IN THE UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TEXAS
SHERMAN DIVISION

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|---|---|---|
| ADASA INC., | § | |
| | § | |
| Plaintiff, | § | |
| | § | CIVIL ACTION NO. _____ |
| v. | § | |
| | § | **JURY TRIAL DEMANDED** |
| SML GROUP LIMITED, | § | |
| SML INTELLIGENT INVENTORY | § | |
| SOLUTIONS LLC, and | § | |
| SML (USA) INC., | § | |
| | § | |
| Defendants. | | |

**PLAINTIFF'S ORIGINAL COMPLAINT**

Plaintiff ADASA INC. ("Plaintiff" or "ADASA") files this Original Complaint against Defendants SML GROUP LIMITED, SML INTELLIGENT INVENTORY SOLUTIONS, LLC and SML (USA) INC. (collectively "SML" or "Defendant") alleging as follows:

## I. THE PARTIES

1. ADASA INC. is a corporation organized and existing under the laws of the State of Oregon, with a principal place of business in Eugene, Oregon.

2. SML GROUP LIMITED is a company organized and existing under the laws of China. It has a principal place of business located at 6/F, C-BONS International Center, 108 Wai Yip Street, Kwun Tong, Kowloon, Hong Kong SAR, China. SML GROUP LIMITED engages in business in the State of Texas. Pursuant to § 17.044 of the Texas Civil Practice & Remedies Code, SML GROUP LIMITED has designated the Secretary of State as its agent for service of process and may be served with process through the Secretary of State. The Secretary of State may forward service to SML GROUP LIMITED at 6/F, C-BONS International Center, 108 Wai Yip Street,

Kwun Tong, Kowloon, Hong Kong SAR, China. SML GROUP LIMITED operates its SML RFID division offering full-service RFID solutions through locations in over 30 countries worldwide.

3. SML INTELLIGENT INVENTORY SOLUTIONS, LLC which is a limited liability company organized and existing under the laws of Delaware and maintains a principal place of business at 6400 International Parkway, Suite 1550, Plano, Texas 75093. SML INTELLIGENT INVENTORY SOLUTIONS, LLC may be served with process through its registered agent, CT Corporation System at 1999 Bryan Street, Suite 900, Dallas, Texas 75201.

4. SML (USA) INC., which is a corporation organized and existing under the laws of New Jersey and maintains a principal place of business at 1 Harmon Plaza, Suite 610, Secaucus, New Jersey 07094. SML (USA) INC. may be served with process through its registered agent, Corporation Service Company dba CSC – Lawyers Incorporating Service Company, 701 Brazos, Suite 1050, Austin, Texas 78701. Upon information and belief, SML (USA) is a member of SML Group.

## II. JURISDICTION AND VENUE

5. Plaintiff's claims for patent infringement against SML arise under the patent laws of the United States, including 35 U.S.C. §§ 271 and 281. Consequently, this Court has exclusive jurisdiction of such action under Title 28 U.S.C. § 1331 and 1338.

6. SML Group Limited is the parent company that wholly owns and operates an SML RFID division responsible for developing RFID tagging products and services, including those accused of infringement in this Complaint. SML Group Limited's SML RFID division customers include several prominent retailers and brand owners that have a substantial presence in this District.[1] Accordingly, SML Group Limited is subject to both the specific and general personal

[1] *See*, online article entitled "Walmart and Nordstrom widely adopt RFID," available at URL: https://packagingeurope.com/news/walmart-and-nordstrom-widely-adopt-rfid/8072.article.

jurisdiction of this Court due to, among other things, its purposeful, continuous, and systematic contacts with Texas and with this District via its sales of infringing products to customers within this District. SML Group Limited is subject to personal jurisdiction in this District, and venue here is proper, due to SML Group Limited operating a regular and established place of business, designated as its "Solution Innovation Center," located within this District at 6400 International Parkway, Suite 1550, Plano, TX 75093. Upon information and belief, SML Group Limited operates aspects of its SML RFID division business from this location. Additionally, or alternatively, SML Group Limited is subject to personal jurisdiction in this District, and venue here is proper, due to SML Group Limited operating its encoding database supporting its SML RFID products, including RFID item-level tagging products and services, within this District.[2]

7. SML Intelligent Inventory Solutions, LLC ("SML IIS") is a wholly owned subsidiary of SML Group Limited. SML IIS is the owner, and commercial user, of the trademark "Clarity." This trademark is registered with the USPTO for use with a "computer software suite to manage assets, inventory and tracking processes in supply chain management."[3] As detailed herein, the Clarity software is used in connection with making and using of the RFID item-level tagging products and services accused of infringement. In both its corporate filings made with the Texas Secretary of State and in its filings made to the USPTO for the "Clarity" mark, SML IIS identifies its business address as 6400 International Parkway, Suite 1550, Plano, TX 75093, located within this District. In view of this purposeful, continuous, and systematic contact with Texas and

[2] *See*, SML RFID LinkedIn profile at URL: https://www.linkedin.com/company/sml-rfid/ (only location shown is Plano, Texas; products and services include "high-performance RFID tags and encoding services across industries"); *see, also,* SML RFID employee profile available at URL: https://www.linkedin.com/in/george-asante-388041225/ (database administrator for SML RFID in DFW metroplex providing "key project deliverables for clients including H&M, Matalan, JCPenney, Nike, Nordstrom, Tesco").

[3] *See,* Exh. B (TSDR printout for "Clarity" mark registered to SML IIS).

with this District, including maintaining its principal place of business in this District, SML IIS is subject to the specific and general personal jurisdiction of this Court, and venue is proper here.

8. SML (USA), Inc. is a wholly owned subsidiary of SML Group Limited that makes and sells RFID tags and labels, among other products, including RFID tags and labels accused of infringement in this Complaint. SML (USA). SML (USA), Inc. develops, tests, uses, markets, and sells its RFID tag and label products from SML's "Retail Ideation Space" location within this District.[4] In view of this purposeful, continuous, and systematic contact with Texas and with this District, including operating from a regular place of business within this District, SML (USA), Inc. is subject to the specific and general personal jurisdiction of this Court, and venue is proper here.

