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UNITED STATES DISTRICT COURT

FOR THE SOUTHERN DISTRICT OF CALIFORNIA

U-BLOX AG, U-BLOX SAN DIEGO, INC., AND U-BLOX AMERICA, INC.,

Plaintiffs,

v.

INTERDIGITAL, INC.; INTERDIGITAL COMMUNICATIONS, INC; INTERDIGITAL TECHNOLOGY CORPORATION; INTERDIGITAL PATENT HOLDINGS, INC.; INTERDIGITAL HOLDINGS, INC.; and IPR LICENSING, INC.

Defendants.

Case No.: '19CV0001 CAB BLM

COMPLAINT FOR:

(1) Breach Of Contract;
(2) Promissory Estoppel;
(3) Declaratory Judgment;
(4) Antitrust Monopolization In Violation Of Section 2 Of The Sherman Act;
(5) Declaratory Judgment of Non-Infringement of U.S. Patent No. 8,432,876; and
(6) Declaratory Judgment of Non-Infringement of U.S. Patent No. 8,953,548.

JURY TRIAL DEMANDED

Plaintiffs u-blox AG, u-blox San Diego, Inc., and u-blox America, Inc. (collectively, "u-blox" or "Plaintiffs"), by and through the undersigned counsel, file this Complaint against InterDigital, Inc., InterDigital Communications, Inc., InterDigital Technology Corporation, InterDigital Patent Holdings, Inc., InterDigital Holdings, Inc., and IPR Licensing, Inc. (collectively, "InterDigital" or "Defendants") as follows.

INTRODUCTION

1. u-blox, a leading fabless semiconductor provider of embedded positioning and wireless communication products, brings this lawsuit against InterDigital because of InterDigital's failure to license its alleged standard essential patents ("SEPs") on fair, reasonable, and non-discriminatory (also known as "FRAND") terms and conditions.

2. As explained herein, InterDigital has declared a number of its patents to be essential to the 2G, 3G, and/or 4G cellular technology standards established by the European Telecommunications Standards Institute ("ETSI"), a standard setting organization ("SSO"). In declaring its patents as essential to these standards, InterDigital made public and binding commitments to all potential implementers of the standards, including u-blox, to license its declared patents on FRAND terms.

3. Indeed, InterDigital is a member of ETSI and has submitted over thirty (30) ETSI IPR Declaration forms declaring a large number of its United States and foreign patents and patent applications as essential to the standards for the 2G, 3G, and 4G technologies. In so doing, InterDigital promised that it is "prepared to grant irrevocable licenses under . . . terms and conditions which are in accordance with Clause 6.1 of the ETSI IPR Policy." Clause 6.1 of ETSI's Intellectual Policy Rights ("IPR") Policy states:

> When an ESSENTIAL IPR relating to a particular STANDARD or TECHNICAL SPECIFICATION is brought to the attention of ETSI, the Director-General of ETSI shall immediately request the owner to give within three months an irrevocable undertaking in writing that it is

prepared to grant irrevocable licenses on fair, reasonable and non-discriminatory ("FRAND") terms and conditions

4. In addition, as an "Individual Member" of the 3rd Generation Partnership Project ("3GPP") InterDigital was "bound by the IPR policy" of ETSI, the Organizational Partner through which InterDigital participated in 3GPP.

5. InterDigital thus intentionally induced ETSI, 3GPP, their members and affiliates, and anyone implementing any of the standards, including u-blox, to rely on InterDigital's representation that it had granted and/or would grant licenses on FRAND terms and conditions in developing, adopting, and implementing the 2G, 3G, and 4G standards. These standards have been and are implemented worldwide, including in the United States and California, in a variety of wireless electronic devices.

6. Consistent with the intent of ETSI's IPR Policy, u-blox and other implementers of the technology standards relied on InterDigital's FRAND commitment and invested significant resources to develop products that practice the 2G, 3G, and 4G standards.

7. u-blox has invested substantial resources in developing and marketing cellular modules that implement the 2G, 3G, and 4G standards worldwide, including in the United States and California, relying on the assurances of participating IPR holders — including InterDigital — that any patents identified pursuant to ETSI's IPR Policy by such IPR holders would be licensed on FRAND terms, regardless of whether such IPR were, in fact, used in any particular implementation.

8. However, after intentionally locking in the industry, including implementers like u-blox, through the standard(s), InterDigital then breached its promises to ETSI, its members and affiliates, and implementers of the standard(s) such as u-blox, by refusing to agree to a patent license with a licensing rate that is consistent with Clause 6 of ETSI's IPR Policy. Instead, InterDigital has demanded royalties that are discriminatory and far higher than FRAND rates.

9. Thus, it has become clear that, now that the cellular standards have been approved incorporating InterDigital's allegedly essential patented technology, and requiring all implementers of those portions of the standard to practice that technology and excluding alternative technologies, InterDigital's promises to license its allegedly essential patents on FRAND terms and conditions were false.

10. u-blox is a ready and willing licensee seeking a license to InterDigital's alleged SEPs, but InterDigital's royalty demands for a patent license plainly violate its FRAND commitments, including but not limited to:

- Demanding royalty rates that are far in excess of fair and reasonable value of InterDigital's SEPs;
- Discriminating against u-blox and violating ETSI guidelines by demanding u-blox pay higher royalty rates than other implementers, including free riders;

[redacted]

11. Absent InterDigital's commitment to license on FRAND terms and conditions, u-blox would not have adopted and implemented the 2G, 3G, and 4G technologies. However, now that InterDigital has excluded alternative technologies as a result of its false promises to ETSI, InterDigital is attempting to exploit its market position to demand unreasonably high and discriminatory licensing terms from u-blox.

12. In addition, in a blatant attempt to coerce u-blox to enter into a license that is not on FRAND terms, InterDigital has engaged in a course of conduct to

[redacted]

13. Specifically, in 2017, in a blatant attempt to force u-blox to pay excessive non-FRAND rates, InterDigital reached out to u-blox's customers and

downstream manufacturers, [redacted]

14. InterDigital's conduct was unnecessarily destructive and outrageous because InterDigital knew that: (i) u-blox's customers and downstream manufacturers would never have to [redacted] and (ii) u-blox was a ready and willing licensee once the parties could determine a FRAND rate.

15. InterDigital was also and is well aware of the fact that: (i) u-blox entered into relationships with its customers in reliance on InterDigital's commitment to offer a license to its alleged technology on FRAND terms, and (ii) u-blox's customers and their downstream manufacturers relied on u-blox to maintain a license with InterDigital to design and incorporate u-blox's technology into their products.

16. Given the foregoing, there was no legitimate reason for InterDigital to reach out to u-blox's customers or downstream manufacturers, other than to force u-blox to capitulate to InterDigital's unfair demands.

17. Nonetheless, because InterDigital's threats to u-blox's customers and downstream manufacturers not only threatened to profoundly impact u-blox's critical customer relationships, [redacted]

18. [redacted] and u-blox is again willing to negotiate a FRAND license with InterDigital.

19. Unfortunately, however, InterDigital is refusing to negotiate in good faith with u-blox for a license on FRAND terms. Among other things, InterDigital appears intent to pressure u-blox into a license that is not FRAND by interfering with u-blox's important customer relationships.

20. As a result of the foregoing, u-blox has no choice but to turn to the Court to establish the FRAND rate, and enjoin InterDigital from engaging in anticompetitive conduct, including, but not limited to, stopping InterDigital from wrongfully interfering with u-blox's customers and downstream manufacturers.

THE PARTIES

A. u-blox

21. Plaintiff u-blox AG is a corporation organized and existing under the laws of Switzerland, having its principle place of business in Zürcherstrasse 68, 8800 Thalwil, Switzerland.

22. Plaintiff u-blox San Diego, Inc. is a wholly-owned subsidiary of u-blox AG. u-blox San Diego, Inc. is a corporation organized and existing under the laws of Delaware, having its principle place of business at 12626 High Bluff Drive #200, San Diego, California 92130.

23. Plaintiff u-blox America, Inc. is a wholly-owned subsidiary of u-blox AG. u-blox America, Inc. is a corporation organized and existing under the laws of Delaware, having its principle place of business at 1902 Campus Commons Drive Suite 310, Reston, Virginia 20191.

24. u-blox is a leading developer of global positioning technology, including products and services based on Global Navigation Satellite Systems (GNSS), including GPS and GALILEO, for the automotive, mobile communications, and infrastructure markets. u-blox began offering wireless products and services in 2009.

25. In 2011, u-blox acquired Fusion Wireless, a San Diego, California based provider of CDMA wireless modules for consumer and machine-to-machine (M2M) applications in North America. As u-blox's Chief Executive Officer explained at the time, "[t]he acquisition of Fusion Wireless immediately gives u-blox new, cutting-edge wireless module products plus access to the huge embedded CDMA market in North America for both consumer and M2M

applications. It also expands our wireless module technology roadmap to cover all popular standards used in the Americas based on a layout-consistent form factor. This will allow our customers to easily adapt their products to match geographical requirements as well as overcome network coverage limitations."

