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8 **UNITED STATES DISTRICT COURT**
9 **EASTERN DISTRICT OF CALIFORNIA**

11 Anza Technology, Inc.

12 Plaintiff,

13 v.

14 Mushkin, Inc., a Colorado corporation, d/b/a
15 Enhanced Network Systems, Inc.; and
16 Avant Technology, Inc., a Nevada corporation,
17 d/b/a Mushkin Enhanced MFG

17 Defendants.

Case No. 2:17-cv-00656-WBS-EFB

**FIRST AMENDED COMPLAINT FOR
PATENT INFRINGEMENT**

DEMAND FOR JURY TRIAL

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19 In accordance with Federal Rule of Civil Procedure 15(a)(1)(B), Plaintiff Anza
20 Technology, Inc. (“Anza” or “Plaintiff”), by and through its undersigned counsel, complains and
21 alleges against Defendant Mushkin, Inc. d/b/a/ Enhanced Network Systems, Inc. and Defendant
22 Avant Technology, Inc. d/b/a Mushkin Enhanced MFG (“Defendants”) as follows through this
23 First Amended Complaint for Patent Infringement:
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1 **NATURE OF THE ACTION**

2 1. This is a civil action for patent infringement arising under the laws of the United
3 States relating to patents, 35 U.S.C. § 101, et seq., including, without limitation, 35 U.S.C. §§
4 271 and 281. Plaintiff Anza seeks a preliminary and permanent injunction and monetary
5 damages for patent infringement.

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7 **JURISDICTION AND VENUE**

8 2. This court has subject matter jurisdiction over this case for patent infringement
9 under 28 U.S.C. §§ 1331 and 1338(a) and pursuant to the patent laws of the United States of
10 America, 35 U.S.C. § 101, *et seq.*

11 3. Venue properly lies within the Eastern District of California pursuant to the
12 provisions of 28 U.S.C. §§ 1391(b), (c), and (d) and 1400(b). On information and belief,
13 Defendants conduct substantial business directly and/or through third parties or agents in this
14 judicial district by selling and/or offering to sell the infringing products and/or by conducting
15 other business in this judicial district. Furthermore, Plaintiff is informed and believes that
16 Defendants engage in business in this district, and that Plaintiff has been harmed by Defendant's
17 conduct, business transactions and sales in this district.

18 4. This Court has personal jurisdiction over Defendants because Defendants transact
19 continuous and systematic retail business within the State of California. This Court has personal
20 jurisdiction over the Defendants because Plaintiff is informed and believes that the Defendants'
21 infringing activities, including, without limitation, the making, using, selling and/or offers for
22 sale of infringing products occur in the State of California. In particular, Defendants' infringing
23 products are sold at local retail stores within the District at, among others, Staples, Best Buy and
24 Target. Finally, this Court has personal jurisdiction over Defendants because, on information
25 and belief, Defendants have made, used, sold and/or offered for sale their infringing products and
26 placed such infringing products in the stream of interstate commerce with the expectation that
27 such infringing products would be made, used, sold and/or offered for sale within the State of
28 California.

1 Mushkin's electronic memory component sales business. Plaintiff Anza is informed and
2 believes and thereon alleges that said memory component business previously operated by
3 Defendant Mushkin was located in Pflugerville, Texas.

4 11. Reproduced below is a true and correct photo taken from Avant's website on July
5 12, 2017.



16 12. The foregoing photo reflects the Mushkin Enhanced brand:



19 13. The foregoing photo further reflects the Enhanced Network Systems brand:



23 14. Plaintiff Anza is informed and believes and thereon alleges that Mushkin and
24 Avant have had and continue to have a business relationship that includes the use of the
25 aforementioned Pflugerville, Texas, facility as is reflected by the foregoing co-branding. This
26 Texas facility is believed to have once owned by Defendant Mushkin. This Texas facility is now
27 believed to be owned by Defendant Avant.

