

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

Assignment ID: PATI306570

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	SECURITY INTEREST

CONVEYING PARTY DATA

Name	Execution Date
TELECOMMUNICATION SYSTEMS, INC.	06/17/2024

RECEIVING PARTY DATA

Company Name:	TCW Asset Management Company LLC, as Agent
Street Address:	200 Clarendon Street, 51st Floor
City:	Boston
State/Country:	MASSACHUSETTS
Postal Code:	02116

PROPERTY NUMBERS Total: 135

Property Type	Number
Patent Number:	8370435
Patent Number:	7458184
Patent Number:	7260186
Patent Number:	7991411
Patent Number:	7209077
Patent Number:	7856315
Patent Number:	9282451
Patent Number:	8150363
Patent Number:	9154906
Patent Number:	7471236
Patent Number:	7436355
Patent Number:	8463284
Patent Number:	8577328
Patent Number:	7430425
Patent Number:	8185567
Patent Number:	7511662
Patent Number:	8532266
Patent Number:	9519888
Patent Number:	9408046
Patent Number:	7411546

PATENT

Property Type	Number
Patent Number:	7489273
Patent Number:	8027697
Patent Number:	8284784
Patent Number:	8014939
Patent Number:	8208605
Patent Number:	8085193
Patent Number:	8213955
Patent Number:	8965417
Patent Number:	7696922
Patent Number:	7692577
Patent Number:	8185087
Patent Number:	9413889
Patent Number:	8125377
Patent Number:	8035557
Patent Number:	8099238
Patent Number:	8156068
Patent Number:	7929530
Patent Number:	9250330
Patent Number:	7928903
Patent Number:	9392521
Patent Number:	8160610
Patent Number:	8467805
Patent Number:	8787872
Patent Number:	8149997
Patent Number:	8068587
Patent Number:	8217832
Patent Number:	8867485
Patent Number:	9285239
Patent Number:	9200913
Patent Number:	8525681
Patent Number:	8089401
Patent Number:	8081109
Patent Number:	8290510
Patent Number:	8301160
Patent Number:	8350756
Patent Number:	8336664
Patent Number:	8090534
Patent Number:	8364170

Property Type	Number
Patent Number:	8873718
Patent Number:	9130963
Patent Number:	8688087
Patent Number:	8913983
Patent Number:	9294911
Patent Number:	8165603
Patent Number:	8299961
Patent Number:	8325087
Patent Number:	8681946
Patent Number:	9191520
Patent Number:	9161184
Patent Number:	8378888
Patent Number:	8688174
Patent Number:	8406728
Patent Number:	8428619
Patent Number:	8885796
Patent Number:	8521422
Patent Number:	8774171
Patent Number:	9479344
Patent Number:	9544271
Patent Number:	8831556
Patent Number:	9204294
Patent Number:	9510169
Patent Number:	9473935
Patent Number:	8929855
Patent Number:	9374696
Patent Number:	9176216
Patent Number:	9307372
Patent Number:	9544260
Patent Number:	9420444
Patent Number:	9658341
Patent Number:	9313645
Patent Number:	9313638
Patent Number:	9208346
Patent Number:	9275073
Patent Number:	9582177
Patent Number:	9288615
Patent Number:	9548000

Property Type	Number
Patent Number:	9344392
Patent Number:	9462086
Patent Number:	9008612
Patent Number:	9456304
Patent Number:	9277526
Patent Number:	9430935
Patent Number:	9178996
Patent Number:	9307095
Patent Number:	9516104
Patent Number:	9467836
Patent Number:	9131357
Patent Number:	9554245
Patent Number:	9479897
Patent Number:	9584661
Patent Number:	9344993
Patent Number:	9408047
Patent Number:	9210548
Patent Number:	9267812
Patent Number:	9532195
Patent Number:	9491685
Patent Number:	9326143
Patent Number:	9628521
Patent Number:	9467560
Patent Number:	9560497
Patent Number:	9344844
Patent Number:	9420421
Patent Number:	9455762
Patent Number:	9467826
Patent Number:	9538352
Patent Number:	9748629
Patent Number:	9401986
Patent Number:	9549419
Patent Number:	9532387
Patent Number:	9479503
Patent Number:	9591444
Patent Number:	9549058
Patent Number:	10614728
Patent Number:	D735701

