

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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KAPSCH TRAFFICCOM IVHS INC., and  
KAPSCH TRAFFICCOM HOLDING CORP.,  
Petitioner,

v.

NEOLOGY, INC.,  
Patent Owner.

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Case IPR2015-00814  
Patent 6,690,264 B2

Before JUSTIN T. ARBES, GLENN J. PERRY, and  
TREVOR M. JEFFERSON, *Administrative Patent Judges*.

PERRY, *Administrative Patent Judge*.

FINAL WRITTEN DECISION  
*35 U.S.C § 318(a) and 37 C.F.R. § 42.73*

## I. INTRODUCTION

This is a Final Written Decision entered in an *inter partes* review instituted pursuant to 35 U.S.C. § 314. For reasons discussed below, we determine that Petitioner has shown by a preponderance of the evidence that claims 1–24 of U.S. Patent No. 6,690,264 B2 (Ex. 1001, “the ’264 patent”) are unpatentable.

### A. Procedural History

Kapsch TrafficCom IVHS Inc. and Kapsch TrafficCom Holding Corp. (collectively, “Petitioner”)<sup>1</sup> filed a Petition (Paper 1, “Pet.”) seeking *inter partes* review of claims 1–24 of the ’264 patent pursuant to 35 U.S.C. §§ 311–319. On September 14, 2015, we instituted an *inter partes* review of claims 1–24 (Paper 11, “Dec. on Inst.”). Patent Owner Neology, Inc. filed a Patent Owner Response (Paper 20, “Resp.”), and Petitioner filed a Reply (Paper 30, “Reply”).<sup>2</sup> We heard oral argument on May 10, 2016, and a transcript of that argument is included in the record (Paper 38, “Tr.”).

We have jurisdiction under 35 U.S.C. § 6. This final written decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73.

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<sup>1</sup> The original Petitioners were Kapsch TrafficCom IVHS Inc., Kapsch TrafficCom IVHS Holding Corp., Kapsch TrafficCom IVHS Technologies Holding Corp., Kapsch TrafficCom U.S. Corp., and Kapsch TrafficCom Holding Corp. During trial, Kapsch TrafficCom IVHS Holding Corp., Kapsch TrafficCom IVHS Technologies Holding Corp., and Kapsch TrafficCom U.S. Corp. merged with Kapsch TrafficCom Holding Corp. *See* Papers 31, 32.

<sup>2</sup> Petitioner filed redacted (Paper 30) and unredacted (Paper 28) versions of its Reply and other materials, along with two motions to seal, which were conditionally granted. *See* Papers 26, 31. We do not rely on any sealed material in this Decision.

### *B. Related Proceedings*

According to Petitioner, Patent Owner asserted the '264 patent in *Neology, Inc. v. Kapsch TrafficCom IVHS Inc., et al.*, D. Del. Case No. 1:13-cv-02052-LPS. Further, according to Petitioner, Patent Owner originally filed this action against Confidex, Inc. on December 19, 2013; and filed an amended complaint against various Kapsch entities on February 27, 2014, first serving them with the complaint on February 28, 2014. Pet. 1.

Patent Owner previously asserted the '264 patent in *Neology, Inc. v. Federal Signal Corp., et al.*, Case No. 11-CV-00672-LPS-MPT (D. Del. 2011). In that case, all pending claims were dismissed with prejudice on June 25, 2013. Pet. 1–2.

### *C. The '264 Patent (Ex. 1004)*

#### *1. Background of the '264 Patent*

Radio-frequency identification (RFID) technology provides remote identification of objects by using an RFID tag (“tag”) associated with those objects. The tag wirelessly responds to an RFID reader’s interrogating signal, thereby identifying items associated with the tag. Ex. 1001 ¶¶ 23–24. According to Patent Owner, the '264 patent describes improvements over a prior art RFID tag disclosed by Kruest (Ex. 1009), incorporated by reference into the '264 patent Specification. Resp. 2–3; *see* Ex. 1004, 1:13–14.

