory present if the IE "Supported PLMN Types" is set to 'GSM-MAP' or 'GSM-MAP AND ANSI-41', and not needed otherwise

Note: "CV" is defined as "Conditional on Value" by the Spec on page 47. As such, "CV-GSM" means that depending on or when the operating type of the core network is identified as GSM-MAP or GSM-MAP and ANSI-41, then PLMN Identity field is needed or is mandatory, as defined below.

ANSI-41 information elements					
ANSI-41 Core Network Information	<i>CV-ANSI-41</i>		ANSI-41 Core Network Information 10.3.9.1		
References to other system information blocks and scheduling blocks	MP		References to other system information blocks and scheduling blocks 10.3.8.14		

Condition	Explanation
<i>ANSI-41</i>	The IE is mandatory present if the IE "Supported PLMN Types" is set to 'ANSI-41' or 'GSM-MAP AND ANSI-41', and not needed otherwise

Note: "CV" is defined as "Conditional on Value" by the Spec on page 47. As such, "CV-ANSI-41" means that depending on or when the operating type of the core network is identified as ANSI-41 or GSM-MAP and ANSI-41, then PLMN Identity field is needed or is mandatory, as defined below.

See page 828
10.3.1.12 PLMN Type
Identifies the type of Public Land Mobile Network (PLMN). This IE shall be used to control the interpretation of network dependent messages and information elements in the RRC protocol.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
PLMN Type	MP		Enumerated (GSM-MAP, ANSI-41, GSM-MAP and ANSI-41)	One spare value is needed.

51. Claim 27 of the '868 Patent recites that the method comprises the step of recognizing, at the terminal, the operating type of the core network on the basis of the extracted core network operating type information. A user operating the AT&T UE performs this step under the direction and/or control of AT&T:

e) recognizing, at the terminal, the operating type of the core network on the basis of the extracted core network operating type information; and

ETSI TS 125 331 V15.4.0
Page 61
 8.1 RRC Connection Management Procedures
 8.1.1 Broadcast of system information

Note: See below for PLMN type contained in the system information message from UTRAN to UE.

See page 62
 8.1.1.1 General
 The purpose of this procedure is to broadcast system information from the UTRAN to UEs in a cell.

8.1.1.1.1 System information structure
 The system information elements are broadcast in *system information blocks*. A system information block groups together system information elements of the same nature. Different system information blocks may have different characteristics, e.g. regarding their repetition rate and the requirements on UEs to re-read the system information blocks.

See page 65

Table 8.1.1: Specification of system information block characteristics

System information block	Area scope	UE mode/state when block is valid	UE mode/state when block is read	Scheduling information	Modification of system information	Additional comment
Master information block	Cell	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	SIB_POS = 0 SIB_REP = 8 (FDD) SIB_REP = 8, 16, 32 (TDD) SIB_OFF=2	Value tag	See Note 5

See page 765
 10.2.48.8.1 Master Information Block

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Other information elements					
MIB Value tag	MP		MIB Value tag 10.3.8.9		
CN information elements					
Supported PLMN types	MP		PLMN Type 10.3.1.12		
PLMN Identity	CV-GSM		PLMN Identity 10.3.1.11		

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10.2.48.8.1 Master Information Block

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version

Condition	Explanation
GSM	The IE is mandatory present if the IE "Supported PLMN Types" is set to 'GSM-MAP' or 'GSM-MAP AND ANSI-41', and not needed otherwise

Note: "CV" is defined as "Conditional on Value" by the Spec on page 47. As such, "CV-GSM" means that depending on or when the operating type of the core network is identified as GSM-MAP or GSM-MAP and ANSI-41, then PLMN Identity field is needed or is mandatory, as defined below.

ANSI-41 information elements					
ANSI-41 Core Network Information	CV-ANSI-41		ANSI-41 Core Network Information 10.3.9.1		
References to other system information blocks and scheduling blocks	MP		References to other system information blocks and scheduling blocks 10.3.8.14		

Condition	Explanation
ANSI-41	The IE is mandatory present if the IE "Supported PLMN Types" is set to 'ANSI-41' or 'GSM-MAP AND ANSI-41', and not needed otherwise

Note: "CV" is defined as "Conditional on Value" by the Spec on page 47. As such, "CV-ANSI-41" means that depending on or when the operating type of the core network is identified as ANSI-41 or GSM-MAP and ANSI-41, then PLMN Identity field is needed or is mandatory, as defined below.

See page 828
10.3.1.12 PLMN Type
Identifies the type of Public Land Mobile Network (PLMN). This IE shall be used to control the interpretation of network dependent messages and information elements in the RRC protocol.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
PLMN Type	MP		Enumerated (GSM-MAP, ANSI-41, GSM-MAP and ANSI-41)	One spare value is needed.

52. Claim 27 of the '868 Patent recites that the method comprises the step of setting an operating type of the terminal to the synchronous operating type or the asynchronous operating type on the basis of the recognized operating type of the core network. A user operating the AT&T UE performs this step under the direction and/or control of AT&T:

<p>f) setting an operating type of the terminal to the synchronous operating type or the asynchronous operating type on the basis of the recognized operating type of the core network.</p>	<p>3GPP TS 25.304 V12.1.0</p> <p>Page 16</p> <p>5 Process and procedure descriptions</p> <p>5.1 PLMN selection</p> <p>5.1.1 General</p> <p>In the UE, the AS shall report available PLMNs to the NAS on request from the NAS or autonomously.</p> <p>UE shall maintain a list of allowed PLMN types. The allowed PLMN type can be GSM-MAP only, ANSI-41 only or both. During PLMN selection, based on the list of allowed PLMN types and a list of PLMN identities in priority order, the particular PLMN may be selected either automatically or manually. Each PLMN in the list of PLMN identities can be identified by either 'PLMN identity' (GSM-MAP) or 'SID'. In the system information on the broadcast channel, the UE can receive a 'PLMN identity' (GSM-MAP) or a 'SID' or a 'PLMN identity' (GSM-MAP) and a 'SID', in a given cell. For a given cell, the UE might receive several 'PLMN identities' from the system information on the broadcast channel. The result of the PLMN selection is an identifier of the selected PLMN, the choice being based on the allowed PLMN types, UE capability or other factors. This identifier is one of either 'PLMN identity' for GSM-MAP type of PLMNs or 'SID' for ANSI-41 type of PLMNs.</p> <p>In case that the list of allowed PLMN types includes GSM-MAP, the non-access part of the PLMN selection process is specified in [5]. In the case that list of allowed PLMN types includes ANSI-41, the non-access stratum part of the PLMN selection is specified in TIA/EIA/IS-2000.5 and TIA/EIA/IS-707.</p> <p>See step (e) above.</p>
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53. Cellular Evolution is not asserting infringement of claims 15-26, 37-44, 58-69, and 83-102 of the '868 Patent.

54. AT&T provides consumers with instructions to activate, setup and unlock UE on its network.²¹ For instance, AT&T specifically instructs consumers to (1) activate an AT&T UE on the AT&T network;²² or (2) activate a non-AT&T UE on the AT&T network.²³

55. On information and belief, the AT&T UE, as sold, contains the infringing software which operates in conjunction with the AT&T network in the infringing manner. AT&T establishes the manner and timing of a consumers' performance of the infringing steps using an AT&T UE on the AT&T network. On information and belief, a consumer using an AT&T UE has no control over the UE's compliance with the UMTS RRC Protocol and UMTS UE Procedures.

56. On information and belief, a consumer using the AT&T UE infringes the '868 Patent by virtue of turning on the AT&T UE on the AT&T network. Specifically, on information and belief, once a user turns on the AT&T UE no further action is required from the user to implement the claimed methods of the '868 Patent and the claimed methods are implemented

²¹ https://www.att.com/esupport/main.html#!/wireless/topic_actisetnunkl.

²² <https://www.att.com/help/wireless/setup.html>.

²³ <https://www.att.com/esupport/article.html#!/wireless/KM1150340?gsi=h2dr0g>.

automatically on the AT&T network. In fact, on information and belief, a user has no choice but to implement the infringing steps as those steps are required by the UMTS RRC Protocol and UMTS UE Procedures. Accordingly, performing the infringing steps is a technical prerequisite of using the AT&T UE.

57. On information and belief, a consumer hoping to obtain access to the AT&T network using the AT&T UE can only do so if he or she performs the infringing steps which are required by the UMTS RRC Protocol and UMTS UE Procedures and are programmed into the AT&T UE. On information and belief, the consumer performs the infringing steps under the terms prescribed by AT&T in compliance with the requirements of the AT&T network.

58. On information and belief, AT&T conditions the consumer's ability to use the AT&T UE on the AT&T network on the UE performing the infringing steps which are required by the UMTS RRC Protocol and UMTS UE Procedures. Moreover, in order for a user to obtain the benefits of the AT&T UE the user must use the device on the AT&T network.

59. On information and belief, benefits that AT&T conditions on consumers' performance of the infringing steps include, for example, allowing the UE to have a hybrid operating type which can be set as either a synchronous operating type or an asynchronous operating type and be able to selectively interface with either a synchronous or an asynchronous core network.

60. On information and belief, AT&T also directs and controls the performance of infringing steps by consumers who use non-AT&T UEs on the AT&T network. Specifically, non-AT&T UEs must comply with certain standards from the UMTS RRC Protocol and UMTS UE Procedures to communicate with the AT&T network. On information and belief, AT&T conditions consumer participation in the AT&T network upon performance of the infringing steps. A

consumer using a non-AT&T UE has no choice but to implement the infringing steps. Accordingly, the performance of the infringing steps is attributable to AT&T in instances when a consumer is using a non-AT&T UE on the AT&T 3G network.

61. The performance of all steps of the method claims of the '868 patent is attributable to AT&T because either AT&T actually performs those steps or because AT&T directs or controls the users who perform those steps using AT&T UE and/or non-AT&T UE.

62. The acts of infringement by Defendants have caused damage to Cellular Evolution, and Cellular Evolution is entitled to recover from Defendants the damages sustained by Cellular Evolution as a result of Defendants' wrongful acts in an amount subject to proof at trial. The infringement of Cellular Evolution's exclusive rights under the '868 Patent by the Defendants has damaged and will continue to damage Cellular Evolution.

63. The European Telecommunications Standards Institute ("ETSI") is a standardization organization in the telecommunications industry.²⁴

64. ETSI is a founding partner of 3GPP.²⁵

65. The ETSI IPR online database allows public access to patents which have been declared as being essential or potentially essential to ETSI and 3GPP Standards.²⁶

66. An extract of the ESTI IPR Database is published twice a year in a Special Report SR 000 314.²⁷

67. The '868 Patent has been declared essential to the UMTS RRC Protocol and identified as such in the ETSI Special Report SR 000 314.²⁸

²⁴ <https://www.etsi.org/about>

²⁵ *Id.*

²⁶ <https://www.etsi.org/intellectual-property-rights>

²⁷ *Id.*

²⁸

https://portal.etsi.org/webapp/workprogram/Report_WorkItem.asp?WKI_ID=57494&curlItemNr=1&totalNrItems=

68. On information and belief, AT&T is and has been aware of ETSI SR 000 314. For example, AT&T itself has declared a number of its patents to be essential in the very same database. Further, on information and belief, AT&T is aware of ETSI SR 000 314 by virtue of its membership and involvement in ATIS and 3GPP.

69. Upon information and belief, AT&T actually knew of, or was willfully blind to, the existence of the '868 Patent, yet it continued to infringe said patent. AT&T's acts of infringement have been willful, deliberate, and in reckless disregard of Cellular Evolution's patent rights. Accordingly, Cellular Evolution is entitled to increased damages under 35 U.S.C. § 284 and to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

COUNT II: INFRINGEMENT OF U.S. PATENT NO. 7,110,788

70. On September 19, 2006, the United States Patent and Trademark Office ("USPTO") duly and legally issued United States Patent No. 7,110,788 ("the '788 Patent"), entitled "Method and Apparatus for Interfacing Among Mobile Terminal, Base Station and Core Network in Mobile Telecommunications System." Cellular Evolution holds all rights, title, and interest in and to the '788 Patent.

