



General Specifications Change Notification (GSCN)

WR #	GSCN Name	Effective Date
WR 25-047	Encoding information needed to support sale/activation of telecom devices	Sep 2025

Associated Work Request (WR) Number:

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Background:

To support a seamless, smooth sale and activation of mobile communication devices onto cellular networks the telecommunications industry needs key information encoded in a data carrier (barcode). By encoding GS1 identifiers with current industry-standard device identifiers into a GS1 2D data carrier (along with a linear barcode encoding the GTIN), efficiencies can be realised in the sale and activation of mobile communications devices while meeting marketing/consumer engagement needs.

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owner assigned Serial Number used to encode the Serial Number component of the SGTIN EPC on the EPC/RFID tag, taking care not to change any characters and neither add nor remove any leading zeros (see Section 4.15.1).

Commented [DM6]: Note added as part of WR24-363

Symbol X-dimensions, minimum symbol height and minimum symbol quality

See section 5.12.3.1, GS1 symbol specification table 1.

Unique application processing requirements

For a description of processing requirements, see section 7.

Symbol placement

All symbol placement guidelines are defined in section 6.9.

2.1.16 Identification for service activation of mobile devices/equipment

Application description

When mobile devices/equipment such as smartphones, tablets or laptop computers are sold there are a number of point-of-sale processes that take place to authenticate the device and activate it for use on wireless networks. For these devices, GTINs are required for trade (e.g., online or retail POS purchase) and may be required by regulatory authorities before they are placed on the market. GTINs with serial numbers may also be used by regulatory authorities after they are placed on the market and are used for downstream processes such as warranty returns or repairs. The additional identifiers are used for non-GS1 systems to activate the device or SIM card after purchase to enable its use by the consumer. Note that the sale and activation of a physical SIM (Subscriber Identity Module) card without a mobile device/equipment is not in scope for this application as this is considered a separate trade item. This application standard enables the sale and activation of mobile devices/equipment via a single GS1 compliant 2D barcode encoding all data elements to support sale and activation of mobile devices/equipment. This application standard also enables the storage of the serialised GTIN in the device if the packaging is discarded. In this event, the SGTIN that is required for placing the product on the market (e.g., EU Digital Product Passport regulation) SHALL be permanently available to consumers and downstream actors (e.g., repair providers) in the digital description on the device.

GS1 key

The allowable key formats for this application are:

- GTIN-12
- GTIN-13
- GTIN-8

Attributes

Required

AI (21)

AI (8040) IMEI

Optional

AI (8041) IMEI2

AI (8042) Embedded SIM

AI (8043) Physical SIM

Rules

In addition to the GTIN rules described in section 4, see section 4.2.7 for rules on deploying GTIN-8.

**Data carrier specification****Carrier choices**

- QR Code (GS1 Digital Link URI)
- Data Matrix (GS1 Digital Link URI)
- GS1 DataMatrix



Note: For retailers who are transitioning to 2D barcodes at retail POS, 2D barcodes may be applied in addition to the linear barcode. For a summary of all conformance requirements for fixed measure trade items scanned at POS, 2D barcodes, cross-application rules and related technical specifications, see section 8.2.

Symbol X-dimensions, minimum symbol height and minimum symbol quality

See 5.12.3.1, Symbol specification table 1 addendum 2 for 2D barcodes

Commented [DM7]: Do we indicate DL syntax or is the Note to section 8.2 enough? Also, the SST reference highlights the use of DL syntax (addendum 2)

2.2 Logistic units

A logistic unit is an item of any composition established for transport and/or storage that needs to be managed through the supply chain.

Tracking and tracing logistic units in the supply chain is a major application of the GS1 system. Scanning the standard identification number, marked on each logistic unit, allows the physical movement of units to be individually tracked and traced by providing a link between the physical movement of items and the associated information flow. It also opens up the opportunity to implement a wide range of applications, such as cross docking, shipment routing and automated receiving.

Logistic units are identified with a GS1 identification number called the SSCC (Serial Shipping Container Code). The SSCC is the only GS1 key that SHALL be used as the identifier of a logistic unit. The SSCC ensures that logistic units are identified with a number that is unique worldwide.

If, in addition to being a logistic unit, the item is regarded as a trade item by the brand owner, it MAY additionally be identified with a GTIN. The combination of a GTIN and a serial number SHALL NOT replace the SSCC as the identifier of a logistic unit.

