1	Plaintiffs TCL Industries Holdings Co., Ltd.; TCL Industries Holdings (H.K.)
2	Limited; TCL Communication Technology Holdings Limited; TCL
3	Communication (BVI) Limited; TCL Mobile Communication Holdings Limited;
4	Huizhou TCL Mobile Communication Co. Ltd; Huizhou TCL Communication
5	Electronic Limited; TCL Mobile Communication (HK) Company Limited; TCT
6	Mobile (US) Holdings Inc.; TCL Communication Inc.; TCT Mobile (US) Inc.; TCL
7	Communication Limited; TCT Mobile International Limited; TCT Mobile
8	Worldwide Limited; TTE Technology, Inc.; TCL Electronics Holdings Ltd.; TCL
9	King Electrical Appliances (Huizhou) Co. Ltd.; Shenzhen TCL New Technology
10	Co., Ltd.; TCL Smart Device (Vietnam) Co., Ltd.; TCL Technology Group
11	Corporation (formerly known as TCL Corp.); TCL Overseas Marketing Ltd.; TCT
12	Mobile, Inc.; TTE Corporation; TCL Holdings (BVI) Ltd.; Alpha Alliance
13	Enterprises Limited; Winning Synergy Limited; Novel State Limited; Ace Business
14	Holdings Limited; Superb Strength Global Limited; TCL Electronics Mexico, S de
15	RL de CV; Manufacturas Avanzadas SA de CV; TTE Masa 1, LCC (US); TTE
16	(North America) Holdings Limited; and TCL Overseas Holdings Limited
17	(collectively, "TCL") hereby bring this Complaint for Declaratory Judgment of
18	Non-Infringement against Defendant Bell Northern Research, LLC ("BNR"), and
19	states as follows:
20	NATURE OF THE ACTION
21	1. This is an action for a declaratory judgment of noninfringement arising
22	under the patent laws of the United States, Title 35 of the United States Code.
23	2. TCL is a manufacturer and seller of consumer electronics, including
24	mobile phones such as the Alcatel IDOL 5S mobile phone and televisions such as
25	the TCL 43S425 television ("TCL Products").
26	3. BNR is a patent-holding entity, and through its prior actions and
27	statements has created a substantial controversy of sufficient immediacy and reality

to warrant the issuance of a declaratory judgment of non-infringement as to whether

- 4. BNR has demonstrated a pattern of suing manufacturers and sellers of consumer electronics, including mobile phones.
- 5. On August 1, 2018, BNR filed a complaint for patent infringement against ZTE, a true and correct copy of which is attached hereto as Exhibit 12. BNR accused ZTE of infringing the '889 Patent, the '554 Patent, the '862 Patent, the '156 Patent, and others with ZTE's consumer electronics products, including mobile phones.
- 6. On August 1, 2018, BNR filed a complaint for patent infringement against Kyocera, a true and correct copy of which is attached hereto as Exhibit 13. BNR accused Kyocera of infringing the '889 Patent, the '554 Patent, the '862 Patent, the '156 Patent, and others with Kyocera's consumer electronics products, including mobile phones.
- 7. On August 1, 2018, BNR filed a complaint for patent infringement against Huawei, a true and correct copy of which is attached hereto as Exhibit 14. BNR accused Huawei of infringing the '889 Patent, the '554 Patent, the '862 Patent, the '156 Patent, and others with Huawei's consumer electronics products, including mobile phones.
- 8. On December 20, 2018, BNR filed a complaint for patent infringement against Coolpad, a true and correct copy of which is attached hereto as Exhibit 15. BNR accused Coolpad of infringing the '889 Patent, the '554 Patent, the '862 Patent, the '156 Patent, and others with Coolpad's consumer electronics products, including mobile phones.

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- 9. On December 20, 2018, BNR filed a complaint for patent infringement against LG, a true and correct copy of which is attached hereto as Exhibit 16. BNR accused LG of infringing the '862 Patent, the '450 Patent, the '156 Patent, the '435 Patent, and others with LG's consumer electronics products, including mobile phones.
- 10. On August 22, 2019, BNR filed a complaint for patent infringement against Samsung, a true and correct copy of which is attached hereto as Exhibit 17. BNR accused Samsung of infringing the '889 Patent, the '554 Patent, the '862 Patent, the '450 Patent, the '435 Patent, and others with Samsung's consumer electronics products, including mobile phones.
- On April 24, 2020, BNR filed a complaint for patent infringement against Samsung, a true and correct copy of which is attached hereto as Exhibit 18. BNR accused Samsung of infringing the '129 Patent and the '930 Patent with Samsung's consumer electronics products, including mobile phones.
- 12. On August 11, 2021, BNR filed a complaint for patent infringement against Apple, a true and correct copy of which is attached hereto as Exhibit 19. BNR accused Apple of infringing the '554 Patent, the '889 Patent, the '629 Patent, the '862 Patent, the '450 Patent, the '129 Patent, the '930 Patent, the '435 Patent, the '072 Patent, and others with Apple's consumer electronics products, including mobile phones.
- 13. On August 13, 2021, BNR filed a complaint for patent infringement against Lenovo, a true and correct copy of which is attached hereto as Exhibit 20. BNR accused Lenovo of infringing the '554 Patent, the '889 Patent, the '629 Patent, the '862 Patent, the '450 Patent, the '156 Patent, the '941 Patent, the '129 Patent, the '930 Patent, and the '435 Patent with Lenovo's consumer electronics products, including mobile phones.
- 14. On September 1, 2021, BNR filed a complaint for patent infringement against Dell, a true and correct copy of which is attached hereto as Exhibit 21.

BNR accused Dell of infringing the '629 Patent, the '862 Patent, the '129 Patent, the '930 Patent, and others with Dell's consumer electronics products, including laptop computers.