Property Type	Number
Patent Number:	D759637

CORRESPONDENCE DATA

Fax Number: 3128637867
Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 3128637267
Email: jaclyn.digrande@goldbergkohn.com
Correspondent Name: Jaclyn Di Grande
Address Line 1: Goldberg Kohn Ltd.
Address Line 2: 55 E Monroe St. Suite 3300
Address Line 4: Chicago, ILLINOIS 60603

ATTORNEY DOCKET NUMBER:	7129.048
NAME OF SUBMITTER:	Jaclyn Di Grande
SIGNATURE:	Jaclyn Di Grande
DATE SIGNED:	06/18/2024

Total Attachments: 12
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PATENT SECURITY AGREEMENT

This PATENT SECURITY AGREEMENT (this "Patent Security Agreement") is made this 17th day of June, 2024, by and between **TELECOMMUNICATION SYSTEMS, INC.**, a Maryland corporation (the "Grantor"), and **TCW ASSET MANAGEMENT COMPANY LLC**, in its capacity as administrative agent for each member of the Lender Group (in such capacity, together with its successors and assigns in such capacity, "Agent").

W I T N E S S E T H:

WHEREAS, pursuant to that certain Credit Agreement, dated as of June 17, 2024 (as amended, restated, supplemented, or otherwise modified from time to time, the "Credit Agreement"), by and among **COMTECH TELECOMMUNICATIONS CORP.**, a Delaware corporation ("Comtech"; and together with those additional entities that hereafter become parties to the Credit Agreement as Borrowers in accordance with the terms thereof, each, a "Borrower" and individually and collectively, jointly and severally, the "Borrowers"), the lenders party thereto as "Lenders" (such Lenders, together with their respective successors and assigns in such capacity, each, individually, a "Lender" and, collectively, the "Lenders"), **WINGSPIRE CAPITAL LLC**, as revolving agent for the Revolving Lenders (in such capacity, together with its successors and assigns in such capacity, "Revolving Agent"), and Agent, the Lender Group has agreed to make certain financial accommodations available to Borrowers from time to time pursuant to the terms and conditions thereof;

WHEREAS, the members of the Lender Group are willing to make the financial accommodations to Borrowers as provided for in the Credit Agreement and the other Loan Documents, but only upon the condition, among others, that the Grantor shall have executed and delivered to Agent, for the benefit of the Lender Group, that certain Guaranty and Security Agreement, dated as of June 17, 2024 (including all annexes, exhibits or schedules thereto, as from time to time amended, restated, supplemented or otherwise modified, the "Guaranty and Security Agreement"); and

WHEREAS, pursuant to the Guaranty and Security Agreement, the Grantor is required to execute and deliver to Agent, for the benefit of the Lender Group, this Patent Security Agreement.

NOW, THEREFORE, in consideration of the premises and mutual covenants herein contained and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Grantor hereby agrees as follows:

1. **DEFINED TERMS.** All initially capitalized terms used but not otherwise defined herein have the meanings given to them in the Guaranty and Security Agreement or, if not defined therein, in the Credit Agreement, and this Patent Security Agreement shall be subject to the rules of construction set forth in Section 1(b) of the Guaranty and Security Agreement, which rules of construction are incorporated herein by this reference, *mutatis mutandis*.

2. **GRANT OF SECURITY INTEREST IN PATENT COLLATERAL.** The Grantor hereby unconditionally grants, assigns, and pledges to Agent, for the benefit of each member of the Lender Group, to secure the Secured Obligations, a continuing security interest (referred to in this Patent Security Agreement as the "Security Interest") in all of the Grantor's right, title and

interest in and to the following, whether now owned or hereafter acquired or arising (collectively, the "Patent Collateral"):

- (a) all of its Patents including those referred to on Schedule I;
- (b) all divisionals, continuations, continuations-in-part, reissues, reexaminations, or extensions of the foregoing; and
- (c) all products and proceeds of the foregoing, including any claim by the Grantor against third parties for past, present or future infringement of any Patent.