If, in addition to being a logistic unit, the item is part of a consignment and or a shipment, it MAY also be associated with the GINC and / or the GSIN.

Attribute information, such as a Global Identification Number for Consignment, AI (401), may be optionally encoded using internationally agreed data structures and a barcode symbology that allow unambiguous interpretation.

2.2.1 Individual logistic units

Application description

A logistic unit is an item of any composition established for transport and/or storage that needs to be managed through the supply chain. The identification and symbol marking of logistic units enables a large number of user applications. In particular, the SSCC (Serial Shipping Container Code) provides a link between the physical logistic unit and information pertaining to the logistic unit that is communicated between trading partners using Electronic Data Interchange (EDI).

The SSCC element string AI (00) is used for the identification of logistic units (see section 3). Each individual logistic unit is allocated a unique number, which remains the same for the life of the logistic unit. When assigning an SSCC, the rule is that an individual SSCC number must not be reallocated within one year of the shipment date from the SSCC assignor to a trading partner. However, prevailing regulatory or industry organisation specific requirements may extend this period.



The GS1 Prefix 980 has been released for use with refund receipt data. The internationally agreed standard for GS1 system refund receipt data is shown below.

GS1 Prefix	Refund receipt data (structure determined by GS1 Member Organisation)	Check digit
9 8 0	N ₄ N ₅ N ₆ N ₇ N ₈ N ₉ N ₁₀ N ₁₁ N ₁₂	N ₁₃

Within this structure, each GS1 Member Organisation develops its own national refund receipt solution. The recommended structure shown below provides some degree of equipment standardisation.

GS1 Prefix	Recommended structure	Check digit
9 8 0	S S S S S V V V V	C

S = Security number. This number is used to provide some security in the handling of the refund receipt. For example, it consists of a sequential number, which is incremented by 1, for each ticket generated. In this case, the point-of-sale system will be able to recognise a refund receipt that had already been refunded. The security number can also include a two-digit machine number and a three-digit sequential number, in the case where several machines are available to the customers at the same location.

V = Monetary value of the refund. The scale factor (decimal places) will depend on the currency used.

C = Check digit. Calculated according to the standard algorithm

GS1 key

Required

Not applicable

Rules

Refund receipt specifications are flexible and have been designed to cater for current and future requirements.

Due to the nature of refund receipt identification, several national solutions are offered, each of which is defined by the respective GS1 Member Organisation. National refund receipt solutions are not unique worldwide and must be operated in the restricted circulation defined by the GS1 Member Organisation.

Data carrier specification

Carrier choices

EAN-13

Symbol X-dimension, minimum symbol height and minimum symbol quality

See section [5.12.3.1](#), *GS1 symbol specification table 1*.

Symbol placement

Not applicable

Unique application processing requirements

For a description of processing requirements, see section [Z](#).

2.6.5 Electronic serial identifier for cellular mobile telephones (CMTI): AI (8002)

Application description

The purpose of an electronic serial identifier, AI (8002), for cellular mobile telephones (CMTI) is to uniquely identify a cellular phone within a given jurisdiction.

The information from the barcode can be used to automate and speed up the capture of CMTIs. CMTIs are usually assigned by a national or pluri-national authority. Issuing authorities must ensure



that the electronic serial identifier is unique for each cellular phone. However, because electronic serial identifiers are assigned by different issuing authorities, they are not unique worldwide. An electronic serial identifier, AI (8002), is assigned by the appropriate national or pluri-national body and can be carried by a barcode placed directly on the cellular phone. The electronic serial identifier, AI (8002), is unique for each cellular telephone within the jurisdiction of the issuing body.

! **Important:** With the addition of the application standard for identification for activation of mobile devices/equipment in August 2025, see section 2.1.16, this application standard is considered a legacy practice and SHALL NOT be used for future applications.

GS1 key

Not applicable

Attributes

Required

See section 3.2, Cellular mobile telephone identifier: AI (8002).

Optional

Not applicable

Rules

Not applicable

Data carrier specification

Carrier choices

GS1-128

Symbol X-dimension, minimum symbol height and minimum symbol quality

See section 5.12.3.4, GS1 symbol specification table 4.

