


PRODUCT / PROCESS CHANGE INFORMATION

1. PCI basic data

1.1 Company		STMicroelectronics International N.V
1.2 PCI No.	MICROCONTROLLERS/24/14814	
1.3 Title of PCI	Microcontrollers (FC70, FC80): Activation "HDS" as Second Lead Frame Supplier (QFP100 14x14 Malta)	
1.4 Product Category	see list	
1.5 Issue date	2024-06-26	

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	Matteo MOIOLI
2.1.3 Quality Manager	Alberto MERVIC

3. Change

3.1 Category	3.2 Type of change	3.3 Manufacturing Location
Materials	New direct material part number (same supplier, different supplier or new supplier), Lead frame finishing material / area (internal)	ST Kirkop - Malta

4. Description of change

	Old	New
4.1 Description	SHINKO Lead-Frame Supplier	SHINKO and HSD Lead-Frame Suppliers
4.2 Anticipated Impact on form,fit, function, quality, reliability or processability?	No Impact	

5. Reason / motivation for change

5.1 Motivation	Dual Sourcing
5.2 Customer Benefit	DOUBLE SOURCING

6. Marking of parts / traceability of change

6.1 Description	Internal traceability
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7. Timing / schedule

7.1 Date of qualification results	2024-06-11
7.2 Intended start of delivery	2024-09-30
7.3 Qualification sample available?	Upon Request

8. Qualification / Validation

8.1 Description	14814 Details.pdf		
8.2 Qualification report and qualification results	Available (see attachment)	Issue Date	2024-06-26

9. Attachments (additional documentations)

14814 Public product.pdf
14814 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
	SPC584B70E3EHC0X	
	SPC58EC80E3G0C1X	
	SPC58EC80E3QMC1X	

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QFP Product Line

Internal Process Change – Qualification of New Leadframe Supplier (Qualified Supplier)

Device CHORUS 2M & CHORUS 4M in eTQFP 14x14

ST MALTA

Report: May 2024



Qualification Report Leadframe 5FT30182

Product Line Chorus 2M (FC70) & Chorus 4M (FC80) in eTQFP 14x14

Aim of this document is to report the results for the qualification of a change in the Leadframe for the assembly of Chorus 2M and Chorus 4M in eTQFP 100L assembled in Malta.

Purpose of the change is to qualify dual source for Leadframe in eTQFP100 package, with the purpose to secure supply chain.

Assembly change related to new Leadframe source include:

- Leadframe finishing (pre-plated from “Ni Pd Au” to “Ni Pd AuAg”)
- Leadframe unit design (minor differences).

The Leadframe Unit Design, Leadframe Finish and Leadframe supplier are the same as the qualified product in ST MUAR.

Elements which are not affected by the change are:

- Leadframe Material (Base Material and Lead Locking Tape)
- Internal Dimensional: Length and Layout of Lead Fingers (i.e. wire loop lengths)
- External Dimensions: Lead Geometry

Comparison between current and new Leadframe is reported in slides 5-6.

Qualification performed on 2 Lots Chorus 2M and 1 Lot Chorus 4M.