9. Each of the respective SML entities named as Defendants in this Action (referred to collectively hereinafter as "SML"), either standing alone or in concert with one another, are subject to both the specific and general personal jurisdiction of this Court, in which venue is proper. SML has committed and continues to commit acts of patent infringement within Texas and this District giving rise to this action, and SML has sufficient contacts with this forum such that the exercise of jurisdiction over it would not offend traditional notions of fair play and substantial justice.

10. For all of these reasons, personal jurisdiction over SML exists and venue is proper in this Court under 28 U.S.C. §§ 1391(b)(1), (2) and (c)(2) and 28 U.S.C. § 1400(b).

## III. BACKGROUND OF ADASA AND THE '967 PATENT

11. Mr. McAllister has worked with and in the RFID industry since the early 1990s, including founding his own RFID company, ADASA, in 2004.

[4] *See*, Exh. C ("SML RFID Opens New Retail Ideation Space in Plano, Texas"); *see, also,* Exh. J (online article entitled "SML RFID Expands, Extends Plano HQ Lease, Opens New Retail Ideation Space") at 1-2, available online at URL: https: //dallasinnovates.com/sml-rfid-expands-extends-plano-hq-lease-opens-new-retail-ideation-space/.

12. At the time McAllister founded ADASA, the RFID industry was beginning to challenge the then-predominant method of using individual bar codes to keep track of merchandise. The industry has since developed standards and guidelines for encoding data onto the RFID tags to provide additional information beyond what can be stored in a barcode, which allows for identifying and tracking individual items in the supply chain.

13. As a brief technical background, in the RFID industry, and particularly for item-level merchandise tracking applications, the memory bank of an RFID tag is encoded with an Electronic Product Code ("EPC"), which is an identifier for an item in the supply chain to uniquely identify that particular item. This identifier is serialized to be unique for avoidance of duplicate numbers among items in the supply chain. The EPC can be in a format in accordance with one of various EPC tag data standards set by GS1 for a serialized identifier, such as a Serialized Global Trade Item Number (SGTIN), Serial Shipping Container Code (SSCC), Serial Global Location Number (SGLN), or the like.

14. For the SGTIN format, the EPC contains "object class" information and a "serial number." The "object class" information includes, among other things, a GS1 "company prefix," which identifies the managing organization responsible for the item (*i.e.*, the brand owner) and an "item reference number" which identifies the class of item offered by a brand owner (which generally corresponds to the UPC or SKU of a bar code).

15. The "object class" information of the SGTIN is not unique in and of itself. The function of this section of a SGTIN format is to identify different types of products that may be sold by a particular brand owner. For example, a brand owner (such as Macys or JC Penny) may assign a particular product line of its men's pants an "object class" number. With such a designation, each pair of that type of men's pants would have a common "object class" number,

but each specific pair of men's pants within that type would not be unique without further identification. Therefore, in order to provide a unique identifier and avoid duplication of numbers, the brand owner is responsible for assigning a unique serial number for each item within an object class. The brand owner can delegate the assignment of the serial number to another party or parties, however the brand owner retains ultimate responsibility for managing assignment of the serial number. The combination of an object class and unique serial number provides a unique object number that is contained within the EPC.

16. In early 2008, McAllister recognized the challenge in the industry that there was not a reliable way to ensure global uniqueness of the EPC for items within one object class when the RFID tags are encoded by different encoders in different locations across the distribution chain. Prior to Mr. McAllister's invention, other methods of managing and assigning EPCs did not provide the level of specificity in managing the assignment of the EPCs taught in the '967 Patent or ensure that the EPC provided to an item would be globally unique without requiring real-time access to a central database to assign the next available unique EPC to each item in an object class.

17. This is exemplified by the RFID industry's use of the "EPC Pure Identity URI" methodology. The EPC Pure Identity is what is known as a canonical form, using a finite sequence of decimal digits, punctuated by periods. In this format, no attention is given to managing the uniqueness of the EPC on the "binary" level (*i.e.*, at the zeroes and ones that make up the most basic bits of the code at the machine level), rather choosing a simpler and less effective "decimal" or "hexadecimal" level representation of the EPC that is in a human readable format. For example, a "decimal" EPC Pure Identity URI may read as follows:

0017457.057157.338690212

The "binary" representation for this data when encoded in SGTIN-96 format into an RFID tag would be:

00110000001101000000000100010000110001000011011111010001010000000001010000011000000000000010100100

The EPC Pure Identity lacks the ability to provide information that uniquely distinguishes between objects of the same object class that, for example, are encoded at one manufacturing facility versus another, unless that information is specifically tracked in a database.

18. To address this challenge, McAllister focused not on the Pure Identity representation of the EPC, but rather more specifically on the binary representation of the EPC. He sought to implement a data structure within the memory of an RFID tag for capturing this type of information, which could operate to ensure uniqueness of an encoded RFID tag. Mr. McAllister developed a memory structure that put to use the higher order bits among those reserved for storing serial number data by configuring those bits for storage of a "most significant bits" ("MSB") sequence. Accordingly, Mr. McAllister's memory structure accommodated storing of information within the memory reserved for storing of a serial identifier value in addition to storing the serial identifier value.

19. In particular, as an example of McAllister's invention, an RFID integrated circuit chip encoded with the SGTIN-96 format has a total of 96 binary bits in its memory bank, with the last 38 bits reserved for storing a "serial number" identifier value:

A typical EPC SGTIN-96 Structure:

| Header | Filter / Object Type | Partition | Company Prefix | Item Ref and Indicator | Serial |
|---|---|---|---|---|---|
| 8 bits | 3 bits | 3 bits | 20- 40 bits | 24 - 4 bits | 38 bits |

McAllister's invention configures an RFID integrated circuit chip's memory structure to store a sequence of most significant bits at the leading bits of the 38-bit memory space reserved for storing a serial identifier value. The remaining bits within this 38-bit memory space would still be used to store a serial identifier value.