Symbol placement

Not applicable

Unique application processing requirements

Not applicable

2.6.6 Payment slips

Application description

A payment slip is that part of a paper invoice used to facilitate payment. Payment slips cover a wide range of payment demands, such as telephone bills, electricity bills and insurance renewals. The payment slip is normally issued by a service provider (the invoicing party) to a final customer (the invoicee) and represents a payment demand. Normally the payment slip would outline in non-HRI text:

- Details of the customer
- Details of the service provider
- A detailed invoice for the service(s) provided
- A reference number
- The amount payable
- The payment conditions (e.g., pay before date, where to pay)



AI	Data Content	Format ⁽¹⁾	FNC1 required ⁽⁴⁾	Data title
8019	Service Relation Instance Number (SRIN): AI (8019)	N4+N..10	(FNC1)	SRIN
8020	Payment slip reference number: AI (8020)	N4+X..25	(FNC1)	REF No.
8026	Identification of pieces of a trade item (ITIP) contained in a logistic unit: AI (8026)	N4+N14+N2+N2	(FNC1)	ITIP CONTENT
8030	Digital Signature (DigSig): AI (8030)	N4+Z..90	(FNC1)	DIGSIG
8040	International Mobile Equipment Identity (IMEI): AI (8040)	N4+N15	(FNC1)	IMEI
8041	International Mobile Equipment Identity 2 (IMEI2): AI (8041)	N4+N15	(FNC1)	IMEI2
8042	Embedded SIM: AI (8042)	N4+N32	(FNC1)	ESIM
8043	Physical SIM: AI (8043)	N4+N18+[N1..N2]	(FNC1)	PSIM
8110	Coupon code identification for use in North America AI (8110)	N4+X..70	(FNC1)	-
8111	Loyalty points of a coupon: AI (8111)	N4+N4	(FNC1)	POINTS
8112	Positive offer file coupon code identification for use in North America: (AI 8112)	N4+X..70	(FNC1)	-
8200	Extended packaging URL: AI (8200)	N4+X..70	(FNC1)	PRODUCT URL
90	Information mutually agreed between trading partners: AI (90)	N2+X..30	(FNC1)	INTERNAL
91 to 99	Company internal information: AIs (91 - 99)	N2+X..90	(FNC1)	INTERNAL

NOTES:

(1): The first position indicates the length (number of digits) of the GS1 Application Identifier. The following value refers to the format of the data content. The following convention is applied:

- n implied decimal point position
- N numeric digit
- X any character in [Table 7-19](#) for GS1 AI encodable character set 82
- Y any character in [Table 7-20](#) for GS1 AI encodable character set 39
- Z any character in [Table 7-21](#) for (file-safe / URI-safe base64)
- N2 2 numeric digits, fixed length
- N3 3 numeric digits, fixed length
- N4 4 numeric digits, fixed length
- X3 3 characters, fixed length
- N..3 up to 3 numeric digits
- X..3 up to 3 characters in [Table 7-19](#) for GS1 AI encodable character set 82
- Y..3 up to 3 characters in [Table 7-20](#) for GS1 AI encodable character set 39
- Z..3 up to 3 characters in [Table 7-21](#) for GS1 AI encodable character set 64 (file-safe / URI-safe base64)
- [] enclosed value is an optional component

(2): If only year and month are available, DD must be filled with two zeroes, except where noted.

(3): The fourth digit of this GS1 Application Identifier indicates the number of decimal places (and in that way the implied decimal point position).

Example:

- 3100 Net weight in kg without a decimal point
 - 3102 Net weight in kg with two decimal places
- see section [7.8.7](#) for further information.

(4): All GS1 element strings that begin with GS1 Application Identifiers not contained in the predefined table shown in [Table 7-6](#) SHALL be separated by a separator character unless this element string is the last one to be encoded in the symbol. For details on the separator character see section [7.8.4](#).



- ✔ **Note:** To encode non-Latin characters within the alphanumeric value, use percent-encoding as defined within RFC 3986. A space character should be encoded as a single plus symbol, +.
- ✔ **Note:** Baby of family name – In many countries it is common for a child to be born and initially not provided a “given name” by the mother, parents etc. Depending on the jurisdiction it then becomes a legal requirement to decide the “given name” within a defined period of time, for example in the UK it is 42 days and Norway it is 90 days.

Note: A family name may also be known as a “surname” or “last name”.

3.9 GS1 Application Identifiers starting with digit 8

3.9.1 Roll products - width, length, core diameter, direction, splices: AI (8001)

The GS1 Application Identifier (8001) indicates that the GS1 Application Identifier data fields contain the variable attributes of a roll product. Depending on the method of production, some roll products cannot be numbered according to standard criteria that have been determined in advance. They are, therefore, classified as variable items. For those products where the standard trade measures are not sufficient, the following guidelines should be used.

