COMM v0.99.4 US Part Marking & Traceability Specification

Revision history

Version	Date	Author	CHK	MANF	MGMT	Change notes
1	2021-09-10	Tatyana Samarina	AD	GAG	IT	Initial release
2	2021-09-21	Aleksey Prokofyev	AD	GAG	IT	Interface Addresses Information Area added
3	2022-07-22	Aleksey Prokofyev	AD	GAG	IT	COMM10U label updated
4	2022-09-15	Aleksey Prokofyev	AD	GAG	IT	COMM10U FCC label updated

List of Referenced Documents and Files

Part Number	Referenced Doc / File
CC-1007231	COMM 0.99.4 US
CC-1009221	PCBAS SUB-ASSEMBLY US
CC-1002920	CPU PCB ASSEMBLY
CC-1007232	SPC PCB ASSEMBLY US
CC-1002922	BASIS
CC-1002923	COVER
-	Arrival GS1 DataMatrix Generation Guideline
000013911	FAI_CC-1002610_Final Testing Operation Manual (DUT)

Common requirements

Marking should be done with a 600 dpi resolution.

After the printing/labelling, the quality of the Data Matrixes (**DM**) should be checked with the DM reader.

Human readable information should be printed from the station where Arrival Fonts have already been installed.

All marking parts have unique SERIAL data elements, i.e. SERIAL of CC-1002922 is not equal to CC-1002923.

Components Part Marking Content

CC-1002923 COVER

CC-1002923 is marked by DM without human-readable information.

Application method: **Laser Marking.**

DM placement on the interior side of the part is provided in <u>COVER</u> drawing, sheet 2.

DM module size should be 15 × 15mm. DM should be sized 12 × 12 mm.

Following data elements are using for DM generation:

- `GTIN: 87205144010192`
- `SERIAL: <XXXXXXXXXXXXXXXXXXXX>`
- `GLN: <YYYYYYYYYYYYY>`

where

`GTIN:`

- 14 numeric symbols
- **The same for all parts instances**

`SERIAL:`

- 20 alphanumeric symbols
- **Unique for every part instances**
- Generated and provided by Arrival

`GLN:`

- 13 numeric symbols
- **The same for all parts instances**
- Supplier specific appears after registration in GS1 Organization

DM is generated in according to [Arrival GS1 DataMatrix Generation Guideline](.).
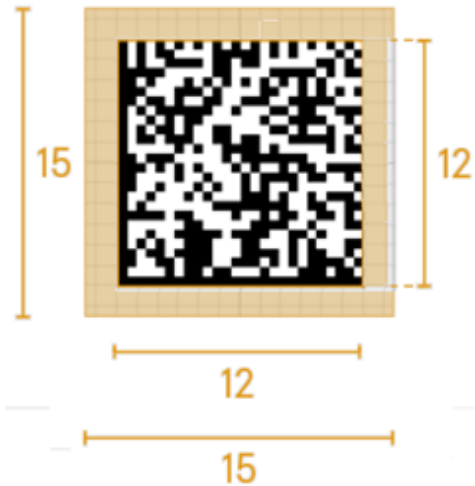
CC-1002922 BASIS

CC-1002922 is marked by DM without human-readable information.

Application method: **Laser Marking.**

DM placement on the interior side of the part is provided in <u>BASIS</u> drawing, sheet 2.

DM module size should be 15 × 15mm. DM should be sized 12 × 12 mm.

