

## Product Change Notification

(Notification – P2112068-DI)

(LLWEB-20130234 / CEC007)

December 28, 2021

**To:** *Our Valued Customer (Insert Customer Name Here)*

The purpose of this notification is to communicate a product change of select Renesas Electronics America, Inc. (REA) devices.

This notification announces the following changes for select RH850/F1 and D1 series products. See the Appendix for additional details.

1. Addition of ATJ-Kumamoto as a back-grinding site
2. Addition of ATJ-Kumamoto and/or ASE-KH as assembly sites
3. Addition of Tera Probe as final test site
4. Change of bond wire material from Au to Cu.
5. PAD-Opening size change (D1L1 / D1L2 only)

There is a change to the part number with two possible replacement devices. There is no impact to the form, fit, function, quality & reliability of the products.

**Affected Products:** A review of our records indicates the list of products in the Appendix may affect your company.

Part numbers given in this list are for active part numbers in REA database at the time of this notification.

**Key Dates:**

Shipments from REA of the devices from the new sites and with the new bond wire begins.
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July 1, 2022
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**Response:** No response is required. REA will consider this notification approved 30 days after its issue. If you anticipate volumes beyond your regular rate prior to the transition date, please contact your REA sales representative with a forecast of your requirements.

If the customer provides a timely acknowledgement, the customer shall have 90 days (an additional 60 days) from the date of receipt of this notification in which to make any objections to the notification. If the customer does not make any objections to this notification within 90 days of the receipt of the notification, then Renesas will consider the notification as approved. If the customer cannot accept the notification, then the customer must provide Renesas with a last time buy demand and purchase order.

Please contact your REA sales representative for any questions or comments. Thank you for your attention.

Sincerely,

Renesas Electronics America, Inc.