20. In an embodiment, McAllister envisioned using the leading bits of the serial number memory space storing an MSB sequence as part of a larger system in which a brand owner could ensure uniqueness for encoded RFID tags by uniquely correlating a distinct MSB sequence to each encoding device within the brand owner's operations. By doing so, each encoding device would be allocated a distinct sector of serial numbers from within the total serial numbers available using the 38-bits of memory reserved for it. This enables each encoder to reliably ensure the uniqueness of the EPC value encoded into every RFID tag commissioned by it. Uniqueness is guaranteed for each item within an object class, and is "baked in" at the machine code (binary) level. This also allows the EPC of the tag to be read by a reader to identify the particular encoder that encoded the tag using the machine level encoding.

21. These benefits can be obtained without requiring constant communication with a central database for ensuring uniqueness of encoded EPC data and, thereby, reduces or eliminates certain communications delays during encoding operations and reduces the demand on the master server and database allocating EPC encoding data.

22. The use of MSBs as claimed in the '967 Patent is scalable for application in instances in which a retail brand owner ("RBO") sources RFID tags for item-level tagging from multiple suppliers which are applied to retail items simultaneously at many disparate factory locations. For example, an RBO may require an RFID tag provider to incorporate a specific MSB sequence at the leading bits for every tag it produces. By implementing a particular sequence of

MSBs, a sector (or subset) of available serial number identifier values is delineated for use by the commissioning authority to which the particular MSB sequence is allocated. All EPC data encoded thereby will be inclusive of the MSBs and duplicates encodings to those made by any other commissioning authority are avoided. This can be applied by RBOs with respect to each RFID tag provider from which it sources item-level RFID tags to ensure that two suppliers (SML and Avery Dennison, e.g.) will not produce duplicate RFID tags, even if simultaneously tagging like items at different locations and without any single central authority overseeing the concurrent operations of both suppliers.

## IV. THE PATENT-IN-SUIT

23. On October 24, 2017, U.S. Patent No. 9,798,967 ("the '967 Patent") was duly and legally issued for "SYSTEMS, METHODS, AND DEVICES FOR COMMISSIONING WIRELESS SENSORS" to Mr. Clarke McAllister, the inventor. The claims of the '967 Patent have been found, as a matter of law, to be entitled to a claim of priority to the filing date of parent Non-Provisional Patent Application No. 12/124,768, filed on May 21, 2008. The '967 Patent was subsequently assigned to Mr. McAllister's company, ADASA.

24. Upon its issuance, the '967 Patent was subject to *ex parte* reexamination, Reexamination Request No. 90/014,052, petitioned for by Avery Dennison Corporation on November 29, 2017. The reexamination proceeding confirmed the patentability of all claims of the '967 Patent and a Reexamination Certificate was issued by the USPTO on July 30, 2018. A true and correct copy of the '967 Patent with the appended Reexamination Certificate is attached hereto as Exhibit A. Certain amendments to the claims were entered during reexamination to clarify the scope of the inventions claimed. These clarifying amendments were deemed non-substantive by

the Examiners at the USPTO. This finding was subsequently affirmed as a matter of law in patent infringement proceedings before the Federal District Court for the District of Oregon.

25. Plaintiff is the owner of the '967 Patent with the exclusive right to enforce the '967 Patent against infringers, and collect damages for all relevant times, including the right to prosecute this action.

26. The '967 Patent generally relates to commissioned radio frequency identification ("RFID") transponders (or tags), and systems and methods for making and using the same. The '967 Patent teaches and claims an RFID transponder comprising an integrated circuit chip having an encoded memory structure operable to ensure uniqueness of the encoded RFID transponder.

27. The inventions claimed in the '967 Patent provided advantages over existing RFID tags, and for systems and methods for commissioning the same. Namely, practice of the inventions claimed accommodated "on-demand" encoding operations "with no external authorizations or queries required on a transponder-by-transponder basis." This enabled many simultaneous RFID tag commissioning operations to proceed without the need for continuous connectivity to a central database, and without worry of inadvertently creating duplicate RFID tags.

28. Eliminating the need for a continuous connection to a central database while still ensuring uniqueness advantageously reduces or eliminates delays in existing commissioning processes attendant to the then-existing requirement for continuous communication with a central database. Practice of the inventions claimed in the '967 Patent permits commissioning operations to continue at times when access to a central database is unavailable, including during network connection failures and in instances where a brand owner or manufacturer partners with more than one RFID tag provider across its global operations. Elimination of these points of failure within RFID tag commissioning processes improves operational effectiveness and efficiency, while

providing an additional safeguard within commissioning systems for guaranteeing uniqueness of commissioned RFID tags.

## V. ADOPTION OF THE '967 PATENT BY THE RFID INDUSTRY

29. In the years after Mr. McAllister originally filed for patent protection for his invention, his inventions were widely adopted throughout the RFID industry by tag providers in response to customer "mandates" requiring use of McAllister's innovations. Mr. McAllister initially sought to enforce his valuable patent rights through licensing RFID tag providers known to infringe his patent rights, but those efforts were consistently rebuffed. Mr. McAllister has been forced to enforce his valuable intellectual property rights through litigation.

30. ADASA has successfully done so. ADASA filed a lawsuit against Avery Dennison Corporation ("Avery Dennison") alleging patent infringement of claims of the '967 Patent (the "Avery Dennison Litigation"). In 2021, a jury found unanimously that Avery Dennison infringed claims of the '967 Patent in connection with Avery Dennison's making and selling RFID tags comprising the inventive hardware-based data structure claimed within the '967 Patent. Even before the jury trial, the Court found infringement as a matter of law with respect to a first set of accused RFID tag products. Infringing RFID tags represented approximately half of Avery Dennison's disclosed RFID tag sales.

