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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* CHAING-CHI LIU and STEVE WANG

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Appeal 2019-002620<sup>1</sup>  
Application 14/845,238  
Technology Center 2100

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Before JASON V. MORGAN, BARBARA A. BENOIT, and  
JOHN R. KENNY, *Administrative Patent Judges*.

KENNY, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant<sup>2</sup> appeals from the Examiner's decision to reject claims 1–29. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

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<sup>1</sup> This application was filed on September 3, 2015 and claims the benefit of Chinese Patent Application No. 201510523770.9 filed on August 24, 2015. Spec. ¶ 1.

<sup>2</sup> We use the word Appellant to refer to “applicant” as defined in 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as Ruizhang Technology Ltd., Co. Appeal Br. 1

## SPECIFICATION

Appellant's Specification relates to "error detection and error correction techniques for RFID devices and systems." Spec. ¶ 2. An RFID system usually includes tags and readers, and an RFID tag typically includes an antenna, an integrated circuit, and memory. *Id.* ¶ 3. A product manufacturer can attach an RFID tag to a product and can also initialize the tag's memory to include a unique identification code and specific details about the tagged product, such as its make, color, and price. *Id.* ¶ 5.

In an RFID system, a tag-read rate of approximately 100% is required. Spec. ¶ 6. A system may not achieve such a read rate due to data corruption and bit-flips in the tag's memory, which can result from design and manufacturing variations. *Id.* ¶¶ 6–7.

In the Specification, both user data and tag manufacturing data can be stored in the tag's memory. Spec. ¶ 11. The user data can be programmed by a user (e.g., the entity attaching the tag to a product). *Id.* The manufacturing data is generally programmed by the tag's manufacturer and cannot be programmed by the user. *Id.*

The RFID tag can detect and correct errors in its data. Spec. ¶ 11. If the tag detects an error, the tag can transmit its manufacturing data to a reader, which can determine whether the error was caused by a manufacturing defect, in which case, the reader can determine the source or location of the manufacturing defect and inform the tag manufacturer. *Id.*

## CLAIMS

Claims 1, 9, 12, 19, and 23 are the independent claims. Claim 1 is illustrative and is reproduced below with disputed limitations emphasized:

1. An error correction method for use with a radio frequency identification (RFID) tag comprised of an antenna and an integrated circuit (IC), the method comprising:

receiving, via the antenna, a signal for at least one of activating the tag or interrogating the tag, wherein the IC comprises memory storing data associated with the tag, wherein *the stored data includes manufacturing data unique to the tag and related to the manufacturing of the tag*, and wherein the IC is configured to perform at least one of error detection or error correction on at least some of the stored data, wherein the *manufacturing data is to determine if a detected or corrected error is a result of a manufacturing defect to the tag or the source or location of the manufacturing defect*;

detecting, by the IC, that one or more bits of the stored data has an error after the tag is activated; and

*transmitting the manufacturing data* in response to one or more hits of the stored data being detected with an error.

Appeal Br. 9–10, 15.

#### REFERENCES

The Examiner relies on the following prior art:

Name	Reference	Date
Brandt	US 2007/0063029 A1	Mar. 22, 2007
Kawaguchi	US 8,774,710 B2	July 8, 2014
Kim	US 2011/0037568 A1	Feb. 17, 2011
Teraura	US 2012/0278676 A1	Nov. 1, 2012

#### REJECTION

Claims 1–29 stand rejected under 35 U.S.C. § 103 as unpatentable over the combination of Kawaguchi, Teraura, Brandt, and Kim. Final Act.

3.

OPINION

*A. Claims 1–8*

Appellant argues that the references relied upon by the Examiner do not teach or suggest the stored manufacturing data recited in claim 1. Appeal Br. 9–10; Reply Br. 4. The Examiner maps the recited stored manufacturing data to (i) the electronic product code (EPC) disclosed in Kawaguchi and (ii) the electronic product data disclosed in Brandt. Final Act. 4, 6. Further, the Examiner maps the recited manufacturing data to the electronic product code in Teraura. Ans. 6. In addition, the Examiner determines that it would have been obvious to an ordinarily skilled artisan to treat the “EPC as manufacturing data unique to a RFID tag and related to the manufacturing of the tag, and substitute the item” for the RFID tag “to prevent occurrence of data error” on the RFID tag. *Id.* at 7.

