

CONTACTLESS PASSPORT ECOVER

TOPPAN Security Global Contactless Passport eCovers help safeguard immigration documents and governmental agencies against fraud and counterfeiting. These covers are optimized to ensure compatibility with the most widely used passport booklet assembly machines, and they can be used with a broad range of glues. eCovers are sized to meet standard manufacturing dimensions according to customer specifications.



Each eCover inner layer is constructed from a material that easily adheres to all types of security papers, providing exceptional protection for the embedded electronic chip and antenna. All eCover products exceed ISO and ICAO electrical and mechanical

requirements and all standard cover material types are available.

Contactless Passport eCover sheets are available with a variety of integrated circuits to match customer requirements. TOPPAN Security antenna technologies allow encasement in highly durable and flexible laminated layers, enabling electronic chips and antennas to withstand the rigors of 10 years of use while providing a barrier to attempts at alteration.

TOPPAN Security Contactless Passport eCover solutions are available in two types, Paperlam (paper based material) and T-Lam (Teslin) adhered to the customer's specified paper or textile cover. Closely controlled gluing processes ensure strong bonding while meeting the customer's requirements for flexibility and durability.

Laminated cover options for contactless ePassport booklets

- Compliant – exceeds applicable ISO and ICAO standards
- Durable – provides advanced document resiliency
- Compatible – Suitable for use on all booklet assembly machines

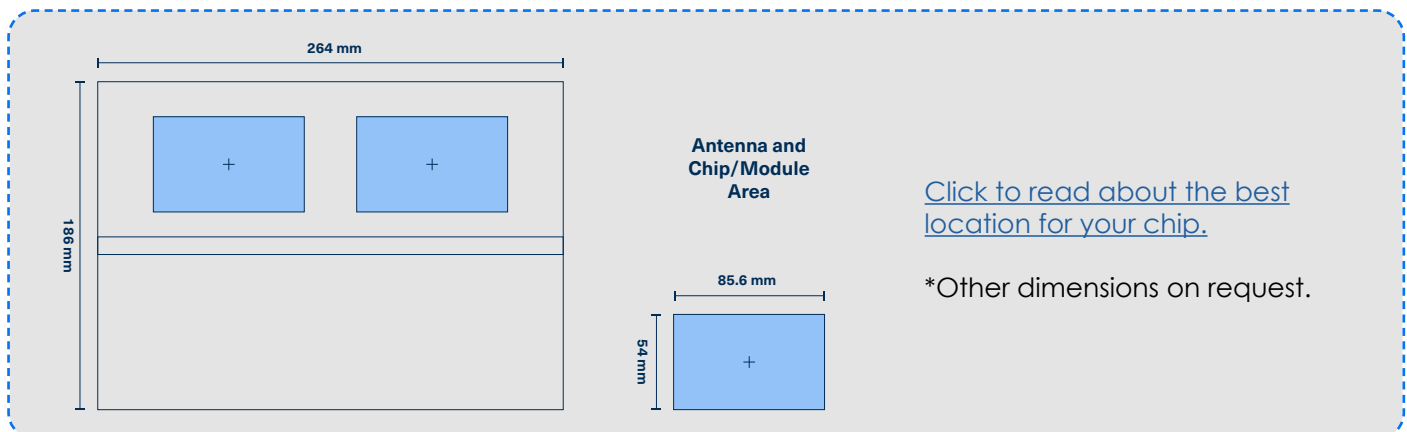
Technology highlights:

- Performance-tested for durability, and exceed ISO/IEC 10373 and ICAO 9303 standards
- Available with the widest selection of contactless chips
- Paperlam covers deliver excellent tamper evidence
- Operating Systems include TOPPAN Security SOMA for optimum performance



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	Paperlam	T-Lam
	Physical	
Format	2-up inlay matching all passport manufacturing equipment; 1-up and 3-up formats also available	
Dimensions	Sized to customer specification	
Thickness with typical 9pt cover	600µm +/- 10%	640µm +/- 10%
Thickness with typical 17pt cover	815µm +/- 10%	855µm +/- 10%
Adhesion	Sized to customer specification	
	Electronics	
Operating Frequency	13.56 MHz, ISO/EIC 14443	
Chip Type	Choice of contactless ICs from leading chip suppliers	
Operating System	ICAO conforming OS according to customer preference, including TOPPAN Security SOMA	
Antenna	Standard ID1; ISO standard 7810; custom antennas upon request	
Certifications	ICAO conforming OS according to customer preference ISO 9001:2008 certifications for the manufacturing sites ROHS conformity 2002/95/EG	
	Chemical and mechanical resistance	
Processing Conditions	Adheres with most water based glues and hot melt up to 302° F (150°C); parameters may vary based on conditions during lamination	
Book Bend Stress	350 N/r = 150 mm/5 sec, ICAO 9303/ISO18745	
Dynamic Bending Stress	1000 cycles, ICAO 9303/ISO18745	
Dynamic Torsion Stress	500 cycles, ICAO 9303/ISO18745	
Impact Test	25 cycles each side; 250 g at 320 mm height, per TOPPAN Security Global test standards (exceeding ICAO)	
Chemical Resistance	Exceeds ICAO 9303/ISO18745	
UV Exposure	Exceeds ICAO 9303/ISO18745	
X-Ray Exposure	Exceeds ICAO 9303/ISO18745	
Delamination Strength	90° peel test, ISO/IEC 7810-8.8	
	Thermal	
Storage Condition	+50° to +86° F (+10° to +30° C); 40% to 60% relative humidity, in original TOPPAN Security package	
Thermal Cycling	100 cycles at -31° to +176° F (-35° to +80° C), ICAO	



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