

# United States Court of Appeals for the Federal Circuit

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**ANZA TECHNOLOGY, INC.,**  
*Plaintiff-Appellant*

v.

**MUSHKIN, INC., DBA ENHANCED NETWORK  
SYSTEMS, INC.,**  
*Defendant-Appellee*

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2019-1045

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Appeal from the United States District Court for the  
District of Colorado in No. 1:17-cv-03135-MEH, Magistrate  
Judge Michael E. Hegarty.

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Decided: August 16, 2019

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COLBY BRIAN SPRINGER, Polsinelli LLP, San Francisco,  
CA, argued for plaintiff-appellant. Also represented by  
MIYA YUSA; MICHAEL DULIN, Denver, CO; HANNAH  
THERESA YANG, Kilpatrick Townsend & Stockton LLP, San  
Francisco, CA.

D. SCOTT HEMINGWAY, Hemingway & Hansen, LLP,  
Dallas, TX, argued for defendant-appellee. Also repre-  
sented by THOMAS S. RICE, Senter Goldfarb & Rice LLC,  
Denver, CO.

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Before PROST, *Chief Judge*, NEWMAN and BRYSON,  
*Circuit Judges*.

BRYSON, *Circuit Judge*.

Plaintiff Anza Technology, Inc., (“Anza”) appeals from a decision of the United States District Court for the District of Colorado granting a motion by defendant Mushkin, Inc., dba Enhanced Network Systems, Inc., (“Mushkin”) to dismiss Anza’s second amended complaint. The dismissal followed from the court’s finding that Anza’s claim of damages for patent infringement was barred by the six-year statute of limitations in the Patent Act, 35 U.S.C. § 286. That ruling was based in turn on the court’s determination that the claims in Anza’s second amended complaint did not relate back to the date of Anza’s original complaint and were therefore time-barred. Because the district court’s application of the relation back doctrine was overly restrictive, we reverse in part, vacate in part, and remand for further proceedings.

I

A

Anza filed this action on March 28, 2017, in the United States District Court for the Eastern District of California, alleging that Mushkin had infringed claims 1, 14, and 16 of Anza’s U.S. Patent No. 7,124,927 (“the ’927 patent”), in violation of 35 U.S.C. § 271(a) and (g). The ’927 patent, entitled “Flip Chip Bonding Tool and Ball Placement Capillary,” relates to “dissipative and insulative ceramic flip chip bonding tools and capillaries for ball placement for bonding electrical connections.” ’927 patent, col. 1, ll. 39–41.

The specification of the ’927 patent discusses two techniques for bonding electronic components, such as semiconductor integrated circuit (“IC”) chips, to substrates, circuit

boards, or carriers. The two techniques are referred to as “wire bonding” and “flip chip bonding.” ’927 patent, col. 1, ll. 60–65. In wire bonding, the chip is oriented face-up, so that there is no direct electrical connection between the leads of the chip and the bond pads on the substrate. A wire is then used to connect the chip to the substrate. *Id.* at col. 1, ll. 43–61. In flip chip bonding, the chip is oriented face-down, which allows for a direct electrical connection between the chip and the substrate. The direct electrical connection is facilitated by conductive solder balls that are deposited on the chip; the solder balls provide the conductive path from chip to substrate. *Id.* at col. 1, ll. 61–65; col. 2, ll. 9–10; Fig. 3.

Under either technique, the bonding process requires the use of bonding tools. The ’927 patent explains that the problem with prior art bonding tools was that “an electrostatic discharge (ESD) from the bonding tool or transient currents from the machine [that uses the tool] can damage the very circuit the tool is bonding.” *Id.* at col. 2, ll. 47–49. According to the specification, “[c]ertain prior art devices have a one-or-more volt emission when the tip makes bonding contact. This could present a problem, as a one-volt static discharge can . . . cause the integrated circuit to fail.” *Id.* at col. 2, ll. 53–59.

To avoid damage to the electronic devices from such an electrostatic discharge, the ’927 patent recites a bonding tool tip for flip chip bonding that “conducts electricity at a rate sufficient to prevent charge buildup but not at so high a rate as to overload the device being bonded.” *Id.* at col. 2, line 67, through col. 3, line 2.

Claims 1, 14, and 16 of the ’927 patent, all independent claims, recite a system, a component, and a method, respectively. Claim 1 provides as follows:

1. A flip chip bonding tool and ball placement capillary system for connecting leads on integrated

circuit bonding pads, comprising a dissipative material having a resistance low enough to prevent a discharge of a charge to a device being bonded and high enough to stop current flow large enough to damage the device being bonded.

Claim 14 recites:

14. An ESD-preventive device comprising:

a flip chip bonding tool and ball placement capillary, comprising a dissipative material and configured to come in contact with a device being bonded, wherein a current produced by static charge generated during bonding is allowed to flow; wherein the dissipative material has a resistance low enough to prevent a discharge of charge to the device being bonded and high enough to stop all current flow to the device being bonded.

Claim 16 recites “[a] method of utilizing a flip chip bonding tool . . . in a microelectronic assembly.” The claimed method recites the use of a bonding machine capable of being equipped with a flip chip bonding tool, which has a tip comprising a dissipative material having the same properties as recited in claims 1 and 14.

## B

On September 6, 2017, Anza filed its first amended complaint, which joined Avant Technology, Inc., as a co-defendant.<sup>1</sup> Thereafter, Mushkin filed a motion to dismiss or

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<sup>1</sup> The first amended complaint alleged that Avant was “the sole aggregator of all Mushkin-based memory modules and board products . . . by virtue of Avant having acquired certain assets of Defendant Mushkin in accordance with an asset purchase agreement dated April 1, 2012.” Because there is no material difference between the original complaint and the first amended complaint for purposes of the

to sever the claims against Mushkin from those against Avant, and either to stay the case against Mushkin or to transfer the case to the District of Colorado. The California district court severed Anza's claims against Mushkin and transferred the case against Mushkin to the District of Colorado.

Following the transfer, Anza served infringement contentions against Mushkin pursuant to the District of Colorado's Local Patent Rules 4 and 5. The infringement contentions accused Mushkin of directly infringing claims 1 and 14, but did not refer to claim 16. Noting in its infringement contentions that discovery had not commenced and a formal scheduling order had not been entered, Anza stated that it reserved "the right to supplement these contentions as appropriate based upon further discovery and the schedule of this case, including but not limited to assertions related to new claims and/or patents as may be allowed through amendment of the operative pleading."

The parties then engaged in mediation. In the course of the mediation, Mushkin provided Anza with a declaration of George Stathakis, Mushkin's president, regarding the technology used by Mushkin. The Stathakis declaration stated, *inter alia*, that Mushkin "did not bond IC chips to boards or modules." Instead, according to the declaration, "[t]he memory products purchased by Mushkin, Inc. from suppliers were IC memory chips that were already . . . bonded on printed circuit boards or memory module boards." Additionally, the declaration stated that Mushkin's supplier "does not place or position solder ball connectors on the IC chip for use in bonding the IC chip to a printed circuit board or memory module board."

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issues in this case, we focus on the differences between the original complaint and the second amended complaint.

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