

## PRODUCT / PROCESS CHANGE INFORMATION

### 1. PCI basic data

|                      |   |   |
|----------------------|---|---|
| 1.1 Company          |  | STMicroelectronics International N.V  |
| 1.2 PCI No.          |   | ADG/18/11116  |
| 1.3 Title of PCI     |   | M55 Microcontrollers: 2D Marking Introduction on QFP (14x14 >14x14) Packages (ST Malta) |
| 1.4 Product Category |   | see list  |
| 1.5 Issue date       |   | 2018-09-28  |

### 2. PCI Team

|                           |                           |
|---------------------------|---------------------------|
| 2.1 Contact supplier      |                           |
| 2.1.1 Name                | ROBERTSON HEATHER         |
| 2.1.2 Phone               | +1 8475853058             |
| 2.1.3 Email               | heather.robertson@st.com  |
| 2.2 Change responsibility |                           |
| 2.2.1 Product Manager     | Luca RODESCHINI           |
| 2.1.2 Marketing Manager   | Daniele Alfredo BRAMBILLA |
| 2.1.3 Quality Manager     | Alberto MERVIC            |

### 3. Change

| 3.1 Category | 3.2 Type of change                                   | 3.3 Manufacturing Location |
|--------------|--|----------------------------|
| Methods      | Traceability (marking content, company logo, etc...) | ST Kirkop (Malta)          |

### 4. Description of change

|  | Old           | New                   |
|--|---------------|-----------------------|
| 4.1 Description  | No 2D marking | Additional 2D marking |
| 4.2 Anticipated Impact on form, fit, function, quality, reliability or processability? | No impact     |                       |

### 5. Reason / motivation for change

|                      |  |
|----------------------|--|
| 5.1 Motivation       | Quality improvement, by introducing additional traceability information at marking level. Extended traceability will allow better backward analysis and more detailed feedbacks on process performance |
| 5.2 Customer Benefit | QUALITY IMPROVEMENT  |

### 6. Marking of parts / traceability of change

|                 |                                      |
|-----------------|--------------------------------------|
| 6.1 Description | Date Code and direct product marking |
|-----------------|--------------------------------------|

### 7. Timing / schedule

|                                     |              |
|-------------------------------------|--------------|
| 7.1 Date of qualification results   | 2018-09-26   |
| 7.2 Intended start of delivery      | 2018-10-31   |
| 7.3 Qualification sample available? | Upon Request |

### 8. Qualification / Validation

|  |             |
|--|-------------|
| 8.1 Description                                    |             |
| 8.2 Qualification report and qualification results | In progress |

### 9. Attachments (additional documentations)

|   |
|---|
| 11116 Public product.pdf<br>11116 Details.pdf |
|---|

| 10. Affected parts      |                         |                          |
|-------------------------|-------------------------|--------------------------|
| 10. 1 Current           |                         | 10.2 New (if applicable) |
| 10.1.1 Customer Part No | 10.1.2 Supplier Part No | 10.1.2 Supplier Part No  |
|                         | SPC58EC80E5QMC0Y        |                          |

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## Public Products List

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**PCI Title :** M55 Microcontrollers: 2D Marking Introduction on QFP (14x14 >14x14) Packages (ST Malta)

**PCI Reference :** ADG/18/11116

**Subject :** Public Products List

Dear Customer,

Please find below the Standard Public Products List impacted by the change.

|                  |                  |                  |
|------------------|------------------|------------------|
| SPC572L64E3BC6AY | SPC574K72E7C6FAY | SPC58EC80E5FMC0X |
| SPC574K70E5C6FAR | SPC574K72E5C6FAR | SPC582B60E3MH00Y |
| SPC570S50E3CEFAR | SPC574K72E7C6FAR | SPC58EC80E5QMC0Y |
| SPC570S40E3CEFAY | SPC572L64E3BC6AR | SPC58EC80E7QMC0Y |
| SPC58NE84E7QMHAR | SPC574K72E5C6FAY | SPC58EC80E3QMC0Y |
| SPC570S40E3CEFAR | SPC58NE84E7QMHAY | SPC570S50E3CEFAY |