31. The Avery Dennison Litigation jury found $0.0045 per RFID tag was a reasonable royalty to account for Avery Dennison's infringement. However, this jury rate was artificially repressed due to discovery misconduct at trial by Avery Dennison when Avery Dennison failed to properly disclose all infringing product until after trial. Avery Dennison was subsequently sanctioned for this misconduct and the court in that matter applied a post-trial rate of $0.009 per tag, which was consistent with the testimony of ADASA's damages expert and ADASA's previous

licensing history. Applying the improperly reduced $0.0045 royalty to the large volume of infringing tags that were actually disclosed at trial made and sold by Avery Dennison yielded an award of over $35 million in damages. Additional damages increased the total award to over $ 62 million.

32. Every defense raised by Avery Dennison was rejected, including Avery Dennison's multiple challenges to the validity of the asserted claims of the '967 Patent which were found deficient in each of three separate venues: (a) in front of the USPTO; (b) as a matter of law before the Court during the Avery Dennison Litigation; and (c) additionally before a jury.

33. First, during the pendency of the Avery Dennison Litigation, Avery Dennison petitioned the United States Patent and Trademark Office ("USPTO") to invalidate the claims of the '967 Patent in light of four alleged prior art references. The USPTO entered a clarifying amendment within the challenged claims and found all claims of the '967 Patent patentable over all known prior art, whether raised during the reexamination proceeding or identified during the original prosecution. This finding was made by a panel comprising three Examiners. At the close of this *ex parte* reexamination, a Reexamination Certificate was entered for the '967 Patent affirming the patentability of all claims, as presented in the Reexamination Certificate. These claims were ultimately found to be infringed by Avery Dennison.

34. Next, pre-jury trial, the Avery Dennison Litigation Court ruled that several of Avery Dennison's asserted invalidity defenses failed as a matter of law. More specifically, the Court rejected Avery Dennison's arguments that the '967 Patent was invalid as anticipated or obvious, to the point that Avery Dennison intentionally chose not to proceed with any invalidity theories at trial with the jury. The Court also found that ADASA's patent was entitled to its asserted

May 2008 priority date, which placed it well before many industry manufacturers ultimately adopted the technology.

35. The Court also determined that the claims of the '967 Patent were addressed to patent-eligible subject matter under the *Alice*/Section 101 legal standard, specifically holding that claim 1 of the '967 Patent was not directed to an abstract idea but rather to "an encoded RFID transponder implemented with a memory structure accommodating a specific hardware-based number scheme." This determination was subsequently affirmed by the Federal Circuit, which found the asserted claims "directed to a specific, hardware-based RFID serial number data structure designed to enable technological improvements to the commissioning process" and thus directed toward patent-eligible subject matter under both steps of the legal analysis. Avery Dennison's petition for review of the Federal Circuit Court decision by the United States Supreme Court was denied.

36. Finally, remand proceedings were held in July 2023 on two invalidity grounds not presented during the original trial. The remand jury unanimously rejected these last remaining defenses and, again, affirmed the validity of the asserted claims of the '967 Patent.

37. As a result of continuing damages that accrued during the appellate and remand process, the amended final judgment against Avery Dennison for its infringement of the claims of the '967 Patent totaled more than $88M. This multi-year result confirms the value of Mr. McAllister's inventions to the RFID industry.

## VI. THE ACCUSED PRODUCTS OF SML

38. SML has been in business since 1985. Initially, SML's business focused on providing printed labels for apparel products. SML first expanded its business to offer RFID

products and services in 2010.[5] This business unit within SML has grown significantly, and SML now describes itself as "the leading full-service RFID solution provider" and as "trusted partner to the world's largest retailers and top fashion brands."[6]

39. In another publication authored by it, SML states:

> "SML Group is the global end-to-end RFID and brand identification solutions provider, delivering proven results and rapid ROIs to brands in the new era of retailing. We offer innovative Inspire and EcoInspire labeling and packaging products, high-performance RFID tags, and encoding services across industries. Our proprietary software Clarity is the only item-level RFID solution that is engineered and deployment-proven for vertical retailers and brand owners with stores."[7]

40. SML sells encoded RFID tags directly its customers which are encoded by SML at one or more of its Service Bureau locations, then are delivered to customers for item-level tagging. SML sells "a broad spectrum of certified RFID-enabled labels, tags, stickers and inlays from the largest global network of source-tagging service bureaus."[8] From its global service bureaus locations, SML fulfills customer orders for encoded RFID labels and tags, encoded with "item-level information for each product, including EPC number, size, color, manufacturing date, etc."[9] SML's Service Bureau operations are advertised to "reliably deliver[] imprinted, encoded RFID tags and labels whenever needed for manufacturing" and to "ensure GS1 Electronic Product Code (EPC) Serialization specifications."[10]

41. SML's Service Bureau operations are "backed by an enterprise-wide IT system to securely deliver product ordering and encoding information."[11] For RFID tags encoded at SML Service Bureau locations, "[t]he Service Bureau receives variable print/encode data for each order

[5] *See*, Exh. M (Printed Electronics Now online articles) at 1, 3.
[6] *See*, Exh. D (SML whitepaper entitled "Largest Network of RFID Service Bureaus in the World") at 4.
[7] *See*, Exh. E (SML whitepaper entitled "Seamlessly Integrate RFID Into Your Products With Ease") at 4.
[8] Exh. D at 4.
[9] Exh. D at 3.
[10] Exh. D at 2; Exh. E at 2; Exh. F at 2.
[11] Exh. D at 3.

based on predefined 'mapping' relationships between data and each printed element from our e-Platform."[12]

42. SML also provides "In-Plant Printing solutions" (IPPS) for its customers. IPPS allows SML customers to print and encode RFID tags in their own facilities from anywhere around the world, including at least in part within this district. SML provides "consultation, installation, training, technical support, maintenance, and depot service" for its IPPS customers.[13]

43. IPPS operates using SML's E-Platform and FlexiPrint Software which "lets you print directly from the online portal at your own facilities and are compatible with existing SML equipment."[14] E-Platform is described as an "all-in-one online ordering system" that "applies business rules and industry standards to ensure data accuracy" and that "confirms uniqueness of all EPCs to avoid duplications."[15]