Following data elements are using for DM generation:

- `GTIN: 87205144010260`
- `SERIAL: <XXXXXXXXXXXXXXXXXXXX>`
- `GLN: <YYYYYYYYYYYYY>`

where

`GTIN:`

- 14 numeric symbols
- **The same for all parts instances**

`SERIAL:`

- 20 alphanumeric symbols
- **Unique for every part instances**
- Generated and provided by Arrival

`GLN:`

- 13 numeric symbols
- **The same for all parts instances**
- Supplier specific appears after registration in GS1 Organization

DM is generated in according to <u>Arrival GS1 DataMatrix Generation Guideline</u>.
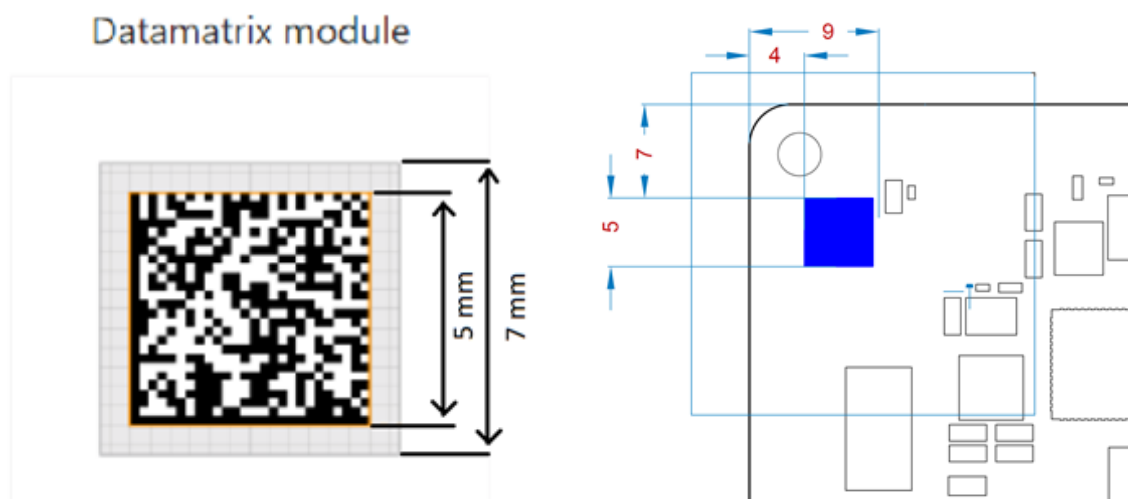
CC-1002920 CPU PCB ASSEMBLY

CC-1002920 is marked by DM without human-readable information.

Application method: **Laser Marking.**

DM placement on the top side of the part is provided in CPU PCB ASSEMBLY drawing

DM module size should be 7 × 7mm. DM should be sized 5 × 5 mm.

13 2x 5x5 mm area without copper. DATA MATRIX unique code on the BOTH sides for traceability.

Following data elements are using for DM generation:

- `GTIN: 87205144009998`
- `SERIAL: <XXXXXXXXXXXXXXXXXXXX>`

where

`GTIN:`

- 14 numeric symbols
- **The same for all parts instances**

`SERIAL:`

- 20 alphanumeric symbols
- **Unique for every parts instances**
- Generated and provided by Arrival

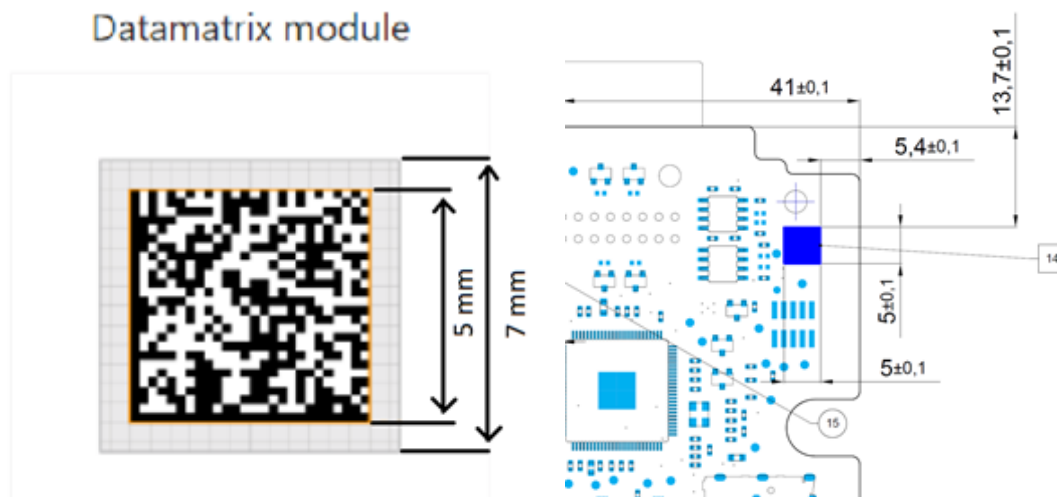DM is generated in according to Arrival GS1 DataMatrix Generation Guideline.