### Appendix A: Affected Parts Numbers

Booking Part Number	ASE-KH Replacement PN	ATJ-Kumamoto Replacement PN
R7F7010023AFD#BA4	R7F7010023AFE-C#BA4	R7F7010023AFD-C#BA4
R7F7010023AFD#KA4	R7F7010023AFE-C#KA4	R7F7010023AFD-C#KA4
R7F7010023AFE#KA4	R7F7010023AFE-C#KA4	R7F7010023AFD-C#KA4
R7F7010223AFD#BA4	R7F7010223AFE-C#BA4	R7F7010223AFD-C#BA4
R7F7010223AFE#BA4	R7F7010223AFE-C#BA4	R7F7010223AFD-C#BA4
R7F7010233AFD#KA4	R7F7010233AFE-C#KA4	R7F7010233AFD-C#KA4
R7F7010233AFE#KA4	R7F7010233AFE-C#KA4	R7F7010233AFD-C#KA4
R7F7010234AFD#BA4	R7F7010234AFE-C#BA4	R7F7010234AFD-C#BA4
R7F7010234AFE#BA4	R7F7010234AFE-C#BA4	R7F7010234AFD-C#BA4
R7F7010234AFE#KA4	R7F7010234AFE-C#KA4	R7F7010234AFD-C#KA4
R7F7010243AFD#BA2	R7F7010243AFE-C#BA2	R7F7010243AFD-C#BA2
R7F7010243AFD#KA2	R7F7010243AFE-C#KA2	R7F7010243AFD-C#KA2
R7F7010243AFE#BA2	R7F7010243AFE-C#BA2	R7F7010243AFD-C#BA2
R7F7010243AFE#KA2	R7F7010243AFE-C#KA2	R7F7010243AFD-C#KA2
R7F7010244AFD#KA2	R7F7010244AFE-C#KA2	R7F7010244AFD-C#KA2
R7F7010244AFE#KA2	R7F7010244AFE-C#KA2	R7F7010244AFD-C#KA2
R7F7010253AFD#BA2	R7F7010253AFE-C#BA2	R7F7010253AFD-C#BA2
R7F7010253AFD#KA2	R7F7010253AFE-C#KA2	R7F7010253AFD-C#KA2
R7F7010253AFE#KA2	R7F7010253AFE-C#KA2	R7F7010253AFD-C#KA2
R7F7010254AFD#KA2	R7F7010254AFE-C#KA2	R7F7010254AFD-C#KA2
R7F7010254AFE#KA2	R7F7010254AFE-C#KA2	R7F7010254AFD-C#KA2
R7F7010274AFD#KA4	R7F7010274AFE-C#KA4	R7F7010274AFD-C#KA4
R7F7010283AFD#KA4	R7F7010283AFE-C#KA4	R7F7010283AFD-C#KA4
R7F7010293AFD#BA4	R7F7010293AFE-C#BA4	R7F7010293AFD-C#BA4
R7F7010303AFD#KA4	R7F7010303AFE-C#KA4	R7F7010303AFD-C#KA4
R7F7010303AFE#KA4	R7F7010303AFE-C#KA4	R7F7010303AFD-C#KA4
R7F7010323AFE#KA4	R7F7010323AFE-C#KA4	R7F7010323AFD-C#KA4
R7F7010333AFE#KA4	R7F7010333AFE-C#KA4	R7F7010333AFD-C#KA4
R7F7010343AFD#KA4	R7F7010343AFE-C#KA4	R7F7010343AFD-C#KA4
R7F7010343AFE#KA4	R7F7010343AFE-C#KA4	R7F7010343AFD-C#KA4
R7F7010443AFD#KA2	R7F7010443AFE-C#KA2	R7F7010443AFD-C#KA2
R7F7010443AFE#KA2	R7F7010443AFE-C#KA2	R7F7010443AFD-C#KA2
R7F7010453AFD#KA2	R7F7010453AFE-C#KA2	R7F7010453AFD-C#KA2
R7F7010453AFE#KA2	R7F7010453AFE-C#KA2	R7F7010453AFD-C#KA2
R7F7010454AFE#KA2	R7F7010454AFE-C#KA2	R7F7010454AFD-C#KA2
R7F7010473AFE#KA4	R7F7010473AFE-C#KA4	R7F7010473AFD-C#KA4
R7F7010483AFE#KA4	R7F7010483AFE-C#KA4	R7F7010483AFD-C#KA4
R7F7010493AFE#KA4	R7F7010493AFE-C#KA4	R7F7010493AFD-C#KA4
R7F7010533AFE#KA8	R7F7010533AFE-C#KA8	R7F7010533AFD-C#KA8