Qualification Report Leadframe 5FT30182

Product Line Chorus 2M (FC70) & Chorus 4M (FC80) in eTQFP 14x14

RELIABILITY TEST CONDITION	READOUTS	SAMPLE	COMMENTS & RESULTS
Pre Conditioning MSL 3 + 100 TC [AEC Q100-001] 24h bake@125°C, 192h@30°C/60%RH 3x Reflow simulation (Peak 260°C)	<input type="checkbox"/> Testing at Room <input checked="" type="checkbox"/> Testing at Hot <input checked="" type="checkbox"/> Sonoscan	77 x 3	2 Qualification Lots CHORUS 2M 1 Qualification Lot CHORUS 4M Electrical READOUTS 100% PASS Sonoscan (T/C-SAM) 100% PASS
Temperature Cycling TC 2K [JESD22-A104] After Pre-Conditioning (MSL 3) Ta= -55°C +150 °C 2000cyc AEC-Q006	<input checked="" type="checkbox"/> Testing at Room <input checked="" type="checkbox"/> Testing at Hot <input checked="" type="checkbox"/> Sonoscan	77 x 3	2 Qualification Lots CHORUS 2M 1 Qualification Lot CHORUS 4M Electrical READOUTS 100% PASS Sonoscan (T/C-SAM) 100% PASS
Autoclave AC 96 Hours [JESD22-A102/A118] After Pre-Conditioning (MSL 3) P=2.08atm Ta=121°C, 96hrs	<input checked="" type="checkbox"/> Testing at Room <input checked="" type="checkbox"/> Testing at Hot <input checked="" type="checkbox"/> Sonoscan	77 x 3	2 Qualification Lots CHORUS 2M 1 Qualification Lot CHORUS 4M Electrical READOUTS 100% PASS Sonoscan (T/C-SAM) 100% PASS

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Report Conclusion

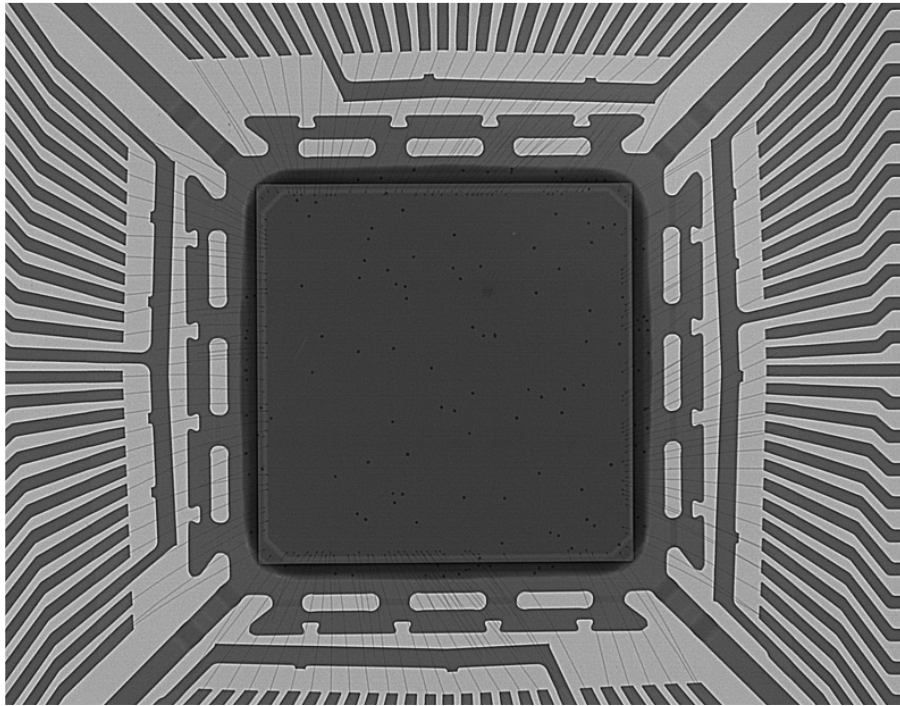
Product Line Chorus 2M (FC70) & Chorus 4M (FC80) in eTQFP 14x14

The Qualification results (AEC-Q100 Grade 1 and AEC-Q006 milestones) of the new Leadframe part number 5FT30182 sourced from HDS (an already qualified supplier on QFP Automotive Product Line) have been positively achieved.

