

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

NORTH STAR INNOVATIONS INC.,

Plaintiff,

v.

TEXAS INSTRUMENTS  
INCORPORATED,

Defendant.

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C.A. No. \_\_\_\_\_

**JURY TRIAL DEMANDED**

**PLAINTIFF’S ORIGINAL COMPLAINT**

Plaintiff NORTH STAR INNOVATIONS INC. (“Plaintiff”) files this Original Complaint against Defendant TEXAS INSTRUMENTS INCORPORATED (“Defendant” or “TI”) alleging as follows:

**I. THE PARTIES**

1. Plaintiff is a Delaware corporation with its principal place of business at Plaza Tower, 600 Anton Boulevard, Suite 1350, Costa Mesa, CA 92626. Plaintiff is a subsidiary of Wi-LAN Technologies Inc.

2. Defendant is a Delaware corporation with a principal place of business at 212500 TI Boulevard, Dallas, Texas 75243.

**II. JURISDICTION AND VENUE**

3. This is an action for infringement of United States patents. Federal question jurisdiction is conferred to this Court over such action under 28 U.S.C. §§ 1331 and 1338(a).

4. Defendant has had minimum contacts with the District of Delaware such that this venue is fair and reasonable. Defendant has committed such purposeful acts and/or transactions in this District that it reasonably should know and expect that it could be hailed into this Court as

a consequence of such activity. Defendant has transacted and, at the time of the filing of this Complaint, is transacting business within the District of Delaware.

5. Further, Defendant manufactures and/or assembles products that are and have been used, offered for sale, sold, and/or purchased in the District of Delaware. Defendant directly and/or through its distribution network, places infringing products or systems within the stream of commerce, which stream is directed at this district, with the knowledge and/or understanding that those products will be sold and/or used in the District of Delaware.

6. For these reasons, personal jurisdiction exists and venue is proper in this Court under 28 U.S.C. §§ 1391(b) and (c) and 28 U.S.C. § 1400(b).

### **III. COUNT ONE: INFRINGEMENT OF '555 PATENT**

7. On July 12, 2005, United States Patent No. 6,917,555 (“the ‘555 Patent”) was duly and legally issued for an “INTEGRATED CIRCUIT POWER MANAGEMENT FOR REDUCING LEAKAGE CURRENT IN CIRCUIT ARRAYS AND METHOD THEREFOR.” A true and correct copy of the ‘555 Patent is attached hereto as Exhibit “A” and made a part hereof. Generally speaking, the ‘555 Patent relates to integrated circuits, and more specifically relates to a novel power management design that, among other things, minimizes current leakage within an integrated circuit.

8. Defendant, without authority, consent, right, or license, and in direct infringement of the ‘555 Patent, manufactures, has manufactured, makes, has made, uses, imports, has imported, markets, sells, or offers for sale systems or products that infringe one or more claims of the ‘555 patent. By way of example only, Defendant’s TM4C123FH6PMT microcontroller product, and any other similarly structured or functioning products that include an integrated circuit having a power management design in accordance with the ‘555 Patent (“‘555 Accused

Products”), directly infringe at least Claim 15 of the ‘555 Patent. The ‘555 Accused Products infringe the ‘555 Patent because, at a minimum, they comprise an integrated circuit having a power management design with processing circuitry, a plurality of memory bit cells, circuitry that is peripheral to the memory bit cells, and control circuitry that is capable of selectively removing electrical connectivity to the power supply terminal of the peripheral circuitry, all of which are arranged in an infringing manner in accordance with Claim 15 of the ‘555 Patent. By providing the circuit in this configuration, the chip experiences, among other things, a lower amount of current leakage as described as a key advantage of the novel ‘555 Patent circuit design.

9. Further, Defendant induces infringement of the above listed claims of the ‘555 Patent by others and is therefore liable for indirect infringement. Specifically, by way of example only, Defendant provides ‘555 Accused Products to be incorporated into consumer electronic products and other electronic devices used within the United States. Defendant has had knowledge of, or was willfully blind to, the ‘555 Patent and knowledge of, or was willfully blind, to the fact that its actions would induce infringement of each of the above listed claims since at least as early as the filing of this Complaint.

10. Defendant possesses a specific intent to induce infringement of the above listed claims of the ‘555 Patent by, at a minimum, providing product briefs, specification sheets and/or instructions on how to incorporate the ‘555 Accused Products into consumer electronic products that would infringe the ‘555 Patent.

11. Alternatively, Defendant has purposefully and voluntarily placed, or caused or encouraged to be placed, infringing products into the stream of commerce with the expectation that its ‘555 Accused Products will be purchased by customers in the United States.