- 15. On September 10, 2021, BNR filed a complaint for patent infringement against CommScope, a true and correct copy of which is attached hereto as Exhibit 22. BNR accused CommScope of infringing the '629 Patent, the '862 Patent, the '129 Patent, the '930 Patent, and others with CommScope's consumer electronics products, including wireless access points.
- 16. On September 10, 2021, BNR filed a complaint for patent infringement against HP, a true and correct copy of which is attached hereto as Exhibit 23. BNR accused HP of infringing the '629 Patent, the '862 Patent, the '129 Patent, the '930 Patent, and others with HP's consumer electronics products, including laptop computers.
- 17. BNR has claimed through communication of letters and email that TCL infringes the Patents-in-Suit and that TCL requires a license to the Patents-in-Suit.
- 18. BNR has contacted TCL on no less than six occasions over the past four years alleging that TCL infringes the Patents-in-Suit and alleging that TCL is required to take a license to the Patents-in-Suit.
- 19. On December 1, 2017, BNR sent a letter to TCL alleging that TCL's products, including the Dawn, PULSEMIX, One Touch, Idol 3, Cameo X, A30 Table, and KEYone, infringed the '156 Patent, the '889 Patent, the '554 Patent, the '072 Patent, the '862 Patent, and others. BNR alleged that TCL was required to take a license to those patents. A true and correct copy of this letter is attached hereto as Exhibit 24.
- 20. On January 19, 2018, BNR sent a letter to TCL alleging that TCL's products, including the, including the G5, Dawn, PULSEMIX, One Touch, Idol 3, Cameo, A30 Table, and KEYone, infringed the patents identified in the December

- 1, 2017 letter as well as one additional patent. BNR alleged that TCL was required to take a license to those patents. A true and correct copy of this letter is attached hereto as Exhibit 25.
- 21. On January 21, 2019, BNR sent a letter to TCL alleging that TCL's products, including the Blackberry KEY2, Blackberry KEYone, Alcatel IDOL 5S, and Alcatel IDOL 5, infringed the '941 Patent, the '435 Patent, the '450 Patent, and others. BNR alleged that TCL was required to take a license to those patents. A true and correct copy of this letter is attached hereto as Exhibit 26.
- 22. On May 15, 2020, BNR sent a letter to TCL alleging that TCL's products, including the Alcatel IDOL 5S, infringed the '129 Patent and the '930 Patent. BNR alleged that TCL was required to take a license to those patents. A true and correct copy of this letter is attached hereto as Exhibit 27.
- 23. On December 15, 2020, BNR sent an email to TCL alleging that TCL's products infringed the patents identified in the earlier communications. BNR alleged that TCL was required to take a license to those patents. A true and correct copy of this letter is attached hereto as Exhibit 28.
- 24. On September 7, 2021, BNR sent an email to TCL alleging that TCL's products, including the 20 Pro 5G, 20S, 20SE, 10 Pro, 10 5G UW, 10L, Signa, Linkhub Mesh WiFi AC1200, TV 43S525, TV 43S425, TV 75Q825, and TV 65R625, infringed the '629 Patent. BNR alleged that TCL was required to take a license to those patents. A true and correct copy of this letter is attached hereto as Exhibit 29.

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and BNR, TCL does not provide any further description of the meeting or term

sheet. With permission from BNR, TCL will submit such materials.

Floor, Building 22E, Phase Three, Hong Kong Science Park, Pak Shek Kok, New Territories, Hong Kong.

- 31. TCL Communication Technology Holdings Limited is a corporation organized and existing under the laws of the Cayman Islands with its principal place of business at 5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Sha Tin, New Territories, Hong Kong.
- 32. TCL Communication (BVI) Limited is a corporation organized and existing under the laws of the British Virgin Islands with its principal place of business at 5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Sha Tin, New Territories, Hong Kong.
- 33. TCL Mobile Communication Holdings Limited is a corporation organized and existing under the laws of the British Virgin Islands with its principal place of business at 5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Sha Tin, New Territories, Hong Kong.
- 34. Huizhou TCL Mobile Communication Co. Ltd is a corporation organized and existing under the laws of the People's Republic of China with its principal place of business at No. 86, West Hechang Road, Zhongkai High-tech Zone, Huizhou, Guangdong Province, The People's Republic of China.
- 35. Huizhou TCL Communication Electronic Limited is a corporation organized and existing under the laws of the People's Republic of China with its principal place of business at No. 3, Donghe South Road, Dongxing District, Dongjiang High-tech Zone, Huizhou city, Guangdong, P.R. China 516006.
- 36. TCL Mobile Communication (HK) Company Limited is a corporation organized and existing under the laws of Hong Kong with its principal place of business at 5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Sha Tin, New Territories, Hong Kong.

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- 37. TCT Mobile (US) Holdings Inc. is a corporation organized and existing under the laws of Delaware with its principal place of business at 25 Edelman, Suite 200, Irvine, California 92618.
- 38. TCL Communication Inc. is a corporation organized and existing under the laws of Delaware with its principal place of business at 25 Edelman, Suite 200, Irvine, California 92618.
- 39. TCT Mobile (US) Inc. is a corporation organized and existing under the laws of Delaware with its principal place of business at 25 Edelman, Suite 200, Irvine, California 92618.
- TCL Communication Limited is a corporation organized and existing 40. under the laws of Hong Kong with its principal place of business at 5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Sha Tin, New Territories, Hong Kong.
- 41. TCT Mobile International Limited is a corporation organized and existing under the laws of Hong Kong with its principal place of business at 5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Sha Tin, New Territories, Hong Kong.
- TCT Mobile Worldwide Limited is a corporation organized and 42. existing under the laws of Hong Kong with its principal place of business at 5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Sha Tin, New Territories, Hong Kong.
- 43. TTE Technology, Inc. is a corporation organized and existing under the laws of Delaware with its principal place of business at 555 South Promenade Avenue, Suite 103, Corona, CA 92879.
- TCL Electronics Holdings Ltd. (f/k/a TCL Multimedia Technology Holdings, Ltd.) is a corporation organized and existing under the laws of Cayman Island with its principal place of business at 7/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Sha Tin, New Territories, Hong Kong.