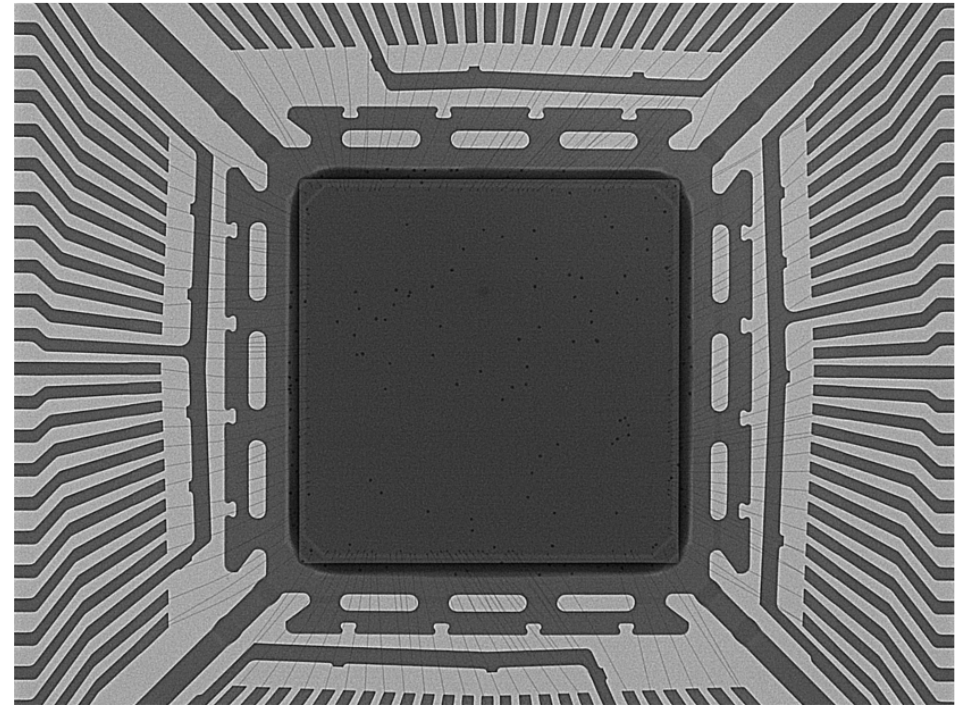
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Finished Device X-Ray Visual Analysis