44. SML also offers its Clarity software and handheld encoders, which are operable by SML and its retail store customers for in-store item-level tagging during RFID pilots or store re-tagging / replenishing.[16]

45. Regardless of which sales channel used to sell its RFID tag products and services, SML does not identify specific RFID tag / label configurations by product name or model number. Rather, SML's customers select from among various inlays offered by SML, which are then incorporated into a sticker, hangtag, sewn-in, or CARE label in accordance with the customer's specifications made when submitting a tag order.[17] The accused products therefore comprise any

[12] Exh. F (printout of SML RFID webpage entitled "Service Bureaus") at 2, available at URL: https://sml-rfid.com/rfid-tag-technology/rfid-tag-encoding/.
[13] Exh. E at 2.
[14] Exh. E at 2; *see, also,* Exh. F at 3-4.
[15] Exh. E at 3.
[16] Exh. E at 2.
[17] *See* Exh. G (SML whitepaper entitled "Converted Tags") at 7-9; *see, also,* SML's "RFID Inlay" webpage available at URL: https://www.sml.com/products/rfid-inlay/.

of the following inlays converted to any of a sticker, hangtag, sewn-in, or CARE label by SML: GB14M700, GB27U9, GB5YU9, GB14WU9, GB25M700, GB4M700, GB3M700, GB11EU7, GB12M700, GB14M700, GB14U8, GB14WU8, GB14WU9, GB14YU9v2, GB17R6, GB18M700, GB18R6P, GB18U8, GB19U8, GB19U9, GB24U8L, GB24U8S, GB24U9, GB25M700, GB25U8, GB25U9, GB27U8, GB27U9, GB32U9, GB3M700, GB3R6, GB3U7, GB3U8, GB3U9, GB4EU7, GB4EU8, GB4M700, GB4MUU7, GB4R6, GB4U8, GB4U8, GB4U9, GB57M700, GB5M700, GB5U8, GB5U9, GB5YU9, GB6uU7, GB9R6, GB9U7, GB9U9, MAZER6, MAZEU8, MR10EU9, MR15M700, MR15U9, MR19M700, MR20M700, MR2U8, MR5M700, MR5U8, MR5U9, MR6EU9, and MR7U9.[18]

46. The RFID integrated circuit chips are provided to SML in the accused products by Impinj, NXP, and other chip manufacturers. SML manufactures inlays using these integrated circuit chips and then converts the inlays into tags and labels. These inlays are converted to RFID tags by SML. The converted RFID tags comprise a substrate, an antenna, and an RFID integrated circuit chip (the inlay) coupled to the antenna.[19]

47. SML then encodes the integrated circuit chips of the tags and labels pursuant to GS1 standards and guidelines and in accordance with the specifications and schemas selected by, upon information and belief, the managing organization responsible for the item, *i.e.,* brand-owners based on an SML proposal or selected directly by SML.

48. SML encodes the RFID tags and labels with an EPC. The EPC is encoded as a binary encoding within the memory structure of the RFID integrated circuit chip of the tag having an object class information space and a unique serial number space. The object class information

[18] *See* Exh. G (SML whitepaper entitled "Converted Tags") at 7-9; *see, also,* SML's "RFID Inlay" webpage available at URL: https://www.sml.com/products/rfid-inlay/.
[19] Exh. G at 7-9; Exh. H (exemplary Inlay Spec Sheet for GB5U8 inlay) at 1.

space is encoded with the object class information for an item and the unique serial number space is encoded with a unique serial number for that specific item within that object class. A limited number of most significant bits of the serial number space within the EPC binary encoding is fixed to uniquely correspond to a limited number of most significant bits assigned to the block of serial numbers that was allocated to the encoder by the brand owner and/or by agreement between the brand owner and SML or by delegation to SML. The remaining bits of lesser significance are encoded to form one unique serial number selected from the range of serial numbers within the block allocated to the encoder, which can be issued by the encoder in linear sequence, randomly, or otherwise in accordance with the specifications from by the managing organization responsible for the item or as determined by delegation to SML.

49. In particular, SML encodes an EPC SGTIN-96 binary encoding in the memory bank of the RFID tags and labels, with the unique EPC being encoded in binary form. The 38-bit serial number portion of the encoded EPC comprises the particular set of most significant bits corresponding to the most significant bits allocated to the encoder for the object class of the items with which the RFID tags and labels are to be used. For example, schemas and scanned RFID tags associated with various Global Company Prefixes of known SML customers reflect that up to 18 most significant bits of the 38-bit serial number section are fixed to correspond to the most significant bits of an allocated block of serial numbers. The remaining 20 or more bits of lesser significance are encoded with one unique serial number instance from the allocated block of serial numbers.

50. Upon information and belief, SML's Clarity, E-Platform, and FlexiPrint software are operable by SML personnel and SML's IPPS or in-store tagging customers, respectively, to submit part orders for encoding RFID tags. Business rules, industry standards, and other customer-

specific requirements are included with ordering information and used by SML's software to generate and/or log EPCs used to make commissioned RFID tags. Further, upon information and belief, this software resides on SML database equipment within the U.S., in Plano, Texas.

51. The specific encoding format(s) implemented by brand owners detailing the particular EPC structure(s) used thereby to commission RFID tags are not publicly available. Nonetheless, specifics relating to these formats may be discerned using an RFID reader to scan and collect EPCs encoded into the memories of RFID tags affixed to goods displayed in retail stores.

52. As an example of SML's encoding products and services, publicly available documents and information published by SML,[20] Walmart,[21] and others in the RFID industry[22] confirm SML as an approved RFID provider for Walmart and its suppliers. ADASA compiled EPC encoding data from RFID tags in use in Walmart stores in 2017, 2020, and in September 2023. The EPC data obtained confirms that many of the RFID tags in use in Walmart stores infringe claims of the '967 Patent, including claim 1. More specifically, the scanned data confirms widespread use of ADASA's claimed "most significant bits" within the serial number space of scanned RFID tags. In view of SML being one of a select few providers of RFID tags and inlays for Walmart and its suppliers, upon information and belief, the scanned RFID tag data

[20] *See*, SML RFID LinkedIn post affirming that as a "provider of RFID Tags for both Wal-Mart and Nordstrom's suppliers" accessible at URL: https://www.linkedin.com/posts/sml-rfid_walmart-and-nordstrom-widely-adopt-rfid-activity-6917153658459578370-U8NB/?trk=public_profile_like_view.