3. SECURITY FOR SECURED OBLIGATIONS. This Patent Security Agreement and the Security Interest created hereby secures the payment and performance of the Secured Obligations, whether now existing or arising hereafter. Without limiting the generality of the foregoing, this Patent Security Agreement secures the payment of all amounts which constitute part of the Secured Obligations and would be owed by the Grantor to Agent, the other members of the Lender Group, or any of them, whether or not they are unenforceable or not allowable due to the existence of an Insolvency Proceeding involving the Grantor.

4. SECURITY AGREEMENT. The Security Interest granted pursuant to this Patent Security Agreement is granted in conjunction with the security interests granted to Agent, for the benefit of the Lender Group, pursuant to the Guaranty and Security Agreement. The Grantor hereby acknowledges and affirms that the rights and remedies of Agent with respect to the Security Interest in the Patent Collateral made and granted hereby are more fully set forth in the Guaranty and Security Agreement, the terms and provisions of which are incorporated by reference herein as if fully set forth herein. To the extent there is any inconsistency between this Patent Security Agreement and the Guaranty and Security Agreement, the Guaranty and Security Agreement shall control.

5. AUTHORIZATION TO SUPPLEMENT. The Grantor hereby authorizes Agent unilaterally to modify this Patent Security Agreement by amending Schedule I to include any new patent rights of the Grantor. Notwithstanding the foregoing, no failure to so modify this Patent Security Agreement or amend Schedule I shall in any way affect, invalidate or detract from Agent's continuing security interest in all Collateral, whether or not listed on Schedule I.

6. COUNTERPARTS. This Patent Security Agreement is a Loan Document. This Patent Security Agreement may be executed in any number of counterparts and by different parties on separate counterparts, each of which, when executed and delivered, shall be deemed to be an original, and all of which, when taken together, shall constitute but one and the same Patent Security Agreement. Delivery of an executed counterpart of this Patent Security Agreement by telefacsimile or other electronic method of transmission shall be equally as effective as delivery of an original executed counterpart of this Patent Security Agreement. Any party delivering an executed counterpart of this Patent Security Agreement by telefacsimile or other electronic method of transmission also shall deliver an original executed counterpart of this Patent Security Agreement but the failure to deliver an original executed counterpart shall not affect the validity, enforceability, and binding effect of this Patent Security Agreement.

7. CHOICE OF LAW AND VENUE, JURY TRIAL WAIVER, AND JUDICIAL REFERENCE PROVISION. THIS PATENT SECURITY AGREEMENT SHALL BE SUBJECT TO THE PROVISIONS REGARDING CHOICE OF LAW AND VENUE, JURY TRIAL WAIVER, AND JUDICIAL REFERENCE SET FORTH IN SECTION 25 OF THE GUARANTY AND SECURITY AGREEMENT, AND SUCH PROVISIONS ARE INCORPORATED HEREIN BY THIS REFERENCE, *MUTATIS MUTANDIS*.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the parties hereto have caused this Patent Security Agreement to be executed and delivered as of the day and year first above written.

GRANTOR:

TELECOMMUNICATION SYSTEMS, INC.

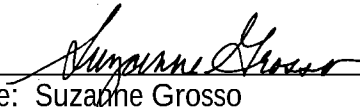
By: Michael A. Bondi

Name: Michael A. Bondi

Title: Chief Financial Officer and Treasurer

AGENT:

