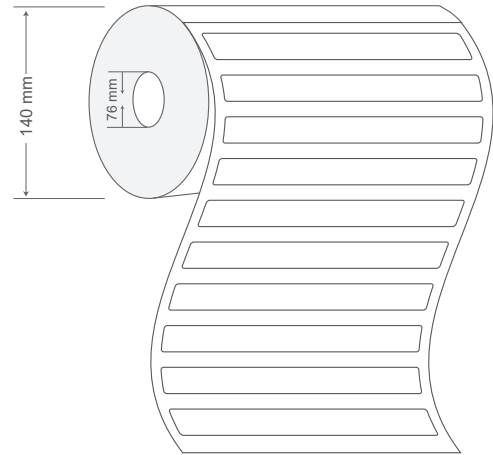


SIVA Headlight TP DNA is a Passive RAIN (UHF) RFID Non-transferable tamper-proof label for vehicle headlamps. It contains a conductive ink printed antenna and tuned especially for optimal performance on the headlight surfaces. This label supports IR and UV Light Protection Filter, custom chip programming and supplied in roll form as finished labels.

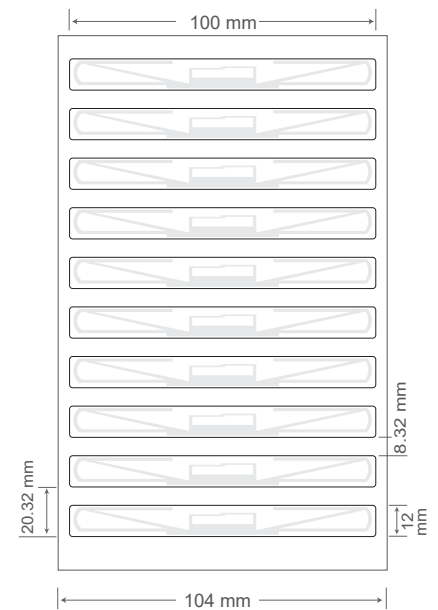
TYPICAL APPLICATIONS

- Electronic Toll Collection (ETC)
- Parking Management
- Vehicle Access Control
- Electronic Vehicle Registration



PHYSICAL SPECIFICATION

Face Stock	Special Transparent Plastic film
Label Sizes	100 x 12.0 x 0.2 mm 3.93 x 0.472 x 0.01 in
Adhesive	High performance permanent adhesive with excellent bonding to glass
Weight	0.14 gm
Delivery format	On reel
No. of Labels/Reel	2000
Pitch on reel	20.32 mm / 0.8 in
Core inner diameter	76 mm / 3 in
Roll outer diameter	140 mm / 5.51 in



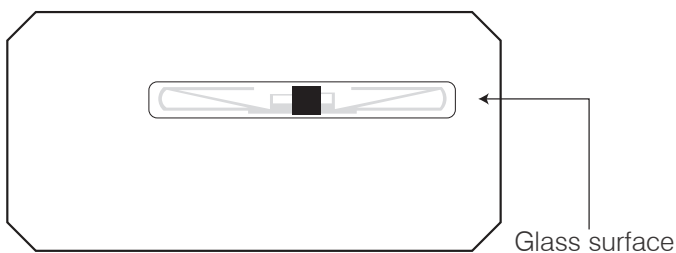
RF SPECIFICATION

Mode of Operation	Passive
Device type	Class 1 Gen 2 Passive UHF RFID transponder
Air interface protocol	EPC Global Class1 Gen2 ISO 18000-6C
Operational frequency	Global 860-960 MHz
IC type*	NXP UCODE DNA
Memory configuration	EPC Size 224 Bits, User Memory 3072 Bits, 96 bits TID with 48 bits Unique serial number
Write Cycle Endurance	100,000
Data Retention	Upto 50 years
Read range (2W ERP)**	ETSI on Headlamp up to 10.5m / 34.45 ft FCC on Headlamp up to 8.5m / 27.88 ft
Applicable surface materials	PC

ENVIRONMENTAL RESISTANCE

Operating Temperature	-30°C to +85°C / -22°F to +185°F
Withstands Exposure To	Tested at 85°C / 185°F for one month, no change in electrical behavior observed
Peak Temperature	85°C / 185°F
Adhesive Service Temperature	+70°C / 158°F
Recommended Application Temperature	+10°C to +38°C / 50°F to +100.4°F
Water Resistance	IP67
Chemical Resistance	Resistant to chemical solvents and moisture
Ideal Storage Condition	+23°C, 50% RH / +73°F, 50% RH
Expected Lifetime	Years in normal operating conditions

PRODUCT INSTALLATION



- Ideal application conditions are +10°C to +38°C / 50°F to +100.4°F. Ensure the application surface is even and is clean and dry, to obtain maximum bond strength. If required, use approved cleaning solvents to clean surface. Bond strength can be improved by applying firm pressure. Avoid touching the exposed label adhesive while mounting it.
- Label's antenna parts should not come in contact with metal to ensure better performance.
- Do not bend the label beyond the prescribed limit. Avoid touching the IC location as well as applying excessive pressure, as it is a sensitive electrical component and might get damaged.