28 15. The ongoing relationship by and between Defendant Mushin and Defendant

1 Avant is also believed to include Mushkin’s sale and distribution of computer memory products
2 —including the products at issue below with respect to the ‘927 Patent—for which Defendant
3 Avant is involved in the making, using, selling, importing, and offering for sale of the same.
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5 **BACKGROUND**

6 16. Defendants Mushkin and Avant at one time or another each acquired, designed,
7 manufactured, assembled, or imported products with Integrated Circuit (“IC”) chips. The IC
8 chips are electrostatic discharge (“ESD”) sensitive devices. Assembly of Defendants’ products
9 with these ESD sensitive IC chips requires certain techniques and methods to guard against ESD
10 events that have catastrophic consequences on IC chips. These certain techniques and methods
11 infringe the Asserted Patent, described in further detail below.

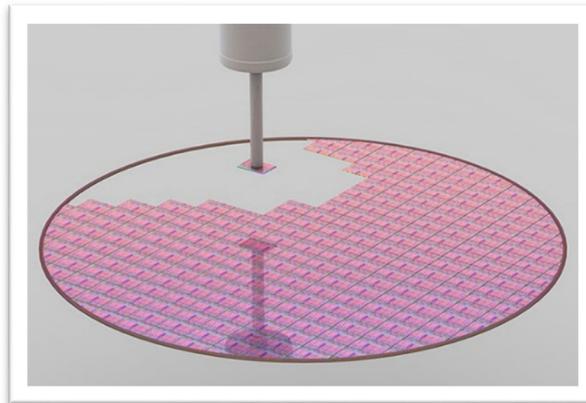
12 17. ESD damage is a well-known phenomenon in the electronics industry and
13 broadly-accepted standards have been developed by industry-recognized standards-setting
14 organizations (such as ANSI, JEDEC, the IEC and/or the ESDA) (cumulatively “ESD-
15 Standards”) to minimize the risk of damage to ESD sensitive devices during assembly and
16 manufacture. Each of the aforementioned industry standards thus requires the use of
17 manufacturing tools made of dissipative materials having approximately the same resistance
18 values in connection with handling ICs that are particularly sensitive to ESD events. These
19 resistance ranges are low enough to prevent a discharge of a charge to an ESD sensitive device
20 such as the Accused Products, but high enough to avoid current flows that may damage the
21 device.

22 18. Failing to adhere to such standards could otherwise lead to ESD events during the
23 bonding process that could damage the ICs and render them defective and/or unusable. Today, as
24 little as five volts of an ESD event is enough to permanently change the structures in ESD
25 sensitive devices, which include, but are not limited to, ICs, Printed Circuit Boards (“PCBs”) and
26 other electronic components.

27 19. Complementary Metal-Oxide Semiconductors (“CMOS”) are a type of IC
28 commonly used in microprocessors, microcontrollers, static RAM and other digital logic circuits.

1 CMOS ICs are known to be ESD sensitive and are highly susceptible to damage caused by ESD
2 events.

3 20. CMOS chips are typically cut from a wafer of silicon into individual pieces,
4 called “dies.” The die is picked up by a tool and placed on a substrate or package for placement
5 on a PCB as shown below in Fig 1.



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Figure 1. Die picked up by tool.

21. A common method of packaging CMOS ICs for handling and mounting on PCBs is the Ball Grid Array mounting system (or a variation thereof *e.g.* FBGA, TBGA, PBGA) (cumulatively referred to herein as “BGA”). An individual CMOS IC wafer is inserted in a package that uses “solder balls” as conduits of electrical connectivity. ICs with BGA mounting packages are thereafter surface mounted to PCBs via the array of solder balls.

22. Flip chip bonding techniques are commonly used in fabricating BGA packaged ICs and in placing BGA components on PCBs. Flip chip microelectronic assembly is the direct electronic connection of facedown electronic components onto substrates, circuit boards, or carriers by means of conductive bumps on the BGA IC package.