TCW ASSET MANAGEMENT COMPANY LLC

By: 
Name: Suzanne Grosso
Title: Managing Director

SCHEDULE I
to
PATENT SECURITY AGREEMENT

Patents

Owner	Title	Application No	Filing Date	Patent No.	Issue Date
Telecommunication Systems, Inc.	SYSTEM AND METHOD FOR SERVERS TO SEND ALERTS TO CONNECTIONLESS DEVICES	09/723,285	28-Nov-2000	8370435	2/05/2013
Telecommunication Systems, Inc.	Location based messaging	10/785,735	23-Feb-2004	7458184	2-Dec-2008
Telecommunication Systems, Inc.	Solutions for voice over internet protocol (VoIP) 911 location services	10/836,330	3-May-2004	7260186	21-Aug-2007
Telecommunication Systems, Inc.	Method to qualify multimedia message content to enable use of a single internet address domain to send messages to both short message service centers and multimedia message service centers	10/959,185	7-Oct-2004	7991411	2-Aug-2011
Telecommunication Systems, Inc.	Global positioning system signal acquisition assistance	10/980,476	3-Nov-2004	7209077	24-Apr-2007
Telecommunication Systems, Inc.	Method and system for enabling an off board navigation solution	11/242,818	3-Oct-2005	7856315	21-Dec-2010
Telecommunication Systems, Inc.	Automatic location identification (ALI) service requests steering, connection sharing and protocol translation	11/299,911	13-Dec-2005	9282451	8-Mar-2016
Telecommunication Systems, Inc.	Enhanced E911 network access for call centers	11/354,861	16-Feb-2006	8150363	3-Apr-2012
Telecommunication Systems, Inc.	Area watcher for wireless network	11/360,579	24-Feb-2006	9154906	6-Oct-2015
Telecommunication Systems, Inc.	Cellular augmented radar/laser detector	11/400,278	10-Apr-2006	7471236	30-Dec-2008
Telecommunication Systems, Inc.	Method and apparatus for geolocation determination	11/405,404	18-Apr-2006	7436355	14-Oct-2008
Telecommunication Systems, Inc.	Short messaging system (SMS) proxy communications to enable location based services in wireless devices	11/487,333	17-Jul-2006	8463284	11-Jun-2013
Telecommunication Systems, Inc.	Associating metro street address guide (MSAG) validated addresses with geographic map data	11/506,859	21-Aug-2006	8577328	5-Nov-2013
Telecommunication Systems, Inc.	Inter-carrier digital message with user data payload service providing phone number only experience	11/516,593	7-Sep-2006	7430425	30-Sep-2008

Owner	Title	Application No	Filing Date	Patent No.	Issue Date
Telecommunication Systems, Inc.	Location aware content using presence information data formation with location object (PIDE-LO)	11/640,860	19-Dec-2006	8185567	22-May-2012
Telecommunication Systems, Inc.	System and method for positioning in configured environments	11/697,575	6-Apr-2007	7511662	31-Mar-2009
Telecommunication Systems, Inc.	Efficient usage of emergency services keys	11/797,445	3-May-2007	8532266	10-Sep-2013
Telecommunication Systems, Inc.	End user transparent email attachment handling to overcome size and attachment policy barriers	11/797,818	8-May-2007	9519888	13-Dec-2016
Telecommunication Systems, Inc.	911 data messaging	11/812,619	20-Jun-2007	9408046	2-Aug-2016
Telecommunication Systems, Inc.	Other cell sites used as reference point to cull satellite ephemeris information for quick, accurate assisted locating satellite location determination	11/822,925	11-Jul-2007	7411546	12-Aug-2008
Telecommunication Systems, Inc.	Culled satellite ephemeris information for quick, accurate assisted locating satellite location determination for cell site antennas	11/826,121	12-Jul-2007	7489273	10-Feb-2009
Telecommunication Systems, Inc.	Public safety access point (PSAP) selection for E911 wireless callers in a GSM type system	11/905,277	28-Sep-2007	8027697	27-Sep-2011
Telecommunication Systems, Inc.	Gateway application to support use of a single internet address domain for routing messages to multiple multimedia message service centers	11/907,506	12-Oct-2007	8284784	9-Oct-2012
Telecommunication Systems, Inc.	Point of interest spatial rating search	11/947,719	29-Nov-2007	8014939	6-Sep-2011
Telecommunication Systems, Inc.	Extended efficient usage of emergency services keys	11/987,048	27-Nov-2007	8208605	26-Jun-2012
Telecommunication Systems, Inc.	System and method for preventing A-GPS devices from searching for specific satellites	12/100,290	9-Apr-2008	8085193	27-Dec-2011
Telecommunication Systems, Inc.	Network measurement report caching for location of mobile devices	12/113,476	1-May-2008	8213955	3-Jul-2012
Telecommunication Systems, Inc.	Location based messaging	12/140,577	17-Jun-2008	8965417	24-Feb-2015
Telecommunication Systems, Inc.	Method and apparatus for geolocation determination	12/201,252	29-Aug-2008	7696922	13-Apr-2010
Telecommunication Systems, Inc.	Method and apparatus for geolocation determination	12/201,279	29-Aug-2008	7692577	6-Apr-2010
Telecommunication Systems, Inc.	Emergency 911 data messaging	12/232,417	17-Sep-2008	8185087	22-May-2012
Telecommunication Systems, Inc.	House number normalization for master street address guide (MSAG) address matching	12/232,484	18-Sep-2008	9413889	9-Aug-2016