CC-1007232 SPC PCB ASSEMBLY US

CC-1007232 is marked by DM without human-readable information.

Application method: **Laser Marking.**

DM placement on the top side of the part is provided in <u>SPC PCB ASSEMBLY US</u> drawing

DM module size should be 7 × 7mm. DM should be sized 5 × 5 mm.

15 2x 5x5 mm area without copper. DATA MATRIX unique code on the BOTH sides for traceability.

Following data elements are using for DM generation:

- `GTIN: 87205144031050`
- `SERIAL: <XXXXXXXXXXXXXXXXXXXX>`

where

`GTIN:`

- 14 numeric symbols
- **The same for all parts instances**

`SERIAL:`

- 20 alphanumeric symbols
- **Unique for every part instances**
- Generated and provided by Arrival

DM is generated in according to Arrival GS1 DataMatrix Generation Guideline.
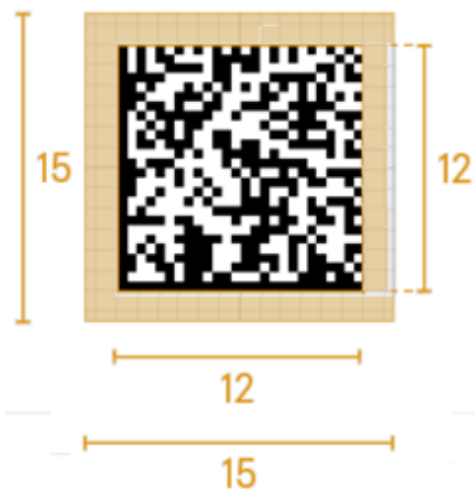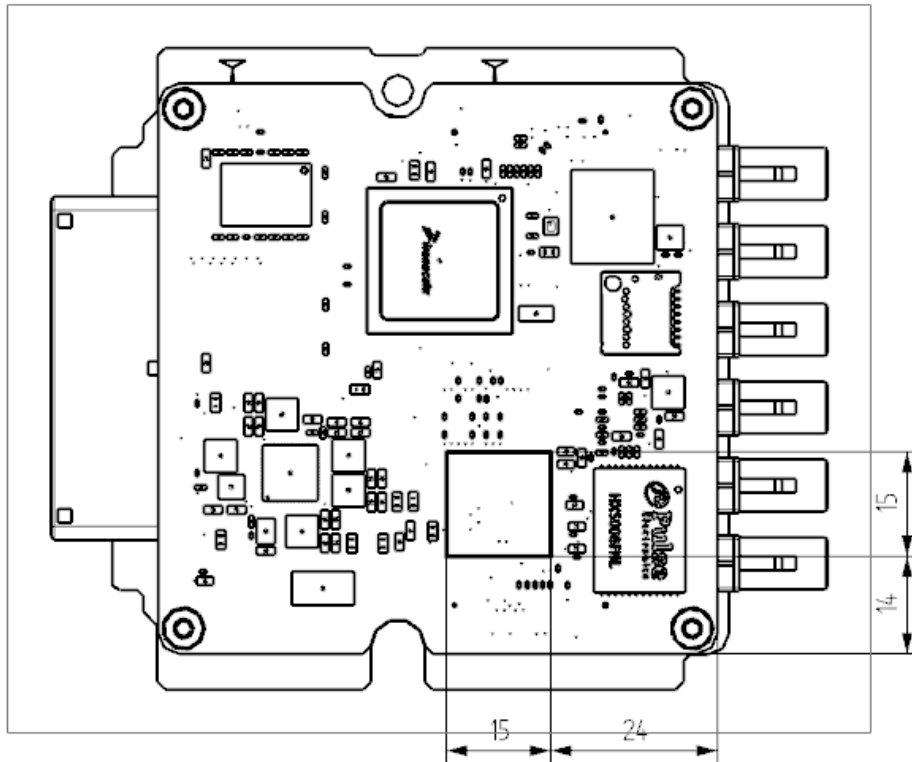
CC-1009221 PCBAS SUB-ASSEMBLY US