**Appendix A: Affected Parts Numbers (cont.)**

Booking Part Number	ASE-KH Replacement PN	ATJ-Kumamoto Replacement PN
R7F7010534AFE#KA4	R7F7010534AFE-C#KA4	R7F7010534AFD-C#KA4
R7F7010543AFE#KA4	R7F7010543AFE-C#KA4	R7F7010543AFD-C#KA4
R7F7010544AFD#BA4	R7F7010544AFE-C#BA4	R7F7010544AFD-C#BA4
R7F7010544AFE#BA4	R7F7010544AFE-C#BA4	R7F7010544AFD-C#BA4
R7F7010544AFE#KA4	R7F7010544AFE-C#KA4	R7F7010544AFD-C#KA4
R7F7010553AFD#KA4	R7F7010553AFE-C#KA4	R7F7010553AFD-C#KA4
R7F7010563AFD#KA4	R7F7010563AFE-C#KA4	R7F7010563AFD-C#KA4
R7F7010563AFE#KA4	R7F7010563AFE-C#KA4	R7F7010563AFD-C#KA4
R7F7010573AFE#KA4	R7F7010573AFE-C#KA4	R7F7010573AFD-C#KA4
R7F7010574AFE#KA4	R7F7010574AFE-C#KA4	R7F7010574AFD-C#KA4
R7F701401EAFE#BA0	R7F701401EAFE-C#BA1	R7F701401EAFD-C#BA1
R7F701401EAFE#KA0	R7F701401EAFE-C#KA1	R7F701401EAFD-C#KA1
R7F701402EAFE#BA0	R7F701402EAFE-C#BA1	R7F701402EAFD-C#BA1
R7F701402EAFE#KA0	R7F701402EAFE-C#KA1	R7F701402EAFD-C#KA1
R7F701403EAFE#KA0	R7F701403EAFE-C#KA1	R7F701403EAFD-C#KA1
R7F701416EAFE#BA0	R7F701416EAFE-C#BA0	R7F701416EAFD-C#BA0
R7F701416EAFE#KA0	R7F701416EAFE-C#KA0	R7F701416EAFD-C#KA0
R7F701421EAFE#BA0	R7F701421EAFE-C#BA1	R7F701421EAFD-C#BA1
R7F701421EAFE#KA0	R7F701421EAFE-C#KA1	R7F701421EAFD-C#KA1
R7F701422EAFE#BA0	R7F701422EAFE-C#BA1	R7F701422EAFD-C#BA1
R7F701422EAFE#KA0	R7F701422EAFE-C#KA1	R7F701422EAFD-C#KA1
R7F701423EAFE#BA0	R7F701423EAFE-C#BA1	R7F701423EAFD-C#BA1
R7F701423EAFE#KA0	R7F701423EAFE-C#KA1	R7F701423EAFD-C#KA1
R7F701436EAFE#KA0	R7F701436EAFE-C#KA0	R7F701436EAFD-C#KA0
R7F7015024AFD#KA2	R7F7015024AFE-C#KA2	R7F7015024AFD-C#KA2
R7F7015303AFE#BA2	R7F7015303AFE-C#BA2	R7F7015303AFD-C#BA2
R7F7015483AFE#KA2	R7F7015483AFE-C#KA2	R7F7015483AFD-C#KA2
R7F7015484AFE#KA2	R7F7015484AFE-C#KA2	R7F7015484AFD-C#KA2
R7F7015484AFE#KA6	R7F7015484AFE-C#KA6	R7F7015484AFD-C#KA6
R7F7015604AFD#KA3	R7F7015604AFE-C#KA3	R7F7015604AFD-C#KA3
R7F7015604AFE#BA3	R7F7015604AFE-C#BA3	R7F7015604AFD-C#BA3
R7F7015604AFE#KA3	R7F7015604AFE-C#KA3	R7F7015604AFD-C#KA3
R7F7015613AFE#KA3	R7F7015613AFE-C#KA3	R7F7015613AFD-C#KA3
R7F7015653AFE#KA2	R7F7015653AFE-C#KA2	R7F7015653AFD-C#KA2
R7F7015683AFE#KA2	R7F7015683AFE-C#KA2	R7F7015683AFD-C#KA2
R7F7015693AFE#KA2	R7F7015693AFE-C#KA2	R7F7015693AFD-C#KA2
R7F7015803AFD#KA3	R7F7015803AFE-C#KA3	R7F7015803AFD-C#KA3
R7F7015803AFE#KA3	R7F7015803AFE-C#KA3	R7F7015803AFD-C#KA3