71. Upon information and belief, Defendants have infringed directly and continue to infringe directly the '788 Patent. The infringing acts include, but are not limited to, the use of products and services practicing the UMTS RRC Protocol and UMTS UE Procedures adapted by 3GPP. The infringing activity includes at least compliance with the UMTS RRC Protocol and UMTS UE Procedures in AT&T's 3G network including the base stations constituting that network in the United States and the UE operating on that network.

[38&optDisplay=10&qSORT=HIGHVERSION&qETSI_ALL=TRUE&SearchPage=TRUE&qETSI_NUMBER=000+314&qINCLUDE_SUB_TB=True&qINCLUDE_MOVED_ON=&qSTOP_FLG=&qKEYWORD_BOOLEAN=&qCLUSTER_BOOLEAN=&qFREQUENCIES_BOOLEAN=&qSTOPPING_OUTDATED=&butSimple=Search&includeNonActiveTB=&includeSubProjectCode=&qREPORT_TYPE=](#)

72. On information and belief, AT&T's 3G network employs a UMTS network.²⁹ On information and belief, AT&T's 3G network complies with the UMTS RRC Protocol and practices the requirements set forth in that standard.

73. On information and belief, the AT&T UE complies with the UMTS UE Procedures.

74. AT&T advertises and promotes its 3G network on its website.³⁰

75. AT&T offers for sale and sells products for use on its network ("AT&T UE").³¹

76. The AT&T UE includes, but is not limited to, for example, the following products: Apple iPhone XR, Apple iPhone SE, Apple iPhone XS, Apple iPhone XS Max, Apple iPhone X, Apple iPhone 8, Apple iPhone 8 Plus, Apple iPhone 7, Apple iPhone 7 Plus, Apple iPhone 6s, Apple iPhone 6s Plus, Samsung Galaxy S10+, Samsung Galaxy S10e, Samsung Galaxy S10, Samsung Galaxy Note 9, Samsung Galaxy S9, Samsung Galaxy S9+, Samsung Galaxy S8, Samsung Galaxy S8 Active, Samsung Galaxy S8 Plus, Samsung Galaxy S7, Samsung Galaxy Fold, Samsung Galaxy J7, Samsung Galaxy J3, Samsung Galaxy A6, Samsung Galaxy Note8, LG G8 ThinQ, LG Stylo 4+, LG K30, LG V40 ThinQ, LG V35 ThinQ, LG X Venture, LG V30, Kyocera DuraForce Pro 2, Razer Phone 2, Moto G Play 6th Gen., and Blackberry KEYone.³²

77. AT&T directly infringes the '788 Patent. For example, AT&T directly infringes representative claim 1 of the '788 patent because performance of all steps of the method claims of the '788 patent is attributable to AT&T.

78. Claim 1 of the '788 Patent recites a method for interfacing between a terminal and a core network connected to a radio network. AT&T performs a method for interfacing between a

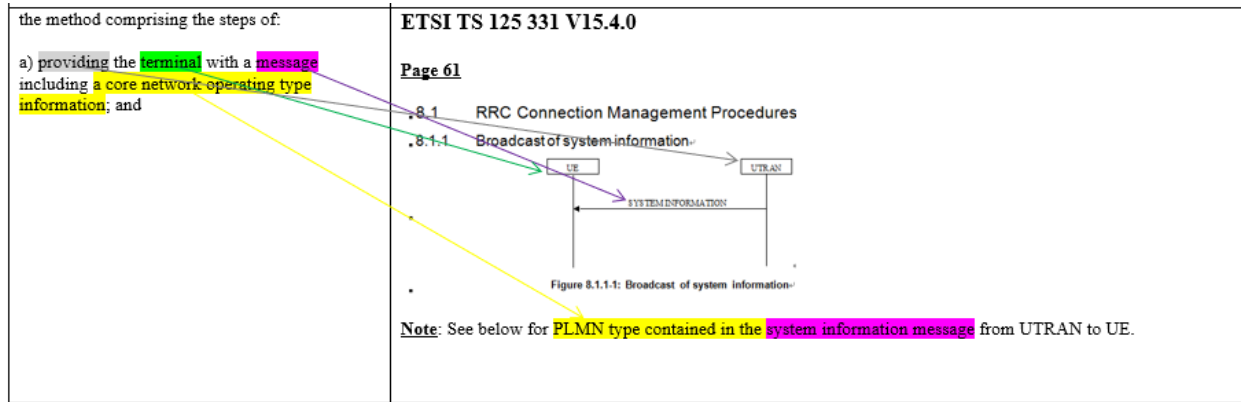
²⁹ <https://www.pcmag.com/news/300986/cdma-vs-gsm-whats-the-difference>.

³⁰ <https://www.att.com/maps/edo/att-hplmn-broadband.html>.

³¹ <https://www.att.com/buy/phones/>.

³² <https://www.att.com/buy/phones/>.

80. Claim 1 of the ‘788 Patent recites that the method comprises the step of providing the terminal with a message including a core network operating type information. AT&T perform this step:



81. Claim 1 of the ‘788 Patent recites that the method comprises the step of at the terminal, recognizing the operating type of the core network on the basis of the core network operating type information contained in the message. A user operating the AT&T UE performs this step under the direction and/or control of AT&T:

b) at the terminal, recognizing the operating type of the core network on the basis of the core network operating type information contained in the message.

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8.1 RRC Connection Management Procedures

8.1.1 Broadcast of system information



Figure 8.1.1.1: Broadcast of system information

Note: See below for PLMN type contained in the system information message from UTRAN to UE.

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8.1.1.1 General

The purpose of this procedure is to broadcast system information from the UTRAN to UEs in a cell.

8.1.1.1.1 System information structure

The system information elements are broadcast in *system information blocks*. A system information block groups together system information elements of the same nature. Different system information blocks may have different characteristics, e.g. regarding their repetition rate and the requirements on UEs to re-read the system information blocks.

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Table 8.1.1: Specification of system information block characteristics

System information block	Area scope	UE mode/state when block is valid	UE mode/state when block is read	Scheduling information	Modification of system information	Additional comment
Master information block	Cell	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	SIB_POS = 0 SIB_REP = 8 (FDD) SIB_REP = 8, 16, 32 (TDD) SIB_OFF=2	Value tag	See Note 5

<p>See page 765 10.2.48.8.1 Master Information Block</p> <table border="1"> <thead> <tr> <th>Information Element/Group name</th> <th>Need</th> <th>Multi</th> <th>Type and reference</th> <th>Semantics description</th> <th>Version</th> </tr> </thead> <tbody> <tr> <td colspan="6">Other information elements</td> </tr> <tr> <td>MIB Value tag</td> <td>MP</td> <td></td> <td>MIB Value tag 10.3.8.9</td> <td></td> <td></td> </tr> <tr> <td colspan="6">CN information elements</td> </tr> <tr> <td>Supported PLMN types</td> <td>MP</td> <td></td> <td>PLMN Type 10.3.1.12</td> <td></td> <td></td> </tr> <tr> <td>PLMN Identity</td> <td>CV-GSM</td> <td></td> <td>PLMN Identity 10.3.1.11</td> <td></td> <td></td> </tr> </tbody> </table> <p>See page 828 10.3.1.12 PLMN Type Identifies the type of Public Land Mobile Network (PLMN). This IE shall be used to control the interpretation of network dependent messages and information elements in the RRC protocol.</p> <table border="1"> <thead> <tr> <th>Information Element/Group name</th> <th>Need</th> <th>Multi</th> <th>Type and reference</th> <th>Semantics description</th> </tr> </thead> <tbody> <tr> <td>PLMN Type</td> <td>MP</td> <td></td> <td>Enumerated (GSM-MAP, ANSI-41, GSM-MAP and ANSI-41)</td> <td>One spare value is needed.</td> </tr> </tbody> </table>						Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version	Other information elements						MIB Value tag	MP		MIB Value tag 10.3.8.9			CN information elements						Supported PLMN types	MP		PLMN Type 10.3.1.12			PLMN Identity	CV-GSM		PLMN Identity 10.3.1.11			Information Element/Group name	Need	Multi	Type and reference	Semantics description	PLMN Type	MP		Enumerated (GSM-MAP, ANSI-41, GSM-MAP and ANSI-41)	One spare value is needed.
Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version																																														
Other information elements																																																			
MIB Value tag	MP		MIB Value tag 10.3.8.9																																																
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PLMN Type	MP		Enumerated (GSM-MAP, ANSI-41, GSM-MAP and ANSI-41)	One spare value is needed.																																															

82. Claim 1 of the '788 Patent recites that the step is performed to thereby allow the terminal to operate according to the recognized operating type of the core network. In the AT&T UE this step is performed under the direction and/or control of AT&T to thereby allow the terminal to operate according to the recognized operating type of the core network:

<p>to thereby allow the terminal to operate according to the recognized operating type of the core network.</p>	<p>3GPP TS 25.304 V12.1.0 Page 11</p> <p>The UE searches for a suitable cell of the selected PLMN and chooses that cell to provide available services, and tunes to its control channel. This choosing is known as "camping on the cell". The UE will, if necessary, then register its presence, by means of a NAS registration procedure, in the registration area of the chosen cell and as outcome of a successful Location Registration the selected PLMN becomes the registered PLMN [5].</p>
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83. Cellular Evolution is not asserting infringement of claims 25-36 and 45-56 of the '788 Patent.

84. AT&T provides consumers with instructions to activate, setup and unlock UE on its network.³³ For instance, AT&T specifically instructs consumers to (1) activate an AT&T UE on the AT&T network,³⁴ or (2) activate a non-AT&T UE on the AT&T network.³⁵

85. On information and belief, the AT&T UE, as sold, contains the infringing software which operates in conjunction with the AT&T network in the infringing manner. AT&T establishes the manner and timing of a consumers performance of the infringing steps using an AT&T UE on the AT&T network. On information and belief, a consumer using an AT&T UE has no control over the UE's compliance with the UMTS RRC Protocol and UMTS UE Procedures.

86. On information and belief, a consumer using the AT&T UE infringes the '788 Patent by virtue of turning on the AT&T UE on the AT&T network. Specifically, on information and belief, once a user turns on the AT&T UE no further action is required from the user to implement the claimed methods of the '788 Patent and the claimed methods are implemented automatically on the AT&T network. In fact, on information and belief, a user has no choice but to implement the infringing steps as those steps are required by the UMTS RRC Protocol and UMTS UE Procedures. Accordingly, performing the infringing steps is a technical prerequisite of using the AT&T UE.

87. On information and belief, a consumer hoping to obtain access to the AT&T network using the AT&T UE can only do so if he or she performs the infringing steps which are required by the UMTS RRC Protocol and UMTS UE Procedures and are programmed into the

³³ https://www.att.com/esupport/main.html#!/wireless/topic_actisetnunk.

³⁴ <https://www.att.com/help/wireless/setup.html>.

³⁵ <https://www.att.com/esupport/article.html#!/wireless/KM1150340?gsi=h2dr0g>.

AT&T UE. On information and belief, the consumer performs the infringing steps under the terms prescribed by AT&T in compliance with the requirements of the AT&T network.

88. On information and belief, AT&T conditions the consumer's ability to use the AT&T UE on the AT&T network on the UE performing the infringing steps which are required by the UMTS RRC Protocol and UMTS UE Procedures. Moreover, in order for a user to obtain the benefits of the AT&T UE the user must use the device on the AT&T network.

89. On information and belief, benefits that AT&T conditions on consumers' performance of the infringing steps include, for example, allowing the UE to have a hybrid operating type which can be set as either a synchronous operating type or an asynchronous operating type and be able to selectively interface with either a synchronous or an asynchronous core network.

90. On information and belief, AT&T also directs and controls the performance of infringing steps by consumers who use non-AT&T UEs on the AT&T network. Specifically, non-AT&T UEs must comply with certain standards from the UMTS RRC Protocol and UMTS UE Procedures to communicate with the AT&T network. On information and belief, AT&T conditions consumer participation in the AT&T network upon performance of the infringing steps. A consumer using a non-AT&T UE has no choice but to implement the infringing steps. Accordingly, the performance of the infringing steps is attributable to AT&T in instances when a consumer is using a non-AT&T UE on the AT&T 3G network.