26. Fusion Wireless has been integrated into u-blox as u-blox San Diego, Inc., and the combined company continues to develop and market wireless communications modules worldwide — including in California [redacted] and throughout the United States. Today u-blox offers a wide range of high-quality, scalable cellular modules perfectly suited for vehicle, industrial, and M2M applications, and mass-market consumer products with demanding size, cost, and quality requirements.

27. u-blox delivers leading wireless technology to reliably locate and connect people and devices. u-blox is a leading developer of global positioning technology, including products and services based on Global Navigation Satellite Systems (GNSS), including GPS and GALILEO, for the automotive, mobile communications, and infrastructure markets. u-blox develops cellular modules incorporating a variety of different cellular technologies, including GSM/GPRS, UMTS/HSPA(+), NB-IoT, and LTE Categories M1, 1, 4, and 6.

28. u-blox's wireless communications modules are capable of incorporating a wide variety of cellular technologies. Supported cellular technologies provide global geographic coverage and include 2G, 3G, and 4G standards. Even within the 4G standard, u-blox offers a wide range of products practicing different iterations of the 4G standard designed for vastly different tasks, including NB-IoT (LTE Cat NB1), LTE Cat M1, LTE Cat 1, LTE Cat 4, and LTE Cat 6. These different cellular technologies offer different levels of performance and cost benefits. For example, u-blox's LTE Cat 1, LTE Cat M1, and NB-IoT modules are designed to support a wide range of IoT applications requiring medium to very low data rates. This includes a broad spectrum of applications covering

speeds high enough for voice and video streaming, as well as those that need optimized performance for ultra-low power consumption and extended in-building range. In contrast, u-blox's high speed LTE Cat 4 and LTE Cat 6 modules meet the needs of applications requiring high data rates, such as for HD video transmission and infotainment solutions. u-blox sells standard compatible products in California and around the world.

B. InterDigital

29. Upon information and belief, defendant InterDigital, Inc. ("IDI") is organized under the laws of Pennsylvania, with its principal place of business at 200 Bellevue Parkway, Suite 300, Wilmington, DE 19809.

30. Upon information and belief, defendant InterDigital Communications, Inc. ("InterDigital Communications") is a Delaware corporation, with its principal place of business at 781 Third Avenue, King of Prussia, Pennsylvania 19406.

31. Upon information and belief, defendant InterDigital Technology Corporation ("InterDigital Technology") is a Delaware corporation, with its principal place of business at 300 Delaware Avenue, Suite 527, Wilmington, DE 19801.

32. Upon information and belief, defendant InterDigital Patent Holdings, Inc. ("InterDigital Patent Holdings") is a Delaware corporation, with its principal place of business at 200 Bellevue Parkway, Suite 300, Wilmington, DE 19809.

33. Upon information and belief, defendant InterDigital Holdings, Inc. ("InterDigital Holdings") is a Delaware corporation, with its principal place of business at 200 Bellevue Parkway, Suite 300, Wilmington, DE 19809.

34. Upon information and belief, defendant IPR Licensing, Inc. ("IPR Licensing") is a Delaware corporation, with its principal place of business at 3411 Silverside Road, Wilmington, DE 19810.

35. Upon information and belief, InterDigital Communications, InterDigital Technology, InterDigital Holdings, InterDigital Patent Holdings, and

IPR Licensing are wholly-owned direct or indirect subsidiaries of IDI. IDI, InterDigital Communications, InterDigital Technology, InterDigital Holdings, InterDigital Patent Holdings, and IPR Licensing (collectively, "InterDigital") act as a common, unified economic enterprise.

36. Upon information and belief, IDI has and does dictate and control the actions of InterDigital Communications, InterDigital Technology, InterDigital Holdings, InterDigital Patent Holdings, and IPR Licensing, as described herein.

37. Upon information and belief, InterDigital has offices and employees in California and/or regularly conducts business in California, including an office in this District at 9276 Scranton Rd #300, San Diego, CA 92121, which supports InterDigital's patent licensing business.

38. Upon information and belief, InterDigital derives revenues primarily from patent licensing and aggressively seeks to monetize its intellectual property portfolio — which includes patents declared essential to the 2G, 3G, and 4G standards — by targeting companies like u-blox that sell standards compatible products in California and around the world.

39. Upon information and belief, InterDigital purports to own approximately 2,400 U.S. patents and 11,500 non-U.S. patents spanning multiple jurisdictions and telecommunication technologies. InterDigital claims that its patents "relate predominantly to digital wireless radiotelephony technology (including, without limitation, 3G, 4G and 5G technologies)."

JURISDICTION AND VENUE

40. u-blox brings this action for damages, declaratory relief, injunctive relief, costs of suit, and reasonable attorneys' fees arising under, *inter alia*, the patent laws of the United States, 35 U.S.C. § 1 *et seq.*; Section 2 of the Sherman Antitrust Act, 15 U.S.C. § 2; and the Declaratory Judgment Act, 28 U.S.C. §§ 2201 and 2202. Accordingly, this Court has jurisdiction to hear this case pursuant to 28 U.S.C. § 1331 and Section 4 of the Clayton Act, 15 U.S.C. § 15.

41. This Court has subject matter jurisdiction over u-blox's pendent state law claims pursuant to 28 U.S.C. § 1367, because u-blox's state law claims arise from the same factual nucleus as its federal law claims.

42. This Court has personal jurisdiction over InterDigital based on the antitrust laws, and because InterDigital regularly transacts business in this judicial district, directed its wrongful conduct described herein at and caused harm to u-blox in California, including, but not limited to, by threatening to harm and/or harming u-blox's relationships with customers in this State. InterDigital's interference was purposefully directed to u-blox and its customers in California, and u-blox's claims arise from InterDigital's intentional conduct in this State. In addition, InterDigital's negotiations and correspondence with u-blox in connection with the license negotiations described herein were with u-blox's representative in California.

43. Venue is proper in this judicial district pursuant to 28 U.S.C. §§ 1391(c) and 15 U.S.C. § 22.

FACTUAL ALLEGATIONS

44. As explained below, u-blox brings this action because of InterDigital's breach of its commitments to ETSI, 3GPP, and their members and affiliates — including u-blox — to license patents it has asserted to be essential to cellular technologies known as second generation ("2G"), third generation ("3G"), and fourth generation ("4G") technologies under FRAND terms and conditions.

Standard Setting Organizations and Intellectual Property Rules

45. SSOs, such as ETSI, are voluntary membership organizations whose participants engage in the development of industry standards for the benefit of their members and affiliates, third parties implementing the standards, and consumers.

46. SSOs and the standards they promulgate play an important role in the technology market by allowing companies to agree on common technology standards so that compliant products implementing the standards will work together. Standards also lower costs by increasing product manufacturing volume and inter-

brand competition and by eliminating switching costs for consumers and/or manufacturers who want to switch from products, services, or components provided by one company to those provided by another company.

47. Compatibility standards are commonly adopted in industries in which complementary products or components, manufactured by different firms, must interoperate, interface, or communicate with each other. When many companies produce components that must interoperate in a complex system, the collaboration of industry participants is often the most efficient way to establish the requisite standards. This collaboration often takes place in the context of formal SSOs that promulgate standards and set participation rules for their members. The telecommunications industry has benefited from increased interoperability across devices and networks, and the 2G, 3G, and 4G cellular communications standards at issue are examples of compatibility standards.

48. While standards deliver economic benefits to innovators, firms that implement the standards, and consumers, standards can also potentially impose excessive and unfair costs on these same constituencies, some of which stem from opportunistic behavior by owners of patents that cover or are declared to cover various technologies necessary to practice a standard. As a result, SSOs have adopted IPR policies to reduce those costs. When adhered to, these IPR policies benefit all of the constituencies. Standard setting participants receive the opportunity to have their technology incorporated into the standard and to receive compensation for its use in a larger number of devices that operate using the standard. As the standard becomes more widely adopted and used, patent holders receive greater total compensation. SSO participants also enjoy benefits independent of potential royalty income, including recognition of leadership in the technology, increased demand for participants' products, advantage flowing from familiarity with the contributed technology potentially leading to shorter development lead times, and improved product compatibility.

49. Firms that implement the standard receive assurance that they will always have access to the SEPs and will not be exploited by patent holders or disadvantaged relative to other implementers if they invest in implementing the standard or developing innovative products that may operate with the standard. Likewise, consumers and businesses benefit from continued innovation, reduced costs, and other efficiencies from widespread interoperability and economies of scale and scope enabled by the standard.

50. By contrast, IPR policy breaches can chill standard-setting efforts, thus denying to standard setting participants, implementers, and consumers the many benefits of standard setting.