**Appendix A: Affected Parts Numbers (cont.)**

Booking Part Number	ASE-KH Replacement PN	ATJ-Kumamoto Replacement PN
R7F7015813AFE#BA3	R7F7015813AFE-C#BA3	R7F7015813AFD-C#BA3
R7F7015833AFE#KA3	R7F7015833AFE-C#KA3	R7F7015833AFD-C#KA3
R7F7015834AFD#BA3	R7F7015834AFE-C#BA3	R7F7015834AFD-C#BA3
R7F7015834AFE#KA3	R7F7015834AFE-C#KA3	R7F7015834AFD-C#KA3
R7F7015863AFD#KA3	R7F7015863AFE-C#KA3	R7F7015863AFD-C#KA3
R7F7015863AFE#KA3	R7F7015863AFE-C#KA3	R7F7015863AFD-C#KA3
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R7F7016443AFP-C#BA1	R7F7016443AFE-C#BA1	R7F7016443AFD-C#BA1
R7F7016443AFP-C#KA1	R7F7016443AFE-C#KA1	R7F7016443AFD-C#KA1
R7F7016453AFP-C#BA1	R7F7016453AFE-C#BA1	R7F7016453AFD-C#BA1
R7F7016453AFP-C#KA1	R7F7016453AFE-C#KA1	R7F7016453AFD-C#KA1
R7F7016463AFP-C#KA1	R7F7016463AFE-C#KA1	R7F7016463AFD-C#KA1
R7F7016473AFP-C#BA1	R7F7016473AFE-C#BA1	R7F7016473AFD-C#BA1
R7F7016473AFP-C#KA1	R7F7016473AFE-C#KA1	R7F7016473AFD-C#KA1
R7F7016483AFP-C#KA1	R7F7016483AFE-C#KA1	R7F7016483AFD-C#KA1
R7F7016493AFP-C#BA1	R7F7016493AFE-C#BA1	R7F7016493AFD-C#BA1
R7F7016493AFP-C#KA1	R7F7016493AFE-C#KA1	R7F7016493AFD-C#KA1
R7F7016843AFP-C#BA1	R7F7016843AFE-C#BA1	R7F7016843AFD-C#BA1
R7F7016843AFP-C#KA1	R7F7016843AFE-C#KA1	R7F7016843AFD-C#KA1
R7F7016844AFP-C#BA1	R7F7016844AFE-C#BA1	R7F7016844AFD-C#BA1
R7F7016844AFP-C#KA1	R7F7016844AFE-C#KA1	R7F7016844AFD-C#KA1
R7F7016853AFP-C#BA1	R7F7016853AFE-C#BA1	R7F7016853AFD-C#BA1
R7F7016853AFP-C#KA1	R7F7016853AFE-C#KA1	R7F7016853AFD-C#KA1
R7F7016854AFP-C#BA1	R7F7016854AFE-C#BA1	R7F7016854AFD-C#BA1
R7F7016854AFP-C#KA1	R7F7016854AFE-C#KA1	R7F7016854AFD-C#KA1
R7F7016863AFP-C#BA1	R7F7016863AFE-C#BA1	R7F7016863AFD-C#BA1
R7F7016863AFP-C#KA1	R7F7016863AFE-C#KA1	R7F7016863AFD-C#KA1
R7F7016864AFP-C#BA1	R7F7016864AFE-C#BA1	R7F7016864AFD-C#BA1
R7F7016864AFP-C#KA1	R7F7016864AFE-C#KA1	R7F7016864AFD-C#KA1
R7F701A013AFE#KA4	R7F701A013AFE-C#KA4	R7F701A013AFD-C#KA4
R7F701A293AFE#KA2	R7F701A293AFE-C#KA2	R7F701A293AFD-C#KA2
R7F701A303AFE#KA2	R7F701A303AFE-C#KA2	R7F701A303AFD-C#KA2

## Appendix B: Change Summary

### F1L, F1M, F1H, F1K, D1L1 & D1L2 Series

		Au-wire(Before change)	Cu-wire(After change)	Remarks
Production sites	Wafer process	w/o change		Refer to "Production Flow"
	Wafer Test	w/o change		
	Back Grinding	ATJ-Kumamoto addition		
	Assembly	w/o change		
	Final Test	TPJ addition *1		
Materials	PAD-opening( $\mu$ m)	50um	55um	Only D1L1/D1L2
	Wire-bonding materials	Au-wire	Cu-wire	*2
	Mold-resin materials	Mold-resin for Au-wire	Mold-resin for Cu-wire	
	Die-attach materials	w/o change		