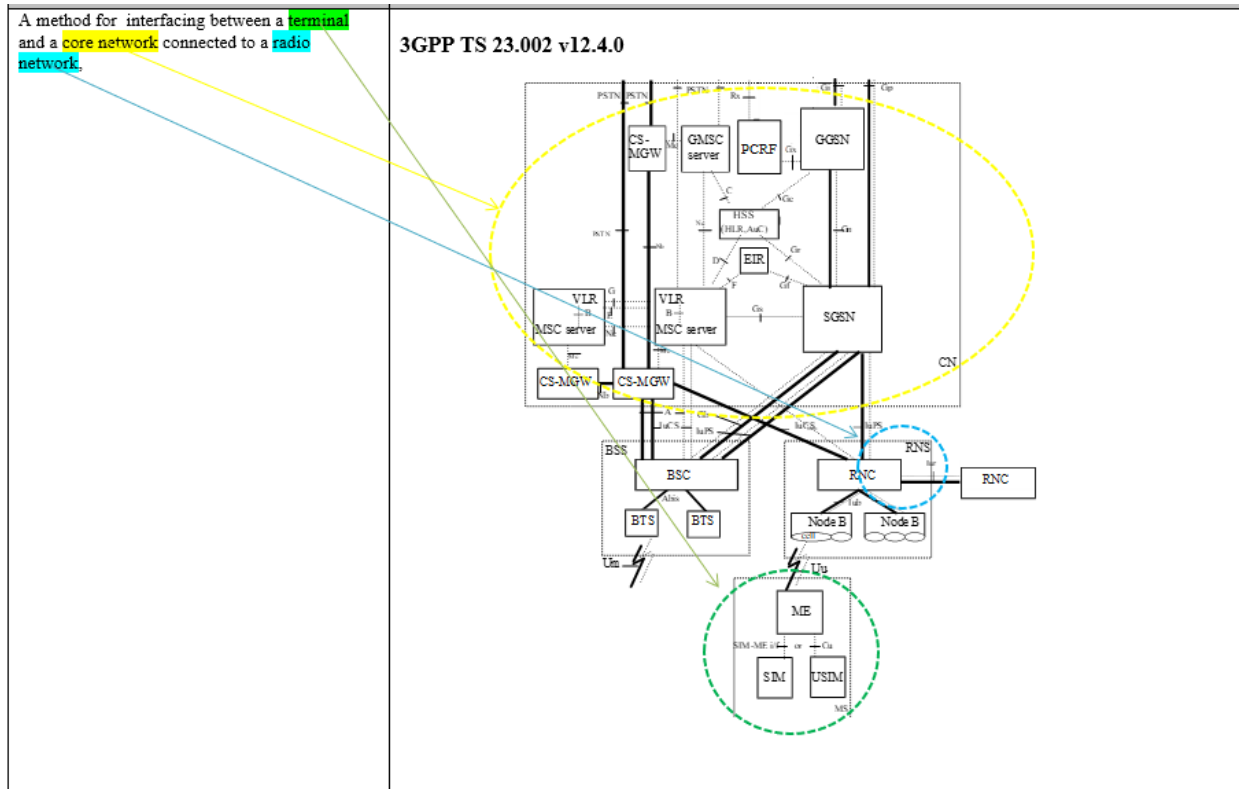
91. The performance of all steps of the method claims of the '788 patent is attributable to AT&T because either AT&T actually performs those steps or because AT&T directs or controls the users who perform those steps using AT&T UE and/or non-AT&T UE.

92. AT&T has knowledge of the '788 Patent at least as of the time of this Complaint for patent infringement.

93. On information and belief, AT&T has been and is now also indirectly infringing by way of inducing infringement and/or contributing to the infringement of the claims of the '788 Patent in this judicial district, and elsewhere within the United States by, among other things, making, using, selling, or offering for sale products and services utilizing its 3G network, covered by one or more claims of the '788 Patent, all to the injury of Cellular Evolution. In the case of such infringement, the users of User Equipment (UE) are the direct infringers of the '788 Patent.

94. A user using AT&T UE directly infringes the '788 Patent. For example, a user directly infringes representative claim 1 of the '788 patent.

95. Claim 1 of the '788 Patent recites a method for interfacing between a terminal and a core network connected to a radio network. A user of the AT&T UE performs a method for interfacing between a terminal and a core network connected to a radio network. To the extent the preamble of claim 1 is deemed to be a limitation, it is met:



96. Claim 1 of the ‘788 Patent recites that the core network has an asynchronous operating type. The AT&T network meets this limitation:

<p>the core network has an asynchronous operating type,</p>	<p>3GPP TS 25.304 V12.1.0</p> <p>Page 16 5 Process and procedure descriptions 5.1 PLMN selection 5.1.1 General</p> <p>In the UE, the AS shall report available PLMNs to the NAS on request from the NAS or autonomously.</p> <p>UE shall maintain a list of allowed PLMN types. The allowed PLMN type can be GSM-MAP only, ANSI-41 only or both. During PLMN selection, based on the list of allowed PLMN types and a list of PLMN identities in priority order, the particular PLMN may be selected either automatically or manually. Each PLMN in the list of PLMN identities can be identified by either 'PLMN identity' (GSM-MAP) or 'SID'. In the system information on the broadcast channel, the UE can receive a 'PLMN identity' (GSM-MAP) or a 'SID' or a 'PLMN identity' (GSM-MAP) and a 'SID', in a given cell. For a given cell, the UE might receive several 'PLMN identities' from the system information on the broadcast channel. The result of the PLMN selection is an identifier of the selected PLMN, the choice being based on the allowed PLMN types, UE capability or other factors. This identifier is one of either 'PLMN identity' for GSM-MAP type of PLMNs or 'SID' for ANSI-41 type of PLMNs.</p> <p>In case that the list of allowed PLMN types includes GSM-MAP, the non-access part of the PLMN selection process is specified in [5]. In the case that list of allowed PLMN types includes ANSI-41, the non-access stratum part of the PLMN selection is specified in TIA/EIA/IS-2000.5 and TIA/EIA/IS-707.</p>
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97. Claim 1 of the ‘788 Patent recites that the method comprises the step of providing the terminal with a message including a core network operating type information. A user of AT&T UE performs this step when using the AT&T UE:

the method comprising the steps of:

a) providing the terminal with a message including a core network operating type information; and

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8.1 RRC Connection Management Procedures

8.1.1 Broadcast of system information

Figure 8.1.1.1: Broadcast of system information

Note: See below for PLMN type contained in the system information message from UTRAN to UE.

98. Claim 1 of the '788 Patent recites that the method comprises the step of at the terminal, recognizing the operating type of the core network on the basis of the core network operating type information contained in the message. A user operating the AT&T UE performs this step:

b) at the terminal, recognizing the operating type of the core network on the basis of the core network operating type information contained in the message.

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8.1 RRC Connection Management Procedures

8.1.1 Broadcast of system information

Figure 8.1.1.1: Broadcast of system information

Note: See below for PLMN type contained in the system information message from UTRAN to UE.

See page 62

8.1.1.1 General

The purpose of this procedure is to broadcast system information from the UTRAN to UEs in a cell.

8.1.1.1.1 System information structure

The system information elements are broadcast in *system information blocks*. A system information block groups together system information elements of the same nature. Different system information blocks may have different characteristics, e.g. regarding their repetition rate and the requirements on UEs to re-read the system information blocks.

See page 65

Table 8.1.1: Specification of system information block characteristics

System information block	Area scope	UE mode/state when block is valid	UE mode/state when block is read	Scheduling information	Modification of system information	Additional comment
Master information block	Cell	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	SIB_POS = 0 SIB_REP = 8 (FDD) SIB_REP = 8, 16, 32 (TDD) SIB_OFF=2	Value tag	See Note 5

<p>See page 765 10.2.48.8.1 Master Information Block</p>					
Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Other information elements					
MIB Value tag	MP		MIB Value tag 10.3.8.9		
CN information elements					
Supported PLMN types	MP		PLMN Type 10.3.1.12		
PLMN Identity	CV-GSM		PLMN Identity 10.3.1.11		
<p>See page 828 10.3.1.12 PLMN Type Identifies the type of Public Land Mobile Network (PLMN). This IE shall be used to control the interpretation of network dependent messages and information elements in the RRC protocol.</p>					
Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
PLMN Type	MP		Enumerated (GSM-MAP, ANSI-41, GSM-MAP and ANSI-41)	One spare value is needed.	

99. Claim 1 of the '788 Patent recites that the step is performed to thereby allow the terminal to operate according to the recognized operating type of the core network. In the AT&T UE this step is performed to thereby allow the terminal to operate according to the recognized operating type of the core network:

<p>to thereby allow the terminal to operate according to the recognized operating type of the core network.</p>	<p>3GPP TS 25.304 V12.1.0 Page 11</p> <p>The UE searches for a suitable cell of the selected PLMN and chooses that cell to provide available services, and tunes to its control channel. This choosing is known as "camping on the cell". The UE will, if necessary, then register its presence, by means of a NAS registration procedure, in the registration area of the chosen cell and as outcome of a successful Location Registration the selected PLMN becomes the registered PLMN [5].</p>
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100. AT&T advertises and promotes its 3G network on its website.³⁶ AT&T also sells products for use on its network (“AT&T UE”).³⁷ On information and belief, AT&T provides, makes, uses, sells and offers for sale AT&T UE with the specific intent that its customers use that UE in an infringing manner on its 3G network. AT&T sells or offers for sale UE for use in practicing Cellular Evolution’s patented claims. The UE provided, made, used, sold and offered for sale by AT&T and utilized in conjunction with AT&T’s 3G network have no substantial non-infringing uses, and are known by AT&T to be especially made or especially adapted for use in an infringement of Cellular Evolution’s patents by complying with the UMTS RRC Protocol and UMTS UE Procedures adapted by 3GPP.

101. The acts of infringement by Defendants have caused damage to Cellular Evolution, and Cellular Evolution is entitled to recover from Defendants the damages sustained by Cellular Evolution as a result of Defendants’ wrongful acts in an amount subject to proof at trial. The infringement of Cellular Evolution’s exclusive rights under the ‘788 Patent by the Defendants has damaged and will continue to damage Cellular Evolution.

102. The European Telecommunications Standards Institute (“ETSI”) is a standardization organization in the telecommunications industry.³⁸

103. ETSI is a founding partner of 3GPP.³⁹

104. The ETSI IPR online database allows public access to patents which have been declared as being essential or potentially essential to ETSI and 3GPP Standards.⁴⁰

³⁶ <https://www.att.com/maps/edo/att-hplmn-broadband.html>.

³⁷ <https://www.att.com/buy/phones/>.

³⁸ <https://www.etsi.org/about>

³⁹ *Id.*

⁴⁰ <https://www.etsi.org/intellectual-property-rights>

105. An extract of the ESTI IPR Database is published twice a year in a Special Report SR 000 314.⁴¹

106. The ‘788 Patent has been declared essential to the UMTS RRC Protocol and identified as such in the ETSI Special Report SR 000 314.⁴²

107. On information and belief, AT&T is and has been aware of ETSI SR 000 314. For example, AT&T itself has declared a number of its patents to be essential in the very same database. Further, on information and belief, AT&T is aware of ETSI SR 000 314 by virtue of its membership and involvement in ATIS and 3GPP.

108. Upon information and belief, AT&T actually knew of, or was willfully blind to, the existence of the ‘788 Patent, yet it continued to infringe said patent. AT&T’s acts of infringement have been willful, deliberate, and in reckless disregard of Cellular Evolution’s patent rights. Accordingly, Cellular Evolution is entitled to increased damages under 35 U.S.C. § 284 and to attorneys’ fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

COUNT III: INFRINGEMENT OF U.S. PATENT NO. 7,203,514

109. On April 10, 2007, the USPTO duly and legally issued United States Patent No. 7,203,514 (“the ‘514 Patent”), entitled “Method and Apparatus for Interfacing Among Mobile Terminal, Base Station and Core Network in Mobile Telecommunications System.” Cellular Evolution holds all rights, title, and interest in and to the ‘514 Patent.