23. During the process of bonding a BGA IC to a PCB, the IC comes in contact with tools that place it on the PCB with the solder balls facing down. Heat is then applied causing the solder balls to melt resulting in the bonding of the IC and BGA package to the surface of the

1 PCB. Naturally occurring electrostatic charges (of varying degrees) build up when the mounting
2 tools come in contact with the die and when it is placed in the package. Electrostatic charges can
3 also build up when the die in the BGA package is placed in a tray or on a tape for transport, and
4 also when it is removed from the transport vessel and placed on a PCB for bonding.

5 24. Essentially, every time an ESD sensitive device is handled, electrostatic charges
6 to one degree or another are generated. Any type of movement can charge an ESD sensitive
7 device. Tribocharging, for example, commonly occurs in automated assembly lines with the
8 rubbing of conveyor belts, or when ICs and product parts touch carrier trays or tapes.
9 Electrostatic charges are therefore created at several places in an automated production line
10 including but not limited to 1) during the application of conductive material, 2) during pickup
11 and placement of ICs, and 3) during testing of the assembled devices.

12 25. Since automated production line processes generate electrostatic charges, caution
13 has to be taken to avoid damaging ESD sensitive components when they are moved, picked up
14 and placed in contact with one another. For these reasons, ESD sensitive devices that come in
15 contact with automated handling equipment during the manufacture of the Accused Products
16 should be made of electrostatic dissipative material and a resistance to ground where the ESD
17 sensitive devices are contacted.

18 26. As a result, Plaintiff is informed, believes and thereon alleges that Defendants
19 Mushkin and Avant use specific design, engineering, and manufacturing practices in making or
20 having previously made the Accused Products to minimize the costs resulting from damaging
21 ESD events. Further, Plaintiff alleges that Defendants Mushkin and Avant specify and/or direct
22 or have specified and/or directed that the Accused Products be assembled or manufactured in
23 ways that meet or exceed ESD-Standards for reducing the risk of damage to ESD sensitive
24 devices.

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ACCUSED PRODUCTS

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2 27. The Accused Products with respect to Defendant Mushkin and Defendant Avant,
3 for purposes of the asserted patent, include but are not limited to BGA packaged ICs and PCBs
4 that to which the BGA packaged ICs are mounted. The Accused Products therefore include but
5 are not limited to the following BGA packaged ICs: REDLINE, BLACKLINE,
6 RADIOACTIVE, STEALTH, SILVERLINE, PROLINE, ESSENTIALS, NOTEBOOK
7 MEMORY, STRIKER, REACTOR, TRIACTOR, CHRONOS, CATALYST, PROSPEC,
8 ATLAS, and SCORPION (the “Accused Products”).

9 28. The Accused Products have at one time or another—and within the relevant
10 statute of limitations time period—been made, used, sold, manufactured, imported, or offered for
11 sale by Defendant Mushkin.

12 29. The Accused Products have at one time or another—and within the relevant
13 statute of limitations time period—been made, used, sold, manufactured, imported, or offered for
14 sale by Defendant Avant.

15 30. The Accused Products utilize BGA ICs that are bonded to PCBs. As explained
16 above, in order to minimize the risk of an ESD event, BGA-packaged ICs are manufactured
17 using processes and methods that infringe at least independent claims 1, 14, and 16 of the '927
18 patent. Therefore, Plaintiff is informed, believes and thereon alleges that Defendants specify or
19 specified the use of BGA ICs for use in the Accused Products. Plaintiff is further informed,
20 believes, and thereon alleges that the Accused Products are manufactured or have been
21 manufactured on assembly lines that utilize processes and methods taught by independent claims
22 1, 14, and 16 of the '927 patent to reduce the risk of damage from ESD events.

23 31. Furthermore, the ICs in the Accused Products are highly sensitive to ESD events
24 as evidenced by the charge load tolerance specifications promulgated by their manufacturers.