### D1S1-V2 Series

		Au-wire(Before change)	Cu-wire(After change)	Remarks
Production sites	Wafer process	w/o change		Refer to "Production Flow"
	Wafer Test	w/o change		
	Back Grinding	ATJ-Kumamoto/ATJ-Usuki addition		
	Assembly	ATJ-Kumamoto addition		
	Final Test	TPJ addition *1		
Materials	PAD-opening( $\mu$ m)	w/o change		
	Wire-bonding materials	Au-wire	Cu-wire	*2
	Mold-resin materials	Mold-resin for Au-wire	Mold-resin for Cu-wire	
	Die-attach materials	ASE-KH standard materials	ASE-KH/ATJ-Kumamoto standard materials	

### F1KMSeries

		Cu-wire(Before change)	Cu-wire(After change)	Remarks
Production sites	Wafer process	w/o change		Refer to "Production Flow"
	Wafer Test	w/o change		
	Back Grinding	ATJ-Kumamoto/ATJ-Usuki addition		
	Assembly	ASE-KH/ATJ-Kumamoto addition		
	Final Test	ASE-KH/TPJ addition *1		
Materials	PAD-opening( $\mu$ m)	w/o change		
	Wire-bonding materials	w/o change		
	Mold-resin materials	RSC standard materials	ASE-KH/ATJ-Kumamoto standard materials	
	Die-attach materials	RSC standard materials	ASE-KH/ATJ-Kumamoto standard materials	

\*1 TPJ is added only for ATJ-Kumamoto products.

\*2 Cu-wire diameters are ASE-KH: $\phi$ 20um and ATJ-Kumamoto: $\phi$ 18um.

ATJ-Kumamoto: Amkor Technology Japan, Inc. Kumamoto

ATJ-Usuki: Amkor Technology Japan, Inc. Usuki

TPW: Tera Power Technology Inc.

TPJ: Tera Probe, Inc. Kyushu Operation Center

ASE-KH: Advanced Semiconductor Engineering Inc. Kaohsiung

RSC: Renesas Semiconductor (Suzhou) Co. Ltd.

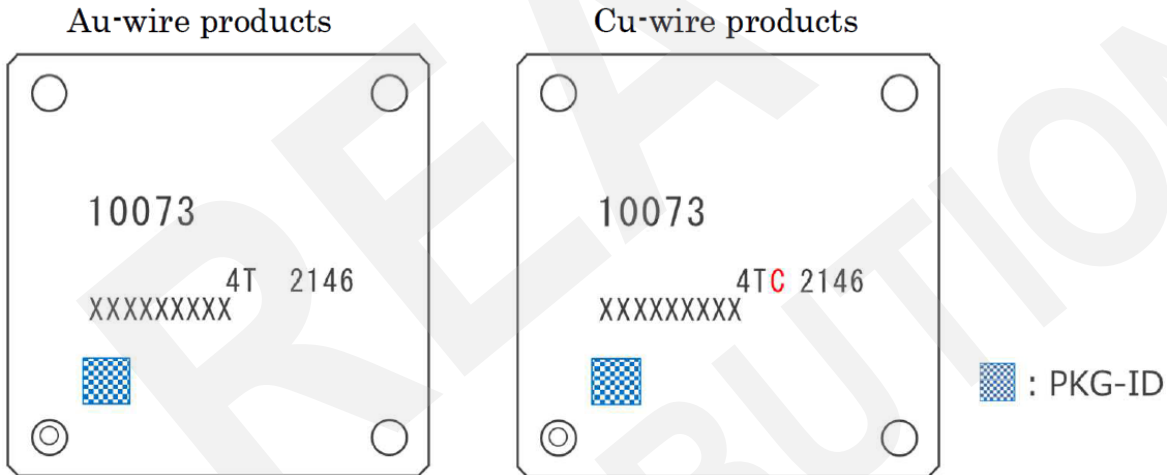
### Appendix C: Product Identification (Top Mark)

Product identification for Cu-wire products through mark print on each PKG

Mark Example: ATJ-Kumamoto products for F1L-2M 176pin

Mark comparison between R7F7010073AFD#BA4 (Au-wire) and R7F7010073AFD-C#BA4 (Cu-wire)

“C” (the red character) is added in a part of the mark for the laser mark of Cu-wire products.