⁴¹ *Id.*

⁴²

https://portal.etsi.org/webapp/workprogram/Report_WorkItem.asp?WKI_ID=57494&curlItemNr=1&totalNrItems=38&optDisplay=10&qSORT=HIGHVERSION&qETSI_ALL=TRUE&SearchPage=TRUE&qETSI_NUMBER=000+314&qINCLUDE_SUB_TB=True&qINCLUDE_MOVED_ON=&qSTOP_FLG=&qKEYWORD_BOOLEAN=&qCLUSTER_BOOLEAN=&qFREQUENCIES_BOOLEAN=&qSTOPPING_OUTDATED=&butSimple=Search&includeNonActiveTB=&includeSubProjectCode=&qREPORT_TYPE=

110. AT&T has knowledge of the ‘514 Patent at least as of the time of this Complaint for patent infringement.

111. On information and belief, AT&T has been and now is indirectly infringing by way of inducing infringement and/or contributing to the infringement of the claims of the ‘514 Patent in this judicial district, and elsewhere within the United States by, among other things, making, using, selling, or offering for sale products and services utilizing its 3G network, covered by one or more claims of the ‘514 Patent, all to the injury of Cellular Evolution. In the case of such infringement, the users of User Equipment (UE) are the direct infringers of the ‘514 Patent.

112. On information and belief, AT&T’s 3G network employs a UMTS network.⁴³ On information and belief, AT&T’s 3G network complies with the UMTS RRC Protocol and practices the requirements set forth in that standard.

113. On information and belief, the AT&T UE complies with the UMTS UE Procedures.

114. AT&T advertises and promotes its 3G network on its website.⁴⁴

115. AT&T offers for sale and sells products for use on its network (“AT&T UE”).⁴⁵

116. The AT&T UE includes, but is not limited to, for example, the following products: Apple iPhone XR, Apple iPhone SE, Apple iPhone XS, Apple iPhone XS Max, Apple iPhone X, Apple iPhone 8, Apple iPhone 8 Plus, Apple iPhone 7, Apple iPhone 7 Plus, Apple iPhone 6s, Apple iPhone 6s Plus, Samsung Galaxy S10+, Samsung Galaxy S10e, Samsung Galaxy S10, Samsung Galaxy Note 9, Samsung Galaxy S9, Samsung Galaxy S9+, Samsung Galaxy S8, Samsung Galaxy S8 Active, Samsung Galaxy S8 Plus, Samsung Galaxy S7, Samsung Galaxy Fold, Samsung Galaxy J7, Samsung Galaxy J3, Samsung Galaxy A6, Samsung Galaxy Note8, LG

⁴³ <https://www.pcmag.com/news/300986/cdma-vs-gsm-whats-the-difference>.

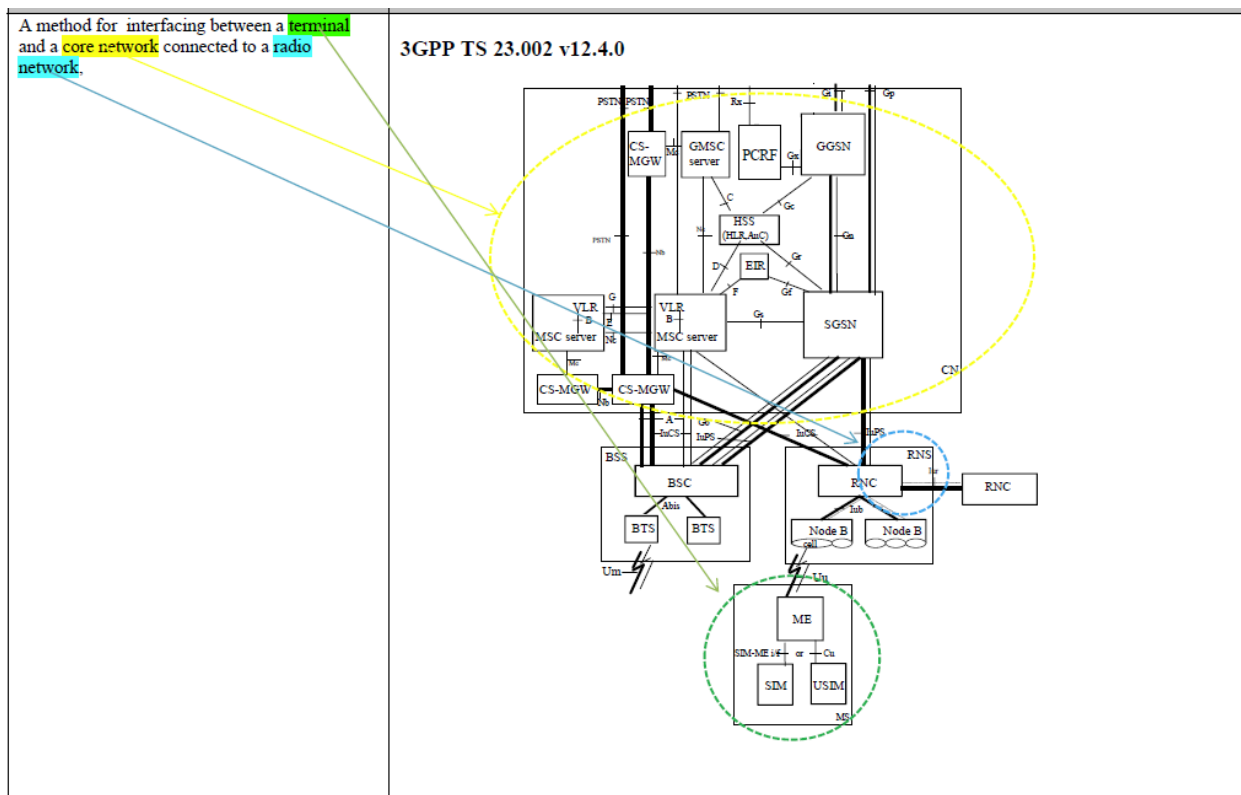
⁴⁴ <https://www.att.com/maps/edo/att-hplmn-broadband.html>.

⁴⁵ <https://www.att.com/buy/phones/>.

G8 ThinQ, LG Stylo 4+, LG K30, LG V40 ThinQ, LG V35 ThinQ, LG X Venture, LG V30, Kyocera DuraForce Pro 2, Razer Phone 2, Moto G Play 6th Gen., and Blackberry KEYone.⁴⁶

117. AT&T indirectly infringes the ‘514 Patent. For example, AT&T indirectly infringes representative claim 1 of the ‘514 patent by inducing and/or contributing to the infringement of the method claimed therein in its 3G network.

118. Claim 1 of the ‘514 Patent recites a method for interfacing between a terminal and a core network connected to a radio network. To the extent the preamble of claim 1 is deemed to be a limitation, users of the AT&T UE perform a method for interfacing between a terminal and a core network connected to a radio network when using the AT&T UE:



119. Claim 1 of the ‘514 Patent recites wherein the terminal has a hybrid operating type being possible to be set as either a synchronous operating type or an asynchronous operating type

⁴⁶ <https://www.att.com/buy/phones/>.

and the core network has a synchronous operating type. The AT&T UE has a hybrid operating type being possible to be set as either a synchronous operating type or an asynchronous operating type and the core network has a synchronous operating type:

<p>wherein the terminal has a hybrid operating type being possible to be set as either a synchronous operating type or an asynchronous operating type and the core network has a synchronous operating type.</p>	<p>3GPP TS 25.304 V12.1.0</p> <p>Page 16</p> <p>5 Process and procedure descriptions</p> <p>5.1 PLMN selection</p> <p>5.1.1 General</p> <p>In the UE, the AS shall report available PLMNs to the NAS on request from the NAS or autonomously.</p> <p>UE shall maintain a list of allowed PLMN types. The allowed PLMN type can be GSM-MAP only, ANSI-41 only or both. During PLMN selection, based on the list of allowed PLMN types and a list of PLMN identities in priority order, the particular PLMN may be selected either automatically or manually. Each PLMN in the list of PLMN identities can be identified by either 'PLMN identity' (GSM-MAP) or 'SID'. In the system information on the broadcast channel, the UE can receive a 'PLMN identity' (GSM-MAP) or a 'SID' or a 'PLMN identity' (GSM-MAP) and a 'SID', in a given cell. For a given cell, the UE might receive several 'PLMN identities' from the system information on the broadcast channel. The result of the PLMN selection is an identifier of the selected PLMN, the choice being based on the allowed PLMN types, UE capability or other factors. This identifier is one of either 'PLMN identity' for GSM-MAP type of PLMNs or 'SID' for ANSI-41 type of PLMNs.</p> <p>In case that the list of allowed PLMN types includes GSM-MAP, the non-access part of the PLMN selection process is specified in [5]. In the case that list of allowed PLMN types includes ANSI-41, the non-access stratum part of the PLMN selection is specified in TIA/EIA/IS-2000.5 and TIA/EIA/IS-707.</p>
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120. Claim 1 of the '514 Patent recites a method comprising the step of recognizing an operating type of the core network on the basis of a core network operating type information contained in a message. Users of the AT&T UE perform the step of recognizing an operating type of the core network on the basis of a core network operating type information contained in a message when using the AT&T UE:

<p>the method comprising the steps of:</p> <p>a) recognizing an operating type of the core network on the basis of a core network operating type information contained in a message.</p>	<p>ETSI TS 125 331 V15.4.0</p> <p>Page 61</p> <p>8.1 RRC Connection Management Procedures</p> <p>8.1.1 Broadcast of system information</p> <p>Figure 8.1.1.1: Broadcast of system information</p> <p>Note: See below for PLMN type contained in the system information message from UTRAN to UE.</p> <p>See page 62</p> <p>8.1.1.1 General</p> <p>The purpose of this procedure is to broadcast system information from the UTRAN to UEs in a cell.</p>
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8.1.1.1.1 System information structure
 The system information elements are broadcast in *system information blocks*. A system information block groups together system information elements of the same nature. Different system information blocks may have different characteristics, e.g. regarding their repetition rate and the requirements on UEs to re-read the system information blocks.
 See page 65

Table 8.1.1: Specification of system information block characteristics

System information block	Area scope	UE mode/state when block is valid	UE mode/state when block is read	Scheduling information	Modification of system information	Additional comment
Master information block	Cell	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	SIB_POS = 0 SIB_REP = 8 (FDD) SIB_REP = 8, 16, 32 (TDD) SIB_OFF=2	Value tag	See Note 5

See page 765
 10.2.48.8.1 Master Information Block

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Other information elements					
MIB Value tag	MP		MIB Value tag 10.3.8.9		
CN information elements					
Supported PLMN types	MP		PLMN Type 10.3.1.12		
PLMN Identity	CV-GSM		PLMN Identity 10.3.1.11		

See page 828
 10.3.1.12 PLMN Type
 Identifies the type of Public Land Mobile Network (PLMN). This IE shall be used to control the interpretation of network dependent messages and information elements in the RRC protocol.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
PLMN Type	MP		Enumerated (GSM-MAP, ANSI-41, GSM-MAP and ANSI-41)	One spare value is needed.

121. Claim 1 of the ‘514 Patent recites that the prior step is performed to thereby allow the terminal to operate according to the recognized operating type of the core network. Users of the AT&T UE perform the step to thereby allow the terminal to operate according to the recognized operating type of the core network when using the AT&T UE:

<p>to thereby allow the terminal to operate according to the recognized operating type of the core network,</p>	<p>3GPP TS 25.304 V12.1.0</p> <p>Page 11</p> <p>The UE searches for a suitable cell of the selected PLMN and chooses that cell to provide available services, and tunes to its control channel. This choosing is known as "camping on the cell". The UE will, if necessary, then register its presence, by means of a NAS registration procedure, in the registration area of the chosen cell and as outcome of a successful Location Registration the selected PLMN becomes the registered PLMN [5].</p>
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122. Claim 1 of the ‘514 Patent recites that the message is represented by:

INFORMATION ELEMENT	PRESENCE	MULTI	IE TYPE AND REFERENCE	SEMAN-TICS DESCRIPTION
OTHER INFORMATION ELEMENTS				
MIB VALUE TAG	M			
REFERENCES TO OTHER SYSTEM INFORMATION BLOCKS		1 . . . <MAX		SYS INFO BLOCK COUNT>
>SCHEDULING INFORMATION CN	M			
INFORMATION ELEMENTS CN TYPE ANSI-41	M	C-ANSI		ANSI-41
INFORMATION ELEMENTS				
CONDITION	EXPLANATION			
GSM	THIS INFORMATION ELEMENT SHALL BE PRESENT IN CASE (CN TYPE == "GSM-MAP") OR (CN TYPE == "GSM-MAP AND ANSI-41")			
ANSI	THIS INFORMATION ELEMENT SHALL BE PRESENT IN CASE (CN TYPE == "ANSI-41") OR (CN TYPE == "GSM-MAP AND ANSI-41").			