51. In addition, while there are many benefits to collaborative standard setting, collaborative standard-setting can also raise antitrust concerns, because, for example, collaborative standard-setting has the potential to empower any individual firm that has IPR over one or more technologies that are declared essential to the standard to block other firms from practicing the standard or to significantly raise their costs of doing so. Outside of the standard setting context, the extent to which a patent holder will be able to profit from an invention is limited by competition from alternative, non-infringing technologies or products. Thus, even though a patent gives its owner the right to exclude unauthorized users, it does not necessarily confer monopoly power because constraining, non-infringing alternatives may be available. However, incorporating patented technology into a standard artificially removes competition from those alternatives and provides the patent owner with incremental market power that can be exploited. This incremental market power is due to the elimination of alternatives once the patents are incorporated into the standard, not the inherent technical value of the patents (*i.e.*, the contribution of the patented technology relative to the alternatives — the *ex ante* value).

52. SEP owners gain the power to exclude or exploit because the process of standardization transforms what may have been only marginally valuable IP into

essential IP needed by all firms that intend to manufacture, use, or sell standard-based products. The U.S. Department of Justice and Federal Trade Commission have recognized the potential for SEP owners to abuse the power gained through standardization. The effect is that the competitive constraints on the SEP owner's licensing behavior are eliminated after standardization. This elimination of alternatives confers market power on SEP owners relative to the pre-standard situation wherein alternatives (including the option of not including the relevant functionality at all) are potentially available in the technology market(s) and can constrain anticompetitive licensing behavior of the SEP owner.

53. Once a standard is set, and especially as manufacturers invest in and begin manufacturing products that can use or operate with the standard, it can be infeasible to revise the standard in order to avoid a SEP. Revising a standard can be very costly to the industry implementing that standard because it may involve breaking the compatibility and interoperability that the standard provides. Thus, changing a standard to eliminate a SEP whose owner attempts to unfairly exercise undue market power gained from standardization is generally not feasible. In sum, once an industry has adopted a particular standard, there are no alternative technologies that can implement a given functionality within the wording of the standard. The *ex post* relaxation of competitive constraints on the SEP owner through the elimination of alternatives, together with the *ex post* negotiation of licenses, gives rise to the possibility that a SEP owner will act opportunistically and "hold up" some or all standard implementers by extracting higher royalties *ex post* than it could have bargained for *ex ante*.

54. To prevent the exploitation of the SEP owner's market power in this situation, there must be other constraints on the SEP owner's licensing behavior, such as obligations to license on FRAND terms. To this end, SSOs typically impose IPR rules on their participants to protect against (or minimize the likelihood of) opportunistic, anticompetitive behavior by owners of standard-essential IP. Such

opportunistic behaviors expropriate at least a portion of an implementer's returns from sunk investments in innovation. If an implementer or potential implementer anticipates that there is a material risk of opportunistic behavior, its incentives to engage in innovative activities will be reduced or possibly even eliminated, particularly when the opportunistic SEP holder seeks to hold up the implementer for all or a large part of the profits from the implementer's innovations, complementary products, or services. By protecting against opportunistic behavior, SSO rules pertaining to IPR are intended to provide an environment that promotes investment, innovation, and technological progress. These IPR rules typically call for SSO participants to identify through declaration any potential SEPs covering the proposed standard and agree to license all implementers of the standard on fair, reasonable, and non-discriminatory terms.

ETSI's IPR Policy

55. ETSI is an independent, non-profit SSO that is responsible for the standardization of information and communication technologies, including mobile cellular technologies, for the benefit of its members and affiliates.

56. 3GPP is a collaborative activity through a group of recognized SSOs in the information and communication industry, including ETSI.

57. ETSI, in partnership with 3GPP, has been involved in standardizing a number of 2G, 3G, and 4G mobile cellular technologies.

58. The ETSI IPR Policy[1] requires members to disclose on a timely, bona fide basis all intellectual property rights that they are aware of and believe may be essential to a proposed ETSI standard. In particular, Clause 4.1 of the ETSI IPR Policy provides that: "each [ETSI] MEMBER shall use its reasonable endeavors, in particular during the development of a STANDARD or TECHNICAL

[1] Available at https://www.etsi.org/images/files/IPR/etsi-ipr-policy.pdf

SPECIFICATION where it participates, to inform ETSI of ESSENTIAL IPRs in a timely fashion." This obligation to disclose extends to members' affiliates as well.

59. ETSI's IPR Policy requires that participants disclose their relevant IPR during the development of a standard so that they may request that members owning patents potentially essential for the practice of a standard irrevocably commit to license those patents on FRAND terms and conditions to anyone practicing the standard. Specifically, clause 6 of ETSI's IPR Policy states:

> When an ESSENTIAL IPR relating to a particular STANDARD or TECHNICAL SPECIFICATION is brought to the attention of ETSI, the Director-General of ETSI shall immediately request the owner to give within three months an irrevocable undertaking in writing that it is prepared to grant irrevocable licences on fair, reasonable and non-discriminatory [FRAND] terms and conditions under such IPR… The above undertaking may be made subject to the condition that those who seek licences agree to reciprocate.

ETSI IPR Policy, § 6.1.

60. Clause 6.1 lists "MANUFACTURE, including the right to make or have made customized components and sub-systems to the licensee's own design for use in MANUFACTURE," as among the uses for which SEP holders must make mandatory FRAND licensing commitments.

61. FRAND commitments, pursuant to Clause 6 of the ETSI IPR Policy, "shall be interpreted as encumbrances that bind all successors-in-interest."

62. ETSI defines "essential" as follows:

> "ESSENTIAL" as applied to IPR means that it is not possible on technical (but not commercial) grounds, taking into account normal technical practice and the state of the art generally available at the time of standardization, to make, sell, lease, otherwise dispose of, repair, use or operate EQUIPMENT or METHODS which comply with a STANDARD without infringing that IPR. For the avoidance of doubt in exceptional cases where a STANDARD can only be implemented by technical solutions, all of which are infringements of IPRs, all such IPRs shall be considered ESSENTIAL.

ETSI IPR Policy, §15.6.

63. Although ETSI defines what it means by "essential," it does not make any attempt (nor, in general, do any SSOs) to ascertain whether the patents declared as "essential" to a standard are valid and enforceable, or whether they are, in fact, technically essential. Which patents are deemed "essential" to a particular standard is self-proclaimed by the SSO member that declares its patents to be "essential" to the standard.

64. If the essential IPR owner refuses to undertake the requested commitment and informs ETSI of that decision, the ETSI General Assembly must "review the requirement for that STANDARD or TECHNICAL SPECIFICATION and satisfy itself that a viable alternative technology is available for the STANDARD or TECHNICAL SPECIFICATION" that is not blocked by that IPR and satisfies ETSI's requirements. ETSI IPR Policy, § 8.1.1. Absent such a viable alternative, the ETSI IPR Policy requires that "work on the STANDARD or TECHNICAL SPECIFICATION shall cease." *Id.*, § 8.1.2. In other words, ETSI will not agree to incorporate a member's technology in a standard under consideration unless the member irrevocably binds itself to granting licenses on FRAND terms.

InterDigital's IPR Declarations

65. As a member of ETSI and a participant in 3GPP standardization, in conjunction with the adoption of the 2G, 3G, and 4G standards, InterDigital made submissions to the technical bodies within ETSI, declaring that certain of its patents or patent applications may be or may become essential to the mobile device standards under consideration.[2] InterDigital also stated a commitment to license any such essential patents it held on FRAND terms and conditions.

[2] u-blox does not accept InterDigital's representation that any (or all) of the patents identified as "essential" are, in fact, necessary for the compliant implementations of 2G, 3G, and 4G technologies; nor does u-blox concede that the particular

66. Indeed, InterDigital entered into an irrevocable undertaking to grant licenses to the disclosed allegedly essential patents on FRAND terms and conditions, including submitting at least the following declarations to ETSI, true and correct copies of which are attached as Exhibits 1through 33.