- 45. TCL King Electrical Appliances (Huizhou) Co. Ltd. is a corporation organized and existing under the laws of the People's Republic of China with its principal place of business at No. 78, Huifeng 4 Road, Zhongkai Development Zone Huizhou, 516006 P.R. China.
- 46. Shenzhen TCL New Technology Co., Ltd. is a corporation organized and existing under the laws of the People's Republic of China with its principal place of business at 9 Floor, TCL Electronics Holdings Limited Building, TCL International E City, No. 1001 Zhongshan Park Road, Nanshan.
- 47. TCL Smart Device (Vietnam) Co., Ltd. is a corporation organized and existing under the laws of Vietnam with its principal place of business at No. 26 VSIP II-A, Street 32, Vietnam Singapore Industrial Park II-A, Tan Binh Commune, Bac Tan Uyen District, Binh Duong Province, 75000 Vietnam.
- 48. TCL Technology Group Corporation (formerly known as TCL Corp.) is a corporation organized and existing under the laws of the People's Republic of China with its principal place of business at TCL Technology Building, No.17, Huifeng 3rd Road, Zhongkai High-tech Zone, Huizhou City, Guangdong, P.R. China 516006.
- 49. TCL Overseas Marketing Ltd. is a corporation organized and existing under the laws of the British Virgin Islands with its principal place of business at 5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Sha Tin, New Territories, Hong Kong.
- 50. TCT Mobile, Inc. is a corporation organized and existing under the laws of Delaware with its principal place of business at 25 Edelman, Suite 200, Irvine, California 92618.
- 51. TTE Corporation is a corporation organized and existing under the law of the British Virgin Islands with its principal place of business at 7/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, N.T., Shatin Hong Kong.

- 52. TCL Holdings (BVI) Ltd. is a corporation organized and existing under the law of the British Virgin Islands with its principal place of business at 5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Sha Tin, New Territories, Hong Kong.
- 53. Alpha Alliance Enterprises Limited is a corporation organized and existing under the law of the British Virgin Islands with its principal place of business at 5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Sha Tin, New Territories, Hong Kong.
- 54. Winning Synergy Limited is a corporation organized and existing under the law of the British Virgin Islands with its principal place of business at 5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Sha Tin, New Territories, Hong Kong.
- 55. Novel State Limited is a corporation organized and existing under the law of the British Virgin Islands with its principal place of business at 5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Sha Tin, New Territories, Hong Kong.
- 56. Ace Business Holdings Limited is a corporation organized and existing under the law of the British Virgin Islands with its principal place of business at 5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Sha Tin, New Territories, Hong Kong.
- 57. Superb Strength Global Limited is a corporation organized and existing under the law of the British Virgin Islands with its principal place of business at 5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Sha Tin, New Territories, Hong Kong.
- 58. TCL Electronics Mexico, S de RL de CV is a corporation organized and existing under the law of Mexico.
- 59. Manufacturas Avanzadas SA de CV is a corporation organized and existing under the law of Mexico.

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- 60. TTE Masa 1, LCC (US) is a corporation organized and existing under the law of the United States.
- TTE (North America) Holdings Limited is a corporation organized and existing under the law of the British Virgin Islands with its principal place of business at 5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Sha Tin, New Territories, Hong Kong.
- 62. TCL Overseas Holdings Limited is a corporation organized and existing under the law of the British Virgin Islands with its principal place of business at 5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Sha Tin, New Territories, Hong Kong.
- 63. On information and belief, BNR is a limited liability company organized under the laws of Delaware with a place of business at 401 North Michigan Avenue, Chicago, Illinois 60611. See Exhibit 23, ¶ 2.

### **JURISDICTION AND VENUE**

- 64. The Court has subject matter jurisdiction over this action pursuant the Federal Declaratory Judgment Act, 28 U.S.C. §§ 2201 and 2202, and pursuant to 28 U.S.C. §§ 1331 and 1338(a) because this action involves claims arising under the patent laws of the United States, 35 U.S.C. § 1, et seq.
- 65. Venue is proper in this District pursuant to at least 28 U.S.C. § 1391(b), because a substantial part of the events at issue in this action is whether TCL commits acts of infringement in this and other districts in the United States, and because BNR is subject to the Court's personal jurisdiction and thus resides in this District, pursuant to § 1391(c).
- This Court has personal jurisdiction over BNR at least because BNR has purposefully availed itself of the benefits of California law and has more than sufficient minimum contacts with California, including within this District, such that this declaratory judgment action meets the requirements of California's longarm statute.

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- 67. For example, in its December 15, 2020 email communication, BNR indicated that it was emailing an employee of TCT Mobile, Inc. because the previous communications to other TCL entities had not received a response. See Exhibit 28. TCT Mobile, Inc. has its principal place of business in Irvine, California. As such, BNR purposefully directed its licensing activities to a corporation resident in California and to the state of California.
- 68. As further example, BNR directed its September 7, 2021 email communication to Mr. Wu, an employee of TCT Mobile, Inc., who identified himself as answering on behalf of the TCT employee contacted in the December 15, 2020 letter. See Exhibit 29. In this addition way, BNR purposefully directed its licensing activities to a corporation resident in California and to the state of California.
- 69. As further example, BNR has initiated five lawsuits in this District to assert its patents rights. See Exhibit 12, Exhibit 13, Exhibit 14, Exhibit 15, Exhibit 16. Those prior lawsuits involved not just BNR's assertion of its patent rights generally, but rather BNR's assertion of the Patents-in-Suit in particular, including the '889 Patent, the '554 Patent, the '862 Patent, the '156 Patent, the '450 Patent, and the '435 Patent. Thus, BNR has purposely availed itself of the courts in this state, and of this Court in particular.
- 70. The Court's exercise of jurisdiction over BNR will not offend traditional notions of fair play and substantial justice.
- 71. An actual controversy exists between TCL and BNR because, as described in the Nature of the Action above, BNR through its prior actions and statements has created a substantial controversy as to whether the TCL Products infringe the Patents-in-Suit that is of sufficient immediacy and reality to warrant the issuance of a declaratory judgment as to the controversy.