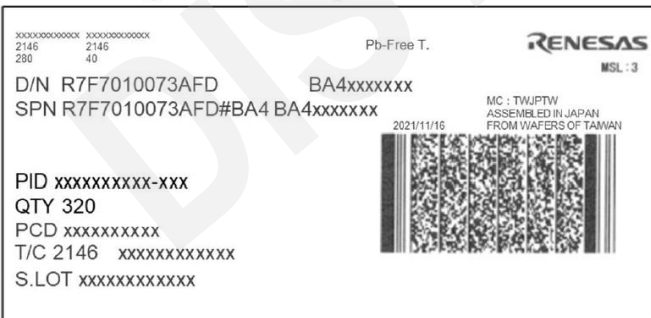
### Appendix D: Product Identification (Label)

Product identification for Cu-wire products through label

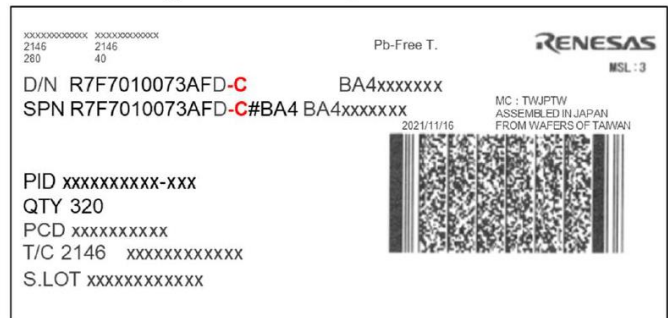
Label Example: ATJ-Kumamoto products for F1L-2M 176pin

Label comparison between R7F7010073AFD#BA4 (Au-wire) and R7F7010073AFD-C#BA4 (Cu-wire).

Label image for Au-wire products



Label image for Cu-wire products



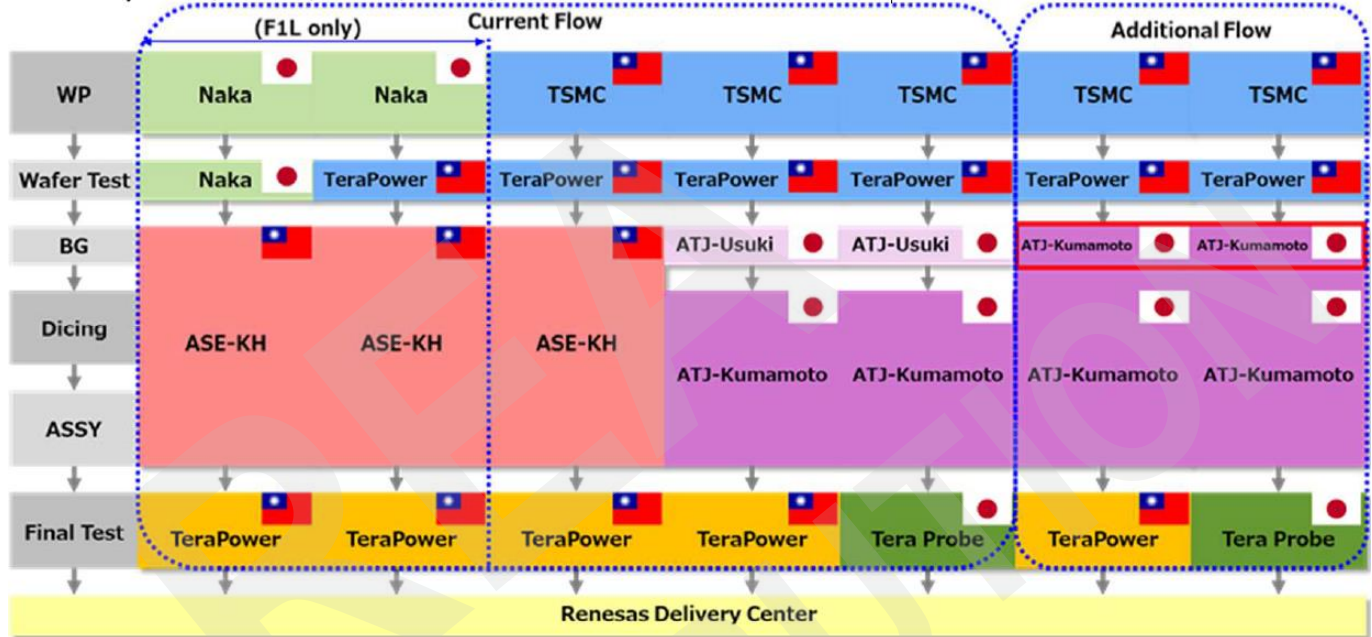
The red characters are different.