**IV. COUNT TWO: INFRINGEMENT OF '686 PATENT**

12. On December 10, 2002, United States Patent No. 6,492,686 (“the ‘686 Patent”) was duly and legally issued for an “INTEGRATED CIRCUIT HAVING BUFFERING CIRCUITRY WITH SLEW RATE CONTROL.” A true and correct copy of the ‘686 Patent is attached hereto as Exhibit “B” and made a part hereof. The ‘686 Patent is generally related to integrated circuits, and more specifically to buffering circuitry with slew rate control for integrated circuits.

13. Further, and by way of example only, Defendant’s WL 1283C product, and any other similarly structured or functioning products (“‘686 Accused Products”), infringe at least Claim 1 of the ‘686 Patent. The ‘686 Accused Products infringe the ‘686 Patent because, at a minimum, they comprise at least a first terminal, a second terminal, a first transistor having a first body, a first control electrode, a first source region, and a first drain region. In this configuration, the first body, the first source region, and the first drain region are shorted together and are coupled to the first terminal. The second transistor has a second body, a second control electrode, a second source region, and a second drain region. In this configuration, the second body, the second source region, and the second drain region are shorted together and are coupled to the second terminal. The second control electrode is coupled to the first control electrode, and the second transistor is of a same conductivity type as the first transistor.

14. Further, Defendant induces infringement of the above listed claims of the ‘686 patent by others and is therefore liable for indirect infringement. Specifically, by way of example only, Defendant provides ‘686 Accused Products to be incorporated into consumer electronic products and other electronic devices used within the United States. Defendant has had knowledge of, or was willfully blind to, the ‘686 Patent and knowledge of, or was willfully

blind, to the fact that its actions would induce infringement of each of the above listed claims since at least as early as the filing of this Complaint.

15. Defendant possesses a specific intent to induce infringement of the above listed claims of the '686 Patent by, at a minimum, providing product briefs, specification sheets and/or instructions on how to incorporate the '686 Accused Products into consumer electronic products or to manufacture the '686 Accused Products in a way that would infringe the '686 Patent.

16. Alternatively, Defendant has purposefully and voluntarily placed, or caused or encouraged to be placed, infringing products into the stream of commerce with the expectation that its '686 Accused Products will be purchased by customers in the United States.

**V. COUNT THREE: INFRINGEMENT OF '972 PATENT**

17. On July 25, 2000, United States Patent No. 6,093,972 ("the '972 Patent") was duly and legally issued for a "MICROELECTRONIC PACKAGE INCLUDING A POLYMER ENCAPSULATED DIE." A true and correct copy of the '972 Patent is attached hereto as Exhibit "C" and made a part hereof. The '972 Patent relates generally to microelectronic packaging and more particularly to microelectronic packaging including an integrated circuit die connected to a substrate by solder bump interconnections.

18. Further, and by way of example only, Defendant's OMAP3530DCUS product, and any other similarly structured or functioning products ("972 Accused Products"), infringe at least Claim 1 of the '972 Patent. The '972 Accused Products infringe the '972 Patent because, at a minimum, they include a microelectronic package that comprises a carrier substrate that includes a die attachment face and carrier sides about the die attachment face. The die attachment face further comprises a die attach region and a surrounding region about the die attach region. An integrated circuit die overlays the die attach region and is spaced apart by a gap. The

integrated circuit die includes an active face facing the die attach region and a back face opposite the active face. This configuration also includes a multiple of solder bump interconnections that extend across the gap and connect the integrated circuit die to the die attach region. This configuration also includes an encapsulant formed of a singular polymeric body overlying the back face and molded against the surrounding region so as to encapsulate the die therein.

19. Further, Defendant induces infringement of the above listed claims of the '972 Patent by others and is therefore liable for indirect infringement. Specifically, by way of example only, Defendant provides '972 Accused Products to be incorporated into consumer electronic products and other electronic devices used within the United States. Defendant has had knowledge of, or was willfully blind to, the '972 Patent and knowledge of, or was willfully blind, to the fact that its actions would induce infringement of each of the above listed claims since at least as early as the filing of this Complaint.

20. Defendant possesses a specific intent to induce infringement of the above listed claims of the '972 Patent by, at a minimum, providing product briefs, specification sheets and/or instructions on how to incorporate the '972 Accused Products into consumer electronic products or to manufacture the '972 Accused Products in a way that would infringe the '972 patent.

21. Alternatively, Defendant has purposefully and voluntarily placed, or caused or encouraged to be placed, infringing products into the stream of commerce with the expectation that its '972 Accused Products will be purchased by customers in the United States.