CC-1009221 is marked by DM without human-readable information.

Application method: **Self-adhesive label.**

DM placement on the top side of the part is provided in <u>PCBAS ASSEMBLY US</u> drawing

DM module size should be 15 × 15mm. DM should be sized 12 × 12 mm.

Following data elements are using for DM generation:

- `GTIN: 87205144030992`
- `SERIAL: <XXXXXXXXXXXXXXXXXXXX>`
- `GLN: <YYYYYYYYYYYYYY>`

where

`GTIN:`

- 14 numeric symbols
- **The same for all parts instances**

`SERIAL:`

- 20 alphanumeric symbols
- **Unique for every part instances**
- Generated and provided by Arrival

GLN:

- 13 numeric symbols
- **The same for all parts instances**
- Supplier specific appears after registration in GS1 Organization

DM is generated in according to [Arrival GS1 DataMatrix Generation Guideline](#)

CC-1007231 COMM 0.99.4 US

Application method: **Laser Marking.**

CC-1007231 mark includes DM and human-readable information. Following areas are present on marking:

```
COMM 10U                                    *
ITEM: XXXXXXXXXXXXXXXX
SERIAL: XXXXXXXXXXXXX
LOC: XXXXXXXXXXXXXXXX
COUNTRY: XX


(Ex)  10R-XXXXX


FC   (trash icon)


EID: XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
EID: XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
WIFI MAC: 00:00:00:00:00:0X
BT MAC: XXXXXXXX
IMEI: XXXXXXXXXXXXXX
IC ID: XXXXXX-YYYYY
FCC ID: 2A7RQ-COMM10U
CONTAINS FCC-ID: N6C-SDPAC
CONTAINS FCC-ID: QIPELS81-US
```

Text type should be **Arrival Apercu Mono Pro** with regular weight.

CC-1007231 COMM 0.99.4 US render with the marking example:

Header Area

Header area include Arrival Logo, provided by Arrival

Data Matrix Area

Following data elements are using for DM generation:

- `GTIN: 87205144030824`
- `SERIAL: <XXXXXXXXXXXXXXXXXXXX>`
- `GLN: <YYYYYYYYYYYYYY>`
- `CPV:` **`0.99.4`**

where

`GTIN:`

- 14 numeric symbols
- **The same for all parts instances**

`SERIAL:`

- 20 alphanumeric symbols
- **Unique for every part instances**
- Generated and provided by Arrival

`GLN:`

- 13 numeric symbols
- **The same for all parts instances**
- Supplier specific appears after registration in GS1 Organization

CPV:

- Product version-specific
- **The same for all parts instances**

DM is generated in according to [Arrival GS1 DataMatrix Generation Guideline](#).

Text Information Area

Following data elements are present in Text information area.

- `COMM10U`
- `GTIN: 87205144030824`
- `SERIAL: <XXXXXXXXXXXXXXXXXXXX>`
- `PROD/SERV LOC: <YYYYYYYYYYYYYY>`
- `CPV:` **`0.99.4`**
- `NWS: <XXXXXXXXXXXX>`

where:

`COMM:`

- *Product name* for production parts.

Use *Product name* as seen above only for Series Production parts. It is must be selected according to the current maturation status.