The message used by users of the AT&T UE meets this limitation:

wherein the message is represented by:		ETSI TS 125 331 V15.4.0																						
		See page 62																						
		8.1.1.1 General																						
		The purpose of this procedure is to broadcast system information from the UTRAN to UEs in a cell.																						
		8.1.1.1.1 System information structure																						
		The system information elements are broadcast in system information blocks. A system information block groups together system information elements of the same nature. Different system information blocks may have different characteristics, e.g. regarding their repetition rate and the requirements on UEs to re-read the system information blocks.																						
		See page 65																						
		Table 8.1.1: Specification of system information block characteristics																						
		<table border="1"> <thead> <tr> <th>System information block</th> <th>Area scope</th> <th>UE mode/state when block is valid</th> <th>UE mode/state when block is read</th> <th>Scheduling information</th> <th>Modification of system information</th> <th>Additional comment</th> </tr> </thead> <tbody> <tr> <td>Master information block</td> <td>Cell</td> <td>Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)</td> <td>Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)</td> <td>SIB_POS = 0 SIB_REP = 8 (FDD) SIB_REP = 8, 16, 32 (TDD) SIB_OFF = 2</td> <td>Value tag</td> <td>See Note 5</td> </tr> <tr> <td>Scheduling block 1</td> <td>Cell</td> <td>Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)</td> <td>Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)</td> <td>Specified by the IE "Scheduling information" in MIB</td> <td>Value tag</td> <td>See Note 3</td> </tr> </tbody> </table>		System information block	Area scope	UE mode/state when block is valid	UE mode/state when block is read	Scheduling information	Modification of system information	Additional comment	Master information block	Cell	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	SIB_POS = 0 SIB_REP = 8 (FDD) SIB_REP = 8, 16, 32 (TDD) SIB_OFF = 2	Value tag	See Note 5	Scheduling block 1	Cell	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	Specified by the IE "Scheduling information" in MIB	Value tag	See Note 3
System information block	Area scope	UE mode/state when block is valid	UE mode/state when block is read	Scheduling information	Modification of system information	Additional comment																		
Master information block	Cell	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	SIB_POS = 0 SIB_REP = 8 (FDD) SIB_REP = 8, 16, 32 (TDD) SIB_OFF = 2	Value tag	See Note 5																		
Scheduling block 1	Cell	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	Specified by the IE "Scheduling information" in MIB	Value tag	See Note 3																		
		See page 765																						
		10.2.48.8.1 Master Information Block																						
		<table border="1"> <tr> <td>MIB3 Value tag</td> <td>MP</td> <td></td> <td>MIB Value tag 10.3.8.9</td> <td></td> <td></td> </tr> </table>		MIB3 Value tag	MP		MIB Value tag 10.3.8.9																	
MIB3 Value tag	MP		MIB Value tag 10.3.8.9																					

INFORMATION ELEMENT	PRESENCE	MULTI	IE TYPE AND REFERENCE	SEMAN- TICS DESCR IPTION
OTHER INFORMATION ELEMENTS				
MIB VALUE TAG		M		
REFERENCES TO OTHER SYSTEM INFORMATION BLOCKS				
>>SCHEDULING INFORMATION		M		
CN INFORMATION ELEMENTS				
CN TYPE ANSI-41		M		
CN TYPE ANSI-41 INFORMATION ELEMENTS				
CONDITION	EXPLANATION			
GSM	THIS INFORMATION ELEMENT SHALL BE PRESENT IN CASE (CN TYPE == "GSM-MAP") (CN TYPE == "GSM-MAP AND ANSI-41")			
ANSI	THIS INFORMATION ELEMENT SHALL BE PRESENT IN CASE (CN TYPE == "ANSI-41") OR (CN TYPE == "GSM-MAP AND ANSI-41")			

ETSI TS 125 331 V15.4.0									
INFORMATION ELEMENT	PRESENCE	MULTI	IE TYPE AND REFERENCE	SEMAN TICS DESCRIPTION	Need	Multi	Type and reference	Semantics description	Version
OTHER INFORMATION ELEMENTS									
MIB VALUE TAG	M								
REFERENCES TO OTHER SYSTEM INFORMATION BLOCKS		1... <MAX SYS INFO BLOCK COUNT>							
>SCHEDULING INFORMATION CN	M								
INFORMATION ELEMENTS									
CN TYPE ANSI-41	M		C-ANSI	ANSI-41					
INFORMATION ELEMENTS									
CONDITION	EXPLANATION								
GSM	THIS INFORMATION ELEMENT SHALL BE PRESENT IN CASE (CN TYPE == "GSM-MAP") (CN TYPE == "GSM-MAP AND ANSI-41")								
ANSI	THIS INFORMATION ELEMENT SHALL BE PRESENT IN CASE (CN TYPE == "ANSI-41") OR (CN TYPE == "GSM-MAP AND ANSI-41").								
<p>See page 828</p> <p>10.3.1.12 PLMN Type identifies the type of Public Land Mobile Network (PLMN). This IE shall be used to control the interpretation of network dependent messages and information elements in the RRC protocol.</p>									
Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version				
Other information elements									
MIB Value tag	MP		MIB Value tag 10.3.8.9						
CN information elements									
Supported PLMN types	MP		PLMN Type 10.3.1.12						
PLMN Identity	CV-GSM		PLMN Identity 10.3.1.11						
Information Element/Group name	Need	Multi	Type and reference	Semantics description					
PLMN Type	MP		Enumerated (GSM-MAP, ANSI-41, GSM-MAP and ANSI-41)	One spare value is needed.					

INFORMATION ELEMENT	PRESENCE	MULTI	IE TYPE AND REFERENCE	SEMAN TICS DESCRIPTION	Need	Multi	Type and reference	Semantics description	Version
OTHER INFORMATION ELEMENTS									
MIB VALUE TAG	M								
REFERENCES TO OTHER SYSTEM INFORMATION BLOCKS		1... <MAX SYS INFO BLOCK COUNT>							
>SCHEDULING INFORMATION CN	M								
INFORMATION ELEMENTS									
CN TYPE ANSI-41	M		C-ANSI	ANSI-41					
INFORMATION ELEMENTS									
CONDITION	EXPLANATION								
GSM	THIS INFORMATION ELEMENT SHALL BE PRESENT IN CASE (CN TYPE == "GSM-MAP") (CN TYPE == "GSM-MAP AND ANSI-41")								
ANSI	THIS INFORMATION ELEMENT SHALL BE PRESENT IN CASE (CN TYPE == "ANSI-41") OR (CN TYPE == "GSM-MAP AND ANSI-41").								
<p>ANSI-41 information elements</p> <p>ANSI-41 Core Network Information</p> <p>CV-ANSI-41</p> <p>ANSI-41 Core Network Information 10.3.9.1</p>									
References to other system information blocks and scheduling blocks	MP							References to other system information blocks and scheduling blocks 10.3.8.14	
Condition	Explanation								
GSM	The IE is mandatory present if the IE "Supported PLMN Types" is set to 'GSM-MAP' or 'GSM-MAP AND ANSI-41', and not needed otherwise								
ANSI-41	The IE is mandatory present if the IE "Supported PLMN Types" is set to 'ANSI-41' or 'GSM-MAP AND ANSI-41', and not needed otherwise								

123. AT&T's conduct includes knowingly instructing consumers to use UE and methods that AT&T knows or should know infringe one or more claims of the '514 Patent. Defendant instructs its customers to use the patented methods of the '514 Patent by operating AT&T UE in

accordance with written specifications facilitating the operation of the AT&T UE on the AT&T network. AT&T sells the AT&T UE for use on the AT &T network and specifically intends the consumers to use the AT&T UE on its network in an infringing manner.

124. On information and belief, a consumer using UE on the AT&T network infringes the '514 Patent by virtue of turning on the UE. Specifically, on information and belief, once a user turns on the UE on the AT&T network no further action is required from the user to implement the claimed methods of the '514 Patent and the claimed methods are implemented automatically using the AT&T network.

125. Cellular Evolution is not asserting infringement of claims 2, 4, 7, and 11 of the '514 Patent.

126. AT&T provides consumers with instructions to activate, setup and unlock UE on its network.⁴⁷ For instance, AT&T specifically instructs consumers to (1) activate an AT&T UE on the AT&T network,⁴⁸ or (2) activate a non-AT&T UE on the AT&T network.⁴⁹

127. AT&T is liable for indirect infringement by inducing and/or contributing to the infringement of the '514 Patent.

128. The acts of infringement by Defendants have caused damage to Cellular Evolution, and Cellular Evolution is entitled to recover from Defendants the damages sustained by Cellular Evolution as a result of Defendants' wrongful acts in an amount subject to proof at trial. The infringement of Cellular Evolution's exclusive rights under the '514 Patent by the Defendants has damaged and will continue to damage Cellular Evolution.

⁴⁷ https://www.att.com/esupport/main.html#!/wireless/topic_actisetnunk.

⁴⁸ <https://www.att.com/help/wireless/setup.html>.

⁴⁹ <https://www.att.com/esupport/article.html#!/wireless/KM1150340?gsi=h2dr0g>.

129. The European Telecommunications Standards Institute (“ETSI”) is a standardization organization in the telecommunications industry.⁵⁰

130. ETSI is a founding partner of 3GPP.⁵¹

131. The ETSI IPR online database allows public access to patents which have been declared as being essential or potentially essential to ETSI and 3GPP Standards.⁵²

132. An extract of the ESTI IPR Database is published twice a year in a Special Report SR 000 314.⁵³

133. The ‘514 Patent has been declared essential to the UMTS RRC Protocol and identified as such in the ETSI Special Report SR 000 314.⁵⁴

134. On information and belief, AT&T is and has been aware of ETSI SR 000 314. For example, AT&T itself has declared a number of its patents to be essential in the very same database. Further, on information and belief, AT&T is aware of ETSI SR 000 314 by virtue of its membership and involvement in ATIS and 3GPP.

135. Upon information and belief, AT&T actually knew of, or was willfully blind to, the existence of the ‘514 Patent, yet it continued to infringe said patent. AT&T’s acts of infringement have been willful, deliberate, and in reckless disregard of Cellular Evolution’s patent rights. Accordingly, Cellular Evolution is entitled to increased damages under 35 U.S.C. § 284 and to attorneys’ fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

⁵⁰ <https://www.etsi.org/about>

⁵¹ *Id.*

⁵² <https://www.etsi.org/intellectual-property-rights>

⁵³ *Id.*

⁵⁴

https://portal.etsi.org/webapp/workprogram/Report_WorkItem.asp?WKI_ID=57494&curlItemNr=1&totalNrItems=38&optDisplay=10&qSORT=HIGHVERSION&qETSI_ALL=TRUE&SearchPage=TRUE&qETSI_NUMBER=000+314&qINCLUDE_SUB_TB=True&qINCLUDE_MOVED_ON=&qSTOP_FLG=&qKEYWORD_BOOLEAN=&qCLUSTER_BOOLEAN=&qFREQUENCIES_BOOLEAN=&qSTOPPING_OUTDATED=&butSimple=Search&includeNonActiveTB=&includeSubProjectCode=&qREPORT_TYPE=

COUNT IV: INFRINGEMENT OF U.S. PATENT NO. 7,505,783

136. On March 17, 2009, the USPTO duly and legally issued United States Patent No. 7,505,783 (“the ‘783 Patent”), entitled “Method and Apparatus for Interfacing Among Mobile Terminal, Base Station, and Core Network in Mobile Telecommunications System.” Cellular Evolution holds all rights, title, and interest in and to the ‘783 Patent.