THE PATENTS-IN-SUIT

- 72. On July 6, 2021, the U.S. Patent and Trademark Office issued the '629 Patent, titled "Backward-compatible long training sequences for wireless communication networks" to assignee BNR. A true and correct copy of the '629 Patent is attached to this Complaint as Exhibit 1. Upon further information and belief, BNR purports to hold by assignment and/or by license all substantive rights to assert the '629 Patent.

  73. On April 9, 2013, the U.S. Patent and Trademark Office issued the '862 Patent, titled "Efficient feedback of channel information in a closed loop
  - 73. On April 9, 2013, the U.S. Patent and Trademark Office issued the '862 Patent, titled "Efficient feedback of channel information in a closed loop beamforming wireless communication system" to assignee Broadcom Corporation. On information and belief, the '862 Patent was later assigned to BNR. A true and correct copy of the '862 Patent is attached to this Complaint as Exhibit 2. Upon further information and belief, BNR purports to hold by assignment and/or by license all substantive rights to assert the '862 Patent.
  - 74. On June 7, 2011, the U.S. Patent and Trademark Office issued the '450 Patent, titled "Method and system for frame formats for MIMO channel measurement exchange" to assignee Broadcom Corporation. On information and belief, the '450 Patent was later assigned to BNR. A true and correct copy of the '450 Patent is attached to this Complaint as Exhibit 3. Upon further information and belief, BNR purports to hold by assignment and/or by license all substantive rights to assert the '450 Patent.
  - 75. On May 2, 2006, the U.S. Patent and Trademark Office issued the '435 Patent, titled "Proximity regulation system for use with a portable cell phone and a method of operation thereof" to assignee Agere Systems Inc. On information and belief, the '435 Patent was later assigned to BNR. A true and correct copy of the '435 Patent is attached to this Complaint as Exhibit 4. Upon further information and belief, BNR purports to hold by assignment and/or by license all substantive rights to assert the '435 Patent.

- 76. On September 6, 2005, the U.S. Patent and Trademark Office issued the '156 Patent, titled "Automatic handoff for wireless piconet multimode cell phone" to assignee Agere Systems Inc. On information and belief, the '156 Patent was later assigned to BNR. A true and correct copy of the '156 Patent is attached to this Complaint as Exhibit 5. Upon further information and belief, BNR purports to hold by assignment and/or by license all substantive rights to assert the '156 Patent.
- 77. On March 12, 2013, the U.S. Patent and Trademark Office issued the '072 Patent, titled "Method and apparatus for channel traffic congestion avoidance in a mobile communication system" to assignee Renesas Mobile Corporation. On information and belief, the '072 Patent was later assigned to BNR. A true and correct copy of the '072 Patent is attached to this Complaint as Exhibit 6. Upon further information and belief, BNR purports to hold by assignment and/or by license all substantive rights to assert the '072 Patent.
- 78. On January 15, 2008, the U.S. Patent and Trademark Office issued the '889 Patent, titled "System and method for conserving battery power in a mobile station" to assignee Agere Systems Inc. On information and belief, the '889 Patent was later assigned to BNR. A true and correct copy of the '889 Patent is attached to this Complaint as Exhibit 7. Upon further information and belief, BNR purports to hold by assignment and/or by license all substantive rights to assert the '889 Patent.
- 79. On June 19, 2012, the U.S. Patent and Trademark Office issued the '554 Patent, titled "System and method for conserving battery power in a mobile station" to assignee Agere Systems Inc. On information and belief, the '554 Patent was later assigned to BNR. A true and correct copy of the '554 Patent is attached to this Complaint as Exhibit 8. Upon further information and belief, BNR purports to hold by assignment and/or by license all substantive rights to assert the '554 Patent.

- 80. On February 24, 2004, the U.S. Patent and Trademark Office issued the '941 Patent, titled "Theft alarm in mobile device" to assignee Agere Systems Inc. On information and belief, the '941 Patent was later assigned to BNR. A true and correct copy of the '941 Patent is attached to this Complaint as Exhibit 9. Upon further information and belief, BNR purports to hold by assignment and/or by license all substantive rights to assert the '941 Patent.
- 81. On February 22, 2005, the U.S. Patent and Trademark Office issued the '930 Patent, titled "Multi chip module" to assignee LSI Logic Corporation. On information and belief, the '930 Patent was later assigned to BNR. A true and correct copy of the '930 Patent is attached to this Complaint as Exhibit 10. Upon further information and belief, BNR purports to hold by assignment and/or by license all substantive rights to assert the '930 Patent.
- 82. On November 8, 2015, the U.S. Patent and Trademark Office issued the '129 Patent, titled "Multi-chip package having a contiguous heat spreader assembly" to assignee LSI Logic Corporation. On information and belief, the '129 Patent was later assigned to BNR. A true and correct copy of the '129 Patent is attached to this Complaint as Exhibit 11. Upon further information and belief, BNR purports to hold by assignment and/or by license all substantive rights to assert the '129 Patent.

## COUNT ONE

## Non-Infringement of U.S. Patent No. RE48,629

- 83. TCL incorporates by reference the preceding allegations of this Complaint.
- 84. TCL has not infringed and does not infringe at least claim 1 of the '629 Patent, either directly or indirectly, literally or under the doctrine of equivalents, including through its making, use, sale or offer for sale in, or importation into the United States of the TCL products.

