



ALIEN SQUIGGLE® FAMILY OF EPC RFID TAGS



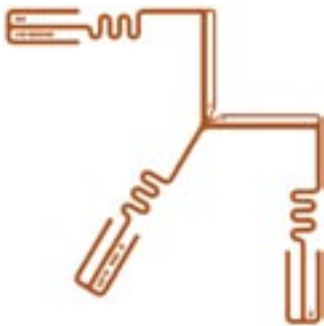
ALL-9338 (Squiggle 1.1)



ALL-9340 (Squiggle 2.1)



ALL-9440 (Squiggle 2.2)



ALL-9460 (Omni-Squiggle 1.2)

FAMILY FEATURES

- EPC Class 1 Gen1 and Gen2 solutions
- Forward compliance with backward compatibility
- Optimized for a broad range of applications
- Field tested and proven
- Low cost, high performance and orientation insensitive options

Class 1 Gen 1 and Gen 2 Tagging Solutions

As the leading supplier of EPC Class 1 tags, Alien® Technology offers the industry's first family of RFID tags designed to maximize users investment in defining the optimal tag placement in specific applications. The Alien Squiggle family leverages the industry's most widely adopted Alien® ALL-9338 Squiggle tag to provide a migration path for end-users that minimizes the cost and time consuming efforts associated with testing and re-qualification of new generation tags on products.

In addition to Alien's efficient low-cost Squiggle® tag design, the Alien Squiggle® tag family offers a cost effective migration path to very high performance Gen 1 (ALL-9340) and Gen 2 (ALL-9440) tagging solutions as well a high performance, orientation insensitive Gen 2 design (ALL-9460) for challenging applications. Already an industry benchmark, the Alien Squiggle tag family maximizes users investment for current and future tagging needs with the ability for end-user to do drop-in replacement of tags when moving from Gen 1 to Gen 2 tagging solutions.

Designed, built and tested for reliable operation under demanding conditions, Alien tagging solutions are globally adopted to increase supply chain efficiencies, maximize asset visibility, automate manual processes and improve chain of custody reliability. In addition, the cornerstone of all Alien high performance, low cost designs, Alien's revolutionary Fluidic Self Assembly process (FSA) enables the manufacturing of billions of tags at unprecedented low cost.

PRODUCT SPECIFICATIONS

OPERATING FREQUENCY:

860-960MHz – optimized for 915MHz ISM Band

OPERATING MODE:

Passive

MEMORY: Gen 1 tags	128 bits total
User Programmable	96 bits
CRC	16 bits
Lock Code	8 bits
Kill Code	8 bits

MEMORY: Gen 2 tags	240 bits NVM
EPC size	96 bits
Protocol Control bits	16 bits
Lock Bits	10 bits
Kill Bit	1 bit
Access Code	32 bits
Kill Code	32 bits
Reserved	53 bits

MINIMUM PROGRAMMING CYCLES:

Gen 2 tags	10,000 write/erase cycles
Gen 1 tags	> 25

OPERATIONAL TEMPERATURE RANGE:

Gen 2 tags	-25° C to +65° C
Gen 1 tags	-25° C to +70° C

RECOMMENDED BENDING RADIUS:

70+ mm

THICKNESS:

Gen 2 tag: Over IC	0.42mm
Gen 1 tag: Over strap	0.41mm
Over antenna	0.20mm

ALL-9338 (Squiggle 1.1)

- The RFID industry's EPC Class 1 price/performance benchmark
- Ideal for very low cost, general purpose use on corrugate, plastic and paper
- Small form factor for labels as small as 4x1 inches

ALL-9340 (Squiggle 2.1)

- Broad-band EPC Class 1 design for very high performance at a low cost
- High performance solution for most packaging including products containing metal and water
- Small form factor for labels as small as 4x1 inches

ALL-9440 (Squiggle 2.2)

- The industry's EPC Class 1 Gen 2 price/performance benchmark
- Very high performance solution for most packaging including products containing metal and water
- Small form factor for labels as small as 4x1 inches

ALL-9460 (Omni-Squiggle 1.2)

- High performance, omni-directional design
- Very high performance solution for most packaging including products containing metal and water
- Form factor supports 3x3 labels

LABEL DIMENSIONS

ALL-9338 - "Squiggle™" 1.1	98.2 x 12.3 mm
ALL-9340 - "Squiggle™" 2.1	98.2 x 12.3 mm
ALL-9440 - "Squiggle™" 2.2	98.2 x 12.3 mm
ALL-9460 - "Omni-Squiggle™" 1.2	76.2 x 76.2 mm

LABEL PITCH ON WEB

ALL-9338 - "Squiggle™" 1.1	15.9 mm
ALL-9340 - "Squiggle™" 2.1	15.9 mm
ALL-9440 - "Squiggle™" 2.2	15.9 mm
ALL-9460 - "Omni-Squiggle™" 1.2	79.4 mm

WEB WIDTH

ALL-9338 - "Squiggle™" 1.1	101.5 mm
ALL-9340 - "Squiggle™" 2.1	101.2 mm
ALL-9440 - "Squiggle™" 2.2	101.2 mm
ALL-9460 - "Omni-Squiggle™" 1.2	79.4 mm

TYPICAL ROLL QUANTITIES

ALL-9338 - "Squiggle™" 1.1	14,500
ALL-9340 - "Squiggle™" 2.1	14,500
ALL-9440 - "Squiggle™" 2.2	14,500
ALL-9460 - "Omni-Squiggle™" 1.2	7,500
ALL-9338-TST - "Squiggle™" 1.1 test pack	2,000
ALL-9340-TST - "Squiggle™" 2.1 test pack	2,000
ALL-9440 - "Squiggle™" 2.2 test pack	2,000
ALL-9460 - "Omni-Squiggle™" 1.2 test pack	2,000



ALIEN.

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