Owner	Title	Application No	Filing Date	Patent No.	Issue Date
Telecommunication Systems, Inc.	System and method for determining the location of a mobile device	12/272,046	17-Nov-2008	8125377	28-Feb-2012
Telecommunication Systems, Inc.	System and method for server side detection of falsified satellite measurements	12/276,917	24-Nov-2008	8035557	11-Oct-2011
Telecommunication Systems, Inc.	Stateful, double-buffered dynamic navigation voice prompting	12/285,978	17-Oct-2008	8099238	17-Jan-2012
Telecommunication Systems, Inc.	Predictive ephemeral points-of-interest (PEPOI)	12/292,205	13-Nov-2008	8156068	10-Apr-2012
Telecommunication Systems, Inc.	Ancillary data support in session initiation protocol (SIP) messaging	12/292,921	1-Dec-2008	7929530	19-Apr-2011
Telecommunication Systems, Inc.	Method and system for selecting optimal satellites for A-GPS location of handsets in wireless networks	12/392,400	25-Feb-2009	9250330	2-Feb-2016
Telecommunication Systems, Inc.	Method and system for selecting optimal satellites for A-GPS location of handsets in wireless networks	12/395,803	2-Mar-2009	7928903	19-Apr-2011
Telecommunication Systems, Inc.	System and method for concurrently determining locations of mobile device in wireless communication network	12/406,378	18-Mar-2009	9392521	12-Jul-2016
Telecommunication Systems, Inc.	System and method for locating mobile device in wireless communication network	12/406,384	18-Mar-2009	8160610	17-Apr-2012
Telecommunication Systems, Inc.	System and method for determining a reference location using cell table data mining	12/437,969	8-May-2009	8467805	18-Jun-2013
Telecommunication Systems, Inc.	Ingress/egress call module	12/453,263	5-May-2009	8787872	22-Jul-2014
Telecommunication Systems, Inc.	Protocol converting 9-1-1 emergency messaging center	12/453,869	26-May-2009	8149997	3-Apr-2012
Telecommunication Systems, Inc.	Nationwide table routing of voice over internet protocol (VOIP) emergency calls	12/461,702	21-Aug-2009	8068587	29-Nov-2011
Telecommunication Systems, Inc.	Enhancing location accuracy using multiple satellite measurements based on environment	12/565,395	23-Sep-2009	8217832	10-Jul-2012
Telecommunication Systems, Inc.	Multiple location retrieval function (LRF) network having location continuity	12/585,347	11-Sep-2009	8867485	21-Oct-2014
Telecommunication Systems, Inc.	User interface for content channel HUD (heads-up display) and channel sets for location-based maps	12/588,144	6-Oct-2009	9285239	15-Mar-2016
Telecommunication Systems, Inc.	User interface for predictive traffic	12/588,145	6-Oct-2009	9200913	1-Dec-2015
Telecommunication Systems, Inc.	Location based proximity alert	12/588,330	13-Oct-2009	8525681	3-Sep-2013

