

PRODUCT / PROCESS CHANGE NOTIFICATION

1. PCN basic data

1.1 Company		STMicroelectronics International N.V
1.2 PCN No.		ADG/18/10614
1.3 Title of PCN		SO-20 Products (U726,UH01,UH21,UH44,UR35): Migration to SO20 IDF (Inter Digit Frame) line with new BOM and matte Tin plating process
1.4 Product Category		see list
1.5 Issue date		2018-01-29

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	Vito GRAZIANO
2.1.2 Marketing Manager	Giovanni Luca TORRISI
2.1.3 Quality Manager	Francesco MINERVA

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 base material	ST Muar (Malaysia)

4. Description of change

	Old	New
4.1 Description	Current Bill Of Material (see enclosed details)	New Bill Of Material (see enclosed details)
4.2 Anticipated Impact on form,fit, function, quality, reliability or processability?	No Impact	

5. Reason / motivation for change

5.1 Motivation	Company Road Map
5.2 Customer Benefit	SERVICE CONTINUITY

6. Marking of parts / traceability of change

6.1 Description	Dedicated Finished Good Codes
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7. Timing / schedule

7.1 Date of qualification results	2017-12-06
7.2 Intended start of delivery	2018-06-15
7.3 Qualification sample available?	Upon Request

8. Qualification / Validation

8.1 Description	10614 Validation S020IDF.pdf	
8.2 Qualification report and qualification results	Available (see attachment)	Issue Date

9. Attachments (additional documentations)

10614 Public product.pdf
10614 Validation S020IDF.pdf
10614 5W and 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
	L4979MD	
	L4993MDTR	
	L9997ND	

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SO-20 Products (U726,UH01,UH21,UH44,UR35): Migration to SO20 IDF (Inter Digit Frame) line with new BOM and matte Tin plating process

What:

Please be informed that we are going to migrate SO-20 Products (U726,UH01,UH21,UH44,UR35 silicon lines) to IDF (Inter Digit Frame) line with new Bill of Materials (BOM).

Together with new BOM introduction, we are going to move from Non-Plating Process (PPF Leadframe) to a matte Tin Plating Process

Why:

Company Road Map

Who:

Silicon line	Finished Good	Product
U726	L9997ND-JLF/	L9997ND
UH01	L4979MDTR-L-LF/	L4979MD013TR
UH01	L4979MD-S-LF/	L4979MD
UH01	L4979MD-S-LF/	L4979MD013TR
UH21	L4989MDTR-S-JLF	L4989MD013TR
UH44	L4993MDTR-S-LF	L4993MDTR
UR35	L4969URD-LF/	L4969URD-E

When:

Validation Report included in this communication.

