STISS Ltd. Selects HID Global's RFID Technology to Enable NFC Functionality in High-End Watches

Switzerland-based STISS Ltd. produces high-end sapphire glass for analog watches and has pioneered the integration of Near Field Communication (NFC) technology into its product in a way that the RFID part is invisible and does not impact the design of the watch. This enables the NFC authentication of analog watches or allows them to be used for payment. A startup company, STISS started the marketing phase of its glass in 2022 and is already planning an expansion into the United States and Asia in 2024. The company aims to equip all high-end watch brands with STISS glass for digital use cases, such as contactless payment, access, transport or authentication via blockchain – while maintaining the beauty and mechanical design of an analog watch.

CHALLENGES:

As part of its product development roadmap, STISS set out to integrate an NFC chip into its proprietary sapphire glass used in high-end watches. NFC is a wireless standard that enables digital devices to share data, and the addition of the technology would support such functionality as contactless payment and identity authentication—elevating the value proposition of watch brands' product in the market.

The company sought out the tiniest possible solution to non-intrusively bring NFC to life. The chip would need to deliver NFC functionality without altering the luxury appearance or design of STISS glass. In addition, STISS needed to identify a partner that could meet the expected supply demands for the company's expanding volumes.

"Embedding NFC into the sapphire glass without impacting the appearance would necessitate a technology that was near invisible to the human eye," said Joé Courtine, CEO of STISS. "Not only would this require we have access to the most advanced solutions available but also an assembly process that would maximize output for the anticipated production volumes."

SOLUTION:

Today, RFID coils manufactured with DBond™ technology from HID Global are powering NFC in STISS's sapphire glass. DBond technology, also known as "direct bonding," is a means to directly connect an RFID wire antenna to a micro-sized chip without the need for bulky module housing and without additional soldering material. In essence, DBond allows the creation of smaller and thinner RFID-based products, which are more reliable and easier to process than standard RFID products. Notably, HID Global's offering of high frequency (HF) Direct Bonding enables the creation of ultra-thin or small products like it was needed to be embedded into the sapphire glass for watches.

To interact with the tagged watches, Selinko, a Belgian company that securely connects objects and allows strong engagement, developed an exclusive user interface for smartphones to prove authenticity, support customer engagement and even provides detection services in case of theft.

Courtine noted that STISS executives researched all potential options in the market for the NFC component and ultimately chose the best possible fit. "The DBond solution was a must for us. In addition, HID Global has a global reach and can supply us with the expected volumes we are targeting," he said.

STISS worked initially with samples from HID Global to test the entire integration and assembly process. Courtine noted that the testing proved successful in terms of NFC reading distance in a metal environment.

"Thanks to HID Global's custom design expertise and proprietary bonding process, we can integrate a non-intrusive NFC tag in our ID GLASS. It allows a robust link between the physical watch and its digital life while limiting the visual impact.We plan on increasing our business with HID Global as there are already two other products that are in the queue to receive similar improvements," Courtine said.

"HID Global's technological advancements are helping us provide a higher quality product to our customers. With STISS's new ID GLASS, a watch brand can leverage the benefits of digital services while safeguarding its traditions and its designs."

Joé Courtine,
CEO,
STISS, LTD

Solutions

- HID Custom embeddable RFID utilizing DBond™ technology

HID

RESULTS:

STISS is benefitting from the new NFC integration in its sapphire glass that is utilized by Selinko Software in the best way possible—increased sales volume and elevated client satisfaction. And equally important, the addition of the new RFID chip remains nearly invisible thanks to DBond technology.

BA111OD, a dynamic Swiss watch brand, created the convergence of art and technology by combining one of the most prestigious horological complications, the tourbillon, with a technological feat, the very first NFC-enabled sapphire glass from STISS in the history of watchmaking in their Chapter 4.1 models. With the right partnership with STISS, Selinko and HID Global, they have created the most innovative and one-of-a-kind watch with ID Glass technology that improves the traceability of watches, strengthens relationships with end customers and offers a unique and tailor-made concierge service.

"We are truly excited to collaborate with smart technology partners like STISS and HID in pioneering the very first NFC- enabled sapphire crystal in the history of watchmaking. BA111OD is big on innovative technology and the ID Glass technology allows us to improve relationships with our community as we always want to put the digital evolution at the services of our clients.," said Thomas Baillod, CEO and founder of BA111OD.

He adds, "BA111OD is successfully meeting its challenge thanks to the robust and non-intrusive link between the physical watch and the customized service for its customers while keeping the quintessence of Swiss watchmaking excellence."

"HID's technological advancements are helping us provide a higher quality product to our customers," Courtine said. "With STISS's new ID GLASS, a watch brand can leverage the benefits of digital services while safeguarding its traditions and its designs."

STISS

Selinko

BA111OD