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- 85. The TCL Products also do not perform substantially the same function, in substantially the way, to obtain substantially the same result as claim 1 of the '629 Patent.
- 86. By way of example, claim 1 of the '629 Patent is directed to a wireless communication device that transmits an optimal extended length long training sequence. See Exhibit 1, Claim 1, at 5:53–6:22. Claim 1 recites numerous limitations, including: a wireless communication device that includes "a signal generator" that "generates an extended long training sequence," and an Inverse Fourier transformer that "provides an optimal extended long training sequence with a minimal peak-to-average ratio." Id. The TCL Products do not infringe claim 1, at least because they do not practice these claim limitations. For example, the TCL Products do not process the extended long training sequence to provide an optimal extended long training sequence with a minimal peak-to-average ratio, or implement "a signal generator" or "an Inverse Fourier Transformer" as recited in claim 1. The TCL Products also are not required to determine an "optimal" extended long training sequence by determining that this "optimal" extended long training sequence has a "minimal" peak-to-average ratio.
- Accordingly, at least for the above reasons, TCL does not directly infringe at least claims 1 of the '629 Patent, either literally or under the doctrine of equivalents, because the TCL Products do not practice all elements of that claim.
- 88. TCL also does not indirectly infringe the '629 Patent for at least the reasons stated above and because there is no direct infringement of the '629 Patent, either literally or under the doctrine of equivalents.
- 89. As set forth above, an actual controversy exists between TCL and BNR with respect to alleged infringement of the '629 Patent, and this controversy is likely to continue. Accordingly, TCL desires a judicial determination and declaration of the respective rights and duties of the parties with respect to the '629 Patent.

90. A judicial declaration is necessary and appropriate so that TCL may ascertain its rights regarding the claims of the '629 Patent.

#### **COUNT TWO**

### Non-Infringement of U.S. Patent No. 8,416,862

- 91. TCL incorporates by reference the preceding allegations of this Complaint.
- 92. TCL has not infringed and does not infringe at least claim 1 of the '862 Patent, either directly or indirectly, literally or under the doctrine of equivalents, including through its making, use, sale or offer for sale in, or importation into the United States of the TCL products.
- 93. The TCL Products also do not perform substantially the same function, in substantially the way, to obtain substantially the same result as claim 1 of the '862 Patent.
- 94. By way of example, claim 1 of the '862 Patent is directed to method of feeding back transmitter beamforming information by a wireless communication device. *See* Exhibit 2, claim 1, at 16:8–27. Claim 1 recites numerous limitations, including: transmission of "transmitter beamforming information" that is produced from "an estimated transmitter beamforming unitary matrix (V) . . . and a receiver beamforming unitary matrix (U)." *Id.* The TCL Products do not infringe claim 1, at least because they do not practice these claim limitations. For example, the TCL Products do not determine "an estimated transmitter beamforming unitary matrix (V)" or "a receiver beamforming unitary matrix (U)" as required by claim 1.
- 95. Accordingly, at least for the above reasons, TCL does not directly infringe at least claims 1 of the '862 Patent, either literally or under the doctrine of equivalents, because the TCL Products do not practice all elements of that claim.
- 96. TCL also does not indirectly infringe the '862 Patent for at least the reasons stated above and because there is no direct infringement of the '862 Patent, either literally or under the doctrine of equivalents.

- 97. As set forth above, an actual controversy exists between TCL and BNR with respect to alleged infringement of the '862 Patent, and this controversy is likely to continue. Accordingly, TCL desires a judicial determination and declaration of the respective rights and duties of the parties with respect to the '862 Patent.
- 98. A judicial declaration is necessary and appropriate so that TCL may ascertain its rights regarding the claims of the '862 Patent.

#### **COUNT THREE**

### Non-Infringement of U.S. Patent No. 7,957,450

- 99. TCL incorporates by reference the preceding allegations of this Complaint.
- 100. TCL has not infringed and does not infringe at least claim 1 of the '450 Patent, either directly or indirectly, literally or under the doctrine of equivalents, including through its making, use, sale or offer for sale in, or importation into the United States of the TCL products.
- 101. The TCL Products also do not perform substantially the same function, in substantially the way, to obtain substantially the same result as claim 1 of the '450 Patent.
- 102. By way of example, claim 1 of the '450 Patent is directed to method of communication in which coefficients of channel estimate matrices are transmitted back as feedback information. *See* Exhibit 3, claim 1, at 19:13–22. Claim 1 recites numerous limitations, including: "computing a plurality of channel estimate matrices" wherein the matrices comprise "coefficients derived from performing a singular value matrix decomposition on said received signals" and "transmitting said coefficients . . . to said base station." *Id.* The TCL Products do not infringe claim 1, at least because they do not practice these claim limitations. For example, the TCL Products do not implement "performing a singular value matrix

1	cell phone proximate to a user. See Exhibit 4, claim 1, at 8:2–15. Claim 1 recites
2	numerous limitations, including: "a proximity regulation system, including: a
3	location sensing subsystem that determines a location of said portable cell phone
4	proximate a user," "a power governing subsystem, coupled to said location sensing
5	subsystem, that determines a proximity transmit power level of said portable cell
6	phone based on said location" and "determines a transmit power level for said
7	portable cell phone based on said network adjusted transmit power level and said
8	proximity transmit power level" <i>Id.</i> The TCL Products do not infringe claim 1 at
9	least because they do not practice these limitations. For example, the TCL Product
10	do not determine a "location" of a portable cell phone proximate a user or
11	determine a "proximity transmit power level" based on a location.
12	111. Accordingly, at least for the above reasons, TCL does not directly
13	infringe at least claims 1 of the '435 Patent, either literally or under the doctrine of

112. TCL also does not indirectly infringe the '435 Patent for at least the reasons stated above and because there is no direct infringement of the '435 Patent, either literally or under the doctrine of equivalents.

equivalents, because the TCL Products do not practice all elements of that claim.

