# Closed Loop & GS1 Schemas

# What is the difference between Closed Loop & GS1 schema?

# What is a "Schema" and what's the difference between Closed Loop & GS1 schemas?

The "schema" is the format that the RFID tags are encoded in. For many customers this distinction isn't important, however in some cases it is critically important. So let's break-down the differences between each format to determine which is right for you.

**Closed Loop**

The Closed Loop schema is a proprietary format which was developed by Simple RFID and is encoded as ASCII text. It contains 3 sections "delimited" or separated by pipes. The first section is a two letter company abbreviation which identifies the company. The second section is the Item Reference which is unique and is automatically generated for the new product. The last section contains the unique serial number generated for each tag printed. So it looks like this:

AB | yB34iJ | 123

**GS1**

The GS1 schema is a format created by the standards organization GS1 and is encoded in HEX. HEX stands for Hexadecimal and allows a larger number to compressed down to a smaller number. Like our Closed Loop format it too contains 3 sections which are "delimited" or separated by dots. The first section contains the Company Prefix which is a number assigned by GS1 to identify the company owner. The second section contains the Item Reference which identifies the product. And the last section contains the unique serial number generated for each tag printed.  So it look like this:

123456.12345.123

**UPC Barcode**

If you are required by a major retailer to use the UPC barcode be used also require the corresponding RFID encoding format. In this case we use the barcode of each product to generate the schema which contains the Company Prefix and Item Reference followed by a "Check digit" which is a calculated number which confirms that the barcode is valid. So the corresponding UPC barcode for the example would be:

123456123458