The identification of a roll product consists of the Global Trade Item Number (GTIN) and the variable attributes. The basic product (e.g., a certain type of paper) is included as data in the GTIN-14 ID number (see section 2.1.11), and the variables contain information about the special features of the particular item that has been produced. The variable values of a roll product, N1 to N14, consist of the following data:

- N1 to N4: slit width in millimetres (width of the roll)
- N5 to N9: actual length in metres
- N10 to N12: internal core diameter in millimetres
- N13: winding direction (face out 0, face in 1, undefined 9)
- N14: number of splices (0 to 8 = actual number, 9 = number unknown)

GS1 Application Identifier	Variable values of a roll product													
8 0 0 1	N ₁	N ₂	N ₃	N ₄	N ₅	N ₆	N ₇	N ₈	N ₉	N ₁₀	N ₁₁	N ₁₂	N ₁₃	N ₁₄

The data transmitted from the barcode reader means that the element string denoting the variable attributes of the identification of a roll product trade item have been captured. This element string must be processed together with the GTIN of the trade item to which it relates (see section 4.13 *Data relationships*). When indicating this element string in the non-HRI text section of a barcode label, the following data title SHOULD be used: **DIMENSIONS**

3.9.2 Cellular mobile telephone identifier: AI (8002)

The GS1 Application Identifier (8002) indicates that the GS1 Application Identifier data field contains the serial number of a cellular mobile telephone.

The serial number field is alphanumeric and may contain all characters contained in [Table 7-19](#) ~~Table 7-19~~. A national or pluri-national authority usually assigns the number. It uniquely identifies each mobile telephone within a given authority for special control purposes. It is not considered as an attribute of the identification of the telephone as a trade item.

GS1 Application Identifier	Serial number
8 0 0 2	X ₁ ————— variable length —————> X ₂₀



The data transmitted from the barcode reader means that the element string denoting an electronic serial identifier of a cellular mobile telephone has been captured. This element string is normally processed as stand-alone information.

When indicating this element string in the non-HRI text section of a barcode label, the following data title SHOULD be used: **CMT No.**

Important: With the addition of the application standard for identification for activation of mobile devices/equipment in August 2025, see section 2.1.16, this GS1 AI is considered a legacy practice and SHALL NOT be used for future applications.

3.9.3 Global Returnable Asset Identifier (GRAI): AI (8003)

The GS1 Application Identifier (8003) indicates that the GS1 Application Identifier data field contains the GRAI (Global Returnable Asset Identifier). The GRAI is used to identify returnable assets.

The GS1 Company Prefix (see section 1.4.4) is allocated by GS1 Member Organisations to the company that allocates the GRAI – the asset owner or manager of the returnable asset. It makes the number unique worldwide.

When using AI (8003), a leading zero SHALL be required before the GRAI. This zero was originally added to support efficient use in GS1-128. The zero is mandatory for all GS1 barcodes that can encode AI (8003).

The structure and content of the asset type is at the discretion of the asset owner or manager.

The check digit is explained in section 7.9. Its verification, which must be carried out in the application software, ensures that the number is correctly composed.

The optional serial component is assigned by the asset owner or manager. It identifies an individual asset within a given asset type. The field is alphanumeric and may contain all characters listed in Table 7-19Table 7-19.

GS1 Application Identifier	Lead zero	Global Returnable Asset Identifier (GRAI)													
		GS1 Company Prefix							Asset type				Check digit	Serial component (optional)	
8 0 0 3	0	N ₁	N ₂	N ₃	N ₄	N ₅	N ₆	N ₇	N ₈	N ₉	N ₁₀	N ₁₁	N ₁₂	N ₁₃	X ₁ variable X ₁₆

The data transmitted from the barcode reader means that the element string denoting the GRAI has been captured. When indicating this element string in the non-HRI text section of a barcode label, the following data title SHOULD be used: **GRAI**

3.9.4 Global Individual Asset Identifier (GIAI): AI (8004)

The GS1 Application Identifier (8004) indicates that the GS1 Application Identifier data field contains a GIAI (Global Individual Asset Identifier). The GIAI is used for the unique identification of individual assets.

Note: Note: This element string must never be used to identify the entity as a trade item or logistic unit. If an asset is transferred between parties, the GIAI cannot be used for ordering the asset. However, asset identification may be exchanged between parties for the purpose of traceability.