Date	InterDigital Entity	Signatory	Place Executed	Project(s) or Standard(s)	Exh.	ISLD
10/4/01	InterDigital Technology	H. Goldberg	Philadelphia, PA	UMTS	1	ISLD-200105-001
10/4/01	InterDigital Technology	H. Goldberg	Philadelphia, PA	GSM	2	ISLD-200105-002
4/8/04	InterDigital Technology	D. Boles	Wilmington, DE	UMTS (TS41.101 Rel. 5)	3	ISLD-200407-004
4/8/04	InterDigital Technology	D. Boles	Wilmington, DE	GSM (TS41.101 Rel. 4)	4	ISLD-200407-005
3/21/07	InterDigital Technology	B. Bernstein	n/a	UMTS; E-UMTS	5	ISLD-200802-001
9/19/08	InterDigital Patent Holdings	B. Ditty	Wilmington, DE	UMTS; E-UMTS; GERAN	6	ISLD-200811-003
9/19/08	InterDigital Technology	B. Ditty	Wilmington, DE	GSM; UMTS; E-UMTS; GERAN	7	ISLD-200901-001
9/14/09	InterDigital Patent Holdings	B. Ditty	Wilmington, DE	UMTS; E-UMTS; GERAN	8	ISLD-200910-006
9/14/09	InterDigital Technology	B. Ditty	Wilmington, DE	GSM; UMTS; E-UMTS; GERAN	9	ISLD-200911-005
9/16/10	InterDigital Patent Holdings	B. Ditty	Wilmington, DE	UMTS; LTE; GERAN	10	ISLD-201010-010
10/31/11	InterDigital Patent Holdings	B. Ditty	Wilmington, DE	UMTS; LTE; RRS; M2M	11	ISLD-201109-010
10/31/11	InterDigital Technology	B. Ditty	Wilmington, DE	UMTS; LTE	12	ISLD-201109-021
11/30/12	InterDigital Patent Holdings	B. Ditty	Wilmington, DE	UMTS; LTE; RRS; M2M	13	ISLD-201210-008
11/30/12	InterDigital Technology	B. Ditty	Wilmington, DE	UMTS; LTE	14	ISLD-201210-010
11/26/13	InterDigital Patent Holdings	B. Ditty	Wilmington, DE	UMTS; LTE; RRS; M2M	15	ISLD-201311-007
11/26/13	InterDigital Technology	B. Ditty	Wilmington, DE	GSM; UMTS; LTE	16	ISLD-201311-008
9/16/2010	InterDigital Technology	B. Ditty	Wilmington, DE	LTE; UMTS; GSM; GERAN;	17	ISLD-201010-011
9/26/2014	InterDigital Technology	B. Ditty	Wilmington, DE	UMTS; LTE	18	ISLD-201409-035
9/26/2014	InterDigital Patent Holdings	B. Ditty	Wilmington, DE	UMTS; LTE; RRS; M2M	19	ISLD-201409-028
9/26/2014	IPR Licensing	B. Ditty	Wilmington, DE	LTE	20	ISLD-201409-039
11/12/2015	InterDigital Patent Holdings	B. Ditty	Wilmington, DE	LTE; UMTS; RRS; M2M	21	ISLD-201511-004
12/22/2016	InterDigital Patent Holdings	B. Ditty	Wilmington, DE	LTE; UMTS; M2M; RRS	22	ISLD-201706-015
12/11/2015	InterDigital Technology	B. Ditty	Wilmington, DE	LTE; UMTS; GERAN	23	ISLD-201511-026
12/22/2016	InterDigital Technology	B. Ditty	Wilmington, DE	LTE; UMTS; GERAN;	24	ISLD-201706-014
9/19/2008	IPR Licensing	B. Ditty	Wilmington, DE	UMTS; GERAN	25	ISLD-200811-004
9/14/2009	IPR Licensing	B. Ditty	Wilmington, DE	UMTS; E-UMTS	26	ISLD-200909-004
9/16/2010	IPR Licensing	B. Ditty	Wilmington, DE	GERAN; LTE; UMTS	27	ISLD-201009-002
10/31/2011	IPR Licensing	B. Ditty	Wilmington, DE	UMTS; LTE	28	ISLD-201109-018
11/30/2012	IPR Licensing	B. Ditty	Wilmington, DE	LTE; UMTS	29	ISLD-201210-011
11/26/2013	IPR Licensing	B. Ditty	Wilmington, DE	LTE	30	ISLD-201311-006
11/12/2015	IPR Licensing	B. Ditty	Wilmington, DE	LTE; UMTS	31	ISLD-201511-027
12/22/2016	IPR Licensing	B. Ditty	Wilmington, DE	LTE; UMTS	32	ISLD-201706-011
12/22/2017	IPR Licensing	B. Ditty	Wilmington, DE	LTE	33	ISLD-201711-009

implementations of such technologies in its products practice any InterDigital's patents, including those identified by InterDigital in relation to these technologies. Nonetheless, u-blox has relied upon the IPR declarations of InterDigital, and other holders of declared-essential patents.

67. InterDigital made these declarations to ensure that the 2G, 3G, and 4G standards incorporated InterDigital's technologies to the exclusion of alternative technologies, and so that manufactures of standard-compliant devices would require a license to InterDigital's alleged SEPs.

68. While making the above declarations to ETSI, InterDigital concealed its intent to, among other things, charge supra-competitive royalty rates and demand discriminatory terms and conditions for a license to its alleged SEPs. The intent of this concealment was to deceive ETSI members so that technologies InterDigital claims to have patented were included in the standards. Pursuant to the ETSI IPR Policy, if InterDigital had been honest regarding its intent to refuse to license its alleged SEPs on FRAND terms and conditions, ETSI would have looked for alternative solutions to InterDigital's technology or omitted that particular portion of the standard. *See* ETSI IPR Policy, § 8.1.3. Thus, but for InterDigital's deceptive IPR declarations, alternative technologies would have been adopted into the standards by ETSI or no particular technology would have been specified.

69. The relevant markets are the markets for technologies covered by InterDigital patents that are essential, or alleged to be essential, to the 2G, 3G, and 4G cellular standards, together with all other alternative technologies to the InterDigital patents that could have been used in the cellular standards.

Overview of Cellular Standards

70. InterDigital's unlawful and anticompetitive behavior pertains to patents that it claims are essential to the 2G, 3G, and 4G cellular standards, which are described below.

The 2G Standard

71. The first widespread use of mobile phones began in the late 1970s and into early 1980s with analog systems, generally referred to as "1G." From the viewpoint of a typical consumer experience today, these systems were relatively basic, supporting just a few analog signals (as opposed to digital signal) capable of

carrying voice calls. AMPS (Advanced Mobile Phone System) was one of the most successful 1G systems, and was widely deployed in the USA in the 1980s. However, there were many other regional and national systems in operation around the world at that time, leading to a fragmented market with individual regions having their own vendors and standards that were incompatible with one another. Today, none of these systems are commercially operational.

72. In the late 1980s, the cellular industry moved towards a second generation of mobile telephony, based on digital technology. Such systems introduced a number of important benefits over the previous analog 1G systems, such as improved voice quality, increased system capacity, increased system security, and the ability to integrate voice and data services.

73. For the first time, SMS (Short Messaging Service, *i.e.*, "texting" or "texts") and basic data services became available. But there were divergent views on how to effectuate these benefits. Thus, there were a number of different standards considered to be 2G, including GSM, GPRS & EDGE, and CDMA & IS-95.

74. In Europe, a system called Global System for Mobile Communications ("GSM"), originally referred to as Groupe Spécial Mobile, evolved to become the dominant worldwide 2G standard.

75. GSM incorporated a number of technical advances over previous cellular systems. GSM introduced digital voice coding, which digitized voice calls and allowed better call quality. GSM also adopted for the air interface protocol the well-known Time Division Multiple Access ("TDMA") scheme. TDMA operates by defining a number of time slots, and allocating the repetitive occurrence of a different time slot to each user. The collection of Time Slots for all users are carried within a single frequency.

76. Over the years, the functionality of GSM has been extended to support improved data services. These enhancements include a data service called General

Packet Radio Services ("GPRS"), which introduced relatively low speed packet data support in addition to GSM voice services and then-existing GSM circuit-switched data services. GPRS was then extended to a technology called Enhanced Data rates for GSM Evolution ("EDGE"), often referred to as Enhanced GPRS or EGPRS, which further increased the supported data rates.

77. GSM and these newer variants are still in use today. They can support voice service and user data rates with low to moderate data transmission speed. However, their importance has been quickly diminishing on a global basis as network operators move to "next generation" systems providing higher data rates for transmission of information much more efficiently, which benefits both the network operators and end users.

78. Despite the availability and widespread, global adoption of GSM, the technology was not initially widely commercialized in the United States. In the United States, a different 2G technology, based on a different wireless air interface named Code Division Multiple Access ("CDMA"), was being strongly championed by Qualcomm. Qualcomm eventually succeeded in getting its technology standardized. The corresponding standard is called IS-95.

79. At a very basic level, CDMA operates by assigning each user a unique identifier, a "spreading code," which is used to "spread" all the digital data transmitted to or from that user. Because each user has a unique spreading code, a user need not be assigned a specified time slot as is required with TDMA. With CDMA, multiple users can communicate at the same time (*i.e.*, simultaneously) using the same frequency by transmitting messages that have been spread using different "spreading codes."

80. Despite many early technical setbacks and much skepticism from the GSM industry, Qualcomm's CDMA technology was standardized as IS-95, and commercialized under the name CDMAOne. It became widely deployed by several

carriers in the United States in the mid to late 1990s, after initially being successfully deployed in South Korea.