[21] *See,* Exh. I (excerpted slides from 2024 "Walmart Supply Chain Standards" presentation) at slide 262 (identifying SML as one of four approved providers of RFID tag inlays).

[22] *See* Exh. K (excerpt from R-Pac RFID Solutions presentation) at slide 13 (identifying SML as an approved RFID provider for Walmart;

*see, also*, Walmart RFID Packaging Contact list published on Auburn University's RFID Lab website at URL: https://rfidlab.org/rfidpackaging/ (identifying SML as an approved RFID packaging provider for Walmart for sourcing hangtags, RFID factory solutions, and in-plant printing solutions).

demonstrates the making and selling of infringing RFID tags by SML for use by Walmart and/or Walmart's suppliers.

53. By way of example, scanned tag data was manually collected from item-level RFID tags on retail products on the shelves in eight Walmart stores. This data was collected in Oregon in 2023. The data was filtered to include only EPCs containing Customer Prefix identifiers owned by Walmart Stores, Inc. The resulting data corresponded to several hundred separate GTINs (i.e., separate product types) and totaled 9,536 tag reads (i.e., 9,536 individually tagged products). Inspection of the respective data stored in the 38-bit serial number space for each of these encodings shows the use of MSBs.

54. The scanned data shows that every tag scanned for nearly half of the GTINs comprise the exact same data sequence within the leading 18-bits of the serial number space. More specifically, tags corresponding to 405 separate GTINs exclusively comprised an identical 18-bit sequence of leading bits. This is not coincidence as over 262,000 sequences of '1's and '0's can be generated over 18-bits of memory space. Yet, the scanned data reveals that every tag scanned across a wide range of product types taken from eight different stores throughout Oregon began with the exact same 18-bit sequence.

55. The data revealed three additional 18-bit data sequences that were exclusively used in connection with every RFID tag for a significant amount of GTINs. Those 18-bit sequences were implemented with: 1,633 tags corresponding to 172 separate GTINs; 1,402 tags corresponding to 171 separate GTINs; and, 792 tags corresponding to 102 separate GTINs. Altogether, these four leading bit sequences correspond to nearly 86% of all scanned tags.

56. In addition to the foregoing, analysis of the trailing 20-bit sequences of data for the scanned tags further confirms that the consistent use of four specific leading bit sequences is not

happenstance. While the data within the first 18-bits is static, the data within the trailing 20-bits shows remarkable variation throughout the remaining 20-bit range. This high variability is observed even in instances where the quantity of tags scanned for a particular GTIN is low, often fewer than ten, as shown in the table below:

| GTIN | Scraped Serial Number Data Stored[23] | # Tags |
|---|---|---|
| 00681131022446 | 0101101101000101000********** | 9 |
| 00681131308298 | 0101101101000101000********** | 8 |
| 00681131308335 | 0101101101000101000********** | 14 |
| 00681131310161 | 0101101101000101000********** | 36 |
| 00681131310918 | 0101101101000101000********** | 34 |
| 00681131312455 | 0101101101000101000********** | 20 |
| 00681131358668 | 0101101101000101000********** | 15 |
| 00681131358859 | 0101101101000101000********** | 11 |
| 00681131359306 | 0101101101000101000********** | 7 |
| 00681131360081 | 0101101101000101000********** | 9 |
| 00681131414081 | 0101101101000101000********** | 64 |
| 00681131415521 | 0101101101000101000********** | 18 |
| 00681131422284 | 0101101101000101000********** | 6 |
| 00681131310260 | 0101101101000101000********1*1******1* | 5 |
| 00681131357807 | 0101101101000101000********00********** | 8 |
| 00681131310123 | 0101101101000101000********1********** | 14 |
| 00681131310550 | 0101101101000101000*******0********** | 8 |
| 00681131359023 | 0101101101000101000*******0********** | 7 |
| 00681131397742 | 0101101101000101000***0****1********** | 8 |
| 00681131069496 | 0101101101000101000***0*1************ | 13 |
| 00681131308434 | 0101101101000101000***11**0********** | 13 |
| 00681131308328 | 0101101101000101000**0**************** | 10 |
| 00681131414074 | 0101101101000101000**0*00************ | 20 |
| 00681131308748 | 0101101101000101000**1**************** | 9 |

[23] A '0' value within bit sequence indicates that every tag for the corresponding GTIN identified included a '0' value for that memory location. Likewise, a '1' indicates that all scanned tags for that GTIN had a '1' value stored in that memory location. Conversely, an '*' indicates that the data in that location varied among '0's and '1's.

57. The low number of scanned tags for each respective GTIN in combination with the consistently high variability of the data stored in the trailing 20-bits of the serial number space strongly suggest that the values stored in the trailing bits are not allocated sequentially. Taken in concert, the scanned data confirms that the serial number space is encoded with a static sequence of most significant bits followed by a randomly allocated (and not repeated) sequence of lesser significant bits at the trailing end. Use of this structure within the serial number space of the RFID tag memory practices the limitations regarding the use of most significant bits within the serial number space of the RFID tags claimed in the '967 Patent.

58. Given SML encodes RFID transponders for Walmart in this fashion, while not all of the scanned RFID tags were necessarily encoded just by SML, the consistent and frequent use of these infringing encoded tags demonstrates SML is encoding RFID transponders in violation of the claims of the '967 Patent. To the extent SML encodes any of the tags and labels identified in the above paragraphs of this complaint or additional RFID tags and labels not identified therein that use the format specified herein, SML has infringed the identified claims of the '967 Patent.

