







Warehouse











Manufacturing

Retail

Health Care

Transportation

Hospitality

Offices

Access Control

INDOTAG SOLUTIONS LIMITED established in 2016 after extensive R&D to develop "**Solution for Duplicity Protection**" in association with experienced European company.

Our focus is on IOT development besides sales of SDP device, School security cards, RFID Inlays, Stickers, Tags and RFID Cards.

Our products are widely used in Paint, Chemical & Pharmaceuticals industries to protect original products from duplicate. Our products are also used in Toll collection, Access control system & ID cards etc.

After years of development & recent resources integration, focused on significant advantages in Indian industry, as we are the 1st company in India to bring the concept of patented product **SDP** (**S**olution for **D**uplicity **P**rotection) based on NFC technology.

In short span of 3 years, company has grown stronger absorbing new technologies based on our economic strength, High standard management, Modern operational strategies, high technologies equipment's enabling us to provide a quality product at reasonable cost.



INDOTAG SOLUTIONS LIMITED is a ROHS, ETA, WPS and ISO-9001:2015 certified company for design and manufacturing of Smart Cards & RFID Products.

Located about 60 KM from Delhi airport in Industrial Area of UPSIDC, Site-V, Kasna, , Greater Noida, U.P., India, where we design and manufacture international quality RFID products in various frequency ranges including low (LF), high (HF) and ultra-high (UHF) as well as NFC tags, Smart Cards and Inlays for e-passport.

Our in-house R&D lab consist of expert analysts, engineers and designers developing and customizing high performance, innovative and industry specific products for quality conscious customer in India and abroad. The lab comprising of modern technology includes all CQM Testing Tools and led by a proficient team, has successfully developed many new designs as well as customized tags and inlays as per client requirement.

Our manufacturing plant is spread across an area of over 2,000 sq.mtr.; equipped with clean room environment, advanced technology machinery and backed by dedicated & experienced team of professionals; we have mastered the critical manufacturing processes such as wire embedding /coil winding, chip pick and place, module /chip bonding, lamination, card punching, Colour DOD, Laser and thermal personalisation among others.

Our infrastructure and expertise have enabled us to be a pioneer in launching new tags, smart cards and other products consistently. Indotag Solutions is the perfect example of youth and exuberance amalgamated with experience and caution. We are focused on providing domestically manufactured high quality RFID labels and Smart Cards, starting from designing and providing solutions with personalization of chips, required for the various public and private sector projects.

Products





B: Paper card Specification: 1.Material: Paper 2.Size: 85.6*54*(0.5+/-0.02)mm 3.Frequency: 13.56MHz 4.Antenna: (1)Wire embedding (Round antenna or square) (2)Etched antenna nna or square antenna Application: Metro card, one way ticket, Public

Transportation.

C: PET metro card

Specification: 1. Material: PET 2.Size: 85.6*54*(0.5+/-0.02)mm 3.Frequency: 13.56MHz 4. Antenna: (1)Wire embedding (Round antenna or square (2)Etched antenna (Round selence Application: Metro card, one way ticket, Public Transportation.

Inlay (Layout)

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3x8 Format

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3x7 Format

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2x5 Format

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5x5 Format

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Combo Inlay (LF & UHF) 0.0.0

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Combo inlay (LF & HF)



RFID EM Card (125KHz) EM Thin proximity card The RFID proximity access card offers 125KHz ISO format proximity technology and customization of printing images on both sides. It is used for applications such as access control system, time and attendance system, visitor management and so on



Prelam Sheet/Inlay for Contactless Smart Card

Specification:

- 1.Material : PVC/PETG/PC
- 2.Specification : Different layouts are available 3.Frequency: 125KHz/13.56MHz/800-960MHz 4.Benefit : Ultrasonic embedding or air coil antenna are available, automatic module placement and spot welding to antenna, suitable for volume production.

Suitable for normal PVC card manufacturers.