137. Upon information and belief, Defendants have infringed directly and continue to infringe directly the ‘783 Patent. The infringing acts include, but are not limited to, the use of products and services practicing the UMTS RRC Protocol. The infringing activity includes at least compliance with the UMTS RRC Protocol in AT&T’s 3G network including the base stations constituting that network in the United States.

138. On information and belief, AT&T’s 3G network employs a UMTS network.⁵⁵ AT&T’s 3G network complies with the UMTS RRC Protocol and practices the requirements set forth in that standard.

139. AT&T directly infringes the ‘783 Patent. For example, AT&T directly infringes representative claim 1 of the ‘783 patent by practicing the method claimed therein in its 3G network.

140. Claim 1 of the ‘783 Patent recites a method for interfacing between a terminal and a radio network. To the extent the preamble of claim 1 is deemed to be a limitation, the UMTS RRC Protocol utilized in AT&T’s 3G network meets this limitation:

⁵⁵ <https://www.pcmag.com/news/300986/cdma-vs-gsm-whats-the-difference>.

1 Scope

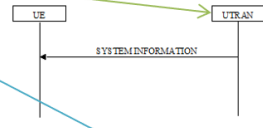
The present document specifies the Radio Resource Control protocol for the UE-UTRAN radio interface.

The scope of the present document also includes:

- the information to be transported in a transparent container between source RNC and target RNC in connection with SRNC relocation;
- the information to be transported in a transparent container between a target RNC and another system.

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141. Claim 1 of the '783 Patent recites wherein the radio network has an asynchronous operating type. UMTS RRC Protocol utilized in AT&T's 3G network meets this limitation:

<p>wherein the radio network has an asynchronous operating type, the method comprising the steps of:</p>	<p>See page 61</p> <p>.8.1 RRC Connection Management Procedures</p> <p>.8.1.1 Broadcast of system information⁵⁶</p>  <p style="text-align: center;">Figure 8.1.1-1: Broadcast of system information⁵⁶</p> <p>ETSI TS 127 002 V15.0.0 (2018-07)</p> <p>See page 6</p> <p>The present document defines the interfaces and Terminal Adaptation Functions (TAF) integral to a Mobile Termination (MT) which enable the use of asynchronous bearer services in the PLMN and the attachment of asynchronous terminals to a MT (see 3GPP TS 24.002 [3] and 3GPP TS 23.101 [6]).</p>
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142. Claim 1 of the '783 Patent recites that the method comprises providing the terminal with a message. As shown below, the UMTS RRC Protocol utilized in AT&T's 3G network meets this limitation:

⁵⁶ 3GPP TS 25.331 version 15.4.0 Release 15 at 41.

a) providing the terminal with a message comprising

See page 61

8.1 RRC Connection Management Procedures

8.1.1 Broadcast of system information

Figure 8.1.1-1: Broadcast of system information

See page 62

8.1.1.1 General

The purpose of this procedure is to broadcast system information from the UTRAN to UEs in a cell.

8.1.1.1.1 System information structure

The system information elements are broadcast in *system information blocks*. A system information block groups together system information elements of the same nature. Different system information blocks may have different characteristics, e.g. regarding their repetition rate and the requirements on UEs to re-read the system information blocks.

See page 65

Table 8.1.1: Specification of system information block characteristics

System information block	Area scope	UE mode/state when block is valid	UE mode/state when block is read	Scheduling information	Modification of system information	Additional comment
Master information block	Cell	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	SIB_POS = 0 SIB_REP = 8 (FDD) SIB_REP = 8, 16, 32 (TDD) SIB_OFF = 2	Value tag	See Note 5

143. Claim 1 of the '783 Patent recites that the message comprises an information element identifying an operating type of a core network. As shown below, the UMTS RRC Protocol utilized in AT&T's 3G network meets this limitation:

an information element identifying an operating type of a core network.

See page 765
10.2.48.8.1 Master Information Block

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Other information elements					
MIB Value tag	MP		MIB Value tag 10.3.8.9		
CN information elements					
Supported PLMN types	MP		PLMN Type 10.3.1.12		
PLMN Identity	CV-GSM		PLMN Identity 10.3.1.11		
Multiple PLMN List	OP		Multiple PLMN List 10.3.1.7a	If present, this IE specifies the PLMNs of the cell. If absent, the IE "PLMN Identity" specifies the PLMN of the cell.	REL-6

144. Claim 1 of the '783 Patent recites that the operating type of the core network comprises a global system for mobile communications application part (GSM-MAP). As shown below, the UMTS RRC Protocol utilized in AT&T's 3G network meets this limitation:

<p>wherein the operating type of the core network comprises global system for mobile communications application part (GSM-MAP), and</p>	<p>See page 828 10.3.1.12 PLMN Type Identifies the type of Public Land Mobile Network (PLMN). This IE shall be used to control the interpretation of network dependent messages and information elements in the RRC protocol.</p> <table border="1" data-bbox="753 317 1417 527"> <thead> <tr> <th data-bbox="753 317 971 380">Information Element/Group name</th> <th data-bbox="971 317 1084 380">Need</th> <th data-bbox="1084 317 1159 380">Multi</th> <th data-bbox="1159 317 1263 380">Type and reference</th> <th data-bbox="1263 317 1417 380">Semantics description</th> </tr> </thead> <tbody> <tr> <td data-bbox="753 380 971 527">PLMN Type</td> <td data-bbox="971 380 1084 527">MP</td> <td data-bbox="1084 380 1159 527"></td> <td data-bbox="1159 380 1263 527">Enumerated (GSM-MAP, ANSI-41, GSM-MAP and ANSI-41)</td> <td data-bbox="1263 380 1417 527">One spare value is needed.</td> </tr> </tbody> </table>	Information Element/Group name	Need	Multi	Type and reference	Semantics description	PLMN Type	MP		Enumerated (GSM-MAP, ANSI-41, GSM-MAP and ANSI-41)	One spare value is needed.
Information Element/Group name	Need	Multi	Type and reference	Semantics description							
PLMN Type	MP		Enumerated (GSM-MAP, ANSI-41, GSM-MAP and ANSI-41)	One spare value is needed.							

145. Claim 1 of the '783 Patent recites that the message is represented in a particular way as shown below. As shown below, the UMTS RRC Protocol utilized in AT&T's 3G network meets this limitation:

wherein the message is represented by:

INFORMATION ELEMENT	PRESENCE	MULTI	IE TYPE AND REFERENCE	SEMANTICS DESCRIPTION
OTHER INFORMATION ELEMENTS				
MB VALUE TAG	M			
REFERENCES TO OTHER SYSTEM INFORMATION BLOCKS				
>SCHEDULING	M			

See page 62
8.1.1.1 General
The purpose of this procedure is to broadcast system information from the UTRAN to UEs in a cell.

8.1.1.1.1 System information structure
The system information elements are broadcast in system information blocks. A system information block groups together system information elements of the same nature. Different system information blocks may have different characteristics, e.g. regarding their repetition rate and the requirements on UEs to re-read the system information blocks.

See page 65
Table 8.1.1: Specification of system information block characteristics

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Scheduling block 1	Cell	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	Specified by the IE "Scheduling information" in MIB	Value tag	See Note 3

See page 765
10.2.48.8.1 Master Information Block

MIB Value tag	MP	MIB Value tag	10.3.8.9

See page 765
10.2.48.8.1 Master Information Block

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Other information elements					
MIB Value tag	MP		MIB Value tag 10.3.8.9		
CN information elements					
Supported PLMN types	MP		PLMN Type 10.3.1.12		
PLMN Identity	CV-GSM		PLMN Identity 10.3.1.11		
Multiple PLMN List	OP		Multiple PLMN List 10.3.1.7a	If present, this IE specifies the PLMNs of the cell. If absent, the IE "PLMN Identity" specifies the PLMN of the cell.	REL-6

See page 828
10.3.1.12 PLMN Type
Identifies the type of Public Land Mobile Network (PLMN). This IE shall be used to control the interpretation of network dependent messages and information elements in the RRC protocol.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
PLMN Type	MP		Enumerated (GSM-MAP, ANSI-41, GSM-MAP and ANSI-41)	One spare value is needed.

146. In addition to its direct infringement, AT&T has been and is now indirectly infringing by way of inducing infringement and/or contributing to the infringement of the method claims of the '783 Patent in this judicial district, and elsewhere within the United States by, among other things, making, using, selling, or offering for sale products and services utilizing its 3G network, covered by one or more method claims of the '783 Patent, all to the injury of Cellular Evolution. In the case of such infringement, the users of User Equipment (UE) are the direct infringers of the '783 Patent.

147. Users of UE on the AT&T network directly infringe the '783 Patent. For example, users of UE on the AT&T network directly infringe representative claim 1 of the '783 patent by practicing the method claimed therein in its 3G network.

148. Claim 1 of the '783 Patent recites a method for interfacing between a terminal and a radio network. To the extent the preamble of claim 1 is deemed to be a limitation, the UMTS RRC Protocol utilized in AT&T's 3G network meets this limitation:

1 Scope

The present document specifies the Radio Resource Control protocol for the UE-UTRAN radio interface.

The scope of the present document also includes:

- the information to be transported in a transparent container between source RNC and target RNC in connection with SRNC relocation;
- the information to be transported in a transparent container between a target RNC and another system.

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149. Claim 1 of the '783 Patent recites wherein the radio network has an asynchronous operating type. UMTS RRC Protocol utilized in AT&T's 3G network meets this limitation:

⁵⁷ 3GPP TS 25.331 version 15.4.0 Release 15 at 41.

wherein the **radio network** has an **asynchronous operating type**, the method comprising the steps of:

See page 61

.8.1 RRC Connection Management Procedures

.8.1.1 Broadcast of system information

Figure 8.1.1-1: Broadcast of system information

ETSI TS 127 002 V15.0.0 (2018-07)

See page 6

The present document defines the interfaces and Terminal Adaptation Functions (TAF) integral to a Mobile Termination (MT) which enable the **use of asynchronous bearer services in the PLMN and the attachment of asynchronous terminals to a MT** (see 3GPP TS 24.002 [3] and 3GPP TS 23.101 [6]).

150. Claim 1 of the '783 Patent recites that the method comprises providing the terminal with a message. As shown below, a user of UE on the AT&T network performs this step:

a) providing the **terminal** with a **message** comprising

See page 61

.8.1 RRC Connection Management Procedures

.8.1.1 Broadcast of system information

Figure 8.1.1-1: Broadcast of system information

See page 62

8.1.1.1 General

The purpose of this procedure is to broadcast system information from the UTRAN to UEs in a cell.

8.1.1.1.1 System information structure

The system information elements are broadcast in *system information blocks*. A system information block groups together system information elements of the same nature. Different system information blocks may have different characteristics, e.g. regarding their repetition rate and the requirements on UEs to re-read the system information blocks.

See page 65

Table 8.1.1: Specification of system information block characteristics

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151. Claim 1 of the ‘783 Patent recites that the message comprises an information element identifying an operating type of a core network. As shown below, the UMTS RRC Protocol utilized in AT&T’s 3G network meets this limitation:

an information element identifying an operating type of a core network.