The GS1 Company Prefix (see section 1.4.4) is allocated by GS1 Member Organisations to the company that allocates the GIAI – here the asset owner or manager. It makes the number unique worldwide.

The structure and content of the individual asset reference is at the discretion of the asset owner or manager. It may contain all characters listed in Table 7-19Table 7-19.



3.9.18 Identification of pieces of a trade item (ITIP) contained in a logistic unit: AI (8026)

The GS1 Application Identifier (8026) indicates that the GS1 Application Identifier data field includes the ITIP of the contained pieces of a trade item. The ITIP is used to identify a piece of a trade item.

The GTIN that is included in this element string is the GTIN for the complete trade item.

The piece number identifies a piece of the trade item. The total count provides the total number of pieces of the trade item.

GS1 Application Identifier	Global Trade Item Number (GTIN)	Piece number	Total count
8 0 2 6	N ₁ N ₂ N ₃ N ₁₂ N ₁₃ N ₁₄	N ₁₅ N ₁₆	N ₁₇ N ₁₈



Note: This element string SHALL be used only on a logistic unit if:

- the logistic unit is not itself a trade item; and
- all the pieces of the trade item that are contained have the same ITIP.

The data transmitted from the barcode reader means that the element string denoting the ITIP of the trade item piece contained in a logistic unit has been captured. This element string must be processed together with the count of items which must appear on the same unit (see section 4.13 *Data relationships*).

When indicating this element string in the non-HRI text section of a barcode label, the following data title SHOULD be used: **ITIP CONTENT**

3.9.19 Digital Signature (DigSig): AI (8030)

The GS1 Application Identifier (8030) indicates that the GS1 Application Identifier data field is a Digital Signature (DigSig) that is in conformance with ISO/IEC 20248 Information technology — *Automatic identification and data capture techniques — Digital signature data structure schema* - <https://www.iso.org/standard/81314.html>. The DigSig data field SHALL only consist of alphanumeric characters from the file-safe/URI-safe base64 character set (a 64-character subset of ISO/IEC 646 Table 1) as defined in section 5 of [RFC 4648](#), see [Table 7-21](#)~~Table 7-21~~.

GS1 Application Identifier	Digital Signature (DigSig)
8 0 3 0	Z ₁ ————— variable length —————> Z ₉₀

The data transmitted from the barcode reader means that the element string denoting a Digital Signature (DigSig) has been captured. As this element string is an attribute of a trade item, asset, coupon, document, component, service relationship or logistic unit, it must be processed together with the identifier of the physical object to which it relates (see section 4.13 *Data relationships*).

When indicating this element string in the non-HRI text section of a barcode label, the following data title SHOULD be used: **DIGSIG**

3.9.20 International Mobile Equipment Identity (IMEI): AI (8040)

The Global System for Mobile Communications Association (GSMA) allocates IMEI numbers for device identification. The IMEI (International Mobile Equipment Identity) uniquely identifies the physical mobile device for connecting to and communicating with networks around the world. The numbers are placed in a database regulated by the GSM (Global System for Mobile Communications); this is how the devices are identified by networks to connect to and use them. See GSMA for detailed information on this numbering scheme and how to get a code.



GS1 Application Identifier	IMEI Number
8 0 4 0	N ₁ N ₂ N ₃ N ₄ N ₅ N ₆ N ₇ N ₈ N ₉ N ₁₀ N ₁₁ N ₁₂ N ₁₃ N ₁₄ N ₁₅

The data transmitted from the barcode reader means that the element string denoting an IMEI number has been captured. As this element string is an attribute of a specific trade item, it must be processed together with the GTIN and the serial number of the trade item to which it relates (see section 4.13 *Data relationships*). When indicating this element string in the non-HRI text section of a barcode label, the following data title SHOULD be used: **IMEI**

Commented [DM24]: Need confirmation that AI(21) accommodates the serial number format used by telecomm industry.

Commented [AM24R2]: Confirming that this is the case with Apple. From what I can see, the telecom industry uses regular serialization in line with GS1 standards

3.9.21 International Mobile Equipment Identity 2 (IMEI2): AI (8041)

The GSMA allocates IMEI numbers for device identification. See GSMA for detailed information on this numbering scheme and how to get a code. In cases when a device requires a second IMEI number, this GS1 Application Identifier is used in addition to AI (8040).