PERSONALIZATION OPTIONS

Pre-encoding

- Customer specific encoding of EPC

Customized Printing

- Customer specific layout including logo, text, numbers, barcodes etc.

ORDER INFORMATION

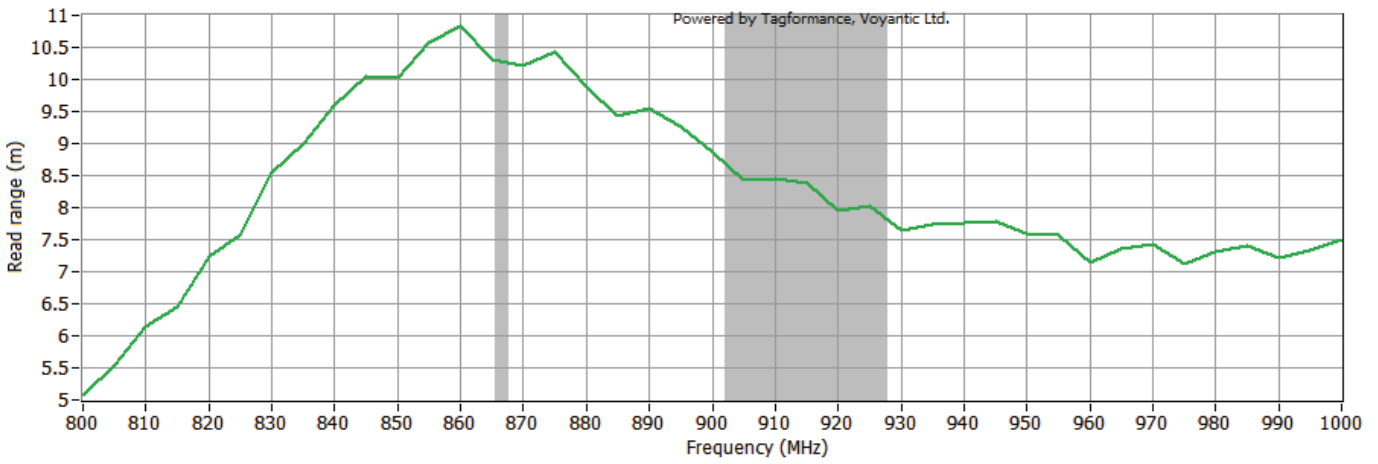
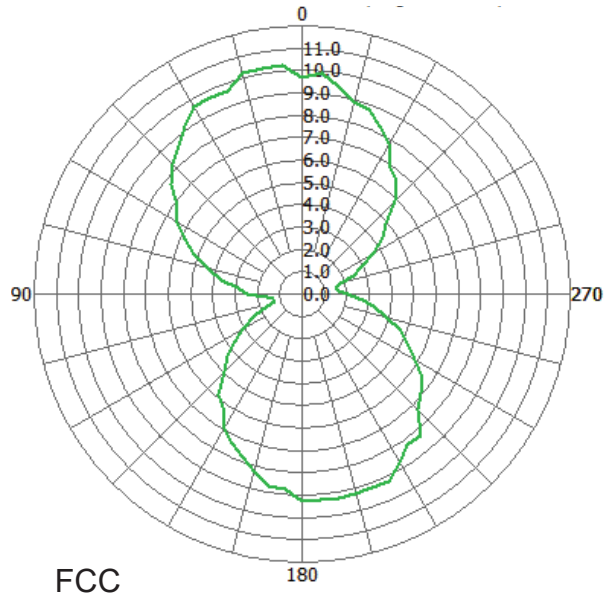
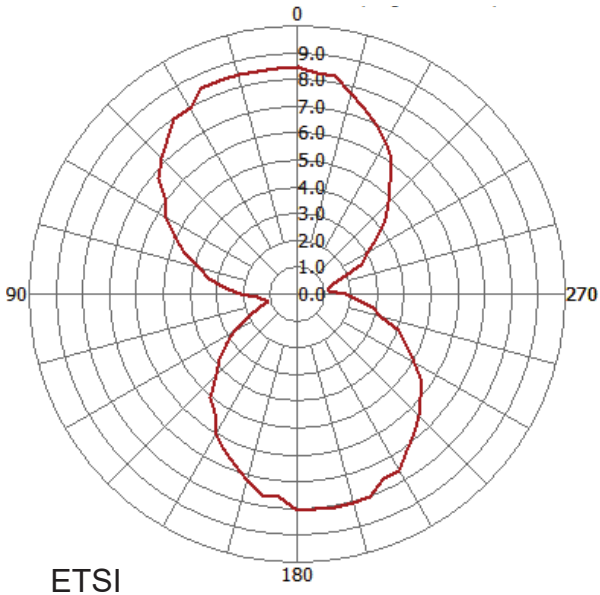
Part Number

- Rf.Li.HD.LT.TP.DNA

Roll Sizes

- 2000 Labels per Roll / 4 Rolls per Carton

RADIATION PATTERN & READ RANGE



* Other IC's available on request

** The indicated read range values are measured in our laboratory testing environment, where antennas with optimum directivity are used with maximum allowed operating power. Different surface materials and environments may exhibit different results.



Version : 010321.01