See page 765
10.2.48.8.1 Master Information Block

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Other information elements					
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CN information elements					
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PLMN Identity	CV-GSM		PLMN Identity 10.3.1.11		
Multiple PLMN List	OP		Multiple PLMN List 10.3.1.7a	If present, this IE specifies the PLMNs of the cell. If absent, the IE “PLMN Identity” specifies the PLMN of the cell.	REL-6

152. Claim 1 of the ‘783 Patent recites that the operating type of the core network comprises a global system for mobile communications application part (GSM-MAP). As shown below, the UMTS RRC Protocol utilized in AT&T’s 3G network meets this limitation:

<p>wherein the operating type of the core network comprises global system for mobile communications application part (GSM-MAP), and</p>	<p><u>See page 828</u> 10.3.1.12 PLMN Type Identifies the type of Public Land Mobile Network (PLMN). This IE shall be used to control the interpretation of network dependent messages and information elements in the RRC protocol.</p> <table border="1"> <thead> <tr> <th>Information Element/Group name</th> <th>Need</th> <th>Multi</th> <th>Type and reference</th> <th>Semantics description</th> </tr> </thead> <tbody> <tr> <td>PLMN Type</td> <td>MP</td> <td></td> <td>Enumerated (GSM-MAP, ANSI-41, GSM-MAP and ANSI-41)</td> <td>One spare value is needed.</td> </tr> </tbody> </table>	Information Element/Group name	Need	Multi	Type and reference	Semantics description	PLMN Type	MP		Enumerated (GSM-MAP, ANSI-41, GSM-MAP and ANSI-41)	One spare value is needed.
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153. Claim 1 of the '783 Patent recites that the message is represented in a particular way as shown below. As shown below, the UMTS RRC Protocol utilized in AT&T's 3G network meets this limitation:

wherein the **message** is represented by:

INFORMATION ELEMENT	PRESENCE	MULTI	IE TYPE AND REFERENCE	SEMANTICS DESCRIPTION
OTHER INFORMATION ELEMENTS				
MB VALUE TAG	M			
REFERENCES TO OTHER SYSTEM INFORMATION BLOCKS				
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See page 62
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Scheduling block 1	Cell	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	Specified by the IE "Scheduling information" in MIB	Value tag	See Note 3

See page 765
10.2.48.8.1 Master Information Block

MIB Value tag	MP	MIB Value tag	10.3.8.9

See page 765
10.2.48.8.1 Master Information Block

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Other information elements					
MIB Value tag	MP		MIB Value tag 10.3.8.9		
CN information elements					
Supported PLMN types	MP		PLMN Type 10.3.1.12		
PLMN Identity	CV-GSM		PLMN Identity 10.3.1.11		
Multiple PLMN List	OP		Multiple PLMN List 10.3.1.7a	If present, this IE specifies the PLMNs of the cell. If absent, the IE "PLMN Identity" specifies the PLMN of the cell.	REL-6

See page 828
10.3.1.12 PLMN Type
Identifies the type of Public Land Mobile Network (PLMN). This IE shall be used to control the interpretation of network dependent messages and information elements in the RRC protocol.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
PLMN Type	MP		Enumerated (GSM-MAP, ANSI-41, GSM-MAP and ANSI-41)	One spare value is needed.

154. AT&T advertises and promotes its 3G network on its website.⁵⁸ AT&T also sells products (UE) for use on its network.⁵⁹ On information and belief, AT&T provides, makes, uses, sells and offers for sale AT&T UE with the specific intent that its customers use that UE in an infringing manner on its 3G network. AT&T sells or offers for sale UE for use in practicing Cellular Evolution's patented processes. The UMTS RRC Protocol utilized in AT&T's 3G network has no substantial non-infringing uses and is known by AT&T to be especially made or especially adapted for use in an infringement of Cellular Evolution's patents by complying with the UMTS RRC Protocol standard adapted by 3GPP.

155. Cellular Evolution is not asserting infringement of claims 3, 4, 6, 9, and 12-15 of the '783 Patent.

156. The acts of infringement by Defendants have caused damage to Cellular Evolution, and Cellular Evolution is entitled to recover from Defendants the damages sustained by Cellular Evolution as a result of Defendants' wrongful acts in an amount subject to proof at trial. The infringement of Cellular Evolution's exclusive rights under the '783 Patent by the Defendants has damaged and will continue to damage Cellular Evolution.

157. The European Telecommunications Standards Institute ("ETSI") is a standardization organization in the telecommunications industry.⁶⁰

158. ETSI is a founding partner of 3GPP.⁶¹

159. The ETSI IPR online database allows public access to patents which have been declared as being essential or potentially essential to ETSI and 3GPP Standards.⁶²

⁵⁸ <https://www.att.com/maps/edo/att-hplmn-broadband.html>.

⁵⁹ <https://www.att.com/buy/phones/>.

⁶⁰ <https://www.etsi.org/about>

⁶¹ *Id.*

⁶² <https://www.etsi.org/intellectual-property-rights>

160. An extract of the ESTI IPR Database is published twice a year in a Special Report SR 000 314.⁶³

161. The ‘783 Patent has been declared essential to the UMTS RRC Protocol and identified as such in the ETSI Special Report SR 000 314.⁶⁴

162. On information and belief, AT&T is and has been aware of ETSI SR 000 314. For example, AT&T itself has declared a number of its patents to be essential in the very same database. Further, on information and belief, AT&T is aware of ETSI SR 000 314 by virtue of its membership and involvement in ATIS and 3GPP.

163. Upon information and belief, AT&T actually knew of, or was willfully blind to, the existence of the ‘783 Patent, yet it continued to infringe said patent. AT&T’s acts of infringement have been willful, deliberate, and in reckless disregard of Cellular Evolution’s patent rights. Accordingly, Cellular Evolution is entitled to increased damages under 35 U.S.C. § 284 and to attorneys’ fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

COUNT V: INFRINGEMENT OF U.S. PATENT NO. 8,285,325

164. On October 9, 2012, the USPTO duly and legally issued United States Patent No. 8,285,325 (“the ‘325 Patent”), entitled “Method and Apparatus for Interfacing Among Mobile Terminal, Base Stations and Core Network in Mobile Telecommunications System.” Cellular Evolution holds all rights, title, and interest in and to the ‘325 Patent.

⁶³ *Id.*

⁶⁴

https://portal.etsi.org/webapp/workprogram/Report_WorkItem.asp?WKI_ID=57494&curlItemNr=1&totalNrItems=38&optDisplay=10&qSORT=HIGHVERSION&qETSI_ALL=TRUE&SearchPage=TRUE&qETSI_NUMBER=000+314&qINCLUDE_SUB_TB=True&qINCLUDE_MOVED_ON=&qSTOP_FLG=&qKEYWORD_BOOLEAN=&qCLUSTER_BOOLEAN=&qFREQUENCIES_BOOLEAN=&qSTOPPING_OUTDATED=&butSimple=Search&includeNonActiveTB=&includeSubProjectCode=&qREPORT_TYPE=

165. Upon information and belief, Defendants have infringed directly and continue to infringe directly the '325 Patent. The infringing acts include, but are not limited to, the use of products and services practicing the UMTS RRC Protocol. The infringing activity includes at least compliance with the UMTS RRC Protocol in AT&T's 3G network including the base stations constituting that network in the United States.

166. On information and belief, AT&T's 3G network employs a UMTS network.⁶⁵ AT&T's 3G network complies with the UMTS RRC Protocol and practices the requirements set forth in that standard.

167. AT&T directly infringes the '325 Patent. For example, AT&T directly infringes representative claim 1 of the '325 patent by practicing the method claimed therein in its 3G network.

168. Claim 1 of the '325 Patent recites a method for interfacing between a terminal and a radio network. To the extent the preamble of claim 1 is deemed to be a limitation, the UMTS RRC Protocol utilized in AT&T's 3G network meets this limitation:

1 Scope

The present document specifies the Radio Resource Control protocol for the UE-UTRAN radio interface.

The scope of the present document also includes:

- the information to be transported in a transparent container between source RNC and target RNC in connection with SRNC relocation;
- the information to be transported in a transparent container between a target RNC and another system.

169. Claim 1 of the '325 Patent recites that the method comprises providing the terminal with a message. The UMTS RRC Protocol utilized in AT&T's 3G network meets this limitation:

⁶⁵ <https://www.pcmag.com/news/300986/cdma-vs-gsm-whats-the-difference>.

providing the terminal with a message comprising

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8.1 RRC Connection Management Procedures

8.1.1 Broadcast of system information

Figure 8.1.1.1: Broadcast of system information

See page 62

8.1.1.1 General

The purpose of this procedure is to broadcast system information from the UTRAN to UEs in a cell.

8.1.1.1.1 System information structure

The system information elements are broadcast in *system information blocks*. A system information block groups together system information elements of the same nature. Different system information blocks may have different characteristics, e.g. regarding their repetition rate and the requirements on UEs to re-read the system information blocks.

See page 65

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System information block	Area scope	UE mode/state when block is valid	UE mode/state when block is read	Scheduling information	Modification of system information	Additional comment
Master information block	Cell	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	SIB_POS = 0 SIB_REP = 8 (FDD) SIB_REP = 8, 16, 32 (TDD) SIB_OFF=2	Value tag	See Note 5

170. Claim 1 of the ‘325 Patent recites that the message comprises an information element identifying an operating type of a core network. The UMTS RRC Protocol utilized in AT&T’s 3G network meets this limitation:

an information element identifying an operating type of a core network

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10.2.48.8.1 Master Information Block

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Other information elements					
MIB Value tag	MP		MIB Value tag 10.3.8.9		
CN information elements					
Supported PLMN types	MP		PLMN Type 10.3.1.12		
PLMN Identity	CV-GSM		PLMN Identity 10.3.1.11		

171. Claim 1 of the ‘325 Patent recites that the operating type of the core network comprises global system for mobile communications application part (GSM-MAP). The UMTS RRC Protocol utilized in AT&T’s 3G network meets this limitation:

<p>wherein the operating type of the core network comprises global system for mobile communications application part (GSM-MAP), and</p>	<p>See page 828 10.3.1.12 PLMN Type Identifies the type of Public Land Mobile Network (PLMN). This IE shall be used to control the interpretation of network dependent messages and information elements in the RRC protocol.</p> <table border="1"> <thead> <tr> <th>Information Element/Group name</th> <th>Need</th> <th>Multi</th> <th>Type and reference</th> <th>Semantics description</th> </tr> </thead> <tbody> <tr> <td>PLMN Type</td> <td>MP</td> <td></td> <td>Enumerated (GSM-MAP, ANSI-41, GSM-MAP and ANSI-41)</td> <td>One spare value is needed.</td> </tr> </tbody> </table>	Information Element/Group name	Need	Multi	Type and reference	Semantics description	PLMN Type	MP		Enumerated (GSM-MAP, ANSI-41, GSM-MAP and ANSI-41)	One spare value is needed.
Information Element/Group name	Need	Multi	Type and reference	Semantics description							
PLMN Type	MP		Enumerated (GSM-MAP, ANSI-41, GSM-MAP and ANSI-41)	One spare value is needed.							

172. Claim 1 of the '325 Patent recites that the message further comprises core network information elements in a master information block. The UMTS RRC Protocol utilized in AT&T's 3G network meets this limitation:

<p>wherein the message further comprises core network information elements in a master information block.</p>	<p>See page 765 10.2.48.8.1 Master Information Block</p> <table border="1"> <thead> <tr> <th>Information Element/Group name</th> <th>Need</th> <th>Multi</th> <th>Type and reference</th> <th>Semantics description</th> <th>Version</th> </tr> </thead> <tbody> <tr> <td>Other information elements</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>MIB Value tag</td> <td>MP</td> <td></td> <td>MIB Value tag 10.3.8.9</td> <td></td> <td></td> </tr> <tr> <td>CN information elements</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Supported PLMN types</td> <td>MP</td> <td></td> <td>PLMN Type 10.3.1.12</td> <td></td> <td></td> </tr> <tr> <td>PLMN Identity</td> <td>CV-GSM</td> <td></td> <td>PLMN Identity 10.3.1.11</td> <td></td> <td></td> </tr> </tbody> </table>	Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version	Other information elements						MIB Value tag	MP		MIB Value tag 10.3.8.9			CN information elements						Supported PLMN types	MP		PLMN Type 10.3.1.12			PLMN Identity	CV-GSM		PLMN Identity 10.3.1.11		
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Supported PLMN types	MP		PLMN Type 10.3.1.12																																		
PLMN Identity	CV-GSM		PLMN Identity 10.3.1.11																																		

173. Claim 1 of the '325 Patent recites the core network information elements identifying a Public Land Mobile Network depending upon the value of the information element identifying the operating type of the core network. The UMTS RRC Protocol utilized in AT&T's 3G network meets this limitation:

the core network information elements identifying a Public Land Mobile Network depending upon the value of the information element identifying the operating type of the core network

See page 765
10.2.48.8.1 Master Information Block

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Other information elements					
MIB Value tag	MP		MIB Value tag 10.3.8.9		
CN information elements					
Supported PLMN types	MP		PLMN Type 10.3.1.12		
PLMN Identity	CV-GSM		PLMN Identity 10.3.1.11		

Condition	Explanation
GSM	The IE is mandatory present if the IE "Supported PLMN Types" is set to 'GSM-MAP' or 'GSM-MAP AND ANSI-41', and not needed otherwise

Note: "CV" is defined as "Conditional on Value" by the Spec on page 47. As such, "CV-GSM" means that depending on or when the operating type of the core network is identified as GSM-MAP or GSM-MAP and ANSI-41, then PLMN Identity field is needed or is mandatory, as defined below

See page 828
10.3.1.11 PLMN identity
This information element identifies a Public Land Mobile Network for a GSM-MAP type of PLMN. Setting of digits is defined in [11]

Information Element/Group name	Need	Multi	Type and reference	Semantics description
MCC	MP	3		The first element contains the first MCC digit, the second element
				the second MCC digit and so on.
>MCC digit	MP		INTEGER(0..9)	
MNC	MP	2 to 3		The first element contains the first MNC digit, the second element the second MNC digit and so on.
>MNC digit	MP		INTEGER(0..9)	

174. In addition to its direct infringement, AT&T has been and is now indirectly infringing by way of inducing infringement and/or contributing to the infringement of the method

claims of the '325 Patent in this judicial district, and elsewhere within the United States by, among other things, making, using, selling, or offering for sale products and services utilizing its 3G network, covered by one or more method claims of the '325 Patent, all to the injury of Cellular Evolution. In the case of such infringement, the users of User Equipment (UE) are the direct infringers of the '325 Patent.