GS1 Application Identifier	IMEI2 Number
8 0 4 1	N ₁ N ₂ N ₃ N ₄ N ₅ N ₆ N ₇ N ₈ N ₉ N ₁₀ N ₁₁ N ₁₂ N ₁₃ N ₁₄ N ₁₅

The data transmitted from the barcode reader means that the element string denoting a second IMEI number has been captured. As this element string is an attribute of a specific trade item, it must be processed together with the GTIN, the serial number and the IMEI of the trade item to which it relates (see section 4.13 *Data relationships*). When indicating this element string in the non-HRI text section of a barcode label, the following data title SHOULD be used: **IMEI2**

3.9.22 Embedded SIM number: AI (8042)

An embedded subscriber identity module (eSIM) number is a 32-digit number that identifies a digital SIM of a device. The GSMA assigns the first 5 digits, and a manufacturer allocates the remaining 27 digits of the number to identify the eSIM within a device. For more information on the structure of an eSIM number see *ISO/IEC 7812-1 Identification cards – Identification of issuers*.

GS1 Application Identifier	Digital SIM Number
8 0 4 2	N ₁ N ₂ N ₃ N ₄ N ₅ N ₆ N ₇ N ₈ N ₉ N ₁₀ N ₁₁ N ₁₂ N ₁₃ N ₁₄ N ₁₅ N ₁₆ N ₁₇ N ₁₈ N ₁₉ N ₂₀ N ₂₁ N ₂₂ N ₂₃ N ₂₄ N ₂₅ N ₂₆ N ₂₇ N ₂₈ N ₂₉ N ₃₀ N ₃₁ N ₃₂

The data transmitted from the barcode reader means that the element string denoting a digital SIM number has been captured. As this element string is an attribute of a specific trade item, it must be processed together with the GTIN, the serial number and the IMEI of the trade item to which it relates (see section 4.13 *Data relationships*). When indicating this element string in the non-HRI text section of a barcode label, the following data title SHOULD be used: **ESIM**

3.9.23 Physical SIM Number: AI (8043)

A physical subscriber identity module (SIM) number identifies a physical SIM of a device. It is an 18 to 20 digit number allocated by the manufacturer to identify the physical SIM inserted/added into a device. For more information on the structure of a physical SIM number see *ISO/IEC 7812-1 Identification cards – Identification of issuers and the ITU-T E.164 International Shared Country Codes*.



GS1 Application Identifier	Physical SIM Number	
	Required digits	Optional Digits
8 0 4 3	N ₁ N ₂ N ₃ N ₄ N ₅ N ₆ N ₇ N ₈ N ₉ N ₁₀ N ₁₁ N ₁₂ N ₁₃ N ₁₄ N ₁₅ N ₁₆ N ₁₇ N ₁₈	N ₁ ..N ₂

The data transmitted from the barcode reader means that the element string denoting a physical SIM number has been captured. As this element string is an attribute of a specific trade item, it must be processed together with the GTIN and the serial number of the trade item to which it relates (see section 4.13 *Data relationships*). When indicating this element string in the non-HRI text section of a barcode label, the following data title SHOULD be used: **PSIM**

3-9-203.9.24 Coupon code identification for use in North America (AI (8110))

See GS1 US for the *North American Coupon Application Guideline using GS1 DataBar Expanded Symbols* for detailed information on GS1 US coupon code data content.

The coupon barcode is constructed by starting with a coupon GS1 Application Identifier (8110), followed by the required and optional data elements, until all desired data is encoded (or the limit of 70 digits is reached).

GS1 Application Identifier	Formatted according to rules of North American Coupon Application Guideline using GS1 DataBar Expanded Symbols
8 1 1 0	X ₁ ———variable length—————>X ₇₀

The data string transmitted from the barcode reader means that the element string denoting a Coupon code for use in North America has been captured.

3-9-213.9.25 Loyalty points of a coupon: AI (8111)

The GS1 Application Identifier (8111) indicates that the GS1 Application Identifier data field contains the loyalty points of a coupon.

GS1 Application Identifier	Loyalty points of a coupon
8 1 1 1	N ₁ N ₂ N ₃ N ₄

The data string transmitted from the barcode reader means that the element string denoting the loyalty points of a coupon has been captured. This element string must be processed together with the Global Coupon Number, AI (255) of the coupon to which it relates (see section 4.13 *Data relationships*).