| Contactless IC Card | | | |
|----------------------|--|---|---|
| Items Description | ⇒ UHF Contactless IC Card | HF Contactless IC Card | LF Contactless Card |
| Size(±0.5mm) | 86*54*0.9mm or customized | 86*54*0.8mm or customized | 86*54*0.8mm or customized |
| Antenna | Aluminum etching antenna, Copper coil | Aluminum etching antenna, Copper coil | Copper coil |
| Material | PET, PVC | PET, PVC, ABS, Poly Carbonate | PET, PVC |
| Other Craft | 4C offset print, Silk screen print, Inkjet print, Foil stamp, Encoding. | 4C offset print, Silk screen print, Inkjet print, Foil stamp, Encoding. | 4C offset print, Silk screen print, Inkjet print, Foil stamp, Encoding. |
| Frequency | 860-960MHz | 13.56MHz | 125KHz |
| Protocol | ISO/IEC 18000-6C EPC Class1 Gen2 | ISO14443A/ISO15693 | ISO 14223 |
| Chip Type | Alien H3, Impenj, M4D/M4E/M4QT/M5 | S50/S70, Ultralight EV1/Ultralight C, NTAG213/216, I CODE SLIX, FM1108 | EM4102/4305, HT4168 |
| Memory Size | Related to the chip | Related to the chip | Related to the chip |
| Working Temp. | (-25 to 65°C) | (-25 to 65°C) | (-25 to 65°C) |
| Storage Temp. | (-35 to 65°C) | (-35 to 65°C) | (-35 to 65°C) |
| Operating Mode | Read & write | Read & write | Read & write |
| Life time | >5 years | >10 years | >5 years |
| Write Endurance | 100,000 cycles | 10,00,000 cycles | 100,000 cycles |
| Reading Distance | 0-10 m Depending on work condition & reader | 0-10cm Depending on work condition & reader | 0-5cm Depending on work condition & reader |
| Application | Identification, Attendance, Access control system, Membership management, Toll collect system | Identification, Attendance, Access control system, Membership management, Toll collect system, Transportation. | Identification, Attendance, Access control system, Membership management. |

Anti-Counterfeit Application



CURRENT PROCESS

- 1. Products are shipped with a host of documents.
- a. Installation Guide in Multiple Languages
- b. Instruction Manuals in Multiple Languages
- 2. Consumer has to read through the installation/ setup manual
 - 3. Product Registration involves filling up the warranty card and mailing it out.
 - 4. End User has to keep the receipts and warranty cards, instruction and setup guides.

NEW PROCESS

- 1. Products are shipped with a NFC Tag.
- 2. Consumer has to download and register a mobile application onto their phone.
- 3. Consumers can read the QR code or use the phones inbuilt Mobile phone NFC reader to read the product tag.
- 4. The consumer is able to register the product, order consumables, watch online instructions.
- 5. When support is required, the app will have all the relevant information such as the product serial number to attend to the customer.

INDO TAG Counterfeiting

- 1. SDP tag is designed to be placed on Plastics and Metal
- 2. It has a built in memory that allows you to insert product information into the tag.
- 3. It replaces all the product codes, serial numbers and documentation that normally comes shipped to a customer.

DATA CAPTURE

- 1. Consumer Profile. SOHO, small, medium Large company, Industry.
- 2. Distribution Dynamics. Where they buy. When they buy. How much.
- 3. Product Information . Color , Size, Product Category, Model.
- 4. Time to Market How long does the product get to the market.
- 5. Inventory Levels How many products are sitting on the shelves in the channel and how many are sold.
- 6. Efficiency of an advertisement campaign any impact on sales during the ad campaign period.

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COST BENEFITS OF INVESTING IN TO INDO TAG

- Consumer
- 1. Ease of Product Registration
- 2. Not needing to keep or flip through manuals. Online video instructions
- 3. Not needing to keep receipts and warranty cards.
- 4. Ease of ordering consumables, calling for tech support.

Manufacturers

- 1 Not needing to print warranty cards, multi language manuals and setup guides
- 2 Cheaper shipping as the product boxes are smaller and lighter.
- 3 Able to capture directly end user information
- 4 Able to access to end users directly
- 5 Post sales support process is quicker and easier.

CAPACITY COMPARISON OF DIFFERENT TECHNOLOGIES USED FOR COUNTERFEIT PROTECTION

| Attributes | Technologies | | | |
|----------------------|--------------------------------------|--|--------------------------------|---|
| | Barcode | RFID | QR code | NFC Tags |
| Data capacity | >20 characters | Maximum 8000 bytes | Maximum 2953 | Maximum 1.6 MB |
| Direct line of sight | Requires line of sight | Does not direct require line of sight | Requires direct line of sight | Does not direct require line of sight |
| Reusability | Has to be reprinted each time | Rewritable/reusability | Has to be reprinted each time | Rewritable/reusabili ty |
| Durability | Can't be used when scratched/stained | Can be used even when scratched/stained | Wrinkled tags can't be used | Can be used even when scratched/stained |



Inventory Management

Radio Frequency Identification (RFID) allows a business to identify individual products and components, and to track them throughout the supply chain from production to point-of-sale.