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## PRODUCT/PROCESS CHANGE INFORMATION

| <b>SUBJECT</b>                   | <b>M55 MICROCONTROLLERS: 2D MARKING INTRODUCTION<br/>ON QFP (14X14 AND &gt;14X14) PACKAGES (ST MALTA)</b>   |  |                     |         |                                 |                  |                  |                  |                                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                                  |                  |                  |                  |                  |                  |
|----------------------------------|---|--|---------------------|---------|---------------------------------|------------------|------------------|------------------|----------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|----------------------------------|------------------|------------------|------------------|------------------|------------------|
| <b>IMPACTED PRODUCTS</b>         | <p>ST M55 Technology Microcontrollers assembled in the following packages:</p> <table border="1"> <thead> <tr> <th>PACKAGE DESCRIPTION</th><th>PRODUCT</th></tr> </thead> <tbody> <tr> <td rowspan="3">LQFP 176L 24X24X1.4 Exposed Pad</td><td>SPC574K72E7BC6AR</td></tr> <tr><td>SPC574K72E7C6FAR</td></tr> <tr><td>SPC574K72E7C6FAY</td></tr> <tr> <td rowspan="10">TQFP 100 14x14x1.0 1.0 ExpadDown</td><td>SPC570S40E3CEFAR</td></tr> <tr><td>SPC570S40E3CEFAY</td></tr> <tr><td>SPC570S50E3CEFAR</td></tr> <tr><td>SPC570S50E3CEFAY</td></tr> <tr><td>SPC572L64E3BC6AR</td></tr> <tr><td>SPC572L64E3BC6AY</td></tr> <tr><td>SPC574S60E3CE0AR</td></tr> <tr><td>SPC574S60E3CE0AY</td></tr> <tr><td>SPC574S64E3CEFAR</td></tr> <tr><td>SPC574S64E3CEFAY</td></tr> <tr> <td rowspan="5">TQFP 144 20x20x1.0 1.0 ExpadDown</td><td>SPC574K72E5BC6AR</td></tr> <tr><td>SPC574K72E5C6FAR</td></tr> <tr><td>SPC574K72E5C6FAY</td></tr> <tr><td>SPC574S64E5CEFAR</td></tr> <tr><td>SPC574S64E5CEFAY</td></tr> </tbody> </table> |  | PACKAGE DESCRIPTION | PRODUCT | LQFP 176L 24X24X1.4 Exposed Pad | SPC574K72E7BC6AR | SPC574K72E7C6FAR | SPC574K72E7C6FAY | TQFP 100 14x14x1.0 1.0 ExpadDown | SPC570S40E3CEFAR | SPC570S40E3CEFAY | SPC570S50E3CEFAR | SPC570S50E3CEFAY | SPC572L64E3BC6AR | SPC572L64E3BC6AY | SPC574S60E3CE0AR | SPC574S60E3CE0AY | SPC574S64E3CEFAR | SPC574S64E3CEFAY | TQFP 144 20x20x1.0 1.0 ExpadDown | SPC574K72E5BC6AR | SPC574K72E5C6FAR | SPC574K72E5C6FAY | SPC574S64E5CEFAR | SPC574S64E5CEFAY |
| PACKAGE DESCRIPTION              | PRODUCT   |  |                     |         |                                 |                  |                  |                  |                                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                                  |                  |                  |                  |                  |                  |
| LQFP 176L 24X24X1.4 Exposed Pad  | SPC574K72E7BC6AR  |  |                     |         |                                 |                  |                  |                  |                                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                                  |                  |                  |                  |                  |                  |
|                                  | SPC574K72E7C6FAR  |  |                     |         |                                 |                  |                  |                  |                                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                                  |                  |                  |                  |                  |                  |
|                                  | SPC574K72E7C6FAY  |  |                     |         |                                 |                  |                  |                  |                                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                                  |                  |                  |                  |                  |                  |
| TQFP 100 14x14x1.0 1.0 ExpadDown | SPC570S40E3CEFAR  |  |                     |         |                                 |                  |                  |                  |                                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                                  |                  |                  |                  |                  |                  |
|                                  | SPC570S40E3CEFAY  |  |                     |         |                                 |                  |                  |                  |                                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                                  |                  |                  |                  |                  |                  |
|                                  | SPC570S50E3CEFAR  |  |                     |         |                                 |                  |                  |                  |                                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                                  |                  |                  |                  |                  |                  |
|                                  | SPC570S50E3CEFAY  |  |                     |         |                                 |                  |                  |                  |                                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                                  |                  |                  |                  |                  |                  |
|                                  | SPC572L64E3BC6AR  |  |                     |         |                                 |                  |                  |                  |                                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                                  |                  |                  |                  |                  |                  |
|                                  | SPC572L64E3BC6AY  |  |                     |         |                                 |                  |                  |                  |                                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                                  |                  |                  |                  |                  |                  |
|                                  | SPC574S60E3CE0AR  |  |                     |         |                                 |                  |                  |                  |                                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                                  |                  |                  |                  |                  |                  |
|                                  | SPC574S60E3CE0AY  |  |                     |         |                                 |                  |                  |                  |                                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                                  |                  |                  |                  |                  |                  |
|                                  | SPC574S64E3CEFAR  |  |                     |         |                                 |                  |                  |                  |                                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                                  |                  |                  |                  |                  |                  |
|                                  | SPC574S64E3CEFAY  |  |                     |         |                                 |                  |                  |                  |                                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                                  |                  |                  |                  |                  |                  |
| TQFP 144 20x20x1.0 1.0 ExpadDown | SPC574K72E5BC6AR  |  |                     |         |                                 |                  |                  |                  |                                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                                  |                  |                  |                  |                  |                  |
|                                  | SPC574K72E5C6FAR  |  |                     |         |                                 |                  |                  |                  |                                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                                  |                  |                  |                  |                  |                  |
|                                  | SPC574K72E5C6FAY  |  |                     |         |                                 |                  |                  |                  |                                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                                  |                  |                  |                  |                  |                  |
|                                  | SPC574S64E5CEFAR  |  |                     |         |                                 |                  |                  |                  |                                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                                  |                  |                  |                  |                  |                  |
|                                  | SPC574S64E5CEFAY  |  |                     |         |                                 |                  |                  |                  |                                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                                  |                  |                  |                  |                  |                  |
| <b>MANUFACTURING STEP</b>        | Assembly (marking)  |  |                     |         |                                 |                  |                  |                  |                                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                                  |                  |                  |                  |                  |                  |
| <b>INVOLVED PLANT</b>            | ST Malta Plant  |  |                     |         |                                 |                  |                  |                  |                                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                                  |                  |                  |                  |                  |                  |