Product Line Chorus 4M



▲ Current Leadframe

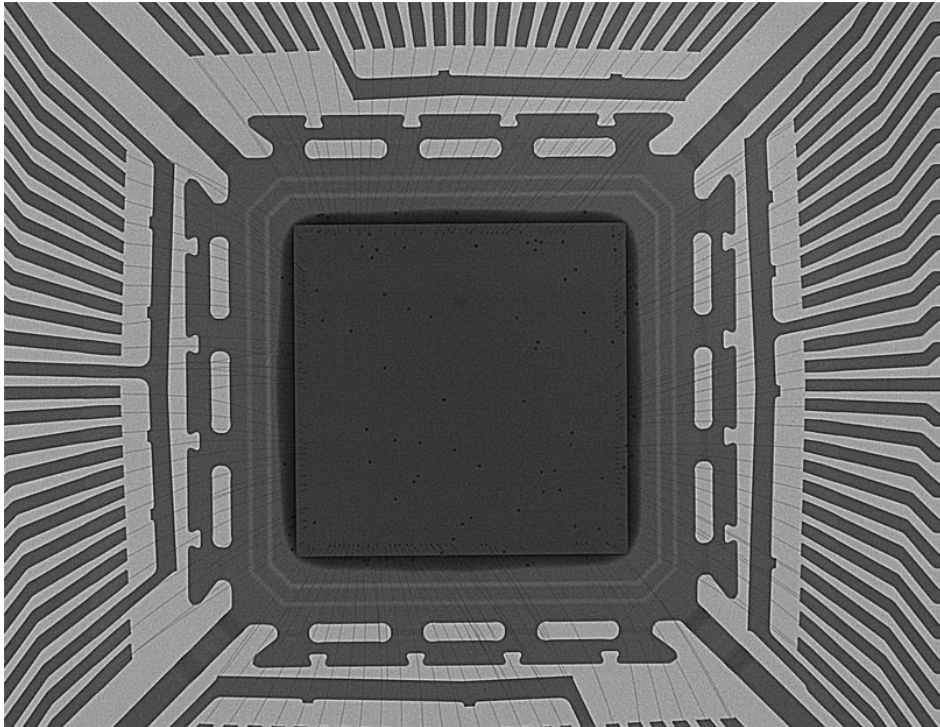


▲ New Leadframe

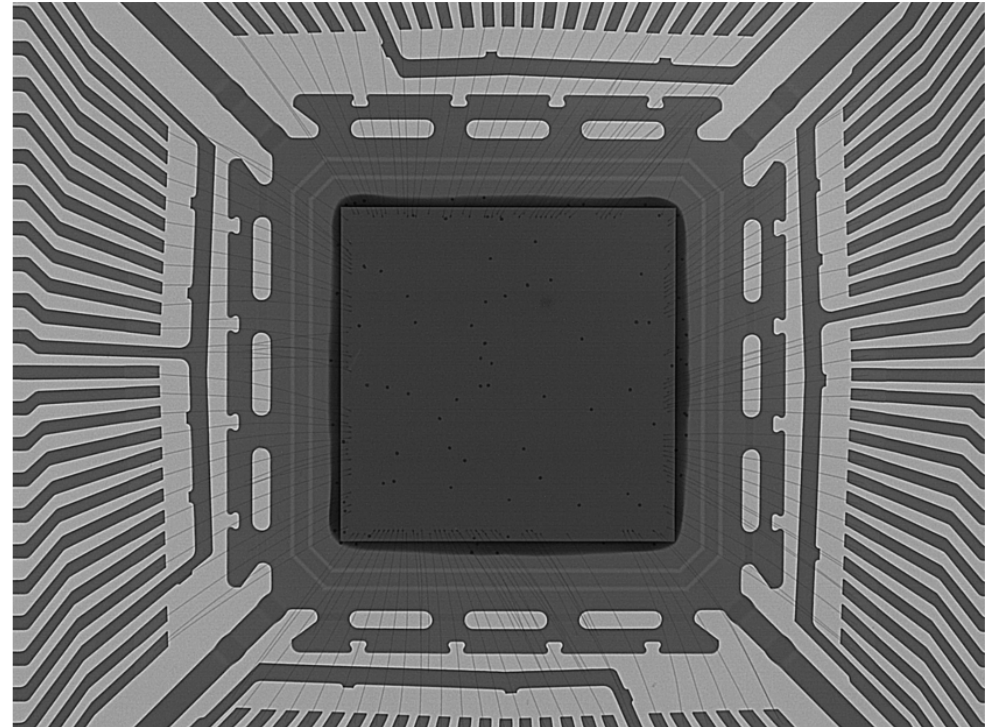
6

Finished Device X-Ray Visual Analysis

Product Line Chorus 2M



▲ Current Leadframe



▲ New Leadframe



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

PCI Title : Microcontrollers (FC70, FC80): Activation "HDS" as Second Lead Frame Supplier (QFP100 14x14 Malta)

PCI Reference : MICROCONTROLLERS/24/14814

Subject : Public Products List

Dear Customer,

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

SPC58EC80E3QMC1X	SPC584C70E3GMC1X	SPC584B60E3MHC0X
SPC58EC70E3F001X	SPC584B60E3BDC0X	SPC584C70E3E0K1X
SPC58EC80E3G001X	SPC584C70E3FMC1X	SPC58EC74E3FMC1X
SPC58EC80E3F0C1X	SPC584C74E3QEC1X	SPC584B70E3NMC0X
SPC58EC80E3G0C1X	SPC584C80E3G0C1X	SPC584B64E3CDC0X
SPC58EC80E3FMC1X	SPC584C70E3N0I1X	SPC584C70E3F001X
SPC584B70E3EHC0X	SPC584B70E3NDC0Y	SPC584B64E3ND00X
SPC584B70E3CD00X		

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