## Appendix E: Production Flow Summary

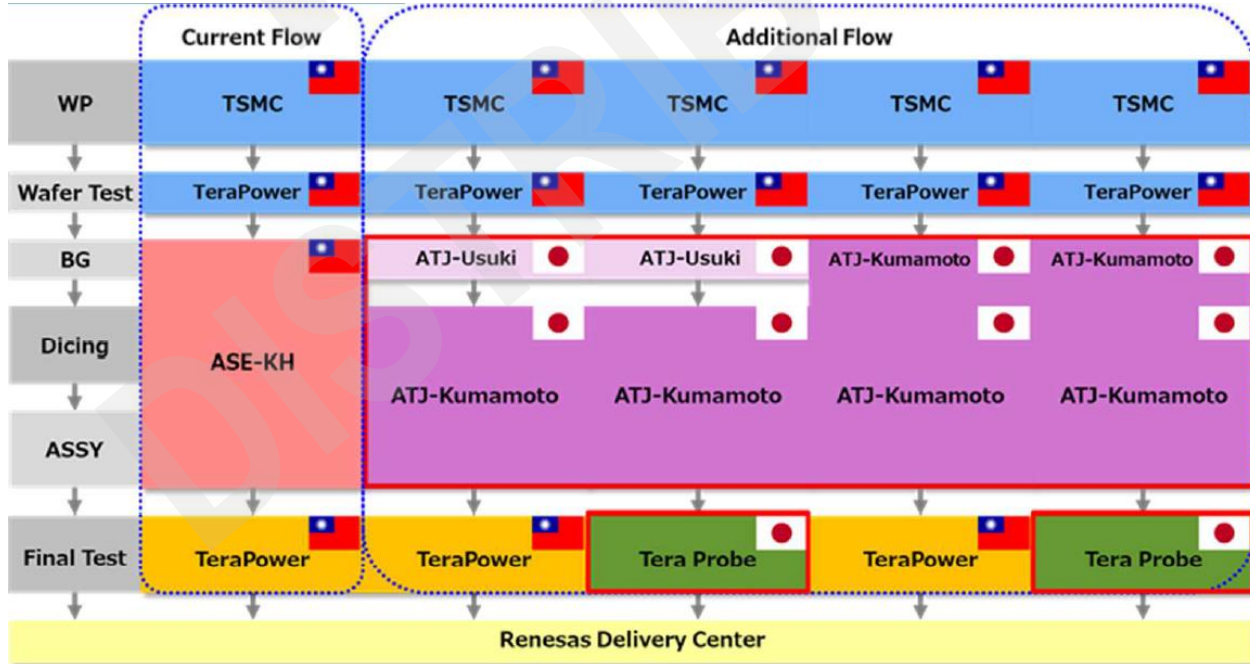
### Additional sites

WP : Wafer Process  
 BG : Back Grinding process

### RH850/F1L, F1M, F1H, F1K, D1L1 and D1L2 Series



### RH850/D1S1-V2 Series



Appendix E: Production Flow Summary (cont.)

RH850/F1KM Series

