

RFID antennas go into production

Fuerth and Duesseldorf, 24 October 2007: Stamping foil manufacturer Kurz has developed a new thin layer product for industrial use that will go to full production in the autumn of 2007: a transponder antenna for RFID tags called Secobo. The two-dimensional HF antenna comprises a copper coil with a small number of windings, is 76 by 45 millimeters in size to comply with the ISO ID-1 card standard, and will initially be used in the smart card and ticket field.

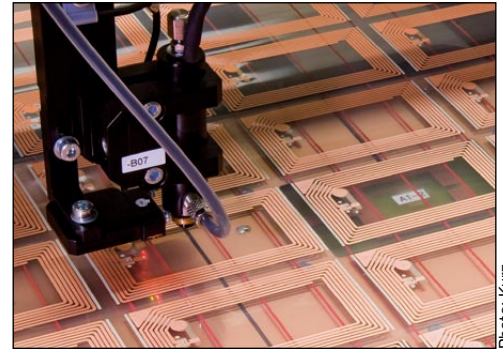
The Secobo copper antennas, when compared to aluminum ones, are distinguishable by their high electrical quality having conductivity almost 60 percent greater. The antennas are produced using a new additive process involving neither winding or etching, which brings significant advantages. This manufacturing process is considerably more economical than that used for wound antennas. The new antennas are therefore substantially lower in price while offering precisely the required quality factor. Compared to etched antennas, the process is a good deal more environmentally friendly since it uses much less material and produces almost no environmentally damaging waste. These environmental advantages, in turn, also provide significant cost savings.

High quality assurance

Inadequate quality control has a major impact on RFID antennas. If defective antennas are not detected in a timely manner, the entire transponder or even the finished card will later need to be rejected leading to high scrap costs. That is why Kurz takes quality assurance particularly seriously. Every antenna is subject to individual inspection to enable optimal performance. The antennas, produced to ISO-15693 and ISO-14443 standards, go through intensive checks first during the manufacturing process itself. On the finished roll, each and every one of the antennas is again tested optically and electronically.

Deliverable in large quantities

High production speeds are achieved during manufacture so very large quantities may be shipped within short lead times. The antennas are also quickly adaptable to customer's requirements. Customer requests can be developed and tested in a timely fashion. Additional time and cost savings are realized due to easy processing. The antennas are produced as rolled goods and are built to suit commonly available chip bonding machines used worldwide. The rolls are inserted directly into the machines without the need for any intermediate processing steps. On account of their fast manufacture and efficient integration into the produc-



Secobo – the RFID transponder antenna from Kurz

A print-ready version of the photo is made available in the file "photos".

Photo: Kurz

tion process, Kurz's antennas contribute to the economical and flexible mass production of high-quality RFID transponders.

Rapidly growing demand

Card technology is an important component of the fast growing RFID market. Increasingly, more cards and tickets are being equipped with RFID systems. This has created an enormous demand for cost-effective, functional and reliable antennas. Kurz has developed its new antennas to meet the demands and service requirements of this large market. „The major strength of Secobo lies in the combination of optimum quality, low price and high deliverability“ says Thorsten Hepp, Marketing and Sales Manager for Antenna Products at Kurz.

For more information about the new transponder antenna Secobo visit the Kurz Stand A19 in Hall 5 at K 2007.

Background

RFID technology

RFID – Radio Frequency Identification – is the name of a method by which data is transferred using radio waves without the need for contact or line of sight. This process uses a transponder, comprising a microchip and an antenna, that acts as a data medium and data transmitter. It also requires a reader/writer and an IT system to process the received data. As soon as the reader comes within range of the transponder it can activate the data communication, retrieve the data from the chip and, in the case of rewritable transponders, even transmit new data. There are active transponders that have their own energy source, and passive transponders that are supplied with energy via the electromagnetic field of the reader.

Kurz antennas in the RFID system

There are several government defined radio frequency ranges for radio transmission of RFID signals. Kurz antennas transmit in the high frequency range of 13.56 MHz which offers a higher data transfer rate than low-frequency systems. The antennas are a component of passive transponders and can be activated within a distance of about a half a meter from the reader. A higher range of up to one meter is technically possible but unnecessary for card applications. In the event that several cards are within range of the reader at the same time, the transponders are equipped with an anti-collision function. This enables several so called tags to be read without interference and within a short period of time.

RFID for the card sector

Plastic cards that can be read via radio signals offer many advantages. The cards are wear-free, insensitive to dirt and moisture and therefore less prone to faults, user-friendly and convenient, and above all, they enable fast data transfer. These advantages can be employed in many applications. Whether it be cards for access control, time recording or loan systems, bonus or rebate cards, money cards, health insurance cards, membership or customer cards, or as paper tickets, RFID systems are conceivable, or already successfully deployed in all these areas. For example, they are being used as single or multi-travel tickets in the local public transport network of various large cities. The cards are read while getting on or off a bus or train, and the amount payable is either invoiced at the end of the month or deducted from a rechargeable money card. Contact-free cards can be particularly recommended for locations where queues can form very quickly and speedy, problem-free transactions are required, like for example subway entrances or admission gates at major entertainment events.

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About Kurz

The Kurz Group, the recognized global leader in hot stamping technology, represents over 100 years of experience in hot stamping. The range of applications for Kurz foils is virtually without limit - on greeting cards and packaging, electronic and household products, cosmetic articles, textiles, furniture, automotive parts and more. With 3,000 employees located at nine plants in Europe, the USA and the Pacific region, together with 19 subsidiaries and 70 agencies strategically placed around the globe, the Kurz Group manufactures and distributes a comprehensive product range for the surface finishing, decorating and counterfeit prevention sectors. A complete range of stamping machines and tools rounds off its product offering. Kurz, with research and development departments in both Europe and the USA, coupled with customer service and on-site technical assistance, supports its customers internationally with complete, custom-tailored solutions comprising foils, application machines and stamping tools.



Photo: Kurz

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