## VII. CLAIMS FOR RELIEF (Patent Infringement)

59. Plaintiff incorporates by reference the preceding Paragraphs of this Complaint as if fully set forth herein.

A. Direct Infringement by SML under 35 U.S.C. § 271(a)

60. SML directly infringes claims of the '967 Patent pursuant to 35 U.S.C. § 271(a), either literally or under the doctrine of equivalents, to the extent it uses, sells, offers for sale in the U.S., or imports into the U.S. encoded RFID tags and labels that implement the data structure claimed in at least claim 1 of the '967 Patent. SML makes and sells these infringing RFID tag

products and services to its customers, including retail brand owners (RBOs), manufacturers, distributors, retailers and other end users.

61. More specifically, to the extent SML sells or offers for sale encoded RFID tags to its customers that are made by SML at its Service Bureau locations and are encoded with EPCs comprising an object class information space and a unique serial number space, with the unique serial number space implementing a data structure inclusive of a sequence of MSBs and remaining bits of lesser significance, SML directly infringes at least claim 1 of the '967 Patent.

62. SML operates several "Sales Offices" throughout the United States from which it is believed to negotiate and enter sales contracts or other master agreements with its customers under which part orders for infringing RFID tags products are placed and consummated. All such RFID tags are offered for sale and sold in the U.S., regardless of where they are physically made or where they are delivered to a customer. SML offers for sale and sells both encoded RFID products. Service Bureau products are encoded by SML personnel directly at SML Service Bureau locations. RFID tags and labels sold by in plant printing services ("IPPS") are encoded using SML hardware and software at customer locations. For IPPS customers, SML supplies all necessary hardware, software, the RFID transponders, and encoded data for encoding of the RFID transponder to occur at a customer facility. Encoding is affected in accordance with schema and formats developed by SML and proposed by SML.

63. For all SML customers, whether service bureau or IPPS customers, upon information and belief, SML and its customers enter purchase or supply agreements under which subsequent part orders are made. Upon information and belief, following formation of an agreement under which formats, schemas, and prices for the RFID tags and labels are set, SML customers purchase encoded RFID tags and labels via submission of part orders through software

and an online interface (such as FlexiPrint or SML's ePlatform portal) accessible by SML's personnel or customers. Upon information and belief, part order data is directed via SML's software to its U.S. offices (such as its headquarters in New Jersey and its Solution Innovation Center in Plano, Texas) for generating and transmitting all of the encoding data for commissioning the RFID tags and labels that were ordered. This encoding data is then transmitted to SML's printer/encoders at the encoding location to commission the ordered RFID tags and labels and fill the part order. All encoded RFID tags and labels made or sold by SML comprise data sent from its U.S. offices (such as its headquarters in New Jersey and its Solution Innovation Center in Plano, Texas), which is generated in response to receipt of part orders.

64. Upon information and belief, part order data including at least the quantity of RFID tags and labels ordered is directed to SML locations in the U.S. (such as SML's admitted "item-level RFID solutions" headquarters in Texas) for billing and invoicing each part order upon receipt thereof, with such billing in U.S. dollars.

65. Upon information and belief, SML's agreements with its customers are negotiated in the U.S. by SML personnel. These agreements detail the procedures to be employed for ensuring that all RFID tags and labels sold are encoded with unique object numbers comprising object class information and a serial number utilizing most significant bits, among other general terms. The negotiation of agreements includes submission of an initial proposal by SML to a potential customer that proposes schemas and formats to be used to generate unique object numbers to be encoded into RFID tags and labels sold thereunder.

66. Upon information and belief, SML proposes a default encoding scheme to its potential customers, whether IPPS or Service Bureau customers, that contemplates SML retaining control over serialization management (i.e., the allocation and assignment of unique object

numbers for encoding). Upon information and belief, in its customer proposals, SML emphasizes the importance of uniqueness within item level RFID tagging systems. Further, SML touts its service bureau operations and global network, operating from at least from its item-level RFID solutions headquarters in Texas, as providing unique object numbers, regardless of whether encoding is affected by SML at one of its Service Bureaus or by an SML customer using IPPS.

67. In accordance with this process for setting up and processing part orders following execution of a purchase or supply agreement with it customers, SML offers to sell and sells its RFID tags and labels from the United States, regardless of where encoding occurs. However, upon information and belief, the ordering and invoicing process takes place at SML's U.S. RFID headquarters in Texas. This scheme of receiving and fulfilling individual part orders for its customers therefore represents an independent basis for ADASA infringement allegations against SML under 35 U.S.C. § 271(a).

B. Direct Infringement by SML under 35 U.S.C. § 271(f)

68. Additionally, upon information and belief, SML is liable under 35 U.S.C. § 271(f) for infringement of the '967 Patent, either literally or under the doctrine of equivalents, because it provides from the United States encoding data, including EPCs, comprising unique object numbers implementing the unique structure identified in the claims of the '967 Patent from its U.S.-based headquarters which are transmitted to foreign encoding locations operated by SML or by its customers at the direction of SML. The unique object numbers are provided with the intent that they be combined with uncommissioned RFID tags and labels to make infringing RFID tags and labels.

69. The unique object numbers are specially made and/or especially adapted for use in accordance with the inventions claimed in the '967 Patent. Upon information and belief, each data

file comprising the unique object numbers is intended for use and used only to commission RFID tags and labels.

70. The unique object numbers transmitted are not staple articles or commodities of commerce suitable for substantial noninfringing use. They are known to SML to be specially made or especially adapted for use in accordance with the inventions claimed in the '967 Patent since at least October 6, 2017 or, alternatively, since the filing of the original complaint in this litigation.

C. Indirect Infringement Under 35 U.S.C. §§ 271(b), (c)

71. Additionally, SML is liable under 35 U.S.C. §§ 271(b) and (c) for indirect infringement of the '967 Patent, either literally or under the doctrine of equivalents, because it actively induces and/or contributes to the direct infringement of the '967 Patent by its customers who make, use, and/or import encoded RFID tags and labels that use the unique encoded structure identified in the claims of the '967 Patent.