#### **VI. COUNT FOUR: INFRINGEMENT OF '743 PATENT**

22. On October 15, 2002, United States Patent No. 6,465,743 ("the '743 Patent") was duly and legally issued for an "INTEGRATED CIRCUIT POWER MANAGEMENT FOR REDUCING LEAKAGE CURRENT IN CIRCUIT ARRAYS AND METHOD THEREFOR."

A true and correct copy of the '743 Patent is attached hereto as Exhibit "D" and made a part hereof. The '743 Patent relates generally to semiconductor packages and more particularly to improvements in ball-grid array semiconductor packaging.

23. Further, and by way of example only, Defendant's DDP4421 product, and any other similarly structured or functioning products ("743 Accused Products"), infringe at least Claims 1, 7 or 8 of the '743 Patent. The '743 Accused Products infringe the '743 Patent because, at a minimum, they constitute a ball-grid array ("BGA") package assembled in a manner comprising: providing a plurality of BGA substrates arranged in an N by M array within a printed circuit board having a thickness in which N and M are greater than or equal to 2, and each of the plurality of BGA substrates has multiple bond posts on one side and multiple contact pads on an opposite side. The BGA package is further assembled by attaching a semiconductor die to each of the plurality of BGA substrates, in which the semiconductor die has multiple bond pads. The method of assembling the BGA package also includes encapsulating the semiconductor die with an encapsulant, curing the encapsulant, attaching conductive solder balls to each of the plurality of contact pads, and dividing the N by M array into separate BGA packages, in which each of the separate BGA packages is substantially planar.

24. Further, Defendant induces infringement of the above listed claims of the '743 Patent by others and is therefore liable for indirect infringement. Specifically, by way of example only, Defendant provides '743 Accused Products to be incorporated into consumer electronic products and other electronic devices used within the United States. Defendant has had knowledge of, or was willfully blind to, the '743 Patent and knowledge of, or was willfully blind, to the fact that its actions would induce infringement of each of the above listed claims since at least as early as the filing of this Complaint.

25. Defendant possesses a specific intent to induce infringement of the above listed claims of the '743 Patent by, at a minimum, providing product briefs, specification sheets and/or instructions on how to incorporate the '743 Accused Products into consumer electronic products or to manufacture the '743 Accused Products in a way that would infringe the '743 patent.

26. Alternatively, Defendant has purposefully and voluntarily placed, or caused or encouraged to be placed, infringing products into the stream of commerce with the expectation that its '743 Accused Products will be purchased by customers in the United States.

#### **VII. PLAINTIFF HAS BEEN DAMAGED**

27. The '555, '686, '972 and '743 Patents are referred to as the "Patents-in-Suit." Plaintiff is the owner of all right, title and interest in and to the Patents-in-Suit, with all rights to enforce them against infringers and to collect damages for all relevant times, including the right to prosecute this action.

28. Plaintiff has been damaged as a result of Defendant's infringing conduct. Defendant is, thus, liable to Plaintiff in an amount that adequately compensates for its infringement, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284. Based on Defendant's objective recklessness, Plaintiff is further entitled to enhanced damages under 35 U.S.C. § 284.

#### **VIII. JURY DEMAND**

29. Plaintiff hereby requests a trial by jury pursuant to Rule 38 of the Federal Rules of Civil Procedure.

#### **IX. PRAYER FOR RELIEF**

WHEREFORE, Plaintiff respectfully requests that the Court find in its favor and against Defendant, and that the Court grant Plaintiff the following relief:



- a. Judgment that one or more claims of the '555, '686, '972 and '743 Patents have been directly infringed, either literally or under the doctrine of equivalents, by Defendant, or judgment that one or more of the claims of the '555, '686, '972 and '743 Patents have been directly infringed by others and indirectly infringed by Defendant, to the extent Defendant induced such direct infringement by others;
- b. Judgment that Defendant accounts for and pay to Plaintiff all damages to and costs incurred by Plaintiff because of Defendant's infringing activities and other conduct complained of herein;
- c. That Defendant's infringement be found to be willful from the time Defendant became aware of their infringement, which is the time of filing of Plaintiff's Complaint at the latest, and that the Court award treble damages for the period of such willful infringement pursuant to 35 U.S.C. § 284.
- d. That Plaintiff be granted pre-judgment and post-judgment interest on the damages caused by Defendant's infringing activities and other conduct complained of herein;
- e. That the Court declare this an exceptional case and award Plaintiff its reasonable attorney's fees and costs in accordance with 35 U.S.C. § 285; and
- f. That Plaintiff be granted such other and further relief as the Court may deem just and proper under the circumstances.

Dated: October 26, 2016

Respectfully submitted,

Of Counsel:

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