Owner	Title	Application No	Filing Date	Patent No.	Issue Date
Telecommunication Systems, Inc.	Culled satellite ephemeris information for quick, accurate assisted locating satellite location determination for cell site antennas	12/588,824	29-Oct-2009	8089401	3-Jan-2012
Telecommunication Systems, Inc.	Method and apparatus for determining the geographic location of a device	12/717,239	4-Mar-2010	8081109	20-Dec-2011
Telecommunication Systems, Inc.	System and method for SUPPL held interworking	12/782,920	19-May-2010	8290510	16-Oct-2012
Telecommunication Systems, Inc.	System and method for SUPPL roaming using a held client	12/813,278	10-Jun-2010	8301160	30-Oct-2012
Telecommunication Systems, Inc.	Detecting and compensating for erroneous time measurement for mobile device position calculation	12/815,640	15-Jun-2010	8350756	8-Jan-2013
Telecommunication Systems, Inc.	Telematics basic mobile device safety interlock	12/926,582	29-Nov-2010	8336664	25-Dec-2012
Telecommunication Systems, Inc.	Method and system for enabling an off board navigation solution	12/926,856	14-Dec-2010	8090534	3-Jan-2012
Telecommunication Systems, Inc.	Location sensitive messaging	12/929,941	25-Feb-2011	8364170	29-Jan-2013
Telecommunication Systems, Inc.	Enhanced E911 location information using voice over internet protocol (VoIP)	12/929,992	1-Mar-2011	8873718	28-Oct-2014
Telecommunication Systems, Inc.	Ancillary data support in session initiation protocol (SIP) messaging	13/064,653	6-Apr-2011	9130963	8-Sep-2015
Telecommunication Systems, Inc.	N-dimensional affinity conflucner	13/064,796	15-Apr-2011	8688087	1-Apr-2014
Telecommunication Systems, Inc.	Voice over internet protocol (VoIP) E911 metro street address guide (MSAG) validation	13/067,020	3-May-2011	8913983	16-Dec-2014
Telecommunication Systems, Inc.	Cell-ID translation in a location based system (LBS)	13/067,116	10-May-2011	9294911	22-Mar-2016
Telecommunication Systems, Inc.	Personal location code	13/067,353	26-May-2011	8165603	24-Apr-2012
Telecommunication Systems, Inc.	Method and system for selecting optimal satellites in view	13/190,048	25-Jul-2011	8299961	30-Oct-2012
Telecommunication Systems, Inc.	System and method for server side detection of falsified satellite measurements	13/269,729	10-Oct-2011	8325087	4-Dec-2012
Telecommunication Systems, Inc.	Mobile automatic location identification (ALI) for first responders	13/317,783	28-Oct-2011	8681946	25-Mar-2014
Telecommunication Systems, Inc.	Location services gateway server	13/374,104	12-Dec-2011	9191520	17-Nov-2015
Telecommunication Systems, Inc.	Alphanumeric address mapping for non-homogeneous short message networks	13/374,356	23-Dec-2011	9161184	13-Oct-2015
Telecommunication Systems, Inc.	System and method for determining the location of a mobile device	13/406,661	28-Feb-2012	8378888	19-Feb-2013