#### *2. The '264 Patent Improvement*

The '264 patent criticizes Kruest because in Kruest’s disclosed system, “while the chip is in the C[LOAK] state, it is impossible for the reader to communicate with the tag.” Ex. 1004, 1:41–42. Kruest places an RFID tag in a cloaked state by disconnecting the tag’s antenna from the

chip's circuitry in response to a command to initiate cloaking. Resp. 3 (citing Ex. 1004, 1:12–26). The antenna remains disconnected for a predetermined, finite period of time (a “cloaking period”), controlled by an RC circuit. *Id.* During this cloaking period, the tag is unable to communicate with a reader, and is thus unable to respond to any commands, until the cloaking period expires. *Id.* (citing Ex. 1004, 1:20–26). The '264 patent describes its improvement as providing a receiving connection so that command signals are continuously receivable notwithstanding cloaking of the RFID tag. Ex. 1004, 1:59–62.

Figure 1 of the '264 patent is reproduced below.

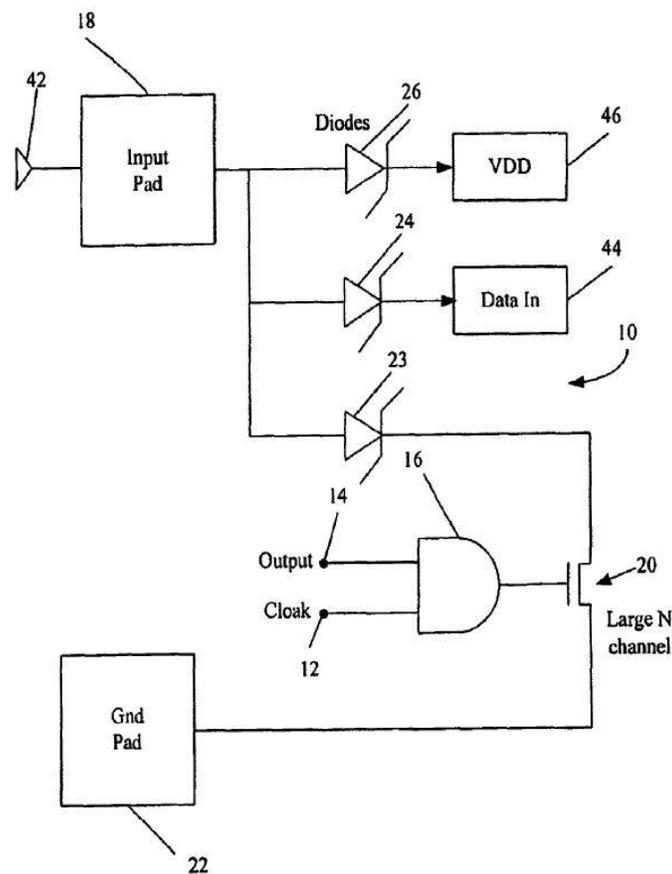


Figure 1 is a circuit diagram of the illustrated embodiment in which the RFID tag remains in a condition in which command signals can be received during the cloaking period and in response to which the tag may be awakened on command. Ex. 1004, 2:18–22.

Cloaking circuit 10 for an RFID tag allows it to receive command signals via diode 24 while cloaked, even though the tag is prevented from responding (typically by backscattering from its antenna) to an interrogating signal while cloaked.

During normal operation (not cloaked), “cloak” node 12, coupled to the input of AND gate 16, is high. Whenever “Output” node 14 also goes high (typically for 1 to 2  $\mu$ sec), transistor 20, acting as a switch, connects antenna 42 to ground pad 22 (via input pad 18 and diode 23). When antenna 42 is grounded, its impedance is such that it backscatters an interrogating signal from the reader, thereby responding to it. With both output node 14 and cloak node 12 high (not cloaked), the output of AND gate 16 is high, the antenna is grounded, and the RFID tag backscatters an interrogating signal. Ex. 1004, 3:21–34.

Otherwise (when cloaked), antenna 42 does not backscatter an interrogating signal and therefore is not “seen” by an interrogator. *Id.* Figure 2 of the '264 patent is reproduced below.

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