Maturation Status	Name on the Label
Samples only for PPAP review/approval and PV testing at the **SVA2** stage. *(Parts received and tested by ARRIVAL Technology product team)*	COMM PPAP SVA2 SAMPLE
Samples only for PPAP review/approval and PV testing at the **SVA1** stage. *(Parts received and tested by ARRIVAL Technology product team)*	COMM PPAP SVA1 SAMPLE
Products manufactured after SVA3 approval and final PSW signed by ARRIVAL SQE *(After full Run@Rate activities and capability studies)*	COMM
Products manufactured after SVA2 approval but before SVA3 approval *(SVA2 gate closed with SQE approval and Interim PSW signed)*	COMM SVA2
Any part prior to SVA2 approval *(Official Interim PSW signed by ARRIVAL Elements SQE)*	COMM ENGINEERING SAMPLE

- **The same for all parts instances**
- Provided by Arrival

`GTIN:`

- 14 numeric symbols
- **The same for all parts instances**

`SERIAL:`

- 20 alphanumeric symbols
- **Unique for every part instances**
- **Equal to a SERIAL data element in Data Matrix Area**

- Generated and provided by Arrival

`PROD/SERV LOC:`

- **Same as GLN in Data Matrix Area**
- 13 numeric symbols
- **The same for all parts instances**
- Supplier specific appears after registration in GS1 Organization

`CPV:`

- Product version-specific
- **The same for all parts instances**

`NWS:`

- from 6 up to 12 alphanumeric symbols.
- Micro-controller unique serial number. Retrieved from the micro-controller of each device during testing (see FAI_CC-1002610_Final Testing Operation Manual (DUT) section 4.12)
- NWS should be represented on the label as it is, without adding additional symbols. For example: `NWS: 3D5F77` or `NWS: 5564AC7E`
- **Unique for every part instances**

Interface Addresses Information Area

Following data elements are present in Interface Addresses Information Area:

Embedded SIM (eSIM) SIM card has a unique number, this number is called eID.

`EID:`

- 32 numerical symbols
- **Unique for every part instances**
- Both values are retrieved from the micro-controller of each device during testing (see FAI_CC-1002610_Final Testing Operation Manual (DUT) section 4.12)
- **EID** on the **first line** corresponds to **U26** eUICC v3.2.1 SIM_CHIP_MFF2 in BOM
- **EID** on the **second line** corresponds to **U25** eUICC v3.2.1 SIM_CHIP_MFF2 in BOM

A media access control address (MAC address) is a unique identifier assigned to a network interface controller (NIC) for use as a network address in communications within a network segment.

`WIFI MAC:`

- Wi-Fi MAC number. Retrieved from the DUT of each device during testing (see FAI_CC-1002610_Final Testing Operation Manual (DUT) section 4.12)
- **Different (but not necessarily unique) for every part instances**

`BT MAC:`

- Bluetooth MAC number. Retrieved from the DUT of each device during testing (see FAI_CC-1002610_Final Testing Operation Manual (DUT) section 4.12)
- **Different (but not necessarily unique) for every part instances**

IMEI number aka International Mobile Station Equipment Identity number assigned to LTE modem.

The number includes information on the origin, model number and the unique serial number of the LTE modem.

`IMEI:`

- IMEI is a unique 15 or 16-digit identity number
- Retrieved from the DUT of each device during testing (see FAI_CC-1002610_Final Testing Operation Manual (DUT) section 4.12)

`IC ID:`

- The IC ID is a wireless certification approval number for all devices sold within Canada.

`FCC ID:`

- An FCC ID is a unique identifier assigned to a device registered with the United States Federal Communications Commission.

FCC ID: 2A7RQ-COMM10U
Contains FCC ID: N6C-SDPAC
Contains FCC ID: QIPELS81-US

Appendix

Engineering Drawing Notes:

Part Marking Information and process of application should comply with the latest issue of "COMM v0.99 Part Marking and Traceability Specification"