Appellant argues that (i) the recited manufacturing data does not encompass the disclosed electronic product codes and (ii) the Examiner has not set forth a sufficient basis for determining that it would have been obvious to include manufacturing data in the disclosed electronic product codes. Reply Br. 4–7.

We agree with Appellant. The Specification distinguishes electronic product codes and manufacturing data. Spec. ¶ 63. In the Specification, an electronic product code “is an identifier for a good or product that the tag is attached to that provides a unique identity for that good or product.” *Id.* Further, in the Specification, codes identifying the products to which RFID tags are attached are programmed by the product’s manufacturer (the user of the RFID system), not the tag manufacturer. *Id.* ¶ 5. In contrast, manufacturing data (as the term is used in the Specification) is programmed

by a tag manufacturer, not a user. *Id.* ¶¶ 11, 52. Manufacturing data includes information, such as the wafer used to produce the IC for a tag, the manufacturing process for that wafer, and the location of the die on that wafer. *Id.* ¶ 63. Manufacturing data is “generally not useful to users of system 100.” *Id.* ¶ 52.

None of the disclosures cited by the Examiner indicate that the electronic product codes that are disclosed by Kawaguchi, Brandt, or Teraura contain data related to manufacturing a tag. Instead, the cited disclosures indicate that these electronic product codes, like those discussed in the Specification, identify *the goods or products* to which a tag is attached. Kawaguchi states “EPC is a simple compact identifier that uniquely identifies objects (items, cases, pallets, locations, etc.) in the supply chain.” Kawaguchi, 4:38–40. Brant discloses writing electronic product information to an RFID tag associated with a part to track that part. Brant ¶ 44. And Teraura discloses that its electronic product code provides information about an object to which RFID tag 70C is affixed. Teraura ¶ 98. None of these disclosures teach or suggest the storage of data about the manufacture of the involved RFID tags.

As for the Examiner’s determination that an ordinarily skilled artisan would modify an EPC to include manufacturing data, more of a rationale is needed for that modification. Ans. 7. The Examiner finds that an ordinarily skilled artisan would make that modification to prevent the occurrence of data error on RFID tags. *Id.* The Examiner, however, does not set forth any support for that finding. *Id.* And it is not apparent from the cited prior art disclosures why an ordinarily skilled artisan would have been so motivated.

Therefore, we do not sustain the Examiner’s rejection of claim 1 nor of claims 2–8, which depend from claim 1. Appeal Br. 15–16 (Claim Appendix).

*B. Claims 9–29.*

Each of independent claims 9, 12, and 19 recites storing or stored manufacturing data related to the manufacture of an RFID tag. Specifically, claim 9 recites an error correction method that stores “manufacturing data unique to the tag and related to the manufacturing of the tag.” Appeal Br. 16 (Claim Appendix). Claim 12 recites a radio frequency identification system with stored “manufacturing data unique to the tag and related to the manufacturing of the tag.” *Id.* at 17. Claim 19 recites a radio frequency tag with a memory storing “manufacturing data unique to the tag and related to the manufacturing of the tag.” *Id.* at 18–19. Thus, we do not sustain the rejection of claims 9, 12, and 19 and of claims 10, 11, 13–18, and 20–29 (which each depend directly or indirectly from one of claims 9, 12, and 19) for the same reasons as for claim 1. *Id.* at 16–21.

DECISION SUMMARY

In summary:

<b>Claims Rejected</b>	<b>35 U.S.C. §</b>	<b>References</b>	<b>Affirmed</b>	<b>Reversed</b>
1–29	103	Kawaguchi, Teraura, Brandt, and Kim		1–29

REVERSED