RFID is a technology that uses radio waves for communication between a tag and a reading device. The tag usually consists of a microchip attached to an antenna. The reader is capable of reading data from and writing data to the tag.

RFID inventory management

An RFID tag is a tiny microchip, plus a small aerial, which can contain a range of digital information about a particular item. Tags are encapsulated in plastic, paper or similar material, and fixed to the product or its packaging, to a pallet or container, or even to a van or delivery truck.

The tag is interrogated by an RFID reader which transmits and receives radio signals to and from the tag. The information that the reader collects is collated and processed using special computer software. Readers can be placed at different positions within a factory or warehouse to show when goods are moved.

Using **RFID tagging for stock control** offers several advantages over other methods such as barcodes:

- tags can be read remotely, often at a distance of several metres
- several tags can be read at once, enabling an entire pallet-load of products to be checked simultaneously
- tags can be given unique identification codes, so that individual products can be tracked
- certain types of tag can be overwritten, enabling information about items to be updated, eg when they are moved from one part of a factory to another

RFID tagging can be used:

- to prevent over-stocking or under-stocking a product or component
- for stock security, by positioning tag-readers at points of high risk, such as exits, and causing them to trigger alarms
- for quality control, particularly if you make or stock items with a limited shelf life
- The costs associated with RFID tagging have fallen over recent years, and continue to do so. The benefits of more efficient stock control and improved security make it particularly attractive to retailers, wholesalers or distributors who stock a wide range of items, and to manufacturers who produce volume runs of products for different customers.

Inventory Management



School Kid Security System

Shelf

terminal



Classroom Entry/Exit

1. Each Classroom entrance will have one UHF Reader and Antenna installed on it.

2. It will work as first detection basis meaning, if a student is first detected at IN Reader followed by OUT Antenna the he/she will considered as IN the class.

3. If a student is first detected at out Reader followed by Out Antenna then he/she will be considered as OUT from the class.



Student Tracking at Bus Stop

1. There will be a UHF RFID Reader installed at each bus's entry gate which has approx. 8 Hrs. power back up and it's Bluetooth enabled.

2. Every Bus assistant will have android table/mobile which also is Bluetooth enabled.

3. Every student is carrying UHF RFID ID Card.

4. Before any student enters, the bus assistant will fetch the students details from central server on his android device assigned only for this particular bus through WiFi connectivity.

Our Production Plant









UPCOMING(s)

| RFID Label | | | | |
|---------------------|--|--|--|---|
| Item Description | HF Inlay (dry & wet inlay) | UHF Inlay (dry & wet inlay) | HF RFID Label | UHF RFID Label |
| Size(±0.5mm) | can be customized | can be customized | can be customized | can be customized |
| Antenna | Aluminum antenna | Aluminum antenna | Aluminum antenna | Aluminum antenna |
| Material | PET | PET+ Aluminum | PET/PVC/Coated Paper/PP Synthetic Paper | PET/PVC/Coated Paper/PP Synthetic Paper |
| Other Craft | None | None | CMYK four color print Print ID number, barcode, serial, Encoding | CMYK four color print Print ID number, barcode, serial, Encoding |
| Frequency | 13.56 - 18 MHz | 860 - 960MHz | 13.56 - 18 MHz | 860 - 960MHz |
| Protocol | IS014443A/ISO15693 | ISO/IEC 18000-6C EPC Class1 Gen2 | IS014443A/ISO15693 | ISO/IEC 18000-6C EPC Class1 Gen2 |
| Chip | S50/S70, Ultralight EV1/Ultralight C, NTAG213/216, I CODE SLIX, | Alien H3 ImpinjM4D/M4E/ M4QT/ U-code-7/8 | S50/S70, Ultralight EV1/Ultralight C, NTAG213/216, I CODE SLIX | Alien H3 ImpinjM4D/M4E/ M4QT/ U-code-7/8 |
| Memory Size | Related to the chip | Related to the chip | Related to the chip | Related to the chip |
| Working Temp. | (-25°C~+55°C) | (-25°C~+55°C) | (-25°C~+55°C) | (-25°C~+55°C) |
| Storage Temp. | (-30°C~+55°C) | (-30°C~55°C) | (-35°C~55°C) | (-35°C~+55°C) |
| Operating Modes | Read & write | Read & write | Read & write | Read & write |
| Life time | >10 years | >10 years | >10 years | >10 years |
| Write Endurance | 100,000 cycles | 100,000 cycles | 100,000 cycles | 100,000 cycles |
| Reading Distance | 0-10cm Depends on working condition & reader | 0-10m Depends on working condition & reader | 0-10cm Depends on working condition & reader | 0-10m Depends on working condition & reader |
| Application | Transportation, asset management, retail, medicines, Library management | Transportation, asset management, retail, medicines management | Transportation, asset management, retail, medicines, Library management | Transportation, asset management, retail, medicines management |