- 113. As set forth above, an actual controversy exists between TCL and BNR with respect to alleged infringement of the '435 Patent, and this controversy is likely to continue. Accordingly, TCL desires a judicial determination and declaration of the respective rights and duties of the parties with respect to the '435 Patent.
- 114. A judicial declaration is necessary and appropriate so that TCL may ascertain its rights regarding the claims of the '435 Patent.

## **COUNT FIVE**

## Non-Infringement of U.S. Patent No. 6,941,156

115. TCL incorporates by reference the preceding allegations of this Complaint.

- 116. TCL has not infringed and does not infringe at least claim 1 of the '156 Patent, either directly or indirectly, literally or under the doctrine of equivalents, including through its making, use, sale or offer for sale in, or importation into the United States of the TCL products.
- 117. The TCL Products also do not perform substantially the same function, in substantially the way, to obtain substantially the same result as claim 1 of the '156 Patent.
- 118. By way of example, claim 1 of the '156 Patent is directed to performing an automatic handoff for a multimode cell phone. *See* Exhibit 5, claim 1, at 8:15–31. Claim 1 recites numerous limitations, including: "multimode cell phone" that includes "a module" to establish "simultaneous communication paths" "using both said cell phone functionality and said RF communication functionality." *Id.* The '156 Patent further requires "an automatic switch over module" to "switch a communication path . . . with another communication path later established." *Id.* The TCL Products do not infringe claim 1, at least because they do not practice these claim limitations. For example, the TCL Products do not establish the claimed "simultaneous communication path" "using both said cell phone functionality and said RF communication functionality." Furthermore, the TCL Products also do not implement "the module" and "the automatic switch over module" recited in claim 1.
- 119. Accordingly, at least for the above reasons, TCL does not directly infringe at least claims 1 of the '156 Patent, either literally or under the doctrine of equivalents, because the TCL Products do not practice all elements of that claim.
- 120. TCL also does not indirectly infringe the '156 Patent for at least the reasons stated above and because there is no direct infringement of the '156 Patent, either literally or under the doctrine of equivalents.
- 121. As set forth above, an actual controversy exists between TCL and BNR with respect to alleged infringement of the '156 Patent, and this controversy is

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likely to continue. Accordingly, TCL desires a judicial determination and declaration of the respective rights and duties of the parties with respect to the '156 Patent.

122. A judicial declaration is necessary and appropriate so that TCL may ascertain its rights regarding the claims of the '156 Patent.

#### **COUNT SIX**

### Non-Infringement of U.S. Patent No. 8,396,072

- 123. TCL incorporates by reference the preceding allegations of this Complaint.
- 124. TCL has not infringed and does not infringe at least claim 1 of the '072 Patent, either directly or indirectly, literally or under the doctrine of equivalents, including through its making, use, sale or offer for sale in, or importation into the United States of the TCL products.
- 125. The TCL Products also do not perform substantially the same function, in substantially the way, to obtain substantially the same result as claim 1 of the '072 Patent.
- apparatus for use in controlling congestion in a cell in a communication network. See Exhibit 6, claim 1, at 9:8–22. Claim 1 recites numerous limitations, including: "apparatus for use in controlling congestion in a cell of a communication network" which includes "at least one controller and a memory storing a computer program." Id. Further, claim 1 recites that the at least one controller and the memory are configured to "determine whether there is congestion based on whether said series of blocks comprise a flag." Id. Additionally, Claim 1 recites that the at least one controller and the memory are configured to "initiate an access procedure . . . in the event that . . . there is no congestion." Id. The TCL Products do not infringe claim 1, at least because they do not practice these claim limitations. For example, the TCL Products do not implement the claimed "at least one controller and the

memory" as recited in claim 1. Furthermore, the TCL Products do not "initiate an access procedure" "in the event that the determination is that there is no congestion" as required by claim 1.

- 127. Accordingly, at least for the above reasons, TCL does not directly infringe at least claims 1 of the '072 Patent, either literally or under the doctrine of equivalents, because the TCL Products do not practice all elements of that claim.
- 128. TCL also does not indirectly infringe the '072 Patent for at least the reasons stated above and because there is no direct infringement of the '072 Patent, either literally or under the doctrine of equivalents.
- 129. As set forth above, an actual controversy exists between TCL and BNR with respect to alleged infringement of the '072 Patent, and this controversy is likely to continue. Accordingly, TCL desires a judicial determination and declaration of the respective rights and duties of the parties with respect to the '072 Patent.
- 130. A judicial declaration is necessary and appropriate so that TCL may ascertain its rights regarding the claims of the '072 Patent.

## **COUNT SEVEN**

## Non-Infringement of U.S. Patent No. 7,319,889

- 131. TCL incorporates by reference the preceding allegations of this Complaint.
- 132. TCL has not infringed and does not infringe at least claim 1 of the '889 Patent, either directly or indirectly, literally or under the doctrine of equivalents, including through its making, use, sale or offer for sale in, or importation into the United States of the TCL products.
- 133. The TCL Products also do not perform substantially the same function, in substantially the way, to obtain substantially the same result as claim 1 of the '889 Patent.

134. By way of example, claim 1 of the '889 Patent is directed to a mobile station. See Exhibit 7, claim 1, at 4:2–25. Claim 1 recites numerous limitations, including: "a proximity sensor adapted to generate a signal indicative of proximity of an external object," and "a microprocessor adapted to: (a) determine whether a telephone call is active; (b) receive the signal from the proximity sensor; and (c) reduce power to the display if (i) the microprocessor determines that a telephone call is active and (ii) the signal indicates the proximity of the external object wherein." Id. Further, claim 1 recites "the microprocessor reduces power to the display while the signal indicates the proximity of the external object only if the microprocessor determines that the wireless telephone call is active." *Id.* Further, claim 1 recites: "the proximity sensor begins detecting whether an external object is proximate substantially concurrently with the mobile station initiating an outgoing wireless telephone call or receiving an incoming wireless telephone call." The TCL Products do not infringe claim 1, at least because they do not practice these claim limitations. For example, the TCL Products do not include a microprocessor adapted to "reduce power to the display" if "the signal indicates the proximity of the external object" as required by claim 1. As further example, the TCL Products do not begin detecting whether an external object is proximate "substantially concurrently with the mobile station initiating an outgoing wireless" telephone call or receiving an incoming wireless telephone call" as required by claim 1.