Owner	Title	Application No	Filing Date	Patent No.	Issue Date
Telecommunication Systems, Inc.	Integrated, detachable ear bud device for a wireless phone	13/419,180	13-Mar-2012	8688174	1-Apr-2014
Telecommunication Systems, Inc.	Enhanced E911 network access for call centers	13/437,213	2-Apr-2012	8406728	26-Mar-2013
Telecommunication Systems, Inc.	Personal location code	13/453,648	23-Apr-2012	8428619	23-Apr-2013
Telecommunication Systems, Inc.	Extended efficient usage of emergency services keys	13/532,432	25-Jun-2012	8885796	11-Nov-2014
Telecommunication Systems, Inc.	Stateful, double-buffered dynamic navigation voice prompting	13/549,902	16-Jul-2012	8521422	27-Aug-2013
Telecommunication Systems, Inc.	SS7 ANSL-41 to SIP based call signaling conversion gateway for wireless VoIP E911	13/552,079	18-Jul-2012	8774171	8-Jul-2014
Telecommunication Systems, Inc.	Anonymous voice conversation	13/610,192	11-Sep-2012	9479344	25-Oct-2016
Telecommunication Systems, Inc.	Anonymous messaging conversation	13/610,246	11-Sep-2012	9544271	10-Jan-2017
Telecommunication Systems, Inc.	Unique global identifier header for minimizing prank emergency 911 calls	13/632,313	1-Oct-2012	8831556	9-Sep-2014
Telecommunication Systems, Inc.	Location privacy selector	13/679,235	16-Nov-2012	9204294	1-Dec-2015
Telecommunication Systems, Inc.	Mobile user information selection and delivery event based upon credentials and variables	13/683,394	21-Nov-2012	9510169	29-Nov-2016
Telecommunication Systems, Inc.	Dynamic transmission of personal data to only trusted entities	13/684,937	26-Nov-2012	9473935	18-Oct-2016
Telecommunication Systems, Inc.	Enabling location determination of user device originating emergency service call	13/690,136	30-Nov-2012	8929855	6-Jan-2015
Telecommunication Systems, Inc.	Automated proximate location association mechanism for wireless emergency services	13/705,312	5-Dec-2012	9374696	21-Jun-2016
Telecommunication Systems, Inc.	Enhanced cell ID location method using non uniform subsectors and neighboring cell centroid	13/834,057	15-Mar-2013	9176216	3-Nov-2015
Telecommunication Systems, Inc.	No responders online	13/847,237	19-Mar-2013	9307372	5-Apr-2016
Telecommunication Systems, Inc.	Rapid assignment dynamic ownership queue	13/847,248	19-Mar-2013	9544260	10-Jan-2017
Telecommunication Systems, Inc.	Enhanced E911 network access for call centers	13/849,931	25-Mar-2013	9420444	16-Aug-2016
Telecommunication Systems, Inc.	GNSS long-code acquisition, ambiguity resolution, and signal validation	13/897,278	17-May-2013	9658341	23-May-2017
Telecommunication Systems, Inc.	RLP router	13/922,815	20-Jun-2013	9313645	12-Apr-2016
Telecommunication Systems, Inc.	Device independent caller data access for emergency calls	13/967,699	15-Aug-2013	9313638	12-Apr-2016
Telecommunication Systems, Inc.	Persona-notitia intellection codifier	14/018,756	5-Sep-2013	9208346	8-Dec-2015
Telecommunication Systems, Inc.	Associating metro street address guide (MSAG) validated addresses with geographic map data	14/071,350	4-Nov-2013	9275073	1-Mar-2016

Owner	Title	Application No	Filing Date	Patent No.	Issue Date
Telecommunication Systems, Inc.	Method and apparatus for sending, retrieving, and planning location relevant information	14/132,658	18-Dec-2013	9582177	28-Feb-2017
Telecommunication Systems, Inc.	Location service requests throttling	14/188,351	24-Feb-2014	9288615	15-Mar-2016
Telecommunication Systems, Inc.	Scoring server	14/221,908	21-Mar-2014	9548000	17-Jan-2017
Telecommunication Systems, Inc.	Location sensitive messaging	14/223,005	24-Mar-2014	9344392	17-May-2016
Telecommunication Systems, Inc.	Short message service (SMS) over SGS	14/229,298	28-Mar-2014	9462086	4-Oct-2016
Telecommunication Systems, Inc.	Ingress/egress call module	14/306,691	17-Jun-2014	9008612	14-Apr-2015
Telecommunication Systems, Inc.	Enhancing A-GPS location accuracy and yield with location measurement units and network timing measurements	14/313,603	24-Jun-2014	9456304	27-Sep-2016
Telecommunication Systems, Inc.	Location trust score	14/319,799	30-Jun-2014	9277526	1-Mar-2016
Telecommunication Systems, Inc.	Emergency event message	14/334,317	17-Jul-2014	9430935	30-Aug-2016
Telecommunication Systems, Inc.	Unique global identifier header for minimizing prank 911 calls	14/448,320	31-Jul-2014	9178996	3-Nov-2015
Telecommunication Systems, Inc.	Prepaid short message services revenue capture	14/460,630	15-Aug-2014	9307095	5-Apr-2016
Telecommunication Systems, Inc.	Intelligent load balancer enhanced routing	14/482,996	10-Sep-2014	9516104	6-Dec-2016
Telecommunication Systems, Inc.	Enhanced E911 location information using voice over internet protocol (VoIP)	14/492,578	22-Sep-2014	9467836	11-Oct-2016
Telecommunication Systems, Inc.	Emergency 911 data messaging	14/494,072	23-Sep-2014	9131357	8-Sep-2015
Telecommunication Systems, Inc.	Dynamic configuration of mobile station location services	14/494,774	24-Sep-2014	9554245	24-Jan-2017
Telecommunication Systems, Inc.	SUPL-WiFi access point controller location based services for WiFi enabled mobile devices	14/503,881	1-Oct-2014	9479897	25-Oct-2016
Telecommunication Systems, Inc.	Extended efficient usage of emergency services keys	14/506,936	6-Oct-2014	9584661	28-Feb-2017
Telecommunication Systems, Inc.	Location verification	14/507,322	6-Oct-2014	9344993	17-May-2016
Telecommunication Systems, Inc.	Read acknowledgement interoperability for text messaging and IP messaging	14/509,335	8-Oct-2014	9408047	2-Aug-2016
Telecommunication Systems, Inc.	iALERT enhanced alert manager	14/565,787	10-Dec-2014	9210548	8-Dec-2015
Telecommunication Systems, Inc.	Parking option	14/566,394	10-Dec-2014	9267812	23-Feb-2016
Telecommunication Systems, Inc.	Location based messaging	14/596,438	14-Jan-2015	9532195	27-Dec-2016
Telecommunication Systems, Inc.	System and method for routing SUPL proxy-mode traffic when multiple nodes are deployed in a network	14/616,394	6-Feb-2015	9491685	8-Nov-2016
Telecommunication Systems, Inc.	Authentication via motion of wireless device movement	14/617,359	9-Feb-2015	9326143	26-Apr-2016
Telecommunication Systems, Inc.	Hybrid location	14/638,617	4-Mar-2015	9628521	18-Apr-2017