1 **THE ASSERTED PATENT**

2 32. On October 24, 2006, the United States Patent and Trademark Office (“USPTO”)
3 duly and legally issued United States Patent No. 7,124,927 entitled “FLIP CHIP BONDING
4 TOOL and BALL PLACEMENT CAPILLARY” (the “’927 patent”). Steven F. Reiber is the
5 patent’s sole named inventor and Plaintiff is owner, by assignment, of the entire right, title and
6 interest in and to the ’927 patent and vested with the right to bring this suit for damages and
7 other relief. A true and correct copy of the ’927 patent is attached hereto as Exhibit A.

8
9 **COUNT ONE**

10 **INFRINGEMENT OF THE ’927 PATENT BY DEFENDANT**

11 33. Plaintiff re-alleges and incorporates by reference each of the allegations set forth
12 in paragraphs 1 through 32 above.

13 34. Defendants Mushkin and Avant have, since at least the filing of the original
14 complaint, had knowledge of infringement of the ’927 patent. Defendants Mushkin and Avant
15 have each infringed, or is currently infringing, the ’927 patent.

16 35. Plaintiff is informed, believes and thereon alleges that the Accused Products
17 directly, or alternatively under the doctrine of equivalents, infringe each of the limitations of
18 independent claims 1, 14, and 16 of the ’927 patent in violation of 35 U.S.C. § 271(a) and (g)
19 when Defendants import into the United States or offer to sell, sells, or uses within the United
20 States a product which is made by the processes described herein. Defendants also violate 35
21 U.S.C. § 271(a) to the extent that it conducts such infringing activity in the territory of the United
22 States.

23 36. Furthermore, Defendant Avant has at one time or another purported to be a
24 JEDEC Member, claiming that “[its] in-house engineers utilize JEDEC . . . to build innovative
25 module solutions that match today’s computer performance standards.” See Mushkin
26 Certifications webpage, attached hereto as Exhibit B. Plaintiff is therefore informed, believes
27 and thereon alleges that Defendant Avant and/or its contract manufacturer assembles the
28 Accused Products, in compliance with one or more ESD-Standards, such as JEDEC, which

1 employs a method of ESD control that infringes independent claims 1, 14, and 16 of the '927
2 patent. On information and belief, Defendant specifies that BGA ICs are used in the Accused
3 Products. Defendant Mushkin is believed to have previously engaged in identical conduct before
4 selling its memory business to Defendant Avant, which now infringes as set forth above.
5 Defendant Mushkin nevertheless resells and distributes products that otherwise infringe as set
6 forth above.

7 37. In following conventional industry practices, tools are used in the process of
8 manufacturing or assembling the Accused Products to surface mount and bond BGA ICs to
9 PCBs. Plaintiff is informed and believes and thereon alleges that during the assembly or
10 manufacture of the Accused Product, the Defendants or their contract manufacturer use or have
11 used tools with tips that are specially designed to reduce the risk of damage to BGA ICs from
12 ESD events. Specifically, Plaintiff is informed, believes and thereon alleges that Defendants
13 comply with or have complied with reasonable and prudent ESD-Standard practices and
14 techniques in the manufacture or assembly of the Accused Products to reduce the risk of ESD
15 events through the use of electrically dissipative tool tips, which reduce sudden discharges of
16 electrostatic current into the BGA ICs that are being bonded to PCBs in the Accused Products, as
17 taught by independent claims 1, 14, and 16 of the '927 patent.

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PRAYER FOR RELIEF

WHEREFORE, Plaintiff prays for relief and judgment as follows:

1. That Defendants have infringed the Patent-in-Suit;
2. Compensation for all damages caused by Defendants' infringement of the Patent-in-Suit to be determined at trial;
3. A finding that this case is exceptional and an award of reasonable attorneys' fees pursuant to 35 U.S.C. § 285;
4. Granting Plaintiff pre-and post-judgment interest on its damages, together with all costs and expenses; and,
5. Awarding such other relief as this Court may deem just and proper.

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DEMAND FOR JURY TRIAL

Plaintiff hereby demands a trial by jury on all claims.

Dated: September 6, 2017

POLSINELLI LLP

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