JEWELRY · PASSIVE RAIN RFID

High sensitivity. Clear memory choices.

AU-NXP-U9X-JW-1142



ANTENNA	FREQUENCY	IC CHOICE	PEAK REFERENCE
11 × 42 mm	860–960 MHz	UCODE 9 / 9xe / 9xm	8 m

Electrical characteristics

Model-level specification

Chip manufacturer / chip	NXP UCODE 9, UCODE 9xe or UCODE 9xm
Protocol	RAIN RFID · ISO/IEC 18000-63 · GS1 Gen2v2; UCODE 9 family implements EPCglobal v2.1
Frequency	860–960 MHz
Operating mode	Passive backscatter; battery-free
IC endurance / retention	100,000 write cycles / 20 years data retention
ESD voltage immunity	±2 kV Human Body Model (HBM)

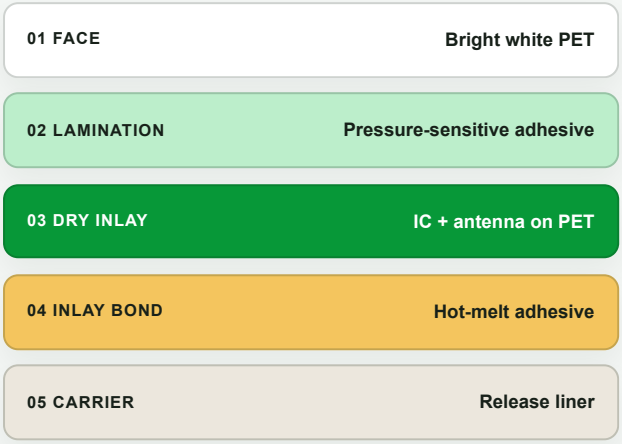
IC memory selection

Choose EPC and user memory

IC	EPC	USER	TID	PASSWORD / FEATURES
NXP UCODE 9	96 bits	0 bits	96 bits; 48-bit unique serial	32-bit kill; Self-Adjust; Memory Safeguard
NXP UCODE 9xe	128 bits	0 bits	96 bits; 48-bit unique serial	32-bit kill; Self-Adjust; Memory Safeguard
NXP UCODE 9xm	128 / 256 / 496 bits	752 / 624 / 384 bits	96 bits; 48-bit unique serial	32-bit access + kill; Self-Adjust; Memory Safeguard

Layer construction

Exploded from face to liner



- **Base material:** 50 µm PET inlay carrier.
- **Antenna:** 10 µm etched aluminum on PET.
- **Antenna footprint:** 11 × 42 mm.
- **Finished face, adhesive and roll:** selected for the application and confirmed at order.

Reference read performance

Catalogue values

REFERENCE FREQUENCY	READ RANGE	APPLICATION
865 MHz	3 m	Jewelry · ETSI-region reference
920 MHz	8 m	Jewelry · FCC-region reference

Read range is not a guaranteed installation result. Material, mounting surface, item proximity, orientation, tag density, reader antenna, reader power and local radio limits affect performance. Validate the finished label in its intended environment.

Environment and handling

Converted label guidance

Application & service

Recommended application environment: +10 °C to +40 °C, 20–80% RH. Reference environment after application: −20 °C to +50 °C, 20–80% RH. Adhesive performance varies by surface.

Storage & handling

Reference shelf life: one year at 23 ± 5 °C and 50 ± 10% RH, sealed and away from direct sunlight. Protect from water and impact. Do not sharply bend the IC or antenna area.

Specifications may change as components and converting options evolve. IC ratings are not the same as finished-label service limits. Confirm the ordered configuration and validate it in the final application.