The 3G Standard

81. In the mid to late 1990s, the cellular industry started a push towards a newer, more advanced system, able to support more users with improved reliability and better handling of data services.

82. Originally the hope was to adopt a single, global standard. However, over time, it became apparent that diverging regional interests would prevent a single system from being adopted. On the one hand, supporters of the GSM-based standards pushed to have a system based on the GSM core network, but with an enhanced Radio Access Network incorporating a new CDMA-based air interface known as Wideband CDMA ("WCDMA"). This standard is known as Universal Mobile Telecommunications System, or "UMTS." On the other hand, supporters of the IS-95 family of standards pushed to enhance the existing IS-95 core network and CDMA air interface, to develop a new standard known as CDMA2000.

83. The first UMTS standard developed by 3GPP was called Release 99, and was followed by a minor "cleanup" revision called Release 4. The first major upgrade came in 2002 with Release 5, including a new feature called High Speed Downlink Packet Access ("HSDPA"), which was followed by Release 6 in and around early 2005 that introduced High Speed Uplink Packet Access ("HSUPA"). Together HSDPA and HSUPA (collectively known as High Speed Packet Access or "HSPA") enhanced the download and upload speeds as compared to the original baseline specification. In 2007, Release 7 included an enhancement named High Speed Packet Access Evolution ("HSPA+"), which includes a number of technical modifications to support even higher data rates. More recent releases have further improved functionality.

84. UMTS, as improved through the various releases, remains in widespread use around the world today.

The 4G Standard

85. For the first time in the evolution of cellular standards, the global cellular industry converged to a single wireless standard for use worldwide in the late 2000s: Long Term Evolution ("LTE"). This standard was developed by 3GPP, and it provides a natural evolutionary path for both UMTS and CDMA2000 network operators and their customers. Similar to the earlier generations, LTE also continues to evolve, including advances such as LTE-Advanced.

86. Work began in earnest on developing LTE around 2006, under the leadership of 3GPP. The first technical specifications, known as Release 8, were published in 2008. Release 8 includes functionality that theoretically supports downlink data rates of about 300 Mbps and uplink data rates of about 75 Mbps.

87. In 2011, an upgrade to LTE was published, referred to as Release 10, incorporating many features of what was known as LTE-Advanced. This upgrade includes a number of major technical enhancements to considerably increase LTE functionality. Commercial deployments of LTE-Advanced are in progress today.

88. Development of the LTE standard continued beyond Release 10 with incremental improvements to the standard, including many relevant to u-blox's cellular modules.

89. In Release 12, 3GPP specified low-price machine-communication terminals as LTE terminal Category 0. These terminals feature a maximum data rate of 1Mbps, support for frequency division duplex and half duplex, and support for single antenna reception.

90. In Release 13, 3GPP defined two new terminal categories. Category M1 includes the features of Category 0, with the transceiver bandwidth limited to 1.08 Mhz and support for coverage extension of approximately 15db. These limitations have cost reduction effects for chipsets compared to Category 0. Second, Release 13 defined the Narrowband IoT ("NB-IoT") category of devices. NB-IoT is a subset of the LTE standard focused on indoor coverage, low cost, long battery life,

and high connection density. The NB-IoT category features transceiver bandwidth limited to 180kHz and support for coverage extension greater than 20db.

91. As of Release 13, the LTE standard defines 19 separate categories of user equipment ("UE"). These categories depend on maximum peak data rate and MIMO capabilities supported by the UE.

Hold-up and Royalty Stacking

92. Despite SSOs adopting IPR Policies incorporating FRAND commitments, some SEP owners have unfortunately attempted to exploit their monopoly power to extract supra-competitive royalty rates after implementers are locked into the standardized technology.

93. The exploitation of SEPs to extract unreasonable or discriminatory royalties is referred to as patent "hold-up." The cumulative royalty burden required to satisfy all SEP holders is referred to as royalty stacking.

94. Hold-up harms competition and impedes implementation of standards, diminishing any benefits that flow from widespread adoption of the standard. The anticompetitive effects of hold-up are magnified when the total aggregate royalty stack is analyzed. The total royalty stack must be reasonable when viewed in the aggregate. The demands of individual SEP owners must be assessed in light of the total number of SEPs included in the standard and their relative technical contributions.

95. A number of cases that have been litigated in U.S. courts demonstrate that patent hold-up is a widespread problem, with SEP owners violating their FRAND commitments by making royalty demands significantly above the adjudicated FRAND rates. *See, e.g.*, *TCL Commun. Tech. Holdings, LTD v. Telefonaktiebolaget LM Ericsson*, 2017 WL 6611635, at *51-52 (C.D. Cal. Dec. 21, 2017) (determining FRAND rates of 0.314%-0.45% for 4G, 0.224%-0.30% for 3G, and 0.09%-0.16% for 2G, as compared to Ericsson's demand of 1.5% for 4G, 1.2% for 3G, and 0.8%-1.0% for 2G); *In re Innovatio IP Ventures, LLC Patent Litig.*,

2013 WL 5593609, at *43 (N.D. Ill. Oct. 3, 2013) (for 19 asserted patents, assessing damages of $0.0956 per unit as compared to the proposed royalty of $16.17 per unit for tablet computers); *Microsoft Corp. v. Motorola, Inc.*, 2013 WL 2111217, at *100 (W.D. Wash. Apr. 25, 2013) (determining FRAND rate of $0.03471 per Microsoft's xBox unit, as compared to Motorola's initial demand of $6-$8 per xBox unit).

96. Courts, regulators, and economists have also made clear that to be effective, the FRAND commitments in ETSI's IPR policy should: (a) limit royalties to the value that the SEP(s) had prior to inclusion in the ETSI standard and in light of other patented and unpatented technology essential to the standard; (b) prohibit charging royalties that are higher based upon the technology being written into the standard or that capture the value of the standard itself; and (c) require non-discriminatory treatment of licensees and potential licensees.

97. As explained below, and like the SEP owners from the aforementioned cases, an analysis of InterDigital's non-FRAND offers to u-blox for a new license demonstrates that InterDigital is attempting to abuse its monopoly power to extract the hold-up value of its alleged SEPs. InterDigital's offers to u-blox are completely untethered to the *ex ante* value of InterDigital's alleged SEPs, and would create an unsustainable royalty stack. In light of InterDigital's continued unreasonable demands for a license and related conduct, u-blox had no choice but to seek a judicial determination of the terms for a fair, reasonable, and non-discriminatory license.

InterDigital's Refusal to Offer u-blox A New License on FRAND Terms

98. As explained above, InterDigital is required to license its declared essential patents consistent, in all respects, with its binding commitment to ETSI, 3GPP, and participants and implementers of the applicable standards. However, in disregard of its binding obligations, InterDigital is refusing to license its declared essential patents to u-blox on FRAND terms and conditions. Instead, InterDigital is attempting to exploit its market power gained as a result of its deceptive and

intentionally false FRAND commitments to attempt to extract supra-competitive royalties from u-blox.

99. [redacted]

100. [redacted]

101. [redacted] The study, conducted by Concur IP as part of unrelated litigation, evaluated a random sample of 33% of all the declared SEPs with at least one claim directed towards user equipment in order to determine which

patents were actually essential to the individual standards. Of the 286 patents declared essential to the LTE standard by InterDigital, Concur IP reviewed 95 of those patents and determined that 40 of those patents were actually essential. Accounting for sample size, Concur IP's survey indicates that InterDigital has approximately 120 UE patent families which are actually essential to the 4G standard. Relying on the Concur IP survey, the Court in that litigation found that there were a total of 1481 patents that were essential to the 4G standard. Accordingly, InterDigital owns approximately 8.10% of all 4G SEPs for user equipment.[3] [redacted] justified by its proportional share of LTE SEPs is unfair and unreasonable.

102. [redacted] InterDigital's royalty demands cannot be consistent with its obligation to license its SEPs on fair and reasonable terms. Rather, such a demand can only be explained by InterDigital's attempt to exploit its undue market power to extract supra-competitive royalties that in no way reflect the value of the patented technology. While the market may have entry barriers, InterDigital has the power to extract supra-competitive prices and possesses a dominant market share.

103. Similarly, Concur IP's analysis for 3G determined that InterDigital holds approximately 114 out of a total of 953 3G SEPs, or 12% of all 3G SEPs. [redacted]

[3] The results of the Concur IP survey, which analyzed patents essential to all facets of the standards applicable to user equipment, may overestimate the number of InterDigital's SEPs applicable to u-blox's cellular module products which only practice a subset of the standards. The Concur IP survey may also overestimate the number of InterDigital's SEPs for other reasons as well, including regional differences in the strength InterDigital's patent portfolio, the expiration of InterDigital's patents over the course of the license, and exhaustion of InterDigital's alleged SEPs due to authorized sales to u-blox by licensees, among others.

