

**PRODUCT / PROCESS CHANGE NOTIFICATION**

**1. PCN basic data**

1.1 Company		STMicroelectronics International N.V
1.2 PCN No.	MDG/23/14078	
1.3 Title of PCN	STM32H503RBT6 - product enhancement	
1.4 Product Category	STM32H503RBT6	
1.5 Issue date	2023-05-16	

**2. PCN Team**

2.1 Contact supplier	
2.1.1 Name	NEMETH KRISZTINA
2.1.2 Phone	+49 89460062210
2.1.3 Email	krisztina.nemeth@st.com
2.2 Change responsibility	
2.2.1 Product Manager	Ricardo Antonio DE SA EARP
2.1.2 Marketing Manager	Veronique BARLATIER
2.1.3 Quality Manager	Pascal NARCHE

**3. Change**

3.1 Category	3.2 Type of change	3.3 Manufacturing Location
General Product & Design	Die redesign : Mask or mask set change with new die design like metallization (specifically chip frontside) or bug fix	ST Crolles 300 (France)

**4. Description of change**

	Old	New
4.1 Description	STM32H503x - (Die474 – cut1.1 revision Z) product enhancement shows limitations as described in first release of the Errata Sheet (ES0561 - Rev 1 - March 2023)	STM32H503x - (Die474 - cut1.2 revision Y) product enhancement fixes those limitations as described in first release of the Errata Sheet (ES0561 - Rev 1 - March 2023)
4.2 Anticipated Impact on form,fit, function, quality, reliability or processability?	Functionality enhancement	

**5. Reason / motivation for change**

5.1 Motivation	Improvements was implemented to increase robustness, performances and quality of our products.
5.2 Customer Benefit	SERVICE IMPROVEMENT

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

6.1 Description	Traceability ensured by ST internal tools. Die revision changes from "Z" to "Y" on Package Marking.
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**7. Timing / schedule**

7.1 Date of qualification results	2023-05-03
7.2 Intended start of delivery	2023-05-03
7.3 Qualification sample available?	Upon Request

**8. Qualification / Validation**

8.1 Description	14078 RER2107 STM32H503 128K Die 474XXXY cut1.2.pdf		
8.2 Qualification report and qualification results	Available (see attachment)	Issue Date	2023-05-16

**9. Attachments (additional documentations)**

14078 Public product.pdf  
14078 RER2107 STM32H503 128K Die 474XXXY cut1.2.pdf  
14078 PCN14078\_Additional information.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
	STM32H503RBT6	

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**PRODUCT/PROCESS  
CHANGE NOTIFICATION  
PCN14078 – Additional information**

**STM32H503RBT6- product enhancement**

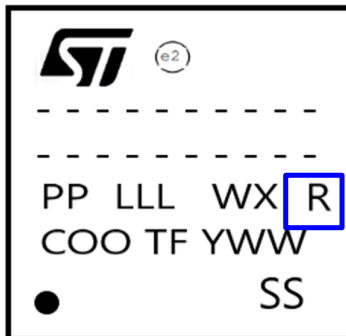
**MDG – General Purpose Microcontrollers Division (GPM)**

**What are the changes?**

Changes described in table below:

	Current condition	New condition
Front-End Diffusion site	ST Crolles 300 (France)	
<b>STM32H503RBT6</b>	Cut 1.1	Cut 1.2
Die revision Marking <b>R</b>	“Z”	“Y”

Example: Marking on package LQFP 100 14x14x1.4





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## How to order samples

For all samples request linked to this PCN, please:

- place a **Non-standard** sample order (choose Sample Non Std Type from pull down menu)
- insert the PCN number "**PCN14078**" into the NPO Electronic Sheet/**Regional Sheet**
- request sample(s) through Notice tool, indicating a single Commercial Product for each request

Partial Ship: 01 Price Pol: 05 Status: 01 Canc:

%: 0 Sample Type: Sample Non Std Type

Closing Type: Sample Std Type  
Sample Non Std Type  
Sample Non Std w Spl Tests

Lab Sheet:

SO | NPO Sample

Header  
SO Nr: 0018502433 Customer: 99770200 01 ST-TOKYO SO Type: 30 Sample Order Cost Center: JT3129 SAMPLES /SALES J  
PO Nr: Carrier Code: 0001 Price Policy: 05 Currency: 02 U.S. DOLLAR Req Name:  
Notes: Status: 01 All items pending Issuing Date: 25-JUN-2018 Ord Val: 0.0000 Sample Req Date: 25-Jun-2018

Sch I Nr	PO I. Nr	Finished Good	Comm Qty	Open Qty	Plant Open Qty	Reqd Qty	Unit Price	RD	ED	EOO	St
1.1.10	000001	STM32F429NIH6	30	30	30	30	0.0000	25-Jun-18	01-Mar-53	01-Mar-53	01