UPCOMING(s)

COMBO CARD

UPCOMING(s)



| Lable | | | |
|-------|--|------|--|
| | Inizy size. 78x47mm Antenna size. 73x43mm Frequency. 13.8-146452 Protocol. ISO14443A/1443B. ISO15693 | Mszł | Inley size. 23.2x73.5mm Anlenna size. 17z70mm Prequenty: SISMR Protocoli. ALIEN (6C) /H3 |
| 0 | Iolay size. 0.26-29mm Antenna kize. 0.24-29mm Frequency. 14.2MHz Protocoli. 18014443A/144438. 18015693 | 53 | Inlay size. Antenna size. 44x44mm Frequency. 9154Hz Protocoli. IMPINJ (BC) /M4 |
| 6 | Inlay size. © 19mm Antenna size. © 19mm Frequency, 14MHz Protocol, 15D14443A/14443B, 15D15933 | | Inlay size: Antonna size: 44x18mm Frequency: 8158Htz Protocol: IMPINJ (6C) /MS |
| Ö | Iniay size- 31°25mm Antenna size- refer to picture Prequency, 13.0684/a Protocol- ISO1443A or ISO15693 | | Inlay size. 48x13mm Antenna size. 44x13mm Frequency. BIOBRE Protocol. NOX(6C)/02XM, ALIEN(6C)/H3 |
| Ö | Inlay sizo. diameter 25mm Antenna sizo. diameter 22mm Frequency. 13.568/fz Protocol. 15014443A or15015693 | | Inlay size. 70x20mm(E52) Antenna size. 65:14mm Prequency. 915MHz Protocol: IMPIHJ(60)/M5 |

Smart Certificate

OVER 50,000 DUPED IN THREE YEARS 4 way are used to check university degrees: BOARD OF SECONDARY EDUCATIONANDHRA PRADESH Many of the victims > **Design: Inspecting** the design. Genuine are now working as doctors and lawyers while many have government jobs too CERTIFICATE MIGRATION degrees are embossed & have a seal with ((3) They forged hologram watermark visible. marksheets and degrees of renowned universities and These features can be duplicated. school boards, and these cost from ₹10,000 to SECRETARY Language: like order of the words used such as several lakhs 'Sheffield University' which should be 'The The crooks were arrested in 2014 on similar charges but the scale of their crime was lower Hundreds of forged 0 marksheets and blank University of Sheffield' certificates of schools and universities, and computer, printer etc used in forging these solution Again, not a difficult option for duplication > **University domains:** Use of university website these seized to confirm. Bank accounts having crores of rupees have been identified as frozen If name of candidate & degree number is known, it is easy to create same degree SOME OF THE FAKE WEBSITES CREATED BY THE GANG bseap.org.in | Pertaining to Board of Secondary Education injabboard.org | Punjab State Open Schoo Trusted professionals: Use of 3 party Andhra Pradesh ncte.org.in | Northern Council For Vocational Training alldunivpio.org | University of Allahabad verification agency is good way to verify. ksou.info | Baba Sahib upboard.in | UP State Board Ambedkar Institute of Technology Management This method is expansive cannot be trusted due to statecouncil.in | Karnataka State Council of Intermediate pcigov.in | Para Medical low skill level human intervention. & Higher Education, Mysore. Council (India) dcrusm.org | Deenbandhu Chhotu Ram University of Science & Technology, Murthal, Sonepat, Haryana cisceresults.org | Council For The Indian School Certificate Examinations

Solution:

In order to curb the problem of certificate forgery, RFID based Smart Certificates may be used. In smart certificate, RFID chip with antenna is embedded before it is being issued to Graduating students to eradicate the problem of forgery and fraudulent activities.

The smart certificates will include all vital university certificate information, encoded and stored onto an RFID label of the certificate. This information can then be read and instantly verified by any authorized government body / representatives.

Smart phone-based App may also be used for instant verification of the certificate issued. It is of immense benefits to universities as it protects and secures the integrity of their graduation certificate, reduces administrative work, and improves graduate's creditability ratios

This proposal delivers an efficient RFID based Smart Certificate for Graduating Students including software as explained in subsequent presentation.













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