[redacted] Again, InterDigital's royalty demand cannot be consistent with its FRAND obligation.

104. InterDigital's licensing offers to u-blox for a new license violate its commitment to ETSI and are entirely inconsistent with FRAND principles. Instead, InterDigital has negotiated in bad faith to exploit its monopoly power and attempted to maximize the hold-up value it can extract from u-blox.

105. Put simply, in breach of its FRAND commitment, InterDigital is attempting to exploit the monopoly power it gained through standardization to demand supra-competitive royalty rates which are grossly disproportionate to the value of the technical contribution of its small number of SEPs.

106. In addition, as explained below, InterDigital's conduct during negotiations with u-blox for a new license cannot be reconciled with its FRAND commitment.

In A Blatant Attempt To Coerce u-blox To Enter Into a New License Agreement That Is Not on FRAND Terms, InterDigital Refuses To Refrain From Interfering With u-blox's Customer Relationships (Again)

107. [redacted]

108. [redacted]

109. [redacted]

[redacted]

110. [redacted]

111. Therefore, because the rates that u-blox was paying were not FRAND rates, [redacted]

112. Such a true-up provision is commonly agreed to by patent owners negotiating in good faith with licensees or potential licensees, in order to allow licensees to negotiate without the licensee being unfairly locked into paying non-FRAND rates without any chance to be made whole. [redacted]

113. But, even more troubling at the time, in a blatant attempt to force u-blox to pay excessive non-FRAND rates, InterDigital reached out to u-blox's customers and downstream manufacturers, [redacted]

114. InterDigital's conduct was unnecessarily destructive and outrageous because InterDigital knew that: (i) u-blox's customers and downstream manufacturers [redacted], and (ii) u-blox was a ready and willing InterDigital licensee once the FRAND rate was determined. As such, there was no legitimate

reason why InterDigital would reach out u-blox's customers or downstream manufacturers.

115. In addition, InterDigital was and is well aware of the fact that: (i) u-blox entered into relationships with its customers in reliance on InterDigital's commitment to offer a license to its alleged SEPs on FRAND terms, and (ii) u-blox's customers and downstream manufacturers had relied on u-blox to enter into a FRAND license with InterDigital prior to designing and incorporating u-blox's technology into their products.

116. In sum, because u-blox was willing to enter into a FRAND license, there was no legitimate reason why InterDigital should have or needed to contact u-blox's customers and downstream manufacturers.

117. Nonetheless, even though the parties were in negotiations for a new license, in order to apply pressure to u-blox, InterDigital reached out to u-blox's customers and downstream manufacturers, [redacted]

118. [redacted]

119. [redacted]

120. [redacted]

[redacted] In addition, because, as discussed above, the rates that u-blox was paying were not FRAND rates, [redacted]

121. [redacted]

122. [redacted]

123. [redacted]

124. [redacted] As such, and in order to limit the time when u-blox would continue to be forced to pay royalties that were not FRAND, [redacted]

125. [redacted]

126. [redacted]

127. [redacted]

128. u-blox is ready, willing, and able to enter into a license with InterDigital once the FRAND terms and conditions for a license to InterDigital's 2G, 3G, and 4G SEPs are determined.

129. However, it has become clear that InterDigital has no intention of granting u-blox a license to its allegedly essential 2G, 3G, and 4G patents on FRAND terms and conditions.

130. In addition, InterDigital has no incentive to conclude negotiations for a license with u-blox on FRAND rates because, as explained above, InterDigital requires that u-blox pay the current, non-FRAND rates, while license negotiations continue. As such, u-blox must make an entirely unfair Hobson's choice: refuse to capitulate to InterDigital's unfair demands and risk losing its customers and business, pay InterDigital excessive non-FRAND royalties while the parties negotiate, or agree to a new license that is not on FRAND terms. Given these clear hold-up conditions, u-blox has no choice but to file this action.

The Irreparable Harm to u-blox

131. In justifiable reliance upon InterDigital's promises that it would license its technology to u-blox and others on FRAND terms, [redacted]

132. However, InterDigital's wrongful non-FRAND demands of u-blox and wrongful interference with u-blox's current and potential future customer relationships will not only lead to a loss of business for u-blox, but InterDigital's threats to u-blox's customer relationships, and related loss of trust, reputation, and goodwill [redacted]

133. u-blox has no adequate remedy at law.

134. Based on the foregoing, u-blox seeks, *inter alia*,: (i) a judicial declaration that InterDigital's promises to ETSI, 3GPP, and their respective members and affiliates constitute contractual obligations that are binding and enforceable by u-blox; (ii) a judicial declaration that InterDigital has breached these obligations by demanding excessive, unfair, unreasonable, and discriminatory royalties from u-blox; (iii) a judicial decree enjoining InterDigital from further demanding excessive royalties from u-blox and u-blox's customers that are not consistent with InterDigital's FRAND obligations; (iv) a judicial accounting of what constitutes a FRAND royalty rate in all respects consistent with InterDigital's commitment to license its patents identified as (or alleged to be) "essential" to the 2G, 3G, and/or 4G standards; (v) a judicial determination that InterDigital's refusal to agree to a new license is a breach of InterDigital's commitments to ETSI; (vi) a judicial determination that InterDigital's deceptive and deliberately false declarations to ETSI constitute violations of Section 2 of the Sherman Act; (vii) a judicial determination that InterDigital is liable for interference with contractual relations (viii) a jury trial on all issues so triable; (ix) an injunction prohibiting InterDigital from contacting u-blox's customers or their downstream manufacturers and stating that u-blox does not have an InterDigital license or demanding royalties from them; and (x) all other relief to which u-blox may be entitled.

CLAIMS FOR RELIEF
FIRST CAUSE OF ACTION
(Breach Of Contract)

135. u-blox re-alleges and incorporates by reference the allegations set forth in the foregoing paragraphs.

136. InterDigital entered into contractual commitments with ETSI, 3GPP and their respective members, participants, and implementers relating to the 2G, 3G, and 4G standards. As a member of ETSI and to comply with ETSI's IPR Policy, InterDigital made a binding commitment to ETSI, ETSI members, and third party

implementers to grant irrevocable licenses to InterDigital's SEPs on FRAND terms and conditions.

137. InterDigital's ETSI membership and activities, including the declarations it made to comply with ETSI's IPR policy for InterDigital's SEPs, created an express and/or implied contract with ETSI and/or ETSI members, including an agreement that InterDigital would license those patents on FRAND terms and conditions. ETSI's IPR Policy does not limit the right to obtain a license on FRAND terms and conditions to ETSI members; third parties that are not ETSI members also have the right to be granted licenses under those patents on FRAND terms and conditions. Each and every party with products that implement the 2G, 3G, and 4G standards promulgated by ETSI is an intended third-party beneficiary of InterDigital's contractual commitments, including u-blox, its suppliers, and its customers.

138. However. despite u-blox's good faith efforts to negotiate a license to InterDigital's alleged SEPs, InterDigital is refusing to offer u-blox a license on FRAND terms and conditions.

139. InterDigital has breached its FRAND obligations by refusing to agree to license its SEPs to u-blox at reasonable rates, with reasonable terms, and on a non-discriminatory basis.

140. As a result of InterDigital's contractual breach, u-blox has been injured in its business or property and is threatened by imminent loss of profits, loss of customers and potential customers, and loss of goodwill and product image.

141. u-blox has suffered and will continue to suffer irreparable injury by reason of the acts, practices, and conduct of InterDigital alleged above until and unless the Court enjoins such acts, practices, and conduct.

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SECOND CAUSE OF ACTION
(Promissory Estoppel)

142. u-blox re-alleges and incorporates by reference the allegations set forth in the foregoing paragraphs.

143. InterDigital made a clear and definite promise to all potential implementers of the 2G, 3G, and 4G standards through its commitments to ETSI and 3GPP that it had granted, or would grant, licenses to any essential patents on fair, reasonable, and non-discriminatory terms and conditions.

144. The intended purpose of InterDigital's promises was to induce reliance upon these promises so that companies like u-blox would invest substantial resources to design, develop, and produce products compatible with the relevant standards. InterDigital knew or should have reasonably expected to know that it would induce reliance on these promises by companies such as u-blox.

145. u-blox developed and marketed its products and services in reliance on InterDigital's promises, including making its products and services compliant with ETSI and 3GPP standards, including the 2G, 3G, and 4G standards, in various u-blox product offerings.

146. InterDigital is estopped from reneging on these promises to ETSI and 3GPP under the doctrine of promissory estoppel.

147. u-blox has been harmed as a result of its reasonable reliance on InterDigital's promises and is threatened by the imminent loss of profits, loss of customers and potential customers, and loss of goodwill and product image.

148. u-blox has suffered and will continue to suffer irreparable injury by reason of the acts and conduct of InterDigital alleged above until and unless the court enjoins such acts, practices, and conduct.