Change will be implemented upon Customer agreement

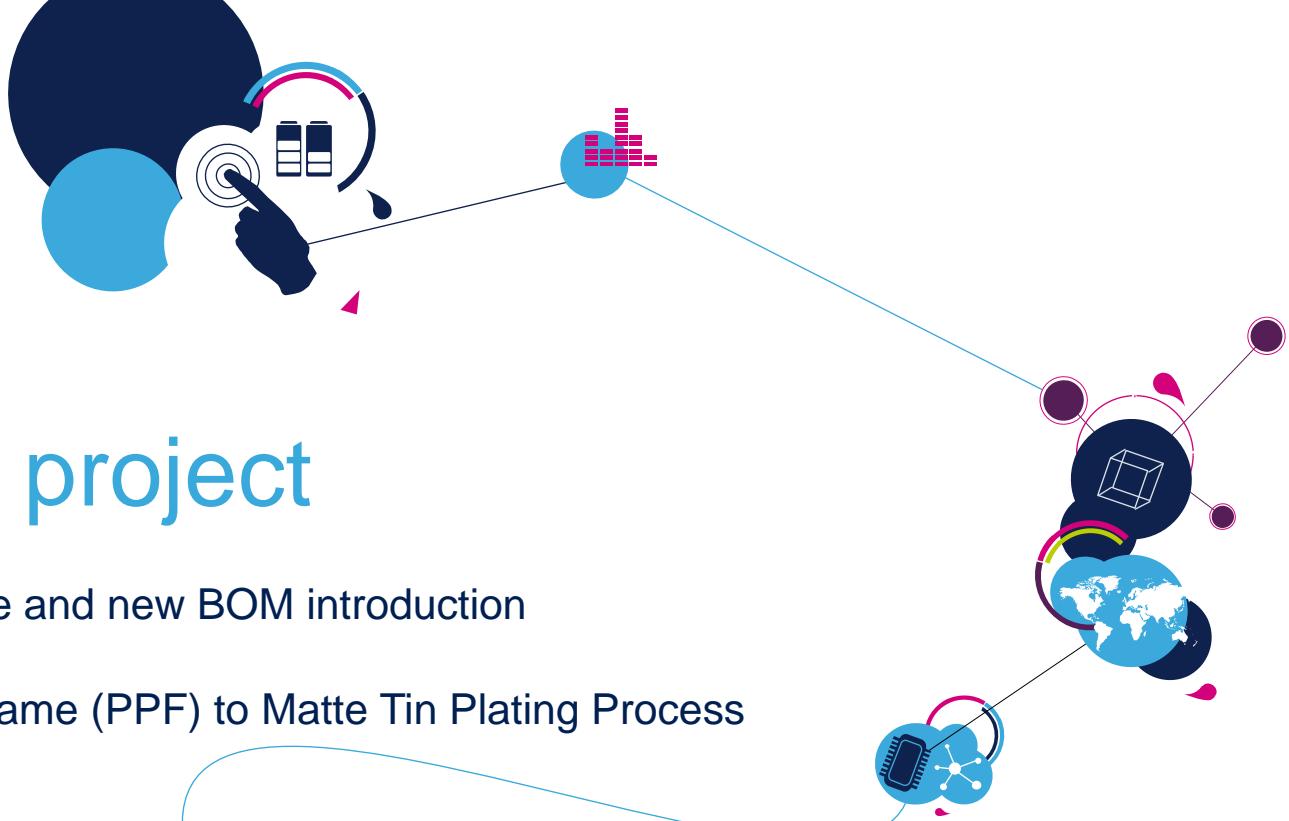
Current Finished Good codes (Current BOM) will be Terminated according to this schedule:

Last Order Entry : June 2018

Last Order Delivery: December 2018

Where:

ST Muar (Malaysia)



SO20 IDF project

- Migration to IDF line and new BOM introduction
- From Pre-Plated Frame (PPF) to Matte Tin Plating Process