175. Users of UE on the AT&T network directly infringe the '325 Patent. For example, users of UE on the AT&T network directly infringe representative claim 1 of the '325 patent by practicing the method claimed therein in its 3G network.

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- the information to be transported in a transparent container between source RNC and target RNC in connection with SRNC relocation;
- the information to be transported in a transparent container between a target RNC and another system.

177. Claim 1 of the '325 Patent recites that the method comprises providing the terminal with a message. users of UE on the AT&T network perform this limitation in accordance with the UMTS RRC Protocol utilized in AT&T's 3G network:

providing the terminal with a message comprising

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8.1 RRC Connection Management Procedures

8.1.1 Broadcast of system information

Figure 8.1.1.1: Broadcast of system information

See page 62

8.1.1.1 General

The purpose of this procedure is to broadcast system information from the UTRAN to UEs in a cell.

8.1.1.1.1 System information structure

The system information elements are broadcast in *system information blocks*. A system information block groups together system information elements of the same nature. Different system information blocks may have different characteristics, e.g. regarding their repetition rate and the requirements on UEs to re-read the system information blocks.

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Table 8.1.1: Specification of system information block characteristics

System information block	Area scope	UE mode/state when block is valid	UE mode/state when block is read	Scheduling information	Modification of system information	Additional comment
Master information block	Cell	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	SIB_POS = 0 SIB_REP = 8 (FDD) SIB_REP = 8, 16, 32 (TDD) SIB_OFF=2	Value tag	See Note 5

178. Claim 1 of the ‘325 Patent recites that the message comprises an information element identifying an operating type of a core network. The UMTS RRC Protocol utilized in AT&T’s 3G network meets this limitation:

an information element identifying an operating type of a core network

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10.2.48.8.1 Master Information Block

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Other information elements					
MIB Value tag	MP		MIB Value tag 10.3.8.9		
CN information elements					
Supported PLMN types	MP		PLMN Type 10.3.1.12		
PLMN Identity	CV-GSM		PLMN Identity 10.3.1.11		

179. Claim 1 of the ‘325 Patent recites that the operating type of the core network comprises global system for mobile communications application part (GSM-MAP). The UMTS RRC Protocol utilized in AT&T’s 3G network meets this limitation:

<p>wherein the operating type of the core network comprises global system for mobile communications application part (GSM-MAP), and</p>	<p>See page 828 10.3.1.12 PLMN Type Identifies the type of Public Land Mobile Network (PLMN). This IE shall be used to control the interpretation of network dependent messages and information elements in the RRC protocol.</p> <table border="1"> <thead> <tr> <th>Information Element/Group name</th> <th>Need</th> <th>Multi</th> <th>Type and reference</th> <th>Semantics description</th> </tr> </thead> <tbody> <tr> <td>PLMN Types</td> <td>MP</td> <td></td> <td>Enumerated (GSM-MAP, ANSI-41, GSM-MAP and ANSI-41)</td> <td>One spare value is needed.</td> </tr> </tbody> </table>	Information Element/Group name	Need	Multi	Type and reference	Semantics description	PLMN Types	MP		Enumerated (GSM-MAP, ANSI-41, GSM-MAP and ANSI-41)	One spare value is needed.
Information Element/Group name	Need	Multi	Type and reference	Semantics description							
PLMN Types	MP		Enumerated (GSM-MAP, ANSI-41, GSM-MAP and ANSI-41)	One spare value is needed.							

180. Claim 1 of the '325 Patent recites that the message further comprises core network information elements in a master information block. The UMTS RRC Protocol utilized in AT&T's 3G network meets this limitation:

<p>wherein the message further comprises core network information elements in a master information block.</p>	<p>See page 765 10.2.48.8.1 Master Information Block</p> <table border="1"> <thead> <tr> <th>Information Element/Group name</th> <th>Need</th> <th>Multi</th> <th>Type and reference</th> <th>Semantics description</th> <th>Version</th> </tr> </thead> <tbody> <tr> <td>Other information elements</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>MIB Value tag</td> <td>MP</td> <td></td> <td>MIB Value tag 10.3.8.9</td> <td></td> <td></td> </tr> <tr> <td>CN information elements</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Supported PLMN types</td> <td>MP</td> <td></td> <td>PLMN Type 10.3.1.12</td> <td></td> <td></td> </tr> <tr> <td>PLMN Identity</td> <td>CV-GSM</td> <td></td> <td>PLMN Identity 10.3.1.11</td> <td></td> <td></td> </tr> </tbody> </table>	Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version	Other information elements						MIB Value tag	MP		MIB Value tag 10.3.8.9			CN information elements						Supported PLMN types	MP		PLMN Type 10.3.1.12			PLMN Identity	CV-GSM		PLMN Identity 10.3.1.11		
Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version																																
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CN information elements																																					
Supported PLMN types	MP		PLMN Type 10.3.1.12																																		
PLMN Identity	CV-GSM		PLMN Identity 10.3.1.11																																		

181. Claim 1 of the '325 Patent recites the core network information elements identifying a Public Land Mobile Network depending upon the value of the information element identifying the operating type of the core network. The UMTS RRC Protocol utilized in AT&T's 3G network meets this limitation:

the core network information elements identifying a Public Land Mobile Network depending upon the value of the information element identifying the operating type of the core network

See page 765
10.2.48.8.1 Master Information Block

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Other information elements					
MIB Value tag	MP		MIB Value tag 10.3.8.9		
CN information elements					
Supported PLMN types	MP		PLMN Type 10.3.1.12		
PLMN Identity	CV-GSM		PLMN Identity 10.3.1.11		

Condition	Explanation
GSM	The IE is mandatory present if the IE "Supported PLMN Types" is set to 'GSM-MAP' or 'GSM-MAP AND ANSI-41', and not needed otherwise

Note: "CV" is defined as "Conditional on Value" by the Spec on page 47. As such, "CV-GSM" means that depending on or when the operating type of the core network is identified as GSM-MAP or GSM-MAP and ANSI-41, then PLMN Identity field is needed or is mandatory, as defined below

See page 828
10.3.1.11 PLMN identity
This information element identifies a Public Land Mobile Network for a GSM-MAP type of PLMN. Setting of digits is defined in [11]

Information Element/Group name	Need	Multi	Type and reference	Semantics description
MCC	MP	3		The first element contains the first MCC digit, the second element
				the second MCC digit and so on.
>MCC digit	MP		INTEGER(0..9)	
MNC	MP	2 to 3		The first element contains the first MNC digit, the second element the second MNC digit and so on.
>MNC digit	MP		INTEGER(0..9)	

182. AT&T advertises and promotes its 3G network on its website.⁶⁶ AT&T also sells products (UE) for use on its network.⁶⁷ On information and belief, AT&T provides, makes, uses, sells and offers for sale UE with the specific intent that its customers use that UE in an infringing manner on its 3G network. AT&T sells or offers for sale UE for use in practicing Cellular Evolution's patented processes. The UMTS RRC Protocol utilized in AT&T's 3G network has no substantial non-infringing uses and is known by AT&T to be especially made or especially adapted for use in an infringement of Cellular Evolution's patents by complying with the UMTS RRC Protocol standard adapted by 3GPP.

183. Cellular Evolution is not asserting infringement of claims 3, 4, 6, 8, 10-13 of the '325 Patent.

184. The acts of infringement by Defendants have caused damage to Cellular Evolution, and Cellular Evolution is entitled to recover from Defendants the damages sustained by Cellular Evolution as a result of Defendants' wrongful acts in an amount subject to proof at trial. The infringement of Cellular Evolution's exclusive rights under the '325 Patent by the Defendants has damaged and will continue to damage Cellular Evolution.

185. The European Telecommunications Standards Institute ("ETSI") is a standardization organization in the telecommunications industry.⁶⁸

186. ETSI is a founding partner of 3GPP.⁶⁹

187. The ETSI IPR online database allows public access to patents which have been declared as being essential or potentially essential to ETSI and 3GPP Standards.⁷⁰

⁶⁶ <https://www.att.com/maps/edo/att-hplmn-broadband.html>.

⁶⁷ <https://www.att.com/buy/phones/>.

⁶⁸ <https://www.etsi.org/about>

⁶⁹ *Id.*

⁷⁰ <https://www.etsi.org/intellectual-property-rights>

188. An extract of the ESTI IPR Database is published twice a year in a Special Report SR 000 314.⁷¹

189. The '325 Patent has been declared essential to the UMTS RRC Protocol and identified as such in the ETSI Special Report SR 000 314.⁷²

190. On information and belief, AT&T is and has been aware of ETSI SR 000 314. For example, AT&T itself has declared a number of its patents to be essential in the very same database. Further, on information and belief, AT&T is aware of ETSI SR 000 314 by virtue of its membership and involvement in ATIS and 3GPP.

191. Upon information and belief, AT&T actually knew of, or was willfully blind to, the existence of the '325 Patent, yet it continued to infringe said patent. AT&T's acts of infringement have been willful, deliberate, and in reckless disregard of Cellular Evolution's patent rights. Accordingly, Cellular Evolution is entitled to increased damages under 35 U.S.C. § 284 and to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

JURY DEMAND

192. Cellular Evolution hereby demands a trial by jury on all issues.

PRAYER FOR RELIEF

WHEREFORE, Cellular Evolution requests entry of judgment in its favor and against Defendant as follows:

⁷¹ *Id.*

⁷²

https://portal.etsi.org/webapp/workprogram/Report_WorkItem.asp?WKI_ID=57494&curlItemNr=1&totalNrItems=38&optDisplay=10&qSORT=HIGHVERSION&qETSI_ALL=TRUE&SearchPage=TRUE&qETSI_NUMBER=000+314&qINCLUDE_SUB_TB=True&qINCLUDE_MOVED_ON=&qSTOP_FLG=&qKEYWORD_BOOLEAN=&qCLUSTER_BOOLEAN=&qFREQUENCIES_BOOLEAN=&qSTOPPING_OUTDATED=&butSimple=Search&includeNonActiveTB=&includeSubProjectCode=&qREPORT_TYPE=

- a. A judgment that Defendants have infringed and are infringing one or more claims of the '868, '788, '514, '783, and '325 Patents literally and/or under the doctrine of equivalents, directly and/or indirectly by inducing infringement and/or by contributory infringement;
- b. An award of damages to Cellular Evolution arising out of Defendant's infringement of the '868, '788, '514, '783, and '325 Patents, including enhanced damages pursuant to 35 U.S.C. § 284, together with prejudgment and post-judgment interest, in an amount according to proof;
- c. An award of attorneys' fees pursuant to 35 U.S.C. § 285 or as otherwise permitted by law;
- d. An award to Cellular Evolution of its costs; and
- e. Such other and further relief, whether legal, equitable, or otherwise, to which Cellular Evolution may be entitled or which this Court may order.

Dated: June 17, 2019

Respectfully submitted,

/s/ Amir Alavi

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