

PRODUCT / PROCESS CHANGE NOTIFICATION

1. PCN basic data

| | | |
|----------------------|---|--|
| 1.1 Company |  | STMicroelectronics International N.V |
| 1.2 PCN No. | | MDG/22/13295 |
| 1.3 Title of PCN | | PTM_CAL_090929 - MDG Transfer of Malibu Leadframe Source from OM Japan to SHT Taiwan |
| 1.4 Product Category | | DFN8 2.5x3, DFN8 2X3 and DFN5 1.7x1.4 |
| 1.5 Issue date | | 2022-03-24 |

2. PCN 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 | Marie-France FLORENTIN,Benoit RODRIGUES |
| 2.2.2 Marketing Manager | Denis FARISON,Hubert LEDUC |
| 2.2.3 Quality Manager | Mickael DENAIS-ALLICHON,Rita PAVANO |

3. Change

| 3.1 Category | 3.2 Type of change | 3.3 Manufacturing Location |
|--------------|---|-----------------------------------|
| Materials | Change of qualified supplier providing the same part number for direct material | CA2A---ST - Calamba - Philippines |

4. Description of change

| | Old | New |
|---|--|-------------------------|
| 4.1 Description | CWTC OM Japan Plant | CWTC SHT (Taiwan) Plant |
| 4.2 Anticipated Impact on form,fit, function, quality, reliability or processability? | The change is limited to a manufacturing site change, as process, materials, dimensions and tolerances remain unchanged. | |

5. Reason / motivation for change

| | |
|----------------------|--|
| 5.1 Motivation | OM Japan will stop operation by Dec'22 and will transfer the manufacturing of the technology to SHT (a CWTC facility in Taiwan). |
| 5.2 Customer Benefit | SERVICE CONTINUITY |

6. Marking of parts / traceability of change

| | |
|-----------------|--|
| 6.1 Description | Traceability via date code, both ST Commercial Part Number and Finished Good remain the same |
|-----------------|--|

7. Timing / schedule

| | |
|-------------------------------------|--------------|
| 7.1 Date of qualification results | 2022-03-01 |
| 7.2 Intended start of delivery | 2022-12-11 |
| 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)

| |
|--|
| 13295 Public product.pdf |
| 13295 PCN Calamba DFN Lead Frame supplier .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 |
| | M24128-BFMC6TG | |
| | M24C02-RMC6TG | |
| | M24C04-RMC6TG | |
| | M24C64-FMC6TG | |
| | M95256-RMC6TG | |

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Calamba DFN Lead Frame supplier (CWTC) Manufacturing site move from Japan to Taiwan

What is the change?

CWTC DFN Lead Frame supplier is moving its production from Kagoshima Japan to Kaohsiung Taiwan due to Japan plant shutdown. CTWC DFN Lead Frames are used by ST Calamba plant to manufacture DFN8 2.5x3 (Ocelot), DFN8 2x3 and DFN5 1.7x1.4 (Eeprom). CWTC Taiwan is already an ST qualified leadframe source for other package types.

The change is limited to a manufacturing site change, as process, materials, dimensions and tolerances remain unchanged.

Why?

CWTC Kagoshima Japanese plant is closing.

When?

CWTC Japanese plant is closing on wk52 22.

DFN8 qualification samples using CWTC Taiwan will be available in August 22, first production shipments will occur in December 22.

DFN5 qualification samples using CWTC Taiwan will be available in January 23, first production shipments will occur in May 23.

How will the change be qualified?

The change will be qualified using the standard ST Microelectronics Corporate Procedures, as per qualification plan detailed in Appendix B.

What is the impact of the change?

- **Form:** none
- **Fit:** none
- **Function:** none

How can the change be seen?