149. Moreover, InterDigital's breach of its FRAND obligations further constitutes waiver and/or estoppel of InterDigital's rights to enforce any declared-essential patents against any entity allegedly practicing the standard.

THIRD CAUSE OF ACTION
(Declaratory Judgment)

150. u-blox re-alleges and incorporates by reference the allegations set forth in the foregoing paragraphs.

151. InterDigital is contractually obligated to license its 2G, 3G, and 4G SEPs on FRAND terms and conditions. There is a dispute between the parties concerning whether InterDigital has offered u-blox a license to its 2G, 3G, and 4G SEPs on FRAND terms and conditions consistent with InterDigital's irrevocable commitments in its declarations to ETSI and the referenced policy of ETSI and 3GPP.

152. As a result of the acts described in the foregoing paragraphs, there exists a definite and concrete, real and substantial, justiciable controversy between u-blox and InterDigital regarding what constitutes FRAND terms and conditions for a license to InterDigital's 2G, 3G, and 4G SEPs with respect to u-blox's products. This dispute is of sufficient immediacy and reality to warrant the issuance of a declaratory judgment.

153. u-blox is entitled to a declaratory judgment that InterDigital has not offered license terms to u-blox conforming to applicable legal requirements, including failing to offer u-blox a license to its 2G, 3G, and 4G SEPs on FRAND terms and conditions. Moreover, u-blox is entitled to a declaratory judgment that sets the FRAND terms and conditions, including but not limited to the FRAND royalty rate, for a license to InterDigital's 2G, 3G, and 4G SEPs.

FOURTH CAUSE OF ACTION
Antitrust Monopolization In Violation Of Section 2 Of The Sherman Act)

154. u-blox re-alleges and incorporates by reference the allegations set forth in the foregoing paragraphs.

155. This is an action for antitrust monopolization in violation of Section 2 of the Sherman Act.

156. As a member of ETSI and an active participant in 3G and 4G consensus standardization efforts through 3GPP, InterDigital was obligated to comply with the ETSI IPR Policy. That policy requires the owner of patents that might be essential to a standard to file an IPR disclosure statement that among other things contains an irrevocable commitment to be prepared to license the disclosed IPRs on FRAND terms and conditions to those who implement the relevant standards. Over time, to secure inclusion of its own proposed technology in the evolving 3G and 4G standards, as well as other technology allegedly covered by its patents, InterDigital submitted IPR Declarations in which it promised to license its patents on FRAND terms and conditions. As a result of InterDigital's IPR disclosures, its alleged patented technology was incorporated into the standards and other alternative technologies that might otherwise have been considered for inclusion in the standard were not adopted.

157. InterDigital's promises to license its allegedly essential patents on FRAND terms and conditions were intentionally false and misleading. InterDigital had no intention of licensing its alleged SEPs on FRAND terms and conditions.

158. Indeed, as explained above, with u-blox, InterDigital is attempting to exploit its undue monopoly power by attempting to extract supra-competitive royalty rates, to force u-blox to pay royalties on expired patents, and to charge u-blox the same royalty rates for high-speed LTE categories and low-speed LTE which may not even practice InterDigital's alleged SEPs, among other FRAND violations.

159. As a result of the alleged incorporation of its patented technology into the 2G, 3G, and 4G standards, InterDigital has monopoly power in the markets for those technologies. As a result of its alleged incorporation in the standards, this technology is not interchangeable with or substitutable for other technologies, and

those who comply with the 3G and 4G standards are locked in to those technologies. As a result, InterDigital has the power to extract supra-competitive prices for licenses for those technologies. Accordingly, InterDigital has a dominant market share in the markets for these technologies and the markets have significant barriers to entry post-standardization.

160. InterDigital has obtained and maintained its market power in these technology markets willfully and not as a consequence of a superior product, business acumen, or historic accident. InterDigital excluded competition through its intentional false promise to license the relevant technologies on FRAND terms, which ETSI and its members relied on in choosing to incorporate standard-compliant technology related to InterDigital's allegedly patented technology. InterDigital's deceptive conduct induced 3GPP and ETSI, through the voluntary consensus driven processes they use, to incorporate technology into the 3G and 4G standards that they would not have absent a FRAND commitment.

161. InterDigital's actions show that it has never intended to comply with its promises to license its allegedly essential patents on FRAND terms and conditions. InterDigital refuses to engage with u-blox's good faith efforts to determine fair, reasonable, and non-discriminatory terms and conditions. Instead, InterDigital is insisting that u-blox pay royalty rates that are several times higher than justified by the strength of InterDigital's SEPs.

162. These anticompetitive acts are an abuse of InterDigital's monopoly power in the relevant worldwide markets and establish a violation of Section 2 of the Sherman Act.

Relevant Technology Markets

163. For the purposes of u-blox's antitrust claim, the relevant markets are the technologies covered by the InterDigital declared essential patents —inclusive of those issued in the United States and elsewhere — that InterDigital has asserted against u-blox for products that implement the 2G, 3G, and 4G standards, together

with all other alternative technologies to the InterDigital technologies that could have been incorporated into the standards (collectively, the "Relevant Technology Markets").

164. Once ETSI adopts technology for a mobile standard, the owner of each essential patent whose technology is incorporated into that standard obtains monopoly power in a relevant technology market. When patented technology is incorporated in a standard, adoption of the standard eliminates alternatives to the patented technology, and companies wanting to market devices that comply with the standard are locked in and must use the SEPs.

165. As previously discussed, InterDigital has declared many of its patents to be essential to one or more of the standards and made irrevocable undertakings to license those patents on FRAND terms. If InterDigital's declarations are correct, then the market encompassed within the Relevant Technology Markets can be identified from InterDigital's declarations to ETSI and InterDigital's allegations of essentiality during licensing negotiations with u-blox.

166. Before the adoption of the standards, competitors in the Relevant Technology Markets included companies with technology capable of performing the same or equivalent functions that could have been adopted by ETSI and its members. These additional competitors include the companies that offered technologies that could have been used in alternative mobile standards that were foreclosed once ETSI members adopted a standard that included InterDigital's technologies. Because of the lock-in effect described above, InterDigital became the only commercially viable seller inside and outside the United States in each of the Relevant Technology Markets.

167. After the standards were set and InterDigital's technology was adopted into the standard, implementers such as u-blox invested significant revenue and other resources developing products that practice the standard. Those investments were made in reliance on the commitment InterDigital and other SEP owners made

to license their patents on FRAND terms and conditions. u-blox and other implementers were effectively locked into practicing InterDigital's technology when it was adopted into the standard, and, as a result, alternatives to the patent technologies no longer constrain InterDigital's ability to demand royalty rates far in excess of the value of the patented technology as the alternative technologies would have prior to the adoption of the standard ("*ex ante*").

InterDigital's Antitrust Violations

168. Courts, regulators, and economists have made clear that to be effective, the FRAND commitments in ETSI's IPR policy should: (a) limit royalties to the value that the SEP(s) had prior to inclusion in the ETSI standard and in light of other patented and unpatented technology essential to the standard; (b) prohibit charging royalties that are higher based upon the technology being written into the standard or that capture the value of the standard itself; and (c) require non-discriminatory treatment of licensees and potential licensees.

169. ETSI's FRAND commitment grants implementers the right to practice claimed SEPs. Participants in standards development and third-party implementers rely on these irrevocable contractual undertakings to ensure that the widespread adoption of the standard will not be hindered by SEP owners attempting to extract unreasonable royalties and terms from those implementing the standard.

170. u-blox asserts this claim to obtain a FRAND license and enjoin InterDigital from continuing its abusive licensing practices and InterDigital's unlawful monopolization in certain relevant markets for 2G, 3G, and 4G cellular technologies. InterDigital has engaged in an unlawful scheme to exploit its undue market power over technologies necessary for implementers, including u-blox, to practice the 2G, 3G, and 4G standards. InterDigital's market power is due solely to its false commitments to license its alleged SEPs on FRAND terms and conditions, which was a necessary step in locking its technology into the standard(s).

171. Participants in the 2G, 3G, and 4G standardization, including all ETSI members and u-blox in particular, relied on InterDigital's intentionally false promises to license its alleged SEPs on FRAND terms and conditions in choosing to incorporate those allegedly essential patented technologies into the standards. As a result of InterDigital's FRAND commitments, its allegedly essential patent technology was included in the standards and alternative technologies were excluded. Through its deceptive acts and practices, InterDigital is unlawfully monopolizing the Relevant Technology Markets.