72. For its Service Bureau customers, SML provides RFID tags and labels encoded with unique object numbers comprising object class information and a serial number utilizing most significant bits to its customers who then import to and/or use the infringing RFID transponders in the United States for item-level tracking and inventory management. SML's infringing RFID transponder products are especially designed for use via affixing them to goods for scanning to track those goods as they travel through the stream of commerce. This item-level identification and tracking is advertised as providing quick and accurate inventory information for SML's customers. According to SML, its RFID solutions in-plant printing offers benefits of "shorter lead times, reduce[s] excess inventory, accelerate[s] speed to market" and makes "RFID re-tagging…easy."

73. SML's customers are instructed to and do affix the infringing RFID transponders to their goods for tracking and inventory purposes, whereby each instance of scanning (i.e., reading) the encoded information stored on an infringing RFID transponder constitutes a use thereof. SML markets and sells RFID readers to its customers that are used for item tracking and inventorying using the information read from SML's infringing RFID tags, both through its E-Platform and FlexiPrint in-plant platforms.

74. Such importing and/or use of the infringing RFID tags and labels by SML's customers directly infringes at least claims 1 of the '967 Patent. SML makes and sells its infringing RFID tags and labels knowing that they are especially designed for and marketed for such use by its customers to affect item-level tracking and rapid inventorying through use of ADASA's patented technology. For example, SML offers and provides training in its two platforms so that customers may use SML hardware and software to accomplish RFID tagging in its customer's own facilities. This hardware and software allows its customers to affix infringing RFID tags and labels to goods within customer stores, distribution centers, and/or warehouses for immediate use by the customer to begin tracking and inventorying those goods. SML trains customer personnel on the use of the infringing RFID tags and scanner devices for item-level tracking and inventorying and publicly markets this service and SML's training by SML employees that provide "consultation, installation, training, technical support, maintenance and depot service" for its in-plant platform services.

75. SML makes and sells its infringing RFID tags and labels knowing at least some will be imported to and used in the United States by SML's customers. For at least some of its customers, such as those having significant or, perhaps, exclusive operations in the United States, SML makes and sells its infringing RFID tags and labels thereto knowing that most or all will be

imported to and used in the United States. SML regularly touts its service bureau worldwide presence in allowing customers to tag RFID transponders in multiple places, all while having its RFID headquarters within this district.

76. SML has had actual notice of its infringement of the claims that were issued in the '967 Patent since receipt of a letter sent on April 24, 2024 to SML's Senior Vice President, Gary Moskovciak. In addition, SML has had actual knowledge of ADASA's claims of patent infringement against SML consistent with those presented herein since at least the filing of the original complaint in this litigation, if not earlier.

77. ADASA has been damaged as a result of SML's infringing conduct. SML is, thus, liable to Plaintiff in an amount that adequately compensates ADASA for SML's 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.

78. With regard to each theory of infringement presented herein, SML's infringement of the '967 Patent has been willful, both before the filing of this complaint and continues to be so after filing. SML has been on notice of its infringement of the '967 Patent since at least April 24, 2024. More specifically, prior to the filing of this complaint, SML has been aware of the '967 Patent and its infringement through a letter delivered to SML's senior leadership that outlined ADASA's claims of infringement.

79. Further, upon information and belief, SML was monitoring ADASA and the '967 Patent through the well-publicized allegations in the above-mentioned Avery Dennison case, which went all the way to the United States Supreme Court. That case was tracked by industry sources, including upon information and belief SML as the case proceeded and as demonstrated by United States Supreme Court amicus briefs filed by RFID industry entities, such as Impinj,

which provides RFID chips for SML's encoded RFID products, and by the National Retail Federation, a trade association whose membership includes several of SML's customers and with whom SML regularly interacts.[24]

80. Since the filing of this action, SML's infringement of the '967 patent has been willful, deliberate and intentional by committing these acts of infringement with knowledge of the '967 patent, and after acquiring knowledge of the '967 patent, SML has continued to commit these acts of infringement knowing, or at worst should have known, that its conduct amounted to infringement of the '967 patent, and thus SML has acted in reckless disregard of ADASA's patent rights. Since the filing of this action, SML has been aware of the unjustifiably high risk that its actions constituted and continue to constitute infringement of the '967 patent, and that the '967 Patent is valid.

81. To the extent SML was not following along with the industry-wide importance of the Avery Dennison case, SML would have been acting willfully blind to its infringement. More specifically, given the '967 Patent's early priority date before the major manufacturers in the RFID encoding industry (such as SML) were using ADASA's now-widely implemented technology, SML would have subjectively believed that there was a high probability that relevant patents, such as ADASA's 967 Patent, directly impacted their ability to encode and sell the RFID transponders that it does today, as described above. Additionally, to the extent that SML was not following the Avery Dennison Litigation and the '967 Patent, it would have been deliberately taking actions to avoid learning about such facts. By ignoring such widely known news and developments, SML was intentionally willfully blind to its infringement.

[24] *See*, Exh. L (SML blog post announcing SML's participation at NRF's annual retail conference) at 1.

82. Because of SML's past and ongoing willful infringement, ADASA is entitled to enhanced damages under 35 U.S.C. § 284.

## VIII. PRAYER FOR RELIEF

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

a. Judgment that one or more claims of the '967 Patent have been infringed, either literally and/or under the doctrine of equivalents, by SML;

b. Judgment that SML account for and pay to Plaintiff all damages to and costs incurred by Plaintiff because of SML's infringing activities and other conduct complained of herein;

c. An award of post judgment royalty to compensate for future infringement;

d. That Plaintiff be granted pre-judgment and post-judgment interest on the damages caused to it by reason of SML's infringing activities and other conduct complained of herein;

e. That this Court declare this an exceptional case and award Plaintiff its reasonable attorney's fees and costs in accordance with 35 U.S.C. § 285;

f. That Plaintiff is entitled to enhanced damages under 35 U.S.C. § 284; and

g. That Plaintiff be granted such other and further relief as the Court may deem just and proper under the circumstances.

## JURY DEMAND

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

Dated: April 29, 2024.

Respectfully submitted,

*/s/ Jonathan T. Suder*

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