Traceability via date code, both ST Commercial Part Number and Finished Good remain the same

Appendix A- Product Change Notification

| | |
|---|---|
| Product family / Commercial products: | <u>DFN8 2.5x3</u> STOCTA1F4RZ3 (335S00488) <u>DFN8 2X3</u> M24128-BFMC6TG (335S0888) M24128BFMC6TG/12 (335S0888) M24C02-RMC6TG/12 (335S0709) M24C04-RMC6TG (335S00254) M24C64-FMC6TG (335S0859) M95256-RMC6TG (335S0865) M95320-RMC6TG/12 (335S0858) <u>DFN5 1.7x1.4</u> M24128-BFMH6TG (998-04220) M24C02-FMH6TG (335S00434) |
| Customer(s): | Malibu |
| Type of change: | DFN Leadframe manufacturing site change |
| Reason for the change: | CWTC Kagoshima Japanese plant is closing |
| Description of the change: | DFN Leadframe manufacturing site change |
| Forecast date of notification to the customer | March 2022 |
| Forecast date of Qualification samples availability for customer(s): | DFN8: August 2022 DFN5: January 2023 |
| Forecast date for the internal STMicroelectronics change, Qualification Report availability: | DFN8: August 2022 DFN5: January 2023 |
| Marking to identify the changed product: | Unchanged (traceability via date code) |
| Description of the qualification program: | Standard ST Microelectronics Corporate Procedures (See appendix B) |
| Manufacturing location: | ST Calamba (Philippines) |
| Estimated date of first shipment: | DFN8: December 2022 DFN5: May 2023 |

Appendix B: Qualification Plan:

DFN8:

| stress | Nbr units /lot | conditions | readout | Lot1 | Lot2 | Lot3 |
|-----------------------------|----------------|--|-------------------|------|------|------|
| Preconditioning | 308 | JESD22-A113, MSL1 | | | | |
| HTSL | 77 | JESD22-A103, T=150°C | 168h, 500h, 1000h | | | |
| MSL1+HAST | 77 | JESD22-A110, 130°C/85%RH/(230kPa)+bias | 96h | | | |
| MSL1+uHAST | 77 | JESD22-A118, 130°C/85%RH/(230kPa) | 96h | | | |
| MSL1+TC | 77 | JESD22-A104, -65/+150°C , 2c/h | 100cy, 500cy | | | |
| MSL1+SAM | 77 | | | | | |
| Solderability | 5 | J-STD-002, Precondition C, Test S1, 95% coverage, 36 terminations, 5 units / lot | | | | |
| Bond Pull Strength | 5 | MIL-STD-883, M2011, 36 terminations, 5 units / lot | | | | |
| Bond Shear | 5 | JESD22-B116, 36 terminations, 5 units / lot | | | | |
| Package Physical Dimensions | 20 | Meet all package outline drawing Tolerances | | | | |

DFN5:

| stress | Nbr units /lot | conditions | readout | Lot1 | Lot2 | Lot3 |
|-----------------------------|----------------|--|-------------------|------|------|------|
| Preconditioning | 308 | JESD22-A113, MSL1 | | | | |
| HTSL | 77 | JESD22-A103, T=150°C | 168h, 500h, 1000h | | | |
| MSL1+HAST | 77 | JESD22-A110, 130°C/85%RH/(230kPa)+bias | 96h | | | |
| MSL1+uHAST | 77 | JESD22-A118, 130°C/85%RH/(230kPa) | 96h | | | |
| MSL1+TC | 77 | JESD22-A104, -65/+150°C , 2c/h | 100cy, 500cy | | | |
| MSL1+SAM | 77 | | | | | |
| Solderability | 5 | J-STD-002, Precondition C, Test S1, 95% coverage, 36 terminations, 5 units / lot | | | | |
| Bond Pull Strength | 5 | MIL-STD-883, M2011, 36 terminations, 5 units / lot | | | | |
| Bond Shear | 5 | JESD22-B116, 36 terminations, 5 units / lot | | | | |
| Package Physical Dimensions | 20 | Meet all package outline drawing Tolerances | | | | |



Public Products List

Public Products are off the shelf products. They are not dedicated to specific customers, they are available through ST Sales team, or Distributors, and visible on ST.com

PCN Title : PTM_CAL_090929 - MDG Transfer of Malibu Leadframe Source from OM Japan to SHT Taiwan

PCN Reference : MDG/22/13295

Subject : Public Products List

Dear Customer,

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

| | | |
|---------------|----------------|---------------|
| M95256-RMC6TG | M24C64-FMC6TG | M24C04-RMC6TG |
| M24C02-RMC6TG | M24128-BFMC6TG | |



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