172. After acquiring its unlawful monopolization of the Relevant Technology Markets, InterDigital has exploited this ill-gotten power against u-blox by refusing to offer a license on FRAND terms, by among other things:

- Refusing to honor its obligation to license its alleged SEPs on FRAND terms and conditions;
- Attempting to seek supra-competitive royalty rates from u-blox for a license to its 2G, 3G, and 4G patents;

[redacted]

173. InterDigital's actions injure competition by excluding alternate technologies which could have been included in the standard. As a direct and proximate consequence of InterDigital's unlawful monopolization, customers of the Relevant Technology Markets (implementers of the standards such as u-blox) face drastically higher costs for access to cellular technologies necessary for the manufacture of standard-compliant products than they would have paid in a competitive marketplace.

174. InterDigital's wrongful conduct prevents u-blox from obtaining access to alternative technologies in the Relevant Technology markets. The antitrust injury

associated with InterDigital's unlawful monopolization also extends to consumers in the downstream market for the technology, such as u-blox's cellular modules, in the form of higher prices, reduced innovation, and more limited choice for such standard-compliant products. Indeed, the necessary result of raising costs to some competing manufacturers in the marketplace for standard-compliant products and diverting resources that otherwise would have fueled additional innovation is to limit consumer choices in complementary technologies and other technology used in standard-compliant products.

175. InterDigital has leverage over manufacturers of standard-compliant products that it would not possess but for its false promises to ETSI to license its alleged SEPs on FRAND terms and conditions, and its unlawful acquisition of monopoly power in the Relevant Technology Markets. As a result of said leverage, manufacturers of standard-compliant products, including u-blox, must either capitulate to InterDigital's demand for supra-competitive royalty rates or face the costs and risks of protracted patent litigation on a global scale.

176. Absent InterDigital's wrongful conduct, which resulted in alternate technologies being excluded from the relevant standards, u-blox would be able to obtain a new license to access necessary technology in the Relevant Technology Markets on fair, reasonable, and non-discriminatory terms.

177. Therefore, to prevent harm to u-blox's business and property, including its cellular module products, and further harm to competition more generally in the Relevant Technology Markets, u-blox brings this action for treble damages, declaratory relief, and injunctive relief under Sections 4 and 16 of the Clayton Act, 15 U.S.C. §§ 15, 26.

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FIFTH CAUSE OF ACTION
(Declaratory Judgment of Non-Infringement of U.S. Patent No. 8,432,876)

178. u-blox re-alleges and incorporates by reference the allegations set forth in the foregoing paragraphs.

179. U.S. Patent No. 8,432,876 ("'876 Patent"), attached hereto as Exhibit 34, entitled "Techniques For Setting Up Traffic Channels In A Communications System," indicates that it issued on April 30, 2013. U.S. Patent and Trademark Office ("USPTO") records indicate that InterDigital is the assignee of the '876 Patent.

180. There is a dispute between the parties concerning whether certain u-blox products infringe one or more claims of the '876 Patent. During the course of licensing negotiations, [redacted]

181. u-blox alleges that the '876 Patent is not essential to the LTE standard and, therefore, u-blox's products, which implement the LTE standard, do not practice one or more claims of the '876 Patent. By way of non-limiting example, the LTE standard does not require at least the claimed technique of monitoring control information that includes the claim limitations of "wherein the control information includes a forward traffic channel allocation information and a reverse traffic channel allocation information," "wherein the control information in each first time interval is received in less than or equal to a slot," and "wherein the second time interval is defined by a plurality of slots."

182. No claim of the '876 Patent has been or is infringed, either directly, contributorily, or by inducement, literally or under the doctrine of equivalents, by u-blox or the purchasers of u-blox's products through the manufacture, use, importation, sale, and/or offer for sale of u-blox's products, at least because, by

way of non-limiting example, u-blox's products do not satisfy the following claim limitation "wherein the control information includes a forward traffic channel allocation information and a reverse traffic channel allocation information," "wherein the control information in each first time interval is received in less than or equal to a slot," and "wherein the second time interval is defined by a plurality of slots."

183. An actual and justiciable controversy exists between u-blox and InterDigital with respect to whether u-blox's products infringe one or more claims of the '876 Patent.

184. Pursuant to the Federal Declaratory Judgment Act, 28 U.S.C. § 2201 *et seq.*, u-blox requests the declaration of the Court that u-blox's products do not infringe one or more claims of the '876 Patent.

SIXTH CAUSE OF ACTION
(Declaratory Judgment of Non-Infringement of U.S. Patent No. 8,953,548)

185. u-blox re-alleges and incorporates by reference the allegations set forth in the foregoing paragraphs.

186. U.S. Patent No. 8,953,548 ("'548 Patent"), attached hereto as Exhibit 35, entitled "Method And Apparatus For Monitoring And Processing Component Carriers," indicates that it issued on April 8, 2003. USPTO records indicate that InterDigital is the assignee of the '548 Patent.

187. There is a dispute between the parties concerning whether certain u-blox products infringe one or more claims of the '548 Patent. During the course of licensing negotiations, [redacted]

188. u-blox alleges that the '548 Patent is not essential to the LTE standard and, therefore, u-blox's products which implement the LTE standard do not practice one or more claims of the '548 Patent. By way of non-limiting example, the LTE standard does not require at least the claimed method steps of "receiving a medium access control (MAC) control element (CE), wherein the MAC CE indicates that the at least one additional component carrier is to be activated, and the MAC CE comprises a bit combination field that is indicative of which component carriers are to be activated" and "activating the at least one additional component carrier based on receiving the MAC CE."

189. No claim of the '548 patent has been or is infringed, either directly, contributorily, or by inducement, literally or under the doctrine of equivalents, by u-blox or the purchasers of u-blox's products through the manufacture, use, importation, sale, and/or offer for sale of u-blox's products, at least because, by way of non-limiting example, u-blox's products do not satisfy the claimed method steps of "receiving a medium access control (MAC) control element (CE), wherein the MAC CE indicates that the at least one additional component carrier is to be activated, and the MAC CE comprises a bit combination field that is indicative of which component carriers are to be activated" and "activating the at least one additional component carrier based on receiving the MAC CE."

190. An actual and justiciable controversy exists between u-blox and InterDigital with respect to whether u-blox's products infringe one or more claims of the '548 Patent.

191. Pursuant to the Federal Declaratory Judgment Act, 28 U.S.C. § 2201 *et seq.*, u-blox requests the declaration of the Court that u-blox's products do not infringe one or more claims of the '548 Patent.

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PRAYER FOR RELIEF

WHEREFORE, u-blox prays for relief as follows:

A. Adjudge and decree that InterDigital is liable for breach of its contractual commitments to ETSI;

B. Adjudge and decree that InterDigital is liable for promissory estoppel;

C. Adjudge and decree that InterDigital has not offered u-blox a new license to its 2G, 3G, and/or 4G SEPs under reasonable rates, with reasonable terms and conditions, and that are demonstrably free of any unfair discrimination;

D. Adjudge, set, and decree the FRAND terms and conditions that u-blox is entitled to for a license to InterDigital's 2G, 3G, and 4G SEPs;

E. Enjoin InterDigital from demanding excessive royalties from u-blox that are not consistent with InterDigital's FRAND obligations;

F. Adjudge and decree that u-blox is entitled to a license from InterDigital for any and all patents that InterDigital deems "essential" and/or has declared "essential" to the 2G, 3G, and 4G standards under reasonable rates, with reasonable terms and conditions that are demonstrably free of any unfair discrimination;

G. Enjoin InterDigital from enforcing its 2G, 3G, and/or 4G SEPs against u-blox or any of its downstream manufactures or customers;

H. Enjoin InterDigital from forcing u-blox to take a bundled license to InterDigital's SEPs that are not implemented by the portions of the 2G, 3G and/or 4G standards practiced by u-blox's products;

I. Adjudge and decree that InterDigital has violated Section 2 of the Sherman Act and enjoin InterDigital from further violations of that statute;

J. Adjudge and decree that u-blox does not infringe the '876 Patent;

K. Adjudge and decree that u-blox does not infringe the '548 Patent;

L. Enter judgment against InterDigital for the amount of damages that u-blox proves at trial, including, as appropriate, exemplary damages;

M. Enter a judgment awarding u-blox its expenses, costs, and attorneys' fees under applicable laws;

N. Award u-blox pre-judgment and post-judgment interest to the full extent allowed under the law, as well as its costs;

O. Enjoining InterDigital during the pendency of this action or until a FRAND rate is otherwise determined from (i) contacting u-blox's customers and downstream manufacturers and claiming that u-blox does not have a license to InterDigital's alleged SEPs or demanding royalty payments from them; or (ii) intentionally disrupting or otherwise interfering with u-blox's relationships with its customers or downstream manufacturers; and

P. For such other and further relief as the Court deems just and proper.

Dated: January 1, 2019

SHEPPARD, MULLIN, RICHTER & HAMPTON LLP

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Attorneys for Plaintiffs

DEMAND FOR JURY TRIAL

PLEASE TAKE NOTICE that u-blox hereby demands a trial by jury.

Dated: January 1, 2019

SHEPPARD, MULLIN, RICHTER & HAMPTON LLP

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