October, 2017

Change description

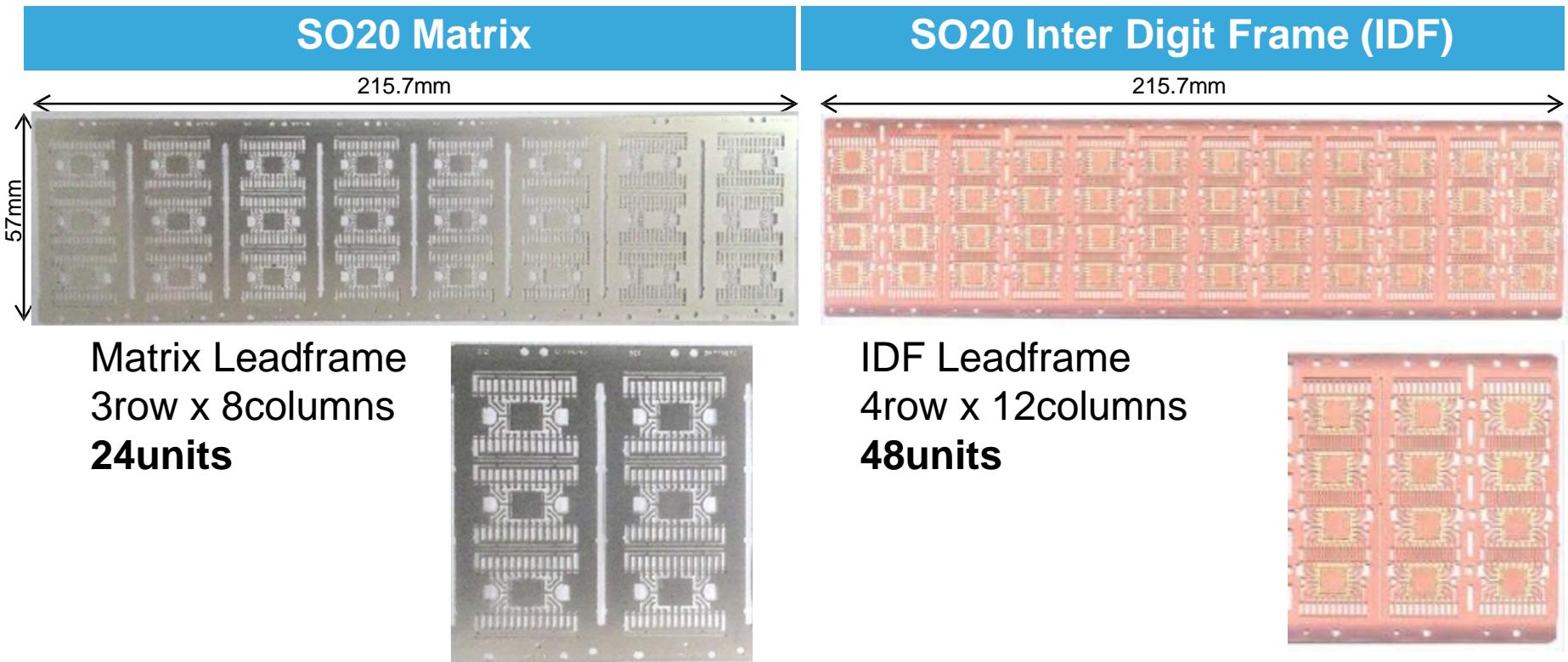
Migration from SO20 Matrix to High Density Line IDF (Inter Digit Frame)

New Bill of Material (BOM)

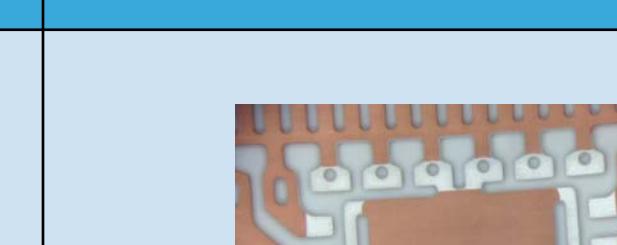
- Copper frame (SpAg/RgAg/SelAg) with ME2 treatment for rough surface
- Copper wire bonding
- Resin Sumitomo EME-G633CA
- Glue Loctite Ablestik ABP8302

Matte Tin plating process introduction

SO20 IDF Line



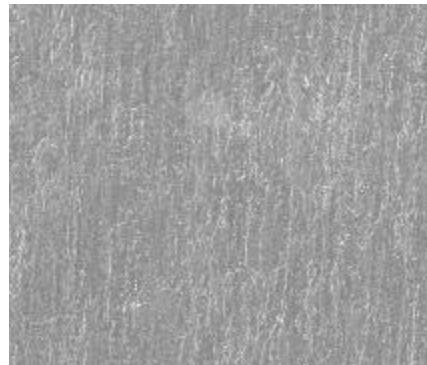
Existing frame vs ME2

Adv.Micro PPF	IDF + Cu pad (with ME2)
	