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Telecommunication Systems, Inc.	End-to-end logic tracing of complex call flows in a distributed call system	14/697,773	28-Apr-2015	9467560	11-Oct-2016
Telecommunication Systems, Inc.	Multi-segment short message with a read acknowledgment request	14/702,018	1-May-2015	9560497	31-Jan-2017
Telecommunication Systems, Inc.	Mobile internet protocol (IP) location	14/750,056	25-Jun-2015	9344844	17-May-2016
Telecommunication Systems, Inc.	Geofence with Kalman filter	14/752,009	26-Jun-2015	9420421	16-Aug-2016
Telecommunication Systems, Inc.	System and method for positioning using hybrid spectral compression and cross correlation signal processing	14/788,263	30-Jun-2015	9455762	27-Sep-2016
Telecommunication Systems, Inc.	Emergency 911 data messaging	14/834,852	25-Aug-2015	9467826	11-Oct-2016
Telecommunication Systems, Inc.	Ancillary data support in session initiation protocol (SIP) messaging	14/834,876	25-Aug-2015	9538352	3-Jan-2017
Telecommunication Systems, Inc.	Troposcatter antenna pointing	14/836,118	26-Aug-2015	9748629	29-Aug-2017
Telecommunication Systems, Inc.	Unique global identifier header for minimizing prank emergency 911 calls	14/851,480	11-Sep-2015	9401986	26-Jul-2016
Telecommunication Systems, Inc.	Trigger mechanism	14/857,477	17-Sep-2015	9549419	17-Jan-2017
Telecommunication Systems, Inc.	Ancillary data for an emergency services call	14/869,407	29-Sep-2015	9532387	27-Dec-2016
Telecommunication Systems, Inc.	Authenticating cloud computing enabling secure services	14/971,104	16-Dec-2015	9479503	25-Oct-2016
Telecommunication Systems, Inc.	Geofence with kalman filter	15/054,437	26-Feb-2016	9591444	7-Mar-2017
Telecommunication Systems, Inc.	Device independent caller data access for emergency calls	15/056,145	29-Feb-2016	9549058	17-Jan-2017
Telecommunication Systems, Inc.	Scoring server	15/391,307	27-Dec-2016	10614728	7-Apr-2020
Telecommunication Systems, Inc.	Small form factor (SFF) router	29/473,011	18-Nov-2013	D735701	4-Aug-2015
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