When indicating this element string in the non-HRI text section of a barcode label, the following data title SHOULD be used: **POINTS**

3-9-223.9.26 Positive offer file coupon code identification for use in North America: (AI 8112)

See GS1 US for the North American coupon application guidelines for detailed information on GS1 US coupon code data content.

The positive offer file coupon data string is constructed by starting with a coupon GS1 Application Identifier (8112), followed by the required and optional data elements, until all desired data is encoded (or the limit of 70 characters is reached).

GS1 Application Identifier	Formatted according to rules of North American coupon application guidelines
8 1 1 2	X ₁ ———variable length—————>X ₇₀



Invalid pairs of element strings				Rule
AI	Designation	AI	Designation	
7256	Full name of person	7253, 7254, 7255, 7259	Family name of person, given name of person and name suffix of person, baby of family name	Either full name of person or a combination of family name of person, given name of person and name suffix of person SHALL be used.
7259	Baby of family name	7253, 7254, 7255, 7256	Family name of person, given name of person, name suffix of person, full name of person	Where the recipient of care identified by a GSRN is a baby, the name of the baby SHALL either be provided through AI (7259) (possibly in conjunction with AI (7258), to handle situations of multiple births) or through the combination of one or more of AIs (7253), (7254), (7255), (7256).
8006	ITIP	01	GTIN	The GTIN SHALL NOT be used in combination with the identification of an individual trade item piece. The GTIN of the trade item to which the individual trade item piece belongs is contained in the element string.
8006	ITIP	37	Count of units contained	The count of units contained SHALL only be used with GTIN of contained trade items or trade item pieces.
8018	GSRN for the recipient	8017	GSRN for the provider	Only one Global Service Relation Number (recipient or provider) SHALL be applied at one time for identification of an individual in a given service relationship
8026	Identification of a trade item piece contained in a logistic unit	02, 8006	GTIN of contained trade items, Identification of an individual trade item piece	Identification of the trade item piece contained in a logistic unit SHALL NOT be used in combination with GTIN of contained trade items or identification of an individual trade item piece.

4.13.2 Mandatory association of element strings

This section defines the element strings that mandate the appearance of another element string on the same physical entity.



Note: This does not necessarily mean that the element strings need to appear in the same data carrier. For example, multiple GS1-128 barcode symbols may be used in combination on a GS1 Logistic Label.

[Table 4-5Table 4-5](#) reflects the use case requirements to date. Should future applications arise that require associations they will be added at that time.

Some explanation on [Table 4-5Table 4-5](#):

- The table is sorted by AI value, with the AI that is the trigger for the rule displayed in the first column. This means that this table cannot be read in both directions. For example, a rule that states AI (17) must be used together with AI (01), does not imply that AI (01) can only be used together with AI (17), since it can also be used with other AIs.
- Multiple AIs may be listed in the first column, separated by commas. This means that the rule applies to all of the listed AIs (element strings).
- The same AI can occur in the first column multiple times, in different rows. This means that depending on the value of the element string different rules need to be applied.
- When multiple AIs are included in the third column, this is always done with an AND, OR or XOR logical operator between them:
 - AND means that all element strings SHALL appear on the physical entity
 - OR means that one or a combination of the element strings SHALL appear on the physical entity.



- XOR means that one of the element strings SHALL appear on the physical entity and the other element string SHALL NOT.