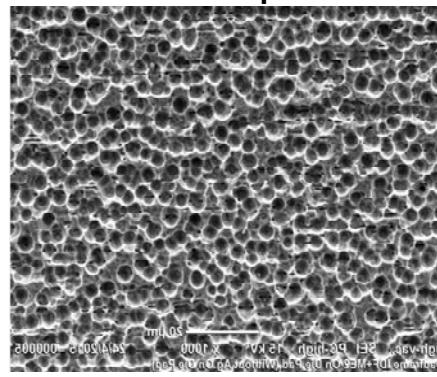
Lead tip



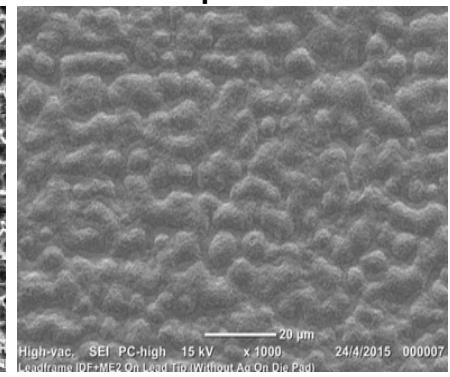
On die pad



On die pad



Lead tip



SEM images

[Note: SEM Mag 1000X]

BOM comparison

Product Line: U726

Current Bill of Material	
ITEM	MATERIAL
WIRE	GOLD D2 MIL
RESIN	SUMITOMO EME7026
GLUE	HITACHI EN4900
FRAME	FRAME SO 20L 157x160 Btw12+4+4 uAdvPPF



New Bill of Material	
ITEM	MATERIAL
WIRE	COPPER D2.0 MIL
RESIN	SUMITOMO EME-G633CA
GLUE	LOCTITE ABLESTIK ABP8302
FRAME	FRAME SO 20L 140x165 Btw OpE V2 RgAg+ME2

Product Lines: UH44

Current Bill of Material	
ITEM	MATERIAL
WIRE	GOLD D1.3 MIL
RESIN	SUMITOMO EME7026
GLUE	HITACHI EN4900
FRAME	FRAME SO 20L 157x160 Btw12+4+4 NiPdAu



New Bill of Material	
ITEM	MATERIAL
WIRE	COPPER D1.2 MIL
RESIN	SUMITOMO EME-G633CA
GLUE	LOCTITE ABLESTIK ABP8302
FRAME	SO 20L 140x165 Flo OpC V2 RgAg+ME2

BOM comparison

Product Line: UH0%#I <&%

Current Bill of Material	
ITEM	MATERIAL
WIRE	GOLD 1.3 MIL
RESIN	SUMITOMO EME7026
GLUE	HITACHI EN4900
FRAME	FRAME SO 20L 157x160 Btw16+2+2 NiPdAu

New Bill of Material	
ITEM	MATERIAL
WIRE	COPPER D1.2 MIL
RESIN	SUMITOMO EME-G633CA
GLUE	LOCTITE ABLESTIK ABP8302
FRAME	FRAME SO 20L 100x125 Btw OpB V2 RgAg+ME2

Product Lines: UR35

Current Bill of Material	
ITEM	MATERIAL
WIRE	WIRE Au D1.5
RESIN	SUMITOMO EME7026
GLUE	HITACHI EN4900
FRAME	FRAME SO 20L 195x250 Btw16+2+2 OpBNiPdAu

New Bill of Material	
ITEM	MATERIAL
WIRE	COPPER D2 MIL
RESIN	SUMITOMO EME-G633CA
GLUE	LOCTITE ABLESTIK ABP8302
FRAME	FRAME SO 20L 200x230 Btw OpG V1 SpAg+ME2

Leadframe Comparison

ITEM	EXISTING	NEW
Frame size	(215.7 x 57 mm)	(215.7 x 57 mm)
Units/Strip	24	48
Pad size	see below table	see(below table)
Surface treatment	No	ME2
Inner Lead Plating	Adv μ PPF (NiPdAuAg)	Spot Ag ^{..} Ring Ag ^{..}
Frame base material	C194	C194
Frame process	Etched	Stamped
Plating	Adv μ PPF (NiPdAuAg)	Sn
Leadframe Supplier	DCI	ASM

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ME2: Micro Etching Version 2

lite.augmented