| <b>CHANGE REASON</b>                   | Quality improvement, by introducing additional traceability information at marking level. Extended traceability will allow better backward analysis and more detailed feedbacks on process performance.  |   |  |
|--|--|---|--|
| <b>CHANGE DESCRIPTION</b>              | Additional 2D marking on component, allowing progressive enhancement of product traceability (diffusion lot, wafer number, dice coordinates, etc.). Current standard marking (layout and contents) remains unchanged; additional 2D mark has been introduced in the free available area of the different packages. Examples are shown below: |   |  |
| Package                                | Current Marking  | New 2D Marking  |  |
| TQFP 100<br>14x14x1.0 1.0<br>ExpadDown |   |   |  |
| TQFP 144<br>20x20x1.0 1.0<br>ExpadDown |    |  |  |
| LQFP 176L<br>24X24X1.4<br>Exposed Pad  |    |  |  |
| <b>TRACEABILITY</b>                    | Datacode and direct product marking.   |   |  |
| <b>VALIDATION</b>                      | Change concerns product appearance only, with no impact on form, fit and function. No changes in process and / or equipment are required.  |   |  |
| <b>CURRENT PRODUCTS</b>                | New 2D marking will be progressively implemented on all concerned products and will definitively replace the current one.  |   |  |

|                       |  |
|-----------------------|--|
| <b>REPORTS</b>        | Not applicable.  |
| <b>IMPLEMENTATION</b> | Progressively, one month from this change information. |