135. Accordingly, at least for the above reasons, TCL does not directly infringe at least claims 1 of the '889 Patent, either literally or under the doctrine of equivalents, because the TCL Products do not practice all elements of that claim.

136. TCL also does not indirectly infringe the '889 Patent for at least the reasons stated above and because there is no direct infringement of the '889 Patent, either literally or under the doctrine of equivalents.

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- 137. As set forth above, an actual controversy exists between TCL and BNR with respect to alleged infringement of the '889 Patent, and this controversy is likely to continue. Accordingly, TCL desires a judicial determination and declaration of the respective rights and duties of the parties with respect to the '889 Patent.
- 138. A judicial declaration is necessary and appropriate so that TCL may ascertain its rights regarding the claims of the '889 Patent.

#### **COUNT EIGHT**

#### Non-Infringement of U.S. Patent No. 8,204,554

- 139. TCL incorporates by reference the preceding allegations of this Complaint.
- 140. TCL has not infringed and does not infringe at least claim 1 of the '554 Patent, either directly or indirectly, literally or under the doctrine of equivalents, including through its making, use, sale or offer for sale in, or importation into the United States of the TCL products.
- 141. The TCL Products also do not perform substantially the same function, in substantially the way, to obtain substantially the same result as claim 1 of the '554 Patent.
- 142. By way of example, claim 1 of the '554 Patent is directed to a mobile station. See Exhibit 8, claim 1, at 4:2–22. Claim 1 recites numerous limitations, including: "a proximity sensor adapted to generate a signal indicative of the existence of a first condition, the first condition being that an external object is proximate," and "a microprocessor adapted to: (a) determine, without using the proximity sensor, the existence of a second condition independent and different from the first condition, the second condition being that a user of the mobile station has performed an action to initiate an outgoing call or to answer an incoming call; (b) in response to a determination in step (a) that the second condition exists, activate the proximity sensor; (c) receive the signal from the activated proximity

1	sensor; and (d) reduce power to the display if the signal from the activated					
2	proximity sensor indicates that the first condition exists." <i>Id.</i> The TCL Products do					
3	not infringe claim 1, at least because they do not practice these claim limitations.					
4	For example, the TCL Products do not have a microprocessor that determines the					
5	existence of a second condition "independent and different from the first condition"					
6	that is that "an external object is proximate" as required by claim 1. As further					
7	example, the TCL Products do not "reduce power to the display if the signal from					
8	the activated proximity sensor indicates that the first condition exists," as required					
9	by claim 1.					
10	143. Accordingly, at least for the above reasons, TCL does not directly					
11	infringe at least claims 1 of the '554 Patent, either literally or under the doctrine of					
12	equivalents, because the TCL Products do not practice all elements of that claim.					
13	144. TCL also does not indirectly infringe the '554 Patent for at least the					
14	reasons stated above and because there is no direct infringement of the '554 Patent,					
15	either literally or under the doctrine of equivalents.					

- 145. As set forth above, an actual controversy exists between TCL and BNR with respect to alleged infringement of the '554 Patent, and this controversy is likely to continue. Accordingly, TCL desires a judicial determination and declaration of the respective rights and duties of the parties with respect to the '554 Patent.
- 146. A judicial declaration is necessary and appropriate so that TCL may ascertain its rights regarding the claims of the '554 Patent.

## **COUNT NINE**

# Non-Infringement of U.S. Patent No. 6,696,941

- TCL incorporates by reference the preceding allegations of this 147. Complaint.
- 148. TCL has not infringed and does not infringe at least claim 1 of the '941 Patent, either directly or indirectly, literally or under the doctrine of

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equivalents, including through its making, use, sale or offer for sale in, or importation into the United States of the TCL products.

- 149. The TCL Products also do not perform substantially the same function, in substantially the way, to obtain substantially the same result as claim 1 of the '941 Patent.
- 150. By way of example, claim 1 of the '941 Patent is directed to a method of remotely triggering an alarm within a mobile wireless device. *See* Exhibit 9, claim 1, at 6:10–22. Claim 1 recites numerous limitations, including: "triggering a sensory output from said mobile wireless device based on receipt of said alarm trigger signal from said service provider," and "preventing a current holder of said mobile wireless device from stopping said sensory output unless an alarm PIN is manually entered by said holder into said mobile wireless device." *Id.* The TCL Products do not infringe claim 1, at least because they do not practice these claim limitations. For example, to the extent the TCL Products allow for a sensory output to be triggered remotely, such sensory output is automatically disabled after a preset time period, whether or not "an alarm PIN is manually entered by said holder into said mobile wireless device."
- 151. Accordingly, at least for the above reasons, TCL does not directly infringe at least claims 1 of the '941 Patent, either literally or under the doctrine of equivalents, because the TCL Products do not practice all elements of that claim.
- 152. TCL also does not indirectly infringe the '941 Patent for at least the reasons stated above and because there is no direct infringement of the '941 Patent, either literally or under the doctrine of equivalents.
- 153. As set forth above, an actual controversy exists between TCL and BNR with respect to alleged infringement of the '941 Patent, and this controversy is likely to continue. Accordingly, TCL desires a judicial determination and declaration of the respective rights and duties of the parties with respect to the '941 Patent.

154. A judicial declaration is necessary and appropriate so that TCL may ascertain its rights regarding the claims of the '941 Patent.