Table 4-5 Mandatory association of element strings

If element string		Then mandatory associated element string	Rule
AI	Designation	AI	
01 with N1 = 0	GTIN of a variable measure trade item scanned at POS	30 OR 3nnn*	The GTIN of a variable measure trade item scanned at POS SHALL occur in combination with: ■ variable count of items; or ■ a trade measure Note: Master data will be needed to determine whether the GTIN represents a variable measure trade item scanned at POS. Also see the note below this table.
01 with N1 = 9, 02 with N1 = 9	GTIN of a variable measure trade item not scanned at POS	30 OR 3nnn* OR 8001	The GTIN of a variable measure trade item not scanned at POS SHALL occur in combination with: ■ variable count of items; or ■ a trade measure; or ■ the dimensions of a roll product. Note: The first position of the GTIN is "9" for such trade items. Also see the note below this table.
01 with N1 = 9- or 03	GTIN of a custom trade item per section 2.6.8 - of Made-to-Order GTIN (03)	Made-to-Order Variation Number-AI (242)	The GTIN of a custom trade item using AI (01) and indicator digit "9" SHALL be used in combination with the Made-to-Order variation number. Note: The first position of the GTIN is "9" for such trade items. The Made-to-Order variation number MAY also be used with Made-to-Order GTIN using AI (03).
02	GTIN of contained trade items	00 AND 37	The GTIN of contained trade items SHALL occur in combination with an SSCC and the count of the trade items.
10	Batch/lot number	01 XOR 02 XOR 03 XOR 8006 XOR 8026 XOR 03 ***	Batch/lot number SHALL occur in combination with: ■ a GTIN; or ■ a GTIN of contained trade items; or ■ Identification of a Made-to-Order (MtO) trade item (GTIN); or ■ an ITIP; or ■ an ITIP of contained trade item pieces
11, 13, 15, 16, 17	Production date, packaging date, best before date, sell by date, expiration date (of a trade item)	01 XOR 02 XOR 03 XOR 8006 XOR 8026 ***	These dates SHALL occur in combination with: ■ a GTIN; or ■ a GTIN of contained trade items; or ■ Identification of a Made-to-Order (MtO) trade item (GTIN); or ■ an ITIP; or ■ an ITIP of contained trade item pieces
12	Due date	8020 AND 415	The due date SHALL occur in combination with the payment slip reference number and the GLN of the invoicing party
17	Expiration date (of a coupon)	255	The expiration date of a coupon SHALL occur in combination with the GCN.
20	Internal product variant	01 XOR 02 XOR 8006 XOR 8026 ***	Internal product variant SHALL occur in combination with: ■ a GTIN; or ■ a GTIN of contained trade items; or ■ an ITIP ■ an ITIP of contained trade item pieces

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If element string		Then mandatory associated element string	Rule
AI	Designation	AI	
8030	Digital Signature (DigSig)	(01 AND 21) XOR (8006 AND 21) XOR (8010 AND 8011) XOR 8003 XOR 8004 XOR 8017 XOR 8018 XOR 00 XOR 253 XOR 255	The Digital Signature (DigSig) SHALL occur in combination with one of the following: - Global Trade Item Number and Serial number - Identification of an individual trade item piece and Serial number - Component/Part Identifier and Component/Part Identifier serial number - Global Returnable Asset Identifier including Serial component - Global Individual Asset Identifier - Global Service Relation Number - Provider - Global Service Relation Number - Recipient - Serial Shipping Container Code - Global Document Type Identifier including Serial component - Global Coupon Number including Serial component
8040	IMEI	01 AND 21	The IMEI number SHALL occur in combination with a Global Trade Item Number and serial number.
8041	IMEI2	01 AND 21 AND 8040	The IMEI2 number SHALL occur in combination with a Global Trade Item Number, serial number, and the IMEI number.
8042	Embedded SIM number	01 AND 21 AND 8041	The embedded SIM number SHALL occur in combination with a Global Trade Item Number, serial number and IMEI2.
8043	Physical SIM number	01 AND 21	The physical SIM number SHALL occur in combination with a Global Trade Item Number and serial number.
8111	Loyalty points of a coupons	255	Loyalty points of a coupon SHALL occur in combination with the GCN.
8200	Extended packaging URL	01	The extended packaging URL SHALL occur in combination with the GTIN.
* The AIs for trade measures are set out in section 3.6.2 Trade measures: AIs (31nn, 32nn, 35nn, 36nn) . Note: All AIs in section 3.6.2 can be used with this AI 395n.			
** The AIs for logistics measures are set out in section 3.6.3 Logistic measures: AIs (33nn, 34nn, 35nn, 36nn)			
*** If used in combination with the identification of trade item pieces (ITIP), the optional AIs on all individual pieces of the trade item SHALL be identical.			
N Any digit from 0 to 9			



Note: Exception for point-of-sale. See [Table 2-37Table 2-37](#). Areas of GS1 system application.

4.14 Human readable interpretation (HRI) rules

Human readable interpretation (HRI) rules are provided to standardise printing requirements and facilitate training of staff on how to deal with GS1 AIDC data carriers that fail to scan or read. There are two categories of rules:

- General rules that apply independent of sector, intended application or product category.
- Sector or application specific rules which must be aligned with the general rules and can be found in sections:
 - [4.14.1](#) Healthcare human readable interpretation
 - [4.14.2](#) General retail consumer trade item human readable text rules
 - [4.14.3](#) Manual date marking

There are two types of text that appear on an object: human readable interpretation (HRI) and non-HRI text.