Final Cust:  
PO Item: 000001 Comm Prod: STM32F429NIH6 Qty: 30 RD: 25-Jun-18 Unit Price: 0.0000 Final Cust: 0000367006 SANSHIN/NPX

Cust Part Nr: Finished Good: Partial Ship: 01 Price Pol: 05 Status: 01 Canc:

Notes: TAM K Pieces: 0 Our Share%: 0 Sample Type: Sample Non Std Type

Project Name: Closing Date: Closing Type:

Regional Sheet: **PCN 14078**

Lab Sheet:



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**PCN Title** : STM32H503RBT6 - product enhancement

**PCN Reference** : MDG/23/14078

**Subject** : Public Products List

Dear Customer,

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

STM32H503RBT6		
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# **PCN14078 RERMCD2107 Die 474XXXY Cut 1.2 eSTM40 Crolles300 Reliability Evaluation Report**

May 4<sup>th</sup>, 2023

MDG GPM Quality & Reliability Department

# RERMCD2107 – Die 474XXXY Cut 1.2 eSTM40 Crolles300

Trial	Test1	Method	Conditions	package	474			
					474XXXA (Cut 1.0)	474XXXA (Cut 1.0)	474XXXZ (Cut 1.1)	474XXXY (Cut 1.2)
Die	HTOL	MIL-STD-883 Method 1005 JESD22A108	Tj 130°C 3.6V Duration = 1200h	LQFP64 10x10 pitch 0.5	0/77 Duration 1200h	0/77 Duration 1200h	0/77 Duration 1200h	0/77 Duration 168h
	EDR	JESD22-A117 JESD22-A103	10kcy EW @ 125°C then Storage HTB 150°C – Duration 1500h	LQFP64 10x10 pitch 0.5	0/77 10kc + 1500h	0/77 10kc + 1500h	0/77 10kc + 500h	0/77 10kc
	EDR	JESD22-A117 JESD22-A103	10kcy EW @ 25°C then Storage HTB 150°C – Duration 168h	LQFP64 10x10 pitch 0.5	0/77 10kc + 168h	0/77 10kc + 168h	0/77 10kc + 168h	0/77 10kc
	EDR	JESD22-A117 JESD22-A103	10kcy EW @ -40°C then Storage HTB 150°C – Duration 168h	LQFP64 10x10 pitch 0.5	0/77 10kc + 168h	0/77 10kc + 168h	0/77 10kc + 168h	0/77 10kc
	ELFR	MIL-STD-883 Method 1005 JESD22A108	Tj 130°C 3.6V Duration = 48h	LQFP64 10x10 pitch 0.5	0/500	0/500	0/500	
	LU	0018695 JESD78	Tj 130°C (Class II)	LQFP64 10x10 pitch 0.5	0/3	0/3	0/3	0/3
	ESD HBM	ANSI/JEDEC JS-001	Ta 25°C 2KV (Class 2)	LQFP64 10x10 pitch 0.5	0/3	0/3	0/3	0/3
	ESD CDM	ANSI/ESDA/ JEDEC JS-002	Ta 25°C 500V (Class C2a)	LQFP64 10x10 pitch 0.5	0/3	0/3	0/3	0/3

# RERMCD2107 – Packages 474 LQFP & UQFN @ JSCC, WLCSP @ ASE

Trial	Test1	Method	Conditions	474						
				LQFP64 10x10 p0.5 Lot 1 JSCC	LQFP64 10x10 p0.5 Lot 2 JSCC	LQFP64 10x10 p0.5 Lot 3 JSCC	LQFP48 7x7 p0.5 Lot 1 JSCC	UQFN48 7x7 p0.5 Lot 1 JSCC	UQFN32 5x5 p0.5 Lot 1 JSCC	WLCSP25 p0.4 Lot 1 ASEKH
Die	PC	JSTD 020 JESD 22-A113 7191395	24h bake@125°C, MSL3 (192h/30°C/60%RH) 3x Reflow simulation Peak Reflow Temp= 260°C	0/308 MSL3	0/308 MSL3	0/308 MSL3		0/308 MSL3		0/308 MSL1
	TC After PC	JESD22-A104	Ta= -65/150°C Cyc= 500	0/77	0/77	0/77		0/77		0/77
	UHAST After PC	JESD22-A118	Ta=130°C ,85% RH, 2 Atm Duration= 96hrs	0/77	0/77	0/77		0/77		0/77
	HTSL After PC	JESD22-A103	Ta= 150°C Duration=500hrs	0/77	0/77	0/77		0/77		0/77
	THB After PC	JESD22-A101	Ta=85°C/85%RH VDD=3v6 Duration= 500hrs	0/77	0/77	0/77		0/77		0/77
	CA	Construction Analysis	ST internal specifications	0/50				0/50		0/50
	ESD CDM	ANSI/ESDA/ JEDEC JS-002	Ta 25°C 500V (Class C2a)	0/3	0/3	0/3	0/3	0/3	0/3	0/3

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