#### **COUNT TEN**

### Non-Infringement of U.S. Patent No. 6,858,930

- 155. TCL incorporates by reference the preceding allegations of this Complaint.
- 156. TCL has not infringed and does not infringe at least claim 1 of the '930 Patent, either directly or indirectly, literally or under the doctrine of equivalents, including through its making, use, sale or offer for sale in, or importation into the United States of the TCL products.
- 157. The TCL Products also do not perform substantially the same function, in substantially the way, to obtain substantially the same result as claim 1 of the '930 Patent.
- 158. By way of example, claim 1 of the '930 Patent is directed to a multi chip package. *See* Exhibit 10, claim 1, at 4:39–60. Claim 1 recites numerous limitations, including: "heat spreaders each having a first side and an opposing second side, the first side of each of the heat spreaders disposed adjacent the second side of the integrated circuits, where one each of the heat spreaders is associated with one each of the integrated circuits," "a single stiffener having a first side and an opposing second side, the stiffener covering all of the integrated circuits and heat spreaders, the first side of the stiffener disposed adjacent the second side of the heat spreaders," and "discrete components electrically connected to the second side of the package substrate and coplanar with the integrated circuits." *Id.* The TCL Products do not infringe claim 1, at least because they do not practice these claim limitations. For example, the TCL Products do not have multiple heat spreaders arranged such that "the first side of each" is "disposed adjacent" to the second side of integrated circuits," and such that each heat spreader is separately "associated with" one of the integrated circuits. As further example, the TCL Products do not

spreader assembly. See Exhibit 11, claim 1, at 7:5–17. Claim 1 recites numerous

1	limitations, including: "a single, unibody heat spreader configured to extend across
2	substantially the entire first surface of at least two spaced integrated circuits
3	opposite a second surface of the integrated circuits having a bonding pad," and "a
4	second heat spreader interposed between the heat spreader and only [one] of the at
5	least two spaced integrated circuits." <i>Id.</i> The TCL Products do not infringe
6	claim 1, at least because they do not practice these claim limitations. For example,
7	the TCL Products do not include a "unibody" heat spreader extending across
8	"substantially the entire first surface of at least two spaced integrated circuits." As
9	further example, the TCL Products do not contain a second heat spreader "between'
10	the first heat spreader "and only [one] of the at least two spaced integrated circuits."
11	167. Accordingly, at least for the above reasons, TCL does not directly
12	infringe at least claims 1 of the '129 Patent, either literally or under the doctrine of
13	equivalents, because the TCL Products do not practice all elements of that claim.
14	168. TCL also does not indirectly infringe the '129 Patent for at least the
15	reasons stated above and because there is no direct infringement of the '129 Patent,

- either literally or under the doctrine of equivalents.
- 169. As set forth above, an actual controversy exists between TCL and BNR with respect to alleged infringement of the '129 Patent, and this controversy is likely to continue. Accordingly, TCL desires a judicial determination and declaration of the respective rights and duties of the parties with respect to the '129 Patent.
- 170. A judicial declaration is necessary and appropriate so that TCL may ascertain its rights regarding the claims of the '129 Patent.

## PRAYER FOR RELIEF

WHEREFORE, TCL respectfully prays for entry of judgment in its favor and against BNR as follows:

For judgment that TCL has not infringed and does not infringe at least the identified claims of the Patents-in-Suit, directly or indirectly, literally or under

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the doctrine of equivalents, by the making, using, selling, offering to sell, and/or 1 importing of the TCL Products; 2 For a preliminary and permanent injunction precluding BNR, its 3 4 officers, directors, employees, agents, and all other persons acting in concert or participation with them from suing for infringement or otherwise asserting 5 infringement of the Patents-in-Suit against TCL; 6 7 C. For costs and reasonable attorneys' fees incurred in connection with 8 this and related actions; For finding that this case is exceptional; and 9 D. E. 10 Awarding any other remedy or relief to which TCL may be entitled and which is deemed appropriate by the Court. 11 **DEMAND FOR JURY TRIAL** 12 Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure, TCL hereby 13 demands a jury trial on all issues so triable. 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28

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9		(H.K.) LIMITED; TCL COMMUNICATION TECHNOLOGY
10		HOLDINGS LIMITED; TCL COMMUNICATION (BVI) LIMITED;
11		TCL MOBILE COMMUNICATION HOLDINGS LIMITED; HUIZHOU
12		TCL MOBILE COMMUNICATION CO. LTD; HUIZHOU TCL
13		COMMUNICATION ELECTRONIC LIMITED; TCL MOBILE
14		COMMUNICATION (HK) COMPANY LIMITED; TCT MOBILE
15		(US) HOLDINGS INC.; TCL COMMUNICATION INC.; TCT
16		MOBILE (US) INC.; TCL COMMUNICATION LIMITED; TCT
17		MOBILE INTERNATIONAL LIMITED; TCT MOBILE
18		WORLDWIDE LIMITED; TTE TECHNOLOGY, INC.; TCL
19		ELECTRONICS HOLDINGS LTD.; TCL KING ELECTRICAL
20		APPLIANCES (HUIZHOU) CO. LTD.; SHENZHEN TCL NEW
21		TECHNOLOGY CO., LTD.; TCL SMART DEVICE (VIETNAM) CO.,
22		LTD.; TCL TECHNOLOGY GROUP CORPORATION; TCL OVERSEAS
23		MARKETING LTD; TCT MOBILE, INC.; TTE CORPORATION; TCL
24		HOLDINGS (BVI) LTD.; ALPHA ALLIANCE ENTERPRISES
25		LIMITED; WINNING SYNERGY LIMITED; NOVEL STATE LIMITED;
26		ACE BUSINESS HOLDINGS LIMITED; SUPERB STRENGTH
27		GLOBAL LIMITED; TCL ELECTRONICS MEXICO, S DE RL
28		DE CV; MANUFACTURÁS AVANZADAS SA DE CV; TTE

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